

| | | | | | |
|-----------------|------------------|---------------------|-------------------|----------|------------------------|
| DATE IN 5/30/06 | SUSPENSE 6/15/06 | ENGINEER WILL JONES | LOGGED IN 5/30/06 | TYPE SWD | APP NO. PTDS0615058700 |
|-----------------|------------------|---------------------|-------------------|----------|------------------------|

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners
 [B] ☐ Offset Operators, Leaseholders or Surface Owner
 [C] ☐ Application is One Which Requires Published Legal Notice
 [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
 [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
 [F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Print or Type Name

Signature

Title

Date

e-mail Address



Certified Mail 7005 1820 0002 8596 0898

May 23, 2006

Will Jones
NMOCD
1220 S. St. Francis St.
Santa Fe, NM 87505

*Property Code
29064*

API 3004530922

SUBJECT: PRETTY LADY 30-11-34 NO. 1

Dear Mr. Jones:

Merrion Oil & Gas proposes to convert the previously plugged and abandoned Pretty Lady 34-30-11 to a salt water disposal well, and to construct surface facilities to operate as a commercial SWD facility. The permit package is attached.

The "Proof of Notice" backup will follow under separate cover. We wanted to assure that you had the package of information prior to receiving inquiries.

If you have questions about this project, please call me at 505.324.5326 or email me at cdinning@merrion.bz.

Sincerely,

A handwritten signature in black ink, appearing to read "CSD", with a large, sweeping flourish extending to the right.

Connie S. Dinning
Production Engineer

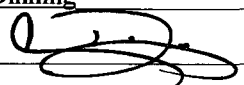
Enclosures

csd

Cc: NMOCD Aztec Office, Well File

2006 MAY 30 PM 12:41

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: Merrion Oil & Gas Corporation
ADDRESS: 610 Reilly Ave., Farmington, NM 87401
CONTACT PARTY: Connie Dinning PHONE: 505.324.5326
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? Yes X 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. Map Attached
- 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. No Wells in Area of Review Penetrate Proposed Injection Zone
- VII. Attach data on the proposed operation, including: Data Attached
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 geologic data on the injection zone including appropriate lithologic detail, geologic 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. Data Attached
- IX. Describe the proposed stimulation program, if any. Stimulation Design Attached
- *X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted). On File w/ NMOCD
- *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.
See attached State Engineer Office Data, no Actual Water Wells Found in Area
- 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 sources of drinking water. Statement Attached
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form. Newspaper Advertisement and Certified Mail Receipts will follow under separate cover.
- 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: Connie Dinning TITLE: Production Engineer
SIGNATURE:  DATE: 5/23/06
E-MAIL ADDRESS: cdinning@merrion.bz
- * 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 circumstances of the earlier submittal: _____
- DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
 - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
 - (3) A description of the tubing to be used including its size, lining material, and setting depth.
 - (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.
- Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.
- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
- (1) The name of the injection formation and, if applicable, the field or pool name.
 - (2) The injection interval and whether it is perforated or open-hole.
 - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
 - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
 - (5) Give the depth to and the 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, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, 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.

Section III

Well Data

INJECTION WELL DATA SHEET

OPERATOR: Merrion Oil & Gas CorporationWELL NAME & NUMBER: Pretty Lady No. 30-11-34WELL LOCATION: 1760' fsl & 1475' fel
FOOTAGE LOCATIONUNIT LETTER J SECTION 34 TOWNSHIP 30N RANGE 11WWELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: 17 1/2" Casing Size: 13 3/8"

Cemented with: 500 sx. or ft³

Top of Cement: surface Method Determined: circulate

Intermediate Casing

Hole Size: Casing Size:

Cemented with: sx. or ft³

Top of Cement: Method Determined:

Production Casing

Hole Size: 12 1/4" Casing Size: 9 5/8"

Cemented with: 2300 sx. or ft³

Top of Cement: Surface Method Determined: Circulated

Total Depth: 8104'Injection IntervalPerforated 7384' feet to 7815'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEETTubing Size: 7" Lining Material: PlasticType of Packer: Weatherford "Arrow Pak" wireline set Packer w/ 6" Seal BorePacker Setting Depth: ±7350'Other Type of Tubing/Casing Seal (if applicable): NAAdditional Data

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

If no, for what purpose was the well originally drilled? This well was originally drilled as a Pennsylvanian production test that was unsuccessful. The wellbore was subsequently plugged and abandoned.

2. Name of the Injection Formation: Morrison & Entrada
3. Name of Field or Pool (if applicable): NA, no production in either zone in this area
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. No, open hole testing was performed below the casing, but the casing has never been perforated
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: As per the test data on this well, there are no known underlying oil and gas zones. Above this zone, there are four productive zones in the area listed with estimated depth ranges below.
- Farmington Sandstone: 950' – 1150'
- Fruitland Coal: 2000' – 2050', Pictured Cliffs: 2100' – 2150'
- Dakota: 6500' - 6680'

Huntington Energy Wellbore Schematic

Pretty Lady 30-11-34
Current Wellbore Configuration

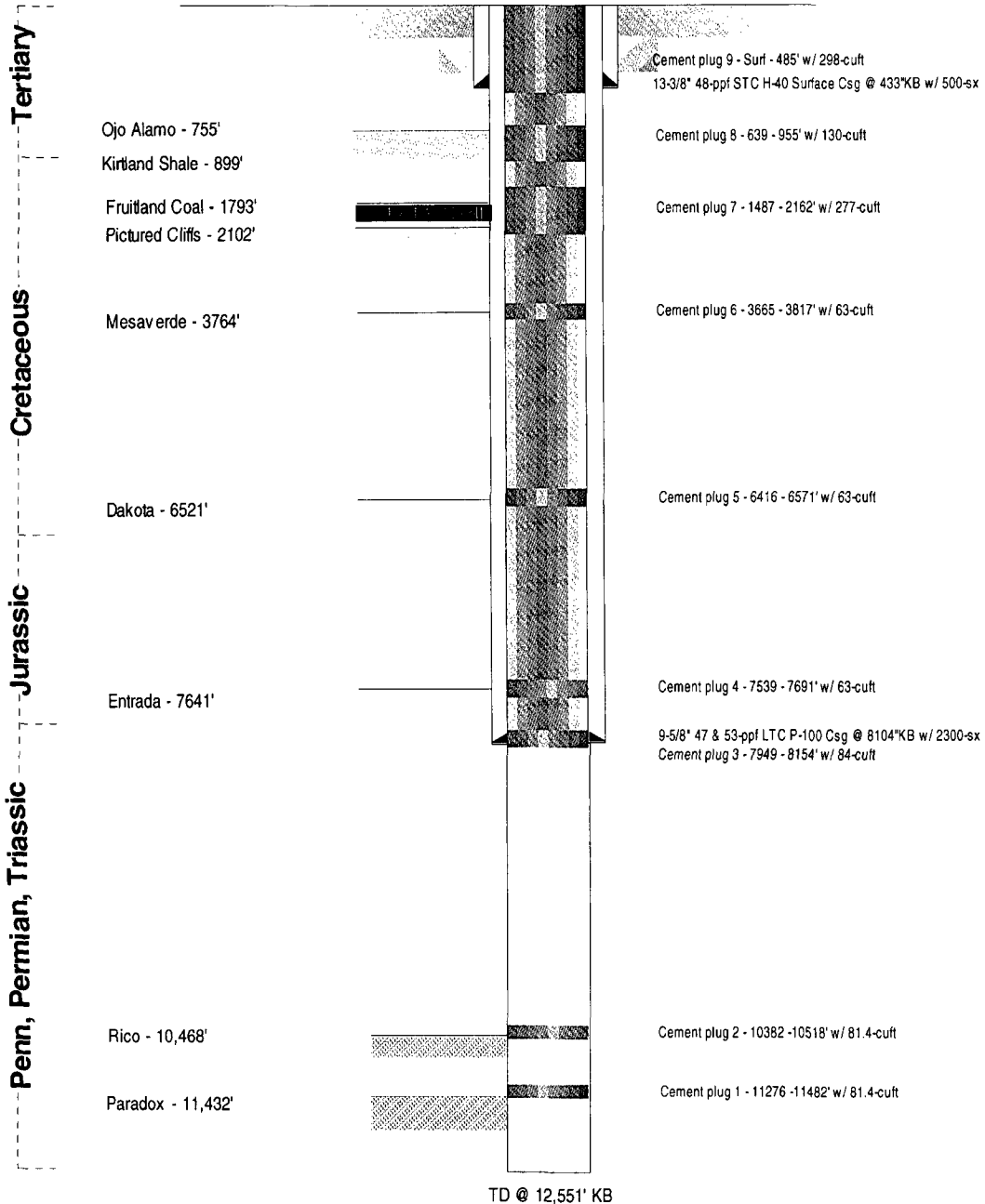
Location: 1760' fsl & 1475' fel (nw se)
Sec 34, T30N, R11W, NMPM
San Juan Co, New Mexico

Elevation: 5789' GL
5802' RKB

Field: Wildcat Paradox

Prepared: February 1, 2006

Prepared by: Steven S. Dunn



Merrion Oil & Gas Corp. Wellbore Schematic

Pretty Lady 30-11-34

Proposed Wellbore Configuration

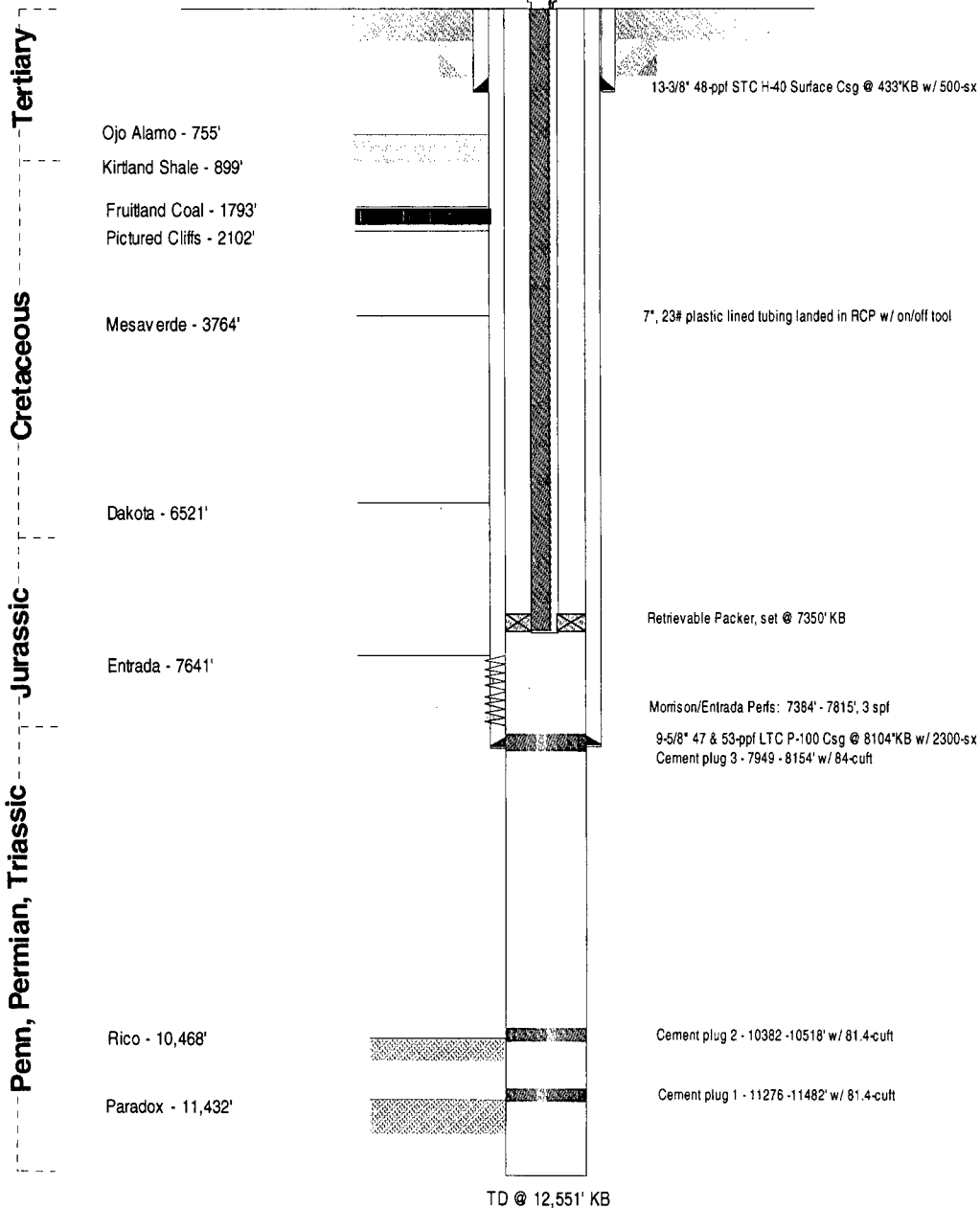
Location: 1760' fsl & 1475' fel (nw se)
Sec 34, T30N, R11W, NMPM
San Juan Co, New Mexico

Prepared: April 10, 2006

Elevation: 5789' GL
5802' RKB

Injection Zone: Morrison/Entrada

Prepared by: Connie Dinning



Section V
Area of Review Map

Section VII

Proposed Operation Data

Pretty Lady 30 11 34, Salt Water Disposal Well

VII.

- 1) Ave Rate: **10000 BPD** Max Daily Rate: **12000 BPD**
- 2) Ave. Pressure: **1400** Max Pressure: **1477 psi**
- 3) Annular Fluid: Packer fluid consisting of filming corrosion inhibitor and oxygen scavenger
- 4) Injection Fluid Analysis, Please see attached water analyses
- 5) Disposal Zone Water Data. There are no Entrada wells in the area, so no actual water analysis data is available. The attached chart, along with log data was used to estimated the produced water salinity Based on an average porosity of 14%
 $R_t = 7$, and $R_w = 0.14$, we estimate the TDS to be 18,500 ppm

Section VII 4)
Injection Fluid Analyses

American Energy Services
Water Analysis Results Sheet

FRUITLAND COAL

| | | | |
|------------|-----------------|---------------|----------------|
| Operator: | Merrion Oil | Date: | 6/15/2000 |
| Well : | Serendipity #1 | District: | Farmington |
| Formation: | Pictured Cliffs | Requested by: | |
| County: | | Technician: | Chad Durdin |
| Depth: | | Source: | Produced Fluid |

PHYSICAL AND CHEMICAL DETERMINATION

| | | | |
|-------------------|-----------|------------------|--------------|
| SPECIFIC GRAVITY: | 1.01 | AT 86 Degrees F. | |
| pH: | 7.45 | SULFATES: | 0 ppm |
| | | CALCIUM: | 396.0 ppm |
| IRON: | 0 ppm | BICARBONATES: | 1207.9 ppm |
| | | RESISTIVITY: | ohm/meter |
| H2S: | 0 ppm | CHLORIDES: | 11485.1 ppm |
| | | SODIUM : | 6987.5 ppm |
| | | POTASSIUM: | 16.0 ppm |
| MAGNESIUM: | 240.6 ppm | TDS: | 20333.21 ppm |

CaCO3 Scale Tendency = Remote

CaSO4 Scale Tendency = Remote

REMARKS:

Data contained in this document is based on the best information & most current test procedures and materials available. No liability is expressed or implied.

American Energy Services
Water Analysis Results Sheet

FRUITLAND COAL

| | | | |
|------------|-------------|---------------|----------------|
| Operator: | Merrion Oil | Date: | 6/15/2000 |
| Well : | Slice #1 | District: | Farmington |
| Formation: | | Requested by: | |
| County: | | Technician: | Chad Durdin |
| Depth: | | Source: | Produced Fluid |

PHYSICAL AND CHEMICAL DETERMINATION

| | | | |
|-------------------|-----------|------------------|--------------|
| SPECIFIC GRAVITY: | 1.01 | AT 86 Degrees F. | |
| pH: | 7.4 | SULFATES: | 0 ppm |
| | | CALCIUM: | 752.5 ppm |
| IRON: | 0 ppm | BICARBONATES: | 10388.1 ppm |
| | | RESISTIVITY: | ohm/meter |
| H2S: | 0 ppm | CHLORIDES: | 11089.1 ppm |
| | | SODIUM : | 9147.4 ppm |
| | | POTASSIUM: | 14.0 ppm |
| MAGNESIUM: | 577.4 ppm | TDS: | 31968.52 ppm |

CaCO3 Scale Tendency = Probable

CaSO4 Scale Tendency = Remote

REMARKS:

Data contained in this document is based on the best information & most current test procedures and materials available. No liability is expressed or implied.

American Energy Services
Water Analysis Results Sheet

PICTURED CLIFFS

| | | | |
|------------|-------------|---------------|----------------|
| Operator: | Merrion Oil | Date: | 6/15/2000 |
| Well : | Morgan #7 | District: | Farmington |
| Formation: | | Requested by: | |
| County: | | Technician: | Chad Durdin |
| Depth: | | Source: | Produced Fluid |

P H Y S I C A L A N D C H E M I C A L D E T E R M I N A T I O N

| | | | |
|-------------------|-------|------------------|-------------------------|
| SPECIFIC GRAVITY: | 1.02 | AT 86 Degrees F. | |
| pH: | 6.77 | | SULFATES: 0 ppm |
| | | | CALCIUM: 588.2 ppm |
| IRON: | 10 | ppm | BICARBONATES: 598.0 ppm |
| | | | RESISTIVITY: ohm/meter |
| H ₂ S: | 0 | ppm | CHLORIDES: 12941.2 ppm |
| | | | SODIUM : 6765.7 ppm |
| | | | POTASSIUM: 16.0 ppm |
| MAGNESIUM: | 619.4 | ppm | TDS: 21528.56 ppm |

CaCO₃ Scale Tendency = RemoteCaSO₄ Scale Tendency = Remote

REMARKS:

Data contained in this document is based on the best information & most current test procedures and materials available. No liability is expressed or implied.

P.04/04

PC
CHACRA
DAKOTA

FW014244

BJ SERVICES COMPANY**WATER ANALYSIS #FW01W244**

FARMINGTON LAB

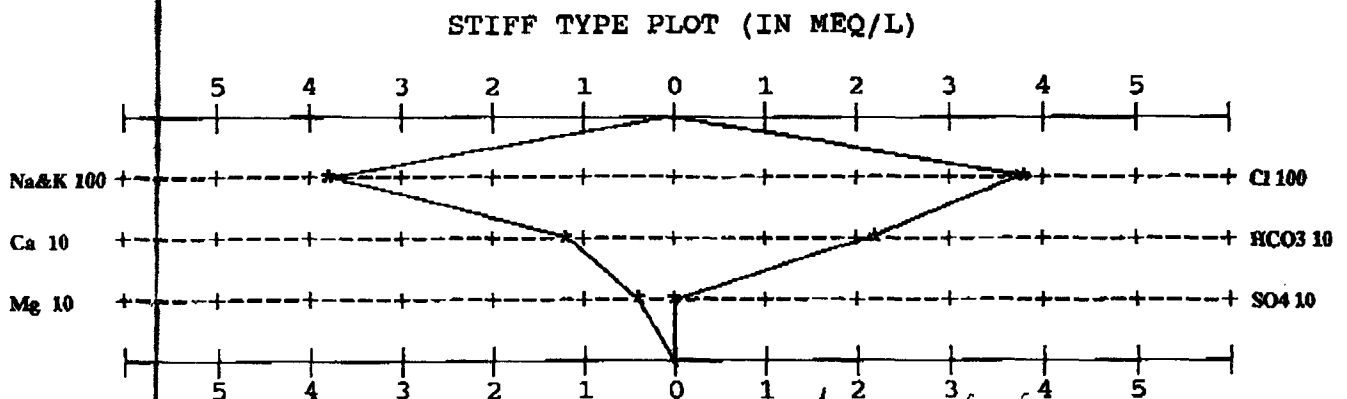
| GENERAL INFORMATION | | |
|---------------------|-------------------|----------------------------|
| OPERATOR: | MERRION OIL & GAS | DEPTH: |
| WELL: | FIFIELD COM #1E | DATE SAMPLED: 09/28/98 |
| FIELD: | SEC5/T29N/R11W | DATE RECEIVED: 09/28/98 |
| SUBMITTED BY: | TIM MERILATT | COUNTY: SAN JUAN STATE: NM |
| WORKED BY : | D. SHEPHERD | FORMATION: POINT LOOKOUT |
| PHONE NUMBER: | | |

| | SAMPLE DESCRIPTION |
|---------------------|--------------------|
| sample for analysis | |

PHYSICAL AND CHEMICAL DETERMINATIONS

| | | | | |
|--------------------------|------------|------------------------|-----|------------|
| SPECIFIC GRAVITY: | 1.012 | @ 69°F | PH: | 7.21 |
| RESISTIVITY (MEASURED): | 0.300 | ohms @ 72°F | | |
| IRON (FE++) : | 10 ppm | SULFATE: | | 0 ppm |
| CALCIUM: | 237 ppm | TOTAL HARDNESS | | 811 ppm |
| MAGNESIUM: | 53 ppm | BICARBONATE: | | 1,326 ppm |
| CHLORIDE: | 13,312 ppm | SODIUM CHLORIDE(Calc) | | 21,899 ppm |
| SODIUM+POTASS: | 8,758 ppm | TOT. DISSOLVED SOLIDS: | | 24,208 ppm |
| H2S: NO TRACE | | POTASSIUM CHLORIDE: | | 440 (PPM) |

REMARKS



ANALYST

D. SHEPHERD



1115 Farmington Avenue - Farmington, NM 87401
(505) 325-1085

MESA VERDE

Lab Sample No.: W93-446

Standard A.P.I. Water Analysis Report

Collected By: Carl Merilatt

Company: Merrion Oil & Gas Corp.

Collection Date: 11/1/93

Well Name: Palmer #1

Collection Time: Unknown

Formation: Flora Vista Mesa Verde

County: San Juan State: NM

Location: Sec. 36-T3N-R12W

Analyst: K. Lambdin & S. Spencer

Remarks: 1993 Flow Test--Sample taken from separator.
(Temp 85 degrees F)

Karen Lambdin
Analysis Date: 11/1/93

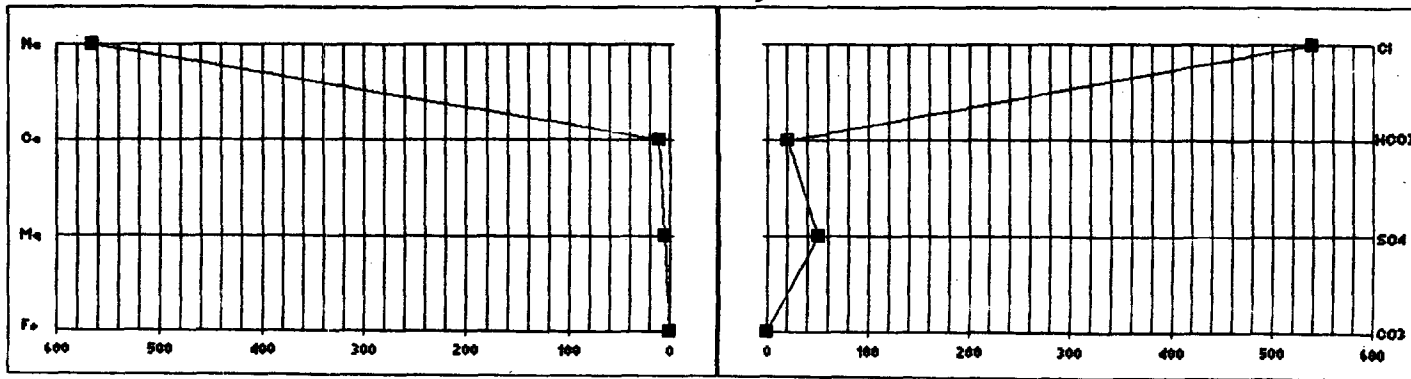
| PARAMETER | as ION | Comment | PARAMETER | as ION | Comment |
|------------------|--------|---------|-------------------------------|--------|---------|
| Sodium, Na | 13,000 | mg/l | Chloride, Cl | 19,120 | mg/l |
| Potassium, K | 120 | mg/l | Sulfate, SO ₄ | 2400 | mg/l |
| Calcium, Ca | 230 | mg/l | Hydroxide, OH | 0 | mg/l |
| Magnesium, Mg | 70 | mg/l | Carbonate, CO ₃ | 0 | mg/l |
| Iron, Fe (Total) | 0 | mg/l NR | Bicarbonate, HCO ₃ | 1,270 | mg/l |
| Hydrogen Sulfide | 0 | mg/l NR | Resistivity | 0.193 | ohm-m |
| pH | 7.62 | Units | (@25 Degrees C) | | |
| TDS | 33,840 | mg/l | Conductivity | 51,900 | uS |
| | | | Specific Gravity | 1.025 | Units |
| | | | (@ 60 Degrees F) | | |

Remarks: None.

NR = Test Not Run

Anion/Cation: 104.18

Stiff Diagram





BAROID DIVISION
NL Industries Inc.
P.O. Box 1675 Houston, Texas 77001

REPORT OF TEST

BAROID TREATING CHEMICALS

| | | | | |
|-------------------------------|--------------------------------|-------------------------------------|------------------------|--|
| GALLUP | | | SHEET NUMBER | |
| MERRION AND BAYLESS | | | DATE APRIL 30, 1975 | |
| FIELD OR PLANT | | COUNTY OR PARISH SAN JUAN | STATE NEW MEXICO | |
| LEASE OR UNIT | WELL(S) NAME & NO. CHARTIER | SAMPLE SOURCE PRODUCTION UNIT | | |
| TYPE SAMPLE PRODUCED WATER | | TYPE TEST CHLORIDE, TDS, SULFATE | | |
| REASON FOR TEST | | | | |

RESULTS:

| | |
|------------------------------|--------|
| Chloride, mg/l | 7,000 |
| Sulfate, mg/l | 31 |
| Total Dissolved Solids, mg/l | 10,800 |

REMARKS & RECOMMENDATIONS:

| | | | | |
|----------------------------|-----------------|--|--------------|------------|
| SALES ENGINEER BOB CUDD | DIST. NO. 12 | ADDRESS FARMINGTON NM | OFFICE PHONE | HOME PHONE |
| TESTED BY HEATHER MANN | DATE 4-30-75 | DISTRIBUTION: <input type="checkbox"/> CUSTOMER <input type="checkbox"/> AREA OR <input type="checkbox"/> DISTRICT OFFICE <input type="checkbox"/> SALES ENGINEER OR <input type="checkbox"/> CHEM. LAB <input type="checkbox"/> CHEM. SALES SUPERVISOR | | |



N L Industries Inc.
P.O. Box 167 Houston, Texas 77001

REPORT OF TEST

BAROID TREATING CHEMICALS

| | | | |
|-------------------------------|-------------------------------------|----------------------------------|--|
| Gaur | | SHEET NUMBER | |
| MERRION AND BAYLESS | | DATE APRIL 30, 1975 | |
| FIELD OR PLANT | COUNTY OR PARISH SAN JUAN | STATE NEW MEXICO | |
| LEASE OR UNIT | WELL(S) NAME & NO. SULLIVAN | SAMPLE SOURCE PRODUCTION UNIT | |
| TYPE SAMPLE PRODUCED WATER | TYPE TEST CHLORIDE, SULFATE, TDS | | |
| REASON FOR TEST | | | |

RESULTS:

| | |
|------------------------------|--------|
| Chloride, mg/l | 20,500 |
| Sulfate, mg/l | 13 |
| Total Dissolved Solids, mg/l | 21,600 |

REMARKS & RECOMMENDATIONS:

| | | | | |
|----------------------------|-----------------|--|--------------|------------|
| SALES ENGINEER BOB CUDD | DIST. NO. | ADDRESS FARMINGTON NM | OFFICE PHONE | HOME PHONE |
| TESTED BY HEATHER MANN | DATE 4-30-75 | DISTRIBUTION: <input type="checkbox"/> CUSTOMER <input type="checkbox"/> AREA OR <input type="checkbox"/> DISTRICT OFFICE <input type="checkbox"/> SALES ENGINEER OR <input type="checkbox"/> CHEM. LAB <input type="checkbox"/> CHEM. SALES SUPERVISOR | | |

WELL: FEDERAL 29 #1E
FIELD:
SUBMITTED BY: J. ALEXANDER
WORKED BY : D. SHEPHERD
PHONE NUMBER:

DATE SAMPLED: 12/16/96
DATE RECEIVED: 12/17/96
COUNTY: STATE: NM
FORMATION: DAKOTA

swab sample for analysis

SAMPLE DESCRIPTION

DAKOTA

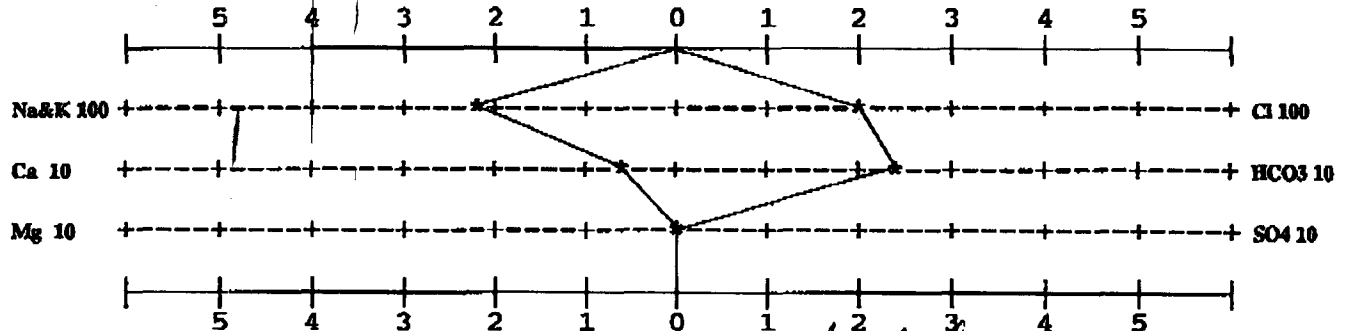
PHYSICAL AND CHEMICAL DETERMINATIONS

| | | | | |
|--------------------------|-----------|------------------------|-----|------------|
| SPECIFIC GRAVITY: | 1.006 | @ 64°F | PH: | 6.98 |
| RESISTIVITY (MEASURED): | 0.320 | ohms @ 75°F | | |
| IRON (FE++) : | 75 ppm | SULFATE: | | 0 ppm |
| CALCIUM: | 135 ppm | TOTAL HARDNESS | | 358 ppm |
| MAGNESIUM: | 5 ppm | BICARBONATE: | | 1,455 ppm |
| CHLORIDE: | 7,401 ppm | SODIUM CHLORIDE (Calc) | | 12,174 ppm |
| SODIUM+POTASS: | 5,182 ppm | TOT. DISSOLVED SOLIDS: | | 14,396 ppm |
| H2S: NO TRACE | | POTASSIUM PPM: | | 200 |

REMARKS

LARGE AMOUNTS OF IRON WERE PRESENT IN SAMPLE INDICATING CORROSION

STIFF TYPE PLOT (IN MEQ/L)



ANALYST

D. Shepherd
D. SHEPHERD



BAROID DIVISION
N L Industries Inc.
P.O. Box 1675 Houston, Texas 77001

REPORT OF TEST

BAROID TREATING CHEMICALS

| | | | |
|--------------------------------|---------------------------------|----------------------------------|---------------------|
| DAKOTA | | SHEET NUMBER | |
| COMPANY Merrion and Bayless | | DATE 2-6-75 | |
| FIELD OR PLANT | | COUNTY OR PARISH | STATE New Mexico |
| LEASE OR UNIT | WELL(S) NAME & NO. Canada #3 | SAMPLE SOURCE Production Unit | |
| TYPE SAMPLE Produced water | | TYPE TEST | |
| REASON FOR TEST | | | |

RESULTS:

| | |
|----------------------------|--------|
| Sulfates ppm | 140 |
| Chlorides ppm | 8,400 |
| Total Dissolved Solids ppm | 19,800 |

REMARKS & RECOMMENDATIONS:

| | | | | |
|----------------------------|-----------------|---|--------------------------|------------------------|
| SALES ENGINEER Bob Cudd | DIST. NO. 12 | ADDRESS Farmington NM | OFFICE PHONE 325-5701 | HOME PHONE 334-2254 |
| TESTED BY Cudd | DATE | DISTRIBUTION: <input type="checkbox"/> CUSTOMER <input type="checkbox"/> SALES ENGINEER OR <input type="checkbox"/> CHEM. LAB <input type="checkbox"/> AREA OR <input type="checkbox"/> DISTRICT OFFICE <input type="checkbox"/> CHEM. SALES SUPERVISOR | | |

Section VII 5)
Disposal Zone Water Data

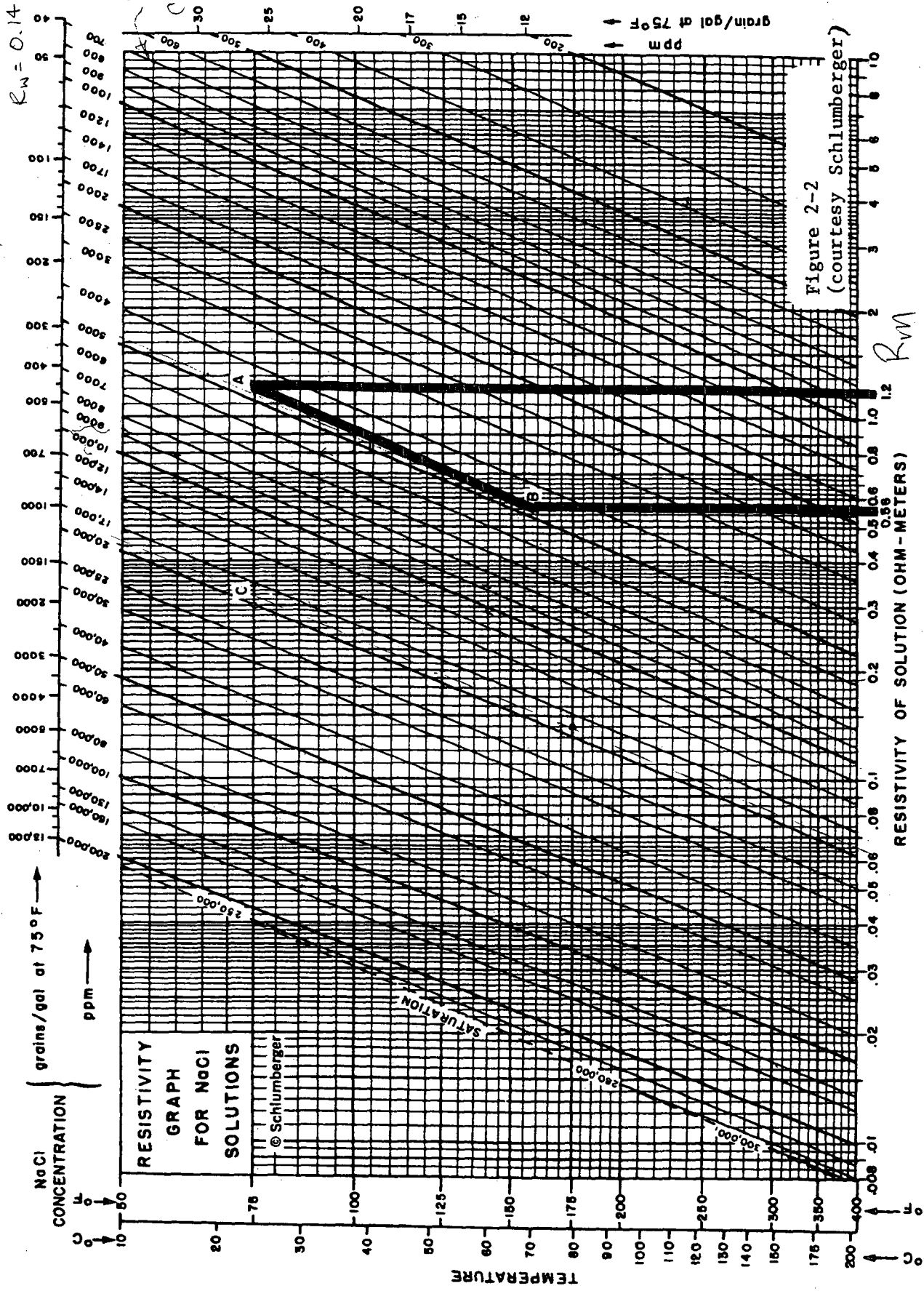
PRETTY LADY # 30-11-34 APPROX BHT = 175°

7650' - 7815' AVG $\phi = 0.14$ $R_L = 7$

$R_w = 0.14$

EST NaCl = 18500 ppm

live oil
oil/gal
30 gal



Example: R_m is 1.2 at 75°F (point A on chart). Follow trend of slanting lines (constant salinities) to find R_m at other temperatures; for example, at Formation Temperature (FT) = 160°F (point B) read $R_m = 0.56$. The conversion shown in this chart is approximated by the Arps formula: $R_{FT} = R_{75} \times (75^\circ + 7) / (FT \text{ (in } ^\circ F) + 7)$.

ANALYSIS NO. 53-35-90

FIELD RECEIPT NO. _____

FORM 43-1

API WATER ANALYSIS REPORT FORM

| | | | | | |
|--|--|---------------------------|--|---|--|
| Company <u>Merrion Oil & Gas</u> | | Sample No. _____ | | Date Sampled <u>8-30-90</u> | |
| Field _____ | | Legal Description _____ | | County or Parish _____ State _____ | |
| Lease or Unit _____ | | Well <u>Santa Fe 20-3</u> | | Depth _____ Formation <u>Entrada</u> Water: B/D _____ | |
| Type of Water (Produced, Supply, etc.) _____ | | Sampling Point _____ | | Sampled By _____ | |

DISSOLVED SOLIDS

| IONS | mg/l | meq/l |
|---------------------------|-------------|---------------|
| Sodium, Na (calc.) | <u>4630</u> | <u>201.31</u> |
| Calcium, Ca | <u>62</u> | <u>3.10</u> |
| Magnesium, Mg | <u>13</u> | <u>1.10</u> |
| Barium, Ba | _____ | _____ |
| Potassium, K ⁺ | <u>11</u> | <u>.28</u> |

ANIONS

| | | |
|-------------------------------|-------------|---------------|
| Chloride, Cl | <u>2009</u> | <u>56.66</u> |
| Sulfate, SO ₄ | <u>6212</u> | <u>129.33</u> |
| Carbonate, CO ₃ | <u>29</u> | <u>.96</u> |
| Bicarbonate, HCO ₃ | <u>1149</u> | <u>18.84</u> |
| Hydroxide, OH | <u>0</u> | <u>0</u> |

Total Dissolved Solids (calc.)

14,115

Iron, Fe (total) #, %

0.0 ppmSolids as H₂S0.05

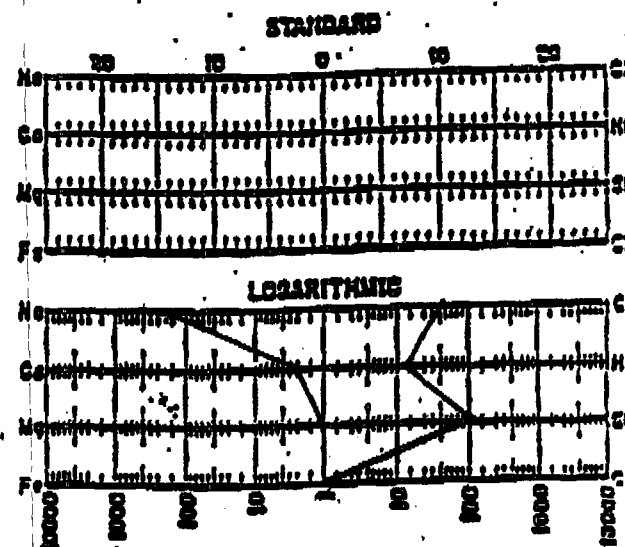
REMARKS & RECOMMENDATIONS:

Rick Dean

OTHER PROPERTIES

| | |
|----------------------------|--------------|
| pH | <u>8.46</u> |
| Specific Gravity, 50/50 F. | <u>1.010</u> |
| Resistivity (ohm-meters) | <u>76 F.</u> |
| Total hardness | <u>210</u> |

WATER PATTERNS -- meq/l

ANALYST: Lee

THE WESTERN COMPANY OF
NORTH AMERICA, FARMINGTON,
(505) 327-6222

Please refer any questions to: BRIAN AULT

District Engineer

ANALYSIS NO. 51-13-91

API FORM 45-1

FIELD RECEIPT NO. _____

API WATER ANALYSIS REPORT FORM

1-28-91

| | | | | | |
|---|--|--|--|-------------------------------------|--|
| Company <u>Merrion Oil & Gas</u> | | Sample No. | | Date Sampled | |
| Field | | Legal Description <u>520 TAIN R8W</u> | | County or Parish <u>San Juan</u> | |
| Lease or Unit <u>Snake Eyes</u> | | Well <u># 2</u> | | Depth <u>5200</u> | |
| Type of Water (Produced, Supply, etc.) <u>Produced</u> | | Formation <u>Entrada</u> | | Water. B/D | |
| Sampling Point | | Sampled By | | | |

DISSOLVED SOLIDS

CATIONS

| | mg/l | me/l |
|---------------------------|-------------|---------------|
| Sodium, Na (calc.) | <u>3982</u> | <u>173.13</u> |
| Calcium, Ca | <u>641</u> | <u>32.00</u> |
| Magnesium, Mg | <u>151</u> | <u>12.40</u> |
| Barium, Ba | | |
| Potassium, K ⁺ | <u>11</u> | <u>.28</u> |

ANIONS

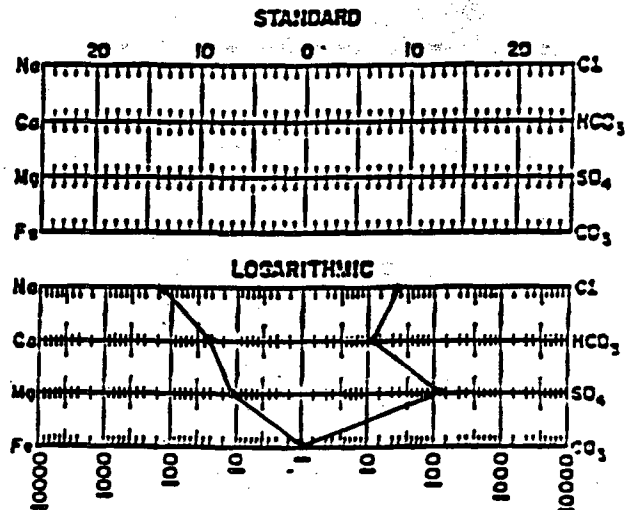
| | | |
|-------------------------------|-------------|---------------|
| Chloride, Cl | <u>1240</u> | <u>34.98</u> |
| Sulfate, SO ₄ | <u>8080</u> | <u>168.23</u> |
| Carbonate, CO ₃ | <u>36</u> | <u>1.20</u> |
| Bicarbonate, HCO ₃ | <u>817</u> | <u>13.40</u> |
| OH | <u>0</u> | <u>0</u> |

Total Dissolved Solids (calc.) 14,958
 Iron, Fe (total) #, †† 0.0 ppm
 Sulfide, as H₂S POS.

OTHER PROPERTIES

| | |
|---------------------------------------|--------------|
| pH | <u>8.00</u> |
| Specific Gravity, 60/60 F. | <u>1.008</u> |
| Resistivity (ohm-meters) <u>70 F.</u> | <u>.95</u> |
| Total hardness | <u>2220</u> |

WATER PATTERNS — me/l

ANALYST: LLC
 THE WESTERN COMPANY OF
 NORTH AMERICA, FARMINGTON, NM
 (505) 327-6222
Please refer any questions to: **BRIAN AULT**, District Engineer

UNICHEM INTERNATIONAL
P.O. BOX 1499 707 NORTH LEECH STREET
HOBBS, NEW MEXICO 88240

Merrion Oil & Gas
Box 840
Farmington , NM 87499

Report Date: March 26, 1991
Lab In Date: March 14, 1991
Sample Date: March 7, 1991

Dear George Sharp

Listed below please find our water analysis report from MEU

, #6

:

Specific Gravity: 1.012
Total Dissolved Solids: 16566
PH: 7.20
Ionic Strength: .314

CATIONS:

mg/liter

Calcium: (Ca++) 141
Magnesium: (Mg++) 31
Sodium: (Na+) 5765
Iron (Total) (Fe++) 221.00
Barium (Ba++) .30
Manganese: (Mn++) 0.00
Restivity:

ANIONS:

Bicarbonate: (HCO3-) 488
Carbonate: (CO3--) 0
Hydroxide: (OH-) 0
Sulfate: (SO4--) 4561
Chloride: (Cl-) 5580

GASES:


Carbon Dioxide: (CO2) 0.0
Oxygen: (O2) *****
Hydrogen Sulfide: (H2S) 51.0

SCALE INDEX (Positive Value Indicates Scale Tendency) * indicates tests were not run.

| | Temperature | CaCO3 SI | CaSO4 SI |
|------|-------------|----------|----------|
| 86F | 30.0C | -.21 | -18.35 |
| 104F | 40.0C | .03 | -18.90 |
| 122F | 50.0C | .29 | -18.87 |
| 140F | 60.0C | .50 | -18.32 |
| 168F | 70.0C | .84 | -16.66 |
| 176F | 80.0C | 1.17 | -15.94 |

If you have any questions or require further information, please contact us.

Sincerely,


Sharon Wright
Laboratory Technician

cc: Tim Merrillatt - Farmington
Steve Dunn - Farmington

cc: Don Bamert
Tom Moore

Water File

Unichem International

707 North Leech

P.O.Box 1499

Hobbs, New Mexico 88240

Company : Kirby Exploration

Date : 01-18-1988

Location: Media Entrada - Produced Water Tank (on 01-07-1988)

| | <u>Sample 1</u> |
|-------------------------|-----------------|
| Specific Gravity: | 1.015 |
| Total Dissolved Solids: | 20597 |
| pH: | 7.31 |
| IONIC STRENGTH: | 0.392 |

| <u>CATIONS:</u> | | <u>me/liter</u> | <u>mg/liter</u> |
|-----------------|---------------------|-----------------|-----------------|
| Calcium | (Ca ⁺²) | 9.60 | 192 |
| Magnesium | (Mg ⁺²) | 6.00 | 72.9 |
| Sodium | (Na ⁺¹) | 311 | 7160 |
| Iron (total) | (Fe ⁺²) | 0.061 | 1.71 |
| Barium | (Ba ⁺²) | 0.007 | 0.480 |

| <u>ANIONS:</u> | | | |
|----------------|-----------------------------------|------|------|
| Bicarbonate | (HCO ₃ ⁻¹) | 7.80 | 476 |
| Carbonate | (CO ₃ ⁻²) | 0 | 0 |
| Hydroxide | (OH ⁻¹) | 0 | 0 |
| Sulfate | (SO ₄ ⁻²) | 110 | 5300 |
| Chloride | (Cl ⁻¹) | 209 | 7400 |

SCALING INDEX (positive value indicates scale)

| <u>Temperature</u> | | <u>Calcium</u> | <u>Calcium</u> |
|--------------------|------|------------------|----------------|
| | | <u>Carbonate</u> | <u>Sulfate</u> |
| 86°F | 30°C | -0.17 | -16 |
| 120°F | 49°C | 0.73 | -16 |

ANALYSIS NO. 51-20-91

API FORM 45-1

FIELD RECEIPT NO. _____

API WATER ANALYSIS REPORT FORM

| | | | |
|---|---|-------------------------------------|-----------------------------------|
| Company <u>Merrion Oil & Gas</u> | | Sample No. | Date Sampled <u>02-02-91</u> |
| Field | Legal Description <u>Sec 15, T19N, R3W</u> | County or Parish <u>Sandoval</u> | State <u>NM</u> |
| Lease or Unit <u>Media Entrada</u> | Well <u>#6</u> | Depth | Formation <u>Media Entrada</u> |
| Type of Water (Produced, Supply, etc.) <u>Produced</u> | Sampling Point | Sampled By | |

DISSOLVED SOLIDS

| CATIONS | mg/l | me/l |
|---------------------------|-------------|---------------|
| Sodium, Na (calc.) | <u>5955</u> | <u>258.91</u> |
| Calcium, Ca | <u>244</u> | <u>12.20</u> |
| Magnesium, Mg | <u>80</u> | <u>6.60</u> |
| Barium, Ba | <u>—</u> | <u>—</u> |
| Potassium, K ⁺ | <u>21</u> | <u>.54</u> |

| ANIONS | mg/l | me/l |
|-------------------------------|-------------|---------------|
| Chloride, Cl | <u>5835</u> | <u>164.59</u> |
| Sulfate, SO ₄ | <u>5050</u> | <u>105.14</u> |
| Carbonate, CO ₃ | <u>0</u> | <u>0</u> |
| Bicarbonate, HCO ₃ | <u>520</u> | <u>8.52</u> |
| <u>OH</u> | <u>0</u> | <u>0</u> |

Total Dissolved Solids (calc.) 17,705Iron, Fe (total) #, ## 0.0 ppm
Sulfide, as H₂S pos.

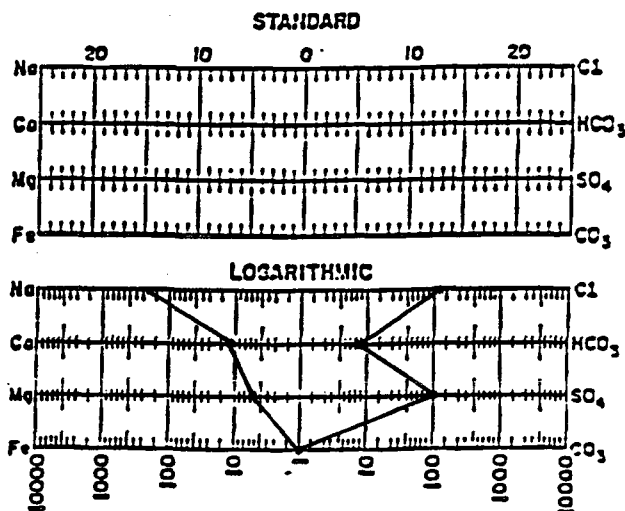
REMARKS & RECOMMENDATIONS:

W. Brown
327-9207

OTHER PROPERTIES

| | |
|---------------------------------------|--------------|
| pH | <u>7.15</u> |
| Specific Gravity, 60/60 F. | <u>1.012</u> |
| Resistivity (ohm-meters) <u>72</u> F. | <u>.47</u> |
| Total hardness | <u>940</u> |
| | |
| | |

WATER PATTERNS — me/l

ANALYST: Lee

THE WESTERN COMPANY OF
NORTH AMERICA, FARMINGTON, NM
(505) 327-6222

Please refer any questions to: **BRIAN ADLT**, District Engineer

API WATER ANALYSIS REPORT FORM

| | | | | |
|--|--|----------------|----------------------------------|-----------------|
| Company <u>Mernon Oil & Gas</u> | | Sample No. | Date Sampled <u>07-28-90</u> | |
| Field | Legal Description <u>Sec 20 T4N, R8W</u> | | County or Parish <u>San Juan</u> | State <u>NM</u> |
| Lease or Unit | Well <u>Santa Fe 20 #4</u> | Depth | Formation <u>Entrada</u> | Water, B/D |
| Type of Water (Produced, Supply, etc.) | | Sampling Point | | Sampled By |

DISSOLVED SOLIDS

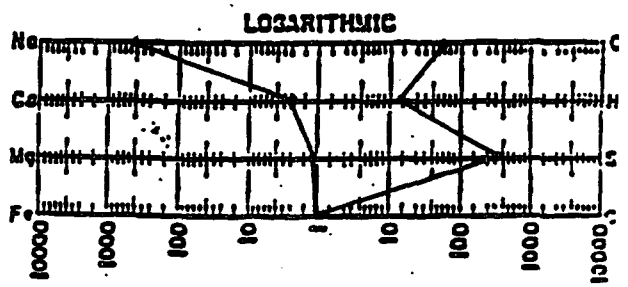
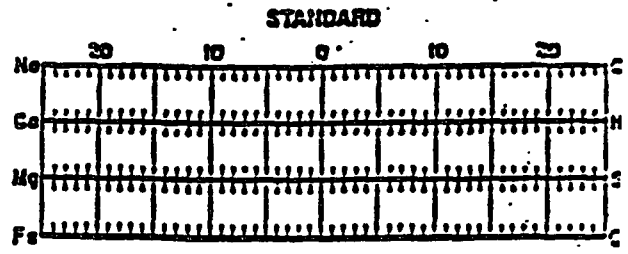
| | mg/l | me/l |
|---------------------------|--------------|---------------|
| CATIONS | | |
| Sodium, Na (calc.) | <u>11915</u> | <u>518.06</u> |
| Calcium, Ca | <u>60</u> | <u>2.99</u> |
| Magnesium, Mg | <u>15</u> | <u>1.23</u> |
| Barium, Ba | <u>—</u> | <u>—</u> |
| Potassium, K ⁺ | <u>13</u> | <u>.33</u> |

OTHER PROPERTIES

| | |
|---------------------------------------|-------------|
| pH | <u>8.15</u> |
| Specific Gravity, 60/60 F. | <u>1.00</u> |
| Resistivity (ohm-meters) <u>70</u> F. | <u>1.05</u> |
| Total hardness | <u>210</u> |
| | |
| | |

| | mg/l | me/l |
|-------------------------------|---------------|---------------|
| ANIONS | | |
| Chloride, Cl | <u>2473</u> | <u>69.76</u> |
| Sulfate, SO ₄ | <u>20,790</u> | <u>432.85</u> |
| Carbonate, CO ₃ | <u>24</u> | <u>.80</u> |
| Bicarbonate, HCO ₃ | <u>1171</u> | <u>19.20</u> |
| OH | <u>0</u> | <u>0</u> |

WATER PATTERNS — me/l



Total Dissolved Solids (calc.) 36,461

Iron, Fe (total) #,wt 0.0 ppm

Sulfide as H₂S pos

REMARKS & RECOMMENDATIONS:

DO NOT USE FOR GEL WATER
FRACS

ANALYST: L Lee

THE WESTERN COMPANY OF
NORTH AMERICA, FARMINGTON.
(505) 327-6222

Please refer any questions to: BRIAN AULT District Engineer

Section VIII
Geologic Data

Merrion Oil & Gas

VIII. Geological Information

- A. The proposed injection zones are the Morrison and the Entrada.
- a. Morrison - The Morrison is not generally a productive oil and gas bearing zone in the San Juan Basin. It is an upper Jurassic, fluvial and lacustrine rock. The Morrison lies below the Burro Canyon Formation, the lowest member of the Cretaceous Dakota Sandstone. Most Dakota gas wells are not drilled into the Burro Canyon because it is typically wet. The Morrison is also usually water saturated. The salinity of the water is about the same as that of the overlying Dakota formation, or roughly 15,000 to 30,000 ppm TDS. The Todilto Limestone lies below the Morrison. It is not an oil or gas bearing zone. The Morrison in this area is about 700' thick. The zone of interest for injection is near the lower part of the interval from 7384' to 7504'. There should be no interference with oil and gas production or fresh water contamination from water disposal at this depth.
 - b. Entrada - The Entrada sandstone lies directly beneath the Todilto Limestone. The nearest oil production in the Entrada is from the Leggs Entrada field about 50 miles south-southwest of Farmington. The Entrada consists of eolian dune sands deposited during the Jurassic period. In productive areas, the Entrada has a strong water drive. It may produce several hundred barrels of water per barrel of oil. The salinity of the water varies across the San Juan Basin. Representative water samples from Entrada producing wells are attached. They range from 14,114 ppm TDS to 36,461 ppm TDS. The Entrada is over 1000' thick in many areas. The area of interest for injection in the Pretty Lady is about 150' thick at a depth of 7650' to 7820'.
 - c. MOG is considering a third possible injection zone that is not being submitted for consideration in this application in the interest of time. It is the Mesaverde formation. While this is a productive formation in many areas of the basin, it is not productive in this area. MOG has Mesaverde producing wells in section 5, T29N, R11W with a TDS of 24,000 ppm and in section 36 of T30N, R12W with a TDS of 33,900 ppm. This indicates that the Mesaverde in this area has high salinity, and would be a good candidate for SWD.
- B. Water Bearing Zones
- a. Underlying the Proposed Injection Zones: There are no known fresh water formations underlying the injection zones. This well was extremely unusual for the San Juan Basin. It was drilled as a test for production below the lowest known producing formations in the basin. No fresh water was encountered below the Entrada according to information provided by Huntington, the operator who originally drilled the well.

- b. **Overlying the Proposed Injection Zones:** A search of the records from the Office of the State Engineer resulted in two possible water wells within the area of review. However, neither permit application on record resulted water production for domestic use. The MOG Production Foreman surveyed the area and spoke to surrounding residents who confirmed that there were no domestic water wells within the area of review. Some productive zones above the Morrison contain produced water with 10,000 ppm TDS or less. The only formation of concern would be the Ojo Alamo, which is typically a fresh water aquifer. It is separated by the injection formation by several thousand feet of rock in a wellbore that has been cased and cemented to surface, so it would be well protected from any injected fluids.

Section IX

Stimulation Design

Merrion Oil & Gas

Pretty Lady 30-11-34 Proposed Stimulation Procedure

The subject well will be stimulated in two stages with a spearhead of 15% HCL and frac'd w/ cross linked borate gel and 20/40 mesh sand as follows:

Entrada

| | | |
|-------------------------|--------------------------------|-----------|
| Pad Stg 1 | 21500 gal 20# xlink borate gel | No Sand |
| Stg 2 | 5000 gal 20# xlink borate gel | 0.5 ppg |
| Stg 3 | 10000 gal 20# xlink borate gel | 1.0 ppg |
| Stg 4 | 16750 gal 20# xlink borate gel | 2.0 ppg |
| Stg 5 | 18000 gal 20# xlink borate gel | 3.0 ppg |
| Flush Stg 6 | 2722 gal Linear gel w/ breaker | No Sand |
| | | |
| Total - 1761 Bbls Fluid | 100,000 # proppant | at 25 BPM |

Morrison

| | | |
|-------------------------|--------------------------------|-----------|
| Pad Stg 1 | 21500 gal 20# xlink borate gel | No Sand |
| Stg 2 | 5000 gal 20# xlink borate gel | 0.5 ppg |
| Stg 3 | 10000 gal 20# xlink borate gel | 1.0 ppg |
| Stg 4 | 16750 gal 20# xlink borate gel | 2.0 ppg |
| Stg 5 | 18000 gal 20# xlink borate gel | 3.0 ppg |
| Flush Stg 6 | 2722 gal Linear gel w/ breaker | No Sand |
| | | |
| Total - 1761 Bbls Fluid | 100,000 # proppant | at 25 BPM |

This is the preliminary design for the stimulation. It may change as the project proceeds.

Section XI
State Engineer Office Data

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

AFFIDAVIT OF RESPONSIBILITY
CONVERSION TO WATER-WELL

STATE OF New Mexico)
County of San Juan) ss.

D. W. Stiles, being first duly sworn according to law, upon his oath deposes and says:

1. That he is Owner of D. W. Stiles
(Title) (Operator)

whose address is P.O. Box 127, Astos, New Mexico 87410.

2. That D. W. Stiles is the operator of a well drilled on land be-
(Operator)
longing to Lee M. Crane, whose address is Astos, New Mexico
(Landowner)

D. W. Stiles, said well being drilled to test for hydrocarbons and/or carbon dioxide gas and described as the Martin No. 2, being located 990 feet from the South line and 2310 feet from the West line of Section 34, Township 30 North, Range 11 West, NMPM, San Juan County, New Mexico.

3. That said well was drilled to a total depth of 1370 feet, and that casing has been set and cemented as follows:

8-3/8" Surface Casing set at 100 feet w/50 sacks
5-1/2" Casing set at 849 feet w/75 sacks

4. That operator and landowner have made an agreement whereby operator (is) (is not) to back fill pits, level location, and clear it of all junk. The agreement further provides that operator is to plug said well back to a plugged-back total depth of feet and transfer well to landowner for his use as a water-well. Operator will leave casing in the well as follows:

5. That when operator has complied with the provisions of Paragraph 4 above it will so notify the Oil Conservation Commission of the State of New Mexico on Commission Form C-103, together with a signed statement from the landowner that the provisions of Paragraph 4 above have been complied with to his satisfaction.

D. W. Stiles
D. W. Stiles (Operator)

Subscribed and sworn to before me this 23 day of August, A. D. 19 76.

My Comm. expires 7-15-77

Ethel E. Johnson
Notary Public in and for the County of San Juan

STATE OF New Mexico)
County of San Juan) ss.

Lee M. Crane, being first duly sworn according to law, upon his oath deposes and says that when the provisions of Paragraphs 4 and 5 above have been complied with, he will accept the above-described well for his use as a water-well, and that he will assume all responsibility for the well, the location, and the conversion of the well to a water-well.

Lee M. Crane
Lee M. Crane (Landowner)

Subscribed and sworn to before me this 26th day of Aug, A. D. 19 76.

Harold D. Lester
Notary Public in and for the County of San Juan

My Comm expires 7-15-77


**New Mexico Office of the State Engineer
Water Right Summary**

Back



DB File Nbr: SJ 01995
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: RAYMOND DETTERRERA

Documents on File

| Doc | File/Act | Status | 1 | 2 | 3 | Trans_Desc | From/To | Acres | Diversion | Co |
|---|------------------|--------|-----|-----|---|------------|---------|-------|-----------|----|
|  | 72121 08/26/1985 | PMT | APR | ABS | | SJ 01995 | T | 0 | 3 | |

(qtr are 1=NW 2=NE 3=SW 4=SE)
 (qtr are biggest to smallest)

| Point of Diversion | Source | Tws | Rng | Sec | q | q | q | X Y are in Feet | UTM a |
|--------------------|--------|-----|-----|-----|---|---|---|-----------------|-------|
| POD Number | | | | | | | | Zone | UTM_Z |
| SJ 01995 | | 29N | 11W | 03 | 2 | 3 | | | 13 |

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 29N Range: 11W Sections: 3

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ☐ Non-Domestic ☐ Domestic
☒ All

POD / Surface Data Report

Avg Depth to Water Report

Water Column Report

Clear Form

iWATERS Menu

Help

AVERAGE DEPTH OF WATER REPORT 04/10/2006

| Bsn | Tws | Rng | Sec | Zone | X | Y | Wells | (Depth Water in Feet) | | |
|-----|-----|-----|-----|------|---|---|-------|-----------------------|-----|-----|
| | | | | | | | | Min | Max | Avg |

No Records found, try again

XII

USDW Protection Statement

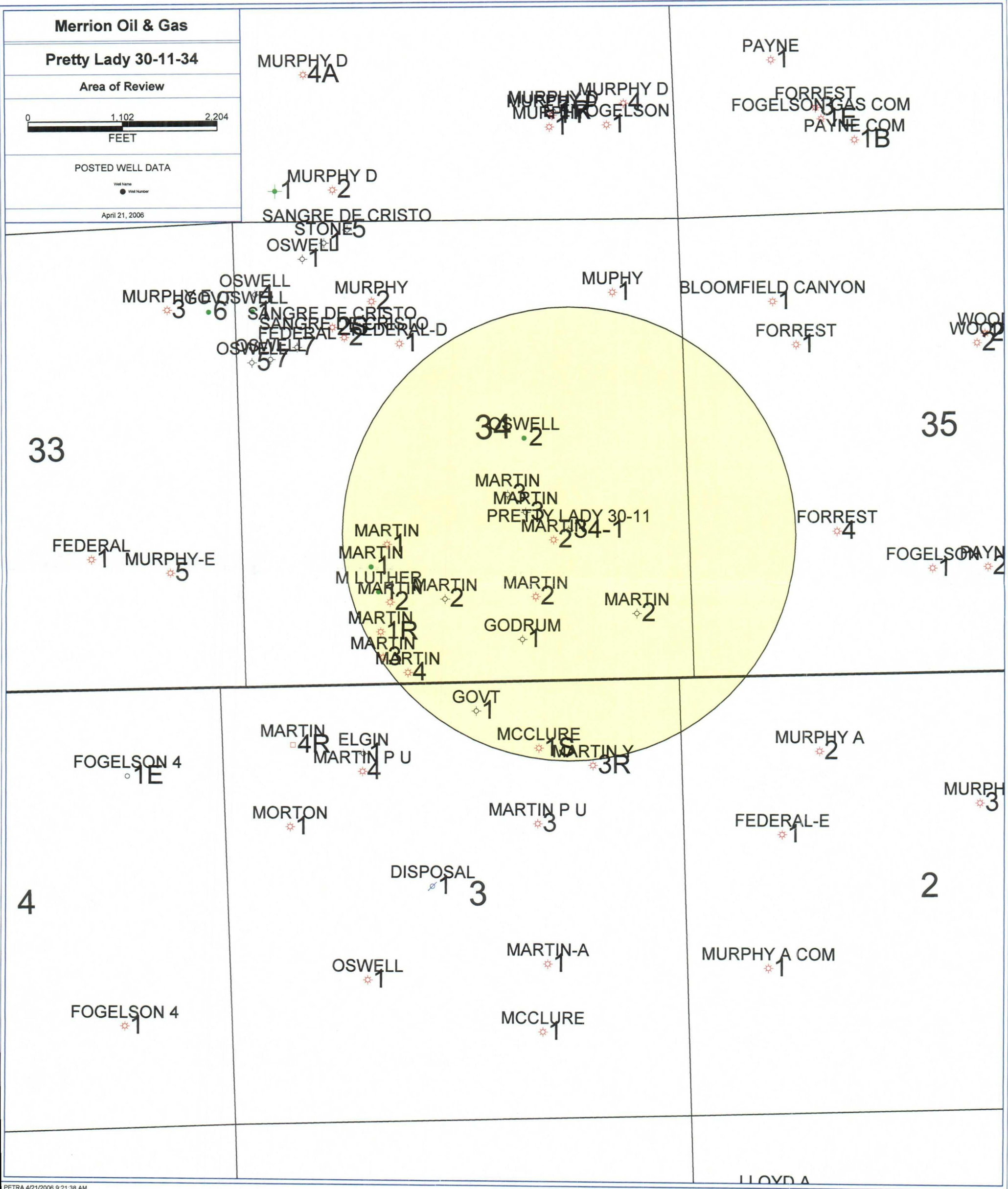


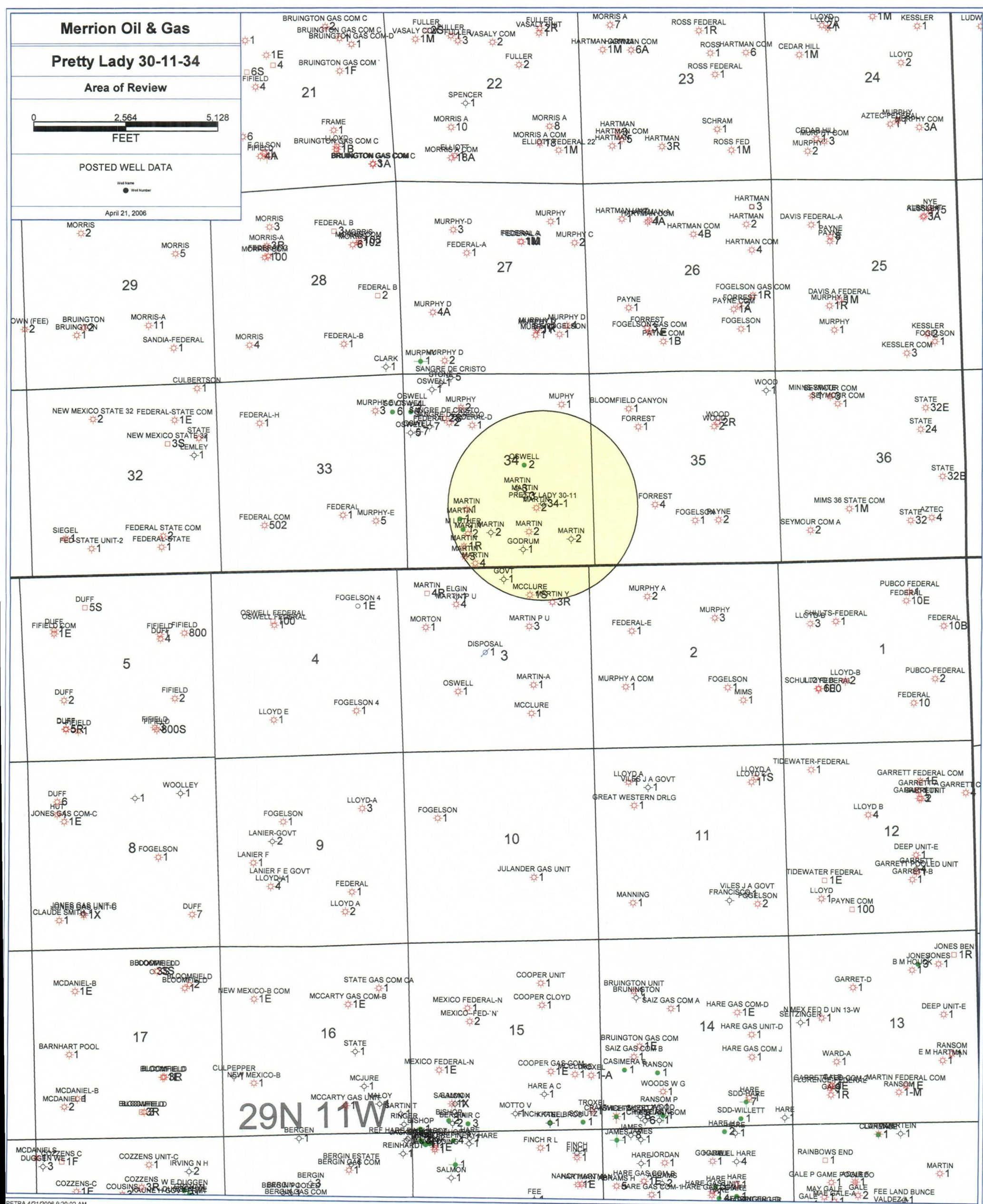
May 25, 2006

I have examined the available geologic and engineering data for the Pretty Lady 30-11-34 SWD project, and from this data, I have found no evidence of faults, or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

A handwritten signature in black ink, appearing to read "Connie Dinning", written over a horizontal line.

Connie Dinning, Production Engineer





| Pretty Lady 30 11 34, Converted Salt Water Disposal Well | | | |
|---|-------------------------|-----------------------|--|
| Operators Within Area of Review | | | |
| V. | | | |
| | | | |
| | | | |
| | | | |
| <i>The operators listed below have leasehold interests within a one half mile radius of the subject well.</i> | | | |
| | | | |
| Operator | Address | City, State | |
| Conoco Phillips (Burlington Resources) | P.O. Box 4289 | Farmington, NM 87499 | |
| Conoco Phillips Company | P.O. Box 2197, WL3 4066 | Houston, TX 77252 | |
| Energen Resources | 2198 Bloomfield Hwy | Farmington, NM 87401 | |
| Crane, Lee M. | P.O. Box 516 | Aztec, NM 87410 | |
| Jakie Moss (Surface Owner, participant in project) | P.O. Box 343 | Flora Vista, NM 87415 | |

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Monday, June 05, 2006 3:30 PM
To: 'Connie Dinning'
Cc: Ezeanyim, Richard, EMNRD; Sanchez, Daniel J., EMNRD; Hayden, Steven, EMNRD
Subject: SWD Application: Pretty Lady 30-11-343 #1 API No. 30-045-30922

Hello Ms. Dinning:

The Division received your application on 30 May 2006 and after reviewing have the following requests:

- 1) Before and after wellbore diagrams
- 2) Notification package still not received.

Congratulations in finding such a large diameter, deep wellbore for this purpose.

Regards,

William V. Jones

Engineering Bureau

Oil Conservation Division

Santa Fe

6/5/2006

MERRION OIL & GAS
610 REILLY AVE.
FARMINGTON, NM 87499
(505) 324-5300 FAX (505) 324-5350

FAX

DATE: June 13, 2006

TO: Will Jones
NMOC

PHONE: 505.476.3448
FAX: 505.476.3462

FROM: Connie Dinning
Email: cdinning@merrion.bz

PHONE: 505.324.5326
FAX: 505.324.5350

RE: Proof of Notice

CC: Steve Dunn

Number of pages including cover sheet: 3

Message

I first emailed this to you on 6/8/06, then I realized it didn't send, and I emailed it again today, and it failed again. So... here is the proof of notice info. If you need anything further, please let me know.

Thanks
Connie

05/25/2006 10:02 505-554-4567

DAILY TIMES

PAGE 01

Advertising Receipt

The Daily Times
PO Box 450
Farmington, NM 87401
Phone: (505) 325-4545
Fax: (505) 384-4580

SANDY OSBORNE
MERRION OIL & GAS
810 REILLY AVENUE
FARMINGTON, NM 87401

Cust#: 08106318-000
Addr: 05539550
Phone: (505)324-5300
Date: 05/25/06

Ad taker: DH

Salesperson:

Classification: 989

| Description | Start | Stop | Ins. | Cost/Day | Surcharges | Total |
|-----------------|----------|----------|------|----------|------------|-------|
| 01 Daily Times | 05/04/06 | 08/04/06 | 1 | 29.25 | | 29.25 |
| COMMERCIAL INT. | | | | | | 3.00 |
| Affidavits (2) | | | | | | 14.00 |

Payment Reference:

Total: 46.25

Tax: 3.24

Net: 49.49

Prepaid: 0.00

Total Due 49.49

PUBLIC NOTICE

Merrion Oil & Gas
810 Reilly Avenue
Farmington, NM 87401
Attn: Connie Dinning

Merrion Oil & Gas proposes to install commercial produced water disposal facilities at the
Pretty Lady 30-11-34 No. 1.

The facility will dispose of produced water by offloading into closed top tanks and injecting
into the Pretty Lady 30-11-34 No. 1.

Well Location: 1760' x 1475' x 1, Section 34, T30N, R11W, San Juan County, NM.
Formation Name & Depth: Morrison/Entrada, 7384' - 7815'.
Max Injection Rate: 12.000 RWPH

913 Legals

PUBLIC NOTICE

Merrion Oil & Gas
610 Rally Avenue
Farmington, NM 87401
Attn: Connie Dinning

Merrion Oil & Gas proposes to install commercial produced water disposal facilities at the Pretty Lady 30-11-34 No. 1.

The facility will dispose of produced water by off-loading into closed top tanks and injecting into the Pretty Lady 30-11-34 No. 1.

Well Location: 1760' fsf & 1475' fsf, Section 34, T30N, R11W, San Juan County, NM.

Formation Name & Depth: Morrison/Entrada, 7384' - 7815'.

Max Injection Rate: 32,000 BWPD

Max Injection Pressure: 1477 psi

Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1200 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days of this notice.

Legal No. 53524 published in The Daily Times, Farmington, New Mexico on Sunday, June 4, 2006.

| SENDER: COMPLETE THIS SECTION | | COMPLETE THIS SECTION ON DELIVERY | |
|--|--|---|--|
| <p>1. Article Addressed to: Energen Resources 2198 Bloomfield Highway Farmington, NM 87401</p> | | <p>A. Signature <i>T. McAndrews</i></p> <p>B. Received by (Printed Name) T. McAndrews</p> <p>C. Date of Delivery 5-26-06</p> <p>D. Is delivery address different from item 1? If YES, enter delivery address below:</p> | |
| <p>2. Article Number (Transfer from service label) 7005 1820 0002 8596 0881</p> | | <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p> | |
| <p>PS Form 3811, February 2004 Domestic Return Receipt</p> | | <p>102505-02-16-16-4</p> | |
| SENDER: COMPLETE THIS SECTION | | COMPLETE THIS SECTION ON DELIVERY | |
| <p>1. Article Addressed to: ConocoPhillips (Burlington) P. O. Box 4289 Farmington, NM 87499</p> | | <p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) [Name]</p> <p>C. Date of Delivery 5-26-06</p> <p>D. Is delivery address different from item 1? If YES, enter delivery address below:</p> | |
| <p>2. Article Number (Transfer from service label) 7005 1820 0002 8596 0874</p> | | <p>3. Service Type <input type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee)</p> | |
| <p>PS Form 3811, February 2004 Domestic Return Receipt</p> | | <p>102505-02-16-16-4</p> | |
| SENDER: COMPLETE THIS SECTION | | COMPLETE THIS SECTION ON DELIVERY | |
| <p>1. Article Addressed to: ConocoPhillips Company P. O. Box 2197, WL3 4066 Houston, TX 77252</p> | | <p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) [Name]</p> <p>C. Date of Delivery 5-26-06</p> <p>D. Is delivery address different from item 1? If YES, enter delivery address below:</p> | |
| <p>2. Article Number (Transfer from service label) 7005 1820 0002 8596 0873</p> | | <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee)</p> | |
| <p>PS Form 3811, February 2004 Domestic Return Receipt</p> | | <p>102505-02-16-16-4</p> | |
| SENDER: COMPLETE THIS SECTION | | COMPLETE THIS SECTION ON DELIVERY | |
| <p>1. Article Addressed to: Jakie Moss P. O. Box 343 Flora Vista, NM 87415</p> | | <p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) [Name]</p> <p>C. Date of Delivery 5-26-06</p> <p>D. Is delivery address different from item 1? If YES, enter delivery address below:</p> | |
| <p>2. Article Number (Transfer from service label) 7005 1820 0002 8596 0836</p> | | <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p> | |
| <p>PS Form 3811, February 2004 Domestic Return Receipt</p> | | <p>102505-02-16-16-4</p> | |

Injection Permit Checklist

SWD Order Number _____ Dates: Division Approved _____ District Approved _____

Information Request Letter or Email sent 6/5/06

Well Name/Num: PROXY LADY 30-11-34 #1 Date Spudded: _____

API Num: (30-) 045-30922 County: SAN JUAN

Footages 1760 FSL 1475 FEL Sec 34 Tsp 30N Rge 11W

Operator Name: MERRION OIL & GAS CORPORATION Contact CONNIE S. DINWIDDIE

Operator Address: 610 REILLY AVE, FARMINGTON, NM 87401

| | Hole/Pipe Sizes | Depths | Cement | Top/Method |
|-----------------|-----------------|--------|--------|------------|
| Surface | 17 1/2 13 3/8 | | 500 | Surf. |
| Intermediate | | | | |
| Production | 12 1/4 9 5/8 | 8104' | 2300 | SURF |
| Last DV Tool | | | | |
| Open Hole/Liner | | | | |
| Plug Back Depth | | | | |

Diagrams Included (Y/N): Before Conversion NO After Conversion NO

7" TUBING !!

Checks (Y/N): Well File Reviewed L ELogs in Imaging L

| Intervals: | Depths | Formation | Producing (Yes/No) |
|---------------------|-----------|-----------|--------------------|
| Salt/Potash | | | |
| Capitan Reef | | | |
| Cliff House, Etc: | | | |
| Formation Above | 6500-6680 | DKTA | |
| Top Inj Interval | 7384 | MORRISON | |
| Bottom Inj Interval | 7815 | ENTRADA | |
| Formation Below | | | |

1477 PSI Max. WHIP
NO Open Hole (Y/N)
NO Deviated Hole (Y/N)

Fresh Water Site Exists (Y/N) None Analysis Included (Y/N): _____

Salt Water Analysis: Injection Zone (Y/N/NA) N/A Disposal Waters (Y/N/NA) L Types: PC/PLO, SGL/DKTA

Affirmative Statement Included (Y/N): L Newspaper Notice Adequate (Y/N) _____ Well Table Adequate (Y/N) Y

Surface Owner Jake Moss Noticed (Y/N) _____ Mineral Owner(s) _____

AOR Owners: LIST included BUT NOT CERT. Receipts Noticed (Y/N) OK

CID/Potash/Etc Owners: XX Noticed (Y/N) _____

AOR Num Active Wells 0 Repairs? _____ Producing in Injection Interval in AOR NO

AOR Num of P&A Wells 0 Repairs? _____ Diagrams Included? _____

Data to Generate New AOR Table

New Table Generated? (Y/N) _____

| | STR | E-W Footages | N-S Footages |
|-----------|-----|--------------|--------------|
| Wellsite | | | |
| Northeast | | | |
| North | | | |
| Northwest | | | |
| West | | | |
| Southwest | | | |
| South | | | |
| Southeast | | | |
| East | | | |

Conditions of Approval:

1. PB TO ≈ 300' of Lower Ref.
2. _____
3. _____
4. _____

RBDMS Updated (Y/N) _____

UIC Form Completed (Y/N) _____

This Form completed _____