

CENTRAL
RESOURCES, INC.

April 9, 1998

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

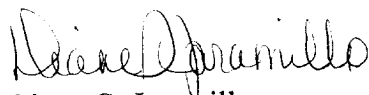
RECEIVED
APR 13 1998
OIL CON. DIV.
DIST. 3

Subject: Central Bisti Unit Well No. 52 30-045-05299
660' FSL, 1980' FEL
SE/4, SE/4, Sec. 31, T26N, R12W
San Juan County, New Mexico

Dear Mr. Chavez:

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

Sincerely,



Diane G. Jaramillo
Office Supervisor

DGJ/

Enclosure

CENTRAL

RESOURCES, INC.

April 9, 1998

New Mexico Oil Conservation Division
State Land Office Building
P.O. Box 2088
Santa Fe, New Mexico 87504


Subject: Central Bisti Unit Well No. 52
660' FSL, 1980' FEL
SE/4, SE/4, Sec. 31, T26N, R12W
San Juan County, New Mexico

Dear Sirs:

Enclosed for your approval is our Application for Authorization to Inject for the above referenced well. Central Resources is requesting administrative approval of this application. Upon receipt, an Affidavit of Publication will be forwarded to you. Authorization to injection was previously approved by the Oil Conservation Division on July 23, 1984. A copy of the Administrative Order is enclosed.

If you have any questions please call me at (505) 326-3325.

Sincerely,


Diane G. Jaramillo
Office Supervisor

DGJ/

Enclosure

cc: Bureau of Land Management
Farmington District Office

Central Resources, Inc.
Application for Authorization to Inject
Form C-108 Supplemental Information

Central Bisti Unit Well No. 52
660' FSL, 1980' FEL
SE/4, SE/4, Sec. 31, T26N, R12W
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 as follows:

Central Bisti Unit Well No. WI-4
Central Bisti Unit Well No. WI-5
Central Bisti Unit Well No. 1
Central Bisti Unit Well No. 4
Central Bisti Unit Well No. 66 - P&A
Central Bisti Unit Well No. 67
Central Bisti Unit Well No. 76
Central Bisti Unit Well No. 80
Central Bisti Unit Well No. 81
Central Bisti Unit Well No. 82

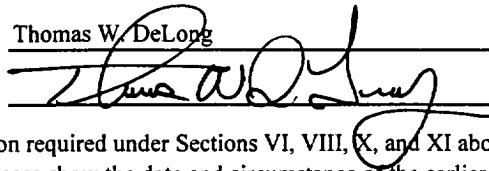
Wells in area of review that do not penetrate injection zone:

Federal "C" Well No. 5 - SI	TD - 803'
Bisti Coal 6 Well No. 1 - Prod.	TD - 1300'
North Bisti Coal 31 Well No. 1 - Prod.	TD - 1300'
North Bisti Coal 32 Well No. 2 - Prod.	TD - 1300'

- 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 700 - 965 psi range. Maximum injection pressure will be 965 psi.
 4. Refer to the attached water analysis reports. Since the formation water to be encountered is primarily previously injected water, no problems are expected in mixing the two waters.
 5. This well is part of an extensive waterflood project active in the Central Bisti Unit since 1959. All produced water is reinjected into the oil productive Lower Gallup sand to maintain pressure. Injection into the Lower Gallup sand is for waterflooding, not disposal
- VIII. The injection zone is the Lower Gallup sandstone. This zone is to be 78' in thickness with a top of 4820' 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.
- 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 is part of the existing approved waterflood operation for the Central Bisti Unit. It is not a disposal well.
- XIII. Proof of notification is attached.
- XIV. Certification shown on Application.

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: X Secondary Recovery Pressure Maintenance Disposal Storage
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: Central Resources, Inc.
ADDRESS: P.O. Box 2810, Farmington, New Mexico 87499
CONTACT PARTY: Thomas DeLong PHONE: (505) 326-3325
- III. WELL DATA: Complete the data required on the reverse side of this form for each well process for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project: X Yes No
If yes, give the Division order number authorizing the project WFX-528
- 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 water 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. Applications 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: Thomas W. DeLong TITLE: Superintendent/Engineer
SIGNATURE:  DATE: 4-8-98
- * 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

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 schematic 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

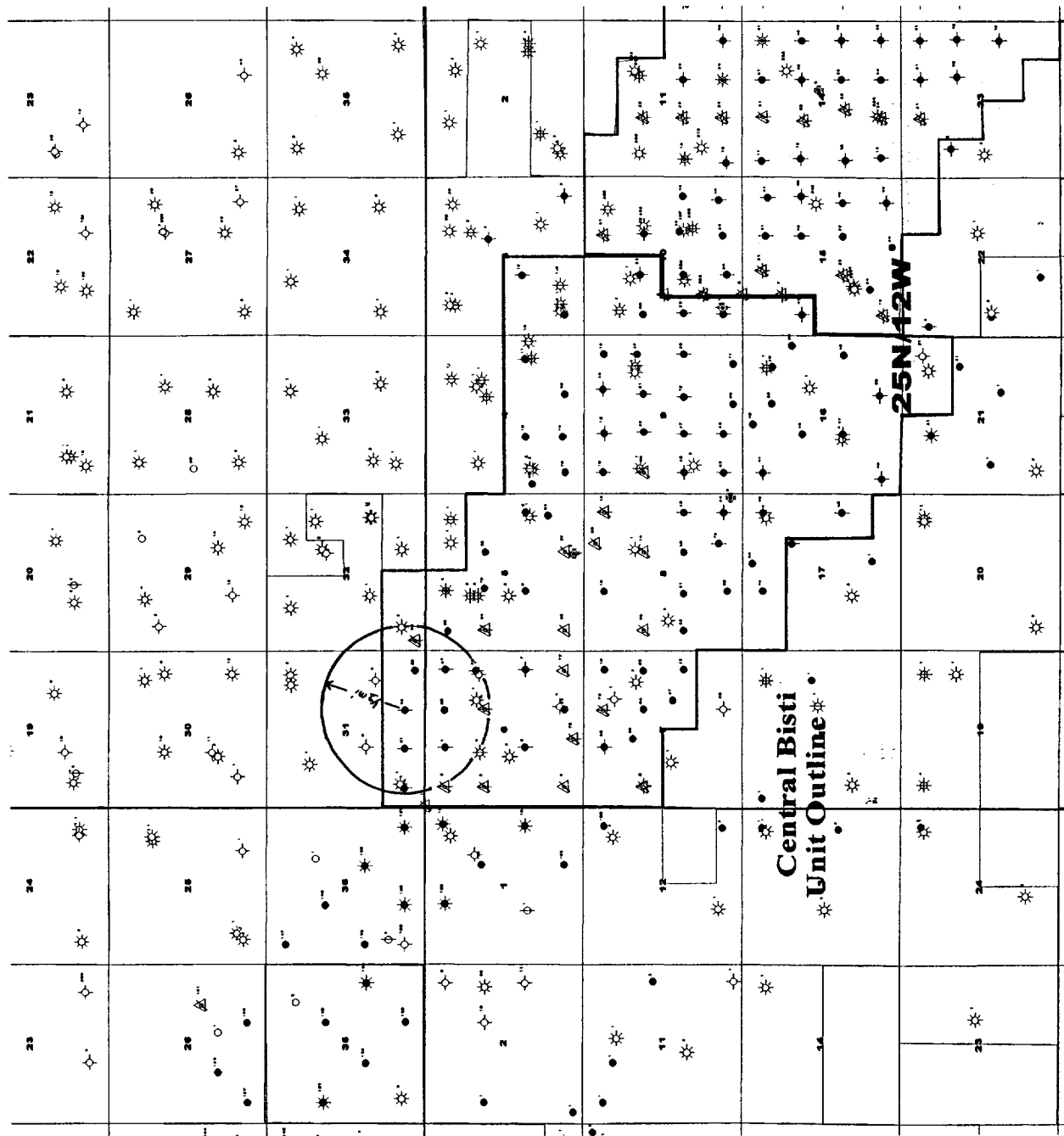
All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

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 request for hearing of administrative applications within 15 days from the date this application was mailed to them.



CENTRAL RESOURCES, INCORPORATED

Central Bisti Unit
San Juan County, New Mexico
Base Map w/ CRI's Acreage

2/1/98

Mich. Meyer

1" = 4,000'

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Central Bisti Unit		
OPERATOR		LEASE		
52	660' FSL, 1980' FEL	31	26N	12W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular DataSurface Casing

Size	8-5/8"	Cemented with	175	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	12-1/4"			

Intermediate Casing

Size		Cemented with		sx.
TOC		feet determined by		
Hole size				

Long string

Size	5-1/2"	Cemented with	200	sx.
TOC	3750'	feet determined by	temperature survey	
Hole size	7-7/8"			
Total depth	5002'			

Perforated interval

4829' - 4846'
4846' - 4850'
4886' - 4891'
4896' - 4907'

INJECTION WELL DATA SHEET -- SIDE 2

Tubing size 2-3/8" lined with Fiberglass/plastic set in a
(material)
Baker AD-1 or equivalent packer at 4750 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Lower Gallup
2. Name of field or Pool (if applicable) Bisti Lower Gallup
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) N/A
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in
 this area. Pictured Cliffs +/- 1112'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. WI-52
LOCATION 660' FSL, 1980' FEL SECTION 31 T 26 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, J-55
Casing Set @ 196' with 175 sks
cement containing 2% gel.

GLE 6150'

KBE _____

DF 6162'

FORMATION TOPS

Pictured Cliffs 1112'
Point Lookout 3640'
Mancos 3832'
Upper Gallup 4722'
Lower Gallup 4820'

WELL HISTORY

Spud date: 5/28/56

Original owner: Sunray Mid-Cont.

IP 6/22/56 BOPD 374 BWPD -

MCFD _____ GOR _____

Completion Treatment: _____

Frac'd w/35,000 gal oil and
35,000# sand (2 stages).

CURRENT DATA

Pumping Unit _____

Tubing 2-3/8"

Pump Size _____

Rod string _____

Remarks _____

Formerly N.M. Fed. C #7

6/59 - Perf'd 4846'-50'. Set

Model D @4800'. Converted to

GI (named CBU #GI-1).

1963? - Converted to WI.

12/63 - Converted from WI to

production.

8/79 - CO to 4898'. Frac'd
well w/900 bbl gelled oil &
40,000# 20/40 sand.

10/86 - Squeezed casing leaks.

1/90 - CO to 4912'. Squeezed
casing leaks. Acidized
perfs.

CEMENT TOP 3750' (T.S.)

PERFORATIONS

4829'-46'

4846'-50'

4886'-91'

4896'-4907'

PBD 4912' (tag)

PRODUCTION CASING

Hole Size: 7-7/8"

Casing: 5-1/2", 14#, J-55, 8rd

Casing Set @ 5002' with 200 sks

1:1 Pozmix (14.3 ppg).

5002' TD

Date Last Revised: 1/22/96

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. WI-4
LOCATION 1980' FNL, 1980' FEL SECTION 6 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 13-3/4"
Casing: 8-5/8", 24#, J-55
Casing Set @ 194' with 200 sks
cement containing 2% CaCl.

GLE 6178'

KBE _____

DF 6189'

FORMATION TOPS

Pictured Cliffs 1188'
Point Lookout 3640'
Mancos 3800'
Gallup 4710'
Lower Gallup 4805'

WELL HISTORY

Spud date: 5/12/56
Original owner: Sunray Mid-Cont.
IP 6/9/56 BOPD 480 BWPD -
MCFD _____ GOR _____
Completion Treatment: _____
2 stage frac w/35,000 gal oil
and 35,000# sand

CURRENT DATA

Pumping Unit _____
Tubing 2-3/8" plastic coated
Pump Size [pkr @ 4788']
Rod string _____
Remarks _____
Formerly New Mexico Federal
"C" #4 and CBU #GI-4.
10/82 Cleaned out to 4920'.
Set plug w/ 1 sk of cement
at 4870'. Model AD-1
packer set at 4703'.
8/93 - Squeezed csg leak
3567'-98'. Cemented
broken head. Acidized
perfs. Installed inj.
tbg string.
Date Last Revised: 1/19/96

CEMENT TOP 3900' (by T.S.)

PERFORATIONS

4819'-39'
(4882'-88' and 4897'-4900'
plugged back)

PBD [4962' origl, 4866' (new)]

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 14#, J-55
Casing Set @ 4999' with 200 sks
1-1 pozmix.

5000' TD

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Central Bisti Unit		
OPERATOR		LEASE		
WI-4	1980' FNL, 1980' FEL	6	25N	12W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular DataSurface Casing

Size	8-5/8"	Cemented with	200	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	13-3/4"			

Intermediate Casing

Size		Cemented with		sx.
TOC		feet determined by		
Hole size				

Long string

Size	5-1/2"	Cemented with	200	sx.
TOC	3900'	feet determined by	temperature survey	
Hole size	7-7/8"			
Total depth	5000'			

Perforated interval

4819' - 4839'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. WI-5
LOCATION 660' FNL, 660' FWL SECTION 6 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-3/4"
Casing: 10-3/4", 32.75#, H-40
Casing Set @ 209' with 175 sks
cement.

GLE 6184'

KBE 6196'

DF

FORMATION TOPS

Fruitland 1200'
Point Lookout 4718'
Lower Gallup 4924'

CEMENT TOP 3700' (T.S.)

PERFORATIONS

4828'-56'
4874'-78' plugged
4896'-4900' plugged
4912'-16' plugged
4934'-38' plugged

PBD 4870' (K-1 retainer)

PRODUCTION CASING

Hole Size: 8-3/4"
Casing: 7", 20# & 23#
Casing Set @ 5001' with 200 sks
cement.

WELL HISTORY

Spud date: 4/2/56

Original owner: Sunray Mid-Cont.

IP BOPD 288 BWPD 0

MCFD GOR 396

Completion Treatment:
Frac w/ 30,000 gal oil and
30,000# sand.

CURRENT DATA

Pumping Unit
Tubing 129 jts 2-3/8" (@4010')
Pump Size Packer @3792'
Rod string
Remarks

5/77 - CO to 4943'. Perf'd
intervals 4874' to 4938'.
Acidized all perms, hung on
pump.

2/84 - Isolated casing leaks.
Set Model K-1 retainer at
4870'.

4/84 - Ran 4-1/2" 9.5# and
10.5# casing to 3887'.
Cemented in place, ready for
injection.

Date Last Revised: 1/23/96

5002' TD

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Central Bisti Unit		
OPERATOR		LEASE		
WI-5	660' FNL, 660' FWL	6	25N	12W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular DataSurface Casing

Size	10-3/4"	Cemented with	175	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	12-3/4"			

Intermediate Casing

Size		Cemented with		sx.
TOC		feet determined by		
Hole size				

Long string

Size	7"	Cemented with	200	sx.
TOC	3700'	feet determined by	temperature survey	
Hole size	8-3/4"			
Total depth	5002'			

Perforated interval

4828' - 4856'

Grant Exploration & Production
Company
Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 1
LOCATION 660' FSL, 660' FWL SECTION 31 T 26N R 12W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 13-3/8"
Casing: 10-3/4", 32.75#, H-40
Casing Set @ 173' KB with
200 sks Cement containing
2% gel.

GLE 6159'
KBE (12' KB)
DF 6171'

FORMATION TOPS

Fruitland	895'
Pictured Cliffs	1153'
Mesa Verde	2515'
Point Lookout	3637'
Mancos	3834'
Upper Gallup	4720'

Fruitland Top

Pictured Cliffs

Top
Mesaverde
Top

CEMENT TOP 3800' (Calc.)

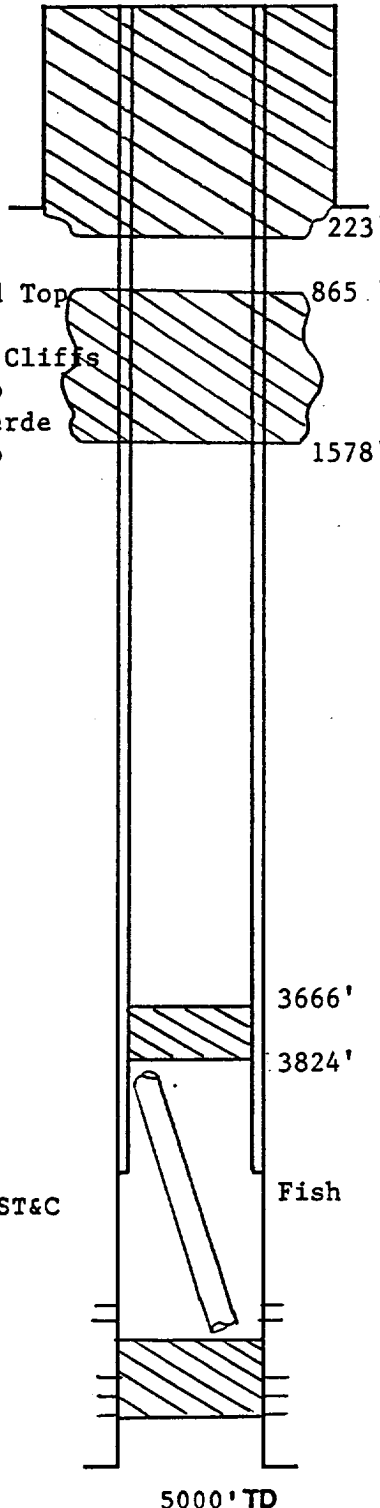
PERFORATIONS

4836'-70' (currently open)
4895'-4900' (plugged back)
4906'-17' (")
4932'-38' (")
4942'-48', 4954'-60' (")

PBD 4872' (tag Cmt. Rtr.)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 14#, J-55, 8rd, ST&C
Casing Set @ 4998' with
200 sks 1:1 pozmix



WELL HISTORY

Spud date: 04/27/56
Original owner: Sunray Mid-Cont.
IP 6/2/56 BOPD 192 BWPD 0
MCFD GOR
Completion Treatment: Frac with 60,000 gal crude and
60,000# sand.

CURRENT DATA

Pumping Unit
Tubing 2-3/8", 4.7# (153 lbs.)
Pump Size 2" x 1-1/2" x 16' RWBC
Rod string 3/4" (184)
Remarks

9/16/83: Set Baker Model K-1
Cement retainer at
4872' KB.

3/26/84: Ran 4-1/2", 10.5#
OFJ liner to 3988'
KB. Cemented w/150
sks cement.

4/29/86: Frac with 75,000#
20/40 sand and 1,362
bbls slick water.

Date Last Revised: 2/24/92

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Central Bisti Unit		(Plugged & Abandoned 1/22/96)	
OPERATOR		LEASE			
1	660' FSL, 660' FWL	31	26N	12W	
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE	
San Juan County, New Mexico					

Tabular DataSurface Casing

Size	10-3/4"	Cemented with	200	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	13-3/8"			

Intermediate Casing

Size		Cemented with		sx.
TOC		feet determined by		
Hole size				

Long string

Size	5-1/2"	Cemented with	200	sx.
TOC	3800'	feet determined by	calculation	
Hole size	7-7/8"			
Total depth	5000'			

Perforated interval

4836' - 4870'
4895' - 4900'
4906' - 4917'
4932' - 4938'
4942' - 4948'
4954' - 4960'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 4
LOCATION 660' FNL, 1980' FWL SECTION 6 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, J-55, ST&C
Casing Set @ 311' with 200 sks
cement containing 2% CaCl.

GLE 6164'

KBE 6175'

DF

FORMATION TOPS

Mancos 3806'
Upper Gallup 4552'
Lower Gallup 4814'

WELL HISTORY

Spud date: 7/28/59

Original owner: Sunray Mid-Cont.

IP 8/17/59 BOPD 216 BWPD

MCFD GOR

Completion Treatment:

Frac'd w/20,000 gal oil and
1 #/gal sand with balls.

CURRENT DATA

Pumping Unit
Tubing 2-3/8" (160 jts.)
Pump Size 2" x 1-1/2" x 16' RWAC
Rod string (54) 7/8", (139) 3/4"
Remarks
10/62 - Refrac'd w/40,000 gal
oil, 30,000# 20/40, & 20,000
10/20 sand.
6/71 - Tagged fill at 4800',
bailed to 4820'.
5/74 - Acidized w/500 gal.
3/79 - Squeezed casing leaks
3466'-3589', CO to 4930'.
Acidized w/2000 gal.
1/81 - Acidized w/1000 gal.
2/84 - CO to 4948'
2/86 - Acidized w/1500 gal.
9/91 - Acidized w/1000 gal.

CEMENT TOP 3500' (T.S.)

PERFORATIONS

4818'-20', 4827'-44'
4852'-56', 4861'-68'
4882'-92', 4896'-4908'
4916'-24'
(4 JSPF)

PBD 4968' (orig.), 4948' (new)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 4-1/2", 9.5#, J-55
Casing Set @ 5000' with 300 sks
Pozmix cement containing 2% gel.

5000' TD

Date Last Revised: 7/3/96

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.

Central Bisti Unit

OPERATOR

LEASE

4

660' FNL, 1980' FWL

6

25N

12W

WELL NO.

FOOTAGE LOCATION

SECTION

TOWNSHIP

RANGE

San Juan County, New Mexico

Tabular DataSurface Casing

Size	8-5/8"	Cemented with	200	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	12-1/4"			

Intermediate Casing

Size		Cemented with		sx.
TOC		feet determined by		
Hole size				

Long string

Size	4-1/2"	Cemented with	300	sx.
TOC	3500'	feet determined by	temperature survey	
Hole size	7-7/8"			
Total depth	5000'			

Perforated interval

4818' - 4820'

4827' - 4844'

4852' - 4856'

4861' - 4868'

4882' - 4892'

4896' - 4908'

4916' - 4824'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 66 (WI)
LOCATION 330' ESL, 330' FWL SECTION 32 T 26 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, J-55, ST&C
Casing Set @ 155' with 150 sks
cement containing 2% CaCl.

GLE 6149'

KBE 6158'

DF 6156'

FORMATION TOPS

Pictured Cliffs 1146'
Lewis 1315'
Mesaverde 1882'
Point Lookout 3615'
Mancos 3768'
Upper Gallup 4700'
Lower Gallup 4807'

Fruitland
Top

MesaVerde
Top

794'

1196'

1782'

1932'

CEMENT TOP 4150' (Calc.)

PERFORATIONS

4804'-26'
4864'-68'
4874'-84'
(4 JSPE)

PBD 4924'

PRODUCTION CASING

Hole Size: 7-5/8" (?)
Casing: 4-1/2", 9.5#, J-55, Smls, ST&C
Casing Set @ 4925' with Lead: 100
sks cement containing 8%
gel and Tail: 50 sks regular
cement.

Gallup
Top

4395'

4880'

4925' TD

WELL HISTORY

Spud date: 12/12/57

Original owner: Val R. Reese, Assoc.

IP 1/7/58 BOPD 192 BWPD -

MCFD GOR

Completion Treatment:

Frac'd w/28,560 gal crude and
20,000# sand.

CURRENT DATA

Pumping Unit

Tubing

Pump Size

Rod string

Remarks

Formerly Hickman #1

Purchased by Sunray 7/1/59.

9/60 - Converted to gas inj.

Set Model D pkr @4757'.

Renamed CBU #GI-20.

7/72 - Converted to flowing
producer.

12/76 - Hung on pump. (7/77-

FL @372', 5% oil cut)

5/80 - Pulled rods and tubing.

4/84 - Applied for approval
to water inject. No evidence
of this work taking place in
the wellfiles. (Ranamed CBU
#WI-66).

Date Last Revised: 6/19/96

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Central Bisti Unit	(Plugged & Abandoned 11/5/97)	
OPERATOR		LEASE		
WI-66	330' FSL, 330' FWL	32	26N	12W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular DataSurface Casing

Size	8-5/8"	Cemented with	150	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	12-1/4"			

Intermediate Casing

Size		Cemented with		sx.
TOC		feet determined by		
Hole size				

Long string

Size	4-1/2"	Cemented with	150	sx.
TOC	4150'	feet determined by	calculation	
Hole size	7-5/8"			
Total depth	4925'			

Perforated interval

4804' - 4826'

4864' - 4868'

4874' - 4884'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 67
LOCATION 660' FNL, 660' FEL SECTION 6 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, J-55
Casing Set @ 200.33' with 175
skts cement containing 2%
gel and 2% CaCl.

FORMATION TOPS

Pictured Cliffs 1114'
Point Lookout 3715'
Mancos 3800'
Upper Gallup 4690'
Lower Gallup 4810'

CEMENT TOP 3613' (by T.S.)

PERFORATIONS

4816'-32'
4873'-80'
4885'-90'
(6 JSPF)

PBD 4952' (orig.), 4940' (tag)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 14#, J-55
Casing Set @ 4998' with 100 sks
pozmix and 2% gel; tailed in
with 100 sks neat cement.

GLE 6158'

KBE 6170'

DF 6169'

WELL HISTORY

Spud date: 6/13/56
Original owner: Sunray Mid-Cont.
IP 7/2/56 BOPD 408 BWPD
MCFD GOR
Completion Treatment:
2 stage frac with 30,000 gal
crude and 30,000# 20/40 sand.

CURRENT DATA

Pumping Unit
Tubing 2-3/8" (157 jts.)
Pump Size (no-go)
Rod string (192) 3/4"
Remarks
Formerly N.M. Federal C #9
7/59 - Renamed CBU #3
3/63 - Converted to WI. Re-
named CBU #WI-10.
7/65 - Plugged back to 4848'.
12/66 - Acidized w/1000 gal.
10/75 - Converted to prod.
1/78 - Acidized w/2000 gal.
10/85 - CO to PBD. Acidized w/
1500 gal.
4/90 - Squeezed leaks 2787'-
2847'. Acidized w/1000 gal.
7/93 - Shut well in

5000' TD

Date Last Revised: 7/11/96

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Central Bisti Unit		
OPERATOR		LEASE		
67	660' FSL, 660' FEL	6	25N	12W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular DataSurface Casing

Size	8-5/8"	Cemented with	175	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	12-1/4"			

Intermediate Casing

Size		Cemented with		sx.
TOC		feet determined by		
Hole size				

Long string

Size	5-1/2"	Cemented with	200	sx.
TOC	3613'	feet determined by	temperature survey	
Hole size	7-7/8"			
Total depth	5000'			

Perforated interval

4816' - 4832'
4873' - 4880'
4885' - 4890'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 76
LOCATION 1700' FNL, 660' FEL, SECTION 6 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, K-55, 8rd
Casing Set @ 217.12' with 130 sx
Class B cement containing
2% CaCl and 1/4 #/sk cello-
phane flakes.

FORMATION TOPS

Fruitland 1127'
Pictured Cliffs 1167'
Lewis 1369'
Cliffhouse 1523'
Menefee 2581'
Point Lookout 3673'
Mancos 3813'
Upper Gallup 4727'
Lower Gallup 4812'

CEMENT TOP 3120' (Primary Cmt)

PERFORATIONS

4829'-57' (2 JSPE)
4892'-4900'
4904'-12'

PBD 5042' (Tag)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 4-1/2", 10.5#, K-55, 8rd
Casing Set @ 5081.96' with 75 sks
65:35 Litepoz 6 with 12%
Bentonite and 1/4 #/sk celloflake,
300 sks 50:50 Litepoz 6 with 2%
CaCl and 6% Bentonite, tail in
with 150 sks Class B cement with
1/4 #/sk cellophane flakes.

GLE 6205'

KBE 6218'

DF

WELL HISTORY

Spud date: 5/19/82

Original owner: Hixon Development

IP 6/23/82 BOPD 33 BWPD 34

MCFD 8 GOR 246

Completion Treatment:

Frac with 50,000# 20-40 sand
1310 bbl slick water

CURRENT DATA

Pumping Unit Lufkin 160D

Tubing 2-3/8" w/ packer @ 4779'

Pump Size 2" x 1-1/2" x 16' RWAC

Rod string (141) 3/4", (48) 7/8"

Remarks

6/82 - Original completion.

11/82 - Cleaned out fill.

10/83 - Perf'd 4892' to 4912'.

Acidized and balled off,
hung on pump.

3/90 - Squeezed casing leaks
2120'-2148', 2688'-2722'.

Acidized with 2000 gal.

6/92 - Tested for a casing
leak, held pressure. Acid-
ized perfs with 500 gal.

10/97 - RTP

Date Last Revised: 1/19/98

5120' TD

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Central Bisti Unit		
OPERATOR		LEASE		
76	1700' FNL, 660' FEL	6	25N	12W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular DataSurface Casing

Size	8-5/8"	Cemented with	130	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	12-1/4"			

Intermediate Casing

Size		Cemented with		sx.
TOC		feet determined by		
Hole size				

Long string

Size	4-1/2"	Cemented with	525	sx.
TOC	3120'	feet determined by	circulated to surface	
Hole size	7-7/8"			
Total depth	5120'			

Perforated interval

4829' - 4857'
4892' - 4900'
4904' - 4912'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 80
LOCATION 660' FNL, 1980' FEL SECTION 6 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, K-55, 8rd
Casing Set @ 216.36' with 130
sks Class B containing 2%
CaCl and 1/4 #/sk Flocele.

GLE 6171'

KBE 6184'

DF

FORMATION TOPS

<u>Fruitland Coal</u>	<u>1119'</u>
<u>Pictured Cliffs</u>	<u>1181'</u>
<u>Lewis</u>	<u>1331'</u>
<u>Cliffhouse</u>	<u>1503'</u>
<u>Menefee</u>	<u>2584'</u>
<u>Point Lookout</u>	<u>3624'</u>
<u>Mancos</u>	<u>3789'</u>
<u>Upper Gallup</u>	<u>4720'</u>
<u>Lower Gallup</u>	<u>4802'</u>

WELL HISTORY

Spud date: 5/26/82
Original owner: Hixon Development
IP 6/29/82 BOPD 27 BWPD 10.1
MCFD 8 GOR 291
Completion Treatment:
Frac w/54,967 gal 2% KCl and
50,000# 20-40 sand.

CURRENT DATA

Pumping Unit 2-3/8" x 2-1/16"
Tubing
Pump Size 1-1/2" tbg pump
Rod string (193) 3/4"
Remarks
9/84 - Acidized with 1000 gal

CEMENT TOP 3710' (by CBL)

PERFORATIONS

4817'-43' (2 JSPF)

PBD 5006' (tag w/CBL)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 4-1/2", 10.5#, K-55
Casing Set @ 5067.74' w/ 75 sks
65:35 Litepoz 6 w/12% gel, 1/4
#/sk Flocele; 109 bbl mud; 20 bbl
CW 100; 300 sks 50:50 Litepoz 6
w/2% CaCl, 1/4#/sk Flocele; and
150 sks Class B w/2% CaCl and
1/4 #/sk Flocele.

4/87 - Ran casing insp log;
bad casing 2650'- 3000'.
Returned well to prod.
under packer.
8/90 - Tested csg leaks
2682'-3526'. Well returned
prod. under packer.
12/90 - Well shut in.
5/95 - Ran 3-1/2" scab liner
2054'-3610'. Acidized
perfs. RTP.

5090' TD

Date Last Revised: 1/19/96

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Central Bisti Unit		
OPERATOR		LEASE		
80	660' FNL, 1980' FEL	6	25N	12W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular DataSurface Casing

Size	8-5/8"	Cemented with	130	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	12-1/4"			

Intermediate Casing

Size		Cemented with		sx.
TOC		feet determined by		
Hole size				

Long string

Size	4-1/2"	Cemented with	525	sx.
TOC	3710'	feet determined by	cement bonding log	
Hole size	7-7/8"			
Total depth	5090'			

Perforated interval

4817' - 4843'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 81
LOCATION 660' FSL, 1980' FWL SECTION 31 T 26 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, K-55, 8rd
Casing Set @ 218.65' w/225 sks
Class B containing 2% CaCl
and 1/4 #/sk Flocele

GLE 6162'

KBE 6175'

DF

FORMATION TOPS

Pictured Cliffs 1161'
Lewis 1332'
Cliffhouse 1492'
Menefee 2591'
Point Lookout 3636'
Mancos 3822'
Upper Gallup 4732'
Lower Gallup 4828'

WELL HISTORY

Spud date: 4/12/82
Original owner: Hixon Development
IP 5/21/82 BOPD 38 BWPD 3
MCFD 9 GOR 236
Completion Treatment:
Frac'd w/60,858 gal 2% KCl
slickwater & 50,000# 20/40 sd.

CURRENT DATA

Pumping Unit
Tubing 2-3/8" @4903'
Pump Size 2" x 1-1/2" x 16' RWAC
Rod string (194) 3/4"
Remarks
Original completion 4834'-60'.

10/83 - Perf'd 4892'-4910' and
acidized w/500 gal 7-1/2%.

8/90 - Acidized perfs.

9/90 - Squeezed holes in csg
3000'-16' and 2728'-45'.

Hung back on pump.

6/95 - Shut in

Date Last Revised: 6/19/96

CEMENT TOP 2876' Primary (CBL)

PERFORATIONS

4834'-60'
4892'-4910'
(2 JSPP)

PBD 4982'

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 4-1/2", 10.5, K-55, ST&C
Casing Set @ 5086.21' w/75 sks Class
B 65:35 Litepoz 6 w/12% Bentonite,
1/4 #/sk Flocele; 55 bbl spacer;
Lead - 300 sks 50:50 Litepoz 6 w/
6% gel, 2% CaCl, 1/4 #/sk Flocele;
Tail - 150 sks Class B w/2% CaCl,
1/4 #/sk Flocele.

5100' TD

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.

Central Bisti Unit

OPERATOR

LEASE

81

660' FSL, 1980' FWL

31

26N

12W

WELL NO.

FOOTAGE LOCATION

SECTION

TOWNSHIP

RANGE

San Juan County, New Mexico

Tabular DataSurface Casing

Size	8-5/8"	Cemented with	225	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	12-1/4"			

Intermediate Casing

Size		Cemented with		sx.
TOC		feet determined by		
Hole size				

Long string

Size	4-1/2"	Cemented with	525	sx.
TOC	2876'	feet determined by	cement bond log	
Hole size	7-7/8"			
Total depth	5100'			

Perforated interval

4834' - 4860'

4892' - 4910'

Well Bore Diagram

SURFACE CASING

GLE 6165'

KBE 6178'

DF_____

WELL HISTORY

Spud date: 9/25/83
Original owner: Hixon Development
IP 11/4/83 BOPD 94 BWPD 0
MCFD 43 GOR 462
Completion Treatment: _____
Frac w/2,048 bbl 2% KCl slick-
water & 100,000# 20/40 sand.

CURRENT DATA

Pumping Unit _____
 Tubing 2-3/8" (156 jts.)
 Pump Size 2" x 1-1/2" x 16' RWAC
 Rod string (194) 3/4"
 Remarks _____

7/84 - Paraffin plugging, pump
change.

2/94 - Tagged fill @4942'.
Hydrotest tubing, pump
change.

Date Last Revised: 7/16/96

FORMATION TOPS

Fruitland	708'
Pictured Cliffs	1142'
Lewis	1350'
Cliffhouse	1510'
Menefee	2596'
Point Lookout	3629'
Mancos	3792'
Upper Gallup	4720'
Lower Gallup	4816'

CEMENT TOP 500' by TS

PERFORATIONS

4828'-48'
4878'-84'
4890'-4904'
(2 JSPF)

PBD 5011' (tag)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 15.5#, K-55, ST&C
Casing Set @ 5038.97' w/Lead:
400 sks (1500 cu.ft.) Highlift
I: Tail: 200 sks (236 cu.ft.)
Class B w/2% CaCl.

5040' TD

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Central Bisti Unit		
OPERATOR		LEASE		
82	330' FSL, 660' FEL	31	26N	12W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular DataSurface Casing

Size	8-5/8"	Cemented with	135	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	12-1/4"			

Intermediate Casing

Size		Cemented with		sx.
TOC		feet determined by		
Hole size				

Long string

Size	5-1/2"	Cemented with	600	sx.
TOC	500'	feet determined by	Temperature survey	
Hole size	7-7/8"			
Total depth	5040'			

Perforated interval

4828' - 4848'

4878' - 4884'

4890' - 4904'

FW01W076

BJ SERVICES COMPANY
WATER ANALYSIS #FW01W076
FARMINGTON LAB

GENERAL INFORMATION

OPERATOR:	CENTRAL RESOURCES	DEPTH:	
WELL:	C.B.U. WATER FLOOD STATION	DATE SAMPLED:	03/05/98
FIELD:		DATE RECEIVED:	03/05/98
SUBMITTED BY:	GREG MCINTOSH	COUNTY:	SAN JUAN
WORKED BY:	D. SHEPHERD	STATE:	NM
PHONE NUMBER:		FORMATION:	

SAMPLE DESCRIPTION

sample for analysis

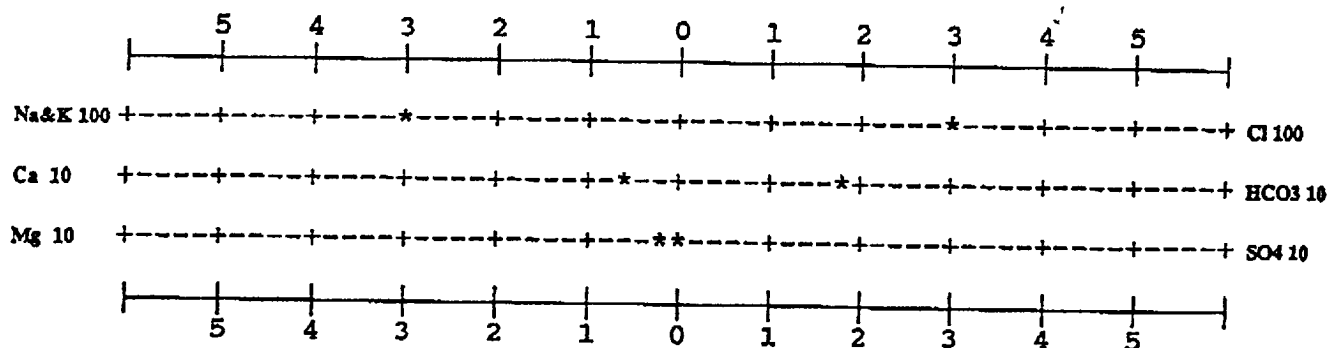
PHYSICAL AND CHEMICAL DETERMINATIONS

SPECIFIC GRAVITY:	1.007	@ 74°F	PH:	6.97
RESISTIVITY (MEASURED):	0.300	ohms @ 75°F		
IRON (FE++) :	0	ppm	SULFATE:	20
CALCIUM:	135	ppm	TOTAL HARDNESS	447
MAGNESIUM:	27	ppm	BICARBONATE:	1,090
CHLORIDE:	10,562	ppm	SODIUM CHLORIDE (Calc)	17,374
SODIUM+POTASS:	7,063	ppm	TOT. DISSOLVED SOLIDS:	19,182
H2S: STRONG TRACE			POTASSIUM CHLORIDE:	28 (PPM)

REMARKS

TANK LEVEL 7.5' @ 3:40 PM.

STIFF TYPE PLOT (IN MEQ/L)



ANALYST

D. SHEPHERD



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

APPLICATION OF HIXON DEVELOPMENT COMPANY
TO EXPAND ITS WATERFLOOD PROJECT IN THE LOWER
GALLUP OIL POOL IN SAN JUAN COUNTY, NEW MEXICO.

ORDER No. WFX-528

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Order No. R-1636-A, Hixon Development Company has made application to the Division on April 27, 1984, for permission to expand its Central Bisti Unit Waterflood Project in the Lower Gallup Oil Pool in San Juan County, New Mexico.

NOW, on this 23rd day of July, 1984, the Division Director finds:

1. That application has been filed in due form.
2. That satisfactory information has been provided that all offset operators have been duly notified of the application.
3. That no objection has been received within the waiting period as prescribed by Rule 701B.
4. That the proposed injection well is eligible for conversion to water injection under the terms of Rule 701.
5. That the proposed expansion of the above referenced Waterflood project will not cause waste nor impair correlative rights.
6. That the application should be approved.

IT IS THEREFORE ORDERED:

That the applicant, Hixon Development Company, be and the same is hereby authorized to inject water into the Lower Gallup Sand formation through plastic-lined tubing set in a packer at a maximum of 100 feet from the highest injection interval in the following described wells for purposes of waterflood to wit:

CBU Well No. 21, Unit E, Sec. 7, T-25-N, R-12-W
San Juan County

Maximum Surface Injection Pressure: 975 psig.

CBU Well No. 52, Unit O, Sec. 31, T-26-N, R-12-W,
San Juan County

Maximum Surface Injection Pressure: 964 psig.

CBU Well No. 53, Unit G, Sec. 5, T-25-N, R-12-W,
San Juan County

Maximum Surface Injection Pressure: 956 psig.

CBU Well No. 56, Unit M, Sec. 5, T-25-N, R-12-W,
San Juan County

Maximum Surface Injection Pressure: 925 psig.

CBU Well No. 57, Unit O, Sec. 5, T-25-N, R-12-W,
San Juan County

Maximum Surface Injection Pressure: 954 psig.

CBU Well No. 63, Unit E, Sec. 8, T-25-N, R-12-W,
San Juan County

Maximum Surface Injection Pressure: 958 psig.

CBU Well No. 64, Unit G, Sec. 7, T-25-N, R-12-W,
San Juan County

Maximum Surface Injection Pressure: 965 psig.

CBU Well No. 66, Unit M, Sec. 32, T-26-N, R-12-W,
San Juan County

Maximum Surface Injection Pressure: 961 psig.

CBU Well No. 73, Unit O, Sec. 8, T-25-N, R-12-W,
San Juan County

Maximum Surface Injection Pressure: 950 psig.

IT IS FURTHER ORDERED:

That the operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

That the casing-tubing annulus (in each well) shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

That the injection wells or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection wells to no more than 0.2 psi per foot of depth to the uppermost injection interval on each well. (note well list for individual well pressure limits.

That the Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said wells that such higher pressure will not result in migration of the injected fluid from the Gallup formation. That such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

That the operator shall notify the supervisor of the Division's Aztec District Office before injection is commenced through said wells.

That the operator shall immediately notify the Supervisor of the Division's Aztec District Office of the failure of the tubing, casing, or packer in said wells or the leakage of water from or around said wells and shall take such steps as may be timely or necessary to correct such failure or leakage.

That the subject wells shall be governed by all provisions of Division Order No. R-1636-A and Rules 702, 703, 704, 705, and 706 not inconsistent herewith.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY,
Division Director

S E A L