RAN MIT 6-1-94. OK DR

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

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

Subject: Carson Unit Well No. 33-13
1980' FSL, 1980' FEL
J Sec. 13, T25N, 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
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

RECEIVED
AUG 31 1993
OIL CON. DIV.
DIST. 3

FORM C-108
Revised 7-1-81

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_____

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.

PRV 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

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

Carson Unit No. 33-13
NW/4, SE/4, Sec. 13, 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:

Carson Unit No. 22-13
Carson Unit No. 23-13
Carson Unit No. 24-13
Carson Unit No. 32-13
Carson Unit No. 34-13
Carson Unit No. 42-13
Carson Unit No. 43-13
Carson Unit No. 44-13

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 954 - 980 psi range. Maximum injection pressure will be 980 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 22' in thickness with a top of 4876' 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.

Giant Exploration & Production Company

Well Bore Diagram

WELL NAME Carson Unit Well No. 33-13

LOCATION 1980' FSL, 1980' FEL **SECTION** 13 **T** 25 N **R** 12 W

COUNTY San Juan **STATE** New Mexico

GLE 6395.2'

KBE 6404.1'

DF 6402.9'

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, J-55
Casing Set @ 104' with 100 sks of cement containing 2% CaCl.

FORMATION TOPS

Pictured Cliffs	1203'
Lewis	1434'
Cliffhouse	1574'
Menefee	2062'
Point Lookout	3687'
Mancos	3875'
Upper Gallup	4780'

CEMENT TOP 4260' (Calc.)

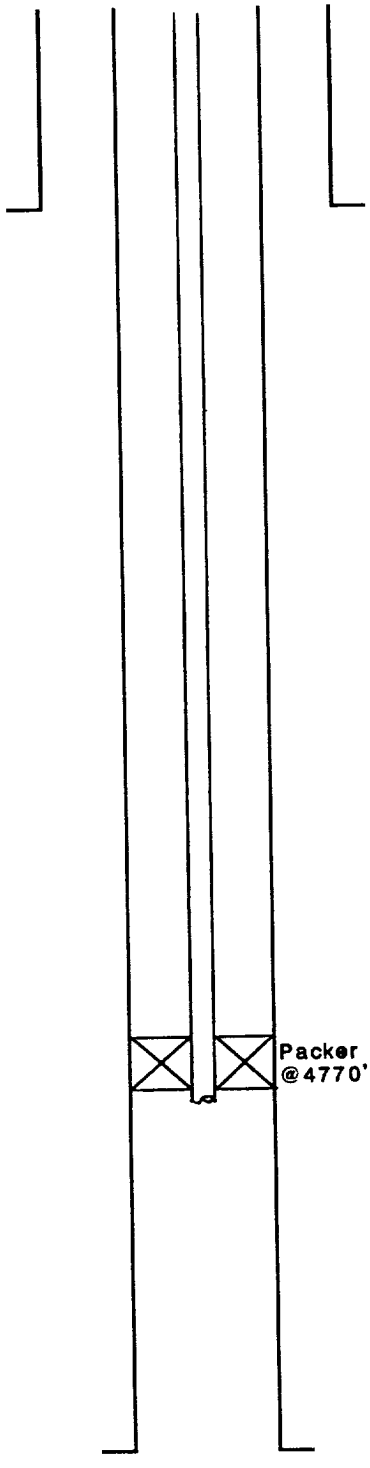
PERFORATIONS

4876'-98'

PBD 4904' Proposed

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 4-1/2", 9.5#, J-55
Casing Set @ 5038' with 150 sks of cement containing 4% gel.



WELL HISTORY

Spud date: 7/3/59

Original owner: Shell Oil Co.

IP 7/25/59 BOPD 119 BWPD -

MCFD 145 GOR 1220

Completion Treatment:
Frac with 50,000 gal crude and 1 #/gal 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:	Carson Unit #33-13
Legal Description:	1980' FSL, 1980' FEL Sec. 13, T25N, R12W San Juan County, N.M.
Well Type:	Water Injection Well (Waiting on Approval)
Spud Date:	07-03-59
Surface Casing Hole Size: Surface Casing Size: Surface Casing Depth:	12-1/4" 8-5/8" 104'
Cementing Record:	100 sks.
Production Casing Hole Size: Production Casing Size: Production Casing Depth:	7-7/8" 4-1/2" 5038'
Cementing Record:	150 sks.
Perforation:	4876' - 4898'
Plug Back Depth:	4904'
Total Depth:	5040'

Hixon Development Company

Well Bore Diagram

WELL NAME Carson Unit Well No. 22-13

LOCATION 1980' FNL, 1980 FWL SECTION 13 T 25 N R 12 W

COUNTY San Juan STATE New Mexico

GLE 6375.6'

KBE 6384.8'

DF 6383.3'

SURFACE CASING

Hole Size:

Casing:

Casing Set @

FORMATION TOPS

Pictured Cliffs	1196'
Lewis	1394'
Cliff House	1553'
Allison-Menefee	2044'
Point Lookout	3680'
Mancos	3855'
Gallup	4767'

CEMENT TOP

PERFORATIONS

4864'-87'

4893'-4906'

4943'-53'

4962'-70'

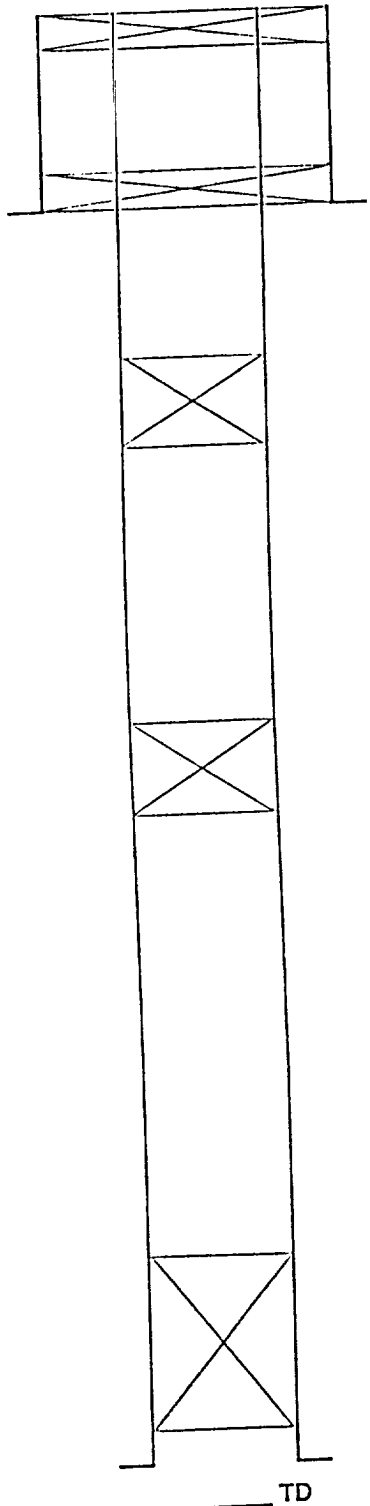
PBD

PRODUCTION CASING

Hole Size:

Casing:

Casing Set @



TD

WELL HISTORY

Spud date: 11/24/59

Original owner: Shell Oil Co.

IP 1/4/60 BOPD 30 BWPD 0

MCFD 48 GOR 1600

Completion Treatment:

Fraced with 50,000 gal crude
1 lb/gal sand and 140 balls.

CURRENT DATA

Pumping Unit

Tubing

Pump Size

Rod string

Remarks

Plug and abandoned 3/25/75

10 sk cmt plug at surface
25 sk cmt plug set at 121'
35 sk cmt plug set at 295'
45 sk cmt plug set at 1375'
30 sk cmt plug set at 1824'
20 sk cmt plug set across
perforations (4864'-4970')

Date Last Revised: 1/31/90

WELL DATA SHEET

Well Name:	Carson Unit #23-13
Legal Description:	1980' FSL, 1980' FWL Sec. 13, T25N, R12W San Juan County, N.M.
Well Type:	Water Injection
Spud Date:	01-31-58
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	101'
Cementing Record:	100 sks.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5010'
Cementing Record:	150 sks.
Perforation:	4871' - 4900'
Plug Back Depth:	4904'
Total Depth:	5010'

WELL DATA SHEET

Well Name:	Carson Unit #24-13
Legal Description:	660' FSL, 1980' FWL Sec. 13, T25N, R12W San Juan County, N.M.
Well Type:	Water Injection
Spud Date:	12-01-59
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	111'
Cementing Record:	100 sks.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5031'
Cementing Record:	150 sks.
Perforation:	4864' - 4888' 4897' - 4905' 4932' - 4938' 4946' - 4958' 4964' - 4978'
Plug Back Depth:	5031'
Total Depth:	5035'

WELL DATA SHEET

Well Name:	Carson Unit #32-13
Legal Description:	1980' FNL, 1980' FEL Sec. 13, T25N, R12W San Juan County, N.M.
Well Type:	Oil Well
Spud Date:	04-30-58
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	110'
Cementing Record:	100 sks.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5006'
Cementing Record:	150 sks.
Perforation:	4877' - 4901' 4905' - 4916' 4956' - 4971' 4974' - 4992'
Plug Back Depth:	5001'
Total Depth:	5010'

Giant Exploration & Production Company

Well Bore Diagram

WELL NAME Carson Unit Well No. 34-13

LOCATION 660' FSL, 1976' FEL **SECTION** 13 **T** 25 N **R** 12 W

COUNTY San Juan **STATE** New Mexico

GLE 6412.1'

KBE 6421.1'

DF 6420'

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, J-55
Casing Set @ 218' with 130 sks cement containing 2% CaCl.

FORMATION TOPS

Pictured Cliffs	1213'
Lewis	1417'
Cliffhouse	1590'
Menefee	2068'
Point Lookout	3693'
Mancos	3874'
Gallup	4778'

CEMENT TOP 4100' (Calc.)

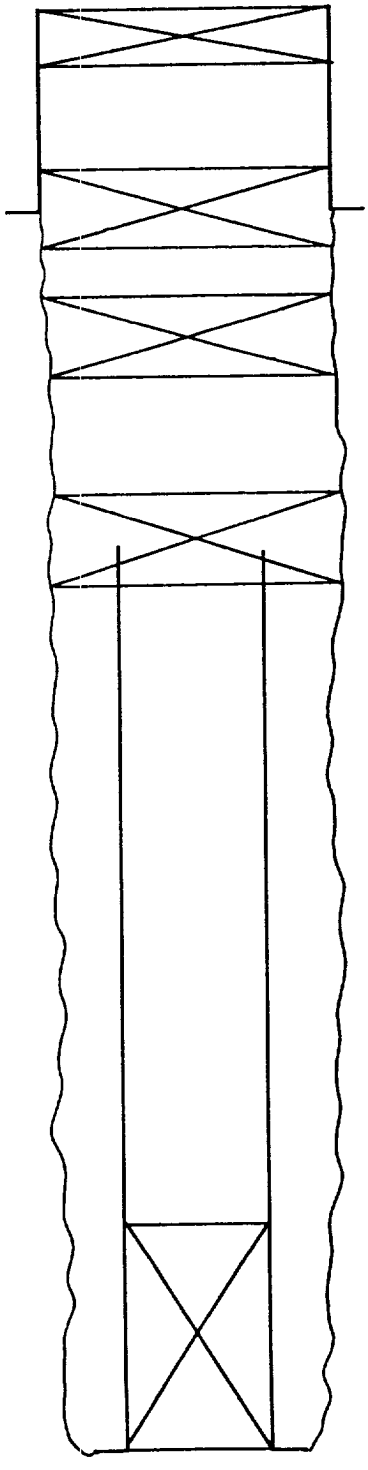
PERFORATIONS

4876'-4900'
4908'-16'
4944'-52'
4958'-72'
4976'-94'

PBD 5036'

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 4-1/2", 9.5#
Casing Set @ 5096' with 150 sks cement containing 4% gel.



5104' TD

WELL HISTORY

Spud date: 5/13/57

Original owner: Shell Oil Co.

IP 2/13/58 BOPD 1008 BWPD -

MCFD 360 GOR 356

Completion Treatment:
2 Stage frac w/72,000 gal oil and 1 #/gal 20/40 mesh sand.

CURRENT DATA

Pumping Unit
Tubing
Pump Size
Rod string
Remarks
Well was P&A'd in 1977.

Gallup perforations were plugged in 1975. Cement top in casing calculated at 4585'.
Casing shot off at 1180'
50 sk plug set across casing stub, Pictured Cliffs, and Fruitland Coal.
35 sk plug placed over Ojo Alamo.
25 sk plug placed over surface casing shoe.
10 sk plug set at surface.

Date Last Revised: 8/9/93

WELL DATA SHEET

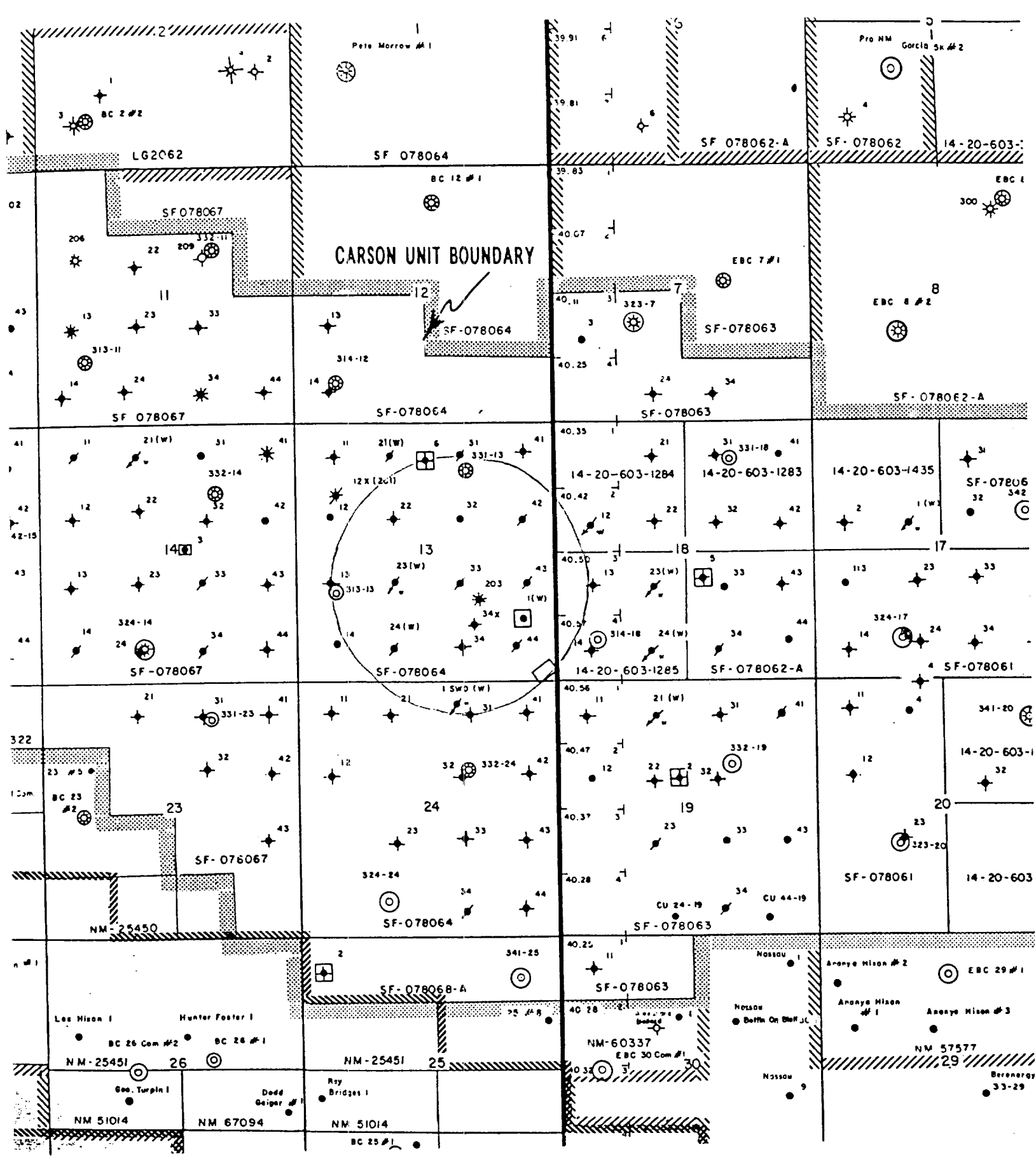
Well Name:	Carson Unit #42-13
Legal Description:	1980' FNL, 660' FEL Sec. 13, T25N, R12W San Juan County, N.M.
Well Type:	Oil Well
Spud Date:	08-09-59
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	106'
Cementing Record:	100 sks.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	4903'
Cementing Record:	150 sks.
Perforation:	4886' - 4898'
Plug Back Depth:	4902'
Total Depth:	4903'

WELL DATA SHEET

Well Name:	Carson Unit #43-13
Legal Description:	1980' FSL, 660' FEL Sec. 13, T25N, R12W San Juan County, N.M.
Well Type:	Oil Well
Spud Date:	01-12-57
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	234'
Cementing Record:	150 sks.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5033'
Cementing Record:	200 sks.
Perforation:	4889' - 4897' 4900' - 4914' 4922' - 4927'
Plug Back Depth:	4965'
Total Depth:	5054'

WELL DATA SHEET

Well Name:	Carson Unit #44-13
Legal Description:	735' FSL, 735' FEL Sec. 13, T25N, R12W San Juan County, N.M.
Well Type:	Water Injection Well (Waiting on Approval)
Spud Date:	07-11-59
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	106'
Cementing Record:	100 sks.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5013'
Cementing Record:	150 sks.
Perforation:	4869' - 4895'
Plug Back Depth:	4900'
Total Depth:	5025'


CARSON UNIT BOUNDARY
LG2062
SF 078064
SF 078062-A
SF-078062
SF078067
SF-078064
SF-078063
SF-078062-A
SF 078067
SF-078064
SF-078063
14-20-603-1284
14-20-603-1283
14-20-603-1435
SF-078067
SF-078064
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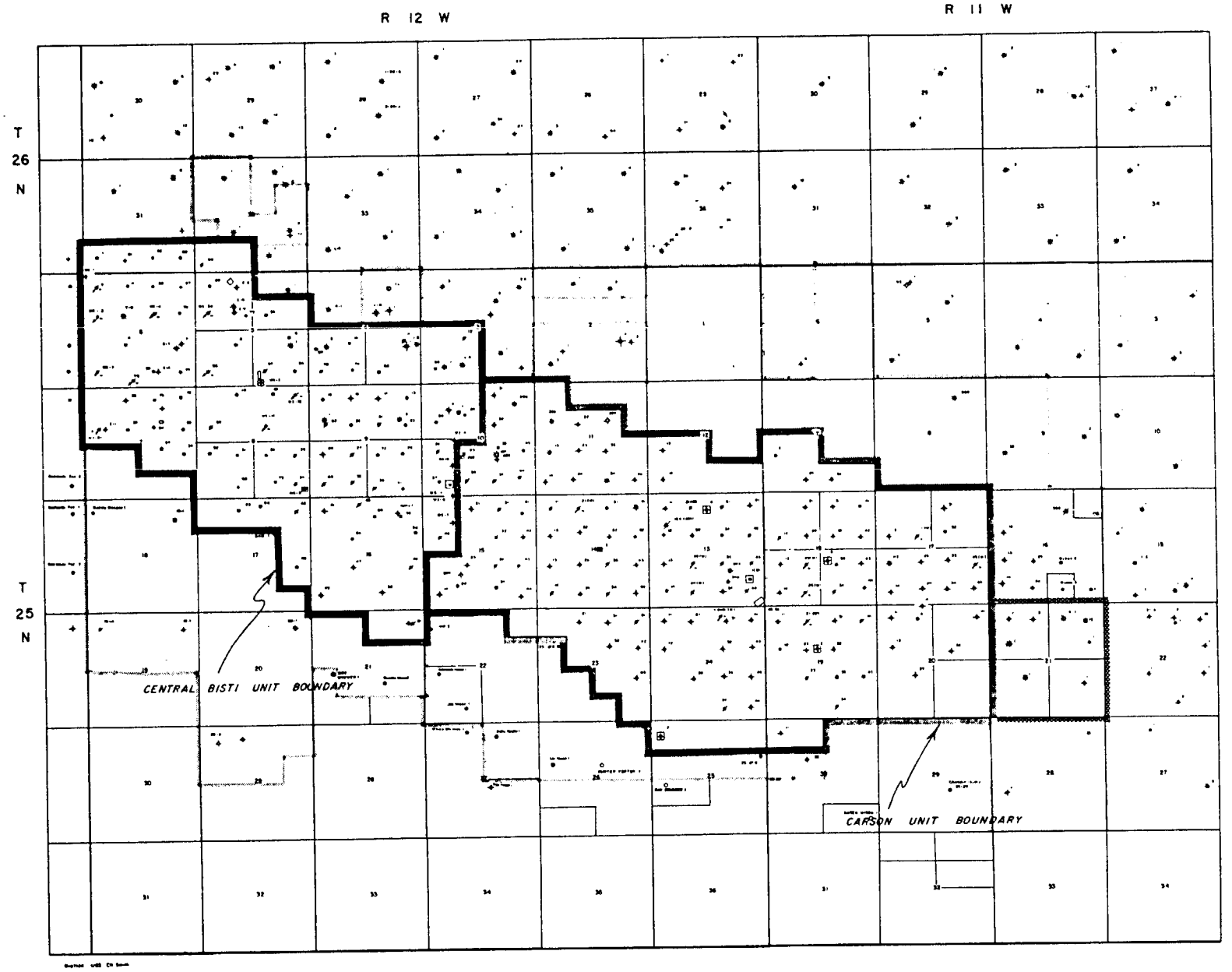
NM-25450
SF-078068-A
SF-078063
NM-60337
NM-25451
NM-25451
NM 51014
NM 67094
NM 51014
NM 57577
Pete Morrow #1
Pro NM
Garcia Sk #2
BC 12 #1
EBC 7 #1
EBC 8 #2
BC 2 #2
BC 23 #2
BC 26 Com #2
BC 26 #1
EBC 30 Com #1
EBC 29 #1
Les Hixon 1
Hunter Foster 1
Geo. Turpin 1
Dodd Geiger #1
Ray Bridges 1
BC 25 #1
Nassau 1
Nassau
Nassau
Anonye Hixon #2
Anonye Hixon #1
Anonye Hixon #3
CU 24-19
CU 44-19
1 SWD (W)
12 X (2C1)



HIXON DEVELOPMENT COMPANY

CENTRAL BISTI - CARSON UNIT AREA

San Juan County, New Mexico

San Juan testing laboratory, inc.

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

PHONE
327-4966

Date June 10, 1977

port to Hixon Development Company

quested by A. Kuchera, Mgr. Sompled by Hixon Personnel

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

urce of Materiol Lower Gallup Produced Water

Lab No. 24509 Water Analysis for Petroleum Engineering

TEST RESULTS

WATER ANALYSIS FOR PETROLEUM ENGINEERING

nstituent		Constituents		
tal Solids	2263 ppm	Cations	Meg/L	ppm
	7.25	Sodium	29.3	674
sistivity	2.94 ohms/meter @70°F	Calcium	2.3	45
nductivity	3,400 micromhos/cm @ 70°F	Magnesium	0.5	6
		Iron	neg.	3
		Barium	0	0
mments		Anions		
sentially this is a 0.2% sodium lfate solution.		Chloride	4.1	145
		Bicarbonate	4.0	244
		Carbonate	0	0
		Hydroxide	0	0
		Sulfate	24.0	1150

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

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

Certified by: