

2nd Draft of Findings

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. 11168
Order No. R-4680-A

APPLICATION OF OXY USA INC. TO AUTHORIZE
THE EXPANSION OF A PORTION OF ITS MYERS
LANGLIE-MATTIX UNIT WATERFLOOD PROJECT
AND QUALIFY SAID EXPANSION FOR THE
RECOVERED OIL TAX RATE PURSUANT TO THE
"NEW MEXICO ENHANCED OIL RECOVERY ACT,"
LEA COUNTY, NEW MEXICO.

BY THE DIVISION:

This cause came on for hearing at 8:15 A.M. on December 15,
1994, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this ___ of March, 1995, 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 case and the subject matter
thereof.

(2) By Order No. R-4660, issued in Case No. 5086 and dated
November 16, 1973, the Division approved the application of Skelly
Oil Company for unitization of the following described 9,923.68
acres, more or less, of State, Federal, and Fee lands in Lea
County, New Mexico, also known as the Myers Langlie-Mattix Unit
Area:

TOWNSHIP 23 SOUTH, RANGE 36 EAST, NMPM

Section 25: N/2 NE/4, SE/4 NE/4, NE/4 SW/4, S/2 SW/4,
and SE/4

Section 36: N/2, E/2 SW/4, and SE/4

TOWNSHIP 23 SOUTH, RANGE 37 EAST, NMPM

Section 28: SW/4 NW/4 and SW/4

Sections 29 through 33: All

Section 34: W/2

TOWNSHIP 24 SOUTH, RANGE 36 EAST, NMPM

Section 1: Lots 1 (NE/4 NE/4 equivalent)

Section 12: S/2 N/2, N/2 SW/4, N/2 SE/4, and SE/4 SE/4

TOWNSHIP 23 SOUTH, RANGE 37 EAST, NMPM

Section 2: Lots 2, 3, and 4, SW/4 NE/4, S/2 NW/4, and SW/4

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

Sections 4 and 5: All

Section 6: Lots 1, 2, 3, and 4, S/2 NE/4, SE/4 NW/4, E/2 SW/4, and SE/4

Section 7: All

Section 8: N/2, N/2 S/2, and SW/4 SW/4

Section 9: N/2 and N/2 SW/4

Section 10: W/2 NE/4, SE/4 NE/4, NW/4, E/2 SW/4, and W/2 SE/4

Section 11: SW/4 NW/4.

(3) By Order No. R-4680, issued in Case No. 5087 and dated November 20, 1973, the Division authorized Skelly Oil Company to institute a waterflood project (therein designated the Skelly Myers Langlie Mattix Unit Waterflood Project) by the injection of water into the Lower Seven Rivers and Queen formations of the Langlie-Mattix (Seven Rivers-Queen-Grayburg) Pool within the above-described Unit, Lea County, New Mexico.

(4) OXY USA, Inc. is the current operator of both the Myers Langlie-Mattix Unit ("Unit") and the (Skelly) Myers Langlie Mattix Unit Waterflood Project ("Waterflood Project").

(5) The applicant, OXY USA, Inc. ("OXY"), pursuant to the New Mexico "Enhanced Oil Recovery Act" and to Division General Rule 701(G), seeks approval of an expansion of its (Skelly) Myers Langlie-Mattix Unit Waterflood Project by means of a significant change in process including the approval of the conversion of 16 producers to injection wells, to reactivate a plugged injector and an Order, pursuant to the "Rules and Procedures for Qualification of Enhanced Oil Recovery ^(EOR) Projects and Certification for the Recovered Oil Tax Rate", as promulgated by Division Order R-9708, qualifying a portion of its Myers Langlie-Mattix Unit Waterflood Project, located in portions of Section 36, Township 23 South,

Range 36 East, NMPM, and in Sections 31 and 32, Township 23 South, Range 37 East, NMPM, and in Sections 5 and 6, Township 24 South, Range 37 East, NMPM, Langlie-Mattix Pool, Lea County, New Mexico, for the recovered oil tax rate under the "Enhanced Oil Recovery Act" (Law 1992, Chapter 38, Sections 1 through 5).

(6) Waterflood operations were initiated by Skelly Oil Company during the 1970's on an 80-acre five-spot injection pattern. Ultimate primary oil recovery from the Unit has been 9,000,000 barrels of oil. As of October 31, 1994, total oil production from the Unit was 15,200,000 barrels.

(7) The Unit currently has 93 active producers and 62 injectors and is producing at a rate of approximately 613 barrels of oil per day and 7,032 barrels of water per day. Evidence indicates the remaining recoverable reserves in the Unit under the current 80-acre five-spot pattern is approximately 688,000 barrels of oil.

(8) The applicant now seeks to qualify the following described 760 acres, more or less, hereinafter referred to as the "EOR Project Area", being a portion of the (Skelly) Myers Langlie-Mattix Unit Waterflood Project in Lea County, New Mexico, for the recovered oil tax rate:

Explicitly

Township 23 South, Range 36 East, NMPM

Section 36: SE/4 SE/4 NE/4
NE/4 NE/4 SE/4

Township 23 South, Range 37 East, NMPM

Section 31: SW/4 SW/4 NE/4
S/2 S/2 NW/4
E/2 SW/4
E/2 W/2 SW/4 (equivalent)
NW/4 NW/4 SW/4 (equivalent)
NW/4 NW/4 SE/4
S/2 N/2 SE/4
S/2 SE/4

Section 32: SW/4 NE/4 SW/4
S/2 NW/4 SW/4
SW/4 SW/4
W/2 SE/4 SW/4

Township 23 South, Range 37 East, NMPM

Section 5: W/2 E/2 NW/4 (equivalent)

→

W/2 NW/4 (equivalent)

W/2 NE/4 SW/4

NW/4 SW/4

N/2 SW/4 SW/4

NW/4 SE/4 SW/4

Section 6: N/2 N/2 NE/4 (equivalent)

SE/4 NE/4 NE/4 (equivalent)

E/2 SE/4 NE/4

N/2 NE/4 NW/4 (equivalent)

NE/4 NW/4 NW/4 (equivalent)

E/2 NE/4 SE/4

NE/4 SE/4 SE/4.

*Expanding the
current
floral matter
to*

(9) Within the subject 760-acre, more or less, EOR Project Area, the applicant is proposing a significant change in the process used for the displacement of crude oil by instituting a 20-acre infill drilling program and to initiate a 40-acre five-spot water injection pattern. Such action will require the applicant to drill and equip nineteen new infill producing wells (as further described in Exhibit "A", attached hereto and made a part hereof), convert sixteen current producing wells to injectors (as further described in Exhibit "B", attached hereto and made a part hereof), reactivate a previously plugged and abandoned injection well (see also Exhibit "B"), and utilize fifteen existing injection wells (as further described in Exhibit "C", attached hereto and made a part hereof), plus an extensive upgrade of the tank battery and surface injection facilities.

Expansions

(10) While the nineteen new producers (Exhibit "A") have been drilled in the EOR Project Area as infill wells, none of those producers will be recovering enough primary oil to pay for their costs. Instead, these producers are an integral part of the EOR project being necessary in order to close the 40-acre five-spot injection pattern and improve sweep efficiency within the EOR Project Area.

Expansions

Part

(11) Costs for the proposed change in operations within the EOR Project Area is estimated to be \$3,660,000.00 for the drilling and associated equipment for the nineteen infill producers, \$690,000.00 to convert and reactivate the seventeen proposed new injection wells, and \$750,000.00 to upgrade battery and injection facilities. Total project costs is estimated to be \$5,100,000.

(12) The estimated amount of recoverable oil attributable to

Expansions

a "Positive Production Response from the Expanded Use" of enhanced oil recovery technology for a portion of this existing Waterflood Project is 1,600,000 barrels of additional oil.

(13) This EOR ^{Expansion} Project is similar to the one earlier requested by OXY for its Skelly Penrose "B" Unit Waterflood Project, which was approved by Division Order No. R-9955, as amended.

(14) For ease and simplicity the EOR ^{Expansion} Project Area should be defined in terms of the nineteen unit wells which would actually qualify for the recovered oil tax rate, as described in Exhibit "A". ^{also}

(15) The evidence and testimony presented in this case indicates that:

- (a) the reduction in the ^{Expansion} waterflood injection well pattern in the EOR ~~Project~~ Area should result in a substantial increase in the amount of crude oil ultimately recovered therefrom;
- (b) the EOR ^{Expansion} ~~Project~~ Area has been so depleted that it is prudent to implement a waterflood injection well pattern reduction to maximize the ultimate recovery of crude oil from ^{the} ~~the~~ EOR ~~Project~~-Area; and,
- (c) the proposed ^{Expansion} ~~enhanced oil recovery~~ project is economically and technically feasible and has not been prematurely filed. ^{Expansion}

(16) The EOR ^{Expansion} ~~Project~~ Area within the (Skelly) Myers Langlie-Mattix Unit Waterflood Project, as defined in Finding Paragraph No. () above, and those nineteen corresponding wells within said Area (see Exhibit "A") should be qualified as an "Enhanced Oil Recovery Project" ~~(EOR)~~ pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(17) To be eligible for the EOR credit, the operator should advise the Division when water injection into each additional injection well commences and at such time, request the Division certify the project to the New Mexico Taxation and Revenue Department.

(18) The application should be approved and the EOR ^{Expansion} Project should be governed by the provisions of the "Rules and Procedures for Qualifications of Enhanced Oil Recovery Projects" and "Certification for Recovered Oil Tax Rate" as promulgated by Division Order No. R-9708.

(19) 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.

(20) The injection of water into the proposed seventeen new injection wells should be accomplished through 2 3/8 inch internally fiberglass-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.

(21) Prior to commencing injection operations into the seventeen wells shown on Exhibit "B", attached hereto and made a part hereof, 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.

(22) The seventeen injection wells or pressurization system should be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than

~~* that shown on Exhibit "A".~~
* 180 psi.

(23) 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.

(24) 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.

(25) The proposed waterflood expansion 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.

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(26) The injection authority granted herein for the proposed seventeen new injection wells should 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.