



Amoco Production Company

Post Office Box 68
Hobbs, New Mexico 88240

L. R. Smith
District Manager

October 1, 1985

File: SGH-1775-416

Re: Application for Unorthodox Locations
and Conversion to Injection
South Hobbs (GSA) Unit Westside Development
Hobbs Grayburg-San Andres Pool
Lea County, New Mexico

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

Amoco Production Company hereby requests administrative approval to develop the westside of the South Hobbs Unit Pressure Maintenance Project by drilling four Grayburg-San Andres injection wells and converting eight producing wells to injection. Of the four proposed drilling locations, two are unorthodox.

Exhibit "A" is a tabulation of the four proposed drilling locations. The two wells which will be drilled at unorthodox locations within the Unit are so noted. A South Hobbs (GSA) Unit map is included with the the proposed drilling sites shown. Also, we have included a copy of the individual well plats (C-102).

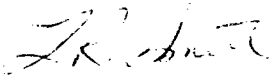
The locations for each well are determined from optimum pattern geometry. This optimum geometry is necessary to most efficiently waterflood the Grayburg-San Andres Formation.

Exhibit "B" is a tabulation of the eight proposed conversions. NMOCD Forms C-108 (Application for Authorization to Inject) with all required attachments are included for the eight conversions and the four injection wells to be drilled. These wells are shown on the attached South Hobbs Unit map.

Required notice of this application has been served by certified mail to each offset leasehold operator and to each surface owner on whose property the proposed injection wells are located. Each of the parties shown on the attached service list has been furnished a copy of this letter complete with all attachments.

October 1, 1985
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If you have any questions concerning this application, please contact Charles Herring in our Hobbs District Office, (505) 393-1781, Extension 252.



CMH/tjt
APRD04-CCC

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

SERVICE LIST
SOUTH HOBBS (GSA) UNIT
WESTSIDE DEVELOPMENT

Surface Owners

Vernon R. Jones
Star Rt. A, Box 440
Hobbs, NM 88240

D. A. Cochran
P. O. Box 145
Hobbs, NM 88240

State of New Mexico
Commissioner of Public Lands
P. O. Box 1148
Santa Fe, NM 87504

Offset Operators

Marathon Oil Company
P. O. Box 552
Midland, TX 79702

ARCO Oil & Gas Company
P. O. Box 1610
Midland, TX 79702

Chevron USA, Inc.
P. O. Box 670
Hobbs, NM 88240
Attention: J. C. Prindle

Apollo Energy, Inc.
P. O. Box 1737
Hobbs, NM 88240

Shell Western E&P, Inc.
P. O. Box 991
Houston, TX 77001

Mobil Producing Texas & NM, Inc.
Nine Greenway Plaza
Suite 2700
Houston, TX 77046

EXHIBIT "B"

SOUTH HOBBS (GSA) UNIT
PROPOSED CONVERSIONS

<u>Well Name</u>	<u>Surface Location</u>	<u>Elevation And Reference Point</u>
SHU No. 8	330' FNL x 933.2' FWL, Sec. 6, T-19-S, R-38-E	3656' RDB
SHU No. 9	330' FNL x 2310' FWL, Sec. 6, T-19-S, R-38-E	3642' DF
SHU No. 10	480' FNL x 1650' FEL, Sec. 6, T-19-S, R-38-E	3638' DF
SHU No. 25	1650' FNL x 2310' FWL, Sec. 6, T-19-S, R-38-E	3648' KB
SHU No. 114	2310' FSL x 1650' FEL, Sec. 6, T-19-S, R-38-E	3618' GL
SHU No. 116	990' FSL x 1650' FEL, Sec. 6, T-19-S, R-38-E	3642' KB
SHU No. 117	990' FSL x 330' FEL, Sec. 6, T-19-S, R-38-E	3607' GL
SHU No. 119	330' FNL x 2310' FWL, Sec. 8, T-19-S, R-38-E	3612' GL

EXHIBIT "A"
SOUTH HOBBS (GSA) UNIT

<u>Well Name</u>	<u>Surface Location</u>	<u>Elevation (Ground Level)</u>
SHU No. 206 *	1640' FNL x 280' FEL, Sec. 6, T-19-S, R-38-E	3625.6'
SHU No. 207	1944' FSL x 624' FWL, Sec. 5, T-19-S, R-38-E	3619.5'
SHU No. 208	931' FSL x 2263' FWL, Sec. 5, T-19-S, R-38-E	3613.7'
SHU No. 209 * #	200' FNL x 200' FWL, Sec. 8, T-19-S, R-38-E <i>265 FN 1090 FWL</i>	3608.1'

* Unorthodox Location

Replacement well for SHU No. 118, which has collapsed casing and will be plugged.

**NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT**

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

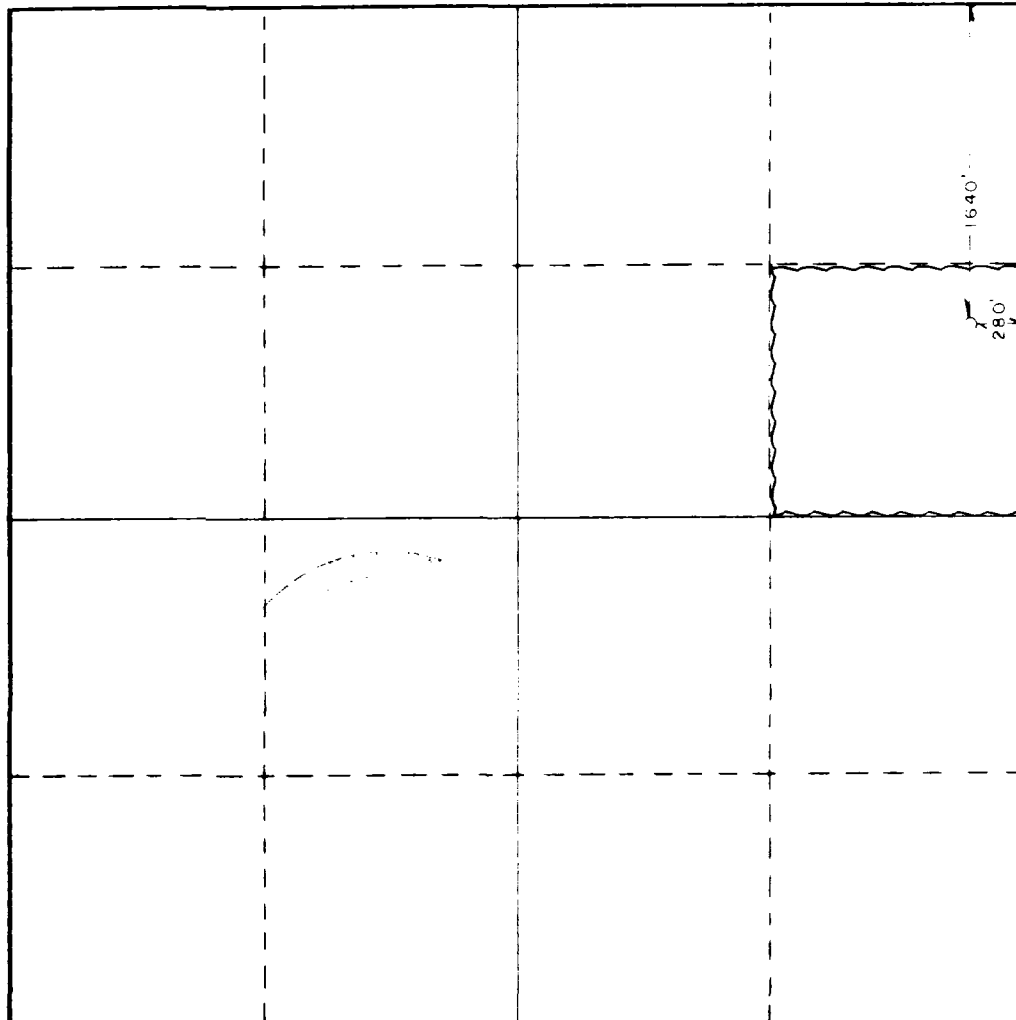
Operator AMOCO PRODUCTION COMPANY			Lease SOUTH HOBBS GRAYBURG SAN ANDRES UNIT		Well No. 206
Unit Letter H	Section 6	Township 19 SOUTH	Range 38 EAST	County LEA	
Actual Footage Location of Well: 1640 feet from the NORTH line and 280 feet from the EAST line					
Ground Level Elev. 3625.6'	Producing Formation Grayburg-San Andres		Pool Hobbs GSA		Dedicated Acreage: Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation Unitization

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Charles M. Lerry
Name

Administrative Analyst (SG)

Position
Amoco Production Company

Company

Date
September 30, 1985

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
AUGUST 16, 1985

Registered Professional Engineer
and/or Land Surveyor

John W. West

Certificate No. **JOHN W. WEST, 676**
RONALD J. EIDSON, 3239

**NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT**

Form C-102
Supersedes C-128
Effective 1-1-85

All distances must be from the outer boundaries of the Section

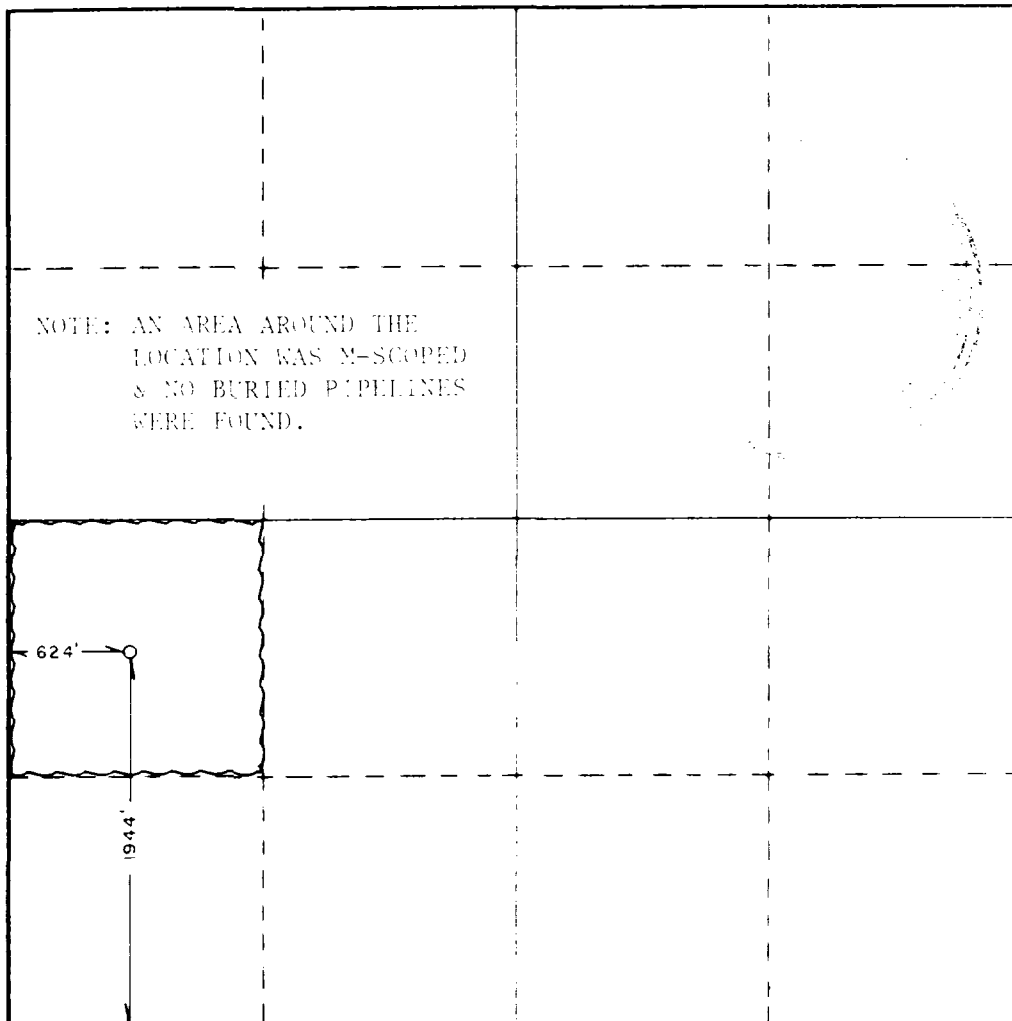
Operator AMOCO PRODUCTION CO.			Lease SOUTH HOBBS GRAYBURG SAN ANDRES UNIT		Well No. 207
Unit Letter L	Section 5	Township 14 SOUTH	Range 38 EAST	County LEA	
Actual Footage Location of Well: 1944 feet from the SOUTH line and 624 feet from the WEST line					
Ground Level Elev. 3619.5'	Producing Formation Grayburg-San Andres		Pool Hobbs GSA	Dedicated Acreage: Acre	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation Unitization

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Charles M. Herring
Signature
Administrative Analyst (SG)
Position

Amoco Production Company
Company

September 30, 1985
Date

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

AUGUST 20, 1985
Date Surveyed

RONALD J. EIDSON
Registered Professional Engineer and/or Land Surveyor

Ronald J. Eidson
Signature
Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239

**NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT**

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

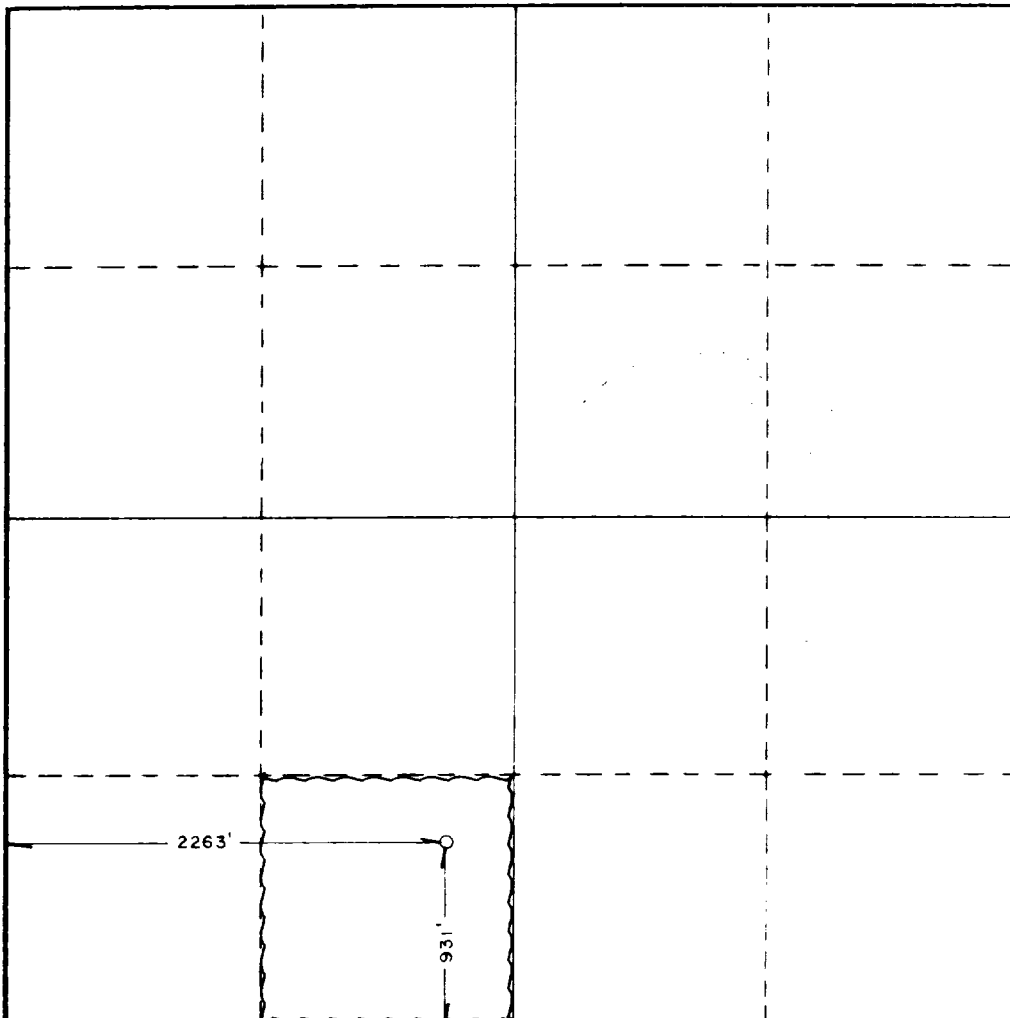
Operator AMOCO PRODUCTION COMPANY		Lease SOUTH HOBBS GRAYBURG SAN ANDRES UNIT		Well No. 208
Unit Letter N	Section 5	Township 19 SOUTH	Range 38 EAST	County LEA
Actual Footage Location of Well: 931 feet from the SOUTH line and 2263 feet from the WEST line				
Ground Level Elev. 3613.7'	Producing Formation Grayburg-San Andres	Pool Hobbs GSA	Dedicated Acreage: Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation Unitization

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name Charles M. Lerring
 Position Administrative Analyst (SG)
 Company Amoco Production Company
 Date September 20, 1985

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed AUGUST 20, 1985

Registered Professional Engineer and/or Land Surveyor

John W. West
 Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

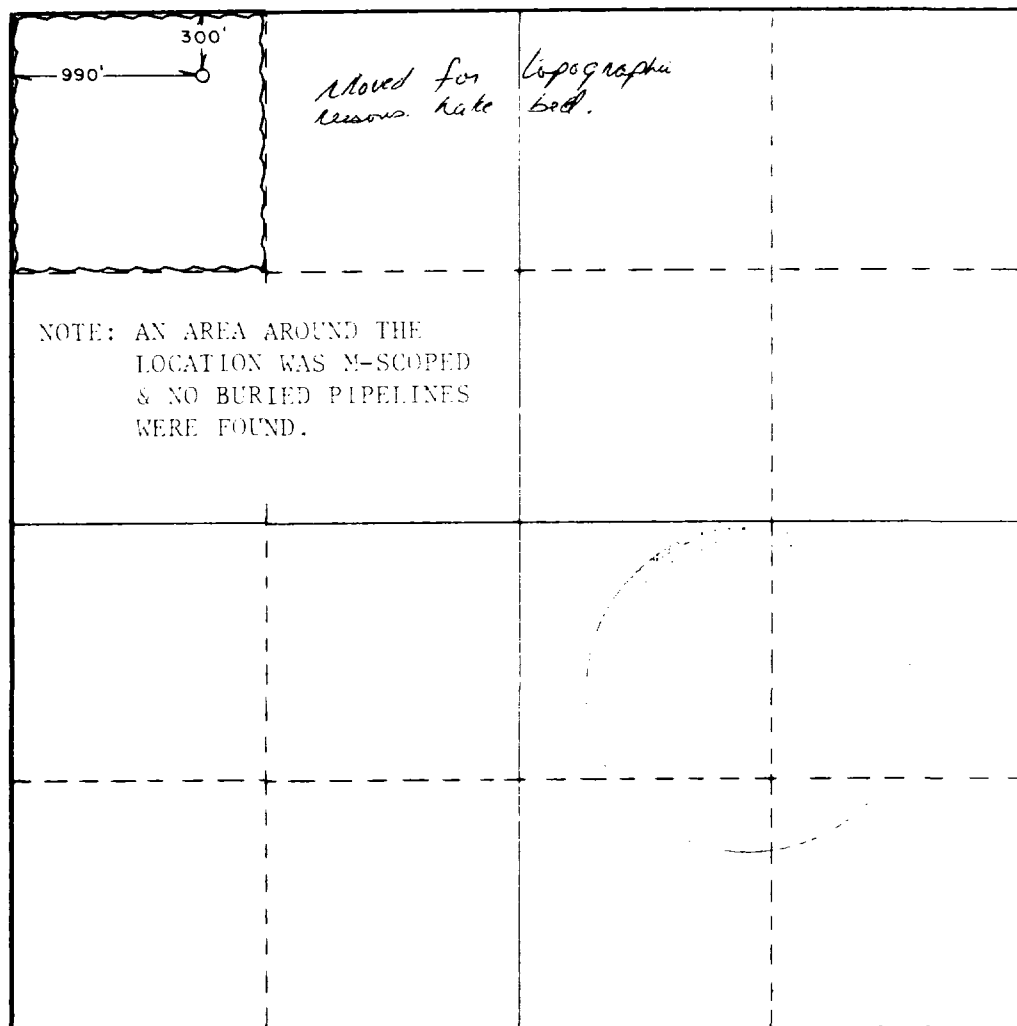
Operator AMOCO PRODUCTION CO.		Lease SOUTH HOBBS GRAYBURG SAN ANDRES UNIT		Well No. 209
Unit Letter D	Section 8	Township 19 SOUTH	Range 38 EAST	County LEA
Actual Footage Location of Well: 300 feet from the NORTH line and 990 feet from the WEST line				
Ground Level Elev. 3608.1'	Producing Formation Grayburg-San Andres	Pool Hobbs GSA	Dedicated Acreage: Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation Unitization

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name
Charles M. Lerry
Position
Administrative Analyst (SG)

Company
Amoco Production Company

Date
September 30, 1985

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
AUGUST 19, 1985

Registered Professional Engineer and Land Surveyor

John W. West

Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239

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, NM 88240
Contact party: Mr. John M. Breeden 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 R-4934.
- 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: Charles M. Herring Title: Administrative Analyst (SG)
Signature: Charles M. Herring Date: September 30, 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.

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.

ITEM III

WELL DATA

SOUTH HOBBS UNIT

WESTSIDE GRAYBURG DEVELOPMENT PROJECT

INJECTION WELL DATA SHEET

Amoco Production Co.

South Hobbs Unit

OPERATOR

LEASE

8

330' FNL x 933' FWL

6

WELL NO.

FOOTAGE LOCATION

SECTION

TOWNSHIP

RANGE

Schematic

(see attached wellbore sketch)

8-5/8" CSA 322'

5-1/2" CSA 4272'

Tubular DataSurface CasingSize 8-5/8 " Cemented with 250 sx.TOC surface feet determined by circ.Hole size 11'Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2 " Cemented with 650 sx.TOC unknown feet determined by -----Hole size 7-7/8"Total depth 4272'Injection interval4152' feet to 4272' feet

(perforated or open-hole, indicate which)

. perforated

Tubing size 2-3/8" lined with Plastic set in a

(material)

Baker Lok-Set

(brand and model)

packer at

3952

feet

(or describe any other casing-tubing seal).

Other Data1. Name of the injection formation Grayburg2. Name of Field or Pool (if applicable) Hobbs G/SA3. Is this a new well drilled for injection? ☐ Yes ☒ NoIf no, for what purpose was the well originally drilled? Grayburg - San Andresoil producer4. 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) none5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Bowers ±3150', Paddock ±5500', Blinbry ±5700', Drinkard ±6600'



Amoco Production Company

ENGINEERING CHART

SHEET NO.

OF

FILE

APPN

SUBJECT

South Hobbs Unit No. 8

DATE

4/15/82

BY

DLM

Hobbs G-SA

Formerly: State "H" No. 3

330' FNL x 933' FWL Unit "D", Section 6, T-19-S, R-38-E

Lea County, New Mexico

Elev: 3656 KB

3643 GL

8 5/8" CSA 322'

22.7 #

Cmt w/ 250 SX Circ.

Hole size 11"

2 3/8 plastic coated tbq

5 1/2" CSA 4272'

14# J-55

Cmt w/ 650 SX

Hole size 7 7/8"

PSA 4050'

SQ'd perfs: 4154'-4190'

perfs: 4191'-4245'

TD- 4272
PBSD- 4260'

INJECTION WELL DATA SHEET

Amoco Production Co.		South Hobbs Unit		
OPERATOR		LEASE		
9	330' FNL x 2310' FWL	6	19S	38E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic

(see attached wellbore sketch)

15-1/2" CSA 200'
 10-3/4" CSA 2777'
 7" CSA 3926'
 5" CSA 4221'

Tabular DataSurface Casing

Size 15-1/2 " Cemented with 175 sx.
 TOC unknown feet determined by ---
 Hole size unknown

Intermediate Casing

Size 10-3/4 " Cemented with 400 sx.
 TOC unknown feet determined by ---
 Hole size unknown

Long string (see note below)

Size 7 " Cemented with 250 sx.
 TOC unknown feet determined by -----
 Hole size unknown

Total depth 4221Injection interval

4045 feet to 4172 feet
 (perforated or open-hole, indicate which) perforated

Note: 5" liner set 2-26-82

Tubing size 2-3/8 lined with plastic set in a
 (material)
Baker Lok-Set packer at 3845 feet
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Hobbs G/SA
- Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? Grayburg - San Andres
oil production
- 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) None
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Bowers ±3150, Paddock ±5500', Blinbry ±5700, Drinkard ±6600'



Amoco Production Company

ENGINEERING CHART

SHEET NO.

OF

FILE

APPN

SUBJECT South Hobbs Unit No. 9DATE 5/5/82Hobbs G-SABY DLM

Formerly - State "H" No. 1

330' FNL x 2310' FWL Unit "C" Section 6, T-19-S, R-38-E

Lea County, New Mexico

Completed: 1-6-31Elev. 3642 DF

15 1/2" 70# CSA 200'

Cmt w/ 175 SX

10 3/4" 40.5# CSA 2777'

Cmt w/ 400 SX

5 1/2" LSA 3798

Cmt w/ 250 SX Circ.

7" 24# CSA 3926'

Cmt w/ 250 SX

5" 15# CSA 4221-3802'

Cmt w/ 100 SX

TCMT 3802

Hole size 6 1/4"

Perf @ 225' w/ 4 SPF

Set Cement Ret. @ 1511 and cmt
w/ 400 SX + additives

Pkr sa 39' and cmt w/ 200 SX

Perf @ 1650' w/ 4 SPF

Cmt w/ 475 SX. Circ. 50 SX

Resqueeze w/ 400 SX. Circ. out 20 SX

2 3/8" plastic coated hbq

Perfs - 4050' - 4134'

sq'd perfs: 4135'-43', 4157'-72'

TD 4221'
DRTD 4101'

INJECTION WELL DATA SHEET

Amoco Production Co.		South Hobbs Unit		
OPERATOR		LEASE		
10	480' FNL x 1650' FEL	6	19S	38E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic

(see attached wellbore sketch)

13-3/8" CSA 362'
5-1/2" CSA 4095'Tabular DataSurface CasingSize 13-3/8" " Cemented with 300 sx.TOC surface feet determined by calc.Hole size 17-1/2"Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2" " Cemented with 1250 sx.TOC unknown feet determined by -----Hole size 7-7/8"Total depth 4237'Injection interval3966 feet to 4082 feet
(perforated or open-hole, indicate which)
perforated

TOC
Calc @
757' fud
excluded

Tubing size 2-3/8" lined with plastic set in a
(material)
Baker Lok-Set packer at 3766' feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Hobbs G/SA
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Grayburg - San Andres
oil producer
- 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) none
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Bowers ±3150', Paddock ±5500', Blinbry ±5700', Drinkard ±6600'



Amoco Production Company

ENGINEERING CHART

SHEET NO. OF

FILE

APPN

SUBJECT South Hobbs Unit No. 10

DATE 7-22-85

Hobbs G-SA

BY JFK

480 FNL X 1650 FEL , Section 6, T-19-S, R-38-E
Lea County, New Mexico

Completed: 7-7-48

Elev - 3638 DF

13³/₈" CSA 362'

36 #

Cmt w/ 300 SX

17¹/₂" hole

Calculated TCMT- Surf.

Squeeze csg leak at 370' and 750'
w/ 550 SX

2³/₈" plastic coated tbq

PSA 3880'

5¹/₂" CSA 4095'

15.5 #

Cmt w/ 1250 SX

7¹/₈" hole

Open hole w/ 4³/₄"

Grayburg perfs - 3980-4024 w/ 1 SPF
perfs: 3972-77, 3980-86, 3994-4002,
4016-26, 4042-50, 4058-64 X 2 JSPF
perfs - 4040-4074 w/ 2 SPF

TD- 4237
PRTD 4083

INJECTION WELL DATA SHEET

Amoco Production Co.

South Hobbs Unit

OPERATOR

LEASE

25

1650' FNL x 2310' FWL

6

19S

38E

WELL NO.

FOOTAGE LOCATION

SECTION

TOWNSHIP

RANGE

Schematic

(see attached wellbore sketch)

8-5/8" CSA 300'

5-1/2" CSA 4322'

Tabular DataSurface CasingSize 8-5/8 " Cemented with 200 sx.TOC surface feet determined by circHole size 11"Intermediate CasingSize " Cemented with sx.TOC feet determined by Hole size Long stringSize 5-1/2 " Cemented with 1780 sx.TOC 950 feet determined by calcHole size 7-7/8"Total depth 4322'Injection interval4103 feet to 4220 feet

(perforated or open-hole, indicate which)

perforated

Tubing size 2-3/8" lined with plastic set in a

(material)

Baker Lok-Set

(brand and model)

packer at

3903

feet

(or describe any other casing-tubing seal).

Other Data1. Name of the injection formation Grayburg2. Name of Field or Pool (if applicable) Hobbs G/SA3. Is this a new well drilled for injection? ☐ Yes ☒ NoIf no, for what purpose was the well originally drilled? Grayburg - San Andresoil producer4. 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) none5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Bowers ±3150', Paddock ±5500', Blinbry ±5700', Drinkard ±6600'



Amoco Production Company

ENGINEERING CHART

SHEET NO. OF

FILE

APPN

SUBJECT South Hobbs Unit No. 25

DATE 4/12/82

Hobbs G-SA

BY DLM

1650' FNL X 2310' FWL Section 6, T19S, R38E
Lea County, New Mexico

Elev. 3648' KB

8 5/8" 24# CSA 300'
Cmt w/ 200 SX Circ
Hole Size 11"

2 3/8" plastic coated tbg

PSA 4000'

Grayburg perfs - 4103' - 4180'

sq'd: 4181' - 4185'

CIBP SA 4200'

San Andres perfs: 4210-14 w/ 2 SPF

ZONE I perfs - 4248-54 Squeezed

5 1/2" 14# CSA 4322'
Cmt w/ 1780 SX
TCMT 950'
Hole size 7 7/8"

TD - 4322'
DDTD - 4322'

INJECTION WELL DATA SHEET

Amoco Production Co.		South Hobbs Unit	
OPERATOR		LEASE	
114	2310' FSL x 1650' FEL	6	195
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP
			38E
			RANGE

Schematic

(see attached wellbore sketch)

8-5/8" CSA 260'
5-1/3" CSA 4149'

TOC cable @
7 1/2' feel
1978'

Tabular DataSurface Casing

Size 8-5/8" " Cemented with 300 sx.
TOC unknown feet determined by -----
Hole size 11"

Intermediate Casing

Size " Cemented with sx.
TOC feet determined by
Hole size

Long string

Size 5-1/2" " Cemented with 400 sx.
TOC unknown feet determined by -----
Hole size 7-5/8"

Total depth 4150'

Injection interval

4046 feet to 4160 feet
(perforated or open-hole, indicate which) perforated

Tubing size 2-3/8" lined with plastic set in a
(material)
Baker Lok-Set packer at 3960 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Hobbs G/SA
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Grayburg - San Andres

oil producer

- 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) none

- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area: Bowers ±3150', Paddock ±5500', Blinbry ±5700', Drinkard ±6600'



Amoco Production Company

ENGINEERING CHART

SHEET NO.

OF

FILE

APPN

DATE

BY

SUBJECT South Hobbs Unit No. 114Hobbs G-SA11-27-84DLM-JVC

Formerly : Bradley "B" No. 1

2310' FSL X 1650' FEL Unit "J", Section 6, T-19-S, R-38-E
Lea County, New Mexico

Elev - 3625 KB

Flac No. - 9548 02013

3618 GL

8 5/8" 32# CSA 260'

Cmt w/300 SX

Hole size 11"

2 3/8" plastic coated tbg

DU tool @ 1622' →

5 1/2" 17# CSA 4149'

Hole size 7 5/8"

Cmt bottom w/300 SX

DU tool @ 1622'

100 SX cmt above

PSA 3950'

Grayburg perfs - 4046 - 4149

TD - 4150

INJECTION WELL DATA SHEET

Amoco Production Co.		South Hobbs Unit		
OPERATOR		LEASE		
116	990' FSL x 1650' FEL	6	19S	38E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic

(see attached wellbore sketch)

8-5/8" CSA 315'
5-1/2" CSA 4100'

Tabular DataSurface Casing

Size 8-5/8 " Cemented with 200 sx.
TOC surface feet determined by circ
Hole size 11"

Intermediate Casing

Size _____ " Cemented with _____ sx.
TOC _____ feet determined by _____
Hole size _____

Long string

Size 5-1/2 " Cemented with 200 sx.
TOC 2607 feet determined by calc
Hole size 7-7/8"
Total depth 4236

Injection interval

4125 feet to 4236 feet
(perforated or open-hole, indicate which) Perforated and open-hole

Tubing size 2-3/8" lined with plastic set in a
(material)
Baker Lok-Set packer at 3925 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Hobbs G/SA
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Grayburg - San Andres
oil producer
- 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) none
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Bowers +3150', Paddock +5500', Blinbry +5700', Drinkard +6600'



Amoco Production Company

ENGINEERING CHART

SHEET NO. OF

FILE

APPN

SUBJECT South Hobbs Unit No. 116

DATE 4/15/82

Hobbs G-SA

BY DLM

Formerly: Bradley "B" No. 2

990' FSL X 1650' FEL, Unit "O", Section 6, T-19-S, R-38-E
Lea County, New Mexico

Elev: 3624 KB

File No: 954803011

3611 GL

8 5/8" 24# CSA 315'

Cmt w/ 200 SX Circ

Perfst 340' w/ 4 SPF

Cmt w/ 180 SX Circ

2 3/8" plastic coated tbg

PSA 3850'

Squeezed w/ 100 SX ;

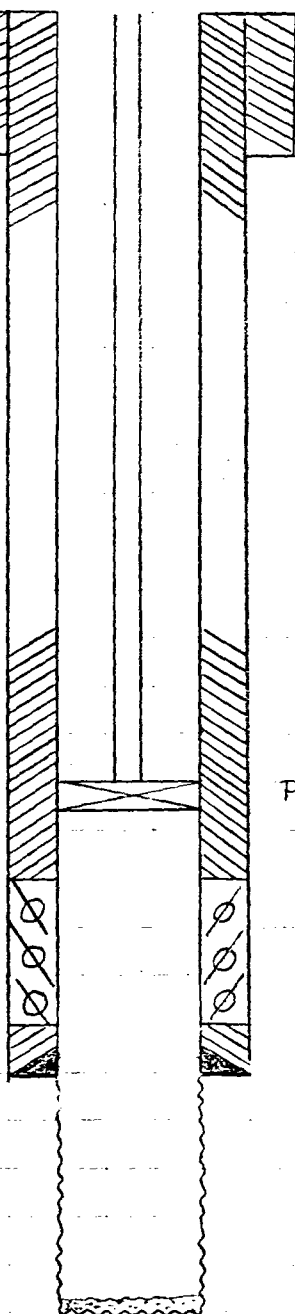
Perfs - 3965, 72, 82, 4013, 29,

4047, 54, 58, 62, 68

and 4071 w/ 1 SPF

5 1/2" 14# CSA 4100'

Cmt w/ 200 SX



TD 4236
PBTD 4230

INJECTION WELL DATA SHEET

Amoco Production Co.		South Hobbs Unit		
OPERATOR		LEASE		
117	990' FSL x 330' FEL	6	19S	38E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic

(see attached wellbore sketch)

9-5/8" CSA 280'
7" CSA 4050'

Tabular DataSurface Casing

Size 9-5/8 " Cemented with 300 sx.
TOC surface feet determined by calc
Hole size 12"

Intermediate Casing

Size _____ " Cemented with _____ sx.
TOC _____ feet determined by _____
Hole size _____

Long string

Size 7" " Cemented with 450 sx.
TOC 1116 feet determined by calc
Hole size 9-1/4"
Total depth 4154'

Injection interval

4044 feet to 4154 feet
(perforated or open-hole, indicate which) perforated and open-hole

Tubing size 2-3/8" lined with plastic set in a
(material)
Baker Lok-Set packer at 3844 feet
(brand and model)
(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Hobbs G/SA
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Grayburg - San Andres
oil producer
- 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) none
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Bowers ±3150, Paddock ±5500, Blinbry ±5700, Drinkard ±6600'



Amoco Production Company

ENGINEERING CHART

SHEET NO. OF

FILE

APPN

DATE 4/12/82

BY DLM

SUBJECT South Hobbs Unit No 117

Hobbs G-SA

Formerly - Bradley No. 2

990' FSL x 330' FEL Section 6, T-19-S, R-38-E

Lea County, New Mexico

Flac No - 954801015

Elev: 3617 KB

3607 GL

9 5/8" 40# CSA 280

Cmt w/ 300 SX

Hole size 12"

2 3/8" plastic coated tbg

7" 20# CSA 4050

Cmt w/ 450 SX

Hole size 9 1/4"

PSA 3950'

Open Hole 6 1/4"

TD 4154

INJECTION WELL DATA SHEET

Amoco Production Co.		South Hobbs Unit		
OPERATOR		LEASE		
119	330' FNL x 2310' FWL	8	19S	38E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic

(see attached wellbore sketch)

8-5/8" CSA 281'
5-1/2" CSA 4010'

Tabular DataSurface Casing

Size 8-5/8 " Cemented with 250 sx.
TOC surface feet determined by circ
Hole size 11-1/2"

Intermediate Casing

Size _____ " Cemented with _____ sx.
TOC _____ feet determined by _____
Hole size _____

Long string

Size 5-1/2 " Cemented with 350 sx.
TOC 1374 feet determined by calc
Hole size 7-7/8"
Total depth 4110'

Injection interval

4005 feet to 4110 feet
(perforated or open-hole, indicate which)
perfordted and open-hole

Tubing size 2-3/8" lined with plastic set in a
(material)
Baker Lok-Set packer at 3805 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg
- Name of Field or Pool (if applicable) Hobbs G/SA
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Grayburg - San Andres
oil producer
- 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) none
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Bowers +3150', Paddock +5500', Blinobry +5700', Drinkard +6600'



Amoco Production Company

ENGINEERING CHART

SHEET NO. OF

FILE

APPN

SUBJECT South Hobbs Unit No. 119

DATE 10/5/84

Hobbs G-SA

BY JAC

330' FNL X 2310 FWL Unit "C", Section 8, T-19-S, R-38-E
Lea County, New Mexico

Formerly H.T. Orcutt No. 1

Elev. 3622 KB

Flac No. 954798013

3612 GL

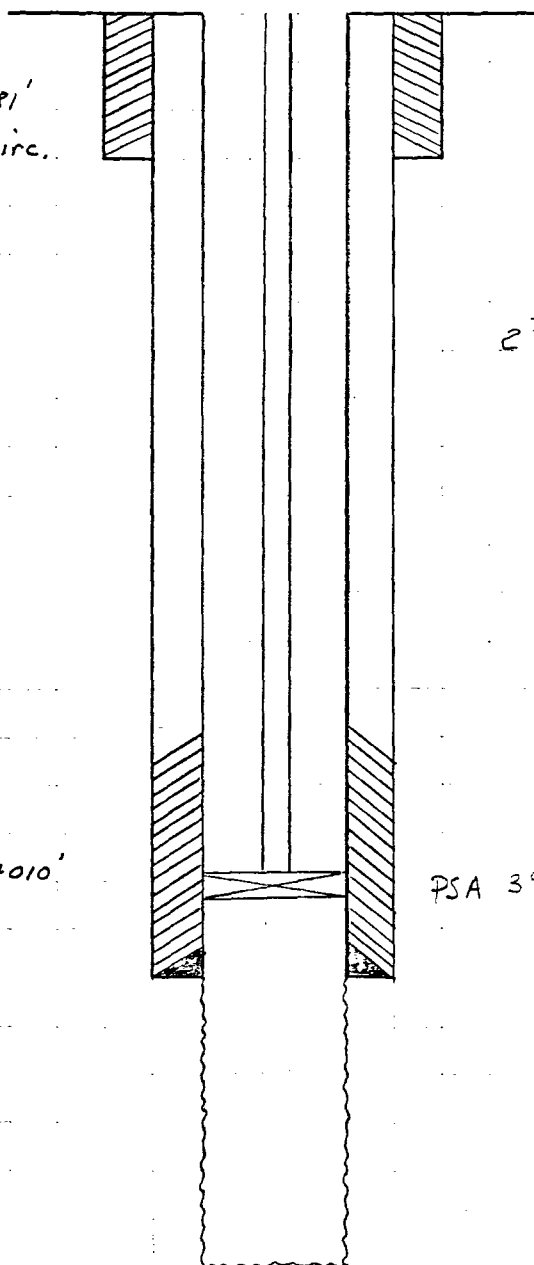
8 5/8" 28# CSA 281'
Cmt. w/ 250 SX Circ.
Hole size 11 1/2"

2 3/8" plastic coated log

5 1/2" 15.5# CSA 4010'
Cmt w/ 350 SX
Hole size 7 7/8"

PSA 3900'

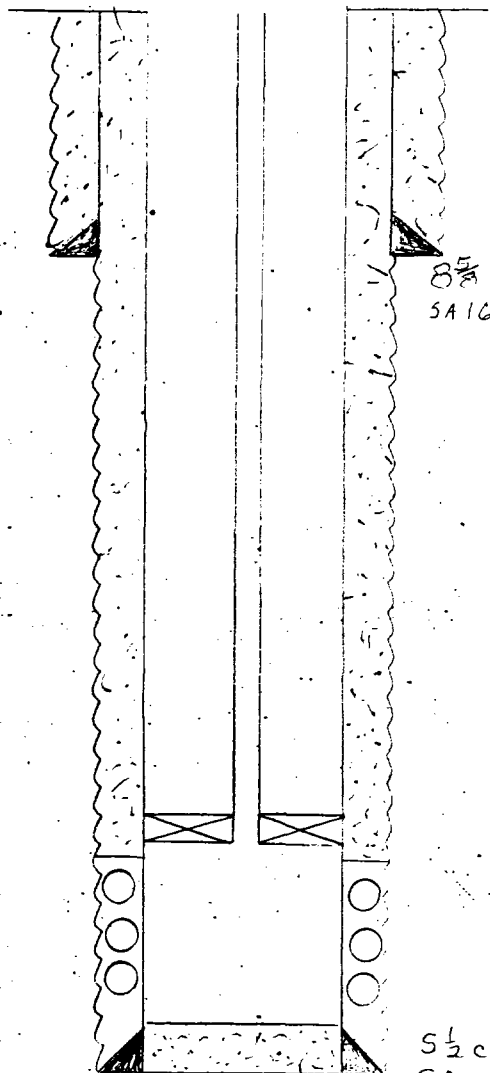
Open Hole 4 3/4"



INJECTION WELL DATA SHEET

Amoco Production Co.
OPERATORSouth Hobbs Unit
LEASE206
WELL NO.1640' FNL x 280' FEL
FOOTAGE LOCATION6
SECTION19S
TOWNSHIP38E
RANGE

Schematic



TD: 4300'

5 1/2\"/>

Tabular Data

Surface Casing

Size 8-5/8 " Cemented with 613 sx.TOC surface feet determined by circHole size 12-1/4"

Intermediate Casing

Size " Cemented with sx.TOC feet determined by Hole size

Long string

Size 5-1/2 " Cemented with 710 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 4300'

Injection interval

4066 feet to 4300 feet
(perforated or open-hole, indicate which)
perforatedTubing size 2-3/8" lined with plastic set in a
(material)Baker Lok-Set
(brand and model) packer at 3740 feet

(or describe any other casing-tubing seal).

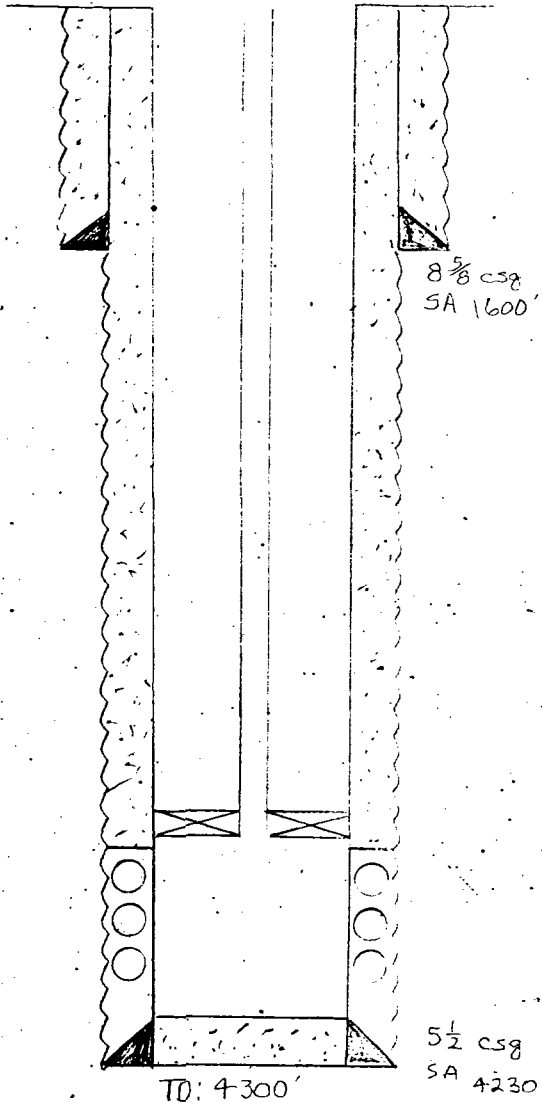
Other Data

- Name of the injection formation San Andres
- Name of Field or Pool (if applicable) Hobbs G/SA
- Is this a new well drilled for injection? ☒ Yes ☐ No
If no, for what purpose was the well originally drilled?
- 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) N/A
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Bowers ±3150', Paddock ±5500', Blinbry ±5700', Drinkard ±6600'

INJECTION WELL DATA SHEET

Amoco Production Co.		South Hobbs Unit	
OPERATOR		LEASE	
207	1944' FSL x 624' FWL	5	19S
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP
			38E
			RANGE

Schematic



Tabular Data

Surface Casing

Size 8-5/8" " Cemented with 613 sx.
 TOC surface feet determined by circ
 Hole size 12-1/4"

Intermediate Casing

Size " Cemented with sx.
 TOC feet determined by
 Hole size

Long string

Size 5-1/2 " Cemented with 710 sx.
 TOC surface feet determined by circ:
 Hole size 7-7/8"
 Total depth 4300'

Injection interval

4072 feet to 4300 feet
 (perforated or open-hole, indicate which) perforated

Tubing size 2-3/8" lined with plastic set in a
 (material)
Baker Lok-Set packer at 3872 feet
 (brand and model)

(or describe any other casing-tubing seal).

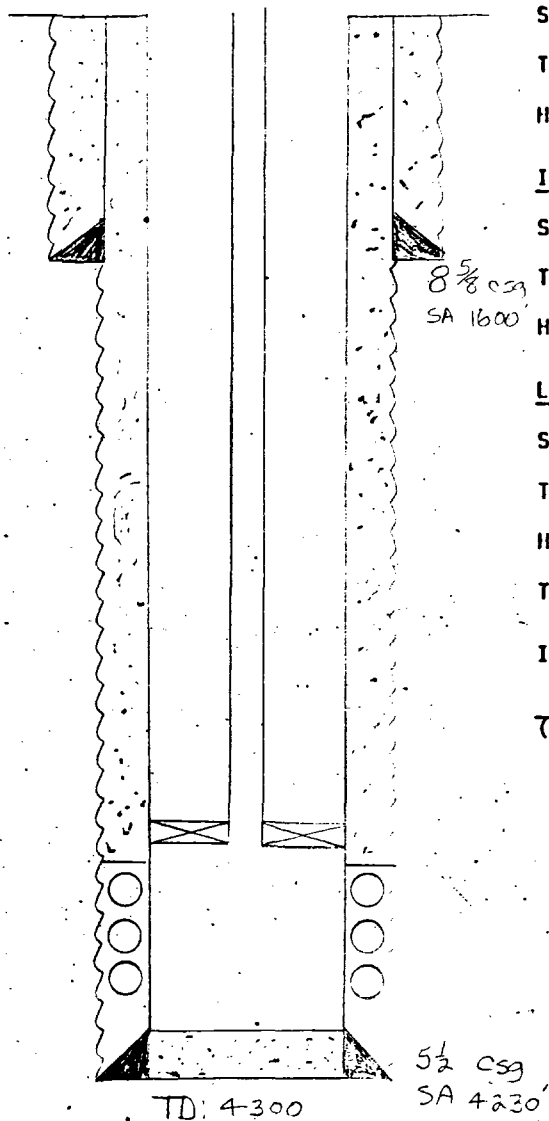
Other Data

- Name of the injection formation San Andres
- Name of Field or Pool (if applicable) Hobbs G/SA
- Is this a new well drilled for injection? ☒ Yes ☐ No
 If no, for what purpose was the well originally drilled?
- 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) N/A
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Bowers ± 3150', Paddock ± 5500', Blinbry ± 5700', Drinkard ± 6600'

INJECTION WELL DATA SHEET

Amoco Production Co.		South Hobbs Unit	
OPERATOR		LEASE	
208	931' FSL x 2263' FWL	5	19S
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP
			38E
			RANGE

Schematic



Tabular Data

Surface Casing

Size 8-5/8 " Cemented with 613 sx.
 TOC surface feet determined by circ
 Hole size 12-1/4"

Intermediate Casing

Size _____ " Cemented with _____ sx.
 TOC _____ feet determined by _____
 Hole size _____

Long string

Size 5-1/2 " Cemented with 710 sx.
 TOC surface feet determined by circ
 Hole size 7-7/8"
 Total depth 4300'

Injection interval

4068 feet to 4300 feet
 (perforated or open-hole, indicate which) perforated

Tubing size 2-3/8" lined with plastic set in a
 (material)
Baker Lok-Set packer at 3868 feet
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation San Andres
- Name of Field or Pool (if applicable) Hobbs G/SA
- Is this a new well drilled for injection? ☒ Yes ☐ No
 If no, for what purpose was the well originally drilled? _____
- 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) N/A
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Bowers ±3150, Paddock ±5500, Blinbry ±5700, Drinkard ±6600'

INJECTION WELL DATA SHEET

Amoco Production Co.

South Hobbs Unit

OPERATOR

LEASE

209

300' FNL x 990' FWL

8

19S

38E

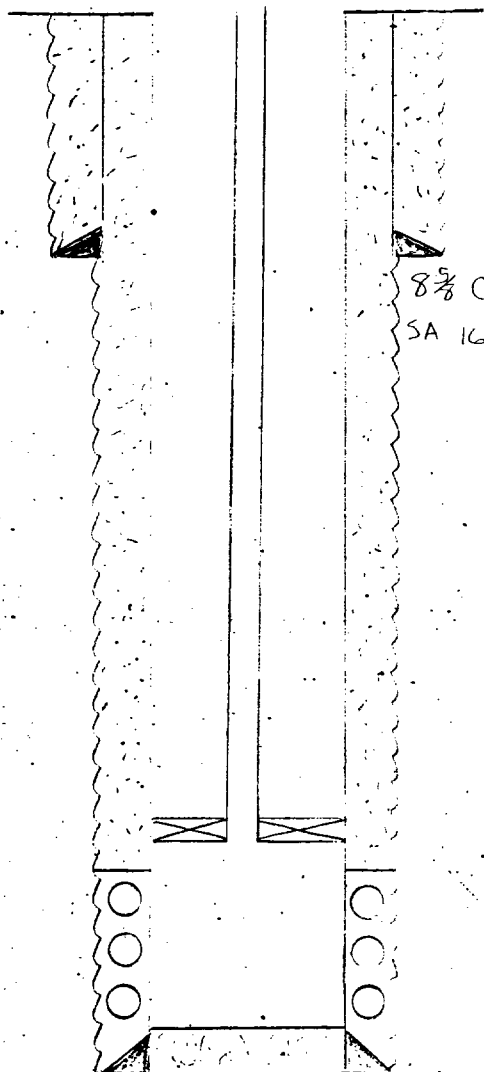
WELL NO.

FOOTAGE LOCATION

SECTION

TOWNSHIP

RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 613 sx.TOC surface feet determined by circHole size 12-1/4"Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2 " Cemented with 678 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 4099'Injection interval4059 feet to 4099 feet

(perforated or open-hole, indicate which)

perforated

Tubing size 2-3/8" lined with plastic set in a

(material)

Baker Lok-Set

(brand and model)

packer at 3859 feet

(or describe any other casing-tubing seal).

Other Data1. Name of the injection formation Grayburg2. Name of Field or Pool (if applicable) Hobbs G/SA3. Is this a new well drilled for injection? ☐ Yes ☒ NoIf no, for what purpose was the well originally drilled? Grayburg- San Andres
oil producer4. 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) none5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Bowers ± 3150, Paddock ±5500, Blinbry ±5700, Drinkard ±6600'

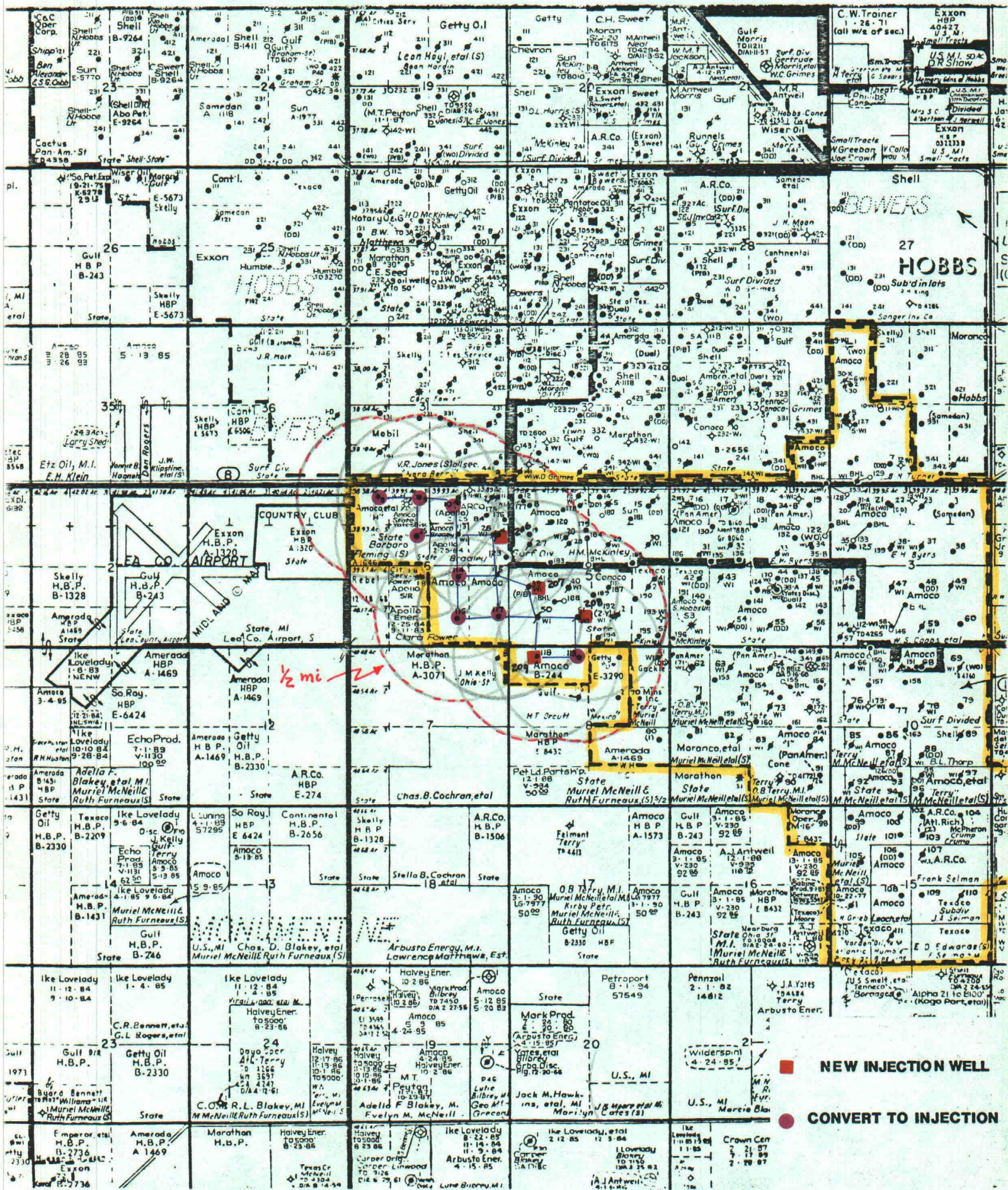
ITEM V

AREA OF REVIEW

AREA OF REVIEW

SOUTH HOBBS UNIT

WESTSIDE GRAYBURG DEVELOPMENT PROJECT



ITEM VI
PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

NAM/ea
EPRM1-B

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Shell Oil Company

WELL NAME: North Hobbs Unit No. 141

LOCATION: 990 FSL x 990 FWL Sec. 31, T- 18 -S, R- 38 -E UL "M"

ELEVATION: _____ GL 3650 DF _____ KB

TD: 4317 PBSD: _____

CASING DATA Drilled Jan 1950

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
13-3/4	10-3/4"	32.75#	435	200	
8-3/4	7"	23#	3303	500	
6-1/4	5-1/2"	15#	4317	100	

PRODUCING INTERVAL: 4210-20 x 4228-36

(RE) COMPLETION DATE: Convert to injector Perf 5" csg 4097-4183

CURRENT STATUS: Injection

COMMENTS: _____

* 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: Shell Oil Company

WELL NAME: North Hobbs Unit No. 231

LOCATION: 2196 FSL x 2310 FWL Sec. 31, T- 18 -S, R- 38 -E UL "K"

ELEVATION: _____ GL 3644 DF _____ KB

TD: 4190 PBTD: _____

CASING DATA
Drilled 11-18-30

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
	13-3/8"		245		
	9-5/8"		2800		
	7"		3955		
	5" Liner		4180	60 sx top of liner	3847

PRODUCING INTERVAL: Open hole 3955-4190 San Andres

Perf 7" csg @ 2850 cmt SQ w/500 sxs.

(RE) COMPLETION DATE: 11-11-56 Perf 5" Liner 4134-60 Set BP @ 4126

Perf 5" Liner 4094-4110.

CURRENT STATUS: Producing oil well

COMMENTS: _____

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

NAM/ea
EPRM1-B

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Shell Oil Company

WELL NAME: North Hobbs Unit No. 241

LOCATION: 990 FSL x 2310 FWL Sec. 31, T- 18 -S, R- 38 -E

ELEVATION: 3647 GL DF KB

TD: 4155 PBTB:

CASING DATA Drilled 2-28-84

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
12-1/4	9-5/8	36	470	200	
8-3/4	7	24	3225	800	
6-1/4	5	15	4141	90	

PRODUCING INTERVAL: Grayburg 4018, 26, 30, 34, 43, 46, 57, 60, 69, 72, 85,
92, 96, 4100, 08, 16, 18, 21, 27, 4136 w/SPF

(RE) COMPLETION DATE:

CURRENT STATUS: Producing Oil Well

COMMENTS:

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

NAM/ea
EPRM1-B

NAM/ea
EPRM1-B

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Shell Oil Company

WELL NAME: North Hobbs Unit No. 341

LOCATION: 1315 FSL x 1325 FEL Sec. 31, T- 18 -S, R- 38 -E WL "O"

ELEVATION: _____ GL 3640 DF _____ KB

TD: 4229 PBTD: 4226

CASING DATA

Drilled 8-13-35

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
	12-1/2	50	251	150	
	9-5/8	36	1526	200	
	7	24	3980	250	

TDL 3880 5-1/2 Liner 4224

PRODUCING INTERVAL: _____

(RE) COMPLETION DATE: 9-24-46 Perf 5-1/2 Liner 4209-4224

CURRENT STATUS: Producing Oil Well

COMMENTS: _____

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

NAM/ea
EPRM1-B

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Shell Oil Company

WELL NAME: North Hobbs Unit No. 441

LOCATION: 330 FSL x 330 FEL, Sec. 31, T-18-S, R-38-E

ELEVATION: _____ GL 3650' DF _____ KB

TD: 4220' PBD: 4217'

CASING DATA

<u>Hole Size</u>	<u>Size</u>	<u>Wt</u>	<u>Depth</u>	<u>Amt of Cmt</u>	<u>Toc</u>
NA	12-1/2"	50	242	225	NA
NA	8-1/4"	34	2800	600	NA
NA	6-5/8"	24	3975	225	NA
NA	5 Liner	NA	3930-4219	250	NA

PRODUCING INTERVAL: Grayburg-San Andres 3939-4215

COMPLETION DATE: November 6, 1982

CURRENT STATUS: Producing Oil Well

COMMENTS:

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Shell Oil Company

WELL NAME: North Hobbs Unit No. 141

LOCATION: 330 FSL x 330 FWL, Sec. 32, T-18-S, R-38-E

ELEVATION: _____ GL 3637' DF _____ KB

TD: 4256' PBTD: 4190'

CASING DATA					
<u>Hole Size</u>	<u>Size</u>	<u>Wt</u>	<u>Depth</u>	<u>Amt of Cmt</u>	<u>Toc</u>
NA	13-3/8"	54	257	200	NA***
NA	9-5/8"	36	2797	600	Circ**
NA	7"	24	3908	300	2900
NA	5-1/2" liner	15.5	4192	60*	NA

PRODUCING INTERVAL: Grayburg-San Andres 3908-4256

COMPLETION DATE: September 7, 1930

CURRENT STATUS: Injection Well

COMMENTS: * Liner

 ** Perfed at 1900 x pumped 405 sx cmt x circ.

 *** Squeezed x 95 sx cmt.

NAM/kih
EPSEC7-J(15)

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Shell Oil Company

WELL NAME: North Hobbs Unit No. 142

LOCATION: 610/31 FSL x 1210/1377 FWL, Sec. 32, T-18-S, R-38-E

ELEVATION: 3627.4' GL 3637.3' DF _____ KB

T D: 4460' PBTD: _____

CASING DATA					
<u>Hole Size</u>	<u>Size</u>	<u>Wt</u>	<u>Depth</u>	<u>Amt of Cmt</u>	<u>Toc</u>
20	16"	65	40	40	NA
12-1/4"	8-5/8"	24	1525	850	NA
7-7/8"	5-1/2"	14	4460	680	NA

PRODUCING INTERVAL: Grayburg-San Andres 4135-4313

COMPLETION DATE: January 5, 1984

CURRENT STATUS: Injection Well

COMMENTS: Set 5-1/2" Guiberson Uni-Pkr VI at 4001'.

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Shell Oil Company

WELL NAME: North Hobbs Unit No. 143

LOCATION: 1185 FSL x 300 FWL Sec. 32, T- 18 -S, R- 38 -E U. L. "M"

ELEVATION: 3630.3 GL DF KB

TD: 4383 PBTD:

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"	conductor	40		
12-1/4"	9-5/8"	36#	1534	375 sx Lite + 250 sx HE II	
8-3/4"	7"	20#	4383	500 sx Lite + 320 sx HE II	

PRODUCING INTERVAL: San Andres 4077-4079 (6-1/2" holes)

Spud 3-18-85 Comp. 4-17-85

(RE) COMPLETION DATE:

CURRENT STATUS: Producing - Submersible 401 BOPD x 90 BWPD x 124 MCFD

COMMENTS:

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

NAM/ea
EPRM1-B

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Amoco Production Company

WELL NAME: South Hobbs Unit Coop No. 1

LOCATION (SURF/BH): 200/956 FNL x 1380/1288 FEL, Sec. 6, T-19-S, R-38-E

ELEVATION: 3626.6' GL _____ DF 3639.1' KB

TD: 4308' PBTD: 4290'

CASING DATA					
<u>Hole Size</u>	<u>Size</u>	<u>Wt</u>	<u>Depth</u>	<u>Amt of Cmt</u>	<u>Toc</u>
12-1/4"	8-5/8"	24	1505	396	Circ
7-7/8"	5-1/2"	15.5	4308	900	Circ

PRODUCING INTERVAL: Grayburg-San Andres 4135-4239

COMPLETION DATE: February 10, 1984

CURRENT STATUS: Injection Well

COMMENTS:

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Amoco Production Company

WELL NAME: South Hobbs Unit No. 175

LOCATION: 1010 FNL x 820 FEL Sec. 6, T- 19 -S, R- 38 -E

ELEVATION: 3625.3' GL DF 3639.7' KB

TD: 4319' PBSD: 4319'

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
26"	14"	--	40'	5 yd. Redi-Mix	Surface
12-1/4"	8-5/8"	24#	1555'	875 sx	Surface
7-7/8"	5-1/2"	15.5#	4319'	850 sx	Surface

PRODUCING INTERVAL: Grayburg - San Andres 4213'-4274'

(RE) COMPLETION DATE: December 27, 1874

CURRENT STATUS: Producing Oil Well

COMMENTS: Bottomhole location is 915' FNL x 940' FEL, Sec. 6,

T-19-S, R-38-E

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

NAM/ea
EPM1-B

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Amoco Production Company

WELL NAME: South Hobbs Unit No. 176

LOCATION: 1200' FNL x 213' FEL Sec. 6, T- 19 -S, R- 38 -E

ELEVATION: 3622' GL DF KB

TD: 4344' PBTD: 4320'

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
26"	14"	---	40'	5 yd + 8 sx	surface
12-1/4"	8-5/8"	24#	1569'	875 sx	surface
7-7/8"	5-1/2"	15.5#	4344'	750 sx	surface

PRODUCING INTERVAL: Grayburg - San Andres 4181' - 4286'

(RE) COMPLETION DATE: January 25, 1985

CURRENT STATUS: Producing Oil Well

COMMENTS: Bottomhole location is 1150' FNL x 125' FWL, Sec. 5, T-19-S,
R-38-E

* 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: Apollo Energy, Inc.

WELL NAME: Fowler "B" No. 1

LOCATION: 2310 FSL x 2317 FWL, Sec. 6, T-19-S, R-38-E

ELEVATION: 3622' GL 3632' DF _____ KB

TD: 4303' PBSD: 4291'

CASING DATA					
<u>Hole Size</u>	<u>Size</u>	<u>Wt</u>	<u>Depth</u>	<u>Amt of Cmt</u>	<u>Toc</u>
11"	8-5/8"	24	363	200	Circ
7-7/8"	5-1/2"	14	4303	1000	Circ

PRODUCING INTERVAL: Grayburg-San Andres 4160-4259

COMPLETION DATE: June 26, 1983

CURRENT STATUS: Producing Oil Well

COMMENTS:

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Cities Service Company

WELL NAME: Fowler "B" No. 1

LOCATION: 2310 FSL x 2290 FWL, Sec. 6, T-19-S, R-38-E

ELEVATION: _____ GL _____ DF 3629' KB

TD: 4250' PBD: 4249'

CASING DATA					
<u>Hole Size</u>	<u>Size</u>	<u>Wt</u>	<u>Depth</u>	<u>Amt of Cmt</u>	<u>Toc</u>
12-1/4"	8-5/8"	24	1642	736	NA
7-7/8"	5-1/2"	14	4241	150	NA

PRODUCING INTERVAL: Grayburg-San Andres 4202-4188

COMPLETION DATE: February 15, 1959

CURRENT STATUS: PxA Oil Well

COMMENTS: PxA procedure:

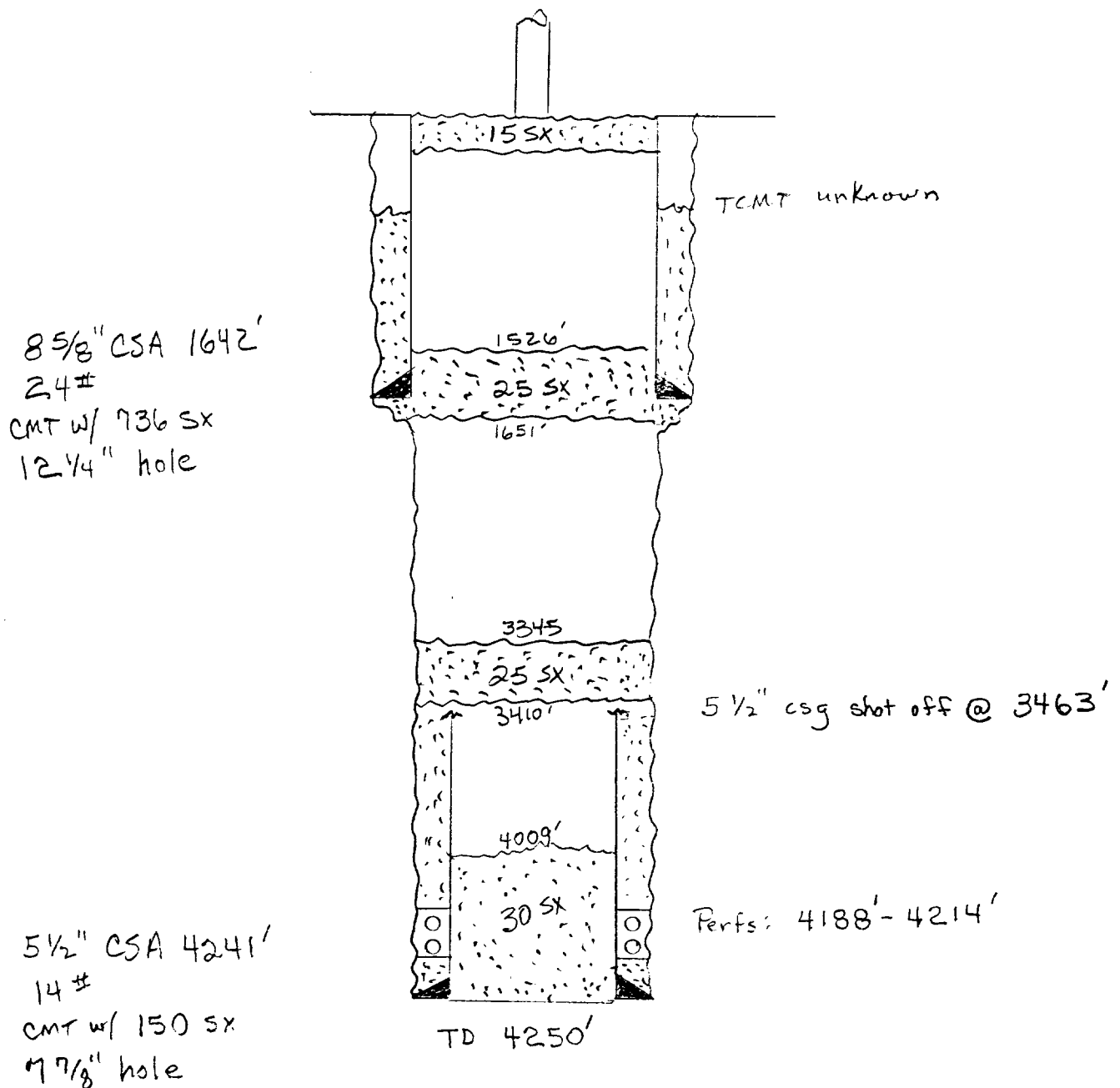
1. The hole was loaded w/approximately 200 bbls of 10# mud.
2. 30 sx cmt plug @ 4249-4009'. Csg was perf from 4188-4214.
3. Shot off 5-1/2 csg. Recovered 3463. Ran 25 sx plug from 3410-3345.
4. 25 sx plug 1651-1526.
5. 15 sx plug x install PxA marker.

Cities Service Company
Fowler "B" No. 1

date: 9-18-85
by: A.J. AKIN

Location: 2310' FSL X 2290' FWL
Sec 6, T-19-S, R-38-E
Lea County, NM

Elevation: 3629' K.B.



PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Amoco Production Company

WELL NAME: South Hobbs Unit No. 177

LOCATION: 592' FNL x 416' FWL Sec. 5, T- 19 -S, R- 38 -E

ELEVATION: 3621.8 GL DF 3636.22 KB

TD: 4330' PBSD: 4216'

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
26"	14"	--	40'	4 yd	surface
12-1/4"	8-5/8"	24#	1475'	875 sx	surface
7-7/8"	5-1/2"	15.5#	4330'		

PRODUCING INTERVAL: Grayburg - San Andres 4123' - 4276'

(RE) COMPLETION DATE: January 4, 1984

CURRENT STATUS: Producing Oil Well

COMMENTS: Bottomhole location is 660' FNL x 710' FWL. Sec, 5, T-19-S,
R-38-E

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

NAM/ea
EPRM1-B

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Amoco Production Company

WELL NAME: South Hobbs Unit No. 178

LOCATION: 862' FNL x 1745' FWL Sec. 5, T- 19 -S, R- 38 -E

ELEVATION: 3624.3' GL DF 3538.3' KB

TD: 4299' PBTD: 4290'

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
26"	14"	--	40'	4.5 yd	surface
12-1/4"	8-5/8"	24#	1486'	825 sx	surface
7-7/8"	5-1/2"	15.5#	4299'	1465 sx	surface

PRODUCING INTERVAL: Grayburg - San Andres 4116' - 4253'

(RE) COMPLETION DATE: December 27, 1984

CURRENT STATUS: Producing Oil Well

COMMENTS: Bottomhole location is 727' FNL x 1834' FWL, Sec. 5, T-19-S,
R-38-E

* 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 Co.

WELL NAME: South Hobbs Unit No. 179

LOCATION: 1488' FNL x 2490' FWL Sec. 5, T- 19 -S, R- 38 -E

ELEVATION: 3622.3' GL DF 3636.3' KB

TD: 4316' PBD: 4207'

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
26"	14"	--	40'	6.5 yd	surface
12-1/4"	8-5/8"	24#	1490'	875 sx	surface
7-7/8"	5-1/2"	15.5#	4316'	1400 sx	surface

PRODUCING INTERVAL: Grayburg - San Andres 4106' - 4109'

(RE) COMPLETION DATE: January 4, 1985

CURRENT STATUS: Producing Oil Well

COMMENTS: Bottomhole location is 1333' FNL x 2503' FWL, Sec. 5, T-19-S,
R-38-E

* 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 Co.

WELL NAME: South Hobbs Unit No. 183

LOCATION: 2540' FNL x 1423' FWL Sec. 5, T- 19 -S, R- 38 -E

ELEVATION: 3622.3' GL DF 3636.7' KB

TD: 4313' PBTD: 4313'

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
20"	14"	---	40'	2.5 yd	surface
12-1/4"	8-5/8"	24#	1516'	875 sx	surface
7-7/8"	5-1/2"	15.5#	4312'	900 sx	surface

PRODUCING INTERVAL: Grayburg - San Andres 4166' - 4264'

(RE) COMPLETION DATE: November 19, 1984

CURRENT STATUS: Producing Oil Well

COMMENTS: Bottomhole location is 2650' FNL x 1342' FWL, Sec. 5,

T-19-S, R-38-E

* 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 Co.

WELL NAME: South Hobbs Unit No. 184

LOCATION: 1766' FNL x 2488' FWL Sec. 5, T- 19 -S, R- 38 -E

ELEVATION: 3618.9 GL DF KB

TD: 4465' PBTD: 4465'

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
26"	14"	--	40'	4.5 yd + 8 sx	surface
12-1/4"	8-5/8"	24#	1498'	981 sx	surface
7-7/8"	5-1/2"	15.5#	4324'	1100 sx	surface

PRODUCING INTERVAL: Grayburg - San Andres 4257'-4352'

(RE) COMPLETION DATE: February 18, 1985

CURRENT STATUS: Producing Oil Well

COMMENTS: Bottomhole location is 2630' FNL x 2630' FWL, Sec. 5,
T-19-S, R-38-E

* 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 Co.

WELL NAME: South Hobbs Unit No. 185

LOCATION: 2564' FNL x 1200' FEL Sec. 5, T- 19 -S, R- 38 -E

ELEVATION: 3613.4 GL DF KB

TD: 4324 PBTD: 4324

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
26"	14"	--	39'	4.5 yd + 8 sx	surface
12-1/4"	8-5/8"	24#	1498'	981 sx	surface
7-7/8"	5-1/2"	15.5#	4324'	1400 sx	535'

PRODUCING INTERVAL: Grayburg - San Andres 4134'-4234'

(RE) COMPLETION DATE: February 20, 1985

CURRENT STATUS: Producing Oil Well

COMMENTS: Bottomhole location is 2630' FNL x 1310' FEL, Sec. 5,
T-19-S, R-38-E

* 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: South Hobbs Unit No. 187

LOCATION: 1980' FSL x 1980' FEL Sec. 5, T- 19 -S, R- 38 -E

ELEVATION: 3615' GL DF 3625' KB

TD: 4207' PBTD: 4206'

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
---	15-1/2"	70#	189'	250 sx	surface
---	9-5/8"	40#	2779'	600 sx	surface
---	7"	24#	3918'	300 sx	515'
---	4-1/2"	9.5#	4207'	160 sx	surface

PRODUCING INTERVAL: Grayburg - San Andres 4128' - 4203'

(RE) COMPLETION DATE: July 12, 1945

CURRENT STATUS: Water Injection Well

COMMENTS: Well converted to injection April 22, 1985

* 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 Co.

WELL NAME: South Hobbs Unit No. 188

LOCATION: 1493' FSL x 1802' FWL Sec. 5, T- 19 -S, R- 38 -E

ELEVATION: 3616' GL DF 3627' KB

TD: 4325' PBSD: 4300'

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
26"	14"	--	40'	4 yd.	surface
12-1/4"	8-5/8"	24#	1583'	875 sx	surface
7-7/8"	5-1/2"	15.5#	4325'	1000 sx	375'

PRODUCING INTERVAL: Grayburg - San Andres 4004-4266'

(RE) COMPLETION DATE: January 22, 1985

CURRENT STATUS: Producing Oil Well

COMMENTS: Bottomhole location is 1467' FSL x 1518' FWL, Sec. 5,

T-19-S, R-38-E

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

NAM/ea
EPRM1-B

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Amoco Production Co.

WELL NAME: South Hobbs Unit No. 189

LOCATION: 1685' FSL x 2475' FEL Sec. 5, T- 19 -S, R- 38 -E

ELEVATION: 3614.8' GL DF 3629' KB

TD: 4315' PBTD: 4300'

CASING DATA

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
26"	14"	---	40'	5 yd + 8 sx	surface
12-1/4"	8-5/8"	24#	1529'	875 sx	surface
7-7/8"	5-1/2"	15.5#	4311'	2060 sx	surface

PRODUCING INTERVAL: Grayburg - San Andres 4155'-4228'

(RE) COMPLETION DATE: March 12, 1985

CURRENT STATUS: Producing Oil Wells

COMMENTS: Bottomhole location is 1485' FSL x 2475' FEL, Sec. 5,

T-19-S, R-38-E

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

NAM/ea
EPERM1-B

OPERATOR: Amoco Production Co.

WELL NAME: South Hobbs Unit No. 190

LOCATION: 1568' FSL x 1105' FEL Sec. 5 , T- 19 -S, R- 38 -E

ELEVATION: 3610.7' GL DF KB

TD: 4300' PBTD: 4275'

HOLE SIZE	SIZE	WT	DEPTH	AMT. OF CMT.	TOC
26"	14"	---	40'	4.25 + 8 sx	surface
12-1/4"	8-5/8"	24#	1502'	875	surface
7-7/8"	5-1/2"	15.5#	4300'	1200 sx	surface

PRODUCING INTERVAL: Grayburg - San Andres 4092'-4224'

(RE) COMPLETION DATE: January 25, 1985

CURRENT STATUS: Producing Oil Well

COMMENTS:

NAM/ea
EPRM1-B

OPERATOR: Amoco Production Co.

WELL NAME: South Hobbs Unit No. 194

LOCATION: 330' FSL x 2310' FEL Sec. 5, T- 19 -S, R- 38 -E

ELEVATION: 3613.9' GL DF 3624.9' KB

TD: 4300' PBD: 4275'

HOLE SIZE	SIZE	WT	DEPTH	AMT. OF CMT.	TOC
26"	14"	---	40'	5 yd	surface
12-1/4"	8-5/8"	24#	1550'	875 sx	surface
7-7/8"	5-1/2"	15.5#	4300'	1000 sx	surface

COMMENTS:

NAM/ea
EPRM1-B

OPERATOR: Amoco Production Co.

WELL NAME: South Hobbs Unit No. 195

LOCATION: 330' FSL x 990' FEL Sec. 5, T- 19 -S, R- 38 -E

ELEVATION: 3605.4 GL DF 3616.4' KB

TD: 4300' PBTD: 4285'

<u>HOLE SIZE</u>	<u>SIZE</u>	<u>WT</u>	<u>DEPTH</u>	<u>AMT. OF CMT.</u>	<u>TOC</u>
26"	14"	---	40'	2.5 yd	surface
12-1/4"	8-5/8"	24#	1550'	875 sx	surface
7-7/8"	5-1/2"	15.5#	4300'	950 sx	surface

PRODUCING INTERVAL: Grayburg - San Andres 4124'-4234'

(RE) COMPLETION DATE: November 30, 1984

CURRENT STATUS: Producing Oil Well

COMMENTS:

NAM/ea
EPRM1-B

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Texaco, Inc.

WELL NAME: H. D. McKinley No. 2

LOCATION: 1980 FSL x 660 FWL, Sec. 5, T-19-S, R-38-E

ELEVATION: _____ GL 3611' DF _____ KB

TD: 4175' PBTD: 3198'

CASING DATA					
<u>Hole Size</u>	<u>Size</u>	<u>Wt</u>	<u>Depth</u>	<u>Amt of Cmt</u>	<u>Toc</u>
NA	12-1/2"	50	210	175	NA
NA	9"	34	2795	600	NA
NA	7"	24	3956	200	NA

PRODUCING INTERVAL: Bowers 3167-3197

COMPLETION DATE: May 31, 1955

CURRENT STATUS: Producing Oil Well

COMMENTS:

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Conoco

WELL NAME: State A-5 No. 2

LOCATION: 990 FSL x 1650 FEL, Sec. 5, T-19-S, R-38-E

ELEVATION: _____ GL 3617' DF _____ KB

TD: 4283' PBTD: 4252'

CASING DATA					
<u>Hole Size</u>	<u>Size</u>	<u>Wt</u>	<u>Depth</u>	<u>Amt of Cmt</u>	<u>Toc</u>
NA	10-3/4"	NA	350	300	NA
NA	5-1/2"	NA	4282	650	NA

PRODUCING INTERVAL: Grayburg-San Andres 4030-4216

COMPLETION DATE: September 30, 1948

CURRENT STATUS: PxA Oil Well

COMMENTS: PxA Procedure: 1) PSA 3856 x pmp 137 sx cmt
2) Cmt ret sa 995 x pmp 100 sx cmt
3) 20' surface plug

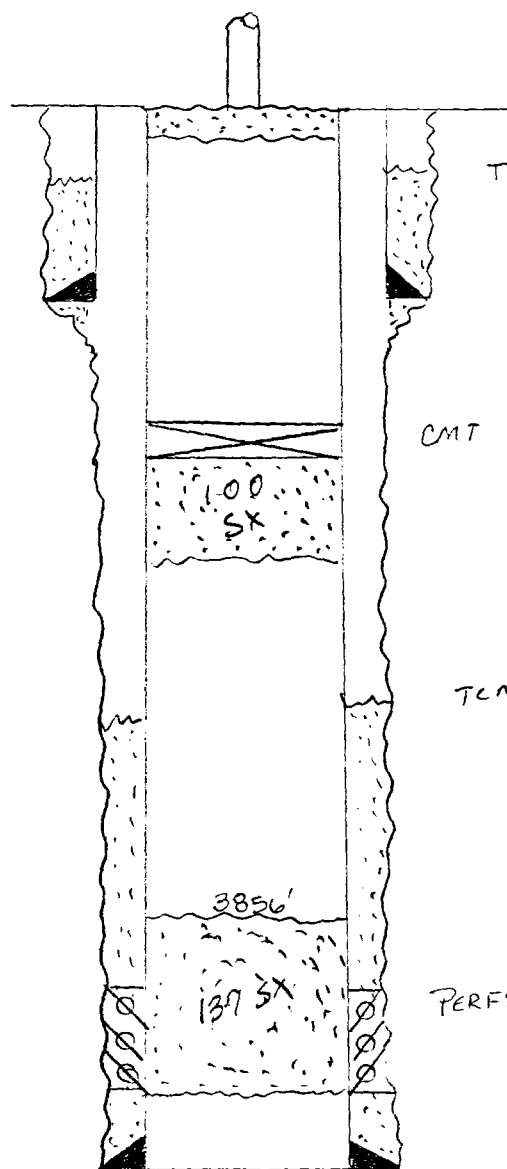
CONOCO
State A-5 No. 2

date: 9-18-85
by: AJ Akin

Location: 990' FSL X 1650' FEL
Sec 5, T-19-S, R-38-E
Lea County, NM

Elevation: 3617' D.F.

10 $\frac{3}{4}$ " CSA 350'
CMT w/ 300 SX



TCMT unknown

CMT RET SA 995'

TCMT unknown

PERFS: 4030'-4216'

5 1/2" CSA 4282'
CMT w/ 650 SX

TD 4283'

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR: Getty Oil Company

WELL NAME: Mexico "U" No. 2

LOCATION: 1650 FNL x 1650 FEL, Sec. 8, T-19-S, R-38-E

ELEVATION: _____ GL 3610' DF _____ KB

TD: 4164' PBD: _____

CASING DATA					
<u>Hole Size</u>	<u>Size</u>	<u>Wt</u>	<u>Depth</u>	<u>Amt of Cmt</u>	<u>loc</u>
12-1/4"	8-5/8"	32	421	225	Circ
7-7/8"	5-1/2"	14	4111	300	NA

PRODUCING INTERVAL: Grayburg-San Andres 4079-4164

COMPLETION DATE: March 3, 1959

CURRENT STATUS: Producing Oil Well

COMMENTS:

NAM/ea
EPRM1-B

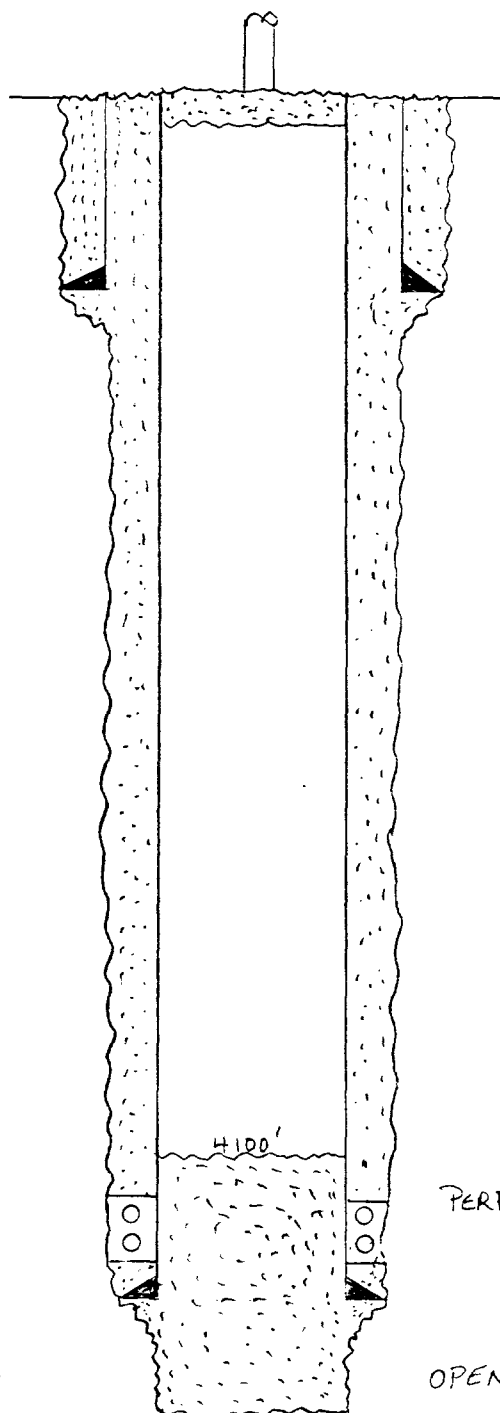
Gulf Oil Company
H.T. Orcutt NCT "G" No. 1

date: 9-18-85
BY: A.J. Akin

LOCATION: SE 1/4, NW 1/4, Sec 8, T-19-S, R-38-E

ELEVATION: 3613' G.L.

8 5/8" CSA 326'
14 #
CMT w/ 310 SX x circ
12 1/4" hole



4 1/2" CSA 4175'
9.5 #
CMT w/ 950 SX x circ
6 3/4" hole

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Woods Unit No. 21

LOCATION 330' FRL x 330' FRL Sec 6, T-19-S, R-38-E

ELEVATION GL 3629' OF KB

TD 4232' PBTD 4232'

CASING DATA					
Note Size	Size	WT	Depth	Am. of Cst	Loc
BA	12-1/4"	50#	214'	200 SB	BA
BA	9-5/8"	36#	2810'	500 SB	BA
BA	7"	26#	3968'	300 SB	BA
BA	4-1/2" (Lnr)	9.5#	4232'	80 SB	3795'-0

PRODUCING INTERVAL Grayburg-San Andres 4020'-4232'

COMPLETION DATE September 15, 1930

CURRENT STATUS Producing Oil Well Proposed conversion to injection well.

COMMENTS = Top of liner

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Woods Unit No. 27

LOCATION 380' FRL x 660' FRL Sec 5, T-19-S, R-38-E

ELEVATION 3618 GL 3629' OF KB

TD 4314' PBTD 4183'

CASING DATA					
Note Size	Size	WT	Depth	Am. of Cst	Loc
17"	17"	50#	213'	200 SB	Circ.
12-1/4"	9-5/8"	36#	2780'	500 SB	875'
9-3/4"	7"	26#	3999'	300 SB	Circ. =
6-1/4"	4-1/2" (Lnr) 9.5#	4180'	25 SB	3964'-0	

PRODUCING INTERVAL Grayburg-San Andres 3932'-4172'

COMPLETION DATE March 6, 1945

CURRENT STATUS Water Injection Well

COMMENTS = Calculated top of cement
= Top of cement following casing repair.
= Top of liner.

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Woods Unit No. 22

LOCATION 330' FRL x 330' FRL Sec 5, T-19-S, R-38-E

ELEVATION GL 3629' OF KB

TD 4235' PBTD 4235'

CASING DATA					
Note Size	Size	WT	Depth	Am. of Cst	Loc
BA	16"	70#	185'	75 SB	BA
BA	10-3/4"	45.5#	2782'	350 SB	BA
BA	8-5/8"	26#	3977'	150 SB	BA
BA	4" (Lnr)	11.32#	4229'	50 SB	3974'-0

PRODUCING INTERVAL Grayburg-San Andres 4100'-4232'

COMPLETION DATE October 7, 1930

CURRENT STATUS Producing Oil Well

COMMENTS = Top of liner

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Woods Unit No. 28

LOCATION 380' FRL x 380' FRL Sec 5, T-19-S, R-38-E

ELEVATION GL 3624' OF KB

TD 4226' PBTD 4175'

CASING DATA					
Note Size	Size	WT	Depth	Am. of Cst	Loc
BA	13"	50#	212'	150 SB	BA
BA	9-5/8"	40#	2782'	300 SB	BA
BA	8-5/8"	26#	3953'	150 SB	Circ. =
BA	4-1/2" (Lnr) 9.5#	4183'	150 SB	3854'-0	

PRODUCING INTERVAL Grayburg-San Andres 3964'-4174'

COMPLETION DATE October 29, 1930

CURRENT STATUS Producing Oil Well

COMMENTS = Top of cement following casing repair.
= Top of liner.

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Woods Unit No. 23

LOCATION 330' FRL x 2360' FRL Sec 5, T-19-S, R-38-E

ELEVATION GL 3628' OF KB

TD 4230' PBTD 4230'

CASING DATA					
Note Size	Size	WT	Depth	Am. of Cst	Loc
BA	16"	70#	187'	85 SB	BA
BA	10-3/4"	45.5#	2749'	300 SB	BA
BA	8-5/8"	26#	3970'	150 SB	BA
BA	5"	15#	4190'	650 SB	BA

PRODUCING INTERVAL Grayburg-San Andres 4058'-4230'

COMPLETION DATE November 3, 1930

CURRENT STATUS Producing Oil Well - Proposed conversion to injection well.

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Woods Unit No. 29

LOCATION 380' FRL x 380' FRL Sec 5, T-19-S, R-38-E

ELEVATION 3609 GL 3625' OF KB

TD 4220' PBTD 4220'

CASING DATA					
Note Size	Size	WT	Depth	Am. of Cst	Loc
15"	13"	50#	175'	175 SB	Circ.
12-1/4"	9-5/8"	40#	2764'	500 SB	835'-0
8-7/8"	7"	26#	3912'	230 SB	Circ. =
6-1/4"	4-1/2" (Lnr) 9.5#	4200'	325 SB	BA	

PRODUCING INTERVAL Grayburg-San Andres 4105'-4220'

COMPLETION DATE December 14, 1930

CURRENT STATUS Producing Oil Well

COMMENTS = Calculated top of cement
= Top of cement following casing repair

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Woods Unit No. 25

LOCATION 3650' FRL x 2310' FRL Sec 6, T-19-S, R-38-E

ELEVATION GL 3648' OF KB

TD 4322' PBTD 4200'

CASING DATA					
Note Size	Size	WT	Depth	Am. of Cst	Loc
13"	8-5/8"	26#	300'	200 SB	Circ.
7-7/8"	5-1/2"	14#	4322'	1780 SB	950'

PRODUCING INTERVAL Grayburg-San Andres 4108'-4186'
PLA 4210'-54'

COMPLETION DATE March 6, 1957

CURRENT STATUS Producing Oil Well

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Woods Unit No. 40

LOCATION 380' FRL x 380' FRL Sec 5, T-19-S, R-38-E

ELEVATION GL 3679' OF KB

TD 4242' PBTD 4242'

CASING DATA					
Note Size	Size	WT	Depth	Am. of Cst	Loc
BA	16"	70#	192'	100 SB	BA
BA	10-3/4"	45.5#	2784'	300 SB	BA
BA	8-5/8"	26#	3980'	150 SB	BA
BA	4-1/2" (Lnr) 9.5#	4200'	120 SB	BA	

PRODUCING INTERVAL Grayburg-San Andres 3923'-4242'

COMPLETION DATE January 28, 1932

CURRENT STATUS Producing Oil Well

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Hobbs Unit No. 43

LOCATION 2310' FSL x 660' FEL Sec 5, T-19-S, R-30-E

ELEVATION GL 3622' DF KB

TD 4232' PBTD 4232'

Pipe Size	Size	WT	CASING DATA		Amt. of Cat.	Loc.
			Depth			
13-3/4"	10-3/4"	330	419'		250 SB	Circ *
8-1/4"	4-1/2"	9.50	4086'		200 SB	BA

PRODUCING INTERVAL Grayburg-San Andres 3942'-4232'

COMPLETION DATE September 22, 1964

CURRENT STATUS Producing Oil Well

COMMENTS * Calculated Top of cement.

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Hobbs Unit No. 52

LOCATION 330' FSL x 330' FEL Sec 5, T-19-S, R-30-E

ELEVATION GL 3613' DF KB

TD 4290' PBTD 4235'

Pipe Size	Size	WT	CASING DATA		Amt. of Cat.	Loc.
			Depth			
13-1/2"	13-3/8"	32	40-54 SB	259	200 SB	Circ.
7-7/8"	8-1/2"	15.50	4109'		150 SB	BA
4-3/4"	2-7/8" (Lnr)	6.50	4290'		50 SB	3645' **

PRODUCING INTERVAL Grayburg-San Andres 4100'-4230'

COMPLETION DATE March 28, 1964

CURRENT STATUS Producing Oil Well

COMMENTS * Calculated Top of cement
** Top of liner

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Hobbs Unit No. 63

LOCATION 330' FSL x 330' FEL Sec 5, T-19-S, R-30-E

ELEVATION GL 3610' DF KB

TD 4270' PBTD 4270'

Pipe Size	Size	WT	CASING DATA		Amt. of Cat.	Loc.
			Depth			
11"	8-5/8"	320	1590'		300 SB	BA
7-7/8"	5-1/2"	140	4195'		600 SB	2595'

PRODUCING INTERVAL Grayburg-San Andres 3992'-4270'

COMPLETION DATE March 5, 1967

CURRENT STATUS Producing Oil Well

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Hobbs Unit No. 70

LOCATION 1650 FSL x 990' FEL Sec 8, T-19-S, R-30-E

ELEVATION 3610' GL DF 3670 KB

TD 4145' PBTD 4132'

Pipe Size	Size	WT	CASING DATA		Amt. of Cat.	Loc.
			Depth			
BA	8-5/8"	300	331'		225 SB	Circ
BA	5-1/2"	15.50	4124'		125 SB	BA

PRODUCING INTERVAL Grayburg-San Andres 4065'-4145'

COMPLETION DATE September 10, 1964

CURRENT STATUS Producing Oil Well

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Hobbs Unit No. 84

LOCATION 1995' FSL x 660' FEL Sec 9, T-19-S, R-30-E

ELEVATION GL 3597' DF KB

TD 4215' PBTD 4215'

Pipe Size	Size	WT	CASING DATA		Amt. of Cat.	Loc.
			Depth			
BA	16"	700	1961'		100 SB	BA
BA	10-3/4"	420	2543'		75 SB	BA
BA	8-5/8"	360	4032'		150 SB	BA
BA	5-1/2"	140	4174'		550 SB	Circ

PRODUCING INTERVAL Grayburg-San Andres 4174'-4215'

COMPLETION DATE August 29, 1932

CURRENT STATUS Water Injection Well

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Hobbs Unit No. 120

LOCATION 1272' FSL x 1470' FSL Sec 5, T-19-S, R-30-E

ELEVATION GL DF 3632' KB

TD 4270' PBTD 4204'

Pipe Size	Size	WT	CASING DATA		Amt. of Cat.	Loc.
			Depth			
15"	11-3/4"	420	1510'		850 SB	Circ
11"	8-5/8"	240 & 320	3873'		950 SB	Circ
7-7/8"	5-1/2" (Lnr)	140	4270'		82 SB	3664' *

PRODUCING INTERVAL Grayburg-San Andres 4063'-4240'

COMPLETION DATE August 7, 1979

CURRENT STATUS Shut-in oil well

COMMENTS * Top of liner.

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Amoco Production Company

WELL NAME South Hobbs Unit No. 123

LOCATION 2390' FSL x 150' FEL Sec 6, T-19-S, R-30-E

ELEVATION 3620' GL DF 3631' KB

TD 4296' PBTD 4290'

Pipe Size	Size	WT	CASING DATA		Amt. of Cat.	Loc.
			Depth			
15"	11-3/4"	420	1433'		750 SB	Circ
11"	8-5/8"	240 & 320	3907'		1600 SB	Circ
7-3/4"	5-1/2" (Lnr)	140	4294'		125 SB	3669' *

PRODUCING INTERVAL Grayburg-San Andres 3956'-4250'

COMPLETION DATE January 15, 1980

CURRENT STATUS Producing Oil Well

COMMENTS * Top of liner.

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR Getty Oil Company (formerly Shell)

WELL NAME Mexico "U" #2

LOCATION 330' FSL x 1650' FEL (b) Sec 8, T-19-S, R-30-E

ELEVATION 3616' GL DF KB

TD 4075' PBTD

Pipe Size	Size	WT	CASING DATA		Amt. of Cat.	Loc.
			Depth			
11"	8-5/8"	240	1590'		600 SB	BA
7-7/8"	5-1/2"	140	3983'		300 SB	BA

PRODUCING INTERVAL Grayburg-San Andres, Open hole 3837'-4075'

COMPLETION DATE December 18, 1969

CURRENT STATUS Producing

COMMENTS * Top not reported, but volume of cement was sufficient to circulate

PERTINENT DATA FOR WELLS
WITHIN AREA OF REVIEW

OPERATOR John R. Kelly

WELL NAME Ohio State #1

LOCATION 330' Fm. x 330' Fm. (A) Sec 7, T-18-S, R-36-E

ELEVATION 2628' GL _____ BF _____ KB

TD 4272' PSTD _____

CASING DATA					
Wt. Sigs	Size	WT	Depth	Wt. of Csg	Loc
12-1/4"	8-5/8"	200	300'	200 lb	Circ
7-7/8"	6-1/2"	140	4250'	400 lb	Unknown

PRODUCING INTERVAL Grayburg-San Andres 4248'-4249'

COMPLETION DATE November 25, 1957

CURRENT STATUS P&A - Procedure (1) 25 lb Csg plug @ 4200'
(2) 5-1/2" Csg plug @ 3320' & pulled
(3) 25 lb Csg plug @ _____
(a) 3350' (b) 3650' (c) 3800'
(4) 10' Csg plug @ surface.

ITEM VII
PROPOSED OPERATIONS

Grayburg Injection Wells:

Average Injection Rate:	200 BWP
Average Injection Pressure:	600 psi
Maximum Injection Rate:	2500 BWP
Maximum Injection Pressure:	In accordance with Rule 11 of Order No. R-4934-E

San Andres Injection Wells:

Average Injection Rate:	1000 BWP
Average Injection Pressure:	100 psi
Maximum Injection Rate:	2500 BWP
Maximum Injection Pressure:	In accordance with Rule 11 of Order No. R-4934-E

The system is closed with only South Hobbs Unit produced water and City of Hobbs makeup water being injected.

Water injected is compatible with the receiving formation. Water analysis sheets for the South Hobbs Unit produced water and the City of Hobbs makeup water are attached.



WATER ANALYSIS REPORT

Company: AMOCO PRODUCTION CO.
County: Lea
State: New Mexico
Lease: S.H.U.
Lab No.: 10251

Date Typed: 8-27-85

Date Sampled: 8-19-85
Sampled By: H. Smith
Sample Source: 5000 Inlet (SHA Produced WTR.)

DISSOLVED SOLIDS CATIONS

	mg/l	me/l
Sodium, Na(calc.)	2,609	113
Calcium, Ca	419	21
Magnesium, Mg	111	10
Potassium, K	102	3
Iron, Soluble	0.40	0.02
Iron, Insoluble	0.13	< 0.01
Iron, Total	0.53	0.02
Manganese, Mn	0.00	0.00
Barium, Ba		
Strontium, Sr		

ANIONS

Chloride, Cl	3,720	105
Sulfate, SO ₄	640	13
Carbonate, CO ₃	0	0
Bicarbonate, HCO ₃	1,702	27

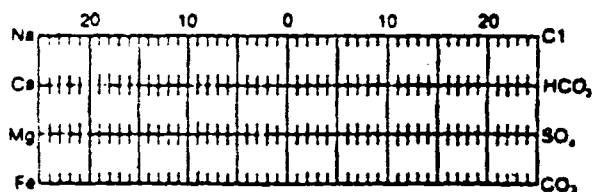
Total Dissolved Solids (calc.)
9,305

OTHER PROPERTIES

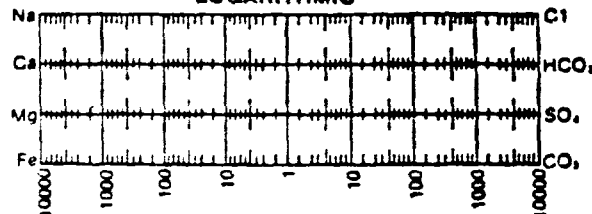
pH	7.6
Specific Gravity, 60/60 F.	1.006
Nonograph Sp. Gr.	1.004 - 1.008
Specific Gravity, Uncorrected	1.003
Temperature, (oF)	74.8
Resistivity, OHMS-CM	90 @ 74.8

WATER PATTERNS — me/l

STANDARD



LOGARITHMIC



STIFF & DAVIS STABILITY INDEX:

CO ₃ =	60°	100°	120°	180°
	+ 1.39	+ 1.87	+ 2.05	+ 2.82
SO ₄ =	55°	95°	122°	176°
	-25.35	-26.48	-26.66	-23.95

Remarks & Recommendations:

WELCHEM Representative

Pat Layton



WELCHEM, INC.
706 North Main
P.O. Box 5
Seminole, Texas 79360
915-758-5867

Date Received: 8-20-85
By: PL

WATER ANALYSIS REPORT

Company: AMOCO PRODUCTION CO.
County: Lea
State: New Mexico
Lease: S.H.U.
Lab No.: 10253

Date Typed: 8-27-85

Date Sampled: 8-19-85
Sampled By: H. Smith
Sample Source: City Water Supply

DISSOLVED SOLIDS CATIONS

	mg/l	me/l
Sodium, Na(calc.)	242	10
Calcium, Ca	91	4
Magnesium, Mg	16	1
Potassium, K	9	0.2
Iron, Soluble	0.31	0.01
Iron, Insoluble	0.41	0.01
Iron, Total	0.70	0.02
Manganese, Mn	0.00	0.00
Barium, Ba		
Strontium, Sr		

ANIONS

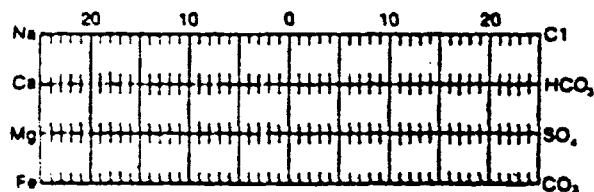
Chloride, Cl	360	10
Sulfate, SO ₄	118	2
Carbonate, CO ₃	0	0
Bicarbonate, HCO ₃	250	4

Total Dissolved Solids (calc.)
1,086

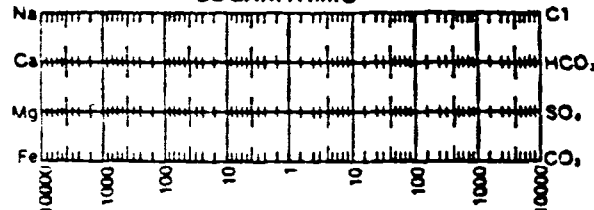
OTHER PROPERTIES

pH	7.8
Specific Gravity, 60/60 F.	1.001
Nonograph Sp. Gr.	0.998 - 1.002
Specific Gravity, Uncorrected	0.998
Temperature, (oF)	75.0
Resistivity, OHMS-CM	850 @ 75.0

WATER PATTERNS — me/l STANDARD



LOGARITHMIC



STIFF & DAVIS STABILITY INDEX.

CO ₃ =	60°	100°	120°	180°
	+ 0.59	+ 0.96	+ 1.13	+ 1.67
SO ₄ =	55°	95°	122°	176°
	-20.81	-22.82	-22.74	-19.60

Remarks & Recommendations:

WELCHEM Representative

Pat Layton

ITEM VIII
GEOLOGICAL DATA

The Grayburg Formation consists of a sandy dolomite with interbedded dolomite sands. It is approximately 100' thick with the top and bottom at $\pm 3950'$ and $\pm 4050'$ respectively.

The San Andres Formation consists of a clean crystalline dolomite. It lies directly below the Grayburg at $\pm 4050'$. The injection zone consists of the top 300' from $\pm 4050'$ to $\pm 4350'$.

The lower limit of potable water occurrence in this area is $\pm 1600'$ which is the top of the Rustler Anhydrite. The Ogallala Formation is the primary fresh water aquifer with a lower limit of $\pm 300'$.

ITEM IX

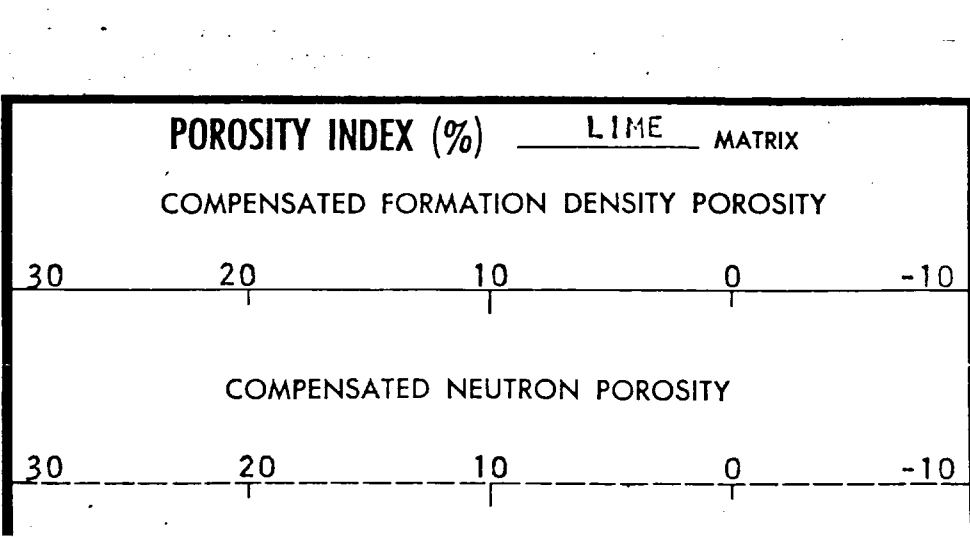
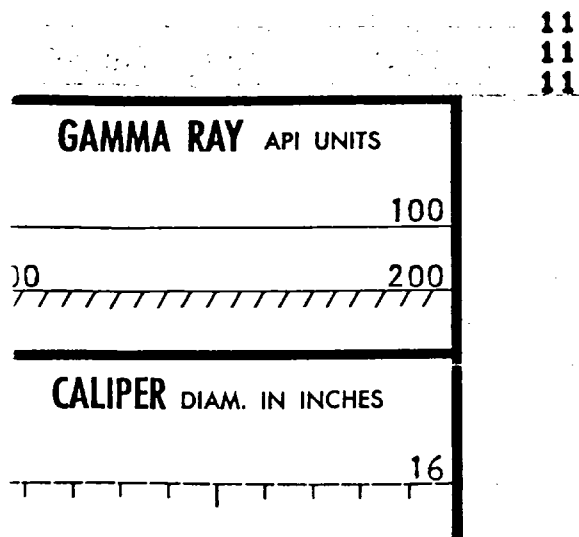
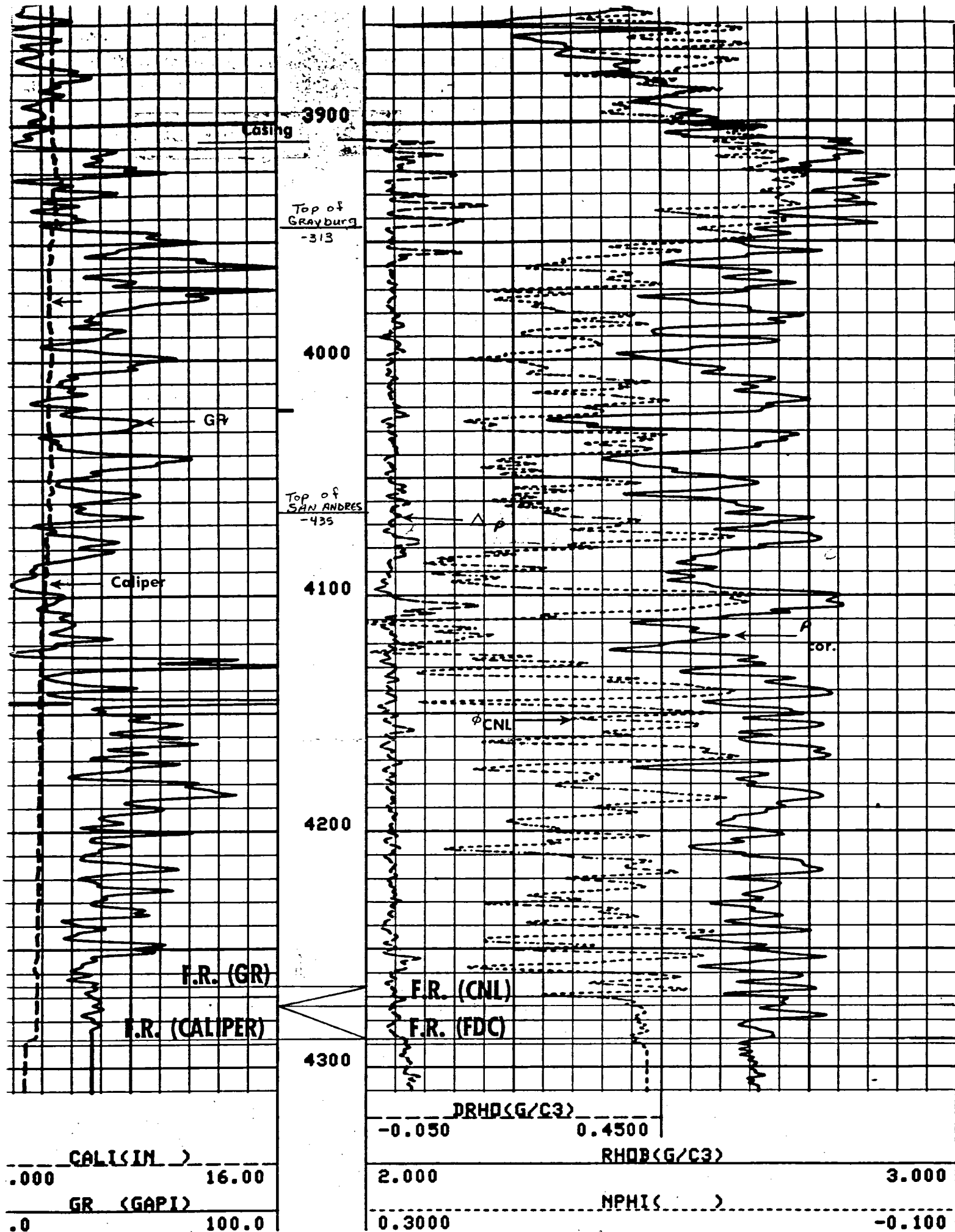
PROPOSED STIMULATION PROGRAM

Grayburg: Initial stimulation will consist of ± 4000 gallons of 15% HCl acid followed by a $\pm 15,000$ gallon fracture stimulation of gelled brine containing $\pm 25,000$ lbs. of sand.

San Andres: Initial stimulation will consist of ± 4000 gallons of 15% HCl acid.

ITEM X

LOG DATA



TYPICAL LOG SECTION : SOUTH HOBBS UNIT NO. 123

ITEM XI

FRESH WATER ANALYSIS

707 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : AMOCO PRODUCTION COMPANY

DATE : 09/20/85

FIELD, LEASE & WELL : OGALLALA

SAMPLING POINT: REV. WALTER ODEN

DATE SAMPLED : 09/20/85

3300 W. Carlsbad Hwy.
Sec 31, T-18-S, R-38-E
Lea County, New Mexico

± 50'-60' deep

SPECIFIC GRAVITY = 1

TOTAL DISSOLVED SOLIDS = 753

RESISTIVITY AT 80F IS 2.83 OHMS

FR = 2.95

ME/L

MG/L

CATIONS

CALCIUM	(CA)+2	4	80.1
MAGNESIUM	(MG)+2	1.4	29.1
SODIUM	(NA), CALC.	5.3	123.

ANIONS

BICARBONATE	(HCO3)-1	3.4	207.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	2.3	113.
CHLORIDES	(CL)-1	6	200

DISSOLVED GASES

CARBON DIOXIDE	(CO2)	NOT RUN
HYDROGEN SULFIDE	(H2S)	NOT RUN
OXYGEN	(O2)	NOT RUN

IRON (TOTAL)	(FE)	.3
BARIUM	(BA)+2	.2
MANGANESE	(MN)	NOT RUN

IONIC STRENGTH (MOLAL) = .016

SCALING INDEX

TEMP

30C

86F

CARBONATE INDEX	1.13
CALCIUM CARBONATE SCALING	LIKELY

CALCIUM SULFATE INDEX	-16.
CALCIUM SULFATE SCALING	UNLIKELY

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : AMOCO PRODUCTION COMPANY
DATE : 09/20/85
FIELD, LEASE & WELL : OGALLALA
SAMPLING POINT : COUNTRY CLUB HOUSE
DATE SAMPLED : 09/20/85

Sec 1, T-19-S, R-37-E
Lea County, New Mexico

SPECIFIC GRAVITY = 1
TOTAL DISSOLVED SOLIDS = 1502
RESISTIVITY AT 80F IS 4.68 OHMS
PH = 6.46

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	7.3	146.
MAGNESIUM	(MG)+2	4.6	56.7
SODIUM	(NA), CALC.	10.4	239.

		ME/L	MG/L
ANIONS			
BICARBONATE	(HCO3)-1	6.4	390.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	7.0	337.
CHLORIDES	(CL)-1	9	331

DISSOLVED GASES		
CARBON DIOXIDE	(CO2)	NOT RUN
HYDROGEN SULFIDE	(H2S)	NOT RUN
OXYGEN	(O2)	NOT RUN

IRON(TOTAL)	(FE)		.5
BARIUM	(BA)+2	0	.2
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = .032

SCALING INDEX

TEMP

	30C
	86F
CARBONATE INDEX	.414
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	-12.
CALCIUM SULFATE SCALING	UNLIKELY

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : AMOCO PRODUCTION COMPANY

DATE : 09/20/85

FIELD, LEASE & WELL : OGALLALA

SAMPLING POINT: EUNICE WATER

DATE SAMPLED : 09/20/85

*NW 1/4 of NW 1/4
Sec 7, T-19-S, R-38-E
Lea County, New Mexico*

SPECIFIC GRAVITY = 1

TOTAL DISSOLVED SOLIDS = 523

RESISTIVITY AT 80F IS 14 OHM CM

PH = 7.23

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	2.4	48.1
MAGNESIUM	(MG)+2	1.4	17.0
SODIUM	(NA)+, CALC.	3.9	91.7

		ME/L	MG/L
ANIONS			
BICARBONATE	(HCO3)-1	3.2	195.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	1.5	76.2
CHLORIDES	(CL)-1	3	100

		ME/L	MG/L
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	

IRON(TOTAL)	(FE)		2.5
BARIUM	(BA)+2	0	.1
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = .01

SCALING INDEX	TEMP
	30C
	86F
CARBONATE INDEX	1.68
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	-18.
CALCIUM SULFATE SCALING	UNLIKELY

UNICHEM INTERNATIONAL

707 NORTH LEECH

P.O.BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : AMOCO PRODUCTION COMPANY

DATE : 09/20/85

FIELD, LEASE & WELL : OGALLALA

SAMPLING POINT: WINDMILL

DATE SAMPLED : 09/20/85

NE 1/4 of SE 1/4

Sec 8, T-19-S, R-38E

Lea County, New Mexico

SPECIFIC GRAVITY = 1

TOTAL DISSOLVED SOLIDS = 653

RESISTIVITY AT 80F IS 11.9 OHMS

CM = 7

		ME/L	MG/L
CATIONS			
CALCIUM	(CA) ⁺⁺	3	60.1
MAGNESIUM	(MG) ⁺⁺	2.4	29.1
SODIUM	(NA), CALC.	3.7	87.1

		ME/L	MG/L
ANIONS			
BICARBONATE	(HCO ₃) ⁻¹	4.6	280.
CARBONATE	(CO ₃) ⁻²	0	0
HYDROXIDE	(OH) ⁻¹	0	0
SULFATE	(SO ₄) ⁻²	1.5	76.2
CHLORIDES	(CL) ⁻¹	3	120

DISSOLVED GASES		
CARBON DIOXIDE	(CO ₂)	NOT RUN
HYDROGEN SULFIDE	(H ₂ S)	NOT RUN
OXYGEN	(O ₂)	NOT RUN

IRON (TOTAL)	(FE)	.3
BARIUM	(BA) ⁺⁺	.2
MANGANESE	(MN)	NOT RUN

ONIC STRENGTH (MILLAL) = .013

SCALING INDEX

TEMP

300

86F

CARBONATE INDEX

1.44

CALCIUM CARBONATE SCALING

LIKELY

CALCIUM SULFATE INDEX

-17.

CALCIUM SULFATE SCALING

UNLIKELY

UNICHEM INTERNATIONAL

601 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : AMOCO

DATE : 8-24-84

FIELD LEASE & WELL : SOUTH HOBBS UNIT - IRVIN

SAMPLING POINT:

DATE SAMPLED : 8-23-84

2200' FNL X 2030' FEL, Sec 5, T-19-S, R-38-E
 ≈ 125' Deep

SPECIFIC GRAVITY = 1

TOTAL DISSOLVED SOLIDS = 831

PH = 7.25

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	5.2	104.
MAGNESIUM	(MG)+2	3.3	40.1
SODIUM	(NA).CALC.	4.1	96.0
ANIONS			
BICARBONATE	(HCO3)-1	4.6	280.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	2.0	100
CHLORIDES	(CL)-1	6	210
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		.2
BARIUM	(BA)+2	0	.09
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = .018

SCALING INDEX	TEMP
	30C
	86F
CARBONATE INDEX	1.54
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	-16.
CALCIUM SULFATE SCALING	UNLIKELY

UNICHEM INTERNATIONAL

601 NORTH LEECH

P.O. BOX 1499

HOBBS. NEW MEXICO 88240

COMPANY : AMOCO

DATE : 8-24-84

FIELD LEASE & WELL : SOUTH HOBBS UNIT - WALKER MACHINE

SAMPLING POINT:

DATE SAMPLED : 8-23-84

1330' FWL X 300' FWL, Sec 5, T-19-S, R-38-E
170' Deep

SPECIFIC GRAVITY = 1

TOTAL DISSOLVED SOLIDS = 604

PH = 7.16

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	3.2	64.1
MAGNESIUM	(MG)+2	4.3	52.2
SODIUM	(NA).CALC.	1.5	35.6
ANIONS			
BICARBONATE	(HCO3)-1	4.6	280.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	.45	21.4
CHLORIDES	(CL)-1	4	150
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		.06
BARIUM	(BA)+2	0	.04
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = .013

SCALING INDEX	TEMP
	30C
	86F
CARBONATE INDEX	1.61
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	-18.
CALCIUM SULFATE SCALING	UNLIKELY

UNICHEM INTERNATIONAL

601 NORTH LEECH

P.O. BOX 1499

HOBBS, NEW MEXICO 88240

COMPANY : AMOCO

DATE : 8-24-84

FIELD LEASE & WELL : SOUTH HOBBS UNIT - WINDMILL

SAMPLING POINT:

DATE SAMPLED : 8-23-84

850 FNL x 1450 FEL, Sec 6, T-19-S, R-38-E
 ~ 150' Deep

SPECIFIC GRAVITY = 1

TOTAL DISSOLVED SOLIDS = 711

PH = 7.23

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	4.4	88.1
MAGNESIUM	(MG)+2	.6	7.2
SODIUM	(NA).CALC.	5.8	135.
ANIONS			
BICARBONATE	(HCO3)--1	3.6	219.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)--1	0	0
SULFATE	(SO4)-2	1.2	61.5
CHLORIDES	(CL)-1	6	200
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	
IRON(TOTAL)	(FE)		.2
BARIUM	(BA)+2	0	.08
MANGANESE	(MN)	NOT RUN	

IONIC STRENGTH (MOLAL) = .014

SCALING INDEX	TEMP
	30C
	86F
CARBONATE INDEX	1.64
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	-17.
CALCIUM SULFATE SCALING	UNLIKELY

ITEM XII
AFFIRMATIVE STATEMENT

While evaluating the proposed wells for injection and gathering the required information for this application, no evidence of open faults or any other hydrologic connection between the proposed injection zones and any underground source of drinking water was found.

ITEM XIII

PROOF OF NOTICE

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

SEPTEMBER 30, 19 85

and ending with the issue dated

SEPTEMBER 30, 19 85

Robert L. Summers
Publisher.

Sworn and subscribed to before

me this 30 day of

September, 19 85

Dora 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

September 30, 1985

TO WHOM IT MAY CONCERN:

Amoco Production Company will on or before October 2, 1985, apply for administrative approval to drill four water injection wells and convert eight producing wells to water injection wells in our South Hobbs (GSA) Unit.

All proposed drilling locations and conversion wells are located in Sections 5, 6, and 8, Township 19-South, Range-38-East, Lea County, New Mexico.

The purpose of the work is to develop the westside of the South Hobbs Pressure Maintenance Project. Water will be injected into the Grayburg-San Andres Formation. Three of the wells proposed to be drilled will inject at an average rate of 1000 BWIPD. The eight conversion wells and one to be drilled well will inject at an average rate of 200 BWIPD. All 12 wells surface injection pressures will be limited to .2 psi per foot until step-rate tests are performed.

Any questions concerning this project may be directed to Mr. John M. Breeden, District Foreman, Amoco Production Company, P.O. Box 68, Hobbs, New Mexico 88240, 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

P 267 162 759
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO <i>Shell Western E&P, Inc.</i>	
STREET AND NO. <i>P.O. Box 991</i>	
P.O. STATE AND ZIP CODE <i>Houston, TX 77001</i>	
POSTAGE	<i>2.40</i>
CERTIFIED FEE	<i>.75</i>
SPECIAL DELIVERY	<i>.</i>
RESTRICTED DELIVERY	<i>.</i>
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
SHOW TO WHOM AND DATE DELIVERED	<i>.70</i>
SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	<i>.</i>
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	<i>.</i>
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	<i>.</i>
TOTAL POSTAGE AND FEES	<i>3.85</i>
POSTMARK OR DATE <i>OCT 1 1985</i>	

P 267 162 755
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO <i>D.A. Cochran</i>	
STREET AND NO. <i>P.O. Box 145</i>	
P.O. STATE AND ZIP CODE <i>Hobbs, NM 88240</i>	
POSTAGE	<i>2.40</i>
CERTIFIED FEE	<i>.75</i>
SPECIAL DELIVERY	<i>.</i>
RESTRICTED DELIVERY	<i>.</i>
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
SHOW TO WHOM AND DATE DELIVERED	<i>.70</i>
SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	<i>.</i>
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	<i>.</i>
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	<i>.</i>
TOTAL POSTAGE AND FEES	<i>3.85</i>
POSTMARK OR DATE <i>OCT 1 1985</i>	

P 267 162 760
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO <i>ARCO Oil & Gas Company</i>	
STREET AND NO. <i>P.O. Box 1610</i>	
P.O. STATE AND ZIP CODE <i>Midland, TX 79702</i>	
POSTAGE	<i>2.40</i>
CERTIFIED FEE	<i>.75</i>
SPECIAL DELIVERY	<i>.</i>
RESTRICTED DELIVERY	<i>.</i>
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
SHOW TO WHOM AND DATE DELIVERED	<i>.70</i>
SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	<i>.</i>
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	<i>.</i>
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	<i>.</i>
TOTAL POSTAGE AND FEES	<i>3.85</i>
POSTMARK OR DATE <i>OCT 1 1985</i>	

P 267 162 761
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO <i>Apollo Energy, Inc.</i>	
STREET AND NO. <i>P.O. Box 1757</i>	
P.O. STATE AND ZIP CODE <i>Hobbs, NM 88240</i>	
POSTAGE	<i>2.40</i>
CERTIFIED FEE	<i>.75</i>
SPECIAL DELIVERY	<i>.</i>
RESTRICTED DELIVERY	<i>.</i>
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
SHOW TO WHOM AND DATE DELIVERED	<i>.70</i>
SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	<i>.</i>
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	<i>.</i>
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	<i>.</i>
TOTAL POSTAGE AND FEES	<i>3.85</i>
POSTMARK OR DATE <i>OCT 1 1985</i>	

P 267 162 762
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO <i>Mobile Producing Tx & NM, Inc.</i>	
STREET AND NO. <i>Nine Greenway Plaza, Suite 2700</i>	
P.O. STATE AND ZIP CODE <i>Houston, TX 77046</i>	
POSTAGE	<i>2.40</i>
CERTIFIED FEE	<i>.75</i>
SPECIAL DELIVERY	<i>.</i>
RESTRICTED DELIVERY	<i>.</i>
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
SHOW TO WHOM AND DATE DELIVERED	<i>.70</i>
SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	<i>.</i>
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	<i>.</i>
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	<i>.</i>
TOTAL POSTAGE AND FEES	<i>3.85</i>
POSTMARK OR DATE <i>OCT 1 1985</i>	

P 267 162 754
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO <i>Vernon R. Jones</i>	
STREET AND NO. <i>Star Rt. A Box 440</i>	
P.O. STATE AND ZIP CODE <i>Hobbs, NM 88240</i>	
POSTAGE	<i>2.40</i>
CERTIFIED FEE	<i>.75</i>
SPECIAL DELIVERY	<i>.</i>
RESTRICTED DELIVERY	<i>.</i>
OPTIONAL SERVICES	
RETURN RECEIPT SERVICE	
SHOW TO WHOM AND DATE DELIVERED	<i>.70</i>
SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	<i>.</i>
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	<i>.</i>
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	<i>.</i>
TOTAL POSTAGE AND FEES	<i>3.85</i>
POSTMARK OR DATE <i>OCT 1 1985</i>	

P 267 162 756

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

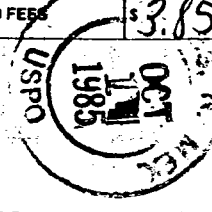
SENT TO		State of NM, Comm. of Public Lands	
STREET AND NO.		P.O. Box 1148	
P.O., STATE AND ZIP CODE		Santa Fe, NM 87504	
POSTAGE		\$2.40	
CERTIFIED FEE		.75	
SPECIAL DELIVERY		.	
RESTRICTED DELIVERY		.	
SHOW TO WHOM AND DATE DELIVERED		.70	
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY		.	
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		.	
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		.	
TOTAL POSTAGE AND FEES		\$3.85	
POSTMARK OR DATE			

PS Form 3800, Apr. 1976

P 267 162 757

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

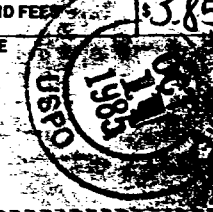
SENT TO		Marathon Oil Company	
STREET AND NO.		P.O. Box 552	
P.O., STATE AND ZIP CODE		Midland, TX 79702	
POSTAGE		\$2.40	
CERTIFIED FEE		.75	
SPECIAL DELIVERY		.	
RESTRICTED DELIVERY		.	
SHOW TO WHOM AND DATE DELIVERED		.70	
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY		.	
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		.	
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		.	
TOTAL POSTAGE AND FEES		\$3.85	
POSTMARK OR DATE			

PS Form 3800, Apr. 1976

P 267 162 758

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO		Chevron USA, Inc.	
STREET AND NO.		P.O. Box 670	
P.O., STATE AND ZIP CODE		Hobbs, NM 88240	
POSTAGE		\$2.40	
CERTIFIED FEE		.75	
SPECIAL DELIVERY		.	
RESTRICTED DELIVERY		.	
SHOW TO WHOM AND DATE DELIVERED		.70	
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY		.	
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		.	
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		.	
TOTAL POSTAGE AND FEES		\$3.85	
POSTMARK OR DATE			

PS Form 3800, Apr. 1976