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STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

GARREY CARRUTHERS
GOVERNOR

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

Date: 12-20-89

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

Re: Proposed MC _____
Proposed DHC _____
Proposed NSL _____
Proposed SWD X _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated 12-19-89
for the HIXON DEVELOPMENT CO. South Bist #1
Operator Lease & Well No.

P-3-25N-13W and my recommendations are as follows:
Unit, S-T-R

I Approve

Yours truly,

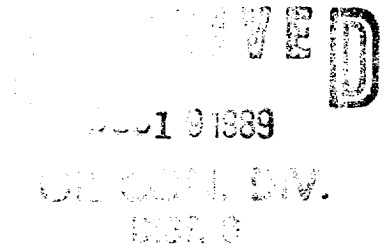
Ernest Buech

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Hixon Development Company

December 15, 1989



Mr. Frank Chavez
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Subject: South Bisti Well No. 1
660' FSL, 660' FEL
Sec. 3, T25N, R13W
San Juan County, New Mexico

Dear Mr. Chavez:

Enclosed for your information is our Application for
Authorization for Disposal for the above referenced well.
The original Application has been sent to the New Mexico Oil
Conservation Division in Santa Fe for approval.

Very truly yours,

Bruce E. Delventhal

Bruce E. Delventhal
Vice President - Operations

BED/das

Enclosures

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: Hixon Development Company
Address: P.O. box 2810, Farmington, New Mexico 87499
Contact party: Bruce E. Delventhal Phone: (505) 326-3325
- 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: Bruce E. Delventhal Title Vice President - Operations
- Signature: Bruce E. Delventhal Date: December 15, 1989
- * 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.

RECEIVED

DEC 19 1989

OIL CON. DIV
DIST. 3

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 2008, 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.

RECEIVED
DEC 19 1989
OIL CON. DIV
DIST. 3

Hixon Development Company
Application for Authorization for Disposal
Form C-108 Supplemental Information

South Bisti Well No. 1
SE/4, SE/4, Section 3, T25N, R13W
San Juan County, New Mexico

- I. Shown on Application.
- II. Shown on Application.
- III. Well data attached.
- IV. Shown on Application.
- V. Area of review is shown on attached map.
- VI. Information for wells located in area of review are attached as follows:
 - Salge Well No. 4-A
 - Bisti St. Com. Well No. 1
 - Champlin Fed. Well No. 1
 - Champlin Fed. Well No. 3
- VII.
 - 1. Proposed average injection rate is 600 bwpd, expected maximum injection rate is 1200 bwpd.
 - 2. This system will be closed.
 - 3. Average injection pressures are expected to be in the 814-989 psi range. Maximum injection pressure will be 989 psi.
 - 4. Water injected is previously produced water from the Gallup Formation.
 - 5. This well will be used for salt water disposal.
- VIII. The injection zone is the Lower Gallup sandstone. This zone is to be 120' in thickness with a top of 4830' as shown on the SP log previously submitted. No known sources of drinking water exist in this area. Water well drilling in this area has shown the Ojo Alamo to be dry. 7

Application for Authorization for Disposal
Page 2

- IX. The well will be acidized if required to maintain injection rate and pressure.
- X. Logs were previously submitted.
- XI. No known sources of drinking water exist in this area.
- XII. This well will be used for salt water disposal.
- XIII. A copy of this application has been sent by certified mail to the following leasehold operators:
 - Dugan Production Corp.
P.O. Box 420
Farmington, N.M. 87499
 - Hicks Oil & Gas, Inc.
P.O. Drawer 3307
Farmington, N.M. 87499
 - Southern Union Exploration
324 Highway US 64, NBU 3001
Farmington, N.M. 87401
- XIV. Certification shown on Application.

WELL DATA SHEET

Well Name: South Bisti Well #1

Legal Description: 660' FSL, 660' FEL
Sec. 3, T25N, R13W
San Juan County, NM

Well Type: Oil Well

Spud Date: 05-17-83

Surface Casing Hole Size: 12-1/4"

Surface Casing Size: 8-5/8"

Surface Casing Depth: 337'

Cementing Record: 277 cu. ft.

Production Casing Hole Size: 7-7/8"

Production Casing Size: 5-1/2"

Production Casing Depth: 5044'

Cementing Record: 1154 cu. ft.

Perforations: 4937' - 4947'

Plug Back Depth: 5004'

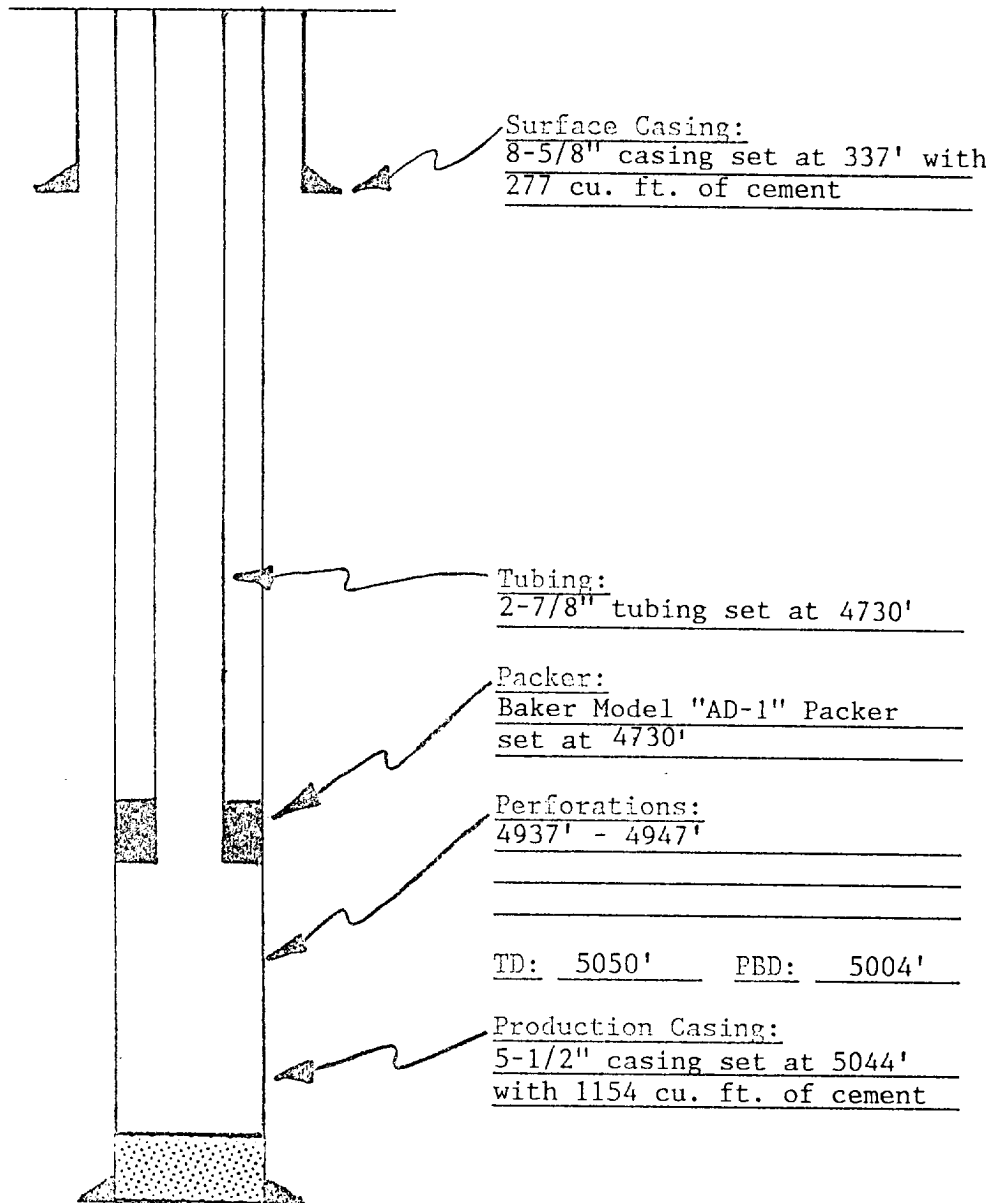
Total Depth: 5050'

Hixon Development Company

Water Injection Schematic

Well Name: South Bisti Well #1

Legal Location: 660' FSL, 660' FEL
Sec. 3, T25N, R13W
San Juan County, N.M.



San. & testing labo. J. H. H. Inc.

907 WEST APACHE

P.O. BOX 2810

FARMINGTON, NEW MEXICO

PHONE

327-4966

Date June 10, 1977

Report to Hixon Development Company
Requested by A. Kuchera, Mgr. Sampled by Hixon Personnel
Project CBU #5 Location NW NW Sec. 6, T25N, R12W
Source of Material Lower Gallup Produced Water

Lob No. 24509 Water Analysis for Petroleum Engineering

TEST RESULTS

WATER ANALYSIS FOR PETROLEUM ENGINEERING

Constituent		Constituents		
Total Solids	2263 ppm	Cations	Meg/L	ppm
	7.25	Sodium	29.3	674
Resistivity	2.94 ohms/meter @ 70°F	Calcium	2.3	45
Conductivity	3,400 micromhos/cm @ 70°F	Magnesium	0.5	6
		Iron	neg.	3
		Barium	0	0
Comments		Anions		
Essentially this is a 0.2% sodium sulfate solution.		Chloride	4.1	145
		Bicarbonate	4.0	244
		Carbonate	0	0
		Hydroxide	0	0
		Sulfate	24.0	1150

Shipped to Hixon Development Co. (3)

P.O. Box 2810

Farmington, New Mexico 87401

Certified by:



h Am.
Salge 28

6B Salge

34

Salge 3B

4 Salge

British American Operator
Entire Section

Marye
5B

Marye
1B

35

Marye
4B

Marye
3B

Phillips
Mospoh 3A

Gulf
168 W. Bistl Unit

TA 1969

1 39.73 | 2 39.75 | 1 39.77

Ben Whitney #1

4 39.76 | 3 39.77 | 2 39.77 | 1 39.76

British Am.
Salge 3A

T.A.

British Am.
2 Salge

British Am.
1 Salge
B.A.
1-C Salge

Gulf
Salge

4A
IP 43 BO

So. Union Expl.
So. Bistl
IP 304 BO
Toc.

So. Union Expl.
Champlin Fed. 3
IP 23 BO
Toc.

4 39.77 | 3 39.80 | 2 39.82 | 1 39.85

EPNG
Kelly St. 9

EPNG
Kelly St.

Hicks O&G
1 Bistl St. Com.
IP 47 BO

So. Union Expl.
1 Champlin Fed.
IP 43 BO
Toc.

So. Union Expl.
Berry Fed.
IP 26 BO
Toc.

British Am.
Shipp 2

NM 80506 Exp. 1-31-94

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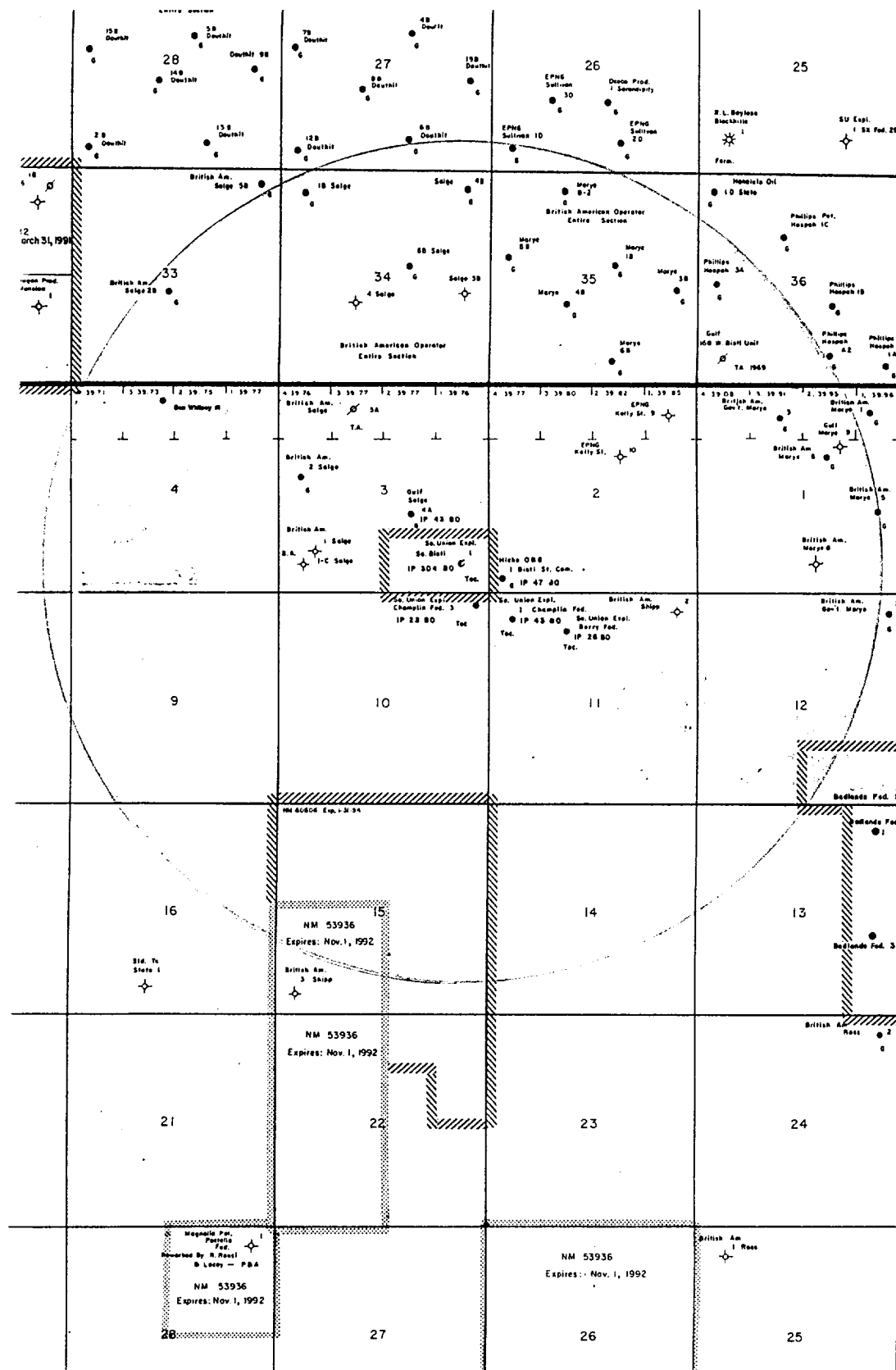
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NM 53936
Expires: Nov. 1, 1992

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Std. Tr.
State 1



Hixon Development Company, P.O. Box 2810, Farmington, New Mexico 87499, (505) 326-3325, whose agent is Aldrich L. Kuchera, hereby notifies interested parties that the following well is to be converted to a water disposal well. Maximum rate will be 1200 BWPD at less than 989 psi. Any request for information or objections should be filed with the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

South Bisti Well No. 1
SE/4, SE/4, Section 3, T25N, R13W
San Juan County, New Mexico

WELL DATA SHEET

Well Name:	Salge Fed. A Well #4
Legal Description:	1980' FEL, 1980' FSL Sec. 3, T25N, R13W San Juan County, NM
Well Type:	Oil Well
Spud Date:	12-27-83
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	320'
Cementing Record:	265 cu. ft.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	5-1/2"
Production Casing Depth:	5199'
Cementing Record:	2164 cu. ft.
Perforations:	4982' - 4988' 5001' - 5007' 5020' - 5026'
Plug Back Depth:	5154'
Total Depth:	5200'

WELL DATA SHEET

Well Name: Bisti State Com. #1

Legal Description: 330' FSL, 330' FWL
Sec. 2, T25N, R13W
San Juan County, NM

Well Type: Oil Well

Spud Date: 01-30-84

Surface Casing Hole Size: 12-1/4"
Surface Casing Size: 8-5/8"
Surface Casing Depth: 225'

Cementing Record: 160 sks.

Production Casing Hole Size: 7-7/8"
Production Casing Size: 4-1/2"
Production Casing Depth: 5039'

Cementing Record: 650 sks.

Perforations: 4911' - 4917'
4932' - 4940'

Plug Back Depth: 5006'

Total Depth: 5050'

WELL DATA SHEET

Well Name:	Champlin Federal Well #1
Legal Description:	660' FNL, 660' FWL Sec. 11, T25N, R13W San Juan County, NM
Well Type:	Oil Well
Spud Date:	08-26-83
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	296'
Cementing Record:	265 cu. ft.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	5-1/2"
Production Casing Depth:	5025'
Cementing Record:	1233 cu. ft.
Perforations:	4906' - 4916' 4908' - 4914'
Plug Back Depth:	5004'
Total Depth:	5025'

WELL DATA SHEET

Well Name: Champlin Federal Well #3

Legal Description: 330' FNL, 330' FEL
Sec. 10, T25N, R13W
San Juan County, NM

Well Type: Oil Well

Spud Date: 01-09-84

Surface Casing Hole Size: 14-3/4"
Surface Casing Size: 10-3/4"
Surface Casing Depth: 266'

Cementing Record: 325 cu. ft.

Intermediate Casing Hole Size: 9-7/8"
Intermediate Casing Size: 7-5/8"
Intermediate Casing Depth: 1564'

Cementing Record: 295 cu. ft.

C-100% 700-170'
C-75% 700-534'

Production Casing Hole Size: 6-3/4"
Production Casing Size: 4-1/2"
Production Casing Depth: 5050'

Cementing Record:

230 cu. ft.

100% 700-335'
700-335'

Perforations: 4912' - 4921'
4938' - 4947'
4954' - 4961'

Plug Back Depth: 5013'

Total Depth: 5050'