

APPLICATION FOR AUTHORIZATION TO INJECT NOV 26 2002

I. PURPOSE: Secondary Recovery Pressure Maintenance Disposal Storage
 Application qualifies for administrative approval? X Yes No **OIL CONSERVATION DIVISION**

II. OPERATOR: RAY WESTALL
 ADDRESS: P.O. Box 4 Loco Hills, NM 88255
 CONTACT PARTY: RANDALL HARRIS PHONE: 505 677 2370

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 X 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:

- Proposed average and maximum daily rate and volume of fluids to be injected;
- Whether the system is open or closed;
- Proposed average and maximum injection pressure;
- Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
- 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.

*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 sources 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: RANDALL HARRIS TITLE: GEOLOGIST
 SIGNATURE: [Signature] DATE: 11/20/02

* 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: _____

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 the 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, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

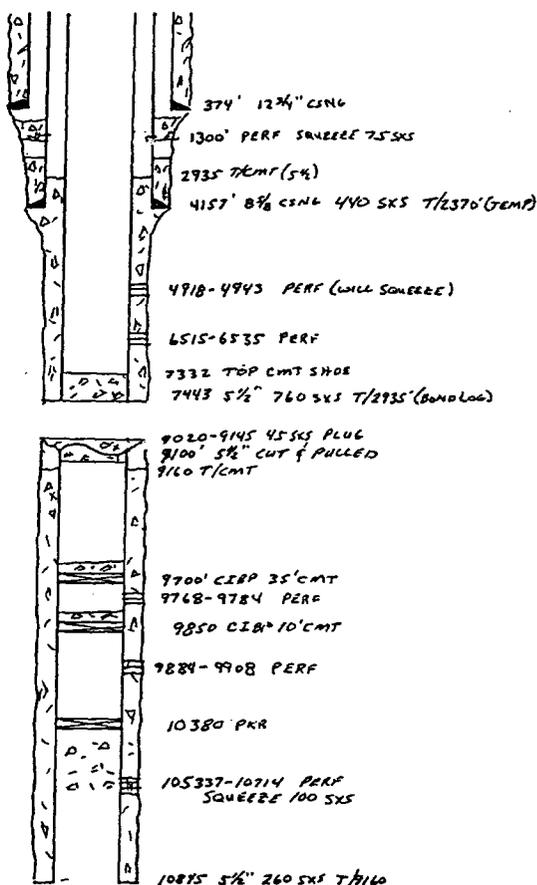
NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

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.

INJECTION WELL DATA SHEET

RAY WESTALL
 LUSK 16 STATE #4 (30-025-24787)
 2030' FSL & 660' FEL SEC 16 T19S-R32E

Schematic



Tubular Data

Surface Casing
 Size 12 3/4" 41.51# Set @ 374' Cemented
 with 450 sxs Circulated
 Hole size 17 1/2"

Intermediate Casing
 Size 8 5/8" 24 & 32# set @ 4157' Cemented
 with 440 sxs. T/2370 (Temp)Perf 1300'
 pump 75 sxs cmt T/1025 (Calc.) Hole size
 11"

Long String
 Size 5 1/2" 17 & 15.5# set @ 10845' Cemented
 with 260 sxs T/ 9160' Cut & Pulled 9100'.
 Set 5 1/2" @ 7443' Cemented with 760 sxs
 T/2935' (Bond Log)
Injection interval
 6515-6535 feet Perforated

Tubing size 2 7/8" lined with Plastic set in a Baker Loc-set packer at 6400 feet.

Other Data

1. Name of the injection formation. DELAWARE
2. Name of field or pool. WEST LUSK DELAWARE
3. Is this a new well drilled for injection? No
 If no, for what purpose was the well originally drilled? Oil & Gas 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. SEE SCHEMATIC
5. Give the depth to and name of any overlying or underlying oil or gas zones in this area.
 Morrow 12500, Wolfcamp 10500, Yates 2800.

ATTACHMENT V

Maps that identifies all wells of public record within two miles of each proposed injection well, and the area of review one-half mile radius around each proposed injection well.

ATTACHMENT VI

Data on all wells of public record within the area of review. Included are schematics of the plugged wells that penetrated the proposed injection zone within the area of review.

WELL NAME	LOCATION	SPUD DATE	SUR.CASING	INT.CASING	PROD. CASING	COMPLETION
EOG State DR #3	NENE Sec 16 T19S-R32E	11/26/78	13 3/8" @ 455' 400 sxs Circ.	9 5/8" @ 4133' 3100 sxs Circ	5 1/2" @ 11100 1720 sxs T/4115'	10721-10728 E. Lusk Wolfcamp Oil
EOG State DR #2	SENE Sec 16 T19S-R32E	6/14/78	13 3/8" @ 392 475 sxs Circ.	8 5/8" @ 4047 2900 sxs Circ.	5 1/2" @ 11000 1420 sxs T/2410'	2890-2997 NE Lusk Yates Oil
Ray Westall Lusk 16 State #2	NESW Sec 16 T19S-R32E	10/10/64	13 3/8" @ 1000 977sxs Circ.	9 5/8" @ 3991' 2493 sxs T/830	5 1/2" @ 12948 1735 sxsT/6000'	12569-12729 Lusk Morrow Gas

Wells not deep enough to penetrate disposal zone

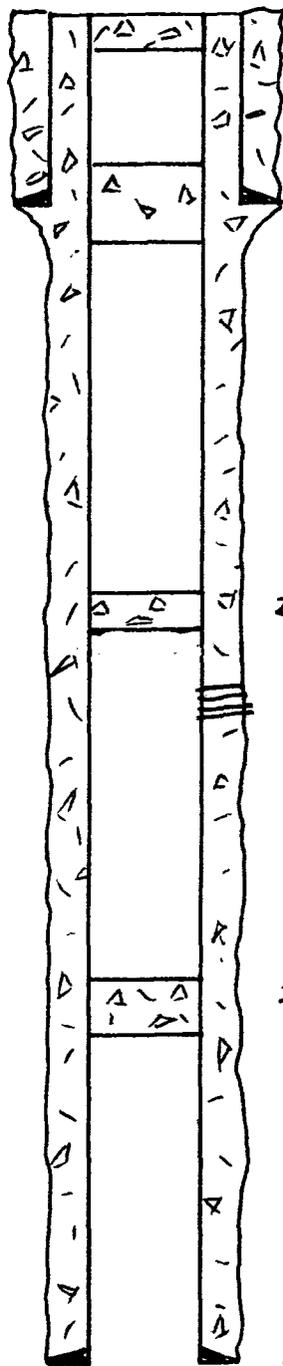
Amoco State DR #4	NENE Sec 16 T19S-R32E	Not Deep Enough	TD 3250'
Sun Shearn Fed #2	SWNW Sec 15 T19S-R32E	Not Deep Enough	TD 3030'

P & A Wells

Meridian Oil State DR #5	SWNE Sec 16 T19S-R32E	2/13/89
Sun Oil Shearn Federal #2	NWSW Set 15 T19S-R31E	12/7/71

SCHEMATICS ATTACHED

MERIDIAN OIL
STATE "DR" #5
1980 FNL, 1980 FEL
SECTION 16 T19S-R32E



10 SXS SURFACE PLUG

880' 9 5/8" CSNG 450 SXS CIRCULATED
719-965 25 SXS PLUG

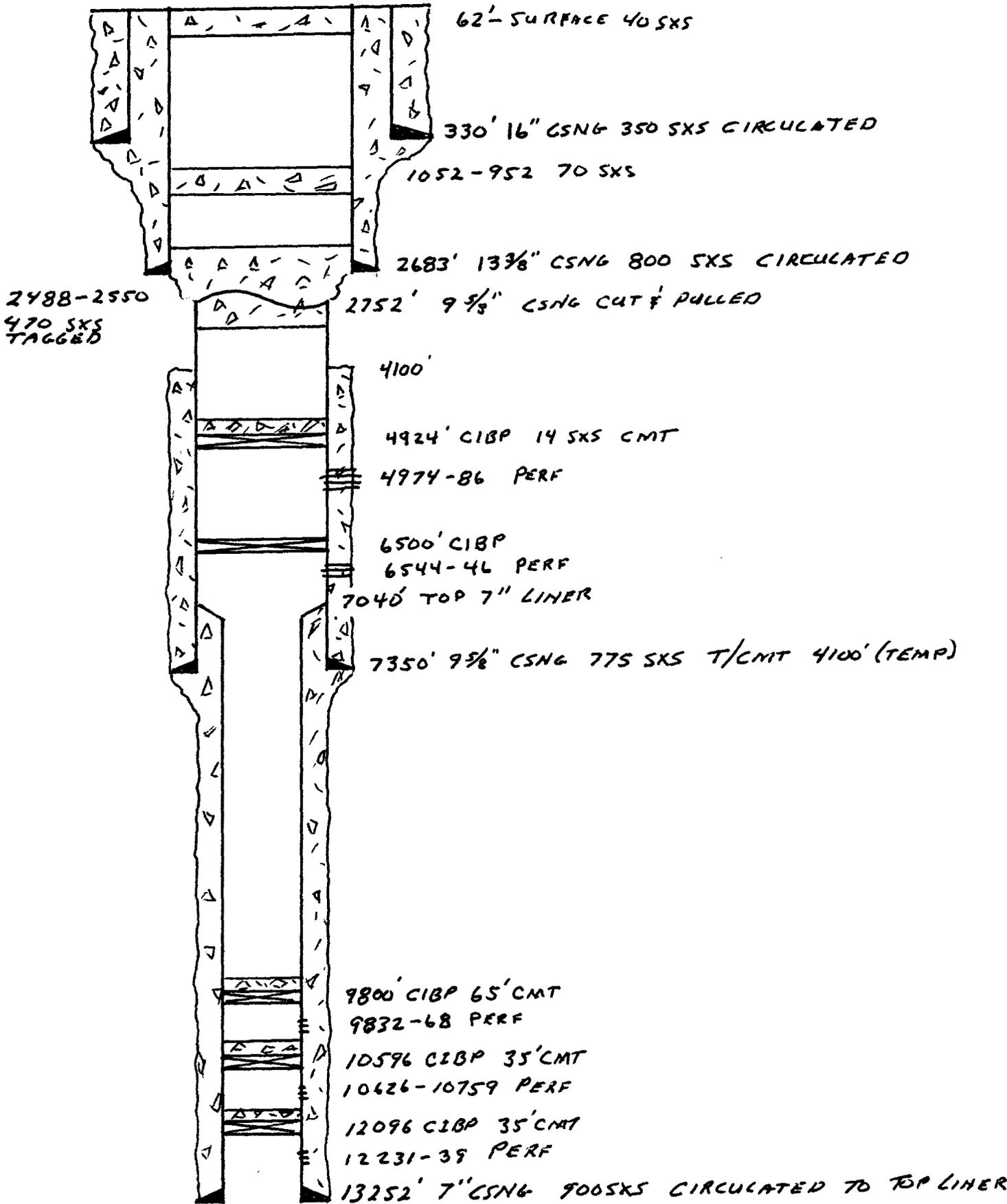
2564-2705 25 SXS PLUG

2980-3004 PERF

2564-4814 25 SXS PLUG

6600' 5 1/2" 3900 SXS CIRCULATED

SUN OIL COMPANY
 SHEARN-FEDERAL #1
 1980' FSL & 660' FWL
 SECTION 15 T195 R32E



ATTACHMENT VII

1. Proposed average of 150 bbls per day and maximum of 300 bbls per day of injected fluids. At a rate of one bbl per minuet.
2. System will be closed.
3. Average anticipated pressure of 450 psi and a maximum of 800 psi.
4. Source of produced water is reinjected produced water from offsetting leases of the same formation.
5. Water analysis attached.

BJ SERVICES COMPANY

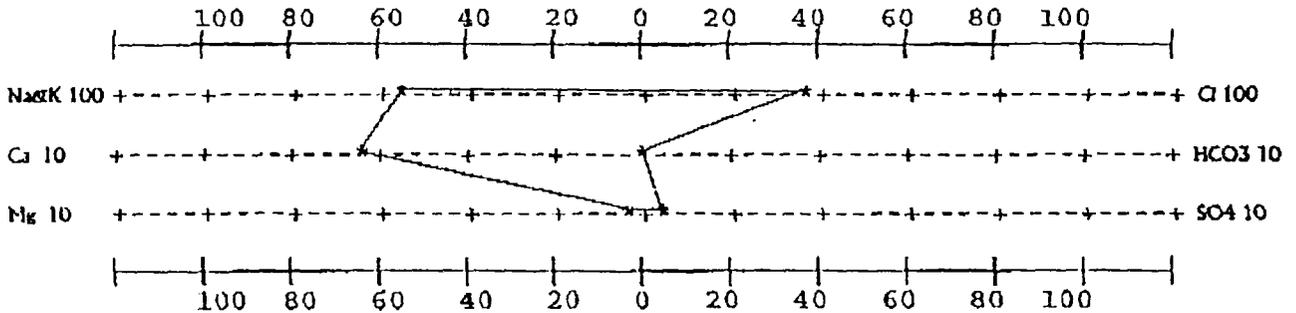
WATER ANALYSIS #FW01W051

ARTESIA LAB

GENERAL INFORMATION			
OPERATOR:	RAY WESTALL OPERATING	DEPTH:	
WELL:	Lusk 16 STATE	DATE SAMPLED:	04/03/96
FIELD:	Lusk	DATE RECEIVED:	04/03/96
SUBMITTED BY:	RANDY HARRIS	COUNTY:	EDDY STATE: NM
WORKED BY:	CRAIG BAILEY	FORMATION:	DELAWARE
PHONE NUMBER:			

SAMPLE DESCRIPTION	
PHYSICAL AND CHEMICAL DETERMINATIONS	
SPECIFIC GRAVITY:	1.165 @ 80°F PH: 5.55
RESISTIVITY (CALCULATED):	0.025 ohms @ 75°F
IRON (FE++) :	100 ppm
CALCIUM:	13,060 ppm
MAGNESIUM:	626 ppm
CHLORIDE:	125,294 ppm
SODIUM+POTASS:	88,621 ppm
IODINE:	
SULFATE:	1,073 ppm
TOTAL HARDNESS	35,214 ppm
BICARBONATE:	126 ppm
SODIUM CHLORIDE (Calc)	206,108 ppm
TOT. DISSOLVED SOLIDS:	250,328 ppm
POTASSIUM CHLORIDE:	
REMARKS	

STIFF TYPE PLOT (IN MEQ/L)



ANALYST Craig Bailey
CRAIG BAILEY

ATTACHMENT VIII

The proposed injection zone is a fine grained sand in the Delaware Formation. It has several sands with varying thickness. There is possible drinking water overlying the injection in the surface sands at a depth of 0-250'. There is no known source underlying the injection interval.

ATTACHMENT IX

No proposed stimulation.

ATTACHMENT XI

There is no active fresh water wells within one mile.

ATTACHMENT XII

All available geologic and engineering data have been examined and there is no evidence of open faults or any other hydrologic connection between the disposal zone and any source of drinking water.

ATTACHMENT XIV

PROOF OF NOTICE

Leasehold operators within one-half mile of the well location are: EOG Resources, Autry Stephens, 3TEC Energy and Gruy. Each of the operators were provided a copy of our application by certified mail. Proof of notice is enclosed. The surface owner is the State of New Mexico.

PROOF OF PUBLICATION

Proof of publication will be from the Hobbs Daily Sun and will be forwarded.

CERTIFIED MAIL

Autry C. Stephens
110 N. Marienfeld St
Ste 200
Midland, TX 79071-4412

7000 0600 0024 2324 1704

Gruy Petroleum
600 Las Colinas Blvd. E.
Ste 1200
Irving, Tx. 75039-5613

7000 0600 0024 2324 1698

EOG
P.O. Box 4362
Houston, Tx. 77210-4362

7000 0600 0024 2324 1681

3TEC Energy
Two Shell Plaza
777 Walker
STE 2400
Houston, Tx. 77002

7000 0600 0024 2324 1674

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs News-Sun, a 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 a supplement thereof for a period.

of 1 weeks.

Beginning with the issue dated October 25 2002

and ending with the issue dated October 25 2002

Kathi Bearden

Publisher

Sworn and subscribed to before

me this 25th day of

October 2002

Jodi Benson

Notary Public.

My Commission expires
October 18, 2004
(Seal)

LEGAL NOTICE
October 25, 2002

Ray Westall-Operator, P.O. Box 4, Loco Hills, New Mexico 88255 Phone (505)677-2370. Contact party of Ray Westall-Operator is Randall Harris, is seeking administrative approval from the New Mexico Oil Conservation Division to utilize a well located 2030' FSL & 660' FEL Section 16, Township 19 South, Range 32 East, Lea County, New Mexico known as the Lusk 16 State #4 for water injection. Proposed injection is in the Delaware formation through perforations 6515-6535 feet. Expected maximum injection rate of 500 bbls per day at 800 psi. Interested parties must file objection or requests for hearing with the Oil Conservation Division, 1220 So. St. Francis Drive,, Santa Fe, NM 87505 within 15 days of the notice.
#19326

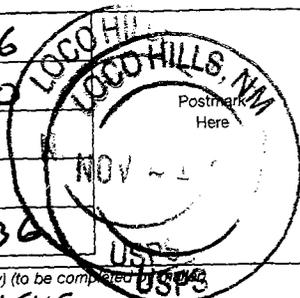
This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

67100415000 67510293
Ray Westall Operating
P.O. Box 4
LOCO HILLS, NM 88255

U.S. Postal Service
CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

7000 0600 0200 4200 2324 1674

Postage	\$ 1.06
Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 3.36



Recipient's Name (Please Print Clearly) (to be completed by mailer)
ANTRY C. STEPHENS
 Street, Apt. No., or PO Box No.
110 N. MARICFIELD ST. STE 200
 City, State, ZIP+4
MIDLAND, TX 79071-4412
 PS Form 3800, February 2000 See Reverse for Instructions

U.S. Postal Service
CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

7000 0600 0200 4200 2324 1674

Postage	\$ 1.06
Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 3.36

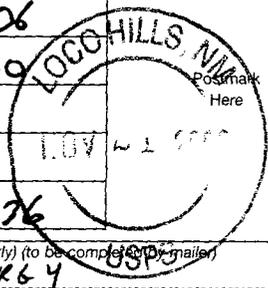


Recipient's Name (Please Print Clearly) (to be completed by mailer)
GRUY PETROLEUM
 Street, Apt. No., or PO Box No.
600 LAS COLINAS BLVD E STE 1200
 City, State, ZIP+4
IRVING, TX 75039-5613
 PS Form 3800, February 2000 See Reverse for Instructions

U.S. Postal Service
CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

7000 0600 0200 4200 2324 1674

Postage	\$ 1.06
Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 3.36

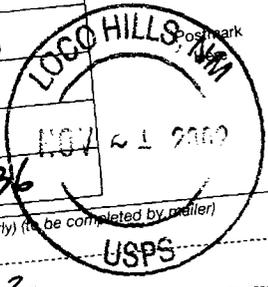


Recipient's Name (Please Print Clearly) (to be completed by mailer)
3 TEC ENERGY
 Street, Apt. No., or PO Box No.
TWO SHELL PLAZA 777 WALICER ST 240
 City, State, ZIP+4
HOUSTON, TX 77002
 PS Form 3800, February 2000 See Reverse for Instructions

U.S. Postal Service
CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

7000 0600 0200 4200 2324 1674

Postage	\$ 1.06
Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 3.36



Recipient's Name (Please Print Clearly) (to be completed by mailer)
EOG
 Street, Apt. No., or PO Box No.
P.O. BOX 4362
 City, State, ZIP+4
HOUSTON, TX 77210-4362
 PS Form 3800, February 2000 See Reverse for Instructions



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

Oil Conservation Division
1220 S. Francis Drive
Santa Fe, NM 87505

RE: Proposed:
MC _____
DHC _____
NSL _____
NSP _____
SWD X _____
WFX _____
PMX _____

Gentlemen:

I have examined the application for the:

Ray Westall Lusk 16 State #4-I, 16-195-320
Operator Lease & Well No. Unit S-T-R API # 30-025-24787

and my recommendations are as follows:

OK

Yours very truly,

Chris Williams
Chris Williams
Supervisor, District 1