

HIGHLAND PRODUCTION COMPANY

CONSERVATION DIVISION
RECEIVED

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October 31, 1991

Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 78501

Attention: David Catanach

Re: SWD Well Application
Highland Federal Well No. 1
Lea County, New Mexico

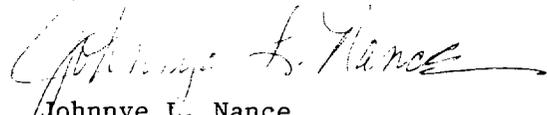
Dear Mr. Catanach:

Per our telephone conversation of this date, please find enclosed copies of certified/return receipt cards and the affidavit of publication, proof of notification of SWD application. Please advise of any additional information needed to process our application for approval of our Highland Federal Well No. 1 as a salt water disposal well.

Thank you for your cooperation in this matter.

Yours very truly,

HIGHLAND PRODUCTION COMPANY



Johnnye L. Nance
Corporate Secretary

JLN:sf

Enclosure

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, Kathi Bearden

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

Sept. 19, 1991
and ending with the issue dated

Sept. 19, 1991

Kathi Bearden
General Manager

Sworn and subscribed to before

me this 23 day of

Sept, 1991

Paulo Parrish
Notary Public.

My Commission expires _____

Aug. 5, 1995
(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
September 19, 1991
Highland Production Company, 810 N. Dixie Blvd., Suite 202, Odessa, Texas 79761 has made application for authorization to dispose of salt water in the Ramsey Sand Formation, Highland Federal Well No. 1, located in the SW/4 SE/4 Section 8, T-26-S, R-32-E, Lea County, New Mexico. Written comments relating to this application as filed will be accepted by the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 for a fifteen day period following this notice.

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 boxes for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery (Extra charge)

3. Article Addressed to:
ETC.
C/O Edgar T. Cravey
1902 South Park
Pecos, Texas 79772

4. Article Number:
P 444 407 769

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

8. Addressee's Address (ONLY if requested and fee paid)
[Handwritten address]

5. Signature - Addressee
X *[Handwritten Signature]*

6. Signature - Agent
X

7. Date of Delivery
AUG 5 1991

PS Form 3811, Apr. 1989 *U.S.G.P.O. 1989-238-815

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 boxes for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery (Extra charge)

3. Article Addressed to:
Amoco Production Company
P. O. Box 3092
Houston, Texas 77253

4. Article Number:
P 444 407 774

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

8. Addressee's Address (ONLY if requested and fee paid)
Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee
X

6. Signature - Agent
X *[Handwritten Signature]*

7. Date of Delivery
OCT 21 1991

PS Form 3811, Apr. 1989 *U.S.G.P.O. 1989-238-815

DOMESTIC RETURN RECEIPT

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1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery (Extra charge)

3. Article Addressed to:
Exxon Company, U.S.A.
25 Desta Drive
Midland, Texas 79705

4. Article Number:
P 444 407 770

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

8. Addressee's Address (ONLY if requested and fee paid)
Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee
X

6. Signature - Agent
X *[Handwritten Signature]*

7. Date of Delivery
SEP 27 1991

PS Form 3811, Apr. 1989 *U.S.G.P.O. 1989-238-815

DOMESTIC RETURN RECEIPT

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1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery (Extra charge)

3. Article Addressed to:
Conoco Inc.
10 Desta Drive West
Midland, Texas 79705

4. Article Number:
P 444 407 771

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

8. Addressee's Address (ONLY if requested and fee paid)
Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee
X

6. Signature - Agent
X *[Handwritten Signature]*

7. Date of Delivery
SEP 28 1991

PS Form 3811, Apr. 1989 *U.S.G.P.O. 1989-238-815

DOMESTIC RETURN RECEIPT

APPLICATION FOR AUTHORIZATION TO INJECT

1 9 85

- I. Purpose: Secondary Recovery Pressure Maintenance Disposal Storage
Application qualifies for administrative approval? yes no
- II. Operator: Highland Production Company
Address: 810 N. Dixie Blvd., Suite 202, Odessa, Texas 79761-2838
Contact party: Marvin L. Smith Phone: 915/332-0275
- 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: Marvin L. Smith Title President

Signature: [Signature] Date: July 31, 1991

- * 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.

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.

VII Highland Federal Proposed Operation

Proposed average injection volume 500 BPD - Maximum 600 BPD.
System will be a closed type.

Proposed average injection pressure 900 lbs. - Maximum 1700 lbs.
Water Analysis from wells we will take water from, are the wells
producing from the Ramsey Formation in the North Mason and
East Mason Fields.

This water is now being disposed of in disposal wells in Section
9 and Section 19, T-26-S, R-32-E, Lea County, New Mexico.

VIII The Ramsey Sand in the Highland Federal Well No. 1 is mostly sand with
some shale and lime.

The Ramsey is approximately 58' to 60' thick to Ford shale 4420' to
4478-80'.

There is some redbed water in the area - one well approximately
2½ miles southeast and one well approximately 2 miles southwest.
The next water is in the Rustler approximately 1200' and this water
is brackish.

IX No stimulation is planned.

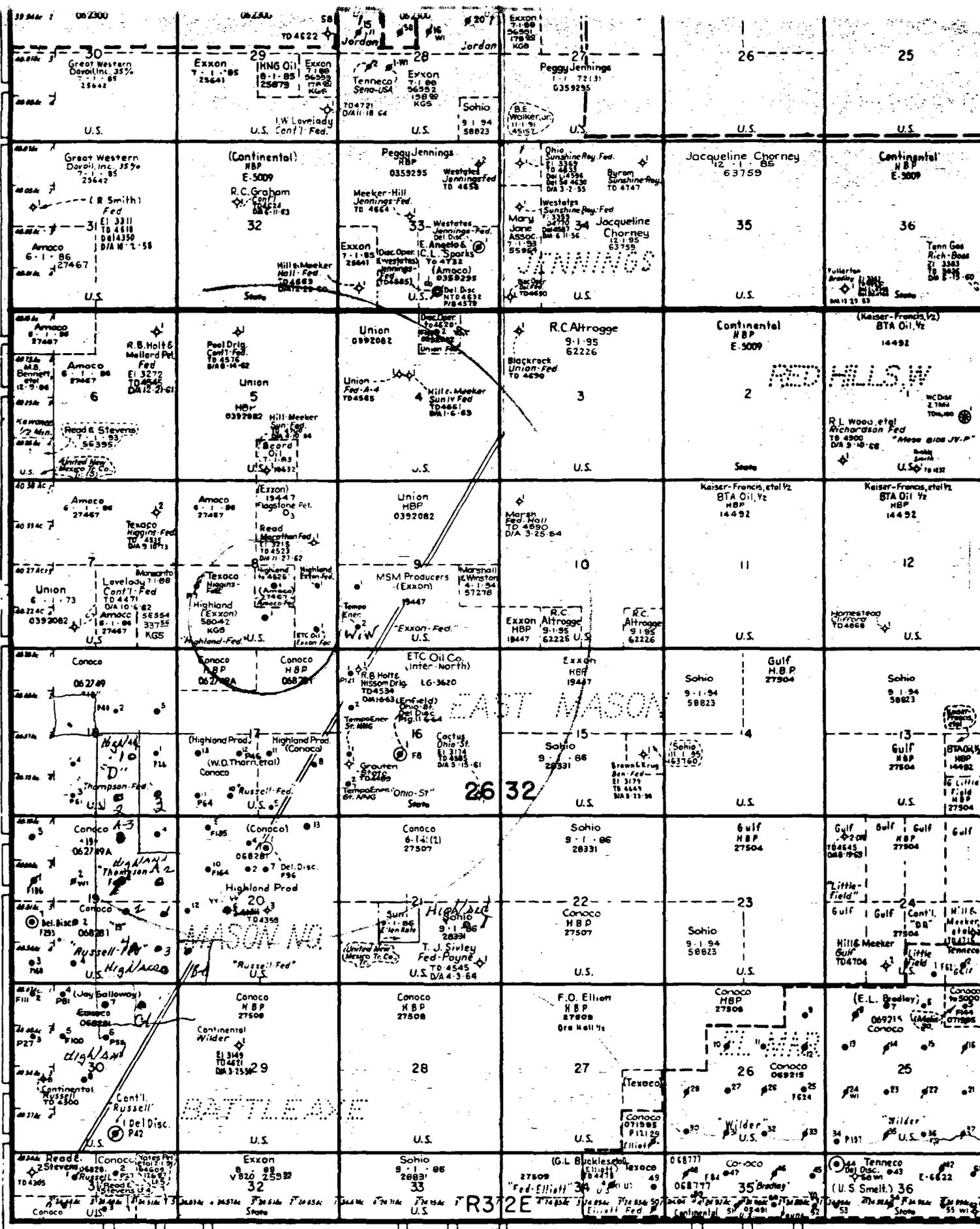
X Logs have been filed at the Hobbs office when completed.

XI No fresh water wells are located closer than two miles of this location.

XII We can find no evidence that an open fault exist in this area or that
any fresh water is in the formations down to the Rustler except for
small amounts in the redbeds in some areas.

Copies of this application have been sent to Exxon Corporation, 25 Desta Drive,
Midland, Texas 79705 and ETC., C/O Edgar T. Cravey, 1902 South Park, Pecos,
Texas 79772.

T
26
S



LOVING County

- LEGEND
- CO₂ Wells Not Shown
 - Wildcat Below 5000' or Discovery
 - Location

HALLIBURTON DIVISION LABORATORY
HALLIBURTON SERVICES
MIDLAND DIVISION
HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. _____

To Highland Production

Date 7-12-88

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Amoco Federal Well #1
NE 1/4, SE 1/4 section 8
T-26-S, R-32-E Lea Co. N.M.

Submitted by Highland Production Date Rec. _____

Well No. #1 Depth _____ Formation Ramsey

County Lea Field EAST MASON Source TANK #1-104

	Amoco Federal #1	* Exxon Federal #1	Russell
Resistivity	.056 @ 70°	.056 @ 70°	
Specific Gravity	1.155	1.160	1.160
pH	5.9	5.9	6.2
Calcium (Ca)	22,800	22,850	22,800 *MPL
Magnesium (Mg)	3540	3400	3430
Chlorides (Cl)	143,000	148,000	148,500
Sulfates (SO ₄)	Light	Light	Light
Bicarbonates (HCO ₃)	24	12	12
Soluble Iron (Fe)	Light	Light	Light

Remarks: * Exxon Federal #1 *Milligrams per liter
NE 1/4 of SE 1/4 section 8, T-26-S, R-32-E
Lea County N.M.

Respectfully submitted,

Analyst: _____ HALLIBURTON COMPANY

cc: _____ By _____ CHEMIST

NOTICE

THIS REPORT IS LIMITED TO THE DESCRIBED SAMPLE TESTED. ANY USER OF THIS REPORT AGREES THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER IT BE TO ACT OR OMISSION, RESULTING FROM SUCH REPORT OR ITS USE.

Well Data Sheet

Well Name Exxon Federal #1
Operator E.T.C. Oil Co.
Location SE/SE
Date drilled 10-6-81
Type Well Oil
Surface Casing 8 5/8 - 582'
Cement 400 SX
Size hole 12 1/4
Oil String 4 1/2" set 4399' - Drilled to 4444'
Cement 50 SX
Size hole 7 7/8
Perforations ~~Open Hole~~ 4399 to 4444
2000 gal FRAC

TUC @
4218'
by calc
@ 209.

Well Data Sheet

Well Name Exxon Federal No. 1
Operator Highland, Production
Location N¹/₄ at SE¹/₄ Sec 8 T-26-S, R-32-E Lea Co.
Date drilled 4-27-84
Type Well Oil well
Surface Casing 8⁵/₈" set at 1100'
Cement 550 SAC - Circulate 50 SAC
Size hole 12¹/₄"
Oil String 5¹/₂" set at 4436'
Cement 900 SX
Size hole 7⁷/₈"
Perforations- Open Hole 4436 - 4446
Treat 4500 gal gelled leasehold
2500 lbs Sand

Well Data Sheet

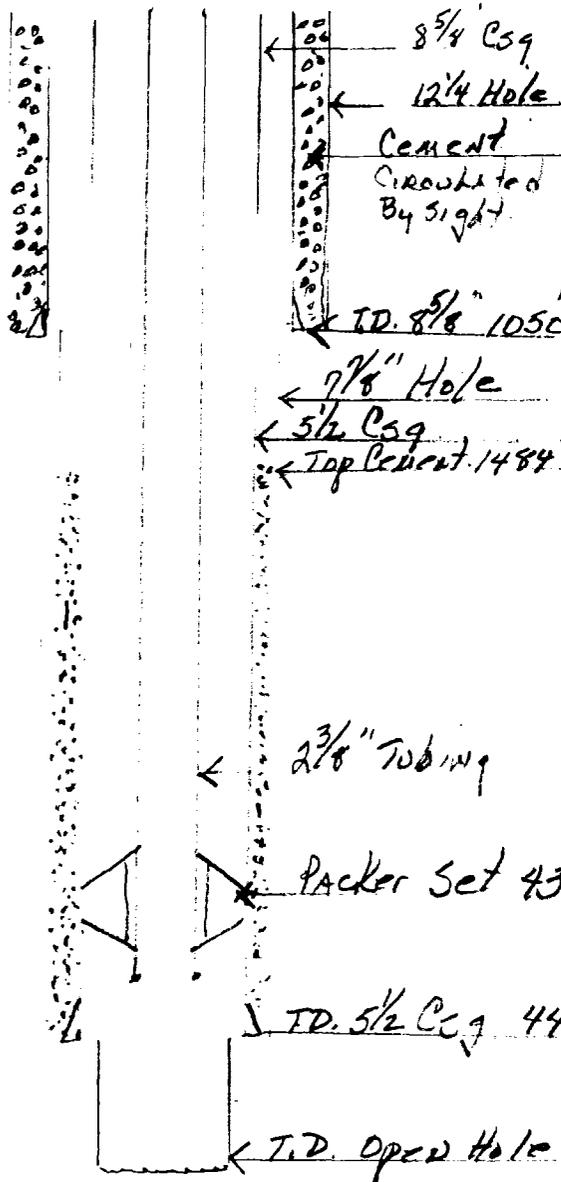
Well Name Amoco Federal #1
Operator Highland Production
Location NW/4 of SE/4 Section 8, T-26-S, R-32-E, Lea
Date drilled 7-9-84
Type Well Oil
Surface Casing 8 5/8" at 1040'
Cement 550 SAC CIRC. 114 SX
Size hole 12 1/4
Oil String 5 1/2" at 4407'
Cement 900 SAC
Size hole 7 7/8
~~Perforations~~ Open Hole 4407 to 4426'
Treat 4500 gal gelled lease fluid
2500 lbs sand

INJECTION WELL DATA SHEET

Highland Production Operator
 Highland Federal Lease
 1 Well No.
 2337 FE 6 1005 FSL 2 Sec. 8 Footage Location
 T-26-S Section
 R-32-E Range

Schematic

Tabular Data



Surface Casing
 Size 8 5/8 " Cemented with 600 sx.
 TOC Circulated 90sx feet determined by Sight
 Hole size 12 1/4 " Set 1050'
 Intermediate Casing NONE
 Size _____ " Cemented with _____ sx.
 TOC _____ feet determined by _____
 Hole size _____
 Long string
 Size 5 1/2 " Cemented with 700 sx.
 TOC 1484' feet determined by Temperature Log
 Hole size 7 7/8 "
 Total depth 4407
 Injection interval
4407' feet to 4430' feet
 (~~as indicated~~ open-hole, indicate which)

Tubing size 2 3/8 lined with scotch 1-34 set in a
 (material)
BAKER 5 1/2" AD-1 Packer packer at 4343' feet
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Ramsey Delaware
- Name of Field or Pool (if applicable) EAST MASON
- 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) NONE

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