STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. OPERATOR: Range Operating New Mexico, Inc.

ADDRESS: 777 Main Street Suite 800 Fort Worth TX 76102

CONTACT PARTY: Andrew Tullis PHONE: 817/509-1505

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.

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 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.

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 sources 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: Andrew Tullis TITLE: District Engineer

SIGNATURE: _____ DATE: 4-6-2006

E-MAIL ADDRESS: atullis@rangeresources.com

* 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

EXHIBIT B

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;

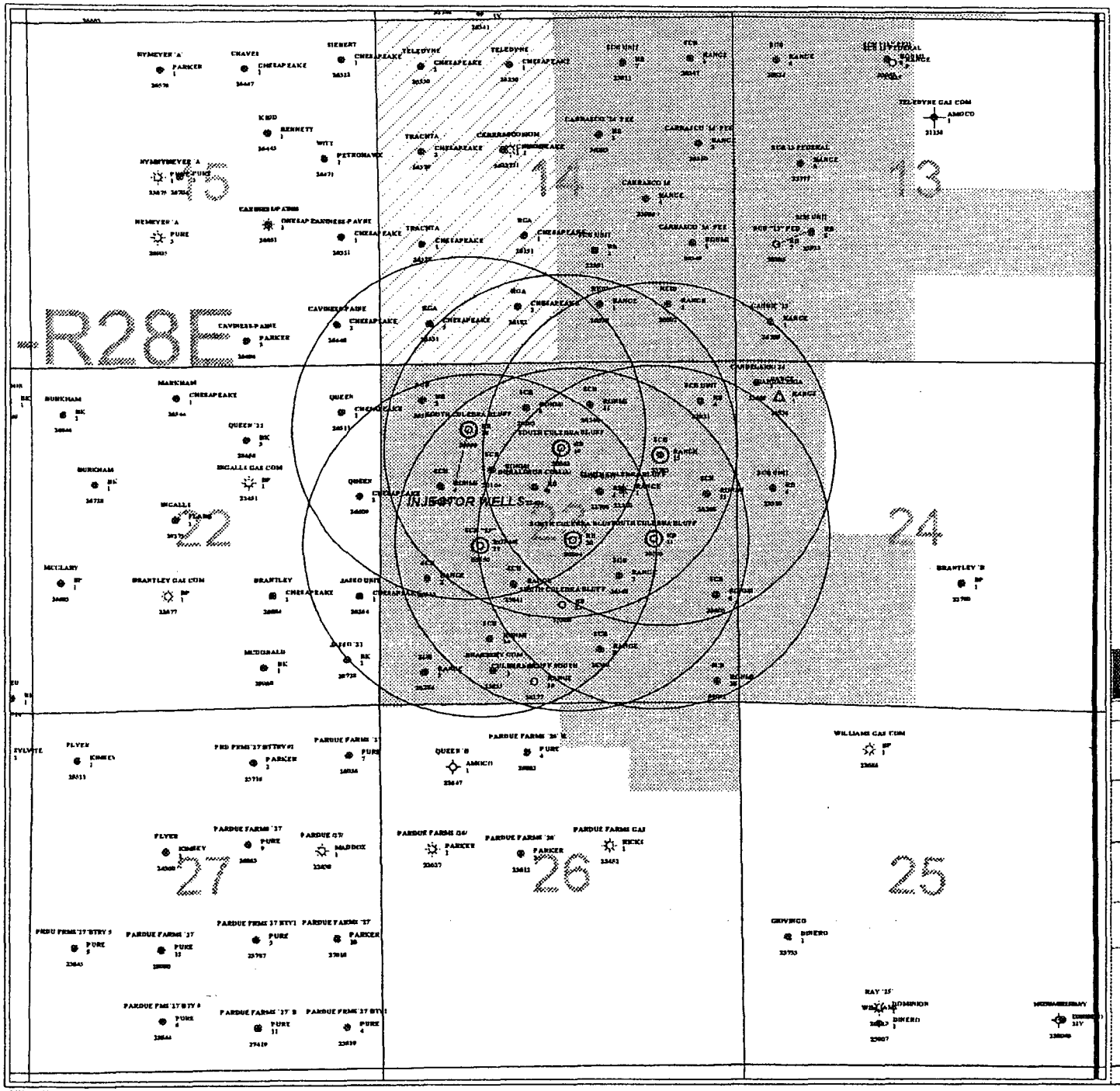
(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(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.



RANGE RESOURCES

EDDY COUNTY, NEW MEXICO

ONE HALF MILE RADIUS AROUND INJECTOR WELLS

0 1,500 3,000

FEET

POSTED WELL DATA

SYMBOL HIGHLIGHT

INJECTOR WELLS SEC 23

WELL SYMBOLS

- Location Only
- Oil Well
- Gas Well
- Oil & Gas Well
- Dry Hole
- Service Well
- Abandoned Oil Well

April 6, 2006

Proposed Injector Wells

South Culebra Bluff #23-18

*Wells within area of review

Well Name	Well Type	Construction	Location	Date Drilled	Completion Date	Depth	Calc Top Cmt
Caviness-Paine #2	Oil	Hole Size-12-1/4" Csg Size-8-5/8" Weight LB/FT- 24# Depth Set- 522' Cementing Record- 310 sx Class C Hole Size- 7-7/8" Csg Size-5.5" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1st stg-650 sx 50-50 Poz H+ 200 sx Class C 2nd stg- 475 sx lite + 100 sx Class C Tbg Size- 2-7/8" Depth Set- 6035'	760 FSL & 630 FEL Sec 15-T23S-28E	9/6/1990	9/21/1990	6300	872
Donaldson A Comm #1	Oil	Hole Size-18-1/2" Csg Size-16" Weight LB/FT- 65# Depth Set- 466' Cementing Record- 370 sx Class C Hole Size-12-1/4" Csg Size-10-3/4" Weight LB/FT- 40.5# Depth Set- 3037' Cementing Record- 1200 sx HLC & Class C Hole Size-9-1/2" Csg Size-7-5/8" Weight LB/FT- 33,29, & 26# Depth Set- 10800' Cementing Record- 2870 sx TLC & Class H Liner- Hole Size-6-1/2" Csg Size-4-1/2" Top- 10585' Bottom- 13204' Cementing Record- 350 sx Tbg Size- 2-7/8" Depth Set- 10197' Packer Set- 10204' Tbg Size- 2-3/8" Depth Set- 11404'	1930 FNL & 2303 FWL Sec 23-T23S-R28E	1/16/1978	9/6/1978	13213	0
RGA #2	Oil	Hole Size-12-1/4" Csg Size-8-5/8" Weight LB/FT- 23# Depth Set- 513' Cementing Record- 410 sx Class C Hole Size-7-7/8" Csg Size-5-1/2" Weight LB/FT- 15.5# Depth Set- 6250' Cementing Record- 2260 sx 50-50 Poz Tbg size- 2-7/8" Depth Set- 6030'	990 FSL & 2080 FWL Sec 14-T23S-R28E	10/15/1989	11/4/1989	6252	0
RGA #3	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 515' Cementing Record- 310 sx C + 2% CaCl Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6250' Cementing Record- 2 stg: 1st-725 sx 50-50 Poz H + 150 sx C 2nd stage-550 sx lite C + 50 sx C Tbg Size- 2-7/8" Depth Set- 6000'	760 FSL & 760 FWL Sec 14-T23S-R28E	8/9/1990	9/3/1990	6250	632
South Culebra Bluff #23-1	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 527.88' Cementing Record- 447 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 17# Depth Set- 6560' Cementing Record- 1578 sx Tbg size- 2-7/8" Depth Set- 6030' Packer Set- Baker Model R @ 6023'	1830 FSL & 1980 FWL Sec 23-T23S-R28E	1/4/1988	3/9/1988	6560	550
South Culebra Bluff #23-2	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 552' Cementing Record- 945 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6310' Cementing Record- 1400 sx Tbg Size- 7-7/8" Depth Set- 6018' Packer Set- Arroset I @ 6018'	1920 FSL & 660 FWL Sec 23-T23S-R28E	11/1/1989	11/25/1989	6310	978
South Culebra Bluff #23-3	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 23# Depth Set- 535' Cementing Record- 425 sx Class C Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6330' Cementing Record- 1300 sx "C" Tbg Size- 2-7/8" Depth Set- 6072'	510 FSL & 660 FWL Sec 23-T23S-R28E	2/19/1990	3/10/1990	6330	1379
South Culebra Bluff #23-4	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 555' Cementing Record- 450 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6305' Cementing Record- 2000 sx Tbg Size-2-7/8" Depth Set- 6050' Packer Set- 6050'	894 FWL & 1890 FNL Sec 23-T23S-R28E	3/3/1990	3/25/1990	6305	0
South Culebra Bluff #23-5	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 545' Cementing Record- 450 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1700 sx Tbg Size- 2-7/8" Depth Set- 6017' Packer Set- 6017'	540 FNL & 611 FWL Sec 23-T23S-R28E	3/15/1990	4/8/1990	6300	0
South Culebra Bluff #23-6	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 556' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1700 sx Tbg Size- 2-7/8" Depth Set- 6105' Packer Set- 6105'	678 FNL & 2170 FWL Sec 23-T23S-R28E	3/28/1990	5/2/1990	6300	0
South Culebra Bluff #23-11	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 23# Depth Set- 542' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1950 sx Tbg Size- 2-7/8" Depth Set- 6000' Packer Set- 6000'	660 FNL & 2140 FEL Sec 23-T23S-R28E	4/23/1990	5/19/1990	6300	0
South Culebra Bluff #23-13	Oil	Hole Size- 11" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 550' Cementing Record- 90 sx BJ Lite, 250 class "C" + 2% CaCl2 Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6349' Cementing Record-960 sx Class "C" + 5# Salt + 4% FL-52 1200 sx BJ Lite Tbg Size- 2-7/8" Depth Set- 6170'	1650 FNL & 1650 FWL Sec 23-T23S-R28E	5/7/1998	6/10/1998	6350	0
South Culebra Bluff Unit #1	Gas	Csg Size-20" Depth Set-34' Cementing Record-5 cubic yards Hole Size-17-1/2" Csg Size-13-3/8" Weight LB/FT-48# Depth Set- 418" Cementing Record- 500 sx Hole Size-12-1/4" Csg Size-9-5/8" Weight LB/FT- 36,40# Depth Set- 6355' Cementing Record-Stage 1-1065sx Stage 2-1640 sx Tbg Size- 4-1/2" Depth Set- 11769	1980 FNL & 1650 FEL Sec 23-T23S-R28E	11/6/1977	1/27/1978	11769	654
Queen #1	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 521' Cementing Record- 300 Class C Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6290' Cementing Record- 1200 sx Lite + 150 sx Class C Tbg Size- 2-7/8" Depth Set- 5986'	580 FNL & 580 FEL Sec 22-T23S-28E	10/27/1990	11/10/1990	6290	1148
Queen #2	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 410' Cementing Record- 265 sx Hole Size- 7-7/8' Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6350' Cementing Record- 685 sx Lite, 350 sx "C" Tbg Size- 2-7/8" Depth Set- 6045'	1880 FNL & 330 FEL Sec 22-T23S-R28E	9/23/1991	10/9/1991	6350	2408

South Culebra Bluff #23-19

*Wells within area of review

Well Name	Well Type	Construction	Location	Date Drilled	Completion Date	Depth	
Donaldson A Comm #1	Oil	Hole Size-18-1/2" Csg Size-16" Weight LB/FT- 65# Depth Set- 466' Cementing Record- 370 sx Class C Hole Size-12-1/4" Csg Size-10-3/4" Weight LB/FT- 40.5# Depth Set- 3037' Cementing Record- 1200 sx HLC & Class C Hole Size-9-1/2" Csg Size-7-5/8" Weight LB/FT- 33,29, & 26# Depth Set- 10800' Cementing Record- 2870 sx TLC & Class H Liner- Hole Size-6-1/2" Csg Size-4-1/2" Top- 10585' Bottom- 13204' Cementing Record- 350 sx Tbg Size- 2-7/8" Depth Set- 10197' Packer Set- 10204' Tbg Size- 2-3/8" Depth Set- 11404'	1930 FNL & 2303 FWL Sec 23-T23S-R28E	1/16/1978	9/6/1978	13213	0
Reid #1	Oil	Hole Size-12-1/4" Csg Size-8-5/8" Weight LB/FT- 24# Depth Set- 510' Cementing Record- 300 sx Hole Size- 7-7/8" Csg Size-5-1/2" Weight LB/FT-15.5# Depth Set- 6300' Cementing Record- 1250 sx Tbg Size- 2-7/8" Depth Set- 5960' Packer set- 5960'	880 FSL & 1980 FEL Sec 14-T23S-R28E	11/6/1990	12/4/1990	6300	1539
RGA #2	Oil	Hole Size-12-1/4" Csg Size-8-5/8" Weight LB/FT- 23# Depth Set- 513' Cementing Record- 410 sx Class C Hole Size-7-7/8" Csg Size-5-1/2" Weight LB/FT- 15.5# Depth Set- 6250' Cementing Record- 2260 sx 50-50 Poz Tbg size- 2-7/8" Depth Set- 6030'	990 FSL & 2080 FWL Sec 14-T23S-R28E	10/15/1989	11/4/1989	6252	0
South Culebra Bluff #23-1	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 527.88' Cementing Record- 447 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 17# Depth Set- 6560' Cementing Record- 1578 sx Tbg size- 2-7/8" Depth Set- 6030' Packer Set- Baker Model R @ 6023'	1830 FSL & 1980 FWL Sec 23-T23S-R28E	1/4/1988	3/9/1988	6560	0
South Culebra Bluff #23-3	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 23# Depth Set- 535' Cementing Record- 425 sx Class C Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6330' Cementing Record- 1300 sx "C" Tbg Size- 2-7/8" Depth Set- 6072'	510 FSL & 660 FWL Sec 23-T23S-R28E	2/19/1990	3/10/1990	6330	1379
South Culebra Bluff #23-4	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 555' Cementing Record- 450 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6305' Cementing Record- 2000 sx Tbg Size-2-7/8" Depth Set- 6050' Packer Set- 6050'	894 FWL & 1890 FNL Sec 23-T23S-R28E	3/3/1990	3/25/1990	6305	0
South Culebra Bluff #23-5	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 545' Cementing Record- 450 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1700 sx Tbg Size- 2-7/8" Depth Set- 6017' Packer Set- 6017'	540 FNL & 611 FWL Sec 23-T23S-R28E	3/15/1990	4/8/1990	6300	0
South Culebra Bluff #23-6	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 556' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1700 sx Tbg Size- 2-7/8" Depth Set- 6105' Packer Set- 6105'	678 FNL & 2170 FWL Sec 23-T23S-R28E	3/28/1990	5/2/1990	6300	0
South Culebra Bluff #23-7	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 542' Cementing Record- 350 sx Hole Size- 8-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1600 sx Tbg Size- 2-7/8" Depth Set- 6052' Packer Set- 6052'	1750 FEL & 1950 FSL Sec 23-T23S-R28E	5/17/1990	6/8/1990	6300	206
South Culebra Bluff #23-11	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 23# Depth Set- 542' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1950 sx Tbg Size- 2-7/8" Depth Set- 6000' Packer Set- 6000'	660 FNL & 2140 FEL Sec 23-T23S-R28E	4/23/1990	5/19/1990	6300	0
South Culebra Bluff #23-12	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 579' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6310' Cementing Record- 1795 sx Tbg Size- 2-7/8" Depth Set- 6060' Packer Set- 6060'	2140 FNL & 400 FEL Sec 23-T23S-R28E	6/9/1990	7/7/1990	6350	0
South Culebra Bluff #23-13	Oil	Hole Size- 11" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 550' Cementing Record- 90 sx BJ Lite, 250 class "C" + 2% CaCl2 Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6349' Cementing Record-960 sx Class "C" + 5# Salt + 4% FL-52 1200 sx BJ Lite Tbg Size- 2-7/8" Depth Set- 6170'	1650 FNL & 1650 FWL Sec 23-T23S-R28E	5/7/1998	6/10/1998	6350	0
South Culebra Bluff Unit #1	Gas	Csg Size-20" Depth Set-34' Cementing Record-5 cubic yards Hole Size-17-1/2" Csg Size-13-3/8" Weight LB/FT-48# Depth Set- 418" Cementing Record- 500 sx Hole Size-12-1/4" Csg Size-9-5/8" Weight LB/FT- 36,40# Depth Set- 6355' Cementing Record-Stage 1-1065sx Stage 2-1640 sx Tbg Size- 4-1/2" Depth Set- 11769	1980 FNL & 1650 FEL Sec 23-T23S-R28E	11/6/1977	1/27/1978	11769	654
South Culebra Bluff Unit #4	Oil	Hole Size- 17-1/2" Csg Size- 13-3/8" Weight LB/FT- 48# Depth Set- 440' Cementing Record- 550 sx Hole Size- 12-1/4" Csg Size- 7-5/8" Weight LB/FT- 26.4# Depth Set- 6185' Cementing Record- 6200 sx Liner- Hole Size-6-1/2" Csg Size-4-1/2" Top- 5795' Bottom- 9800' Cementing Record- 475 sx Tbg Size- 2-3/8" Depth Set- 7065'	660 FNL & 560 FEL Sec 23-T23S-R28E	8/9/1979	9/4/1980	9802	0

South Culebra Bluff #23-21

*Wells within area of review

Well Name	Well Type	Construction	Location	Date Drilled	Completion Date	Depth	
Donaldson A Comm #1	Oil	Hole Size-18-1/2" Csg Size-16" Weight LB/FT- 65# Depth Set- 466' Cementing Record- 370 sx Class C Hole Size-12-1/4" Csg Size-10-3/4" Weight LB/FT- 40.5# Depth Set- 3037' Cementing Record- 1200 sx HLC & Class C Hole Size-9-1/2" Csg Size-7-5/8" Weight LB/FT- 33,29, & 26# Depth Set- 10800' Cementing Record- 2870 sx TLC & Class H Liner- Hole Size-6-1/2" Csg Size-4-1/2" Top- 10585' Bottom- 13204' Cementing Record- 350 sx Tbg Size- 2-7/8" Depth Set- 10197' Packer Set- 10204' Tbg Size- 2-3/8" Depth Set- 11404'	1930 FNL & 2303 FWL Sec 23-T23S-R28E	1/16/1978	9/6/1978	13213	0
South Culebra Bluff #23-1	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 527.88' Cementing Record- 447 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 17# Depth Set- 6560' Cementing Record- 1578 sx Tbg size- 2-7/8" Depth Set- 6030' Packer Set- Baker Model R @ 6023'	1830 FSL & 1980 FWL Sec 23-T23S-R28E	1/4/1988	3/9/1988	6560	550
South Culebra Bluff #23-3	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 23# Depth Set- 535' Cementing Record- 425 sx Class C Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6330' Cementing Record- 1300 sx "C" Tbg Size- 2-7/8" Depth Set- 6072'	510 FSL & 660 FWL Sec 23-T23S-R28E	2/19/1990	3/10/1990	6330	1379
South Culebra Bluff #23-7	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 542' Cementing Record- 350 sx Hole Size- 8-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1600 sx Tbg Size- 2-7/8" Depth Set- 6052' Packer Set- 6052'	1750 FEL & 1950 FSL Sec 23-T23S-R28E	5/17/1990	6/8/1990	6300	206
South Culebra Bluff #23-8	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 300' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6424' Cementing Record- 1475 sx Tbg Size- 2-3/8" Depth Set- 6260'	1650 FSL & 330 FEL Sec 23-T23S-R28E	12/4/2004	1/2/2005	6424	806
South Culebra Bluff #23-9	Oil	Hole Size- 12-1/4" Csg Size-8-5/8" Weight LB/FT- 24# Depth Set-545' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size-5-1/2" Weight LB/FT- 15.5# Depth Set- 6350 Cementing Record- 1700 sx Tbg Size- 2-7/8" Depth Set- 6034' Packer Set- 6034'	660 FSL & 1980 FEL Sec 23-T23S-R28E	5/28/1990	6/20/1990	6350	0
South Culebra Bluff #23-10	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 557' Cementing Record- 650 sx Hole Size- 7-7/8" Csg Size-5-1/2" Weight LB/FT- 15.5# Depth Set-6401' Cementing Record- lead-714 sx tail-700 sx	330 FSL & 330 FEL Sec 23-T23S-R28E	5/17/2005	7/13/2005	6402	1016
South Culebra Bluff #23-11	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 23# Depth Set- 542' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1950 sx Tbg Size- 2-7/8" Depth Set- 6000' Packer Set- 6000'	660 FNL & 2140 FEL Sec 23-T23S-R28E	4/23/1990	5/19/1990	6300	0
South Culebra Bluff #23-12	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 579' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6310' Cementing Record- 1795 sx Tbg Size- 2-7/8" Depth Set- 6060' Packer Set- 6060'	2140 FNL & 400 FEL Sec 23-T23S-R28E	6/9/1990	7/7/1990	6350	0
South Culebra Bluff #23-13	Oil	Hole Size- 11" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 550' Cementing Record- 90 sx BJ Lite, 250 class "C" + 2% CaCl2 Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6349' Cementing Record-960 sx Class "C" + 5# Salt + 4% FL-52 1200 sx BJ Lite Tbg Size- 2-7/8" Depth Set- 6170'	1650 FNL & 1650 FWL Sec 23-T23S-R28E	5/7/1998	6/10/1998	6350	0
South Culebra Bluff Unit #1	Gas	Csg Size-20" Depth Set-34' Cementing Record-5 cubic yards Hole Size-17-1/2" Csg Size-13-3/8" Weight LB/FT-48# Depth Set- 418" Cementing Record- 500 sx Hole Size-12-1/4" Csg Size-9-5/8" Weight LB/FT- 36,40# Depth Set- 6355' Cementing Record-Stage 1-1065sx Stage 2-1640 sx Tbg Size- 4-1/2" Depth Set- 11769	1980 FNL & 1650 FEL Sec 23-T23S-R28E	11/6/1977	1/27/1978	11769	654
South Culebra Bluff Unit #4	Oil	Hole Size- 17-1/2" Csg Size- 13-3/8" Weight LB/FT- 48# Depth Set- 440' Cementing Record- 550 sx Hole Size- 12-1/4" Csg Size- 7-5/8" Weight LB/FT- 26.4# Depth Set- 6185' Cementing Record- 6200 sx Liner- Hole Size-6-1/2" Csg Size-4-1/2" Top- 5795' Bottom- 9800' Cementing Record- 475 sx Tbg Size- 2-3/8" Depth Set- 7065'	660 FNL & 560 FEL Sec 23-T23S-R28E	8/9/1979	9/4/1980	9802	0
South Culebra Bluff Unit #6	Oil	Hole Size- 17-1/2" Csg Size- 13-3/8" Weight LB/FT- 48# Depth Set- 485' Cementing Record- 600 sx Hole Size- 9-1/2" Csg Size- 7-5/8" Weight LB/FT- 26.4# Depth Set- 7006' Cementing Record- 3055 sx Liner Size- 4-1/2" Top- 6801' Bottom- 9498' Cement- 450 sx Tbg Size- 2-7/8' Depth Set- 6428'	1980 FNL & 660 FWL Sec 24-T23S-R28E	7/11/1980	12/19/1980	9506	0

South Culebra Bluff #23-15

*Wells within area of review

Well Name	Well Type	Construction	Location	Date Drilled	Completion Date	Depth	
Candelario #1	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 543' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6310' Cementing Record- 700 sx DV Set- 3491' 1000 sx Tbg Size- 2-7/8" Depth Set- 6049' Packer Set- 6049'	660 FNL & 660 FWL Sec 24-T23S-R28E	11/7/1990	12/14/1990	6310	0
Candelario 24 #2	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 297' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6397' Cementing Record- 1300 sx Tbg Size- 2-3/8" Depth Set- 5837' Packer Set- 5806'	330 FNL & 330 FWL Sec 24-T23S-R28E	10/15/2004	11/21/2004	6400	1449
Candie 13 #1	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 582' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 675 sx 1st stage 820 sx thru DV tool Tbg Size- 2-7/8" Depth Set- 5711' Packer Set- 5711'	560 FWL & 660 FSL Sec 13-T23S-R28E	4/13/1991	5/1/1991	6300	606
Donaldson A Comm #1	Oil	Hole Size-18-1/2" Csg Size-16" Weight LB/FT- 65# Depth Set- 466' Cementing Record- 370 sx Class C Hole Size-12-1/4" Csg Size-10-3/4" Weight LB/FT- 40.5# Depth Set- 3037' Cementing Record- 1200 sx HLC & Class C Hole Size-9-1/2" Csg Size-7-5/8" Weight LB/FT- 33,29, & 26# Depth Set- 10800' Cementing Record- 2870 sx TLC & Class H Liner- Hole Size-6-1/2" Csg Size-4-1/2" Top- 10585' Bottom- 13204' Cementing Record- 350 sx Tbg Size- 2-7/8" Depth Set- 10197' Packer Set- 10204' Tbg Size- 2-3/8" Depth Set- 11404'	1930 FNL & 2303 FWL Sec 23-T23S-R28E	1/16/1978	9/6/1978	13213	0
Reid #1	Oil	Hole Size-12-1/4" Csg Size-8-5/8" Weight LB/FT- 24# Depth Set- 510' Cementing Record- 300 sx Hole Size- 7-7/8" Csg Size-5-1/2" Weight LB/FT-15.5# Depth Set- 6300' Cementing Record- 1250 sx Tbg Size- 2-7/8" Depth Set- 5960' Packer set- 5960'	880 FSL & 1980 FEL Sec 14-T23S-R28E	11/6/1990	12/4/1990	6300	1539
Reid #2	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT-24# Depth Set-509' Cementing Record- 310 sx Hole Size- 7-7/8" Csg Size-5-1/2" Weight LB/FT-15.5# Depth Set-6300' Cementing Record-1st stage- 550 sx DV 1150 sx Tbs Size-2-7/8" Depth Set- 6044' Packer Set- 6044'	888 FSL & 925 FEL Sec 14-T23S-R28E	1/24/1991	2/17/1991	6300	0
South Culebra Bluff #23-3	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 23# Depth Set- 535' Cementing Record- 425 sx Class C Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6330' Cementing Record- 1300 sx "C" Tbg Size- 2-7/8" Depth Set- 6072'	510 FSL & 660 FWL Sec 23-T23S-R28E	2/19/1990	3/10/1990	6330	1379
South Culebra Bluff #23-6	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 556' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1700 sx Tbg Size- 2-7/8" Depth Set- 6105' Packer Set- 6105'	678 FNL & 2170 FWL Sec 23-T23S-R28E	3/28/1990	5/2/1990	6300	0
South Culebra Bluff #23-7	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 542' Cementing Record- 350 sx Hole Size- 8-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1600 sx Tbg Size- 2-7/8" Depth Set- 6052' Packer Set- 6052'	1750 FEL & 1950 FSL Sec 23-T23S-R28E	5/17/1990	6/8/1990	6300	206
South Culebra Bluff #23-8	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 300' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6424' Cementing Record- 1475 sx Tbg Size- 2-3/8" Depth Set- 6260'	1650 FSL & 330 FEL Sec 23-T23S-R28E	12/4/2004	1/2/2005	6424	806
South Culebra Bluff #23-11	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 23# Depth Set- 542' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1950 sx Tbg Size- 2-7/8" Depth Set- 6000' Packer Set- 6000'	660 FNL & 2140 FEL Sec 23-T23S-R28E	4/23/1990	5/19/1990	6300	0
South Culebra Bluff #23-12	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 579' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6310' Cementing Record- 1795 sx Tbg Size- 2-7/8" Depth Set- 6060' Packer Set- 6060'	2140 FNL & 400 FEL Sec 23-T23S-R28E	6/9/1990	7/7/1990	6350	0
South Culebra Bluff #23-13	Oil	Hole Size- 11" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 550' Cementing Record- 90 sx BJ Lite, 250 class "C" + 2% CaCl2 Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6349' Cementing Record-960 sx Class "C" + 5# Salt + 4% FL-52 1200 sx BJ Lite Tbg Size- 2-7/8" Depth Set- 6170'	1650 FNL & 1650 FWL Sec 23-T23S-R28E	5/7/1998	6/10/1998	6350	0
South Culebra Bluff Unit #1	Gas	Csg Size-20" Depth Set-34' Cementing Record-5 cubic yards Hole Size-17-1/2" Csg Size-13-3/8" Weight LB/FT-48# Depth Set- 418" Cementing Record- 500 sx Hole Size-12-1/4" Csg Size-9-5/8" Weight LB/FT- 36,40# Depth Set- 6355' Cementing Record-Stage 1-1065sx Stage 2-1640 sx Tbg Size- 4-1/2" Depth Set- 11769	1980 FNL & 1650 FEL Sec 23-T23S-R28E	11/6/1977	1/27/1978	11769	654
South Culebra Bluff Unit #4	Oil	Hole Size- 17-1/2" Csg Size- 13-3/8" Weight LB/FT- 48# Depth Set- 440' Cementing Record- 550 sx Hole Size- 12-1/4" Csg Size- 7-5/8" Weight LB/FT- 26.4# Depth Set- 6185' Cementing Record- 6200 sx Liner- Hole Size-6-1/2" Csg Size-4-1/2" Top- 5795' Bottom- 9800' Cementing Record- 475 sx Tbg Size- 2-3/8" Depth Set- 7065'	660 FNL & 560 FEL Sec 23-T23S-R28E	8/9/1979	9/4/1980	9802	0
South Culebra Bluff Unit #6	Oil	Hole Size- 17-1/2" Csg Size- 13-3/8" Weight LB/FT- 48# Depth Set- 485' Cementing Record- 600 sx Hole Size- 9-1/2" Csg Size- 7-5/8" Weight LB/FT- 26.4# Depth Set- 7006' Cementing Record- 3055 sx Liner Size- 4-1/2" Top- 6801' Bottom- 9498' Cement- 450 sx Tbg Size- 2-7/8' Depth Set- 6428'	1980 FNL & 660 FWL Sec 24-T23S-R28E	7/11/1980	12/19/1980	9506	0

South Culebra Bluff #23-20

*Wells within area of review

Well Name	Well Type	Construction	Location	Date Drilled	Completion Date	Depth	
Brantley Com #1	Oil	Hole Size- 11" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 500' Cementing Record- 550 sx HLC & C Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 17# Depth Set- 7200' Cementing Record- 2550 sx HLC & C Tbg Size- 2-3/8" Depth Set- 7344'	554 FSL & 1874 FWL Sec 23-T23S-R28E	9/22/1981	11/10/1981	7508	0
Donaldson A Comm #1	Oil	Hole Size-18-1/2" Csg Size-16" Weight LB/FT- 65# Depth Set- 466' Cementing Record- 370 sx Class C Hole Size-12-1/4" Csg Size-10-3/4" Weight LB/FT- 40.5# Depth Set- 3037' Cementing Record- 1200 sx HLC & Class C Hole Size-9-1/2" Csg Size-7-5/8" Weight LB/FT- 33,29, & 26# Depth Set- 10800' Cementing Record- 2870 sx TLC & Class H Liner- Hole Size-6-1/2" Csg Size-4-1/2" Top- 10585' Bottom- 13204' Cementing Record- 350 sx Tbg Size- 2-7/8" Depth Set- 10197' Packer Set- 10204' Tbg Size- 2-3/8" Depth Set- 11404'	1930 FNL & 2303 FWL Sec 23-T23S-R28E	1/16/1978	9/6/1978	13213	0
South Culebra Bluff #23-1	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 527.88' Cementing Record- 447 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 17# Depth Set- 6560' Cementing Record- 1578 sx Tbg size- 2-7/8" Depth Set- 6030' Packer Set- Baker Model R @ 6023'	1830 FSL & 1980 FWL Sec 23-T23S-R28E	1/4/1988	3/9/1988	6560	550
South Culebra Bluff #23-2	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 552' Cementing Record- 945 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6310' Cementing Record- 1400 sx Tbg Size- 7-7/8" Depth Set- 6018' Packer Set- Arroset I @ 6018'	1920 FSL & 660 FWL Sec 23-T23S-R28E	11/1/1989	11/25/1989	6310	978
South Culebra Bluff #23-3	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 23# Depth Set- 535' Cementing Record- 425 sx Class C Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6330' Cementing Record- 1300 sx "C" Tbg Size- 2-7/8" Depth Set- 6072'	510 FSL & 660 FWL Sec 23-T23S-R28E	2/19/1990	3/10/1990	6330	1379
South Culebra Bluff #23-4	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 555' Cementing Record- 450 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6305' Cementing Record- 2000 sx Tbg Size-2-7/8" Depth Set- 6050' Packer Set- 6050'	894 FWL & 1890 FNL Sec 23-T23S-R28E	3/3/1990	3/25/1990	6305	0
South Culebra Bluff #23-6	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 556' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1700 sx Tbg Size- 2-7/8" Depth Set- 6105' Packer Set- 6105'	678 FNL & 2170 FWL Sec 23-T23S-R28E	3/28/1990	5/2/1990	6300	0
South Culebra Bluff #23-7	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 542' Cementing Record- 350 sx Hole Size- 8-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1600 sx Tbg Size- 2-7/8" Depth Set- 6052' Packer Set- 6052'	1750 FEL & 1950 FSL Sec 23-T23S-R28E	5/17/1990	6/8/1990	6300	206
South Culebra Bluff #23-8	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 300' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6424' Cementing Record- 1475 sx Tbg Size- 2-3/8" Depth Set- 6260'	1650 FSL & 330 FEL Sec 23-T23S-R28E	12/4/2004	1/2/2005	6424	806
South Culebra Bluff #23-9	Oil	Hole Size- 12-1/4" Csg Size-8-5/8" Weight LB/FT- 24# Depth Set-545' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size-5-1/2" Weight LB/FT- 15.5# Depth Set- 6350 Cementing Record- 1700 sx Tbg Size- 2-7/8" Depth Set- 6034' Packer Set- 6034'	660 FSL & 1980 FEL Sec 23-T23S-R28E	5/28/1990	6/20/1990	6350	0
South Culebra Bluff #23-11	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 23# Depth Set- 542' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1950 sx Tbg Size- 2-7/8" Depth Set- 6000' Packer Set- 6000'	660 FNL & 2140 FEL Sec 23-T23S-R28E	4/23/1990	5/19/1990	6300	0
South Culebra Bluff #23-12	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 579' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6310' Cementing Record- 1795 sx Tbg Size- 2-7/8" Depth Set- 6060' Packer Set- 6060'	2140 FNL & 400 FEL Sec 23-T23S-R28E	6/9/1990	7/7/1990	6350	0
South Culebra Bluff #23-13	Oil	Hole Size- 11" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 550' Cementing Record- 90 sx BJ Lite, 250 class "C" + 2% CaCl2 Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6349' Cementing Record-960 sx Class "C" + 5# Salt + 4% FL-52 1200 sx BJ Lite Tbg Size- 2-7/8" Depth Set- 6170'	1650 FNL & 1650 FWL Sec 23-T23S-R28E	5/7/1998	6/10/1998	6350	0
South Culebra Bluff #23-14	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 335' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size-5-1/2" Weight LB/FT- 15.5# Depth Set- 6419' Cementing Record- 1206 sx Tbg Size- 2-7/8" Depth Set- 6001'	990 FSL & 1650 FWL Sec 23-T23S-R28E	11/1/2004	12/16/2004	6419	1826
South Culebra Bluff Unit #1	Gas	Csg Size-20" Depth Set-34' Cementing Record-5 cubic yards Hole Size-17-1/2" Csg Size-13-3/8" Weight LB/FT-48# Depth Set- 418" Cementing Record- 500 sx Hole Size-12-1/4" Csg Size-9-5/8" Weight LB/FT- 36,40# Depth Set- 6355' Cementing Record-Stage 1-1065sx Stage 2-1640 sx Tbg Size- 4-1/2" Depth Set- 11769	1980 FNL & 1650 FEL Sec 23-T23S-R28E	11/6/1977	1/27/1978	11769	654

South Culebra Bluff #23-17

*Wells within area of review

Well Name	Well Type	Construction	Location	Date Drilled	Completion Date	Depth	
Brantley Com #1	Oil	Hole Size- 11" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 500' Cementing Record- 550 sx HLC & C Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 17# Depth Set- 7200' Cementing Record- 2550 sx HLC & C Tbg Size- 2-3/8" Depth Set- 7344'	554 FSL & 1874 FWL Sec 23-T23S-R28E	9/22/1981	11/10/1981	7508	0
Donaldson A Comm #1	Oil	Hole Size-18-1/2" Csg Size-16" Weight LB/FT- 65# Depth Set- 466' Cementing Record- 370 sx Class C Hole Size-12-1/4" Csg Size-10-3/4" Weight LB/FT- 40.5# Depth Set- 3037' Cementing Record- 1200 sx HLC & Class C Hole Size-9-1/2" Csg Size-7-5/8" Weight LB/FT- 33,29, & 26# Depth Set- 10800' Cementing Record- 2870 sx TLC & Class H Liner- Hole Size-6-1/2" Csg Size-4-1/2" Top- 10585' Bottom- 13204' Cementing Record- 350 sx Tbg Size- 2-7/8" Depth Set- 10197' Packer Set- 10204' Tbg Size- 2-3/8" Depth Set- 11404'	1930 FNL & 2303 FWL Sec 23-T23S-R28E	1/16/1978	9/6/1978	13213	0
Jasso Unit #1	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 512' Cementing Record- 550 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 2230 sx Tbg Size- 2-7/8" Depth Set- 6053' Packer Set- 6053'	1864 FSL & 350 FEL Sec 22-T23S-R28E	1/8/1990	2/1/1990	6300	0
Queen #2	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 410' Cementing Record- 265 sx Hole Size- 7-7/8' Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6350' Cementing Record- 685 sx Lite, 350 sx "C" Tbg Size- 2-7/8" Depth Set- 6045'	1880 FNL & 330 FEL Sec 22-T23S-R28E	9/23/1991	10/9/1991	6350	2408
South Culebra Bluff #23-1	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 527.88' Cementing Record- 447 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 17# Depth Set- 6560' Cementing Record- 1578 sx Tbg size- 2-7/8" Depth Set- 6030' Packer Set- Baker Model R @ 6023'	1830 FSL & 1980 FWL Sec 23-T23S-R28E	1/4/1988	3/9/1988	6560	550
South Culebra Bluff #23-2	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 552' Cementing Record- 945 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6310' Cementing Record- 1400 sx Tbg Size- 7-7/8" Depth Set- 6018' Packer Set- Arroset I @ 6018'	1920 FSL & 660 FWL Sec 23-T23S-R28E	11/1/1989	11/25/1989	6310	978
South Culebra Bluff #23-3	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 23# Depth Set- 535' Cementing Record- 425 sx Class C Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6330' Cementing Record- 1300 sx "C" Tbg Size- 2-7/8" Depth Set- 6072'	510 FSL & 660 FWL Sec 23-T23S-R28E	2/19/1990	3/10/1990	6330	1370
South Culebra Bluff #23-4	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 555' Cementing Record- 450 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6305' Cementing Record- 2000 sx Tbg Size-2-7/8" Depth Set- 6050' Packer Set- 6050'	894 FWL & 1890 FNL Sec 23-T23S-R28E	3/3/1990	3/25/1990	6305	0
South Culebra Bluff #23-5	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 545' Cementing Record- 450 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1700 sx Tbg Size- 2-7/8" Depth Set- 6017' Packer Set- 6017'	540 FNL & 611 FWL Sec 23-T23S-R28E	3/15/1990	4/8/1990	6300	0
South Culebra Bluff #23-6	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 556' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1700 sx Tbg Size- 2-7/8" Depth Set- 6105' Packer Set- 6105'	678 FNL & 2170 FWL Sec 23-T23S-R28E	3/28/1990	5/2/1990	6300	0
South Culebra Bluff #23-7	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 542' Cementing Record- 350 sx Hole Size- 8-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6300' Cementing Record- 1600 sx Tbg Size- 2-7/8" Depth Set- 6052' Packer Set- 6052'	1750 FEL & 1950 FSL Sec 23-T23S-R28E	5/17/1990	6/8/1990	6300	206
South Culebra Bluff #23-9	Oil	Hole Size- 12-1/4" Csg Size-8-5/8" Weight LB/FT- 24# Depth Set-545' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size-5-1/2" Weight LB/FT- 15.5# Depth Set- 6350 Cementing Record- 1700 sx Tbg Size- 2-7/8" Depth Set- 6034' Packer Set- 6034'	660 FSL & 1980 FEL Sec 23-T23S-R28E	5/28/1990	6/20/1990	6350	0
South Culebra Bluff #23-13	Oil	Hole Size- 11" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 550' Cementing Record- 90 sx BJ Lite, 250 class "C" + 2% CaCl2 Hole Size- 7-7/8" Csg Size- 5-1/2" Weight LB/FT- 15.5# Depth Set- 6349' Cementing Record-960 sx Class "C" + 5# Salt + 4% FL-52 1200 sx BJ Lite Tbg Size- 2-7/8" Depth Set- 6170'	1650 FNL & 1650 FWL Sec 23-T23S-R28E	5/7/1998	6/10/1998	6350	0
South Culebra Bluff #23-14	Oil	Hole Size- 12-1/4" Csg Size- 8-5/8" Weight LB/FT- 24# Depth Set- 335' Cementing Record- 350 sx Hole Size- 7-7/8" Csg Size-5-1/2" Weight LB/FT- 15.5# Depth Set- 6419' Cementing Record- 1206 sx Tbg Size- 2-7/8" Depth Set- 6001'	990 FSL & 1650 FWL Sec 23-T23S-R28E	11/1/2004	12/16/2004	6419	1826
South Culebra Bluff Unit #1	Gas	Csg Size-20" Depth Set-34' Cementing Record-5 cubic yards Hole Size-17-1/2" Csg Size-13-3/8" Weight LB/FT-48# Depth Set- 418" Cementing Record- 500 sx Hole Size-12-1/4" Csg Size-9-5/8" Weight LB/FT- 36,40# Depth Set- 6355' Cementing Record-Stage 1-1065sx Stage 2-1640 sx Tbg Size- 4-1/2" Depth Set- 11769	1980 FNL & 1650 FEL Sec 23-T23S-R28E	11/6/1977	1/27/1978	11769	654
South Culebra Bluff #3B	Oil	Hole Size- 17-1/2 Csg Size- 13-3/8" Weight LB/FT- 48# Depth Set- 485' Cementing Record- 625 sx Class C Hole Size- 11" Csg Size- 7-5/8" Weight LB/FT- 26.4# Depth Set- 6345' Cementing Record- 3690 TLW & 200 Class H Tbg Size- 2-3/8" Depth Set- 7000'	2050 FNL & 1950 FEL Sec 23-T23S-R28E	1/21/1979	3/13/1979	8000	0

Side 1

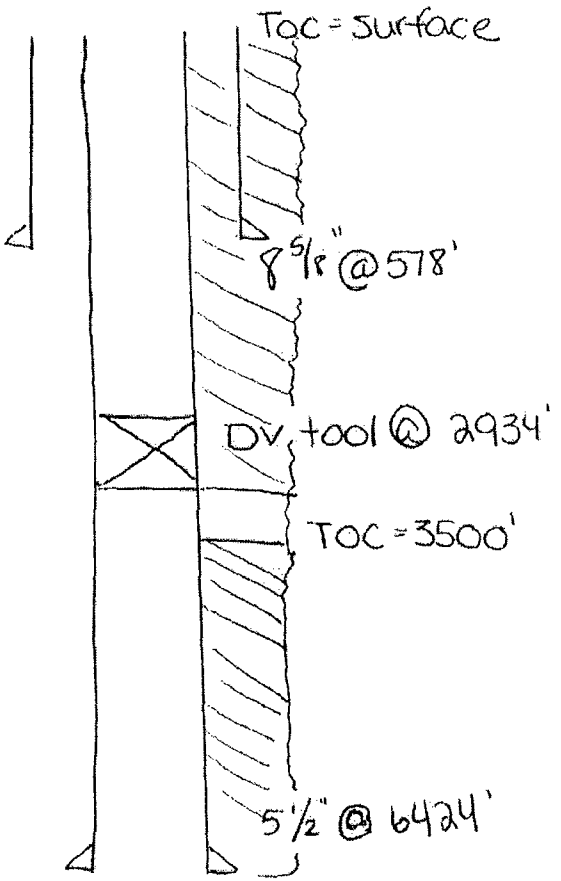
INJECTION WELL DATA SHEET

OPERATOR: Range Operating NM, Inc

WELL NAME & NUMBER: South Culebra Bluff 23-15

WELL LOCATION:	1430' FNL & 1150' FEL	H	23	23-S	28-E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

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

Cemented with: 650 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Calculated

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined _____

Production Casing

Hole Size: 7 7/8" Casing Size: 5 1/2"

Cemented with: Stage 1- 650 / Stage 2- 625 sx. *or* _____ ft³

Top of Cement: Stage 1- 3500 / Stage 2- 2934-Surface Method Determined: Calculated

Total Depth: _____

Injection Interval

5724 feet to 6234

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: **2 7/8'', 65#, J-55** Lining Material: **Plastic**

Type of Packer: **Baker arrowset permanent pkr**

Packer Setting Depth: **5000'**

Other Type of Tubing/Casing Seal (if applicable): **N/A**

Additional Data

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

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

   The well was drilled as a Brushy Canyon (Delaware) Producer

2. Name of the Injection Formation: Deleware

3. Name of Field or Pool (if applicable): 40350

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

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   Above-

   Below- Bone Springs

Side 1

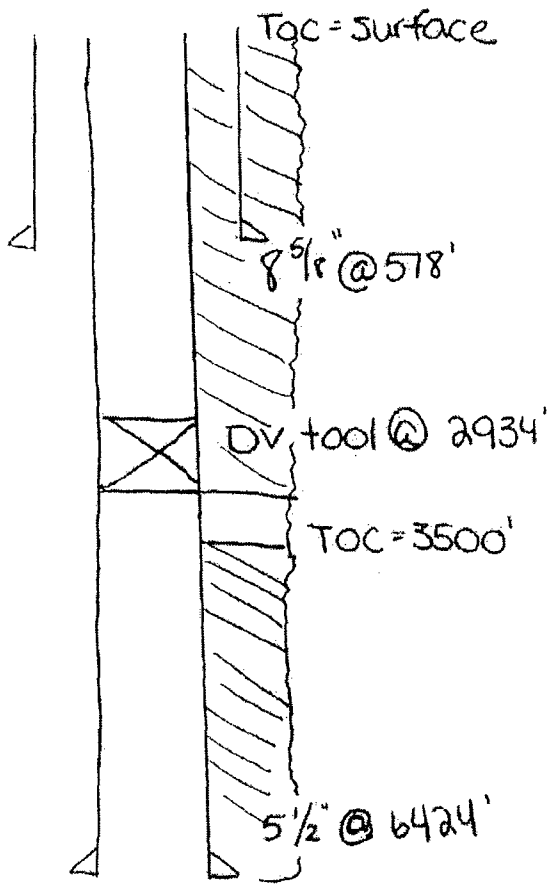
INJECTION WELL DATA SHEET

OPERATOR: Range Operating NM, Inc

WELL NAME & NUMBER: South Culebra Bluff 23-17

WELL LOCATION:	2440' FSL & 1500' FWL	K	23	23-S	28-E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

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

Cemented with: 650 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Calculated

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 7 7/8" Casing Size: 5 1/2"

Cemented with: Stage 1- 650 / Stage 2- 625 sx. *or* _____ ft³

Top of Cement: Stage 1- 3500 / Stage 2- 2934-Surface Method Determined: Calculated

Total Depth: _____

Injection Interval

5680 feet to 6205

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

SCB 23-17

Tubing Size: 2 7/8", 65#, J-55 Lining Material: Plastic

Type of Packer: Baker arrowset permanent pkr

Packer Setting Depth: 5000'

Other Type of Tubing/Casing Seal (if applicable): N/A

Additional Data

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

   If no, for what purpose was the well originally drilled? N/A

2. Name of the Injection Formation: Delaware

3. Name of Field or Pool (if applicable): 40350

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

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   Above-

   Below- Bone Springs

Side I

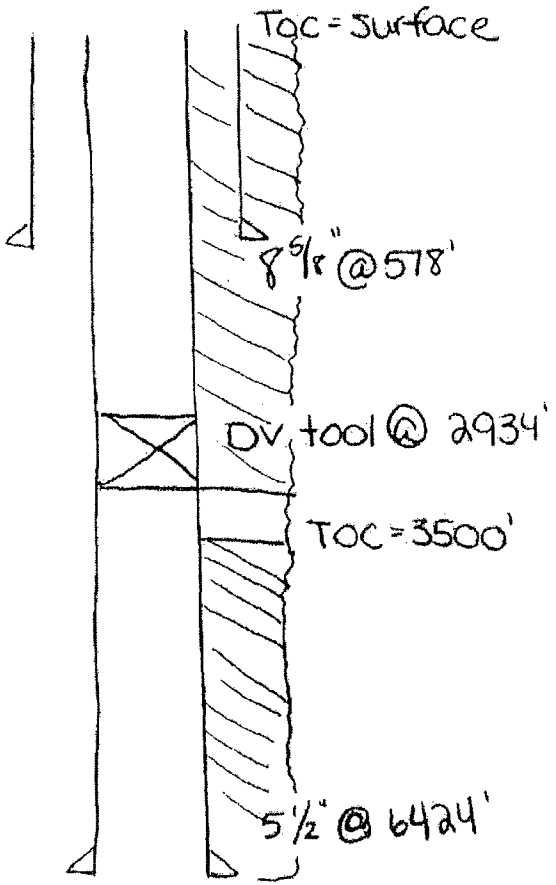
INJECTION WELL DATA SHEET

OPERATOR: Range Operating NM, Inc

WELL NAME & NUMBER: South Culebra Bluff 23-18

WELL LOCATION:					
	BHL=1300' FWL & 1000' FNL	E	23	23-S	28-E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

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

Cemented with: 650 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Calculaced

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 7 7/8" Casing Size: 5 1/2"

Cemented with: Stage 1- 650 / Stage 2- 625 sx. *or* _____ ft³

Top of Cement: Stage 1- 3500 / Stage 2- 2934-Surface Method Determined: Calculated

Total Depth: _____

Injection Interval

5695 feet to 6215

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

SCB 23-18

Tubing Size: 2 7/8", 65#, J-55 Lining Material: Plastic

Type of Packer: Baker arrowset permanent pkr

Packer Setting Depth: 5000'

Other Type of Tubing/Casing Seal (if applicable): N/A

Additional Data

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

   If no, for what purpose was the well originally drilled? N/A

2. Name of the Injection Formation: Delaware

3. Name of Field or Pool (if applicable): 40350

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

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   Above-

   Below- Bone Springs

Side 1

INJECTION WELL DATA SHEET

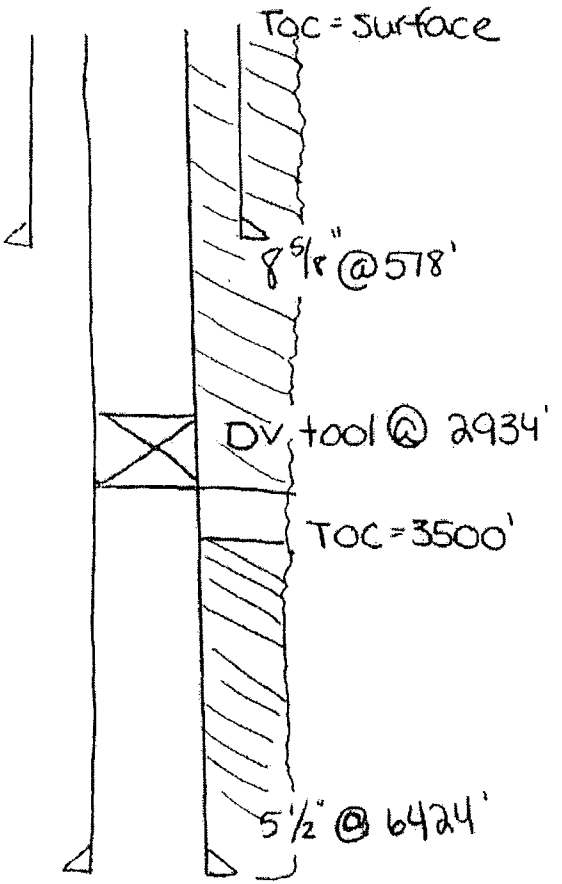
OPERATOR: Range Operating NM, Inc

WELL NAME & NUMBER: South Culebra Bluff 23-19

WELL LOCATION: BHL= 2620' FEL & 1300' FNL | F | 23 | 23-S | 28-E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

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

Cemented with: 650 sx. *or* _____ ft³

Top of Cement: Surface | Method Determined: Calculated

Intermediate Casing

Hole Size: _____ | Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ | Method Determined: _____

Production Casing

Hole Size: 7 7/8" | Casing Size: 5 1/2"

Cemented with: Stage 1- 650 / Stage 2- 625 sx. *or* _____ ft³

Top of Cement: Stage 1- 3500 / Stage 2- 2934-Surface | Method Determined: Calculated

Total Depth: _____

Injection Interval

5720 feet to 6235

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

SCB 23-19

Tubing Size: 2 7/8", 65#, J-55 Lining Material: Plastic

Type of Packer: Baker arrowset permanent pkr

Packer Setting Depth: 5000'

Other Type of Tubing/Casing Seal (if applicable): N/A

Additional Data

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

   If no, for what purpose was the well originally drilled? N/A

2. Name of the Injection Formation: Delaware

3. Name of Field or Pool (if applicable): 40350

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

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   Above-

   Below- Bone Springs

Side I

INJECTION WELL DATA SHEET

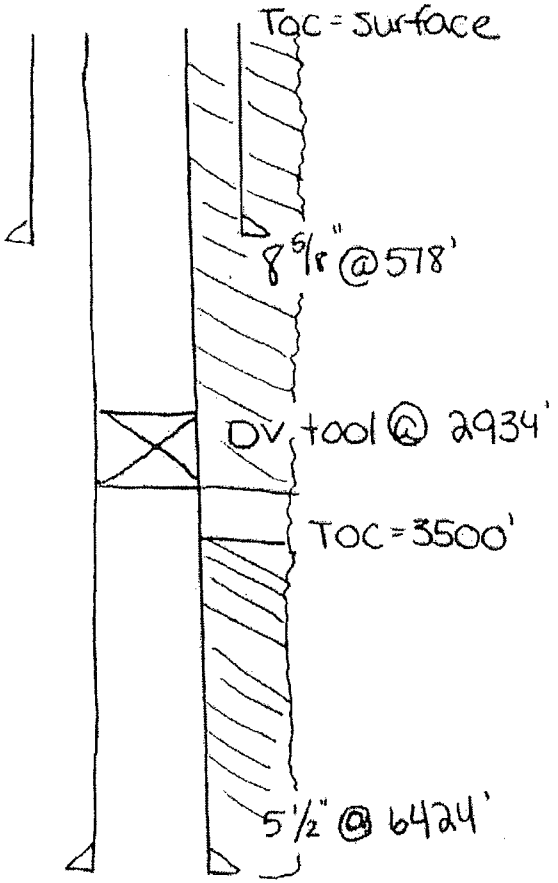
OPERATOR: Range Operating NM, Inc

WELL NAME & NUMBER: South Culebra Bluff 23-20

WELL LOCATION: 2520' FSL & 2460' FEL | J | 23 | 23-S | 28-E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

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

Cemented with: 650 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Calculated

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 7 7/8" Casing Size: 5 1/2"

Cemented with: Stage 1- 650 / Stage 2- 625 sx. *or* _____ ft³

Top of Cement: Stage 1- 3500 / Stage 2- 2934-Surface Method Determined: Calculated

Total Depth: _____

Injection Interval

5710 feet to 6225

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET SCB 23-20

Tubing Size: 2 7/8", 65#, J-55 Lining Material: Plastic

Type of Packer: Baker arrowset permanent pkr

Packer Setting Depth: 5000'

Other Type of Tubing/Casing Seal (if applicable): N/A

Additional Data

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

   If no, for what purpose was the well originally drilled? N/A

2. Name of the Injection Formation: Delaware

3. Name of Field or Pool (if applicable): 40350

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

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   Above-

   Below- Bone Springs

Side 1

INJECTION WELL DATA SHEET

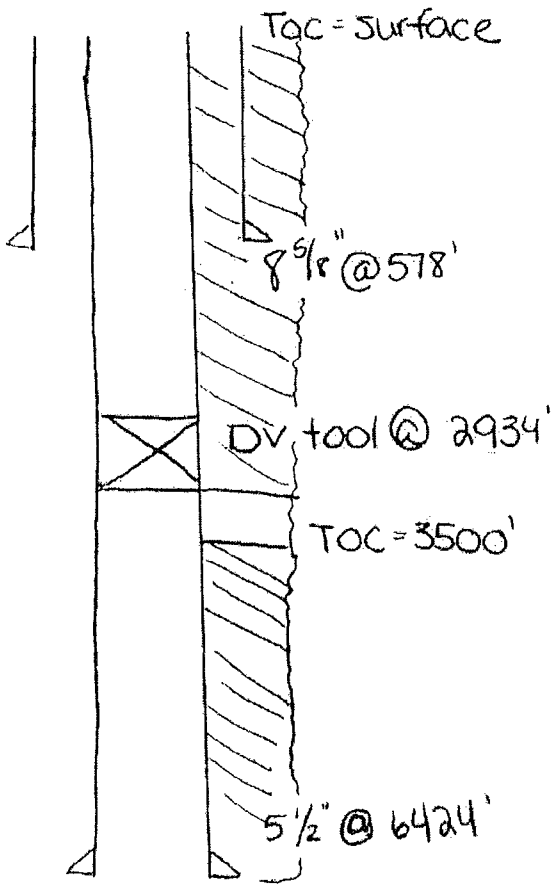
OPERATOR: Range Operating NM, Inc

WELL NAME & NUMBER: South Culebra Bluff 23-21

WELL LOCATION: 2531' FSL & 1252 FEL | I | 23 | 23-S | 28-E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

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

Cemented with: 650 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Calculated

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 7 7/8" Casing Size: 5 1/2"

Cemented with: Stage 1- 650 / Stage 2- 625 sx. *or* _____ ft³

Top of Cement: Stage 1- 3500 / Stage 2- 2934-Surface Method Determined: Calculated

Total Depth: _____

Injection Interval

5725 feet to 6235

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET SCB 23-21

Tubing Size: 2 7/8", 65#, J-55 Lining Material: Plastic

Type of Packer: Baker arrowset permanent pkr

Packer Setting Depth: 5000'

Other Type of Tubing/Casing Seal (if applicable): N/A

Additional Data

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

   If no, for what purpose was the well originally drilled? N/A

2. Name of the Injection Formation: Delaware

3. Name of Field or Pool (if applicable): 40350

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

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   Above-

   Below- Bone Springs

III. WELL DATA

A. See attached Injection Well Data sheet and schematics.

B. (1). Inject produced and fresh water into the lower Brushy Canyon member of the Delaware formation in the East Loving Delaware Pool.

(2). The approximate injection interval will be perforated from 5700' to 6300' overall. Specific intervals are provided on attached Injection Well Data Sheets for each well.

(3). The wells will be drilled as injectors for waterflood except the SCB 23-15 will be converted from a producer to an injector.

(4). The wells have not been drilled but will contain a permanent packer with 2 7/8", 6.5 lb/ft, plastic lined tubing set approximately 50' above the perforations.

(5). There are no oil or gas producing intervals above the Delaware and the Bone Spring is below the base of the Delaware at +/- 6400'.

VII. Data on Proposed Operation

(1). The proposed average daily injection rate is 500 bwpd per well and 1000 bwpd per well maximum.

(2). The system will be a closed system.

(3). The proposed average and maximum injection pressure is 500 psi and 1000 psi respectively.

(4). The source of the water for injection is produced water from the Brushy Canyon member of the Delaware formation and or fresh water. A water analysis is attached.

(5). The injection is for waterflood and produced water from the Brushy Canyon will be injected back into the Brushy Canyon.

IX. Proposed Stimulation Program

A hydralulic fracture treatment will be performed on each new injection well in the lower "C" section of the Brushy Canyon. Estimated size will be 150,000 lbs of proppant in crosslinked gel.

X. Open-Hole Logs

The open-hole well logs were previously filed for the SCB 23-15 and the other injection wells have yet to be drilled.

XI. Fresh Water Analysis

See Attached.

XII. No Evidence of Hydrologic Connection

Review of the existing geologic and engineering data do not indicate hydrologic connection between the proposed disposal interval and shallow, freshwater aquifers. No available data suggest connection between the two zones by conductive faults. The thick evaporate section between 500 and 2637 ft affords an impervious seal separating the freshwater zones and the disposal zone.

Baker Petrolite

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
Lab Team Leader - Sheila Hernandez
(915) 495-7240

Water Analysis Report by Baker Petrolite

Company:	RBO OPERATING INC	Sales RDT:	33517
Region:	PERMIAN BASIN	Account Manager:	CURRY PRUIT (505) 910-9388
Area:	LOVING, NM	Sample #:	35599
Lease/Platform:	SCB UNIT	Analysis ID #:	43324
Entity (or well #):	6 B	Analysis Cost:	$40.00
Formation:	UNKNOWN - Brushy Canyon		
Sample Point:	WATER TANK		

Summary	
Sampling Date:	5/20/04
Analysis Date:	5/21/04
Analyst:	CURRY PRUIT
TDS (mg/l or g/m3):	300090.3
Density (g/cm3, tonne/m3):	1.2
Anion/Cation Ratio:	1
Carbon Dioxide:	275 PPM
Oxygen:	
Comments:	

Analysis of Sample 35599 @ 75 °F

Anions	mg/l	meq/l	Cations	mg/l	meq/l
Chloride:	187000.0	5274.58	Sodium:	78232.8	3402.91
Bicarbonate:	366.0	6.	Magnesium:	4356.0	358.84
Carbonate:	0.0	0.	Calcium:	29604.0	1477.25
Sulfate:	5.0	0.1	Strontium:		
Phosphate:			Barium:		
Borate:			Iron:	25.0	0.9
Silicate:			Potassium:		
			Aluminum:		
Hydrogen Sulfide:		<5 PPM	Chromium:		
pH at time of sampling:		5.5	Copper:		
pH at time of analysis:			Lead:		
pH used in Calculation:		5.5	Manganese:		
			Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4*2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		CO_2 Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.30	19.88	-2.00	0.00	-1.93	0.00	0.00	0.00	0.00	0.00	5.01
100	0	0.38	24.87	-2.09	0.00	-1.95	0.00	0.00	0.00	0.00	0.00	6.81
120	0	0.46	29.70	-2.16	0.00	-1.94	0.00	0.00	0.00	0.00	0.00	6.54
140	0	0.55	34.43	-2.22	0.00	-1.91	0.00	0.00	0.00	0.00	0.00	7.17

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

Baker Hughes
Baker Petrolite

North Permian Basin Region
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Lab Team Leader - Sheila Hernandez
(915) 495-7240

Water Analysis Report by Baker Petrolite

Company:	RBO OPERATING INC	Sales RDT:	33517
Region:	PERMIAN BASIN	Account Manager:	CURRY PRUIT (505) 910-9388
Area:	LOVING, NM	Sample #:	35600
Lease/Platform:	SCB UNIT	Analysis ID #:	43325
Entity (or well #):	23 #2	Analysis Cost:	$40.00
Formation:	UNKNOWN - BRUSHY CANYON		
Sample Point:	WELLHEAD		

Summary	
Sampling Date:	5/20/04
Analysis Date:	5/21/04
Analyst:	CURRY PRUIT
TDS (mg/l or g/m3):	258058.3
Density (g/cm3, tonne/m3):	1.2
Anion/Cation Ratio:	1
Carbon Dioxide:	600 PPM
Oxygen:	
Comments:	

Analysis of Sample 35600 @ 75 °F					
Anions	mg/l	meq/l	Cations	mg/l	meq/l
Chloride:	161000.0	4541.22	Sodium:	67888.3	2957.37
Bicarbonate:	37.0	0.61	Magnesium:	4250.0	349.82
Carbonate:			Calcium:	24720.0	1233.53
Sulfate:	15.0	0.31	Strontium:		
Phosphate:			Barium:		
Borate:			Iron:	45.0	1.63
Silicate:			Potassium:		
			Aluminum:		
Hydrogen Sulfide:		<5 PPM	Chromium:		
pH at time of sampling:		5.5	Copper:		
pH at time of analysis:			Lead:		
pH used in Calculation:		5.5	Manganese:		
			Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										CO_2 Press
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	-0.88	0.00	-1.64	0.00	-1.59	0.00	0.00	0.00	0.00	0.00	0.56
100	0	-0.76	0.00	-1.71	0.00	-1.60	0.00	0.00	0.00	0.00	0.00	0.66
120	0	-0.70	0.00	-1.77	0.00	-1.58	0.00	0.00	0.00	0.00	0.00	0.76
140	0	-0.62	0.00	-1.82	0.00	-1.54	0.00	0.00	0.00	0.00	0.00	0.85

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

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Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

BAKER HUGHES
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Water Analysis Report by Baker Petrolite

Company:	R. B. OPERATING INCORPORATED	Sales RDT:	33517
Region:	PERMIAN BASIN	Account Manager:	CURRY PRUIT (505) 910-9388
Area:	HOBBS, NM	Sample #:	35632
Lease/Platform:	SCB UNIT	Analysis ID #:	43582
Entity (or well #):	WATER WELL 1 Red House	Analysis Cost:	$7.00
Formation:	UNKNOWN - FRESH WATER		
Sample Point:	WELLHEAD		

Summary		Analysis of Sample 35632 @ 75 °F					
Sampling Date:	6/1/04	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	6/2/04	Chloride:	3216.0	90.71	Sodium:	316.3	13.76
Analyst:	CURRY PRUIT	Bicarbonate:	62.0	1.02	Magnesium:	417.0	34.3
TDS (mg/l or g/m3):	4998.3	Carbonate:	0.0	0.	Calcium:	908.0	45.31
Density (g/cm3, tonne/m3):	1	Sulfate:	79.0	1.64	Strontium:		
Anion/Cation Ratio:	1.0000001	Phosphate:			Barium:		
		Borate:			Iron:	0.0	0.
		Silicate:			Potassium:		
Carbon Dioxide:	0.0 PPM				Aluminum:		
Oxygen:		Hydrogen Sulfide:		0.0 PPM	Chromium:		
Comments:		pH at time of sampling:		7.1	Copper:		
		pH at time of analysis:			Lead:		
		pH used in Calculation:		7.1	Manganese:		
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										CO_2 Press
		Calcite $CaCO_3$		Gypsum $CaSO_4*2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		
Temp	Gauge Press.	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	
°F	psi											psi
80	0	-0.03	0.00	-1.32	0.00	-1.39	0.00	0.00	0.00	0.00	0.00	0.06
100	0	0.08	0.70	-1.33	0.00	-1.33	0.00	0.00	0.00	0.00	0.00	0.07
120	0	0.20	1.74	-1.32	0.00	-1.24	0.00	0.00	0.00	0.00	0.00	0.09
140	0	0.32	2.78	-1.30	0.00	-1.13	0.00	0.00	0.00	0.00	0.00	0.11

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

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Water Analysis Report by Baker Petrolite

Company:	R. B. OPERATING INCORPORATED	Sales RDT:	33517
Region:	PERMIAN BASIN	Account Manager:	CURRY PRUIT (605) 910-9386
Area:	HOBBS, NM	Sample #:	35831
Lease/Platform:	SCB UNIT	Analysis ID #:	43583
Entity (or well #):	WATER WELL 2 WIND MILL NORTH	Analysis Cost:	$7.00
Formation:	UNKNOWN OF RB YARD		
Sample Point:	WELLHEAD FRESH WATER		

Summary	
Sampling Date:	6/1/04
Analysis Date:	6/2/04
Analyst:	CURRY PRUIT
TDS (mg/l or g/m3):	7263
Density (g/cm3, tonne/m3):	1
Anion/Cation Ratio:	1.0000001
Carbon Dioxide:	0.0 PPM
Oxygen:	
Comments:	

Analysis of Sample 35831 @ 75 °F

Anions	mg/l	meq/l
Chloride:	4573.0	128.16
Bicarbonate:	62.0	1.02
Carbonate:	0.0	0.
Sulfate:	95.0	1.98
Phosphate:		
Borate:		
Silicate:		
Hydrogen Sulfide:		0.0 PPM
pH at time of sampling:		7
pH at time of analysis:		
pH used in Calculation:		7

Cations	mg/l	meq/l
Sodium:	1145.7	49.84
Magnesium:	383.0	31.51
Calcium:	1018.0	50.8
Strontium:		
Barium:		
Iron:	0.3	0.01
Potassium:		
Aluminum:		
Chromium:		
Copper:		
Lead:		
Manganese:		
Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										CO_2 Press
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	-0.19	0.00	-1.25	0.00	-1.32	0.00	0.00	0.00	0.00	0.00	0.07
100	0	-0.02	0.00	-1.26	0.00	-1.26	0.00	0.00	0.00	0.00	0.00	0.09
120	0	0.10	0.70	-1.25	0.00	-1.18	0.00	0.00	0.00	0.00	0.00	0.11
140	0	0.22	2.09	-1.24	0.00	-1.07	0.00	0.00	0.00	0.00	0.00	0.14

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

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Water Analysis Report by Baker Petrolite

Company:	R. B. OPERATING INCORPORATED	Sales RDT:	33517
Region:	PERMIAN BASIN	Account Manager:	CURRY PRUIT (505) 910-9388
Area:	HOBBS, NM	Sample #:	35630
Lease/Platform:	SCB UNIT	Analysis ID #:	43584
Entity (or well #):	WATER WELL 3 NEAR SCB #56	Analysis Cost:	$7.00
Formation:	UNKNOWN FRESH WATER		
Sample Point:	WELLHEAD		

Summary		Analysis of Sample 35630 @ 75 °F					
Sampling Date:	6/1/04	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	6/2/04	Chloride:	5542.0	162.73	Sodium:	609.1	26.49
Analyst:	CURRY PRUIT	Bicarbonate:	62.0	1.02	Magnesium:	434.0	35.7
TDS (mg/l or g/m3):	5583.1	Carbonate:	0.0	0.	Calcium:	866.0	43.21
Density (g/cm3, tonne/m3):	1	Sulfate:	80.0	1.67	Strontium:		
Anion/Cation Ratio:	0.9999899	Phosphate:			Barium:		
		Borate:			Iron:	0.0	0.
		Silicate:			Potassium:		
Carbon Dioxide:	0.0 PPM				Aluminum:		
Oxygen:		Hydrogen Sulfide:		0.0 PPM	Chromium:		
Comments:		pH at time of sampling:		7.2	Copper:		
		pH at time of analysis:			Lead:		
		pH used in Calculation:		7.2	Manganese:		
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										CO_2 Press
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.03	0.35	-1.35	0.00	-1.41	0.00	0.00	0.00	0.00	0.00	0.04
100	0	0.14	1.05	-1.35	0.00	-1.35	0.00	0.00	0.00	0.00	0.00	0.05
120	0	0.25	1.74	-1.35	0.00	-1.27	0.00	0.00	0.00	0.00	0.00	0.07
140	0	0.37	2.79	-1.33	0.00	-1.16	0.00	0.00	0.00	0.00	0.00	0.09

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

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