

# 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

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 BWPD, 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

**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:<br>Hallwood Petroleum, Inc.<br>P. O. Box 378111<br>Denver, CO 80237 |                                    | OGRID Number<br>009812       |
|  |                                    | API Number<br>30 - 045-24392 |
| Property Code  | Property Name<br>Cardon Com #1 SWD | Well No.<br>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<br>E & D | Well Type Code<br>S     | Cable/Rotary<br>R   | Lease Type Code<br>S    | Ground Level Elevation<br>5897' |
| Multiple<br>N           | Proposed Depth<br>8000' | Formation<br>Chinle | Contractor<br>not known | Spud Date<br>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.

|  |  |  |  |
|--|--|--|--|
| I hereby certify that the information given above is true and complete to the best of my knowledge and belief.<br>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:<br>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.

- |          |  |    |  |
|----------|--|----|--|
| 1        | Operator's OGRID number. If you do not have one it will be assigned and filled in by the District office.  | 18 | Geologic formation at TD   |
| 2        | Operator's name and address  | 19 | Name of the intended drilling company if known.  |
| 3        | API number of this well. If this is a new drill the OCD will assign the number and fill this in.   | 20 | Anticipated spud date.   |
| 4        | Property code. If this is a new property the OCD will assign the number and fill it in.  | 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 |
| 5        | Property name that used to be called 'well name'   | 22 | Brief description of the proposed drilling program and BOP program. Attach additional sheets if necessary.   |
| 6        | The number of this well on the property.   | 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.                   |
| 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. |    |  |
| 8        | The proposed bottom hole location of this well at TD   |    |  |
| 9 and 10 | The proposed pool(s) to which this well is being drilled.  |    |  |
| 11       | Work type code from the following table:<br>N New well<br>E Re-entry<br>D Drill deeper<br>P Plugback<br>A Add a zone   |    |  |
| 12       | Well type code from the following table:<br>O Single oil completion<br>G Single gas completion<br>M Multiple completion<br>I Injection well<br>S SWD well<br>W Water supply well<br>C Carbon dioxide well                              |    |  |
| 13       | Cable or rotary drilling code<br>C Propose to cable tool drill<br>R Propose to rotary drill  |    |  |
| 14       | Lease type code from the following table:<br>F Federal<br>S State<br>P Private<br>N Navajo<br>J Jicarilla<br>U Ute<br>I Other Indian tribe   |    |  |
| 15       | Ground level elevation above sea level   |    |  |
| 16       | Intend to multiple complete? Yes or No   |    |  |
| 17       | Proposed total depth of this well  |    |  |

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).

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 perms 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.

INJECTION WELL DATA SHEET

OPERATOR HALLWOOD PETROLEUM INC. LEASE CARDON COM

WELL NO. # 1 FOOTAGE LOCATION 1120' FWL X 1050' FEL, UNIT A, NE NE SECTION 27 - T 32N - R 13W SECTION \_\_\_\_\_ TOWNSHIP \_\_\_\_\_ RANGE \_\_\_\_\_

Well Construction Data

Surface Casing  
 Size 9.625 Cemented with 250 sx.  
 TOC SURFACE feet determined by CALCULATION  
 Hole Size 12.25"  
 Intermediate Casing  
 Size 7.00 Cemented with 950 sx.  
 TOC SURFACE feet determined by CALCULATION  
 Hole Size 8.75"  
 Long String (Proposed)  
 Size 4.50 Cemented with 1000 - 1200 (EST) sx.  
 TOC SURFACE feet determined by CBL  
 Hole Size 6 1/4"  
 Total Depth 8000' EST

Injection Interval  
6750' feet to 7900' feet  
 (perforated) or open-hole; indicate which

MORRISON fm.  
 BLUFF fm.  
 SUMMERVILLE fm.  
 ENTRADA fm.

Proposed 3-STAGE CEMENT JOB ON  
 4 1/2" LONG SPRING TO INSURE  
 CEMENT 0 - 8000'

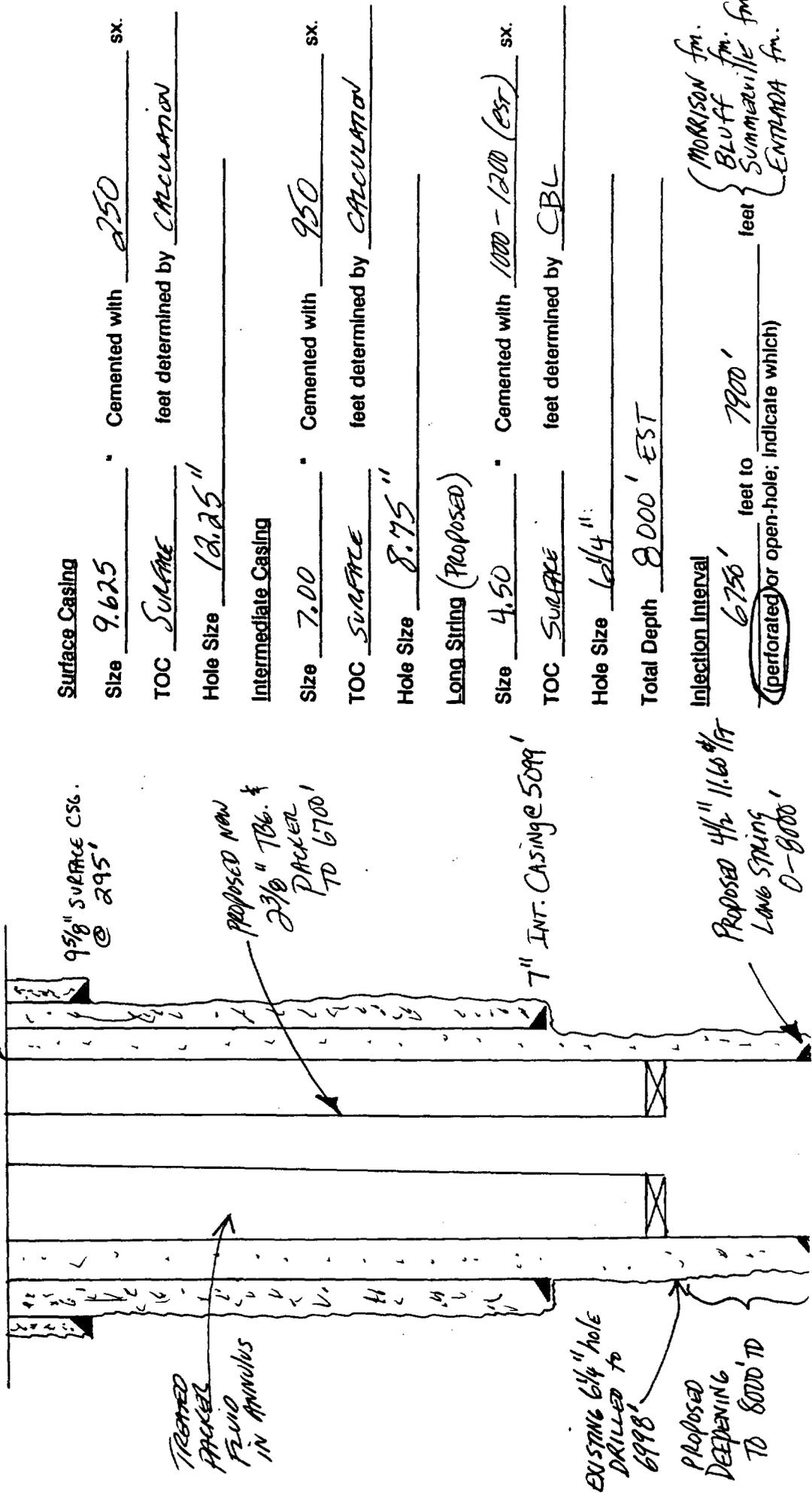
9 5/8" SURFACE CSG.  
 @ 295'

PROPOSED NEW  
 2 3/8" TBG. &  
 PACKER  
 TO 6700'

7" INT. CASING @ 5099'

PROPOSED 4 1/2" 11.60 #/ft  
 LONG SPRING  
 0 - 8000'

Schematic



TREATED  
 PACKER  
 FLUID  
 IN  
 ANNULUS

EXISTING 6 1/4" HOLE  
 DRILLED TO  
 6998'

PROPOSED  
 DEEPENING  
 TO 8000'

INJECTION WELL DATA SHEET

Tubing Size 2.375" lined with CULINED set in a  
GIBBERSON ONE VI packer at 6700 feet  
(type of internal coating)

Other type of tubing / casing seal if applicable NONE PLANNED

Other Data

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

If no, for what purpose was the well originally drilled? DRILLED TO TEST

THE MESA VALLE AND DIXON ZONES

2. Name of the injection formation MORANSON, 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 VALLE ZONES

437-4496' (GLASS INJECTION) 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: DIXON 6535'; BASIN DIXON FIELD, TIGHT, NON-PERFORATED IN THIS WELL.  
UNDERLYING ZONE: CHYNLE 8000' (41)EST; NO FIELD, NO INFO IN ZONE

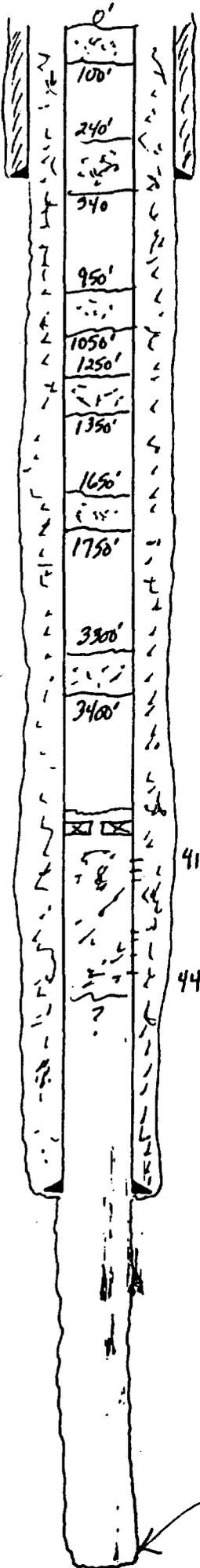
Hallwood Energy Companies

KB = 5909'

Well History Record

GL = 5897'

CURRENT STATUS AS PAXA'D



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' FUL X 1050' FEL)  
SEC 27- T 32N- R 13W SAN JUAN

SPUD DATE: 10/20/80

COMPL. DATE: 1/30/81

T.D.: 6998 P.B.T.D.: ?? (SURFACE)

FIELD: BLANCO MESA-Verde

ZONES: MESA-Verde

PERFS: 4137 - 4496' GROSS INTERVAL

|          |          |          |
|----------|----------|----------|
| 4137-39' | 4264-78' | 4383-96' |
| 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'

Proposed Schematic

Surface

9 5/8" #

Gr @ 295'

Cmt. wt 250 Sxs.

TOC @

Hole Size 12 1/4"

Max Mud Wt. #

WELL: CARDON Com # 1

LOCATION: NE NE (1120' FUL X 1050' FEL)

Sec 27- T 32N - R 13W SAN JUAN

SPUD DATE: 10/20/80

COMPL. DATE: 1/30/81

T.D.: 6998 P.B.T.D.: ?? (Surface)

FIELD: BLANCO MESA-Verde

ZONES: MESA-Verde

PERFS: 4137 - 4496' gross interval  
(Squeezed w/ 150 SXS in  
January 1981)

STIMULATION:

\* PLANNED DISPOSAL ZONES  
IN THE MORRISON FAULT  
ENTRADA ZONES AT EST.  
DEPTHS OF 6750' - 7900'

Production

7" 20 #

Gr @ 5099'

Cmt. wt 950 Sxs.

TOC @ PROBABLY SURFACE

Hole Size 8 3/4"

Max Mud Wt. #

NOTE: IN ADDITION TO 3 STRINGS  
OF CASING & CEMENT,  
WILL HAVE NEW 2 3/8" T&G  
& PACKER INSIDE OF  
4 1/2" CASING WITH PACKER  
FLUID IN THE ANNULUS

FORMATION TOPS

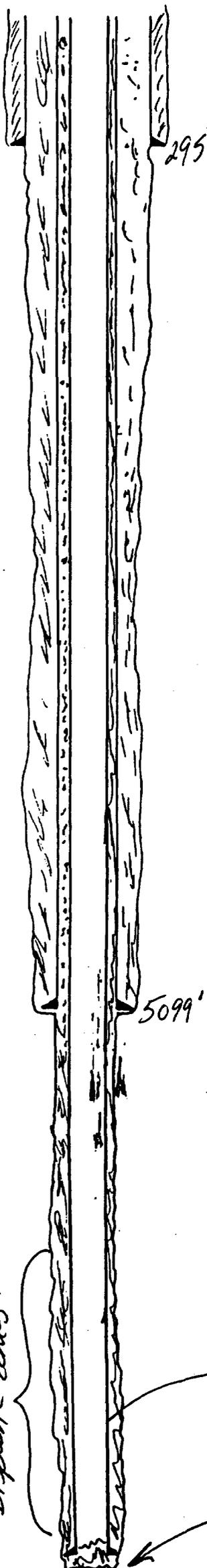
L. E. O'Connell  
5/14/96

- DALOTA 6535'
- MORRISON 6750'
- EST. BLUFF 7300'
- EST. SUMMERVILLE 7460'
- EST. ENTRADA 7600'
- EST. CHINLE 7920'

PROPOSED 4 1/2" CSG  
SURFACE TO TD  
3 STAGE CEMENTED TO SURFACE

DRILL 6 1/4"  
Hole TO 8000' EST.

DISPOSAL ZONES

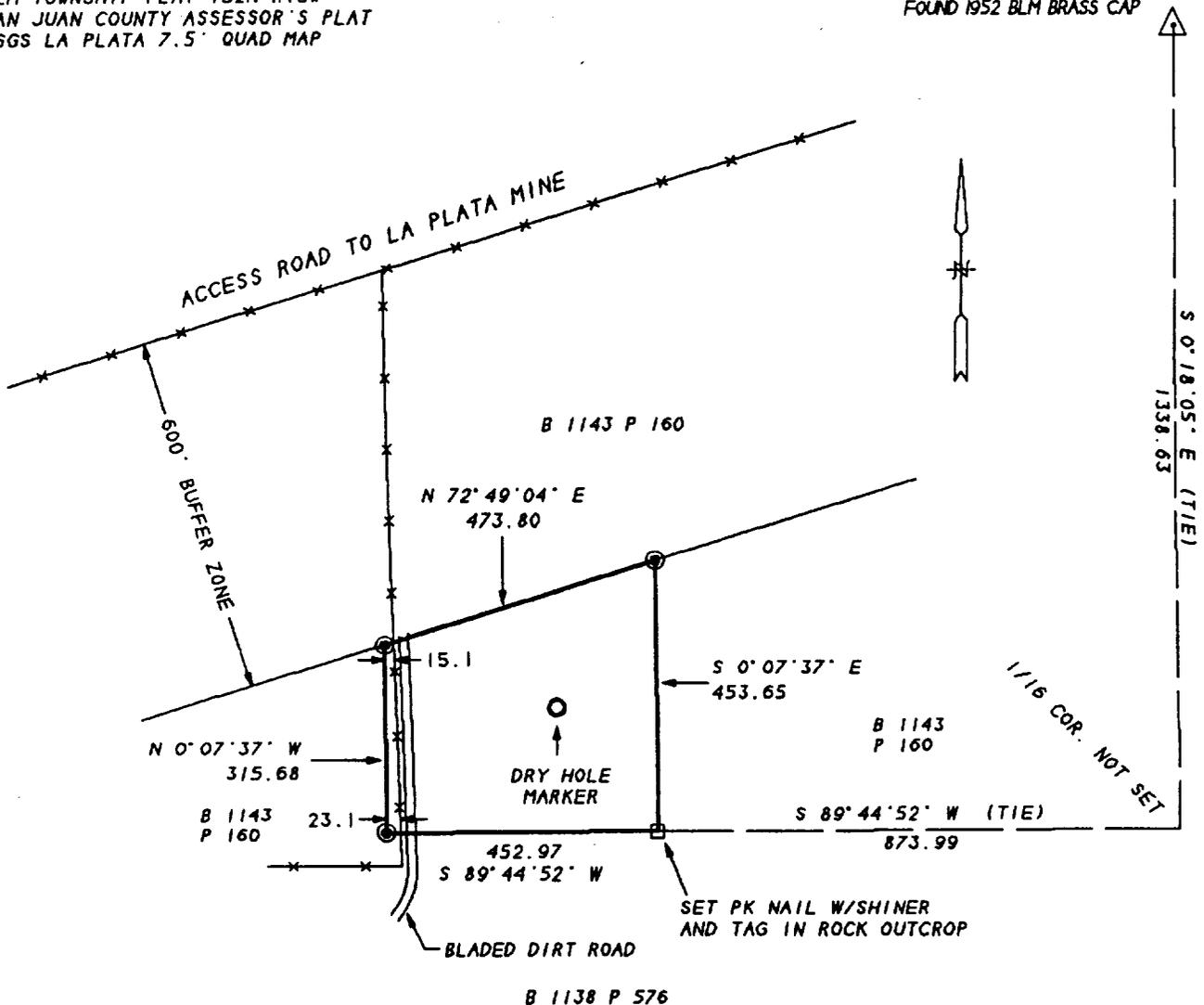


BASIS OF BEARING: NORTH LINE OF THE NE/4 OF SEC. 27 T32N R13W N.M.P.M., SAN JUAN COUNTY, NEW MEXICO (S 89° 37' 00" W) FROM BLM TOWNSHIP PLAT.  
 FIELD SECTION BREAKDOWN OF SEC. 27. FOUND THE EAST 1/4 COR., THE SOUTH 1/4 COR., THE WEST 1/4 COR., THE NORTH 1/4 COR. AND THE NE CORNER OF THE SEC. ALL 1952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

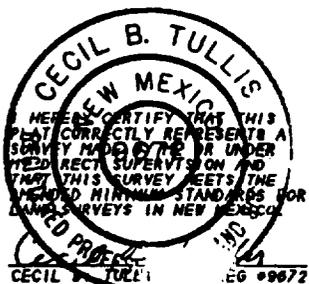
Subject to any easements or reservations of record or in existence.

—x—x—x— FENCELINE

⊙ - SET 1/2" X 18" REBAR AND CAP



SCALE: 1" = 300'



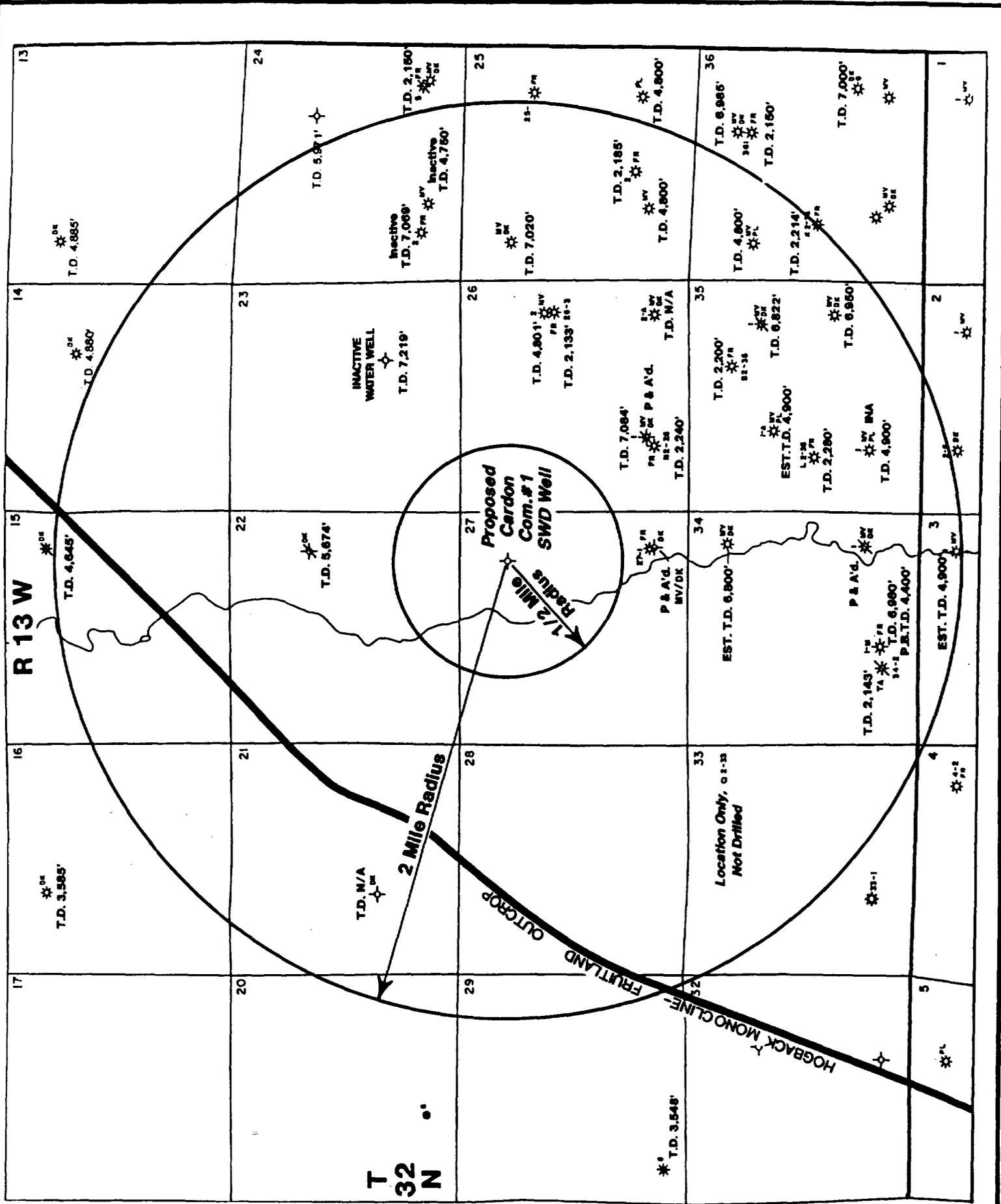
**HIGH COUNTRY SURVEYS**

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

Township 32 North - Range 13 West

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

Township 31 North - Range 13 West

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

Township 32 North - Range 13 West

Location

Well Name

Operator

03: SENE

Landauer 1

Snyder Oil Corp  
1625 Broadway #2200  
Denver CO 80202

NOT ON  
MAP

03: NESE

Landauer 1E

Snyder Oil Corp  
1625 Broadway #2200  
Denver CO 80202

NOT ON  
MAP



## 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.

## 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                   |
|---|-------------------|-------------------------|
| <b>General</b>                                    |                   |                         |
| 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             |                         |
| <b>Anions</b>                                     |                   |                         |
| Total Alkalinity as CaCO <sub>3</sub> .....       | 12,600            | mg/L                    |
| Bicarbonate Alkalinity as CaCO <sub>3</sub> ..... | 8,460             | mg/L                    |
| Carbonate Alkalinity as CaCO <sub>3</sub> .....   | 4,100             | mg/L                    |
| Hydroxide Alkalinity as CaCO <sub>3</sub> .....   | NA                | mg/L                    |
| Chloride.....                                     | 4,250             | mg/L                    |
| Sulfate.....                                      | < 10              | mg/L                    |
| Nitrate + Nitrite - N.....                        | NA                |                         |
| Nitrate - N.....                                  | NA                |                         |
| Nitrite - N.....                                  | NA                |                         |
| <b>Cations</b>                                    |                   |                         |
| Total Hardness as CaCO <sub>3</sub> .....         | 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                    |
| <b>Data Validation</b>                            |                   | <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                   |
|---|-------------------|-------------------------|
| <b>General</b>                                    |                   |                         |
| 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             |                         |
| <b>Anions</b>                                     |                   |                         |
| Total Alkalinity as CaCO <sub>3</sub> .....       | 13,100            | mg/L                    |
| Bicarbonate Alkalinity as CaCO <sub>3</sub> ..... | 9,090             | mg/L                    |
| Carbonate Alkalinity as CaCO <sub>3</sub> .....   | 4,050             | mg/L                    |
| Hydroxide Alkalinity as CaCO <sub>3</sub> .....   | NA                | mg/L                    |
| Chloride.....                                     | 4,250             | mg/L                    |
| Sulfate.....                                      | 14.0              | mg/L                    |
| Nitrate + Nitrite - N.....                        | NA                |                         |
| Nitrate - N.....                                  | NA                |                         |
| Nitrite - N.....                                  | NA                |                         |
| <b>Cations</b>                                    |                   |                         |
| Total Hardness as CaCO <sub>3</sub> .....         | 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                    |
| <b>Data Validation</b>                            |                   | <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<br>Detail: | Reddish<br>oxidized<br>mudstones &<br>sandstones | Fluvial<br>sandstone | Medium to fine<br>grained sand-<br>stones; imbedded<br>with dark gray<br>carbonaceous<br>mudstones/coals | Fine grained,<br>mature to super<br>mature, subArkose<br>to Lithic Arkose<br>sandstones |
| Geological<br>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 <sub>3</sub> | 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 <sub>3</sub>         | 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

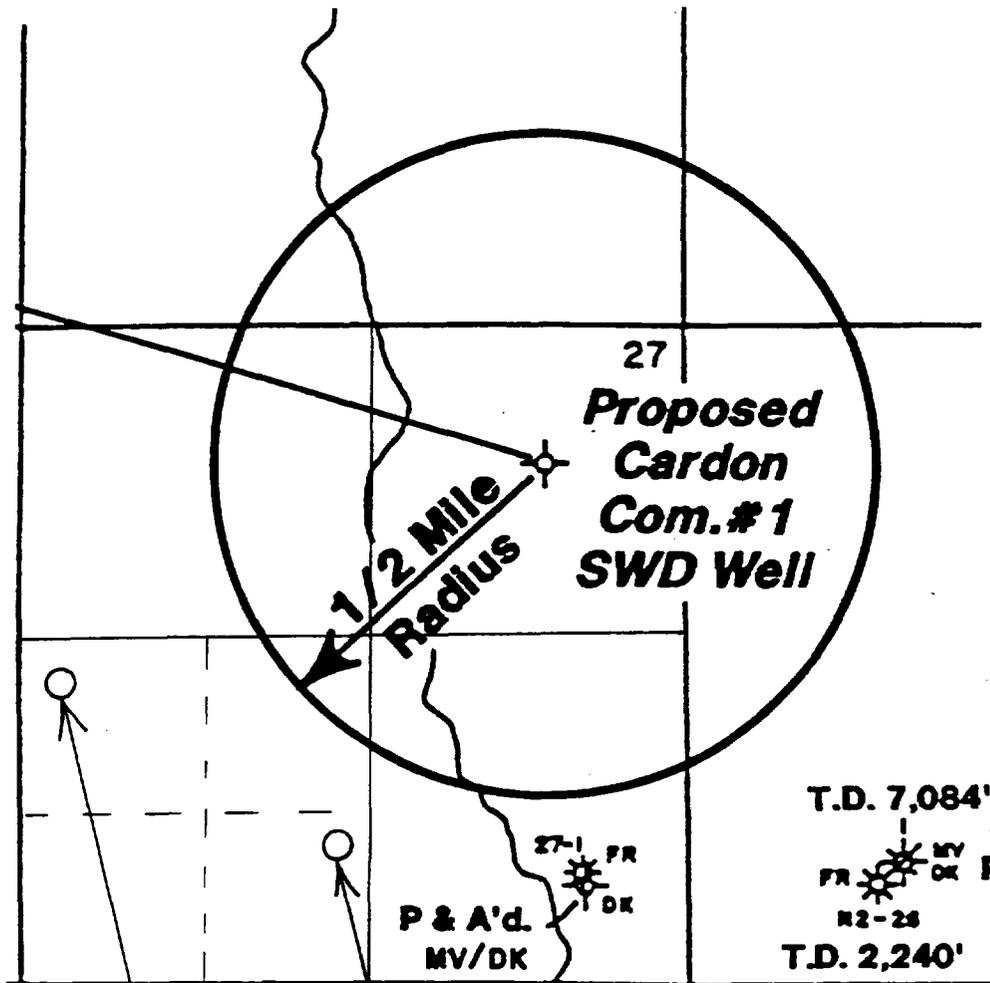
Date/Time/By: 03/04/96 1335 J.B.  
 Location:

---

| Lab#       | Testname                  | Result | Units  |
|------------|---------------------------|--------|--------|
| A96-129763 | Total alkalinity as CaCO3 | 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 CaCO3         | 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

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

Connie Heath  
29 April 96  
Page Two

Township 32 North - Range 13 West

| <u>Description</u> | <u>Surface</u>   | <u>Working Interest</u>   |
|--------------------|--|---|
|                    |  | Hallwood Consolidated<br>Partners, L.P.<br>POB 378111<br>Denver CO 80237  |
| 27: SENE, NESE     | Nadine Mead et al<br>Trustees<br>POB 248<br>LaPlata NM 87418 | EM Nominee Partnership<br>POB 378111<br>Denver CO 80237<br><br>Hallwood Consolidated<br>Partners, L.P.<br>POB 378111<br>Denver CO 80237<br><br>4) Meridian Oil Inc.<br>POB 4289<br>Farmington NM 87499<br><br>5) Union Oil Company of CA<br>POB 3100<br>Midland TX 79702<br><br>6) W.A. Montcrief, Jr.<br>Tarrant County TX<br><br>7) Palmer Oil & Gas Co.<br>POB 2564<br>Billings MT 59103 |
| 27: SWNE           | Pearl M. Talley<br>1658 NM Hwy 170<br>LaPlata NM 87418       | EM Nominee Partnership<br>POB 378111<br>Denver CO 80237<br><br>Hallwood Consolidated<br>Partners, L.P.<br>POB 378111<br>Denver CO 80237   |
| 27: SENW, SWNW     | San Juan Coal Co.<br>POB 155<br>Fruitland NM 87416           | EM Nominee Partnership<br>POB 378111<br>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<br>1658 NM Hwy 170<br>LaPlata NM 87418                     | Hallwood Consolidated<br>Partners, L.P.<br>POB 378111<br>Denver CO 80237 |
| 27: NESW           | Pearl M. Talley<br>1658 NM Hwy 170<br>LaPlata NM 87418                     | EM Nominee Partnership<br>POB 378111<br>Denver CO 80237                  |
|                    |  | Hallwood Consolidated<br>Partners, L.P.<br>POB 378111<br>Denver CO 80237 |
| 27: NWSW           | Pearl M. Talley<br>1658 NM Hwy 170<br>LaPlata NM 87418                     | EM Nominee Partnership<br>POB 378111<br>Denver CO 80237                  |
|                    | San Juan Coal Co.<br>POB 155<br>Fruitland NM 87416                         | Hallwood Consolidated<br>Partners, L.P.<br>POB 378111<br>Denver CO 80237 |
| 27: SESW           | Montoya Sheep &<br>Cattle Co., Inc.<br>1592 NM Hwy 170<br>LaPlata NM 87418 | EM Nominee Partnership<br>POB 378111<br>Denver CO 80237                  |
|                    | Anthony Montoya<br>1611 NM Hwy 170<br>LaPlata NM 87418                     | Hallwood Consolidated<br>Partners, L.P.<br>POB 378111<br>Denver CO 80237 |
|                    | Louis Montoya<br>1610 NM Hwy 170<br>LaPlata NM 87418                       | Meridian Oil Inc.<br>POB 4289<br>Farmington NM 87499                     |
|                    |  | Palmer Oil & Gas Co.<br>POB 2564<br>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<br>27 Road 5295<br>Farmington NM 87401 | EM Nominee Partnership<br>POB 378111<br>Denver CO 80237<br><br>Hallwood Consolidated Partners, L.P.<br>POB 378111<br>Denver CO 80237  |
| 27: SESE, SWSE     | Montoya Sheep and Cattle Co., Inc.<br>1592 NM Hwy 170<br>LaPlata NM 87418 | EM Nominee Partnership<br>POB 378111<br>Denver CO 80237<br><br>Hallwood Consolidated Partners, L.P.<br>POB 378111<br>Denver CO 80237<br><br>Meridian Oil Inc.<br>POB 4289<br>Farmington NM 87499<br><br>Palmer Oil & Gas Co.<br>POB 2564<br>Billings MT 59103 |
| 27: NWSE           | Talley & Sons<br>(no address found-<br>see Pearl M. Talley)               | EM Nominee Partnership<br>POB 378111<br>Denver CO 80237<br><br>Hallwood Consolidated Partners, L.P.<br>POB 378111<br>Denver CO 80237  |
| 26: NENW, NWNW     | USA<br>Lease SF 078818-A  | 8) Hugoton Energy Corp.<br>1900 Epic Center<br>301 N Main St<br>Wichita KS 67202  |

Connie Heath  
29 April 96  
Page Five

Township 32 North - Range 13 West

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

Connie Heath  
29 April 96  
Page Six

Township 32 North - Range 13 West

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

Connie Heath  
29 April 96  
Page Seven

Township 32 North - Range 13 West

| <u>Description</u> | <u>Surface</u>  | <u>Working Interest</u>   |
|--------------------|---|---|
| 22: SESW           | San Juan Coal Co.<br>POB 155<br>Fruitland NM 87416                    | Delhi-Trading Inc<br>POB 64<br>Farmington NM 87499                                    |
|                    | Lee R. Ludlum<br>1720 NM Hwy 170<br>LaPlata NM 87418                  | San Juan Resources Inc<br>1801 Broadway #400<br>Denver Co 80202<br>(expires 7-18-96)  |
|                    |   | Merrion Oil & Gas Corp<br>610 Reilly Avenue<br>Farmington NM 87401                    |
| 22: NESE           | USA<br>Lease SF 078818-A  | Meridian Oil Inc.<br>POB 4289<br>Farmington NM 87499                                  |
| 22: NWSE           | San Juan Coal Co.<br>POB 155<br>Fruitland CO 87416                    | San Juan Resources Inc.<br>1801 Broadway #400<br>Denver CO 80202<br>(expires 7-18-96) |
|                    | Christopher L. Picard<br>1764 NM Hwy 170<br>LaPlata NM 87418          | Merrion Oil & Gas Corp<br>610 Reilly Avenue<br>Farmington NM 87401                    |
|                    | Virgene Rae Stan<br>POB 242<br>LaPlata NM 87418                       |   |
|                    | Johnie L. Thompson<br>POB 265<br>LaPlata NM 87418                     |   |
|                    | H.J. Stoltenberg Trustees<br>3709 Crescent Ave<br>Farmington NM 87401 |   |
|                    | Stanclie Hicks<br>POB 418<br>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<br>POB 418<br>LaPlata NM 87418                                |   |
|                    | Samuel C. Payne<br>c/o Louis D. Lane Trustees<br>POB 358<br>Fairacres NM 88033 |   |
| 22: SWSE           | Eaon Waymen-Palmer<br>POB 324<br>LaPlata NM 87418                              | Delhi-Trading Inc.<br>POB 64<br>Farmington NM 87499 |
|                    | Emil Fincher<br>1718 NM Hwy 170<br>LaPlata NM 87418                            |   |
|                    | Lee R. Ludlum<br>1720 NM Hwy 170<br>LaPlata NM 87418                           |   |
|                    | Neal O. Kruse<br>POB 7239<br>Carmel CA 93921                                   |   |
|                    | San Juan Coal Co.<br>POB 155<br>Fruitland NM 87416                             |   |
|                    | Edward M. Thomas<br>1703 N. Knudsen<br>Farmington NM 87401                     |   |
| 22: SESE           | Lee R. Ludlum<br>1720 NM Hwy 170<br>LaPlata NM 87418                           | Appears Open *                                      |
|                    | San Juan Coal Co.<br>POB 155<br>Fruitland NM 87416                             | * Mineral Owner<br>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

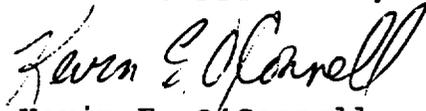
Gentlemen:

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/jey

Enclosures

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

# 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

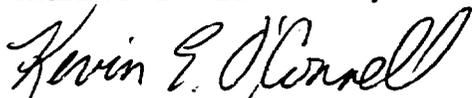
Gentlemen:

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 324 481 511  
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

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 324 481 512  
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

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

# 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

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

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 324 481 514**  
**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

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 324 481 515  
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

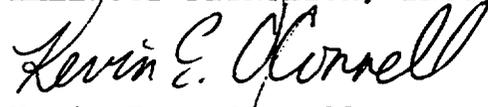
Gentlemen:

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

# 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

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 324 481 517  
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

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

KE096.040

Cardon Com #1 SWD

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**  
 ■ 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.  Addressee's Address  
 2.  Restricted Delivery  
 Consult postmaster for fee.

3. Article Addressed to:  
 Mr. William LeMay, Director  
 State of New Mexico  
 Oil Conservation Division  
 P. O. Box 2088  
 Santa Fe, NM 87504-2088

4a. Article Number  
 P 324 481 495

4b. Service Type  
 Registered  Certified  
 Express Mail  Insured  
 Return Receipt for Merchandise  COD

7. Date of Delivery  
 5/20

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)  
 Matthew M. Bolink

8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

PS Form 3811, December 1994

Domestic Return Receipt

P 324 481 495

US Postal Service

**Receipt for Certified Mail**

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to Mr. Wm. LeMay, Dir.  
State of NM, Oil Conser Div

Street & Number  
P. O. Box 2088

Post Office, State, & ZIP Code  
Santa Fe, NM 87504-2088

Postage \$ 3.00

Certified Fee 1.10

Special Delivery Fee

Restricted Delivery Fee

Return Receipt Showing to Whom & Date Delivered 1.10

Return Receipt Showing to Whom, Date, & Addressee's Address

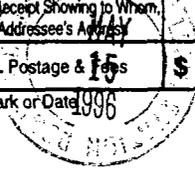
TOTAL Postage & Fees \$ 5.20

Postmark or Date 1996

PS Form 3800, April 1995

K. O'Connell

Cardon Com #1 SWD



P 324 481 512

US Postal Service  
**Receipt for Certified Mail**  
 No Insurance Coverage Provided.  
 Do not use for International Mail (See reverse)

|   |               |
|---|---------------|
| Sent to W. A. Montcrief, Jr.<br>9th and Comm.               |               |
| Street & Number<br>Montcrief Building                       |               |
| Post Office, State, & ZIP Code<br>Ft. Worth, TX 76102       |               |
| Postage   | \$ 300        |
| Certified Fee   | 110           |
| Special Delivery Fee  |               |
| Restricted Delivery Fee                                     |               |
| Return Receipt Showing to Whom & Date Delivered             | 110           |
| Return Receipt Showing to Whom, Date, & Addressee's Address | V             |
| <b>TOTAL Postage &amp; Fees</b>                             | <b>\$ 520</b> |
| Postmark or Date  | 1996          |

PS Form 3800 April 1995

O'Connell

Cardon Com #1 SMD

AS OF 6/3/96 , GREEN CARD  
 HAS NOT BEEN RETURNED.

**MERIDIAN OIL**

May 29, 1996

State of New Mexico  
Oil Conservation Division  
Attn: Mr. William J. LeMay  
2040 S. Pacheco Street  
Santa Fe, NM 87505

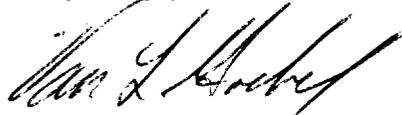
**RE: NO OBJECTION TO PROPOSAL  
FORM C-108, APPLICATION FOR AUTHORIZATION  
TO INJECT  
HALLWOOD PETROLEUM, INC.  
PROPOSED CARDON COM #1 SWD WELL  
UNIT "A", NE/4NE/4, 1120'FNL X 1050'FEL  
SECTION 27, T32N, R13W  
SAN JUAN COUNTY, NEW MEXICO**

Dear Mr. LeMay:

Meridian Oil Inc. as offset owner of the deep rights has no objection to Hallwood Petroleum, Inc's proposal to deepen the referenced well to the Morrison, Bluff, Summerville and Entrada formations as a potential water disposal well. Meridian and Hallwood have discussed this proposal and have mutually agreed to work together on this project, allowing Meridian to have access to well and log information.

If I can be of further assistance please advise.

Very truly yours,



Van L. Goebel  
Senior Landman

VLG:dg  
VLGMAY96  
Hallwood Petroleum Correspondence

cc: Jim Hornbeck  
Glenn Christiansen  
Todd Mushovic

Hallwood Petroleum, Inc.  
Attn: Kevin E. O'Connell  
4582 S. Ulster Street Pkwy., Ste. 1700  
Denver, CO 80237

**Ben Stone**

**From:** Ernie Busch  
**Sent:** Friday, May 24, 1996 9:07 AM  
**To:** Ben Stone  
**Subject:** HALLWOOD ENERGY COS.(SWD)  
**Importance:** High

CARDON COM #1  
A-27-32N-13W

RECOMMEND: APPROVAL, BUT PLEASE REQUIRE THEM TO RUN A MINIMUM FOOTAGE CBL ON THE 7".

OVERLOOK THIS REQUEST WHEN WRITING PERMIT.

PERMIT ISSUED ON JULY 9, 1996 - SWD-632.

ON 7-24-96 ERNIE BUSCH CALLED TO SEE WHY IT HAD BEEN LEFT OUT - SAID HALLWOOD WAS RUNNING 4 1/2" TODAY.

I SAID WE COULD ISSUE A LETTER AMENDMENT TO THE PERMIT REQ THEM TO RUN COMB. TEMP/TRCK 6 MONTHS AFTER STARTING INJECTION + 2 YEARS. HE SKEWED GOOD THAT WOULD SATISFY. HE AGREED. HE CALLED BACK LATER THE SAME DAY + EVIDENTLY, HALLWOOD RAN INTO PROBLEMS + COULDN'T GET 4 1/2 RUN THAT DAY SO FRANK CHAVEZ WAS GOING TO CALL THEM + GET THE CBL AS ORIGINALLY PLANNED.

7-24-96  
Ben Stone