



ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX
STATE LAND OFFICE
SANTA FE, NEW MEX
(505) 827-58

April 4, 1994

Cross Timbers Operating Company
P.O. Box 50847
Midland, Texas 79710

Attention: Mr. Gary L. Markestad

Dear Mr. Markestad:

Reference is made to your recent request to certify the State "BY" Maljamar Waterflood Project for the recovered oil tax rate pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5). Pursuant to such request the Division finds that:

- a) the State "BY" Maljamar Waterflood Project, which encompasses the SE/4 of Section 32, Township 17 South, Range 33 East, NMPM, Maljamar Grayburg-San Andres Pool, Lea County, New Mexico, was approved by Division Order No. R-9973 on September 22, 1993;
- b) the application of enhanced recovery techniques to the reservoir should result in an increase in the amount of crude oil that may be ultimately recovered therefrom;
- c) the project area has been so depleted that it is prudent to apply enhanced recovery techniques to maximize the ultimate recovery of crude oil, and,
- d) the enhanced recovery operations are economically and technically reasonable and are not premature.

The subject waterflood is hereby certified as a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

The certified "project area" shall comprise the SE/4 of Section 32, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico.

The operator shall advise the Division when water injection commences within the subject waterflood project and at such time, request the Division certify such area to the New Mexico Taxation



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

April 4, 1994

Cross Timbers Operating Company
P.O. Box 50847
Midland, Texas 79710

Attention: Mr. Gary L. Markestad

Dear Mr. Markestad:

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Memo

From

ROBERT G. STOVALL
General Counsel

To DRC

If the actual project itself has been approved by order under the effect acts of the act, we don't need any additional evidence to approve the project for tax purposes. We can either issue an administrative letter or just docket it, and issue an -A order. No additional notice will be necessary.

Oil Conservation Division Santa Fe, New Mexico 87503
(505) 827-5805



Cross Timbers Operating Company

OIL CONSERVATION DIVISION
RECEIVED

1993 OCT 9 AM 9 26

October 7, 1993

Mr. David R. Catanach
NMOCD
P. O. Box 2088
Sante Fe, New Mexico 87504

RE: Application to Qualify for the
Recovered Oil Tax Rate
State "BY" Lease
Lea County, New Mexico

Dear David:

Enclosed is Cross Timbers' Application to Qualify the State "BY" Lease for the Recovered Oil Tax Rate. We wish to have this approved administratively, if possible.

I believe all the required information to qualify this project is included in this application.

If you require any additional information, please let me know.

Sincerely,

CROSS TIMBERS OPERATING COMPANY

A handwritten signature in cursive script, appearing to read "Gary L. Markestad".

Gary L. Markestad
Operations Engineer

GLM/kv
Enclosure

cc: Well File

BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION

APPLICATION OF CROSS TIMBERS OPERATING
COMPANY TO QUALIFY A CERTAIN WATERFLOOD
PROJECT FOR THE RECOVERED OIL TAX RATE,
LEA COUNTY, NEW MEXICO.

No. _____

APPLICATION

Cross Timbers Operating Company files this application pursuant to the Enhanced Oil Recovery Act, L. 1992, Ch. 38, and Division Order No. R-9708. In support thereof, Cross Timbers states:

1. The name of the operator is Cross Timbers Operating Company ("Cross Timbers"), whose address is Post Office Box 50847, Midland, Texas 79710.

2. The project area is as follows:

Township 17 South, Range 33 East, N.M.P.M.

Section 32: SE $\frac{1}{4}$

containing 160 acres, more or less.

A plat outlining the project area is attached hereto as Exhibit 1. The subject pool is the Maljamar (Grayburg-San Andres) Pool.

3. Secondary recovery shall be by a waterflood project, with the injection water being produced water and/or water purchased from the Cross Timbers' SMGSAU Unit.

4. Project data includes:

| | |
|--------------------------------------------|----------|
| (a) Number of initial producing wells: | 1 |
| (b) Number of initial injection wells: | 1 |
| (c) Capital cost of additional facilities: | \$21,300 |
| (d) Total project cost: | \$21,300 |

- (e) Estimated net value of incremental production recovered from the project: \$821,620
- (f) Anticipated injection commencement date: November 15, 1993, or as soon as approved by the Division.
- (g) Type of fluid injected: Produced water and/or water purchased from the Cross Timbers' SMGSAU Unit.
- (h) Anticipated injection volumes: 400 barrels of water per day (maximum).

A plat of initial producing and injection wells is also shown on Exhibit 1.

6. The projected primary plus secondary production from the project area is exhibited on the graph attached hereto as Exhibit 2.

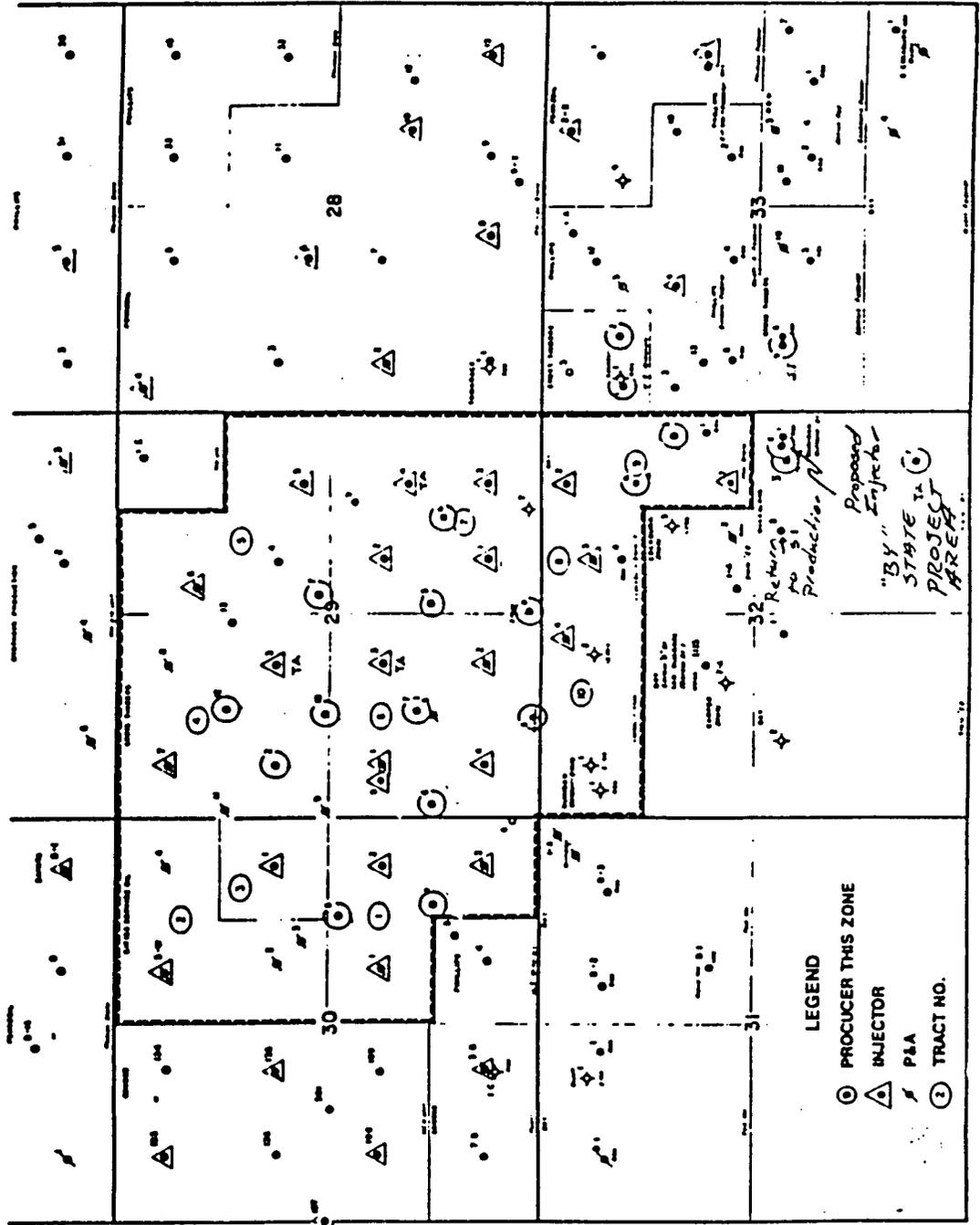
WHEREFORE, Cross Timbers requests that the Division qualify this project as an Enhanced Oil Recovery Project and certify the project for the Recovered Oil Tax Rate.

Respectfully submitted,

CROSS TIMBERS OPERATING COMPANY


Gary L. Markestad

R 33 E



T 17 S

- LEGEND
- PRODUCER THIS ZONE
 - △ INJECTOR
 - ⊗ P&A
 - ② TRACT NO.

Gas - Stairstep
Oil - Straight

Incremental Oil
Recovered 71.2 MBO
Exhibit 2



Cross Timbers Oil Company

STATE BY (COMB)

CROSS TIMBERS

MALJAMAR GRBG/SA

LEA NM

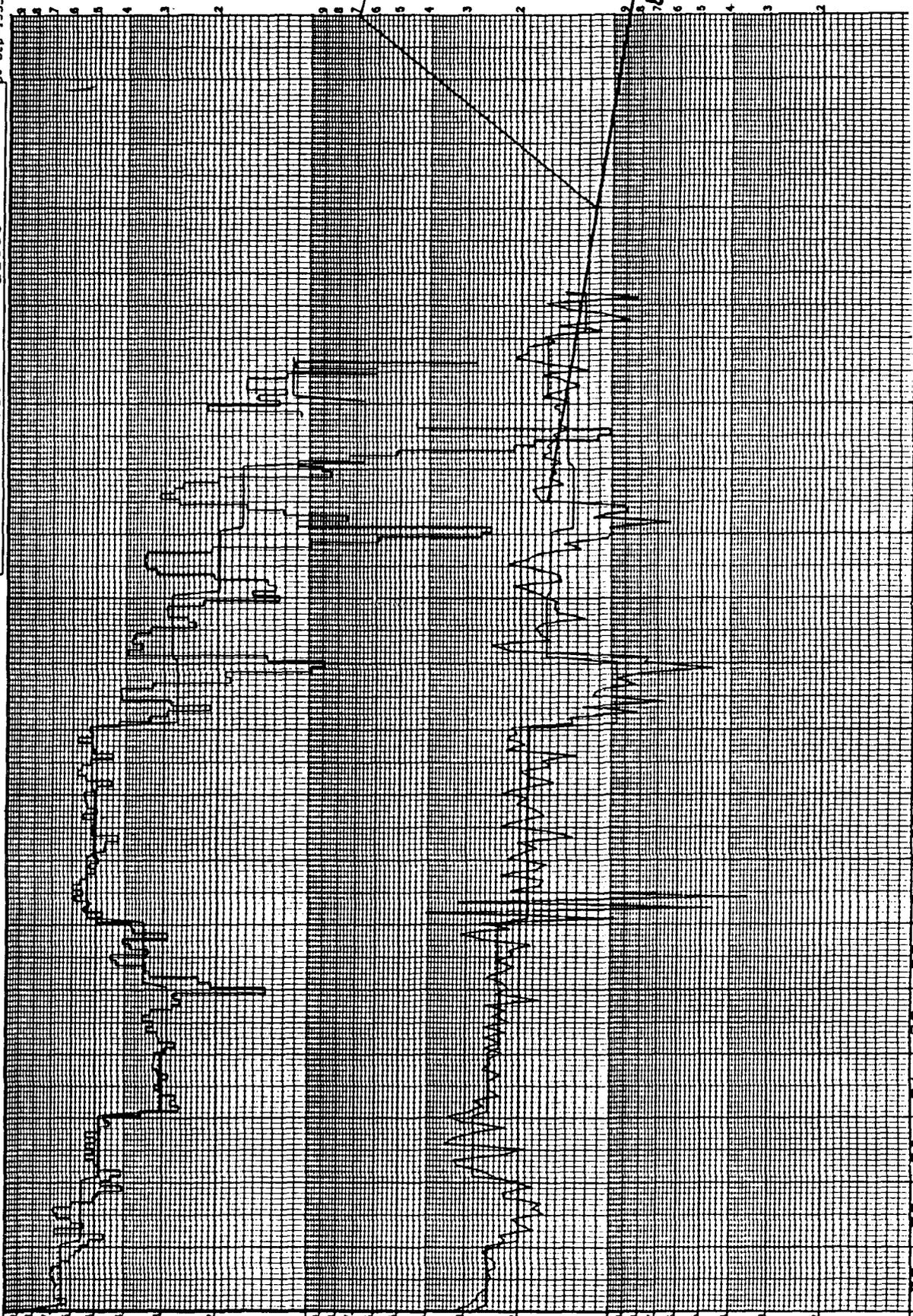
NON-TRUST 32 17S 33E PERMIAN

0591 FTP 23000

1000
100
10
1

1000
100
10
1

Gas - M/M
Oil - B/M



30-Sep-1993

**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. 10822
Order No. R-9973**

**APPLICATION OF CROSS TIMBERS
OPERATING COMPANY FOR A WATERFLOOD
PROJECT, LEA COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on September 9, 1993, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 22nd 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, Cross Timbers Operating Company, seeks authority to institute a waterflood project on its State "BY" Lease comprising the SE/4 of Section 32, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico, by the injection of water into the Grayburg formation, Maljamar-Grayburg San Andres Pool, through the gross perforated interval from approximately 4,602 feet to 4,708 feet in its State "BY" Well No. 6 located 2310 feet from the South line and 430 feet from the East line (Unit I) of Section 32.

(3) The applicant further seeks to establish an administrative procedure whereby additional wells may be approved for injection and/or production within the project area without the necessity for further hearings.

(4) Such provisions and procedures are currently contained within the Oil Conservation Division Rules and Regulations and it is unnecessary to duplicate such provisions within this order.

(5) According to applicant's testimony, it will utilize the existing State "BY" Well No. 5, located in Unit J, and the State "BY" Well No. 3, located in Unit I, as producing wells within the proposed waterflood project.

(6) The State "BY" Well No. 5 is currently a producing well completed in the Maljamar-Grayburg-San Andres Pool and is capable of marginal production only. The State "BY" Well No. 3 is currently completed in the Corbin-Queen Pool; however, the applicant proposes to deepen this well to the Maljamar-Grayburg-San Andres Pool.

(7) The wells within the proposed project area are in an advanced state of depletion and should therefore be properly classified as "stripper wells".

(8) The proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(9) The injection of water into the proposed injection well should be accomplished through 2 3/8-inch internally plastic-lined tubing installed in a packer set at a depth of approximately 4,550 feet; 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.

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

(11) The injection well 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 920 psi.

(12) 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.

(13) 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 test in order that the same may be witnessed.

(14) The proposed waterflood project 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.

(15) The injection authority granted herein for the proposed injection well should terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, 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 application of Cross Timbers Operating Company for authority to institute a waterflood project on its State "BY" Lease comprising the SE/4 of Section 32, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico, by the injection of water into the Grayburg formation, Maljamar-Grayburg-San Andres Pool, through the gross perforated interval from approximately 4,602 feet to 4,708 feet in its State "BY" Well No. 6 located 2310 feet from the South line and 430 feet from the East line (Unit I) of Section 32, is hereby approved.

(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 from injection, production, or plugged and abandoned wells.

(3) Injection shall be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer set at a depth of approximately 4,550 feet; the casing-tubing annulus shall be filled with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

(4) The injection well or pressurization system shall be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 920 psi.

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

(6) Prior to commencing injection operations, the casing 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 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 applicant shall immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing, casing or packer in the injection well, 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.

(9) The subject waterflood project is hereby designated the State "BY" Maljamar Waterflood Project, and the applicant shall conduct injection operations in accordance with Division Rule Nos. 701 through 708 and shall submit monthly progress reports in accordance with Division Rule Nos. 706 and 1115.

(10) The injection authority granted herein for the proposed injection well 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.

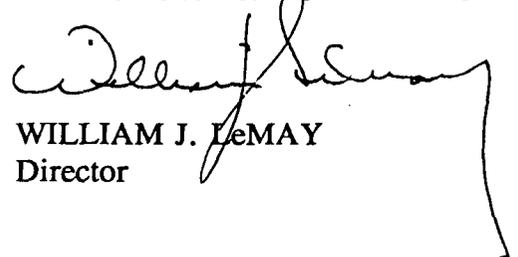
(11) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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



S E A L

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LeMAY
Director