

P/MX 10/7/71
192

CENTRAL

RESOURCES, INC.

November 14, 1997

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

Subject: Northeast Hogback Unit Well No. 27 + 40
1980' FNL, 710' FEL
Sec. 10, T30N, R16W
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.

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

Sincerely,



Diane G. Jaramillo
Office Supervisor

DGJ/

Enclosure

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

Northeast Hogback Unit Well No. 27
SE/4, NE/4, Sec. 10, T30N, R16W
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:
 - Northeast Hogback Unit Well No. 1 WSW
 - Northeast Hogback Unit Well No. 23 ✓
 - Northeast Hogback Unit Well No. 24 ✓
 - Northeast Hogback Unit Well No. 25 ✓
 - Northeast Hogback Unit Well No. 26
 - Northeast Hogback Unit Well No. 27
 - Northeast Hogback Unit Well No. 28
 - Northeast Hogback Unit Well No. 31 WIW
 - Northeast Hogback Unit Well No. 32 ✓
 - Northeast Hogback Unit Well No. 33
 - Northeast Hogback Unit Well No. 37 WIW
 - Northeast Hogback Unit Well No. 40
 - Northeast Hogback Unit Well No. 41
 - Northeast Hogback Unit Well No. 50
 - Northeast Hogback Unit Well No. 51
 - Northeast Hogback Unit Well No. 57
 - Horseshoe Gallup Unit Well No. 259 ✓
 - Horseshoe Gallup Unit Well No. 260 ✓
 - Horseshoe Gallup Unit Well No. 271
- VII.
 - 1. Proposed average injection rate is 250 bwpd, expected maximum injection rate is 600 bwpd.
 - 2. This system will be closed.

P+AD

3. Average injection pressures are expected to be in the 300 - 400 psi range. Maximum injection pressure will be 650 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 a pressure maintenance project in the Horseshoe Gallup pool active in the Northeast Hogback Unit since 1961. All produced water reinjected into the oil productive Horseshoe Gallup oil pool is for waterflooding, not disposal.
- VIII. The injection zone is the Gallup sandstone formation. This zone is to be 122' in gross thickness, with a net thickness of 50' with a top of 1500' as shown on the SP log previously submitted. No known sources of drinking water exist in this area.
- 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 pressure maintenance operation for the Northeast Hogback 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: Secondary Recovery Pressure Maintenance Disposal Storage
Application qualifies for administrative approval? Yes No

II. OPERATOR: Central Resources, Inc.
ADDRESS: P.O. Box 2810, Farmington, New Mexico 87499
CONTACT PARTY: Thomas DeLong

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: Yes No
If yes, give the Division order number authorizing the project R-2026

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.

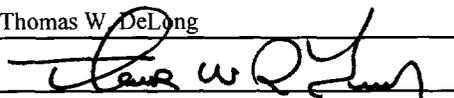
* X Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted.)

* 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: 11-14-97

* 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.

Central Resources, Inc.

Well Bore Diagram

WELL NAME Northeast Hogback Unit Well No. 27
LOCATION 1980' FNL, 710' FEL, Unit Letter H **SECTION** 10 **T** 30N **R** 16W
COUNTY San Juan **STATE** New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 22.7#, Slip joint
Casing Set @ 216' with
160 sacks cement containing
2% CaCl. Cement to surface

FORMATION TOPS

Mesa Verde Sand	surface
Mancos	220'
Gallup Sand	1258'
Upper Gallup Pay	1485'
Lower Gallup Pay	1590'

CEMENT TOP 1182' by calc.

PERFORATIONS

1500' - 1518' w/ 2 SPF
1590' - 1622' w/ 2 SPF

PBD 1704'

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 4-1/2", 9.5#, J-55, 8rd
Casing Set @ 1740' with
117 sacks cement containing
4% gel and 1-1/2# tuf plug
and 50 sacks of neat cement

GLE _____

KBE 5489'

DF _____

WELL HISTORY

Spud date: 10/15/58
Original owner: Pan Am Petro Corp
IP 11/1/58 BOPD 220 BWPD _____
MCFD _____ GOR _____
Completion Treatment: _____
40000 gal oil, 40000# sand

CURRENT DATA

Pumping Unit _____
Tubing _____
Pump Size _____
Rod string _____
Remarks _____

1740' TD

Date Last Revised: 1/24/95

TD Logger

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Northeast Hogback Unit			
OPERATOR	LEASE			
27	1980' FNL, 710' FEL	10	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	8-5/8"	Cemented with	160	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	167	SX.
TOC	1182'	feet determined by	calculation	
Hole size	7-7/8"			
Total depth	1740'			

Perforated interval

1500' - 1518'

1590' - 1622'

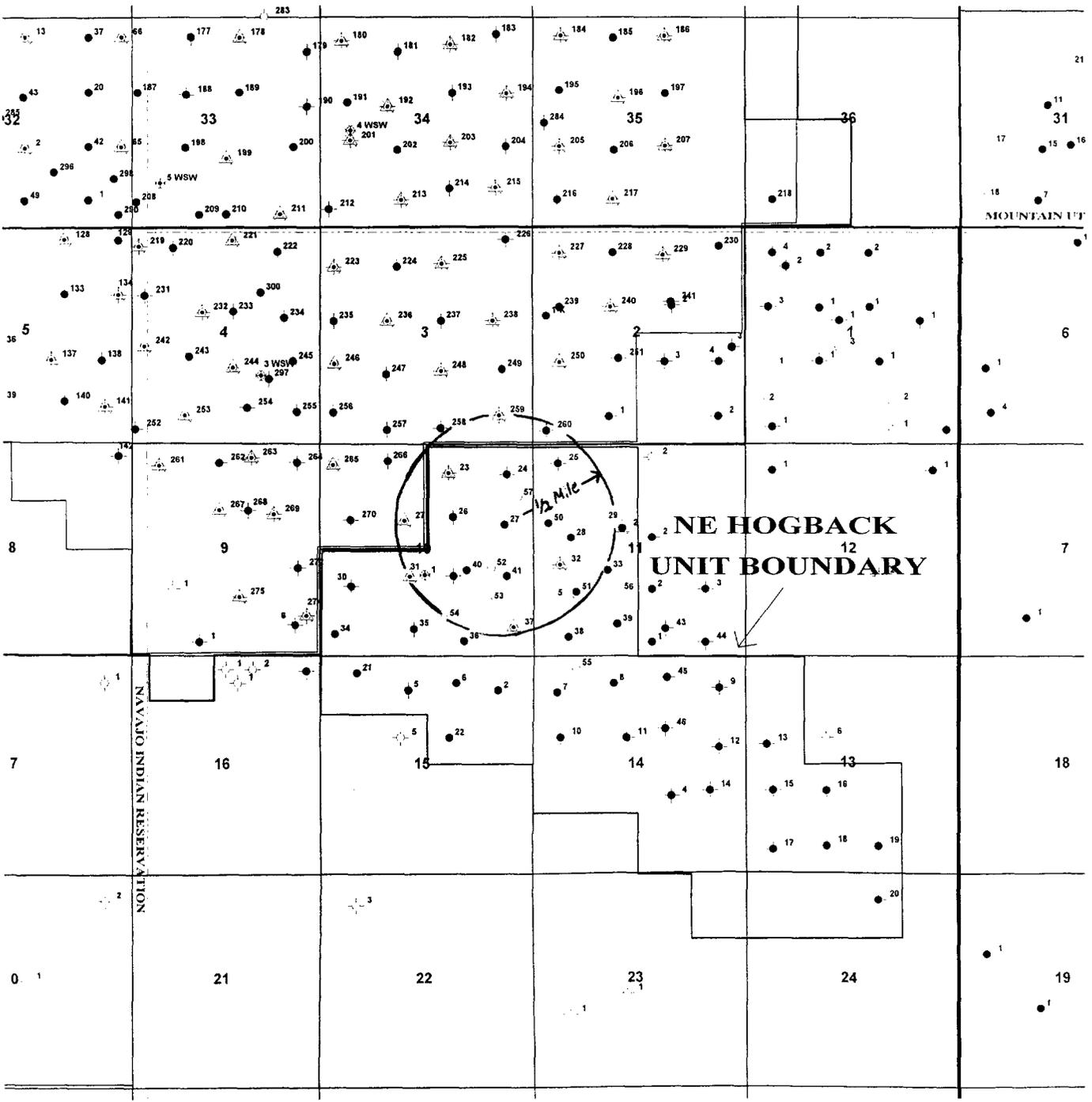
INJECTION WELL DATA SHEET -- SIDE 2

Tubing size 2-3/8" lined with Fiberglass/plastic set in a
(material)
Arrow completions, Arrow Set 1 packer at 1450 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Gallup
2. Name of field or Pool (if applicable) Horseshoe 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. N/A



CENTRAL RESOURCES, INCORPORATED

Northeast Hogback Unit
 T30N / R16W
 San Juan County, New Mexico

Mitch Meyer

10/22/97

Scale 1:44954.96

Central Resources, Inc.

Well Bore Diagram

WELL NAME Northeast Hogback Unit Well No. 1 WSW
LOCATION 2004' FSL, 2580' FWL, Unit Letter K **SECTION** 10 **T** 30N **R** 16W
COUNTY San Juan **STATE** New Mexico

SURFACE CASING

Hole Size: 20"
Casing: 16", 65#, H-40
Casing Set @ 113' with
200 sacks cement containing
2% CaCl. Cement to surface

FORMATION TOPS

Mesa Verde Sand	surface
Mancos	350'
Gallup Sand	1287'
Greenhorn	1925'
Dakota	2025'
Morrison	2309'

CEMENT TOP 1648' by calc.

PERFORATIONS

2312-24, 72-78, 2388-2400, 60-
70, 2493-2510, 2522-33, 61-77
2660-70, 2686-2704, 2722-34
2740-60, 2774-90, 2830-38
2858-68, 2890-2900, 2923-33

PBD 2959'

PRODUCTION CASING

Hole Size: 13-3/4"
Casing: 10-3/4", 40.5#, J-55, 8rd
Casing Set @ 2990' with
350 sacks %)/50 Poz cement
and 25 sacks neat cement
Stage tool at 1877'.
Second stage was 100 sacks
cement with 6% gel.

GLE _____
KBE 5492'
DF _____

WELL HISTORY

Spud date: 7/26/61
Original owner: Pan Am Petro Corp
IP 10/14/61 BOPD _____ BWPD 3400
MCFD _____ GOR _____
Completion Treatment: _____
72000 gal water, no sand

CURRENT DATA

Pumping Unit _____
Tubing _____
Pump Size _____
Rod string _____
Remarks _____

2990' TD

Date Last Revised: 1/24/95

TD Logger

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Northeast Hogback Unit		
OPERATOR		LEASE		
1 WSW	2004' FSL, 2580' FWL	10	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	<u>16"</u>	Cemented with	<u>200</u>	sx.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>20"</u>			

Intermediate Casing

Size	<u> </u>	Cemented with	<u> </u>	sx.
TOC	<u> </u>	feet determined by	<u> </u>	
Hole size	<u> </u>			

Long string

Size	<u>10-3/4"</u>	Cemented with	<u>450</u>	sx.
TOC	<u>1648'</u>	feet determined by	<u>calculation</u>	
Hole size	<u>13-3/4"</u>			
Total depth	<u>2990'</u>			

Perforated interval

- 2312' - 2324'
- 2372' - 2378'
- 2388' - 2400'
- 2460' - 2470'
- 2493' - 2510'
- 2522' - 2533'
- 2561' - 2577'
- 2660' - 2670'
- 2686' - 2704'
- 2722' - 2734'
- 2740' - 2760'
- 2774' - 2790'
- 2830' - 2838'
- 2858' - 2868'
- 2890' - 2900'
- 2923' - 2933'

INJECTION WELL DATA SHEET

SIDE 1

Clinton Oil Company		Northeast Hogback Unit (Plugged & Abandoned 7/93)		
OPERATOR		LEASE		
23	720' FNL, 2090' FEL	10	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	<u>8-5/8</u>	Cemented with	<u>160</u>	sx.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>12-1/4"</u>			

Intermediate Casing

Size	<u> </u>	Cemented with	<u> </u>	sx.
TOC	<u> </u>	feet determined by	<u> </u>	
Hole size	<u> </u>			

Long string

Size	<u>5-1/2"</u>	Cemented with	<u> </u>	sx.
TOC	<u>889'</u>	feet determined by	<u>calculation</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>1685'</u>			

Perforated interval

1582' - 1614'

Casing: 8-5/8" - set at 217' with 160 sacks cement

5-1/2" - set at 1685' with 150 sacks cement. TOC 889' from surface

Plug & Abandon: Pumped 50 sacks Class A cmt. w/2% cc. into perf.

Cut off tubing at 1000'. circ hole w/mud.

Spot 20 sx. cmt. plug from 500' - 360' and 20 sx.

plug from 130' to surface. Cut off and weld plate and marker.

INJECTION WELL DATA SHEET

SIDE 1

Clinton Oil Company	Northeast Hogback Unit (Plugged & Abandoned 11/93)			
OPERATOR	LEASE			
24	745' FNL, 650' FEL	10	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	8-5/8"	Cemented with	160	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	130	SX.
TOC	1083'	feet determined by	calculation	
Hole size	7-7/8"			
Total depth	1678'			

Perforated interval

1488' - 1518'
1582' - 1610'

Casing: 8-5/8" - set at 213' with 160 sacks cement
5-1/2" - set at 1676' with 130 sacks cement.

Plug & Abandon: Spot 25 sacks cement. Plug 1610' - 1435'. Fill hole w/mud. Set 25 sacks cement. Plug 475' - 300' and from 150' to surface. Cut off and well on markers.

INJECTION WELL DATA SHEET

SIDE 1

Clinton Oil Company		Northeast Hogback Unit (Plugged & Abandoned 12/93)		
OPERATOR		LEASE		
25	470' FNL, 620' FWL	11	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	<u>8-5/8"</u>	Cemented with	<u>160</u>	sx.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>12-1/4"</u>			

Intermediate Casing

Size	<u> </u>	Cemented with	<u> </u>	sx.
TOC	<u> </u>	feet determined by	<u> </u>	
Hole size	<u> </u>			

Long string

Size	<u>4-1/2"</u>	Cemented with	<u>170</u>	sx.
TOC	<u>1114'</u>	feet determined by	<u> </u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>1733'</u>			

Perforated interval

1524' - 1568'
1641' - 1670'

Casing: 8-5/8" - set at 215' with 160 sacks cement
4-1/2" - set at 1728' with 170 sacks cement.

Plug & Abandon: Pump 25 sacks class A cement below packer. Cut tubing off at 1015'. Spot 20 sacks cement plug 1015' to 815'. Fill hole w/mud. Spot 20 sacks cement plug 500' to 300' w/10 sacks plug on surface. Cut off at surface and install marker.

Central Resources, Inc.

Well Bore Diagram

WELL NAME Northeast Hogback Unit Well No. 26
LOCATION 1800' FNL, 1980' FEL, Unit Letter G **SECTION** 10 **T** 30N **R** 16W
COUNTY San Juan **STATE** New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 22.7#, Slip joint
Casing Set @ 215' with
160 sacks cement containing
2% CaCl. Cement to surface

GLE _____
KBE 5563'
DF _____

FORMATION TOPS

Mesa Verde Sand	surface
Mancos	216'
Gallup Sand	1438'
Upper Gallup Pay	1478'
Lower Gallup Pay	1572'

WELL HISTORY

Spud date: 1/21/59
Original owner: Pan Am Petro Corp
IP 2/14/59 BOPD 209 BWPD _____
MCFD _____ GOR _____
Completion Treatment: _____
Low-31180 gal oil, 45000# sand
Upp-28670 gal oil, 28000# sand

CEMENT TOP 1084' by calc.

PERFORATIONS

1576' - 1606' w/ 2 SPF
1480' - 1512' squeezed 5/66
1544'- 1547', 1535'- 1537'
1526'- 1528' w/ 4 SPF

PBD 1642'

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 14#, J-55, 8rd
Casing Set @ 1679' with
80 sacks cement containing
6% gel and 1-1/2# tuf plug
and 50 sacks of neat cement

CURRENT DATA

Pumping Unit _____
Tubing _____
Pump Size _____
Rod string _____
Remarks _____
new perms opened 1/15/92

1681' TD

Date Last Revised: 1/24/95

TD Logger

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Northeast Hogback Unit			
OPERATOR	LEASE			
26	1800' FNL, 1980' FEL	10	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	<u>8-5/8"</u>	Cemented with	<u>160</u>	sx.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>12-1/4"</u>			

Intermediate Casing

Size	<u> </u>	Cemented with	<u> </u>	sx.
TOC	<u> </u>	feet determined by	<u> </u>	
Hole size	<u> </u>			

Long string

Size	<u>5-1/2"</u>	Cemented with	<u>130</u>	sx.
TOC	<u>1084'</u>	feet determined by	<u>calculation</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>1681'</u>			

Perforated interval

- 1480' - 1512'
- 1526' - 1528'
- 1535' - 1537'
- 1544' - 1547'
- 1576' - 1606'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Northeast Hogback Unit Well No. 28
LOCATION 2310' FNL, 925' FWL, Unit Letter E **SECTION** 11 **T** 30N **R** 16W
COUNTY San Juan **STATE** New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 22.7#, Slip joint
Casing Set @ 201' with
160 sacks cement containing
2% CaCl. Cement to surface

FORMATION TOPS

Mesa Verde Sand	surface
Mancos	370'
Gallup Sand	1535'
Upper Gallup Pay	1680'
Lower Gallup Pay	1790'

CEMENT TOP 1249' by calc.

PERFORATIONS

1792' - 1818' w/ 2 SPF
1684' - 1720' w/ 2 SPF

PBD 1828'

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 4-1/2", 9.5#, J-55, 8rd
Casing Set @ 1863' with
120 sacks cement containing
6% gel and 1-1/2# tuf plug
and 50 sacks of neat cement

GLE _____

KBE 5501'

DF _____

WELL HISTORY

Spud date: 12/11/58
Original owner: Pan Am Petro Corp
IP 1/22/59 BOPD 59 BWPD _____
MCFD _____ GOR _____
Completion Treatment: _____
Low-19000 gal oil, 20000# sand
Upp-29100 gal oil, 30000# sand

CURRENT DATA

Pumping Unit _____
Tubing _____
Pump Size _____
Rod string _____
Remarks _____

1885' TD

Date Last Revised: 1/24/95

TD Logger

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Northeast Hogback Unit			
OPERATOR	LEASE			
28	2310' FNL, 925' FWL	11	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	<u>8-5/8"</u>	Cemented with	<u>160</u>	SX.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>12-1/4"</u>			

Intermediate Casing

Size	<u> </u>	Cemented with	<u> </u>	SX.
TOC	<u> </u>	feet determined by	<u> </u>	
Hole size	<u> </u>			

Long string

Size	<u>4-1/2"</u>	Cemented with	<u>170</u>	SX.
TOC	<u>1249'</u>	feet determined by	<u>calculation</u>	
Hole size	<u>4-1/2"</u>			
Total depth	<u>1885'</u>			

Perforated interval

1684' - 1720'

1792' - 1818'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Northeast Hogback Unit Well No. 31 WIW
LOCATION 1970' FSL, 2210' FWL, Unit Letter K **SECTION** 10 **T** 30N **R** 16W
COUNTY San Juan **STATE** New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 22.7#, Slip joint
Casing Set @ 215' with
160 sacks cement containing
2% CaCl. Cement to surface

GLE 5492'
KBE 5503'
DF _____

FORMATION TOPS

Mesa Verde Sand	surface
Mancos	315'
Gallup Sand	1560'
Upper Gallup Pay	1596'
Lower Gallup Pay	NA

WELL HISTORY

Spud date: 6/19/59
Original owner: Pan Am Petro Corp
IP 8/17/59 BOPD 19 BWPD 5
MCFD _____ GOR _____
Completion Treatment: _____
42000 gal oil, 40000# sand

CEMENT TOP 1150' by calc.

PERFORATIONS

1596' - 1628' w/ 2 SPF

CURRENT DATA

Pumping Unit _____
Tubing _____
Pump Size _____
Rod string _____
Remarks _____

PBD 1712'

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 14#, J-55, 8rd
Casing Set @ 1745' with
80 sacks cement containing
6% gel and 1-1/2# tuf plug
and 50 sacks of neat cement

1780' TD

Date Last Revised: 1/24/95

TD Logger

INJECTION WELL DATA SHEET

SIDE 1

BHP Petroleum (Americas) Inc.		Northeast Hogback Unit (Plugged & Abandoned 10/86)		
OPERATOR		LEASE		
32	2260' FSL, 660' FWL	11	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	<u>8-5/8"</u>	Cemented with	<u>160</u>	sx.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>12-1/4"</u>			

Intermediate Casing

Size	_____	Cemented with	_____	sx.
TOC	_____	feet determined by	_____	
Hole size	_____			

Long string

Size	<u>4-1/2"</u>	Cemented with	<u>170</u>	sx.
TOC	<u>1366'</u>	feet determined by	<u>calculation</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>1980'</u>			

Perforated interval

Plug & Abandoned: Perf'd at 270'. Stung into packer @1795'. Mixed & pumped 30 sacks class "B" w/3% CaCl₂. Put 10 sacks below packer and 20 sacks above packer (TOC 1530'). PU to 1530'. Closed Bradenhead valve & opened casing valve. Finished circ. well w/mud. PU to 270'. Opened Bradenhead valve. Mixed & pumped 30 sacks class "B" w/3%CaCl₂. Set plug from 270' to 160' inside and outside casing. PU to 50' - SDFN. Set cement plug from 50' to surface. Cut off wellhead. Installed dry hole marker.

Central Resources, Inc.

Well Bore Diagram

WELL NAME Northeast Hogback Unit Well No. 33
LOCATION 2120' FSL, 1830' FWL, Unit Letter K **SECTION** 11 **T** 30N **R** 16W
COUNTY San Juan **STATE** New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 22.7#, Slip joint
Casing Set @ 215' with
160 sacks cement containing
2% CaCl. Cement to surface

FORMATION TOPS

Mesa Verde Sand	surface
Mancos	510'
Gallup Sand	1600'
Upper Gallup Pay	1795'
Lower Gallup Pay	1938'

CEMENT TOP 1174' by calc.

PERFORATIONS

1938' - 1961' w/ 2 SPF
1832' - 1868' w/ 2 SPF

PBD 1981'

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 14#, J-55, 8rd
Casing Set @ 2027' with
120 sacks cement containing
6% gel and 1-1/2# tuf plug
and 50 sacks of neat cement

GLE _____

KBE 5440'

DF _____

WELL HISTORY

Spud date: 12/21/58

Original owner: Pan Am Petro Corp

IP 1/18/59 BOPD 165 BWPD _____

MCFD _____ GOR _____

Completion Treatment: _____

Low-18900 gal oil, 20000# sand

Upp-30000 gal oil, 30000# sand

CURRENT DATA

Pumping Unit _____

Tubing _____

Pump Size _____

Rod string _____

Remarks _____

2030' TD

Date Last Revised: 1/24/95

TD Logger

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Northeast Hogback Unit		
OPERATOR		LEASE		
33	2120' FSL, 1830' FWL	11	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	<u>8-5/8"</u>	Cemented with	<u>160</u>	sx.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>12-1/4"</u>			

Intermediate Casing

Size	<u> </u>	Cemented with	<u> </u>	sx.
TOC	<u> </u>	feet determined by	<u> </u>	
Hole size	<u> </u>			

Long string

Size	<u>5-1/2"</u>	Cemented with	<u>170</u>	sx.
TOC	<u>1174'</u>	feet determined by	<u>calculation</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>2030'</u>			

Perforated interval

1832' - 1868'

1938' - 1961'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Northeast Hogback Unit Well No. 37 WIW
LOCATION 700' FSL, 500' FEL, Unit Letter P **SECTION** 10 **T** 30N **R** 16W
COUNTY San Juan **STATE** New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 22.7#, Slip joint
Casing Set @ 212' with
160 sacks cement containing
2% CaCl. Cement to surface

GLE _____
KBE 5378'
DF _____

FORMATION TOPS

Mesa Verde Sand	surface
Mancos	363'
Gallup Sand	1648'
Upper Gallup Pay	1686'
Lower Gallup Pay	1772'

WELL HISTORY

Spud date: 3/3/59
Original owner: Pan Am Petro Corp
IP 3/26/59 BOPD 171 BWPD _____
MCFD _____ GOR _____
Completion Treatment: _____
Low-27500 gal oil, 60000# sand
Upp-30400 gal oil, 30000# sand

CEMENT TOP 1287' by calc.

PERFORATIONS

1688' - 1720' w/ 2 SPF
1774' - 1804' w/ 2 SPF

CURRENT DATA

Pumping Unit _____
Tubing _____
Pump Size _____
Rod string _____
Remarks _____

PBD 1848'

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 14#, J-55, 8rd
Casing Set @ 1882' with
80 sacks cement containing
6% gel and 1-1/2# tuf plug
and 50 sacks of neat cement

1885' TD

Date Last Revised: 1/24/95

TD Logger

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Northeast Hogback Unit			
OPERATOR	LEASE			
37 WIW	700' FSL, 500' FEL	10	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size 8-5/8" Cemented with 160 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 130 sx.
 TOC 1287' feet determined by calculation
 Hole size 7-7/8"
 Total depth 1885'

Perforated interval

1688' - 1720'
 1774' - 1804'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Northeast Hogback Unit Well No. 40
LOCATION 2130' FSL, 1650' FEL, Unit Letter J **SECTION** 10 **T** 30N **R** 16W
COUNTY San Juan **STATE** New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 10-3/4", 45#, JNL
Casing Set @ 77' with
40 sacks cement containing
2% CaCl. Cement to surface

GLE _____

KBE 5433'

DF _____

FORMATION TOPS

Mesa Verde Sand	surface
Mancos	510'
Gallup Sand	1452'
Upper Gallup Pay	1484'
Lower Gallup Pay	1590'

WELL HISTORY

Spud date: 2/28/60

Original owner: J.R. Abraham

IP 3/22/60 BOPD 120 BWPD _____

MCFD _____ GOR _____

Completion Treatment: _____

Low-13500 gal oil, 20000# sand

Upp-18500 gal oil, 27500# sand

CURRENT DATA

Pumping Unit _____

Tubing _____

Pump Size _____

Rod string _____

Remarks _____

CEMENT TOP 809' by calc.

PERFORATIONS

1484'- 1494', 1508'- 1524'
1590' - 1607' w/ 8 SPF
1638'- 1650', 1626'- 1632'
1452'- 1477', 1607'- 1610'
w/ 4 spf

PBD 1612' CIBP

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 14#, J-55, 8rd
Casing Set @ 1660' with
250 sacks cement

1712' TD

Date Last Revised: 1/24/95

1711' TD Logger

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.

Northeast Hogback Unit

OPERATOR

LEASE

40

2130' FSL, 1650' FEL

10

30N

16W

WELL NO.

FOOTAGE LOCATION

SECTION

TOWNSHIP

RANGE

San Juan County, New Mexico

Tabular DataSurface Casing

Size	<u>10-3/4"</u>	Cemented with	<u>40</u>	sx.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>12-1/4"</u>			

Intermediate Casing

Size	<u> </u>	Cemented with	<u> </u>	sx.
TOC	<u> </u>	feet determined by	<u> </u>	
Hole size	<u> </u>			

Long string

Size	<u>5-1/2"</u>	Cemented with	<u>250</u>	sx.
TOC	<u>809'</u>	feet determined by	<u>calculation</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>1712'</u>			

Perforated interval

1452' - 1477'

1484' - 1494'

1508' - 1524'

1590' - 1607'

1607' - 1610'

1626' - 1632'

1638' - 1650'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Northeast Hogback Unit Well No. 41
LOCATION 1990' FSL, 660' FEL, Unit Letter I **SECTION** 10 **T** 30N **R** 16W
COUNTY San Juan **STATE** New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 10-3/4", 45#, JNL
Casing Set @ 80' with
75 sacks cement containing
2% CaCl. Cement to surface

FORMATION TOPS

Mesa Verde Sand	surface
Mancos	550'
Gallup Sand	1560'
Upper Gallup Pay	1599'
Lower Gallup Pay	1691'

CEMENT TOP 1429' by calc.

PERFORATIONS

1599' - 1637' w/ 4 SPF
1691' - 1716' w/ 4 SPF
1726' - 1730' w/ 4 SPF
1740' - 1749' w/ 4 SPF

PBD 1755'

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 14#, J-55, 8rd
Casing Set @ 1769' with
100 sacks cement

GLE _____

KBE 5415'

DF _____

WELL HISTORY

Spud date: 2/23/59

Original owner: J.R. Abraham

IP 3/23/59 BOPD 528 BWPD _____

MCFD _____ GOR _____

Completion Treatment: _____
42000 gal oil, 40000# sand

CURRENT DATA

Pumping Unit _____

Tubing _____

Pump Size _____

Rod string _____

Remarks _____

1769' TD

Date Last Revised: 1/24/95

1769' TD Logger

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Northeast Hogback Unit		
OPERATOR		LEASE		
41	1990' FSL, 660' FEL	10	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	<u>10-3/4"</u>	Cemented with	<u>75</u>	sx.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>12-1/4"</u>			

Intermediate Casing

Size	<u> </u>	Cemented with	<u> </u>	sx.
TOC	<u> </u>	feet determined by	<u> </u>	
Hole size	<u> </u>			

Long string

Size	<u>5-1/2"</u>	Cemented with	<u>100</u>	sx.
TOC	<u>1429'</u>	feet determined by	<u>calculation</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>1769'</u>			

Perforated interval

- 1599' - 1637'
- 1691' - 1716'
- 1726' - 1730'
- 1740' - 1749'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Northeast Hogback Unit Well No. 50
LOCATION 1940' FNL, 375' FWL, Unit Letter E **SECTION** 11 **T** 30N **R** 16W
COUNTY San Juan **STATE** New Mexico

SURFACE CASING

Hole Size: 8-3/4"
Casing: 7", 20#, J-55, ST&C
Casing Set @ 338.30' with
90 sacks cement containing
2% CaCl. Cement to surface

FORMATION TOPS

Mesa Verde Sand surface
Upper Mancos
Upper Gallup Sand 1507'
Lower Gallup SS 1617'
Lower Mancos 1641'

CEMENT TOP Surface

PERFORATIONS

1619' to 1640' w/ 2 JSPF

PBD 1753.86'

PRODUCTION CASING

Hole Size: 6-1/4"
Casing: 4-1/2", 10.5#, J-55, 8rd, ST&C
Casing Set @ 1800.57' with
75 sacks Class B cement w/
3% extender and 1/4# cello
and 80 sacks of Class B
cement with 2% CaCl2

GLE 5448'

KBE 5452'

DF 5451'

WELL HISTORY

Spud date: 12/22/95
Original owner: Giant E&P Co.
IP 1/16/96 BOPD 65 BWPD 48
MCFD 10 GOR 154
Completion Treatment: _____

CURRENT DATA

Pumping Unit _____
Tubing _____
Pump Size _____
Rod string _____
Remarks _____

1800' TD

1804' TD Logger

Date Last Revised: 3/18/96

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Northeast Hogback Unit		
OPERATOR		LEASE		
50	1940' FNL, 375' FWL	11	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size 7" Cemented with 90 sx.
 TOC surface feet determined by cement to surface
 Hole size 8-3/4"

Intermediate Casing

Size _____ Cemented with _____ sx.
 TOC _____ feet determined by _____
 Hole size _____

Long string

Size 4-1/2" Cemented with 155 sx.
 TOC surface feet determined by cement to surface
 Hole size 6-1/4"
 Total depth 1800'

Perforated interval

1619' - 1640'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Northeast Hogback Unit Well No. 51
LOCATION 1585' FSL, 1050' FWL, Unit Letter L **SECTION** 11 **T** 30N **R** 16W
COUNTY San Juan **STATE** New Mexico

SURFACE CASING

Hole Size: 8-3/4"
Casing: 7", 20#, J-55, ST&C
Casing Set @ 327.35' with
90 sacks cement containing
2% CaCl. Cement to surface

FORMATION TOPS

Mesa Verde Sand	surface
Upper Mancos	496'
Upper Gallup Sand	1805'
Lower Gallup SS	1912'
Lower Mancos	1947'

CEMENT TOP Surface

PERFORATIONS

1913' - 1946' w/ 2 JSPF
1796' - 1809' w/ 2 JSPF
1826' - 1844' w/ 2 JSPF

PBD 1977'

PRODUCTION CASING

Hole Size: 6-1/4"
Casing: 4-1/2", 10.5#, J-55, 8rd, ST&C
Casing Set @ 2022.52' with
85 sacks Class B cement w/
3% extender and 1/4# cello
and 80 sacks of Class B
cement with 2% CaCl2

GLE 5425'
KBE 5429'
DF 5428'

WELL HISTORY

Spud date: 12/16/95
Original owner: Giant E&P Co.
IP 1/13/96 BOPD 44 BWPD 77
MCFD 10 GOR 227
Completion Treatment: _____

CURRENT DATA

Pumping Unit _____
Tubing _____
Pump Size _____
Rod string _____
Remarks _____

2044' TD

2029' TD Logger

Date Last Revised: 3/18/96

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Northeast Hogback Unit		
OPERATOR	LEASE			
51	1585' FSL, 1050' FWL	11	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	<u>7"</u>	Cemented with	<u>90</u>	sx.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>8-3/4"</u>			

Intermediate Casing

Size	<u> </u>	Cemented with	<u> </u>	sx.
TOC	<u> </u>	feet determined by	<u> </u>	
Hole size	<u> </u>			

Long string

Size	<u>4-1/2"</u>	Cemented with	<u>165</u>	sx.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>6-1/4"</u>			
Total depth	<u>2044'</u>			

Perforated interval

1796' - 1809'
 1826' - 1844'
 1913' - 1946'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Northeast Hogback Unit Well No. 57
LOCATION 1300' FNL, 375' FEL, Unit Letter A **SECTION** 10 **T** 30N **R** 16W
COUNTY San Juan **STATE** New Mexico

SURFACE CASING

Hole Size: 8-3/4"
Casing: 7", 20#, J-55, ST&C
Casing Set @ 131.90' with
60 sacks cement containing
2% CaCl2 and 1/4#/sk cello-
phane. Cement to surface

FORMATION TOPS

Upper Mancos	150'
Mancos Silt Marker	461'
Mancos Calcereous Mkr	1341'
Tocito	1419'
"E" Zone	1452'
"E" Sandstone	1466'
ES-5	1491'
"B" Sandstone	1564'
ES-2	1592'
Juana Lopez	1592'

CEMENT TOP surface

PERFORATIONS

1476, 1477, 1481, 1482,
1485, 1486, 1488, 1495,
1569, 1571, 1576, 1578,
1580, 1581, 1586, 1588,
1593, 1595 w/ 1 JSPF

PBD 1688'

PRODUCTION CASING

Hole Size: 6-1/4"
Casing: 4-1/2", 10.5#, J-55, 8rd, ST&C
Casing Set @ 1732.47' with
65 sacks Class B cement w/
2% extender and 1/4# cello
and 60 sacks of Class B
cement with 2% CaCl2

GLE 5466'

KBE 5470'

DF 5469'

WELL HISTORY

Spud date: 5/10/97
Original owner: Central Resources
IP 7/9/97 BOPD 2.4 BWPD 18
MCFD 2 GOR 833
Completion Treatment: 6/17/97
500 gallons 15% HCl, limited
entry 58,000# 12/20 Brady sand
in 522 barrels 30# linear gel

CURRENT DATA

Pumping Unit _____
Tubing _____
Pump Size _____
Rod string _____
Remarks _____
Bradenhead squeeze 9/4/97
w/ 50 sks cement.

1740' TD

1738' TD Logger

Date Last Revised: 11/4/97

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Northeast Hogback Unit			
OPERATOR	LEASE			
57	1300' FNL, 375' FEL,	10	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	7"	Cemented with	60	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	8-3/4"			

Intermediate Casing

Size		Cemented with		sx.
TOC		feet determined by		
Hole size				

Long string

Size	4-1/2"	Cemented with	125	sx.
TOC	surface	feet determined by	cement to surface	
Hole size	6-1/4"			
Total depth	1740'			

Perforated interval

- 1476'
- 1477'
- 1481'
- 1482'
- 1485'
- 1486'
- 1488'
- 1495'
- 1569'
- 1571'
- 1576'
- 1578'
- 1580'
- 1581'
- 1586'
- 1588'
- 1593'
- 1595'

INJECTION WELL DATA SHEET

SIDE 1

Arco Oil & Gas Company		Horseshoe Gallup Unit (Plugged & Abandoned)		
OPERATOR		LEASE		
259		3	T30N	R16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size _____ Cemented with _____ SX.
 TOC _____ feet determined by cement to surface
 Hole size _____

Intermediate Casing

Size _____ Cemented with _____ SX.
 TOC _____ feet determined by _____
 Hole size _____

Long string

Size _____ Cemented with _____ SX.
 TOC _____ feet determined by calculation
 Hole size _____
 Total depth _____

Perforated interval

INJECTION WELL DATA SHEET

SIDE 1

Arco Oil & Gas Company		Horseshoe Gallup Unit (Plugged & Abandoned 9/88)		
OPERATOR		LEASE		
260	330' FSL, 330' FWL	2	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	<u>8-5/8"</u>	Cemented with	<u>103</u>	sx.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>12-1/4"</u>			

Intermediate Casing

Size	<u> </u>	Cemented with	<u> </u>	sx.
TOC	<u> </u>	feet determined by	<u> </u>	
Hole size	<u> </u>			

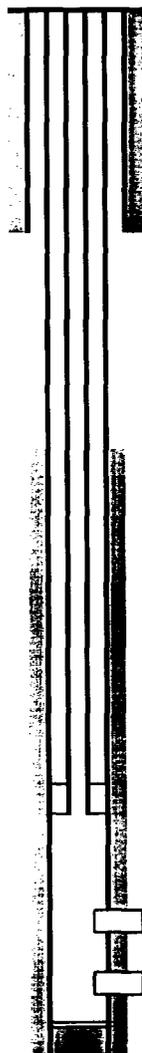
Long string

Size	<u>5-1/2"</u>	Cemented with	<u>85</u>	sx.
TOC	<u>1445'</u>	feet determined by	<u>calculation</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>1734'</u>			

Perforated interval

CENTRAL RESOURCES, INC.

HORSESHOE GALLUP #271



Elevation: 5585' GL, 5595' KB

Location: 1900' FSL & 2080' FEL
Sec. 10 T30N-R16W
San Juan County, NM

Field: Horseshoe Gallup

Zone: Gallup

Perfs: 1455' - 1510' & 1550' - 1570'

Spud Date: 12/6/58

Completion Date: 12/30/58

Converted to Injector: 2/14/63

Casing: 8 5/8" 24# J-55 set @ 84' w/70 sacks
Cement to surface

Packer: Baker Model A set @ 1390' KB (5/14/93)

Perfs: 1455' - 1510'

Perfs: 1550' - 1570'

PBTD: Unknown

Casing: 5 1/2" 14# J-55 set @ 1600' w/75 sacks, Cement top at 1309'

TD: 1602'

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Horseshoe Gallup Unit			
OPERATOR	LEASE			
271	1900' FSL, 2080' FEL	10	30N	16W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	8-5/8"	Cemented with	70	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	75	sx.
TOC	1309'	feet determined by	calculation	
Hole size	7-7/8"			
Total depth	1602'			

Perforated interval

1455' - 1510'

Unichem International
 707 North Leech P.O.Box 1499
 Hobbs, New Mexico 88240

Produced Water

Company : BHP
 Date : 03-20-1990 WELL NO.37
 Location: NORTHWEST HOGBACK - SWD (on 03-09-1990)

Specific Gravity:	<u>Sample 1</u>
Total Dissolved Solids:	1.026
pH:	36200
IONIC STRENGTH:	8.10
	0.637

<u>CATIONS:</u>		<u>me/liter</u>	<u>mg/liter</u>
Calcium	(Ca ⁺²)	18.0	360
Magnesium	(Mg ⁺²)	19.6	238
Sodium	(Na ⁺¹)	579	13300
Iron (total)	(Fe ⁺²)	0.090	2.50
Barium	(Ba ⁺²)	0.469	32.2
<u>ANIONS:</u>			
Bicarbonate	(HCO ₃ ⁻¹)	16.2	988
Carbonate	(CO ₃ ⁻²)	0	0
Hydroxide	(OH ⁻¹)	0	0
Sulfate	(SO ₄ ⁻²)	2.22	107
Chloride	(Cl ⁻¹)	598	21200

SCALING INDEX (positive value indicates scale)

<u>Temperature</u>		<u>Calcium</u>	<u>Calcium</u>
		<u>Carbonate</u>	<u>Sulfate</u>
86°F	30°C	1.0	-61
120°F	49°C	1.9	-61

CENTRAL

RESOURCES, INC.

November 14, 1997

Bureau of Indian Affairs
Navajo Area Office
P.O. Box 1060
Gallup, New Mexico 87305-1060

Subject: Northeast Hogback Unit Well No. 27
SE/4, NE/4, 1980' FNL, 710' FEL
Sec. 10, T30N, R16W
San Juan County, New Mexico

Gentlemen:

Central Resources, Inc. is applying to the New Mexico Oil Conservation Division for administrative approval for authorization to inject for the above referenced well.

If you have any objections to this application, please notify the NMOCD. Please contact Thomas DeLong at (505) 326-3325 if you have any questions pertaining to this application.

Sincerely,
CENTRAL RESOURCES, INC.



Diane G. Jaramillo
Office Supervisor

CENTRAL

November 14, 1997
RESOURCES, INC.

Ms. Patty Olsen
Farmington Daily Times
P.O. Box 450
Farmington, New Mexico 87499

Subject: Legal Notice

Dear Ms. Olsen:

Central Resources, Inc. requests that the attached legal notice be published in the Farmington Daily Times. Please forward an Affidavit of Publication, along with an invoice, to me at the letterhead address.

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

Sincerely,



Diane G. Jaramillo
Office Supervisor

DGJ/

Enclosure

Central Resources, Inc., P.O. Box 2810, Farmington, New Mexico 87499, (505) 326-3325, whose agent is Thomas DeLong hereby notifies interested parties that the following well is to be converted to a water injection well. Injection will be into the Horseshoe Gallup perforated interval from 1500' to 1622'. Maximum rate will be 600 BWPD at less than 650 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.

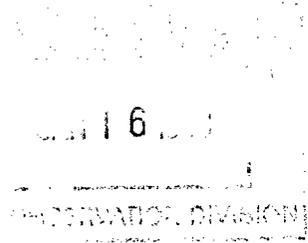
Northeast Hogback Unit Well No. 27
SE/4, NE/4, 1980' FNL, 710' FEL
Sec. 10, T30N, R16W
San Juan County, New Mexico

CENTRAL

RESOURCES, INC.

January 14, 1998

New Mexico Oil Conservation Division
State Land Office Building
2040 South Pacheco
Santa Fe, New Mexico 87504



Subject: Northeast Hogback Unit Well No. 27
1980' FNL, 710' FEL
Sec. 10, T30N, R16W
San Juan County, New Mexico

Dear Sirs:

Enclosed please find the a copy of the Affidavit of Publication for the above referenced well. A copy of the Application for Authorization for Inject was forwarded to your office on November 14, 1997.

If you have any question please do not hesitate to call.

Sincerely,

A handwritten signature in cursive script, reading "Diane G. Jaramillo", is positioned above the typed name.

Diane G. Jaramillo
Office Supervisor

Enclosure

AFFIDAVIT OF PUBLICATION

No. 38847

COPY OF PUBLICATION

STATE OF NEW MEXICO

County of San Juan:

DENISE H. HENSON being duly sworn says: That she is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said 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 publication on the following day(s):

Monday, December 15, 1997;

and the cost of publication is: \$18.37.

Denise H. Henson

On 12-30-97 DENISE H. HENSON appeared before me, whom I know personally to be the person who signed the above document.

George DeLong
My Commission Expires November 1, 2000

Legals



Central Resources, Inc., P.O. Box 2810, Farmington, New Mexico 87499, (505) 326-3325, whose agent is Thomas DeLong hereby notifies interested parties that the following well is to be converted to a water injection well. Injection will be into the Horseshoe Gallup perforated interval from 1500' to 1622'. Maximum rate will be 600 BWPD at less than 650 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.

Northeast Hogback Unit
Well No. 27
SE/4, NE/4 1980' FNL,
710' FEL
Sec. 10, T30N, R16W
San Juan County,
New Mexico

Legal No. 38847 published in
The Daily Times, Farmington,
New Mexico, on Monday, De-
cember 15, 1997.