

November 14, 1997

State of New Mexico
Energy, Minerals, and Natural
Resources Department
Oil Conservation Division
2040 Pacheco Street
Santa Fe, New Mexico 87505
Attn: Mr. David Catanach

SWP-695

Re: Permit to inject produced water in Sec 14, T24S, R29E, Eddy County, New Mexico

Enclosed is Penwell Energy, Inc.'s APPLICATION FOR AUTHORIZATION TO INJECT into Penwell's Ore Ida "14" Federal # 10. This application is to inject water produced from the Bone Springs Formation at an interval between 7750' and 8115' and the Brushy Canyon Formation at an interval of 6668' to 6704' into the Bell Canyon Formation at perforations between 3210' and 3618'.

In support of this application, the following items are attached:

1. A map identifying all wells and leases within two miles of the proposed well with a one-half mile radius circle drawn around the proposed injection well.
2. All wells within the one-half mile radius area of review are wells that belong to Penwell Energy, Inc. All offset lease owners have been notified as shown by the enclosed certified mail receipts.
3. Data on the proposed operation.
4. Geologic data.
5. The only stimulation required was a small acid treatment to insure that the perforations were open.
6. Water analysis from the two tank batteries that will go to this injection well, a water analysis from the Bell Canyon from well # 10, and compatibility test of the mixed waters. There is only a very minor scaling tendency in these mixed waters.
7. Electric logs.
8. Injectivity tests in the Bell Canyon.
9. A search of records by Renee Romero of the New Mexico State Engineers Office reveals no water wells within a one mile radius of this well. In Sec 7, there are three water wells that all have chlorides in excess of 2000 ppm. In Sec 29, there is a single water well that has chlorides in excess of 5800 ppm.
10. Available geologic and engineering data has been examined and there is no evidence of open faults or other hydrologic connections between any source of drinking water and the Bell Canyon Formation.
11. Proof of Notice to the BLM, the surface owner, and the legal advertisement in the Carlsbad Current Argus newspaper.
12. The well data sheet and a full page wellbore schematic.

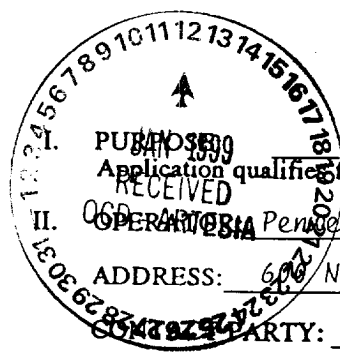
Your consideration of this proposal is greatly appreciated.

John T. Gray

John T. Gray

Cc: Tim Gumm, OCD in Artesia





APPLICATION FOR AUTHORIZATION TO INJECT

Application qualified for administrative approval? ☒ Yes ☐ No
Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage

OPERATOR: Penwell Energy, Inc.

ADDRESS: 608 N. Marienfeld, Suite 1100, Midland, TX 79701

CONTACT PARTY: John T. Gray, Senior Production Engineer PHONE: 915-683-25

III. WELL DATA: Complete the data required on the reverse side of this form for each well processed 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 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 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: John T. Gray

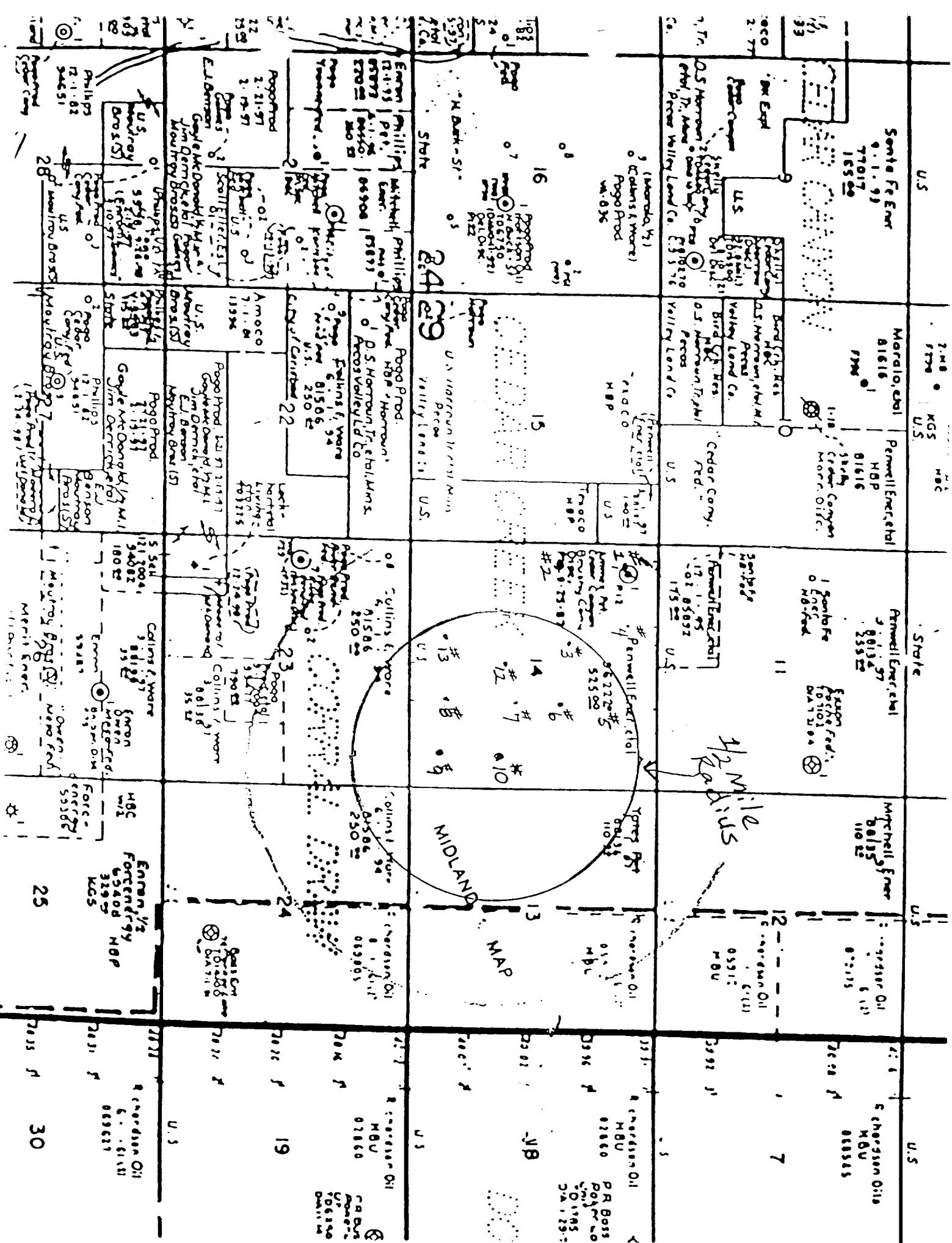
TITLE: Senior Production Engineer

SIGNATURE: John T. Gray

DATE: 10/24/97

* 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 circumstance of the earlier submittal. _____

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



WELLS WITHIN THE RADIUS OF REVIEW
SECTION 14, T24S, R29E, EDDY COUNTY, NEW MEXICO

WELL #	TYPE	CONSTRUCTION	DATE DRILLED	SPUD	COMPLETION	LOCATION	DEPTH	RECORD OF COMPLETION
1	Oil	Rotary	3/7/96		6/4/96	480' FWL, 660' FNL	8122'	YES
2	Oil	Rotary	2/20/97		4/11/97	330' FWL, 1980' FNL	8350'	YES
3	Oil	Rotary	8/8/96		9/10/96	2050' FWL, 1830' FNL	8105'	YES
4	Oil	Rotary	10/30/96		11/15/96	1650' FWL, 660' FNL	8350'	YES
5	Oil	Rotary	11/30/96		3/8/97	1705' FEL, 935' FNL	8350'	YES
6	Oil	Rotary	12/21/96		4/2/97	1780' FEL, 1980' FNL	8350'	YES
7	Oil	Rotary	1/28/97		3/16/97	1780' FEL, 2180' FSL	8354'	YES
8	Oil	Rotary	1/9/97		4/6/97	1830' FEL, 760' FSL	8340'	YES
9	Oil	Rotary	4/6/97		5/9/97	760' FEL, 560' FSL	8350'	YES
10	Oil	Rotary	4/25/97			860' FEL, 1780' FSL	8350'	NO, Will be filed upon approval of injection.
12	Oil	Rotary	3/17/97		4/5/97	2480' FWL, 1980' FSL	8332'	YES
13	Oil	Rotary	4/8/97		4/21/97	1980' FWL, 660' FSL	8350'	YES

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

SANTA FE ENERGY
550 W. TEXAS, STE. 330
MIDLAND, TX 79701

4a. Article Number

2 740 489 010

4b. Service Type

- ☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

10-27-97

One Ida "14" #6

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X *Michelle Hoate*

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994

Domestic Return Receipt

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I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Pogo Producing Co.
P.O. Box 10240
Midland, TX 79702

4a. Article Number

4b. Service Type

- ☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

NOV - 3 1997

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X *L. B. Burch*

8. Addressee's Address (Only if requested and fee is paid)

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I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mitchell Energy
P.O. Box 4000
The Woodlands, TX 77387-4000

4a. Article Number

Z 740 489 009

4b. Service Type

- ☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

10/27/97

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)

X [Signature]

PS Form 3811, December 1994

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I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Texaco
P.O. Box 46513
Denver, CO 80201

4a. Article Number

4b. Service Type

- ☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

10/22/97

5. Received By: (Print Name)

Reimer-

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)

X [Signature]

PS Form 3811, December 1994

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Thank you for using Return Receipt Service

Is your RETURN ADDRESS completed on the reverse side?

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I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Collins & WARE
508 W. WALL, Suite 1200
MIDLAND, TX 79701

4a. Article Number

4b. Service Type

☐ Registered ☒ Certified

☐ Express Mail ☐ Insured

☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery: 10/27/91

5. Received By: (Print Name) Brenda "14" #10

6. Signature: (Addressee or Agent) [Signature]

8. Addressee's Address (Only if requested and fee is paid)

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Domestic Return Receipt

Is your RETURN ADDRESS completed on the reverse side?

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I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

YATES Petroleum
105 4th St.
Artesia, NM 88210

4a. Article Number

4b. Service Type

☐ Registered ☒ Certified

☐ Express Mail ☐ Insured

☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery: 10-27-91

5. Received By: (Print Name) JOANN GRIGGS

6. Signature: (Addressee or Agent) [Signature]

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994

Domestic Return Receipt

DATA ON PROPOSED OPERATION
PENWELL ENERGY, INC.
ORE IDA "14" FEDERAL # 10
SEC 14, T24S, R29E, EDDY COUNTY, NEW MEXICO

The proposed operation is to set two 500-barrel water tanks on the well pad, plumb in a triplex pump, and pump into the well down plastic coated tubing. A packer will be set at 3150' to insure that the surface casing is not subjected to pressure. Annulus pressure and surface casing pressure will be monitored as required. Water will be transferred from the production batteries by way of plastic lines laid on the surface, which follow existing lease roads. Any surface leaks will be detected on the pumpers daily visits to the wells and batteries.

The proposed average injection volume of produced water is anticipated to be 1500 BWPD.

The proposed maximum injection volume is 3500 BWPD.

The system will be a closed system.

The proposed average injection pressure will be 1000 psig.

The proposed maximum injection pressure will be 2000 psig.

The source water will be Bone Springs and Brushy Canyon Formation water. Compatibility tests have been run and show only a minor tendency for scaling.

An injectivity test was performed on the Bell Canyon perms, which shows the zone will take water at the desired rates and pressures. No fracturing of the formation was indicated during this test.

GEOLOGIC DATA
PENWELL ENERGY, INC.
ORE IDA "14" FEDERAL # 10
SEC 14, T24S, R29E, EDDY COUNTY, NEW MEXICO

The proposed injection zone is the Bell Canyon Formation which is comprised mainly of sandstone. The top of the Bell Canyon is at 3100' and is approximately 1000' thick.

The only underground source for drinking water is surface rock, clay, sand and intermingled red beds at the surface to a depth of 350'.

Other geologic marker tops are:

Lamar	3050'
Brushy Canyon	5500'
Bone Springs	6800'
1" Bone Springs	7100'

Waylan C. Martin, M.A.

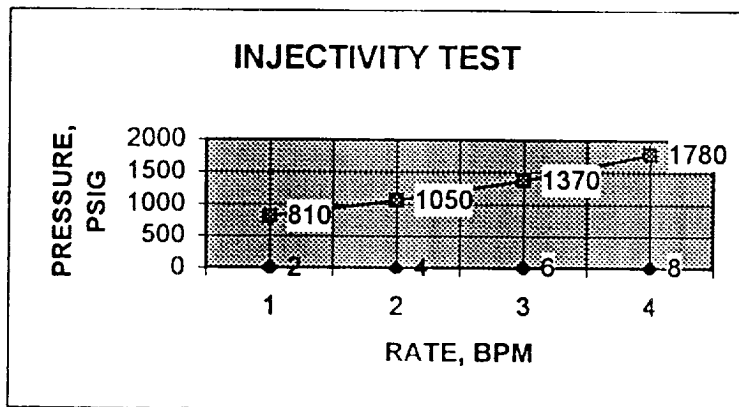
ORE IDA "14" FEDERAL ,# 10

INJECTIVITY TEST

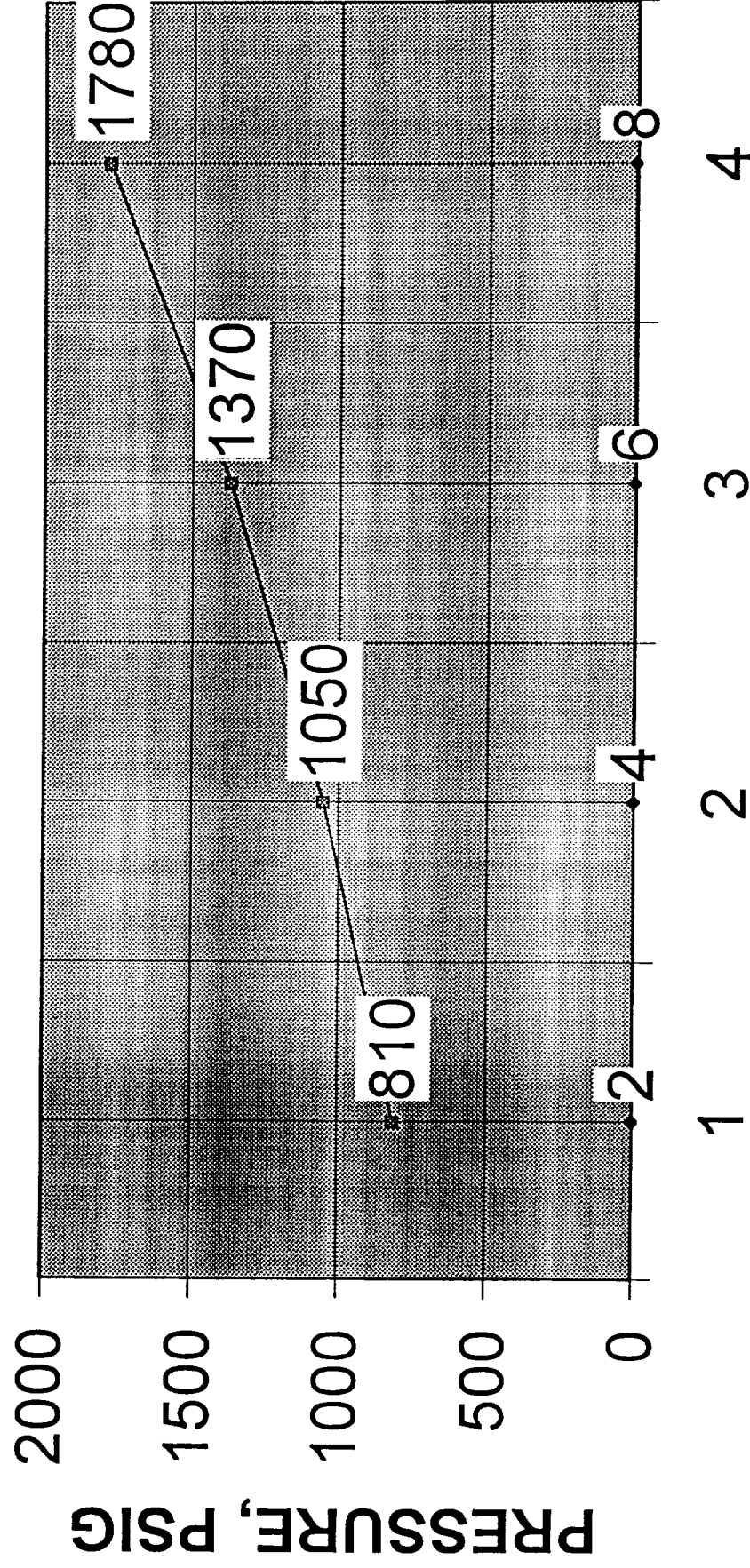
Test Date 10-16-1997

Perfs: Bell Canyon, 3210' - 3618'

RATE BPM	PRESSURE PSIG
2	810
4	1050
6	1370
8	1780



INJECTIVITY TEST



RATE, BPM

Affidavit of Publication

No. 18893

State of New Mexico,
County of Eddy, ss.

Amy McKay

being first duly sworn, on oath says:

That she is Business Manager
of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the state wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

October 23, 19 97
_____, 19____
_____, 19____
_____, 19____
_____, 19____
_____, 19____

That the cost of publication is \$ 34.46,
and that payment thereof has been made and will
be assessed as court costs.

Amy McKay

Subscribed and sworn to before me this

27th day of October, 1997

Donna Crump

My commission expires 8/1/98

Notary Public

October 23, 1997

NOTICE OF INTENT TO INJECT PRODUCED WATER

PENWELL ENERGY, INC.
600 N. Marienfeld
Suite 1100
Midland, Texas 79701

Contact Person: John T. Gray,
Senior Production Engineer:
915/683-2534

The purpose is to inject water produced from the Bone Springs Formation at an interval of 7750' to 8115' and the Brushy Canyon Formation at an interval of 6668' to 6704' into the Bell Canyon Formation at an interval of 3210' to 3618' in PENWELL ENERGY, INC.'s Ore Ida "14" Federal Well #10.

The well is located 1780' FSL, 860' FEL, Sec 14, T26S, R29E, Eddy County New Mexico.

The produced water is from wells Penwell operates that are all located in Sec 14, T26S, R29E.

The injection perforations are in the Bell Canyon Formation at 3210' - 3240', 3252' - 3276', 3284' - 3326', 3382' - 3426', 3454' - 3483', 3504' - 3520', & 3606' - 3618'.

The maximum injection rate expected is 3500 BWPD.

The maximum injection pressure expected is 2500 PSIG.

All interested parties must file objections or requests for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe New Mexico 87504-2088 within 15 days.

MLJ02997

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- The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:

BLM
2909 W. 2nd.
Roswell, NM 88201-2019

One Soda "14" #10

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X *[Signature]*

PS Form 3811, December 1994

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
 2. ☐ Restricted Delivery
- Consult postmaster for fee.

4a. Article Number

2 740 499 006

4b. Service Type

- ☐ Registered ☒ Certified
- ☐ Express Mail ☐ Insured
- ☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

10-23-97

8. Addressee's Address (Only if requested and fee is paid)

Domestic Return Receipt

Thank :
crusing Return Receipt Service.

INJECTION WELL DATA SHEET

Sld

OPERATOR Penwell Energy, Inc. LEASE Ore Ida "14" Federal
 WELL NO. 10, 1780' FSL & 860' FEL SECTION 14 TOWNSHIP 24S RANGE 29E
 FOOTAGE LOCATION

Schematic

Well Construction Data

Surface Casing

Size 13 3/8" * Cemented with 325 sx.
 TOC Surface feet determined by Circulation
 Hole Size 17 1/2"

Intermediate Casing

Size 8 5/8" * Cemented with 1200 sx.
 TOC Surface feet determined by Circulation
 Hole Size 12 1/4"

Long String

Size 5 1/2" * Cemented with 1230 sx.
 TOC 2500' feet determined by CBL
 Hole Size 7 7/8"
 Total Depth 8350'

Injection Interval Perforations

3210 feet to 3618 feet

INJECTION WELL DATA SHEET

Tubing Size 2 7/8" lined with Plastic Coated set in a
Baker AD-1 packer at 3150' (type of internal coating)
 feet

Other type of tubing / casing seal if applicable _____

Other Data

1. Is this a new well drilled for Injection? Yes X No _____

If no, for what purpose was the well originally drilled? Oil & Gas Production.

Well was not an economic well in the Bone Springs.

2. Name of the Injection formation Bell Canyon

3. Name of Field or Pool (If applicable) E. Pierce Crossing

4. 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. Yes, Bone Springs @

7951'-55', 7990'-96' which are isolated by a CIBP & 6 sx. of cement.

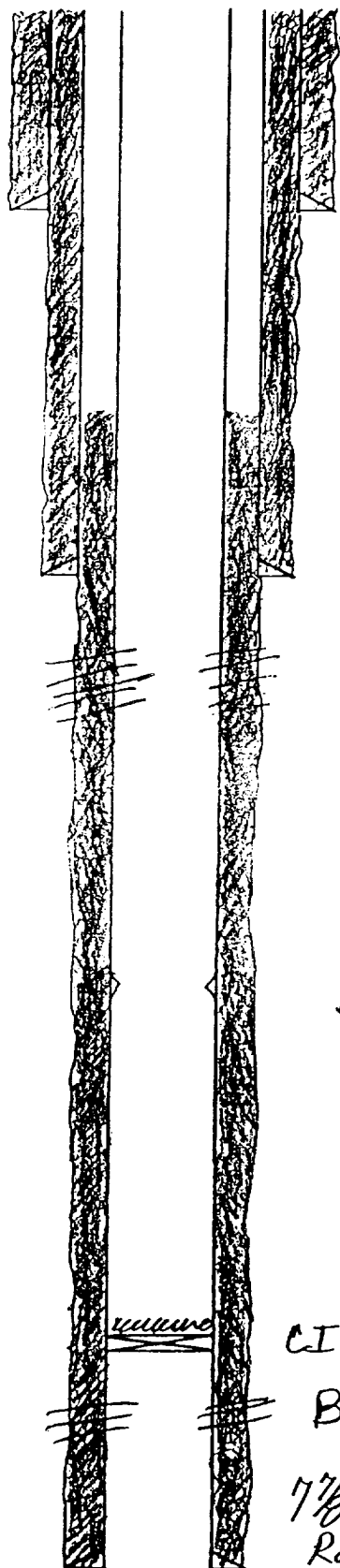
5. Give the names and depths of any over or underlying oil or gas zones (pools) in this area.

Potential in Bell Canyon below 3720'

Brushy Canyon below 5500'

Bone Springs below 6800'

Core Lda 14 Fed 21 #10.
Wellbore L. agiram.



17 1/2" Hole.

Ran 8 jts (369.66') of 13 3/8", 48#, H-40 Csg to 362'.

Cmt w/ 325 sx Class "C" Cmt. w/ additives.

Circ 40 sx to Surface.

12 1/4" Hole.

Ran 71 jts (3147.43') of 8 5/8", 32#, J-55 Csg to 3141'.

Cmt w/ 950 sx "C" Lite + additives followed by

250 sx "C" + 2% Ca Cl₂.

Circ 220 sx to Surface.

Bell Canyon Perfs: 3210'-40', 52'-76', 3284'-3326',
3382'-3426', 54'-83', 3504'-20', 3606'-3618'.

DV Tool @ 5,532.76'.

CIBP @ 7890'. Dump 25x Cmt on Plug.

Bone Springs Perfs: 7951'-7955' & 7990'-7996'.

7 7/8" Hole

Ran 190 jts (8361.38') of 5 1/2", 17#, J-55 Csg to 8350'.

Cmt 1st Stage w/ 600 sx "H" + additives. Circ 6 sx.

2nd Stage w/ 280 sx "C" Lite + additives F/B 350 sx "H" + ada

