

UNITED STATES DEPARTMENT OF THE INTERIOR

MINERALS MANAGEMENT SERVICE

Gulf of Mexico OCS Region

New Orleans, Louisiana

FINAL

SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT

ENDANGERED SPECIES/STRUCTURE REMOVAL(S)

No. ES/SR 98-040

Assessment of the Environmental Impacts
of the Proposal(s) to Remove Platform A in
Brazos Area, Block(s) 455
Lease(s) OCS-G 7220
by EEX Corporation

Date Submitted: May 5, 1998

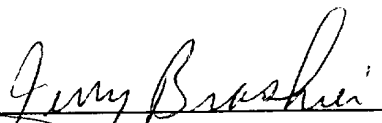
Commencement Date: June/July 1998

Prepared by

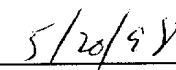
Michael B. Wallace

SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT/FONSI/EIS DETERMINATION

EEX Corporation's application(s) to use explosive means to remove Platform A in Brazos Area, Block(s) 455, OCS-G 7220 has been reviewed. Our SEA on the subject action is complete and results in a Finding of No Significant Impact. Based on the conclusions of the SEA, there is no evidence to indicate that the proposed action will significantly (40 CFR 1508.27) affect the quality of the human environment. Preparation of an environmental impact statement is not required. Mitigation is recommended to ensure environmental protection, consistent environmental policy and safety as required by the National Environmental Policy Act, as amended; or measures needed for compliance with 40 CFR 1500.2(f) regarding the requirement for Federal agencies to avoid or minimize any possible adverse effects of their actions upon the quality of the human environment.



Chief, Environmental Operations Section
Leasing and Environment, GOM OCS Region



Date

INTRODUCTION AND BACKGROUND

The purpose of this Site-Specific Environmental Assessment (SEA) is to assess the specific impacts associated with proposed structure-removal activities. The SEA is based on a Programmatic Environmental Assessment (PEA) (USDOJ, MMS 1987) which evaluates a broader spectrum of potential impacts resulting from the removal of structures (e.g., platforms/caissons across the central and western planning areas of the Gulf of Mexico [GOM] Outer Continental Shelf). The PEA/SEA process is designed to simplify and reduce the size of environmental assessment documents by eliminating repetitive discussions of the same issues. This SEA conforms to the Minerals Management Service (MMS) and other appropriate guidelines for preparing environmental assessments by utilizing data presented in the PEA to complete the assessment. It presents site-specific data regarding the proposed structure removal activities and evaluates the potential impacts. Mitigation measures are contained in this document to lessen potential impacts. Preparation of this SEA has allowed the determination of whether a Finding of No Significant Impact (FONSI) is appropriate or whether further assessment of the proposal(s) is necessary.

I. DESCRIPTION AND NEED FOR THE PROPOSED ACTION(S)

EEX Corporation proposes to use explosive means to remove Platform A in Brazos Area, Block(s) 455 Lease(s) OCS-G 7220. The structure(s) is/are located at a water depth of 89 feet and lie/lies approximately 18 miles south of Matagorda County, Texas. The operator plans to remove the structure(s) by severing legs/piles and well conduits 16 feet below the mudline. Refer to Appendix A for structure specifications, additional data on removal techniques, types and quantities of explosives to be used, and sequence of events.

A discussion of the legal and regulatory mandates to remove abandoned oil and gas structures from Federal waters can be found in the PEA referenced in the Introduction. According to the operator, the lease expired in September 1997.

II. ALTERNATIVES TO THE PROPOSED ACTION(S)

Alternatives to the proposed structure removal(s) with mitigation originally submitted are:

A. NON-REMOVAL OF THE STRUCTURE(S)

The alternative to the proposed structure removal(s) as originally submitted is non-removal. Non-removal of the structure(s) would represent a conflict with Federal legal and regulatory requirements, which mandate the timely removal of obsolete or abandoned structures within a period of one year after termination of the lease, or upon termination of a right-of-use and easement. Therefore, non-removal does not appear to be a valid alternative.

B. REMOVAL OF THE STRUCTURE(S) BY ALTERNATIVE NON-EXPLOSIVE METHODS

MMS initially discussed various structure-removal techniques in the Final Environmental Impact Statement (FEIS) for Proposed Oil and Gas Lease Sales 118 and 122 (USDOJ, MMS, 1988) and in the PEA referenced in the Introduction. Updated information is also found in the FEIS for Sales 169, 172, 175, 178 and 182 (USDOJ, MMS, 1997). It was concluded that the most effective methods of structure removal are the use of explosives, either bulk or shaped charges, abrasive cutters, and underwater arc cutting. Other methods appear promising but require additional development to solve the operational and logistical problems associated with these techniques. Primarily for this reason, these methods do not appear to be feasible alternatives for the removal of the subject structure(s).

Refer to the FEIS (USDOJ, MMS, 1988 and 1995) and PEA referenced in the Introduction for detailed information concerning alternative methods of structure removal(s).

C. REMOVAL OF THE STRUCTURE(S) AS PROPOSED WITH ADDED MITIGATION

It has been determined that the proposed operations fall within the category of activities covered by the National Marine Fisheries Service (NMFS) Biological Opinion of July 25, 1988, which addresses "standard" explosive structure removals in the GOM.

Measures which EEX Corporation proposed to implement to reduce the likelihood of death or injury to sea turtles and marine mammals are discussed in the structure removal application(s). For additional information, refer to the terms and conditions of the "generic" Incidental Take Statement (Appendix B). Outer Continental Shelf Operating Regulations, Notices to Lessees and Operators, and other regulations and laws were identified throughout this assessment as existing mitigation for potential environmental effects associated with the proposed structure removal application(s). Additional information can be found in the Programmatic Environmental Assessment mentioned in the Introduction.

The following mitigative measures will be included in MMS' approval of the proposed structure removal(s) to ensure environmental protection, consistent environmental policy, and safety as required by the NEPA:

1. Our review indicates that there are pipelines in the vicinity of Platform A that may pose a hazard to your proposed operations. Therefore, please be advised that you will take precautions in accordance with Notice to Lessees and Operators No. 83-3, Section IV.B, prior to performing operations.

2. Our review of your application(s) indicate(s) that the routes to be taken by boats and aircraft in support of your proposed activities are located in or could traverse Military Warning Area W-147. Therefore, please be advised that you will contact the Houston ARTC

Center, Houston, Texas 77032 (contact Mr. Ron Lazano at 281/230-5536 or 281/230-5630) concerning the control of electromagnetic emissions and use of boats and aircraft in Military Warning Area W-147.

The Magnuson-Stevens Fisheries Conservation and Management Act, 50 CFR 622.31(a) prohibits the use of explosives to take reef fish in the Exclusive Economic Zone. Consequently, companies/contractors involved in explosive structure removals should not take such stunned or killed fish on board their vessels. Should this happen the company/contractor could be charged by the National Marine Fisheries Service with violation of the Act. If you have any questions, contact the National Marine Fisheries Service at (813) 570-5305.

III. ENVIRONMENTAL EFFECTS, SOCIOECONOMIC CONCERNS, AND OTHER CONSIDERATIONS

In accordance with *The National Environmental Policy Act (NEPA) of 1969, as amended (Pub. L. 91-190, 42 U.S.C. 4321-4347, January 1, 1970, as amended by Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258, § 4[b], Sept. 13, 1982)* and the Council on Environmental Quality (CEQ) implementing regulations (40 CFR Sec. 1502.15) *Affected Environment*, the following potential environmental effects were identified from the proposed action. Mitigative measures are included to eliminate or reduce the potential effect from the proposed activities to a level of insignificance as described in 40 CFR Sec. 1508.27

A. PHYSICAL ENVIRONMENT

A discussion of environmental geology, geologic hazards, meteorological conditions, physical and chemical oceanography, water quality and air quality can be found in the PEA referenced in the Introduction. The proposed structure-removal activities are not in an area of sediment instability (mud flows, slumps, or slides). Environmental effects to the physical environment have been considered, but potential impacts from the proposed activities were deemed insignificant (40CFR 1508.27) and are not discussed in this SEA.

B. BIOLOGICAL ENVIRONMENT

A discussion of coastal habitats, protected, endangered and threatened species (birds, marine mammals, and sea turtles), and sensitive marine habitats are discussed in the PEA referenced in the Introduction. The PEA referenced in the Introduction delineates sensitive areas along the Texas coastline where whooping cranes and brown pelicans could be adversely impacted by structure-removal support activities. Since the operator will use a shorebase in Cameron, Louisiana, no impacts to these sensitive areas are expected.

A discussion of marine mammals occurring across the Gulf of Mexico (GOM) and an assessment of the potential impacts of structure-removal activities on marine mammals can be found in the PEA referenced in the introduction. Fritts et al. (1983) conducted aerial surveys across a 9,514 square mile area of GOM waters. Results of these surveys indicate that the

bottlenose dolphin is by far the most likely marine mammal to be encountered at the proposed structure-removal site. MMS and/or NMFS observers may be utilized to look for marine mammals prior to detonation of the primary charges at the removal site. If marine mammals are detected at the structure-removal site(s), detonation of the primary charges would be delayed until the animals are removed from the area.

NMFS issued final regulations amending 50 CFR part 228 (60 FR 197, October 12, 1995, pp. 53139-53147) for the incidental take of bottlenose (*Tursiops truncatus*) and spotted dolphins (*Stenella frontalis* and *S. attenuata*) by U.S. citizens holding a Letter of Authorization (LOA) that are engaged in structure removals in state and Federal OCS waters of the Gulf of Mexico. The incidental take is limited annually to a combined total of no more than 200 takings by harassment between the period of 13 November 1995 through 13 November 2000.

Please refer to the Federal Register of October 12, 1995 for the description of the specific activity and specific geographical region, permissible methods of taking, prohibitions, mitigation, and requirements for monitoring and reporting.

In spite of these precautions, a low probability exists that marine mammals could enter the blast area undetected and could be injured or killed by the underwater, subsurface detonations. Such an occurrence is considered highly unlikely and with the indicated protective mitigation measures, the proposed structure-removal activities are expected to have only a low impact on marine mammals.

A discussion of sea turtles occurring across the central and western GOM and an assessment of the potential impacts of structure-removal activities on sea turtles can be found in the PEA referenced in the Introduction. Studies by Fritts et al. (1983), and Fuller and Tappan (1986) as well as stranding data from the Sea Turtle Stranding and Salvage Network (Teas, 1995) indicate that sea turtles may occur in the vicinity of the proposed activities and therefore could be impacted by the structure-removal operations. Definitive information on the probability of encountering sea turtles at the removal site(s) during explosive operations is scarce. The NMFS and/or MMS observers will be utilized to look for sea turtles prior to detonation of the primary charges. If sea turtles are detected at the structure-removal site(s), detonation of the primary charges will be delayed until the animals are removed from the area. As in the case of marine mammals, the possibility exists that sea turtles could enter the blast areas undetected and could be injured or killed by the underwater, subsurface detonations. However, with the indicated protective mitigation measures, the proposed structure-removal activities are expected to have only a low impact on sea turtles. A cumulative incidental take has been authorized by the NMFS for this category action, but with all the precautions to be taken as mitigating measures, it is unlikely that any sea turtles will be affected by these proposed operations.

Other environmental effects to the biologic environment have been considered, but potential impacts from the proposed activities were deemed insignificant (40CFR 1508.27) and are not discussed further in this SEA.

C. OTHER CONSIDERATIONS

A discussion of socioeconomic, commercial and recreations fisheries, archaeological resources, military warning areas, explosive dumping areas, navigation and shipping areas, pipelines, cables, other minerals uses, and health and human safety can be found in the PEA referenced in the Introduction.

The proposed structure-removal activities will take place near a vessel safety fairway or anchorage area. Structures located nearshore may serve as "landmarks" to vessels or helicopter operating in the area on a regular basis. The overall impacts of the proposed work on navigation and shipping are expected to be very low.

The proposed structure-removal application(s) indicate(s) that the routes to be taken by boats and aircraft in support of the proposed activities are located in or could traverse Military Warning Area W-147. Therefore, the operator will be advised to contact the Houston ARTC Center, Houston, Texas 77032 (contact Mr. Ron Lazano at 281/230-5536 or 281/230-5630) concerning the control of electromagnetic emissions and use of boats and aircraft in Military Warning Area W-147.

There are existing pipelines within 150 m (490 ft) of the proposed structure-removal activities. Since the operator must adhere to existing laws and regulations for abandonment of structures (including procedures required by Notice to Lessees and Operators No. 83-3), the proposed work will not pose a hazard to pipelines and cables in the area.

Other environmental effects to the socioeconomic concerns have been considered, but potential impacts from the proposed activities were deemed insignificant (40CFR 1508.27) and are not discussed further in this SEA.

For analysis information, see the PEA referenced in the Introduction. Since the PEA was originally written, new concerns have emerged concerning the impacts of explosive structure removals on reef fish populations. On May 9, 1991, the GOM Fishery Management Council expressed concern over the declining stocks of reef fish, especially red snapper. They referred to the antidotal accounts of finfish kills associated with explosive removals of offshore structures in order to link these activities with their concerns about declining populations of reef fish. They further suggested that MMS should hold all explosive structure removals in abeyance until more information becomes available on the effects of these activities on fish stocks. See the PEA (Section on Offshore Habitats and Biota) for a discussion of fish kills in association with explosive structure removals.

MMS has declined to hold all explosive structure removals in abeyance citing the regulatory mandates for structure removals and problems with current non-explosive structure-removal methods. MMS has stated a commitment to carry out studies to assess the impacts of oil and gas structure removals on Gulf fisheries resources and the results of these studies will be used to determine future policies with respect to these activities.

MMS continues to consider the overall impacts of structure removals on commercial fishing to be low. MMS policy of encouraging an active rigs-to-reefs program will help to offset cumulative structure-removal impacts to fisheries resources.

D. UNAVOIDABLE ADVERSE IMPACTS

A discussion of unavoidable adverse impacts can be found in the PEA referenced in the Introduction. Two areas of ongoing concern have been the potential impact to protected, threatened, and/or endangered species and potential loss of habitat to the marine environment. Both topics are discussed in the PEA and previously in this document. A more recent issue of concern has surfaced regarding the impacts of explosive structure-removals on reef fish stocks. This issue has been previously discussed in this document. Although the impacts to commercial and recreational fisheries are considered to be low, further studies information about this issue will be available in the future. Other unavoidable adverse impacts are considered to be minor.

IV. PUBLIC OPINION

A discussion of public concerns regarding structure removals can be found in the PEA referenced in the Introduction. No public comments have been received regarding the proposed structure-removal operations.

In May 1991, the GOM Fishery Management Council requested that MMS place a moratorium over the explosive removal of offshore structures with three or more supports. Non-removal of these structures would conflict with current Federal legal and regulatory requirements which mandate the timely removal of abandoned or obsolete structures within a period of one year after termination of the lease, or upon termination of a right-of-use and easement.

MMS believes that current data on the effects of explosive removals on fish mortality is insufficient to draw any conclusions, and a moratorium on all but single pile caissons at this time is unjustified. In order to quantify explosive effects, MMS initiated an interagency study with the NMFS to determine fish mortalities from removal operations. In addition to the above study, MMS supports an active rigs-to-reefs program and encourages industry to search for a method that will minimize effects on fish from structure-removal operations.

V. CONSULTATION AND COORDINATION

In accordance with the provisions of Section 7 of the Endangered Species Act, as amended, the proposed structure-removal operations are covered by the Biological Opinion issued by the NMFS on July 25, 1988, which established a category of "standard" explosive structure-removal operations. Their comments are included in Appendix B. The NMFS concluded that this category of structure-removal activities will not likely jeopardize the continued existence of any threatened or endangered species under their purview. Additionally, they concluded that this type of "standard" structure-removal activity may result in injury or

mortality of loggerhead, Kemp's ridley, green, hawksbill, and leatherback turtles. Therefore, they established a cumulative level of incidental take and discussed various measures necessary to monitor and minimize this impact (see Appendix B). The NMFS noted that no incidental taking of marine mammals was authorized under Section 101(a)(5) of the Marine Mammal Protection Act of 1972 in connection with this category of structure-removal activities. Therefore, taking of marine mammals by the operator would be prohibited unless they successfully apply for and obtain a Letter of Authorization to do so from the NMFS.

VI. BIBLIOGRAPHY AND SPECIAL REFERENCE(S)

Federal Register. 1995. Incidental take of marine mammals; bottlenose dolphins and spotted dolphins. 60 FR 197, October 12, 1995. pp. 53139-53147.

Fritts, T.H., A.B. Irvine, R.D. Jennings, L.A. Collum, W. Hoffman, and M.A. McGehee. 1983. Turtles, birds, and mammals in the northern Gulf of Mexico and nearby Atlantic waters. U.S. Fish and Wildlife Service, Division of Biological Services, Washington, D.C.

Fuller, D.A. and A.M. Tappan. 1986. The occurrence of sea turtles in Louisiana coastal waters. Coastal Fisheries Institute. Center for Wetland Resources. Louisiana State University. Baton Rouge, LA.

Teas, Wendy, G. 1995. 1994 Semi-annual Report of the Sea Turtle Stranding and Salvage Network. Atlantic and Gulf Coasts of the United States. January - June 1994. National Marine Fisheries Service. Southeast Fisheries Center, Miami Laboratory, 75 Virginia Beach Drive, Miami, FL.

U.S. Department of the Interior. Minerals Management Service. 1997. Final Environmental Impact Statement. Gulf of Mexico Sales 169, 172, 175, 178 and 182: Central and Western Planning Areas. OCS EIS/EA MMS 97-0033. Washington, D.C. Available from NTIS, Springfield, VA.

U.S. Department of the Interior. Minerals Management Service. 1987. Programmatic Environmental Assessment. Structure-removal activities Central and Western Gulf of Mexico Planning Areas. OCS/EA 87-0002. Gulf of Mexico OCS Region, New Orleans, LA.

VII. PREPARERS

Author: Michael B. Wallace,

Typist: Elaine Clark - Secretary

VIII. APPENDICES

- A. EEX CORPORATION CORRESPONDENCE
- B. NMFS CORRESPONDENCE
- C. FISHERMEN'S CONTINGENCY FUND OFFICE HANG SITE MAPS

APPENDIX A
EEX CORPORATION CORRESPONDENCE

M Wallace

<50 lb.

MS 5440
Jerry Brachier

98-040

UNITED STATES GOVERNMENT
MEMORANDUM

Hang Site!

May 5, 1998

To: Chief, Environment Operations Section, Leasing and Environment, Gulf of Mexico OCS Region (MS 5440)

From: Chief, Office of Structural and Technical Support, Field Operations, Gulf of Mexico OCS Region (MS 5210)

Subject: Platform Removal

Operator: Enserch

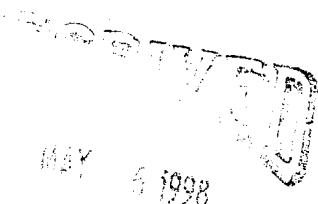
Control No: 98-040

Hangsite at
X = 3124973
Y = 247388.
WB
MAY 11 1998 LEASE

PLATFORM	AREA/BLOCK	
<u>A</u>	<u>BA 455</u>	<u>01567220</u>
_____	_____	_____
_____	_____	_____

Shore Base: Cameron, LA

The attached application is forwarded to your office so that the Finding of No Significant Impact can be prepared. We believe this proposed activity meets the requirements of the generic Endangered Species Act Section 8 Consultation Document. There are/~~are no~~ existing pipeline(s) within 500 feet of the proposed removal location. Please verify if this removal is located in environmentally sensitive areas. Should you require additional information, please contact Mr. Arvind Shah at Extension 2894.



Arvind Shah
Felix Dyhrkopp

Enclosure Minerals Management Service
Leasing & Environment

cc:

AShah:pgm:\wp51\FORMS\50LBS

185 of ...
70
WD 89
June/July 1998
010
units

REVISED 5/21/96

Rec'd 5/5/98



EEX Corporation • 2500 CityWest Blvd., Suite 1400 • Houston, Texas 77042 • Phone: 713-243-3100

May 4, 1998

Minerals Management Service
Gulf of Mexico OCS Region
1201 Elmwood Park Blvd.
New Orleans, Louisiana 70123

Attn: Mr. Arvin Shah

Re: Platform Removal additional information
Brazos 455 "A" Platform
OCS-G-7220

Dear Arvin:

In reference to your conversation with Mr. Bing Schwartz, enclosed is the additional information you requested regarding the removal of the referenced platform:

1. Site Clearance Plan
2. 3 copies of general drawing of the platform
3. 3 copies each of well bore schematics and updated platform/structure removal procedure
4. 3 copies of application for removal with the following updates:
 - a. Wall thickness of piles
 - b. Total number of charges (7)
 - c. Depth of detonation below mud line is 20' primary with a backup of 16' is necessary

Please contact me at (713) 243-3269 if you have any questions or need additional information.

Sincerely,

Jim Johnson
Regulatory Specialist

Enclosures

C: B. Pickard, B. Schwartz, Platform file

PROPOSED OCS PLATFORM & STRUCTURE REMOVAL

COMPANY NAME: EEX Corporation

AREA/BLOCK: BRAZOS BLOCK 455 "A"

OCS NUMBER: OCS-G-7220

DATE: April 14, 1998

I. Responsible Party

- A. Lease Operator Name: EEX, Corporation
- B. Address: 2500 City West Building, Houston, Texas, 77042
- C. Contact person and telephone number: L. E. (Bing) Schwartz (713) 243-3233
- D. Shore Base: Cameron, Louisiana - Ed Boyd (318) 775-7390

II. Identification of Structure to be Removed

- A. Platform name: BRAZOS BLOCK #455A
- B. Location-(lease, area, block, and coordinates): BRAZOS 455A, OCS-G-7220, LAT = 28° 28' 50.043", LONG = 95° 30' 58.598"
- C. Date Installed (year): 1993
- D. Proposed date of removal (month, year): June/July, 1998
- E. Water Depth: 89'

III. Description of Structure to be removed

- A. Configuration: Well Conduits + Jacket Structure + Platform Decking + Pipeline Riser
- B. Size: Main Deck-60'X76'
- C. Number of legs/casings/pilings: 4 Legs / 4 Pilings / 3 Well Conduits
- D. Diameter and wall thickness of pilings/caisson: 53 O.D. Legs (1.375 W.T.) / 42" O.D. Pilings (1"-1.75" W.T.) / 30" Well Conduits
- E. Are piles grouted? No - Pinned at top
- F. Description of soil composition: 0-3.5' - Very Soft Clay / 3.5-21.5' - Silty Fine Sand

IV. Purpose

- A. Production from the wells is minimal. Structure, decking and equipment will be removed, renovated and reused. Lease expired in September 1997.

V. Removal Method

A. Brief description of method to be used: Primary explosive charges set on inside of piling, at 20' and backup charges at 16' below mudline. Wall thickness of piling is 1.75" at proposed location.

B. If explosives are to be used, provide the following:

1. Kind of explosives: Composition "B," less than 50#

a. Single or multiple shots: Multiple (7 Total)

b. If multiple shots, sequence and timing of detonation: One second interval

2. Bulk or Shaped charge? Bulk

a. Depth of detonation below mud line? 20' Primary/16 feet Backup

b. Inside or outside piling? Inside

C. Pre-removal monitoring techniques: Visual

1. Is the use of scare charges or acoustic devices proposed? No

If yes, provide the following:

a. Number and Kind: _____

b. Size of charges: _____

c. Brief description of how, where and when scare charges or acoustic devices will be used: _____

2. Will divers or acoustic devices be used to conduct a pre-removal survey to detect the presence of turtles and marine mammals? Yes

If yes, briefly describe the proposed detection method. Visual.

D. Post removal monitoring techniques:

1. Will transducers be used to measure the pressure and impulse of the detonations? No

2. Will divers be used to survey the area after removal to determine the effects on marine life? Yes-Visual

VI. Biological Information

If available, provide the results of any recent biological surveys conducted in the vicinity of the structure. None available

EEX Corporation

BRAZOS 455A PLATFORM, OCS-G-7220

PLATFORM & STRUCTURE REMOVAL PROCEDURE

1. Mobilize salvage barge(s) to location.
2. Set up at structure.
3. Purge, disconnect, flood, plug and abandon 6" pipeline
4. Remove helideck
5. Remove structure/decks down to elevation 28"-0".
6. Cut 4 ea. 42" pilings and 3 ea. 20" well conduits 16' below mudline using explosives.
7. Remove pilings.
8. Remove jacket structure.
9. Perform 150' radius sweep with divers and Mesotech sonar.
10. Perform 1320" net sweep of the bottom.
11. Transport platform decks and jacket to designated onshore facility.

BEST AVAILABLE COPY

HELIDECK T.O.S.
EL(+) 105'-2"

MAIN DECK T.O.S.
EL(+) 85'-2"

CELLAR DECK T.O.S.
EL(+) 66'-8"

SUB-CELLAR DECK T.O.S.
EL(+) 55'-10"

CL EL(+) 22'-0"

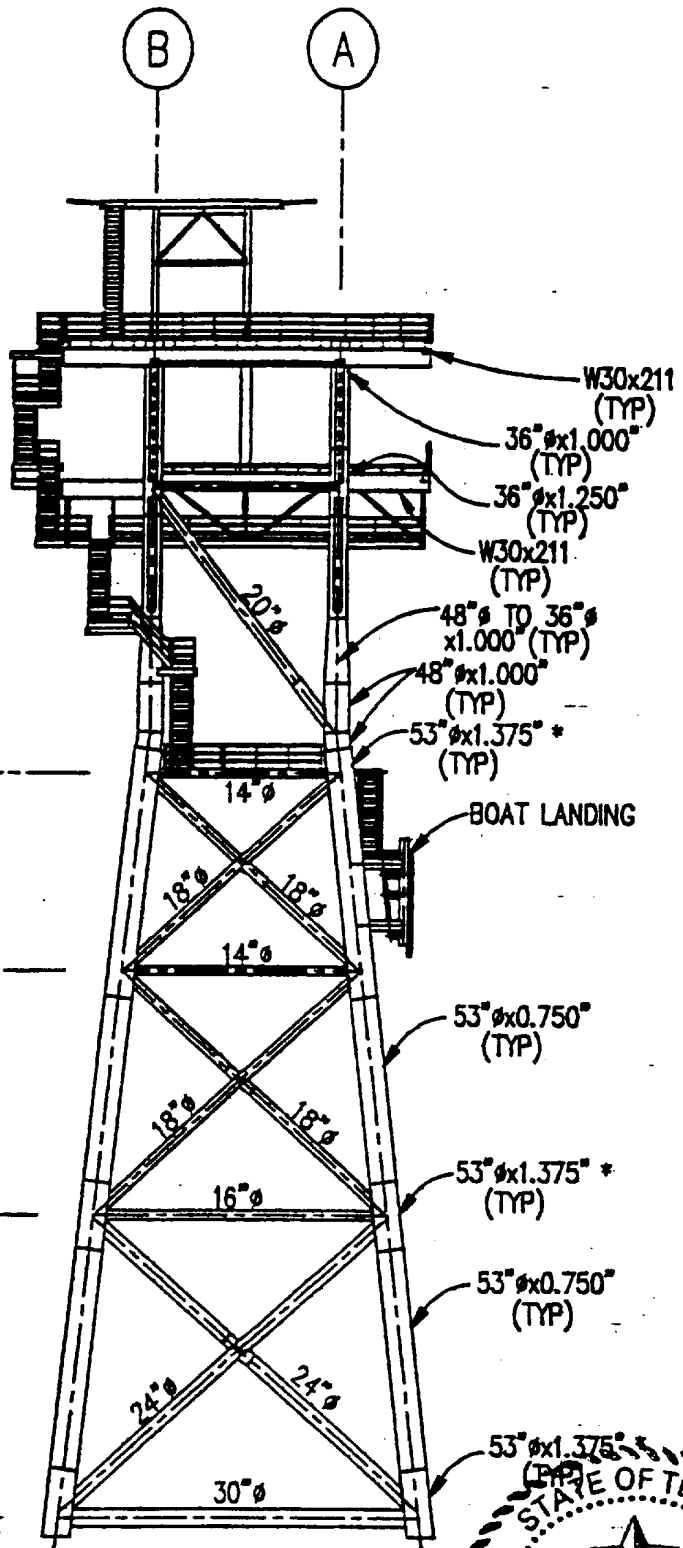
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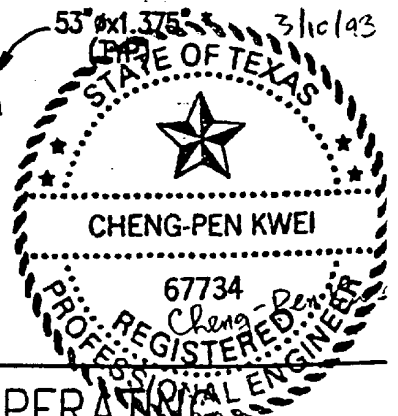
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MUDLINE
EL(-) 89'-0"



ELEVATION ROW "1"
SCALE: 1"=30'-0"

* API 2H GR. 42 MATERIAL



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THRONSON ENGINEERING CORP.

HOUSTON, TEXAS

015

EP OPERATING
LIMITED PARTNERSHIP

ASSEMBLY ELEVATION ROW "1"

BRAZOS BLOCK 455 "A"

DRWN: S.W.	DATE: 2/17/93	JOB NO. 1822	CLIENT APPV:	SCALE: 1"=30'-0"
CHKD: B.D.	DATE: 2/22/93	ENGR.APPV. <	DRAWING NO: A-1822-0403	REV: A

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HELIDECK T.O.S.
EL.(+) 105'-2"

MAIN DECK T.O.S.
EL.(+) 85'-2"

CELLAR DECK T.O.S.
EL.(+) 66'-8"

SUB-CELLAR DECK T.O.S.
EL.(+) 55'-10"

CL EL.(+) 22'-0"

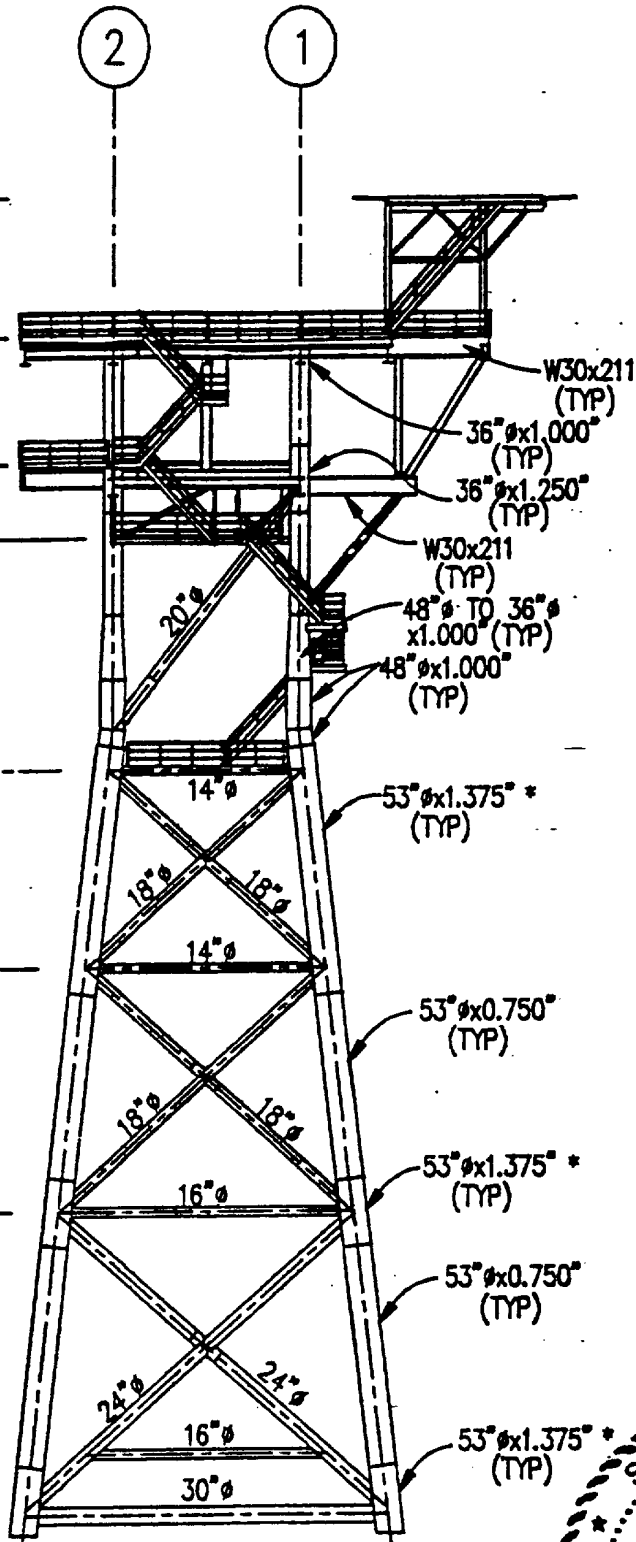
M.L.W. 0'-0"

CL EL(-) 7'-0"

CL EL(-) 42'-9"

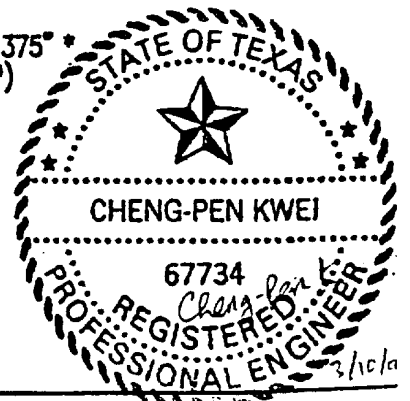
CL EL(-) 86'-9"

MUDLINE
EL(-) 89'-0"



ELEVATION ROW "B"
SCALE: 1"=30'-0"

* API 2H GR. 42 MATERIAL



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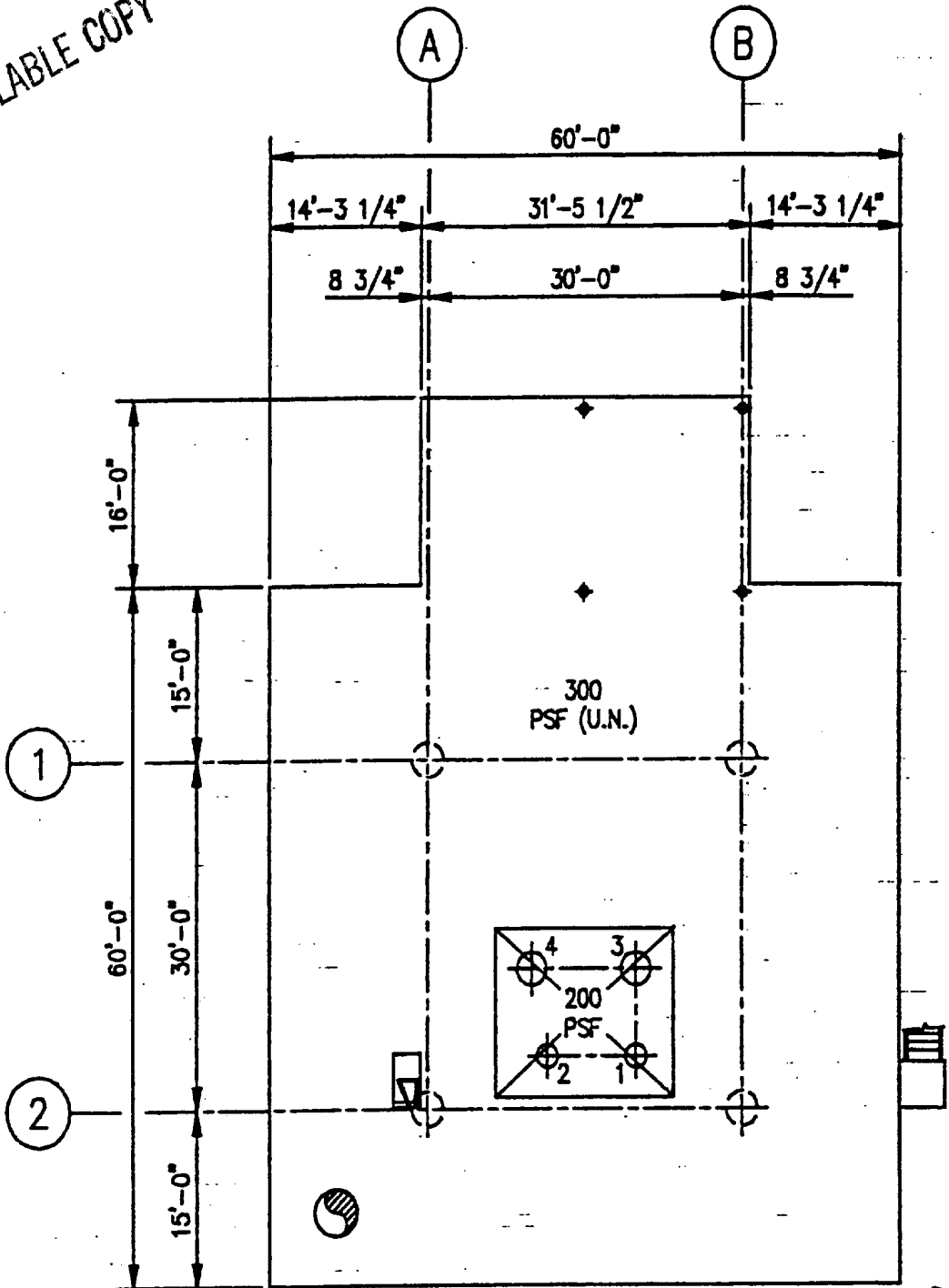
THRONSON ENGINEERING CORP.
HOUSTON, TEXAS

EP OPERATING
LIMITED PARTNERSHIP
016 ASSEMBLY ELEVATION ROW "B"

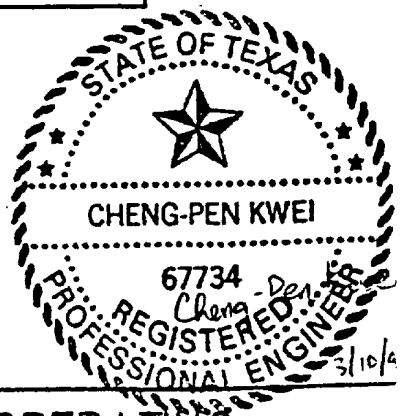
BRAZOS BLOCK 455 "A"

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CHKD: B.D.	DATE: 2/22/93	ENGR. APPV:	DRAWING NO. A-1822-0102	REV: A

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MAIN DECK PLAN
T.O.S. EL.(+) 85'-2"



FILE: 0404 DATE: 03/10/93 TIME: 13:35



THRONSON ENGINEERING CORP.
HOUSTON, TEXAS

EP OPERATING LIMITED PARTNERSHIP
MAIN DECK PLAN

017

BRAZOS BLOCK 455 "A"

DRWN: S.W.	DATE: 2/17/93	JOB NO. 1822	CLIENT APPY:	SCALE: 1/16"=1'-0"
CHKD: B.D.	DATE: 2/22/93	ENGR. APPV. TK	DRAWING NO: A-1822-0404	REV: A

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BRAZOS 455 No. 1

OCS-G-7220

Offshore, Texas

Proposed Well Abandonment

11/13/97 LB

Elevation:

MSL-KB = 83', KB to BHF = 13'

Water Depth = 91'

Packer Fluid: 10.5 ppg CaCl

30" Drive Pipe to 363'
(150' pen.)

20" 133# K-55
Cmtd. w/ 1255 cf

13-3/8" 61 & 68#, K-55
Cmtd. w/ 2277 cf

9-5/8" 53.5# P110

2-3/8", 4.7#, N-80 EUE Tbg.
EOT @ 8878'

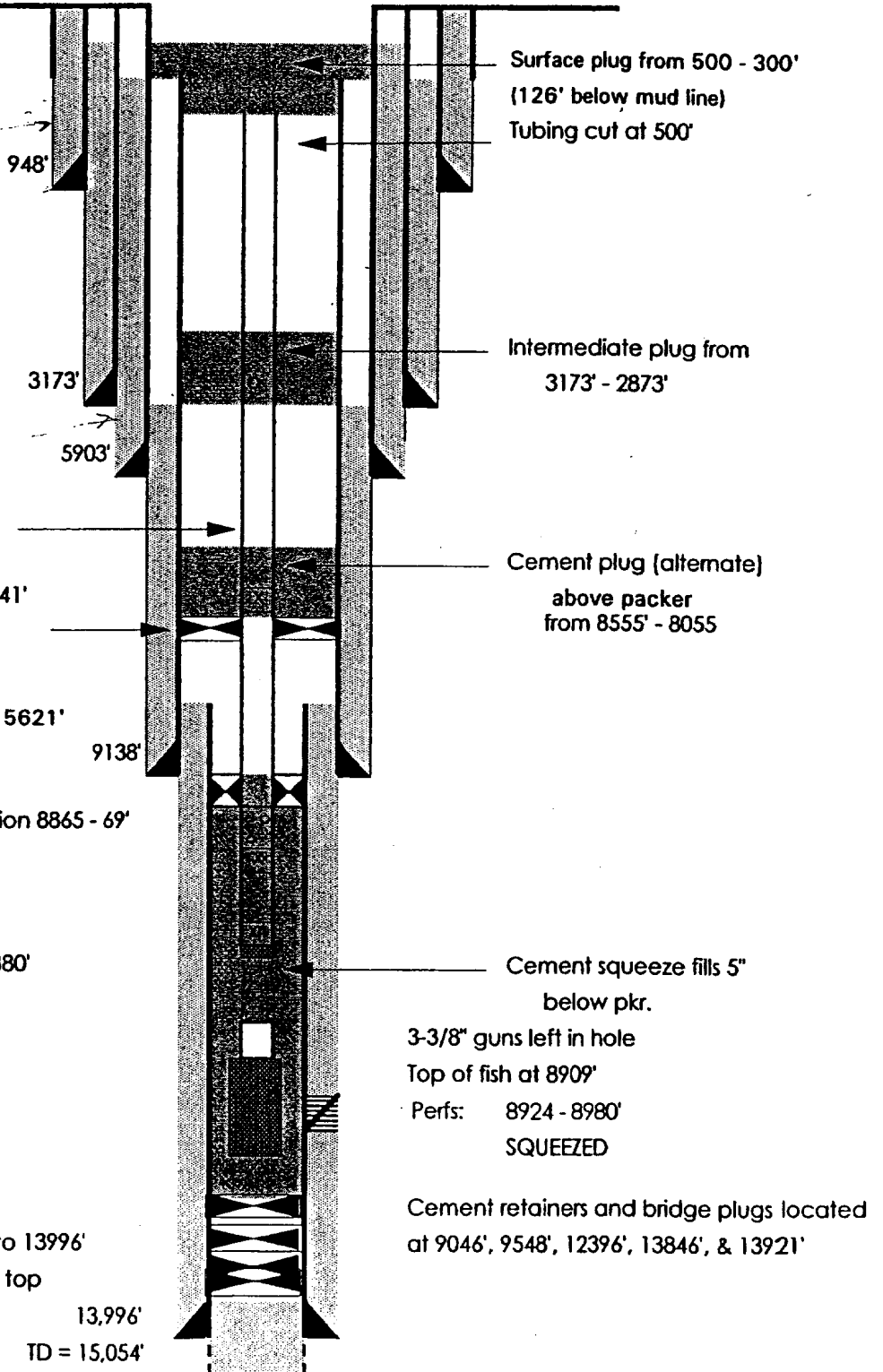
Otis "X" Nipple (ID-1.875") @ 8541'
Isolation Packer @ 8555'

7" Liner, 38# P110, tied to
surface with 7" 26" P110 from 5621'

5" production packer @ 8861'
Tubing perforated for production 8865 - 69'
"X" Nipple (ID-1.875") @ 8870'

"XN" Nipple (ID-1.791") @ 8877'
Pump out plug sub = EOT @ 8880'

5" 20.8# P110 Liner from 8834' to 13996'
Cmtd. w/ 687 cf; sqztd top
w/ 952cf



3-3/8" guns left in hole
Top of fish at 8909'
Perfs: 8924 - 8980'
SQUEEZED

Cement retainers and bridge plugs located
at 9046', 9548', 12396', 13846', & 13921'

13,996'
TD = 15,054'

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ENSERCH EXPLORATION, INC.

BRAZOS 455 No. A-2

OCS-G-7220

Offshore, Texas

Proposed Abandonment 11/20/97 LB

Elevation:

MSL-KB = 88'

Water Depth = 95'

30" Drive Pipe to 373'
(190' pen.)

20" 94# J-55
Cmtd. w/ 3755 cf

13-3/8" 68# K-55 BTC
Cmtd. w/ 6606 cf

2-3/8" 4.7# N-80 EUE Tbg.
Tubing details not available

Note: Tie-back and completion records are missing from files.

9-5/8" 47# P110 LTC
Cmtd. w/ 981cf
(calc TOC = 3711')

7-5/8" Liner, 33.7# P110 HDL
from 6581' to 8668'
Cmtd. liner top w/ 200sx;
cmtd shoe w/ 250 sx

TD = 10,180'

Packer Fluid: 10.5 ppg CaCl

Surface Cmt plug from 550' to 300'
Jet cut tubing at 550'

Hole directionally drilled
below 20" csg., 40° drift angle

300' intermediate plug from
3200' to 2900'.
Perf tbg for circ. at +/-3200'

500' cmt plug on pkr frm 6260 - 5760'
Perf tbg for circ. above pkr.

Gravel Pack Packer @ +/-6260'
Gravel pack configuration unknown

PERFS: 6370' - 6418'

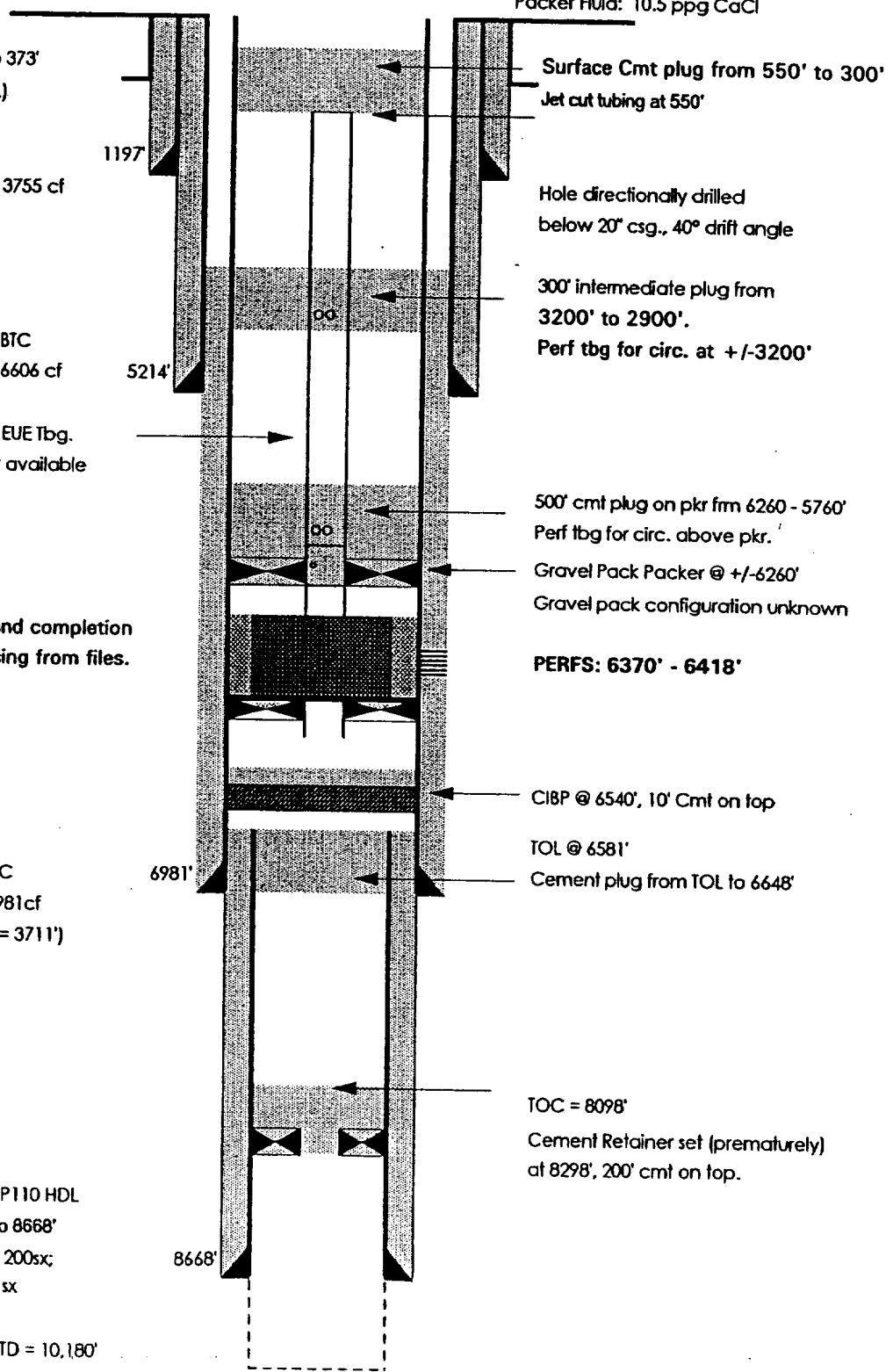
CIBP @ 6540', 10' Cmt on top

TOL @ 6581'

Cement plug from TOL to 6648'

TOC = 8098'

Cement Retainer set (prematurely)
at 8298', 200' cmt on top.



LDB 11/20/97

APPENDIX B
NMFS CORRESPONDENCE



UNITED STATES DEPARTMENT OF COMMERCE
 National Oceanic and Atmospheric Administration
 NATIONAL MARINE FISHERIES SERVICE
 Washington, D.C. 20235

JUL 25 1988

Mr. William D. Bettenberg
 Director
 Minerals Management Service
 U.S. Department of the Interior
 Washington, D.C. 20240

Dear Mr. Bettenberg:

Enclosed is the Biological Opinion prepared by the National Marine Fisheries Service (NMFS) pursuant to Section 7 of the Endangered Species Act (ESA) concerning potential impacts on endangered and threatened species associated with removal of certain oil and gas platforms and related structures in the Gulf of Mexico (GOM) using explosives.

This "standard" consultation covers only those removal operations that meet specified criteria pertaining to the size of explosive charge used, detonation depth, and number of blasts per structural grouping. Consultation must be initiated on a case-by-case basis for all dismantling operations requiring the use of explosives that do not meet the established criteria.

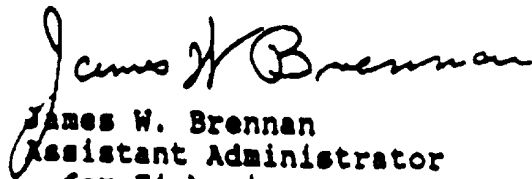
NMFS concludes that structure removals in the GOM that fall within the established criteria are not likely to jeopardize the continued existence of listed species under the jurisdiction of NMFS. However, it is our opinion that the proposed activities may result in the injury or mortality of endangered and threatened sea turtles. Therefore, pursuant to Section 7(b)(4) of the ESA, we have established a low level of incidental take, which is cumulative for all removals covered by this consultation, and terms and conditions necessary to minimize and monitor any impacts, should they occur. The terms and conditions are contained in the enclosed incidental take statement. Also enclosed is a list of pending consultations that meet, with noted exceptions, the criteria established in the "standard" consultation. This biological opinion and the mitigating measures and terms and conditions contained in the related incidental take statement apply to these proposed removal operations. Therefore, formal consultation is concluded for these proposed actions.



Consultation must be reinitiated if: (1) the amount or extent of taking specified in the incidental take statement is exceeded; (2) new information reveals impacts of the proposed activities that may affect listed species in a manner or to an extent not considered thus far in our opinions; (3) the identified activities are modified in a manner that causes an adverse effect to listed species not previously considered; or (4) a new species is listed or critical habitat is designated that may be affected by the project.

I look forward to your continued cooperation in future consultations.

Sincerely,


James W. Brennan
Assistant Administrator
for Fisheries

Enclosures

11-27-88 13:58 NMFS 8890

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Biological Opinion

Agency: Minerals Management Service, U.S. Department
of the Interior

Activity: Consultation for Removal of Certain Outer Continental
Shelf Oil and Gas Structures in the Gulf of Mexico

Consultation Conducted By: National Marine Fisheries Service
(NMFS)

Date Issued: _____

Background Information:

In a letter dated November 19, 1986, the Minerals Management Service (MMS) made an initial request for formal consultation pursuant to Section 7 of the Endangered Species Act (ESA) for the removal of an offshore oil and gas platform located in the Federal waters of the Gulf of Mexico (GOM). MMS and NMFS determined that removal of oil and gas platforms and related structures in the GOM may affect endangered and threatened marine species. This "may affect" determination was based on a possible relationship between endangered and threatened sea turtle mortalities and the dismantling of platforms using explosives. On November 25, 1986, NMFS issued the first of a series of biological opinions addressing, in detail, the potential impacts to listed marine species that may occur as a result of OCS abandonment activities.

MMS and NMFS established procedures for expediting Section 7 consultations on platform abandonment activities in the GOM referred to as "expedited consultations." Following those procedures, approximately 44 consultations have been completed for removal operations in the GOM region. All of the consultations have concluded that the proposed abandonment activities were not likely to jeopardize the continued existence of any listed species, but that the proposed activities may result in the incidental taking of endangered and threatened sea turtles.

The dismantling of platforms and related structures using explosives has evolved to a point where a "standard" protocol can be established for removal operations meeting certain criteria. Based upon removal techniques developed and reviewed in conjunction with the previously conducted "expedited consultations," MMS has requested, by letter of May 24, 1988, a "generic consultation" that would be applicable to all future removal operations that fall within a distinct category, defined by specific parameters. A category has been designed to include those structure types and removal techniques most commonly encountered during the expedited consultations and dismantling operations already completed. Since approximately 1000 structures that may be scheduled for future removal fall within the parameters of the established category, NMFS agrees that a "generic" consultation is appropriate at this time. The objective of the consultation is to reduce the administrative burden on both MMS and NMFS for conducting repetitive consultations on activities that may result in similar impacts to listed species and that require identical mitigating measures to maintain adequate protection for such species. This biological opinion responds to MMS' May 24, 1988, consultation request. The opinion is based on the best scientific and commercial data presently available and incorporates information from: 1) previous MMS Summary Evaluations, 2) previous NMFS biological opinions on platform removal, 3) the scientific literature, and 4) other pertinent and available information. Consultation must be reinitiated if new information becomes available concerning impacts to listed species that would alter the conclusions reached in this opinion or require modification of the measures identified in the attached incidental take statement. Consultation will continue on a case-by-case basis for those structure removals that do not meet the criteria established for "standard" removals.

Description of Proposed Action:

The proposed action involves the removal, by explosive means, of offshore oil and gas structures located in Federal waters in the Gulf of Mexico. Removal of the structures will be accomplished by severing the support pilings, caissons, well conductors, etc., using varying amounts of explosives to permit salvage of the structures. This involves the placement of explosives inside or outside of supporting structures and detonating charges primarily using electronically controlled signals.

This "generic" consultation considers only those removal operations that meet certain criteria pertaining to the size of the explosive charge used, detonation depths, and number of blasts per structural grouping. The specific criteria established to cover such removals are as follows:

1) Use of high velocity explosives (detonation rate greater than 7,600 meters/second).

2) A maximum of eight individual blasts per group of detonations with charges staggered at an interval of 0.9 seconds (900 milliseconds).

3) Charges must be set at a minimum depth of 15 feet below the sediment surface. Severing of structures above the sediment surface "open water" must be accomplished by mechanical (non-explosive) methods.

4) The maximum amount of explosives per detonation is not to exceed 50 pounds.

Species Occurring in the Project Area:

Listed species under the jurisdiction of NMFS that may occur in the project area:

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>	<u>STATUS</u>	<u>LISTED</u>
right whale	<u>Eubalaena glacialis</u>	E	6/2/70
finback whale	<u>Balaenoptera physalus</u>	E	6/2/70
humpback whale	<u>Megaptera novaeangliae</u>	E	6/2/70
sei whale	<u>Balaenoptera borealis</u>	E	6/2/70
sperm whale	<u>Physeter catodon</u>	E	6/2/70
green turtle	<u>Chelonia mydas</u>	Th E*	7/28/78
Kemp's ridley turtle	<u>Lepidochelys kempi</u>	E	12/2/70
leatherback turtle	<u>Dermochelys coriacea</u>	E	6/2/70
loggerhead turtle	<u>Caretta caretta</u>	Th	7/28/78
hawksbill turtle	<u>Eretmochelys imbricata</u>	E	6/2/70

*All of the U.S. green turtle populations are listed as threatened except the Florida breeding population, which is listed as endangered.

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No critical habitat has been designated in the project area for the above species.

Assessment of Impacts:

Based upon their known distribution and abundance in the GOM, endangered whales are believed unlikely to occur in the vicinity of the proposed structure removal activities, and, therefore, unlikely to be adversely affected by the proposed action.

Previous NMFS biological opinions (November 25, 1986 and February 26, 1987) have addressed, in detail, removal of structures in the GOM. Accounts of endangered and threatened species which occur in the project area, and the "Assessment of Impacts" contained in these prior opinions also apply to this consultation and are incorporated by reference.

In summary, the opinions referenced above acknowledge the existence of a possible relationship between the use of underwater explosives in removing platforms and related structures and the occurrence of stranded sea turtles, marine mammals (Tursiops truncatus) and fish. Limited experiments conducted by NMFS, Galveston Laboratory confirm that sea turtles (and other marine vertebrates) found in proximity to petroleum platforms can be injured or killed by removal operations employing underwater explosives (Klima, 1986).

Technology most commonly used in the dismantling of platforms includes: bulk explosives, shaped explosive charges, mechanical and abrasive cutters and underwater arc cutters. The use of bulk explosives has become the industry's standard procedure for severing pilings, well conductors and related supporting structures (approx. 90% use). When using bulk charges, the inside of the structure can be jettied out to at least 15 feet below the sediment floor to allow placement of explosives inside of the structure, resulting in a decrease in the impulse and pressure forces released into the water column upon detonation. The use of high velocity shaped charges is reported to have some advantages over bulk explosives and has been used in combination with smaller bulk charges. The cutting action obtained by a shaped charge is accomplished by focusing the explosive energy with a conical metallic liner. A major advantage associated with use of high velocity shaped charges is that a smaller amount of explosive charge is required to sever the structure, which also results in reductions in the impulse and pressure forces released into the water column. Use of mechanical cutters and underwater arc cutters is successful in some circumstances and do not produce the impulse and pressure forces associated with detonation of explosives, however, these methods are, in most instances, more time consuming, costly and more hazardous to divers. As a result, these methods are not used on a routine basis (NMS Report on Platform Removal Techniques).

Based upon data obtained during previously conducted "expedited" consultations on platform removals, the following is a comparison of the types of explosives most likely to be used in the proposed removal operations:

<u>Explosive</u>	<u>Detonating Velocity</u>	<u>Brisance*</u>
RDX	approx. 8,199 m/sec.	1.15
C-4	approx. 8,001 m/sec.	1.15
Comp.-B	approx. 7,803 m/sec.	1.32

* Brisance is the measure of shattering power as compared to TNT which has brisance of 1.00. (MMS Report on Platform Removal Techniques, 1986.)

The proposed removal operations will be accomplished using high velocity explosives. Use of this type of explosive charge should minimize the duration of the impulse and pressure forces produced by detonation of the charges, while providing the amount of force required to sever the structures. According to MMS, restricting the grouping of detonations to eight individual blasts per group and staggering blasts by 0.9 seconds (900 milliseconds) will minimize the area affected by the blasts and suppress phasing of shock waves, thereby decreasing the cumulative effects of the blasts. In addition, since all detonations will occur at least 15 feet below the sediment surface and no more than 50 pounds of explosives per blast will be permitted, the amount of residual energy released into the marine environment should be reduced significantly. As a result, NMFS believes that minimal shock and impulse forces will be released in the vicinity of removal operations at any given time.

To date, of approximately 44 previously conducted consultations covering abandonment activities, about 33 structure removals have been completed. Each removal operation was monitored by NMFS observers and was conducted using appropriate mitigating measures. At the present time, eight turtles have been sighted in areas near structures being dismantled, at least two of which were green turtles. Of the eight documented sightings, one turtle was reported to be floating on it's back near a platform after detonation of charges, apparently stunned or injured. No other incidents of sea turtle injury or mortality have been reported. Therefore, NMFS believes that the proposed actions are not likely to result in significant adverse impacts to endangered and threatened sea turtle populations.

BEST AVAILABLE COPY**Conclusions:**

Based on the above, it is our opinion that removal of platforms and related structures in the GOM is not likely to jeopardize the continued existence of threatened and endangered species under the jurisdiction of NMFS. However, NMFS concludes that the proposed activities may result in the injury or mortality of loggerhead, Kemp's ridley, green, hawksbill and leatherback turtles. Therefore, pursuant to Section 7(b)(4) of the ESA, we have established a low level of incidental take and terms and conditions necessary to minimize and monitor this impact. Compliance with these terms and conditions is the responsibility of MMS and the permit applicant.

Reinitiation of Consultation:

Consultation must be reinitiated if: 1) the amount or extent of taking specified in the incidental take statement is met or exceeded; 2) new information reveals impacts of the project that may affect listed species in a manner or to an extent not considered in this opinion; 3) the identified activities are modified in a manner that causes an adverse effect on listed species not previously considered; or 4) a new species is listed or critical habitat is designated that may be affected by the proposed activities.

BEST AVAILABLE COPY**INCIDENTAL TAKE STATEMENT**

Section 7(b)(4) of the Endangered Species Act requires that when a proposed agency action is found to be consistent with Section 7(a)(2) of the Act and the proposed actions may incidentally take individuals of listed species, NMFS will issue a statement that specifies the impact (amount or extent) of such incidental taking. Incidental taking by the Federal agency or applicant that complies with the specified terms and conditions of this statement is authorized and exempt from the taking prohibitions of the ESA.

Based on stranding records, incidental captures aboard commercial shrimp vessels and historical data, five species of sea turtles are known to occur in northern Gulf of Mexico waters. Current available information on the relationship between sea turtle mortality and the use of high-velocity explosives to remove oil platforms indicates that injury and/or death of sea turtles may result from the proposed actions. Therefore, pursuant to Section 7(b)(4) of the ESA, an incidental take (by injury or mortality) level of one documented Kemp's ridley, green, hawksbill or leatherback turtle or ten loggerhead turtles is set for all removal operations conducted under the terms and conditions of this incidental take statement. The level of taking specified here is cumulative for all removals covered by this consultation. If the incidental take meets or exceeds this specified level, MMS must reinitiate consultation. The Southeast Region, NMFS, will cooperate with MMS in the review of the incident to determine the need for developing further mitigation measures.

The reasonable and prudent measures that NMFS believes are necessary to minimize the impact of incidental takings have been discussed with MMS and will be incorporated in the removal design for "standard" structure removals. The following terms and conditions are established for these removals to implement the identified mitigation measures and to document the incidental take should such take occur:

- 1) Qualified observer(s), as approved by NMFS, must be used to monitor the area around the site prior to, during and after detonation of charges. Observer coverage will begin 48 hours prior to detonation of charges. If sea turtles are observed in the vicinity of the platform and thought to be resident at the site, pre- and post-detonation diver surveys must be conducted.

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2) On days that blasting operations occur, a 30-minute aerial survey must be conducted within one hour before and one hour after each blasting episode. The NMFS-approved observer and/or NMFS on-site personnel (NMFS employee only) must be used to check for the presence of turtles and, if possible, to identify species. If weather conditions (fog, excessive winds, etc.) make it impossible to conduct aerial surveys, blasting activities may be allowed to proceed if approved by the NMFS and/or MMS personnel on-site.

3) If sea turtles are observed in the vicinity of the platform (within 1000 yards of the site) prior to detonating charges, blasting will be delayed until attempts are successful in removing them at least 1000 yards from the blast site. The aerial survey must be repeated prior to resuming detonation of charges.

4) Detonation of explosives will occur no sooner than 1 hour following sunrise and no later than 1 hour prior to sunset. However, if it is determined by NMFS and/or MMS on-site personnel that special circumstances justify a modification of these time restrictions and that such modification is not likely to adversely impact listed species, blasting may be allowed to proceed outside of this time frame.

5) During all diving operations (working dives as required in the course of the removals), divers will be instructed to scan the subsurface areas surrounding the platform (blasting) sites for turtles and marine mammals. Any sightings must be reported to the NMFS or MMS on-site personnel. Upon completion of blasting, divers must report and attempt to recover any sighted injured or dead sea turtles or marine mammals.

6) Charges must be staggered 0.9 seconds (900 milliseconds) for each group of structures, to minimize the cumulative effects of the blasts. If a removal operation involves multiple groupings of structures, the interval between detonation of charges for each group should be minimized to avoid the "chumming" effect. Whenever such intervals exceed 90-minutes, the aerial survey must be repeated.

7) The use of scare charges should be avoided to minimize the "chumming effect." Use of scare charges may be allowed only if approved by the NMFS and/or MMS on-site personnel.

8) A report summarizing the results of the removal and mitigation measures must be submitted to the MMS Gulf of Mexico Region within 15 working days of the removal. A copy of the report must be forwarded to NMFS, Southeast Region.

This incidental take statement applies only to endangered and threatened sea turtles. In order to allow an incidental take of a marine mammal species, the taking must be authorized under Section 101(a)(5) of the Marine Mammal Protection Act of 1972. Although interest has been expressed in obtaining an exception authorizing a limited take of dolphins incidental to abandonment activities, no marine mammal take is authorized until appropriate small take regulations are in place and related "Letters of Authorization" are issued.

REFERENCES

- Caillouet, C.W., A.M. Landry, M.J. Duronslet, S.A. Manzella, C.T. Fontaine, D.B. Revera, K.L. Indelicato, T.D. Williams, and D. Forcucci, 1986. Preliminary Evaluation of Biological Impacts of Underwater Explosions Associated with Removal of an Oil Field Structure From the Gulf of Mexico Near Crystal Beach, Texas. National Marine Fisheries Service, Southeast Fisheries Center, Galveston Laboratory 32 pp.
- Duronslet, M.J., C.W. Caillouet, S. Manzella, K.W. Indelicato, C.T. Fontaine, D.B. Revera, T. Williams and D. Boss, 1986. The Effects of an Underwater Explosion on the Turtles Lepidochelys kempii and Caretta caretta with Observation of Effects on Other Marine Organisms. Unpublished Trip Report - Removal of Tenneco Oil Platform on June 21, 1986. NMFS, SEFC, Galveston Laboratory. 19 pp.
- Fontaine, C.T., 1986. Observations on the Removal of Tenneco Oil Platform 493-B, West Cameron Field, 20-23 July 1986. Unpublished Trip Report to NMFS, SEFC, Galveston Laboratory 9 pp.
- Klima, E.P., 1986. Summary Report on Biological Impacts of Offshore Petroleum Platform Severance Using Explosives. Unpublished Report to NMFS, SEFC, Galveston Laboratory 19 pp.
- Minerals Management Service, 1986. Platform Removal Techniques. Unpublished Report, MMS Gulf of Mexico Region, 14 pp.
- National Marine Fisheries Service, 1986. Biological Opinion Concerning Impacts of Proposed Removal of Cities Services Oil and Gas Corporation's Offshore Platform B-1, Located in Galveston Block 144, Gulf of Mexico. 14 pp.
- National Marine Fisheries Service, 1987. Biological Opinion Concerning Proposed Removal of Pennzoil Company's Platform A, Located in Vermillion Block 228, Gulf of Mexico. 24 pp.
- Renaud, M. and G. Gitschlag, 1987. Study of Biological Impacts of the Explosive Removal of an Offshore Platform (Pennzoil Platform - Vermillion 228A). Unpublished Trip Report to NMFS, SEFC, Galveston Laboratory. 9pp.

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	Operator	Lease Area	Block	Structure
40	Mobil Exploration and Producing Company U.S. Inc.	Eugene Island Vernillon	354 182	A A
41	Kerr-McGee Corporation	Ship Shoal	296	A
42	Conoco Inc.	Ship Shoal Vernillon	206 242	A A
43	Mobil Exploration and Producing Company U.S. Inc.	West Cameron	132 101	1 C
44	Tenneco Oil Exploration and Production	East Cameron	255	F
45 ^a	Mobil Exploration and Producing Company U.S. Inc. " " (heliport) " " Except capped and plugged wells "A" & "B" in Vernillon-76-B	Eugene Island Vernillon	119 76	C B
46	Mobil Exploration and Producing Company U.S. Inc.	Vernillon	76	1
47	Samaden Oil Corporation	Galveston	241	A
48	Conoco Inc.	Grand Isle	63	A
	" "	" "	54	1
	" "	" "	47	6
49	Mobil Exploration and Producing Company U.S. Inc.	Main Pass	91	2
50	Mobil Exploration and Producing Company U.S. Inc.	South Pelto	12	D
51	Exxon Company	West Delta	30	5
	" "	" "	"	V
	" "	" "	31	1
	" "	" "	"	W
52	Conoco Inc.	West Delta	45	R-1

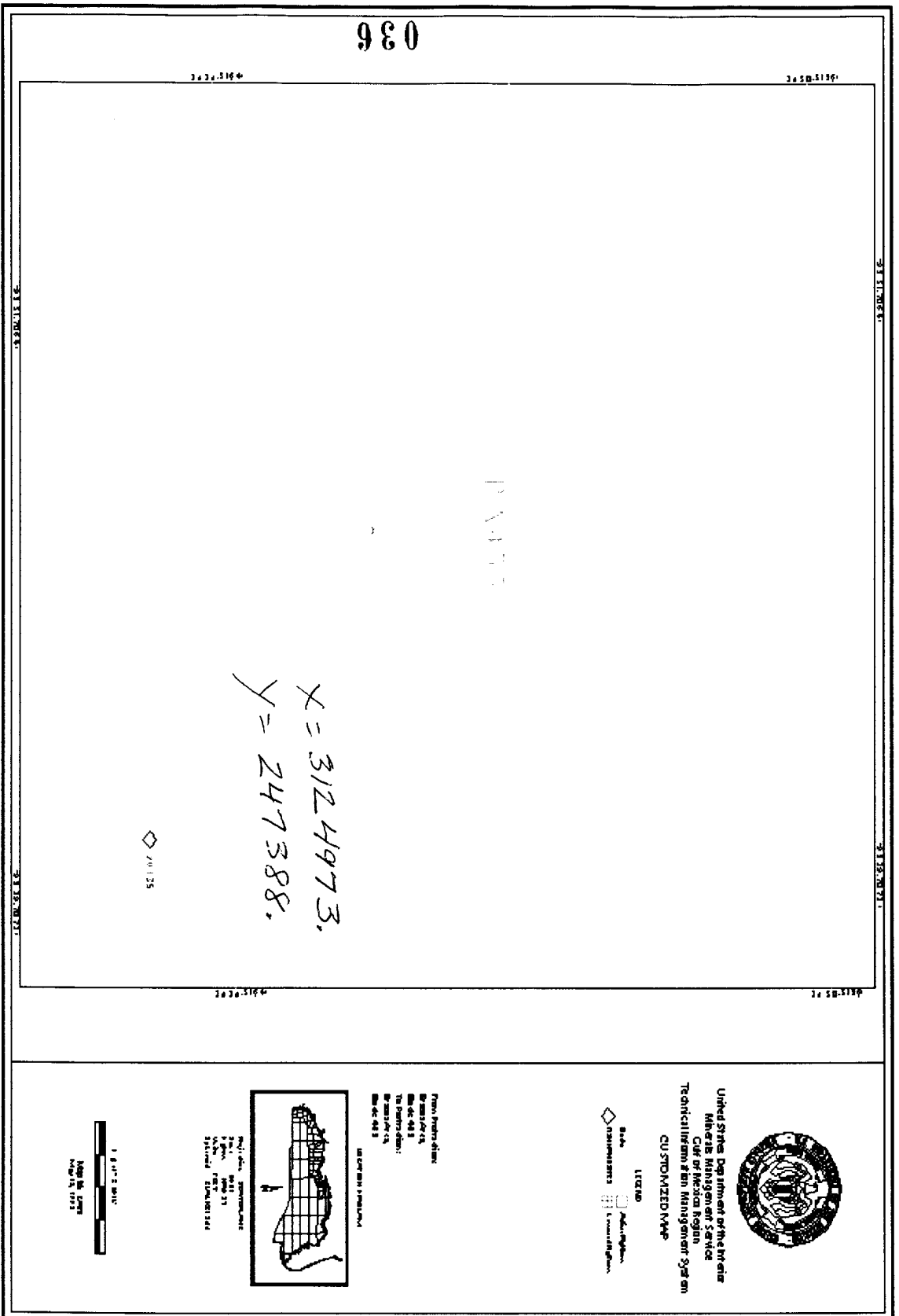
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53	Mobil Exploration and Producing Company U.S. Inc.	West Cameron South Marsh	71 235	A 9
54	Tenneco Oil Exploration and Production	Ship Shoal	199	E
56*	Conoco Inc.	West Cameron East Cameron S. Marsh, N. Md	135 47 261	A D A
	Except West Cameron-261-A			
57*	Exxon Company U.S.A. Except High Island East Addition-A342-A	High Is., E. Md	A-342	B
58	BHP Petroleum	High Island	A-507	A
59	Mobil Exploration and Producing Company U.S. Inc.	East Cameron	14	5
60	FMP Operating Company	West Cameron	464	A
61	Anoco Production Company	S. Marsh Island	33	A

* Consultations whose numbers include an asterisk (*) did not totally fall under the parameters of this "standard" consultation, therefore, only those removals meeting the parameters are approved and further consultation will be necessary for the exceptions.

APPENDIX C

FISHERMEN'S CONTINGENCY FUND OFFICE HANG SITE MAPS



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X = 3124973.
Y = 247388.

◇ 24135

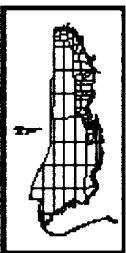


United States Department of the Interior
Bureau of Land Management Service
Cul de Sac Region
Technical Information Management System
CUSTOMIZED MAP

- LEGEND
- State
 - Counties
 - Indian Reservations
 - Public Lands
 - Private Lands

From: Project: 81-10-10-10
Date: 08/13/91
To: Project: 81-10-10-10
Date: 08/13/91

US Department of the Interior



Map Date: 08/13/91
Map No: 81-10-10-10
System: 81-10-10-10



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