OCS G 3245
N-0588

DATE AUG 1 0 1980

TO: OMS-2-2

FROM: OS-7-1

Plan of ~~Exploration~~ Development/Production, Lease OCS-G 3245

Control No. N-0588.

NOTED – ALVARADO

OMS-2-2
File

KERR-McGEE CORPORATION
DRAWER 2149 • MORGAN CITY, LOUISIANA 70380

OIL AND GAS DIVISION

PHONE
504 384-6930

August 11, 1980

United States Department
of the Interior
Geological Survey,
New Orleans District
P. O. Box 7944
Metairie. LA 70011

Attention: Mr. Emile Simoneaux

Re: Additional Information for
High Island Block A-508
Plan of Development
Control Number N-588

Gentlemen:

The attached pipeline plat is submitted as a supplement to Kerr-McGee's Plan of Development dated August 7, 1980, for the subject well.

At the present time Kerr-McGee feels that the information needed to prepare an accurate cross section is not available. Kerr-McGee has drilled only one well on this lease.

The expected life of High Island Block A-508 Field is ten years.

If additional information is needed, please contact the undersigned at Kerr-McGee's Morgan City Production office.

Sincerely,

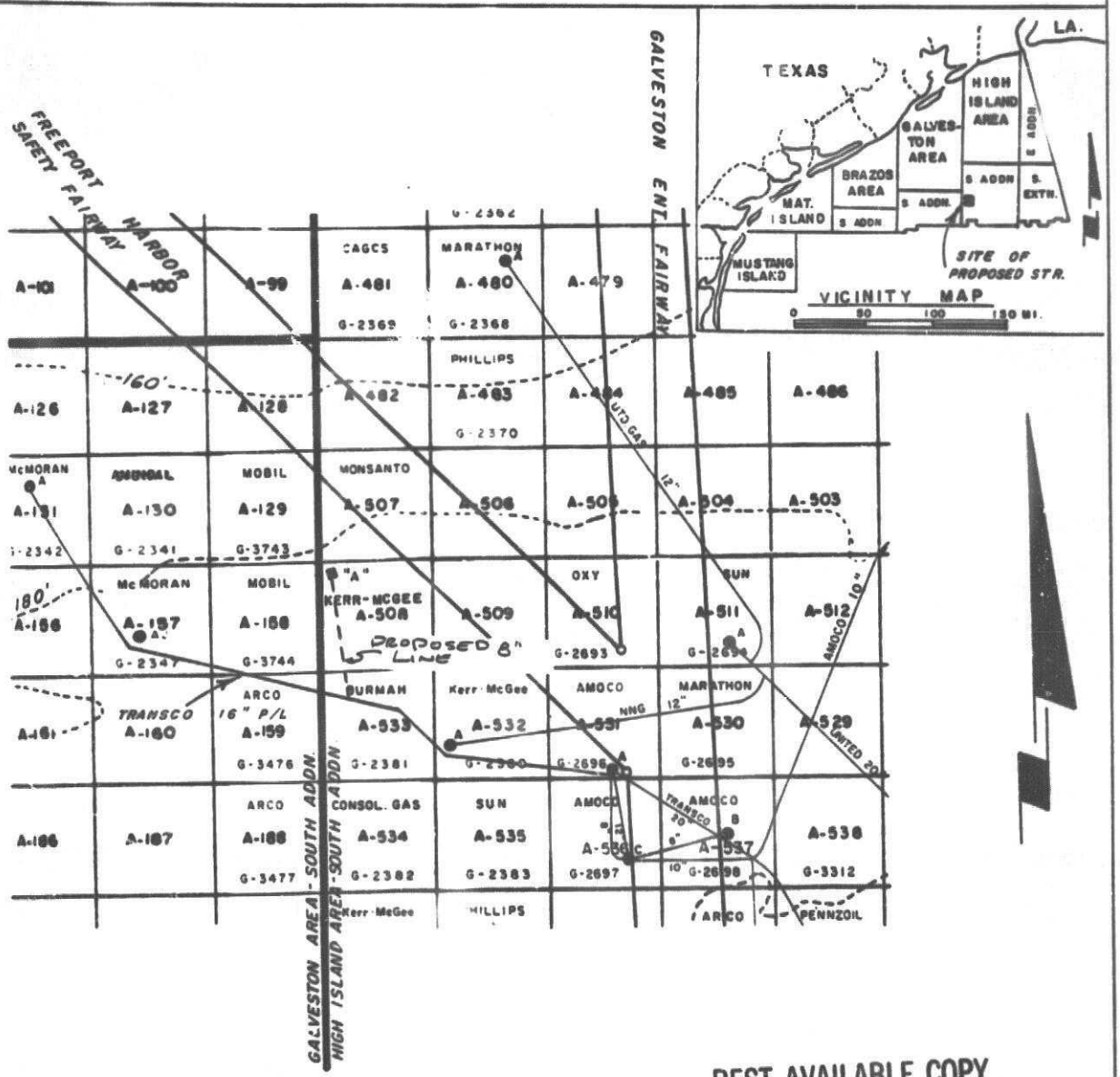
KERR-McGEE CORPORATION

Cary V. Bradford

Cary V. Bradford
Supervisor, Engineering Services

CVB/jv

Attachment



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PLAN

0 20,000 40,000 FT.

SCALE

VICINITY MAP
HIGH ISLAND AREA
SOUTH ADDITION
GULF OF MEXICO

SUBMITTED BY
AUGUST 12, 1980

KERR McGEE CORP.
HOUSTON, TEXAS

N-0588
OMS-2-2

KERR-McGEE CORPORATION
DRAWER 2149 • MORGAN CITY, LOUISIANA 70380

OIL AND GAS DIVISION

504 384-8930

August 7, 1980

U. S. Department of the Interior
Geological Survey, New Orleans District
P. O. Box 7944
Metairie, LA 70011

Attention: Mr. Dave Patz

Re: Plan of Development
High Island Block A-508
OCS-G 3245 Well Nos. A-1,
A-2 and A-3
Offshore, Louisiana

Gentlemen:

This Plan of Development will supersede the original plan dated July 30, 1980 to obtain approval to install a four-pile drilling and production platform in High Island Block A-508, Offshore, Louisiana. This structure, designated "KM-HI A-508 A" is under construction at the present time and will be ready for installation August 15, 1980. This production platform will be located 1245' FNL and 1699' FWL of Block A-508 High Island.

After installation is completed, development of the lease will proceed with the drilling of three wells, Well Nos. A-1, A-2 and A-3. Enclosed are location plats for the wells. Water depth is approximately . Well No. A-1 is to be drilled as a vertical hole to a true vert pth of 6250'. Well No. A-2 will be drilled as a directional hole to 6200' ,6384' MD) to a bottom hole location of 585' FNL and 574' FWL of Block A 508 High Island. Well No. A-3 will be drilled as a directional hole to 6250' TVD (6649' MD) to a bottom hole location of 585' FNL and 3592' FWL of Block A-508 High Island.

It is estimated that the platform will take seven (7) days to install. Each well will take approximately 45 days to drill each well. This project should be completed by January, 1981.

Onshore base facilities are located in Morgan City, Louisiana. Drilling operations from this location will not have any impact on the base facilities.

We are presently in negotiation with a major purchaser who owns a pipeline within three miles of the proposed platform. It is estimated that these negotiations will be concluded in the near futrue and the gas contract will be executed soon thereafter romptly after execution of the contract, Ker -McGee will proceed to for F.E.R.C. certification of the proposed gas sales. It is believed that the foregoing schedule will result in being able to timely receive F.E.R.C. certification so that sales can commence on schedule.

The expected production rate from this platform is 20 million cubic feet per day. The estimated life of the reserves is 10 billion cubic feet.

A copy of the vicinity map is enclosed. It is proposed that Transworld Rig No. 65, a jackup drilling unit, will be used to drill the wells. A copy of the rig specs for Transworld Rig No. 64 is enclosed.

The archeological survey was waivered.

A copy of the oil spill contingency plan is enclosed. Travel and deployment time to the area is approximately 15 hours.

Current interpretation of all available geological and geophysical data is enclosed.

a. Location Plats
b. Shallow Hazards Report
c. Pressure Maps
d. Structure Maps
e. Air Quality Emissions Schedule

Enclosed is a copy of the list of drilling mud components and mud additives to be used.

Kerr-McGee Corporation is of the opinion that all information supplied in this paragraph will be exempt from disclosure under the "Freedom of Information Act" (5 V.S.C. 522) and implementing regulations (43 CFR Part 2).

It is believed that the foregoing and the attachments provide the information required by 30 CRF 250.34. If additional information or clarification is necessary, please contact the undersigned.

It is respectfully requested that this Plan of Development be considered at your convenience.

Very truly yours,

KERR-McGEE CORPORATION

Cary V. Bradford

Cary V. Bradford
Supervisor - Engineering Services

CVB/ma

Enclosures

xc USGS, Houma

BLK. A-507

PROPOSED "A" STRUCTURE
X = 3,429,974.61'
Y = 149,255.00'
Lat. 28° 10' 08.614"
Long. 91° 33' 40.373"

FAIRWAY

BLK. A-508

BLK. A-509

BLK. A-533

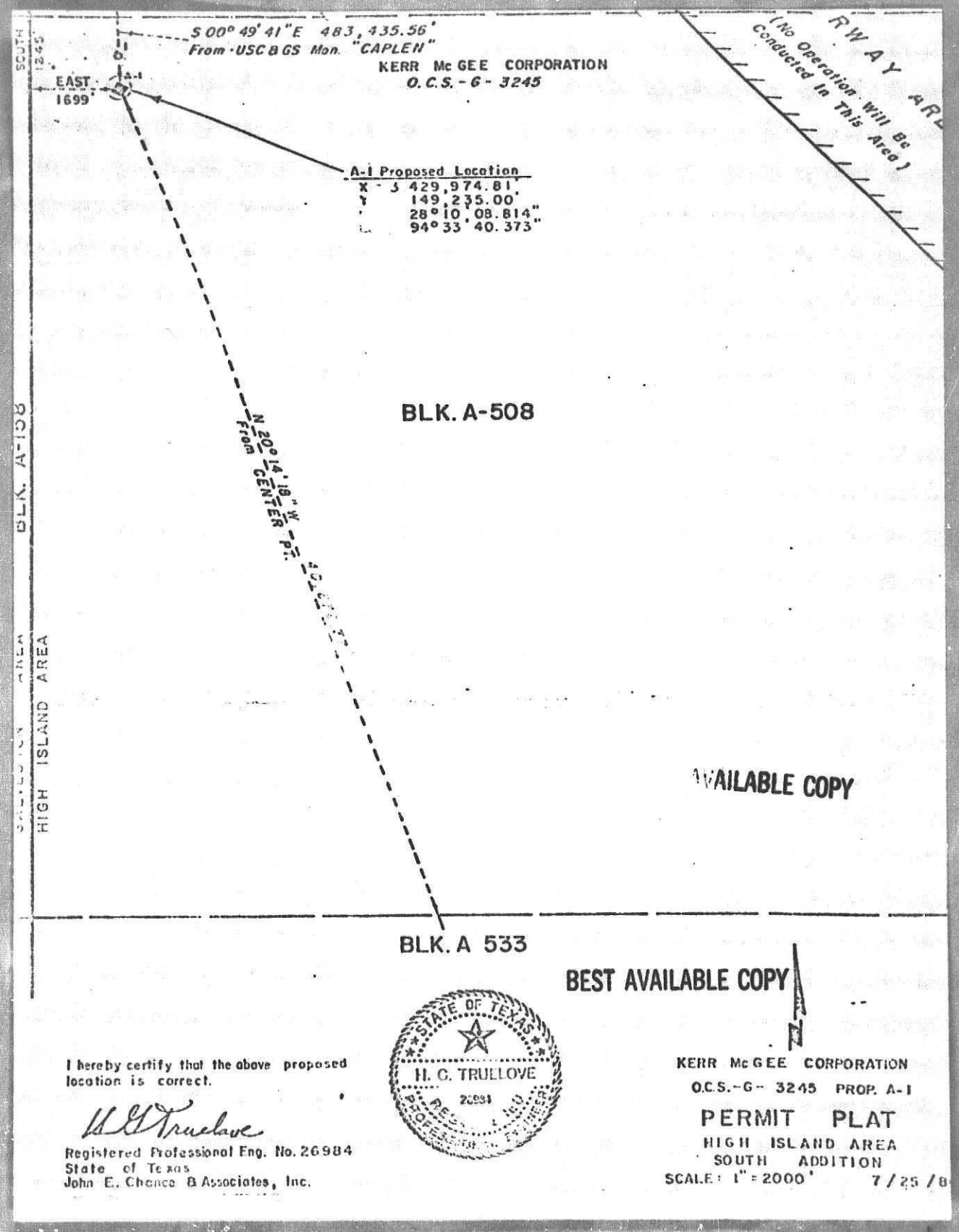
BEST AVAILABLE COPY

PLAT

PROPOSED MINERAL DEVELOPMENT
HIGH ISLAND AREA ...
SOUTH ADDITION
GULF OF MEXICO

APPLICATION BY
JULY 29, 1980

KERR McGEE COR
HOUSTON, TEXAS



I hereby certify that the above proposed location is correct.

H. G. Trullove

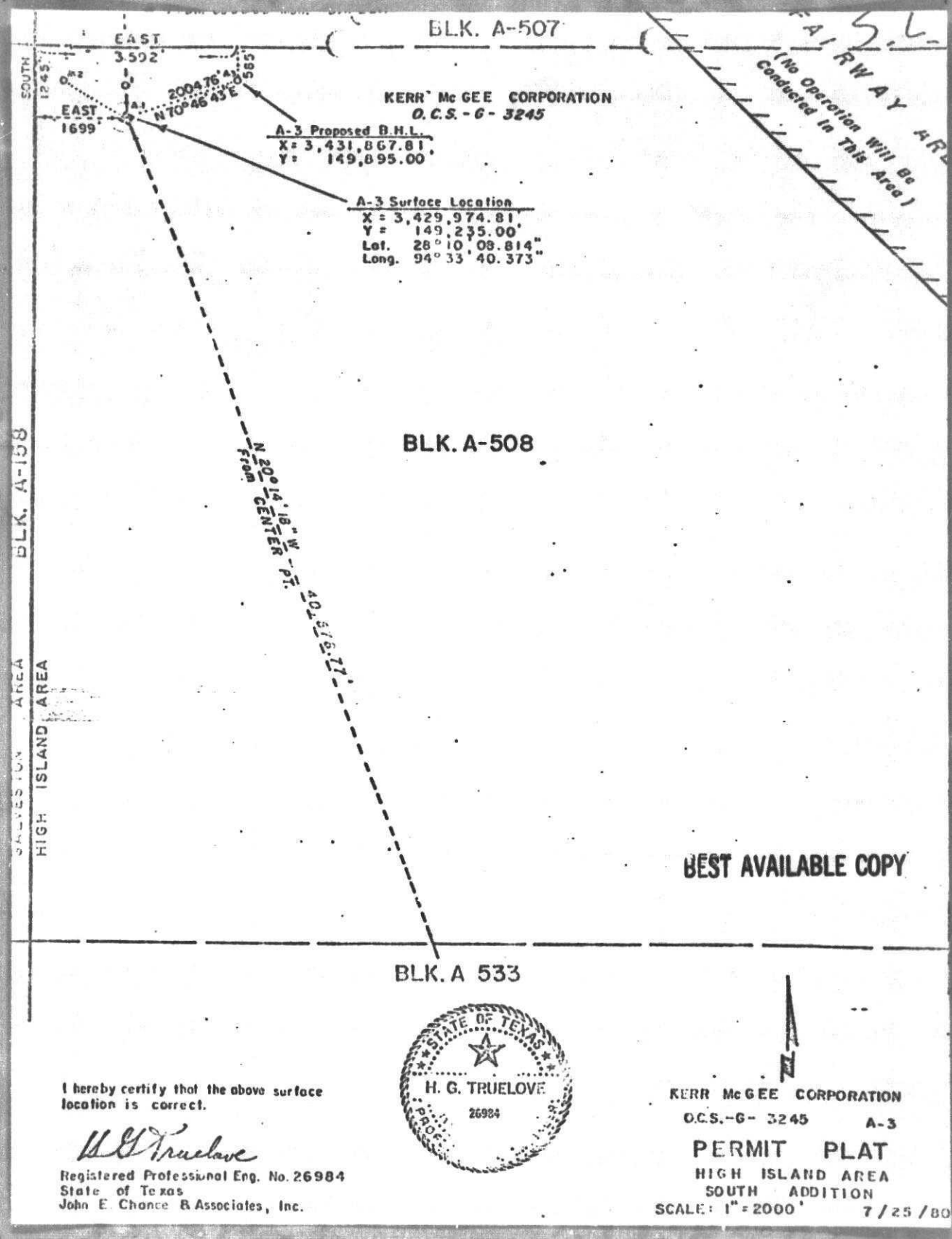
Registered Professional Eng. No. 26984
State of Texas
John E. Chance & Associates, Inc.

KERR McGEE CORPORATION
O.C.S.-G- 3245 PROP. A-1

PERMIT PLAT

HIGH ISLAND AREA
SOUTH ADDITION

SCALE: 1" = 2000' 7/25/8



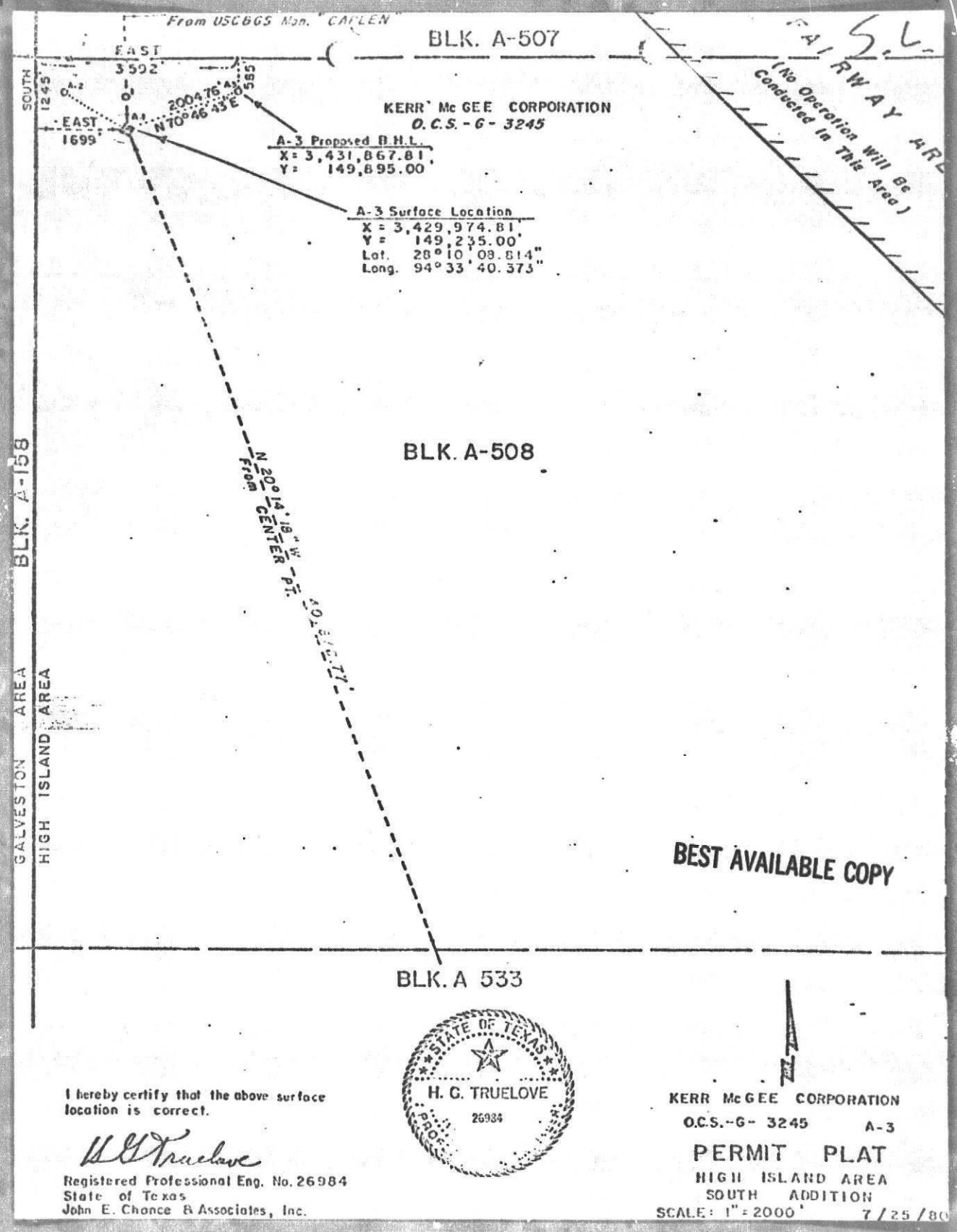
I hereby certify that the above surface location is correct.

H. G. Truelove

Registered Professional Eng. No. 26984
State of Texas
John E. Chance & Associates, Inc.

KERR McGEE CORPORATION
O.C.S.-G- 3245 A-3

PERMIT PLAT
HIGH ISLAND AREA
SOUTH ADDITION
SCALE: 1" = 2000' 7/25/80



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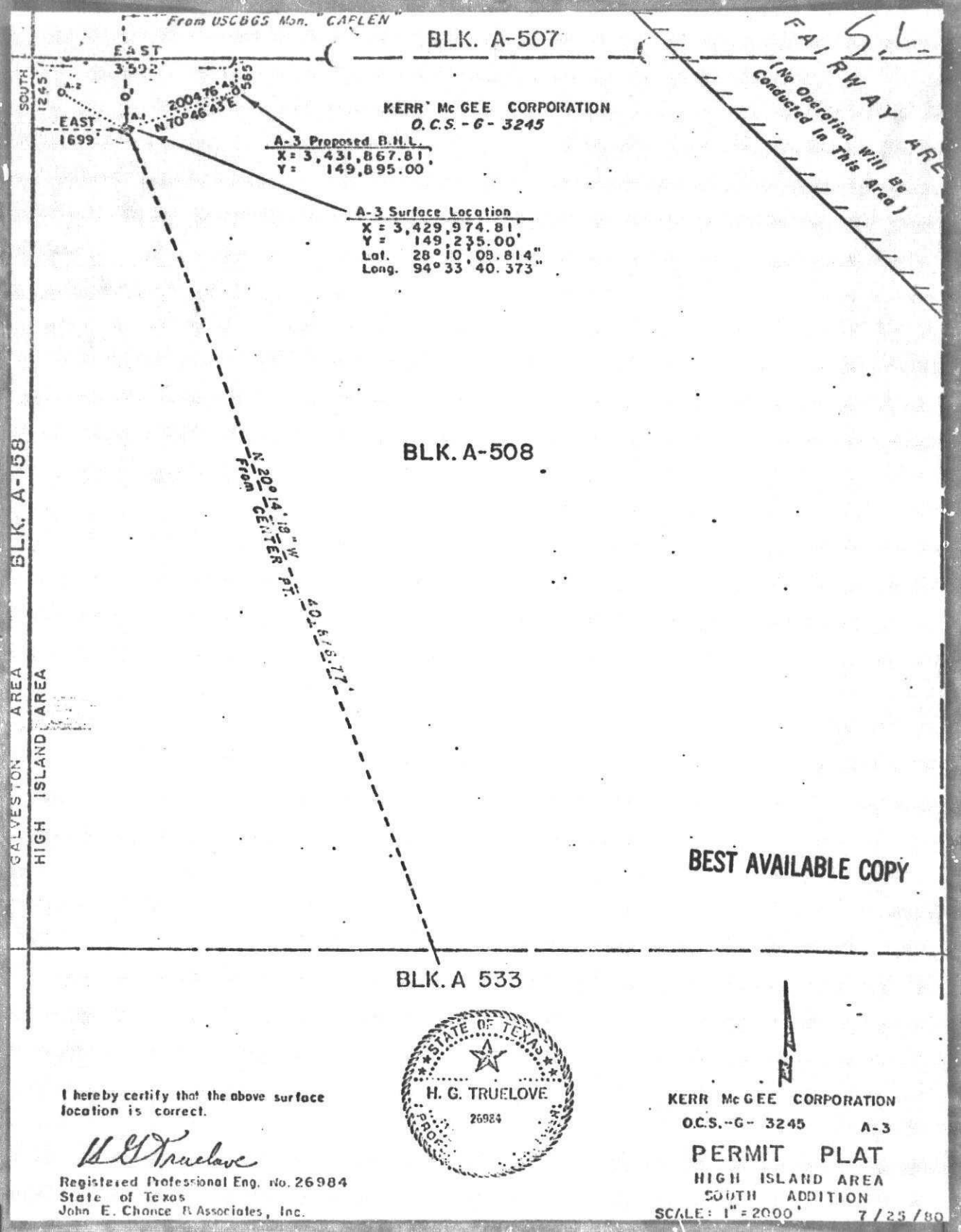
Registered Professional Eng. No. 26984
State of Texas
John E. Chance & Associates, Inc.

KERR McGEE CORPORATION
O.C.S.-G- 3245 A-3

PERMIT PLAT

HIGH ISLAND AREA
SOUTH ADDITION

SCALE: 1" = 2000' 7/25/80



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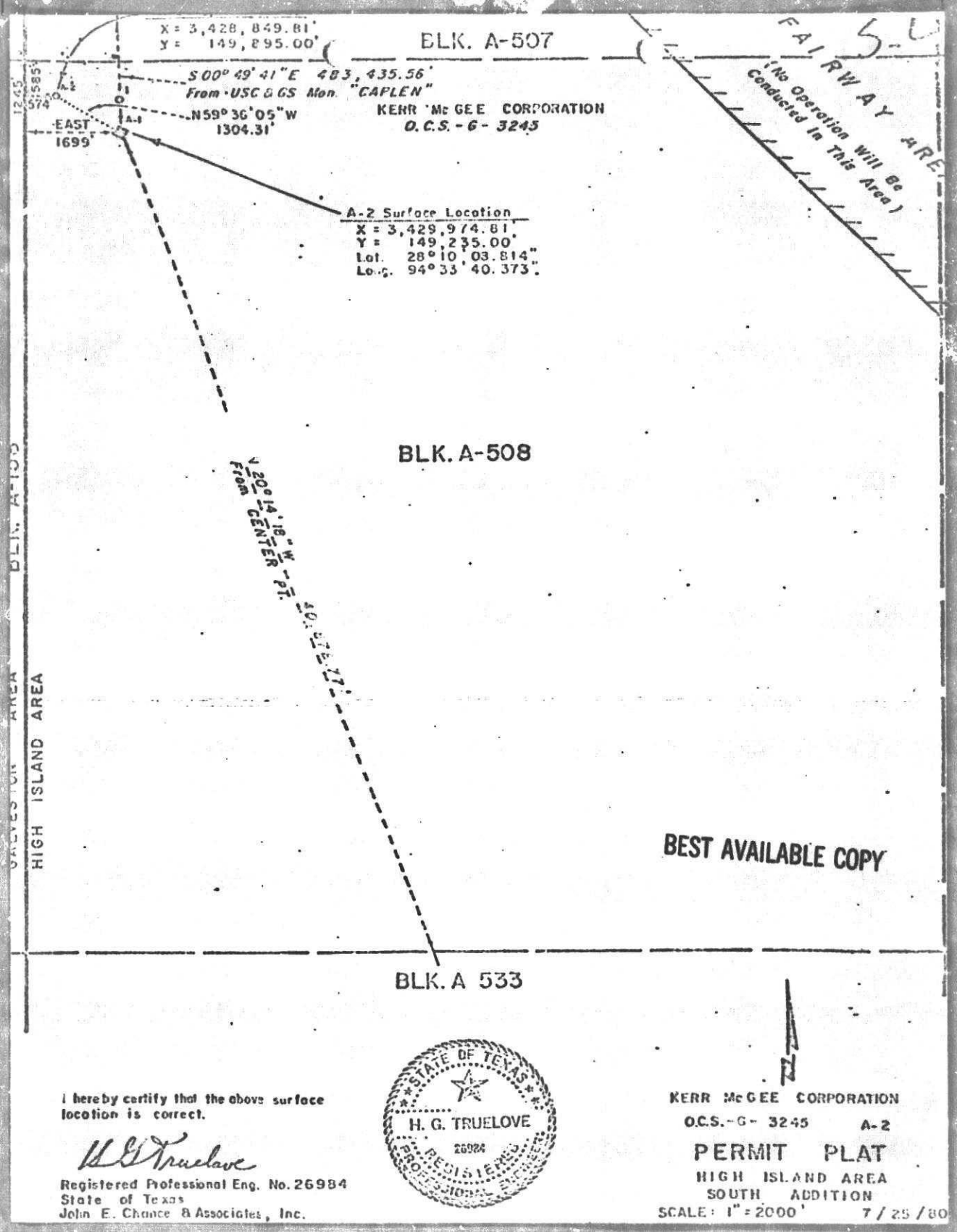
State of Texas
John E. Chance & Associates, Inc.

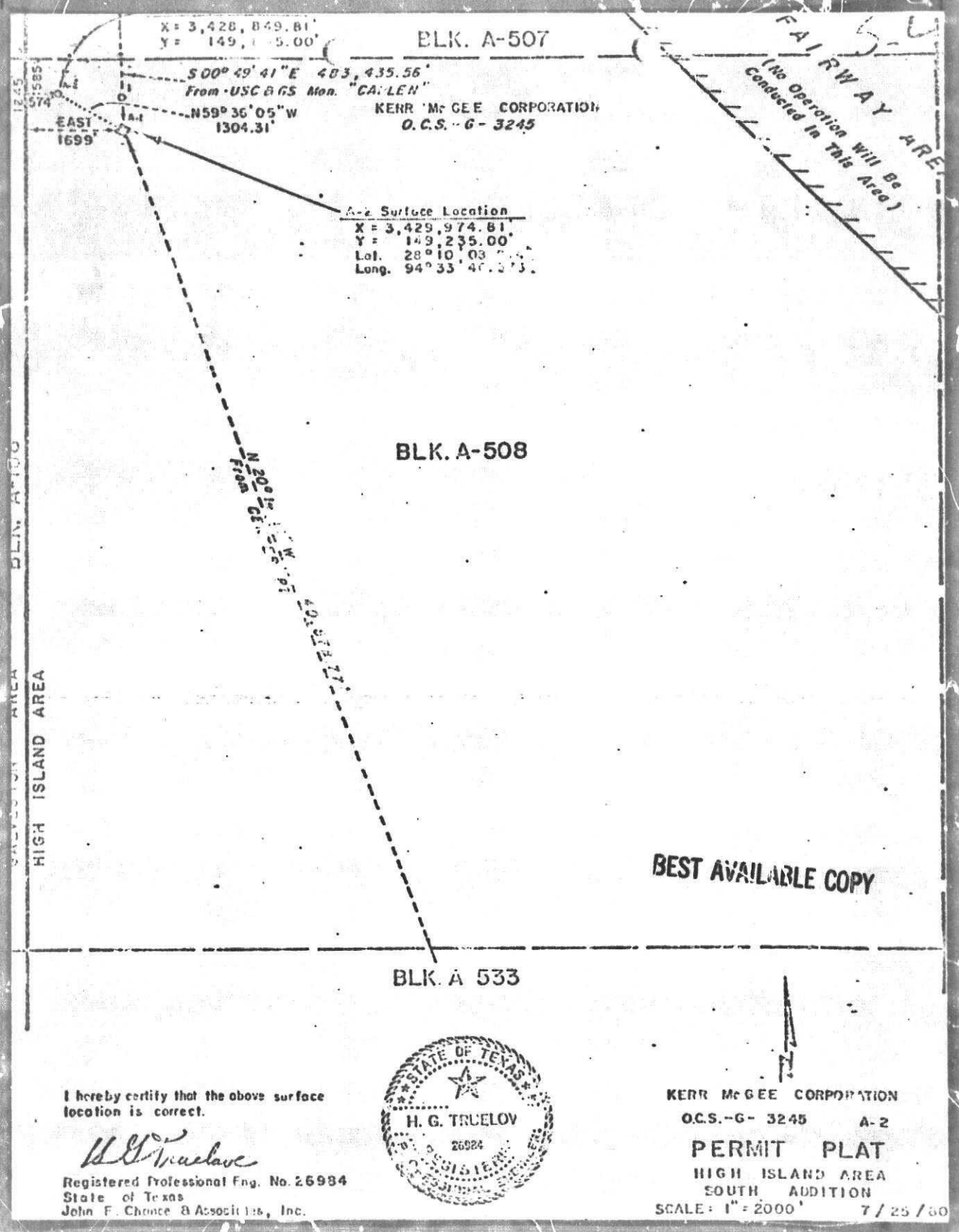
STATE OF TEXAS
H. G. TRUELOVE
26984
PROF.

KERR Mc GEE CORPORATION
O.C.S.-G- 3245 A-3

PERMIT PLAT

HIGH ISLAND AREA
SOUTH ADDITION
SCALE: 1" = 2000' 7/25/80


X = 3,428,849.81'
Y = 149,895.00'
BLK. A-507
S 00° 49' 41" E 483,435.56'
From USC & GS Mon. "CAPLEN"
N 59° 36' 05" W
1304.31'
KERR McGEE CORPORATION
O.C.S.-G-3245
EAST
1699
A-1
A-2
FAIRWAY AREA
(No Operation Will Be Conducted In This Area)
A-2 Surface Location
X = 3,429,974.81'
Y = 149,235.00'
Lat. 28° 10' 03.814"
Long. 94° 33' 40.373"
BLK. A-508
V 20° 14' 18" W - PT.
From CENTER
HIGH ISLAND AREA
BLK. A 533
BEST AVAILABLE COPY
STATE OF TEXAS
H. G. TRUELOVE
26984
REGISTERED
PROFESSIONAL ENGINEER
I hereby certify that the above surface location is correct.
H G Truelove
Registered Professional Eng. No. 26984
State of Texas
John E. Chance & Associates, Inc.
KERR McGEE CORPORATION
O.C.S.-G-3245 A-2
PERMIT PLAT
HIGH ISLAND AREA
SOUTH ADDITION
SCALE: 1" = 2000'
7/25/80



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State of Texas
John E. Chance & Associates, Inc.

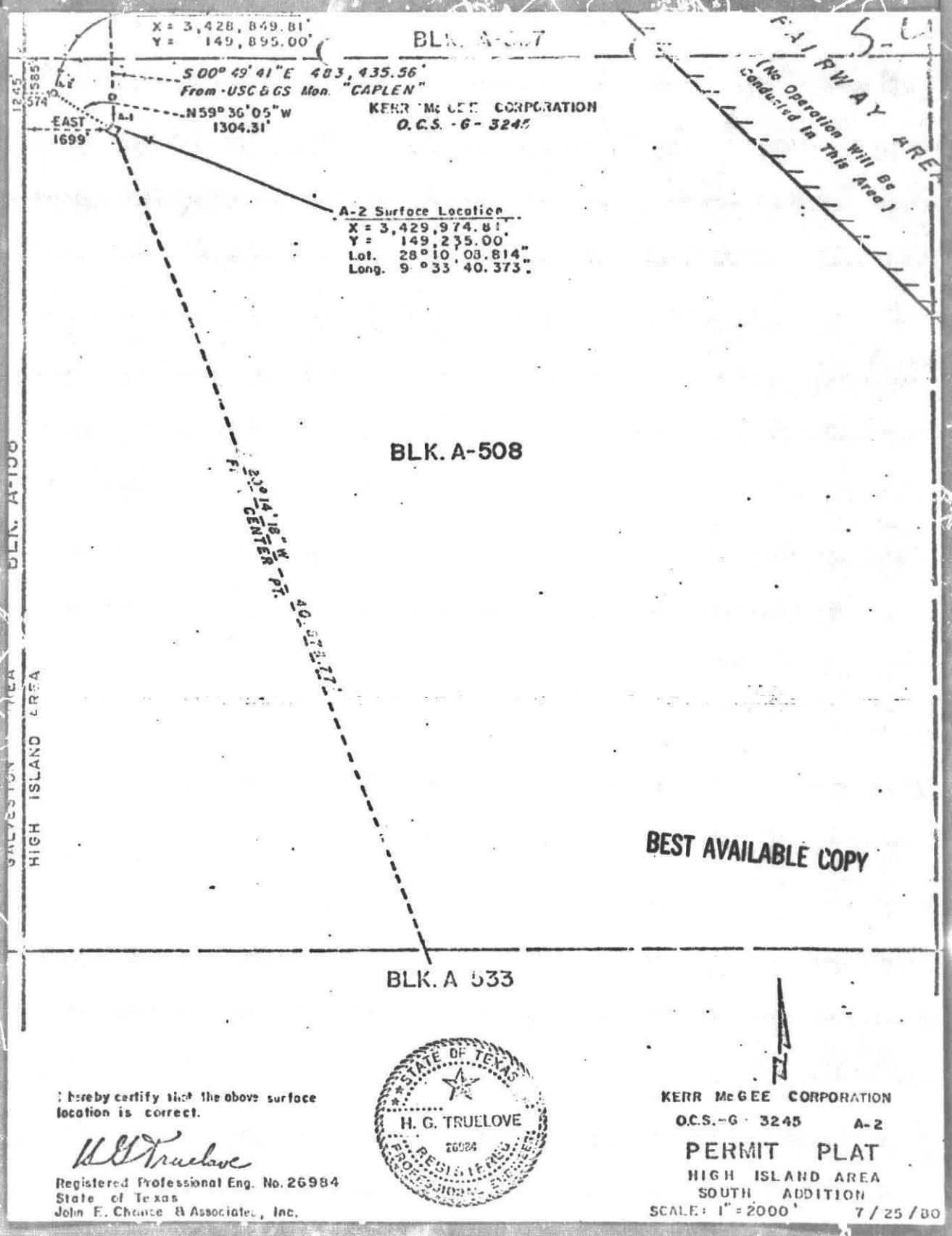
STATE OF TEXAS
H. G. TRUELOVE
26984
REGISTERED

KERR McGEE CORPORATION
O.C.S.-G-3245 A-2

PERMIT PLAT

HIGH ISLAND AREA
SOUTH ADDITION

SCALE: 1" = 2000' 7/25/80



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H. G. Truelove

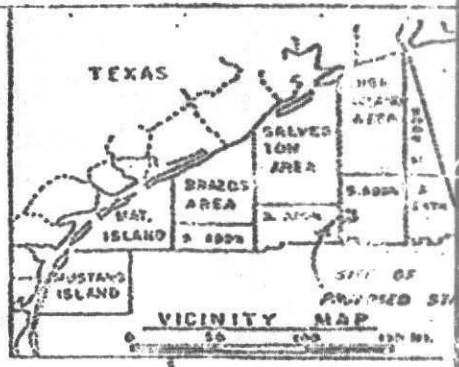
Registered Professional Eng. No. 26984
State of Texas
John E. Chance & Associates, Inc.

KERR McGEE CORPORATION
O.C.S.-G - 3245 A-2

PERMIT PLAT
HIGH ISLAND AREA
SOUTH ADDITION
SCALE: 1" = 2000' 7/25/80

Detailed List of Drilling Mud Components and Mud Additives

1. Barite (Weight Material)
2. Gel (Bentonite)
3. Caustic Soda (Sodium Hydroxide)
4. Sodium Bicarbonate
5. Flosal (Asbestos Fibers)
6. RD111 (Lignosulfonate)
7. Ligco (Processed Lignite)
8. MD (Mud Detergent)
9. Aluminum Stearate
10. Fibertex
11. Mica
12. Nut Plug (Ground Walnut Hulls)
13. Lubrikleen (Lubricant)
14. CMC (Sodium Carboxynethy)



BLK. A-507

PROPOSED "A" STRUCTURE
X = 3,429,974.81'
Y = 149,235.00'
Lat. 29° 10' 08.614"
Long. 94° 33' 40.373"

FAIRWAY

BLK. A-508

BLK. A-50

GALVESTON AREA - SOUTH ADDITION
HIGH ISLAND AREA - SOUTH ADDITION

BEST AVAILABLE COPY

BLK A-533

PLAN

PROPOSED MINERAL DEVELOPMENT
HIGH ISLAND AREA
SOUTH ADDITION
GULF OF MEXICO

APPLICATION BY
JULY 29, 1980

KERR McGEE CORP
HOUSTON, TEXAS

Dauterive 8/21/80

UNITED STATES GOVERNMENT
MEMORANDUM

AUG 21 1980

To: Conservation Manager, Gulf of Mexico OCS Region (CM)

From: Deputy Conservation Manager, Offshore Operations Support, Gulf of Mexico OCS Region (OS-7-2)

Subject: Environmental Assessment (EA) No. 490
Prepared for Kerr-McGee Corporation
Plan of Development/Production
for Lease OCS-G 3245
High Island Area, Block A-508
Plan Control No. N-0507

Enclosed is the subject EA prepared pursuant to 30 CFR 250.34-4 and in accordance with EA Procedures and Guidelines (dated October 13, 1978) for OCS Operations in the Gulf of Mexico. A determination sheet is included for your signature.

for D. W. Solanas

Enclosure

cc: Lease OCS-G 3245 (OMS-2-3)
OMS-2-2

WMiller:LJDauterive:jj:gj

NOTED - ALVARADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
OFFICE OF THE CONSERVATION MANAGER
FOR
GULF OF MEXICO OCS REGION
METAIRIE, LOUISIANA

ENVIRONMENTAL ASSESSMENT NO. 490
DATED
AUG 21 1980

TYPE OF PLAN: Development/Production
EXISTING PIPELINE(S): None
LEASE NO(S).: OCS-G 3245
PROPOSED PIPELINE(S): 8" gas line to Transco's 16" gas line in Block A-533
AREA(S): High Island
S.O. 2974 CONTROL NO.: 3173
BLOCK(S): A-508
OPERATOR(S): Kerr- McGee
STRUCTURE(S): "A" platform "Transworld Rig 65"
DATE APPLICATION FILED: August 11, 1980
WELL NO(S).: A-1, A-2, A-3
LEASE STIPULATION(S): YES X NO
PREVIOUS ASSESSMENTS IN OPERATING AREA: EIE 385
LEASE SALE FEIS: 38-A
MOST CURRENT FEIS: A62 and 62
OTHER(S): None

TABLE OF CONTENTS

A. DESCRIPTION OF THE PROPOSED ACTION.....
B. ENVIRONMENTAL CONSIDERATIONS OF THE PROPOSED ACTION.....
C. EXISTING ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES.....
D. IMPACT PRODUCING FACTORS.....
E. MITIGATING MEASURES.....
F. ALTERNATIVES TO THE PROPOSED ACTION.....
G. UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION.....
H. COORDINATION, COMMENTS, AND CONTROVERSIAL ISSUES.....
I. FINDING OF NO SIGNIFICANT IMPACT.....
J. DETERMINATION.....
K. REFERENCES.....

ATTACHMENTS: BIOTA (I), MARINE AND COASTAL UTILIZATION (II), SOCIO-ECONOMICS (III), CUMULATIVE IMPACTS (IV)

APPENDICES: REPORTS AND REVIEWS FROM GS (I), COORDINATION AND COMMENTS (II), ENDANGERED/THREATENED SPECIES ACTIVITY REVIEW (III), CULTURAL RESOURCES SURVEY (IV), STIPULATIONS (V), PROPOSED PLAN AND ENVIRONMENTAL REPORT (VI).....

LIST OF FIGURES: Vicinity Map (1); Location Map (2).....

A. DESCRIPTION OF THE PROPOSED ACTION

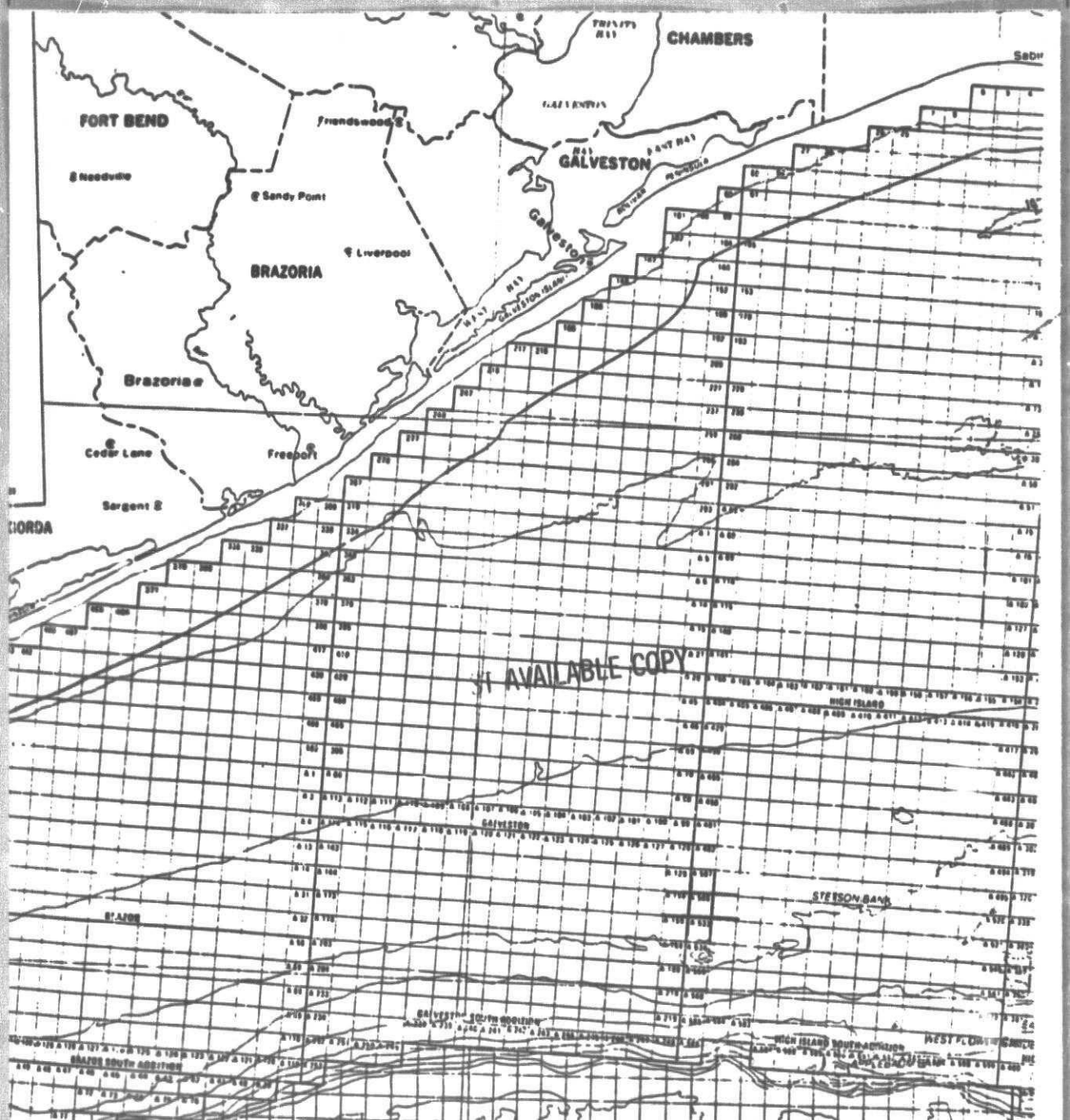
Kerr-McGee Corporation proposes a Pla[illegible] Development/Production for High Island, Block A-508, OCS-G 3245 (Fig. 1). Block A-508 is 117km (73 mi.) from the Louisiana coast in 56m (285') of water. Kerr-McGee proposes to place an A production platform at the location shown in Fig. 2 and to use the jack-up drilling rig "Transworld 65" to drill the A-1 well as a straight hole and directionally drill the A-2, and A-3 wells from this location. The platform installation will require approximately seven days in late August, 1980, with well drilling taking 45 days per well so that production should begin approximately January 1981. An 8" gas pipeline will carry the production from the A platform to the 16" Transco line in Block A-533. This pipeline is to be installed and maintained by the transmission company who will make separate application to appropriate agencies. The Bureau of Land Management (BLM) will assess and permit the pipeline according to standard operating procedures. Life of the field is estimated at approximately ten years. Onshore support will originate at an existing facility in Morgan City, Louisiana.

This action is considered routine for the area of the proposal.

B. ENVIRONMENTAL CONSIDERATIONS OF THE PROPOSED ACTION

High Island, Block A-508, OCS-G 3245 was leased as a result of OCS Lease Sale 38-A on July 29, 1975, where it was listed as Tract 154, a gas prone tract. Hence the matrix analysis that appeared as part of the FEIS for Sale 58-A does not include oil spills as a potential hazard. Under structures, impacts to "sport and commercial fishing" rate a moderate potential impact because of water depths in the range 20-200m. Structures are rated a maximal potential impact on shipping because a fairway is present in the block. The overall potential impact rating for the project is minimal.

Reference is made to the Operator's Plan, Appendix II, for further details. The ensuing sections of this EA include a site specific environmental assessment of this project.


CHAMBERS
FORT BEND
Needville
Sandy Point
Liverpool
BRAZORIA
GALVESTON
Brazoria
Cedar Lane
Freeport
Sargent
Friendswood
Galveston
AVAILABLE COPY
HIGH ISLAND
STETSON BANK

C. Existing Environment and Environmental Consequences

Parameter	Sources of Information
GEOLOGY	
Shallow Hazards - The USGS Freeport District Supervisor conducted a "Geologic Hazards Review" of Block A-508 which is included in Appendix I. In this review he noted that the company found no seafloor hazards at the proposed location. The District Supervisor recommended plan approval.	USGS District Report (Appendix I); Operator's Plan
Slope Stability - The seafloor in Block A-508 is smooth and uniform with no unusual features. No slope stability problems are anticipated.	USGS District Report (Appendix I); Operator's Plan
Unusual Marine Topography - USGS District Report, Operator's POE, and the Bureau of Land Management's S.O. 2974 comments indicate no known unique or significant undersea features located in Block A-508.	USGS District Report (Appendix I); Operator's Plan
SEVERE METEOROLOGICAL CONDITIONS - The Gulf of Mexico is affected by tropical cyclones, extra-tropical cyclones, and polar outbreaks. Hurricanes, the largest and most destructive tropical cyclones, occur most frequently between June and late October. There is a relatively high probability that tropical cyclones will cause damage in the Gulf of Mexico each year. Extra-tropical cyclones, which vary greatly in intensity, occur primarily in the winter months and have attained wind speeds as great as 55-93km/hr. Polar outbreaks occur when cold air masses move out over the warm water of the Gulf forming strong gusty northerly winds with speeds generally between 28 and 37km/hr. Operators must comply with OCS Order No. 8, which requires that consideration be given to wind, wave, and current forces in the design, installation and operation of fixed structures and platforms in the Gulf of Mexico. Standard procedures in the instance of an impending storm include securing the structures and evacuation of personnel.	FEIS Sale 58A, p. 48 to 52, Tropical Cyclone Visual; OCS Order No. 8

Existing Environment and Environmental Consequences (Cont'd)

Parameter	Sources of Information
6. AIR QUALITY - No data are available on the existing air quality in the subject block; however, considering the distance offshore, and the absence of major air polluting influences, air quality is presumed good and to exceed EPA onshore standards. Refer to FEIS No. 58A, Section II.C.2.a, for a more detailed description of air quality. Local air quality will experience degradation from stationary power units, service vehicles and incineration and processing plant and refinery emissions. Offshore air quality could be significantly degraded as a result of a blowout and oil spill. Pollutants released by such an incident, under both combustible and non-combustible conditions, are discussed in FEIS No. 58A, Sec. III.C.2. The history of oil spills from operations in the Gulf of Mexico shows that such incidents are very remote (Danenberger, 1976). The Gulf of Mexico's high rate of precipitation, and prevailing winds reduce emission concentrations; therefore, impacts on air quality from the proposed operation are not considered significant. An increase in onshore air quality degradation is not expected since increased refinery/processing development would not be induced by the proposed action.	FEIS Sale 58A, p. II-102, III-169-172; Danenberger, 1976
6. WATER QUALITY - Site specific water quality information is not available for the subject block(s). The results of various studies relative to the physical and chemical characteristics of the central Gulf of Mexico have been summarized on pages II-52 through II-66 of FEIS Sale 58A. Resuspension of bottom sediments and turbidity plumes will be induced by platform and pipeline installation and drilling activities. Discharges of liquid waste, resulting from domestic and sanitary sources, cooling water, and process water, have the potential to introduce low-oxygenated water with elevated temperatures and/or dissolved solid concentrations. Refer to FEIS No. 58A Section III.C.2 for discharge volumes of drill cuttings and mud, and mud type used during drilling a typical 3000m (10,000') well. Considering that the discharges will be short-term and localized, coupled with the ability of the Gulf waters to quickly dilute waste discharges (Sheen Report, 1976), degradation of the water quality from this operation is considered minimal. Accidental blowouts and oil spills have the potential to degrade local water quality. Microbial degradation, weathering, dilution and dispersion factors, coupled with the operator's oil spill contingency plan (OCS Order No. 7), reduce the extent and duration of blowout and oil spill induced impacts.	FEIS Sale 58A, p. II-102, 107-108, p. III-172-174; Sheen Report, 1976
7. BIOTA General Biology - A brief description of the general biological characteristics of the northern Gulf of Mexico is presented in Attachment I. Refer to FEIS No. 58A, Sec. II and III for a more detailed description of the biological environment and impacts associated with development and production activities. A turbidity plume will result from platform and pipeline installation and discharge of drill cuttings and muds. The plume may reduce photosynthetic assimilation of phytoplankton and impact zooplankton by clogging the filter-feeding apparatus or blocking	FEIS Sale A62 and 62; Sheen Report, 1975; Sheen Report, 1976; FWS Comments (Appendix II)

Parameter	Sources of Information
BIOTA (Cont'd) respiratory surfaces. Considering the dilution factor and the short-term localized nature of discharge, impacts on plankton communities would be minor. Impacts on nekton communities, because of the organism's ability to avoid or swim through the plume, are not anticipated (Sheen Report, 1976). Benthic communities in the immediate area of operations will be impacted by drilling discharges and pipeline installation. Discharge volumes from a typical 3000m (10,000') well are given in FEIS No. 58A p. III-1/2. Considering the extent of available sea floor to the area affected, impacts to benthic populations are considered minimal. U.S. Fish and Wildlife Service comments (Appendix II) indicate no objection to the proposed operations.	
Biologically Sensitive Areas - There are no protected areas of biological significance within or adjacent to Block A-508. No adverse impacts to this resource are anticipated.	FEIS Sale A62 and 62, Visual 4; BLM and FWS Comments (Appendix II)
Endangered Species - Section 7 of the Endangered Species Act of 1973, as amended, requires Federal Agencies to consult with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service in order to insure that actions that they authorize, fund, or carry out do not jeopardize the continued existence of an endangered or threatened species or result in the adverse modification or destruction of their critical habitat. In order to fulfill their responsibilities under Section 7, USGS and BLM have, on numerous occasions, initiated interagency consultation relative to OCS activities in the Gulf of Mexico (GOM) Region. Biological Opinions resulting from such interagency consultation have generally concluded, subject to stated conditions, that normal leasing, exploration, development, production, and transportation activities expected to be utilized in the GOM are not likely to jeopardize the continued existence of the endangered or threatened species known to inhabit or frequent the area(s) under consideration or result in the destruction or adverse modification of their critical habitats or habitats likely to be determined critical in the future. During the review of the proposed action and preparation of this environmental assessment an additional "Activity Review for Endangered Species" (Appendix III) was conducted, cognizant of the appropriate Biological Opinion(s), to determine if any of the proposed activities were likely to jeopardize the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitats. The subject review resulted in the opinion that the activities would not affect listed species or their habitats providing they are conditioned, when necessary, by special protective measures identified through Section 7 consultation (refer to Section E of this EA).	DEIS and FEIS Sale A62 and 62, Appendix E; Attachment I; FWS Comments (Appendix II)

Existing Environment - Human Uses Of

Parameter	Sources of Information
MARINE AND COASTAL UTILIZATION	
Sport and Commercial Fishing - The Outer Continental Shelf of the Gulf of Mexico is often subject to conflicting multiple uses. Much of the area leased for oil and gas development/production serves as harvest grounds for sports and commercial fishing activities. Brown and white shrimp of the genus Penaeus dominate the commercial shellfish landings and principal finfish include menhaden, grouper, snapper, croaker, and unclassified industrial species. Although saltwater sports' fishermen utilize a greater species diversity, including many of those listed above, the ...atial requirements and outer limits of usage (distance from shore) of these activities is ...ally much more limited than that of the commercial interest, i.e., approximately 80 percent ...f sports fishing activities occur within 20km (12 mi.) of the shoreline. Each structure will remove between 1 and 92 hectares (2.5-230 acres) of the seafloor from activities utilizing trawls and purse seines for the duration of the activities. The extent of this impact is temporary. Other potential impacts would be induced by underwater obstructions, oil pollution (chronic and accidental), possible fishing vessel collisions, and the artificial reef effect. Studies have found that the artificial reef effect of structures may actually enhance the attraction of fish populations which is considered beneficial to the commercial and sports fisherman who utilizes hooks and lines. The structures also serve as an aid to navigation and as a refuge for personnel aboard disabled vessels or during periods of severe weather conditions. Further information is contained in Attachment II.	FEIS Sale 58A; FEIS Sale 65
Shipping - During the period July 1962 through June 1973, there were 30 cases of collisions between vessels and fixed platforms: five were due to personal neglect on the boat; four were due to equipment failure on the boat or rig; and one was due to improper lighting on the rig. During July 1973 to June 1975, there were 32 collisions reported. The subject area is located outside of established shipping fairways; and although the potential for a collision exists, no adverse impact on shipping can be predicted.	FEIS Sale 58A, p. III - 184; FEIS Sale 65; FEIS Sale 45
...tivities - Although the Gulf of Mexico region is used extensively by the military ...tial conflicts are noted prior to leasing, and appropriate stipulations are ...e lease. These measures serve to mitigate ...dverse effect on oil and gas ...Further information is contained in Attachme...	FEIS Sale 58A; FEIS Sale 65

Parameter	Sources of Information
MARINE AND COASTAL UTILIZATION (Cont'd)	
Cultural Resources - High Island, Block A-508, lies beyond the Marine Cultural Resources Sensitivity Line. Therefore, no survey was required. Existing onshore support facilities are to be used so no impacts to onshore cultural resources are anticipated. Requirements of the lease stipulations (Appendix V) provide further mitigation of impacts to cultural resources.	Coastal Environments, Inc., 1977; BLM Comments (Appendix II); Attachment II
Aesthetics - A structure 30 meters in height could be visible to an observer on shore if it were located within 27km (17 mi.). Some may perceive this as a subtle intrusion to an unobstructed view of the horizon. Structures located farther offshore would not adversely affect the shoreline aesthetics. Aesthetic values could be severely affected for a short period of time should significant quantities of crude oil come ashore in a frequented area.	FEIS Sale 58A, p. III-178
Outdoor Recreation and Beaches - Because of the distance from shore, 117km (73 mi.), even an oil spill in Block A-508 would have minimal effect on this resource, Since this block is gas prone, such an event is considered highly unlikely.	FEIS Sale 58A, Visual 4

Parameter	Sources of Information
SOCIO-ECONOMICS	
.General - In the context of the existing levels of oil and gas drilling, production and processing currently carried out in the Gulf of Mexico region, the operations applicable to a lease, or group of leases in the currently defined productive area are small portions of the total activity. During the past five years increased numbers of wells and structures have been provided, refinery and gas processing facilities have been expanded and employment in oil related activities increased.	FEIS Sale 43; FEIS Sale 58A; Census of Mineral Industries, Dept. of Commerce
.Employment - A discussion of the employment required for marine oil and gas operations is found in Attachment III. The employment needs of this project can be met by the existing capabilities of the contract drilling industry in the Gulf of Mexico region. Due to the level of onshore and marine oil and gas exploration and production activity that has characterized the Gulf of Mexico for the past twenty-five years, an extensive system of operating bases, stocks of required equipment and supplies, and transportation systems have been developed. This infrastructure will be able to meet the needs of this proposed operation. In undeveloped portions of the Gulf of Mexico, the most common practice of the operators has been to obtain the use of existing facilities on a temporary basis. Small numbers of persons may be relocated to these bases during the drilling phase, and production operations may result in additional employment on a more permanent basis.	FEIS Sale 43; FEIS Sale 58A; Census of Mineral Industries, Dept. of Commerce; Attachment III
.Demand for Resources - In comparison to the level of resources required for drilling and production activity currently being carried on in the Gulf of Mexico, the requirements for resources to conduct operations on a lease, or group of leases, are minimal incremental additions to the demand for these resources. Existing suppliers of the required resources can meet the needs of this project without expanding their facilities. Attachment III contains additional information.	FEIS Sale 43; FEIS Sale 58A; Census of Mineral Industries, Dept. of Commerce; Attachment III
.Population Changes - Due to the transitional nature of drilling and development operations, there is little inducement for permanent relocation of families during the duration of a single lease, or group of leases. Attachment III contains further information.	FEIS Sale 43; FEIS Sale A62 and 62; Census of Mineral Industries, Dept. of Commerce; Attachment III

D. Impact Producing Factors

Parameter	Sources of Information
ACCIDENTS	
.Oil Spills - During the period 1970 through 1978, 43 oil spills of more than 50 barrels occurred on the Outer Continental Shelf. The size of these spills ranged from a maximum of 53,000 barrels to approximately 50 barrels. The total volume of oil spilled annually ranged from 84,325 to 150 barrels. The volume of oil spilled annually from spills of less than 50 barrels ranged from 1,493 to 523 barrels. An analysis of 20 spills of 50 barrels or more that occurred during the years 1971 through 1975 is contained in Geological Survey Circular 741. Fifteen of these spills were associated with production activities such as platform equipment malfunction, pipeline leaks or breaks or spills related to oil transfer; and five were noted as due to spillage of diesel fuel from workboats or other causes. An analysis of 872 spills, ranging in size from 1-50 barrels during the same period of time indicated that 20 were due to drilling and workover mishaps. No crude oil spill in excess of 50 barrels has been recorded during exploratory drilling on the Federal OCS. No spill is anticipated from the proposed activities. The operator is a member of Clean Gulf Associates and has submitted an oil spill contingency plan in accordance with OCS Order No. 7.	Outer Continental Shelf Statistics, Calendar Year 1978, Conservation Division USGS, June 1979; Geological Survey Circular 741
.Blowouts - During the years 1970 through 1978, the number of blowouts on the OCS ranged from two to eleven annually, and totaled 52, resulting in five fatalities and 33 injuries. Although most blowouts causing oil spillage are from producing wells, some conception of the possiblity of a blowout may be gained by considering the number of blowouts to the number of new wells started. During the nine-year period, the number of new wells started annually ranged from 861 to 1,158 and totaled 8,513. Therefore, the ratio of blowouts to new wells started is one blowout for each 164 wells. OCS Order No. 2 provides for the procedures to be followed in the drilling of wells. In addition, the Oil and Gas Supervisor for Field Operations, Gulf of Mexico Area, on November 24, 1976, noted that drilling, completion, and abandonment operations on the Pleistocene trend in the Gulf of Mexico were potentially more hazardous than normally experienced in the Gulf of Mexico. Lessees holding acreage within the trend were individually notified during November 1976 of additional precautions to be taken in the event of certain specified conditions which would enhance the potential for loss of well control.	Outer Continental Shelf Statistics, Calendar Year 1978, Conservation Division USGS, June 1979

mpact Producing Factors (Cont'd)

Parameter	Sources of Information
CCIDENTS (Cont'd)	
Fire and Explosion - During the years 1970 through 1978, between 12 and 38 fires occurred nnually on the OCS. The total number of fires and explosions amounted to 246, resulting n 34 fatalities and 140 injuries. Safety and protection have been provided by OCS Order o. 8, as well as policies, standards, practices and procedures applicable to individual perators. Although only a portion of fires and explosions can be attributed to drilling perations, some comparison of drilling activity to the incidence of fires and explosions ay provide some concept of a possible approximate relationship. During the years 1970 hrough 1978, the annual range of new wells started varied from 816 to 1,158 and totaled ,513. The approximate relationship is one fire or explosion for each 35 new wells drilled. ince other operational factors, such as number of active oil and gas completions have not been onsidered, the ratio is believed to be somewhat higher than would be expected from drilling ctivity alone.	Outer Continental Shelf Statistics, Calendar Year 1978, Conservation Division USGS, June 1979
oveable drilling equipment is licensed and inspected by the U.S. Coast Guard. Some of the rovisions of OCS Order No. 8 pertaining to welding and training are applicable to movable nits as well as fixed platforms.	
Other Safety Matters - During the years 1970 through 1978, miscellaneous accidents, including alls, vessel collisions or sinkings, drownings, or electrocutions, ranged from 7 to 23, nnually. During the eight-year period, a total of 116 accidents of this type took place, esulting in 100 fatalities and 39 injuries. During these same years, the total number of new ells started on the OCS amounted to 8,513 indicating a ratio of approximately 73 wells to each ccident. Although the drilling of new wells is only a partial, or approximate relationship to he number of accidents, an approximate concept of the relationship may be gained by the above omparison. Other factors that might be expected to have some influence include the training nd experience of personnel and numbers of platforms and structures.	Outer Continental Shelf Statistics, Calendar Year 1978, Conservation Division USGS, June 1979
CS Order No. 8 provides for procedures that should lead to safer operations.	

E. MITIGATING MEASURES

The following mitigating measures have been developed for normal OCS activities:

1. OCS Orders Numbers 1 through 14;
2. Notices to Lessees and Operators;
3. Lease Stipulations providing for protection of human, biological and cultural resources;
4. Clean Gulf Associates, Oil Spill Contingency Plan;
5. U.S. Coast Guard inspection laws related to safety of personnal and the display of prescribed navigational lights and signals for the safety of navigation;
6. U.S. Army Corps of Engineers requirements of permits to install fixed structures and permits for the drilling of wells from mobile drilling vessels to prevent navigation obstructions;
7. Department of Labor occupational safety and health standards;
8. EPA application for permit for any discharge from a point source;
9. S.O. 2974 procedures and recommendations.

ADDITIONAL MITIGATION/SPECIAL PROTECTIVE MEASURES

None

F. ALTERNATIVES TO THE PROPOSED ACTION

Alternatives to approval of the proposed action as originally submitted are:

1. Do not approve the proposed action.

2. Approve with recommended additional mitigation/special protective measures. In the course of this evaluation process, additional mitigation/protective measures were identified to further mitigate the environmental impacts associated with the proposal.

3. Approve without the recommended additional mitigation/protective measures.

G. UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

Localized and short-term unavoidable impacts will result from the proposed action. Most of these impacts are not considered to be irreversible.

Approval of the proposal as originally submitted creates the following unavoidable environmental effects:

1. Localized degradation of air quality will occur in the vicinity of the offshore site and at the onshore base and possibly at refining, processing, or transfer locations;

2. Localized water quality degradation will be experienced in the vicinity of drilling, construction and development operations;

3. Minor temporary effects on plankton and benthic communities;

4. Sport and commercial fishing activities will suffer interference and inconvenience for the duration of the operation;

5. Presently unknown and undiscovered cultural resources could be adversely impacted by a structure and related construction activities;

6. A blowout, oil spill, or other type of accident, could severely affect human life or health, or affect air quality, water quality, biota, and fishing activities on a temporary basis.

H. COORDINATION AND COMMENTS

In accordance with provisions of 30 CFR 250.34 (Federal Register Vol. 44, No. 180, September 14, 1979), and Revised Secretarial Order No. 2974 (August 9, 1978), copies of the plan were forwarded to affected state(s), Bureau of Land Management and U.S. Fish and Wildlife Service. Copies of the Comments are included in Appendix II.

CONTROVERSIAL ISSUES -

None

I. FINDING OF NO SIGNIFICANT IMPACT

We have examined the impacts of the proposed action in the preceding pages of the environmental assessment. The following summary sheet shows the evaluation of these impacts against each of the parameters listed for "significance" in 40 CFR 1508.27 and the background impact reference for our reasons of determining the no impact or not significant impact category.

Key

NI - No Impact

NS - No significant impact

CEQ Parameter 40 CFR 1508.27(b)	Severity of Impact Level/Degree of Significance	EA Section and Paragraph Reference
1. Beneficial and/or adverse effects.	NS	Sec. B Sec. C
2. Public health & safety.	NS	Sec. D, p. 23
3. Unique characteristics of the geographical area.	NS	Sec. C, p. 1, 2, 3, 8, 13, 15
4. Effects highly controversial.	NS	Sec. A
5. Highly uncertain effects or unique or unknown risks.	NS	Sec. A, p. 1 Sec. B, p. 1
6. Establishes precedent for future actions or is a decision in principle about future action.	NI	Sec. A, p. 1
7. Assessment of cumulative actions and impacts thereof. Note 40 CFR 1508.7	NS	Attachment IV
8. Effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historical Places or may cause loss or destruction of significant scientific, cultural and historical resources.	NS	Appendix IV
9. Effects on endangered or threatened species or their habitat that have bee.. determined to be critical under the Endangered Species Act of 1973.	NS	Appendix III

10.	Threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.	NI	Appendix II
11.	Other related NEPA and environmental documents (name).	Where document is available	Cover sheet, and Sec. K, References

J. ENVIRONMENTAL ASSESSMENT DETERMINATION

In my opinion, approval of Kerr-McGee Corporation's Plan of Exploration for Lease OCS-G 3245, described in this environmental assessment, pursuant to the specific stipulations outlined therein, does not constitute a major Federal action significantly affecting the quality of the human environment in the sense of NEPA, section 102(2)(c). In rendering this opinion, I have given special consideration to 30 CFR 250.34-4 (compliance with NEPA).

for Chief, Environmental and Operations Section — 8/21/80 Date

I concur.

for Deputy Conservation Manager for Offshore Operations Support — 8/21/80 Date

I determine that an environmental impact statement will not be prepared for this action.

for Conservation Manager, Gulf of Mexico OCS Region — Aug. 21, 1980 Date

EA No. 490

K. REFERENCES

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Environmental Assessment No. 490 was prepared by

Charles Wallace Miller Jr. 8/21/80

Reviewed by

Charles E Langley 8/21/80

Under the Supervision of

Les Davisson 8/21/80
Environmental Unit Supervisor

ATTACHMENTS

I. BIOLOGICAL CHARACTERIZATION

II. MARINE AND COASTAL UTILIZATION

III. SOCIO-ECONOMICS

IV. CUMULATIVE IMPACTS

ATTACHMENT I

BIOLOGICAL CHARACTERIZATION OF THE NORTHERN GULF OF MEXICO

The Northern Gulf of Mexico has been defined as the region from Desoto Canyon westward to the Rio Grande River and seaward to the Upper Slope. This region is influenced by the discharges of the Mississippi River. Exceptions are the Shelf off of South Texas, the seaward area of the offshore estuary, and the easternmost area near the Desoto Canyon. Generally, this expansive "Offshore Estaurine Zone" is characterized as an extremely high biologically productive region. Gunter has classified the area between Mobile Bay and Sabine Lake as the "Gulf Fertile Fisheries Crescent". Seaward of the estuarine zone are clear-water oceanic habitat with Caribbean faunal affinities. With few exceptions organism diversity increases from land seaward.

The primary limiting factor for the shelf's population density and distribution is the varying vertical zonation of high turbidities. The central shelf region is the most turbid with surface flooding of inorganic and organic material from the Mississippi River. The resuspension of sediments into the water column and forming a "nepheloid layer" also depresses benthic productivity. These two turbidity sources help differentiate community niches on the sea floor and within the water column into a "clear-water" and "turbid-water" habitat.

The plant life in the pelagic environment is uniquely represented by unicellular and filamentous algae and the free-floating Sargassum. The unicellular algae serves as an integral part of the food web that is used by myriads of larval forms and advanced life stages of filter feeders. The phytoplankton density for inshore waters is highest in the vicinity of the Mississippi Delta and consistently low for oceanic waters.

Perhaps for yet unreported occurrences, the algae on the shelf's sea floor is depressed due to the shading effect created by a dense nepheloid layer or the filtering effect by water depth. Filamentous and leafy algae are found on available hard substrate which are sufficiently illuminated. These vegetated niches occur on offshore platform legs and on the upper portions of "Topographical Highs".

The zooplankton consists of the vast array of benthic and pelagic larval forms and those juvenile and adult representatives that make up the link between primary producers and higher tropic levels. Little work has been done on the pelagic community structure and dynamics even though the Northern Gulf has been characterized as a region of very high biological productivity. Speciation in neritic waters is dominated by these organisms which spend only a part of their life cycle as plankton. Seaward within oceanic waters speciation changes dramatically to those organisms which remain in the plankton throughout their life cycle. The general zooplankton groups which dominate are: copepods, arrow worms, krill, free-swimming snails, and the eggs or various larval forms of fish, crabs, shrimps, snails, clams, worms, and the starfish-like organisms.

The benthic organisms, being substrate species specific, are dominated by the soft, level, sea floor communities. Contrasting communities are found on isolated hard bottoms such as low-relief ridges, out-croppings, relict terraces, high-relief

topographic banks, and the hard substrate created by pipelines or the artificial reef-like habitat created by oil and gas platforms. The faunal representatives include those organisms near the bottom, on top of the substrate, and within the substrate. These worms, mollusks, crustaceans, sponges, anemones, hydroids, coral, and bryzoans make up a vital part of the food web either in larval or adult stages.

The nekton are represented by marine mammals, turtles, fishes, pelagic mollusks, and crustaceans. The marine mammals are represented by whales and porpoises. The population dynamics and distribution of whales are little known in the Gulf but are mainly found in oceanic waters. Of the 16 whale species reported from the Gulf, the Sperm, Pygmy Sperm, Dwarf Sperm, Black Right Whale, Humpback, Sei, Finback, and Blue are endangered species. The porpoises are indigenous to the entire Gulf. However, distinct porpoise populations are thought to exist within inshore and offshore waters. A density of approximately four thousand porpoises has been estimated to exist in shelf waters west of the Mississippi River.

The reptiles are represented by the endangered Leatherback, Loggerhead, and Atlantic Ridley turtles. Their densities are not clearly defined. Turtle nesting occurs on the Chandeleur Islands and lower Padre Island.

The offshore commercial and sport fisheries produce extremely high catches and values. The catch is predominantly estuarine oriented species. The expections are snapper, groupers, jew fish, other reef-type fishes, and the royal red shrimp. These exceptions are usually caught further seaward and represent a small percentage of the total Gulf value.

The offshore shellfish fishery consists of the white, brown, pink, and royal red shrimp. The value of these harvests are three to four times more than the much greater volume of finfish.

The commercial finfish fishery is dominated by menhaden. Approximately 65 percent of the total U.S. finfish harvest consists of menhaden. Those fishes which are landed in quantities greater than 100,000 pounds per year are: menhaden, seatrout, red drum, black drum, flounders, king whiting, croaker, red snapper, sheepshead, spanish mackerel, and shad.

The offshore sport finfish fishery relies upon the oil and gas industry's platforms as artificial reef-type habitat. Large quantities of fishes congregate around these structures. The dynamics which these structures have on fish populations is under investigation.

In addition to the extremely productive sea floor and water column, there exist many areas of high topographic relief along the edge of the continental shelf. These areas of high-relief have been identified by Fish and Wildlife Service, Bureau of Land Management, and Geological Survey as uniquely biologically sensitive. These features have resident communities different from the surrounding level sea floor communities. The vertical profile of these features creates a biological zonation which may have reef-building coral at the top of the bank. The next

biological zone of protective interest is the Algal-Sponge Zone. Any feature which has a vertical profile in water depths less than 85 meters has special operational restrictions or special "Secretarial Order 2974" review. At the present time 34 of these features have been designated.

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ATTACHMENT II

Marine and Coastal Utilization

General - Drilling in the Gulf of Mexico OCS is carried on with a platform rig or by use of a movable drilling unit such as a jack-up or semisubmersible. These units are moved to a location where wells are drilled, and the equipment is moved to another location. Bases and equipment for the drilling activities are available at many ports along the Gulf Coast, and a marine and air network provides efficient transportation to the drilling sites.

The coastal portions of the States of Texas, Louisiana, Mississippi, Alabama, and Florida contain oil and gas fields, and the portions of the Gulf seaward of the coasts of Texas and Louisiana contain a large number of producing oil and gas fields. Although offshore exploratory wells have been drilled adjacent to the coasts of Florida and Mississippi, production of oil and gas has not been established in these areas.

Additional development drilling in the Gulf of Mexico utilizes the existing supply and transportation network which has developed for the support of both offshore and onshore drilling and production activity. Some expansion of the network has occurred during the past five years, but it is difficult to relate this expansion to drilling on any individual OCS lease or group of OCS leases.

The coastal portions of the states bordering the Gulf of Mexico are noted for their agricultural and recreational uses as well as their commercial importance as ports and manufacturing centers and some changes in land use have been due to these types of activity.

Commercial and Recreational Fishing - The Gulf of Mexico contains one of the nation's important fisheries. The Gulf fishery is dominated by the shell fisheries such as shrimp, crabs, and oysters which produce the highest value of catch. The important finfisheries include menhaden, mullet, croaker, and red snapper, and the weight of finfish catch exceeds the weight, but not the value, of shellfish catch. Approximately 98 percent of the commercially important catch is estuarine dependent during all or part of their life cycle.

The most significant fishing areas lie within approximately 12 miles of the coastline, and the area around the Mississippi River delta is noted as an important productive region. Oil and gas facilities could remove an area of 1 to 92 hectares of seafloor from trawling activities during the duration of operations. This interference could result in some adverse effect on commercial fishing for extended periods of time. Generally, a bottom supported drilling or production platform would be expected to require approximately 1 hectare for a period of years. The anchoring radius of a semisubmersible vessel may occupy 92 hectares for a short period of time. Requirements for space for specific time periods will vary by type of facility and duration of activities. Existing procedures require that the number of structures installed on the OCS be restricted to those necessary for operations, and to be located so as to minimize the adverse effect on commercial fishing activity.

The Texas Coastal and Marine Council published a research report concerned with recreational fishing along the Texas coast. The conclusions of the study noted the following points. In the eight county area included within the study, located in the vicinity of Galveston Bay, 34 percent of the 113,397 registered pleasure boats were used for saltwater fishing, and 5 percent of these boats fished offshore. Approximately 5,000 saltwater boats between 8-25 feet in length, and 564 saltwater boats longer than 26 feet were used offshore during 1977. The usual operating range of the majority of the saltwater recreational boats was within 48km (30 miles) of the shoreline. Eleven charter/party boats made approximately 2,400 recreational trips during 1977, and 545 (23 percent) of these trips were focused on offshore oil platforms. Approximately 87 percent of the recreational boats that fished offshore used oil platforms.

These conclusions point to a general conclusion that structures on the OCS provide some benefit to recreational fishermen and that structures near shore are most likely to be used.

Shipping - Prior to being offered for lease, the location of each tract in relation to shipping fairways is considered. A part of this analysis is the determination that a location outside of the fairway boundaries is available for the placement of a rig or platform from which wells can be drilled for production of the lease. Movable drilling units must meet U. S. Coast Guard requirements for lighting and warning devices, and platforms must meet the requirements of the Corps of Engineers.

Transportation - Increased boat and helicopter traffic could cause some interference with other uses, but when consideration is given to the total volume of boat traffic from fishing vessels, barge and other commercial traffic along the waterways in the area, and the sea-going traffic from such ports as Brownsville, Corpus Christi, Houston, Port Arthur, Lake Charles, New Orleans, Pascagoula, Mobile, and Tampa, the incremental vessel traffic due to the necessary transportation of men and supplies to a drilling rig is a very small increment.

Onshore Bases - In the event that wells are to be drilled in a portion of the OCS remote from existing oil and gas development, the operator will most likely rent the needed space from a public or private organization for a period of time sufficient to complete the proposed operations. A base for operations will require an area of 2-50 acres, with access to onshore transportation systems such as roads and railroads, and access to the waters of the Gulf of Mexico. Some small additional amounts of acreage may be required by organizations providing services to the drilling activity such as mud suppliers, logging and perforating contractors, or cementing companies. In developed areas of the Gulf of Mexico, the existing facilities would be utilized to support marine oil and gas activities.

Military Use - Portions of the Gulf of Mexico are used by the military services for operations, training, and other purposes. Tracts proposed for leasing are considered in relation to military uses, and when required, lease stipulations providing procedures which must be followed by the operator are attached to the lease document. These procedures should mitigate any adverse impact on military uses that might be caused by oil and gas production activities.

Ocean Dumping - The Environmental Protection Agency regulates ocean dumping under the 1972 Marine Protection Research and Sanctuaries Act. At the present time there are two approved dumping sites in the Gulf of Mexico, one approximately 125 miles south of Galveston, Texas, and the other approximately 60 miles south of the mouth of the Mississippi River. Both of these areas are seaward of the most southerly leasing areas. An additional area, designated for the incineration of wastes, also is located seaward of the portion of the Gulf of Mexico leased, or proposed for leasing, for oil and gas exploration and production.

Cultural Resources - Cultural resource surveys are required for OCS oil and gas operations, in compliance with the Historic Preservation Act of 1966, as amended, the Archaeological and Historic Preservation Act of 1974, Executive Order No. 11593, and other legislation, cooperative agreements and policy directives regarding the protection of cultural resources, and based on the location of project activities in respect to the cultural resource sensitivity line of demarcation (Visuals No. 1 and 4, FEIS NO. 51) developed by Coastal Environments, Inc. (1977). This line is a reflection of "high probability" limits based on a zonation map developed as a synthesis of the known archaeological record for the entire Gulf Coast, an interpretation of possible prehistoric settlement patterns based on the geomorphology of the Outer Continental Shelf, and data on the occurrence of known historic shipwrecks on the Northern Gulf of Mexico from 1500 A.D. through 1945 A.D. Based on information gathered from a geophysical survey and data analysis and recommendations of a marine survey archaeologist, either structure surface locations are positioned to avoid discovered possible anomalies of potential cultural resource significance, or those anomalies are further evaluated by a marine survey archaeologist as not having potential as significant cultural resources.

Lease sale stipulations provide further safeguards for the protection of presently unknown cultural resources. The operator is required to report, upon discovery of any object or site of historical or archaeological significance, to the Area Supervisor, USGS, and to make every reasonable effort to preserve and protect that cultural resource until directions have been given for proper disposition.

Recreation - Recreation is an important use of the coastal portions in all of the Gulf states. Beach oriented activities such as swimming, boating, and picnicking are important along the Florida, Alabama, Mississippi, and Texas coasts and at locations in Louisiana. Sport and

recreational fishing are significant recreational activities on the OCS adjacent to all of the states. Although the presence of offshore structures is believed to be an advantage to recreational fishing, the most significant use is believed to be limited to those platforms within 48km (30 mi.) of shore.

References

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2. Factbook, Onshore Facilities Related to Offshore Oil and Gas Development. New England River Basins Commission, Boston, Massachusetts.

3. FEIS Sale No. 43.

4. FEIS Sale No. 44.

5. FEIS Sale No. 65.

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ATTACHMENT III

SOCIO-ECONOMICS

Employment - Most of the marine oil and gas activity in the Gulf of Mexico has been carried on adjacent to the coast of Louisiana and the upper Gulf Coast of Texas. As a result of this past level of operations, an extensive industrial organization has developed to provide the materials and supplies required.

During the year 1972, the oil and gas well drilling industry (S.I.C. Industry Group 1381) in the United States employed approximately 45,200 persons, 25,100 of these were employed in the States of Louisiana and Texas. The offshore component of the oil and gas well drilling industry employed approximately 4,600 persons in Louisiana and 500 in Texas. Industry S.I.C. 1389 includes 2,700 persons in Louisiana providing miscellaneous oil and gas field services to the offshore industry. During 1972, the total man months of employment in offshore drilling amounted to 61,200 and an additional 32,400 man months of employment was recorded for the contract oil and gas field service industry.

Industry No. S.I.C. 1311 includes persons primarily engaged in operating oil and gas field properties. During the year 1972, approximately 116,600 persons were employed in this industry, 46,700 in Texas and 20,000 in Louisiana. The total domestic offshore component of this industry included 5,300 persons; approximately 4,000 attributed to Louisiana, 300 attributed to Texas, and the balance to California and Alaska.

Due to the expansion of domestic oil and gas operations, the levels of employment have probably increased over the 1972 data.

Development and production activity requires the provision of facilities for the drilling of wells, the installation of the equipment for producing the oil and gas, and the provision of a means for transporting the crude products to processing facilities.

The oil and gas wells may be either drilled from a platform, or by a moveable drilling unit, such as a drillship, jack-up, or semisubmersible unit. A moveable unit may employ approximately 72 persons as drilling personnel and an additional 41 persons as dockside support, air and boat crew, supervision, and in the provision of services such as mud engineering, logging and cementing Drilling from a platform may require a smaller number of personnel.

The usual employment practice involves work at the drilling or production site for a period of several days, then an equivalent period of time ashore in an off duty status. The offshore worker can choose to live at some distance from an embarkation point, and some sources have indicated a radius of approximately 250 miles from the embarkation point would include the residential locations of most workers.

There is little incentive for a change in residential location due to operations on a single platform.

Requirements for Supplies and Services - The requirements for drilling oil and gas wells are similar whether the well is drilled onshore or offshore. The requirements for a well can vary, but typical supply requirements could include approximately 10,000 feet of casing of various sizes, 3,500 sacks of cement, 20,000 sacks of mud material, 200,000 gallons of fresh water, and 100,000 gallons of diesel fuel. Onshore services that may be required for a drilling program include welding, trucking, hardware, supply and grocery and drug stores. According to data published in the 1972 Census of Mineral Industries (S.I.C. Industry Group 138) during the year 1972, approximately 2,627 wells were drilled in Louisiana, and 6,007 wells were drilled in Texas. The total number of wells drilled offshore in the United States amounted to 828, probably most of these were located in the Gulf of Mexico. If the assumption is made that the requirements for the drilling of approximately 8,600 wells were met by the existing industrial and commercial suppliers, particularly when a large number of offshore wells was completed during 1972, the additional requirements for a drilling program on a single lease would not require an expansion of the existing supply facilities.

Petroleum Refining - Due to the extensive network of pipelines, and the marine facilities for transfer and shipment, crude petroleum from many geographic aras may be refined and processed in the Gulf of Mexico area.

During the month of June 1978, the total crude petroleum input for refineries in the Louisiana Gulf Coast Refining District amounted to approximately 68 million barrels. Approximately 39 million barrels were obtained from domestic sources, and 29 million barrels were imported from foreign sources. In the Texas Gulf Coast Refining District, during June 1978, approximately 51 million barrels of domestic crude petroleum, and 54 million barrels of foreign imported crude petroleum were processed. The Louisiana Gulf refining district includes 25 refineries with a crude oil distillation capacity of 2.4 million barrels per day, and the Texas Gulf refining district includes 31 refineries with a crude oil distillation capacity of 4.0 million barrels per day.

During June 1978, offshore crude petroleum production attributed to Louisiana amounted to approximately 842 thousand barrels per day, 754 thousand barrels per day from Federal leases, and 88 thousand barrels per day from state leases. Offshore production from Texas amounted to 9 thousand barrels per day, 1.6 thousand barrels per day from Federal leases, and 7.4 thousand barrels per day from state leases.

The combined daily production from Federal OCS leases adjacent to these two states amounts to approximately 756 thousand barrels per day, approximately 12 percent of the refining capacity in the coastal refining districts.

It appears most probable that crude petroleum production from an additional lease, or group of leases, would not result in an expansion of refinery capacity. The most probable effect of such new production would be to replace domestic production from depleting domestic leases or to substitute for equivalent volume of imported crude oil. In this event, no incremental air impact would result from refining of the crude petroleum produced from additional leases.

Pipelines - The following table shows the mileage of pipelines in place in the various states bordering the Gulf of Mexico on January 1, 1977:

State	Pipeline Mileage	
	Gathering Lines	Crude Oil Trunklines
Alabama	40	157
Florida	19	34
Louisiana	2,776	3,862
Mississippi	421	1,329
Texas	24,025	27,811

These pipelines have been developed to connect producing leases with the refining centers in the Gulf of Mexico and other portions of the nation.

As of December 31, 1977, there were more than 9 thousand miles of oil and gas pipelines permitted on the OCS. Additional pipeline facilities installed for the purpose of linking new productive leases to processing facilities are usually short segments. No additional trunk line mileage is anticipated to result the incremental production attributed to a single lease, or small number o. leases.

Platform Construction - According to data listed in the FES for OCS Sale No. 45, there were twelve yards in Louisiana and Texas constructing platforms for use in marine drilling and production activities. Subsequent articles in trade journals have noted proposals to increase the capacity of existing yards, or to provide additional platform construction facilities. Although the expansion of the platform construction facilities would appear to be related to increased marine oil and gas operations, this probably cannot be attributed to the requirements of a single lease or group of leases.

Population Changes - No changes in the location of residence locations of persons engaged in drilling operations would be anticipated from operations in the central portion of the Gulf of Mexico. In the event that development drilling took place in an area remote from current operations, a small number of persons might be employed in support activities. During the exploratory drilling that followed Sale No. 32 (MAFLA), four temporary bases were established in Florida and Alabama. The total employment at these four bases amounted to 83 persons, 39 hired in the local community and 44 transferred to the base location. Employment, and resulting population movements, of this size are not believed to result in requirements for additional social services or modification to the existing social patterns is anticipated from the minimal economic and social impacts of development drilling activity.

During production operations, which may extend for a period of years, some change in residence location may take place on the part of persons employed at the production site. These changes in residence location would involve small numbers of persons.

Further information relating to the requirements for development and production operations will be found in Factbook, a publication of the New England River Basins Commission and the Resources and Land Investigations Program of the U.S.G.S. and the Final EIS prepared for OCS Sale No. 43.

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ATTACHMENT IV

Cumulative Impacts of Gulf of Mexico OCS Oil and Gas Activity

GENERAL

The development of offshore petroleum production began off the Louisiana coast during the late 1940's. In 1953, Congress ratified the Truman Proclamation of 1945 by passing the Outer Continental Shelf Lands Act. According to U.S. Supreme Court decisions, the state of Louisiana has jurisdiction over mineral extraction activities within 3 miles of the shoreline, while the Texas and Florida (Gulfside) territorial boundaries extend approximately 10.5 nautical miles. When reference is made to the OCS, this area includes that portion of the Gulf seaward of these state boundaries, and when reference is made to offshore activity, the entire area seaward of the land portion of the various states is applicable.

Over the past 30 years, marine oil and gas activity has affected, and been effected by other uses and resources of the Gulf of Mexico and adjacent areas. Recent studies of environmental conditions in the Gulf of Mexico area, and statistical information obtained over several years have made it possible to assess, to some degree, the cumulative impact of OCS operations on the developed portions of the OCS and adjacent states. The first Federal lease sale took place during October 1954, but oil and gas production had previously been established in marine areas under state authority.

Each of the states bordering the Gulf of Mexico contains producing oil and gas fields, and oil and gas exploration has been carried on to some extent in the coastal waters of each of the states. Offshore oil and gas production has been developed only in the marine waters of Texas and Louisiana.

As a result of lease sales held since 1954, approximately 13 million acres had been leased on the Gulf of Mexico OCS for oil and gas development. After exploration and/or production some of this acreage has been relinquished, and as of September 1979, approximately 4.3 million acres of GOM OCS leases were classified as producing and approximately 3.8 million acres were classified as non-producing. These figures include leases which were issued by other authorities prior to 1954 and since that time have been determined to be Federal leases.

Over the years, the number of wells, platforms, and miles of pipeline on the GOM OCS has increased, reflecting the activity resulting from this leasing activity. For comparison, statistical data at end of year 1975 are compared with the appropriate data from a recent year.

Status At Year End

Facility	1975	1979	Net Change
1. Wells (number)			
a. Drilling wells	387	560	+ 173
b. Producing and Service	6,217	8,211	+1994
c. Plugged and abandoned	5,513	7,319	+1806

Status At Year End (Continued)

Facility	1975	1979	Net Change
2. Platforms (number)			
a. Manned platforms	342	660	+ 318
b. Major platforms	1,020	1,192	+ 172
c. Total platforms	2,079	2,420	+ 341
3. Pipelines (miles)			
a. BLM permitted	4,689	6,417	+1728
b. GS permitted	2,440	4,685	+2245

Note that the above data points refer to the number of facilities on the OCS at points in time, and show the change in number of facilities between these two points in time. The figures for change are net changes in some instances, and may not reflect the total additions of new facilities, since the figures include facilities removed as well as additions.

Oil and condensate production from the Gulf of Mexico OCS reached a peak in the year 1972, when approximately 389.3 million barrels were produced. After that year, oil and condensate production generally declined, and during 1978, 280.2 million barrels were produced.

Natural gas production from the GOM OCS has continued to increase, and during the year 1978, approximately 4.4 trillion cubic feet were produced.

To summarize the above exploration and production information, levels of activity and the number of facilities have increased notably during the past five years, and although the production of natural gas from the OCS has continued to increase, the production of oil and condensate is below the level reached during the year 1972.

The environmental effects that may result from oil and gas activity are evaluated prior to offering the tracts for lease in Environmental Impact Statements prepared for each lease sale. In addition to these sale specific EIS's, Environmental Statements have been prepared on activities that encompass several lease sales, such as the EIS prepared in 1974 that considered the environmental effects of a proposed increase in the amount of acreage offered for leasing, and the DEIS prepared in 1979 for the proposed 5 year leasing schedule.

HAZARDOUS ENVIRONMENTAL CONDITIONS

The Gulf of Mexico is subject to several natural phenomena which have some potential to cause or contribute to the environmental impacts that may result from oil and gas activity. Hurricanes and tropical cyclones are considered to present the greatest natural hazard, particularly since hurricane winds approach 200 miles per hour. The hurricane season extends from June through October, and during an average year there are fewer than ten tropical cyclones, or six hurricanes off the Gulf and Atlantic coasts.

Seismic risk from earthquakes is of low importance in the Gulf of Mexico since no known damage from earthquakes has been recorded to an offshore oil platform or installation in the Gulf. There is some minor risk of an earthquake of low intensity in northern Florida and western Mississippi. Small earthquakes have been reported in central Florida, in an area approximately 250 miles south of Pensacola, and in Gulfport, Mississippi. Seismic risk for the western Gulf of Mexico is considered minimal.

Potentially hazardous seafloor conditions such as unstable slopes, shallow gas accumulations, faulting, or karst topography are present in some areas of the Gulf of Mexico. The delineation of these areas is being accomplished by means of the DOI Special Study Program, shallow hazards surveys conducted by lessees and operators, and investigations and studies carried on by the Geological Survey.

The presence of geological conditions that may affect the safety of proposed operations are considered and appropriate additional measures are made conditions of approval for plans submitted by lessees and operators.

CUMULATIVE EFFECTS ON BIOTA

The cumulative effects of marine oil and gas operations on phytoplankton and zooplankton populations are not readily quantifiable. Oil spills would be expected to reduce primary productivity through direct killing of phytoplankton and by reducing sunlight penetration into the water column. Plankton populations are capable of rapid recovery and the impacts of catastrophic spills are probably short-term in nature. The effect of chronic low-level pollution is not completely answered, but plankton populations and productivity in the Gulf of Mexico have not shown any dramatic shifts in the last 25 years, aside from seasonal variation, although the data to support this conclusion are sketchy. Nekton could be affected by ingestion of tainted food and by uptake of dissolved toxics, however, the experience in the Gulf of Mexico with commercial finfish and shellfish catches indicate no diminution in total catch or catch per effort (pg. 187, vol. 2 DEIS 74-90). The conclusion reached after consideration of the possible effects of leasing an additional 1.5 million acres was that "there was no evidence to indicate that oil/gas operations in the Gulf of Mexico as a result of this proposal will adversely affect fisheries resources". (pg. 89, DEIS Sale A62 and 62)

Benthic life in the Gulf of Mexico is apparently not suffering large-scale adverse effects from present offshore development.

DEIS 74-90 contained excerpts from St. Amant (1973):

"Louisiana coastal areas with more than 25,000 producing wells, with some fields that have been in production for more than 40 years, and most of which has existed for 20 years, serves as a type area of high production and long term pollution". "Long-term exposure in Louisiana does not seem to have resulted in significant changes in the biotic productivity of the marine system and the presence of normally occurring hydrocarbons at levels of from 100 to 500 ppm in bottom mud tend to confuse attempts to determine accumulative levels of petroleum hydrocarbons in the substrate." A possible reason for the absense of environmental damage is the presence of oil consuming microbes in the coastal waters of Louisiana.

"The fact that a long period of large scale oil extracting activities has not reduced the productivity of major fisheries along the Gulf Coast of Louisiana suggests that many populations in offshore regions can accommodate long term, low level intrusions of oil." (Onuf (1973) in DEIS 74-90)

The environmental effects of the production and transportation of oil and gas were studied by the National Marine Fisheries Service and reported in the publication Environmental Assessment of an Active Oil Field in the Northwestern Gulf of Mexico prepared annually for several years. The Buccaneer Oil Field is located on the OCS approximately 51.5km (32 mi.) south of Galveston, Texas. The facilities include two major platforms, two auxiliary platforms, and 14 satellite platforms. The platforms are connected with pipelines, and a major 20 inch pipeline connects the field to onshore facilities. The water depths are approximately 19-20m (62'-66'). Three of the 34 active wells in the field produced oil at the time of the investigations. The produced oil and brine was separated on Platform A. The oil was pipelined to shore while brine was discharged into the Gulf at a point 1.5m (5') above the surface. Approximately 138 cubic meters (868 barrels) of brine was discharged per day during the period January 1975, and February 1976. The average oil content of the brine was 25.1 ppm., and the salinities were measured at 50ppt and 40ppt on two occasions during 1976. Although oil on the sediments was reported to have been periodically observed near the platform by another observer, no obvious trace of oil was found by divers during the NOAA study. Ocean surface current flows were generally westward during the winter and easterly during the summer.

Macrobenthic populations were found to vary both seasonally and areally. Populations decreased with lowering temperatures and increased with increasing temperatures. The Buccaneer Field populations were found to be almost an order of magnitude larger than a benthic population collected offshore from Freeport, Texas in 1973 and during a South Texas OCS Study during 1976. The average quarterly populations usually ranged from 5000-7500 individuals. Three areas with depressed populations were found, two in close proximity to the platforms and one some distance east of the field in an area of clay bottom. Populations larger than 7500 individuals were found at distances ranging from 1000m to 3000m from the platforms. Population diversity was high around one platform and no consistent trend was noted around the other platform. Meiobenthic populations were found to be smallest during October-November and to increase through April, and this trend did not correspond with changes in sediment temperature. Populations of fewer than 110 individuals were found in the vicinity of the platforms, but these distributions were found to be erratic and not to vary directly with the distance from the platform. The seasonal meiofaunal population variation was apparently related to some unknown factor, perhaps predation. The results of the study showed that the macrobenthic populations were depressed near Platforms A and B and that apparent zones of enrichment occurred 1000-2000m distant from the platforms. The meiobenthic populations may also have been depressed around the platforms, but large populations were found close to Platform A. Possible explanations for the relatively poor populations were the presence of a toxic substance, possibly produced water, or unsuitable substrate in the vicinity of the platforms, or fish and larger invertebrates were preying on the benthic fauna.

Demersal finfish and macro-crustaceans were collected in the vicinity of the Buccaneer Oil Field during 1976-1977 by means of trawls, traps, and longlines used during four cruises. The platform area had the largest catch (based on number per hour), and the highest percentage of total number of species compared to two control areas in the vicinity of the platforms. During the sampling with the trawl net, the investigators found it advisable not to trawl closer than 91.44m (300') of the structures. Weather and sea conditions determine how close to structures trawling may be conducted.

The ichthyoplankton data indicated that the oil field and adjacent coastal waters are highly productive, and species diversity was greater in the field area as compared to the control area during the entire study. The investigators suggest that the oil platforms and other structures serve as artificial reefs and are attracting fish that utilize this area for spawning, feeding and shelter.

A study of the biota existing as a fouling community on the structures revealed the existence of sixteen types of algae and 101 invertebrates. Unoccupied space was rare in the natural community, and the benthic fauna below the structures was apparently enriched by the food resource represented by barnacles and other invertebrates dislodged from the structures. The larvae of fouling invertebrates may make a signicficant contribution to the food of planktivorous fishes and nektonic invertebrates.

Produced brine had adverse effects on the fouling community directly under the discharge pipe including lower densities and biomass of most fouling organisms, lower survival rates of barnacles, lower rates of production and lower rates of recolonization.

The structures in the Buccaneer Oil Field were concluded to have either an insignificant impact on some species or a benefical effect on other species of migratory birds. Observations made during the spring quarter revealed a number of dead birds on the platform, These birds were believed to have died as a result of exhaustion due to the long overwater flight from the Mexican coast.

Dye studies indicated that produced brine discharge penetration was relatively shallow (10 to 12m average penetration, 3 to 6m maximum concentration), and that dispersal of produced brine in the ocean waters was a function of current velocity and direction. Data did not show that brine discharge and other possible contaminants from the platform adversely affected the ichthyoplankton abundance, occurrence, or distribution in the oil field. Biota and sediments outside of the immediate vicinity of the production platforms did not contain petroleum hydrocarbons, and petroleum contamination of water beyond 0.2km (656') of the production platform could not be ascribed to Buccaneer Oil Field production activities.

CUMULATIVE IMPACT ON ENDANGERED/THREATENED SPECIES

There is no historical evidence of a measurable impact to endangered/threatened species from OCS oil/gas activities in the Gulf of Mexico region. However, there is a possibility of a moderate localized impact to discrete populations of brown pelicans in the southeastern Louisiana coastal area and marine turtles in the northwestern Florida coastal area, from oil spills and/or construction activities. (DEIS A62 and 62)

CUMULATIVE IMPACTS ON SHIPPING

In some areas of the Gulf of Mexico, the presence of structures may pose a hazard to shipping.

From 1961 to 1977, there were 12 major collisions with OCS structures, eight of these occurred at night. Only one incident involved casualties. This was the Globtik Sun/Chevron Platform collision, where six tanker crewmen died. The Hunt Oil Company's Platfor "A", located at Eugene Island, Block 63, was involved in two accidents in a period of 16 months.

While the number of offshore structures in the Gulf of Mexico has increased steadily since 1964, the number of accidents involving these structures and ships has decreased.

CUMULATIVE IMPACTS ON COMMERCIAL FISHING

The fisheries of the Gulf of Mexico are dominated by estuarine associated species, and estuaries and coastal areas are more sensitive to oil spills and oil-related perturbations than the open ocean. Therefore it should follow that, if major adverse impacts have occurred over the years, it should have affected those fisheries. Presently, we have no evidence indicating any lasting impact on these estuarine - associated fisheries. (FEIS A62 and 62)

During 1977, menhaden landings of 1,[illegible] million pounds accounted for 35 per cent of the total commercial landings in the United States, and shrimp was the second most important species in quantity landed in the United States and first in value. In terms of quantity of commercial fishery landings, the second most important U.S. port was Cameron, Louisiana, the third most important was Pascagoula-Moss Point, Mississippi, the fourth was Empire, Louisiana, and the fifth was Dulac-Chauvin, Louisiana. During 1977, Louisiana led all states in volume of landings with 917.5 million pounds. In value of landings, Louisiana ranked third, behind Alaska and California .

The most important domestic fishery in the Gulf of Mexico as measured by weight of catch in 1977 was menhaden. The landings of Gulf menhaden were 986.5 million pounds, a decrease of 251.3 million pounds from the previous year. The 1977 landings were the lowest since 1969 and were attributed to poor weather in the early part of the season and a poor showing of fish in late summer.

The reduced menhaden landings of 986.5 million pounds were below the average landings of the years 1972-76 which amounted to 1,182.3 million pounds. The increased Gulf shrimp landings of 265.9 million pounds were above the 5 year average landings of 195.4 million pounds.

Gulf landings of shrimp during 1977 were 265.9 million pounds, a record catch. The previous record was the prior year, 1976. The Louisiana harvest was 26 per cent eater, and the Texas harvest 22 per cent greater than the previous year.

The largest shrimp production areas are in Terrebonne and Lafourche Parishes with Barataria and Caminada Bays being the traditional center of brown shrimp production in Louisiana (Dames and Moore 1975; White 1975). Only slightly less important are Timbalier and Terrebonne Bays. These are areas with much OCS activity. (Mumphrey, A.J. 1978)

The oyster industry could be affected by oil spills or by salinity changes induced by channeling and dredging for oil related facilities. A study on the effects of an oil spill on oysters found that after a period of 2 months, the oily taste had disappeared from most of the population in the most contaminated area. Mumphrey (1978) included a table providing the catch of Louisiana oysters from 1940 to 1974. The catch has ranged from 13 million pounds in 1968 to 4.7 million pounds in 1966. During the years 1970-1974, the catch has ranged from 8.6 to 10.5 million pounds. Based on the above statistic' comparisons, it appears reasonable to conclude that oil and gas exploration, production, and transportation activities have not resulted in a detectable adverse effect on those commercial activities which are dependent on a viable near shore and on shore environment.

During the year 1976, approximately 706 vessels were constructed for the United States and Puerto Rico fishing fleets. Of this number, approximately 249 were constructed for the Gulf fisheries, 230 for the Pacific Coast, and a lesser number for the other fishing areas.

CUMULATIVE IMPACTS ON RECREATIONAL FISHING

OCS activity is believed to enhance recreational fishing offshore in the Gulf of Mexico within leased tracts which are ultimately developed, especially those within 20 miles of shore. Continued and increasing petroleum leasing and development activity in the Gulf has resulted in the establishment of approximately 2500 offshore structures. These structures have had a profound effect on the patterns of offshore Gulf recreational fishermen.

Recreational fishing effort was noted by the investigators in the vicinity of the platforms at the Buccaneer Oil Field. The number of boats in the area ranged from 0.0 to 25.0 on different sampling days, and averaged 2.85 boats on weekdays and 10.8 boats on weekend days. The highest fishing effort occured in late August and September, and bottom fishing was the most common activity. Approximately 22 species were caught by recreational fisherman, but the most common included red snapper, king mackerel, and Atlantic spadefish.

CUMULATIVE EFFECTS ON WATER QUALITY

While short-term effects in the vicinity of operations have been observed in a few cases, no significant water quality degradation in the Gulf of Mexico resulting from OCS oil and gas operations has been observed.

In the Summary of Scientific Results taken from Baseline Survey of the MAFLA Lease Areas, BLM Contract No. 08550-CR 4-11, written by Dr. F.T. Manheim and included in Appendix E of the FEIS prepared for OCS Sale No. 41, some data concerning water quality in the Eastern Gulf of Mexico has been summarized. Dr. Manheim noted that significant inputs of pollutants of both hydrocarbons, heavy metals and pesticides were noted from a number of estuaries, bays and other areas in a previous study, notably Mobile, Escambia, and Choctawhatchee bays, and phosphate wastes, other industrial effluents and sewage waste inputs still occur in Tampa Bay, though at reduced levels. Hydrocarbons in selected barrier bar sediments have been investigated, but the traceable pollutants (chiefly in sediments) do not extend far offshore. The Mississippi River contributes an enormous volume of sediments which contain signigicant, although sparsely documented, pollutants, and are intermittently swept far eastward under special current conditions.

During this study, two types of water column investigations were carried out. Water column samples (111 Samples) were obtained from surface, middle, and bottom layers of the water column of the eastern Gulf of Mexico shelf. Results of the analysis of these samples yielded levels of hydrocarbon that could be expected for equilibrium with the atmosphere. A subsequent sampling of surface water samples revealed hydrocarbon levels from 2 to 20 times equilibrium values in area between Apalachicola Bay and the Mississippi River Delta. A possible explanation provided for these findings was that a mass of water from the vicinity of the oil production platforms around the Mississippi Delta had been carried by river-freshened waters eastward along the coast.

Suspended particulate matter was found to be .368 mg/l in the east of the Mississippi River, compared to values between .091-.217 mg/l for other areas of the northeastern Gulf of Mexico, and dissolved organic carbon and particulate organic carbon values were also generally higher in the OCS area adjoining the eastern margin of the Mississippi Delta, although some inconsistencies were noted in the data.

The location of the Louisiana Offshore Oil Port is 57km (31 nautical miles) due west of the Southwest Pass of the Mississippi River, and is located in the midst of extensive oil and gas production fields. Baseline environmental surveys performed in this area noted the influence of the Mississippi River discharge and concluded that water clarity was least in those stations located closer to shore. The hydrocarbon content of organic matter extractable by carbon tetrachloride varied from 0.043 to 0.017 ug/ml, based on observations at two stations at two points in time.

Sea water samples from the vicinity of the Buccaneer Oil Field were collected and analyzed by NMFS. Total n-alkane ranged from 0.7 ppb to 24.8ppb. The surface water samples clearly contained petroleum-derived n-alkanes, with maximum concentrations around n-octadecane.

The bottom water samples did not contain such compounds but did contain a group of n-alkanes which were probably of bacterial origin. Subsequent sampling discovered surface water n-alkane concentrations of 29.7ppb and 35.3ppb in control areas compared to concentrations of 4.6-9.2ppb in the center of the oilfield. Additional samples collected as much as 10 nautical miles from the center of the oilfield contained hydrocarbon concentrations less than 1ppb.

CUMULATIVE IMPACTS ON RECREATIONAL ACTIVITIES

Continued and expanded leasing in the Gulf of M[illegible]co is supporting the industrialization of the South and indirectly contributing to the coastal population migration phenomena. More people with more disposable income are impacting existing park and recreational facilities in the coastal zone and are increasing demands for additional recreational access to waterfront or shoreline beach sites.

Gulf of Mexico Recreational Fishing Activity

Year	Thousands of fishermen	Expenditures thousands $	Catch (finfish) 000's pounds
1955	1,077	$ 98,209	ND
1960	1,437	$ 144,857	411,110
1965	2,084	$ 176,104	[illegible],575
1970	2,272	$ 404,646	[illegible]728

CUMULATIVE IMPACTS ON ECONOMIC AND LAND USE ACTIVITY

The most intensively explored and developed portion of t[illegible] Continental Shelf lies seaward of the coast of Louisiana. A review of the [illegible]al and economic conditions in the Louisiana coastal regions provides some conception of the long-term cumulative effects of marine oil and gas activity, but it must be kept in mind that although marine oil and gas activity is a significant industry in the area, it is not the only economic activity.

A survey of the Morgan City economy provides a concept of the levels of employment and the various skills required for an area with an extensive marine oil and gas related economy and is probably representative of an area with an above average concentration of this type of economic activity.

Lafourche Parish, located on the Gulf of Mexico south of New Orleans and east of the Morgan City area, contains support facilities for marine oil and gas activity in addition to industries devoted to activities other than marine oil and gas.

Data concerning the entire coastal portion of the state will be found in the other appendices.

Morgan City forms part of an urban complex including the City of Berwick and the unincorporated areas of Patterson and Amelia, as well as Morgan City itself. It is located on the Atchafalaya River approximately 18 miles from Atchafalaya Bay which opens into the Gulf of Mexico. The Gulf Intracoastal Waterway passes along the south side of the city. Highway and rail transportation links to New Orleans, Baton Rouge, and Texas cities are established, and air transportation is provided by heliport at Amelia and a general aviation airport at Patterson.

The economic base of the area rests on agricultural activities, transportation, fishing, and the oil and gas industry. Formerly fishing and forestry were relatively greater economic considerations, but the cypress has been logged, and port activities associated with fishing have become more dispersed throughout the coastal zone.

The decline in fish landings in the Morgan City area appears to be part of a trend for dispersal of landing points along the Gulf coast. Wider dispersion of landing points was made possible by the installation of refrigeration on the fishing boats or by easier access to manufactured ice.

As OCS-related industries expanded in the Morgan City area, additional land was required for fabricating yards, support facilities, and residential and commercial construction. Initially, land adjacent to Bayou Boeff in agricultural use was converted to uses related to marine oil and gas activity. As the demand for space continued, swampland was reclaimed, possibly due to its waterfront location or the difficulty of commuting from other locations.

Morgan City is located in St. Mary Parish. Employment patterns have shown a declining [illegible] percentage of employment in agriculture, forestry and fisheries, food and kindred products, lumber and wood products, railroads, private household workers, and hotels and other personal services. The declines may in part be due to the virtual extinction of the heavy cypress forests, and the reduction of shrimping activity in the Morgan City and Berwick areas, possibly due to the petroleum industry's ability to compete for waterfront space.

The population of St. Mary's Parish increased from 6,442 persons in the year 1830 to 39,368 in the year 1910. During the following 20 year period, the population decreased to 29,397 in 1930. The population has increased to 60,752 in 1970, and it is of some interest that in the year 1950 the population had not yet regained the total population level recorded 40 years earlier.

During the 30 year period 1940-1970, the urban population increased from 11,243 to 39,609 and represented 65.2 per cent of the parish's population during 1970. This changing pattern reflects the decreased employment in forestry, fishing and agricultural activities.

Employment in the category of mining in St. Mary's Parish is believed to be indicative of employment in oil and gas extraction. Employment in this category has increased since 1930 when 44 persons were so employed to 418 in 1940; 1,112 in 1950; 1,855 in 1960; and 2,352 in 1970. The changes in employment in this category between 1950 and 1970 are believed to reflect employment in OCS related mineral extraction activities.

The results of a survey concerning the distribution of employment in the year 1976 for Morgan City was included in Outer Continental Shelf Impacts, Morgan City, Louisiana, Louisiana Department of Transportation and Development (1977).

A questionnaire was sent to 200 firms, and responses were received from 66 of these. The total number of employees of these responding firms was 8,471. A total of 1,850 persons were employed in petroleum production, drilling, surveying and drilling mud companies, 3089 were employed in the fabrication of structural steel, 1,417 in offshore transportation, and 331 [illegible] and equipment.

The number of employees in Industry SIC 1311, Crude Petroleum and Natural Gas, contacted by the survey amounted to 800, approximately 14 per cent of the total of 5,600 persons employed in the total U.S. offshore segment of this industry during 1977, according to the 1977 Census of Mineral Industries (MIC 77-1-13A(P) U.S. Department of Commerce (Nov. 1979).

During 1972, 4,600 of 11,400 Louisiana workers in the oil well drilling industry worked in the offshore segment of the industry. During 1977, comparable detail has not become available, but it appears reasonable to assume that the 952 employees of the contract drilling industry represents a similar percentage of the total Louisiana offshore drilling industry during 1977.

Morgan City is therefore believed to be representative of a community with an economy extensively conditioned by the requirements for OCS drilling and production operations including transportation and the manufacture of structures required for marine petroleum production activities.

The 800 employees of the oil and gas production industry (SIC 1311) represented 53 occupations. These occupations employing more than 50 persons included Craftsmen (106), Roustabout (99), Foreman (80), Pumper (75), and Operator (50).

The contract drilling industry (SIC 1381) employed 952 persons representing 57 occupations . More than 50 persons were employed as Rotary Helper (158), Roustabout (153), Derrickman (62), and Motorman (57).

Survey work (SIC 1382) employed 46 persons in six occupations principally as Boat Captains, Deckhands, and Cooks. Drilling Mud and Chemicals (SIC 1389) employed 52 persons representing 14 occupations, principally engineers.

Pipeline Construction (SIC 1623) employed 78 persons representing 15 different occupations. The most numberous occupations were Dredge Operators (16) and Dredge Oiler (16).

The Fabricated Structural Steel Industry (SIC 3441) employed 3,089 persons in 69 occupational specialties. Among the largest occupational groups represented were Welders (1,029), Fitters (609) Riggers (266), Heavy Equipment Operators (138), Maintenance (60), Blaster and Painters (58), Electricians (54), and Mechanic (53).

The Oil Field Machinery and Equipment Industry (SIC 3533) in Morgan City employed 331 persons representing 32 occupations, principally Welders (60), Assemblers (54), and helpers.

Offshore transportation was reported to employ 1,419 persons in 39 occupations. The largest employment groups included Deckhands (296), Engineers (291), Masters (164), Cooks (146), AB Seaman (118), and Riggers (86).

Towing and tugboat services (SIC 4454) employed 89 persons in 11 occupations. The principal employment categories were Captain (28), Deckhand (12), and Wheelman (12).

Industrial machinery and equipment (SIC 5084) includes firms engaged in marketing this type of equipment. In Morgan City, 102 persons, representing 21 occupations were employed in this industry. The principal occupations were Shop Mechanic (23), and Field Mechanic (17).

Firms marketing industrial supplies employed 194 persons in 39 occupations. Warehouseman (42), Sales (36), and Managers (16), were the occupations with the largest number of employees.

Electronics and electrical companies employed 180 persons in 34 occupations. The largest employment was in the categories of Technicians (41), General Office (21), and Manager (24)

Miscellaneous services included 34 occupations employing 1,142 persons. Employment with an obvious link to marine oil and gas operations include Galleyhands (634), Stewards (160), Second Cook (64). Divers (50), and Tenders (66).

Considering the employment in the above industries to be essentially related to marine oil and gas operations, direct and support employment in the Morgan City economy represents an aggregate employment of 8,410 persons in 153 occupations. The following table shows the number of persons employed in those occupations with more than 200 employees in all of the industrial firms responding to the questionnaire:

OCCUPATION	NUMBER OF EMPLOYED
Fitters	612
Welders	1,120
Riggers	361
Galleyhands	634
Deckhands	355
Roustabouts	266
Engineers	297

At the time of the survey (December 1976) approximately 2,023 vacancies among the various occupations was reported by the responding organizations. The most numerous vacancies were in the occupations of Deckhands (485), Ship's Cook (124), Welder (172), and Welder's Helper (108), although vacancies were present in 69 occupations.

Although Morgan City was the location of the employment, the locations of the residences of the various workers were found to be widely distributed among at least 16 Louisiana parishes, 44 Louisiana communities, and 8 states in addition to Louisiana.

Of those persons employed in oil production activity (Industry 1311), oil well drilling activity (Industry 1381), and oil field services (Industry 1382), approximately 632 resided in Louisiana, 405 of which were located within approximately 20 miles of Morgan City. Approximately 142 resided in five states other than Louisiana, and the residential location of approximately 600 could not be specified.

Urban and industrial development in the Morgan City area including the communities of Berwick, Bay Vista, Patterson and Amelia had resulted in the urbanization of 20,037 acres of land by the year 1976. Approximately 2,800 acres of this land was required for industrial purposes. The urban population associated with this urban acreage was estimated to amount to 43,900 persons, indicating a ratio of approximately 1 acre of land required for urban use for each addition of 2.2 persons to the population.

In Lafourche Parish, employment in Industry 138 (Oil and Gas Field Services) increased from 1,545 during 1964 to 1,635 during 1966, declined to 1,116 during 1968, and to 621 during 1969. During 1970, employment stood at 678, declined to 562 during 1971, increased to 801 during 1972, and stood at 755 during 1973.

Employment in SIC 13 (Crude Petroleum and Natural Gas) which includes the employment classified under industries 131, 132 and 138 stood at 2,149 in 1964. During subsequent years, employment ranged between 1,000 and 2,000 individuals and reached a low point of 1,070 during 1971. During the next two years however, employment stood at 1,302 during 1972 and 1,245 during 1973.

Bayou Lafourche is located in Lafourche Parish, and is the location of several ports utilized by the marine oil and gas industry, including Leeville and Golden Meadow. Water transportation is used for many products including crude petroleum, and since the area contains oil and gas development in land and water areas within the state as well as on the Outer Continental Shelf, all of the crude petroleum transported cannot be attributed to OCS production.

The principal freight commodities transported on Bayou Lafourche include crude eum, sulphur, water, shells, and manufactured products.

	Quantity (thousands of short tons)		
ITEM	1954	1964	1974
Crude Petroleum	100.6	732.6	441.6
Distallate fuel oil	20.6	60.4	46.0
Sulphur	149.7	352.9	134.2
Water	92.3	323.0	211.2
Shells	246.7	133.8	390.5
Shellfish	20.4	3.6	25.0
Manufactured products	0	0	115.4
Sugar	36.1	60.9	40.8
Other	120.5	175.6	80.6
	786.9	1,842.8	1,485.3

During the years 1970 through 1973, the total employment in Lafourche Parish ranged between 23,125 and 24,725 persons. Employment in the category of Mining amounted to between 1,070 and 1,302 persons. Therefore, approximately 5 per cent of the employment in this parish was related to oil and gas exploration, development, and production activity. Only a portion of this mining employment pertained to OCS operations.

Some of the tonnage moved on Bayou Lafourche consisted of manufactured products or materials required in manufacturing industries. A paper mill at Lockport on the Bayou Lafourche receives sodium hydroxide, and during the year 1972, manufacturing of fresh and frozen shrimp, animal foods, boat and boat repairs, sugar and molasses, milk, sausage, were present in the communities of Leeville, Golden Meadow, Lockport, Thibodaux, and Cut Off.

During 1975, the Leeville heliport, a private facility, served as a base for 16 helicopters and 16,700 helicopter arrivals and departures, serving 41,250 passengers were recorded during that year. The Grand Isle heliport, also privately owned, was the base for two helicopters. During 1975, 3,200 operations serving 8,000 passengers were recorded for this location.

The Louisiana Coastal Zone comprises all or a portion of twenty-two parishes and encompases almost seven million acres. Within this extensive area are a number of thriving urban centers which have developed directly as a result of the easy access to shipping channels, oil and gas reserves, seafood beds, and other natural resources. However, expansion of these urban areas has been hindered by the scarcity of naturally dry land suitable for development. None the less, technology has made possible the spread of urbanization into the wetlands, but this process is not without a number of serious ecological drawbacks and developmental problems. (Mumphrey, et al, December 1976). This publication provided a summary of existing parish zoning, subdivision, and building codes as of the date of publication. All parish-wide subdivision regulations provide minimum specifications for lots, set-backs, streets, water supply, sewage disposal, drainage, and utility service. In Lafourche Parish, elevations below sea level and drainage design parameters are required, and in St. Mary Parish, areas that have been flooded during the previous ten years must be identified.

All small and large scale development occuring in "navigable waters" including unprotected flood areas requires a permit issued by the U.S. Army Corps of Engineers. The initial legislation assigning these powers to the Corps of Engineers was the Federal Water Pollution Control Act Amendments of 1972. Subsequent administrative and judicial interpretations have clarified the meaning of the term navigable waters to include all coastal wetlands, mud flats, swamps, and similar areas that are contiquous or adjacent to other navigable waters. Among the activities regulated are placement of fill, building of any structures requiring rock, sand or other pollutants, site development fills, sanitary landfills, and other alterations.

Public Opinion Relating to Additional Industrialization

During May 1977, the Louisiana Legislature established a program known as Louisiana: Priorities for the Future. The Joint Legislative Committee on Intergovernmental Relations was designated as the Louisiana Committee on Priorities and was directed to involve broad public participation in recommending priorities for the state government to pursue during the 1980's. The program was sponsored by Governor Edwin Edwards, the Louisiana Legislature and the Council for a Better Louisiana. During 1978, study committees were formed in eight areas of concern; Crime and Justice, Economic Development, Education, Energy, the Environment, Natural Resources, Government, and Human Concerns. During the fall of 1978, a series of eight conferences were held, and suggestions from the public led to amendments, deletions and additions which were incorporated into the final proposals. The participants voted on each separate proposal by means of a rating system which permitted the expression of various degrees of approval ranging from "very highly favored" to "strong opposition".

On a state wide basis, the responses to various subtopics included under the general heading of "Economic Development" indicated general support by the participants for industrial activity as a means of increasing employment within the state.

A proposed priority entitled: "Louisiana Should Make Concerted Efforts to Attract New Business and Industry to both Rural and Urban Areas of the State" resulted in the following assessments. A recommendation that labor-intensive industries should be the highest priority among industrial inducement efforts and a recommendation that local governments be made aware of grants and assistance available to improve facilities (such as utilities, sewerage, and housing) needed to attract industry were very highly favored. Highly favored priorities included strengthening the efforts at the Department of Commerce and Industry to meet or exceed industrial inducements of competing states, establish better liason between the Department of Commerce and Industry and local industrial development committees and target Louisiana's industrial inducements toward the manufacture of high-technology, end-user products and corporate headquarters and other white-collar "industries".

Considerations of a priority entitled "Encourage Expanded Exploration and Production of Oil and Gas" lead to a highly favored rating for a proposal to adopt a liberal policy toward opening state lands to exploration; encourage accelerated Federal leasing of the Outer Continental Shelf along the Gulf Coast, Atlantic and Pacific seaboards and other potentially productive areas. Also very highly favored was a proposal to provide tax and other incentives at the state level to stimulate the use of renewable energy resources and geopressure and geothermal energy.

On the priority entitled: "Balance Economic Expansion With Sound Environmental Management and Conservation of Natural Resources", very highly favored proposals included; enforce litter laws and increase beautification efforts, and the state to established a comprehensive program for the management of natural resources and the preservation of ecological systems. The priority entitled: "Establish a Strong Comprehensive and Balaced State Costal Resource Management Program"

received the following Very Highly Favored recommendations; protect continuing productivity of the states fisheries and marine life by adequately controlling excessive and unwise harvesting practices, to authorize an existing state agency to study means of maintaining, protecting and preserving Louisiana's coastline; and to assist local governments in establishing their Costal Zone Management programs.

REFERENCES

1) BLM, DOI
Draft Environmental Statement (DES 74-90) Proposed Increase in Acreage to be offered for Oil and Gas Leasing on the Outer Continental Shelf (1974).

2) BLM, DOI
Draft Environmental Statement, Prosed Five-Year OCS Oil and Gas Lease Schedule, March 1980 - February 1985, October 1979.

3) BLM, DOI
Draft and Final Environmental Impact Statement, Proposed OCS Sales A62 and 62. January 1980.

4) Environmental Assessment of an Active Oil Field in the Northwestern Gulf of Mexico (1977-1978) NOAA/NMFS Annual Report to EPA. Volume 1, Synopsis, June 1979.

5) Johnson, D.B. and Farber, S.
The Impact of Oil and Gas Exploration, Development, and Production on the Outer Continental Shelf of Louisiana, Louisiana State Planning Office, (July 1976).

6) Kilma, Edward P.
Environmental Assessment of an Active Oil Field in the Northwestern Gulf of Mexico, 1976-1977 Southeast Fisheries Center, NMFS, NOAA, U.S. Department of Commerce, 1977.

7) Mumphrey, A.J. Jr., et al
The Impacts of Outer Continental Shelf Development on Lafourche Parish, Coastal Resources Program, Louisiana Department of Transportation and Development, August 1976.

8) Mumphrey, A.J. Jr. et al
Urban Development in the Louisiana Coastal Zone = Problems and Guidelines. Coastal Resources Program, Louisiana Department of Transportation and Development, December 1976.

9) Mumphrey, A.J. Jr.
Environmental Planning for Offshore Oil and Gas, Volume V, Part 3, Gulf Coast Region, The Conservation Foundation, Washington D.C. (1978).

10) Renner, James R.
The Coastal Zone = An Overview of Economic, Recreational and Demographic Patterns. Coastal Resources Program, Louisiana Department of Transportation and Development, November 1976.

11) Stallings, E.F.
Outer Continental Shelf Impacts, Morgan City, Louisiana Coastal Resources Program, Louisiana Department of Transportation and Development, June 1977.

APPENDIX I

REPORTS AND REVIEWS

FROM

GEOLOGICAL SURVEY

UNITED STATES GOVERNMENT
MEMORANDUM

AUG 04 1980

To: Section Chief, ~~Engineering~~ OPERATIONS and Environmental Section, GOMA (OS-7)

From: District Supervisor, Freeport District, GOMA (FO-3)

Subject: Geologic Hazards Review

Plan of Exploration (X) - Development/Production (X) Supplemental
Area(s) _____
Block(s) _____
Lease(s) _____
Operator(s) _____

The subject proposal includes — platforms, 1 3 wells, and — miles of pipelines.

Seafloor Hazards: Company found none. Surface location of the three wells is site of proposed platform "A"

Subsurface Hazards: Logs of nearby well, and geology indicate nothing unusual

BEST AVAILABLE COPY

Other Hazards (Pipeline, Sunken Ships, Cables, etc.) None are indicated

Other Known Mineral Resources (Sand, Gravel, Shell, etc.) NA

Recommendation for approval: Yes

District Supervisor

cc:

Preparer(s): C.W. Pearson
L.B. Baker

TABLE 1

IMPACT EVALUATION

SECTION A

POTENTIAL ENVIRONMENTAL IMPACTS OF PROPOSED PLAN
(Refer to Geologic Hazard Review Appendix I)

A 1. Evaluate the following environmental parameters for their potential to affect the proposed operations.

PARAMETER	IMPACT RATINGS N/A; Minimal (1); Moderate (2); Maximal (3)
SHALLOW HAZARDS	1
BOTTOM STABILITY	1
UNUSUAL MARINE TOPOGRAPHY	1
OTHER GEOLOGIC PARAMETERS	1

A 2. Evaluate the potential for these environmental parameters to be contributory causes of the following accidents, or impacts to public health or safety.

BLOWOUTS	1
FIRE AND EXPLOSION	1
OTHER SAFETY MATTERS	1

UNITED STATES GOVERNMENT
MEMORANDUM

August 19, 1980

To: Deputy Conservation Manager, Offshore Operations Support, GOM OCS Region (OS-7-1)

From: Deputy Conservation Manager, Offshore Reserves and Development, GOM OCS Region (RD-3-1)

Subject: Plan of Development, OCS-G 3245, High Island Block A-508, Control No. N-0588

The Development Section has reviewed the subject plan of development for reasonable and timely lease operations and has found the plan to be acceptable.

Activities under this plan are in agreement with the deadlines imposed by the approved suspension of production activity schedule for this lease.

for J. Rogers Pearcy

Enclosure

cc: Lease OCS-G 3245 (OMS-2-3)
FO-3

RLMcDonald:gdl

UNITED STATES GOVERNMENT
MEMORANDUM

August 18, 1980

To: Environmental and Operations Section, Offshore Operations Support, GOM OCS Region (OS-7-1)

From: Chief, Pipeline Approval Section, Offshore Operations Support, GOM OCS Region (OS-5)

Subject: Plan of Development/Production (POD/P) for High Island Area, Block A-508, Lease OCS-G 3245, SO 2974-3173, 30 CFR 250.34 Control No. N-0588

The Pipeline Approval Section has reviewed the subject plan and addendum thereto and finds the data satisfactory. It is noted that the proposed pipeline addressed within this POD/P will be a BLM permitted pipeline. We anticipate that the gas purchaser will install the proposed pipeline.

Douglas Steinmuller

cc: SEQ 4 - Kerr-McGee - 30 CFR 250.34 (w/plan) (OS-5)
101-04 (OS-5)
Lease OCS-G 3245 (OMS-2-3)

RCNemecek:GHSchonekas:nnk

APPENDIX II

COORDINATION AND COMMENTS

NOTE

DATE August 20, 1980

Plan: Development / Production

Company: Kerr-McGee Corporation

Control No. 0588 SD 2974- 3173 Lease OCS-G 3245

Well(s) — Platform(s) A

Block A-508

High Island Area, South Addition, — Extension

Per telephone conversation of Today's date, I received a verbal statement regarding the subject plan from:

- [x] Fish and Wildlife Service, Rural Intern
- [ ] Diligence Section
- [ ] _____ _____District
- [ ] Pipeline Section
- [ ] State of _____

The following comments were offered:

No objection

Emile F. Beranger, Jr.
Signature

N 0585

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

U.S. Post Office & Courthouse Bldg.
601 Rosenberg - Room 239
Galveston, Texas 77550

August 15, 1980

Memorandum

To: Conservation Manager, USGS, Metairie Louisiana

From: Acting Field Supervisor, FWS, Galveston, Texas

Subject: Review of Exploration and Development Plans, Offshore Texas

The Fish and Wildlife Service has reviewed the following oil and gas exploration and development plans in accordance with Secretarial Order 2974. No unique biological features or assemblages have been identified within close proximity of the offshore locations which would be affected by the proposed activities. Therefore, the Service has no objections to or special operating recommendations for these plans.

SO 2974 No.	OCS-G Lease No. and Applicant	Location	Type Plan
S-486 3144	4138-Marathon	Matagorda 558 & 565	3 Exploratory Wells
N-581 3163	4076 & 4265 Rutherford	High Island 105 & 143	2 Production Platforms
S-491 3160	3242-Arco	High Island A-466	Production Platform
N-588 3124A N-581	3224-Oxy	Brazos A-6	1 Exploratory Well
3173	3245-Kerr-McGee	High Island A-508	3 Exploratory Wells
K-153 2557A	3021-ARCO	Mustang Island 762	1 Exploratory Well

Kenneth D. Peterson

cc:
Manager, BLM, New Orleans, LA
Area Supervisor, NMFS (EAB), Galveston, TX
Regional Director, FWS, Region 2, Albuquerque, NM (BSP)
Area Manager, FWS, Area 1, Austin, TX (LNV)

N-0588

IN REPLY REFER TO
1780.11(210)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

NEW ORLEANS OUTER CONTINENTAL SHELF OFFICE
HALE BOGGS FEDERAL BUILDING
500 CAMP STREET-SUITE 841
NEW ORLEANS, LA. 70130

August 11, 1980

Memorandum

To: Conservation Manager
Gulf of Mexico Region

From: Manager
New Orleans OCS Office

Subject: Recommendations for Application, S. O. 2974-3173; Lease G3245

This office has examined the above application referred for our consideration by your office in compliance with Secretarial Order No. 2974. An information sheet has been prepared reflecting pertinent data for each block affected by this application and it is enclosed for your consideration.

Enclosure(s)

U.S. GEOLOGICAL SURVEY
RECEIVED
AUG 12 1980
OPERATIONS SUPPORT
GULF OF MEXICO REGION METAIRIE, LA.

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

NOTED - SIMONEAUX

SECRETARIAL [illegible] 2974 [illegible] SHEET

Date USGS Memo Received: _____

Date USGS Telephone Request Recd: 8-4-80

Date Information Mailed to USGS: 8-11-80

USGS Contact: _____

Authorization Number: 2974- 3173

Area: High Island, South

Block: A-508

Type Application: Supplemental POD

LEGAL INFORMATION:

Lease or P/L R/W	OCS No.	Lease Sale Date or P/L Date	Lease Subdivision	Lease Operator or P/L Owner
OCS G	3245	7-29-75	All	Kerr-McGee

☑ The affected lease(s) has undergone previous S.O. 2974 check(s), the most recent of which was S.O. 2974-0680.

CARTOGRAPHIC INFORMATION:

☑ There are no BLM-permitted pipelines in this block.

☐ There are _____ BLM-permitted pipelines in this block which are more than 1,000 feet from the proposed location.

☐ There are _____ BLM-permitted pipelines in this block which are less than 1,000 feet from the proposed location, and are submitted below:

Completed by: [signature] Date: 8-11-80

CULTURAL INFORMATION:

☐ Required ☐ Completed _____ ☐ Incomplete ☐ Not Required

Comments: No survey recommended. Lease area is located [illegible] more and no cultural resources are on record in this lease area.

Completed by: [signature] Date: 8/8/80

BIOLOGICAL INFORMATION:

☒ There are no known unique or significant undersea features located in this block.

☐ We have the following comments about biological resources in this block:

Completed by: [signature] Date: 8/11/80

We have no unique geologic information in this block to add to your existing geophysical data.

APPENDIX III

ENDANGERED/THREATENED SPECIES

ACTIVITY REVIEW

ACTIVITY REVIEW FOR ENDANGERED/THREATENED SPECIES

An environmental review for the following activity has been conducted in accordance with 50 CFR Part 402, Section 402.04, which implements Section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.):

Plan of Development/Production, A platform, 3 wells

OCS-G 3245 err-McGee Corporation

High Island Area, Block A-508

The activity has been reviewed to determine its potential to jeopardize the continued existence of an endangered or threatened species or result in the adverse destruction or modification of their critical habitat and the following determination has resulted:

X 1. In my opinion the above activity will not affect listed species or their habitats.

____ 2. In my opinion the above activity may affect listed species or their habitats and a consultation is recommended with Fish and Wildlife Service and/or National Marine Fisheries Service.

for [signature]
Section Chief
Environmental and Operations Section

8/21/80
Date

X 1. I determine that the above activity will not affect listed species or their habitat.

____ 2. I determine that the above activity may affect listed species or their habitats. A formal consultation was held with Fish and Wildlife Service and/or National Marine Fisheries Service. A copy of their Biological Opinion and associated ccordination papers are attached.

for [signature]
Deputy Conservation Manager
Offshore Operations Support

8/21/80
Date

EA NO. 490

APPENDIX IV

CULTURAL RESOURCES SURVEY

(Not required)

APPENDIX V

STIPULATIONS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Stipulations for Oil and Gas Lease Sale #38 & 38A
Outer Continental Shelf
Louisiana & Texas

The area described in Section 2 of this instrument is subject to the following stipulations:

STIPULATION #1 OCS-G 3215
BLOCK NO. A-508

(a) If the Supervisor, having reason to believe that a site, structure, or object of historical or archaeological significance, hereinafter referred to as "cultural resource" may exist in the lease area, shall, within one year from the effective date of this lease, give the lessee written notice that the lessor is invoking the provisions of this stipulation, the lessee shall immediately upon receipt of such notice comply with the following requirements:

Prior to any drilling activity or the construction or placement of any structure for exploration or development on the lease, including, but not limited to, well drilling and pipeline and platform placement, hereinafter referred to as "operation", the lessee shall conduct geophysical surveys to determine the potential existence of any cultural resource that may be affected by such operation. If such geophysical surveys show anomalies that suggest the potential existence of a cultural resource that may be adversely affected by any lease operation, the lessee shall: (1) relocate the site of such operation so as not to adversely affect the anomaly identified; or (2) establish, to the satisfaction of the Supervisor, on the basis of an archaeological survey conducted by a qualified marine archaeologist using such survey equipment and techniques as deemed necessary by said archaeologist, either that such operation will not adversely affect the anomaly identified or that the potential cultural resource suggested by the occurrence of the anomaly does not exist.

All data obtained in the course of any geophysical or archaeological surveys conducted pursuant to the provisions hereof shall be submitted to the Supervisor with any application by the lessee for drilling or other activity, with copies to the Manager, Gulf of Mexico OCS Office, Bureau of Land Management. The Supervisor will prepare a final report, a copy of which shall be supplied to the lessee. Should the Supervisor determine in his report, contrary to the contentions of the lessee, that the existence of a cultural resource which may be adversely affected by such operation is sufficiently established to warrant protection, the lessee shall take no action that may result in an adverse effect on such cultural resource until the Supervisor has given directions as to its disposition.*

The lessee agrees that, if any site, structure, or object of historical or archaeological significance should be discovered during the conduct of any operations on the leased area, he shall report immediately such findings to the Supervisor, and make every reasonable effort to preserve and protect the cultural resource from damage until the Supervisor has given directions as to its disposition.

(b) Structures for drilling or production, including pipelines, shall be kept to the minimum necessary for proper exploration, development, and production and, to the greatest extent consistent therewith, shall be placed so as not to interfere with other significant uses of the Outer Continental Shelf including commercial fishing. To this end, no structure for drilling or production, including pipelines, may be placed on the Outer Continental Shelf until the Supervisor has found that the structure is necessary for the proper exploration, development and production of the lease area and that no reasonable alternative placement would cause less interference with other significant uses of the Outer Continental Shelf, including commercial fishing. The lessee's exploratory

*Adversely affected sites which may be eligible for inclusion on the National Register of Historic Places will be handled according to procedures outlined in 36 CFR 800 (Federal Register, January 25, 1974).

and development plans, filed under 30 CFR 250.34, shall identify the anticipated placement and grouping of necessary structures, including pipelines, showing how such placement and grouping will have the minimum practicable effect on other significant uses of the Outer Continental Shelf, including commercial fishing.

(c) The lessee shall have the pollution containment and removal equipment available as required by OCS Order No. 7, of August 28, 1969, as may be amended. After notification by the Operator to the Supervisor of a significant oil spill as defined by OCS Order No. 7, or an oil spill of any size or quantity which cannot be immediately controlled, the operator shall immediately deploy the appropriate equipment to the site of the oil spill, unless, because of weather and attendant safety of personnel the Supervisor shall modify this requirement.

(d). Upon request of the Supervisor, the geological and geophysical data acquired under this lease and the processed information derived therefrom after it has been processed for the lessee's own use or for delivery to any third party shall be submitted to the Supervisor within 30 days after request. Processed information is defined as data in analog or digital format, the form of which has, in order to facilitate interpretation, been changed through processing operations including, but not limited to, the application of corrections for known perturbing causes, the rearrangement of the data, filtration to remove erroneous signals and interference, and the combination and transformation of data elements. The intent of this provision is to obtain for the United States without cost the geological and geophysical information which the lessee processes for his own use or supplies to third parties. It is not intended to require the lessee to supply interpreted, as distinguished from processed, information.

Without the consent of the lessee, the United States will not, for the life of this lease or until such time as the supervisor determines that release of such material is required and necessary for the proper development of the field or area, disclose: (1) any trade secrets and commercial or financial information which are privileged or confidential and which are received by the Department of the Interior pursuant to this lease, and (2) any geological and geophysical information and data, including maps, concerning wells, received by the Department of the Interior pursuant to this lease.

APPENDIX VI

PROPOSED PLAN

Refer to

Plan Control No. N-0588