



**Amoco Production Company**

Post Office Box 68  
Hobbs, New Mexico 88240

L. R. Smith  
District Manager

July 17, 1985

File: LRS-1408-WF

Re: Application for Salt Water Disposal  
North Baum Salt Water Disposal Well No. 1  
Lea County, New Mexico

State of New Mexico  
Energy and Minerals Department  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, NM 87501

Attention: Mr. Gilbert Quintana

Reference is made to our letter of September 10, 1984, File: LRS-1933-WF, requesting approval to convert our Wallaby "WZ" State Com No. 1 (now the North Baum SWDS No. 1) to a salt water disposal well. Administrative approval was granted October 15, 1984, under NMOCD Order No. SWD-280, to dispose of produced water into the Cisco formation.

Amoco Production Company hereby makes application for administrative approval to drill the captioned well out to the Devonian formation in an effort to improve injectivity. Form C-108 and the necessary documentation is attached. Your prompt consideration of this application will be appreciated.

As required, each party listed on the attached service list has been furnished a copy of this application by certified mail complete with all attachments.

If additional information is needed, contact Nevin Gates (505) 393-1781.

*L. R. Smith*

NLG/bf  
APRD03-VV

Attachments

July 17, 1985  
File: LRS-1408-WF  
Page 2

cc: State of New Mexico  
Energy and Minerals Department  
Oil Conservation Division  
P. O. Box 1980  
Hobbs, NM 88240

State of New Mexico  
Commissioner of Public Lands  
P. O. Box 1148  
Santa Fe, NM 87501

Read & Stevens  
P. O. Box 1518  
Roswell, NM 88201

Yates Petroleum Company  
207 South Fourth  
Artesia, NM 88201

M. L. Brown  
200 Sutton Place Bldg.  
Wichita, KS 67202

Tenneco Oil Company  
6800 Park Ten Blvd., Suite 200 North  
San Antonio, TX 78213

SERVICE LIST FOR  
NORTH BAUM SWDS WELL NO. 1

Leasehold operator within 1/2 mile of proposed injection well

Yates Petroleum Corporation  
207 South Fourth Street  
Artesia, NM 88201

Read & Stevens  
P. O. Box 1518  
Roswell, Nm 88201

M. L. Brown  
200 Sutton Place Bldg.  
Wichita, KS 67202

Tenneco Oil Company  
6800 Park Ten Blvd., Suite 200 North  
San Antonio, TX 78213

Surface Owner

State of New Mexico  
Commissioner of Public Lands  
P. O. Box 1148  
Santa Fe, NM 87501

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage  
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: Amoco Production Company  
Address: P. O. Box 68, Hobbs, New Mexico 88240  
Contact party: J. M. Breeden, Jr. Phone: (505) 393-1781
- 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 SWD-280.
- 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: Nevin L. Gates Title Administrative Analyst  
Signature: *Nevin L. Gates* Date: 17 July 1985
- \* 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. Submitted September 10, 1974 when the Wallaby "W7" State Com  
No. 1 (now the North Baum SWDS Well No. 1) was converted to disposal.
- DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

## 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.

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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.

ITEM NO. 3  
INJECTION WELL DATA

## INJECTION WELL DATA SHEET

Amoco Production Company North Baum SWDS No. 1

Operator Lease

1 660' FSL x 1980' FWL 18 13-S 33-E  
Well No. Footage Location Section Township Range

Schematic

(See attached wellbore sketch)

13-3/8" CSA 388'  
8-5/8" CSA 4188'  
5-1/2" CSA 10,115'  
4" LSA 9,900-12,900'

Tubular DataSurface Casing

Size 13-3/8" Cemented with 450 sx

TOC surface feet determined by circulation

Hole Size 17-1/2"

Intermediate Casing

Size 8-5/8" Cemented with 2185 sx

TOC surface feet determined by circulation

Hole Size 11"

Long String

Size 5-1/2" Cemented with 1200 sx

TOC 7395 feet determined by temp. survey

Hole Size 7-7/8"

Liner

Size 4" Cemented with 350 sx

TOC circ to top of liner feet determined by tagging liner

Hole Size 4-3/4"

Total Depth top 13,200'

Injection interval 12,900' to 13,200' open hole.

Tubing Size 2-7/8" lined with plastic set in a  
(Material)  
Baker lock-set (plastic coated) packer at 9850 feet  
(brand and model)  
(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Devonian
2. Name of Field or Pool (if applicable) Baum
3. Is this a new well drilled for injection? Yes ☒ No  
If no, for what purpose was the well originally drilled? Production of oil  
and gas.
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used. Yes, the Bough A and C horizons have been tested and the perforations cement squeezed w/100 sx Class "H" cmt. In addition, the well has been perforated across the Cisco for use as a disposal zone. These perforated intervals will be abandoned as the liner is set at 9900'.
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Upper Penn. (Bough A, B, and C) overlies Devonian.  
No underlying oil or gas zones are known to exist.



# Amoco Production Company

ENGINEERING CHART

SHEET NO.

OF

FILE

APPN

DATE 7-15-85

BY PJA

SUBJECT NORTH BURN SUCR Well No. 1  
BURN TIER

LOCATION: 660534 / 1980FWL  
SECTION 18, T-13-S, R-33-E  
LEA COUNTY, NEW MEXICO.

ELEVATION 4287.3'6L

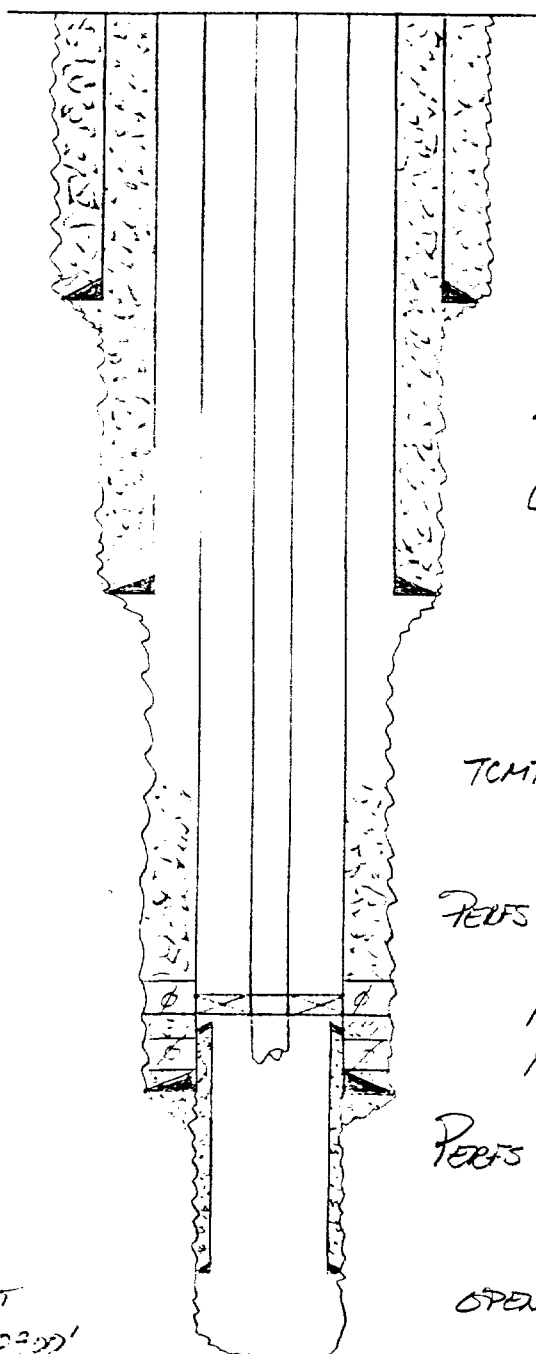
COMPLETION DATE

13 3/8" 54.5# 7-55 CSG  
CSH 388'  
CMT W/ 450 SX x CIRC  
17 1/2" HOLE

8 7/8" 32# 7-55 CSG  
CSH 4188'  
CMT W/ 2185 SX x CIRC  
11" HOLE

5 1/2" 17# N-80 CSG  
CSH 10115'  
CMT W/ 1200 SX  
7 1/2" HOLE

4" 11.6# N-80 FLUSH JOINT  
LINER FROM 9950'-12900'  
CMT W/ 350 SX CIRC H. HEAT LMT  
4 3/4" HOLE.



2 7/8" INTERNALLY COATED TUB  
PACKER JOINT 9850'  
(GULBERSON CHART II)

TCMT = 7395 VIA TEMP SURVEY.

PERFS: 9646'-75' w/ 9 HOLES  
9812'-16' w/ 15 PF  
10014'-19' w/ 25 PF  
10065'-90' w/ 25 PF  
SPURGE  
CEMENTED.

PERFS 9970'-80', 10006'-32', 10072'-110'  
w/ 45 PF BEHIND LINER.

OPEN HOLE 12900'-13200'

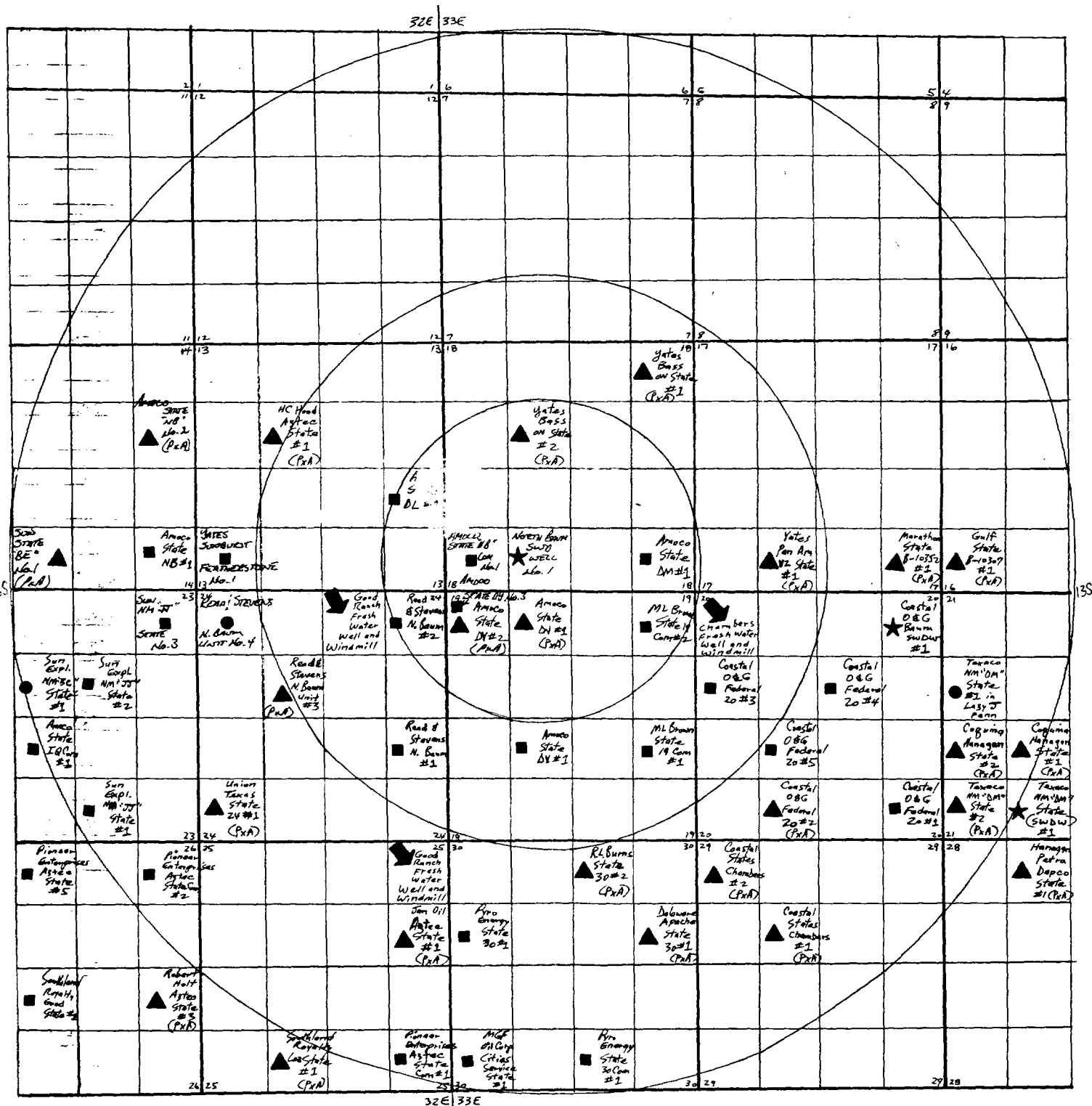
TD: 13200'  
PETO 12950'



ITEM NO. 5

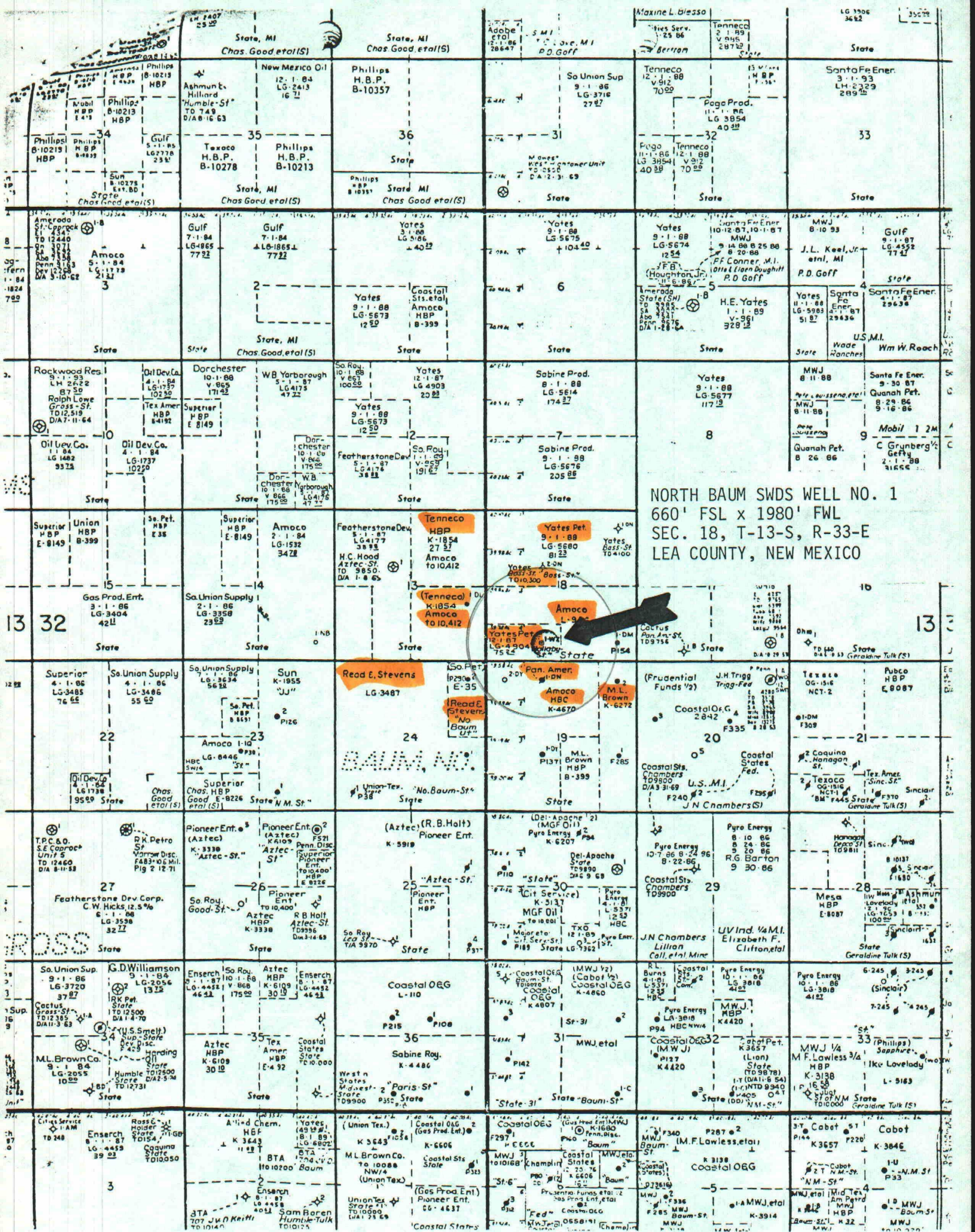
AREA OF REVIEW AND LEASE OWNERSHIP MAPS

# NORTH BAUM SWD WELL No.1 REVIEW AREA



Legend: ■ Baum Field (Upper Penn Formation) ● Incomplete Well ▲ Plugged and Abandoned ★ Disposal Well ● Proposed Well ● Lazy J Penn  
 ◆ Fresh Water Well and Windmill







ITEM NO. 6

TABULATED WELL DATA FOR WELLS WITHIN AREA OF REVIEW

(INFORMATION ON WELLS NOT PREVIOUSLY CONSIDERED OR  
WELLS WITH A CHANGE IN CIRCUMSTANCE.)

PERTINENT DATA FOR WELLS  
WITHIN AREA OF REVIEW

OPERATOR: Amoco Production Company

WELL NAME: North Baum SWD Well No. 1

LOCATION: 660/S x 1980/W, Unit N SEC. 18 T- 13 -S, R- 33 -E

ELEVATION: 4287' GL                      DF                      KB

TD: 13,200' PBTD 13,200'

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>CASING DATA</u>		<u>AMT. OF CMT</u>	<u>TOC</u>
			<u>DEPTH</u>			
17-1/2"	13-3/8"	54.5	388		450	circ
11	8-5/8"	32	4,188		2185	circ
7-7/8"	5-1/2"	17	10,115		1200	7395 by
						temp survey
4-3/4"	4"	11.6	12,900'		350	top of liner

PRODUCING INTERNAL: Well injected into the Cisco Formation 9,970-10,253'  
noncontinuous.

COMPLETION DATE: 2/28/85 (converted to injection).

CURRENT STATUS: Disposal well.

COMMENTS: Plan to inject into the Devonian Formation, open hole. Will  
abandon Cisco by setting liner across perforated intervals.

\* Note: Must attach a wellbore schematic for all PxA wells illustrating details.

NLG/tjt  
APRD02-AA(2)

PERTINENT DATA FOR WELLS  
WITHIN AREA OF REVIEW

OPERATOR: Amoco Production Company

WELL NAME: State "DY" No. 2

LOCATION: 660/n x 660/w, Unit D SEC. 19 T- 13 -S, R- 33 -E

ELEVATION: 4296.5 GL 4313.5 DF 4314.5 KB

TD: 9,991 PBTD 9,908

CASING DATA					
<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT</u>	<u>TOC</u>
17-1/2	13-3/8	48	440	475	circ
11	8-5/8	32	4086	1650	circ
7-7/8	5-1/2	15.5-17	9984	1925	circ

PRODUCING INTERNAL: Baum Upper Penn perms 9650-9820 (gross interval)

COMPLETION DATE: 3/13/84

CURRENT STATUS: PxA 2/13/85

COMMENTS: None

\* Note: Must attach a wellbore schematic for all PxA wells illustrating details.

JSB/tjt  
EPPRI1-DD

FILE

APPN

DATE

BY

Amoco Production Company

RESEARCH ENGINEERING CHART

SUBJECT

State "DY" No. 2

Baum (Upper Penn) Field

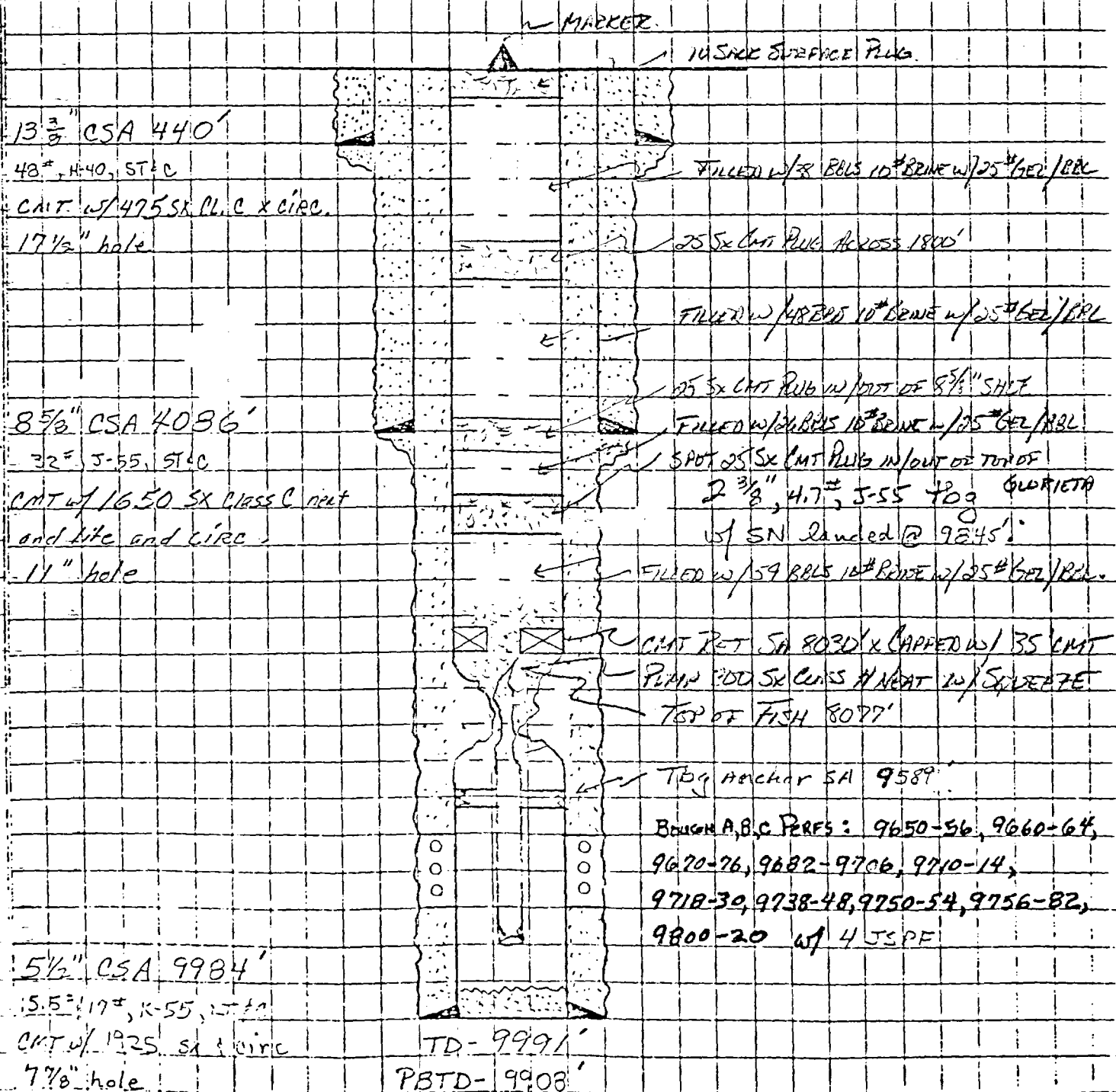
LOCATION: 660'FWL X 660'FWL

SEC 19, T-19-S R-33-E

Lea County, NM

COMPLETION DATE: 3-13-84

ELEVATION: 4296.5' GL (4314.5' KB)



PERTINENT DATA FOR WELLS  
WITHIN AREA OF REVIEW

OPERATOR: Amoco Production Company

WELL NAME: State "DY" No. 3

LOCATION: 710 FNL & 660 FWL Sec. 19, T- 13 -S, R- 33 -E

ELEVATION: 4290 GL 4307.5 DF 4308.5 KB

TD: 10,000 PBD: 9960'

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
17-1/2"	13-3/8"	54.5#	445	475 sx	Circ 23 sx
11"	8-5/8"	24#	4,050	1,500 sx	Circ 219 sx
7-7/8"	5-1/2"	17#	10,000	2,200 sx	Circ 150 sx

PRODUCING INTERVAL: Bough A, B and C (Upper Penn)

9677'-9814' Noncontinuous

~~(PX)~~ COMPLETION DATE: March, 1985

CURRENT STATUS: Producing Oil & Gas

COMMENTS: Replacement well for P x Acd State "DY" No. 2

(50' North of above location)

\* Note: Must attach a wellbore schematic for all PxA wells illustrating details.

NAM/ea  
EPERM1-B



PERTINENT DATA FOR WELLS  
WITHIN AREA OF REVIEW

OPERATOR: Amoco Production Company

WELL NAME: State "HB" Com No. 1

LOCATION: 570 FSL & 540 FWL Sec. 18, T-13-S, R-33-E

ELEVATION: 4291.6 GL 4314.1 DF 4315.1 KB

TD: 10,000' PBTD: 9,955'

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
17-1/2	13-3/8	54.5	439'	475 sx	Circ. 140 sx
11	8-5/8	24 & 32	4,061'	1,960 sx	225' Temp Surves
7-7/8	5-1/2	155.5 & 17	9,995'	2,225 sx	Circ 42 sx

PRODUCING INTERVAL: Bough A, B & C (Upper Penn)

9652'-9884'

(RE) COMPLETION DATE: 8-11-84

CURRENT STATUS: Producing Oil & Gas

COMMENTS: None

\* Note: Must attach a wellbore schematic for all PxA wells illustrating details.

NAM/ea  
EPERM1-B

Item No. 7

DATA ON PROPOSED OPERATION  
NORTH BAUM SWD WELL NO. 1

1. Proposed average and maximum daily rates to be injected:  
Average daily rate of 800 BWPD.  
Maximum daily rate of 2000 BWPD.
2. System will be closed with water being transferred through line pipe from producing wells to the injection well.
3. The maximum surface injection pressure will be limited to 0.2 psi/ft (2600 psi) or the actual fracture pressure will be determined by a step-rate test. The average injection pressure is expected to be approximately 400 psi.
4. The source on injected fluids will be from Amoco Production Company's nearby leases, the State "DY", State "DL", State "NB", State "DM", and State "IQ" Com. Water analysis and compatibility data are included.
5. Injection will be into the Devonian Formation which is non-productive within 1 mile.

Item No. 8

#### GEOLOGICAL INFORMATION

The Devonian Formation is a carbonate formation, dolomite. The total thickness is approximately 500 feet with the top of the Devonian at  $\pm 12,878$ . The only source of drinking water in the area is the Ogallala. The base of the Ogallala is approximately 250 feet deep. There are no drinking water sources below the Devonian Formation.

Item No. 9

PROPOSED STIMULATION PROGRAM

The proposed injection well will be completed open hole across the Devonian.  
The well will then be acidized with 700 gallons 15% HCl.

Item No. 10

WELL DATA

Well will be logged from new TD to original TD and logs will be furnished to the NMOCD at that time.

NLG/tjt  
APRD02-AA(6)

Item No. 12

AFFIRMATIVE STATEMENT

No evidence of open faults or any other hydrologic connection between the proposed injection zone and any underground source of drinking water was found.

NLG/tjt  
APRD02-AA(7)

ITEM NO. 13

"PROOF OF NOTICE" INFORMATION

**AFFIDAVIT OF PUBLICATION**

State of New Mexico,  
County of Lea.

1, \_\_\_\_\_

Robert L. Summers

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 in a supplement thereof for a period

of \_\_\_\_\_

One weeks.

Beginning with the issue dated

July 16, 19 85

and ending with the issue dated

July 16, 19 85

Robert L. Summers  
Publisher.

Sworn and subscribed to before

me this 16 day of

July, 19 85  
Vera Murphy  
Notary Public

My Commission expires \_\_\_\_\_

Nov. 14, 19 88  
(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**  
JULY 16, 1985  
TO WHOM IT MAY CONCERN:

Amoco Production Company has applied for administrative approval to recomplete North Baum SWD Well No. 1 from the Cisco to the Devonian Formation. The well is located in Unit letter N, Section 18, Township 13 South, Range 33 East, Lea County, New Mexico. The purpose of this work is to dispose of produced water from properties located in the Baum field into the subject wellbore located on the North Baum SWD Lease (formerly the Waitaby "WZ" State Com Lease). The water will be injected into the Devonian Formation at an average daily rate of 800 BWPD with a maximum service injection pressure of 2600 psi. Any questions concerning this project may be directed to Mr. John M. Breedon, District Foreman, Amoco Production Company, P. O. Box 68, Hobbs, New Mexico, Phone: (505) 393-1781. Interested parties must file objections or request for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501, within 15 days.

L. R. SMITH  
District Manager  
Amoco Production Company  
P. O. Box 68  
Hobbs, NM 88240