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 August 13, 1987

RE: Proposed MC
Proposed DHC
Proposed NSL
Proposed SWD
Proposed WFX
Proposed PMX
gas storage

Gentlemen:

I have examined the application dated August 11, 1987

for the Nixon Development — Canon Unit # ~~18~~ 24-18 — N-18-25-11
Operator — Lease and Well No. — Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

[signature]

HixonDevelopment
COMPANY

August 10, 1987

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

Subject: Carson Unit No. 24-18
SE/4 SE/4 Section 18, T 25N, R 11W
San Juan County, New Mexico

Dear Mr. Chavez:

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

Very truly yours,

Aldrich L. Kuchera
President

Enclosures

EJB/res

ENERGY AND MINERALS DEPARTMENT

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

Revised 7-1-81

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

Contact party: Aldrich L. Kuchera 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

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.).

RECEIVED
AUG 11 1987
OIL CON. DIV.
DIST. 3

* 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: Aldrich L. Kuchera Title President

Signature: Aldrich L. Kuchera Date: 8/10/87

* 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.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division 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, 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.

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

Carson Unit Well No. 24-18
SE/4 SE/4, Section 18, T 25N, R 11W
San Juan County, New Mexico

I. Shown on Application.

II. Shown on Application.

III. Well data attached.

IV. This application is for a gas storage well within the Carson Unit. The well will be used to store gas during periods of high sales line pressures. The gas stored is produced in association with oil production in the Carson Unit.

V. Area of review is shown on attached map.

VI. Information for well's located in area of review are attached as follows:

Carson Unit Well No. 13-18
Carson Unit Well No. 14-18
Carson Unit Well No. 22-18
Carson Unit Well No. 23-18
Carson Unit Well No. 33-18
Carson Unit Well No. 34-18
Carson Unit Well No. 11-19
Carson Unit Well No. 21-19
Carson Unit Well No. 22-19
Carson Unit Well No. 31-19

VII. 1. Proposed average injection rate is 150 MCFD,expected maximum injection rate is 200 MCFD.

2. The injection system will be closed.

3. Average injection pressures are expected to be in the 800-972 psi range. Maximum injection pressure will be 972 psi.

4. Refer to the attached gas analysis report. The gas being stored is compatible with the receiving formation since it was produced from this formation in association with oil production.

VIII. The injection zone is the Lower Gallup sandstone. This zone is shown to be 45' in thickness with a top of 4861' KBE as shown on SP log previously submitted.

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 gas storage well is located within the Carson Unit It is not a disposal well.

XIII. Proof of notification attached.

XIV. Certification shown on application.

NOTICE

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 gas storage well. Maximum rate will be 200 mcfd BWPD at less than 973 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.

Carson Unit Well 24-18, SE/4 SE/4, Section 18, T 25N, R 11W

This Legal notice will be published in the Farmington Daily Times on Tuesday August 11, 1987. The Affidavit of Publication will be forwarded to your office as soon as received.

Legal No. :

INJECTION WELL

DATA SHEET

III. WELL DATA

PART A

1. Carson Unit Well No. 24-18
   660' FNL, 1930' FEL
   Section 18, T 25N, R 11W

2. Surface Casing
   - Hole Size: 12-1/4"
   - Casing: 8-5/8", 24#
   - Setting Depth: 106'

   Production Casing
   - Hole Size: 7-7/8"
   - Casing: 4-1/2"
   - Setting Depth: 5007'

   PBD: 4990'

3. Tubing: 2-3/8"
   Setting Depth: 4971'

4. Packer: Baker Model "AD-1" Packer
   Set at 4660'

PART B

1. Injection Formation: Bisti Lower Gallup
   Field or Pool Name: Bisti Lower Gallup

2. Perforated Injection Intervals: 4861'-4889', 4894'-4902', 4934'-4941', 4948'-4960', 4963'-4976'

3. Well was drilled as a producing well.

4. None

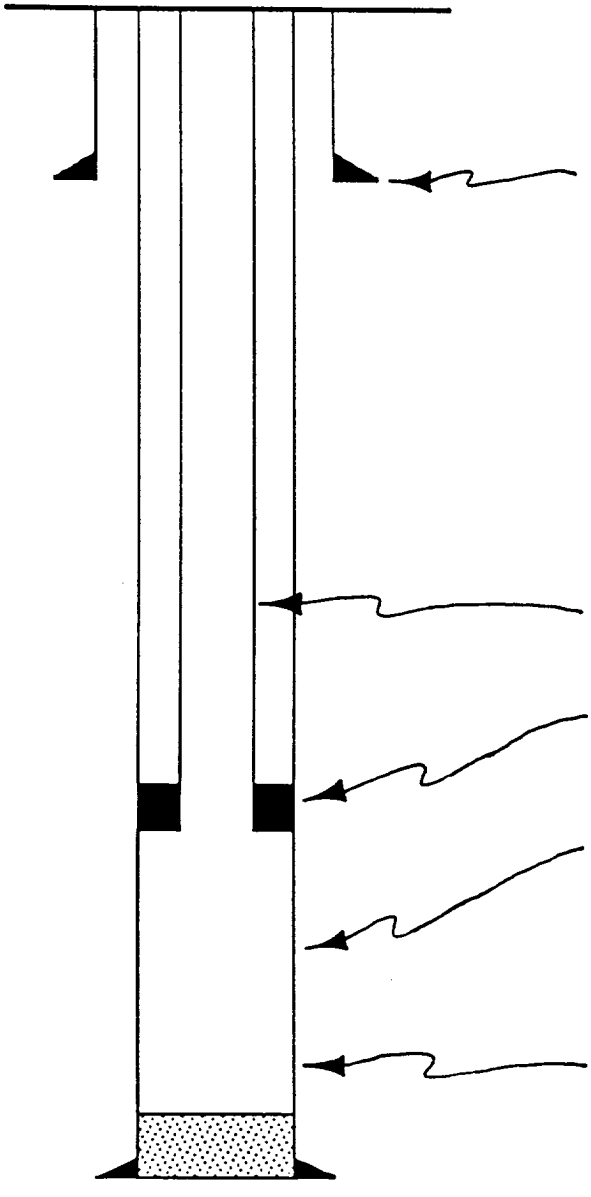
5. Next Higher Oil and Gas Zone: Pictured Cliffs at 1180'
   Next Lower Oil and Gas Zone: Dakota at Unknown Depth

Hixon Development Company

Gas Storage Schematic

Well Name: Carson Unit Well No. 24-18

Legal Location: 660' FNL, 1930' FEL
Section 18, T 25N, R 11W
San Juan County, New Mexico



Surface Casing:

8-5/8", 24# casing set at 106'
with 100 sacks of cement.

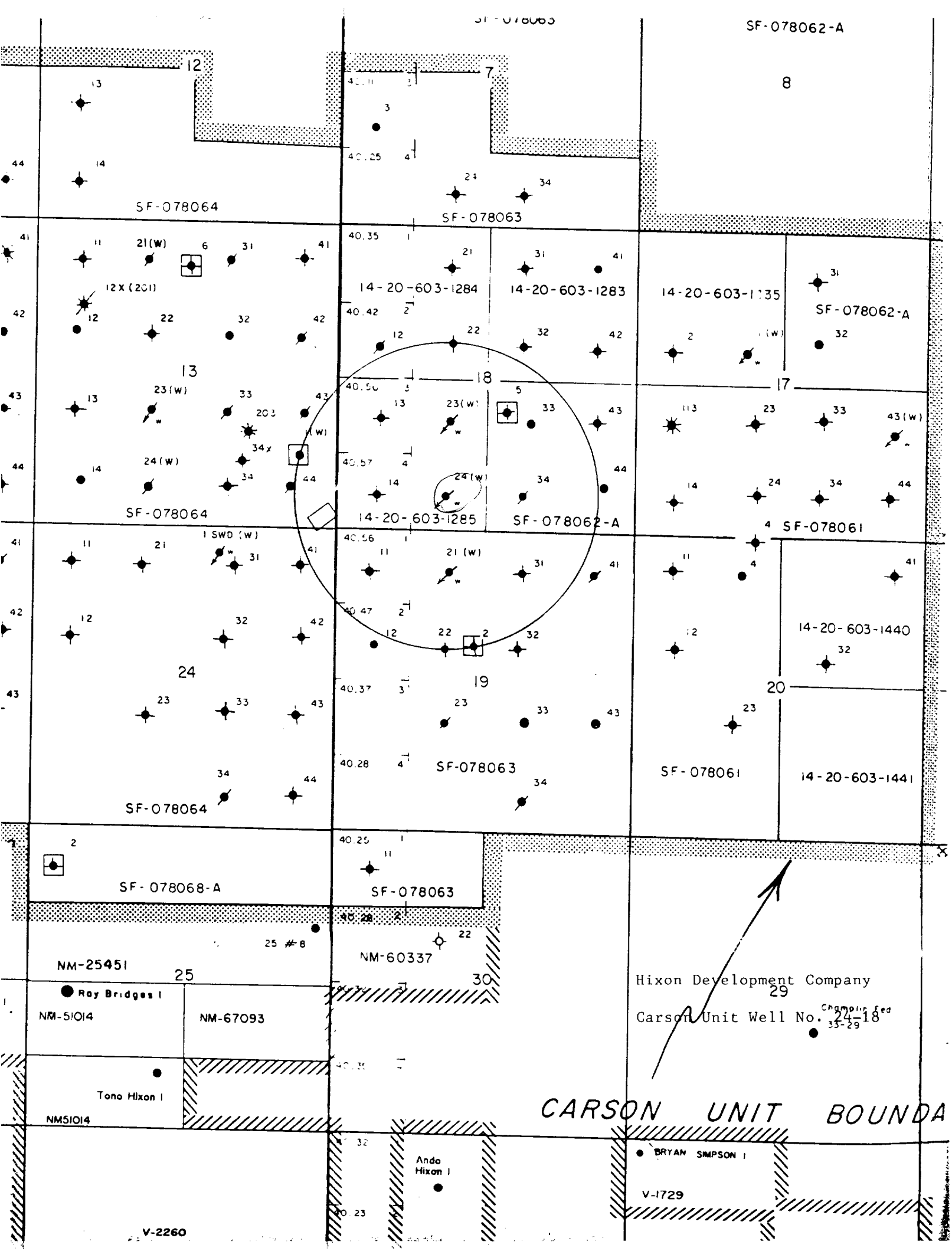
Tubing:
2-3/8" set at 4971'

Packer:
Baker Model AD-1 Packer set
at 4660'

Perforations:
4861'-4889', 4894'- 4902'
4934'- 4941', 4948'-4960'
4963'- 4976'

TD: 5010' **PBD:** 4990'

Production Casing:
4-1/2" casing set at 4971'
with 150 sacks cement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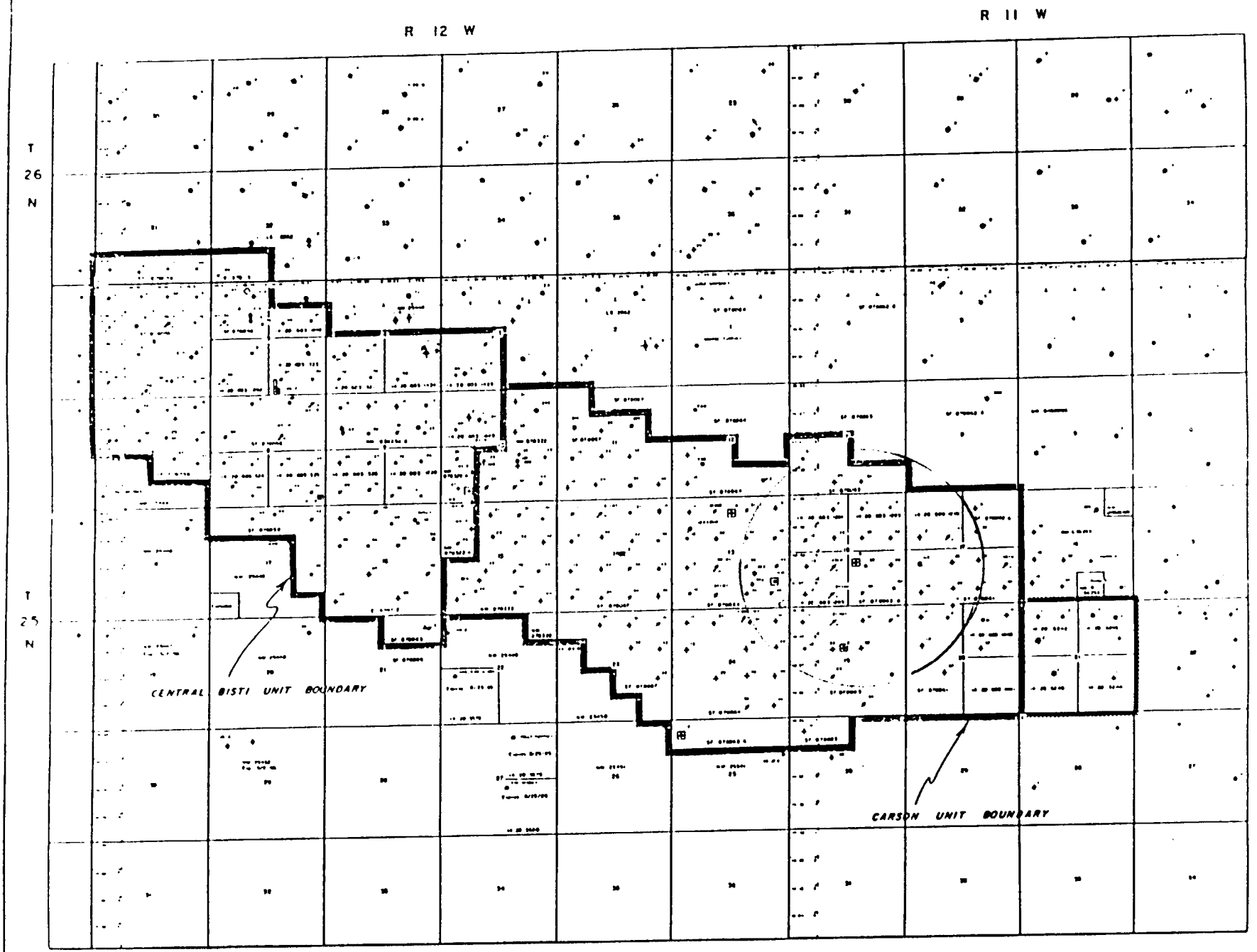
SF-078063
NM-25451
25
NM-60337
30
29
Ray Bridges 1
NM-51014
NM-67093
Tono Hixon 1
NM51014
Ando Hixon 1
BRYAN SIMPSON 1
V-1729
V-2260
Hixon Development Company
Carson Unit Well No. 24-18
CARSON UNIT BOUNDA



HIXON DEVELOPMENT COMPANY

CENTRAL BISTI - CARSON UNIT AREA

07-08-87

EL PASO NATURAL GAS COMPANY
MEASUREMENT DEPARTMENT
POST OFFICE BOX 1492
EL PASO, TEXAS 79978

MAILEE
03220

CHROMATOGRAPHIC GAS ANALYSIS REPORT

HIXON DEVELOPMENT CO.
P.O. BOX 2810
FARMINGTON, NM 87499

ANAL DATE 00-00-00

METER STATION NAME
HIXON DEVELOPMENT CPD #1

METER STA 89711
OPER 5013

TYPE CODE	SAMPLE DATE	EFF. DATE	USE MOS	H2S GRAINS	LOCATION
00 ***	05-28-87	06-26-87	06	0	4 F 22

	NORMAL MOL%	GPM
CO2	1.97	.000
H2S	.00	.000
N2	.23	.000
METHANE	93.09	.000
ETHANE	3.69	.987
PROPANE	.61	.168
ISO-BUTANE	.12	.039
NORM-BUTANE	.14	.044
ISO-PENTANE	.05	.018
NORM-PENTANE	.03	.011
HEXANE PLUS	.07	.030
	100.00	1.297

SPECIFIC GRAVITY	.606
MIXTURE HEATING VALUE (BTU/CF @14.73 PSIA, 60 DEGREES,DRY)	1041
RATIO OF SPECIFIC HEATS	1.300

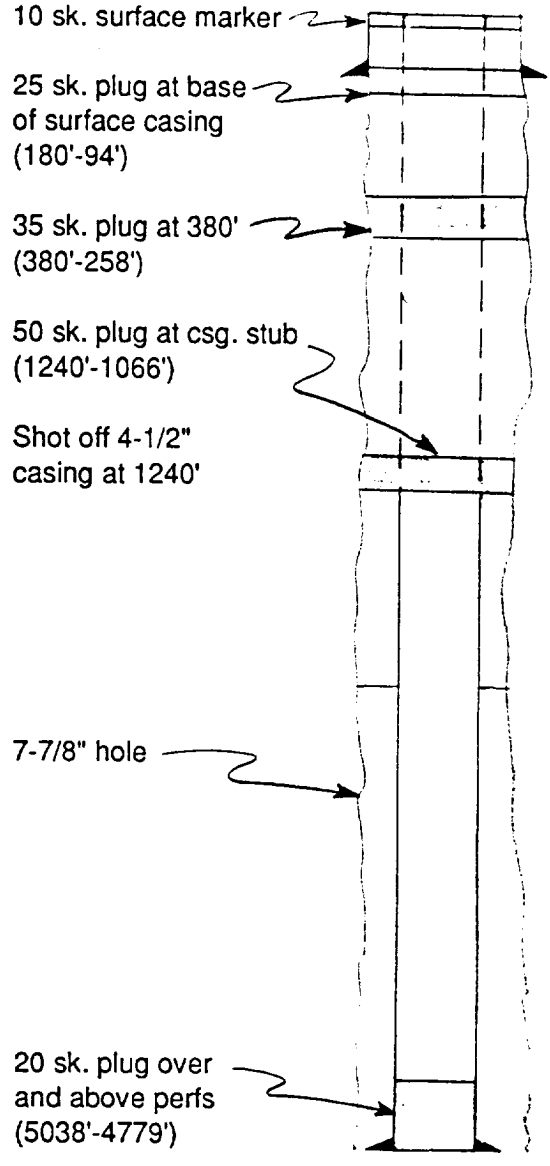
NO TEST SECURED FOR H2S CONTENT

*** TYPE CODE EXPLANATION SINGLE METER ANALYSIS

GXC

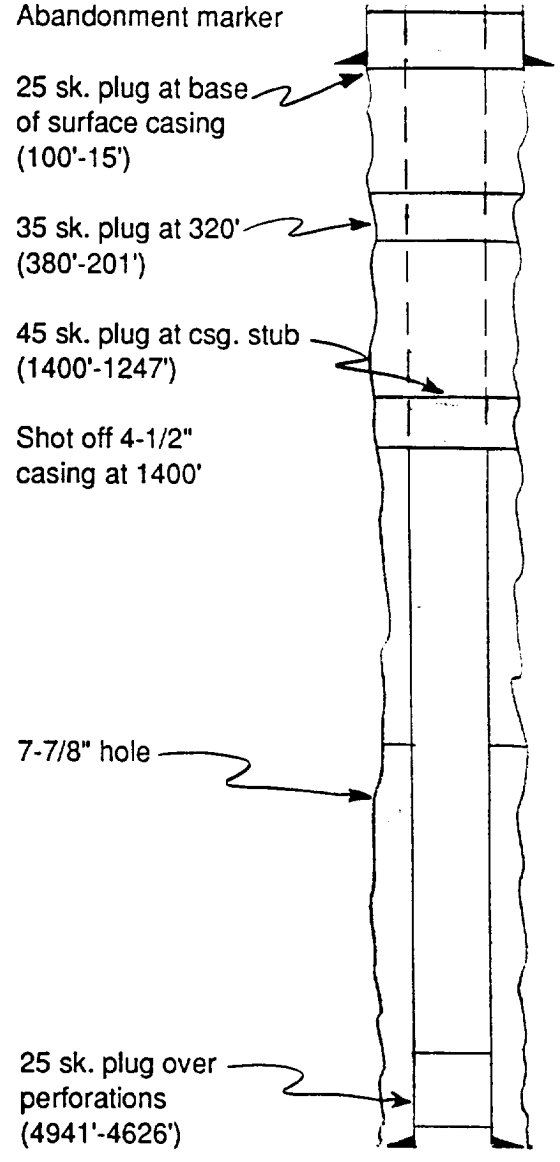
WELL DATA SHEET

Well Name:	Carson Unit #13-18
Legal Description:	1980' FSL, 750' FWL Sec. 18, T25N-R11W San Juan County, N.M.
Well Type:	P & A
Spud Date:	01/11/60
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	109'
Cementing Record:	100 sx.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5038'
Cementing Record:	150 sx.
Perforations:	4874'-4890' 4892'-4898' 4904'-4912' 4954'-4968' 4974'-4984'
Plug-Back Depth:	5038'
Total Depth:	5040'



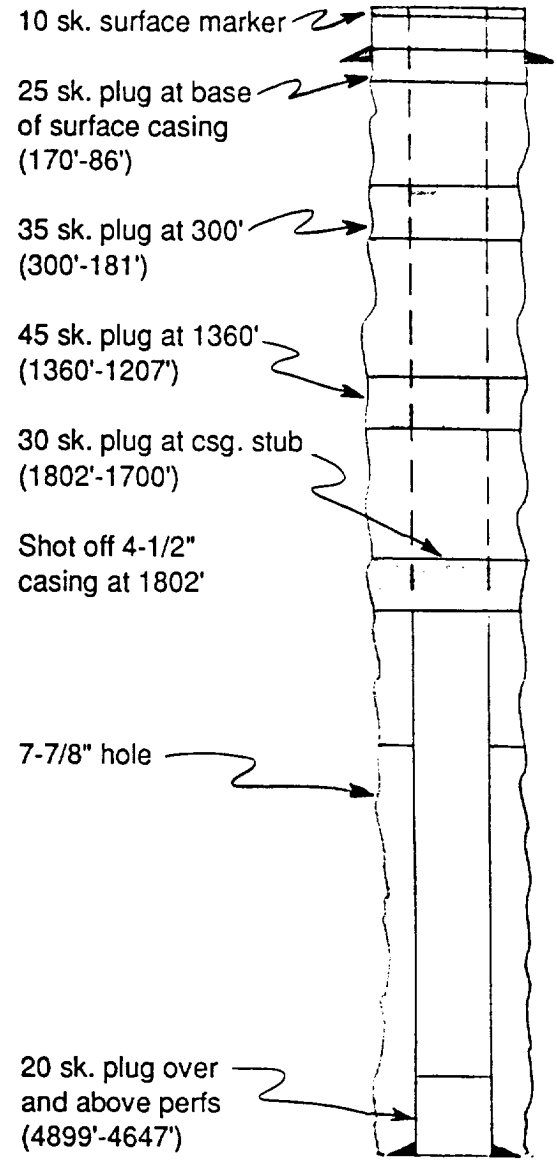
WELL DATA SHEET

Well Name:	Carson Unit #14-18
Legal Description:	660' FSL, 662.8' FWL Sec. 18, T25N-R11W San Juan County, N.M.
Well Type:	P & A
Spud Date:	01/17/58
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	100.5'
Cementing Record:	100 sx.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5023'
Cementing Record:	150 sx.
Perforations:	4877'-4904' 4911'-4923' 4951'-4957' 4962'-4976' 4980'-4997'
Plug-Back Depth:	5020'
Total Depth:	5025'



WELL DATA SHEET

Well Name:	Carson Unit #22-18
Legal Description:	1980' FNL, 1980' FWL Sec. 18, T25N-R11W San Juan County, N.M.
Well Type:	P & A
Spud Date:	01/19/60
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	109'
Cementing Record:	100 sx.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5024'
Cementing Record:	150 sx.
Perforations:	4881'-4891' 4895'-4913' 4940'-4944' 4954'-4966' 4972'-4982'
Plug-Back Depth:	5024'
Total Depth:	5025'



WELL DATA SHEET

Well Name:	Carson Unit #23-18
Legal Description:	1980' FSL, 1888' FWL Sec. 18, T25N-R11W San Juan County, N.M.
Well Type:	Water Injection Well (awaiting approval)
Spud Date:	02/16/58
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	102'
Cementing Record:	100 sx.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5006'
Cementing Record:	150 sx.
Perforations:	4875'-4891' 4901'-4913' 4944'-4951' 4965'-4970' 4974'-4984'
Plug-Back Depth:	5006'
Total Depth:	5010'

WELL DATA SHEET

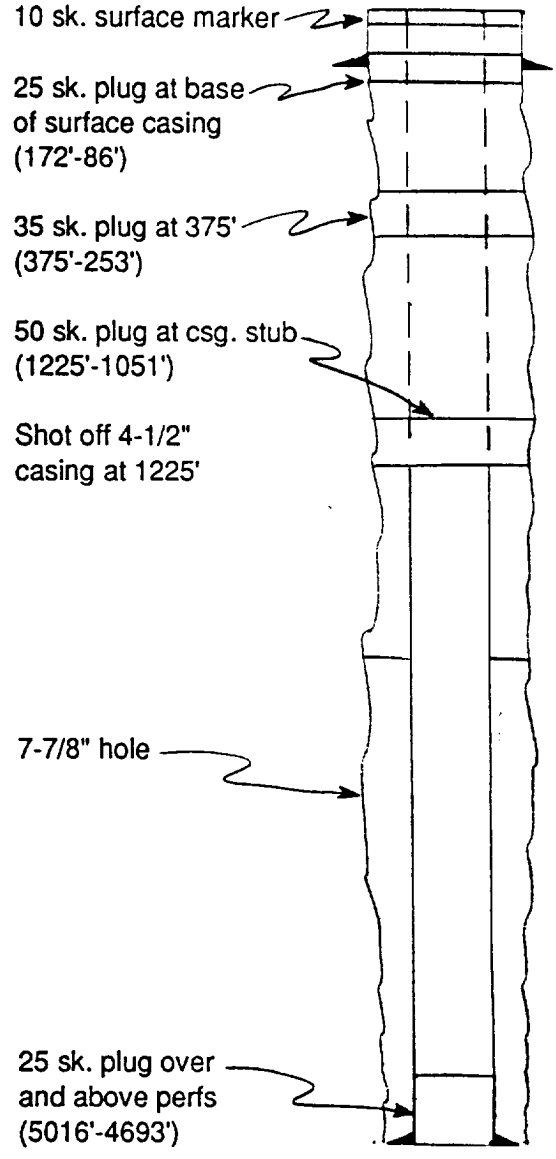
Well Name:	Carson Unit #33-18
Legal Description:	1930' FSL, 1980' FEL Sec. 18, T25N-R11W San Juan County, N.M.
Well Type:	Water Injection Well
Spud Date:	05/06/59
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	109'
Cementing Record:	100 sx.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5045'
Cementing Record:	150 sx.
Perforations:	4899'-4919' 4928'-4940' 4969'-4975' 4982'-4997' 5001'-5018'
Plug-Back Depth:	5045'
Total Depth:	5050'

WELL DATA SHEET

Well Name:	Carson Unit #34-18
Legal Description:	660' FSL, 1980' FEL Sec. 18, T25N-R11W San Juan County, N.M.
Well Type:	Oil Well
Spud Date:	08/17/57
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	176'
Cementing Record:	100 sx.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5010'
Cementing Record:	150 sx.
Perforations:	4869'-4886' 4900'-4908' 4952'-4958' 4971'-4978'
Plug-Back Depth:	4995'
Total Depth:	5014'

WELL DATA SHEET

Well Name:	Carson Unit #11-19
Legal Description:	660' FNL, 662.8' FWL Sec. 19, T25N-R11W San Juan County, N.M.
Well Type:	P & A
Spud Date:	06/09/59
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	103'
Cementing Record:	100 sx.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5016'
Cementing Record:	150 sx.
Perforations:	4854'-4880' 4889'-4896' 4927'-4932' 4940'-4952' 4959'-4970'
Plug-Back Depth:	5016'
Total Depth:	5020'

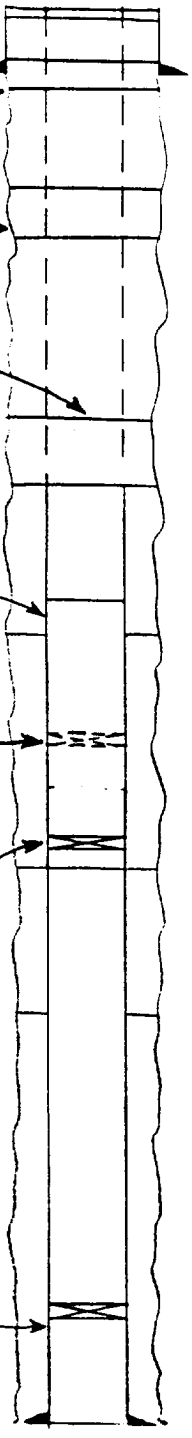


WELL DATA SHEET

Well Name:	Carson Unit #21-19
Legal Description:	660' FNL, 1980' FWL Sec. 19, T25N-R11W San Juan County, N.M.
Well Type:	Water Injection Well (awaiting approval)
Spud Date:	06/22/57
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	213'
Cementing Record:	130 sx.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5022'
Cementing Record:	150 sx.
Perforations:	4866'-4892' 4900'-4908' 4939'-4944' 4951'-4962' 4969'-4978'
Plug-Back Depth:	5022'
Total Depth:	5026'

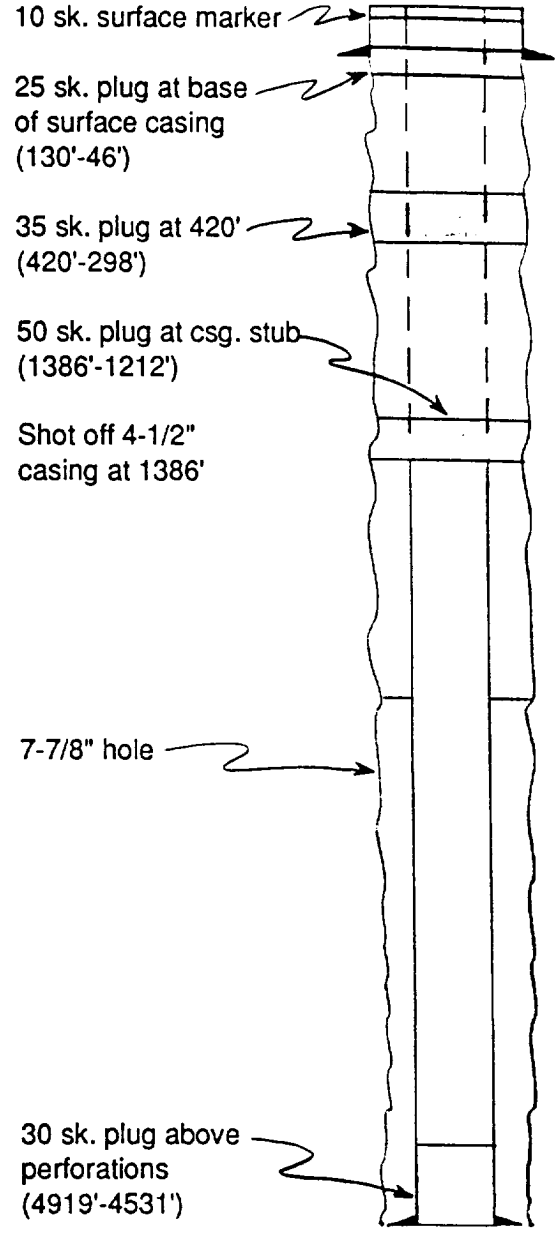
WELL DATA SHEET

Well Name:	Carson Unit #22-19
Legal Description:	1980' FNL, 1980' FWL Sec. 19, T25N-R11W San Juan County, N.M.
Well Type:	P & A
Spud Date:	03/11/60
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	108'
Cementing Record:	100 sx.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5027'
Cementing Record:	150 sx.
Perforations:	4868'-4888' 4898'-4905' 4934'-4942' 4952'-4962' 4968'-4980' <u>January 1976</u> 1218'-1224' 1234'-1244'
Plug-Back Depth:	5027'
Total Depth:	5030'



WELL DATA SHEET

Well Name:	Carson Unit #31-19
Legal Description:	660' FNL, 1973.5' FEL Sec. 19, T25N-R11W San Juan County, N.M.
Well Type:	P & A
Spud Date:	12/08/59
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	105'
Cementing Record:	100 sx.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5029'
Cementing Record:	150 sx.
Perforations:	4867'-4895' 4900'-4910' 4922'-4926' 4940'-4944' 4952'-4958' 4964'-4970' 4976'-4982'
Plug-Back Depth:	5029'
Total Depth:	5030'



WELL DATA SHEET

Well Name:	Carson Unit #31-19
Legal Description:	660' FNL, 1973.5' FEL Sec. 19, T25N-R11W San Juan County, N.M.
Well Type:	P & A
Spud Date:	12/08/59
Surface Casing Hole Size:	12-1/4"
Surface Casing Size:	8-5/8"
Surface Casing Depth:	105'
Cementing Record:	100 sx.
Production Casing Hole Size:	7-7/8"
Production Casing Size:	4-1/2"
Production Casing Depth:	5029'
Cementing Record:	150 sx.
Perforations:	4867'-4895' 4900'-4910' 4922'-4926' 4940'-4944' 4952'-4958' 4964'-4970' 4976'-4982'
Plug-Back Depth:	5029'
Total Depth:	5030'