

**SAGE ENERGY COMPANY**

P. O. DRAWER 3068  
MIDLAND, TEXAS 79702

—  
915/683-5271

*Set for hearing*

December 11, 1986

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

*Case 9068*

Re: Application for Authorization to Inject - New Mexico State No. 1  
Lea County, New Mexico

Dear Sirs:

Enclosed for your approval are two copies of Sage's application to convert it's New Mexico State No. 1 well to a water disposal facility. If additional information is required, please call the undersigned at Area Code 915 683 5271. Your prompt attention to this request is appreciated.

Very truly yours,

*Frances Holzgraf*

Frances Holzgraf  
Production Clerk

encls.

Case 9068

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: 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 - Engineering

Signature: Jay H. Hardy Date: December 4, 1986

- \* 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.

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

INJECTION WELL DATA SHEET

SIDE 1

OPERATOR

Sage Energy Company

LEASE

New Mexico State Lease

WELL NO.

2 560' FNL and 560' FEL

FOOTAGE LOCATION

SECTION

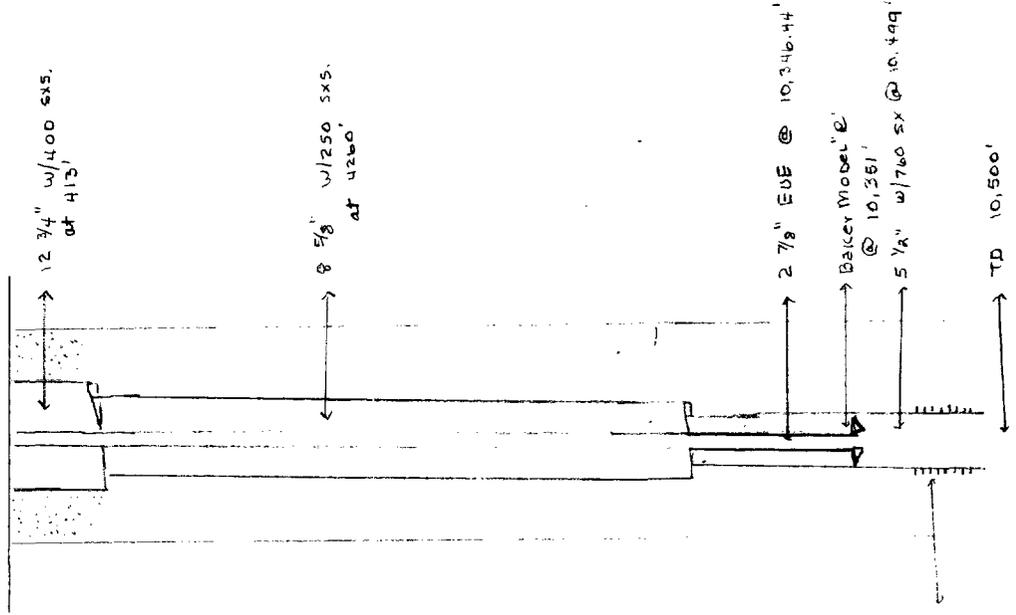
Unit "A", Sec. 31, T-14-S, R-34-E

TOWNSHIP

RANGE

Lea County, New Mexico

Schematic



Tabular Data

Surface Casing

Size 12 3/4" Cemented with 400 sx.

TOC Surface feet determined by visual

Hole size 17 1/2"

Intermediate Casing

Size 8 5/8" Cemented with 250 sx.

TOC 3187 feet determined by calculations

Hole size 11"

Long string

Size 5 1/2" Cemented with 760 sx.

TOC 8940 feet determined by calculations

Hole size 7 7/8"

Total depth 10,500'

Injection Interval

10,401' feet to 10,410' feet  
(perforated or open-hole, indicate which)

Perforations  
10,401' -  
10,410'

Tubing size 2 7/8" lined with \_\_\_\_\_ (material) \_\_\_\_\_ set in a

5 1/2" Baker Model "R" packer at 10,351 feet  
(brand and model)

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Pennsylvanian (Bough "C")

2. Name of Field or Pool (if applicable) Tres Papalotes Penn. West

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

If no, for what purpose was the well originally drilled?  
exploration for oil and gas

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

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.  
None

List of Offset Operators to Sage Energy  
Company - New Mexico State No. 1 - Lea Co.

Mewbourne Oil Company  
P. O. Box 7698  
Tyler, Texas 75711

D. G. Roberts  
P. O. Box 415  
Midland, Texas 79702

Mark & Gardner Production Company  
P. O. Box 1755  
Lovington, New Mexico 88260

Elk Oil Company  
P. O. Box 310  
Roswell, New Mexico 88201

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

John Etcheverry  
P. O. Box 1656  
Lovington, New Mexico 88260

**SAGE ENERGY COMPANY**

P. O. DRAWER 3068

MIDLAND, TEXAS 79702

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915/683-5271

DATA ON THE PROPOSED OPERATIONS

VII.

1. The average and maximum daily rate and volume of fluids to be injected will be at the rate of 200 BWPB.
2. The system is open.
3. Water to be disposed of on vacuum.
4. Disposing of produced Pennsylvanian (Bough "C") water.
5. Not applicable.

VIII.

The injection zone is:

Perforations from 10,401' to 10,410'. Top of Pennsylvanian (Bough "C") is 10,401'. The thickness of the formation is 700'.

Source of drinking water is cretaceous at 250' to 350'.

IX. No stimulaton program needed.

X. Logs and test data on file with the division.

XI. Analysis attached.

XII.

I have no knowledge of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

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.

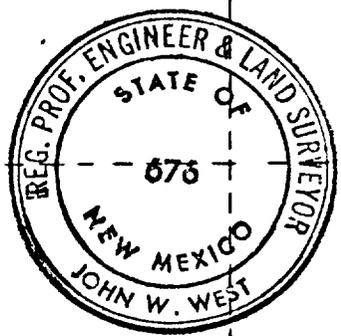
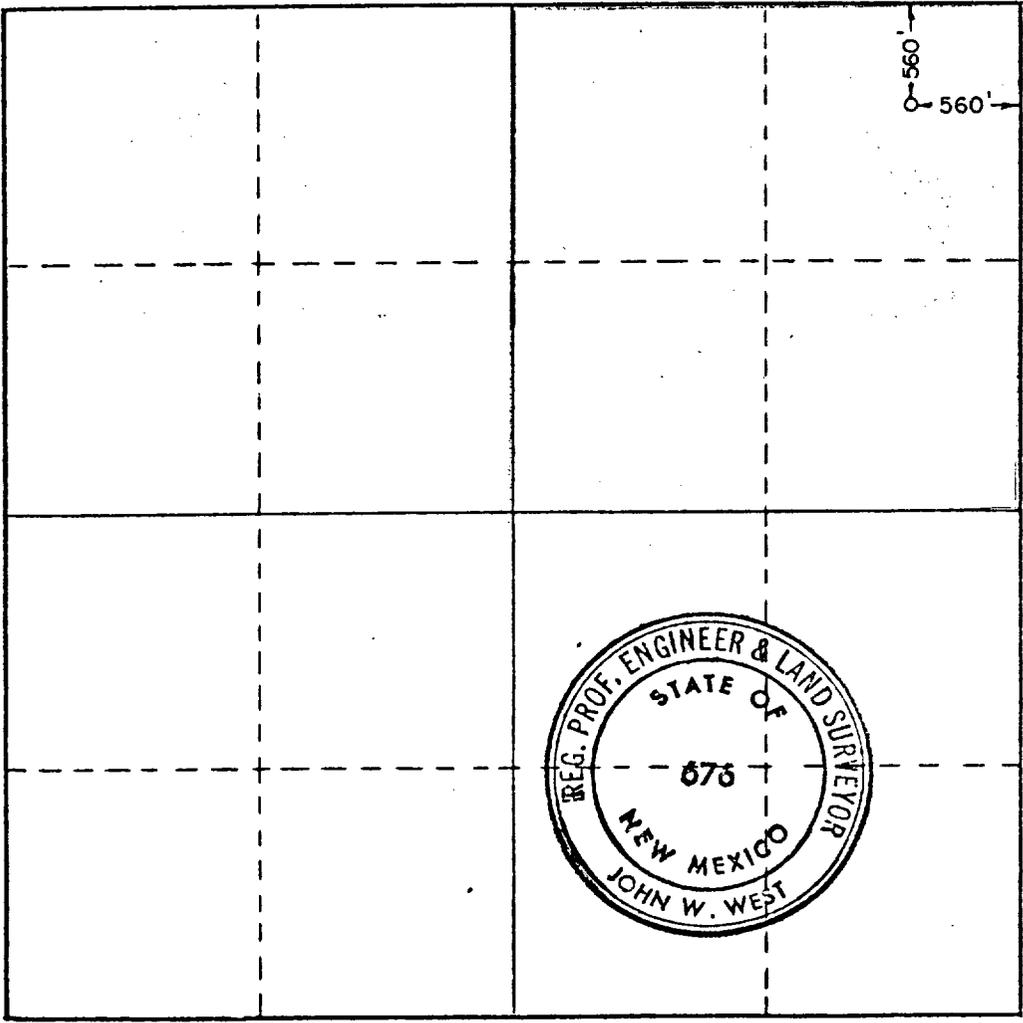
Operator <b>AMINI OIL COMPANY</b>		Lease <b>NEW MEXICO STATE</b>			Well No. <b>1</b>
Unit Letter <b>A</b>	Section <b>31</b>	Township <b>14 SOUTH</b>	Range <b>34 EAST</b>	County <b>LEA</b>	
Actual Footage Location of Well: <b>560</b> feet from the <b>NORTH</b> line and <b>560</b> feet from the <b>EAST</b> line					
Ground Level Elev. <b>4145</b>	Producing Formation <b>Penn</b>	Pool <b>Wildcat - Extension</b>		Dedicated Acreage: <b>160</b> 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 \_\_\_\_\_

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 *Kevin Godwin*  
Position **Agent**

Company **Amini Oil Company**

Date **November 3, 1971**

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 **NOVEMBER 3, 1971**

Registered Professional Engineer and/or Land Surveyor

*John W. West*

Certificate No. **676**

low prices of Indian alfalfa to  
bring other prices down. **VI**

**LEGAL NOTICE**

"Sage Energy Company, P.O. Drawer 3068, Midland, Texas 79701 has applied to convert its New Mexico State No. 1 well, located 550' from the North line and 560' from the East line of Unit Letter "A", Section 31, T-14-S, R-34-E, Lea County, New Mexico to a water disposal facility. The operator intends to inject formation water into the Pennsylvanian (Bough "C") at a depth of 10,401' to 10,410' at the approximate rate of 200 BWPD on vacuum. Interested parties must file objections or request for hearing with the Oil Conservation Commission, P.O. Box 2088, Santa Fe, New Mexico, 87501 within fifteen days of the date of first publication."

Published in the Lovington Daily Leader December 5 and 12, 1986.

...aker can use cheaper INAVAJO

**THE  
LOVINGTON  
DAILY**

**LEADER**

The Oldest Newspaper in Lea County...

WELLS IN THE AREA OF REVIEW OF THE NEW MEXICO STATE NO. 1

Operator	Location	Type	Completion Date	TD/PB	Casing Program and Cement	Perforations
Sage Energy Company New Mexico St. No. 1	"A" 31 T14S R34E Lea County, NM	011	12-15-71	10,500'	12 3/4" at 413' with 400 sxs. cement 8 5/8" at 4260' with 250 sxs. cement 5 1/2" at 10,499 with 760 sxs. cement	10,401' to 10,410'
	"A" 31 T14S R34E Lea County, NM	011	5-30-83	10,560' 10,534'	12 3/4" at 400' with 475 sxs. cement 8 5/8" at 4320' with 1800 sxs and 300 sxs cement. 4 1/2" at 10,575' with 300 sxs and 250 sxs cement.	10,397 1/2' to 10,406'
Mewbourne Oil Company Shell State	"P" 30 T14S R34E Lea County, NM	011	2-2-72	10,510'	12 3/4" at 395' with 415 sxs cement 8 5/8" at 4420' with 375 sxs cement 4 1/2" at 10,510' with 375' sxs cement	10,384 to 10,403'
	"D" 32 T14S R34E Lea County, NM	011	1-2-72	10,505'	12 3/4" at 398' with 415 sxs cement 8 5/8" 4400' with 375 sxs cement 4 1/2" 10505' with 375 sxs cement	10,392 to 10,403'

Mark Production Company  
Southland State

