To: Regional Supervisor, Field Operations, GOM OCS Region (MS 5200)

From: Acting Regional Supervisor, Leasing and Environment, GOM OCS Region (MS 5400)

Subject: Site-Specific Environmental Assessment (SEA) Prepared for Mobil Exploration & Producing U.S. Inc.'s NORM Encapsulation Operation, Lease OCS 0245, West Cameron Area Block 71, SEA No. 95-149

Mobil Exploration & Producing U.S. Inc.'s proposal to dispose up to 60 joints of 5-inch casing of produced sand, scale, and tank bottoms containing NORM into Well No. 1 of West Cameron Area, Block 71 has been reviewed. Our SEA for the subject action is complete and results in a Finding of No Significant Impact. This Finding is conditioned on the imposition of the following mitigative measures to ensure environmental protection, consistent environmental policy, and safety as required by the NEPA. This Finding is valid only insofar as these conditions are imposed:

1. A report of the results of the operations, including any problems encountered, shall be submitted to the Minerals Management Service as soon as possible.

2. NORM with the highest dose rate equivalents should be disposed as deep as possible in the well.

(Orig. Sgd.) Jerry Brashier

Richard E. Defenbaugh

cc: 102-01a ENV-4-9 (MS 5440)
Lease OCS 0245 POD File (MS 5032)
(Public Records (MS 5034)

GRutherford:skp:95-149.NRM
UNITED STATES DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE
Gulf of Mexico OCS Region
New Orleans, Louisiana

FINAL
SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT
NORM ENCAPSULATION OPERATION
No. 95-149

Assessment of the Environmental Impact of the Encapsulation of produced well solids with NORM in
West Cameron Area, Block 71.
(Lease OCS 0245)
by Mobil Exploration & Producing U.S. Inc.

Date Submitted: August 1995
Commencement Date: August 1995

Prepared by Gary Rutherford
FINDING OF NO SIGNIFICANT IMPACT

I have considered the notification by Mobil Exploration & Producing U.S. Inc. to encapsulate produced well solids with NORM in the West Cameron Area, Block 71, Lease OCS 0245, SEA No. 95-149. Based on the environmental analysis and mitigation measures 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 application is approved subject to the mitigative measures. Preparation of an environmental impact statement is not required.

Daryl Rutherford
Analyst(s)

8/31/95
Date

Jerry Brasheir
Chief, Environmental Operations Section
Leasing and Environment
Gulf of Mexico OCS Region

9/1/95
Date

Jerry Brasheir
Acting Regional Supervisor
Leasing and Environment
Gulf of Mexico OCS Region

9/1/95
Date
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A. MOBIL EXPLORATION & PRODUCING U.S. INC., CORRESPONDENCE
INTRODUCTION AND BACKGROUND

The purpose of this Site-Specific Environmental Assessment (SEA) is to assess the specific impacts associated with a proposal to dispose up to 60 joints of 5-inch casing of NORM at West Cameron Area, Block 71. The block lies approximately 9 mi south of Cameron parish. 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 is necessary.

I. DESCRIPTION OF THE PROPOSAL AND NEED FOR THE PROPOSAL

A. DESCRIPTION OF THE PROPOSED ACTION WITH MITIGATIONS

Mobil Exploration & Producing U.S. Inc. proposes to lower up to 60 joints of 5-inch casing containing NORM into well No. 1 at West Cameron Area, Block 71. A small portion of the waste to be disposed will be filters and related solid materials. The NORM material will be isolated between a cast iron bridge plug from below and above. A 200 foot cement plug with a dye base will be set above the upper cast iron bridge plug. A surface cement plug (per CFR regulations) and cast iron bridge plug will then be set further up the hole. The drums of NORM to be encapsulated into joints of casing ranged from just above background to 1000 ur/hr.

1. A report of the results of the operations, including any problems encountered, shall be submitted to the Minerals Management Service as soon as possible.

2. NORM with the highest dose rate equivalents should be disposed as deep as possible in the well.

B. NEED FOR THE PROPOSED ACTION

The proposed disposal of NORM contaminated produced well solids down the aforementioned well is a viable alternative to storing the material at an onshore site.

II. ALTERNATIVES TO THE PROPOSED ACTION

A. ONSHORE STORAGE

An alternative to the proposed action would be disapproval of the disposal of NORM downhole in the well bore. This would result in the NORM continually held at an onshore facility. Non-approval has not been determined to be a valid alternative.

B. ONSHORE DISPOSAL

An alternative to the proposed action would be disapproval of the encapsulation of NORM contaminated produced well solids
downhole in the well bore. This would result in the material being transported to shore. Non-approval has not been determined to be a valid alternative.

III. ENVIRONMENTAL EFFECTS, SOCIOECONOMIC CONCERNS, AND OTHER CONSIDERATIONS

A. PHYSICAL ENVIRONMENT

1. Geology and Geologic Hazards

The proposed disposal operation is not in an area of sediment instability (mud flows, slumps, or slides). Geologic conditions are not expected to have an impact on the proposed encapsulation operation.

2. Water Quality

Impacts are expected to be low as a result of the proposed activities. No discharges will occur in the water column since the NORM contaminated material will be encapsulated downhole in the wellbore.

3. Air Quality

Impacts are expected to be very low as a result of the proposed activities.

B. BIOLOGICAL ENVIRONMENT

1. Coastal Habitats

No impacts are expected as a result of the proposed activities.

2. Protected, Endangered, and/or Threatened Species
   a. Birds

Sensitive areas have been delineated along the Texas coastline where whooping cranes and brown pelicans could be adversely impacted by the proposed NORM encapsulation operation. The operator has indicated that helicopter flights and boat traffic would utilize a shorebase in Cameron, Louisiana. No impacts on threatened or endangered birds and their habitats are expected.

   b. Marine Mammals

Fritts et al. (1983) conducted aerial surveys across a 9,514 sq mi area of waters lying in the central GOM. Results of these surveys indicate that the bottlenose dolphin is by far the most
likely marine mammal to be encountered at the proposed NORM encapsulation operation. The proposed NORM disposal operation is expected to have only a low impact on marine mammals.

c. Sea Turtles

Definitive information on the probability of encountering sea turtles at the disposal site during NORM disposal operations is scarce. It is unlikely that any sea turtles will be affected by these proposed operations.

3. Sensitive Marine Habitats

The proposed activity is not near any sensitive marine habitats. Therefore, the subject NORM disposal operation will not impact any sensitive marine habitats or their resident biota.

4. Offshore Habitats

No impacts are expected since the NORM will be disposed downhole into the aforementioned well.

C. OTHER CONSIDERATIONS

1. Transportation routes

Up to sixty 5-inch casings of encapsulated NORM has been stored at Mobil's storage yard in Morgan City. The material will travel by truck from Morgan City to Cameron. The casings of NORM will then be transported by workboat from Cameron to West Cameron Area, Block 71, Well No. 1.

2. Military Use/Warning Areas

The proposed NORM encapsulation operation will not take place in a designated military use/warning area.

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

The operator has indicated that Cameron, Louisiana would be the shore base for the proposed NORM encapsulation operation. No impacts are expected as a result of the proposed activities.

4. Potential Re-exposure e.g. re-drill formation

Up to sixty joints of 5-inch casing containing NORM will be lowered into the wellbore of well no. 1 at West Cameron Area, Block 71. No NORM will be injected into a formation.
5. Human Health and Safety

Existing legal and regulatory safety requirements will keep the impacts of the proposed work on human health and safety at a very low level as outlined by the operator.

D. UNAVOIDABLE ADVERSE IMPACTS

Potential impacts to protected, threatened, and/or endangered species and potential loss of habitat to the marine environment are considered to be minor.

IV. PUBLIC OPINION

No comments occurred from the public as a result of the proposed operations.

V. CONSULTATION AND COORDINATION

This proposal was not coordinated with other Federal or state agencies. The NORM disposal operation will take place at an existing and previously approved surface location.
VI. BIBLIOGRAPHY AND SPECIAL REFERENCES

VII. PREPARERS

Author

Gary Rutherford - Geologist

Typist

Sandy Pavlas - Office Automation Clerk
VIII. APPENDIX

A. MOBIL EXPLORATION & PRODUCING U.S. INC. CORRESPONDENCE
APPENDIX A

MOBIL EXPLORATION & PRODUCING U.S. INC.'S CORRESPONDENCE
August 8, 1995

Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, LA 70123-2394

Attention: MS 5221

0.20.11.47
SUBMITTAL OF APPLICATION FOR THE
DISPOSAL OF NATURALLY OCCURRING
RADIOACTIVE MATERIAL (NORM)

Gentlemen:

In accordance with the Letter to Lessees (LTL) dated December 11, 1991, Mobil Exploration & Producing U.S. Inc. (MEPUS) requests approval to dispose of Naturally Occurring Radioactive Material (NORM) waste. Disposal of the NORM waste will be accomplished in the following manner. NORM waste materials have been and are encapsulated in +/- fifty (5) casings. The joints of casings are to be lowered into a well for isolation. All disposal actions will be performed in conjunction with the abandonment operations conducted on the well.

West Cameron 71, OCS-0245, Well #1 has been determined to have no further utility and is scheduled for plug and abandonment. Mobil intends to utilize this wellbore for the disposal of the NORM waste. Following the bottom-hole abandonments and the setting of bottom-hole cement plugs, the encapsulated NORM containing casings will be lowered into the wellbore. After the removal of the upper portion of the production tubing as specified in the attached procedures, cast iron bridge plugs will be set inside the production casing and above the tubing stubs to provide the initial isolation of the NORM waste from the surface. Further isolation will occur in the normal surface abandonment. Details relating to the abandonment and the weight, size, grade and setting depths of all casing strings are contained on the attached wellbore schematics.
Department of the Interior  
August 8, 1995  
Page 2

The accumulated NORM waste was generated from oil and gas producing operations conducted on Mobil operated leases in the Outer Continental Shelf (OCS), Gulf of Mexico. The NORM waste consists primarily of produced sands, scales and tank bottoms. A small portion of the waste is in the form of filters and related solid materials. Recent mix ratios have been approximately 1 to 1, however, Mobil's storage yard in Morgan City has ten (10) five (5") inch casings which have been NORM encapsulated. Should any waste remain following the disposal effort, a subsequent application will be submitted to allow for the disposal of the remaining waste.

The disposal of the NORM waste will be performed according to the attached generic procedure. The filters and related solid materials have been encapsulated in +/- five (5") inch casing joints with both ends of the joints plugged. The casing joints will be disposed of as described above.

In performing the disposal by the described isolation method, there will be no exposure, impact or effect to the surrounding geological or surface/subsurface marine environments. Additionally, a closed system will be utilized in the disposal effort to reduce or eliminate potential exposure by work crews to possible radiation and danger of airborne particulates.

Should you have any questions or require additional information, please contact the undersigned at 504/566-6070.

Very truly yours,

[Signature]

K. W. Vanacor

5/EHS202.KWV/bee  
Attachments

cc: State of Louisiana  
Department of Environmental Quality  
Radiation Protection Division  
Post Office Box 82135  
Baton Rouge, Louisiana 70884-2135  

Department of the Interior  
Minerals Management Service  
Lake Jackson District  
115 Circle Way  
Lake Jackson, Texas 77566
GENERIC WASTE HANDLING AND PROCESSING PROCEDURE
PLUG AND ABANDONMENT AND
NORM DISPOSAL PROJECT

Note: The following procedure will be performed in conjunction with the plug and abandonment procedure of the West Cameron 72, Well #1. The NORM waste has been encapsulated under specific license of the State of Louisiana.

1. Hold safety meetings with all personnel to be involved with any portion of the disposal project. Review all procedures with the Radiation Safety Officer (RSO).

2. Move on and rig-up all NORM handling and processing equipment. Set up safe work area and cover with appropriate materials to prevent any spillage of NORM waste. Set up decontamination stations and temporary storage site.

3. Move in NORM waste transportation containers. Store in the proper manner for safe handling and inspection.

4. Hook up lines and equipment to wellhead. Pressure test all lines and equipment to Mobil specs. Ensure adequate containment, pollution prevention and safe handling measures are taken.

5. Cut and remove tubing at this point and lower encapsulated NORM in casing into the well.

6. Rig down all NORM processing equipment following decontamination. (Ensure that all residue and cleaning water used in decontamination of the equipment is pumped downhole as a part of the balanced slurry system.)

7. Cut the production tubing and remove as described in the basic procedure.

8. Set and test the cast iron bridge plug in the production casing and proceed with the remainder of the abandonment as in the basic procedure.
1. Obtain all necessary permits and approvals prior to moving on location.

2. Notify Mobil Environmental and Regulatory Group 48 hours prior to project start.

3. Move on location and hold a safety meeting with all personnel. Record and maintain safety meeting records on location during project.

4. Rig up slickline, make a gauge run to top of sand and rig down.

5. Perforate the 2 7/8" tubing 1 foot above top of sand with 4 spf and establish circulation with seawater.

6. Mix and circulate 15 bbls (84 cu ft) of 16.4 ppg Class H Cement down tubing while taking returns from 9 5/8" casing and displace with 40 bbls seawater.

7. Wait on cement 12 hours, tag and test to 1500 psig.

8. Nipple down tree, cut and pull 6900' of 2 7/8" tubing from wellbore.

9. Make gauge ring/junk basket run to 6900' and set a CIBP at 6850' MD.

10. Set 2400 feet (60 jts) of 5" encapsulated NORM on CIBP at 6850' MD. Set a CIBP on top of encapsulated NORM at 4450' MD.

11. Spot 15 bbls (84 cu ft) of 16.4 ppg Class H Cement with dye on CIBP at 4450' MD.

12. Set a CIBP at 450' MD, nipple up dry hole tree and perforate the 9 5/8" and 13 3/8" casings from 447-449' MD.


14. Wait on cement 12 hours, tag and test to 500 psig on the 9 5/8" and 13 3/8" casings and 100 psig on the 20" casing.

15. Notify Mobil Environmental and Regulatory Group of completion of project and move off location.
WEST CAMERON 71 FIELD
OCS 0245 WC72 #1
PRESENT COMPLETION

ELEVATION: 44.80'
COMP FLD: 9.9# SALT WATER

30' DRIVE PIPE ø 246'
20' 84# H40 T&C CASING ø 455'
13 3/8' 61 & 54.5# J55 T&C CASING ø 3005'

BEST AVAILABLE COPY

2 7/8' OTIS S-2 NIPPLE ø 7007'
(2.313' ID)

SAND ON TOP OF OTIS DS PLUG
2 7/8' OTIS S-1 NIPPLE ø 7105'
(2.313' ID)
W/ OTIS DS PLUG

BAKER DRILLABLE PACKER ø 10720'
(3.25' BORE) (4' SEALS)

B 39A FB B SAND
SAND TOP: 10482' (4')
72-1:8

45X/46 FB F SAND
PERFS: 10752-76' ELM/GRM
72-1

BLOCK SQZ ø 10750-51'

TD ø 14427'

MCC 10/12/89
August 9, 1995

Attention: Mr. Frank Patton
MS 5221

0.20.11.47
REVISION TO SUBMITTAL FOR THE
DISPOSAL OF NATURALLY OCCURRING
RADIOACTIVE MATERIAL (NORM)

Gentlemen:

On August 8, 1995, Mobil Exploration & Producing U.S. Inc. (MEPUS) submitted an application to dispose of NORM in our West Cameron 71, OCS-0245, wellbore number one (1). This letter is written to revise the isolation summary procedure and the number of five (5") inch encapsulated NORM stored at Mobil’s Morgan City yard.

West Cameron 71, OCS-0245, Well #1 has been determined to have no further utility and is scheduled for plug and abandonment. Mobil intends to utilize this wellbore for the disposal of the NORM waste. Following the bottom-hole abandonments and the setting of bottom-hole cement plugs, and the removal of the upper portion of the production tubing as specified in the attached procedure. A cast iron bridge plug will be set inside the casing above the tubing stub to provide initial isolation of the NORM waste. The encapsulated NORM casings will be lowered into the wellbore and further isolation from the surface will be a bridge plug and 200 feet of cement with a dye base. A surface plug will then be set as per CFR regulations. Details relating to the abandonment and the weight, size, grade and setting depths of all casing strings are contained on the attached wellbore schematics.

The accumulated NORM waste was generated from oil and gas producing operations conducted on Mobil operated leases in the Outer Continental Shelf (OCS), Gulf of Mexico. The NORM waste consists primarily of produced sands, scales and tank bottoms. A small portion of the waste is in the form of filters and related solid materials. Mobil’s storage yard in Morgan City has sixty (60) five (5") inch casings of encapsulated NORM. Should any waste remain following the disposal effort, a subsequent application will be submitted to allow for the disposal of the remaining waste.
The disposal of the NORM waste will be performed according to the attached generic procedure. The filters and related solid materials have been encapsulated in +/- five (5") inch casing joints with both ends of the joints plugged. The casing joints will be disposed of as described above.

In performing the disposal by the described isolation method, there will be no exposure, impact or effect to the surrounding geological or surface/subsurface marine environments. Additionally, a closed system will be utilized in the disposal effort to reduce or eliminate potential exposure by work crews to possible radiation and danger of airborne particulates.

Should you have any questions or require additional information, please contact the undersigned at 504/566-6070 or George Bertrand at (504) 566-5968.

Very truly yours,

[Signature]

K. W. Vanacor

Attachments

cc:   State of Louisiana  
      Department of Environmental Quality  
      Radiation Protection Division  
      Post Office Box 82135  
      Baton Rouge, Louisiana 70884-2135

Department of the Interior  
Minerals Management Service  
Lake Jackson District  
115 Circle Way  
Lake Jackson, Texas 77566
GENERIC WASTE HANDLING AND PROCESSING PROCEDURE
PLUG AND ABANDONMENT AND
NORM DISPOSAL PROJECT

Note: The following procedure will be performed in conjunction with the plug and abandonment procedure of the West Cameron 72, Well #1. The NORM waste has been encapsulated under specific license of the State of Louisiana.

1. Hold safety meetings with all personnel to be involved with any portion of the disposal project. Review all procedures with the Radiation Safety Officer (RSO).

2. Move on and rig-up all NORM handling and processing equipment. Set up safe work area and cover with appropriate materials to prevent any spillage of NORM waste. Set up decontamination stations and temporary storage site.

3. Move in NORM waste transportation containers. Store in the proper manner for safe handling and inspection.

4. Hook up lines and equipment to wellhead. Pressure test all lines and equipment to Mobil specs. Ensure adequate containment, pollution prevention and safe handling measures are taken.

5. Cut and remove tubing at this point and lower encapsulated NORM in casing into the well.

6. Rig down all NORM processing equipment following decontamination. (Ensure that all residue and cleaning water used in decontamination of the equipment is pumped downhole as a part of the balanced slurry system.)

7. Cut the production tubing and remove as described in the basic procedure.

8. Set and test the cast iron bridge plug in the production casing and proceed with the remainder of the abandonment as in the basic procedure.
1. Obtain all necessary permits and approvals prior to moving on location.

2. Notify Mobil Environmental and Regulatory Group 48 hours prior to project start.

3. Move on location and hold a safety meeting with all personnel. Record and maintain safety meeting records on location during project.

4. Rig up slickline, make a gauge run to top of sand and rig down.

5. Perforate the 2 7/8" tubing 1 foot above top of sand with 4 spf and establish circulation with seawater.

6. Mix and circulate 15 bbls (84 cu ft) of 16.4 ppg Class H Cement down tubing while taking returns from 9 5/8" casing and displace with 40 bbls seawater.

7. Wait on cement 12 hours, tag and test to 1500 psig.

8. Nipple down tree, cut and pull 6900' of 2 7/8" tubing from wellbore.

9. Make gauge ring/junk basket run to 6900' and set a CIBP at 6850' MD.

10. Set 2400 feet (60 jts) of 5" encapsulated NORM on CIBP at 6850' MD. Set a CIBP on top of encapsulated NORM at 4450' MD.

11. Spot 15 bbls (84 cu ft) of 16.4 ppg Class H Cement with dye on CIBP at 4450' MD.

12. Set a CIBP at 450' MD, nipple up dry hole tree and perforate the 9 5/8" and 13 3/8" casings from 447-449' MD.


14. Wait on cement 12 hours, tag and test to 500 psig on the 9 5/8" and 13 3/8" casings and 100 psig on the 20" casing.

15. Notify Mobil Environmental and Regulatory Group of completion of project and move off location.
WEST CAMERON 71 FIELD
OCS 0245 WC72 #1
PROPOSED COMPLETION

ELEVATION: 44.80'
COMP FLD: 9.9# SALT WATER

30" DRIVE PIPE @ 246'
20" 94# H4G T&C CASING @ 455'
13 3/4" 61 & 54.5# J55 T&C CASING @ 3005'

39A FB B SAND
SAND TOP: 10482' (4')
72-1: 8

45X/46 FB F SAND
PERFS: 10752-76 ELM ORM
72-1

BLOCK SQ2 @ 10750-51'
9 5/8" 47# RBD & 50095 BUTTRESS & LT&C CASING @ 11734'
16# WDO

2 7/8" 6.5# RBD A-95 TUBING
TOC @ 250' (145' BML)
CASP PERFS @ 447-449'
CBB @ 450'
TUBING CUT @ 500'
EST TOC @ 4250'
CBB @ 4450'
60 JTS OF 5" UNCAPSULATED NORM
CBB @ 6900'
EST TOC @ 6900'
2 7/8" OTIS S-2 NIPPLE @ 7067'
(2.313" ID)
TBG PERFS ABOVE SAND TOP
SAND ON TOP OF OTIS DIS PLUG
2 7/8" OTIS S-1 NIPPLE @ 7103'
(2.313" ID)
W/ OTIS DIS PLUG

BAKER DRILLABLE PACKER @ 10726'
(3.25" BORE) (4" SEALS)

BEST AVAILABLE COPY

TOP OF CEMENT @ 10803'
TOP OF CEMENT @ 11270'
TD @ 14427'

GEN 09/07/95
**FAX TRANSMITTAL COVER SHEET**

**TO:**

**DATE:**

**COMPANY OR ORG.:**

**FAX NUMBER:**

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**TOTAL PAGES TRANSMITTED (INCLUDING COVER SHEET):**

**REMARKS:**

If you have any questions, please do not hesitate to give me a call.

THANKS

DAVID LANDRY

**BEST AVAILABLE COPY**

Karen

After the completion of excavation of the ground, we only have 44,000 cu. yd of casing. The major was delivered approximately 160 days.

8/22/95

Frank -特斯像44

looks like 44

paint instead of

160

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