

CENTRAL

RESOURCES, INC.

WFX 4/28/98

April 9, 1998

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

Subject: Central Bisti Unit Well No. 73
790' FSL, 1650' FEL
SE/4, Sec. 8, T25N, R12W
San Juan County, New Mexico

Dear Sirs:

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

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

Sincerely,



Diane G. Jaramillo
Office Supervisor

DGJ/

Enclosure

xc: Bureau of Land Management
Farmington District Office

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

Central Bisti Unit Well No. 73
790' FSL, 1650' FEL
SE/4, Sec. 8, 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 Well No. WI-14
Central Bisti Unit Well No. 28
Central Bisti Unit Well No. 29
Central Bisti Unit Well No. 30
Central Bisti Unit Well No. 31
Central Bisti Unit Well No. 34
Central Bisti Unit Well No. 41
Central Bisti Unit Well No. 42
Central Bisti Unit Well No. 43
Central Bisti Unit Well No. 65
Central Bisti Unit Well No. 68
Central Bisti Unit Well No. 94
Black Hill Mesa Well No. 1

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

Bisti Coal 9 Well No. 2 - Prod.	TD - 1250'
Bisti Coal 8 Well No. 1 - Prod.	TD - 1260'
Bisti Coal 17 Well No. 1 - Prod.	TD - 1265'
Central Bisti Unit Well No. WS-3 - P&A	TD - 2466'

- VII. 1. Proposed average injection rate is 600 bwpd, expected maximum injection rate is 1200 bwpd.

2. This system will be closed.
 3. Average injection pressures are expected to be in the 700 - 965 psi range. Maximum injection pressure will be 965 psi.
 4. Refer to the attached water analysis reports. Since the formation water to be encountered is primarily previously injected water, no problems are expected in mixing the two waters.
 5. This well is part of an extensive waterflood project active in the Central Bisti Unit since 1959. All produced water is reinjected into the oil productive Lower Gallup sand to maintain pressure. Injection into the Lower Gallup sand is for waterflooding, not disposal
- VIII. The injection zone is the Lower Gallup sandstone. This zone is to be 84' in thickness with a top of 4752' as shown on the SP log previously submitted. No known sources of drinking water exist in this area. Water well drilling in this area has shown the Ojo Alamo to be dry.
- IX. The well will be acidized if required to maintain injection rate and pressure.
- X. Logs were previously submitted.
- XI. No known sources of drinking water exist in this area.
- XII. This well is part of the existing approved waterflood operation for the Central Bisti Unit. It is not a disposal well.
- XIII. Proof of notification is attached.
- XIV. Certification shown on Application.

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: X Secondary Recovery Pressure Maintenance Disposal Storage
Application qualifies for administrative approval? X Yes No

II. OPERATOR: Central Resources, Inc.

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

CONTACT PARTY: Thomas DeLong PHONE: (505) 326-3325

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

IV. Is this an expansion of an existing project: X Yes No
If yes, give the Division order number authorizing the project WFX-528

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.)

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing water with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

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

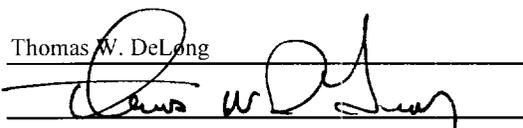
* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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

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

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

NAME: Thomas W. DeLong TITLE: Superintendent/Engineer

SIGNATURE:  DATE: 4-8-98

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstance of the earlier submittal. _____

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematic need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

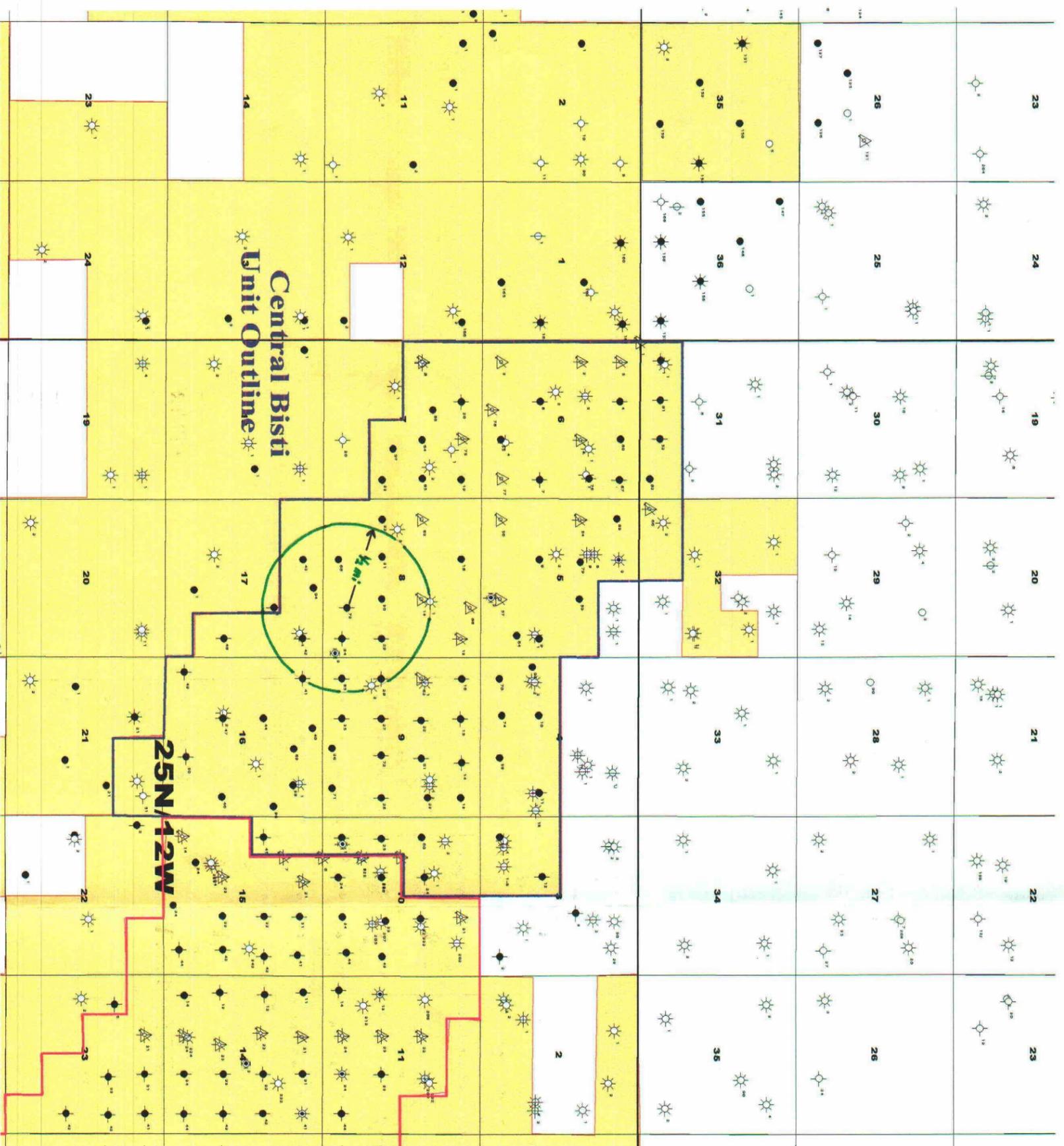
All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or request for hearing of administrative applications within 15 days from the date this application was mailed to them.



CENTRAL RESOURCES, INCORPORATED

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

Michal Meyer

1" = 4,000'

2/11/98

INJECTION WELL DATA SHEET -- SIDE 2

Tubing size 2-3/8" lined with Fiberglass/plastic set in a
(material)
Baker Model AD-1 or equivalent packer at 4700 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Lower Gallup
2. Name of field or Pool (if applicable) Bisti Lower Gallup
3. Is this a new well drilled for injection? Yes No
If no, for what purpose was the well originally drilled? Oil Well
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) N/A
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Pictured Cliffs 1163'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 73
LOCATION 790' FSL, 1650' FEL SECTION 8 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, K-55, ST&C
Casing Set @ 242.41' with 175
sks Class "B" containing
2% CaCl.

FORMATION TOPS

Fruitland Coal 1117'
Pictured Cliffs 1163'
Lewis 1310'
Chacra 1488'
Cliffhouse 1880'
Menefee 2549'
Point Lookout 3567'
Upper Mancos 3755'
Upper Gallup 4666'
Lower Gallup 4752'

CEMENT TOP 2725' (CBL)

PERFORATIONS

4772'-78'
4794'-4802'
4816'-22' (1 JSPE)
4834'-42'
4850'-56'

PBD 4947' (Calc.) Stage tool @3833'

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 4-1/2", 10.5#, K-55, ST&C
Casing Set @ 4985.44': 1st stage,
125 sks Class B w/ 2% CaCl. 2nd
stage, 200 sks 50-50 Pozmix Class
B w/ 8% gel, 2% CaCl, & 1/4 #/sk
cellophane flakes followed by 100
sks Class B w/ 2% CaCl.

GLE 6231'

KBE 6245'

DF 6244'

WELL HISTORY

Spud date: 11/6/80
Original owner: Hixon Development
IP 3/24/81 BOPD 51 BWPD 24
MCFD 25 GOR -
Completion Treatment: 1700 gal acid, frac w/ 73,242
gal 2% KCl, 85,000# 20-40 sand

CURRENT DATA

Pumping Unit _____
Tubing 2-3/8" @4752'
Pump Size 2" x 1-1/2" x 16'
Rod string 3/4"
Remarks Tested Point Lookout (3745'-
54') prior to producing
Gallup formation. Squeezed
off perforations.
2/85 - Squeezed leak between
2522' and 2555'. Well had
a slight pressure bleed-off
after the job was complete.
The well has not been
pulled since the workover.

5000' TD

Date Last Revised: 3/1/93

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Central Bisti Unit			
OPERATOR	LEASE			
73	790' FSL, 1650' FEL	8	25N	12W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

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

Intermediate Casing

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

Long string

Size 4-1/2" Cemented with 325 sx.
 TOC 2725' feet determined by cement bond log
 Hole size 7-7/8"
 Total depth 5000'

Perforated interval

- 4772' - 4778'
- 4794' - 4802'
- 4816' - 4822'
- 4834' - 4842'
- 4850' - 4856'

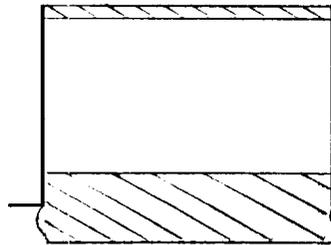
Giant Exploration & Production Company

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 28
 LOCATION 1980' FSL, 660' FWL SECTION 9 T 25 N R 12 W
 COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
 Casing: 8-5/8", 24#
 Casing Set @ 298' with 125 sks
of cement.



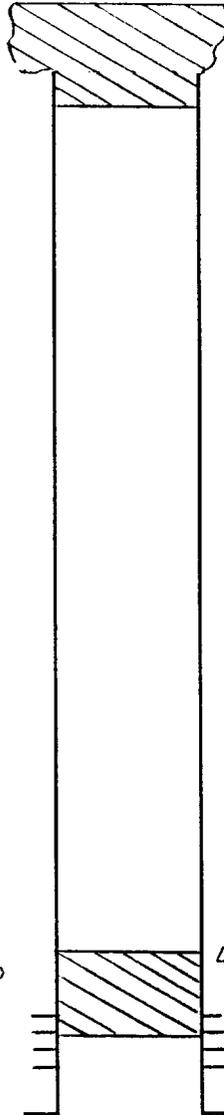
Surface GLE _____
 KBE 6209'
 DF _____

WELL HISTORY

Spud date: 6/4/56

FORMATION TOPS

<u>Pictured Cliffs</u>	<u>1132'</u>	Pictured Cliffs Top
<u>Lewis</u>	<u>1280'</u>	
<u>La Ventana</u>	<u>1842'</u>	
<u>Cliffhouse</u>	<u>2963'</u>	
<u>Menefee</u>	<u>3020'</u>	
<u>Point Lookout</u>	<u>3564'</u>	
<u>Mancos</u>	<u>3714'</u>	
<u>Gallup</u>	<u>4647'</u>	
<u>Lower Gallup</u>	<u>4738'</u>	
<u>Lower Mancos</u>	<u>4898'</u>	



1052 Original owner: Amerada Petr.

IP _____ BOPD 126 BWPD _____
 MCFD 817 GOR 644
 Completion Treatment: _____
Frac'd with 100,000 gal crude
and 100,000# sand

CURRENT DATA

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

Formerly Joan White Well #2

P & A'd 3/71 as follows:

Plugged Gallup perfs with 20
sks of cement from 4700' to
4800'.

Shot off casing at 1102'. Set
40 sks plug across casing
stub from 1052' to 1152'.

Set 60 sks plug from 1070' to
1220'.

Set 40 sks plug from 275' to
375'.

Set 2 sks plug at surface.

Date Last Revised: 8/19/93

CEMENT TOP 3040' (by T.S.)

PERFORATIONS

4739'-66'
4786'-96'
4805'-12'
4821'-30'
4835'-48'

PBD 4920'

PRODUCTION CASING

Hole Size: 7-7/8"
 Casing: 5-1/2", 15.5#, J-55
 Casing Set @ 4935' with 450 sks
of cement.

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Central Bisti Unit	(Plugged & Abandoned 3/71)		
OPERATOR	LEASE			
28	1980' FSL, 660' FWL	9	25N	12W
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>125</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>450</u>	sx.
TOC	<u>3040'</u>	feet determined by	<u>temperature survey</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>4935'</u>			

Perforated interval

4739' - 4766'
 4786' - 4796'
 4805' - 4812'
 4821' - 4830'
 4835' - 4848'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 29
LOCATION 1980' FSL, 660' FEL SECTION 8 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, J-55
Casing Set @ 330' with 225 sks
cement containing 2% CaCl.

FORMATION TOPS

CEMENT TOP 3300' (by TS)

PERFORATIONS

4763'-70' 4772'-82'
4792'-4802' 4808'-15'
4819'-25'
4833'-44'
4848'-59'

PBD 4920' (tag)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 4-1/2", 9.5#, J-55
Casing Set @ 4952' with 350 sks
pozmix containing 2% gel.

GLE 6216'

KBE 6223'

DF

WELL HISTORY

Spud date: 8/24/59
Original owner: Sunray Mid-Cont.
IP 10/14/59 BOPD 21 BWPD 14
MCFD 68 GOR 3238
Completion Treatment:
Frac with 20,000 gal crude and
20,000# 20-40 sand.

CURRENT DATA

Pumping Unit
Tubing (none)
Pump Size
Rod string
Remarks
10/66 - Acidized well

1/67 - Tubing & rods stuck in
scale. Acidized and return-
ed to production. (Has a
history of bad scale probs)

12/77 - Ran casing inspection
log (looked good). Sand-
water frac'd the well down
2-7/8" work string. Clean-
ed out to 4867'.

2/80 - Rods and tubing pulled
and laid down.
Date Last Revised: 5/21/93

4956' TD

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Central Bisti Unit			
OPERATOR	LEASE			
29	1980' FSL, 660' FEL	8	25N	12W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular DataSurface Casing

Size	<u>8-5/8"</u>	Cemented with	<u>225</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>350</u>	sx.
TOC	<u>3300'</u>	feet determined by	<u>temperature survey</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>4956'</u>			

Perforated interval

4763' - 4770'
 4772' - 4782'
 4792' - 4802'
 4808' - 4815'
 4819' - 4825'
 4833' - 4844'
 4848' - 4859'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 30
LOCATION 1980' ESL, 1980' FEL SECTION 8 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, 8rd
Casing Set @ 298' with 125 sks
cement containing 2% CaCl.

GLE 6219'

KBE 6229'

DF 6228'

FORMATION TOPS

Pictured Cliffs 1146'
Laventana 1580'
Cliffhouse 2936'
Menefee 3016'
Point Lookout 3550'
Mancos 3755'
Upper Gallup 4668'
Lower Gallup 4754'

CEMENT TOP 2025' (T.S.)

PERFORATIONS

4772'-82'
4806'-28'
4840'-48'
(4 JSPF)

PBD 4930' (orig.)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 15.5#
Casing Set @ 4940' with 450 sks
cement containing 2% gel.

WELL HISTORY

Spud date: 5/19/56
Original owner: Amerada Petr. Corp.
IP 6/21/56 BOPD 136 BWPD -
MCFD 790 GOR 577
Completion Treatment: 2 stage frac w/75,000 gal
crude & 75,000# sand.

CURRENT DATA

Pumping Unit _____
Tubing 2-3/8" (152 jts.)
Pump Size 2" x 1-1/2" x 16' RWAC
Rod string (125) 3/4", (60) 7/8"
Remarks _____

Formerly Na-Des-Pah #2,
renamed CBU #30 (7/59).

2/59 - Installed artificial
lift equipment.

7/86 - Cleaned out to PBD.

[Note: records indicate this
well has never been stim-
ulated since the original
completion.]

4940' TD

Date Last Revised: 7/1/96

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Central Bisti Unit			
OPERATOR	LEASE			
30	1980' FSL, 1980' FEL	8	25N	12W
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>125</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>450</u>	sx.
TOC	<u>2025'</u>	feet determined by	<u>temperature survey</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>4940'</u>			

Perforated interval

4772' - 4782'
 4806' - 4828'
 4840' - 4848'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 31
LOCATION 1980' ESL, 1900' FWL SECTION 8 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, J-55, ST&C
Casing Set @ 315' with 200 sks
neat containing 2% CaCl.

GLE 6235'
KBE 6246'
DF _____

FORMATION TOPS

Upper Gallup 4768'

CEMENT TOP 4000' (T.S.)

PERFORATIONS

4782'-93'
4812'-27'
4832'-41'
4852'-60'
4866'-78'

PBD 4920'

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 4-1/2", 9.5#, J-55, ST&C
Casing Set @ 4953' with 250 sks
Pozmix containing 2% gel.

WELL HISTORY

Spud date: 8/14/59
Original owner: Sunray Mid-Cont.
IP 9/16/59 BOPD 80 BWPD -
MCFD _____ GOR 1320
Completion Treatment: _____
Frac'd w/20,000 gal oil and
1 #/gal sand.

CURRENT DATA

Pumping Unit _____
Tubing 2-3/8" (155 jts.)
Pump Size 2" x 1-1/2" x 16' RWAC
Rod string (132) 3/4", (61) 7/8"
Remarks _____
Converted to water injection
prior to 1965 (Named #WI-15)
5/65 - Plugged back to 4798'
12/73 - Converted to prod.
9/78 - Acidized perfs.
12/80 - CO to 4920'. Acidized
perfs.
2/85 - Acidized perfs.
5/89 - Squeezed casing leaks.

4953' TD

Date Last Revised: 1/22/96

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Central Bisti Unit			
OPERATOR	LEASE			
31	1980' FSL, 1900' FWL	8	25N	12W
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>200</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>250</u>	sx.
TOC	<u>4000'</u>	feet determined by	<u>temperature survey</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>4953'</u>			

Perforated interval

- 4782' - 4793'
- 4812' - 4827'
- 4832' - 4841'
- 4852' - 4860'
- 4866' - 4878'

Giant Exploration & Production Company

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 34
 LOCATION 660' FSL, 660' FEL SECTION 8 T. 25 N R. 12 W
 COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
 Casing: 8-5/8", 24#
 Casing Set @ 286' with 100 sks
containing 2% gel.

GLE 6229'
 KBE 6239'
 DF 6238'

FORMATION TOPS

Pictured Cliffs 1136'
Point Lookout 3578'
Upper Gallup 4658'
Lower Gallup 4745'

Fruitland
Top

 Pictured
Cliffs Top

 Chacra
Top

 Mesaverde
Top

CEMENT TOP 2870' (by T.S.)

PERFORATIONS

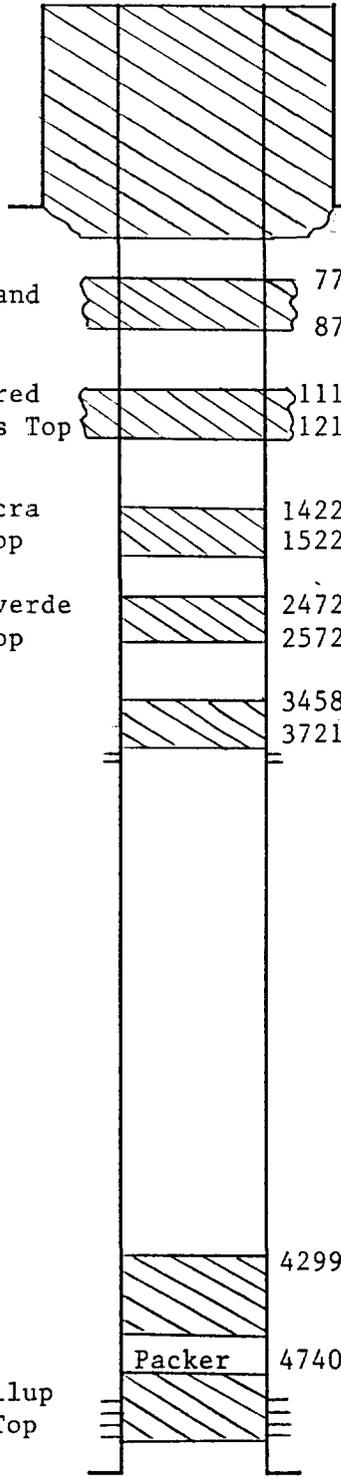
3733'-3737'
4758' - 4868'

PBD

PRODUCTION CASING

Hole Size: 7-7/8"
 Casing: 5-1/2", 15.5#
 Casing Set @ 4918' with 450 sks
cement containing 2% gel.

Gallup
Top



WELL HISTORY

Spud date: 5/3/56
 Original owner: Amerada Petr.
 IP 5/24/93 BOPD 219BWPD -
 MCFD 316 GOR 1444
 Completion Treatment: _____
Frac'd with 100,000 gal crude
and 100,000# sand.

CURRENT DATA

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

Formerly Na Des Pah #1
Well P & A'd as follows:
Permanent packer at 4740'.
Squeezed Gallup perfs with
50 sks cement. Spotted
50 sks cement on packer.
Set 25 sk plug 3458'-3721'.
Set 15 sk plug at 2572'.
Set 15 sk plug at 1522'.
Perf'd at 1210'. Placed 30 sx
inside and outside casing.
Perf'd at 877'. Placed 30 sx
inside and outside casing.
Perf'd at 520'. Filled
inside and outside casing.
 Date Last Revised: 8/18/93

4918' TD

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Central Bisti Unit	(Plugged & Abandoned 7/25/89)		
OPERATOR	LEASE			
34	660' FSL, 660' FEL	8	25N	12W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size 8-5/8" Cemented with 100 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 450 sx.
 TOC 2870' feet determined by temperature survey
 Hole size 7-7/8"
 Total depth 4918'

Perforated interval

3733' - 3737'

Giant Exploration & Production Co.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 42
 LOCATION 660' FNL, 660' FEL SECTION 17 T 25 N R 12 W
 COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 13-3/8"
 Casing: 9-5/8", 32.3#
 Casing Set @ 240' with 200 sx
of cement

GLE 6228'
 RBM 6240'
 DF 6238'

INTERMEDIATE CASING

Pictured Cliffs
 Top

Hole Size: 8-3/4"
 Casing: 7", 20# & 23#
 Casing Set @ 4910' with 175 sx
of cement.
(Cmt. at 3575' by T.S.)

FORMATION TOPS

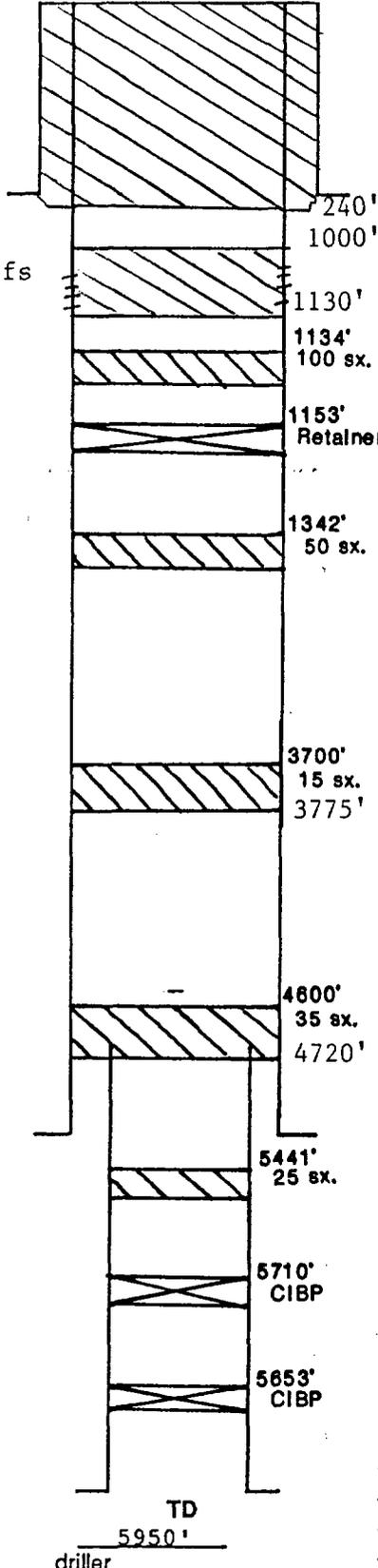
CEMENT TOP 5048' (Calc.)

PERFORATIONS

1106'-16'
5639' - 5643'
4760' - 4860'

PBD 1134'
PRODUCTION CASING

Hole Size: 6-1/8"
 Casing: 4-1/2", 10.5#
 Casing Set @ 5948' with 110 sx
cement.
(Cmt top 5048' by Calc.)



WELL HISTORY

Spud date: 3/29/56
 Original owner: Sunray Mid-Cont.
 Retainer IP BOPD 480 BWPD _____
 GOR _____ MCF _____
 Completion treatment: _____

CURRENT DATA

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

Well plugged back to 1134'
Perforated in the Fruitland
formation.

Date Last Rev. 9/20/90

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Central Bisti Unit		(Plugged & Abandoned 3/8/91)	
OPERATOR	LEASE			
42	660' FNL, 660' FEL	17	25N	12W
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE
San Juan County, New Mexico				

Tabular Data

Surface Casing

Size	<u>9-5/8"</u>	Cemented with	<u>200</u>	sq.
TOC	<u>surface</u>	feet determined by	<u>cement to surface</u>	
Hole size	<u>13-3/8"</u>			

Intermediate Casing

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

Long string

Size	<u>4-1/2"</u>	Cemented with	<u>110</u>	sq.
TOC	<u>4048'</u>	feet determined by	<u>calculation</u>	
Hole size	<u>6-1/2"</u>			
Total depth	<u>5950'</u>			

Perforated interval

1106' - 1116'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 43
LOCATION 660' FNL, 1980' FWL SECTION 17 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, J-55, 8rd
Casing Set @ 383' with 225 sks
cement containing 2% CaCl.

FORMATION TOPS

Pictured Cliffs 1198'
Point Lookout 3633'
Mancos 3802'
Upper Gallup 4712'
Lower Gallup 4798'

CEMENT TOP 3498' (T.S.)

PERFORATIONS

4815'-23'
4861'-71'
4881'-88'
4896'-4907'
(6 JSPF)

PBD 4954' (orig.)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 14#, J-55, 8rd
Casing Set @ 4989' with 100 sks
cement containing 8% gel and
100 sks regular cement.

GLE 6291'

KBE 6302'

DF 6300'

WELL HISTORY

Spud date: 7/19/56
Original owner: Sunray Mid-Cont.
IP 8/2/56 BOPD 424 BWPD
MCFD GOR
Completion Treatment:
2 stage frac w/45,000 gal oil
and 45,000# sand.

CURRENT DATA

Pumping Unit
Tubing 2-3/8" (150 jts)
Pump Size 2" x 1-1/2" x 16' RWAC
Rod string (187) 3/4"

Remarks
Formerly N.M. Federal B #4

7/59 - Renamed CBU #43

10/74 - Pulled rods & tubing,
shut well in.

8/84 - Ran & cemented 4-1/2",
10.5#, K-55 Ouanex liner to
3825'. Frac'd w/1692 bbl
slickwater & 100,000# 20/40
sand.

Note: Well has not been pulled
since 8/84!

Date Last Revised: 7/11/96

4990' TD

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Central Bisti Unit			
OPERATOR	LEASE			
43	660' FNL, 1980' FWL	17	25N	12W
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>225</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>200</u>	sx.
TOC	<u>3498'</u>	feet determined by	<u>temperature survey</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>4990'</u>			

Perforated interval

- 4815' - 4823'
- 4861' - 4871'
- 4881' - 4888'
- 4896' - 4907'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 65
LOCATION 660' ESL, 660' FWL SECTION 9 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, J-55, ST&C
Casing Set @ 284.82' w/175 sks
Portland containing CaCl₂

FORMATION TOPS

Mancos 3782'
Lower Gallup 4736'

CEMENT TOP 3400' (T.S.)

PERFORATIONS

4744'-4756'
[Squeezed off: 4742'-58',
4772'-4806', 4815'-26',
4830'-42']

PBD 4896' (Tag), 4815' (fish)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 14#, J-55, ST&C, 8rd
Casing Set @ 4930.21' w/225 sks
Pozmix containing 2% gel
(14.8 ppg).

GLE 6214'

KBE 6226'

DF 6225'

WELL HISTORY

Spud date: 7/27/59
Original owner: Sunray Mid-Cont.
IP BOPD BWPD
MCFD GOR
Completion Treatment:
None (Started LPG injection).

CURRENT DATA

Pumping Unit
Tubing
Pump Size
Rod string
Remarks
Formerly CBU #GI-18 or #18-L
Drilled as an LPG well.
12/60 - Approved for water
injection.
1/63 - Squeezed old perfs.
Milled Model D. Reperfed
upper set. Began water inj.
11/63 - Converted to prod.
12/63 - Pushed Model A tens.
packer to 4815'.
1/65 - Acidized. Install PU.
12/94 - Cleaned out fill,
isolated bad csg. Acidized
perfs. Installed scab
liner. RTP.
Date Last Revised: 1/19/96

4931' TD

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Central Bisti Unit		
OPERATOR		LEASE		
65	660' FSL, 660' FWL	9	25N	12W
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>175</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>225</u>	sx.
TOC	<u>3400'</u>	feet determined by	<u>temperature survey</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>4931'</u>			

Perforated interval

4744' - 4756'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 68
LOCATION 520' ESL, 1980' FWL SECTION 8 T. 25 N R. 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, 8rd
Casing Set @ 221' with 150 sks
cement containing 2% gel and
1% CaCl.

FORMATION TOPS

Pictured Cliffs 1169'
La Ventana 1595'
Cliffhouse 2949'
Menefee 3029'
Point Lookout 3614'
Mancos 3763'
Upper Gallup 4678'
Lower Gallup 4764'

CEMENT TOP 3555' (T.S.)

PERFORATIONS

4770'-92'
4806'-36'
4848'-54'
4860'-75'

PBD 4944' (orig.), 4842' (tag)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 15.5#, 8rd
Casing Set @ 4954' with 400 sks
cement containing 2% gel.

GLE 6242'

KBE _____

DF 6252'

WELL HISTORY

Spud date: 6/24/56
Original owner: Amerada Petr. Corp.
IP 7/9/56 BOPD 378 BWPD -
MCFD 316 GOR 836
Completion Treatment: _____
2 stage frac w/100,000 gal
crude and 100,000# sand.

CURRENT DATA

Pumping Unit _____
Tubing 2-3/8" (145 jts.)
Pump Size 2" x 1-1/2" x 16' RWAC
Rod string (188) 3/4"
Remarks _____
Formerly Salena White #1
7/59 - Conv. to GI (and soon
WI). Renamed CBU #GI-17.
Set Model D pkr @4740'.
4/68 - Pulled tubing. Left
packer in the hole.
1972 - Converted to prod.
2/84 - Renamed CBU #68.
7/84 - Ran & cemented 4-1/2",
10.5# Ouanex liner to 3973'.
Pushed Model D to 4842'.
Frac'd w/71,100 gal slick-
water & 100,000# 20/40 sd.
4/91 - Last pulling job. Signs
of scale in well since '84.
Date Last Revised: 7/11/96

4955' TD

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Central Bisti Unit			
OPERATOR	LEASE			
68	520' FSL, 1980' FWL	8	25N	12W
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>150</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>400</u>	sx.
TOC	<u>3555'</u>	feet determined by	<u>temperature survey</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>4955'</u>			

Perforated interval

- 4770' - 4792'
- 4806' - 4836'
- 4848' - 4854'
- 4860' - 4875'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. 94
LOCATION 330' ENL, 2310' FEL SECTION 17 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, K-55, ST&C
Casing Set @ 337.57' w/175 sks
Class B containing 2% CaCl.
(206.5 cu.ft.)

FORMATION TOPS

<u>Fruitland</u>	<u>525'</u>
<u>Pictured Cliffs</u>	<u>1149'</u>
<u>Lewis</u>	<u>1315'</u>
<u>Cliffhouse</u>	<u>1501'</u>
<u>Menefee</u>	<u>2455'</u>
<u>Point Lookout</u>	<u>3609'</u>
<u>Mancos</u>	<u>3770'</u>
<u>Upper Gallup</u>	<u>4682'</u>
<u>Lower Gallup</u>	<u>4780'</u>

CEMENT TOP

PERFORATIONS

4782'-90'
4830'-38'
4850'-56'
4864'-70'
(2 JSPF)

PBD 4906' (orig.)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 15.5#, K-55, ST&C
Casing Set @ 4975.36' w/Lead: 400
sks (1576 cu.ft.) Class B w/3%
sodium metasilicate, 5% salt;
Tail: 200 sks (236 cu.ft.)
Class B w/2% CaCl, 1/4 #/sk cello-
phane flakes, & 5% salt,

GLE 6248'

KBE 6260.5'

DF 6259.5'

WELL HISTORY

Spud date: 4/7/84
Original owner: Hixon Development
IP 5/31/84 BOPD 74 BWPD 21
MCFD 28 GOR 378
Completion Treatment: _____
Frac w/87,500 gal 2% KCl slick
water & 100,000# 20/40 sand.

CURRENT DATA

Pumping Unit _____
Tubing 2-3/8" (156 jts.)
Pump Size 2" x 1-1/2" x 16' RWAC
Rod string (190) 3/4"
Remarks _____
5/5/84 - Pump change.
5/10/84 - Pump change.
1/86 - Paraffin, pump chg.
1/87 - Pump change.
2/88 - Paraffin, pump chg.
11/88 - Pump change.
7/90 - Paraffin, pump chg.
7/91 - Pump change.
7/92 - Hydrotest tubing, pump
change.
7/93 - Paraffin, pump chg.
12/94 - Pump change.

4980' TD

Date Last Revised: 7/16/96

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.	Central Bisti Unit			
OPERATOR	LEASE			
94	330' FNL, 2310' FEL	17	25N	12W
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>175</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>600</u>	sx.
TOC	<u>1000'</u>	feet determined by	<u>calculation</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>4980'</u>			

Perforated interval

- 4782' - 4790'
- 4830' - 4838'
- 4850' - 4856'
- 4864' - 4870'

Central Resources, Inc.

Well Bore Diagram

WELL NAME Central Bisti Unit Well No. WI-14
LOCATION 1980' FNL, 1980' FEL SECTION 8 T 25 N R 12 W
COUNTY San Juan STATE New Mexico

SURFACE CASING

Hole Size: 12-1/4"
Casing: 8-5/8", 24#, J-55, 8rd
Casing Set @ 197.67' with 175
sks cement containing 2% gel.

FORMATION TOPS

Pictured Cliffs 1110'
Point Lookout 3563'
Mancos 3800'
Upper Gallup 4668'
Lower Gallup 4758'

CEMENT TOP 3800' (by T.S.)

PERFORATIONS

4772'-84'
4809'-15' [plugged back]
4845'-50' [plugged back]
4857'-61' [plugged back]

PBD 4800' (CIBP)

PRODUCTION CASING

Hole Size: 7-7/8"
Casing: 5-1/2", 14#, J-55, 8rd
Casing Set @ 4938'
Lead: 100 sks 1:1 Poxmix with
2% gel. Tail: 100 sks neat
cement.

GLE 6206'

KBE

DF 6215'

WELL HISTORY

Spud date: 6/15/56
Original owner: Sunray Mid-Cont.
IP 7/6/56 BOPD 410 BWPD -
MCFD n/a GOR n/a
Completion Treatment: 2 stage frac with 25,000 gal
crude and 25,000# sand

CURRENT DATA

Pumping Unit
Tubing 2-3/8" plastic coated
Pump Size [pkr @ 4671']
Rod string
Remarks Formerly N.M. Fed. "C" #14
then CBU #GI-14.
6/59 - Perforated 4809'-15'
& began LPG injection.
Est. 1963 - converted to
water injection.
1965 - Plugged back to 4799'.
3/82 - Acidized. Returned to
inj. Cleaned out to 4893'.
11/84 - Tubing was badly
corroded. Acidized perfs.
9/94 - Set CIBP @ 4800'.
Acidized top set of perfs.
Returned to WI.

4940' TD

Date Last Revised: 1/19/96

INJECTION WELL DATA SHEET

SIDE 1

Central Resources, Inc.		Central Bisti Unit		
OPERATOR	LEASE			
WI-14	1980' FNL, 1980' FEL	8	25N	12W
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>175</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>200</u>	sx.
TOC	<u>3800'</u>	feet determined by	<u>temperature survey</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>4940'</u>			

Perforated interval

4772' - 4784'

WELL NAME BLACK HILL MESA WELL NO. 1

LOCATION 1650' FNL, 1650' FEL SECTION 17 T 25N R 12W

CURRENT STATUS: Pumping

GLE 6264'

RBM 6278'

DF 6277'

SURFACE CASING

Hole size: 12-1/4"
Casing: 8-5/8" 24# K-55 8rd ST&C
Casing set @ 216'

FORMATION TOPS

Fruitland _____
Pictured Cliffs 1117'
Lewis _____
Cliffhouse _____
Menefee _____
Point Lookout 3550
Mancos _____
Upper Gallup _____
Lower Gallup 4774'

CEMENT TOP 3708'

PERFORATIONS 4818'-20', 4831'-41',
4850'-60', 4862'-72',
4873'-76'

PBD 4896'
(McCullough) 4880'

PRODUCTION CASING

Hole size: 7-7/8"
Casing: 4-1/2" 10.5# & 9.5#
Casing set @ 4952' KB

TD 4976'

WELL HISTORY

Spud date: 9-15-79
Original owner: Hixon
IP 11/7/79 BOPD 48 BWPD 0
GOR 980

Completion treatment: 500 gals 15% acid
and 60,000# 20-40 sand with 46,200
gals oil

CURRENT DATA

Pumping Unit American 160D
Tubing 2-3/8" 155 jts.
Pump size 2 x 1-1/2 x 16 RWAC
Rod string 53 of 7/8" & 133 of 3/4"
Remarks _____

INJECTION WELL DATA SHEET

SIDE 1

Jimmy Roberson Energy Corp.

Black Hills Mesa

OPERATOR	LEASE			
1	1650' FNL, 1650' FEL	17	25N	12W
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>200</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>350</u>	sx.
TOC	<u>3708'</u>	feet determined by	<u>calculation</u>	
Hole size	<u>7-7/8"</u>			
Total depth	<u>4976'</u>			

Perforated interval

4818' - 4820'
 4831' - 4841'
 4850' - 4860'
 4862' - 4872'
 4873' - 4876'

FW01W076

BJ SERVICES COMPANY
WATER ANALYSIS #FW01W076
FARMINGTON LAB

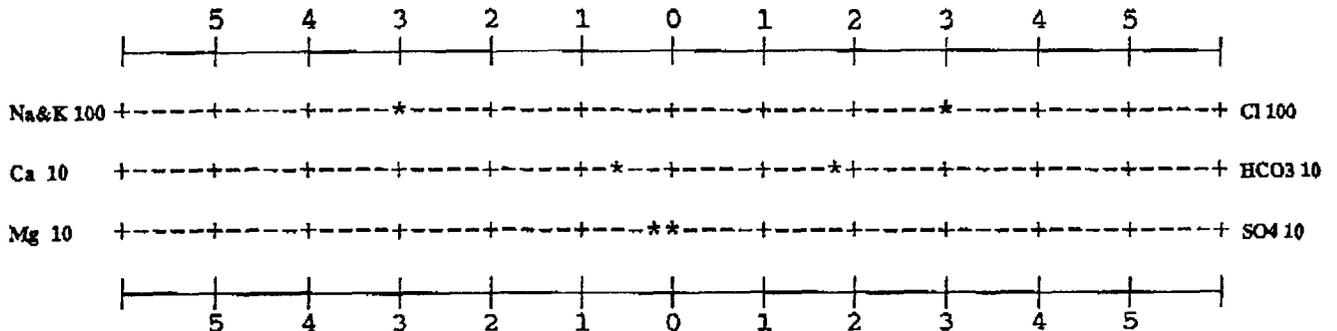
GENERAL INFORMATION			
OPERATOR:	CENTRAL RESOURCES	DEPTH:	
WELL:	C.B.U. WATER FLOOD STATION	DATE SAMPLED:	03/05/98
FIELD:		DATE RECEIVED:	03/05/98
SUBMITTED BY:	GREG MCINTOSH	COUNTY:	SAN JUAN STATE: NM
WORKED BY:	D. SHEPHERD	FORMATION:	
PHONE NUMBER:			

SAMPLE DESCRIPTION
sample for analysis

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

REMARKS
TANK LEVEL 7.5' @ 3:40 PM.

STIFF TYPE PLOT (IN MEQ/L)



ANALYST _____
 D. SHEPHERD



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

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

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

ORDER No. WFX-528

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

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

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

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

IT IS THEREFORE ORDERED:

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

CBU Well No. 21, Unit E, Sec. 7, T-25-N, R-12-W
San Juan County
Maximum Surface Injection Pressure: 975 psig.

CBU Well No. 52, Unit O, Sec. 31, T-26-N, R-12-W,
San Juan County
Maximum Surface Injection Pressure: 964 psig.

CBU Well No. 53, Unit G, Sec. 5, T-25-N, R-12-W,
San Juan County
Maximum Surface Injection Pressure: 956 psig.

CBU Well No. 56, Unit M, Sec. 5, T-25-N, R-12-W,
San Juan County
Maximum Surface Injection Pressure: 925 psig.

CBU Well No. 57, Unit O, Sec. 5, T-25-N, R-12-W,
San Juan County
Maximum Surface Injection Pressure: 954 psig.

CBU Well No. 63, Unit E, Sec. 8, T-25-N, R-12-W,
San Juan County
Maximum Surface Injection Pressure: 958 psig.

CBU Well No. 64, Unit G, Sec. 7, T-25-N, R-12-W,
San Juan County
Maximum Surface Injection Pressure: 965 psig.

CBU Well No. 66, Unit M, Sec. 32, T-26-N, R-12-W,
San Juan County
Maximum Surface Injection Pressure: 961 psig.

CBU Well No. 73, Unit O, Sec. 8, T-25-N, R-12-W,
San Juan County
Maximum Surface Injection Pressure: 950 psig.

IT IS FURTHER ORDERED:

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

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

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

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

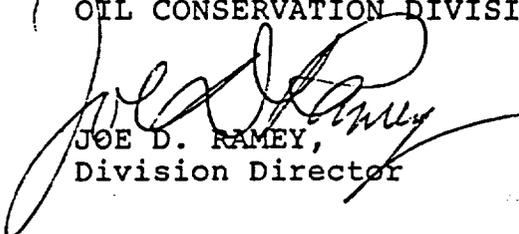
That the operator shall notify the supervisor of the Division's Aztec District Office before injection is commenced through said wells.

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

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY,
Division Director

S E A L

CENTRAL

RESOURCES, INC.

April 9, 1998

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

Subject: Central Bisti Unit Well No. 73
790' FSL, 1650' FEL
SE/4, Sec. 8, T25N, R12W
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

Z 297 581 333

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

PS Form 3800, April 1995

Sent to Bureau of Indian Affairs	
Street & Number PO Box 1060	
Post Office, State, & ZIP Code Gallup, NM 87305-1060	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date 4/9/98	

Fold at line over top of envelope to the right of the return address

CERTIFIED

Z 297 581 333

MAIL

Is your RETURN ADDRESS completed on the reverse side?

SENDER: <ul style="list-style-type: none"> ■ Complete items 1 and/or 2 for additional services. ■ Complete items 3, 4a, and 4b. ■ Print your name and address on the reverse of this form so that we can return this card to you. ■ Attach this form to the front of the mailpiece, or on the back if space does not permit. ■ Write "Return Receipt Requested" on the mailpiece below the article number. ■ The Return Receipt will show to whom the article was delivered and the date delivered. 		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: Bureau of Indian Affairs Navajo Area Office PO Box 1060 Gallup, NM 87305-1060		4a. Article Number Z297 581 333	
		4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD	
5. Received By: (Print Name)		7. Date of Delivery	
6. Signature: (Addressee or Agent) X		8. Addressee's Address (Only if requested and fee is paid)	

Thank you for using Return Receipt Service.

CENTRAL

RESOURCES, INC.

April 9, 1998

Jimmy Roberson Energy Corporation
P.O. Box 729
Benton, LA 71006

Subject: Central Bisti Unit Well No. 73
790' FSL, 1650' FEL
SE/4, Sec. 8, T25N, R12W
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

Z 297 581 334

US Postal Service
Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to Jimmy Roberson Energy Corp.	
Street & Number PO Box 729	
Post Office, State, & ZIP Code Benton, LA 71006	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date 4/9/98	

PS Form 3800, April 1995

Fold at line over top of envelope to the right of the return address

CERTIFIED

Z 297 581 334

MAIL

<p>SENDER:</p> <ul style="list-style-type: none"> ■ Complete items 1 and/or 2 for additional services. ■ Complete items 3, 4a, and 4b. ■ Print your name and address on the reverse of this form so that we can return this card to you. ■ Attach this form to the front of the mailpiece, or on the back if space does not permit. ■ Write "Return Receipt Requested" on the mailpiece below the article number. ■ The Return Receipt will show to whom the article was delivered and the date delivered. 	<p>I also wish to receive the following services (for an extra fee):</p> <p>1. <input type="checkbox"/> Addressee's Address</p> <p>2. <input type="checkbox"/> Restricted Delivery</p> <p>Consult postmaster for fee.</p>	
	<p>3. Article Addressed to:</p> <p>Jimmy Roberson Energy Corp. PO Box 729 Benton, LA 71006</p>	<p>4a. Article Number</p> <p>Z 297 581 334</p>
<p>5. Received By: (Print Name)</p>	<p>7. Date of Delivery</p>	
<p>6. Signature: (Addressee or Agent)</p> <p>X</p>	<p>8. Addressee's Address (Only if requested and fee is paid)</p>	

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

CENTRAL

RESOURCES, INC.

April 9, 1998

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

Subject: Legal Notice

Gentlemen/Madam:

Central Resources, Inc. requests that the attached legal notices 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 Lower Gallup perforated interval from 4772' to 4856'. Maximum rate will be 1200 BWPD at less than 965 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 Well No. 73
790' FSL, 1650' FEL
SE/4, Sec. 8, T25N, R12W
San Juan County, New Mexico

CENTRAL

RESOURCES, INC.

April 17, 1998

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

23

Subject: Central Bisti Unit Well No. 73
790' FSL, 1650' FEL
SE/4, Sec. 8 T25N, R12W
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 April 9, 1998.

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

Sincerely,



Diane G. Jaramillo
Office Supervisor

Enclosure

AFFIDAVIT OF PUBLICATION

No. 39372

COPY OF PUBLICATION

STATE OF NEW MEXICO

County of San Juan:

CONNIE PRUITT being duly sworn says:
That she is the acting 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)

Tuesday, April 14, 1998

and the cost of publication is: \$17.83

Connie Pruitt

On ~~4-15-98~~ CONNIE PRUITT
appeared before me, whom I know
personally to be the person who signed the
above document.

Deane Nelson

My Commission Expires November 1, 2000



Central Resources, Inc., P.O.
Box 2810, Farmington, New
Mexico 87499, (505) 326-
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ta Fe, New Mexico 87504
within 15 days.

Central Bisti Unit Well No. 73
790' FSL, 1650' FEL
SE/4, Sec. 8, T25N, R12W
San Juan County, New Mexico

Legal No. 39372, published in
The Daily Times, Farmington,
New Mexico, on Tuesday, April
14, 1998.