GIANT

GIANT EXPLORATION &
PRODUCTION COMPANY

2200 Bloomfield Highway
Post Office Box 2810
Farmington, New Mexico
87499-2810

	FAX
505	505
326-3325	327-7987

August 27, 1993

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

Subject: Central Bisti Unit No. 77
660' FSL, 660' FEL
Sec. 6, T25N, R12W
San Juan County, New Mexico

Dear Sir:

Enclosed for your approval is our Application for Authorization to Inject for the above referenced well. Upon receipt, an Affidavit of Publication will be forwarded to you.

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

Sincerely,

Diane G. Jaramillo

Diane G. Jaramillo
Administrative Manager

/dgj

Enclosure

STATE OF NEW MEXICO
ENERGY, MINERALS and NATURAL
RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
PO BOX 2088
SANTA FE, NM 87504-2088

FORM C-108
Revised 7-1-81

OIL CONSERVATION DIVISION
RECEIVED

'93 SEP 9 AM 9 43

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: X Secondary Recovery ____ Pressure Maintenance ____ Disposal ____ Storage
Application qualifies for administrative approval? __Yes __No

II. OPERATOR: Giant Exploration & Production Company

ADDRESS: P.O. Box 2810, Farmington, New Mexico 87499

CONTACT PARTY: Jeffrey R. Vaughan PHONE: (505) 326-3325

III. WELL DATA: Complete the data required on the reverse side of this form for each well processed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project: X Yes ___ No
If yes, give the Division order number authorizing the project R-1636-A

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/1 or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Jeffrey R. Vaughan TITLE: Vice President/Operations

SIGNATURE: JRV DATE: August 10, 1993

* 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 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, PO Box 2088, Santa Fe, NM 87504-2088 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.

Giant Exploration & Production Company
Application for Authorization to Inject
Form C-108 Supplemental Information

Central Bisti Unit Well No. 77
SE/4, SE/4, Sec. 6, T25N, 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 No. 7
Central Bisti Unit No. 19
Central Bisti Unit No. 55
Central Bisti Unit No. WI-56
Central Bisti Unit No. WI-75
Central Bisti Unit No. WI-78

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 961 - 966 psi range. Maximum injection pressure will be 966 psi.

4. Refer to the attached water analysis report. 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 Carson 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 18' in thickness with a top of 4812' 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.

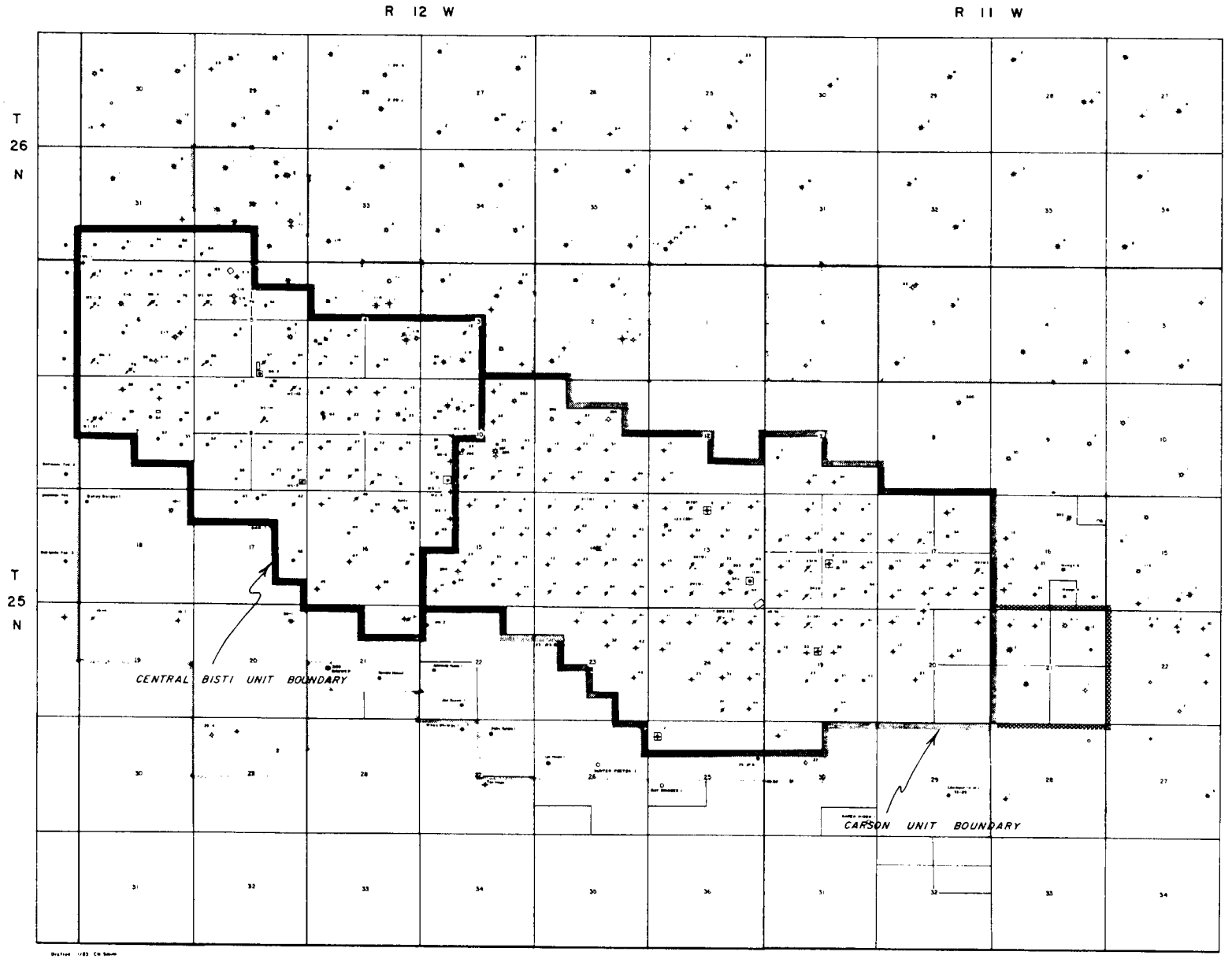
X. Logs were previously submitted.

XI. No known sources of drinking water exist in this area.

XII. This well is part of the existing approved waterflood operation for the Carson Unit. It is not a disposal well.

XIII. Proof of notification is attached.

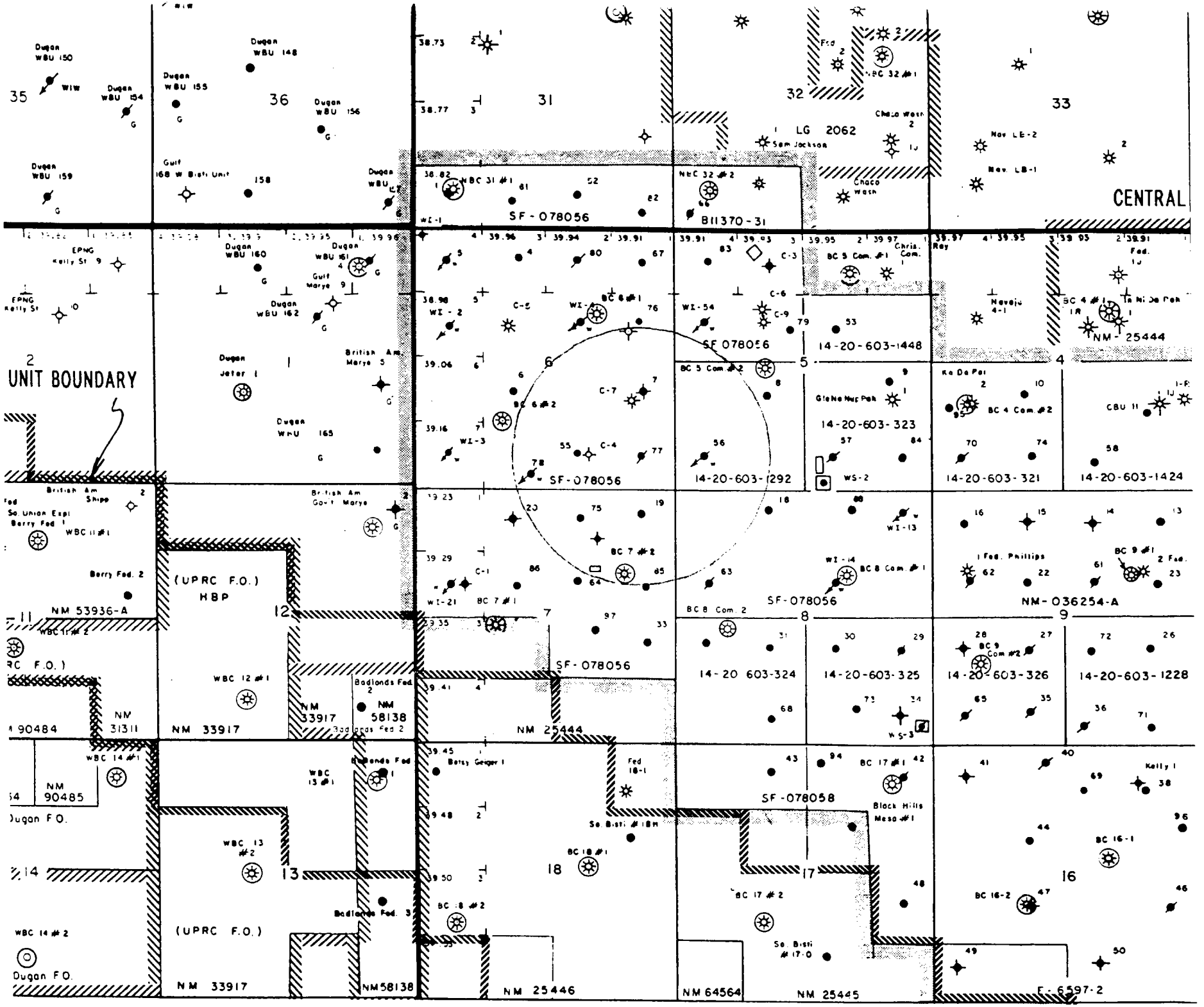
XIV. Certification shown on Application.



HIXON DEVELOPMENT COMPANY

CENTRAL BISTI - CARSON UNIT AREA

San Juan County, New Mexico


CENTRAL
UNIT BOUNDARY
35
36
31
32
33
2
1
6
5
4
11
12
7
8
9
13
18
17
16
SF - 078056
B11370-31
LG 2062
14-20-603-1448
14-20-603-323
14-20-603-1292
14-20-603-321
14-20-603-1424
NM-25444
NM-036254-A
14-20 603-324
14-20-603-325
14-20-603-326
14-20-603-1228
NM 53936-A
(UPRC F.O.)
HBP
NM 33917
NM 58138
NM 25444
NM 90485
NM 31311
NM 25446
NM 64564
NM 25445
E-6597-2
Dugan F.O.

Giant Exploration & Production Company
Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 77

LOCATION 660' FSL, 660' FEL **SECTION** 6 **T** 25 N **R** 12 W

COUNTY San Juan **STATE** New Mexico

GLE 6218'

KBE 6231'

DF 6229.5'

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, K-55, 8rd
Casing Set @ 215.37' with 120 sks Class B containing 2% CaCl and 1/4 #/sk Flocele.

FORMATION TOPS

Fruitland Coal	1128'
Pictured Cliffs	1150'
Lewis	1335'
Cliffhouse	1503'
Menefee	2591'
Point Lookout	3648'
Mancos	3792'
Upper Gallup	4714'
Lower Gallup	4803'

CEMENT TOP 3200' (by CBL)

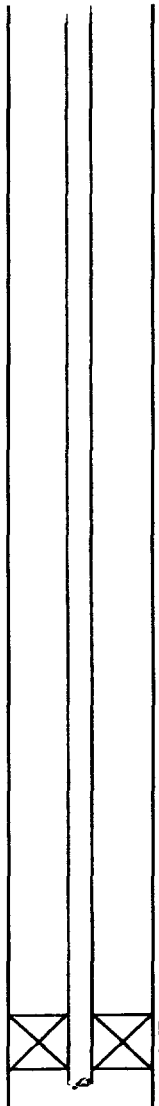
PERFORATIONS

4812'-30' (2 JSPF)

PBD 5021' (tag)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 4-1/2", 10.5#, K-55, 8rd
Casing Set @ 5063.27' with 75 sks 65:35 Litepoz 6 w/12% gel, 1/4 #/sk celloflake; 87 bbls mud; 20 bbls chem (CW-100); 300 sks 50:50 Litepoz 6 w/6% gel, 2% CaCl, 1/4 #/sk celloflake; tail in 150 sks Class B w/2% CaCl & 1/4 #/sk flake



5090' **TD**

WELL HISTORY

Spud date: 5/6/82

Original owner: Hixon Development

IP 6/28/82 BOPD 23.8 BWPD 9.7

MCFD 7 GOR 291

Completion Treatment:
Frac w/54,967 gal. 2% KCL and 50,000# 20/40 mesh sand.

CURRENT DATA

Pumping Unit
Tubing
Pump Size
Rod string
Remarks

Proposed water injection schematic.

Date Last Revised: 8/18/93

WELL DATA SHEET

Well Name:	Central Bisti Unit #77
Legal Description:	660' FSL, 660' FEL Sec. 6, T25N, R12W San Juan County, N.M.
Well Type:	Water Injection Well (Waiting on Approval)
Spud Date:	05-06-82
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	215'
Cementing Record:	120 sks.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5063'
Cementing Record:	525 sks.
Perforation:	4812' - 4830'
Plug Back Depth:	5021'
Total Depth:	5090'

WELL DATA SHEET

Well Name:	Central Bisti Unit #19
Legal Description:	660' FNL, 660' FEL Sec. 7, T25N, R12W San Juan County, N.M.
Well Type:	Oil Well
Spud Date:	07-02-56
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	192'
Cementing Record:	175 sks.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	5-1/2"
Production Casing Depth:	5000'
Cementing Record:	200 sks.
Perforation:	4804' - 4818' 4833' - 4840' 4852' - 4858' 4871' - 4977' 4886' - 4895'
Plug Back Depth:	4969'
Total Depth:	5000'

WELL DATA SHEET

Well Name:	Central Bisti Unit #55
Legal Description:	660' FSL, 1980' FEL Sec. 6, T25N, R12W San Juan County, N.M.
Well Type:	Oil Well
Spud Date:	06-04-56
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	191'
Cementing Record:	175 sx.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	5-1/2"
Production Casing Depth:	4998'
Cementing Record:	225 sx.
Perforation:	4816' - 4828' 4863' - 4869' 4885' - 4892' 4898' - 4905'
Plug Back Depth:	4915'
Total Depth:	5000'

WELL DATA SHEET

Well Name:	Central Bisti Unit WI-56
Legal Description:	660' FSL, 660' FWL Sec. 5, T25N, R12W San Juan County, N.M.
Well Type:	Water Injection
Spud Date:	08-23-56
Surface Casing Hole Size:	15"
Surface Casing Size:	10-3/4"
Surface Casing Depth:	208'
Cementing Record:	175 sks.
Production Casing Hole Size:	8-3/4"
Production Casing Size:	5-1/2"
Production Casing Depth:	4997'
Cementing Record:	250 sks.
Perforation:	4808' - 4832'
Plug Back Depth:	4848'
Total Depth:	5027'

WELL DATA SHEET

Well Name:	Central Bisti Unit WI-75
Legal Description:	660' FNL, 1980' FEL Sec. 7, T25N, R12W San Juan County, N.M.
Well Type:	Water Injection
Spud Date:	04-29-82
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	219'
Cementing Record:	120 sks.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5088'
Cementing Record:	500 sks.
Perforation:	4832' - 4846' 4882' - 4890' 4902' - 4906' 4918' - 4922'
Plug Back Depth:	5044'
Total Depth:	5100'

WELL DATA SHEET

Well Name:	Central Bisti Unit WI-78
Legal Description:	330' FSL, 2300' FWL Sec. 6, T25N, R12W San Juan County, N.M.
Well Type:	Water Injection
Spud Date:	04-21-82
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	216'
Cementing Record:	200 sks.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5110'
Cementing Record:	525 sks.
Perforation:	4840' - 4856'
Plug Back Depth:	5067'
Total Depth:	5115'

Giant Exploration & Production Company

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 7

LOCATION 1980' FSL, 660' FEL **SECTION** 6 **T** 25 N **R** 12 W

COUNTY San Juan **STATE** New Mexico

GLE 6186'

KBE

DF 6193'

SURFACE CASING

Hole Size: 12-1/4"

Casing: 8-5/8", 24#, J-55

Casing Set @ 186' with 175 sks cement with 2% gel.

FORMATION TOPS

Pictured Cliffs	1115'
Point Lookout	3631'
Mancos	3840'
Upper Gallup	4687'
Lower Gallup	4795'

CEMENT TOP 4035' (by T.S.)

PERFORATIONS

4812'-4828'

4878'-4884'

4892'-4898'

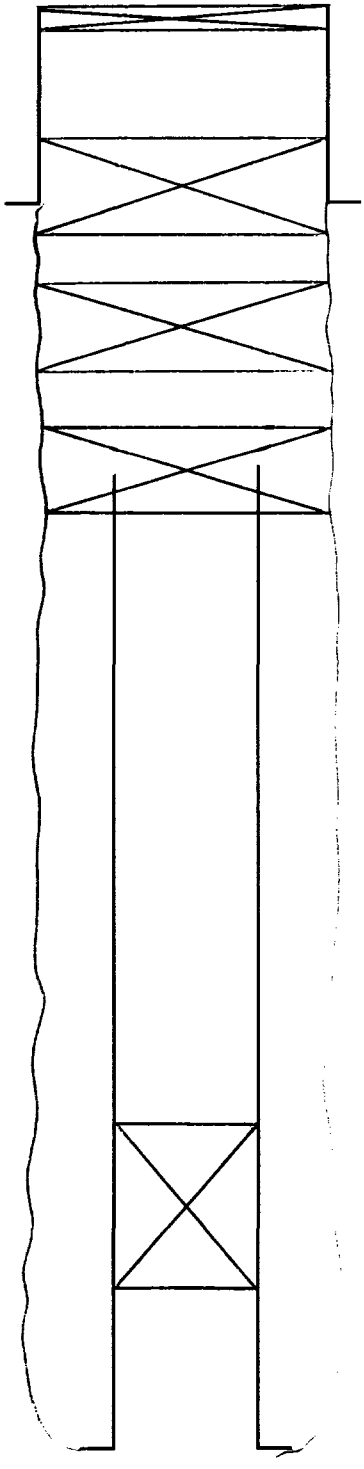
PBD 4960'

PRODUCTION CASING

Hole Size: 7-7/8"

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

Casing Set @ 4993' with 200 sks containing 2% CaCl.



4995' **TD**

WELL HISTORY

Spud date: 6/19/56

Original owner: Sunray Mid-Cont.

IP 7/8/56 BOPD 480 BWPD -

MCFD GOR

Completion Treatment:

Frac'd with 35,000 gal crude and 35,000# 20/40 sand.

CURRENT DATA

Pumping Unit

Tubing

Pump Size

Rod string

Remarks

Formerly N.M. Fed. 'C' #12

Well was P & A's as follows:

Plugged perforations with 20 sks cement from 4700' to 4800'

Cut off casing at 1530'. Set 40 sks plug across stub.

Set 60 sks plug 1110'-1260'.

Set 40 sks plug 175'-275'.

Placed 2 sk plug at surface.

Date Last Revised: 8/18/93

sa. an testing labo.. y, inc.

907 WEST APACHE • P O BOX 2079 • FARMINGTON, NEW MEXICO

PHONE
327-4966

Date June 10, 1977

eport to Hixon Development Company

equested by A. Kuchera, Mgr. Sampled by Hixon Personnel

roject CBU #5 Location NW NW Sec. 6, T25N, R12W

ource of Material Lower Gallup Produced Water

Lab No. 24509 Water Analysis for Petroleum Engineering

TEST RESULTS

WATER ANALYSIS FOR PETROLEUM ENGINEERING

onstituent	
otal Solids	2263 ppm
H	7.25
esistivity	2.94 ohms/meter @70°F
onductivity	3,400 micromhos/cm @ 70°F

omments

ssentially this is a 0.2% sodium ulfate solution.

Constituents

Cations	Meg/L	ppm
Sodium	29.3	674
Calcium	2.3	45
Magnesium	0.5	6
Iron	neg.	3
Barium	0	0

Anions		
Chloride	4.1	145
Bicarbonate	4.0	244
Carbonate	0	0
Hydroxide	0	0
Sulfate	24.0	1150

Copies to Hixon Development Co. (3)
P.O. Box 2810
Farmington, New Mexico 87401

Certified by:

LAWRENCE A. BREWER
REGISTERED
PROFESSIONAL ENGINEER AND LAND SURVEYOR
3122
STATE OF NEW MEXICO

AFFIDAVIT OF PUBLICATION

No. 32248A

STATE OF NEW MEXICO,
County of San Juan:

C.J. SALAZAR being duly sworn, says: "That she is the CLASSIFIED MANAGER of The Farmington Daily Times, a daily newspaper of general circulation published in English in 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) (////) on the same day as follows:

First Publication SATURDAY, SEPTEMBER 4, 1993

Second Publication

Third Publication

Fourth Publication

and the cost of publication was $ 19.99

C J Salazar

On Sept. 30, 1993 C.J. Salazar appeared before me, whom I know personally to be the person who signed the above document.

Donny Beck

Notary Public, San Juan County, New Mexico

My Comm expires: April 2, 1996.

COPY OF PUBLICATI

LEGAL NOTICE

Giant Exploration & Production Company, P.O. Box 2810, Farmington, New Mexico 87499, (505) 326-3325, whose agent is Jeffrey R. Vaughan hereby notifies interested parties that the following well is to be converted to a water injection well. Injection will be into the Lower Gallup perforated interval from 4812' to 4830'. Maximum rate will be 1200 BWPD at less than 966 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 87504 within 15 days.

Central Bisti Unit No. 77
SE/4, SE/4
Sec. 6, T25N, R12W

Legal No. 32248 published in the Farmington Daily Times, Farmington, New Mexico on Saturday, September 4, 1993.