STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Osborn Heirs Company

Address: P. O. Box 17968 San Antonio, Tx 78286

Contact party: Joe D. Ramey Phone: 505 392-6525

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: Joe D. Ramey Title Agent

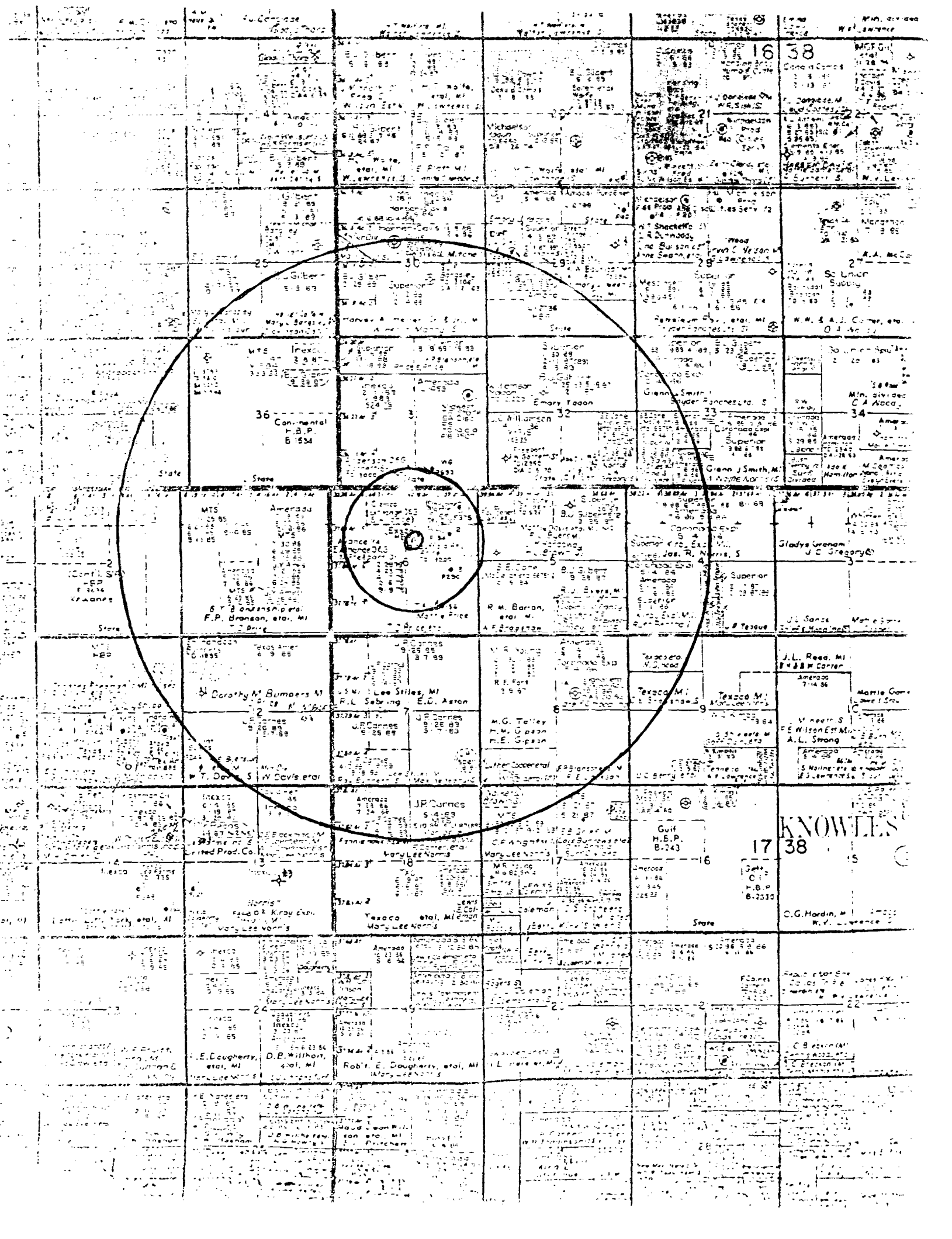
Signature: Joe D. Ramey Date: 7/15/86

* 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.



BEFORE EXAMINER STOGNER
Oil Conservation Division
Exhibit No. 1
Case No. 8954

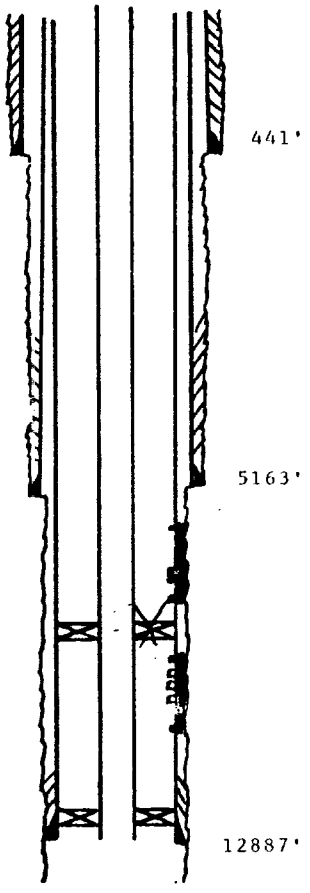

KNOWLES

INJECTION WELL DATA SHEET

| OPERATOR | LEASE | | | |
|---|---|---|---|---|
| Osborn Heirs Company | Mattie Price | | | |
| WELL NO. | FOOTAGE LOCATION | SECTION | TOWNSHIP | RANGE |
| 6 | 2310 E & 1820 N | 6 | 17S | 38E |

Lea County, New Mexico

Schematic




Tubular Data

Surface Casing

Size 13 3/8" Cemented with 500 sx.

TOC Circulated feet determined by _____

Hole size 17½

Intermediate Casing

Size 8 5/8" Cemented with 430 sx.

TOC 3800 feet determined by Est.

Hole size 11

Long string

Size 5½" Cemented with 250 sx.

TOC 12,822 feet determined by Temp. Survey

Hole size 7 7/8

Total depth 12,951

Injection interval

12,887 feet to 12,951 feet

(perforated or open-hole, indicate which)

500
600

10,

10
12

Tubing size 2 7/8 lined with PVC (material) set in a

Baker Model R Double Grip (brand and model) packer at ~~10,600~~ & 12,800 feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Devonian

2. Name of Field or Pool (if applicable) West Garrett Devonian

3. Is this a new well drilled for injection? ☐ Yes ☒ 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) 6600-01 & 7120-21 Squeezed with 115 sxs. 6854-74 squeezed with 115 sxs. 10550-51 & 10010-011 squeezed with 115 sxs. (10262-96 now open.) wellbore is being sqz.

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

Wells within area of interest

Osborn Heirs Company
Mattie Price No. 1
660' N&E
Section 6, T17S, R38E
Spud 2/9/70
Completed 4/13/70
Devonian oil well producing from open hole 12680-12696

will be put on production

| Hole size | Csg. size | Depth | Sxs. cement | Top cement |
|---|---|---|---|---|
| 17½ | 12 3/4 | 420 | 400 | Circ. |
| 11 | 8 5/8 | 5185 | 500 | 4000 Est. |
| 7 7/8 | 5½ | 12680 | 750 | 7800 Est. |

Osborn Heirs Company
Mattie Price No. 2
1650 N & 990E
Section 6, T17S, R38E
Spud 4/21/70
Completed 7/5/70
Devonian oil well producing from open hole 12560-12684

| | | | | |
|---|---|---|---|---|
| 17½ | 12 3/4 | 404 | 375 | Circ. |
| 11 | 8 5/8 | 5150 | 500 | 3500 Est. |
| 7 7/8 | 5½ | 12560 | 750 | 8100 Temp. survey |

Osborn Heirs Company
Mattie Price No. 3
2300 S & 990 E
Section 6, T17S, R38E
Spud 7/6/70
Completed 11/24/70
Devonian oil well producting from perf. 12842-12877

| | | | | |
|---|---|---|---|---|
| 17½ | 12 3/4 | 410 | 400 | Circ. |
| 11 | 8 5/8 | 5154 | 520 | 3500 Est. |
| 7 7/8 | 5½ | 13146 | 350 | 11100 Temp. survey |

Osborn Heirs Company
Mattie Price No. 4
Spud 11/1/70
Completed 3/5/71
Devonian oil well producing from open hole 12847-12906
980S & 1650E
Section 6, T17S, R38E

| | | | | |
|---|---|---|---|---|
| 17½ | 12 3/4 | 407 | 400 | Circ |
| 11 | 8 5/8 | 5209 | 575 | 5140 Temp. survey |
| 7 7/8 | 5½ | 12847 | 525 | 12381 Temp. survey |

Osborn Heirs Company seeks to dispose of up to 4500 barrels of water per day which is produced from the four wells on the Mattie Price lease. The water is all produced from the West Garrett Devonian Pool and will be disposed of in the Devonian formation in their presently temporary abandoned Mattie Price No. 6. This well was producing 99% water and after testing two other possible zones in the well it was shut-in on 12/10/1973.

Osborn will operate a closed system and it is anticipated that the well will take the 4500 barrel per day on a vacuum. However, a maximum injection pressure of 2577 is requested.

From core analysis, the Devonian is a dolomite with large vugs and fractures which would indicate excellent permeability and should be an excellent disposal zone. No well in the area has completely penetrated the Devonian but the Mattie Price Well No. 3 did penetrate over 330 feet of Devonian.

The West Garrett Devonian Pool produces through a water drive mechanism. Since the proposed disposal well did water out in late 1973, it is concluded that water injected in the well will be injected below the water-oil contact and will not interfere with the producing ability of nearby producing oil wells in the pool.

The only known fresh water in the area is from the Ogallala formation. The depth to the base of the Ogallala in the area is around 300 feet. There are no water wells within one mile of the proposed disposal well and no water tests are included in this application. However, nothing would indicate anything but high quality water in the Ogallala in the area. After examining the available geologic and engineering data, there is no evidence of open faulting or any other hydrologic connection between the disposal zone and any underground source of drinking water.

Injection into the well will be through plastic coated tubing below a packer. The present perforated interval in the well (10262-10296) will be isolated from injection by placing packers above and below this interval. Pressure tests of the annulus will establish the integrity of the upper packer and injectivity testing can establish fluid entry and lower packer integrity. The annular space will be filled with a non-corrosive packer fluid.

Copies of this application have been furnished to the surface owner and to all leasehold operators within one-half mile of the proposed disposal well, address list attached.

Copies of this application were sent by Certified Mail to the following:

Amerada Hess Corp.
P. O. Box 2040
Tulsa, OK 74102

Avance Oil & Gas
625 Vaughn Building
Midland, TX 79702

Clemco
120 South College
Tyler, TX 75702

S. E. Cone
P. O. Box 10321
Lubbock, TX 79408

Exchange Oil & Gas
1250 Poydras Street-24th floor
New Orleans, LA 70112

Exxon Corp.
P. O. Box 1600
Midland, TX 79702

Vernon E. Faulconer
1100 Peoples National Bank
Tyler, TX 75702

Freeport Oil Co.
P. O. Box 3038
Midland, TX 79701

Inexco
910 Wilson Tower
Corpus Christi, TX 78476

Mobil Producing Texas & New Mexico Inc.
P. O. Box 633
Midland, TX 79702

Mattie Price
P. O. Box 13
Tatum, NM 88267