

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 93-01/S

Structure Removal Activities in
Island Area, Block 346
Lease OCS-G 8696

April, 1993

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Information Services
Section

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 93-01/S

Assessment of the Environmental Impacts
of the Proposed Removal of Well No. 2 Casing Stub
in Eugene Island Area, Block 346
(Lease OCS-G 8696)
by Forest Oil Corporation

Date Submitted: April 22, 1993
Commencement Date: May 1993

Prepared by Warren J. Barton

FINDING OF NO SIGNIFICANT IMPACT

I have considered the notification by Forest Oil Corporation to remove Well No. 2 Casing Stub in Eugene Island Area, Block 346 (Lease OCS-G 8696), SEA No. ES/SR 93-01/S. Based on the environmental analysis contained in the site-specific environmental assessment, there is no evidence to indicate that the proposed action will significantly (40 CFR 1508.27) affect the quality of the human environment if the permit/application is approved subject to the mitigative measures. Preparation of an environmental impact statement is not required.


Regional Supervisor
Leasing and Environment
Gulf of Mexico OCS Region

Date

4/30/93

TABLE OF CONTENTS

	PAGE
FINDING OF NO SIGNIFICANT IMPACT	ii
INTRODUCTION AND BACKGROUND	1
I. DESCRIPTION OF THE PROPOSAL(S) AND NEED FOR THE PROPOSAL(S)	1
A. DESCRIPTION OF THE PROPOSED ACTION(S) WITH MITIGATION	1
B. NEED FOR THE PROPOSED ACTION(S)	1
II. ALTERNATIVES TO THE PROPOSED ACTION(S)	2
A. NON-REMOVAL OF THE STRUCTURE(S)	2
B. REMOVAL OF THE STRUCTURE(S) BY ALTERNATIVE NON-EXPLOSIVE METHODS	2
C. REMOVAL OF THE STRUCTURE(S) AS PROPOSED WITH ADDED MITIGATION(S)	2
III. ENVIRONMENTAL EFFECTS, SOCIOECONOMIC CONCERNS, AND OTHER CONSIDERATIONS	3
A. PHYSICAL ENVIRONMENT	3
1. Environmental Geology and Geologic Hazards	3
2. Meteorological Conditions	3
3. Physical and Chemical Oceanography	3
a. Physical Oceanography	3
b. Chemical Oceanography	3
4. Water Quality	3
5. Air Quality	4
B. BIOLOGICAL ENVIRONMENT	4
1. Coastal Habitats	4
2. Protected, Endangered, and/or Threatened Species	4
a. Birds	4
b. Marine Mammals	4
c. Sea Turtles	4
3. Birds	5

	PAGE
4. Sensitive Marine Habitats	5
5. Offshore Habitats and Biota	5
C. SOCIOECONOMIC CONCERNS	5
1. Employment	5
2. Economics	6
3. Onshore Support Facilities, Land Use, and Coastal Communities and Services	6
D. OTHER CONSIDERATIONS	6
1. Commercial and Recreational Fisheries	6
a. Commercial Fisheries	6
b. Recreational Fisheries	7
2. Archaeological Resources	7
3. Military Use/Warning Areas and Explosive Dumping Areas	7
4. Navigation and Shipping	7
5. Pipelines and Cables	7
6. Other Mineral Resources	7
7. Human Health and Safety	8
E. UNAVOIDABLE ADVERSE IMPACTS	8
IV. PUBLIC OPINION	8
V. CONSULTATION AND COORDINATION	9
VI. BIBLIOGRAPHY AND SPECIAL REFERENCES	10
VII. PREPARERS	12
VIII. APPENDICES	13
A. FOREST OIL CORPORATION CORRESPONDENCE	14
B. NMFS CORRESPONDENCE	27
TABLE 1 - Explosives Proposed by the Operator for the Well No. 2 Casing Stub Removal in the Eugene Island Area, Block 346	11

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 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(s) 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 OF THE PROPOSAL(S) AND NEED FOR THE PROPOSAL(S)

A. DESCRIPTION OF THE PROPOSED ACTION(S) WITH MITIGATION

Forest Oil Corporation proposes to remove Well No. 2 Casing Stub in Block 346 (OCS-G 8696). The structure is located in a water depth of 333 feet and lies approximately 120 miles south-southeast of Intracoastal City, Louisiana. The operator plans to explosively sever and remove Well No. 2 casing stub/casing strings. See Table 1 for specific data regarding the explosive removal operations.

Refer to Appendix A for structure specifications for the removal(s), additional data on removal techniques, and sequence of events.

MITIGATION

Refer to the operator's proposal(s) (Appendix A) for mitigative measure(s) proposed to reduce the likelihood of death or injury to sea turtles and marine mammals.

B. NEED FOR THE PROPOSED ACTION(S)

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 Forest Oil Corporation, the lease has expired.

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 operator would not proceed with the proposed removal(s). This alternative would eliminate the possibility that sea turtles, marine mammals, or other marine life would be harmed by removal of the structure(s) as proposed. However, 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 of easement. Therefore, non-removal does not appear to be a valid alternative.

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

The MMS has 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 the PEA referenced in the Introduction. Updated information is also found in the FEIS for Sales 139 and 141 (USDOJ, MMS, 1991). It was concluded that the most effective methods of structure removal are the use of explosives, either bulk or shaped charges, 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 1991) and PEA referenced in the Introduction for detailed information concerning alternative methods of structure removal.

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.

Refer to the terms and conditions of the "generic" Incidental Take Statement (Appendix B), and any mitigation identified by this SEA necessary to reduce the likelihood of death or injury to sea turtles and marine mammals.

In the course of this evaluation, additional protective measure was identified to further mitigate the environmental impacts associated with the proposal. Appropriate regulations and procedures are believed sufficient to prevent significant adverse impacts.

Our analysis indicates that there are existing pipeline(s) located within 150 meters (490 feet) of the proposed activities. The existing pipeline(s) may pose a hazard to the proposed operations. Precautions in accordance with NTL 83-3, Section IV.B, will be taken prior to performing the proposed operations.

III. ENVIRONMENTAL EFFECTS, SOCIOECONOMIC CONCERNS, AND OTHER CONSIDERATIONS

A. PHYSICAL ENVIRONMENT

1. Environmental Geology and Geologic Hazards

A discussion of environmental geology and geologic hazards 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). Therefore, geologic conditions are not expected to have an impact on the proposed structure-removal activities.

2. Meteorological Conditions

No impacts are expected as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

3. Physical and Chemical Oceanography

a. Physical Oceanography

No impacts are expected as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

b. Chemical Oceanography

Impacts are expected to be very low as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

4. Water Quality

Impacts are expected to be low as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

5. Air Quality

Impacts are expected to be very low as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

B. BIOLOGICAL ENVIRONMENT

1. Coastal Habitats

No impacts are expected as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

2. Protected, Endangered, and/or Threatened Species

a. Birds

The operator has indicated that helicopter flights and boat traffic would utilize a shorebase in Intracoastal City, Louisiana. 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. The proposed work is not expected to impact threatened or endangered birds or their habitats.

b. Marine Mammals

A discussion of marine mammals occurring across the 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 probably the most likely marine mammal to be encountered at the proposed structure removal(s). The MMS observers may be utilized to look for marine mammals prior to detonation of the primary charge(s) at the removal site(s). If marine mammals are detected at the structure-removal site(s), detonation of the primary charge(s) would be delayed until the animals are removed from the area(s). In spite of these precautions, a low probability exists that marine mammals could enter the blast area(s) undetected and could be injured or killed by the underwater, subsurface detonation(s). Such an occurrence is considered highly unlikely and with the indicated protective mitigation measure(s), the proposed structure-removal activities are expected to have only a low impact on marine mammals.

c. Sea Turtles

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, 1992) indicate that sea turtles 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 may be utilized to look for sea turtles prior to detonation of the primary charge(s). If sea turtles are detected at the structure-removal site(s), detonation of the primary charge(s) will be delayed until the animals are removed from the area(s). As in the case of marine mammals, the possibility exists that sea turtles could enter the blast area(s) undetected and could be injured or killed by the underwater, subsurface detonation(s). This occurrence is considered unlikely, and with the indicated protective mitigation measure(s), 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 actions, but with all the precautions to be taken as mitigating measure(s), it is unlikely that any sea turtles will be affected by these proposed operations.

3. Birds

Impacts are expected to be very low as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

4. Sensitive Marine Habitats

A discussion of sensitive marine habitats occurring in the central and western GOM and an assessment of the potential impacts of structure-removal activities on these areas can be found in the PEA referenced in the Introduction. The proposed activities are not near any sensitive marine habitats. Therefore, the subject structure-removal activities will not impact any sensitive marine habitats or their resident biota.

5. Offshore Habitats and Biota

Impacts are expected to be low as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

C. SOCIOECONOMIC CONCERNS

1. Employment

Impacts are expected to be very low as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

2. Economics

Impacts are expected to be very low as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

3. Onshore Support Facilities, Land Use, and Coastal Communities and Services

The operator has indicated that Intracoastal City, Louisiana, would be the shore base for the proposed structure-removal activities. No impacts are expected as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

D. OTHER CONSIDERATIONS

1. Commercial and Recreational Fisheries

a. Commercial Fisheries

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 the 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.

The 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. The 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.

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

b. Recreational Fisheries

Impacts are expected to be low as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction. See the preceding section for a discussion of fish kills in association with explosive structure removals.

2. Archaeological Resources

Impacts are expected to be low as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

3. Military Use/Warning Areas and Explosive Dumping Areas

A description of military use/warning areas and explosive dumping areas, their locations and potential impacts of structure-removal activities on these areas can be found in the PEA referenced in the Introduction. The proposed activities will not impact or be impacted by any military use/warning area or explosives dumping areas.

4. Navigation and Shipping

The proposed structure-removal activities are not located adjacent to a vessel safety fairway or in an 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. More information on the impacts of structure removals on navigation and shipping can be found in the PEA referenced in the Introduction.

5. Pipelines and Cables

The PEA referenced in the Introduction contains a description of the impacts of structure-removal activities on pipelines and cables. There are existing pipelines within 150 meters (490 feet) 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 pipeline(s) and cable(s) in the area(s).

6. Other Mineral Resources

No impacts are expected as a result of the proposed activities. For analysis information, see the PEA referenced in the Introduction.

7. Human Health and Safety

The PEA referenced in the Introduction describes the hazardous conditions for workers during structure-removal activities. The operator has proposed the use of explosives in conjunction with the structure-removal activities. Existing legal and regulatory safety requirements will keep the impacts of the proposed work on human health and safety at a very low level.

E. 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 is considered to be low, further studies information about this issue should 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.

In May 1991, the GOM Fishery Management Council requested that the MMS place a moratorium over the explosive removal of offshore structures with three or more supports. Nonremoval 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 or easement.

The 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, the MMS initiated an interagency study with the NMFS to determine fish mortalities from platform removal operations. In addition to the above study, the MMS supports an active rigs-to-reef program and encourages industry to search for method that will minimize effects on fish from platform removal operations.

V. CONSULTATION AND CO RDINATION

In accordance with the provisions of Section 7 of the Endangered Species Act, 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 permit or waiver to do so from the NMFS.

VI. BIBLIOGRAPHY AND SPECIAL REFERENCE(S)

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. 1992. 1992 semi-annual report of the sea turtle stranding and salvage network. Atlantic and Gulf Coasts of the United States. January - June 1992. National Marine Fisheries Service. Southeast Fisheries Center, Miami Laboratory, 75 Virginia Beach Drive, Miami, FL.

U.S. Department of the Interior. Minerals Management Service. 1991. Final Environmental Impact Statement. Gulf of Mexico Sales 139 and 141: Central and Western Planning Areas. OCS EIS/EA MMS 91-0054. Washington, D.C. Available from NTIS, Springfield, VA. Volume I, PB92-125376/AS and Volume II, PB92-125384/AS.

U.S. Department of the Interior. Minerals Management Service. 1989. Final Environmental Impact Statement. Gulf of Mexico Sales 123 and 125: Central and Western Planning Areas. OCS EIS/EA MMS 89-0053. Washington, D.C. Available from NTIS, Springfield, VA: PB-89234900/AS.

U.S. Department of the Interior. Minerals Management Service. 1988. Final Environmental Impact Statement. Proposed OCS Oil and Gas Lease Sales 118 and 122 (Central and Western Gulf of Mexico). OCS EIS/MMS 88-0044. Washington, D.C. Available from NTIS, Springfield, VA: PB89-114185/AS.

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.

TABLE 1

Explosives Proposed by the Operator for the Well No. 2 Casing Stub located in Eugene Island Area, Block 346 (OCS-G 8696).

Type of Explosives:

Composition B, C-4, Cyclotol or Octol.

Number and Size of Charges:

One (1), 50-pound charge for the 30" casing/casing strings.

Employment of Charges:

16 to 20 feet below the mud line.

Sequencing of Detonation:

Single shot

NOTE: An extra shot may be required for the above casing stub.

VII. PREPARERS

Author:

Warren J. Barton - Environmental Scientist

Typist:

Michael B. Wallace - Environmental Protection Assistant

VIII. APPENDICES

A. FOREST OIL CORPORATION CORRESPONDENCE

B. NMFS CORRESPONDENCE

APPENDIX A
FOREST OIL CORPORATION CORRESPONDENCE

WB

EXPLOSIVE <50 lb

Reviewed 4/29/93
to probe board
4/21/93

UNITED STATES GOVERNMENT
MEMORANDUM

To: Environmental Operations Section (MS 5440)
From: Office of Structural and Technical Support, Field Operations,
Gulf of Mexico OCS Region (OSTS)
Subject: Casing Stub Removal
OPERATOR: Forest Oil
Control No.: ES/SR 93-01/S

<u>CASING STUB</u>	<u>AREA/BLOCK</u>	<u>LEASE</u>
<u>Well No. 2</u>	<u>EI-346</u>	<u>G-8696</u>
_____	_____	_____
_____	_____	_____

Shore Base: ^(ra) Intercostal City, LO.

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 7 Consultation Document. There are ^{*} no existing pipeline(s) within 500 feet of the proposed removal location. Please advise if this location is biologically sensitive.

RUSH! 5/93
Start

BURT MULLIN (OSTS) -- EXTENSION 2904

Enclosure

015

cc:
* I called Burt Mullin on 4/26/93 he indicated there are pipelines in the area

93-0115



FOREST OIL CORPORATION

RECEIVED
APR 22 1993
Office of Structural
and Technical Support

April 21, 1993

U.S. DEPARTMENT OF INTERIOR
Minerals Management Service
1201 Elmwood Park Blvd.
New Orleans, Louisiana 70123-394

est.
- 2894

ATTN: Mr. Arvind Shah - MS 5210

RE: Section 7 Consultation
Lease OCS-G 8696
Eugene Island Block 346

Dear Mr. Shah:

In accordance with the Letters to Lessees and Operators dated August 19 and December 9, 1986, Forest Oil Corporation (FOC) submits herewith for your approval, the information required for a Section 7 Consultation to provide for removal of the 30" Drive Pipe in Well No. 2, Eugene Island Block 346.

Lease OCS-G 8696 expired on May 31, 1992. Subject to your approval and that of the MMS District Office, FOC will be prepared to commence work on this well and site clearance requirements by May 1, 1993.

Your consideration of this matter is appreciated. Should you have any questions or require any additional information, please contact my office at (303) 592-2629.

Sincerely,

John P. Rosata, Administrator
Regulatory & Environmental Affairs

JPR/jpr

Enclosure

cc: Cecil Colwell

PROPOSED OCS PLATFORM/STRUCTURE REMOVAL

I. Responsible Party

- A. Lease operator name Forest Oil Corporation
- B. Address 950 17th Street
Denver, Colorado 80202
- C. Contact person and telephone number John P. Rosata
(303) 592-2629
- D. Shore base Service Truck Line at Intercoastal City, LA ^(ra)

II. Identification of Structure to be Removed

- A. Casing stub Eugene Island 346 #2
- B. Location (lease, area, block, and block coordinates)
Eugene Island Block 346 Well No. 2. Lease Line Calls
2179. 52FSL. 1511.61 FWL or X = 1.986. 489.45; Y =
'191.882.46
- C. Date installed (year) _____
- D. Proposed date of removal (Month/Year) 5/93
- E. Water depth 333'

III. Description of Structure to be Removed

- A. Configuration (attach a photograph or a diagram)
- B. Size Casing Stub 13 3/8, 68# x 20", 94# x 30", 1" wall
- C. Number of legs/casings/pilings N/A
- D. Diameter and wall thickness of legs/casings/pilings
13 3/8" = .480; 20" = .438"; 30" = 1.00"
- E. Is casing grouted? Yes Inside or Outside? inside
- F. Brief description of soil composition and condition
Soft sandy bottom

IV. Purpose

Lease expiration date and reason for removing the structure
Lease expires 5/31/93. Removing stub due to lease expiration.

V. Removal Method

A. Brief description of the method to be used Use Divers to
remove corrosion cap and assist in lower explosive. 15'
below mudline

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

1. Kind of explosives Composition B, C-4, Cyclotol or
Octol

2. Number and sizes of charges 1 - 50 lb.

a. Single shot or multiple shots: Single

b. If multiple shots, sequence and timing of
detonations _____

3. Bulk or shaped charge? Bulk

a. Depth of detonation below mud line 16' below

b. Inside or outside piling? N/A

C. Pre-removal monitoring techniques

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 None

2. Will divers or acoustic devices be used to conduct a pre-removal survey to detect presence of turtles and marine mammals? No _____ If yes, briefly describe the proposed detection method _____

D. Post-removal monitoring techniques

1. Will transducers be used to measure the impulse of the detonations? No _____
2. Will divers be used to survey the area after removal to determine the effects on marine life? No _____

VI. Biological Information

If available, provide the results of any recent biological surveys conducted in the vicinity of the structure. If available, describe any recent observations of turtles or marine mammals at the structure site.

PLEASE SEND THREE COPIES OF THE APPLICATION TO:

Regional Supervisor, Field Operations (STS)
Minerals Management Service
1201 Elmwood Park Blvd.
New Orleans, Louisiana 70123

JPR/jba/STCTRL

Eugene Island 346 Well No. 2

Surface Location: 217952' FSL 151161' FWL

Lat 28 deg, 8 min, 20.681 sec

Long 91 deg, 22 min, 30.842 sec

X = 1,986,489.45

Y = -191,882.46

36" Trash Cap w/4 Bolts
Bolts were run in by hand.
Recall Buoy shakled to cap.

top 12' AML (top 30")

Well Drilled by Rowan Gorilla III.
103' Air gap with 333' of water dep
RKB to Mud Line would be 436'.

20" & 13 3/8" could not be backed out
at MLH, both strings were cut @ 432'
and pulled.

Top of stubs 4' above mud line or 8'
below the top of the 30'.

9 5/8" Backed out at MLH, top at 464'
or 28' below the Mud Line.

30" X 1" Wall Driven to 637' w/ 220 BPF
w/201' of penetration w/ D-46 Hammer
MLS @ 467'. Drill Quip 30" Quick-Jay
Conn w/ Anti Rotation Key at 424'
or 12' above the mud line.

Set 75 Sx surface plug F/550' to 750'

20" 94# K-55 Btc @ 1201'. MLH @ 466'

Note: On 3/23/88 tested 20" X 13 3/8"
and 13 3/8" X 9 5/8" annulus to 500 psi.

13 3/8" 68# K-55 Btc @ 2651'. MLH @ 466'

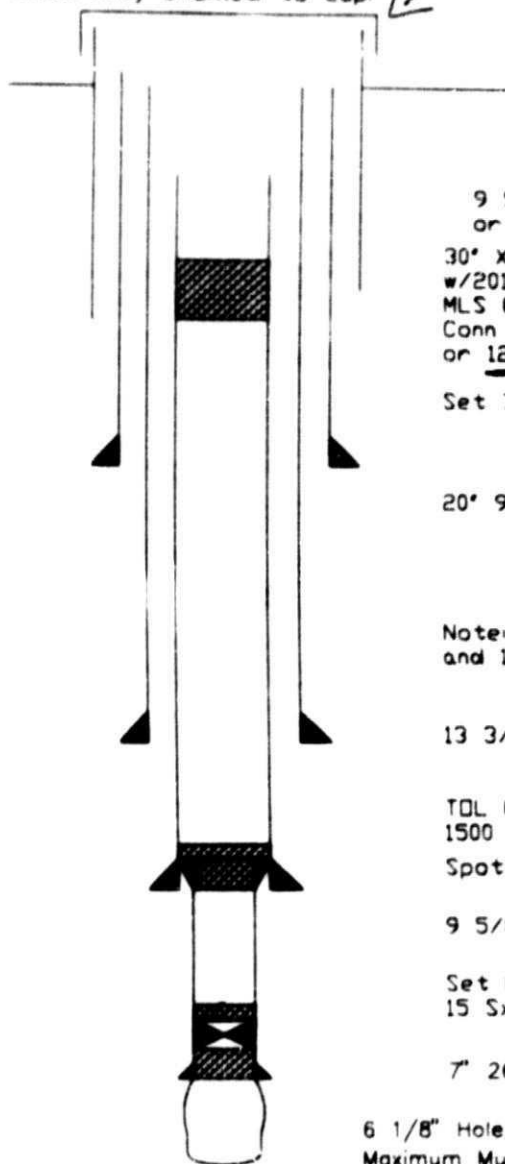
TOL @ 5724' MD/ 5490' TVD. Tested
1500 PSI and 15.3 PPG Mud or 20.5 PPGE
Spot 120 Sx plug across Liner top, from

9 5/8" 47# P110 LTC @ 6025'. MLH @ 467'

Set EZSV @ 9100, Sq 75 Sx below and spot
15 Sx on top. Est TOC @ 9022'. Test 1000#

7" 26# S-95 FL4S Lnr @ 9170' w/ 15.3 PPG

6 1/8" Hole, T.D. @ 10,407 MD/ 8700 TVD
Maximum Mud Weight 13.8 PPG





13-6673
FOREST OIL CORPORATION

April 21, 1993

RECEIVED

APR 22 1993

Office of Structural
and Technical Support

U.S. DEPARTMENT OF INTERIOR
Minerals Management Service
1201 Elmwood Park Blvd.
New Orleans, Louisiana 70123-394

ATTN: Mr. Arvind Shah - MS 5210 - 2194

RE: Section 7 Consultation
Lease OCS-G 8696
Eugene Island Block 146

Dear Mr. Shah:

In accordance with the Letters to Lessees and Operators dated August 19 and December 9, 1986, Forest Oil Corporation (FOC) submits herewith for your approval, the information required for a Section 7 Consultation to provide for removal of the 30" Drive Pipe in Well No. 2, Eugene Island Block 146.

Lease OCS-G 8696 expired on May 31, 1992. Subject to your approval and that of the MMS District Office, FOC will be prepared to commence work on this well and site clearance requirements by May 1, 1993.

Your consideration of this matter is appreciated. Should you have any questions or require any additional information, please contact my office at (303) 592-2629.

Sincerely,

John P. Rosata - Administrator
Regulatory & Environmental Affairs

JPR/jpr

Enclosure

cc: Ce I Colwell

PROPOSED OCS PLATFORM/STRUCTURE REMOVAL

I. Responsible Party

- A. Lease operator name Forest Oil Corporation
- B. Address 950 17th Street
Denver, Colorado 80202
- C. Contact person and telephone number John P. Rosata
(303) 592-2629
- D. Shore base Service Truck Line, t Intercoastal City, LA ⁽¹⁰⁾

II. Identification of Structure to be Removed

- A. Casing stub Eugene Island 346 #2
- B. Location (lease, area, block, and block coordinates)
Eugene Island Block 346 Well No. 2. Lease Line Calls
2179. 52FSL. 1511.61 F&L or X = 1.986. 489.45; Y =
'191.882.46
- C. Date installed (year) _____
- D. Proposed date of removal (Month/Year) 5/93
- E. Water depth 333'

III. Description of Structure to be Removed

- A. Configuration (attach a photograph or a diagram)
- B. Size Casing Stub 11 3/8, 68# x 20", 94# x 10", 1" wall
- C. Number of legs/casings/pilings N/A
- D. Diameter and wall thickness of legs/casings/pilings _____
11 3/8" = .480; 20" = .438"; 10" = 1.00"
- E. Is casing grouted? Yes Inside or Outside? Inside
- F. Brief description of soil composition and condition _____
Soft sandy bottom

5/31/92
incompletes
see cover letter

IV. **Purpose**

Lease expiration date and reason for removing the structure
Lease expires 5/31/93. Removing stub due to lease expiration.

V. **Removal Method**

- A. Brief description of the method to be used Use Divers to remove corrosion cap and assist in lower explosive. 15' below mudline
- B. If explosives are to be used, provide the following:
1. Kind of explosives Composition B, C-4, Cyclotol or Octol
 2. Number and size of charges 1 - 50 lb.
 - a. Single shot or multiple shots? Single
 - b. If multiple shots, sequence and timing of detonations _____
 3. Bulk or shaped charge? Bulk
 - a. Depth of detonation below mud line 16' below
 - b. Inside or outside piling? N/A
- C. Pre-removal monitoring techniques
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 None

2. Will divers or acoustic devices be used to conduct a pre-removal survey to detect presence of turtles and marine mammals? No_____ If yes, briefly describe the proposed detection method _____

Post-removal monitoring techniques

1. Will transducers be used to measure the impulse of the detonations? No_____
2. Will divers be used to survey the area after removal to determine the effects on marine life? No_____

VI. Biological Information

If available, provide the results of any recent biological surveys conducted in the vicinity of the structure. If available describe any recent observations of turtles or marine mammals at the structure site.

PLEASE SEND THREE COPIES OF THE APPLICATION TO:

Regional Supervisor, Field Operations (STS)
Minerals Management Service
1201 Elmwood Park Blvd.
New Orleans, Louisiana 70123

JPR/jba/STCTMML

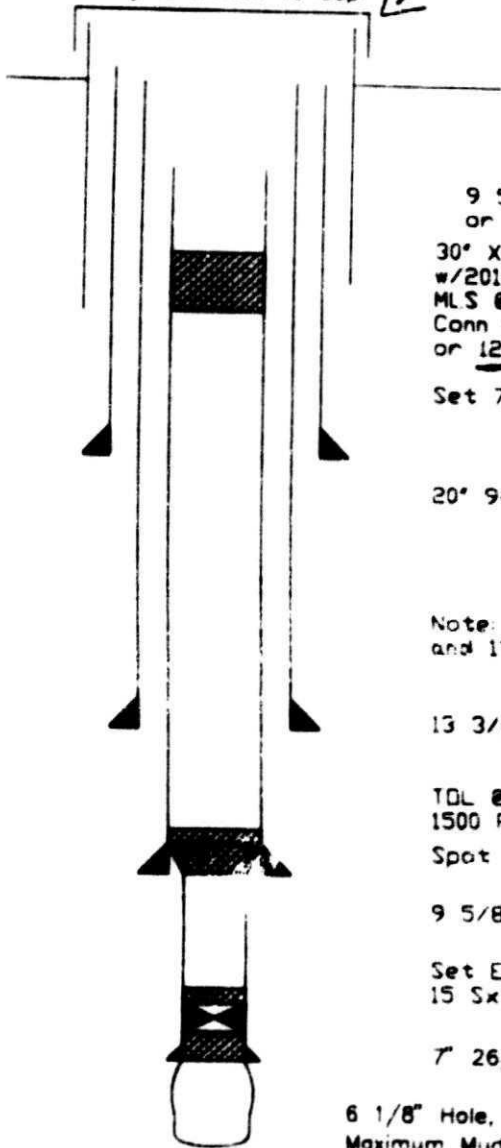
Eugene Island 346 well No. 2

Surface Location: 217952' FSL 151161' FWL
 Lat 28 deg, 8 min, 20.681 sec
 Long 91 deg, 22 min, 30.842 sec

X = 1,986,489.45
 Y = -191,882.46

36" Trash Cap w/4 Bolts
 Bolts were run in by hand.
 Recall Buoy shakled to cap.

top 12' AML (top 30")



Well Drilled by Rowan Gorilla III.
 103' Air gap with 333' of water dec.
 RKB to Mud Line would be 436'.

20" & 13 3/8" could not be backed out
 at MLH, both strings were cut @ 432'
 and pulled.
 Top of stubs 4' above mud line or 8'
 below the top of the 30".

9 5/8" Backed out at MLH, top at 464'
 or 28' below the Mud Line.

30" X 1" Wall Driven to 637' w/ 220 BPF
 w/201' of penetration w/ D-46 Hammer
 MLS @ 467'. Drill Quip 30" Quick-Jay
 Conn w/ Anti Rotation Key at 424'
 or 12' above the mud line.

Set 75 Sx surface plug F/550' to 750'

20" 94# K-55 Btc @ 1201'. MLH @ 466'

Note: On 3/23/88 tested 20" X 13 3/8"
 and 13 3/8" X 9 5/8" annulus to 510 psi.

13 3/8" 36# K-55 Btc @ 2651'. MLH @ 466'

TDL @ 5724' MD/ 5490' TVL. Tested
 1500 PSI and 15.3 PPG Mud or 20.5 PPG
 Spot 120 Sx plug across Liner top, from

9 5/8" 47# P110 LTC @ 6025'. MLH @ 467'

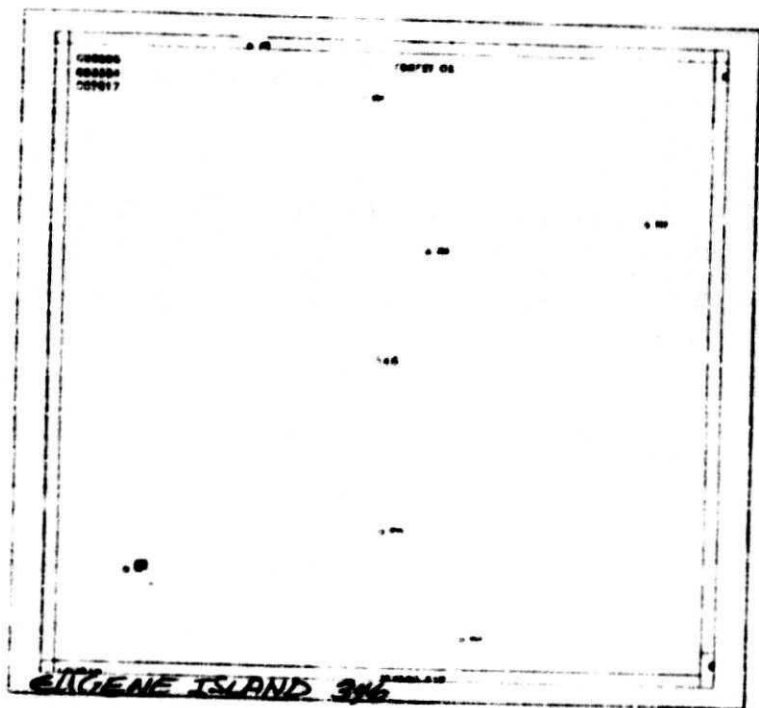
Set EZSV @ 9100, Sq 75 Sx below and spot
 15 Sx on top. Est TOC @ 9022'. Test 1000#

7" 26# S-95 FL4S Lnr @ 9170' w/ 15.3 PPG

6 1/8" Hole, T.D. @ 10,407 MD/ 8700 TVD
 Maximum Mud Weight 13.8 PPG

4/26/93

No hang sites
No Fairways



BEST AVAILABLE COPY

026

APPENDIX B
NMFS CORRESPONDENCE



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Washington, D.C. 20275

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 the 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 activity 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

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.

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. (NMS 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 NMS, 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 (4 previously conducted consultations covering abandonment activities, about 3) 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.

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 NMFS 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.

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, NMFS must reinstitute 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.

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. 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.F., 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 Pennsoil 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 (Pennsoil Platform - Vermillion 228A). Unpublished Trip Report to NMFS, SEFC, Galveston Laboratory. 9pp.

<u>i</u>	<u>Operator</u>	<u>Lease Area</u>	<u>Block</u>	<u>Structure</u>
40	Mobil Exploration and Producing Company U.S. Inc. "	Eugene Island Vermilion	354 102	A A
41	Kerr-McGee Corporation	Ship Shoal	296	A
42	Conoco Inc. "	Ship Shoal Vermilion	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*	Mobil Exploration and Producing Company U.S. Inc. " " (heliport) Except capped and plugged wells "A" & "B" in Vermilion-76-B	Eugene Island Vermilion "	119 76 "	C B "
46	Mobil Exploration and Producing Company U.S. Inc.	Vermilion	76	1
47	Samaden Oil Corporation	Galveston	261	A
48	Conoco Inc. " "	Grand Isle " "	63 54 47	A J 6
49	Mobil Exploration and Producing Company U.S. L.C.	Main Pass	91	2
50	Mobil Exploration and Producing Company U.S. Inc.	South Pelto	12	D
51	Exxon Company " " "	West Delta " " "	30 " 31 "	5 V 1 W
52	Conoco Inc.	West Delta	45	R-1

53	Nobil 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	135	A
	"	East Cameron	47	D
	"	S. Marsh, W. Ad	261	A
	Except West Cameron-261-A			
57*	Exxon Company U.S.A.	High Is., E. Ad	A-342	E
	Except High Island East Addition-A342-A			
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	Amoco 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.