

## MERRION OIL &amp; GAS CORPORATION

610 REILLY AVE. • P. O. Box 840

FARMINGTON, NEW MEXICO 87499

January 15, 1991

CERTIFIED RETURN RECEIPT REQUESTED

Adobe Resources Corporation  
300 West Texas, Suite 1100  
Midland, Texas 79701

Attn: Jan Watson

Subject: Application for a Horizontal Directional Drilling Pilot  
Project, Federal 28-1 Well, 750' FNL, 2450' FEL,  
Sec. 28, T20N, R5W, McKinley County, New Mexico

BEFORE EXAMINER	
OIL CONSERVATION DIVISION	
10196	5

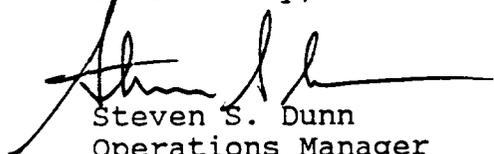
Dear Jan:

This letter is to advise you Merrion Oil & Gas Corporation has filed application with the New Mexico Oil Conservation Division seeking an Order authorizing a pilot project to first drill vertically then to plug back and directionally drill horizontally through the Entrada formation at an unorthodox surface location as described above. The horizontal wellbore will be drilled in a southeasterly direction within an approved target area described on the enclosed Examiner Hearing Docket. In addition, Merrion seeks approval for an unorthodox bottom hole oil well location for the subject well and permission to produce the vertical and/or horizontal wellbores.

I have also enclosed a land map showing the leases and their ownership in the vicinity of our proposed horizontal well. This case is set for hearing on the January 10, 1991 Docket. However, due to the notification requirement of Rule 1207 which requires notice be given at least 20 days prior to the date of hearing, we plan to delay our case until the February 7th scheduled hearing.

If you have any questions concerning this application please give me a call.

Yours truly,



Steven S. Dunn  
Operations Manager  
Merrion Oil & Gas Corporation

SSD/lls

Enclosures

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery (Extra charge)

3. Article Addressed to:	4. Article Number P 565 381 625
Yates Petroleum Corp. 105 South Fourth Street Artesia, NM 88210 Attn: Randy Patterson	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
5. Signature - Addressee X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X <i>[Signature]</i>	
7. Date of Delivery 01-17-91	

PS Form 3811, Apr. 1989

DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1.  Show to whom delivered, date, and addressee's address. 2.  Restricted Delivery (Extra charge)

3. Article Addressed to:	4. Article Number P 565 381 624
Jan Watson Adobe Resources Corporation 300 West Texas, Suite 1100 Midland, TX 79701	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input checked="" type="checkbox"/> Return Receipt for Merchandise
5. Signature - Addressee X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X <i>[Signature]</i>	SAME
7. Date of Delivery JAN 19 1991	

PS Form 3811, Apr. 1989

DOMESTIC RETURN RECEIPT

RECEIPT FOR CERTIFIED MAIL  
NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

Sent to Randy Patterson Yates Petroleum Corp.	
Street and No. 105 S. Fourth Street	
P. O. State and ZIP Code Artesia, NM 88210	
Postage	\$ .25
Certified Fee	\$ .85
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	\$ .90
TOTAL Postage and Fees	\$ 2.00
Postmark or Date 1/15/91	

PS Form 3800, June 1985

U.S.G.P.O. 1989-234-555

RECEIPT FOR CERTIFIED MAIL  
NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

Sent to Jan Watson Adobe Resources Corp.	
Street and No. 300 West Texas, #1100	
P. O. State and ZIP Code Midland, TX 79701	
Postage	\$ .25
Certified Fee	\$ .85
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	\$ .90
TOTAL Postage and Fees	\$ 2.00
Postmark or Date	

U.S.G.P.O. 1989-234-555

3800, June 1985

## MERRION OIL &amp; GAS CORPORATION

610 REILLY AVE. • P. O. BOX 840

FARMINGTON, NEW MEXICO 87499

January 15, 1991

CERTIFIED RETURN RECEIPT REQUESTED

Yates Petroleum Corporation  
105 South Fourth Street  
Artesia, New Mexico 88210

Attn: Mr. Randy Patterson

Subject: Application for a Horizontal Directional Drilling Pilot  
Project, Federal 28-1 Well, 750' FNL, 2450' FEL,  
Sec. 28, T20N, R5W, McKinley County, New Mexico

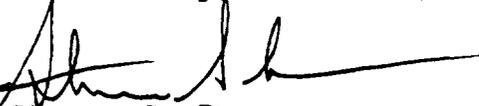
Dear Mr. Patterson:

This letter is to advise you Merrion Oil & Gas Corporation has filed application with the New Mexico Oil Conservation Division seeking an Order authorizing a pilot project to first drill vertically then to plug back and directionally drill horizontally through the Entrada formation at an unorthodox surface location as described above. The horizontal wellbore will be drilled in a southeasterly direction within an approved target area described on the enclosed Examiner Hearing Docket. In addition, Merrion seeks approval for an unorthodox bottom hole oil well location for the subject well and permission to produce the vertical and/or horizontal wellbores.

I have also enclosed a land map showing the leases and their ownership in the vicinity of our proposed horizontal well. This case is set for hearing on the January 10, 1991 Docket. However, due to the notification requirement of Rule 1207 which requires notice be given at least 20 days prior to the date of hearing, we plan to delay our case until the February 7th scheduled hearing.

If you have any questions concerning this application please give me a call.

Yours truly,



Steven S. Dunn  
Operations Manager  
Merrion Oil & Gas Corporation

SSD/lls

Enclosures

DOCKET NO. 1-91

Dockets No. 3-91 and 4-91 are tentatively set for January 24, 1991 and February 7, 1991. Applications for hearing must be filed at least 22 days in advance of hearing date:

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 10, 1991

8:15 A.M. - OIL CONSERVATION DIVISION CONFERENCE ROOM,  
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before David R. Catanach, Examiner, or Michael E. Stogner or Jim Morrow, Alternate Examiners:

- ALLOWABLE:
- (1) Consideration of the allowable production of gas for February, 1991, from fourteen prorated gas pools in Lea, Eddy, and Chaves Counties, New Mexico.
  - (2) Consideration of the allowable production of gas for February, 1991, from four prorated gas pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

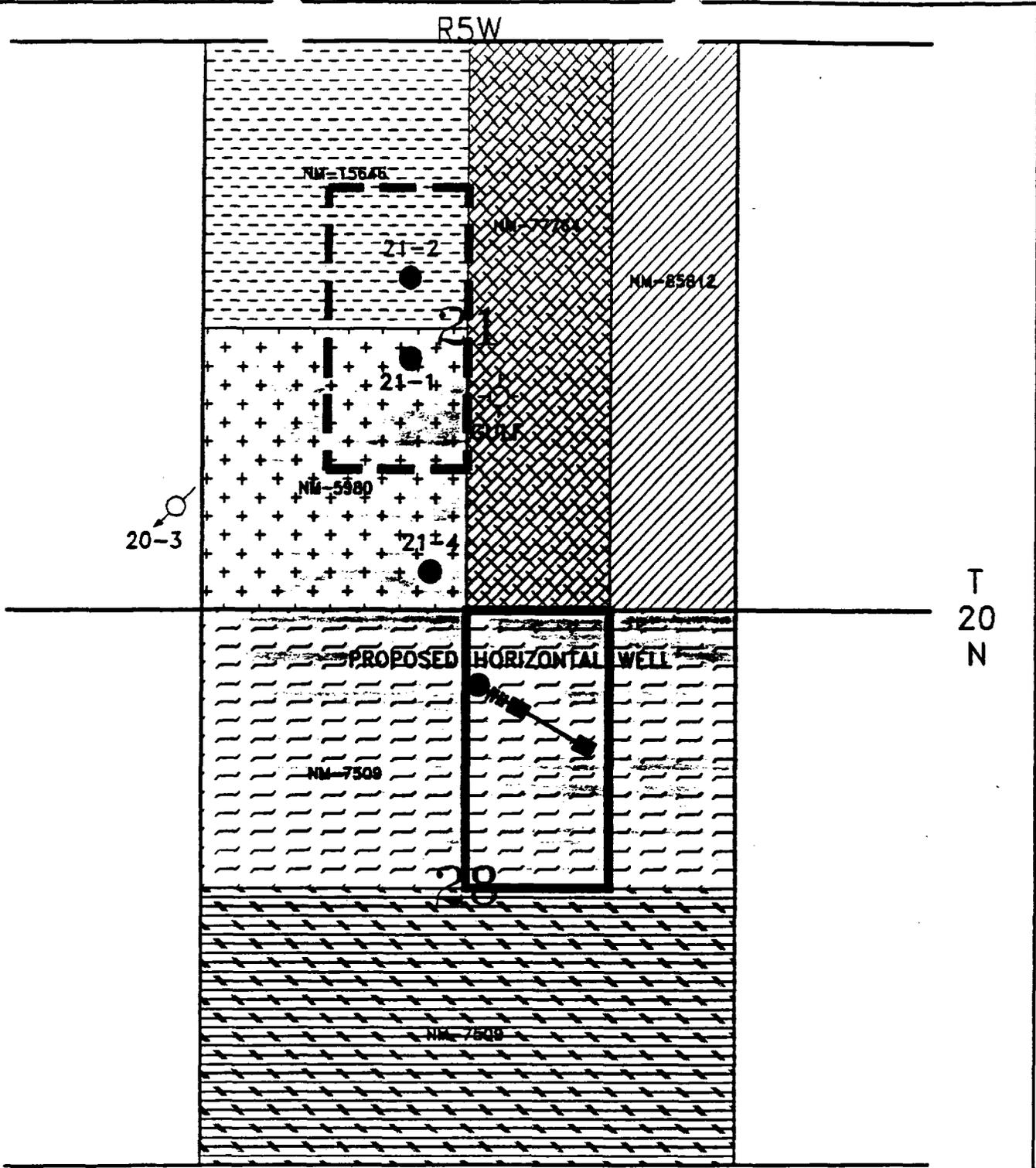
CASE 10194: Application of Bannon Energy, Inc. for an unorthodox oil well location, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox oil well location 1288 feet from the North line and 1246 feet from the East line (Unit A) of Section 31, Township 24 North, Range 7 West, Lybrook-Gallup Oil Pool, the NE/4 NE/4 of said Section 31 to be dedicated to said well forming a standard 40-acre oil spacing and proration unit for said pool. Said unit is located approximately 7.5 miles east of Ragoesi, New Mexico.

CASE 10195: Application of Koch Exploration Company for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Basin-Fruitland Coal Gas Pool underlying Lots 1, 3, 4, 8 and 9, the NW/4 NE/4, and the S/2 NE/4 (E/2 equivalent) of Section 27, Township 32 North, Range 9 West, to form a 312.49-acre gas spacing and proration unit for said pool. Said unit is to be dedicated to its Federal Blancett Com C Well No. 1 to be drilled at a standard coal gas well location in the NE/4 equivalent of said Section 27. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well as well as terms of well operations. Said unit is located approximately 3 miles south of Mile Post No. 260 on the New Mexico/Colorado Stateline.

CASE 10196: Application of Merrion Oil & Gas Corporation for a horizontal directional drilling pilot project, special operating rules therefor, non-standard oil spacing and proration unit, and an unorthodox oil well location, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks the formation of an 80-acre non-standard oil spacing and proration unit in the Undesignated Ojo Encino-Entrada Oil Pool comprising the W/2 NE/4 of Section 28, Township 20 North, Range 5 West, for the purpose of initiating a horizontal directional drilling pilot project. The applicant proposes to drill at a non-standard surface location 750 feet from the North line and 2450 feet from the East line (Unit B) of said Section 28, penetrate the Entrada formation whereby the zone will be evaluated to determine the proper direction for a horizontal extension. Applicant further seeks special rules and provisions within the pilot project area including the designation of a prescribed area limiting the horizontal displacement of the wellbore to a target window described as a rectangle 1320 feet wide and 1200 feet long, the northern side of which is located 550 feet from the North line of said Section 28, with the western side formed by the half section line of Section 28. Also to be considered will be special allowable provisions for a double sized proration unit for this pool. This area is located approximately 8.25 miles northwest by west of Torreon (Sandoval), New Mexico.

CASE 10197: Application of Strata Energy Resources Corporation for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests from the surface to the base of the Abo formation or to a depth of 7000 feet, whichever is deeper, underlying the SW/4 NE/4 of Section 14, Township 19 South, Range 38 East, to form a standard 40-acre oil spacing and proration unit for any and all formations and/or pools within said vertical extent developed on 40-acre oil spacing which presently includes, but is not necessarily limited to, the Undesignated Hobbs Grayburg-San Andres and Undesignated Nadine-Orinkard Abo Pools. Said unit is to be dedicated to a well to be drilled at a standard oil well location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well. Said unit is located approximately 3/4 mile south of the Everglade Cemetery.

CASE 10198: Application of Richmond Petroleum Inc. for a horizontal directional drilling pilot project, special operating rules therefor, an unorthodox oil well location, and a non-standard oil proration unit, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to initiate a horizontal directional drilling pilot project in Irregular Section 28, Township 27 North, Range 2 West, being a non-standard 430.55-acre oil spacing and proration unit in the Undesignated Gavilan-Mancos Oil Pool. The applicant proposes to utilize its Jicarilla-Richmond JV Well No. 28 to be drilled at an unorthodox oil well location 500 feet from the South and East lines (Unit I) of said Section 28 to a depth of approximately 7100 feet, kick off in a northwesterly direction with a medium radius curve building angle to 90 degrees and penetrate the Gavilan-Mancos Oil Pool at an estimated depth of 7412 feet and thence drilling horizontally in a northwesterly direction a distance not in excess of 2,000 feet. Said project is located approximately 28 miles south by west of Dulce, New Mexico.



20-3

T  
20  
N

PROPOSED HORIZONTAL WELL

EXHIBIT NO. 1  
CASE 10196  
NMOCD HEARING  
FEB. 7, 1991

-  PROPOSED 90 ACRE PRORATION UNIT
-  OJO ENCINO FIELD OUTLINE
-  MERRION INTEREST
-  YATES PETROLEUM, 12/1/95, NRI: 87.5%, NM-85812, 160/160
-  MERRION OIL, 8/31/91, NRI: 84.5%, NM-77784, 160/160
-  B. ROBINSON, HBP (12/90), NRI: 75%, NM-15646, 160/1742.38
-  MERRION OIL (SURFACE TO 6210'), HBP, NRI: 81.5, NM-5980, 160/160
-  WI (SURFACE TO 6210'), MERRION OIL 100%, NRI: 77.1875% NM-7509
-  WI (ALL FORMATIONS), MERRION OIL 67.5%, ADOBE RESOURCES 7.5%, DEAN UNRUH 25%, HBP, NRI: 92.5%, NM-7509, 640/2083.12

MERRION OIL & GAS CORP.  
610 REILLY AVE., FARMINGTON, NEW MEXICO  
(505) 327-9801

OJO ENCINO FIELD  
MC KINLEY COUNTY, NEW MEXICO  
WELL AND LEASE  
OWNERSHIP MAP

ENGINEERING: STEVE DUNN DATE: 1/4/91  
DRAFTING: M.E.G. SCALE: 3 3/4" = 1 MILE

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. 10196  
ORDER NO. R-9450*

**APPLICATION OF MERRION OIL AND GAS  
CORPORATION FOR A HORIZONTAL DIRECTIONAL  
DRILLING PILOT PROJECT, SPECIAL OPERATING  
RULES THEREFOR, NON-STANDARD OIL PRORATION  
UNIT, AND AN UNORTHODOX OIL WELL LOCATION,  
MCKINLEY COUNTY, NEW MEXICO**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on February 7, 1991 at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 12th day of March, 1991 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.
- (2) The applicant, Merrion Oil and Gas Corporation, seeks the formation of an 80-acre non-standard oil spacing and proration unit in the Undesignated Ojo Encino-Entrada Oil Pool comprising the W/2 NE/4 of Section 28, Township 20 North, Range 5 West, NMPM, McKinley County, New Mexico, for the purpose of initiating a horizontal drilling pilot project therein and to further promulgate special rules and provisions within said pilot project area including the designation of a target window limiting the horizontal displacement of a wellbore and special allowable considerations.

(3) The proposed pilot project is located within one mile of the Ojo Encino-Entrada Oil Pool boundaries and is therefore governed by the applicable rules therefor which include statewide 40-acre oil spacing units and general oil well location requirements, but is subject to a special 750 barrels of oil per day poolwide depth bracket allowable established by Division Order No. R-5420 dated April 26, 1977.

(4) The Entrada formation in this area was deposited as an eolian sand overlain by lacustrine limestones and anhydrites of the Todilto formation. These small "dune-like" structures, having high porosity and permeability act as the reservoir for trapping the accumulations of oil in the Entrada formation.

(5) The Ojo Encino-Entrada Oil Pool is a strong water drive reservoir and the character of the oil found in this pool is paraffin base, low asphalt, and low viscosity (35.5° API).

(6) Conventionally drilled (vertical) oil wells in this pool experience water coning quite early and after water breakthrough occurs, the well produces large volumes of water and relatively low volumes of oil, which result in very high operating costs, low oil recovery, and less efficient drainage.

(7) By drilling a horizontal well along the crest of one of these oil-bearing subterranean dunes, the applicant is attempting to alleviate coning by creating a small pressure drop along the large length of a horizontal wellbore instead of a large pressure drop through a small area available to a vertical wellbore.

(8) Also, there should be less produced water to handle, thereby lowering operating costs; and, because there will be larger reservoir contact by a horizontal wellbore, more efficient oil production should result in better drainage.

(9) The applicant proposes to drill vertically from an unorthodox surface location 750 feet from the North line and 2450 feet from the East line (Unit B) of said Section 28, penetrate the Entrada formation whereby the zone will be further evaluated to better determine the proper azimuth for a horizontal extension, which will be in a southeasterly direction within a target window described as a rectangle 1320 feet wide and 1200 feet long, the northern side of which is located 550 feet from the North line of said Section 28, with the western side formed by the half-section line of Section 28.

(10) The aforementioned prescribed area limiting the horizontal displacement of the wellbore would allow for flexibility, serve to minimize risk and maximize the success of such a completion.

(11) Since the project area consists of essentially two 40-acre proration units, the applicant proposed that the project be assigned an allowable of 1500 barrels of oil per day, which is equal to twice the normal allowable assigned a 40-acre proration unit in the Ojo Encino-Entrada Oil Pool.

(12) The N/2 of said Section 28 is inclusive of the applicant's Federal "28" Lease of which Merrion Oil and Gas Corporation is 100% working interest owner.

(13) There was no objection to the subject application by any interested party.

(14) In the interest of conservation, the prevention of waste, and the protection of correlative rights, the application of Merrion Oil and Gas Corporation for this horizontal drainhole project should be approved.

(15) The non-standard proration unit, as described above, should not become effective until such time as the horizontal wellbore is completed and placed on production and will cease at such time as the horizontal wellbore is properly plugged and abandoned.

(16) The applicant should be required to determine the actual location of the kick-off point prior to directional drilling operations. Also, the applicant should notify the supervisor of the Aztec District Office of the Division of the proposed direction of the deviated hole and of the date and time of the commencement of directional drilling in order that the same may be witnessed.

(17) The applicant should be required to conduct a directional survey on the lateral portion of the wellbore during or after completion of the drilling operations on the well and submit a copy of said survey to both the Santa Fe and Aztec Offices of the Division.

**IT IS THEREFORE ORDERED THAT:**

(1) The application of Merrion Oil and Gas Corporation for a horizontal directional drilling pilot project consisting of the W/2 NE/4 of Section 28, Township 20 North, Range 5 West, NMPM, Undesignated Ojo Encino-Entrada Oil Pool, McKinley County, New Mexico, forming a non-standard 80-acre oil spacing and proration unit is hereby approved.

(2) The applicant is further authorized to drill its Federal 28 Well No. 1 at an unorthodox surface oil well location 750 feet from the North line and 2450 feet from the East line (Unit B) of said Section 28 in the unconventional manner as described in Finding Paragraph No. (9) of this order.

(3) The lateral extent of the horizontal wellbore shall be such that the producing interval be limited to an area described as a rectangle 1320 feet wide and 1200 feet long, the northern side of which is located 550 feet from the North line of said Section 28, with the western side formed by the half-section line of Section 28.

(4) The aforementioned 80-acre non-standard oil proration unit shall be dedicated to the proposed horizontal well and shall be assigned an acreage dedication factor of 2.0 to be assessed toward the depth bracket allowable for said pool.

(5) This non-standard proration unit shall not become effective until such time as the horizontal wellbore is completed and placed on production and shall cease at such time as the horizontal well is properly plugged and abandoned.

(6) The geographic location of the kick-off point for the proposed horizontal well shall be determined prior to directional drilling. Also, the operator shall notify the supervisor of the Aztec District Office of the Division of the proposed direction of the deviated hole and of the date and time of the directional drilling in order that the same may be witnessed.

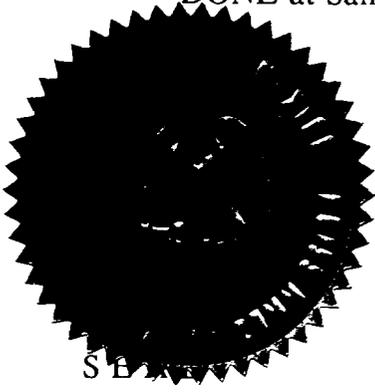
(7) The applicant shall conduct a directional drilling survey on the well during or after completion of horizontal drilling operations.

(8) Upon completion of the horizontal drilling operations on the well, the applicant shall file a copy of said directional drilling survey along with a final report specifying the depth and location of the terminus of said horizontal wellbore to both the Santa Fe and Aztec Offices of the Division.

(9) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

Case No. 10196  
Order No. R-9450  
Page No. 5

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



STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

A handwritten signature in cursive script, appearing to read "William J. Lemay", is written over a horizontal line. A vertical line extends downwards from the right end of the signature.

WILLIAM J. LEMAY  
Director