STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

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 Dr. Ste. 100W, Midland, TX 79705

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 _____.

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: Jerry W Hoover Date: March 4, 1997

* 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. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

BEFORE AN EXAMINER OF THE
OIL CONSERVATION DIVISION
EXHIBIT NO. 9
CASE NO. 11779
Submitted by: Conoco Inc.
Hearing Date: May 29, 1997

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 Publication proof will be forwarded when received

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

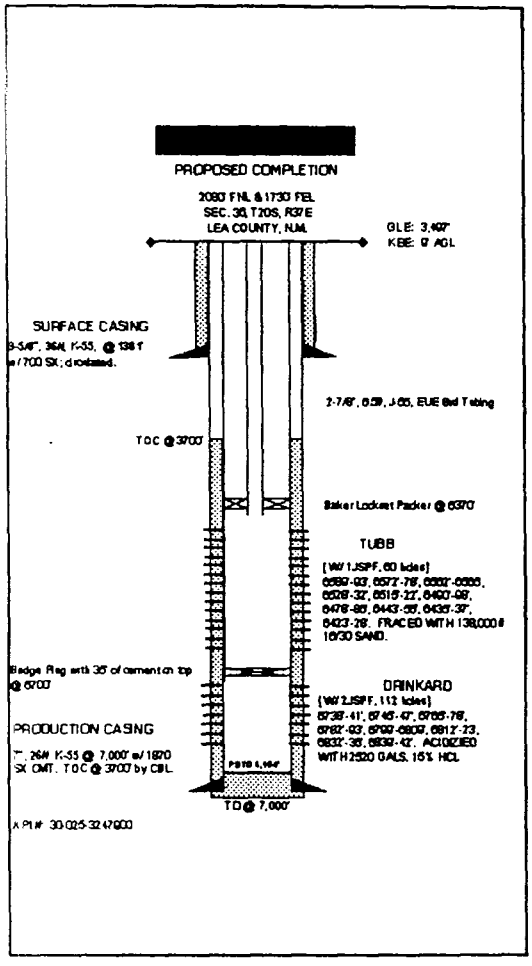
(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

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.

INJECTION WELL DATA SHEET
HARDY 36 STATE NO. 3
III

Operator:	Conoco Incorporated
Lease:	Hardy 36 State
Well No:	3
Footage Location:	2080' FNL ,1730' FEL
Section:	36
Township:	T-20-S
Range:	R-37-E



Surface Casing:		
Size: 9-5/8"	Depth:	1381'
Cement Sacks:	700	
TOC:	Surface determined by cement returns	
Hole Size:	12-1/4"	
Production Casing:		
Size: 7"	Depth:	7000'
Cement Sacks:	1870	
TOC:	3700' determined by CBL	
Hole Size:	8-5/8"	
Tubing Size:	2-7/8" set at 6400'	
Packer:	Baker Lockset set at 6370'	

Injection Interval:	Tubb
Pool Name:	Hardy; Tubb-Drinkard, North Pool
Injection Interval:	6423' - 6593' (perforated, cased hole)

The well was not drilled as an injector. It was originally drilled as a Tubb/Drinkard producer.

Other Perforated Intervals: Drinkard 6738' - 6842'
This zone will be plugged via a bridge plug set at 6700' with 35' of cement placed on top of the bridge plug. The cement bond log dated 05/20/94 shows good cement isolation between the Tubb completion and the Drinkard perforations.

Next overlying oil or gas pool: Eumont at 3700'

WELLS WITHIN 1/2 MILE RADIUS OF PROPOSED HARDY 36 STATE NO. 3 INJECTION WELL
Section 36 T20S R37E
Lea County, New Mexico
Wells That Penetrated The Zone of Injection

API #	Operator	Well Name	Type	Section	Township	Range	Footage	Date Drilled	Total Depth (Ft)	Completion (Perfs)	Casing Size	SG Depth (Ft)	Cement (SX)	TOC (Ft)
30025 - 3212	Conoco	Hardy 36 State # 1	OPU	36	20S	37E	2230' FWL 1980' FSL	11/15/93	10625'	9940 - 1028	13-3/8"	533	525	
											9-5/8"	3900	1890	
											7"	10625	2100	1620 by CBL
30025 - 3247	Conoco	Hardy 36 State # 2	OFL	36	20S	37E	2230' FWL 1876' FSL	03/18/95	7027'	6302 - 6482	8-5/8"	1525	920	
										6740 - 6810	5-1/2"	7027	1300	2982 by CBL
30025 - 3247	Conoco	Hardy 36 State # 3	OPU	36	20S	37E	2080' FNL 1730' FEL	04/25/94	7000'	6423 - 6593	9-5/8"	1381	700	
										6738 - 6842	7"	7000	1870	3690 by CBL*
30025 - 3251	Conoco	Hardy 36 State # 4	OFL	36	20S	37E	1880' FSL 1680' FEL	05/28/95	6960'	6316 - 6478	8-5/8"	1500	800	
											5-1/2"	6960	1220	3604 by CBL
30025 - 3253	Conoco	Hardy 36 State # 7	SI	36	20S	37E	2220' FNL 990' FWL	09/25/94	10890'	3998 - 4204	13-3/8"	518	525	
											9-5/8"	3850	1400	
											7"	10890	1895	3750 by CBL*
30025 - 3302	Conoco	Hardy 36 State # 18	OPU	36	20S	37E	330' FNL 330' FEL	08/09/95	6990'	6440 - 6518	8-5/8"	1500	920	
											5-1/2"	6990	1180	1542 by CBL
30025 - 3320	Conoco	Hardy 36 State # 19	OPU	36	20S	37E	1950' FNL 330' FEL	01/30/96	6960'	6442 - 6536	8-5/8"	1515	920	
											5-1/2"	6960	970	2210 by Cement Volumes

Notes:

1. All Eumont Hardy Unit Wells (Lynx Petroleum) within the area of review were drilled only to the Grayburg formation (average depth of 3804'), and do not penetrate the proposed injection interval.
2. There are no plugged wells in the Area of Review.
3. Top of cement reported for the Hardy 36 State No. 3 and 7 wells was the shallowest depth recorded by the CBL. Actual TOC is above stated cement tops.

SUPPLEMENT TO APPLICATION FOR AUTHORIZATION TO INJET
HARDY 36 STATE NO. 3

VII. Proposed Operations:

1. During the first year of the project we intend to inject an average of 350 BWPD in order to provide early pressure maintenance. Injection rate is anticipated at 250 BWPD in the second year and 150 BWPD in all subsequent years. Total injection over the life of the project is estimated at 500,000 BW.

2. The planned injection system is closed.

3. Average injection pressure is expected to be approximately 1000 psi, with the maximum injection pressure not to exceed 1280 psi (0.2 psi/ft at a depth of 6423' to the top perforation).

4. Plans are to re-inject produced water from the Hardy 36 State Production Battery.

5. Not applicable.

VIII. Reservoir and Geological Information:

The reservoir into which water will be injected occurs in the Tubb Formation, a Permian carbonate encountered at a depth of approximately 6400' on the subject lease. The Tubb reservoir interval is approximately 280 feet in thickness, and is composed predominantly of Dolomite with average porosities of 10 - 15% and average permeabilities of 1 - 6 md.

The only underground source of drinking water in the vicinity is the Ogalalla Formation, a Tertiary unit consisting of caliche, sand and gravel which extends from the surface to a depth of approximately 200'.

IX. Stimulation Program:

No additional stimulation work is proposed for this well. The original Tubb completion included perforations from 6423' - 6593', and a 138,000 lb sand fracture stimulation.

X. Log Data:

Presently on file with the State of New Mexico.

XI. Fresh Water Analysis:

Conoco operates two fresh water wells located in Section 35, T20S, R37E. Water analyse from these wells are attached. The legal location of these wells are:

Fresh Water Well No. 2 SE/SE, Section 35, T20S, R37E
Fresh Water Well No. 3 NE/SE, Section 35, T20S, R37E

XII. Faulting:

There are no indications of open faults or other hydrological connections between the proposed injection intervals and the shallower fresh water zones.

XIV. Other Operators within the 1/2 Mile Radius of the Hardy 36 State No. 3:

Lynx Petroleum
P.O. Box 1979
Hobbs, NM 88241

Surface Owner
State of New Mexico

Petrolite Corporation
422 West Main Street
Artesia, NM 88210-2041

TRETOLITE DIVISION

(505) 746-3588
Fax (505) 746-3580

Reply to:
P.O. Box 1140
Artesia, NM
88211-7531

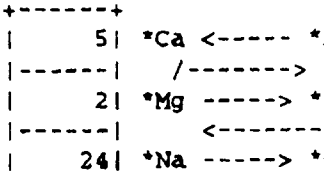
WATER ANALYSIS REPORT

Company	: CONOCO INC.	Date	: 11/22/96
Address	: HOBBS NORTH	Date Sampled	: 11/22/96
Lease	: HARDEE	Analysis No.	: 001
Well	: FRESH WATER #2		
Sample Pt.	: DISCHARGE LINE		

	ANALYSIS		mg/L		* meq/L
1.	pH	7.2			
2.	H2S	1 PPM			
3.	Specific Gravity	1.000			
4.	Total Dissolved Solids		1923.7		
5.	Suspended Solids		NR		
6.	Dissolved Oxygen		NR		
7.	Dissolved CO2		5 PPM		
8.	Oil In Water		NR		
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)				
11.	Bicarbonate	HCO3	268.0	HCO3	4.4
12.	Chloride	Cl	852.0	Cl	24.0
13.	Sulfate	SO4	125.0	SO4	2.6
14.	Calcium	Ca	100.0	Ca	5.0
15.	Magnesium	Mg	24.4	Mg	2.0
16.	Sodium (calculated)	Na	552.6	Na	24.0
17.	Iron	Fe	1.8		
18.	Barium	Ba	NR		
19.	Strontium	Sr	NR		
20.	Total Hardness (CaCO3)		350.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter



Saturation Values Dist. Water 20 C

CaCO3	13 mg/L
CaSO4 * 2H2O	2090 mg/L
BaSO4	2.4 mg/L

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	4.4	356
CaSO4	68.1	0.6	41
CaCl2	55.5		
Mg(HCO3)2	73.2		
MgSO4	60.2	2.0	121
MgCl2	47.6		
NaHCO3	84.0		
Na2SO4	71.0	NR	0
NaCl	58.4	24.0	1405

REMARKS:
DON CANADA

Petrolite Oilfield Chemicals Group

Respectfully submitted,
DON CANADA

SCALE TENDENCY REPORT

Company	: CONOCO INC.	Date	: 11/22/96
Address	: HOBBS NORTH	Date Sampled	: 11/22/96
Lease	: HARDEE	Analysis No.	: 001
Well	: FRESH WATER #2	Analyst	: DON CANADA
Sample Pt.	: DISCHARGE LINE		

STABILITY INDEX CALCULATIONS
(Stiff-Davis Method)
CaCO3 Scaling Tendency

S.I. = -0.1 at 60 deg. F or 16 deg. C
S.I. = -0.0 at 80 deg. F or 27 deg. C
S.I. = NR at 100 deg. F or 38 deg. C
S.I. = 0.1 at 120 deg. F or 49 deg. C
S.I. = 0.2 at 140 deg. F or 60 deg. C

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CALCIUM SULFATE SCALING TENDENCY CALCULATIONS
(Skillman-McDonald-Stiff Method)
Calcium Sulfate

S = 1301 at 60 deg. F or 16 deg C
S = 1326 at 80 deg. F or 27 deg C
S = 1321 at 100 deg. F or 38 deg C
S = 1312 at 120 deg. F or 49 deg C
S = 1301 at 140 deg. F or 60 deg C

Petrolite Oilfield Chemicals Group

Respectfully submitted,
DON CANADA

Petrolite Corporation
422 West Main Street
Artesia, NM 88210-2041

TRETOLITE DIVISION

(505) 746-3588
Fax (505) 746-3580

Reply to:
P.O. Box 1140
Artesia, NM
88211-7531

WATER ANALYSIS REPORT

Company	: CONOCO INC.	Date	: 11/22/96
Address	: HOBBS NORTH	Date Sampled	: 11/22/96
Lease	: HARDEE	Analysis No.	: 003
Well	: FRESH WATER #3		
Sample Pt.	: DISCHARGE LINE		

	ANALYSIS		mg/L		* meq/L
1.	pH	7.1			
2.	H2S	1 PPM			
3.	Specific Gravity	1.000			
4.	Total Dissolved Solids		2249.9		
5.	Suspended Solids		NR		
6.	Dissolved Oxygen		NR		
7.	Dissolved CO2		6 PPM		
8.	Oil In Water		NR		
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)				
11.	Bicarbonate	HCO3	268.0	HCO3	4.4
12.	Chloride	Cl	1065.0	Cl	30.0
13.	Sulfate	SO4	100.0	SO4	2.1
14.	Calcium	Ca	80.0	Ca	4.0
15.	Magnesium	Mg	12.2	Mg	1.0
16.	Sodium (calculated)	Na	724.7	Na	31.5
17.	Iron	Fe	NR		
18.	Barium	Ba	NR		
19.	Strontium	Sr	NR		
20.	Total Hardness (CaCO3)		250.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

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+------+                        +------+
|    4 | *Ca <----- *HCO3       |    4 |
|------|   /------->            |------|
|    1 | *Mg -----> *SO4        |    2 |
|------|     <---------/        |------|
|   32 | *Na -----> *Cl         |   30 |
+------+                        +------+
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Saturation Values Dist. Water 20 C

CaCO3	13 mg/L
CaSO4 * 2H2O	2090 mg/L
BaSO4	2.4 mg/L

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	4.0	324
CaSO4	68.1		
CaCl2	55.5		
Mg(HCO3)2	73.2	0.4	29
MgSO4	60.2	0.6	36
MgCl2	47.6		
NaHCO3	84.0		
Na2SO4	71.0	1.5	105
NaCl	58.4	30.0	1756

REMARKS:
-------- DON CANADA

Petrolite Oilfield Chemicals Group

Respectfully submitted,
DON CANADA

[redacted]

SCALE TENDENCY REPORT

Company	: CONOCO INC.	Date	: 11/22/96
Address	: HOBBS NORTH	Date Sampled	: 11/22/96
Lease	: HARDEE	Analysis No.	: 003
Well	: FRESH WATER #3	Analyst	: DON CANADA
Sample Pt.	: DISCHARGE LINE		

STABILITY INDEX CALCULATIONS
(Stiff-Davis Method)
CaCO3 Scaling Tendency

S.I. =	-0.3	at 60 deg. F or	16	deg. C
S.I. =	-0.2	at 80 deg. F or	27	deg. C
S.I. =	-0.2	at 100 deg. F or	38	deg. C
S.I. =	-0.1	at 120 deg. F or	49	deg. C
S.I. =	-0.0	at 140 deg. F or	60	deg. C

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CALCIUM SULFATE SCALING TENDENCY CALCULATIONS
(Skillman-McDonald-Stiff Method)
Calcium Sulfate

S =	1365	at 60 deg. F or	16	deg C
S =	1394	at 80 deg. F or	27	deg C
S =	1392	at 100 deg. F or	38	deg C
S =	1382	at 120 deg. F or	49	deg C
S =	1371	at 140 deg. F or	60	deg C

Petrolite Oilfield Chemicals Group

Respectfully submitted,
DON CANADA

Z 111 000 234

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to: Lynx Petroleum
Street and No. P.O. Box 1979
P.O., State and ZIP Code Hobbs, NM 88241

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	3/4/97

PS Form 3800, March 1993

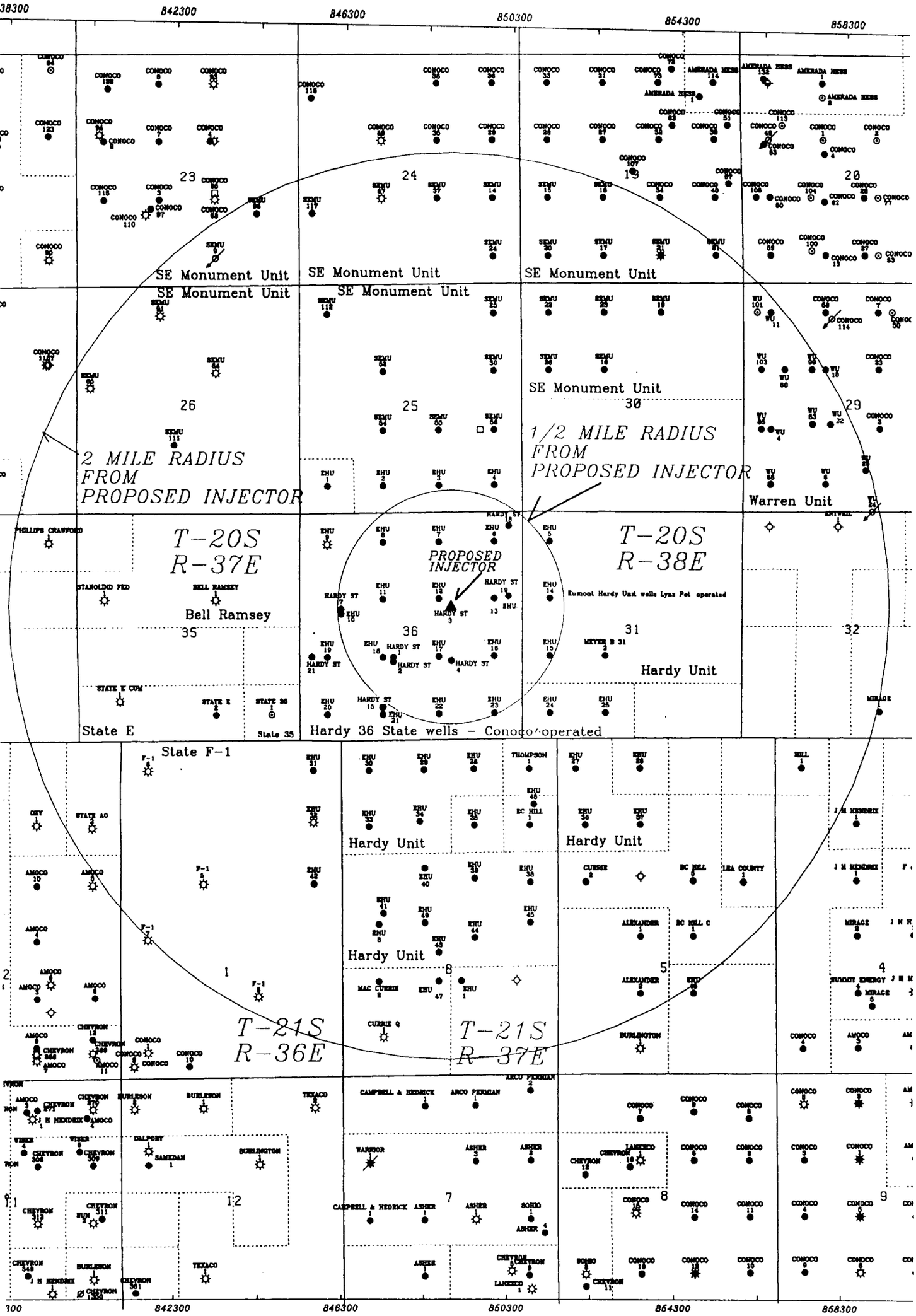
Z 111 000 235

Receipt for Certified Mail
No Insurance Coverage Provided

Mr. Ray Powell
Commissioner of Public Lands
P.O. Box 1148
Santa Fe, NM 87504-1148

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	3/4/97

PS Form 3800, March 1993



Conoco Inc.
Midland, Tx