

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: Secondary Recovery Pressure Maintenance Disposal Storage
Application qualifies for administrative approval? yes no
- II. Operator: El Paso Natural Gas Company
Address: PO Box 4289, Farmington, New Mexico 87499
Contact party: J. D. Falconi Phone: (505) 327-0251
- 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.
Attachment #1
- 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. Attachment #2
- * 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. Attachment #3
- VII. Attach data on the proposed operation, including: Attachment #4
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. Attachments #5 and #6.
- IX. Describe the proposed stimulation program, if any. Attachment #7
- * X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.) Attachment #8
- * 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. Attachment #9
- 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. Attachment #10
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form. Attachment #11.
- 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 D. Falconi Title Drilling Engineer

Signature: James D. Falconi Date: 6/11/86

- * 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.

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.

ATTACHMENT #1

Well Data:

Operator: El Paso Natural Gas Company

Well Name and Number: San Juan 30-6 Unit Disposal Well #1

Lease Designation and Serial Number: SF 079382

Location: 285'FNL, 590'FWL, Section 23, T-30-N, R-7-W,
Rio Arriba County, New Mexico

Spud Date: N/A Completion Data: N/A

Total Depth: 8900' (proposed) PBTD: N/A

Well Type: Disposal Field: N/A

Injection Formation: Morrison and Entrada

Perforate: Morrison and Entrada formation with 2 spf (proposed).
Perf intervals to be picked off of open hole logs.

Depth of next deepest oil and gas zone: N/A

Depth of next shallowest oil and gas zone: Dakota @ 7602'

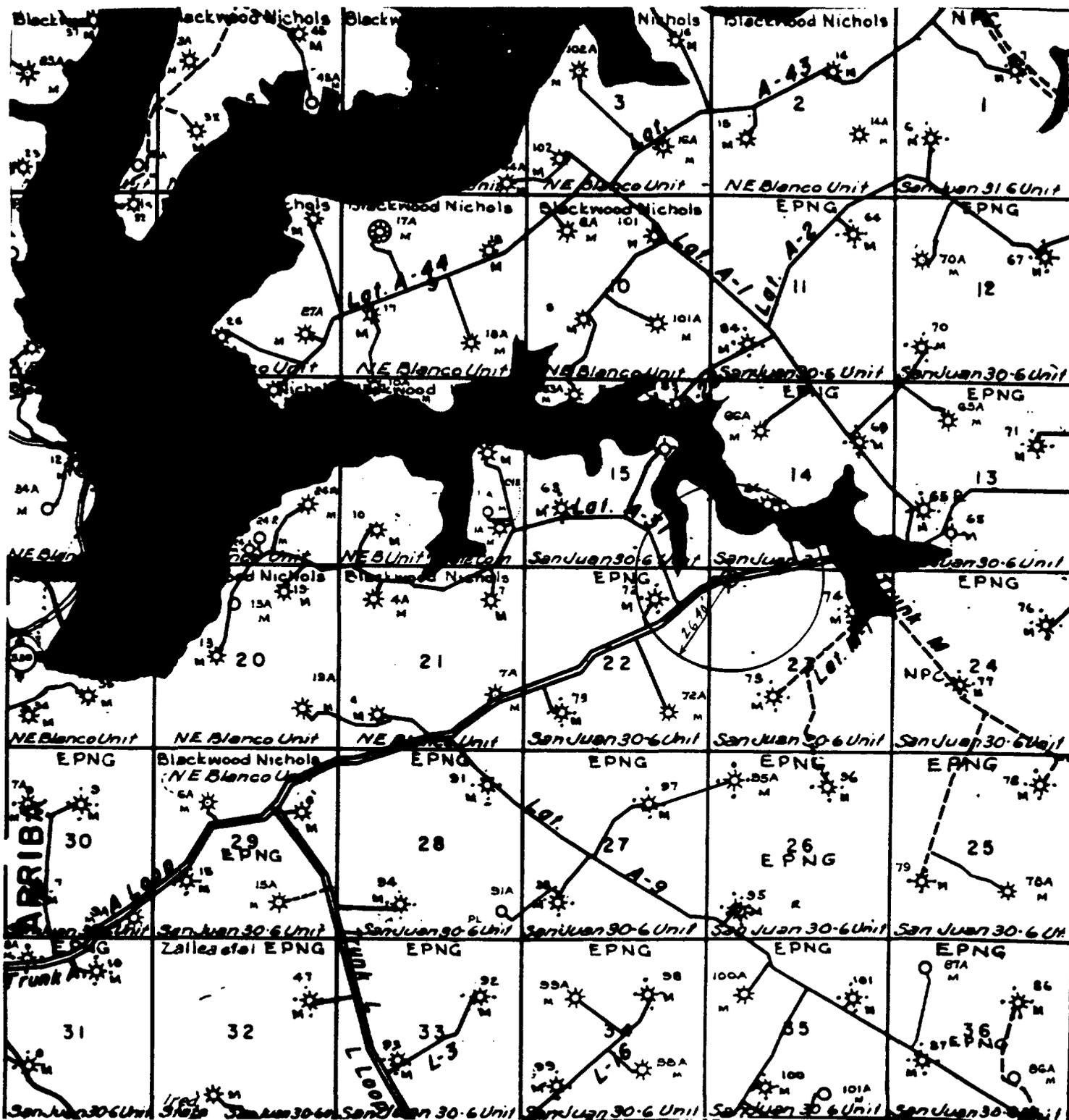
Proposed casing and cement program:

<u>Hole Size</u>	<u>Csg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u>Cement Volume & Top</u>
26"	20"	cond.pipe	200'	590 cf circulated
17 1/2"	13 3/8"	61#&68#	3550'	4553 cf - 2 stages circ
12 1/4"	9 5/8"	43.5#&47#	6000'	1312 cf to circ.liner
8 1/2"	7"	26.0#	8900'	533 cf to circ.liner

Proposed tubing program:

7950' of 4 1/2", 12.60#, J-55 EUE tubing with internally bonded plastic coating to protect against corrosion. A Baker Model R-3 packer will be set at approximately 7910'.

R-7-W



T-30-N

El Paso Natural Gas Company
Farmington Region

PROPOSED MORRISON AND ENTRADA
WATER DISPOSAL WELL

El Paso Natural Gas Company
San Juan 30-6 Unit Disposal Well #1
285'FNL, 590'FWL
Section 23, T-30-N, R-6-W
Rio Arriba County, New Mexico

San Juan 30-6 Unit Disposal Well #1

It is proposed to drill a 26" hole to 200' and set 20" conductor pipe. The pipe will be cemented with sufficient volume to circulate cement to surface. WOC 12 hours. Test to 600 psi, then drill out with 17 1/2" bit to 3550'.

Run 13 3/8" casing with a stage collar at 2464' and cement in two stages. Cement first stage with sufficient cement to fill up to stage collar, plus 50% excess. Cement second stage with sufficient cement to circulate to surface, plus 100% excess. Each stage will use a 100 sks. Class "B" neat with 2% calcium chloride tail slurry with remaining volume made up of 65/35 Class "B" Poz with 6% gel, 2% calcium chloride, and 1/2 cu.ft. perlite per sack. WOC 12 hours. Test to 1200 psi, then drill out with a 12 1/4" bit to 6000'. Run DIL, GR-FDC, and temperature logs.

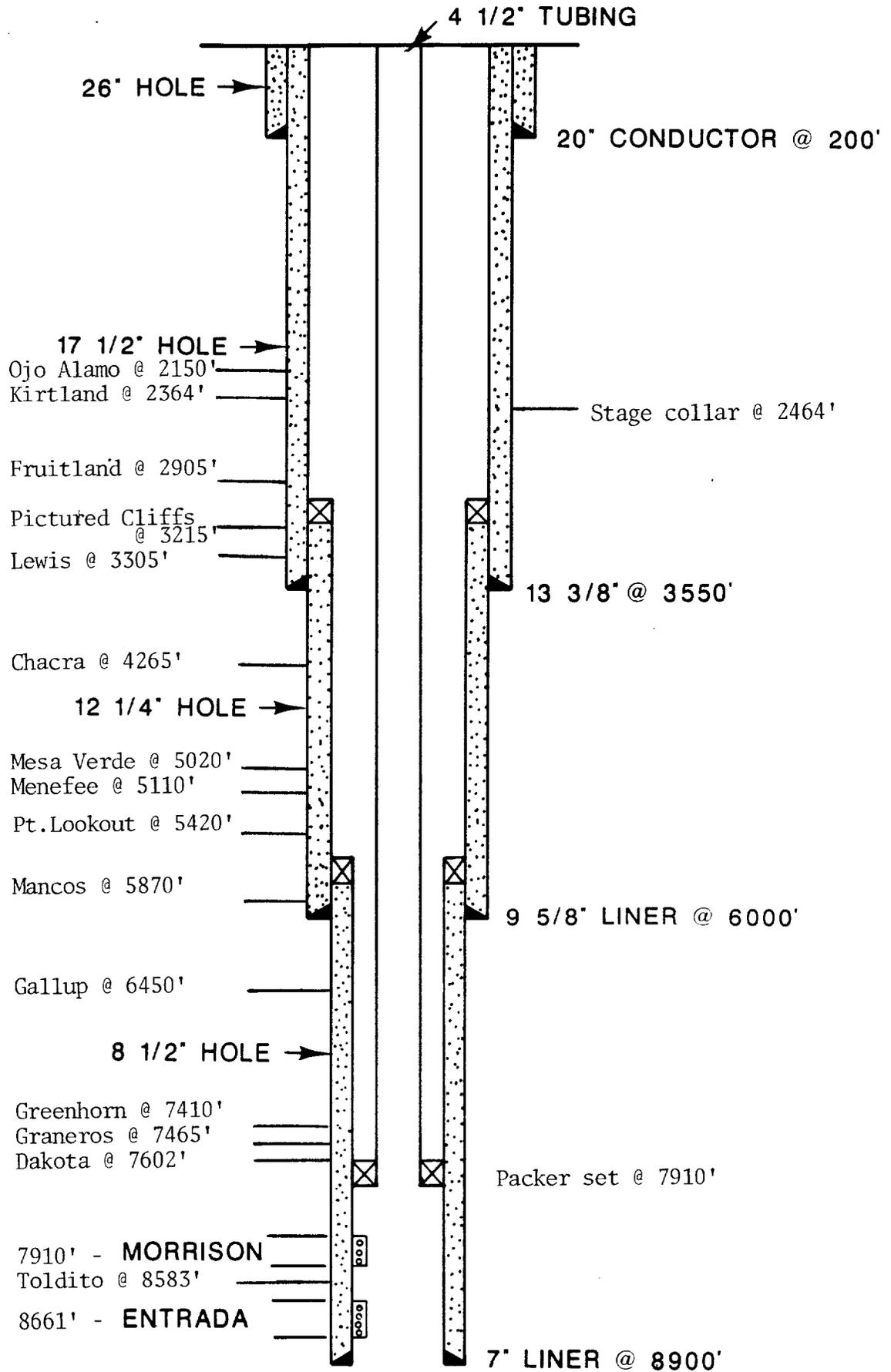
Run a 9 5/8" liner from 6000' to 3400' and cement with sufficient volume to circulate the liner, plus 70% excess. Use 50/50 Class "B" Poz with 2% gel, 6.25#/sack gilsonite, 1/4# gel-flake per sack and 0.6% fluid loss additive, followed by a 75 sack tail of Class "B" neat with 2% calcium chloride. WOC 12 hours. Test to 1500 psi, then drill out with an 8 1/2" bit to total depth at 8900'. Run DIL, GR-FDC, CNL logs.

Run a 7" liner from 5850' to 8900' and cement with sufficient volume to circulate the liner, plus 50% excess. Use 50/50 Class "B" Poz with 2% gel, and 0.6% fluid loss additive followed by a 110 sack tail of Class "B" neat with 0.5% fluid loss additive.

Run GR/CCL-CBL and perforate Morrison and Entrada formations with 2 spf. Breakdown perforations with acid and balls. Stimulate proposed zones with a x-link gel frac. Clean out to total depth and collect formation fluid samples. Run injection tests.

This well is being drilled for disposal purposes in the Morrison and Entrada formations. If commercial hydrocarbon production is indicated by open hole logs, it will be completed as a productive well and produced to depletion prior to injection into the Morrison and Entrada formations.

WELL BORE DIAGRAM



Attachment #3

San Juan 30-6 Unit Disposal Well #1

- VI. No wells penetrate the Morrison and/or Entrada formations within the area of review for the San Juan 30-6 Unit Disposal Well #1.

Attachment #4

San Juan 30-6 Unit Disposal Well #1

VII.

1. The proposed injection well will be used to dispose of produced water from wells within the San Juan 30-6 Unit area. A maximum injection rate of 12,000 bbls/day is anticipated with an average daily injection rate of 8000 bbls/day.
2. The produced water will be stored in a closed system on the injection location. This will consist of a series of 6 - 400 bbl. tanks, injection pumps and filters.
3. The proposed average and maximum injection pressures are 1500 psi and 2000 psi respectively.

4. Water Analysis: Mg/l

<u>Well Number</u>	<u>Na</u>	<u>Ca</u>	<u>Mg</u>	<u>Cl</u>	<u>HCO₃</u>	<u>SO₄</u>	<u>CO₃</u>	<u>TDS</u>
San Juan 30-6 Unit								
#400	5,463	120	38	1,620	12,224	24	0	13,590
#402	5,825	78	33	668	14,701	Trace*	0	13,748

* less than 0.1 PPM

5. The Morrison and Entrada sandstones are not productive of oil and gas within the prescribed one mile radius. Water analyses are not available in the immediate vicinity. The following tabulation gives total dissolved solids on several wells which have penetrated the Morrison and Entrada formations.

<u>Well Name & No.</u>	<u>Location</u>	<u>Date Tested</u>	<u>TDS</u>
<u>MORRISON:</u>			
Jicarilla 123 C #29	NW 5-25-4	10-29-82	24,834
Hubbell #5E	NW 19-29-10	5-29-81	19,442
Huerfano Unit #270	SW 7-26-10	7-25-80	13,474
<u>ENTRADA:</u>			
Filon #21-1 Federal	SW 21-20-5	8-20-76	10,726
Dome #20-1 Santa Fe	NE 20-21-8	2-10-77	11,114

Attachment #5

The proposed well, the San Juan 30-6 Unit Disposal Well No. 1, in NW 23, T-30-N, R-7-W, will inject water into sandstones of the Morrison Formation and the Entrada Sandstone.

The Morrison Formation will be intercepted from 7800 to 8545 feet. The anticipated net sandstone thickness is 40 to 70 feet with porosity 6% based on area wireline logs. The mud log on the San Juan 30-6 Unit No. 112Y in NE 26, T-30-N, R-6-W shows the Morrison sandstones be light to medium reddish-brown, pink and gray, poorly to moderately indurated, very fine to fine grained, subangular to subrounded, medium to well sorted, slightly siliceous cemented, trace of calcite and occasionally silty. The shales are light green to gray, reddish-brown to brown, soft to firm, subplaty to platy, in part waxy and occasionally silty. The siltstones are predominately reddish-brown and medium brown to tan, soft, platy to subplaty, slightly calcareous, very argillaceous and slightly sandy.

The Entrada Sandstone will be intercepted at 8610 to 8835 feet. The anticipated net sandstone thickness is 5 to 50 feet with porosity 6%. The sandstone is predominately light to medium gray, fine to medium grained, subangular to subrounded, poorly to moderately indurated, medium to well sorted and very calcareous.

Potential aquifers overlying the proposed injection zones in this well are within 2400 feet of the surface and include the San Jose, Nacimiento, and the Ojo Alamo.

Attachment #7

San Juan 30-6 Unit Disposal Well #1

Proposed Stimulation Program

It is intended to stimulate this well by perforating the Morrison and Entrada formations with 2 spf (exact perf intervals will be determined from open hole logs run in the well). An acid job will be used to break down and ball off the perforations. The formations will be fractured with a cross-link gel/sand system. The well will then be cleaned out to TD and formation fluids collected for analysis.

Attachment #8

San Juan 30-6 Unit Disposal Well #1

Proposed Logging Program

It is intended to run DIL, GR-FDC, CNL and temperature survey logs in the 12 1/4" hole from 6000' to the base of the 13 3/8" casing string. Once TD is reached, DIL, GR-FDC, and CNL logs will be run in the 8 1/2" section of hole from TD to the base of the 9 5/8" casing strings.

Attachment #9

San Juan 30-6 Unit Disposal Well #1

Chemical Analysis of Fresh Water

There are no existing fresh water wells in existence within one mile of the proposed injection well.

Attachment #10

STATEMENT

I hereby certify that I have examined available geologic and engineering data and can find no evidence of connection between the disposal zone and underground drinking water sources.

6/11/86
Date

J. D. Falconi
J. D. Falconi
Drilling Engineer

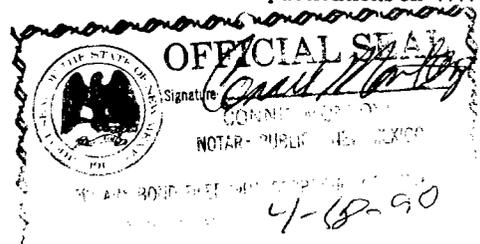
Intent to Dispose of Water in the Subsurface
El Paso Natural Gas Company proposes to dispose of produced water in the Morrison and Entrada formations. The injection well will be the San Juan 30-6 Unit Disposal Well #1 located 285' FNL and 590' FWL of Section 23, T-30-N, R-7-W, N.M.P.M., Rio Arriba County, New Mexico. Depth of injection will be from 7910' to 8061'. Maximum anticipated rate is 12,000 BWPD at a maximum surface injection pressure of 2000 psig.

Questions should be addressed to Meridian Oil Inc., Attention: C. W. Dein, Post Office Box 4289, Farmington, New Mexico 87409, or call (505) 327-0251. objections to this proposal or request for hearing by interested parties must be filed with the New Mexico Oil Conservation Division, Post Office Box 2068, Santa Fe, New Mexico 87501 within 15 days.
Journal, June 6, 1986

STATE OF NEW MEXICO }
County of Bernalillo } SS
THOMAS J. SMITHSON

..... being duly sworn declares and
says that he is NATE ADV. MFC of the Albuquerque Journal, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, a copy of which is hereto attached, was published in said paper in the regular daily edition,

for times, the first publication being on the day
of 198....., and the subsequent consecutive
publications on 198.....



Thomas J. Smithson

Sworn and subscribed to before me, a Notary Public in and for the County of Bernalillo and State of New Mexico, this day of 198.....

PRICE 7.61

Statement to come at end of month.

ACCOUNT NUMBER C 81582

EDJ-15 (R-2/86)

Attachment # 11

AFFIDAVIT OF PUBLICATION

Copy of Publication

No. 18411

STATE OF NEW MEXICO,
County of San Juan:

Margaret Billingsley being duly
sworn, says: That he is the Sec. To The Publisher

THE FARMINGTON DAILY TIMES, a daily newspaper of general circulation
published in English at Farmington, said county and state, and that the
hereto attached Legal Notice

was published in a regular and entire issue of the said FARMINGTON DAILY
TIMES, a daily newspaper duly qualified for the purpose within the
meaning of Chapter 167 of the 1937 Session Laws of the State of New
Mexico for One consecutive (days) (~~xxx~~ on the same day as
follows:

First Publication Tues. June 3, 1986
Second Publication _____
Third Publication _____
Fourth Publication _____

and that payment therefor in the amount of \$ 8.74
has been made.

Margaret Billingsley

Subscribed and sworn to before me this 3 day
of June 19 86.

Connie Nyson
NOTARY PUBLIC, SAN JUAN COUNTY, NEW MEXICO

My Commission expires: July 3, 1989

INTENT TO DISPOSE OF WATER IN THE SUBSURFACE
El Paso Natural Gas Company proposes to dispose of produced water in the Morrison and Entrada formations. The injection well will be the San Juan 30-6 Unit Disposal Well No. 1 located 285' FNL and 590' FWL of Section 23, T30N, R7W, N.M.P.M., Rio Arriba County, New Mexico. Depth of injection will be from 7910' to 8661'. Maximum anticipated rate is 12,000 BWP/D at a maximum surface injection pressure of 2000 psig.
Questions should be addressed to Meridian Oil, Inc., Attention: C.W. Dein, Post Office Box 4289, Farmington, New Mexico 87499, or call (505) 327-0251. Objections to this proposal or request for hearing by interested parties must be filed with the New Mexico Oil Conservation Division, Post Office Box 2088, Santa Fe, New Mexico 87501 within 15 days.
Legal No. 18411 published in the Farmington Daily Times, Farmington, New Mexico on Tuesday, June 3, 1986.

The New Mexican

New Mexico's Oldest Daily
 Phone 983-3303 P.O. Box 2048
 Santa Fe, New Mexico 87504

MERIDIAN OIL

P.O. BOX 4289

FARMINGTON, NM 87499-4289

Atten.: Donna Mayberry

DATE	ARTICLE	CHARGES	CREDITS
6/5/86	LEGAL No. 38975 ACCOUNT No 52779 P.O. No.	39 Lines 1 time at \$ 10.53 — Lines — times at \$ Handling Charges \$ Taxes .51 Total \$ 11.04	

TEAR ALONG DOTTED LINE

PLEASE RETURN TOP PORTION WITH REMITTANCE

**Intent to Dispose of Water
in the Subsurface**

El Paso Natural Gas Company proposes to dispose of produced water in the Morrison and Entrada formations. The injection well will be the San Juan 30-6 Unit Disposal Well #1 located 285' FNL and 990' FWL of Section 23, T-30-N, R-7-W, N.M.P.M., Rio Arriba County, New Mexico. Depth of injection will be from 7910' to 8461'. Maximum anticipated rate is 12,000 SWPD at a maximum surface injection pressure of 2000 psig.

Questions should be addressed to Meridian Oil Inc., Attention: C.W. Dein, Post Office Box 4289, Farmington, New Mexico 87499, or call (505) 327-0231. Objections to this proposal or request for hearing by interested parties must be filed with the New Mexico Oil Conservation Division, Post Office Box 2088, Santa Fe, New Mexico 87500 within 15 days.
 Legal Notice
 Pub. June 04, 1986.

Affidavit of Publication

State of New Mexico
 County of Santa Fe

A.D. Warren

I, A.D. Warren being first duly sworn, declare and say that I am Legal Advertising Manager of The New Mexican, a daily Newspaper published in the English Language, and having a general circulation in the Counties of Santa Fe, Los Alamos and Rio Arriba, State of New Mexico, and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 of the Session Laws of 1937; that the publication, Legal # 38975 a copy of which is hereto attached, was published in said newspaper once each week for one consecutive week and that the notice was published in the newspaper's proper, and not in any supplement, the first publication on the 5 day of June 19 86; and that the undersigned has personal knowledge of the matters and things set forth in this affidavit.

A.D. Warren

Legal Advertising Manager

Subscribed and sworn to before me on this 5 day of June A.D., 19 86

OFFICIAL SEAL

Guillermo Hernandez

My Commission Expires 12/19/88

MERIDIAN OIL

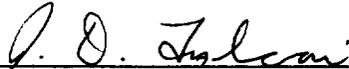
June 11, 1986

Mr. R. L. Stamets
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Stamets:

Attached is El Paso Natural Gas' Application for Administrative Approval to dispose of produced water in the subsurface. The proposed disposal well is located 285' FNL, 590' FWL, Section 23, T-30-N, R-7-W, Rio Arriba County, New Mexico.

Very truly yours,



J. D. Falconi

JDF:oh
Attachment

MERIDIAN OIL

RECEIVED

JUN 20 1986

CON. DIV.
DIST. 3

June 11, 1986

Mr. Roque N. Abeyta
General Delivery
Los Ojos, New Mexico 87551

Dear Mr. Abeyta:

Attached for your reference is a Subsurface Water Disposal Application filed with the New Mexico Oil Conservation Division on June 11, 1986.

A copy of this Application is being submitted to the New Mexico Oil Conservation Division by certified mail. Objections to this proposal must be filed with the New Mexico Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501, within fifteen (15) days.

Yours very truly,



J. D. Falconi

JDF:oh
Attachment

RETURN TO

MURPHY OIL INC.

ATTN: JIM FALCONI
P.O. Box 4289

(No. and Street, Apt., Suite, P.O. Box or R.D. No.)

SARASOTA FL 34749

(City, State, and ZIP Code)

1986
PENALTY FOR PRIVATE USE \$300

RECEIVED
JUN 20 1986
OIL CON. DIV.
DIST. 2

SENDER: Complete items 1, 2, 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 service(s) requested.

1. Show to whom, date and address of delivery.
2. Restricted Delivery.

3. Article Addressed to:
Roque N. Abeyta
General Delivery
Los Ojos, NM 87551

4. Type of Service:
 Registered
 Certified
 Express Mail
 Insured
 COD
 COD
 Express Mail
 Article Number: 460440

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature, Addressee: *Roque N. Abeyta*
6. Signature - Agent: *[Signature]*
7. Date of Delivery: 6/11/86

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

PS Form 3811, July 1983

DOMESTIC RETURN RECEIPT

Roque N. Abeyta
General Delivery
Los Ojos, NM 87551

6/11/86



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE 6-20-86

- RE: Proposed MC _____
- Proposed DHC _____
- Proposed NSL _____
- Proposed SWD _____
- Proposed WFX _____
- Proposed PMX _____

[Faint stamp: RECEIVED JUN 23 1986]

Gentlemen:

I have examined the application dated June 11, 1986
for the MERIDIAN OIL, INC. SAN JUAN 30-6 UNIT DISPOSAL D-23-30N-7W
Operator Lease and Well No. WELL #1 Unit, S-T-R

and my recommendations are as follows:

Approve.

Yours truly,

Carolyn J. Japline