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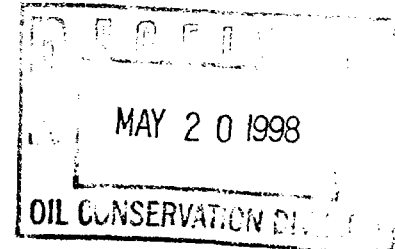
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VIA E-MAIL & HAND DELIVERY

Michael E. Stogner
Hearing Examiner
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505



Re: **Case No. 11929; Application of Mobil Exploration & Producing TX & NM Inc.**

Dear Mr. Stogner:

I am enclosing a proposed Order of the Division in this matter for your review. Please let me know if a diskette would be helpful or if you have any questions about our proposal.

Sincerely,

Edmund H. Kendrick

EHK/cep
#9781-97-01

cc: Marc Calvin (w/encls.)
Chris R. Cuyler (w/encls.)
Shirley Houchins (w/encls.)
Kevin S. Moody (w/encls.)

P.S. It turns out we had to use a diskette anyway, so I am enclosing it for you.

**STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

**CASE NO. 11929
Order No. _____**

**APPLICATION OF MOBIL EXPLORATION
& PRODUCING TX & NM INC. FOR THREE
HORIZONTAL INJECTION WELLS, AN
ADMINISTRATIVE PROCEDURE FOR
APPROVAL OF FUTURE HORIZONTAL
INJECTION WELLS, AND QUALIFICATION
OF THESE WELLS FOR THE RECOVERED
OIL TAX RATE, LEA COUNTY, NEW MEXICO**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on February 19, 1998, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

Now, on this ____ day of May 1998, the Division Director having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

1. Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

Project Background

2. By Order No. R-4430, issued in Case No. 4831 and dated October 27, 1972, the New Mexico Oil Conservation Commission authorized Mobil Oil Corporation to institute the Mobil North Vacuum Pressure Maintenance Project ("Project") in the North Vacuum-Abo Pool in Mobil's North Vacuum-Abo Unit, Lea County, New Mexico. The geographic area comprising the Project is referred to as the "Project Area." The Commission authorized the injection of gas and water into the Abo formation, through approximately 34 wells, and adopted special rules for the Project. Among those wells was the Bridges State #153, which is now designated Well #213 and is one of the wells that is subject to this Application.

3. On October 16, 1985, Mobil Producing Texas & New Mexico Inc. submitted a completed OCD Form C-108 to the Division seeking authorization to inject fresh water into the Abo formation through certain additional wells within the Project Area.

4. By Order No. PMX-138 dated November 12, 1985, the Division granted the October 16, 1985 application of Mobil Producing Texas & New Mexico Inc. and authorized the company to inject water into the Abo formation through 10 additional wells, including two wells, #136 and #156, which are subject to this Application.

5. Water flood operations were initiated by Mobil in the Project Area during the 1970s on a 160-acre five-spot injection pattern. An infill drilling program from 1983 to 1986 resulted in a 40-acre well spacing and a 80-acre five-spot injection pattern. The primary oil recovery from the Project Area has been 4,300,000 barrels. As of December 31, 1997, total secondary oil production from the Project Area was 26,900,000 barrels.

6. The Project Area currently has 79 active production wells and 76 active injection wells and is producing at the rate of approximately 1738 barrels of oil per day and 4727 barrels of water per day.

7. Mobil Exploration & Producing TX & NM Inc. ("Mobil") is the current operator of the Project, including injection Wells #136, #156 and #213 (as further described in Exhibit "A," attached hereto and made a part hereof) and production Wells #234, #243, #244, #245, #249, #277, #278 and #280 (as further described in Exhibit "B", attached hereto and made a part hereof) that are located within the Project Area. Mobil sidetracked vertical production Wells #244 and #278 (as further described in Exhibit "C", attached hereto and made a part hereof) and began operating them as horizontal production wells on September 11, 1997 and August 16, 1997, respectively.

8. After sidetracking vertical injection Wells #136, #156 and #213 (Exhibit "A") and obtaining permission from the Division to conduct active injection for a 90-day period, the applicant Mobil commenced water injection into Well #136 on December 27, 1997, into Well #156 on December 31, 1997 and into Well #213 on January 6, 1998.

9. The applicant Mobil, pursuant to Division General Rule 701.F. and to the New Mexico Enhanced Oil Recovery Act, seeks (A) approval of an expansion of its Project by means of a significant change in process for the displacement of crude oil with water that includes the conversion of three vertical injection wells (Exhibit "A") into horizontal injection wells; (B) administrative review by the Division of future applications by Mobil for approval of horizontal injection wells in the Project Area, without setting those applications for hearing; and (C) an Order, pursuant to the "Rules and Procedures for Qualification of

Enhanced Oil Recovery Projects and Certification for the Recovered Oil Tax Rate," as promulgated by Division Order R-9708, certifying that the area containing eight production wells (Exhibit "B") qualifies as an expanded Enhanced Oil Recovery ("EOR") project, certifying that a positive production response occurred in those wells in December 1997, and certifying that the recovered oil tax rate shall apply to crude oil produced from those wells beginning on January 1, 1998.

Underground Injection Control

10. Approximately 25 wells penetrate the Abo formation within the area of review within a one-half mile radius of the three horizontal injection wells (Exhibit "A").

11. The evidence and testimony, including Mobil's Form C-108 filed with the Division on January 27, 1998, indicate that the casing, cementing and mechanical integrity in the horizontal injection wells (Exhibit "A") meet regulatory requirements.

12. The evidence and testimony indicate the presence of zones above and below the Abo formation that will effectively confine injection fluids in the Abo formation.

13. The evidence and testimony indicate that the horizontal injection wells (Exhibit "A") will sweep portions of the reservoir that were not swept by those wells when operated as vertical injectors.

14. The evidence and testimony indicate that the horizontal injection wells (Exhibit "A") will concentrate the injection of fluids into productive zones more effectively than when those wells operated as vertical injectors.

15. The horizontal injection wells (Exhibit "A") will increase sweep efficiency and ultimate recovery of oil.

16. The applicant seeks authorization to inject water into the three horizontal injection wells (Exhibit "A") at a surface pressure of 4200 psi.

17. The evidence and testimony, including data from step rate tests, indicate that the Division should approve the requested surface injection pressure of 4200 psi.

18. The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

19. The applicant requests that the Division review administratively future applications for approval of horizontal injection wells within the Project Area without setting those applications for hearing.

20. The Division should approve the applicant's request and review administratively such future applications without setting those applications for hearing.

21. The granting of this application will prevent waste and protect correlative rights.

22. The proposed pressure maintenance expansion should be approved and governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

Qualification for Recovered Oil Tax Rate

23. The applicant seeks to qualify the following area for the recovered oil tax rate: 212 acres, more or less, hereinafter referred to as the "EOR Expansion Area" within the Project Area in portions of Sections 23, 26 and 27, Township 17 South, Range 34 East,

NMPM dedicated to Mobil horizontal injection Wells #136, #156 and #213 (Exhibit "A") and Mobil production Wells #234, #243, #244, #245, #249, #277, #278 and #280 (Exhibit "B"). The production wells listed in Exhibit "B" are wells that the applicant requests be qualified for the recovered oil tax rate.

24. Within the EOR Expansion Area, the applicant is proposing a significant change in the process used for the displacement of crude oil by converting Wells #136, #156 and #213 (Exhibit "A") from vertical injectors to horizontal injectors and by converting Wells #244 and #278 (Exhibit "C") from vertical producers to horizontal producers.

25. Costs for the change in operations within the EOR Expansion Area are calculated to be \$2,020,000 for sidetracking the three injection wells (Exhibit "A") and the two production wells (Exhibit "C").

26. The applicant estimates that the change in operations within the EOR Expansion Area will increase crude oil production by 326,000 barrels and crude oil revenue by \$5,937,500 and will increase gas production by 209,900 MCF and gas revenue by \$451,500.

27. The evidence and testimony presented in this case indicate that:

- (A) the sidetracking of the three injection wells (Exhibit "A") and the two production wells (Exhibit "C") in the EOR Expansion Area should result in a substantial increase in the amount of crude oil ultimately recovered from the Area;
- (B) because the EOR Expansion Area had been produced by a pattern of vertical injection and vertical recovery wells in place

for approximately 25 years, it was prudent to sidetrack the five wells to increase the total fluid processing rates and to maximize the ultimate recovery of crude oil from the area; and

(C) the expansion is economically and technically feasible and has not been prematurely filed.

28. The application should be approved and should be governed by the provisions of the "Rules and Procedures for Qualifications of Enhanced Oil Recovery Projects and Certification for the Recovered Oil Tax Rate," as promulgated by Division Order No. R-9708.

29. The EOR Expansion Area within the Project Area, as defined in Finding Paragraph No. (23) above, and the eight corresponding production wells (Exhibit "B") within the EOR Expansion Area should be qualified as an "Enhanced Oil Recovery Project" pursuant to the Enhanced Oil Recovery Act (Chapter 7, Article 29A NMSA 1978).

30. The evidence and testimony presented in this case indicate that oil production from Wells #244 and #278 (two of the eight wells in Exhibit B; Exhibit C) in the EOR Expansion Area increased immediately after those wells were sidetracked in September 1997 and August 1997, respectively. A significant portion of the oil produced from those horizontal production wells would not have been produced for many years, if ever, had those wells not been sidetracked.

31. The evidence and testimony presented in this case indicate that oil production is expected to increase from the remaining vertical production wells (six of the eight wells in

Exhibit "B") in the EOR Expansion Area shortly after the three horizontal injection wells (Exhibit "A") began operation in late December 1997 and early January 1998.

32. The applicant has requested that the Division certify a positive production response for the eight production wells (Exhibit "B") within the EOR Expansion Area effective January 1, 1998.

33. Based upon evidence and testimony presented, the Division should certify to the New Mexico Department of Taxation and Revenue that the eight wells (Exhibit "B") are eligible for the recovered oil tax rate effective February 1, 1998.

IT IS, THEREFORE, ORDERED THAT:

1. The applicant Mobil Exploration & Producing TX & NM Inc. ("Mobil") is hereby authorized to expand its North Vacuum Abo Pressure Maintenance Project within the existing Project Area in Lea County, New Mexico, pursuant to Division General Rule 701.F., by converting existing vertical injection Wells #136, #156, and #213 (Exhibit "A") into horizontal injection wells and by converting existing vertical production Wells #244 and #278 (Exhibit "C") into horizontal production wells.

2. The applicant shall take all steps necessary to insure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

3. The three injection wells (Exhibit "A") initially shall be equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to no more than 4200 psi.

4. The Division Director shall have the authority to approve administratively a pressure limitation in excess of the 4200 psi herein authorized upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

5. The three injection wells (Exhibit "A") shall be governed by all provisions of Oil Conservation Commission Order No. R-4430 and Rule Nos. 701-708 of the Oil Conservation Division Rules and Regulations.

IT IS FURTHER ORDERED, THAT:

6. The application of Mobil to qualify the EOR Expansion Area for the recovered oil tax rate under the Enhanced Oil Recovery Act (Chapter 7, Article 29A, NMSA 1978) is hereby approved.

7. The approved EOR Expansion Area is defined as 212 acres, more or less, within the Mobil North Vacuum Abo Pressure Maintenance Project in portions of Sections 23, 26 and 27, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, dedicated to Mobil horizontal injection Wells #136, #156 and #213 (Exhibit "A") and Mobil production Wells #234, #243, #244, #245, #249, #277, #278 and #280 (Exhibit "B").

8. The Division hereby certifies its approval of applicant Mobil's expansion of its enhanced recovery project in the EOR Expansion Area defined above.

9. All production wells within the EOR Expansion Area, which are listed in Exhibit "B," qualify for the recovered oil tax rate.

10. The Division hereby certifies that a positive production response has occurred in the EOR Expansion Area for the wells listed in Exhibit "B" prior to February 1, 1998.

11. The recovered oil tax rate shall apply to crude oil produced from all wells listed in Exhibit "B" beginning on February 1, 1998.

12. The EOR Expansion Area shall be governed by the provisions of the "Rules and Procedures for Qualifications of Enhanced Oil Recovery Projects and Certification for the Recovered Oil Tax Rate," as promulgated by Division Order No. R-9708.

13. Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Lori Wrotenberg
Director

S E A L

[EIK]MOBIL-ORDER-OF-DIVISION

EXHIBIT "A"

CASE NO. 11929

ORDER NO. _____

MOBIL NORTH VACUUM ABO PRESSURE
MAINTENANCE PROJECT

WELLS CONVERTED FROM VERTICAL INJECTORS TO HORIZONTAL INJECTORS

Well No.	API No.	Footage Location	Lot/Unit	S-T-R	Injection Interval
136	30-025-23462	660' fnl & 860' fwl	D	26-17S-34E	8395' - 9376'
156	30-025-23696	1893' fsl & 1800' fel	J	23-17S-34E	8353' - 9413'
213	30-025-23982	460' fsl & 1890' fwl	N	27-17S-34E	8310' - 9423'

EXHIBIT "B"

CASE NO. 11929

ORDER NO. _____

MOBIL NORTH VACUUM ABO PRESSURE MAINTENANCE PROJECT

PRODUCING WELLS WITHIN THE EOR PROJECT AREA ELIGIBLE
FOR THE RECOVERED OIL TAX RATE

Well No.	API No.	Footage Location	Lot/Unit	S-T-R
234	30-025-28314	1980' fsl & 545' fel	I	23-17S-34E
243	30-025-28586	657' fnl & 1839' fwl	C	26-17S-34E
244	30-025-28603	589' fsl & 1859' fel	O	23-17S-34E
245	30-025-28604	1932' fsl & 2155' fwl	K	23-17S-34E
249	30-025-28722	1850' fnl & 660' fwl	E	26-17S-34E
277	30-025-29234	790' fnl & 650' fel	A	27-17S-34E
278	30-025-29235	500' fsl & 650' fwl	M	23-17S-34E
280	30-025-29237	2000' fnl & 1850' fel	G	23-17S-34E

EXHIBIT "C"

CASE NO. 11929

ORDER NO. _____

MOBIL NORTH VACUUM ABO PRESSURE
MAINTENANCE PROJECT

WELLS CONVERTED FROM VERTICAL PRODUCERS
TO HORIZONTAL PRODUCERS

Well No.	API No.	Footage Location	Lot/Unit	S-T-R
244	30-025-28603	589' fsl & 1859' fel	O	23-17S-34E
278	30-025-29235	500' fsl & 650' fw1	M	23-17S-34E