



5.22.95

Midland Division
Exploration Production

CONOCO DIVISION
Conoco Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705-4500
(915) 686-5400

May 4, 1995

Energy, Minerals and Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87504

**Re: Administrative Application for Approval of Water Injection
in MCA Unit No. 280, Lea County, New Mexico**

Gentlemen:

Conoco Inc. respectfully requests administrative approval to add a water injection well to its MCA Unit Waterflood in the Maljamar Grayburg San Andres Pool. This project was originally approved October 39, 1979, under Order R-6157 and expanded January 13, 1989 under Administrative Order PMX 153.

Amendment of PMX 153 is now being requested to add MCA Unit No. 280 as an injector in this approved expansion area. All of the maps, offset data, and area of review requirements submitted for approval of Order PMX 153 are still valid for this additional well and are not being resubmitted. There are no offset operators to this proposed new injection well.

Conoco is anxious to convert this well as soon as possible to continue maximizing its secondary recovery in the MCA Unit. The granting of this application will prevent waste and will not impair the correlative rights of any party. If you have any questions regarding this request, please contact me at (915) 686-6548.

Very truly yours,

Jerry W. Hoover
Sr. Conservation Coordinator

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: Secondary Recovery Pressure Maintenance Disposal Storage
Application qualifies for administrative approval? yes no

II. Operator: Conoco Inc.
Address: 10 Desta Drive West, Ste. 100W
Contact party: Jerry W. Hoover Phone: (915) 686-6548

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? yes no
If yes, give the Division order number authorizing the project PMX-153

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Jerry W. Hoover Title Sr. Conservation Coordinator

Signature: _____ Date: 5/4/95

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. Administrative Order No. PMX-153 Jan. 13, 1989

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

ATTACHMENTS TO C-108 FOR

MCA UNIT NO. 280

III. WELL DATA

- A. (1) MCA Unit No. 280
Sec. 28, T-17S, R-32E, 2565' FNL & 1345' FEL
- (2)

<u>Casing size</u>	<u>Depth</u>	<u>Sxs Cement</u>	<u>Hole size</u>	<u>Cement Top</u>	<u>Determined</u>
8 5/8"	905'	450	10-3/4"	Surface	Circ.
5 1/2"	4175'	300	7"	2680'	Temp. Survey

(See attached Wellbore Diagram)
- (3) 2 3/8" Fiberglass tubing set @ 3725' (See attached Wellbore Diagram)
- (4) 5 1/2" Otis Interlock Packer set @ 3725'. (See attached Wellbore Diagram)
- B. (1) Maljamar Grayburg-San Andres
- (2) Perforated interval is 3798'-4088'.
- (3) Well was drill for and has served as a producing well.
- (4) No other intervals have been perforated or squeezed off.
- (5) The next higher potential producing zone is the Queen at 3150'.
There are no identified lower producing zones at this location.

V. Map identifying wells and leases within two miles and 1/2 mile area of review.

The attached map was submitted with Conoco's application for Order PMX-153. It shows the outer boundary of the 1/2 mile area of review for the 23 proposed injections wells (large black spots) that were being permitted. The original map for this previous application also identified all wells and leases within two miles of these 23 wells.

In Unit J, Section 28, in the middle of this map, the MCA No. 280 (subject of this current application) is identified with an arrow. Since the maps and data submitted with the application for Order PMX-153 are all inclusive of the areas required for the MCA No. 280, they are not being resubmitted for this application.

VI, VIII, X, and XI, XII.

The information required under the sections has been previously submitted in Conoco's application for waterflood expansion that was approved by Order No. PMX-153.

VII. Proposed Operation

The proposed average rate of injection will be 400 BWPD. The previously approved injection order (PMX-153) for this area stipulated a 2150 psi wellhead pressure. Other operational information for MCA No. 280 will be the same as that provided in previously approved applications.

IX. Stimulation

No stimulation is proposed for this converted well.

XIII. Proof of Notice

MCA No. 280 is in the interior of the MCA Unit Waterflood and there are no other offset operators with 1/2 mile of this well. Notice of this application was sent to the surface owner of the land on which this well is located (the BLM) and a copy of the certified mail receipt is attached to this application.

A Legal Notice is being published in the Hobbs Daily News Sun and proof of publication will be forwarded for attachment to this application when it has been received from the newspaper.

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



GARREY CARRUTHERS
GOVERNOR

ORDER NO. PMX-153

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

APPLICATION OF CONOCO INC. TO EXPAND ITS PRESSURE
MAINTENANCE/ENHANCED RECOVERY PROJECT IN THE MALJAMAR
GRAYBURG/SAN ANDRES POOL IN LEA COUNTY, NEW MEXICO.

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Division Order No. R-6157, Conoco Inc. has made application to the Division on December 15, 1988 for permission to expand its MCA Unit Pressure Maintenance/Enhanced Recovery Project in the Maljamar Grayburg/San Andres Pool in Lea County, New Mexico.

NOW, on this 13th day of January, 1989, the Division Director finds that:

- (1) The application has been filed in due form.
- (2) Satisfactory information has been provided that all offset operators have been duly notified of the application.
- (3) No objection has been received within the waiting period as prescribed by Rule 701(B).
- (4) The proposed injection wells are eligible for conversion to carbon dioxide injection under the terms of Rule 701.
- (5) The proposed expansion of the above referenced Pressure Maintenance/Enhanced Recovery Project will not cause waste nor impair correlative rights.
- (6) The application should be approved.

IT IS THEREFORE ORDERED THAT:

The applicant, Conoco Inc., be and the same is hereby authorized to inject carbon dioxide into the Grayburg and San Andres formations at approximately 3714 feet to approximately 4090 feet through 2 3/8 inch plastic lined tubing set in a packer located approximately within 100 feet of the uppermost injection perforations in the two wells described on Exhibit "A" attached to this order for purposes of enhanced recovery to wit.

IT IS FURTHER ORDERED THAT:

The applicant is further authorized to commence injection of carbon dioxide into the Grayburg and San Andres formations through twenty-two existing injection wells (previously approved as water injection wells) shown on Exhibit "B" attached to this order.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected carbon dioxide enters only the proposed injection interval and is not permitted to escape to other formations.

Prior to commencing injection operations into the wells shown on Exhibit "A", the casing in each well shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus in each well shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

The injection wells or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection wells to no more than 2150 psi.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said wells that such higher pressure will not result in migration of the injected carbon dioxide from the Grayburg and San Andres formations. Such proper showing shall consist of a test procedure run in accordance with and acceptable to this office.

The operator shall notify 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 test so that the same may be inspected and witnessed.

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 said wells and shall take such steps as may be timely and necessary to correct such failure or leakage.

The subject wells shall be governed by all provisions of Division Order No. R-6157 and Rules 702-706 of the Division Rules and Regulations not inconsistent herewith.

PROVIDED FURTHER THAT, jurisdiction of this cause is hereby retained for the entry of such further order or orders as the Division may deem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of the operator to conduct operations in a manner which will ensure the protection of fresh water or in a manner inconsistent with the requirements set forth in this order, the Division may, after notice and hearing, terminate the injection authority granted herein.

The Division Director may further require the installation of additional equipment and/or require additional testing of the subject injection wells upon determination that such equipment or testing is necessary to help control corrosion problems associated with injection of carbon dioxide.

DONE at Santa Fe, New Mexico, on this 13th day of January, 1989.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



for WILLIAM J. LEMAY
Director

S E A L

**PROPOSED WELLBORE DIAGRAM
MCA NO.280**

**2565' FNL, 1345' FEL
SEC. 28, T17S, R32E
LEA, COUNTY NM**

GLE: 3977'
KBE: 0'AGL

COMPLETION DATE: 04/26/71

SURFACE CASING

8 5/8" 20#, @905'
W/450 SX CMT. CIRC.

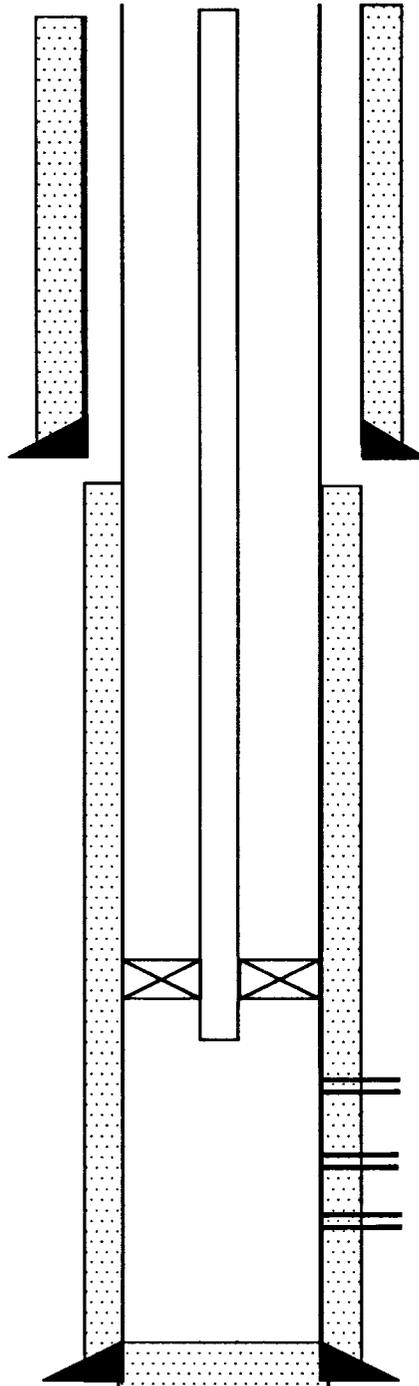
TOC: 2680' (TS)

INJECTION TUBING

2 3/8" FIBERGLASS
SET @ 3725'

PRODUCTION CASING

5 1/2" 14# @4175'
W/300 SX CMT.



5 1/2" OTIS INTERLOCK
PACKER @ 3725'

PERFS:

3798'-3871' W/1 JSPF
3916'-4021' W/1 JSPF
4052'-4088' W/1 JSPF

4130'-4175' CMT. PLUG

PBTD: 4130'

TD: 4175'

EXHIBIT "A"

DIVISION ORDER NO. PMX-153

<u>WELL & LOCATION</u>	<u>MAXIMUM SURFACE INJECTION PRESSURE</u>
MCA Unit No. 114 660 FNL & 660 FWL (Unit D) Section 28	2150 PSIG
MCA Unit No. 380 766 FNL & 1874 FEL (Unit B) Section 28	2150 PSIG

Both in Township 17 South, Range 32 East, NMPM
Lea County, New Mexico

EXHIBIT "B"

DIVISION ORDER NO. PMX-153

<u>WELL & LOCATION</u>	<u>MAXIMUM SURFACE INJECTION PRESSURE</u>
MCA Unit No. 94 660 FSL & 660 FEL (Unit P) Section 20	2150 PSIG
MCA Unit No. 109 660 FNL & 660 FWL (Unit D) Section 29	2150 PSIG
MCA Unit No. 111 660 FNL & 1980 FEL (Unit B) Section 29	2150 PSIG
MCA Unit No. 119 660 FNL & 660 FWL (Unit D) Section 27	2150 PSIG
MCA Unit No. 121 660 FNL & 1980 FEL (Unit B) Section 27	2150 PSIG
MCA Unit No. 145 1980 FNL & 660 FEL (Unit H) Section 27	2150 PSIG
MCA Unit No. 147 1980 FNL & 1980 FWL (Unit F) Section 27	2150 PSIG
MCA Unit No. 150 1980 FNL & 660 FEL (Unit H) Section 28	2150 PSIG
MCA Unit No. 152 1980 FNL & 1980 FWL (Unit F) Section 28	2150 PSIG
MCA Unit No. 154 1980 FNL & 600 FEL (Unit H) Section 29	2150 PSIG
MCA Unit No. 157 1980 FNL & 1980 FWL (Unit F) Section 29	2150 PSIG
MCA Unit No. 169 1480 FSL & 330 FWL (Unit L) Section 29	2150 PSIG
MCA Unit No. 171 1980 FSL & 1980 FEL (Unit J) Section 29	2150 PSIG
MCA Unit No. 175 1980 FSL & 660 FWL (Unit L) Section 28	2150 PSIG

<u>WELL & LOCATION</u>	<u>MAXIMUM SURFACE INJECTION PRESSURE</u>
MCA Unit No. 180 1980 FSL & 660 FWL (Unit L) Section 27	2150 PSIG
MCA Unit No. 184 1980 FSL & 1980 FEL (Unit J) Section 27	2150 PSIG
MCA Unit No. 205 660 FSL & 1980 FWL (Unit N) Section 27	2150 PSIG
MCA Unit No. 207 660 FSL & 660 FEL (Unit P) Section 28	2150 PSIG
MCA Unit No. 209 660 FSL & 1980 FWL (Unit N) Section 28	2150 PSIG
MCA Unit No. 223 660 FNL & 1980 FEL (Unit B) Section 33	2150 PSIG
MCA Unit No. 273 1980 FSL & 560 FWL (Unit L) Section 26	2150 PSIG
MCA Unit No. 301 1980 FSL & 1780 FEL (Unit J) Section 28	2150 PSIG

All in Township 17 South, Range 32 East, NMPM
Lea County, New Mexico

Z LME DBL 177



**Receipt for
Certified Mail**

No Insurance Coverage Provided

**Bureau of Land Management
Roswell District Office
1717 West Second Street
Roswell, NM 88201-2019**

PS Form 3800, March 1993

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date 5/4/95	



Midland Division OIL CONSERVATION DIVISION
Exploration Production RECEIVED

Conoco Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705-4500
(915) 686-5400

MAY 23 1995 11 08 52

May 23, 1995

Energy, Minerals and Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87504

**Re: PROOF OF LEGAL NOTICE PUBLICATION FOR C-108
Administrative Application for Approval of Water Injection
in MCA Unit No. 280, Lea County, New Mexico**

Gentlemen:

Attached is a copy of the proof of legal notice publication as required by the C-108 previously filed requesting administrative approval of water injection in Conoco's MCA Unit No. 280, Lea County, New Mexico. Please include with this previously filed application.

With this completion of the requirements for administrative approval, Conoco Inc. respectfully requests that Order No. PMX 153 be amended to add MCA Unit No. 280 as an injector in this approved expansion area of the MCA Unit Waterflood project.

Conoco is anxious to convert this well as soon as possible to continue maximizing its secondary recovery in the MCA Unit. The granting of this application will prevent waste and will not impair the correlative rights of any party. If you have any questions regarding this request, please contact me at (915) 686-6548.

Very truly yours,

Jerry W. Hoover
Sr. Conservation Coordinator

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, Kathi Bearden

General Manager

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period

of _____
1 weeks.
Beginning with the issue dated

May 1, 1995, 19
and ending with the issue dated

May 1, 1995, 19

Kathi Bearden
General Manager

Signed and subscribed to before
me this 17th day of

May 1995
Marilyn S. Ruffino
Notary Public.

My Commission expires
March 24, 1998
(Seal)

This Newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

LEGAL NOTICE

May 1, 1995

CONVERT-TO

SALTWATER

DISPOSAL

Conoco Inc., 100 Decker Drive West, Ste 100W, Midland, Texas 79705. Mr. Bob Ireland, Division Manager of the Midland Division of Conoco EPNA, intends, for the purpose of water injection, to convert its MCA Well No. 280, located 2565' FNL & 1345' FEL of Section 28, T17S, R32E, Lea County, New Mexico. The operator plans to inject water in this well at a rate of approximately 400 BWPD with a surface pressure of about 2150 psi for the purpose of enhanced oil re-

covery. Any objections to this intent or requests for hearing must be filed with the New Mexico Oil Conservation Division, 2040 S. Pacheco, Santa Fe, NM 87504 within 15 days from this date of publication.