Logal Statut Superve 3/31/04 WFX STATE OF NEW MEXICO **Oil Conservation Division** MAR 1 7 2004 Revised June 10, 2003 ENERGY, MINERALS AND NATURAL 1220 South St. Francis Dr. RESOURCES DEPARTMENT Santa Fe. New Mexico 87505 APPLICATION FOR AUTHORIZATION TO INJECT PURPOSE: X Secondary Recovery Application qualifies for administrative approval? Disposal Storage Pressire Maintenance I. OPERATOR: SAGE EVERLY COMPANY П. ADDRESS: PO DRAWER 3068, Midland CONTACT PARTY: GEORGE M. HARRIS, TR PHONE: 432-683-5271 30-025-29192 WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. III. Additional sheets may be attached if necessary. Is this an expansion of an existing project? Yes
If yes, give the Division order number authorizing the project: _ R IV. No Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle V. drawn around each proposed injection well. This circle identifies the well's area of review. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. И. 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; 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 geologic data on the injection zone including appropriate lithologic detail, geologic 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 sources known to be immediately underlying the injection interval. IX. Describe the proposed stimulation program, if any. *****₹. 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 sources of drinking water. 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. TITLE: DISTRICT ENGINEER DATE: 2/26/04 E-MAIL ADDRESS: 9harris @ SAGEMID. COM If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted.

Please show the date and circumstances of the earlier submittal: ORIGINIAL C-108 for Project, digital

8/10/90

ADDENDUM TO FORM C-108

SAGE ENERGY COMPANY

APPLICATION FOR AUTHORIZATION TO INJECT

- VII. 1.) Average daily injection rate is 200 bwpd, maximum daily injection rate is 450 bwpd. The total volume of fluid to be injected 1,460,000 barrels.
 - 2.) This injection system is closed.
 - 3.) The proposed average injection pressure is 4050#, maximum proposed injection pressure is 4500#.
 - 4.) The injection fluid will be fresh water from the Ogalalla. This water is compatible with the Abo formation as witnessed by the past performance of this flood. Fresh water analysis is attached.
- IX. This well will not be stimulated.



Company: Source :

Number: 593

Sage Energy Fresh Water Well

Location:

Attention:

Date Sampled: Salesman:

NVANU

February 25, 2004 Robert Kepple

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		/) ^ ^	^								-	•

OPERATOR: SACE ENERGY COMPANY

	SECTION TOWNSHIP RANGE	WELL CONSTRUCTION DATA Surface Casing	Casing Size: 12-34"	sx. or ft ³	Method Determined: SIGHT	Intermediate Casing	Casing Size: 7"	sx. or the	Method Determined: 516HT	Production Casing	Casing Size: 4 1/2	Sx. or	Method Determined: TEMP. SUR,		Injection Interval	8599 feet to 8642'	(Perforated or Open Hole; indicate which)	
WELL NAME & NUMBER: $MANU$ 9 #3 WELL LOCATION: 460FSL $//80 \text{FSL}$ $^{\circ}O''$	FOOTAGE LOCATION UNIT LETTER	WELLBORE SCHEMATIC	Hole Size: 15"		Top of Cement: 6L	75 @ 201	Hole Size: 8 %	Cemented with: MOO	Top of Cement: 6L	4904,	12 238" 789 (ununea) Hole Size: 6"	Cemented with: 80	700 8 7200 by 75 Top of Cement: 7200	100 100 100 100 100 100 100 100 100 100	M M	REPORTIONS SSTATIONS BONG REFORMTIONS	#9:11 / * * * * * * * * * * * * * * * * * *	70.49 87.89 B789

INJECTION WELL DATA SHEET

Tubing Size: $\lambda - \frac{3}{8}''$ Lining Material: $\lambda / 4$	LOX SET (41/2")(Packer Setting Depth: 8492'	Other Type of Tubing/Casing Seal (if applicable):	Additional Data	Is this a new well drilled for injection? The for what mimose was the well originally drilled?	r no, tot waar parpose was me wen originally armed: 11 coses 1 coses	Name of the Injection Formation: $\mathcal{H}bc$	Name of Field or Pool (if applicable): B URCUUM, ABO NORTH	Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used.	Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area.	SAN Andres @ 4400' (NOLECHING @ 10,800'	
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Affidavit of Publication

STATE FRANCE

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)
Joyce Clemens being first duly s says that she is Advertisting Dir DAILY LEADER, a daily newspation published in the English la County, New Mexico; that said not lished in such county continuous period in excess of Twenty-six (2 prior to the first publication of the hereinafter shown; and that said duly qualified to publish legal no Chapter 167 of the 1937 Session Mexico.	ector of THE LOVINGTON per of general paid circulatinguage at Lovington, Lead ewspaper has been so publicy and uninterruptedly for a 26) consecutive weeks next at newspaper is in all things tices within the meaning of
That the notice which is hereto a	attached, entitled
Legal Notice	
was published in a regular and	entire issue of THE LOV-
INGTON DAILY LEADER and no	ot in any supplement there-
of, for one (1) day ,	beginning with the issue of
February 26	and ending with the issue
, 200-	and ending with the issue

Debbie Schilling

Notary Public, Lea County, New Mexico My Commission Expires June 22, 2006 Sage: Energy: Company, P.O. Drawer. 3068. Midland, icTexas, 79702. (contact: George Harris, 432-683-5271) has applied to convert the NVANU Well 9#3 to water injection. Service in the North Vacuum (Abo) North Unit water-flood: This well is located 460 FSL, 1680 FEL of Sec 2, R-34-E T-17-S, in Lea County. New Mexico. The operator intends to inject fresh water into the Abo for mation 1st. a depth of 8600 Maximum pressure of 4500# Interested parties must file objections or request for hearing with the Oil Conservation Division. 1220 S St. Francis Dr. Santa Fe, New; Mexico, 87505 within 15 days of todays date.

	600	CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Insurance Coverage F	Provided)
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NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor

April 5, 2004

Joanna Prukop
Cabinet Secretary
Acting Director
Oil Conservation Division

Sage Energy Company P.O. Drawer 3068 Midland, Texas 79702

Attention: Mr. George M. Harris, Jr.

Re:

Form C-108

NVANU "9" Well No. 3

Unit O, Section 2, T-17 South, R-34 East, NMMP,

Lea County, New Mexico

Dear Mr. Harris:

I have reviewed your application dated February 26, 2004 to convert the NVANU "9" Well No. 3 to an injection well within the North Vacuum Abo North Unit Waterflood Project. I am seeking additional information with regards to Part VI of Form C-108. This project was originally approved on November 13, 1990. Please verify that within this well's area of review, nothing has changed since this data was presented in 1990. Anything that has changed during this time period, including the drilling of new wells, plugging of wells, etc. must be reported within this new application.

If you should have any questions, please contact me at (505) 476-3466. I will continue to process your application once I have received the requested material.

Sincerely,

David Catanach Engineer/Examiner