



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING  
GOVERNOR

ANITA LOCKWOOD  
CABINET SECRETARY

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87504  
(505) 827-5800

February 2, 1994

Department of Taxation and Revenue  
P.O. Box 630  
Santa Fe, NM 87509-0630

Attention: Dick Minzner, Secretary

**RE: Certification of EOR Project  
OXY USA, Inc.  
Skelly Penrose "B" Unit Waterflood Project**

Dear Secretary Minzner:

Enclosed is a copy of the certification issued to OXY USA, Inc. for its Skelly Penrose "B" Unit Waterflood EOR project, certified by this Division on September 7, 1993, to be a qualified Enhanced Oil Recovery Project. If the operator applies for certification of positive production response within five years from that date, this project will be eligible for the *Recovered Oil Tax Rate* as provided in Laws of 1992, Chapter 38.

Only oil production from that portion of the lands identified in the certification which is actually developed for enhanced recovery will be eligible for the reduced tax rate. At the time positive production response is certified, we will identify for you the specific lands and wells within the project which qualify for the *Recovered Oil Tax Rate*.

Sincerely,

William J. LeMay  
Director

WJL/amg

Enclosures



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING  
GOVERNOR

December 6, 1993

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87504  
(505) 827-5800

ANITA LOCKWOOD  
CABINET SECRETARY

OXY USA, Inc.  
Attention: Richard E. Foppiano  
P.O. Box 50250  
Midland, TX 79710

**CERTIFICATION OF ENHANCED OIL RECOVERY PROJECT  
FOR RECOVERED OIL TAX RATE**

The New Mexico Oil Conservation Division hereby certifies that the following Enhanced Oil Recovery Project has been approved by the Division as a secondary project, pursuant to the provisions of the *New Mexico Enhanced Oil Recovery Act* (Laws of 1992, Chapter 38). In order to qualify for the *Recovered Oil Tax Rate*, you must apply for certification of positive production response within five years from the date of this certification. Only production from that portion of the project area identified herein which is actually developed for enhanced recovery will qualify for the reduced tax rate.

If operation of this project is terminated for any reason, the operator of the project must notify this Division and the Secretary of the Taxation and Revenue Department not later than the thirtieth day after termination.

NAME OF PROJECT: Skelly Penrose "B" Unit Waterflood Project

OCD ORDER NO. R-9955

OPERATOR: OXY USA, Inc.  
ADDRESS: Attention: Richard E. Foppiano  
P.O. Box 50250  
Midland, TX 79710

CERTIFICATION DATE: September 7, 1993

**PROJECT AREA:**

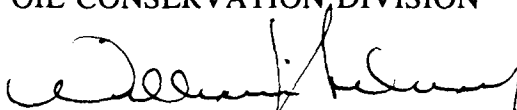
SPBU Well No. 70	2610' FNL - 2520' FEL (Unit G)	Section 5
SPBU Well No. 71	1420' FSL - 2614' FWL (Unit K)	Section 5
SPBU Well No. 72	1220' FNL - 1370' FEL (Unit B)	Section 5
SPBU Well No. 73	20' FNL - 1330' FWL (Unit C)	Section 8
SPBU Well No. 74	20' FNL - 2611' FEL (Unit B)	Section 8

*EOR Project Certification*  
*Skelly Penrose "B" Unit Waterflood Project*

---

APPROVED BY:

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

A handwritten signature in black ink, appearing to read 'William J. Lemay', written over the printed name.

WILLIAM J. LEMAY  
DIRECTOR

S E A L

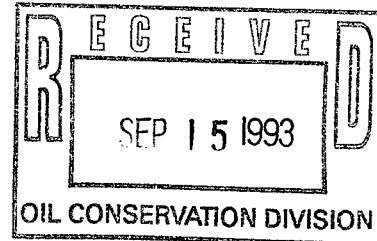


OXY USA INC.  
Box 50250, Midland, TX 79710

September 14, 1993

Oil Conservation Division  
State Land Office Building  
310 Old Santa Fe Trail, Room 206  
Santa Fe, New Mexico 87501

Attention: Mr. Robert G. Stovall, Esq.



**Re: Request for Certificate of Qualification for an Enhanced Oil Recovery Project, Skelly Penrose "B"Unit, Queen Formation, Langlie-Mattix Pool, Lea County, New Mexico**

Dear Mr. Stovall:

OXY USA Inc. respectfully requests from the Division a Certificate of Qualification pursuant to Order No. R-9955, for the following described project:

***Project Name:***

Skelly Penrose "B"Unit Waterflood Project

***Project Operator:***

OXY USA Inc.  
P. O. Box 50250  
Midland, Texas 79710

***Project Area:***

<u>UNIT WELL NAME AND NUMBER</u>	<u>WELL LOCATION</u>
SPBU Well No. 70	2610' FNL & 2520' FEL (Unit G) Sec 5
SPBU Well No. 71	1420' FSL & 2614' FWL (Unit K) Sec 5
SPBU Well No. 72	1220' FNL & 1370' FEL (Unit B) Sec 5
SPBU Well No. 73	20' FNL & 1330' FWL (Unit C) Sec 8
SPBU Well No. 74	20' FNL & 2611' FEL (Unit B) Sec 8

As we are just about ready to inject water in this area, quick processing of this request would be sincerely appreciated. A copy of the referenced Order is attached for your convenience. If you have any questions please call me at 915/685-5913.

Sincerely,

A handwritten signature in cursive script, appearing to read "Rick".

Richard E. Foppiano  
Regulatory Affairs Advisor  
Western Region - Midland

REF/ref  
Attachment

XC: Tom Kellahin, with attachment  
Scott Gengler, with attachment

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. 10771  
Order No. R-9955

APPLICATION OF OXY USA INC. TO AUTHORIZE  
THE EXPANSION OF A PORTION OF ITS SKELLY  
PENROSE "B" 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

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 A.M. on July 15, 1993,  
at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 7th day of September, 1993, 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, OXY USA Inc. (OXY), seeks an order pursuant  
to the Rules and Procedures for Qualifications of Enhanced Oil Recovery  
Projects and Certification for the Recovered Oil Tax Rate, as promulgated

Case No. 10771  
Order No. R-9955

-2-

by Division Order No. R-9708, qualifying a portion of its Skelly Penrose "B" Unit Waterflood Project in portions of Sections 4, 5 and 8, Township 23 South, Range 37 East, NMPM, Langlie Mattix Seven Rivers-Queen-Grayburg 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).

(3) The applicant further seeks authority to expand a portion of the Skelly Penrose "B" Unit Waterflood Project by converting nine additional wells to injection within the unit area, all as shown on Exhibit "A" attached hereto.

(4) The Skelly Penrose "B" Unit, comprising some 2,612.16 acres, was approved by Division Order No. R-2915 on June 1, 1965 upon the application of Skelly Oil Company.

(5) Waterflood operations within the Skelly Penrose "B" Unit were approved by Division Order No. R-2956 on August 16, 1965. During mid-1966, Skelly Oil Company commenced waterflood operations within the unit by the injection of water into the Queen (Penrose) formation through thirty-three initial injection wells.

(6) Waterflood operations within the unit have thus far been conducted on 80-acre five spot injection patterns.

(7) During 1992, the unit was operated by Sirgo Operating Inc. According to Division records, activity within the Skelly Penrose "B" Unit during 1992 was minimal, with production from the unit averaging approximately 29 barrels of oil per day from sixteen active producing wells.

(8) The applicant assumed operations of the Skelly Penrose "B" Unit on February 1, 1993.

(9) The applicant has made a significant capital investment since taking over operations preparing the unit wells for active waterflood operations.

(10) Average production from the unit is currently 80 barrels of

Case No. 10771  
Order No. R-9955

-3-

oil per day from twenty active producing wells.

(11) The applicant now seeks to qualify the following described 760 acres, hereinafter referred to as the "Project Area", being a portion of the Skelly Penrose "B" Unit Waterflood Project, for the recovered oil tax rate:

TOWNSHIP 23 SOUTH, RANGE 37 EAST, NMPM

Section 4: W/2 NW/4

Section 5: E/2, SW/4, S/2 NW/4

Section 8: N/2 NW/4, NW/4 NE/4

(12) Within the Project Area, the applicant proposes to conduct waterflood operations on a 40-acre five spot injection pattern. Such action will require that the applicant drill and equip five new producing wells, convert nine producing wells to injection, reactivate nine injection wells and three producing wells, and upgrade tank battery and injection facilities.

(13) The proposed change in operations within the Project Area will require a capital expenditure of approximately two million dollars.

(14) OXY requests certification of the Project Area on the contention that it has or will expand the use of enhanced oil recovery technology and will increase the size of the geologic area being flooded representing a unique area of activity.

(15) The geologic evidence presented by the applicant indicates that the various pay sections in the Queen (Penrose) formation of the pool are generally present and continuous within the Project Area; however, the thickness, uniformity, porosity and permeability may vary significantly resulting in areas of lateral discontinuity.

(16) The geologic evidence presented by the applicant further indicates that the Queen (Penrose) formation in the Project Area contains distinct stringers each vertically isolated from the others with permeability and porosity being highly variable over this entire portion of the unit.

Case No. 10771  
Order No. R-9955

-4-

(17) Geologic variations as described above generally indicate that the 80-acre five spot injection pattern previously utilized within the Skelly Penrose "B" Unit Waterflood Project may have been too large and likely resulted in substantial volumes of oil being unrecovered.

(18) As of April 1, 1993, cumulative oil production from the Skelly Penrose "B" Unit was 3,441,632 barrels. Under the current 80-acre five-spot injection patterns, applicant estimates that the remaining secondary oil reserves within the unit are 75,000 barrels.

(19) Applicant's engineering evidence and testimony indicate that the recoverable oil reserves within the Project Area under the proposed 40-acre five spot injection pattern are approximately 971,780 barrels.

(20) The reduction in the waterflood injection pattern from 80 acres to 40 acres will improve the sweep efficiency and should increase the ultimate oil recovery from the proposed Project Area.

(21) After being fully developed, the Project Area will contain nineteen injection wells and ten producing wells.

(22) The evidence presented in this case indicates that the previous operator of the Skelly Penrose "B" Unit, Sirgo Collier Inc., drilled five of the infill producing wells within the Project Area in 1988.

(23) The Division has determined in a previous application (Order No. R-9789 issued in Case No. 10570 on November 23, 1992) that action taken to reduce the spacing and waterflood injection pattern within a "Project Area" several years prior to making application for the EOR reduced tax rate does not represent a significant change or modification in the technology or process used for the displacement of crude oil, but rather represents a logical continuation of a process previously commenced.

(24) In order to be consistent with current Division policy, the Project Area eligible for the recovered oil tax rate should contain only that area that has not been previously infill drilled.

(25) The Project Area should be defined in terms of the unit wells

Case No. 10771  
Order No. R-9955

-5-

which would actually qualify for the recovered oil tax rate, described as follows:

<u>WELL NAME AND NUMBER</u>	<u>WELL LOCATION</u>
SPBU Well No. 70	2610' FNL & 2520' FEL (Unit G) Section 5
SPBU Well No. 71	1420' FSL & 2614' FWL (Unit K) Section 5
SPBU Well No. 72	1220' FNL & 1370' FEL (Unit B) Section 5
SPBU Well No. 73	20' FNL & 1330' FWL (Unit C) Section 8
SPBU Well No. 74	20' FNL & 2611' FEL (Unit B) Section 8

(26) The evidence and testimony presented in this case indicate that:

- (a) the reduction in the waterflood injection well pattern in the Project Area should result in a substantial increase in the amount of crude oil ultimately recovered therefrom;
- (b) the 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 Project Area; and,
- (c) the proposed enhanced oil recovery project is economically and technically feasible and has not been prematurely filed.

(27) The baseline decline curve to be utilized in determining the occurrence of a positive production response should consist of production from the Skelly Penrose "B" Unit Well Nos. 18, 28, 33, 39 and 44.

(28) The Project Area within the Skelly Penrose "B" Unit Waterflood Project (defined in Finding No. (25) above) 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).

(29) To be eligible for the EOR credit, the operator should advise

Case No. 10771  
Order No. R-9955

-6-

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.

(30) The application should be approved and the EOR 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.

(31) 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.

(32) 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.

(33) Prior to commencing injection operations into the wells shown on Exhibit "A", 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.

(34) The 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".

(35) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure

Case No. 10771  
Order No. R-9955

-7-

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.

(36) 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.

(37) 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.

(38) The injection authority granted herein for the proposed 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.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, OXY USA Inc., is hereby authorized to expand its Skelly Penrose "B" Unit Waterflood Project by the injection of water into the Queen (Penrose) formation, Langlie Mattix Seven Rivers-Queen-Grayburg Pool, Lea County, New Mexico, through the gross interval from approximately 3,505 feet to 3,744 feet in the nine wells shown on Exhibit "A" attached hereto.

(2) The applicant shall take all steps necessary to ensure 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 injection of water into the wells shown on Exhibit "A" shall 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 shall be filled with an inert fluid and a gauge or approved leak-detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.

Case No. 10771  
Order No. R-9955

-8-

(4) Prior to commencing injection operations into the wells shown on Exhibit "A", the casing in each 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.

(5) The injection wells or pressurization system shall 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".

(6) The Division Director shall 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.

(7) The operator shall 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.

(8) The operator 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 wells shown on Exhibit "A" and shall take such steps as may be timely and necessary to correct such failure or leakage.

(9) The subject wells shall be governed by all provisions of Division Order No. R-2956 and Rule Nos. 702-706 of the Oil Conservation Division Rules and Regulations.

(10) The injection authority granted herein 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.

IT IS FURTHER ORDERED THAT:

(11) The application of OXY USA Inc. to qualify a portion of its

Case No. 10771  
Order No. R-9955

-9-

Skelly Penrose "B" Unit Waterflood Project as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5), is hereby approved.

(12) The Project Area shall be defined in terms of the unit wells which would actually qualify for the recovered oil tax rate, described as follows:

<u>WELL NAME AND NUMBER</u>	<u>WELL LOCATION</u>
SPBU Well No. 70	2610' FNL & 2520' FEL (Unit G) Section 5
SPBU Well No. 71	1420' FSL & 2614' FWL (Unit K) Section 5
SPBU Well No. 72	1220' FNL & 1370' FEL (Unit B) Section 5
SPBU Well No. 73	20' FNL & 1330' FWL (Unit C) Section 8
SPBU Well No. 74	20' FNL & 2611' FEL (Unit B) Section 8

(13) The operator shall advise the Division when the additional water injection phase of the project commences into any of the new injection wells.

(14) 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 project area as described above.

(15) 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.

(16) Said EOR project shall 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

Case No. 10771  
Order No. R-9955  
-10-

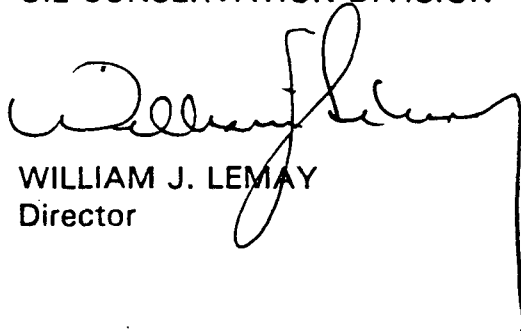
by Division Order No. R-9708.

(17) The baseline decline curve to be utilized in determining the occurrence of a positive production response shall consist of production from the Skelly Penrose "B" Unit Well Nos. 18, 28, 33, 39 and 44.

(18) 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.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

A handwritten signature in black ink, appearing to read 'William J. Lemay', is written over the printed name and title. The signature is fluid and cursive, with a long vertical stroke extending downwards from the end of the name.

WILLIAM J. LEMAY  
Director

SEAL

EXHIBIT "A"  
CASE NO. 16771  
DIVISION ORDER NO. R-9955  
SKELLY PENROSE "B" UNIT WATERFLOOD PROJECT  
APPROVED INJECTION WELLS  
LEA COUNTY, NEW MEXICO

Well No.	Location	Unit	S-T-R	Injection Perforations	Packer Depth	Tubing Size	Injection Pressure (PSIG)
18	660' FNL - 660' FEL	A	5-23S-37E	3614' - 3744'	3550'	2 3/8"	723
26	1980' FNL - 990' FWL	E	5-23S-37E	3659' - 3768'	3600'	2 3/8"	732
28	1980' FNL - 1980' FEL	G	5-23S-37E	3638' - 3724'	3550'	2 3/8"	726
30	1980' FNL - 660' FWL	E	4-23S-37E	3505' - 3666' (open hole)	3450'	2 3/8"	701
31	1980' FSL - 660' FEL	I	5-23S-37E	3580' - 3698'	3500'	2 3/8"	716
33	1980' FSL - 1980' FWL	K	5-23S-37E	3610' - 3719'	3550'	2 3/8"	722
37	660' FSL - 660' FWL	M	5-23S-37E	3606' - 3730'	3550'	2 3/8"	721
39	660' FSL - 1980' FEL	O	5-23S-37E	3554' - 3685'	3500'	2 3/8"	711
44	660' FNL - 1980' FWL	C	8-23S-37E	3544' - 3655'	3500'	2 3/8"	709

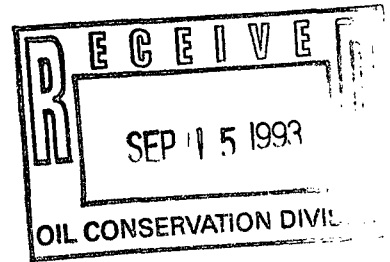


OXY USA INC.  
Box 50250, Midland, TX 79710

September 14, 1993

Oil Conservation Division  
State Land Office Building  
310 Old Santa Fe Trail, Room 206  
Santa Fe, New Mexico 87501

Attention: Mr. Robert G. Stovall, Esq.



**Re: Request for Certificate of Qualification for an Enhanced Oil Recovery Project, Skelly Penrose "B"Unit, Queen Formation, Langlie-Mattix Pool, Lea County, New Mexico**

Dear Mr. Stovall:

OXY USA Inc. respectfully requests from the Division a Certificate of Qualification pursuant to Order No. R-9955, for the following described project:

***Project Name:***

Skelly Penrose "B"Unit Waterflood Project

***Project Operator:***

OXY USA Inc.  
P. O. Box 50250  
Midland, Texas 79710

***Project Area:***

<u>UNIT WELL NAME AND NUMBER</u>	<u>WELL LOCATION</u>
SPBU Well No. 70	2610' FNL & 2520' FEL (Unit G) Sec 5
SPBU Well No. 71	1420' FSL & 2614' FWL (Unit K) Sec 5
SPBU Well No. 72	1220' FNL & 1370' FEL (Unit B) Sec 5
SPBU Well No. 73	20' FNL & 1330' FWL (Unit C) Sec 8
SPBU Well No. 74	20' FNL & 2611' FEL (Unit B) Sec 8

As we are just about ready to inject water in this area, quick processing of this request would be sincerely appreciated. A copy of the referenced Order is attached for your convenience. If you have any questions please call me at 915/685-5913.

Sincerely,

A handwritten signature in cursive script, appearing to read "Rick".

Richard E. Foppiano  
Regulatory Affairs Advisor  
Western Region - Midland

REF/ref  
Attachment

XC: Tom Kellahin, with attachment  
Scott Gengler, with attachment