STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

4-19-94

BRUCE KING
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

R-10314

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

Gentlemen:

I have examined the application for the:

Operator	Lease & Well No.	Unit	S-T-R
Hal J Rasmussen Oper. Inc.	Farnsworth A Federal	#2-P	13-26-36
	Farnsworth A Federal	#1-A	13-26-36

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMEI

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☒ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no

II. Operator: Hal J. Rasmussen Operating, Inc.

Address: 310 W. Wall; Suite 906; Midland, Texas 79701

Contact party: Tyson Dunn Phone: (915) 687-1664

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.

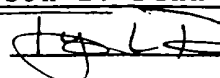
XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

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: Tyson L. Dunn Title Production Engineer

Signature:  Date: 4-6-94

* 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. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division

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.

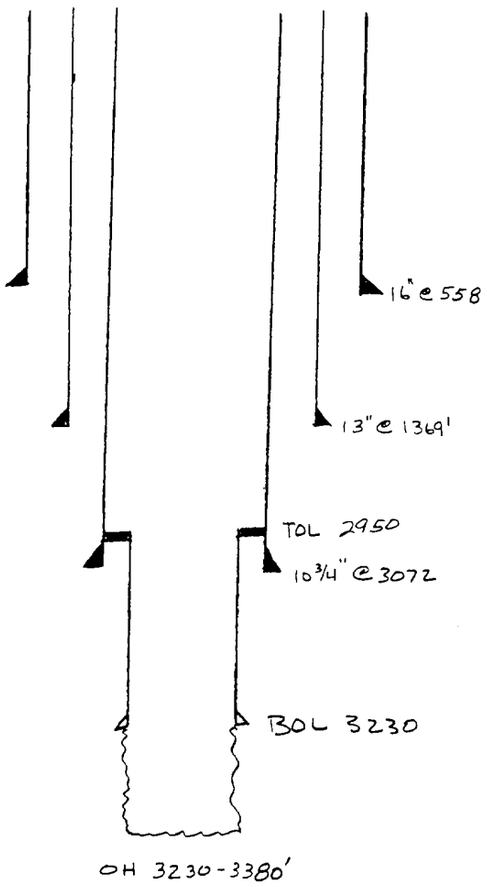
NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

INJECTION WELL DATA SHEET

OPERATOR	LEASE
Hal J. Rasmussen Operating, Inc.	Farnsworth A

WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
2	330' FSL & 990' FEL	13	26S	36E

Schematic



Tabular Data

Surface Casing

Size 16 " Cemented with 25 sx.

TOC surface feet determined by circulation

Hole size 20"

Intermediate Casing

Size 13 " Cemented with 111 sx.

TOC surface feet determined by circulation

Hole size 14 3/4

Long string

Size 10 3/4 " Cemented with 75 sx.

TOC 2400 feet determined by calculation

Hole size 12 1/4

Total depth 3235' (CURRENT)

Injection interval

3230 feet to 3380 feet
(perforated or open-hole, indicate which)

Proposed Liner

Size 7 5/8" Cement 50 sx

Hole Size 9 5/8

TOL 2950'

BOL 3230

Total Depth 3380'

Tubing size 5 1/2" lined with plastic coated (material) set in a

Baker Model AD-1 (Tension) (brand and model) packer at 3230 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Seven Rivers

2. Name of Field or Pool (if applicable) Scarborough Yates Seven Rivers

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

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

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)

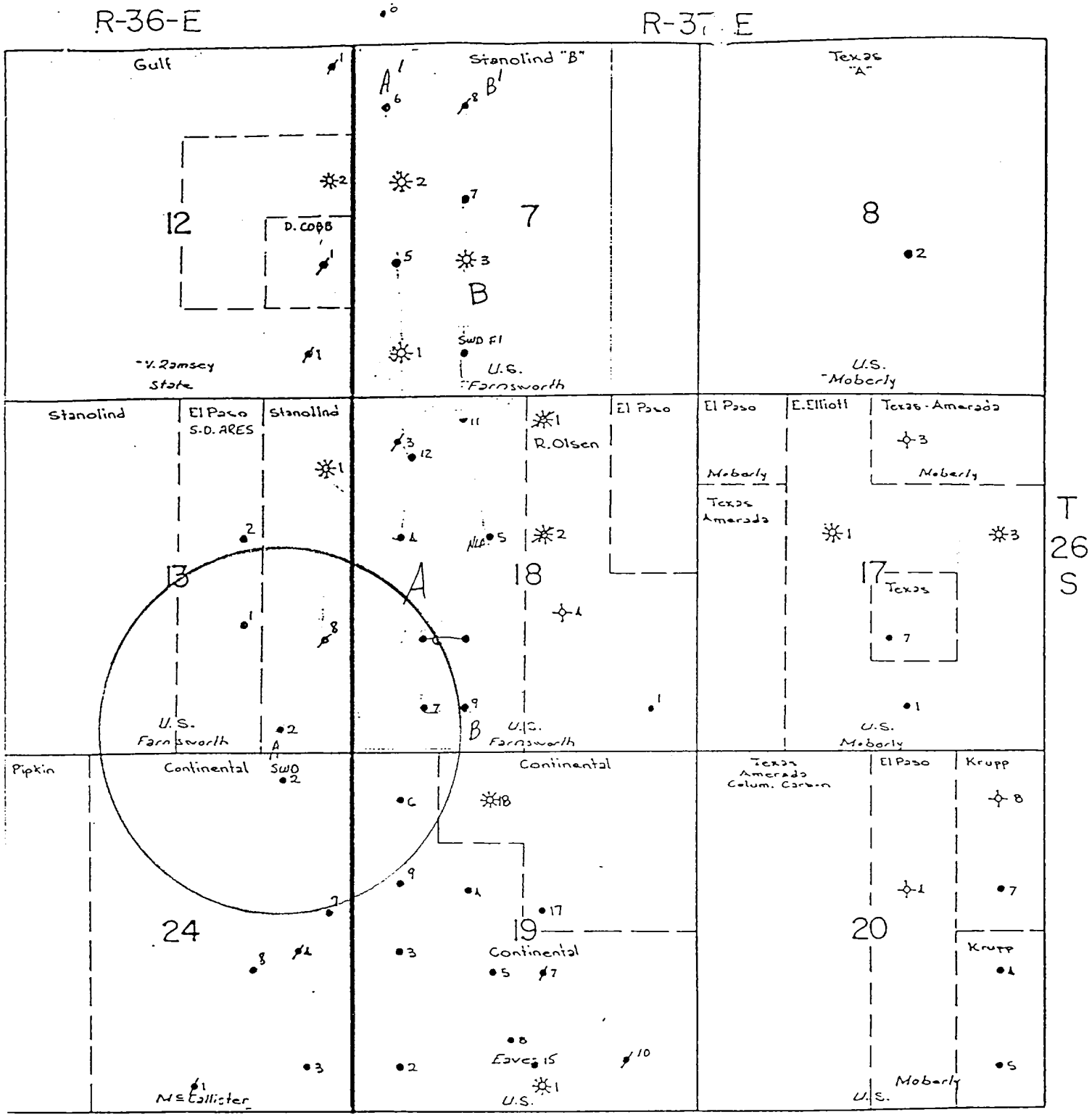
   Produced from OH @ 3072-3235'

   Perf @ 2984-3054'. 5/89 - Set 75 sx plug @ 2864'

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

   Overlying zone: Yates 2980-3218'.

   No known underlying oil or gas zones.



HAL J. RASMUSSEN OPERATING, INC.
FARNSWORTH A-2
SEC. 13-T26S-R36E
LEA COUNTY, NM

Wells in Area of Review
Application for Authorization to Inject
Hal J. Rasmussen Operating, Inc.

Farnsworth A-6

1650' FSL & 990' FWL
Type: Oil

Section 18 T26S R37E
Date Drilled: 2/41
Total Depth: 3010'

Casing Record:

Size	Depth	Sacks Cement
13"	54	50
9 5/8	1231	430
5 1/2	2809	215

Completion:

3/41 OH 2809-3010'
4/58 INPE
12/86 Install submersible pump.
1/94 Put back on production - submersible pump.

Farnsworth A-7

660' FSL & 990' FWL

Section 18 T26S R37E
Date Drilled: 5/41
Total Depth: 3223

Casing Record:

Size			Depth	Sacks Cement
13			50	50
8 5/8			1228	400
5 1/2			2869	215
4" liner	TOL @ 2823'	BOL @ 3223'		150

Completion:

6/41 OH 2896-2965'
1/54 Deepened well to 3223'. Run 400' 4" liner. Perf @ 3188-96'.
6/62 INPE
6/93 Install submersible pump.
4/94 Proposed workover. Install submersible pump.

Farnsworth A-8

1650' FSL & 330' FEL
Type : P & A
Date Plugged: 7/63

Section 13 T26S R37E
Date Plugged: 2/63
Total Depth: 3306

Casing Record:

Size	Depth	Sacks Cement
8 5/8	329	100
4 1/2	3306	200

Plugging Record:

1) Spotted 25 sx across perfs @ 3080-97'.
2) Pulled 4 1/2" casing from 2530'.
3) Spotted 25 sx plug in and out stub.
4) Spotted 25 sx plugs @ 1290' and 329'.
5) Spotted 10 sx cement plug at surface & installed marker.

El Paso Natural Gas #1

1980' FSL & 1650' FEL
Type: Oil

Section 13 T26S R37E
Date Drilled: 12/62
Total Depth: 3259'

Casing Record:

Size	Depth	Sacks Cement
8 5/8	352	200
4 1/2"	4699	450

Completion:

12/62 Perf @ 3206-10'

Eaves A-6

660' FNL & 660' FWL
Type: Oil

Section 19 T26S R37E
Date Drilled: 3/50
Total Depth: 3305'

Casing Record:

Size	Depth	Sacks Cement
7 5/8	1179	500
5 1/2	3299	780

Completion:

3/50	Retainer @ 3283'. Cmt w/50 sx
	Retainer @ 3265'. Cmt w/50 sx
	Retainer @ 3255'. Cmt w/50 sx
	Retainer @ 3237'. Cmt w/50 sx
	Retainer @ 3201'. Cmt w/50 sx
	Perf @ 3190-3200'.
9/70	Perf @ 3132-79'.
2/81	Perf @ 3121-96'. Ran submersible pump.
5/94	Proposed workover. Install submersible.

McCallister A-2

330' FNL & 990' FEL
Type: SWD

Section 24 T26S R36E
Date Drilled: 10/33
Total Depth: 3238'

Casing Record:

Size	Depth	Sacks Cement
15 1/2	247	40
10	1316	100
8 1/4	1525	100
7	3076	100

10/33	OH 3076-3236'
7/46	PBTD 3218'
7/65	Perf @ 3045-63'.
9/70	Converted to injection well.
	New Mexico OCD Order No. R-4026.
	Set packer @ 3007'.
4/94	Proposed workover. Deepen well for injection in same zone.

VII Proposed Operation

The Farnsworth A #2 well will be used to inject produced water for pressure maintenance from other wells on the Farnsworth lease via a closed disposal system.

Proposed average injection rate and pressure: 8000 BWPD @ Vacuum.
Proposed maximum injection rate and pressure: 10000 BWPD @ 100 psi.

VIII Geological Data

This produced water will be injected into the Seven Rivers formation which is located from 3230' to 3380'. The Seven Rivers formation consists mostly of sand and lime.

The source of underground drinking water in the area is the Ogallala formation (base at ±200').

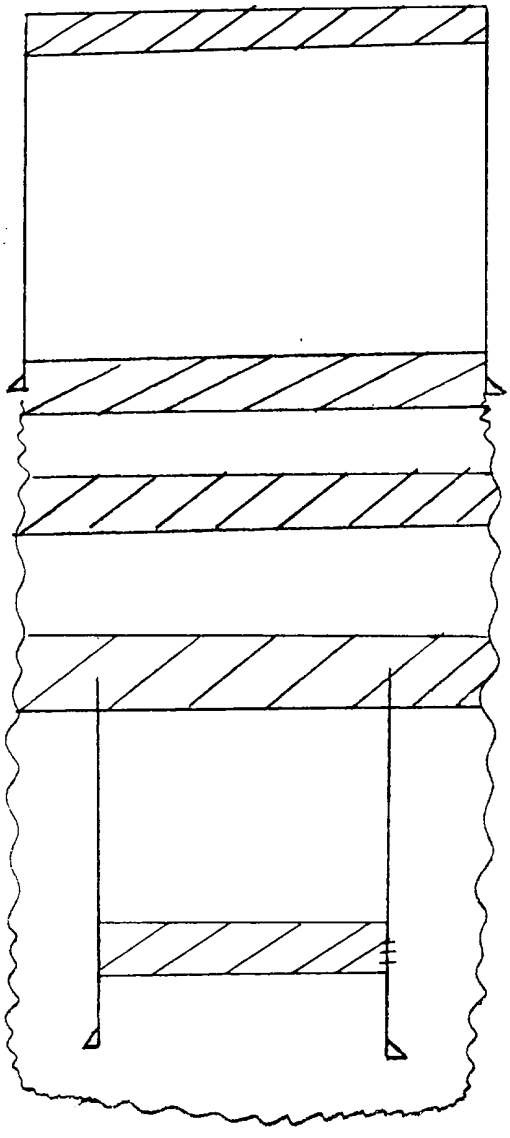
IX Proposed Stimulation

We will clean out the wellbore, set a Baker Model AD-1 packer at 3230', and acidize with 5000 gallons of acid if necessary.

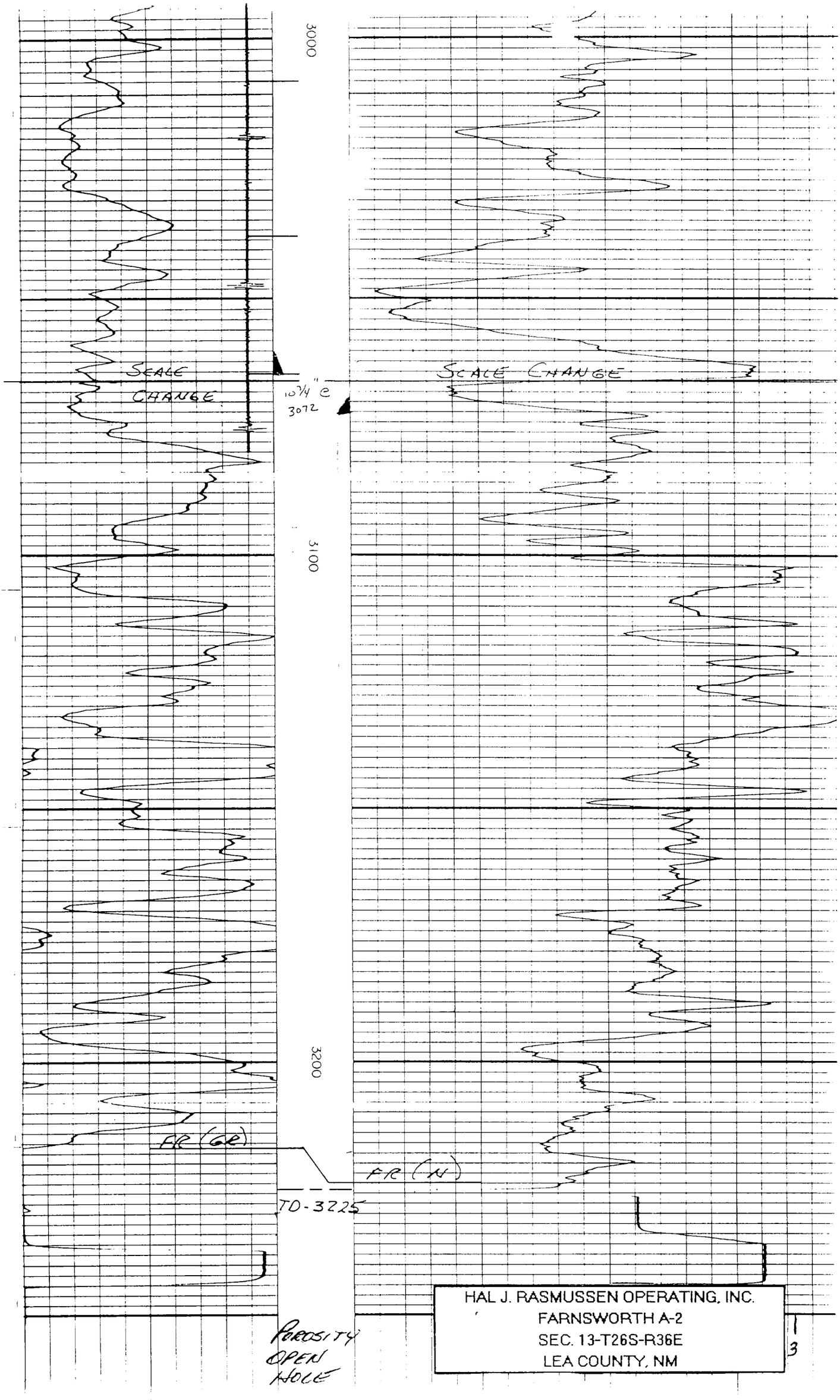
FARNSWORTH A-8

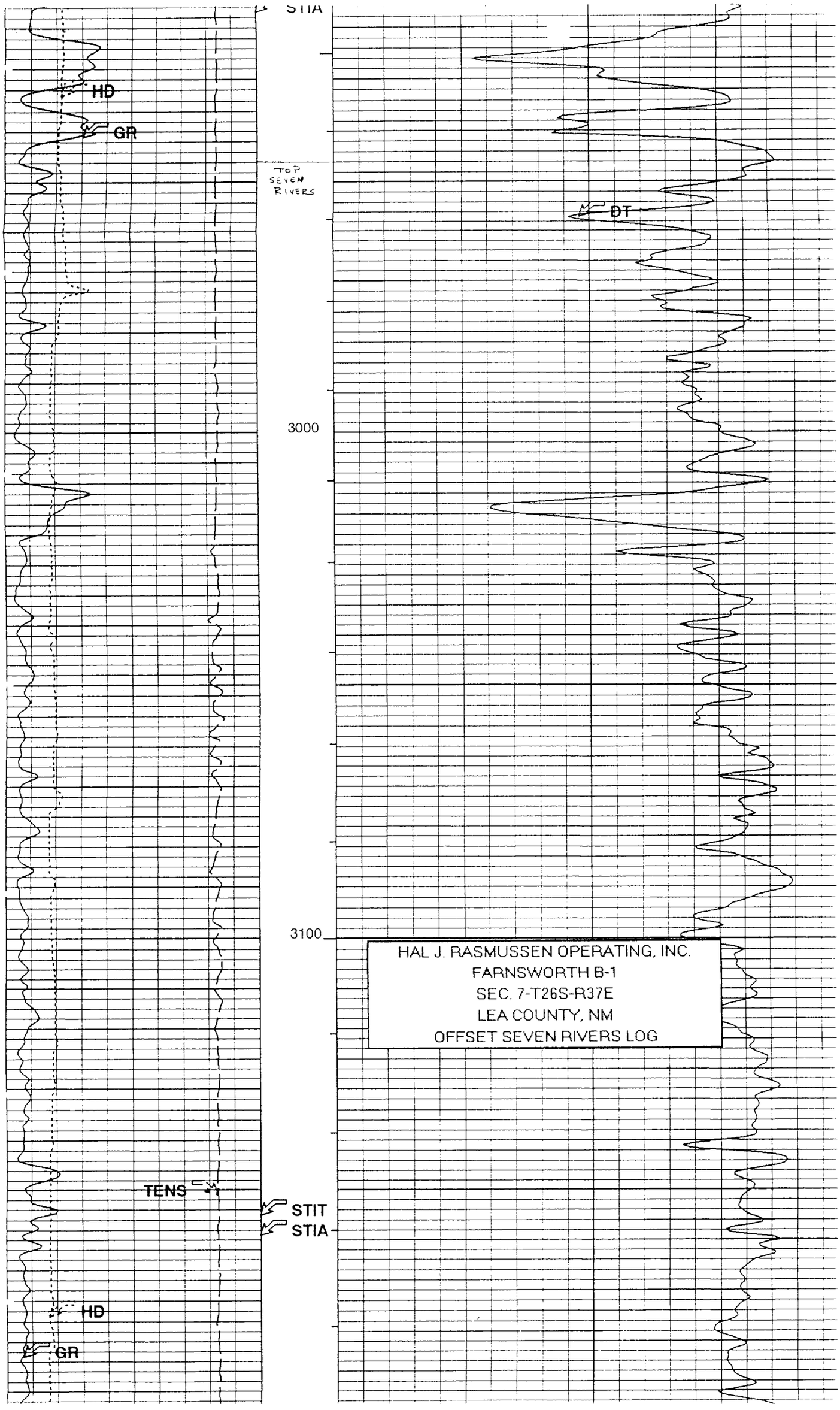
1650' FSL & 330' FEL

Section 13-T26S-R36E



P & A : 7/63


3000
SCALE CHANGE
10 3/4" @ 3072
SCALE CHANGE
3100
3200
FR (GR)
FR (N)
TD - 3225
POROSITY OPEN HOLE
HAL J. RASMUSSEN OPERATING, INC.
FARNSWORTH A-2
SEC. 13-T26S-R36E
LEA COUNTY, NM


STIA
HD
GR
TOP
SEVEN
RIVERS
DT
3000
3100
HAL J. RASMUSSEN OPERATING, INC.
FARNSWORTH B-1
SEC. 7-T26S-R37E
LEA COUNTY, NM
OFFSET SEVEN RIVERS LOG
TENS
STIT
STIA
HD
GR

UNICHEM INTERNATIONAL
P.O. BOX 61427 4312 County Road 1298 S.
Midland, Texas 79711

Hal J. Rasmussen

Report Date: September 23, 1993
Lab In Date: September 22, 1993
Sample Date: September 17, 1993

WINDMILL LOCATION: 250' FSL & 2500' FWL
SEC. 19 T26S R37E

Listed below please find our water analysis report from Windmill

Specific Gravity:			1.001
Total Dissolved Solids:			1018
PH:			7.81
Ionic Strength:			.020

			mg/liter
CATIONS:			
	Calcium:	(Ca++)	44
	Magnesium:	(Mg++)	44
	Sodium:	(Na+)	194
	Iron (Total)	(Fe++)	3.10
	Barium	(Ba++)	0.00
	Manganese:	(Mn++)	.18
	Resistivity:		
ANIONS:			
	Bicarbonate:	(HCO3-)	368
	Carbonate:	(CO3--)	0
	Hydroxide:	(OH-)	0
	Sulfate:	(SO4--)	295
	Chloride:	(Cl-)	73
GASES:			
	Carbon Dioxide:	(CO2)	******
	Oxygen:	(O2)	*******
	Hydrogen Sulfide:	(H2S)	******

SCALE INDEX (Positive Value Indicates Scale Tendency) * indicates tests were not run.

Temperature		CaCO3 SI	CaSO4 SI
86F	30.0C	.55	-21.21
104F	40.0C	.84	-21.37
122F	50.0C	.98	-21.37
140F	60.0C	1.14	-21.21
168F	70.0C	1.31	-20.25
176F	80.0C	1.49	-19.07

If you have any questions or require further information, please contact us.

Sincerely,

Jeanne M. McMurrey

Laboratory Technician

cc:

bc:
Charlie Vaden

Hal J. Rasmussen Operating, Inc.
Farnsworth A-2
Application for Authorization to Inject

Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501

April 5, 1994

Gentlemen:

I 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 other underground source of drinking water.

Sincerely,

Tyson L. Dunn
Hal J. Rasmussen Operating, Inc.

MAILING LIST

Surface Owner

Frank Anthony
P.O. Box 1512
Monahans, Texas 79756

Offset Operator

Ambett Oil Company
P.O. Box 1589
Hobbs, New Mexico 88241

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
Frank Anthony
P.O. Box 1512
Monahans, Texas 79756

4. Article Number
P 080 275 171

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Address
X

6. Signature — Agent
X Mel Forbes

7. Date of Delivery
4-7-94

8. Addressee's Address *(ONLY if requested and fee paid)*
8

PS Form **3811**, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
Ambett Oil Company
P.O. Box 1589
Hobbs, New Mexico 88241

4. Article Number
P 080 275 170

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Address
X

6. Signature — Agent
X Amy Mynatt

7. Date of Delivery
4-7-94

8. Addressee's Address *(ONLY if requested and fee paid)*
8

PS Form **3811**, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, Kathi Bearden

General Manager

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 a supplement thereof for a period.

of

one weeks.

Beginning with the issue dated

April 8, 19 94

and ending with the issue dated

April 8, 19 94

Kathi Bearden
General Manager

Sworn and subscribed to before

me this 11 day of

April, 19 94

Charlene Perrin
Notary Public.

My Commission expires
March 15, 1997
(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
April 8, 1994

Application for Authorization to Inject
Hal J. Rasmussen Operating, Inc..
310 W. Wall, Suite 906
Midland, Texas 79701
(915) 687-1664 Tyson Dunn

Farnsworth A #2 salt water injection well for pressure maintenance located at 330' FSL & 990' FEL of Section 13-T26S-R36E. The water will be injected through an open hole completion into the Seven Rivers formation at 3230'-3380'. The expected maximum injection rates and pressures are 10,0000 BWPD & 100 psi, respectively. 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.