STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

10 1997

FORM C-108 4/25/91
Revised 7-1-81

PMX-187

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: SOUTHWEST ROYALTIES, INC.

Address: PO BOX 11390 Midland, TX 79702

Contact party: James Blount Phone: 915 686-9927 or 1-800-433-7945

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 ~~SWD-547~~
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: James Blount Title Area Supervisor

Signature: James Blount Date: 3-13-97

* 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 district office.

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 [illegible] from the date this application was mailed to them.

EUNICE #2
SWD-547

EAVES A ID-SWD
R-3487

R-6271

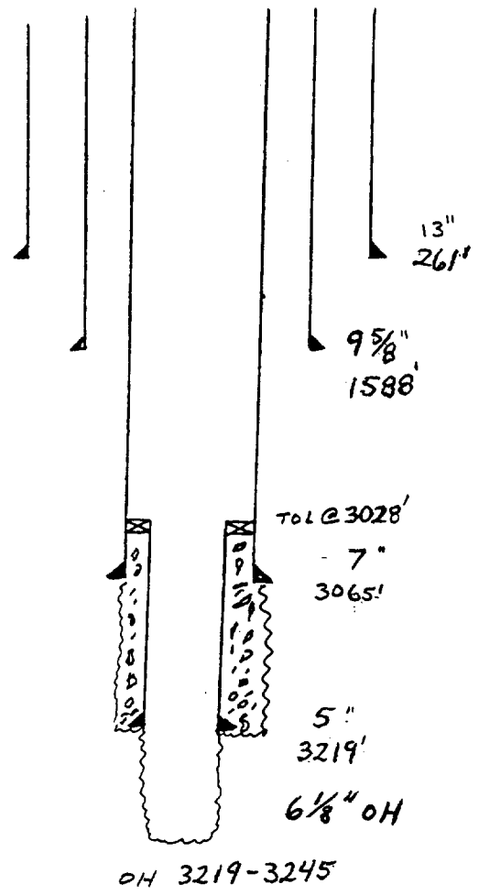
PMX-146
EAVES A S

INJECTION WELL DATA SHEET

SOUTHWEST ROYALTIES, INC.	EAVES	A	30-025-12079
OPERATOR	LEASE		

12	660' FNL & 1980' FWL	30	26S	37E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Schematic



Tabular Data

Surface Casing

Size 13 " Cemented with 100 sx.

TOC 120 feet determined by circulation

Hole size 17½

Intermediate Casing

Size 9-5/8" " Cemented with 425 sx.

TOC 223 feet determined by

Hole size 12

Long string

Size 7" " Cemented with 425 sx.

TOC 1150 feet determined by calculation

Hole size 8-3/4"

Total depth 3065

Injection interval

3219 feet to 3340 feet OH
(perforated or open-hole, indicate which)

Liner

Size 5 Cement 25 sx

Hole Size 6-1/8"

TOL 3028'

Bottom of Liner 3219'

Total Depth 3245'

Tubing size 4-1/2" lined with Plastic Coated (material) set in a

Baker Model AD-1 (Tensnion) (brand and model) packer at 3000 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

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 other perforations

Produced through OH intervals between 3219-3245'

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

Next Higher Formation: Yates 2910'-3207'

No known underlying oil & gas zones

Hal J. Rasmussen Operating, Inc.

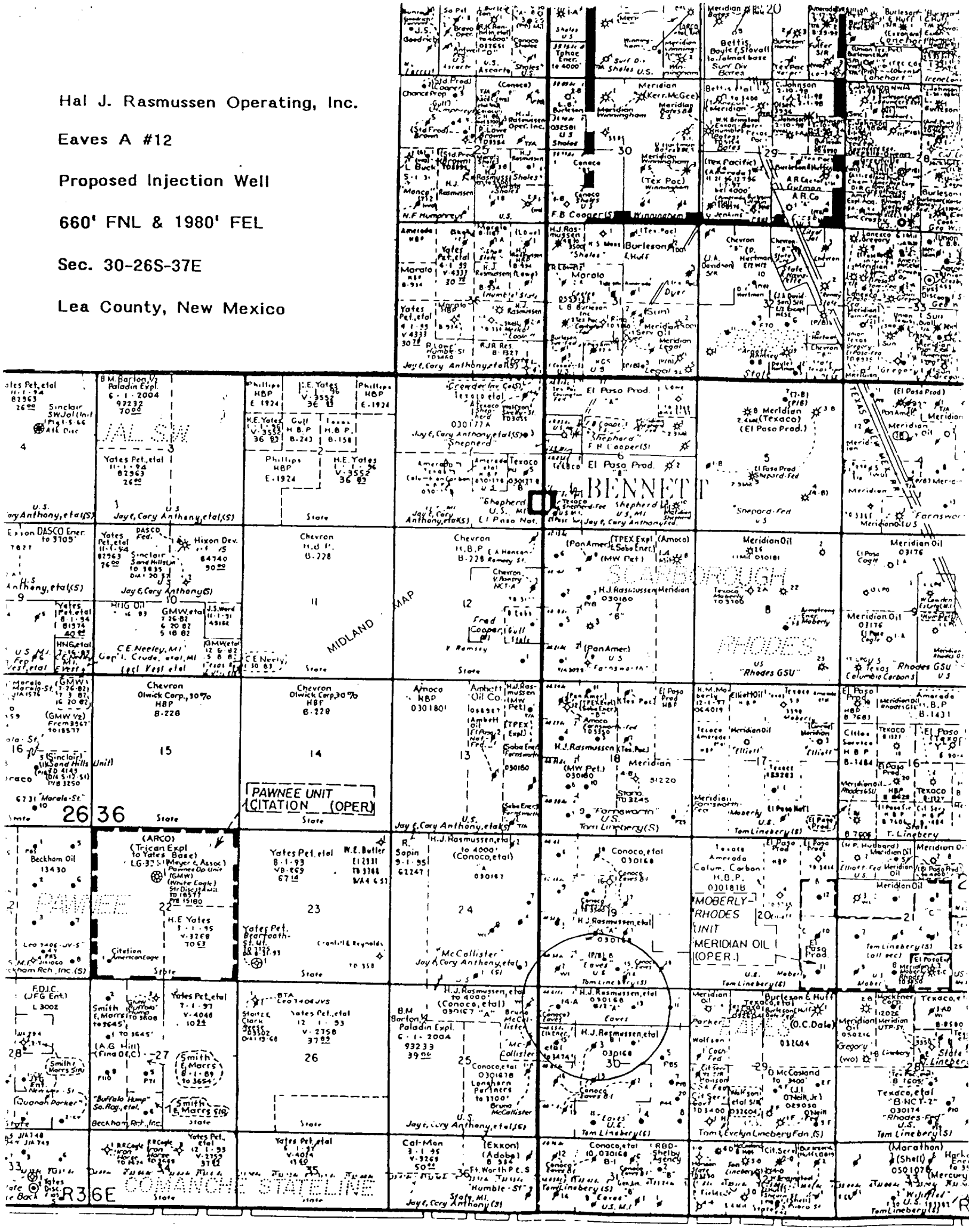
Eaves A #12

Proposed Injection Well

660' FNL & 1980' FEL

Sec. 30-26S-37E

Lea County, New Mexico



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

Eaves A-1
Location : 330' FSL & 2310' FEL
Type : Oil
Original Completion: 7/28

Section 19 T26S R37E
Date Drilled: 7/28
Total Depth 2940'

Casing Record:

Size	Depth	Sacks Cement
20"	183'	Mudded
16"	535'	Mudded
10 3/4"	1591'	Mudded
8 5/8"	2840'	40

Completion:

7/28	OH @ 2840' - 2940'
11/86	TA w/ CIBP @ 2820'

Eaves A-2
Location : 660' FSL & 660' FWL
Type : Oil
Original Completion: 7/1/36

Section 19 T26S R37E
Date Drilled: 6/36
Total Depth 3200'

Casing Record:

Size	Depth	Sacks Cement
13"	434'	200
9 5/8"	2734'	400
7"	3111'	400

Completion:

7/36	OH 3111' - 3200'
8/93	Converted to SWD

Eaves A-5

Location : 1980' FSL & 1980' FWL
Type : Disposal
Original Completion: 2/27/49

Section 19 T26S R37E
Date Drilled: 2/19/49
Total Depth 3220'

Casing Record:

Size	Depth	Sacks Cement
7 5/8"	1228'	500
5 1/2"	3219'	600

Pay: 3198-3204'; 3207-3213'

Completion:

12/65	Placed well on pumping unit
8/71	Perf @ 3112', 17', 25', 37', 42', 52', 65', 77'
1/74	Put Submersible pump
2/5/87	Perf @ 3042'-3104'
2/9/87	Perf @ 2975'-3035'
2/11/87	Perf @ 2937'-68'
6/87	Convert to SWD
11/93	Proposed to sqz perfs & put back on production

Eaves A-8

Location : 990' FSL & 2310' FWL
Type : Oil
Original Completion: 2/15/53

Section 19 T26S R37E
Date Drilled: 2/53
Total Depth 3228'

Casing Record:

Size	Depth	Sacks Cement
7 5/8"	1190'	440
5 1/2"	3223'	598

Completion:

5/53	Perfs @ 3204'-217'
6/60	Perfd @ 2768'-96', 2810'-32', 2848'-64', 2878'-90'
	Frac w/ 12000 gal crude & 12000# sand
10/85	Squeeze perfs @ 2768'-2890', 3204'-217'
	Perf @ 3092'-180'
11/85	Perf @ 3092'-180'
2/86	Squeeze perfs @ 3020'-3061'
	Perf @ 2992'-3010'
11/93	Proposed to install submersible pump.

Eaves A-11

Location : 660' FSL & 660' FEL
Type : Oil
Original Completion: 10/16/36

Section 30 T26S R37E
Date Drilled: 9/36
Total Depth 3232'

Casing Record:

Size	Depth	Sacks Cement
13"	529'	350
9 5/8"	1489'	425
7"	3085'	400

Completion:

10/36	OH @ 3085'-3232'
9/93	Set CIBP @ 3040' w/25' cmt.
	Perf 2874'-2972'
	Frac w/55,000 gals, 133,500# sand
	Place on rod pump

Eaves A-13

Location : 660' FNL & 1980' FEL
Type : Oil
Original Completion: 4/26/51

Section 30 T26S R37E
Date Drilled: 4/51
Total Depth 3243'

Casing Record:

Size	Depth	Sacks Cement
8 5/8"	1199'	350
5 1/2"	3242'	815

Completion:

4/1	Perf 3214'- 42'
10/63	Perf 3152'-75', Set CIBP @ 3183'
5/72	Squeeze 3152'-75'
	Perf 3080'-3143'
2/86	Perf 2947'-2970'
	Squeeze 2947'-2970'
8/93	Drill out CIBP @ 3183'
	Install Submersible pump

Eaves A-14
Location : 660' FNL & 660' FWL
Type : Oil
Original Completion: 10/20/60

Section 30 T26S R37E
Date Drilled: 9/60
Total Depth 3250'

Casing Record:

Size	Depth	Sacks Cement
7 5/8 "	361'	200
4 1/2"	3312'	650

Completion:

10/60	Perfs @ 3186'-88', 3193'-202'
8/69	Add perfs @ 3146'-75'
12/90	Set CIBP @ 3125'. PBTD @ 3100'
	Perf @ 2924'-3031'

Eaves A-15
Location : 660' FSL & 2450' FEL
Type : Oil
Original Completion: 12/71

Section 19 T26S R37E
Date Drilled: 12/71
Total Depth: 3307'
PBTD: 3304'

Casing Record:

Size	Depth	Sacks Cement
8 5/8 "	517'	300
5 1/2"	3307'	200

Completion:

12/71	Perf @ 3213'-3265'
2/72	Perf @ 3132'-191'
1/84	Set RBP @ 3204'. Perf @ 3132'-191', 3082'-3176'
8/86	Set RBP @ 3078'. Perf @ 3019'-70'
11/87	Set RBP @ 3000'. Perf @ 2883'-2942'
11/93	Proposed recompletion

Eaves B-1 #1

Location: 1980' FNL & 1980' FEL — Section 30 T26S R37E
Type: Oil — Date Drilled: 12/36
Original Completion: 12/13/36 — Total Depth: 3250'

Casing Record:

Size	Depth	Sacks Cement
13"	554'	350
9-5/8"	2704'	900
7"	3096'	400
4-1/2"	2900-3250'	100

Completion:

12/36	OH 3096-3213'
04/60	Perf @ 3146-54', 3158-62', 3168-76', 3180-88'.
07/61	Deepen to 3250' & set 4-1/2" liner from 2900-3250', perf 3215-3221'.
03/96	SI

Eaves B-1 #3

Location : 1980' FNL & 1980' FWL
Type : Oil
Original Completion: 1/9/62

Section 30 T26S R37E
Date Drilled: 1/62
Total Depth 3250'

Casing Record:

Size	Depth	Sacks Cement
7 5/8 "	351'	200
4 1/2"	3250'	575

Completion:

1/62	Perf 3236'-3242'
2/66	Set CIBP @ 3225'. Perf 3146'-3213'. Squeeze 3146'-3213'. Perf 3009'-3055'. Frac w/ 20,000 gals, 30,000# sand.
4/88	Plug and Abandon Set CIBP @ 2950' w/ 23 sacks cement Spto 23 sacks cement @ 1500' Perf @ 410' and squeeze w/165 sacks cement

Eaves B-1 #13

Location : 1980' FSL & 1980' FWL

Section 30 T26S R37E

Plugging data on Eaves B #13 submitted previously for R-4026

Eaves B-1 #15

Location : 1980' FNL & 660' FWL
Type : Oil
Original Completion: 1/26/70

Section 30 T26S R37E
Date Drilled: 1/70
Total Depth 3230'

Casing Record:

Size	Depth	Sacks Cement
8 5/8 "	532'	240
5 1/2"	3230'	190

Completion:

1/70	Perf @ 3121'-220'
11/79	Perf @ 3092'-3220'. PBTD @ 3225'.

McCallister A #5

Location : 660' FNL & 330' FEL
Type : Disposal
Original Completion: 7/69

Section 25 T26S R36E
Date Drilled: 7/1/69
Total Depth 3268'

Casing Record:

Size	Depth	Sacks Cement
8 5/8 "	514'	175
5 1/2"	3268'	166

Completion:

11/69	Perf @ 3127'-3243'
1/84	Perf @ 3074'-3243'

McCallister A #6

Location : 1980' FNL & 330' FEL
Type : Oil
Original Completion: 7/1/70

Section 25 T26S R36E
Date Drilled: 6/70
Total Depth 3292'

Casing Record:

Size	Depth	Sacks Cement
8 5/8 "	500'	550
5 1/2"	3291'	125

Completion:

7/70	Perf 3218'-3264'
8/83	Perf 3157'-3204'
11/89	Plug and Abandoned
	Set CIBP @ 3100' w/ 5 sacks of cement
	Cut and pull 2492' of 5 1/2" casing.
	Pump 35 sacks cement @ 2540'
	Tag plug @ 2410'
	Pump 35 sacks cement @ 1200'
	Pump 35 sacks cement @ 550'
	Tag plug @ 450'
	Set 10 sack surface plug

VII Proposed Operation

This well will be used to inject produced water from other wells on the Eaves lease via a closed pressure maintainence system.

Proposed average injection rate & pressure: 6000 BWPD @ Vacuum.
Proposed maximum injection rate & pressure: 10000 BWPD @ 400 psi.

VIII Geological DATA

This produced water will be injected into the Seven Rivers formation which is located from 3220' to 3340'. 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 ±196').

IX Proposed Stimulation

We will clean out the wellbore and drill out to 3340'. Set Baker Model AD-1 packer at 3000' and acidize with 3000 gallons acid if necessary.

XII I have examined available geologic & engineering data and find no evidence of open faults or any other hydrologic connection between the injection zone and any underground source of drinking water.

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KATHI BEARDEN

Publisher

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 1

_____ weeks.

Beginning with the issue dated

March 19, 1997

and ending with the issue dated

March 19, 1997

Kathi Bearden

Publisher

Sworn and subscribed to before me this 24th day of March, 1997

Jodi Henson

Notary Public.

My Commision expires
October 18, 2000
(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
March 19, 1997
APPLICATION TO AMEND AUTHORIZATION TO INJECT

Southwest Royalties, Inc., PO Box 11390, Midland, TX. 79702, (915) 686-9927, is seeking approval from the New Mexico Oil Conservation Division to inject in the Eaves A #12, salt water well for pressure maintenance located at 660 FNL & 1980 FWL Sec. 30, T26S, R37E, Lea County, New Mexico. The proposed injection zone is the Seven Rivers formation of the Scarborough-Yates Seven River Pool in an open hole interval 3219 to 3340'. Southwest Royalties, Inc., intends to inject a maximum of 10,000 BWPD at 400 psi.

Interested parties must file objections or requests for hearing with the Oil Conservation Division: PO Box 2088, Santa Fe, New Mexico, 87501 within 15 days.
#15098

01101469000 01506473

Southwest Royalties, Inc.
P.O. Box 11390
a/c 476043
Midland, TX 79702

Mailing List

Surface Owner

Mr. D. K. Boyd
PO Box 11351
Midland, Texas 79702

Offset Operators

No offset operators within 1/2 mile radius of the well.

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

CATIONS:		mg/liter
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