

0100-001
DIVISION

SAGE ENERGY COMPANY

P. O. DRAWER 3068

MIDLAND, TEXAS 79702

915/683-5271

100 AUG 14 1990 8 51

August 10, 1990

Case 10103

Surface Owner and Leasehold Operators
North Vacuum (Abo) Field
Lea County, New Mexico

Subject: Proposed North Vacuum (Abo) North Unit
Lea County, New Mexico

Dear Sirs:

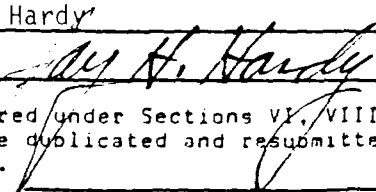
As shown by the enclosed C-108 application Sage Energy Company has applied to convert 19 wells to water injection in the proposed North Vacuum (Abo) North Unit waterflood located in sections 35 and 36, T-16-S, R-24-E and sections 1 and 2, T-17-S, R-34-E in Lea County, New Mexico. Sage intends to inject fresh and formation water into the Abo formation at 8500'. Maximum rates are 400 BWPD/well and at a maximum pressure of 4500 psi. Interested parties must file objections or request for a hearing with the Oil Conservation Commission, PO Box 2088, Santa Fe, New Mexico, 87501, within 15 days of receipt of this application.

Very truly yours,

Jay H. Hardy
Jay H. Hardy
Vice President Sage Energy

Case 10103

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☒ no
- II. Operator: Sage Energy Company
Address: P.O. Drawer 3068, Midland, Texas 79702
Contact party: Jay H. Hardy Phone: (915) 683-5271
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- * VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- * X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- * XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification
- I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- Name: Jay H. Hardy Title: Vice President
Signature:  Date: August 10, 1990
- * 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.

Data on Proposed Operation
North Vacuum (Abo) North Unit
Lea County, New Mexico

Form C-108 (Rev. 7-1-81)

VII.

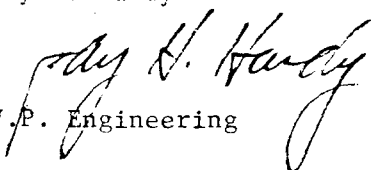
1. Proposed average daily water injection rate = 200 BWPD/well.
Proposed maximum daily water injection rate = 400 BWPD/well.
Estimated total volume = 7,300,000 BW.
2. The system will be closed.
3. Proposed average injection pressure = 2500 psi.
Proposed maximum injection pressure = 4500 psi.
4. Injection fluid will be fresh and produced water. Analysis of fresh water is attached. Water is compatible with produced water.
5. Not applicable.

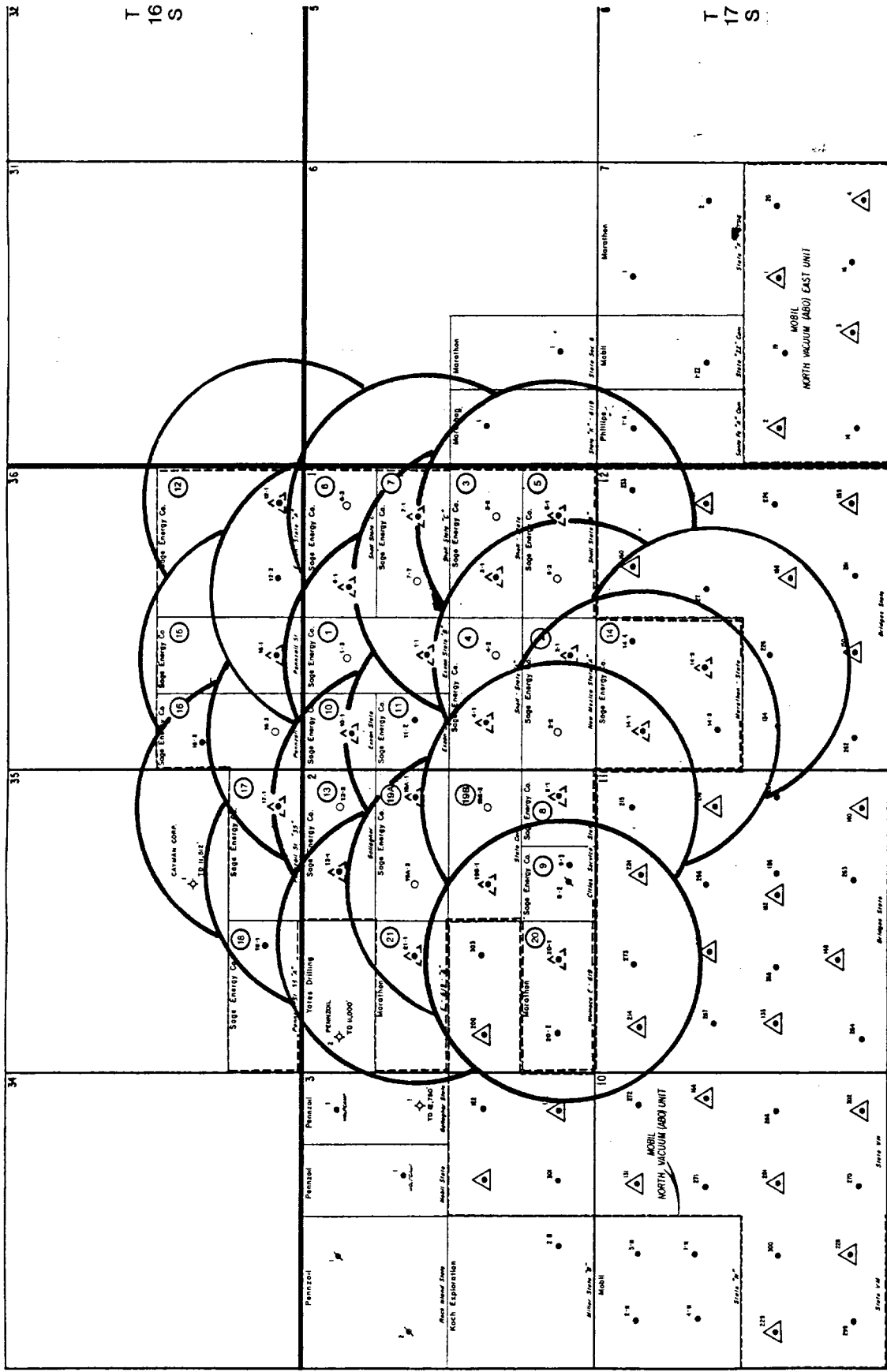
VIII.

The injection zone is the Abo formation at 8450'±. The Vacuum (Abo) North Field is located North and behind the main Vacuum Abo reef trend in a back reef depositional environment. The Abo is comprised of thinly bedded, lenticular dolomites encapsulated by shale stringers. The productive dolomite zones average 3-8' in thickness with porosities in the range of 5-7%.

- IX. No stimulation program needed.
- X. Logs and test data on file with the NMOCD.
- XI. Fresh water analysis attached

Jay H. Hardy


V.P. Engineering



R 34 E

R 35 E



- △ INJECTION WELL
- UNIT BOUNDARY
- △ PROPOSED INJECTION WELL
- PROPOSED PRODUCING WELL

Sage Energy Company
Midland, Texas

PROPOSED NORTH VACUUM (ABO) NORTH UNIT
LEA COUNTY, NEW MEXICO

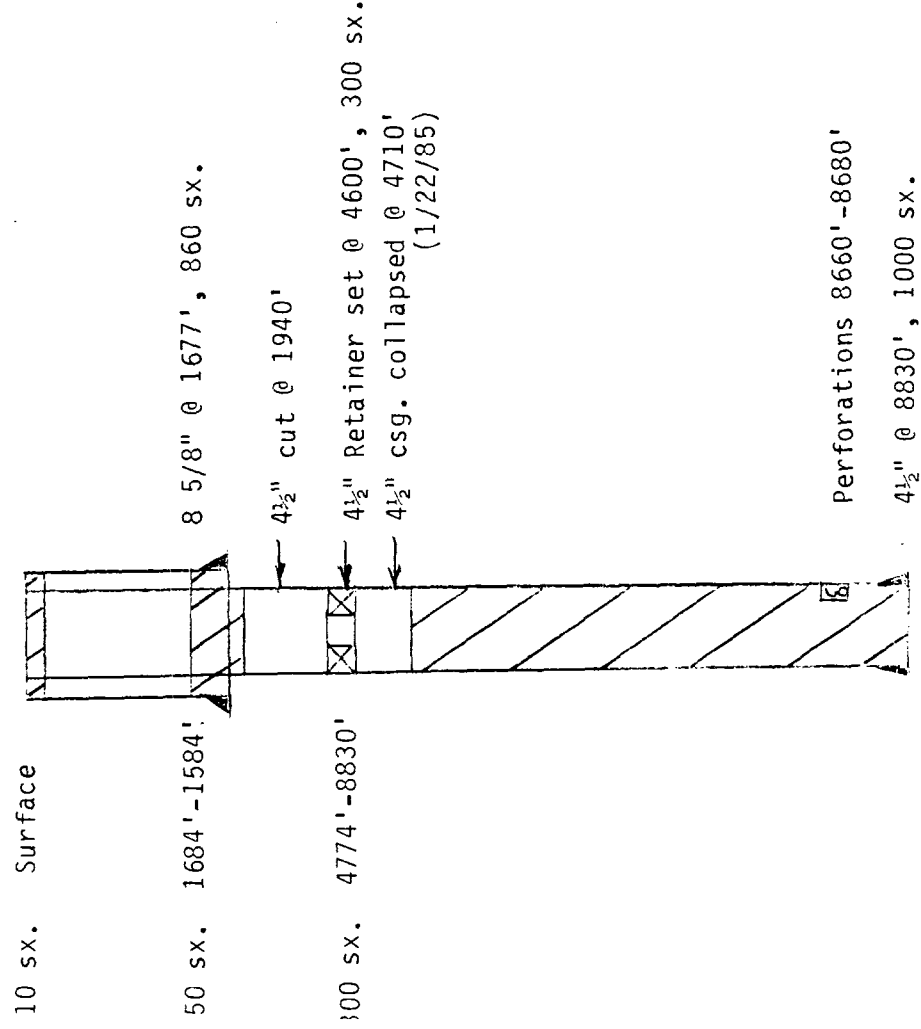
T16S, R34E
T17S, R34E

Scale: 1" = 1000'
1988

PLUGGED WELL DATA

Operator Name Sage Energy Company Lease Name Cities Service State Well No. 2
 Footage Location 460' FSL ad 1980' FEL Section 2 Township 17-S Range 34-E
 County Lea Date P&A 3/18/85

SCHEMATIC



TABULAR DATA

Surface Casing: Size _____ set at _____
 Cemented with _____ sx. TOC _____
 Feet determined by _____ . Hole Size _____
 Intermediate Casing:
 Size 8 5/8" set at 1677'
 Cemented with 860 sx. TOC Surface
 Feet determined by Visual-Circulated . Hole size 12 1/4"
 Long String:
 Size 4 1/2" set at 8830'
 Cemented with 1000 sx. TOC 3123'
 Feet determined by Calculations . Hole size 7 7/8"
 Total Depth 8830'
 Producing Intervals; perforated or open hole
8660' feet to 8680' feet.

TD=8830'

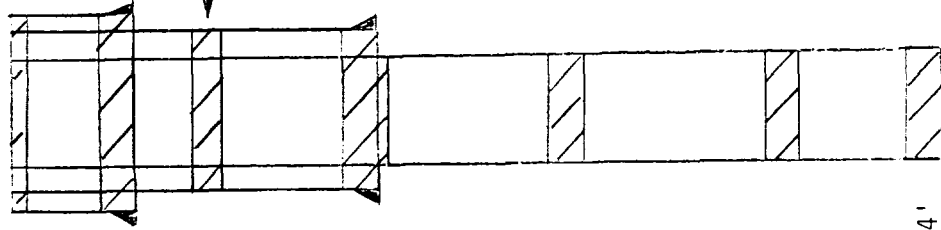
PLUGGED WELL DATA

Operator Name Pennzoil Company Lease Name Marathon State Well No. 2
 Footage Location 660' FN and WL Section 2 Township T-17-S Range R-34-E
 County Lea Date P&A 8/13/67

SCHEMATIC

TABULAR DATA

10 sx.	Surface		Surface Casing: Size <u>11 3/4"</u> set at <u>403'</u>
35 sx.	401' -359'		Cemented with <u>275</u> sx. TOC <u>Circulated</u>
35 sx.	1343' -1263'		Feet determined by <u>Calculations</u> . Hole Size <u>17"</u>
			Intermediate Casing:
			Size <u>8 5/8"</u> set at <u>4095'</u>
35 sx.	4095' -4024'		Cemented with <u>675</u> sx. TOC <u>1969'</u>
			Feet determined by <u>Calculated</u> . Hole size <u>12 1/4"</u>
			Long String:
			Size _____ set at _____
			Cemented with _____ sx. TOC _____
35 sx.	6071' -5955'		Feet determined by _____ . Hole size _____
			Total Depth _____
35 sx.	8040' -7932'		Producing Intervals; perforated or open hole _____ feet to _____ feet.
35 sx.	11,000' -10,884'		



TD= 11,000'

Typical

INJECTION WELL DATA SHEET

SUR 1

Sage Energy Company		Cities State	
OPERATOR		LEASE	
1	660' FSL and 460' FEL	Sec. 2	T-17-S R-34-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP RANGE
Lea County, New Mexico			

Schematic

Surface Casing

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

8 5/8" @ 1757', 1350 sx. Intermediate Casing

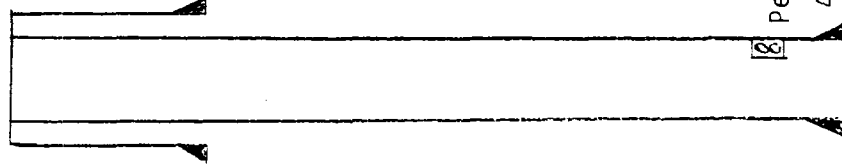
Size 8 5/8" @ 1757' " Cemented with 1350 _____ sx.
 IOC Circulated _____ feet determined by Visual _____
 Hole size 11" _____

Long string

Size 4 1/2" @ 8714' " Cemented with 700 _____ sx.
 IOC 4725 _____ feet determined by Calculations _____
 Hole size 7 7/8" _____
 Total depth 8714' _____

Injection interval

Perforations 8617' - 8639' 8617' _____ feet to 8639' _____ feet
 4 1/2" @ 8714', 700 sx. (perforated or open-hole, indicate which)



Tubing size 2 3/8" lined with _____ (material) _____ set in a
_____ Baker Model "R" _____ packer at 8550' _____ feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Abo

2. Name of Field or Pool (if applicable) North Vacuum (Abo) Field

3. Is this a new well drilled for injection? ☒ Yes ☒ No

If no, for what purpose was the well originally drilled? Oil Production

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Queen - Gas - 3850'

San Andres - Oil - 4600'

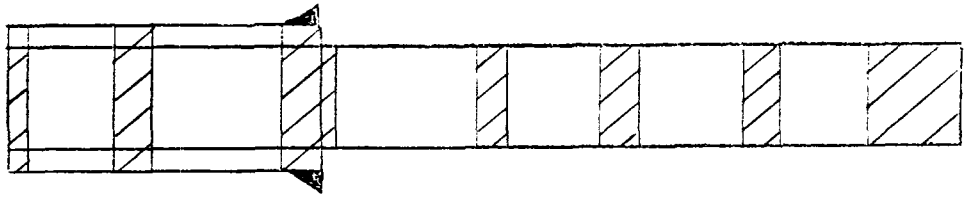
Morrow - Gas - 12,400'

PLUGGED WELL DATA

Operator Name Mobil Oil Corporation Lease Name Gallagher State Well No. 1
 Footage Location 1980' FNL and 660' FEL Section 3 Township 17 S Range 34 E
 County Lea Date P&A 5/17/77

SCHEMATIC

TABULAR DATA



10 sx. Surface
 50 sx. 1728'-1900'
 50 sx. 4728'-4900'
 50 sx. 6019'-6138'
 50 sx. 8057'-8176'
 50 sx. 9723'-9872'
 50 sx.(6) 10,339'-12,710'

Surface Casing: Size _____ set at _____
 Cemented with _____ sx. TOC _____
 Feet determined by _____ . Hole Size _____
 Intermediate Casing:
 Size 8 5/8" set at 4850'
 Cemented with 2500 sx. TOC Circulated
 Feet determined by Calculations . Hole size 12 1/4"
 Long String:
 Size _____ set at _____
 Cemented with _____ sx. TOC _____
 Feet determined by _____ . Hole size _____
 Total Depth _____
 Producing Intervals; perforated or open hole
 _____ feet to _____ feet.

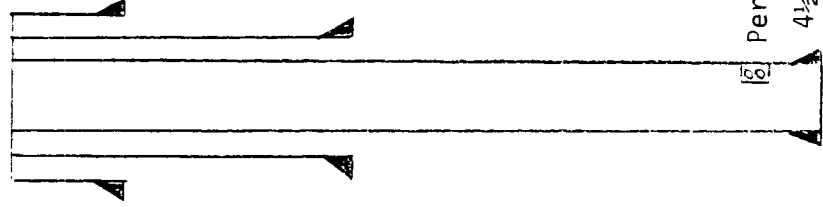
TD=12,750'

Typical INJECTION WELL DATA SHEET

SIDE 1

Sage Energy Company		Marathon State	
OPERATOR		LEASE	
3	2180' FNL, 660' FWL	12	R-34-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP RANGE
Lea County, New Mexico			

Schematic



Tabular Data

<u>Surface Casing</u>	
Size 12 3/4 @ 390'	" Cemented with 450 sx.
100 Circulated	feet determined by Visual
Hole size 17 1/2"	
12 3/4" @ 390, 450 sx.	
<u>Intermediate Casing</u>	
Size 8 5/8" @ 3218'	" Cemented with 1000 sx.
100 390'	feet determined by Calculations
Hole size 12 1/4"	
8 5/8" @ 3218', 1000 sx.	
<u>Long string</u>	
Size 4 1/2" @ 8750'	" Cemented with 1050 sx.
100 3200	feet determined by Calculations
Hole size 7 7/8"	
Total depth 8750'	
Injection interval	
Perforated 8542'-8584'	
4 1/2" @ 8750', 1050 sx.	
8542 feet to 8584 feet	
(perforated or open-hole, indicate which)	

INJECTION WELL DATA SHEET -- SIDE 2

Tubing size 2 3/8" lined with (material) set in a
Baker Model "R" packer at 8500' feet
 (brand and model)
 (or describe any other casing-tubing seal).
 Other Data

1. Name of the injection formation Abo
 2. Name of Field or Pool (if applicable) North Vacuum (Abo) Field
 3. Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? Oil Production

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Queen - Gas - 3850'

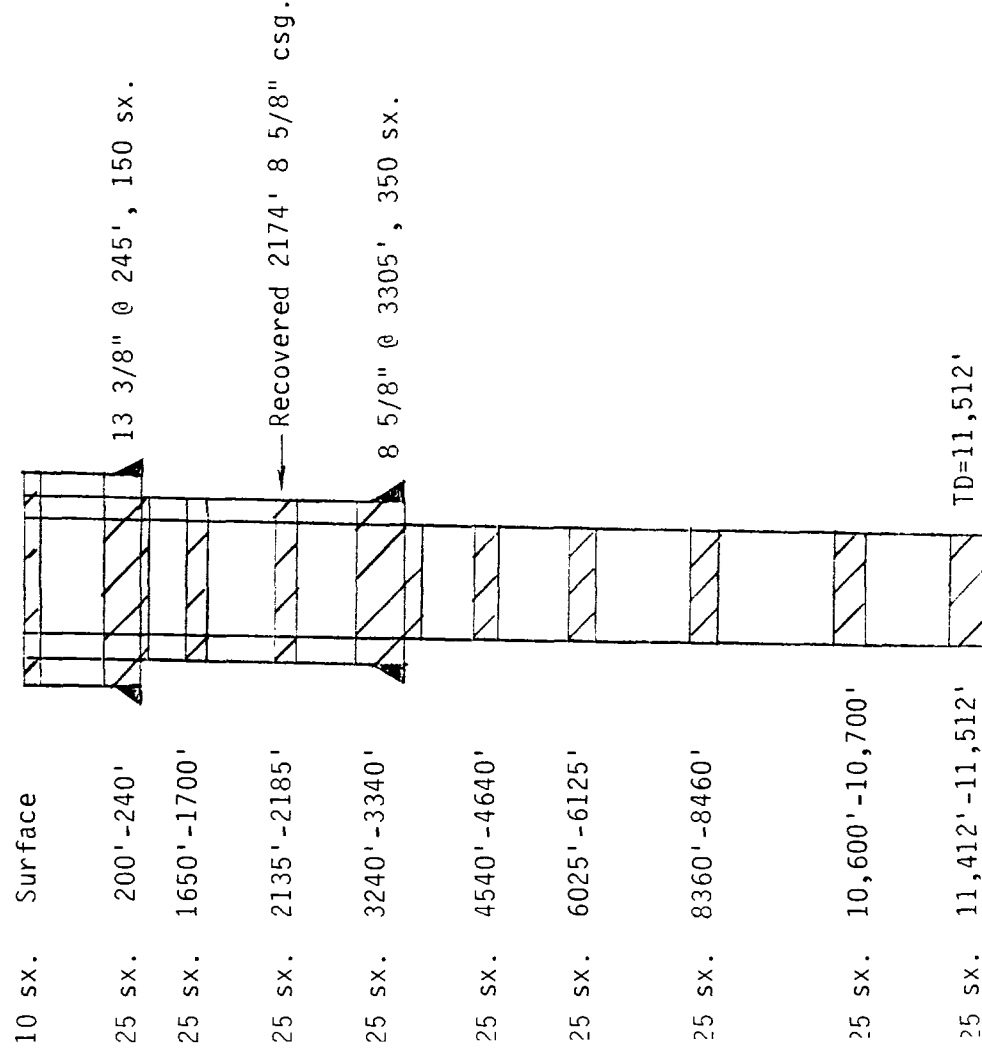
San Andres - Oil - 4600'

Morrow - Gas - 12,400'

PLUGGED WELL DATA

Operator Name Cayman Corporation Lease Name Featherstone-State Well No. 1
 Footage Location 1980' FSL and FEL Section 35 Township 16 S Range 34 E
 County Lea Date P&A 7/5/69

SCHEMATIC



TABULAR DATA

Surface Casing: Size 13 3/8" set at 245'
 Cemented with 150 sx. TOC Circulated
 Feet determined by Calculations. Hole Size 17 1/2"
 Intermediate Casing:
 Size 8 5/8" set at 3305'
 Cemented with 350 sx. TOC 1653'
 Feet determined by Calculations. Hole size 11"
 Long String:
 Size _____ set at _____
 Cemented with _____ sx. TOC _____
 Feet determined by _____ . Hole size _____
 Total Depth _____
 Producing Intervals; perforated or open hole _____ feet to _____ feet.

TABULATION OF WELLS IN AREA										OF REVIEW -NORTH VACUUM (Abq)		NORTH UNIT	
OPERATOR	WELL	LOCATION	COMPLETION TYPE	DATE	PB/TD	CASING PROGRAM & CEMENT						PERFORATIONS	
SAGE ENERGY COMPANY	CITIES STATE #1	SEC. 2, T-17S, R-34E	OIL	7/19/75	-/8720'	8-5/8" @ 1757', 1150 SX; 4-1/2" @ 8714', 700SX							8617' - 8619'
SAGE ENERGY COMPANY	EXXON STATE #1	SEC. 1, T-17S, R-34E	OIL	8/05/75	-/8845'	12-3/4" @ 1685', 1150 SX; 8-5/8" @ 8823', 700 SX							8731' - 8768'
SAGE ENERGY COMPANY	EXXON STATE #2	SEC. 1, T-15S, R-34E	OIL	4/06/76	-/8830'	8-5/8" @ 1680', 760SX; 4-1/2" @ 8980', 800 SX							8651' - 8725'
SAGE ENERGY COMPANY	EXXON STATE A #1	SEC. 16, T-16S, R-34	OIL	12/01/75	-/8980'	8-5/8" @ 1672', 685 SX; 4-1/2" @ 8950', 750 SX							8818' - 8867'
SAGE ENERGY COMPANY	EXXON STATE A #2	SEC. 16, T-16S, R-34	OIL	1/02/76	-/8950'	8-5/8" @ 1702', 560 SX; 4-1/2" @ 8934', 750 SX							8887' - 8937', 5'
SAGE ENERGY COMPANY	EXXON B STATE COM #1	SEC. 1, T-17S, R-34E	OIL	10/27/73	8781/8830	8-5/8" @ 1672', 1100 SX; 5-1/2" @ 8694', 1700 SX							8818' - 8857'
SAGE ENERGY COMPANY	GALLAGHER STATE #1	SEC. 2, T-17S, R-34E	OIL	9/23/75	8828/8930	8-5/8" @ 1672', 1100 SX; 5-1/2" @ 8694', 1700 SX							8722' - 8771'
SAGE ENERGY COMPANY	MARATHON STATE #1	SEC. 12, T-17S, R-34	OIL	2/05/71	-/8680	8-5/8" @ 1708', 1300 SX; 6" @ 8675', 1700 SX							8559' - 8603'
SAGE ENERGY COMPANY	MARATHON STATE #2	SEC. 12, T-17S, R-34	OIL	2/23/76	8638/8675'	8-5/8" @ 1708', 1300 SX; 6" @ 8675', 1700 SX							8545' - 8596'
SAGE ENERGY COMPANY	MARATHON STATE #3	SEC. 12, T-17S, R-34	OIL	10/10/76	-/8750'	12-3/4" @ 1390', 450 SX; 8-5/8" @ 1318', 1000 SX; 4-1/2" @ 8750', 1050 SX							8542' - 8584'
SAGE ENERGY COMPANY	MARATHON STATE #4	SEC. 12, T-17S, R-34	OIL	12/11/73	-/8790'	12-3/4" @ 1390', 450 SX; 8-5/8" @ 1280', 1150 SX; 4-1/2" @ 8790', 1100 SX							8524' - 8599'
SAGE ENERGY COMPANY	PENNZOIL STATE #1	SEC. 16, T-16S, R-34	OIL	4/03/74	8889/8940'	8-5/8" @ 1774', 700 SX; 5-1/2" @ 8940', 900 SX							8806' - 8818'
SAGE ENERGY COMPANY	PENNZOIL STATE #2	SEC. 15, T-16S, R-34	OIL	8/05/75	8883/8925'	8-5/8" @ 1750', 1050 SX; 5-1/2" @ 8925', 1075 SX							8777' - 8816'
SAGE ENERGY COMPANY	PENNZOIL STATE #3	SEC. 15, T-16S, R-34	OIL	2/02/76	-/8903'	8-5/8" @ 1718', 800 SX; 4-1/2" @ 8903', 700 SX							8775' - 8825'
SAGE ENERGY COMPANY	STATE COM #1	SEC. 2, T-17S, R-34E	OIL	7/18/75	-/8870'	8-5/8" @ 1680', 735 SX; 4-1/2" @ 8870', 750 SX							8742' - 8789'
SAGE ENERGY COMPANY	STATE COM #2	SEC. 2, T-17S, R-34E	OIL	8/11/75	-/8764'	8-5/8" @ 1690', 950 SX; 4-1/2" @ 8764', 700 SX							8694' - 8712'
SAGE ENERGY COMPANY	NEM MEXICO STATE A #1	SEC. 1, T-17S, R-34E	OIL	1/09/72	8650/8720'	12-3/4" @ 1712', 1150 SX; 4-1/2" @ 8776', 700 SX							8694' - 8709'
SAGE ENERGY COMPANY	SHELL STATE #1	SEC. 1, T-17S, R-34E	OIL	7/20/72	8805/8850'	12-3/4" @ 1655', 175 SX; 8-5/8" @ 1282', 300 SX; 5-1/2" @ 8850', 1000 SX							8590' - 8614'
SAGE ENERGY COMPANY	SHELL STATE #1	SEC. 1, T-17S, R-34E	OIL	1/14/73	8760/8795'	12-3/4" @ 1720', 425 SX; 8-5/8" @ 1297', 300 SX; 5-1/2" @ 8810', 950 SX							8623' - 8735'
SAGE ENERGY COMPANY	SHELL STATE B #1	SEC. 1, T-17S, R-34E	OIL	3/24/74	8798/8810'	12-3/4" @ 1601', 425 SX; 8-5/8" @ 1297', 300 SX; 5-1/2" @ 8910', 1150 SX							8732' - 8846'
SAGE ENERGY COMPANY	SHELL STATE C #1	SEC. 1, T-17S, R-34E	OIL	2/04/74	8878/8910'	12-3/4" @ 1601', 425 SX; 8-5/8" @ 1297', 300 SX; 5-1/2" @ 8910', 1150 SX							8738' - 8851'
SAGE ENERGY COMPANY	SHELL STATE #2	SEC. 1, T-17S, R-34E	OIL	4/18/74	8898/8940'	8-5/8" @ 1774', 700 SX; 5-1/2" @ 8940', 900 SX							8626' - 8642'
SAGE ENERGY COMPANY	CITIES STATE #1	SEC. 2, T-17S, R-34E	OIL	10/01/72	8765/8789'	12-3/4" @ 435', 250 SX; 7" @ 4903', 400 SX; 4-1/2" @ 8789', 180 SX							8656' - 8821'
SAGE ENERGY COMPANY	MAINOCO # 619 B-1	SEC. 2, T-17S, R-34E	OIL	1/09/86	8850/8800'	12-3/4" @ 266', 350 SX; 8-5/8" @ 1189', 1200 SX; 4-1/2" @ 8900', 1000 SX							8637' - 8747'
SAGE ENERGY COMPANY	MAINOCO # 619 B-2	SEC. 2, T-17S, R-34E	OIL	1/09/86	8824/8850'	11-3/8" @ 505', 600 SX; 8-5/8" @ 4872', 2200 SX; 5-1/2" LINER @ 4198'-8850'							8636' - 8804'
MARATHON OIL COMPANY	MARATHON OIL COMPANY	SEC. 2, T-17S, R-34E	OIL	12/30/76	-/8900'	11-3/8" @ 271', 350 SX; 8-5/8" @ 1442', 1450 SX; 4-1/2" @ 8900', 1150 SX							8688' - 8732'
MARATHON OIL COMPANY	STATE R-6119 #1	SEC. 6, T-17S, R-35E	OIL	7/13/76	-/8920'	12-3/4" @ 270', 265 SX; 8-5/8" @ 1025', 1150 SX; 4-1/2" @ 8920', 1133 SX							8754' - 8822'
PHILLIPS PETROLEUM COMPANY	PHILLIPS PETROLEUM COMPANY	SEC. 7, T-17S, R-35E	OIL	1/23/72	8839/8900'	11-3/8" @ 1795', 450 SX; 5-1/2" @ 8800', 675 SX; 4-1/2" @ 10990', 800 SX							8691' - 8744'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 12, T-17S, R-34E	MIM	12/12/72	8639/8690'	11-3/8" @ 1501', 425 SX; 8-5/8" @ 1110', 1500 SX; 5-1/2" @ 8700', 1900 SX							8664' - 8702'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 12, T-17S, R-34E	MIM	9/28/76	8659/8700'	12-3/4" @ 1250', 400 SX; 8-5/8" @ 1080', 1400 SX; 5-1/2" @ 8700', 2000 SX							8536' - 8613'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 12, T-17S, R-34E	MIM	9/09/76	8657/8700'	12-3/4" @ 1250', 400 SX; 8-5/8" @ 1080', 1400 SX; 5-1/2" @ 8700', 2000 SX							8584' - 8641'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 12, T-17S, R-34E	MIM	8/6/77	-/8800'	12-3/4" @ 1775', 900 SX; 5-1/2" @ 8800', 2900 SX							8580' - 8652'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 12, T-17S, R-34E	MIM	8/23/76	8775/8800'	11-3/8" @ 1775', 900 SX; 5-1/2" @ 8800', 2900 SX							8580' - 8652'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 12, T-17S, R-34E	OIL	12/02/86	8602/8800'	11-3/8" @ 1701', 400 SX; 9-5/8" @ 5000', 3400 SX; 7" LINER @ 4314' - 11800',							8531' - 8602'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 12, T-17S, R-34E	OIL	4/24/76	-/8700'	12-3/4" @ 1725', 1300 SX; 5-1/2" @ 8700', 3300 SX							8526' - 8571'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 12, T-17S, R-34E	OIL	9/09/76	8657/8700'	12-3/4" @ 250', 400 SX; 8-5/8" @ 1070', 1400 SX; 5-1/2" @ 8700', 2000 SX							8516' - 8601'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 12, T-17S, R-34E	OIL	2/9/71	-/8700'	11-3/8" @ 1740', 1000 SX; 5-1/2" @ 8700', 1500 SX							8513' - 8593'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 11, T-17S, R-34E	MIM	5/26/71	8668/8715'	11-3/8" @ 271', 105 SX; 8-5/8" @ 1490', 820 SX; 7" @ 12725', 700 SX							8574' - 8617'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 11, T-17S, R-34E	MIM	3/10/70	8660/8710'	11-3/8" @ 1624', 820 SX; 5-7/8" @ 8684', 1050 SX							8560' - 8608'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 11, T-17S, R-34E	MIM	4/01/71	8664/8685'	11-3/8" @ 1624', 820 SX; 5-7/8" @ 8684', 1050 SX							8560' - 8613'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 11, T-17S, R-34E	MIM	10/21/75	8676/8730'	12-3/4" @ 260', 400 SX; 8-5/8" @ 1050', 1600 SX; 5-1/2" @ 8730', 2000 SX							8543' - 8593'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 11, T-17S, R-34E	MIM	8/23/76	8666/8700'	12-3/4" @ 260', 400 SX; 8-5/8" @ 1050', 1600 SX; 5-1/2" @ 8730', 2000 SX							8543' - 8593'
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abq)	SEC. 11, T-17S, R-34E	OIL	12/11/84	8790/8800	11-3/8" @ 413', 400 SX; 8-5/8" @ 5000', 3350 SX; 5-1/2" LINER @ 4185'-8798',							8592' - 8656'

TABULATION OF WELLS IN AREA				OF REVIEW -NORTH VACUUM (Abo) NORTH UNIT		CASING PROGRAM & CEMENT		PERFORATIONS	
OPERATOR	WELL	LOCATION	COMPLETION TYPE	DATE	PB/TD				
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abo) UNIT #172	SEC. 3, T-17S, R-34E	WTW	4/15/72	-/8800'	1200 SX @ 286', 450 SX; 8-5/8" @ 3080', 1400 SX; 5-1/2" @ 8800', 2300 SX		8643' - 8681'	
MOBIL PRODUCTION TX-NM	NORTH VACUUM (Abo) UNIT #303	SEC. 2, T-17S, R-34E	OIL	7/24/86	8807'/8850'	12-3/4" @ 405', 500 SX; 9-5/8" @ 5000', 2400 SX; 5-1/2" LINER @ 4224-8850',		8654' - 8710'	
PENNZOIL	GALLAGHER STATE COM. #1	SEC. 3, T-17S, R-34E	D+A	5/17/77	-/12750'	8-5/8" @ 4850', 2500 SX; 8-5/8" @ 4095', 675 SX			
PENNZOIL	ANGLE - STATE #2	SEC. 2, T-17S, R-34D	D+A	8/14/67	-/11000'	11-1/4" @ 403', 275 SX; 8-5/8" @ 4095', 675 SX			
CAYMAN CORPORATION	J FEATHERSTONE - STATE #1	SEC. 3S, T-16S, R-34	D+A	7/05/69	-/11512'	13-1/8" @ 245', 150 SX; 8-5/8" @ 3305', 350 SX			
SHELL WESTERN E & P	STATE VI #1	SEC. 1, T-17S, R-34E	GAS	3/17/83	12141'/12250'	20" @ 36', 30 SX; 13-3/8" @ 400', 425 SX; 8-5/8" @ 4879', 950 SX; 5-1/2" @ 12232		11902' - 11914'	
SAGE ENERGY COMPANY	CITIES STATE NO. 2.	SEC. 2, T-17S, R-34E	OIL P+A	10/13/75 3/18/85	-/8830'	5-1/2" @ 12232', 1975 SX 8-5/8" @ 1677', 860 SX; 4-1/2" @ 8830', 1000 SX		8660' - 8680'	

OIL CONSERVATION DIVISION
RECEIVED

'90 AUG 14 AM 8 51

Proof of Notice
Return Receipt Requested
North Vacuum (Abo) North Unit
Lea County, New Mexico

Mobil Production TX-NM
PO Box 633
Midland, Texas 79702

New Mexico Oil Conservation Commission
PO Box 1980
Hobbs, New Mexico 88240

Marathon Oil Company
PO Box 552
midland, Texas 79702

Chevron, USA
PO Box 1150
Midland, Texas 79702

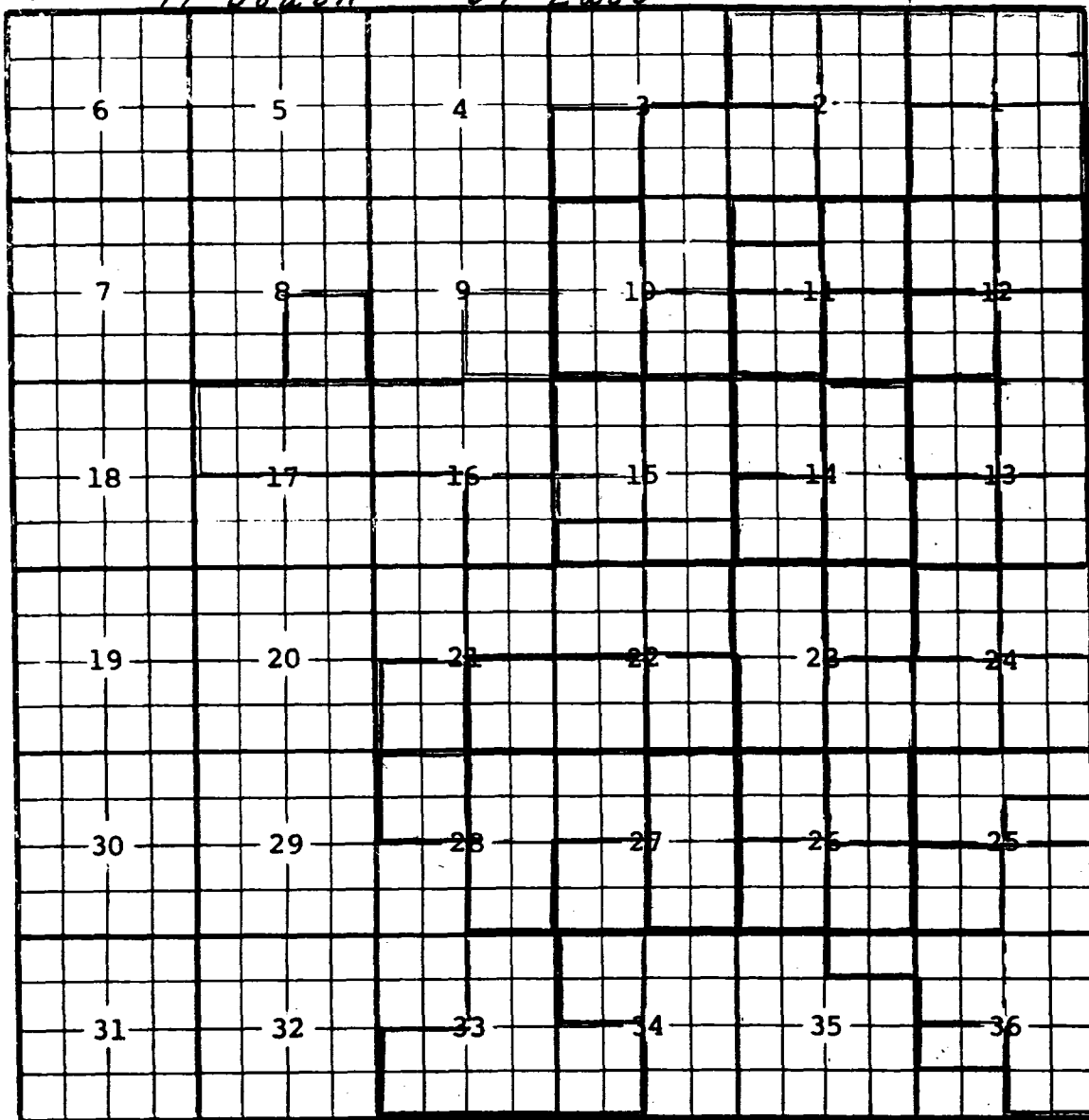
Commissioner of Public Lands
State of New Mexico
Attn: Frank Prado - Oil and Gas Division
PO Box 1148
Santa Fe, New Mexico 87501

New Mexico Oil Conservation Commission
Attn: Mike Stogner
PO Box 2088
Santa Fe, New Mexico 87501

Shell Western E&P, Inc.
PO Box 576
Houston, Texas 77001

Mr. Bob Eidson
West Star Route Box 490
Lovington, New Mexico 88260

Vates Drilling Company
207 South 4th Street
Artesia, New Mexico 88210

COUNTY LeaPOOL North Vacuum - AboTOWNSHIP 17-South RANGE 34-East NMPM

Description: $\frac{1}{4}$ Sec. 26 (R-2421, 2-13-63).

Ext: $\frac{1}{4}$ Sec. 25; $\frac{1}{4}$ Sec. 26 (R-2527, 8-1-63) - $\frac{1}{4}$ Sec. 25; $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 35;
 $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 36 (R-2569, 10-1-63) - $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 25; $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 36 (R-2771, 10-1-64)
- $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 25 (R-2985, 11-1-65) - $\frac{1}{4}$ Sec. 23; $\frac{1}{4}$ Sec. 24 (R-3182, 2-1-67)
- $\frac{1}{4}$ Sec. 24 (R-3280, 8-1-67) - $\frac{1}{4}$ Sec. 23; $\frac{1}{4}$ Sec. 24 (R-3329, 11-1-67) - $\frac{1}{4}$ Sec. 13;
 $\frac{1}{4}$ Sec. 14 (R-3411, 6-1-68) - $\frac{1}{4}$ Sec. 11 (R-3530, 11-1-68) - $\frac{1}{4}$ Sec. 23; $\frac{1}{4}$ Sec. 24 (R-3681, 3-1-69)
- $\frac{1}{4}$ Sec. 11; $\frac{1}{4}$ Sec. 12; $\frac{1}{4}$ Sec. 26 (R-3979, 7-1-70) - $\frac{1}{4}$ Sec. 11; $\frac{1}{4}$ Sec. 14;
 $\frac{1}{4}$ Sec. 26 (R-4032, 10-1-70) - $\frac{1}{4}$ Sec. 14; $\frac{1}{4}$ Sec. 15; $\frac{1}{4}$ Sec. 27 (R-4063, 12-1-70)
- $\frac{1}{4}$ Sec. 3 (R-4086, 2-1-71) - $\frac{1}{4}$ Sec. 10; $\frac{1}{4}$ Sec. 11; $\frac{1}{4}$ Sec. 12;
 $\frac{1}{4}$ Sec. 22 (R-4132, 5-1-71) - $\frac{1}{4}$ Sec. 11; $\frac{1}{4}$ Sec. 12; $\frac{1}{4}$ Sec. 13; $\frac{1}{4}$ Sec. 15;
 $\frac{1}{4}$ Sec. 23 (R-4155, 7-1-71) - $\frac{1}{4}$ Sec. 12; $\frac{1}{4}$ Sec. 22 (R-4184, 9-1-71) - $\frac{1}{4}$ Sec. 2; $\frac{1}{4}$ Sec. 3;
 $\frac{1}{4}$ Sec. 10 (R-4194, 10-1-71) - $\frac{1}{4}$ Sec. 15; $\frac{1}{4}$ Sec. 27; $\frac{1}{4}$ Sec. 28 (R-4219, 12-1-71)
- $\frac{1}{4}$ Sec. 1; $\frac{1}{4}$ Sec. 10; $\frac{1}{4}$ Sec. 24; $\frac{1}{4}$ Sec. 22; $\frac{1}{4}$ Sec. 27 (R-4279, 4-1-72) - $\frac{1}{4}$ Sec. 21;
 $\frac{1}{4}$ Sec. 22; $\frac{1}{4}$ Sec. 28; $\frac{1}{4}$ Sec. 34 (R-4304, 6-1-72)

(Continued Next Page)

COUNTY *Lea*

POOL *North Vacuum - Abo*

TOWNSHIP *16 south*

RANGE *34 East*

NMPM

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Ext: $\text{SW}\frac{1}{4}$ Sec 36 (R-4734, 3-1-74) Ext: $\text{SE}\frac{1}{4}$ Sec 35 (R-5124, 12-1-75)

Ext: $\text{SE}\frac{1}{4}$ Sec 36 (R-5162, 3-1-76) Ext: $\text{SW}\frac{1}{4}$ Sec 35 (R-5215, 6-1-76)