

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:

APPLICATION OF OXY USA, INC. TO AMEND DIVISION  
ORDER NO. R-2901 AND TO EITHER INSTITUTE A NEW  
WATERFLOOD PROJECT OR RENEW AUTHORITY TO  
INJECT INTO A PORTION OF AN EXISTING WATERFLOOD  
PROJECT, LEA COUNTY, NEW MEXICO.

Case No. 10866

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APPLICATION OF OXY USA, INC. TO QUALIFY A PORTION  
OF ITS EAST EUMONT UNIT WATERFLOOD PROJECT FOR  
THE RECOVERED OIL TAX RATE PURSUANT TO THE "NEW  
MEXICO ENHANCED OIL RECOVERY ACT," LEA COUNTY,  
NEW MEXICO.

Case No. 10867

Order No. R-2901-A

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on November 18, 1993, December 16, 1993, and on January 6, 1994 at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 15th day of February, 1994, 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) By Order No. R-2894, issued in Case No. 3233 and dated April 21, 1965, the Division approved the application of Tidewater Oil Company for unitization of the following described 5,535.06 acres, more or less, of State, Federal and Fee lands in Lea County, New Mexico, also known as the East Eumont Unit Area:

**TOWNSHIP 18 SOUTH, RANGE 37 EAST, NMPM**

Section 33: S/2 NE/4, SE/4 NW/4, NE/4 SW/4, S/2 SW/4, and SE/4  
Section 34: SW/4 SW/4

**TOWNSHIP 19 SOUTH, RANGE 37 EAST, NMPM**

Section 3: Lot 4 (NW/4 NW/4 equivalent), S/2 NW/4 and SW/4  
Section 4: Lots 1 through 4 (N/2 N/2 equivalent), S/2 N/2 and E/2 SE/4  
Section 9: N/2 NE/4  
Section 10: NW/4 NE/4 and W/2  
Section 15: W/2  
Section 16: E/2 NE/4, NE/4 SE/4 and S/2 SE/4  
Section 21: E/2 E/2  
Section 22: W/2 and S/2 SE/4  
Section 26: SW/4 NW/4, W/2 SW/4, SE/4 SW/4 and SW/4 SE/4  
Section 27: N/2, E/2 SW/4 and SE/4  
Section 28: E/2 NE/4  
Section 34: N/2 NE/4, SE/4 NE/4 and NE/4 NW/4  
Section 35: N/2, E/2 SW/4 and SE/4  
Section 36: SW/4 NW/4, W/2 SW/4, SE/4 SW/4

**TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM**

Section 1: Lots 2, 3, and 4, SW/4 NE/4, S/2 NW/4, SW/4 and W/2 SE/4  
Section 2: Lots 1, 2, and 3, S/2 NE/4, SE/4 NW/4, E/2 SW/4, and SE/4  
Section 11: NE/4 NE/4  
Section 12: W/2 NE/4, N/2 NW/4 and SE/4 NW/4

(3) By Order No. R-2901, issued in Case No. 3234 and dated May 4, 1965, the Division further authorized Tidewater Oil Company to institute a waterflood project (therein designated the East Eumont Unit Waterflood Project) by the injection of water into the Eumont-Yates-Seven Rivers-Queen (Oil) Pool, herein referred to as the Eumont (Oil) Pool, on the above-described Unit, Lea County, New Mexico. Said Order initially authorized sixty-nine injection wells within said project.

(4) The current operator of said Unit and Waterflood project is OXY USA, Inc. ("Oxy"), who is also the applicant in both Case Nos. 10866 and 10867.

(5) In Case No. 10866 Oxy seeks an amendment to said Order No. R-2901 for renewal of authority to inject water into the Eumont (Oil) Pool within that portion of the East Eumont Unit in Sections 33 and 34, Township 18 South, Range 37 East, NMPM and Sections 3, 4, 9, and 10 and the NW/4 of Section 15 and the E/2 NE/4 of Section 16, NMPM, Lea County, New Mexico, being everything in said Unit Area lying

north of the half-section lines that divide said Sections 15 and 16. The applicant proposes to utilize twenty-one existing wells for water injection and to drill one new injection well, all further described in Exhibit "A", attached hereto and made a part hereof.

(6) In Case No. 10867 Oxy seeks 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 No. R-9708, qualifying this "renewed area" in the northern portion of the East Eumont Unit Waterflood Project Area, Eumont (Oil) Pool, Lea County, New Mexico, for the recovered oil tax rate pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5). The portion of the East Eumont Unit to be included is as follows:

**LEA COUNTY, NEW MEXICO**

**TOWNSHIP 18 SOUTH, RANGE 37 EAST, NMPM**

Section 33: S/2 NE/4, SE/4 NW/4, NE/4 SW/4, S/2 SW/4, and SE/4

Section 34: SW/4 SW/4

**TOWNSHIP 19 SOUTH, RANGE 37 EAST, NMPM**

Section 3: Lot 4 (NW/4 NW/4 equivalent), S/2 NW/4 and SW/4

Section 4: Lots 1 through 4 (N/2 N/2 equivalent), S/2 N/2 and E/2 SE/4

Section 9: N/2 NE/4

Section 10: NW/4 NE/4 and W/2

Section 15: NW/4

Section 16: E/2 NE/4.

(7) Both Case Nos. 10866 and 10867 were consolidated at the time of the hearing for the purpose of presenting testimony.

(8) Geologic testimony describes the Eumont Pool as a relatively large anticlinal feature and the East Eumont Unit was created on the northeastern "oil rim" of this anticline. Said Unit was designed to waterflood the oil lying between the water bearing down-dip portion of this structure to the east and the gas cap positioned up-dip of this oil rim to the west.

(9) Testimony presented by the applicant indicates that the entire Unit had ultimate primary production from the Eumont (Oil) Pool of approximately 3.27 million barrels of oil and ultimate secondary production in excess of 3.0 million barrels of oil, with total production from the Unit as of October 1, 1993 being 6.3 million barrels of

oil. Currently, production from the Unit is approximately two barrels of oil per day and one barrel of water from two wells, both of which are located in the "southern" or unaffected portion of the East Eumont Area. Further testimony indicates that under current conditions the remaining production of recoverable reserves is zero.

(10) In the subject "northern portion" of this Unit, all wells are currently inactive. Further evidence indicates that even though said Order No. R-2901 authorized all of the subject injection wells listed on Exhibit "A", the operator of the Unit never caused these wells to either be converted to injection wells or in the case of the proposed well in Unit K of Section 3, Township 19 South, Range 37 East, NMPM, Lea County, New Mexico (East Eumont Unit Well No. 133), to be drilled for injection purposes.

(11) Subsequent to the time said Order R-2901 was issued in 1965, the "Safe Drinking Water Act" (Public Law 93-523) was signed into federal law on December 16, 1974; said Act provides that any injection well must have a permit. The "Safe Drinking Water Act" required the Administrator of the Environmental Protection Agency ("EPA") to adopt minimum regulations for State programs to control the underground injection of fluids to protect underground sources of drinking water. The final EPA regulations were published in the spring of 1980.

(12) In order for the State of New Mexico through the Oil Conservation Division to apply for and obtain primary enforcement authority for control of oil and gas related injection wells in New Mexico under the Safe Drinking Water Act, it was necessary for the Division to amend its permitting procedures and to require all injection wells to be permitted for disposal under the EPA approved procedures.

(13) On March 7, 1982, The EPA granted primacy to the State of New Mexico.

(14) Since injection into the twenty-two wells listed in Exhibit "A" never occurred under the applicable rules for water injection for the purpose of secondary recovery at the time said Order R-2901 was released, the injection authority for said wells should be considered null and void, therefore making it necessary for the Unit operator to resubmit for approval to inject water into these wells under the EPA approved procedures.

(15) Oxy is proposing to initiate an 80-acre five-spot injection pattern in this "northern" portion of the East Eumont Unit utilizing the aforementioned twenty-two injection wells. In addition the applicant's plans include the drilling and equipping of two

producers, the reactivation of twenty-one producers, and the upgrading of existing battery and injection facilities. The capital expenditure is expected to be approximately \$3,765,000.00.

(16) At the hearing, the applicant testified that an estimated 775,000 barrels of oil from the Eumont (Oil) Pool could be obtained by initiating the proposed injection activity, resulting in the recovery of additional oil which would not otherwise be recovered.

(17) The Unit operator should take all steps necessary to ensure that the injected water enters and remains confined to only the proposed injection interval and is not permitted to escape into other formations or onto the surface from injection, production or plugged and abandoned wells.

(18) The injection of water into the proposed injection wells should be accomplished through 2-3/8 inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforation; the casing-tubing annulus should be filled with an inert fluid and a gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(19) Prior to commencing injection operations into the proposed injection wells, the casing in each well should be pressure tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(20) The injection wells or pressurization system for each of the proposed injection wells should be so equipped at this time as to limit injection pressure at the wellhead to no more than 750 psi; however the operator should have the opportunity to request, at a later date, an increase in the injection pressure limitation placed upon any well upon a proper showing by the operator that such higher pressure will not result in the migration of the injected water from its respective interval or fracture the confining strata. Such authorization will however remain with the Division Director.

(21) The operator should give advance notification to the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure-tests in order that the same may be witnessed.

(22) No offset operator or interested party appeared at the hearing in opposition to this application.

(23) The proposed waterflood in the "northern portion" of the East Eumont Unit is in the best interest of conservation and will serve to protect correlative rights, therefore this application should be approved and the project should be governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(24) Further, the evidence presented by the applicant indicates that the area herein authorized for waterflood meets all the criteria for approval as a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(25) The approved "EOR area", located within the confines of the East Eumont Unit Area Waterflood Project, should only comprise that area described in Finding Paragraph No. (6), above.

(26) To be eligible for the EOR credit, prior to commencing injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.

(27) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

(28) The injection authority granted herein for each of the proposed injection wells should terminate one year after the date of this order if the operator has not commenced injection operation into the particular well by that date, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

(29) The previous injection authority granted by the Division for each of the proposed 22 injection wells, listed on the attachment designated as Exhibit "A", by said Division Order No. R-2901 should be superseded by this order at this time. All other provisions of said Order No. R-2901 may remain in full force and effect.

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant in both Case Nos. 10866 and 10867, OXY USA, Inc. ("Oxy"), is hereby authorized in commence water injection into the Eumont-Yates-Seven Rivers-Queen (Oil) Pool, herein referred to as the Eumont (Oil) Pool, for the purpose of re-instituting the East Eumont Unit Waterflood project, originally authorized by Division Order No. R-2901, issued in Case No. 3234 and dated May 4, 1965, within the following described "northern" portion of the East Eumont Unit:

**LEA COUNTY, NEW MEXICO**

**TOWNSHIP 18 SOUTH, RANGE 37 EAST, NMPM**

Section 33: S/2 NE/4, SE/4 NW/4, NE/4 SW/4, S/2 SW/4, and SE/4

Section 34: SW/4 SW/4

**TOWNSHIP 19 SOUTH, RANGE 37 EAST, NMPM**

Section 3: Lot 4 (NW/4 NW/4 equivalent), S/2 NW/4 and SW/4

Section 4: Lots 1 through 4 (N/2 N/2 equivalent), S/2 N/2 and E/2 SE/4

Section 9: N/2 NE/4

Section 10: NW/4 NE/4 and W/2

Section 15: NW/4

Section 16: E/2 NE/4

The applicant is authorized to utilize 21 existing wells and to drill an additional well for the purpose of injection, all of which are further described in Exhibit "A", attached hereto and made a part hereof.

(2) The applicant must take all steps necessary to ensure that the injected water only enters and remains confined to the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

**IT IS FURTHER ORDERED THAT:**

(3) Injection shall be accomplished through 2-3/8 inch internally plastic-lined tubing installed in a packer set approximately within 100 feet of the uppermost injection perforation; the casing-tubing annulus in each well shall be filled with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

(4) The injection wells or pressurization system for each injection well shall be so equipped as to limit injection pressure at the wellhead to no more than 750 psi.

(5) The Division Director shall have the authority to administratively authorize an increase in the injection pressure limitation placed upon any well upon a proper showing by the operator that such higher pressure will not result in the migration of the injected water from its respective interval or fracture the confining strata.

(6) Prior to commencing injection operations, the casing in each injection well shall be pressure-tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(7) The applicant shall immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing, casing or packer in any of the injection wells, the leakage of water or oil from or around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area, and shall take such steps as may be timely and necessary to correct such failure or leakage.

(8) The subject waterflooding of the "northern portion" of the East Eumont Unit shall be conducted in accordance with Division Rule Nos. 701 through 708 and the operator shall submit monthly progress reports in accordance with Division Rule Nos. 706 and 1115.

**FURTHERMORE:**

(9) The subject waterflood activity in the "northern portion" of the East Eumont Unit, as described in Decretory Paragraph No. (1), above, is hereby approved as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(10) To be eligible for the EOR credit, prior to commencing injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed EOR area as described above.

(11) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.



(12) The injection authority granted herein for the proposed injection wells shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

(13) The previous injection authority granted by the Division for each of the proposed 22 injection wells, listed on the attachment designated as Exhibit "A", by said Division Order No. R-2901 shall be superseded by this order at this time. All other provisions of said Order No. R-2901 shall remain in full force and effect until further notice.

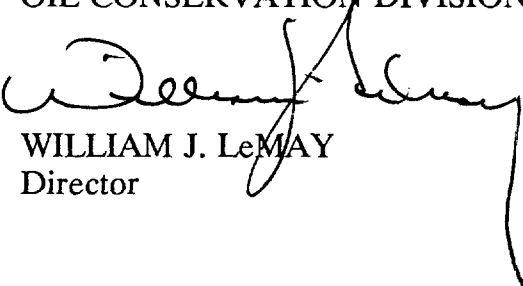
(14) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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



SEAL

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
WILLIAM J. LeMAY  
Director

**Exhibit "A"**

**Case Nos. 10866 and 10867  
Order No. R-2901-A**

**East Eumont Unit "North Segment"  
Waterflood Project Area**

East Eumont Unit Well No.	Original Operator, Well Name and No.	Footage Location	Unit	S-T-R	API No.	Injection Perforations (feet)
2	Antwell Lowe State "B" No. 2	2310' FNL - 1980' FEL	G	33-18S-37E	30-025-05527	3808-3993
4	Continental State "C-33" No. 3	1980' FS & WL	K	33-18S-37E	30-025-05534	3751-3940
6	Continental State "C-33" No. 1	1980' FSL - 660' FEL	I	33-18S-37E	30-025-05531	3838-3999
7	Schermerhorn Linam "B" No. 1	880' FSL - 660' FWL	M	33-18S-37E	30-025-05536	3716-3910
9	Aztec State "E-33-A" No. 2	660' FSL - 1650' FEL	O	33-18S-37E	30-025-05530	3799-3962
11	Tidewater State "AH" No. 1	660' FS & WL	M	34-18S-37E	30-025-05538	3797-3970
12	Schermerhorn Linam "F" No. 1	273' FNL - 2400' FWL	C	4-19S-37E	30-025-05551	3765-3950
14	Texaco Saunders Federal No. 1	660' FN & EL	A	4-19S-37E	30-025-05557	3793-3958
16	Schermerhorn Linam No. 1	2144' FNL - 589' FWL	E	4-19S-37E	30-025-05549	3720-3956
18	Atlantic Federal "A" No. 2	1837' FNL - 1650' FEL	G	4-19S-37E	30-025-05547	3753-3916
20	Aztec State "E-3" No. 1	2064' FNL - 660' FWL	E	3-19S-37E	30-025-09878	3775-3954
22	Texaco Z.A. McMillan "B" No. 2	1983' FSL - 660' FEL	I	4-19S-37E	30-025-05553	3750-3919
25	Texaco Z.A. McMillan "A" No. 2	660' FS & WL	M	3-19S-37E	30-025-05544	3748-3936
28	Tidewater State "AD" No. 1	660' FN & EL	A	9-19S-37E	30-025-05583	3782-3954
30	Aztec State "E-10" No. 2	690' FNL - 1950' FWL	C	10-19S-37E	30-025-05586	3768-3960

East Eumont Unit Well No.	Original Operator, Well Name and No.	Footage Location	Unit	S-T-R	API No.	Injection Perforations (feet)
32	Gulf F.W. Kutter (NCT-E) No. 2	1980' FNL - 660' FWL	E	10-19S-37E	30-025-05588	3773-3940
35	Humble New Mexico State "E" No. 4	1980' FS & WL	K	10-19S-37E	30-025-05591	3835-4018
36	Humble New Mexico State "E" No. 2	660' FS & WL	M	10-19S-37E	30-025-05590	3781-3955
37	Continental State "KU-16" No. 3	660' FNL - 990' FEL	A	16-19S-37E	30-025-05607	3765-3934
39	Tidewater State "AI" No. 4	660' FNL - 1980' FWL	C	15-19S-37E	30-025-05602	3845-3998
41	Tidewater State "AI" No. 2	1980' FNL - 660' FWL	E	15-19S-37E	30-025-05600	3784-3951
133*	Proposed Injection Well (R-2091)	1980' FS & WL	K	3-19S-37E	Unassigned	3700-4000

\* Proposed Well