

Hallwood Energy Companies

4582 South Ulster Street Parkway • Stanford Place III • Suite 1700 • Post Office Box 378111
Denver, Colorado 80237 • (303) 850-7373

May 14, 1996

CERTIFIED MAIL NO. P 324 481 495
RETURN RECEIPT REQUESTED

Mr. William LeMay, Director
State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

RE: Form C-108, Application for Authorization to Inject
Hallwood Petroleum, Inc.
Proposed Cardon Com #1 SWD Well
Unit A, NE NE, 1120' FNL x 1050' FEL
Section 27-T32N-R13W
San Juan County, New Mexico

RECEIVED
MAY 20 1996
OIL CON. DIV.
DIST. 3

Dear Mr. LeMay:

Hallwood Petroleum, Inc. respectfully requests administrative approval for re-entry, deepening and conversion of the currently plugged and abandoned Cardon Com #1 well, to a water disposal well. We are proposing (requesting) that the well be approved for water disposal into four formations -- Morrison, Bluff, Summerville and Entrada. However, as discussed in detail in the enclosed application and exhibits, Hallwood plans to initially (after obtaining all approvals) dispose of water into the Summerville and Entrada formations.

If the Summerville and Entrada formations are not adequate for handling of the planned 550-1200 BHPD, we would proceed with recompleting this well to the additional Morrison and Bluff disposal formations.

Enclosed is the Form C-108 and required data, including "proof of notice" to the offset leasehold operators. Hallwood Petroleum, Inc. is the surface owner of a four-acre parcel of land centered on this Cardon Com #1 well location. Upon receiving proof of mailing notices (return receipt cards) we will furnish these to your office.

Please contact me at (303) 850-6303 with any questions or comments you have on this application for injection, or if you need additional information.

Sincerely,

HALLWOOD PETROLEUM, INC.



Kevin E. O'Connell
Drilling & Production Manager
Rocky Mountain & Mid-Continent District

Mr. William LeMay, Director
State of New Mexico
Oil Conservation Division
May 14, 1996
Page 2

KEO/jey
Enclosures

cc: Oil Conservation Division
Aztec District III Office
1000 Rio Brazos Road
Aztec, NM 87410

KEO96.029

RECEIVED
MAY 20 1996
OIL CON. DIV.
DIST. 3

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance Disposal Storage
Application qualifies for administrative approval? Yes No
- II. OPERATOR: Hallwood Petroleum, Inc.
ADDRESS: P. O. Box 378111, Denver, CO 80237
CONTACT PARTY: Kevin E. O'Connell PHONE: 303-850-6303
- III. WELL DATA: Complete the data required on the reverse side of this form for each well processed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project: Yes No
If yes, give the Division order number authorizing the project _____
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- * X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted.)
- * XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Kevin E. O'Connell TITLE: Drilling & Production Manager
SIGNATURE: *Kevin E. O'Connell* DATE: 05/14/96
- * 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 schematics need not be repeated.

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

XIV. PROOF OF NOTICE

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

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

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, PO Box 2088, Santa Fe, NM 87504-2088 within 15 days.

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

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

District I
 PO Box 1980, Hobbs, NM 88241-1980
 District II
 PO Drawer DD, Artesia, NM 88211-0719
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV
 PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
 Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
 PO Box 2088
 Santa Fe, NM 87504-2088

Form C-101
 Revised February 10, 1994
 Instructions on back
 Submit to Appropriate District Office
 State Lease - 6 Copies
 Fee Lease - 5 Copies

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

Operator Name and Address: Hallwood Petroleum, Inc. P. O. Box 378111 Denver, CO 80237		OGRID Number 009812
		API Number 30 - 045-24392
Property Code	Property Name Cardon Com #1 SWD	Well No. 1

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West Line	County
A	27	32N	13W		1120	North	1050	East	San Juan

Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West Line	County
Proposed Pool 1					Proposed Pool 2				

Work Type Code E & D	Well Type Code S	Cable/Rotary R	Lease Type Code S	Ground Level Elevation 5897'
Multiple N	Proposed Depth 8000'	Formation Chinle	Contractor not known	Spud Date 9/96

Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
existing	9.625"	36	295'	250	surface
casing	7.00"	20	5099'	950	surface (est)
6.25"	4.50"	11.6	0 - 8000'	1000 (est)	surface

Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Hallwood Petroleum, Inc. has submitted a C-108 application to perform a re-entry and conversion of this P&A'd Mesa Verde well (drilled in 1980) to a water disposal well.

See attachment.

RECEIVED
 MAY 20 1996

I hereby certify that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Kevin E. O'Connell</i>		OIL CONSERVATION DIVISION	
Printed name: Kevin E. O'Connell		Approved by:	
Title: Drilling & Production Manager		Title:	
Date: 05/14/96		Approval Date:	Expiration Date:
Phone: (303) 850-6303		Conditions of Approval: Attached <input type="checkbox"/>	

C-101 Instructions

Measurements and dimensions are to be in feet/inches. Well locations will refer to the New Mexico Principal Meridian.

IF THIS IS AN AMENDED REPORT CHECK THE BOX LABELED "AMENDED REPORT" AT THE TOP OF THIS DOCUMENT.

- | | |
|--|---|
| <p>1 Operator's OGRID number. If you do not have one it will be assigned and filled in by the District office.</p> <p>2 Operator's name and address.</p> <p>3 API number of this well. If this is a new drill the OCD will assign the number and fill this in.</p> <p>4 Property code. If this is a new property the OCD will assign the number and fill it in.</p> <p>5 Property name that used to be called 'well name'</p> <p>6 The number of this well on the property.</p> <p>7 The surveyed location of this well New Mexico Principal Meridian NOTE: If the United States government survey designates a Lot Number for this location use that number in the 'UL or lot no.' box. Otherwise use the OCD Unit Letter.</p> <p>8 The proposed bottom hole location of this well at TD</p> <p>9 and 10 The proposed pool(s) to which this well is being drilled.</p> <p>11 Work type code from the following table:
 N New well
 E Re-entry
 D Drill deeper
 P Plugback
 A Add a zone</p> <p>12 Well type code from the following table:
 O Single oil completion
 G Single gas completion
 M Multiple completion
 I Injection well
 S SWD well
 W Water supply well
 C Carbon dioxide well</p> <p>13 Cable or rotary drilling code
 C Propose to cable tool drill
 R Propose to rotary drill</p> <p>14 Lease type code from the following table:
 F Federal
 S State
 P Private
 N Navajo
 J Jicarilla
 U Ute
 I Other Indian tribe</p> <p>15 Ground level elevation above sea level</p> <p>16 Intend to mutiple complete? Yes or No</p> <p>17 Proposed total depth of this well</p> | <p>18 Geologic formation at TEI</p> <p>19 Name of the intended drilling company if known.</p> <p>20 Anticipated spud date.</p> <p>21 Proposed hole size ID inches, proposed casing OD inches, casing weight in pounds per foot, setting depth of the casing or depth and top of liner, proposed cementing volume, and estimated top of cement</p> <p>22 Brief description of the proposed drilling program and SOP program. Attach additional sheets if necessary.</p> <p>23 The signature, printed name, and title of the person authorized to make this report. The date this report was signed and the telephone number to call for questions about this report.</p> |
|--|---|

ATTACHMENT

to

Form C-101

Cardon Com #1 SWD

Hallwood plans to drill out six (6) existing cement plugs in the 7" casing from surface - 3400'. Then a CIBP and cement will be drilled out over the Mesa Verde perforations (4137 - 4496'). The 7" casing will be pressure tested.

At this point, the 6 1/4" open hole from 5099 - 7000' will be washed down and conditioned with mud. Drill new 6 1/4" hole from 7000 - 8000' through the Bluff, Summerville and Entrada proposed disposal zones. Log well, run 4 1/2" casing from 0 - 8000' and cement to surface with a 3-stage cement job.

Perforate, acidize and fracture stimulate proposed disposal zones. Run tubing and packer, perform MIT (Mechanized Integrity Test) and commence water injections (disposals).

KEO96.030

EXHIBIT III - WELL DATA

Section A

Operator: Hallwood Petroleum, Inc.

Lease Name: Cardon Com #1 SWD

Location: 1120' FNL x 1050' FEL, Unit A,
NE NE Section 27-T32N-R13W
San Juan County, New Mexico

Surface Casing: 9.625" 36# at 295' KB in 12.25" hole
cemented with 250 sacks. Cement is
believed to have circulated to surface.

Intermediate Casing: 7.00" 20# casing at 5099' KB in an 8.75"
hole. Cemented with 950 sacks. Cement
top it not known presently but is
believed to be at or near surface due to
volume pumped versus annulus volume.

Proposed Production
Casing: 4.50" 11.6# casing at 8000' in 6.250"
hole. This string of casing will most
likely be cemented in 3 stages:
Est. 1st stage: 225 sxs of 50/50 Poz
cement followed by 100 sxs Class "B"
neat. Calculated fill is from 8000' up
to 5500'.
Est. 2nd stage: Thru a DV tool at
5500', cemented with 325 sxs 50/50 Poz,
calculated fill is from 5500' up to
3000'.
Est. 3rd stage: Thru a DV tool at 3000'
cemented with 250 sxs 50/50 Poz cement
with 6% gel, followed by 100 sxs of
50/50 Poz cement with 2% gel.

Please Note: Although no cement bond
logs exist on this well to confirm
cement top(s) behind the 7" int. casing,
Hallwood believes that the well is
essentially cemented from 0-5099'.
However, if requested and required,
Hallwood will run a cement bond log from
0-5099' after drilling out the 7" plugs.

Proposed Tubing: 2 3/8" 4.70# EUE 8rd J-55 grade, new
tubing, unlined, set at 6700'.

Proposed Packer: Guiberson Model UNI-VI set at 6700' with
an on/off tool directly above it.

EXHIBIT III - WELL DATA

Cardon Com #1 SWD

Section B

- (1) The name of the injection formation(s) and, if applicable, the field or pool name.

Hallwood proposes to initially inject (dispose of) produced Fruitland Basin Coal water into the Summerville/Entrada formations. The Summerville/Entrada formation at this location is not believed to be in any established field.

Hallwood is seeking approval with this application to ultimately dispose into four (4) formations - the Morrison, Bluff, Summerville and Entrada. In the event that the two lower formations in the Cardon Com #1 well are not able to satisfactorily handle our intended disposal volumes, Hallwood would like to recomplate the Cardon Com #1 well into the Morrison and Bluff formations and add them to the Summerville/Entrada as disposal zones.

- (2) The injection interval and whether it is perforated or open hole.

The initially proposed disposal zone (and subsequent recompletion intervals) (the Summerville/Entrada) will be in perforated 4 1/2" casing.

- (3) State if the well was drilled for injection or, if not, the original purpose of the well.

This well was originally drilled in 1980 by Tenneco Oil Company (operator) as a Mesa Verde/Dakota gas well. The Cardon Com #1 well tested (thru 7" casing) the Mesa Verde interval but was not completed as a producing well. The well was plugged and abandoned in early 1981. Hallwood Petroleum, Inc. purchased 4 acres of surface land surrounding this well (Cardon Com #1) in 1995 with the principal reason to convert it to a water disposal well due to its proximity to our coal wells and pipeline gathering system. See plat map - Exhibit III B. 3.

EXHIBIT III - WELL DATA

Cardon Com #1

- (4) Give the depths of any other perforated intervals and detail on sacks of cement or bridge plugs used to seal off such perforations.

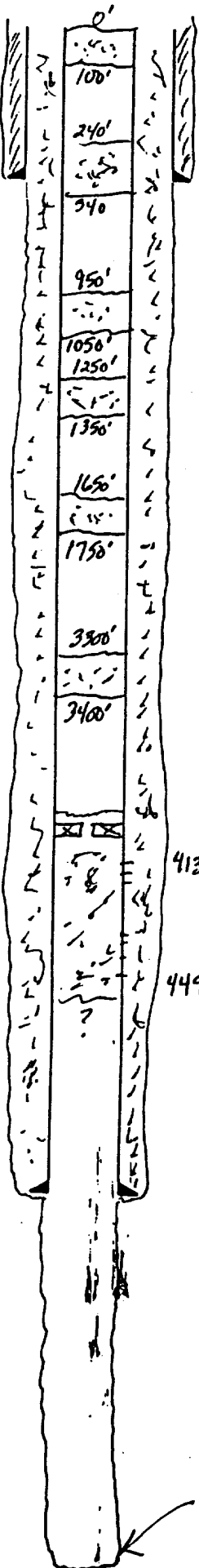
There are currently cement squeezed Mesa Verde perforations in the Cardon Com #1 from 4137-4496'. Hallwood plans to pressure test these perforations. The cement will be drilled out inside of the casing and then the cement squeeze will be pressure tested until it withstands pressures and time requirements similar to an MIT (Mechanical Integrity Test). Also, these squeezed perfs in the Mesa Verde will be isolated by the 4.50" production casing.

- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

The next higher oil and gas zone that primarily produces in the area of the Cardon Com #1 is the Dakota formation (Basin Dakota Field). In the Cardon Com #1 well the top of the Dakota is 6535'. The closest Dakota producing well is 1 mile South.

Occasionally there is Gallup formation oil or gas production but at this location it is scarce. The Gallup formation in the Cardon Com #1 well is at 5630' but is tight and poorly developed. With regard to next lower oil and gas zones, the only possible zone deeper than the Entrada would be the Chinle formation at an estimated depth of 8000'. Oil and gas production in the basin is very limited from the Chinle formation, especially in this immediate area, and the Morrison through Entrada zones are frequently utilized for water disposal.

CURRENT STATUS AS PAID



Surface
 9 5/8" @ 36 #
 Gr _____ @ 295'
 Cmt.w/ 250 Sxs.
 TOC @ _____'
 Hole Size 12 1/4"
 Max Mud Wt. _____ #

WELL: CARDON Com #1
 LOCATION: NE NE (1120' FNL X 1050' FEL)
Sec 27- T32N-R13W SAN JUAN
 SPUD DATE: 10/20/80
 COMPL. DATE: 1/30/81
 T.D.: 6998 PBD: ?? (SURFACE)
 FIELD: BLANCO MESA-Vende
 ZONES: MESA-Vende

PERFS: 4137 - 4496' gross interval
 4137-39' 4264-78' 4383-98'
 4200-06' 4287-89' 4410-12'
 4216-34' 4301-10' 4420-22'
 4246-48' 4347-49' 4492-96'

STIMULATION:
Acidized w/ 1500 gallons
FRAC'd w/ 134,100 gallons
WATER \$ 109,000 # SAND
Ave. RATE 18 BPM at 1800'

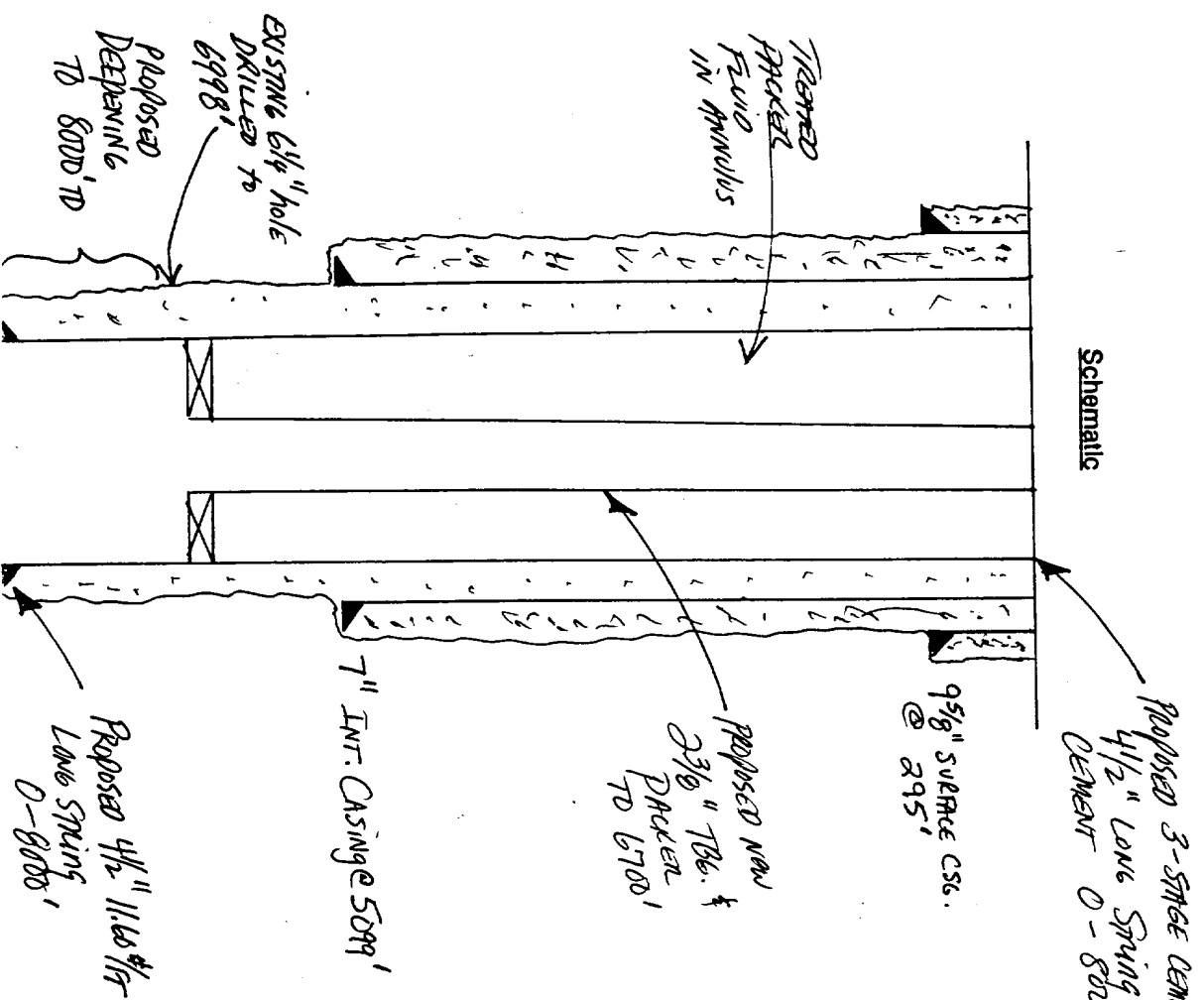
Production
 7" @ 20 #
 Gr ? @ 5099'
 Cmt.w/ 950 Sxs.
 TOC @ PROBABLY SURFACE
 Hole Size 8 3/4"
 Max Mud Wt. _____ #

Tops:
DAKOTA 6535'
MORRISON 6750'

6 1/4" hole drilled to 7000'

INJECTION WELL DATA SHEET

OPERATOR HALLWOOD Petroleum Inc. LEASE Carbon Com
 WELL NO. # 1 FOOTAGE LOCATION 1180' FWL X 1050' FEL, UNIT A, NENE SECTION 217 - T32N - R13W
 SECTION _____ TOWNSHIP _____ RANGE _____



Schematic

Well Construction Data

<u>Surface Casing</u>			
Size <u>9.625</u>	Cemented with <u>250</u>		SX.
TOC <u>Surface</u>	feet determined by <u>Calculation</u>		
Hole Size <u>10.125"</u>			
<u>Intermediate Casing</u>			
Size <u>7.00</u>	Cemented with <u>950</u>		SX.
TOC <u>Surface</u>	feet determined by <u>Calculation</u>		
Hole Size <u>8.125"</u>			
<u>Long String (Proposed)</u>			
Size <u>4.50</u>	Cemented with <u>1000-1200 (est)</u>		SX.
TOC <u>Surface</u>	feet determined by <u>CBL</u>		
Hole Size <u>6 1/4"</u>			
Total Depth <u>8000' EST</u>			
<u>Injection Interval</u>			
<u>6750'</u> feet to <u>7900'</u> feet			
(perforated) or open-hole; indicate which			
			Morrison fm. Bluff Summitville fm. ENTAHA fm.

INJECTION WELL DATA SHEET

Tubing Size 2.375" lined with UNLINED set in a
QUIBERSON UNI VI (type of internal coating)
 packer at 6700 feet

Other type of tubing / casing seal if applicable NONE PLANNED

Other Data

1. Is this a new well drilled for Injection? Yes X No

If no, for what purpose was the well originally drilled? DRILLED TO TEST
THE MESA VERDE AND DAKOTA ZONES

2. Name of the Injection formation MORGANSON, BLUFF, SUMMERVILLE & ENTRADA

3. Name of Field or Pool (if applicable) N/A

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e., sacks of cement or plug(s) used. YES, MESA VERDE PERFS
437-4496' (GROSS INTERVAL) IN 7" INT. CASING. CEMENT SQUEEZED 1/29/81 WITH 150SX CEMENT TO 1500 PSI

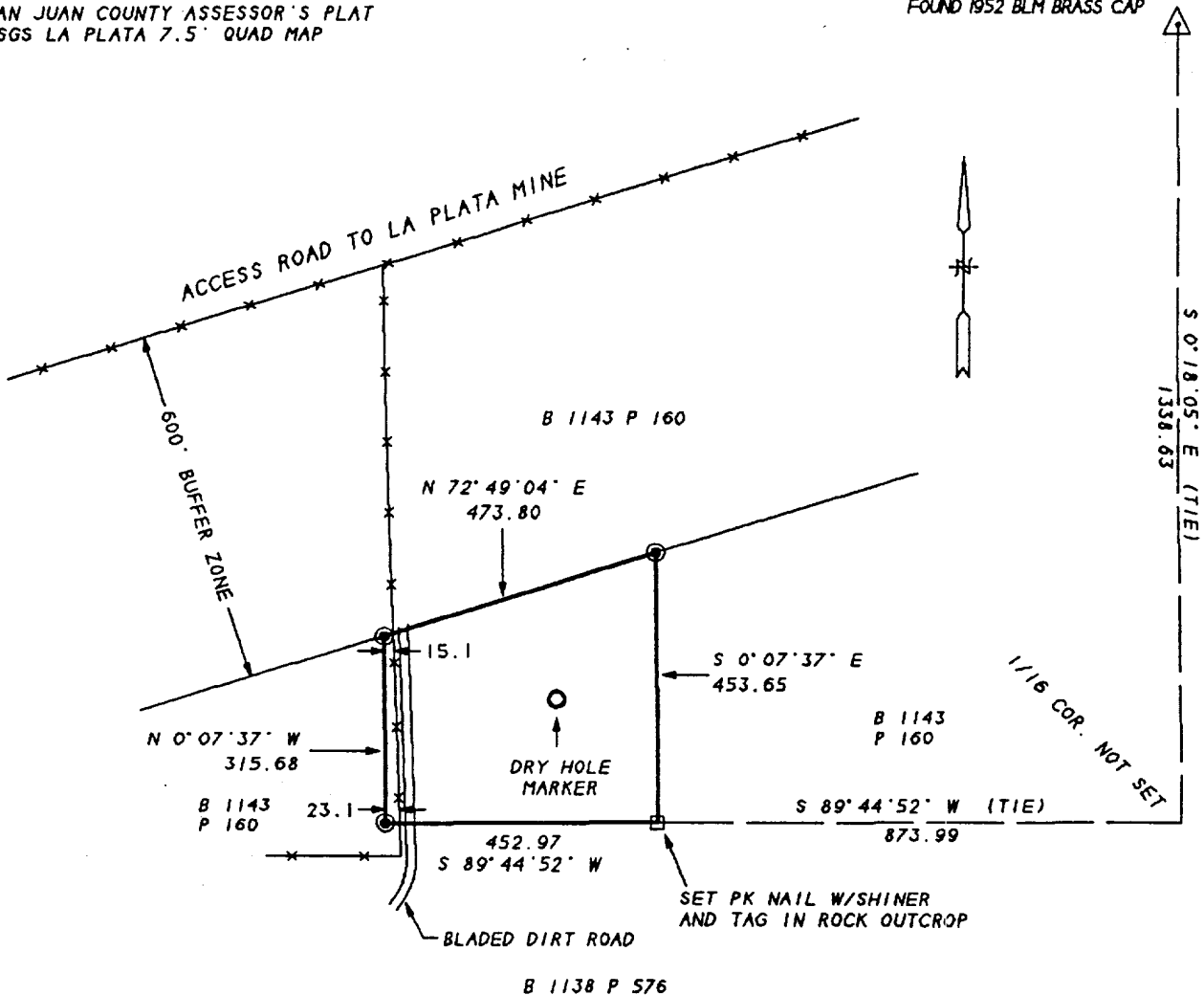
5. Give the names and depths of any over or underlying oil or gas zones (pools) in this area.
OVERLYING ZONE: DAKOTA 6535'; BASIN DAKOTA FIELD, TIEBART, NON-PERFORATED IN THIS WELL.
UNDERLYING ZONE: CHINLE 8000' (4'-TEST); NO FIELD, NO INFO ON ZONE

BASIS OF BEARING: NORTH LINE OF THE NE/4 OF SEC. 27 T32N R13W N.M.P.M., SAN JUAN COUNTY, NEW MEXICO (S 89° 37' 00" W) FROM BLM TOWNSHIP PLAT.
 FIELD SECTION BREAKDOWN OF SEC. 27. FOUND THE EAST 1/4 COR., THE SOUTH 1/4 COR., THE WEST 1/4 COR., THE NORTH 1/4 COR. AND THE NE CORNER OF THE SEC. ALL 1952 BLM BRASS CAPS

RESOURCE LIST

BLM TOWNSHIP PLAT T32N R13W
 SAN JUAN COUNTY ASSESSOR'S PLAT
 USGS LA PLATA 7.5' QUAD MAP

NORTHEAST CORNER OF SEC. 27 T32N R13W N.M.P.M. SAN JUAN COUNTY, NEW MEXICO FOUND 1952 BLM BRASS CAP



4.00 Acres more or less located in the Northeast quarter of the Northeast quarter (NE/4.NE/4) of Section Twenty-seven (27) in Township Thirty-two (32) North of Range Thirteen (13) West, N.M.P.M., San Juan County, New Mexico, being described as follows:

Beginning at a point on the South line of said NE/4.NE/4 that is 1338.63 feet S 0° 18' 05" E and 873.99 feet S 89° 44' 52" W from the Northeast corner of said Section 27:

THENCE: S 89° 44' 52" W 452.97 feet along the South line of and to the Southwest corner of said NE/4.NE/4:

THENCE: N 0° 07' 37" W 315.68 feet along the West line of said NE/4.NE/4 to a point on the South line of a 600' wide La Plata Mine buffer zone:

THENCE: N 72° 49' 04" E 473.80 feet along the South line of said buffer zone:

THENCE: S 0° 07' 37" E 453.65 feet to the point of beginning.

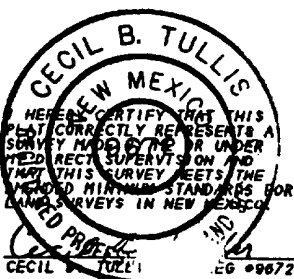
Subject to any easements or reservations of record or in existence.

--- FENCELINE

⊙ - SET 1/2" X 18" REBAR AND CAP



SCALE: 1" = 300'

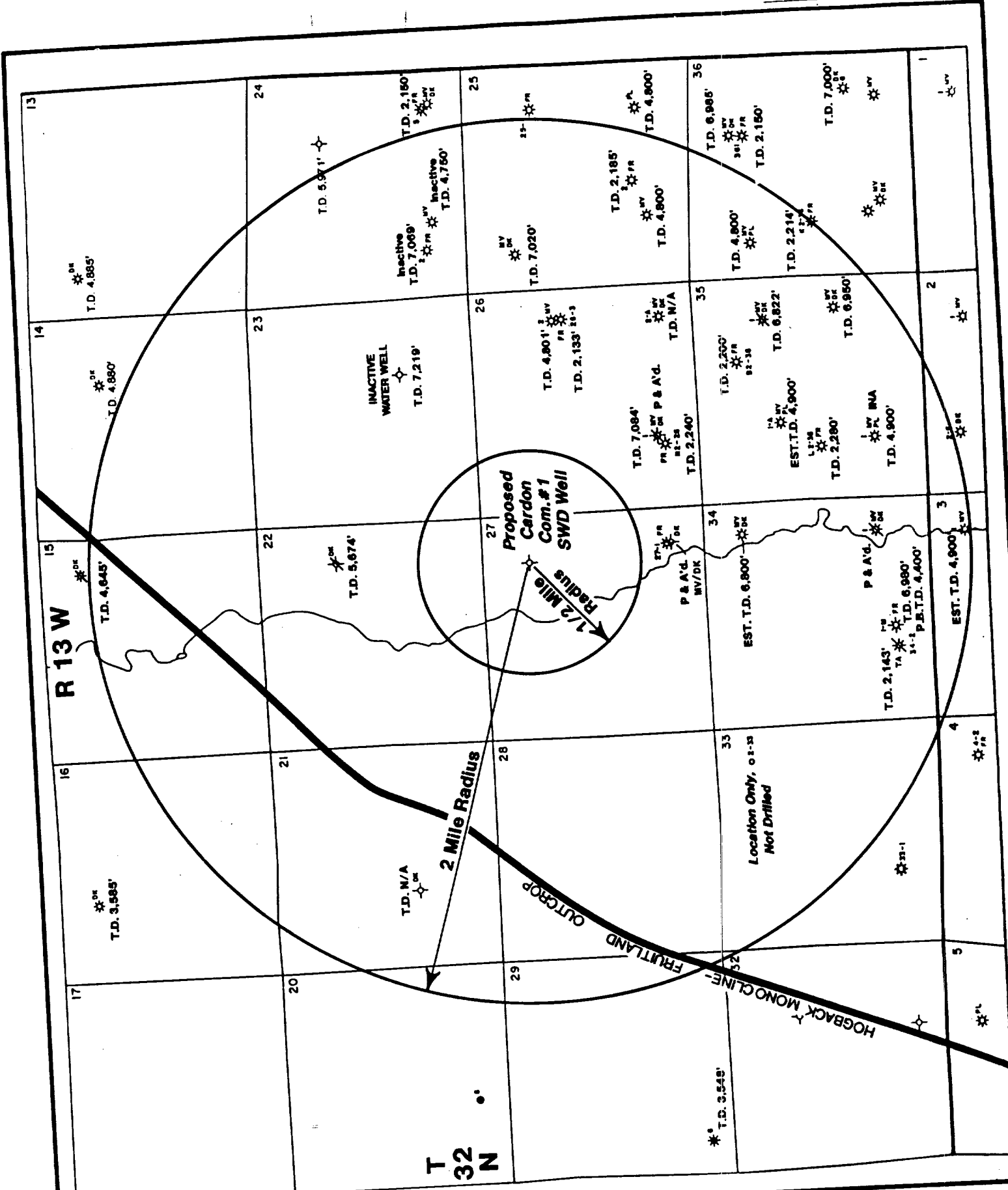


HIGH COUNTRY SURVEYS
 101 W. 32ND STREET
 FARMINGTON, NEW MEXICO

Tract Survey for Hallwood Petroleum Inc.
 4.00 Acres +/- located in the NE/4 of the NE/4 of Sec. 27 T32N R13W N.M.P.M., San Juan County, New Mexico

DRAWN BY CRT

JANUARY 12, 1995



PRODUCTION CODE:

- DK-DAKOTA
- FR-FRUITLAND
- MV-MESA VERDE
- PL-POINT LOOKOUT
- PC-PICTURED CLIFFS

Hallwood Petroleum, Inc.

LA PLATA AREA
CARDON COM. #1 SWD WELL
 OFFSET WELLS PERTAINING
 TO APPLICATION FOR
 WATER DISPOSAL
 NE NE SEC. 27 - T32N-R13W
 New Mexico

DAKOTA WELLS

The following is a listing of Dakota wells (nothing found in the Morrison, Bluff or Entrada formations) within a two-mile radius of the Cardon Com #1 well which is situated in the NENE of Section 27, Township 32 North, Range 13 West, San Juan County, New Mexico.

Township 32 North - Range 13 West

<u>Location</u>	<u>Well Name</u>	<u>Operator</u>	<u>MAP REFERENCE</u>
13: NWNW	State Line 1	Meridian Oil Inc. POB 4289 Farmington NM 87499	A
14: SWNE	State Line 2	Meridian Oil Inc. POB 4289 Farmington NM 87499	B
15: NENE	Scorpio 1	Plugged, abandoned (Meridian Oil Inc)	C
16: NENW	Libra 1	Lobo Production Co. 555 E. Main Farmington NM 87402	D
22: E2 (unit)	Jones 1	Plugged, abandoned (SUG)	E
24: SWSW	USA 2	Zone abandoned (Meridian Oil Inc)	F
24: SESE	USA 1	Hallwood Petroleum Inc. POB 378111 Denver CO 80237	G
25: NWNW	B Montoya 25 1M	Hallwood Petroleum Inc. POB 378111 Denver CO 80237	H
25: SENE	B Montoya 25 1	Zone abandoned (Quinoco Petroleum)	I
26: SESE	Ripley 2A	Meridian Oil Inc POB 4289 Farmington NM 87402	J

Township 32 North - Range 13 West

<u>Location</u>	<u>Well Name</u>	<u>Operator</u>	
27: SESE <i>SESW</i>	Ripley 1	Plugged, abandoned (Snyder)	<i>K</i>
27: SESE	F Montoya 27-1	Zone abandoned (Hallwood Petroleum)	<i>L</i>
30: SENW	LaPlata #2	Benson-Montin-Greer 501 Airport Dr #221 Farmington NM 87401	<i>NOT ON MAP</i>
34: SESE	Montoya A 34	Meridian Oil Inc. POB 4289 Farmington NM 87499	<i>M</i>
34: SESW	Robinson Brothers 1M	Zone abandoned (Hallwood Petroleum)	<i>N</i>
35: NESE	Montoya 1M	Snyder Oil Corp 1625 Broadway #2200 Denver CO 80202	<i>O</i>
36: NWNE	Wright State Com 1	Meridian Oil Inc. POB 4289 Farmington NM 87499	<i>P</i>
36: NESE	Wright State Com 1E	Meridian Oil Inc. POB 4289 Farmington NM 87499	<i>Q</i>

Township 31 North - Range 13 West

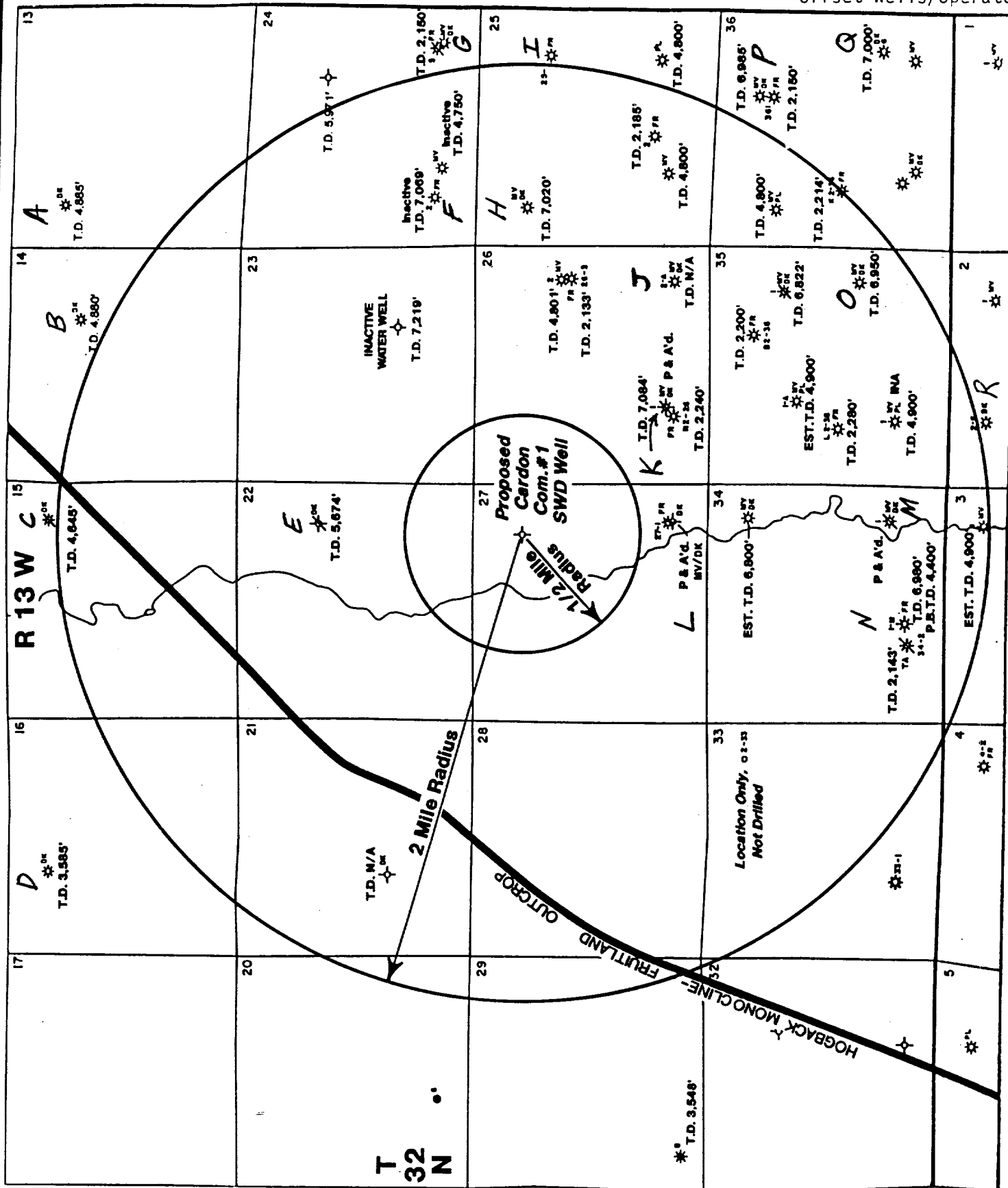
01: NESE	Federal 1	Hallwood Petroleum Inc. POB 378111 Denver CO 80237	<i>NOT ON MAP</i>
03: SENW	O'Shea 1M	Snyder Oil Corp 1625 Broadway #2200 Denver CO 80202	<i>R</i>

Township 32 North - Range 13 West

<u>Location</u>	<u>Well Name</u>	<u>Operator</u>
03: SENE	Landauer 1	Snyder Oil Corp 1625 Broadway #2200 Denver CO 80202
03: NESE	Landauer 1E	Snyder Oil Corp 1625 Broadway #2200 Denver CO 80202

NOT ON
MAP

NOT ON
MAP



PRODUCTION CODE:

- DK-DAKOTA
- FR-FRUITLAND
- MV-MESA VERDE
- PL-POINT LOOKOUT
- PC-PICTURED CLIFFS

Hallwood Petroleum, Inc.

LA PLATA AREA
CARDON COM.# 1 SWD WELL
 OFFSET WELLS PERTAINING
 TO APPLICATION FOR
 WATER DISPOSAL
 NE NE SEC. 27 - T32N-R13W
 San Juan Co., New Mexico

EXHIBIT VI

Data on wells of Public Record within the area of review which penetrate the proposed injection zone.

NOTE: There are no (-0-) wellbores besides the Cardon Com #1 within the 1/2 mile "area of review.

KBO96.032

EXHIBIT VII

CARDON COM #1 SWD

Data on the proposed operation:

- 1) Average Daily Injection Rate: 550 BWPD
Maximum Daily Injection Rate: 1200 BWPD
- 2) The proposed system will be an open system from water trucked and piped to Hallwood's water evaporation disposal pond located in Section 25-T32N-R13W. However, from that evaporation pond we intend to pump to the Cardon Com #1 via a new pipeline.
- 3) Average Injection Pressure: 750 psig
Maximum Injection Pressure: 2000 psig
- 4) The source of the injection fluid is Hallwood's 20 surrounding Fruitland Basin Coal Field wells. An analysis of this composite water from our evaporation pond is attached as Exhibit No. VII. A.

No compatibility problems are anticipated between the produced water being disposed and the receiving zone water (being Morrison/Bluff, Summerville and Entrada).


The Morrison/Bluff, Summerville/Entrada formations are not oil and gas productive but are widely accepted zones for water disposal; thus, no compatibility problem is anticipated.

**General Water Quality
Hallwood Petroleum, Inc.**

Project ID:	Hallwood Evaporation Pond	Date Reported:	08/29/95
Sample ID:	Top	Date Sampled:	08/24/95
Laboratory ID:	1349	Time Sampled:	11:10
Sample Matrix:	Water	Date Received:	08/24/95

Parameter	Analytical Result	Units
General		
Lab pH.....	9.0	s.u.
Lab Conductivity @ 25° C.....	31,500	µmhos/cm
Total Dissolved Solids @ 180°C.....	21,100	mg/L
Total Dissolved Solids (Calc).....	19,900	mg/L
Specific Gravity.....	1.021	
Anions		
Total Alkalinity as CaCO ₃	12,600	mg/L
Bicarbonate Alkalinity as CaCO ₃	8,460	mg/L
Carbonate Alkalinity as CaCO ₃	4,100	mg/L
Hydroxide Alkalinity as CaCO ₃	NA	mg/L
Chloride.....	4,250	mg/L
Sulfate.....	< 10	mg/L
Nitrate + Nitrite - N.....	NA	
Nitrate - N.....	NA	
Nitrite - N.....	NA	
Cations		
Total Hardness as CaCO ₃	437	mg/L
Calcium.....	28.3	mg/L
Magnesium.....	89.0	mg/L
Potassium.....	45.0	mg/L
Sodium.....	8,000	mg/L
Total Iron.....	1.52	mg/L
Data Validation		<u>Acceptance Level</u>
Cation/Anion Difference.....	1.80	+/- 5 %
TDS (180):TDS (calculated).....	1.06	1.0 - 1.2

Reference U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.


Review

**General Water Quality
Hallwood Petroleum, Inc.**

Project ID:	Hallwood Evaporation Pond	Date Reported:	08/29/95
Sample ID:	Bottom	Date Sampled:	08/24/95
Laboratory ID:	1348	Time Sampled:	11:15
Sample Matrix:	Water	Date Received:	08/24/95

Parameter	Analytical Result	Units
General		
Lab pH.....	9.0	s.u.
Lab Conductivity @ 25° C.....	31,400	µmhos/cm
Total Dissolved Solids @ 180°C.....	20,900	mg/L
Total Dissolved Solids (Calc).....	20,700	mg/L
Specific Gravity.....	1.020	
Anions		
Total Alkalinity as CaCO ₃	13,100	mg/L
Bicarbonate Alkalinity as CaCO ₃	9,090	mg/L
Carbonate Alkalinity as CaCO ₃	4,050	mg/L
Hydroxide Alkalinity as CaCO ₃	NA	mg/L
Chloride.....	4,250	mg/L
Sulfate.....	14.0	mg/L
Nitrate + Nitrite - N.....	NA	
Nitrate - N.....	NA	
Nitrite - N.....	NA	
Cations		
Total Hardness as CaCO ₃	462	mg/L
Calcium.....	32.4	mg/L
Magnesium.....	92.6	mg/L
Potassium.....	46.0	mg/L
Sodium.....	8,400	mg/L
Total Iron.....	1.55	mg/L
Data Validation		<u>Acceptance Level</u>
Cation/Anion Difference.....	0.94	+/- 5 %
TDS (180):TDS (calculated).....	1.01	1.0 - 1.2

Reference U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.


Review

General Water Quality Quality Control Report

Hallwood Petroleum, Inc.

Report Date: 08/29/95

Parameter	Analytical Result	Acceptance Range	Units
Laboratory pH	6.03	5.90 - 6.09	s.u.
Conductivity	1020	257 - 297	µmhos/cm
Total Dissolved Solids	754	634 - 824	mg/L
Total Alkalinity	132	117 - 146	mg/L
Chloride	121	113 - 131	mg/L
Sulfate	86.8	76.0 - 101	mg/L
Total Hardness	239	205 - 276	mg/L
Calcium	70.8	57.8 - 76.6	mg/L
Magnesium	NA	NA	mg/L
Potassium	92.0	78.1 - 106	mg/L
Sodium	140	125 - 169	mg/L
Total Iron	0.125	0.087 - 0.144	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Comments:


Reviewed

EXHIBIT VIII

CARDON COM #1 SWD

Part 1

The proposed injection zones are:

Name:	Morrison	Bluff	Summerville	Entrada
Lithologica l Detail:	Reddish oxidized mudstones & sandstones	Fluvial sandstone	Medium to fine grained sand- stones; imbedded with dark gray carbonaceous mudstones/coals	Fine grained, mature to super mature, subArkose to Lithic Arkose sandstones
Geological Name:	Upper Jurassic	Upper Jurassic	Upper Jurassic	Upper Jurassic
Thickness:	550'	160'	140'	120'
Depth:	6750'	7300'	7640'	7600'

NOTE: Also reference attached (Exhibit VIII. B.) list of offset wells within 2-mile area.

Part 2

Underground sources of drinking water or aquifers containing total dissolved solids of 10,000 mg/l or less:

The potential zones for aquifers in the area of this well (Cardon Com #1) are the Nacimiento (estimated at 400-500') and OJO Alamo (at 1010'). However, they are not utilized as water sources in the immediate area. There are two (2) fresh water wells within one mile of the Cardon Com #1 (see Exhibit XI).

According to the New Mexico Bureau of Mines Hydrologic Report #6, many of the "traditional" water zones or aquifers are truncated or not present near the Cardon Com #1 location. "The Nacimiento grades into the Animas Formation. The Animas Formation is exposed only in a narrow belt around the Northeast part of the study area and along the LaPlata River Valley near the Colorado Border." (pg. 30). Any potential aquifers are adequately separated by casing, cement and distance (over 6000') in the Cardon Com #1 well bore.

EXHIBIT IX

CARDON COM #1 SWD

Proposed Stimulation

Hallwood proposes to perforate the Entrada and Summerville formations 6810 - 6840' at 4 spf where porosity is developed. Since we do not have an open hole log on this well yet, we cannot give exact perforated intervals. However, based on other disposal wells, we estimate that 40-70 feet of Entrada and 20-30 feet of Summerville will be perforated.

These Entrada/Summerville perfs would be broken down with 2000-3000 gallons of acid, then be fracture stimulated with 150,000 gallons of "slickwater" and 180,000 pounds of 20/40 size sand.

In the event that sufficient injectivity is not obtained or pressures are excessive in the Entrada/Summerville formation, Hallwood will request approval (via a Sundry Form) to recomplete uphole to the Morrison and Bluff formations. This recompletion would be very similar in number of perforations and size of fracture to the aforementioned Summerville and Entrada completion.

After the Morrison and Bluff zones are opened up, a temporary RBP over the Summerville would be removed and water injections (disposals) into all 4 zones would commence via tubing and packer.

EXHIBIT X

Cardon Com #1 SWD

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

This well was logged by Gearhart on October 24, 1980 (at 5,100') and on October 31, 1980 (at 6,985' total depth). These logs should be on file at the Division. If not, copies can be furnished by Hallwood. However, we plan to re-log the well after deepening (log from 5,100 - 8,000') and will submit copies of those new logs over the planned injection/disposal intervals.

EXHIBIT XI

CARDON COM #1 SWD

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 the location of wells and dates samples were taken:

A check with Mr. Paul Cervatra of the State Engineer's office on February 27, 1996 revealed that applications for two (2) fresh water wells exist within one (1) mile of the Cardon Com #1 wellbore.

- 1) Montoya Well - Exhibit XI A is a water analysis from Mr. Louis Montoya's water well. Application SJ-2320, location NE SE SW of Section 27.
- 2) A. T. Talley Well - Exhibit XI B is a water analysis from Mr. A. T. Talley's water well. We believe this well is under application SJ-905 in the NW NW SW of Section 27.
- 3) Exhibit XI C is a map showing the approximate location of these water wells relative to the Cardon Com #1.

EXHIBIT XII

CARDON COM #1 SWD

Affirmative Statement

I, Kevin E. O'Connell, as a Registered Professional Engineer in the State of Colorado, have examined all available engineering data in conjunction with the Cardon Com #1 disposal well application, and have found no evidence of open faults or other hydrological connection between the disposal zone and any underground source of drinking water.

Signed: Kevin E. O'Connell
Kevin E. O'Connell
Drilling & Production Manager

Date: May 14, 1996

I, Dan Spancers, as a Professional Geologist in the State of Wyoming, have examined all available geological data in conjunction with the Cardon Com #1 disposal well application, and have found no evidence of open faults or other hydrological connection between the disposal zone and any underground source of drinking water.

Signed: Dan Spancers
Dan Spancers
Senior Staff Geologist

Date: May 13, 1996

CDS Laboratories
75 Suttle Street
PO Box 2605
Durango, Co. 81302

Phone: (970)-247-4220
Fax : (970)-247-4227

Report Date: 03/20/96

ANALYSIS REPORT

Attn:

HALLWOOD PETROLEUM INC.
463 TURNER DRIVE #101
DURANGO CO 81301

Our Lab #: A96-129762
Sample ID: MONTOYA
Date Login: 03/06/96
Date Rec'd: 03/04/96

COLLECTION INFORMATION

Date/Time/By: 03/04/96 1315 J.B.
Location:

Lab#	Testname	Result	Units
A96-129762	Total alkalinity as CaCO ₃	302	mg/L
	Bicarbonate	368	mg/L
	Carbonate	0	mg/L
	Calcium dissolved	123	mg/L
	Chloride	51	mg/L
	Iron dissolved	< 0.2	mg/L
	Hardness as CaCO ₃	436	mg/L
	Hydroxide	0	mg/L
	Potassium dissolved	1.4	mg/L
	Magnesium dissolved	46.1	mg/L
	Sodium dissolved	287	mg/L
	Ph	8.15	Units
	Resistivity	549	ohm-cm
	Specific Gravity	0.996	
	Sulfate	600	mg/L
	Total dissolved solids	1250	mg/L

Approved By: SKD Johnson

Checked By: SKD

CDS Laboratories
75 Suttle Street
PO Box 2605
Durango, Co. 81302

Phone: (970)-247-4220
Fax : (970)-247-4227

Report Date: 03/20/96

ANALYSIS REPORT

Attn:

HALLWOOD PETROLEUM INC.
463 TURNER DRIVE #101
DURANGO CO 81301

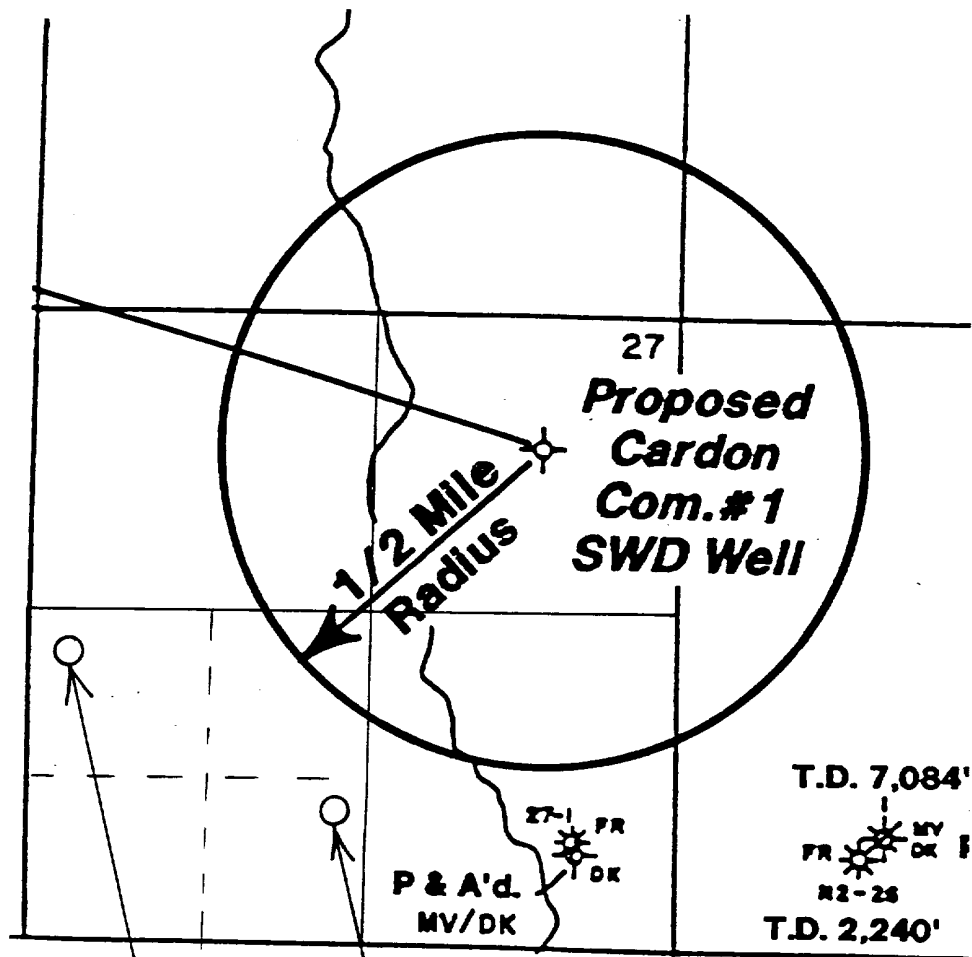
Our Lab #: A96-129763
Sample ID: TALLEY
Date Login: 03/06/96
Date Rec'd: 03/04/96

COLLECTION INFORMATION

Date/Time/By: 03/04/96 1335 J.B.
Location:

Lab#	Testname	Result	Units
A96-129763	Total alkalinity as CaCO ₃	358	mg/L
	Bicarbonate	437	mg/L
	Carbonate	0	mg/L
	Calcium dissolved	250	mg/L
	Chloride	36	mg/L
	Iron dissolved	< 0.2	mg/L
	Hardness as CaCO ₃	992	mg/L
	Hydroxide	0	mg/L
	Potassium dissolved	1.8	mg/L
	Magnesium dissolved	81.8	mg/L
	Sodium dissolved	139	mg/L
	Ph	7.58	Units
	Resistivity	567	ohm-cm
	Specific Gravity	0.997	
	Sulfate	740	mg/L
	Total dissolved solids	1530	mg/L

Approved By: SKD _____ Checked By: SKD _____



APPROXIMATE LOCATION OF
MR. LOUIS MONTOYA'S WATER WELL.

APPROXIMATE LOCATION OF
MR. A.T. TALLEY'S WATER WELL

FINNEY LAND CO.

OIL & GAS CONSULTING

P.O. BOX 2471

DURANGO, CO 81302

PHONE: (970) 259-5691 • FAX (970) 259-4279

EXHIBIT XIII

List of Leasehold Owner/Operator
Within One-Half Mile Radius
for "Proof-of-Notice"

29 April 96

NOTE: EM Nominee Partnership
& Hallwood Consolidated
Partners, L.P. are affiliates
of Hallwood Petroleum, Inc.
& for the purpose of this
application the same entities.

Connie Heath
District Land Manager
Rocky Mountain/Mid-Continent District
Hallwood Petroleum, Inc.
P.O. Box 378111
Denver, CO 80237

Re: Lease Check
San Juan County, New Mexico

Dear Ms. Heath:

Per your request of 4 March 96, the following are the names and addresses of the owners of surface and working interest as to the Dakota, Morrison, Bluff and Entrada formations, within a 1/2 mile radius of the Cardon Com #1 well located in the NENE of Section 27 T32N-R13W. As the subject area involves numerous metes and bounds descriptions, for expediency I have indicated ownership within each quarter/quarter section.

Township 32 North - Range 13 West

<u>Description</u>	<u>Surface</u>	<u>Working Interest</u>
27: NENE	1) San Juan Coal Co. POB 155 Fruitland NM 87416	Appears Open *
27: NWNE	San Juan Coal POB 155 Fruitland NM 87416	Appears Open * * Mineral Owner same as Surface
	2) Edward M. Thomas 1703 N. Knudsen Farmington NM 87401	
27: NENW	San Juan Coal Co. POB 155 Fruitland NM 87416	3) Delhi-Trading Inc. POB 64 Farmington NM 87499
27: NWNW	San Juan Coal Co. POB 155 Fruitland NM 87416	EM Nominee Partnership POB 378111 Denver CO 80237

Township 32 North - Range 13 West

<u>Description</u>	<u>Surface</u>	<u>Working Interest</u>
		Hallwood Consolidated Partners, L.P. POB 378111 Denver CO 80237
27: SENE, NESE	Nadine Mead et al Trustees POB 248 LaPlata NM 87418	EM Nominee Partnership POB 378111 Denver CO 80237 Hallwood Consolidated Partners, L.P. POB 378111 Denver CO 80237 4) Meridian Oil Inc. POB 4289 Farmington NM 87499 5) Union Oil Company of CA POB 3100 Midland TX 79702 6) W.A. Moncrief, Jr. Tarrant County TX 7) Palmer Oil & Gas Co. POB 2564 Billings MT 59103
27: SWNE	Pearl M. Talley 1658 NM Hwy 170 LaPlata NM 87418	EM Nominee Partnership POB 378111 Denver CO 80237 Hallwood Consolidated Partners, L.P. POB 378111 Denver CO 80237
27: SENW, SWNW	San Juan Coal Co. POB 155 Fruitland NM 87416	EM Nominee Partnership POB 378111 Denver CO 80237

Connie Heath
29 April 96
Page Three

Township 32 North - Range 13 West

<u>Description</u>	<u>Surface</u>	<u>Working Interest</u>
	Pearl M. Talley 1658 NM Hwy 170 LaPlata NM 87418	Hallwood Consolidated Partners, L.P. POB 378111 Denver CO 80237
27: NESW	Pearl M. Talley 1658 NM Hwy 170 LaPlata NM 87418	EM Nominee Partnership POB 378111 Denver CO 80237
		Hallwood Consolidated Partners, L.P. POB 378111 Denver CO 80237
27: NSW	Pearl M. Talley 1658 NM Hwy 170 LaPlata NM 87418	EM Nominee Partnership POB 378111 Denver CO 80237
	San Juan Coal Co. POB 155 Fruitland NM 87416	Hallwood Consolidated Partners, L.P. POB 378111 Denver CO 80237
27: SESW	Montoya Sheep & Cattle Co., Inc. 1592 NM Hwy 170 LaPlata NM 87418	EM Nominee Partnership POB 378111 Denver CO 80237
	Anthony Montoya 1611 NM Hwy 170 LaPlata NM 87418	Hallwood Consolidated Partners, L.P. POB 378111 Denver CO 80237
	Louis Montoya 1610 NM Hwy 170 LaPlata NM 87418	Meridian Oil Inc. POB 4289 Farmington NM 87499
		Palmer Oil & Gas Co. POB 2564 Billings MT 59103

Connie Heath
29 April 96
Page Four

Township 32 North - Range 13 West

<u>Description</u>	<u>Surface</u>	<u>Working Interest</u>
27: SWSW	Steward Family Limited Partnership 27 Road 5295 Farmington NM 87401	EM Nominee Partnership POB 378111 Denver CO 80237 Hallwood Consolidated Partners, L.P. POB 378111 Denver CO 80237
27: SESE, SWSE	Montoya Sheep and Cattle Co., Inc. 1592 NM Hwy 170 LaPlata NM 87418	EM Nominee Partnership POB 378111 Denver CO 80237 Hallwood Consolidated Partners, L.P. POB 378111 Denver CO 80237 Meridian Oil Inc. POB 4289 Farmington NM 87499 Palmer Oil & Gas Co. POB 2564 Billings MT 59103
27: NWSE	Talley & Sons (no address found- see Pearl M. Talley)	EM Nominee Partnership POB 378111 Denver CO 80237 Hallwood Consolidated Partners, L.P. POB 378111 Denver CO 80237
26: NENW, NWNW	USA Lease SF 078818-A	8) Hugoton Energy Corp. 1900 Epic Center 301 N Main St Wichita KS 67202

Township 32 North - Range 13 West

<u>Description</u>	<u>Surface</u>	<u>Working Interest</u>
		9) Martin N. Leeds 2920 Neilson Way #404 Santa Monica CA 90405
		Meridian Oil Inc. POB 4289 Farmington NM 87499
26: SENW, SWNW, NWSW	Nadine Mead et al Trustees POB 248 LaPlata NM 87418	Hugoton Energy Corp. 1900 Epic Center 301 N Main St Wichita KS 67202
		Martin N. Leeds 2920 Neilson Way 404 Santa Monica CA 90405
26: SWSW	Montoya Sheep and Cattle Co., Inc. 1592 NM Hwy 170 LaPlata NM 87418	Same as SENW-26
26: SESW, NESW	John Oliver Ripley c/o Dave Grundy 6951 Amy Avenue Garden Grove CA 92645	Same as SENW-26
23: SW	USA SF 078818-A	Meridian Oil Inc POB 4289 Farmington NM 87499
22: NESW	T.N. Brackeen 1660 Myles Way Carson City NV 89701	10) San Juan Resources 1801 Broadway #400 Denver CO 80202 (expires 7-18-96)
	James W. McBee 1502 Chaco Farmington NM 87401	11) Merrion Oil & Gas Corp 610 Reilly Avenue Farmington NM 87401
	David L. McBee 8608 Avenales NE Albuquerque NM 87111	

Township 32 North - Range 13 West

<u>Description</u>	<u>Surface</u>	<u>Working Interest</u>
	Ernest Rothlisberger c/o Stancle Hicks POB 418 LaPlata NM 87418	
	Stancle Hicks POB 418 LaPlata NM 87418	
	Virgene Rae Stan POB 242 LaPlata NM 87418	
	Johnie L. Thompson POB 265 LaPlata NM 87418	
22: NWSW	Nell B. Fiedler c/o Deborah Loehr 3023 Indian Farm Lane NW Albuquerque NM 87107	Merrion Oil & Gas Corp 610 Reilly Avenue Farmington NM 87401
	Don H. Rothlisberger POB 304 LaPlata NM 87418	San Juan Resources Inc 1801 Broadway #400 Denver CO 80202 (expires 7-18-96)
22: SWSW	San Juan Coal Co. POB 155 Fruitland NM 87416	Open except for .05 acre held by San Juan Resources which will expire 7-18-96, and Merrion Oil & Gas which will expire 4-12-99
	Ernest Rothlisberger c/o Stancle Hicks POB 418 LaPlata NM 87418	
	David McRee Thomas 1710 NM Hwy 170 LaPlata NM 87418	

Township 32 North - Range 13 West

<u>Description</u>	<u>Surface</u>	<u>Working Interest</u>
22: SESW	San Juan Coal Co. POB 155 Fruitland NM 87416	Delhi-Trading Inc POB 64 Farmington NM 87499
	Lee R. Ludlum 1720 NM Hwy 170 LaPlata NM 87418	San Juan Resources Inc 1801 Broadway #400 Denver Co 80202 (expires 7-18-96)
		Merrion Oil & Gas Corp 610 Reilly Avenue Farmington NM 87401
22: NESE	USA Lease SF 078818-A	Meridian Oil Inc. POB 4289 Farmington NM 87499
22: NWSE	San Juan Coal Co. POB 155 Fruitland CO 87416	San Juan Resources Inc. 1801 Broadway #400 Denver CO 80202 (expires 7-18-96)
	Christopher L. Picard 1764 NM Hwy 170 LaPlata NM 87418	Merrion Oil & Gas Corp 610 Reilly Avenue Farmington NM 87401
	Virgene Rae Stan POB 242 LaPlata NM 87418	
	Johnie L. Thompson POB 265 LaPlata NM 87418	
	H.J. Stoltenberg Trustees 3709 Crescent Ave Farmington NM 87401	
	Stanclie Hicks POB 418 LaPlata NM 87418	

Connie Heath
29 April 96
Page Eight

Township 32 North - Range 13 West

<u>Description</u>	<u>Surface</u>	<u>Working Interest</u>
	Tonya Rae Lovato POB 418 LaPlata NM 87418	
	Samuel C. Payne c/o Louis D. Lane Trustees POB 358 Fairacres NM 88033	
22: SWSE	Eaon Waymen-Palmer POB 324 LaPlata NM 87418	Delhi-Trading Inc. POB 64 Farmington NM 87499
	Emil Fincher 1718 NM Hwy 170 LaPlata NM 87418	
	Lee R. Ludlum 1720 NM Hwy 170 LaPlata NM 87418	
	Neal O. Kruse POB 7239 Carmel CA 93921	
	San Juan Coal Co. POB 155 Fruitland NM 87416	
	Edward M. Thomas 1703 N. Knudsen Farmington NM 87401	
22: SESE	Lee R. Ludlum 1720 NM Hwy 170 LaPlata NM 87418	Appears Open *
	San Juan Coal Co. POB 155 Fruitland NM 87416	* Mineral Owner Same as Surface

Connie Heath
29 April 96
Page Nine

As we discussed, Ms. Heath, I have also included those entities which may have leasehold interest in the subject area.

Attached is a listing of Dakota formation wells as obtained from the New Mexico Oil and Gas Commission, within a two mile radius of the Cardon Com #1 well.

Sincerely,

FINNEY LAND CO.



D.M. Sims
Landman

NOTE: NUMBERED PARTIES 1-11 ARE THE OFFSET
LEASEHOLD OWNER/OPERATORS WHO
PROOF-OF-NOTICE HAS BEEN MAILED TO.

H.E. O'Connell
5/14/96

Hallwood Energy Companies

4582 South Ulster Street Parkway • Stanford Place III • Suite 1700 • Post Office Box 378111
Denver, Colorado 80237 • (303) 850-7373

May 14, 1996

CERTIFIED MAIL NO. P 324 481 507
RETURN RECEIPT REQUESTED

TO: Offset Leasehold Owner/Operator
San Juan Coal Co.
Cardon Com #1 SWD Well

RE: Proof of Notice
Form C-108, Application for Authorization to Inject
Hallwood Petroleum, Inc.
Proposed Cardon Com #1 SWD Well
Unit A, NE NE, 1120' FNL x 1050' FEL
Section 27-T32N-R13W
San Juan County, New Mexico

Gentlemen:

Hallwood Petroleum, Inc. is providing you notice, via this letter and a copy of our enclosed application, of plans to seek administrative approval for authorization to dispose of produced water from Hallwood coal gas wells into the captioned well.

We are proposing to dispose into the Morrison, Bluff, Summerville and Entrada zones between 6,750' and 7,900'.

Sincerely,

HALLWOOD PETROLEUM, INC.



Kevin E. O'Connell
Drilling & Production Manager
Rocky Mountain & Mid-Continent District

KEO/jey

Enclosures

cc: State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

KEO96.040

Hallwood Energy Companies

4582 South Ulster Street Parkway • Stanford Place III • Suite 1700 • Post Office Box 378111
Denver, Colorado 80237 • (303) 850-7373

May 14, 1996

CERTIFIED MAIL NO. P 324 481 508
RETURN RECEIPT REQUESTED

TO: Offset Leasehold Owner/Operator
Edward M. Thomas
Cardon Com #1 SWD Well

RE: Proof of Notice
Form C-108, Application for Authorization to Inject
Hallwood Petroleum, Inc.
Proposed Cardon Com #1 SWD Well
Unit A, NE NE, 1120' FNL x 1050' FEL
Section 27-T32N-R13W
San Juan County, New Mexico

Gentlemen:

Hallwood Petroleum, Inc. is providing you notice, via this letter and a copy of our enclosed application, of plans to seek administrative approval for authorization to dispose of produced water from Hallwood coal gas wells into the captioned well.

We are proposing to dispose into the Morrison, Bluff, Summerville and Entrada zones between 6,750' and 7,900'.

Sincerely,

HALLWOOD PETROLEUM, INC.



Kevin E. O'Connell
Drilling & Production Manager
Rocky Mountain & Mid-Continent District

KEO/jey

Enclosures

cc: State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

KEO96.040

Hallwood Energy Companies

4582 South Ulster Street Parkway • Stanford Place III • Suite 1700 • Post Office Box 378111
Denver, Colorado 80237 • (303) 850-7373

May 14, 1996

CERTIFIED MAIL NO. P 324 481 509
RETURN RECEIPT REQUESTED

TO: Offset Leasehold Owner/Operator
Delhi-Trading Inc.
Cardon Com #1 SWD Well

RE: Proof of Notice
Form C-108, Application for Authorization to Inject
Hallwood Petroleum, Inc.
Proposed Cardon Com #1 SWD Well
Unit A, NE NE, 1120' FNL x 1050' FEL
Section 27-T32N-R13W
San Juan County, New Mexico

Gentlemen:

Hallwood Petroleum, Inc. is providing you notice, via this letter and a copy of our enclosed application, of plans to seek administrative approval for authorization to dispose of produced water from Hallwood coal gas wells into the captioned well.

We are proposing to dispose into the Morrison, Bluff, Summerville and Entrada zones between 6,750' and 7,900'.

Sincerely,

HALLWOOD PETROLEUM, INC.



Kevin E. O'Connell
Drilling & Production Manager
Rocky Mountain & Mid-Continent District

KEO/jev

Enclosures

cc: State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

KE096.040

Hallwood Energy Companies

4582 South Ulster Street Parkway • Stanford Place III • Suite 1700 • Post Office Box 378111
Denver, Colorado 80237 • (303) 850-7373

May 14, 1996

CERTIFIED MAIL NO. P 324 481 510
RETURN RECEIPT REQUESTED

TO: Offset Leasehold Owner/Operator
Meridian Oil Inc.
Cardon Com #1 SWD Well

RE: Proof of Notice
Form C-108, Application for Authorization to Inject
Hallwood Petroleum, Inc.
Proposed Cardon Com #1 SWD Well
Unit A, NE NE, 1120' FNL x 1050' FEL
Section 27-T32N-R13W
San Juan County, New Mexico

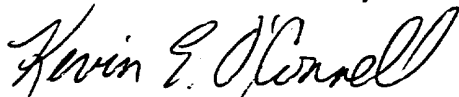
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Kevin E. O'Connell
Drilling & Production Manager
Rocky Mountain & Mid-Continent District

KEO/jey

Enclosures

cc: State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

KEO96.040

Hallwood Energy Companies

4582 South Ulster Street Parkway • Stanford Place III • Suite 1700 • Post Office Box 378111
Denver, Colorado 80237 • (303) 850-7373

May 14, 1996

CERTIFIED MAIL NO. P 324 481 511
RETURN RECEIPT REQUESTED

TO: Offset Leasehold Owner/Operator
Union Oil Company of CA
Cardon Com #1 SWD Well

RE: Proof of Notice
Form C-108, Application for Authorization to Inject
Hallwood Petroleum, Inc.
Proposed Cardon Com #1 SWD Well
Unit A, NE NE, 1120' FNL x 1050' FEL
Section 27-T32N-R13W
San Juan County, New Mexico

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Kevin E. O'Connell
Drilling & Production Manager
Rocky Mountain & Mid-Continent District

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Enclosures

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Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

KEO96.040

Hallwood Energy Companies

4582 South Ulster Street Parkway • Stanford Place III • Suite 1700 • Post Office Box 378111
Denver, Colorado 80237 • (303) 850-7373

May 14, 1996

CERTIFIED MAIL NO. P 324 481 512
RETURN RECEIPT REQUESTED

TO: Offset Leasehold Owner/Operator
W. A. Montcrief, Jr.
Cardon Com #1 SWD Well

RE: Proof of Notice
Form C-108, Application for Authorization to Inject
Hallwood Petroleum, Inc.
Proposed Cardon Com #1 SWD Well
Unit A, NE NE, 1120' FNL x 1050' FEL
Section 27-T32N-R13W
San Juan County, New Mexico

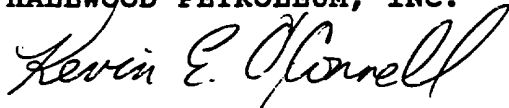
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Kevin E. O'Connell
Drilling & Production Manager
Rocky Mountain & Mid-Continent District

KEO/jey

Enclosures

cc: State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

KEO96.040

Hallwood Energy Companies

4582 South Ulster Street Parkway • Stanford Place III • Suite 1700 • Post Office Box 378111
Denver, Colorado 80237 • (303) 850-7373

May 14, 1996

CERTIFIED MAIL NO. P 324 481 513
RETURN RECEIPT REQUESTED

TO: Offset Leasehold Owner/Operator
Palmer Oil & Gas Co.
Cardon Com #1 SWD Well

RE: Proof of Notice
Form C-108, Application for Authorization to Inject
Hallwood Petroleum, Inc.
Proposed Cardon Com #1 SWD Well
Unit A, NE NE, 1120' FNL x 1050' FEL
Section 27-T32N-R13W
San Juan County, New Mexico

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Kevin E. O'Connell
Drilling & Production Manager
Rocky Mountain & Mid-Continent District

KEO/jey

Enclosures

cc: State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

KEO96.040

Hallwood Energy Companies

4582 South Ulster Street Parkway • Stanford Place III • Suite 1700 • Post Office Box 378111
Denver, Colorado 80237 • (303) 850-7373

May 14, 1996

CERTIFIED MAIL NO. P 324 481 514
RETURN RECEIPT REQUESTED

TO: Offset Leasehold Owner/Operator
Hugoton Energy Corp.
Cardon Com #1 SWD Well

RE: Proof of Notice
Form C-108, Application for Authorization to Inject
Hallwood Petroleum, Inc.
Proposed Cardon Com #1 SWD Well
Unit A, NE NE, 1120' FNL x 1050' FEL
Section 27-T32N-R13W
San Juan County, New Mexico

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HALLWOOD PETROLEUM, INC.



Kevin E. O'Connell
Drilling & Production Manager
Rocky Mountain & Mid-Continent District

KEO/jey

Enclosures

cc: State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

KEO96.040

Hallwood Energy Companies

4582 South Ulster Street Parkway • Stanford Place III • Suite 1700 • Post Office Box 378111
Denver, Colorado 80237 • (303) 850-7373

May 14, 1996

CERTIFIED MAIL NO. P 324 481 515
RETURN RECEIPT REQUESTED

TO: Offset Leasehold Owner/Operator
Martin M. Leeds
Cardon Com #1 SWD Well

RE: Proof of Notice
Form C-108, Application for Authorization to Inject
Hallwood Petroleum, Inc.
Proposed Cardon Com #1 SWD Well
Unit A, NE NE, 1120' FNL x 1050' FEL
Section 27-T32N-R13W
San Juan County, New Mexico

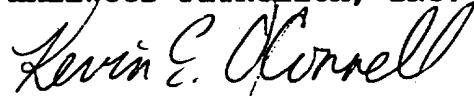
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Kevin E. O'Connell
Drilling & Production Manager
Rocky Mountain & Mid-Continent District

KEO/jey

Enclosures

cc: State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

KEO96.040

Hallwood Energy Companies

4582 South Ulster Street Parkway • Stanford Place III • Suite 1700 • Post Office Box 378111
Denver, Colorado 80237 • (303) 850-7373

May 14, 1996

CERTIFIED MAIL NO. P 324 481 516
RETURN RECEIPT REQUESTED

TO: Offset Leasehold Owner/Operator
San Juan Resources
Cardon Com #1 SWD Well

RE: Proof of Notice
Form C-108, Application for Authorization to Inject
Hallwood Petroleum, Inc.
Proposed Cardon Com #1 SWD Well
Unit A, NE NE, 1120' FNL x 1050' FEL
Section 27-T32N-R13W
San Juan County, New Mexico

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Kevin E. O'Connell
Drilling & Production Manager
Rocky Mountain & Mid-Continent District

KEO/jey

Enclosures

cc: State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

KEO96.040

Hallwood Energy Companies

4582 South Ulster Street Parkway • Stamford Place III • Suite 1700 • Post Office Box 378111
Denver, Colorado 80237 • (303) 850-7373

May 14, 1996

CERTIFIED MAIL NO. P 324 481 517
RETURN RECEIPT REQUESTED

TO: Offset Leasehold Owner/Operator
Merrion Oil & Gas Corp.
Cardon Com #1 SWD Well

RE: Proof of Notice
Form C-108, Application for Authorization to Inject
Hallwood Petroleum, Inc.
Proposed Cardon Com #1 SWD Well
Unit A, NE NE, 1120' FNL x 1050' FEL
Section 27-T32N-R13W
San Juan County, New Mexico

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Kevin E. O'Connell
Drilling & Production Manager
Rocky Mountain & Mid-Continent District

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P. O. Box 2088
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