HOLLAND&HART LLP

William F. Carr
wcarr@hollandhart.com

February 1, 2011

VIA HAND DELIVERY

Case 14606

RECEIVED OCD
2011 FEB -1 P 3:05

Mr. Daniel Sanchez
Acting Director
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Re: Application of Mewbourne Oil Company. for approval of a salt water disposal well, Eddy County, New Mexico.

Dear Mr. Sanchez:

Enclosed is an original and one copy of the application of Mewbourne Oil Company in the above-referenced case (Oil Conservation Division Form C-108) as well as a copy of a legal advertisement.

Mewbourne Oil Company requests that this matter be placed on the docket for the March 3, 2011 Examiner Hearings.

Very truly yours,

William F. Carr
Ocean Munds-Dry
Attorneys for Chevron U.S.A., Inc.
Enclosures

cc: Oil Conservation Division
District II
1301 W. Grand Avenue
Artesia, New Mexico 88210

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

Case 14606

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance ___X___Disposal _____Storage
Application qualifies for administrative approval? _____Yes ___X___No

II. OPERATOR: Mewbourne Oil Company_____

ADDRESS: 3901 S. Broadway Tyler, TX 75701_____

CONTACT PARTY: Bryan Montgomery_____PHONE: (903) 561-2900___

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. **See attached map.**

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. **See attached schematic for the Fairchild 24 #1**

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: Bryan Montgomery_____TITLE: Manager of Economics and Evaluations_

SIGNATURE: _____DATE: January 21, 2011_____

E-MAIL ADDRESS: bmontgomery@mewbourne.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

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.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: Mewbourne Oil Company

WELL NAME & NUMBER: Fairchild 13 #1 SWD

WELL LOCATION: 660 FSL & 660 FWL | M | 13 | 19S | 25E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC (See Attached)

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14 3/4 in

Casing Size:9 5/8 in set at 1173 feet

Cemented with: 1050 sx.

or _____ ft^3

Top of Cement: surface

Method Determined: circulated

Intermediate Casing

Hole Size: _____

Casing Size:_____

Cemented with: _____ sx.

or _____ ft^3

Top of Cement: _____

Method Determined: _____

Production Casing

Hole Size: 8 3/4 in

Casing Size: 7 in

Cemented with: 820 sx.

or _____ ft^3

Top of Cement: surface

Method Determined: circulated

Total Depth: Drill to 8200 feet

and set casing at 7800 feet

Injection Interval

7800 feet

To 8200 feet

Open Hole

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8 in Lining Material: TK99 plastic

Type of Packer: Arrowset 1X Nickel Plated (10,000#)

Packer Setting Depth: 7700 feet

Other Type of Tubing/Casing Seal (if applicable): None

Additional Data

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

   If no, for what purpose was the well originally drilled? Canyon (Upper Penn) test.

   Determined non-commercial and plugged in February, 1998 without any formation tests.

2. Name of the Injection Formation: Canyon (Upper Penn) – Open hole

3. Name of Field or Pool (if applicable): North Dagger Draw Upper Penn

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 perforations.

   See attached C103 plugging record from 1992.

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

   Overlying producing zone – Yeso at 2640 feet

   Underlying producing zone – Strawn at 8210 feet

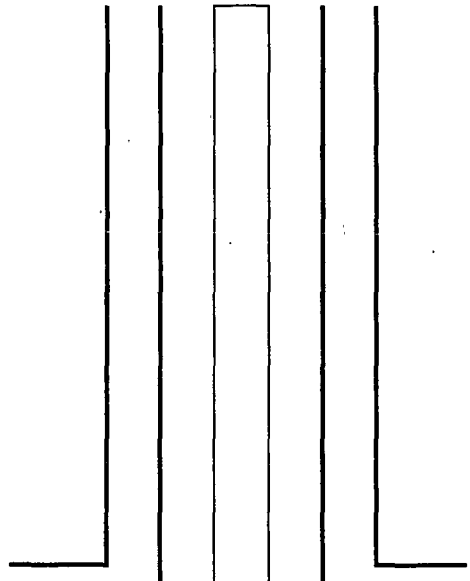
Proposed Wellbore Diagram

Operator: Mewbourne Oil Company

Well Name: Fairchild "13" #1 SWD

Location: 660 FSL & 660 FWL Section 13 19S-25E Eddy Co, NM
API# 30-015-29729
Current status: P&A

Updated by: B. Montgomery
Date Updated: 1/21/11



12/17/1997	Original spud by Nearburg
1/6/1998	TD well and P&A
ASAP	Re-enter well and deepen to 8200'
	Run 7" casing to 7800'
	Acidize open-hole Canyon from 7800' to 8200'
	Run internally coated 2 7/8" tbg with 1X nickel plated packer at 7700'
	Begin SWD injection

9 5/8" 36#
Set @ 1173'
Cement to surface

Packer at 7700'

7 " 26# & 29#
Set @ 7800'
Cement to surface
with 820 sx

Open Hole from 7800' to 8200'

TD @ 8200'

Submit 3 Copies to Appropriate District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

2040 Pacheco St.
Santa Fe, NM 87505

WELL API NO.	30-015-29729
5 Indicate Type of Lease	STATE ☐ FEE ☒
6 State Oil & Gas Lease No.	

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1 Type of Well: OIL WELL ☒ GAS WELL ☐ OTHER	7 Lease Name or Unit Agreement Name: Fairchild "13"
2 Name of Operator: Nearburg Producing Company	8 Well No.: 1
3 Address of Operator: 3300 North A Street, Building 2, Suite 120, Midland, Texas 79705	9 Pool name or Wildcat: Dagger Draw; Upper Penn, North

4 Well Location
Unit Letter M : 660 Feet From The South Line and 660 Feet From The West Line

Section 13 Township 19S Range 25E NMPM Eddy County

10 Elevation (*Show whether DF, RKB, RT, GR, etc.*) 3,414' GR'

11 Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS	☐	PLUG AND ANBANDONMENT	☒
PULL OR ALTER CASING	☐			CASING TEST AND CEMENT JOB	☐		
OTHER:	☐			OTHER:	☐		

12 Describe Proposed or Completed Operations (*Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work*) SEE RULE 1103

1) Set 45 sx cement plug from 7,826'-7,700'
2) Set 45 sx cement plug from 6,826'-6,700'.
3) Set 140 sx cement plug from 6,093'-5,982'. PUH & WOC. TIH & tag cmt @ 5,925'.
4) Set 40 sx cement plug from 2,767'-2,648'.
5) Set 60 sx cement plug from 1,241'-1,123'. WOC & tag cmt at 1,144'.
6) Set 10 sx cement plug from surface. ND BOPE. Cut off csg & cap well.
7) RDMO drilling rig.
8) P&A'd well. Final report.

Post ID-2
9-4-98
P&A

1998 FEB
RECEIVED
OCD - ARTESIA

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

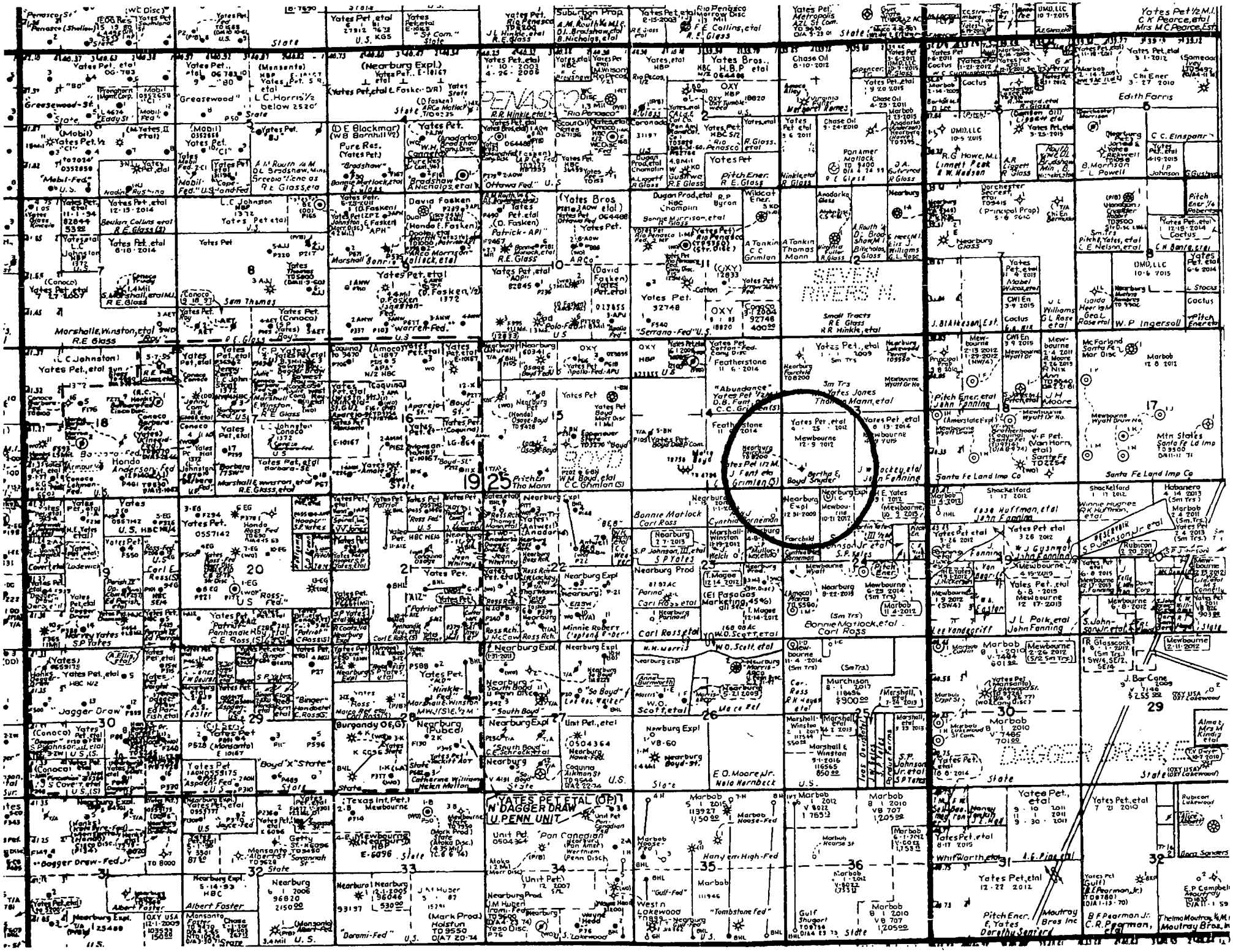
SIGNATURE E. Scott Kimbrough TITLE Manager of Drilling and Production DATE 2/20/98

TYPE OR PRINT NAME E. Scott Kimbrough TELEPHONE NO (915) 686-8235

(This space for State Use) Tim W. Gum

APPROVED BY _____ TITLE District Supervisor DATE 3/12/99

CONDITIONS OF APPROVAL, IF ANY


PENASCO
Jagger Draw
Bogger Draw-Fed
Greasewood-Fed
Mobil-Fed
Marshall&Winston,etal R.E.Glass
Sam Thomas
Boyd
Boyd "X" State
Albert Foster
Dorami-Fed
Yates Pet.etal (OP) N'Dagger Draw U.Penn Unit
Unit Pet.etal
Pan Canadian
Hanagan High-Fed
Gulf-Fed
Tombstone Fed
Mewbourne
Marbob
Yates Pet.etal
Nearburg Expl.
Nearburg Prod
Texas Int.Pet.
Getty
Monsanto
Chase
Holstun
Mark Prod.
Albert Foster
Carl E. Ross(S)
Carl Ross
Bonnie Matlock
Minnie Robert
Pitch Ener.
Pitch Ener.etal R.E.Glass
Pitch Ener.etal John Fanning
Pitch Ener.etal R.E.Glass(2)
Pitch Ener.etal R.E.Glass(3)
Pitch Ener.etal R.E.Glass(4)
Pitch Ener.etal R.E.Glass(5)
Pitch Ener.etal R.E.Glass(6)
Pitch Ener.etal R.E.Glass(7)
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Pitch Ener.etal R.E.Glass(10)
Pitch Ener.etal R.E.Glass(11)
Pitch Ener.etal R.E.Glass(12)
Pitch Ener.etal R.E.Glass(13)
Pitch Ener.etal R.E.Glass(14)
Pitch Ener.etal R.E.Glass(15)
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Pitch Ener.etal R.E.Glass(32)
Pitch Ener.etal R.E.Glass(33)
Pitch Ener.etal R.E.Glass(34)
Pitch Ener.etal R.E.Glass(35)
Pitch Ener.etal R.E.Glass(36)
Yates Pet.etal
Yates Pet.etal 1/2 M.I.
Edith Farris
Linnett Peak
Chi Ener
Cactus
Santa Fe Land Imp Co
Mtn States
Rubicon
Lakewood
Albert Foster
Jagger Draw-Fed
Bogger Draw-Fed
Greasewood-Fed
Mobil-Fed
Marshall&Winston,etal R.E.Glass
Sam Thomas
Boyd
Boyd "X" State
Albert Foster
Dorami-Fed
Yates Pet.etal (OP) N'Dagger Draw U.Penn Unit
Unit Pet.etal
Pan Canadian
Hanagan High-Fed
Gulf-Fed
Tombstone Fed
Mewbourne
Marbob
Yates Pet.etal
Nearburg Expl.
Nearburg Prod
Texas Int.Pet.
Getty
Monsanto
Chase
Holstun
Mark Prod.
Albert Foster
Carl E. Ross(S)
Carl Ross
Bonnie Matlock
Minnie Robert
Pitch Ener.
Pitch Ener.etal John Fanning
Pitch Ener.etal R.E.Glass(2)
Pitch Ener.etal R.E.Glass(3)
Pitch Ener.etal R.E.Glass(4)
Pitch Ener.etal R.E.Glass(5)
Pitch Ener.etal R.E.Glass(6)
Pitch Ener.etal R.E.Glass(7)
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Pitch Ener.etal R.E.Glass(32)
Pitch Ener.etal R.E.Glass(33)
Pitch Ener.etal R.E.Glass(34)
Pitch Ener.etal R.E.Glass(35)
Pitch Ener.etal R.E.Glass(36)
Yates Pet.etal
Yates Pet 1/2 M.I.
Edith Farris
Linnett Peak
Chi Ener
Cactus
Santa Fe Land Imp Co
Mtn States
Rubicon
Lakewood

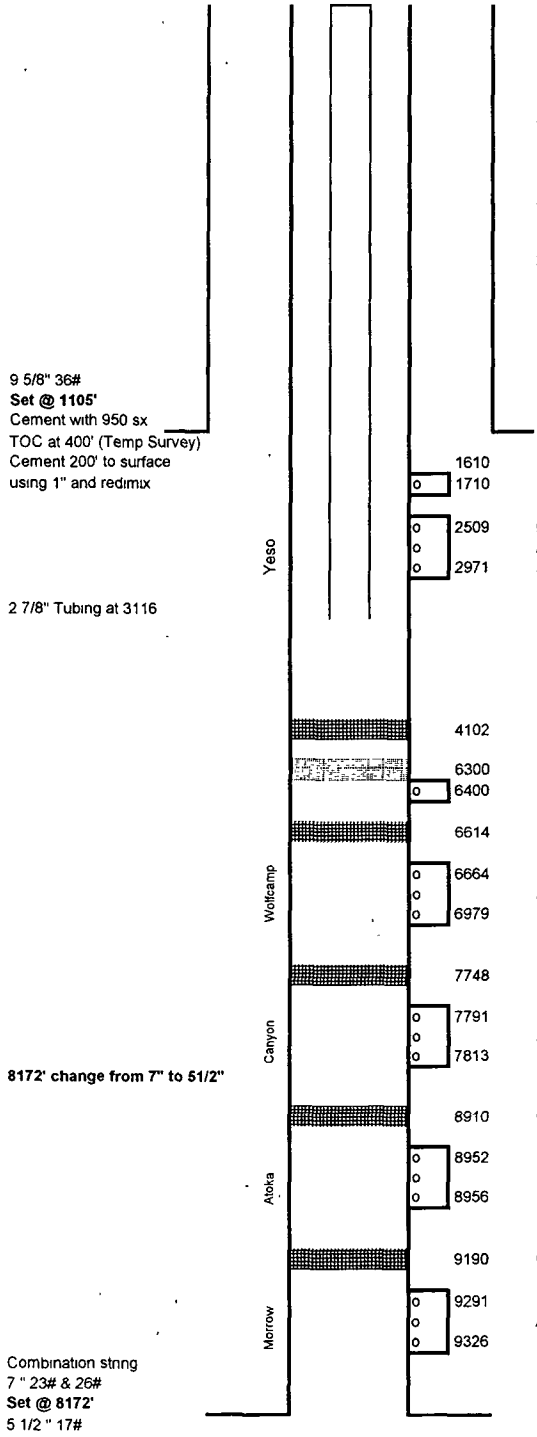
Wellbore Diagram

Operator: Nearburg Producing Company

Well Name. Fairchild 24 #1

Location 2100 FNL & 900 FWL section 24 19S-25E Eddy Co, NM
API# 30-015-28151
Current status Producing Yeso well

Updated by: B. Montgomery
Date Updated 1/21/11



9 5/8" 36#
Set @ 1105'
Cement with 950 sx
TOC at 400' (Temp Survey)
Cement 200' to surface
using 1" and redimix

2 7/8" Tubing at 3116

8172' change from 7" to 51/2"

Combination string
7 " 23# & 26#
Set @ 8172'
5 1/2 " 17#
Set @ 9600'
1000 sx cement
TOC at 6480' (CBL)

10/26/1994	Spud well
12/6/1994	Test Morrow (9291-9326) Acidize with 2000 gals 7 1/2% HCL
2/7/1995	CIBP at 9190 and test Atoka (8952-56) and TA with plug in packer profile Zone prod 500 M/D w/o stim
2/12/1995	Test Canyon (7791-7813) using 1700 gals 15% acid - zone P&A
2/09 to 3/09	Retest Atoka set CIBP at 8910 Test Wolfcamp (6664-6979) with 7500 gals 15% NEFE acid SI to evaluate
12/16/2009	Set CIBP at 6614 Test Yeso (2509-2971) Frac with 7400 bbls & 175560 # prop Put on pump
1610	Set cmt ret and squeeze with 380 sx (TOC @ surface)
1710	Perf Squeeze holes
2509	Perf 1 JSPF 25 holes
	Acidize 2000 gals 15% NEFE
2971	Frac 7400 bbls & 175560# prop
4102	CIBP
6300	Set cmt ret and squeeze with 1500 sx (TOC @ 1730)
6400	Perf Squeeze holes
6614	CIBP
6664	Perf 2 JSPF 40 holes (6664-70, 6710-16, 6751-56, 6976-79)
	Acidize 7500 gals 15% NEFE
6979	
7748	CIBP
7791	Perf 4 JSPF
	Acidize 1700 gals 15%
7813	
8910	CIBP
8952	Perf 4 JSPF
8956	
9190	CIBP
9291	Perf 4 JSPF
	Acidize 2000 gals 7 1/2%
9326	

TD 8 3/4" hole @ 9624'

Fairchild 13 #1 SWD C-108
Additional Details

VII. 1. Proposed average rate of 5000 bwpd and maximum rate of 10,000 bwpd.

2. Closed system.

3. Proposed average injection pressure is unknown and the maximum injection pressure is 1560 psig (0.2 psi/ft).

4. Injection fluid will be from the Mewbourne Oil Company operated Yeso producing wells in the area. See attached water analysis for both the Yeso and Canyon produced water in this area and the water mixing reports of those waters.

5. See attached analysis.

VIII. 1. The proposed injection interval is in the Canyon (Upper Penn) formation which is a porous dolomite about 240' thick at depths 7843' – 8083'.

2. The underground fresh water aquifers (unnamed) are present at shallow depths down to about 750'. There are no known fresh water intervals underlying the injecting formation.

IX. The proposed stimulation is an ope-hole acid treatment of 5000 gallons of 20% HCL.

X. All logs were filed with the OCD in 1997 when the Fairchild 13 #1 was drilled.

XI. See attached.

XII. Mewbourne Oil Company has examined geologic and engineering data and has found that there is no evidence of faulting between the proposed disposal zone and any underground sources of drinking water.

XIII. Proof of Notice

1. A certified letter, and a copy of this application, to offset operators are attached. Mewbourne Oil Company owns the surface.
2. N/A

Fairchild 13 # 1 SWD C-108 Application Attachments # 7-4&5

Samples of produced water were all taken 1/20/11 on the following wells

Mewbourne Oil Co	Wyatt Draw 18/19 LD # 1H	Yeso horizontal	(Sec 18/19, T19S, R26E)
Mewbourne Oil Co	Wyatt Draw 24/25 LE # 1H	Yeso horizontal	(Sec 24/25, T19S, R25E)
Nearburg Producing	B & B # 4	Cisco/Canyon	(Sec 22, T19S, R25E)

These are the waters that would be commingled if Mewbourne Oil Company is granted permission to dispose water into Canyon zone we are requesting for the Fairchild 13 # 1 SWD well.

Samples were taken to BJ for complete composition analysis and are attached below.

Also attached are results of the compatibility study done by baker Hughes Petrolite.

The results concluded that these three waters are compatible together and could be commonly disposed of.

BAKER HUGHES
Baker Petrolite

Analysis: 47116

Individual Water Analyses

Summary of Mixing Waters			
Sample Number	***538168***	***538169***	***538170***
Company	MEWBOURNE OIL CO	MEWBOURNE OIL CO	MEWBOURNE OIL CO
Lease	B & B C SISCO CANYON	WYATT DRAW 24/25	WYATT DRAW 18/19
Well	4	LE 1H	LD 1H
Sample Location	WELLHEAD	WELLHEAD	WELLHEAD
Anions (mg/L)			
Chloride	1,842	89,335	5,432
Bicarbonate	976	988	780
Sulfate	2,330	4,287	2,827
Cations (mg/L)			
Sodium	2,019	55,640	3,896
Magnesium	59.0	640	199
Calcium	444	2,743	762
Strontium	7 50	48.0	11.0
Barium	0.10	0.10	0 10
Iron	21 0	3.50	1.50
Potassium	26 0	560	27.0
Manganese	0.90	0.10	0 06
Anion/Cation Ratio	***1.00***	***1.00***	***1.00***
TDS (mg/L)	7,726	154,244	13,936
Density (g/cm)	1 01	1.10	1.01
Sampling Date	1/19/11	1/19/11	1/19/11
Account Manager	GENE ROGERS	GENE ROGERS	GENE ROGERS
Analyst	STACY SMITH	STACY SMITH	STACY SMITH
Analysis Date	1/21/11	1/21/11	1/21/11
pH at time of sampling	7 50	7.00	7 50
pH used in Calculations	**7.50**	**7.00**	**7.50**

Analysis: 47116

Water Analysis Report

BAKER HUGHES
Baker Petrolite

MEWBOURNE OIL CO
B & B C SISCO CANYON
4
WELLHEAD

Account Manager
GENE ROGERS

Summary of Entered Data		Sample 538168 @ 75°F					
Sampling Date	1/19/11	**Anions**	**mg/l**	**meq/l**	**Cations**	**mg/l**	**meq/l**
Analysis Date	1/21/11	**Chloride**	**1,842**	**52.0**	**Sodium**	**2,019**	**87.8**
Analyst	STACY SMITH	**Bicarbonate**	**976**	**16.0**	**Magnesium**	**59.0**	**4.85**
		Carbonate	**0.00**	**0.00**	**Calcium**	**444**	**22.2**
TDS (mg/l or g/m³)	7,726	**Sulfate**	**2,330**	**48.5**	**Strontium**	**7.50**	**0.17**
Density (g/cm³ or tonne/m³)	1.0060	Phosphate	N/A	N/A	**Barium**	**0.10**	**0.00**
Anion/Cation Ratio	1 00	Borate	N/A	N/A	**Iron**	**21.0**	**0.75**
		Silicate	N/A	N/A	Potassium	26.0	0 66
Carbon Dioxide	120 PPM				Aluminum	N/A	N/A
		Hydrogen Sulfide		493 PPM	Chromium	N/A	N/A
					Copper	N/A	N/A
		pH at time of sampling		7.50	Lead	N/A	N/A
		pH at time of analysis			Manganese	0.90	0.03
		pH used in Calculations		**7.50**	Nickel	N/A	N/A

Specific ion interactions calculated for ions in bold faced type; other ions contribute to ionic strength

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000bbl										
Temp.	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		CO_2 Fugacity
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0 00	1 09	96	-0.20		-0.27		-0.30		0 99	0.05	0 36
100	0 00	1 19	109	-0 21		-0.22		-0.29		0.83	0.05	0 50
120	0 00	1 29	123	-0.22		-0.14		-0.27		0 71	0 05	0 66
140	0 00	1.40	138	-0.21		-0 04		-0.25		0 60	0 04	0 85

Precipitation of each scale is considered separately; total scale will be less than the sum of the amounts of the five scales.
The amount of scale indicates the severity of the problem; the index (equivalent to Stiff Davis SI) indicates how difficult it is to control the problem
The CO_2 fugacity is reported. Under usual conditions it is essentially the same as the CO_2 partial pressure.

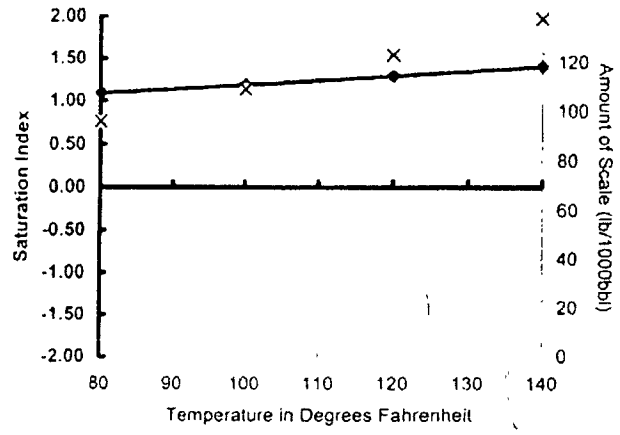
Scale Predictions

BAKER HUGHES

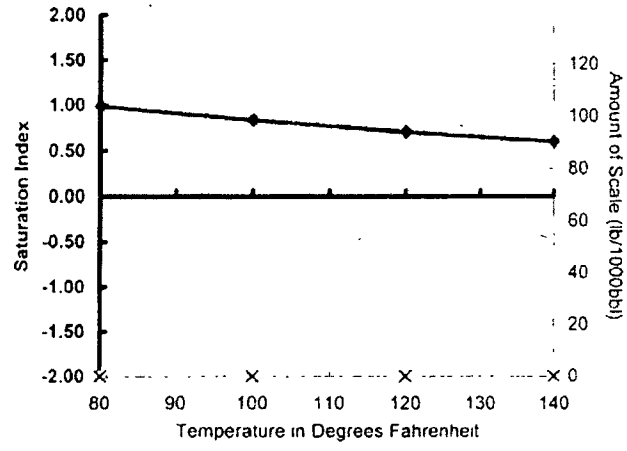
Baker Petrolite

For Sample 538168 @ 75°F from MEWBOURNE OIL CO , B & B C SISCO CANYON , 4 , WELLHEAD , Jan/21/11

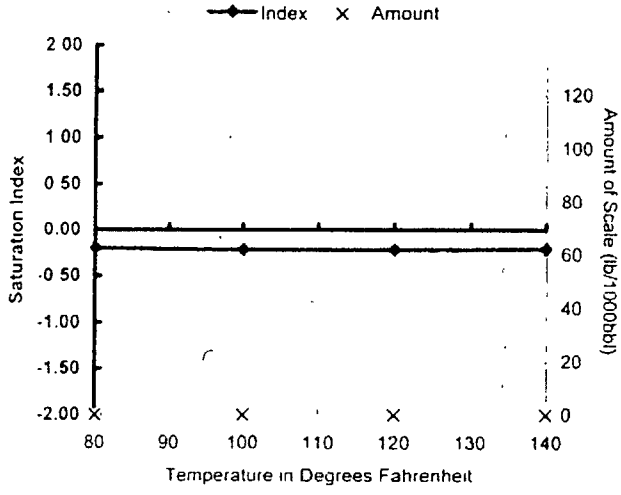
Calcite - $CaCO_3$



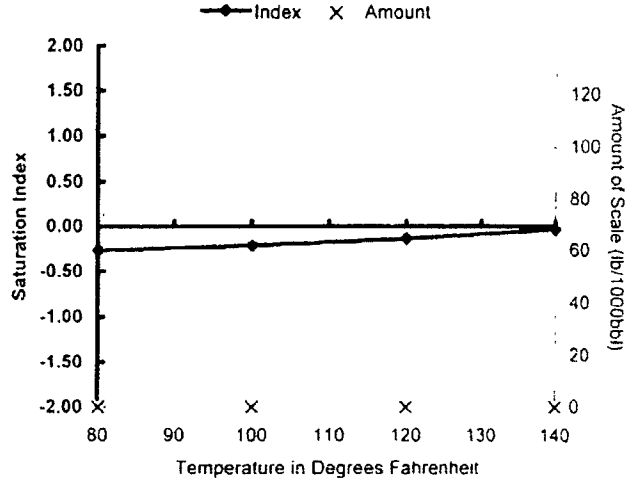
Barite - $BaSO_4$



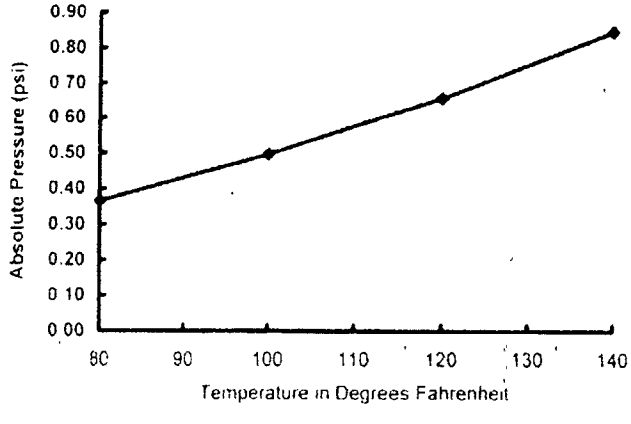
Gypsum - $CaSO_4 2H_2O$



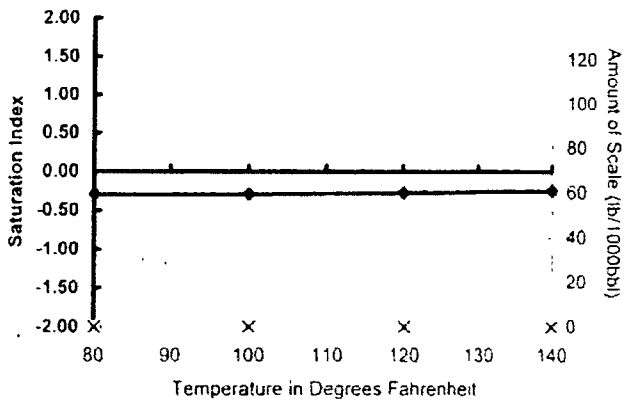
Anhydrite - $CaSO_4$



Carbon Dioxide Partial Pressure



Celestite - $SrSO_4$



BJ Services

WATER ANALYSIS

Artesia District Laboratory
(575) 746-3140

Operator:	Mewbourne Oil Company	**Date:**	012011
Well:	B&B #4	**District:**	Artesia
Formation:	Cisco Canyon	**Requested:**	
Field:		**Technician:**	Dustin
County:		**Source:**	
Depth:	Cisco Canyon	**PFS Test #:**	
		M:Water Analysis	**Customer:**

pH:	6.83	**Temp (F):**	63.8
Specific Gravity:	1.015	**H2S:**	

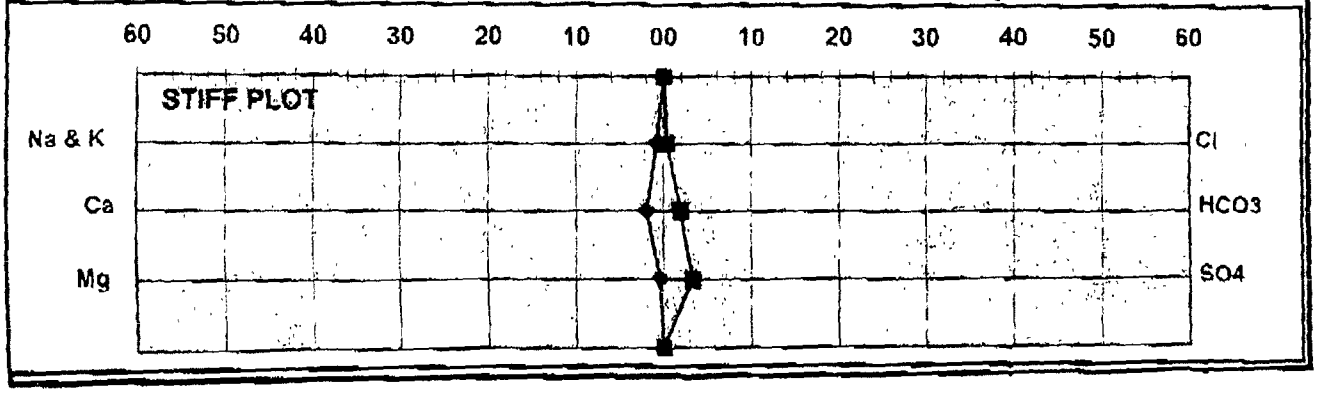
CATIONS	mg/l	me/l	ppm
Sodium (calc.)	1743	75.8	1718
Calcium	385	19.2	379
Magnesium	44	3.6	43
Barium	< 25	----	----
Potassium	< 10	----	----
Iron	0	0.0	0
ANIONS			
Chloride	1600	45.1	1576
Sulfate	1600	33.3	1576
Carbonate	< 1	----	----
Bicarbonate	1232	20.2	1214
Total Dissolved Solids(calc.)	6604		6507
Total Hardness as CaCO3	1141	22.8	1125

COMMENTS:

Resistivity is 1.2(325 gr/gal)

SCALE ANALYSIS:

CaCO3 Factor	474347.712	Calcium Carbonate Scale Probability	Remote
CaSO4 Factor	615936	Calcium Sulfate Scale Probability:	Possible



BAKER HUGHES

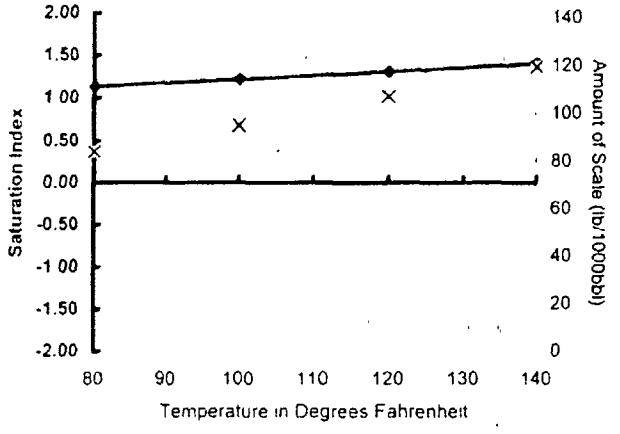
Predictions

Baker Petrolite

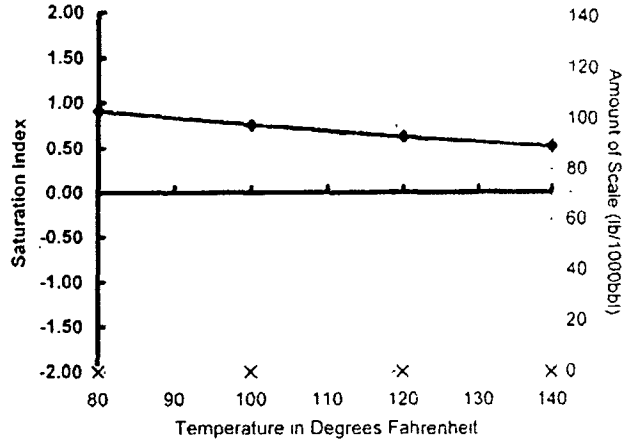
Re-Sample 132170 @ 75°F from MEWBOURNE OIL CO , WYATT DRAW 18/19 , LD 1H , WELLHEAD , Jan/21/11

BAKER HUGHES
Baker Petrolite

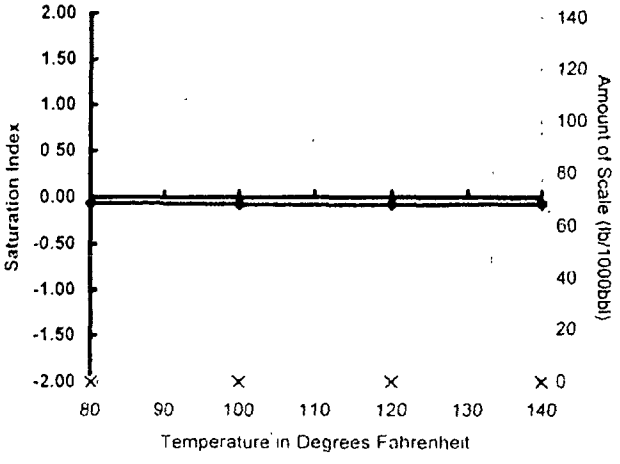
Calcite - $CaCO_3$



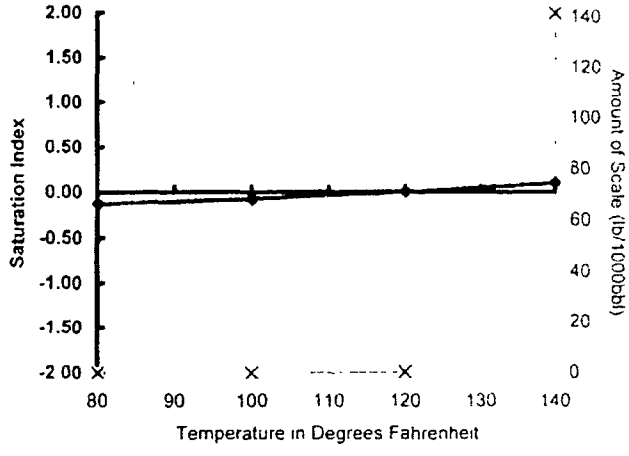
Barite - $BaSO_4$



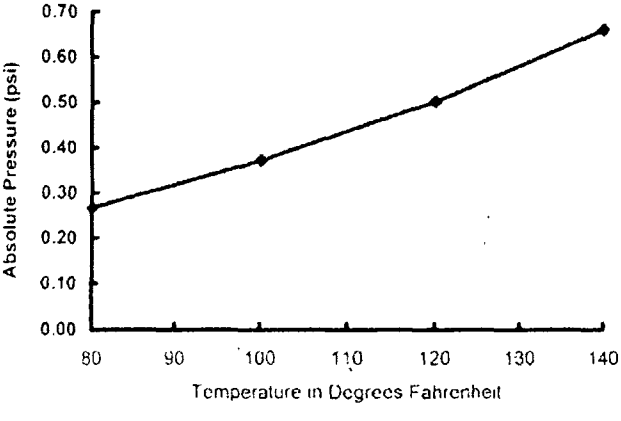
Gypsum - $CaSO_4 2H_2O$



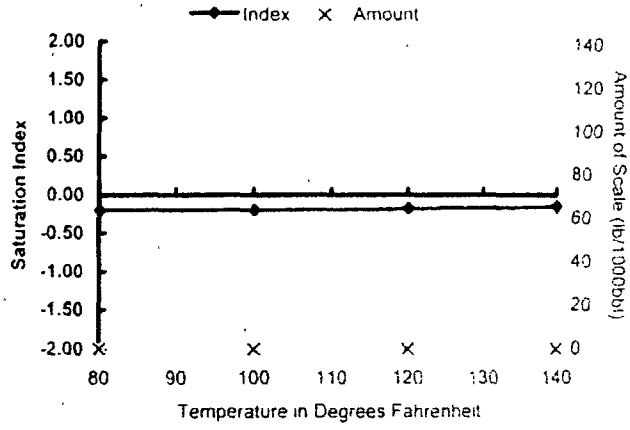
Anhydrite - $CaSO_4$



Carbon Dioxide Partial Pressure



Celestite - $SrSO_4$



BJ Services

WATER ANALYSIS

Artesia District Laboratory
(575) 746-3140

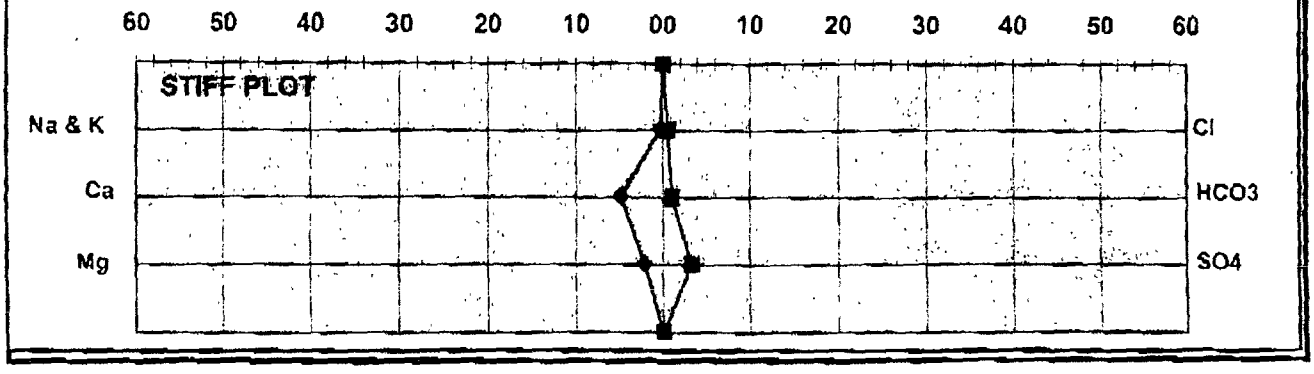
Operator:	Mewbourne Oil Company	Date:	012011
Well:	Wyatt Draw 16/19	District:	Artesia
Formation:	Yeso	Requested:	
Field:		Technician:	Dustin
County:		Source:	
Depth:	Yeso	PFS Test #:	
		M:Water Analysis\	Customer:
pH:	6.8	Temp (F):	68.3
Specific Gravity:	1.015	H2S:	

CATIONS	mg/l	me/l	ppm
Sodium (calc.)	683	29.7	673
Calcium	978	48.8	964
Magnesium	262	21.6	259
Barium	< 25	---	---
Potassium	< 10	---	---
Iron	0	0.0	0
ANIONS			
Chloride	2000	56.4	1970
Sulfate	1600	33.3	1576
Carbonate	< 1	---	---
Bicarbonate	634	10.4	625
Total Dissolved Solids(calc.)	6158		6067
Total Hardness as CaCO3	3524	70.4	3472

COMMENTS:
Resistivity is .65(650 gr/gal)

SCALE ANALYSIS:

CaCO3 Factor	620722.336	Calcium Carbonate Scale Probability	Possible
CaSO4 Factor	1565504	Calcium Sulfate Scale Probability:	Possible



BAKER HUGHES
Baker Petrolite

Analysis: 47116

Water Analysis Report

BAKER HUGHES
Baker Petrolite

MEWBOURNE OIL CO
WYATT DRAW 24/25
LE 1H
WELLHEAD

Account Manager
GENE ROGERS

Summary of Entered Data		Sample 538169 @ 75°F					
Sampling Date	1/19/11	*Anions*	*mg/l*	*meq/l*	*Cations*	*mg/l*	*meq/l*
Analysis Date	1/21/11	Chloride	**89,335**	**2,520**	Sodium	**55,640**	**2,420**
Analyst	STACY SMITH	Bicarbonate	**988**	**16.2**	Magnesium	**640**	**52.7**
		Carbonate	**0.00**	**0.00**	Calcium	**2,743**	**137**
TDS (mg/l or g/m³)	154,244	Sulfate	**4,287**	**89.3**	Strontium	**48.0**	**1.10**
Density (g/cm³ or tonne/m³)	1 1030	Phosphate	N/A	N/A	Barium	**0.10**	**0.00**
Anion/Cation Ratio	1.00	Borate	N/A	N/A	Iron	**3.50**	**0.13**
		Silicate	N/A	N/A	Potassium	560	14 3
Carbon Dioxide	600 PPM				Aluminum	N/A	N/A
		Hydrogen Sulfide		340 PPM	Chromium	N/A	N/A
					Copper	N/A	N/A
		pH at time of sampling		7.00	Lead	N/A	N/A
		pH at time of analysis			Manganese	0 10	0.00
		pH used in Calculations		**7.00**	Nickel	N/A	N/A

Specific ion interactions calculated for ions in bold faced type, other ions contribute to ionic strength

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000bbl										
Temp.	*Gauge Press.*	*Calcite $CaCO_3$*		*Gypsum $CaSO_4 \cdot 2H_2O$*		*Anhydrite $CaSO_4$*		*Celestite $SrSO_4$*		*Barite $BaSO_4$*		*CO_2 Fugacity*
°F	*psi*	*Index*	*Amount*	*Index*	*Amount*	*Index*	*Amount*	*Index*	*Amount*	*Index*	*Amount*	*psi*
80	0 00	1.13	112	0.04	132	0.04	116	-0.00		0 43	0.03	0.76
100	0 00	1 18	123	-0 03		0.04	110	-0.03		0.23	0.02	1 03
120	0.00	1 22	134	-0 09		0.06	170	-0.05		0.06	0.01	1 37
140	0.00	1 26	145	-0 13		0.11	283	-0 05		-0.09		1.80

Precipitation of each scale is considered separately, total scale will be less than the sum of the amounts of the five scales
The amount of scale indicates the severity of the problem the index (equivalent to Stiff Davis SI) indicates how difficult it is to control the problem
The CO_2 fugacity is reported Under usual conditions it is essentially the same as the CO_2 partial pressure.

Analysis: 47116

BAKER HUGHES

Scale Predictions

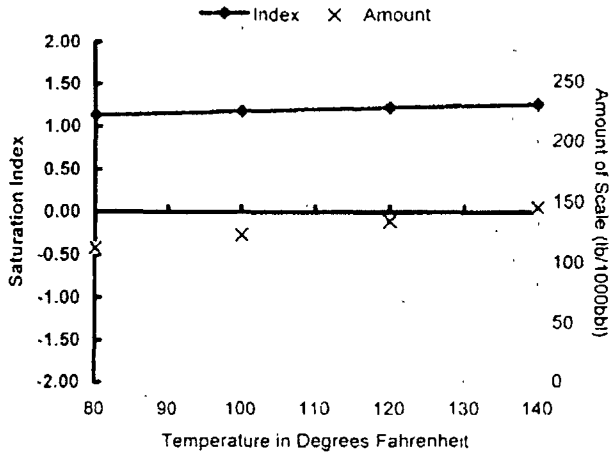
Baker Petrolite

For: Sample [illegible] @ 75°F from MEWBOURNE OIL CO , WYATT DRAW 24/25 , LE 1H , WELLHEAD , Jan/21/11

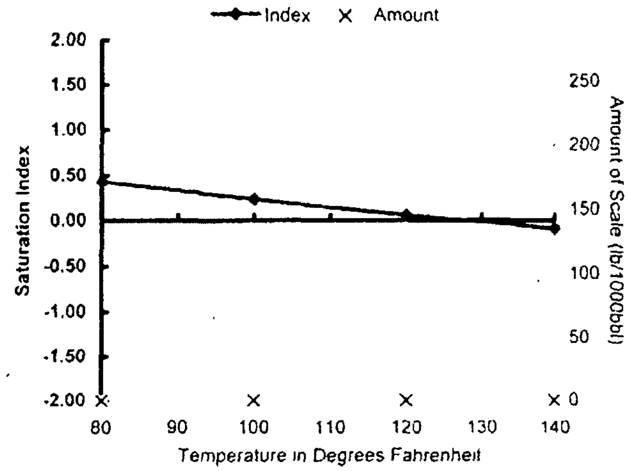
BAKER HUGHES

Baker Petrolite

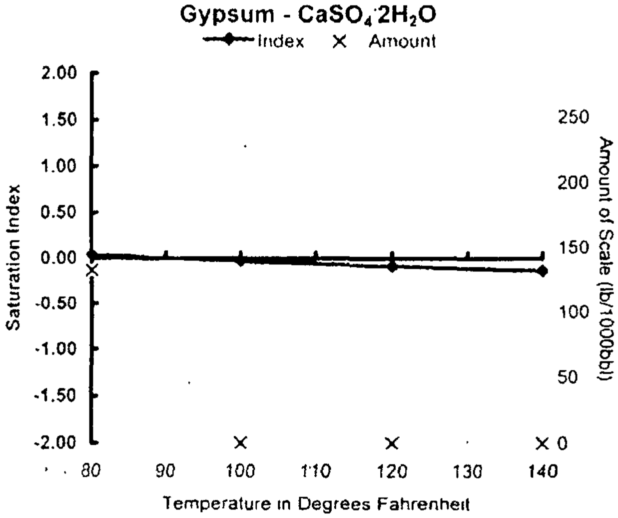
Calcite - $CaCO_3$



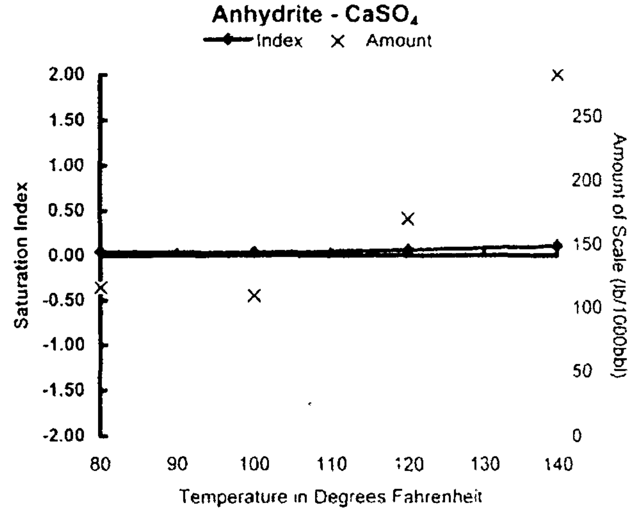
Barite - $BaSO_4$



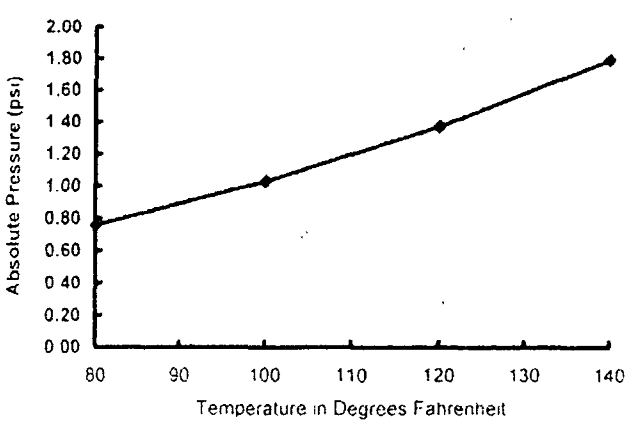
Gypsum - $CaSO_4 \cdot 2H_2O$



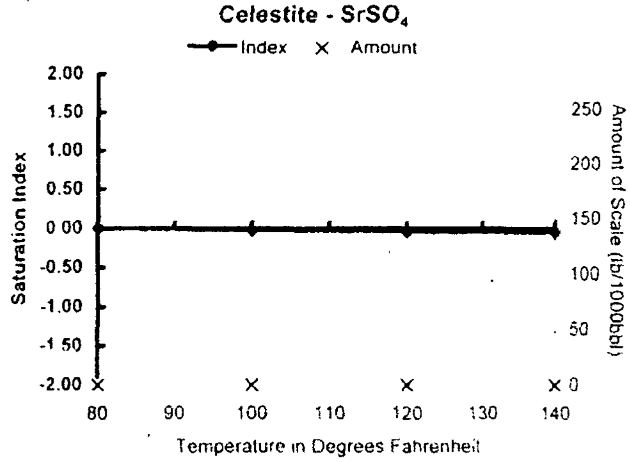
Anhydrite - $CaSO_4$



Carbon Dioxide Partial Pressure



Celestite - $SrSO_4$



BJ Services

WATER ANALYSIS

Artesia District Laboratory
(575) 746-3140

Operator:	Mewbourne Oil Company	**Date:**	012011
Well:	Wyatt Draw #2 4/25	**District:**	Artesia
Formation:	Yeso	**Requested:**	
Field:		**Technician:**	Dustin
County:		**Source:**	
Depth:	Yeso	**PFS Test #:**	
		M:Water Analysis	**Customer:**

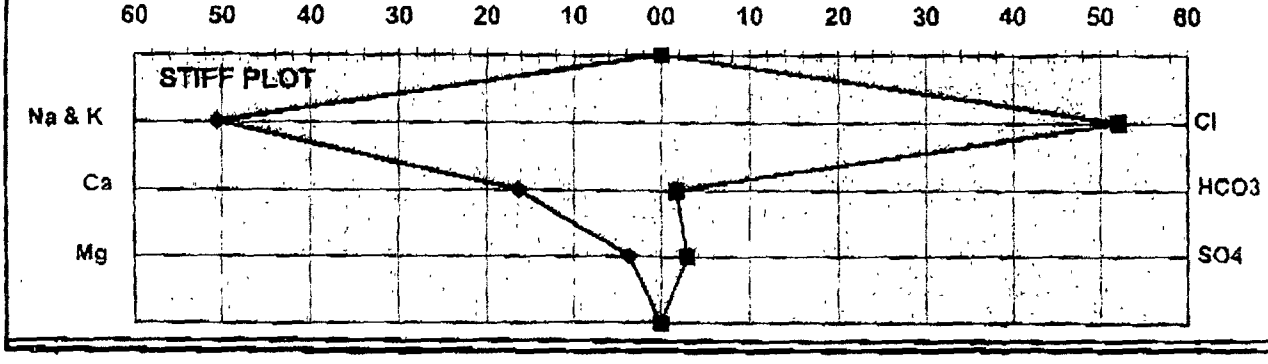
pH:	6.68	**Temp (F):**	68
Specific Gravity:	1.105	**H2S:**	

CATIONS	mg/l	me/l	ppm
Sodium (calc.)	128455	5587.4	116249
Calcium	3609	180.1	3266
Magnesium	486	40.0	440
Barium	< 25	----	----
Potassium	< 10	----	----
Iron	0	0.0	0
ANIONS			
Chloride	204000	5754.6	184615
Sulfate	1600	33.3	1448
Carbonate	< 1	----	----
Bicarbonate	1196	19.6	1082
Total Dissolved Solids(calc.)	339345		307100
Total Hardness as CaCO3	11014	220.1	9967

COMMENTS:
Resistivity is :1(5,000 gr/gal)

SCALE ANALYSIS:

CaCO3 Factor	4314920.4	Calcium Carbonate Scale Probability	Probable
CaSO4 Factor	5774400	Calcium Sulfate Scale Probability:	Possible



BAKER HUGHES

Baker Petrolite

Analysis: 47116

Mixed Water Analysis Report

Mixes at 80°F and 0 psi

Mixes of 538168 and 538169 with 538170.		*Predictions of Saturation Index and Amount of Scale in lb/1000bbl*										CO_2 Fugacity
		Calcite $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		
538168	538169	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	*psi*
33%	34%	1 02	92.1	-0.17		-0.21		-0.17		0.60	0.04	0.45

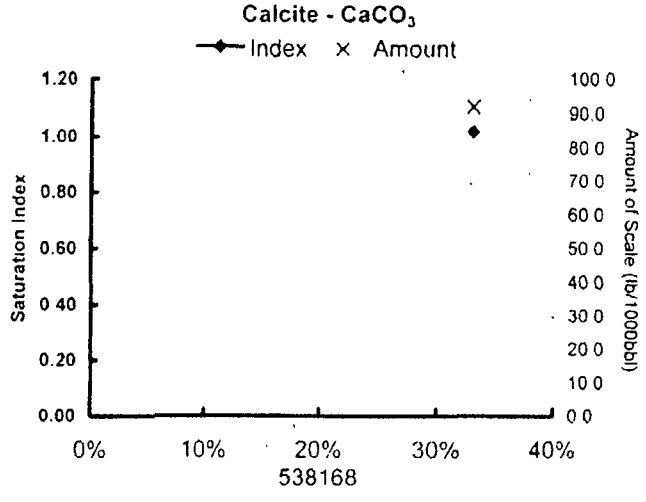
Precipitation of each scale is considered separately, total scale will be less than the sum of the amounts of the five scales.
The amount of scale indicates the severity of the problem; the index (equivalent to Stiff Davis SI) indicates how difficult it is to control the problem.
The CO_2 fugacity is calculated Under usual conditions it is essentially the same as the CO_2 partial pressure

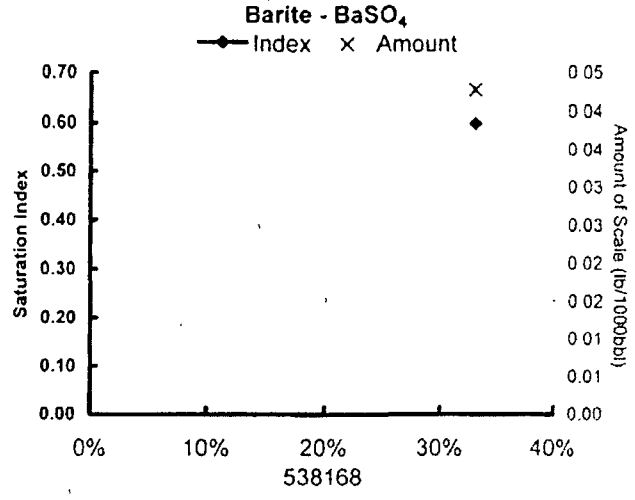
Complete Water Compositions									
538168	538169	538170							
33 0%	34.0%	33.0%							

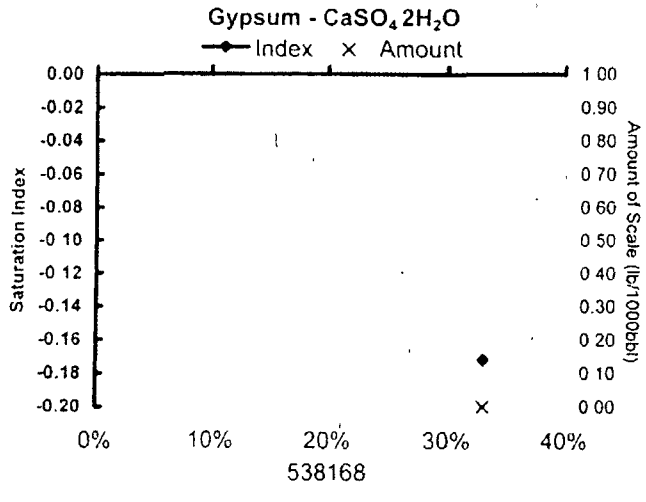
Scale Predictions

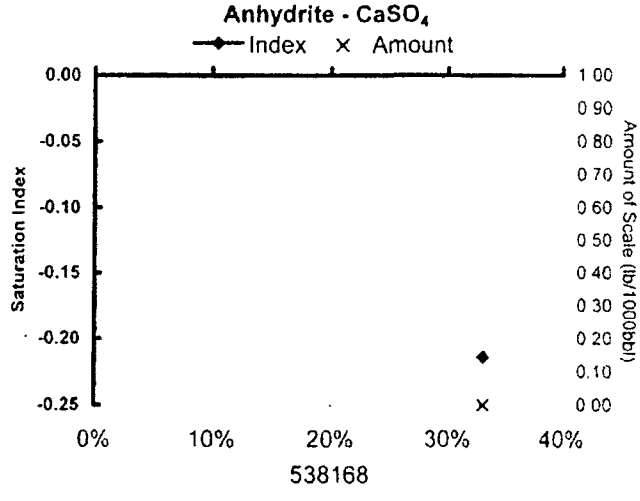
Mixes of 538168 and 538169 with 538170 at 80°F and 0 psi

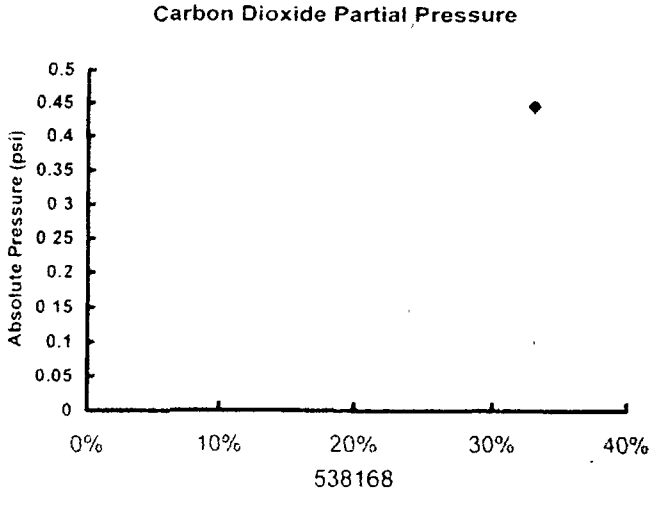
Baker Petrolite

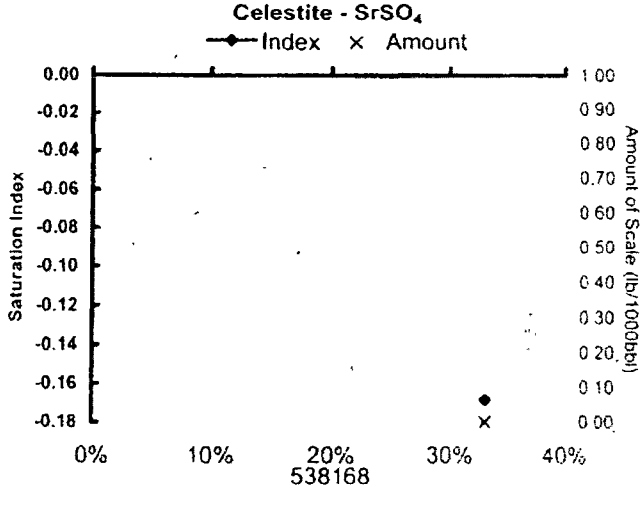












Graphs of Mixes of 538168 and 538169 with 538170 at 80°F and 0 psi from Baker Petrolite

Fairchild 13 # 1 SWD C-108 Application Attachments # 11

Samples were all taken 1/21/11

Samples were all taken in three wells in the SE4 of Section 13 approximately 3300' due East of proposed SWD site.

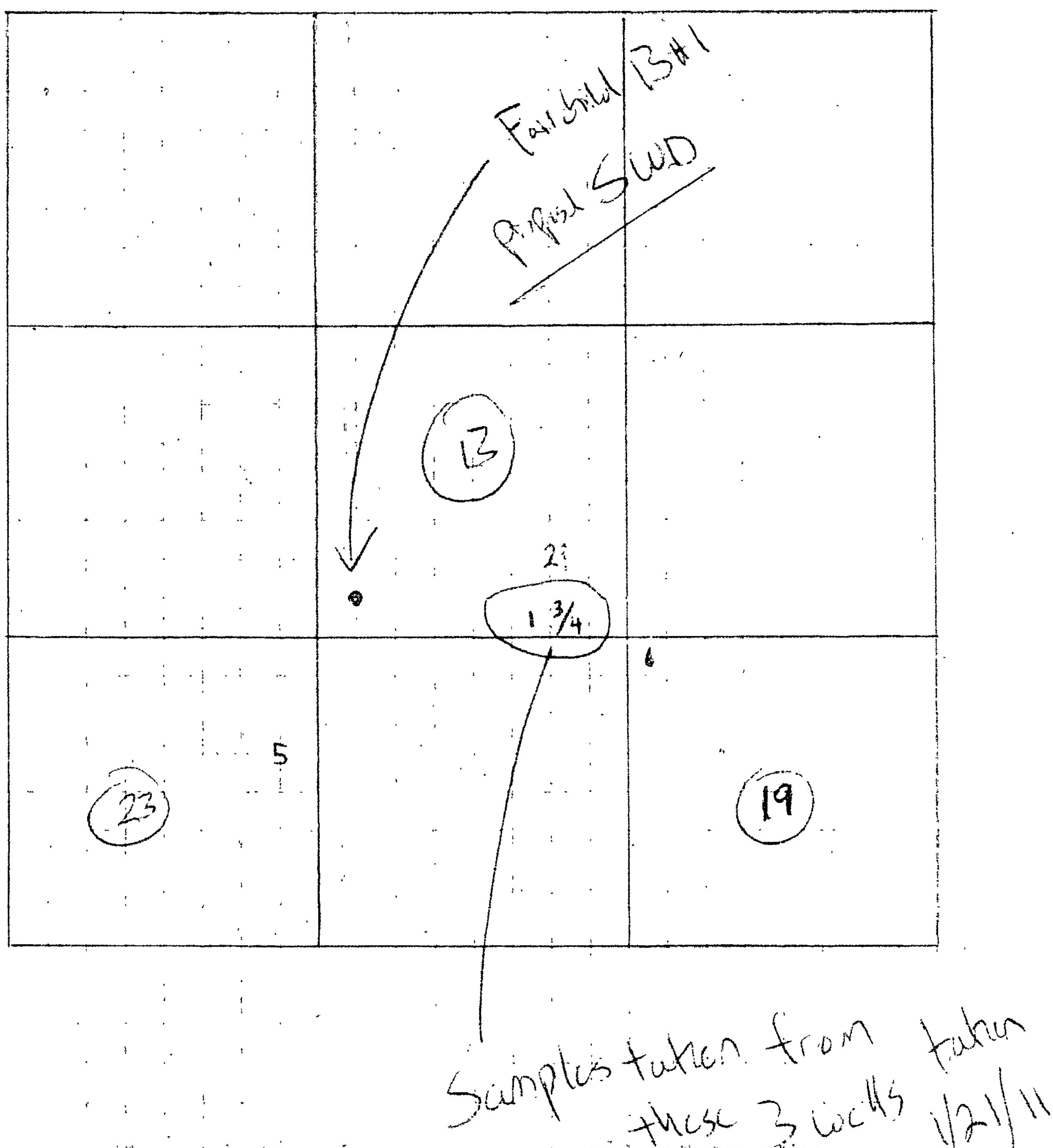
The New Mexico Office of State Engineer showed there to be 6 fresh water wells in this 1 mile radius. One of the six was never drilled, another is without pump or unable to produce now, and another had no trespassing signs up all around the property with dogs, and no means of getting in touch with property owners. We have provided here samples from the 3 closes fresh water wells. I spoke to Richard Ezeanyim w/OCD and he told me that the samples collected from these three wells would be more than adequate to satisfy this portion of the application.

BRANDON & CLARK, INC.

Keeping Industry Humming

SINCE 1950

Sales - Service - Repair - Installation



Electric Motors - Transformers - Controls & Automation

800-289-2224 www.brandonclark.com

New Mexico Office of the State Engineer

Point of Diversion by Location

(with Owner Information)

(acre ft per annum) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

	WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Grant	Source	q q q 6416	4	Sec	Tws	Rng	X	Y	Distance
1	RA 09295		EXP	3	COX JOE	ED	RA 09295		Shallow	4 3	4	13	19S	25E	552979	3613115*	764
2	RA 07864		DOM	0	J.T ROSS	ED	RA 07864				4	13	19S	25E	553081	3613417*	803
3	RA 09293		DOM	3	COX JOE	ED	RA 09293		Shallow	3 4	4	13	19S	25E	553180	3613114*	952
4	RA 09294		EXP	3	COX JOE	ED	RA 09294		Shallow	3 4	4	13	19S	25E	553180	3613114*	952
5	RA 10407		DOL	0	JOAN MULLARKEY	ED	RA 10407		Shallow		4 2	23	19S	25E	551678	3612409*	1174
6	RA 08611		DOM	3	JOSEPH B HUBER	ED	RA 08611		Shallow	1 1	1	19	19S	26E	553583	3612909*	1401

Record Count: 6

POD Search:

POD Basin: Roswell Artesian

UTMNAD83 Radius Search (in meters):

Easting (X): 552278 Northing (Y): 3613419 Radius: 1609.4

meters

Sorted by: Distance

*UTM location was derived from PLSS - see Help

BJ SERVICES

Water Analysis

Date: 22-Jan-11

2708 West County Road, Hobbs NM 88240
Phone (505) 392-5556 Fax (505) 392-7307

Analyzed For

Company	Well Name	County	State
Mewbourne	Lisas	Lea	New Mexico

Sample Source **Source** ***Sample #*** **1**

Formation ***Depth***

Specific Gravity	**1.000**	*SG @ 60 °F*	**1.002**
pH	**7.18**	*Sulfides*	**Absent**
Temperature (°F)	**70**	*Reducing Agents*	

Cations

Sodium (Calc)	*in Mg/L*	**655**	*in PPM*	**654**
Calcium	*in Mg/L*	**316**	*in PPM*	**315**
Magnesium	*in Mg/L*	**48**	*in PPM*	**48**
Soluable Iron (FE2)	*in Mg/L*	**0.0**	*in PPM*	**0**

Anions

Chlorides	*in Mg/L*	**200**	*in PPM*	**200**
Sulfates	*in Mg/L*	**2,000**	*in PPM*	**1,996**
Bicarbonates	*in Mg/L*	**59**	*in PPM*	**58**
Total Hardness (as CaCO3)	*in Mg/L*	**990**	*in PPM*	**988**
Total Dissolved Solids (Calc)	*in Mg/L*	**3,278**	*in PPM*	**3,271**
Equivalent NaCl Concentration	*in Mg/L*	**2,263**	*in PPM*	**2,258**

Scaling Tendencies

Calcium Carbonate Index* **18,505

Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable

Calcium Sulfate (Gyp) Index* **632,000

Below 500,000 Remote / 500,000 - 10,000,00 Possible / Above 10,000,000 Probable

****This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.***

Remarks rw=5@70f

Report # 3148

BJ SERVICES

Water Analysis

Date: 22-Jan-11

2708 West County Road, Hobbs NM 88240
Phone (505) 392-5556 Fax (505) 392-7307

Analyzed For

Company	Well Name	County	State
Mewbourne	Ross East	Lea	New Mexico

Sample Source **Source** ***Sample #*** **1**

Formation ***Depth***

Specific Gravity	**1.000**	*SG @ 60 °F*	**1.002**
pH	**7.24**	*Sulfides*	**Absent**
Temperature (°F)	**70**	*Reducing Agents*	

Cations

Sodium (Calc)	*in Mg/L*	**655**	*in PPM*	**654**
Calcium	*in Mg/L*	**316**	*in PPM*	**315**
Magnesium	*in Mg/L*	**48**	*in PPM*	**48**
Soluable Iron (FE2)	*in Mg/L*	**0.0**	*in PPM*	**0**

Anions

Chlorides	*in Mg/L*	**200**	*in PPM*	**200**
Sulfates	*in Mg/L*	**2,000**	*in PPM*	**1,996**
Bicarbonates	*in Mg/L*	**59**	*in PPM*	**58**
Total Hardness (as CaCO3)	*in Mg/L*	**990**	*in PPM*	**988**
Total Dissolved Solids (Calc)	*in Mg/L*	**3,278**	*in PPM*	**3,271**
Equivalent NaCl Concentration	*in Mg/L*	**2,263**	*in PPM*	**2,258**

Scaling Tendencies

Calcium Carbonate Index* **18,505

Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable

Calcium Sulfate (Gyp) Index* **632,000

Below 500,000 Remote / 500,000 - 10,000,00 Possible / Above 10,000,000 Probable

****This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.***

Remarks rw=5@70f

Report # 3149

BJ SERVICES

Water Analysis

Date: 22-Jan-11

2708 West County Road, Hobbs NM 88240
Phone (505) 392-5556 Fax (505) 392-7307

Analyzed For

Company	Well Name	County	State
Mewbourne	Ross West	Lea	New Mexico

Sample Source Source **Sample #** 1

Formation **Depth**

Specific Gravity	1.000	*SG @ 60 °F*	1.002
pH	7.22	*Sulfides*	Absent
Temperature (°F)	70	*Reducing Agents*	

Cations

Sodium (Calc)	*in Mg/L*	670	*in PPM*	669
Calcium	*in Mg/L*	300	*in PPM*	299
Magnesium	*in Mg/L*	48	*in PPM*	48
Soluable Iron (FE2)	*in Mg/L*	0.0	*in PPM*	0

Anions

Chlorides	*in Mg/L*	200	*in PPM*	200
Sulfates	*in Mg/L*	2,000	*in PPM*	1,996
Bicarbonates	*in Mg/L*	49	*in PPM*	49
Total Hardness (as CaCO3)	*in Mg/L*	950	*in PPM*	948
Total Dissolved Solids (Calc)	*in Mg/L*	3,267	*in PPM*	3,260
Equivalent NaCl Concentration	*in Mg/L*	2,260	*in PPM*	2,255

Scaling Tendencies

Calcium Carbonate Index* **14,640

Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable

Calcium Sulfate (Gyp) Index* **600,000

Below 500,000 Remote / 500,000 - 10,000,00 Possible / Above 10,000,000 Probable

This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.

Remarks rw=5@70f

Report # 3150

CASE 14666: **Application of Mewbourne Oil Company for approval of a salt water disposal well, Eddy County, New Mexico.** Applicant seeks approval to utilize its Fairchild "13" Well No. 1 (API No. 30-015-29729) located 660 feet from the South and West lines (Unit M) of Section 13, Township 19 South, Range 25 East, NMPM, to inject up to 10,000 barrels of water per day, at a maximum pressure of 1560 psi, into the into the Canyon (Upper Pennsylvanian) formation in the open-hole interval from 7800 feet to 8200 feet. This well is located approximately 12 miles south of Artesia, New Mexico.