District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St Francis Dr , Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-101
June 16, 2008

Submit to appropriate District Office

☐ AMENDED REPORT

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

[1] Operator Name and Address	[2] OGRID Number
Mewbourne Oil Company PO BOX 5270 HOBBS, NM 88241	14744
	[3] API Number 30-015-29729

[5] Property Code	[5] Property Name	[6] Well No
38708	Failchild 13 SWD	#1 ~~SWD~~

[9] Proposed Pool 1	[10] Proposed Pool 2
SWD; CANYON (96184)	

[7] Surface Location

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	13	19S	25E		660'	SOUTH	660'	WEST	EDDY

[8] Proposed Bottom Hole Location If Different From Surface

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Additional Well Information

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
E Re-entry	S SWD	R	FEE	3414'
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
NO	8200'	CANYON	PATT-UTI	07/15/11

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
8 3/4"'	7"	23# & 26#	7800'	820	surface

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

SWD R-13412

This well is a re-entry It was drilled and P&A'd by Nearburg Producing Co in 1997

MOC plans to drill out cement plugs to 8200' and set 7" casing @ 7800' and circulate cement to surface Shoe joint and open hole will be drilled out to TD @ 8200' with tubing 2 7/8" plastic coated tubing and Arrowset 1X nickel plated packer will be set @ 7700'

BOP Program Shaffer or equivalent 11" 2000# Annular

Mud Program Surface to 1025' FW spud mud. 1025' – 6300' TD Brine water

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JUN 27 2011
NMOCD ARTESIA

[23] I hereby certify that the information given above is true and complete to the best of my knowledge and belief

Signature: Charles L. Martin

Printed name. Charles Martin

Title. Engineer

E-mail Address. cmartin@mewbourne com

Date: 06/24/2011 Phone: (575) 393-5905

OIL CONSERVATION DIVISION

Approved by: [signature]

Title: Geologist

Approval Date 07/15/11 Expiration Date 07/15/13

Conditions of Approval Attached ☐

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

State of New Mexico
Energy, Minerals & Natural Resources Department

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

Form C-102
Revised February 10, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name

Property Code	Property Name	Well Number
	FAIRCHILD 13 ~~SWD~~	1

OGRID No.	Operator Name	Elevation
14744	Mewbourne Oil Company	3414.

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	13	19-S	25-E		660	SOUTH	660	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
			SWD R-13412

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16

660'
660'

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JUN 27 2011
NMOCD ARTESIA

OPERATOR CERTIFICATION

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

Signature: Charles L. Martin
Printed Name: Charles Martin
Title: Engineer
Date: 6/24/11

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

JULY 2, 1997

Date of Survey

Signature and Seal of Professional Surveyor:

DAN E. KUDY
NEW MEXICO
5412
REGISTERED LAND SURVEYOR
PROFESSIONAL ENGINEER

Certificate Number NM PE & PS No. 5412

STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 14606
ORDER NO. R-13412

APPLICATION OF MEWBOURNE OIL COMPANY FOR APPROVAL OF A SALT WATER DISPOSAL WELL, EDDY COUNTY, NEW MEXICO

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on March 3, 2011 and again on March 31, 2011, at Santa Fe, New Mexico, before Examiner William V. Jones.

NOW, on this 23rd day of June, 2011, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given, and the Division has jurisdiction of this case and its subject matter.

(2) The applicant, Mewbourne Oil Company ("Mewbourne" or "applicant"), seeks authority to utilize its Fairchild 13 SWD Well No. 1 (**API No. 30-015-29729,** the "subject well"), located 660 feet from the South line and 660 feet from the West line, Unit M of Section 13, Township 19 South, Range 25 East, NMPM, Eddy County, New Mexico, for oil field water disposal into a Canyon formation open hole interval from approximately 7800 feet to 8200 feet.

(3) The Division has previously approved Canyon salt water disposal wells offsetting this location. The Cotton MX Federal Com Well No 1 (API No. 30-015-23315), located in Unit C of Section 14 was approved as a Canyon disposal well by administrative permit SWD-370. The Ann SWD Well No 1 (API No. 30-015-23580), located in Unit G of Section 18 was approved as a Canyon disposal well by administrative permit SWD-246. The Ann SWD Well No. 1 is now operated by Mesquite SWD, Inc. and being used as a commercial disposal well.

(4) Mewbourne presented exhibits and testimony at the hearing from a geologist and an engineer. An affidavit of notice was presented at the hearing on March 31, 2011.

(5) The applicant's testimony and exhibits indicate the following:

a. The proposed disposal well is within one mile of the North Dagger Draw-Upper Pennsylvanian Pool (Pool Code 15472). This pool produces gassy oil and very high quantities of associated water from the Canyon formation. The Canyon oil field produced waters are typically relatively low in dissolved solids.

b. The proposed well was spud in December of 1997 as a Canyon test. The well was drilled to 8200 feet and plugged as a dry hole. The Canyon in this location is lower on structure than the main portion of the North Dagger Draw-Upper Pennsylvanian Pool. Offsetting wells that attempted to produce from the Canyon have produced at a very high water cut. Mewbourne does not intend to attempt any further Canyon formation production from this well.

c. Mewbourne intends to re-enter this plugged well to 8200 feet, run 7 inch casing to 7800 feet, set an external packer and cement this new casing, and utilize this well for disposal into the Canyon formation through an open hole interval.

d. Mewbourne expects disposal waters to preferentially enter the Canyon formation through the higher porosity interval located near the midpoint of the proposed disposal depth range.

e. The source waters going into this well would originate primarily from Mewbourne's local production from the Yeso formation. Currently Mewbourne's Yeso waters are being commercially disposed into the Ann SWD Well No. 1 which itself uses the Canyon formation for disposal.

f. Mewbourne does not expect any waste of oil or gas to occur as a result of disposal into this Canyon formation at this location.

g. Mewbourne owns the surface at this well location. Exhibit 3 details those who control the interests within ½ mile of this location and Exhibit A, presented on March 31, shows proof of notice to those affected parties.

h. Known fresh waters are located within 750 feet of surface. The well will be adequately equipped and cemented to isolate any fresh water intervals.

(6) Affected parties have been notified and no objections have been received. There were no other appearances at the hearing or objections to this application.

(7) The application has been duly filed under the provisions of 19.15.26.8 NMAC.

(8) The half mile Area of Review around this well contains no plugged wells and one active well that penetrated the disposal interval. The Area of Review well is adequately cased and cemented in order to isolate the disposal interval.

(9) The applicant has presented satisfactory evidence that all requirements prescribed in 19.15.26.8 NMAC have been met and the operator is in compliance with 19.15.5.9 NMAC.

(10) This application as presented by Mewbourne should be approved.

IT IS THEREFORE ORDERED THAT:

(1) Mewbourne Oil Company ("Mewbourne" or "operator"), is hereby authorized to utilize its Fairchild 13 SWD Well No. 1 (**API No. 30-015-29729**) located 660 feet from the South line and 660 feet from the West line, Unit M of Section 13, Township 19 South, Range 25 East, NMPM, Eddy County, New Mexico, for oil field water disposal (limited only to UIC Class II fluids) into the Canyon formation open hole interval from approximately 7800 feet to 8200 feet through lined tubing and a packer set within 100 feet above the permitted disposal interval.

(2) The operator shall take all steps necessary to ensure that the disposed water enters only the permitted disposal interval depths and is not permitted to escape to other formations or onto the surface.

(3) After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

(4) The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT testing procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC.

(5) The wellhead injection pressure on the well shall be limited to **no more than 1560 psi**. *In addition, the disposal well or system shall be equipped with a pressure* limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

(6) The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate-Test.

(7) The operator shall notify the supervisor of the Division's district office of the date and time of the installation of disposal equipment and of any MIT test so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's district office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Rules 19.15.26.13 NMAC and 19.15.7.24 NMAC.

(8) Without limitation on the duties of the operator as provided in 19.15.29 NMAC and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's district office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from or around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

(9) The injection authority granted under this order is not transferable except upon Division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

(10) The Division may revoke this injection permit after notice and hearing if the operator is in violation of 19.15.5.9 NMAC.

(11) The Division director shall be authorized to amend this permit administratively after proper notice and opportunity for hearing.

(12) The disposal authority granted herein shall terminate two years after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request, mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

(13) One year after disposal into the well has ceased, the well will be considered abandoned and the authority to dispose will terminate *ipso facto.*

(14) Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

(15) Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or

upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing or prior to notice and hearing in event of an emergency, terminate the disposal authority granted herein.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JAMI BAILEY
Director

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: _____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.).

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JUN 27 2011
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*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

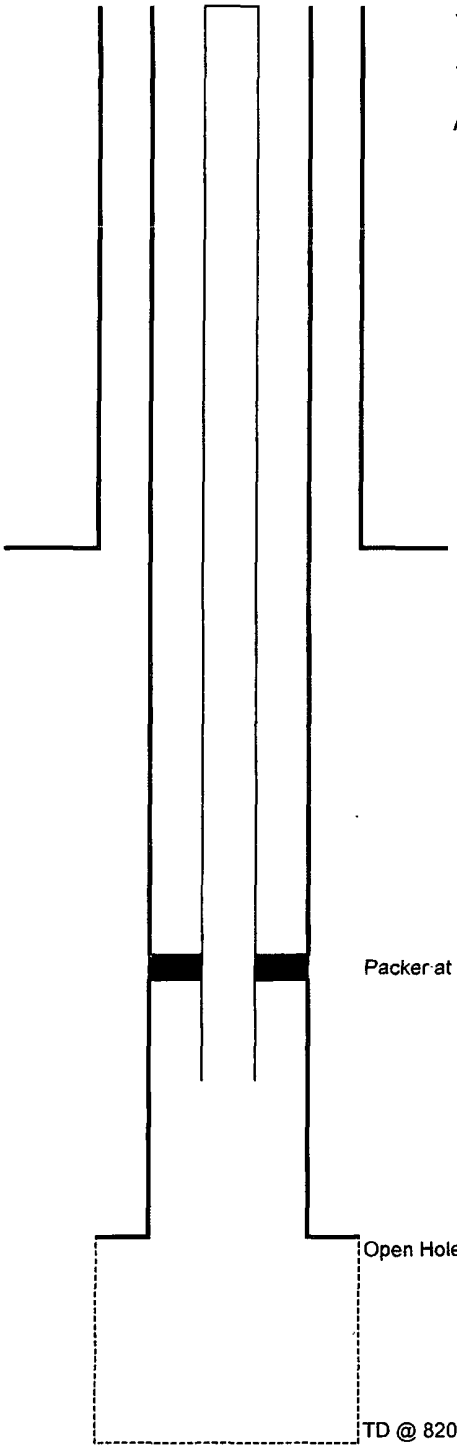
Proposed Wellbore Diagram

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

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
Indicate Type of Lease	STATE ☐ FEE ☒
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.)

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

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

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 ABANDONMENT	☒
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
PKA

4
1998 FEB
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OCD - ARTESIA

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

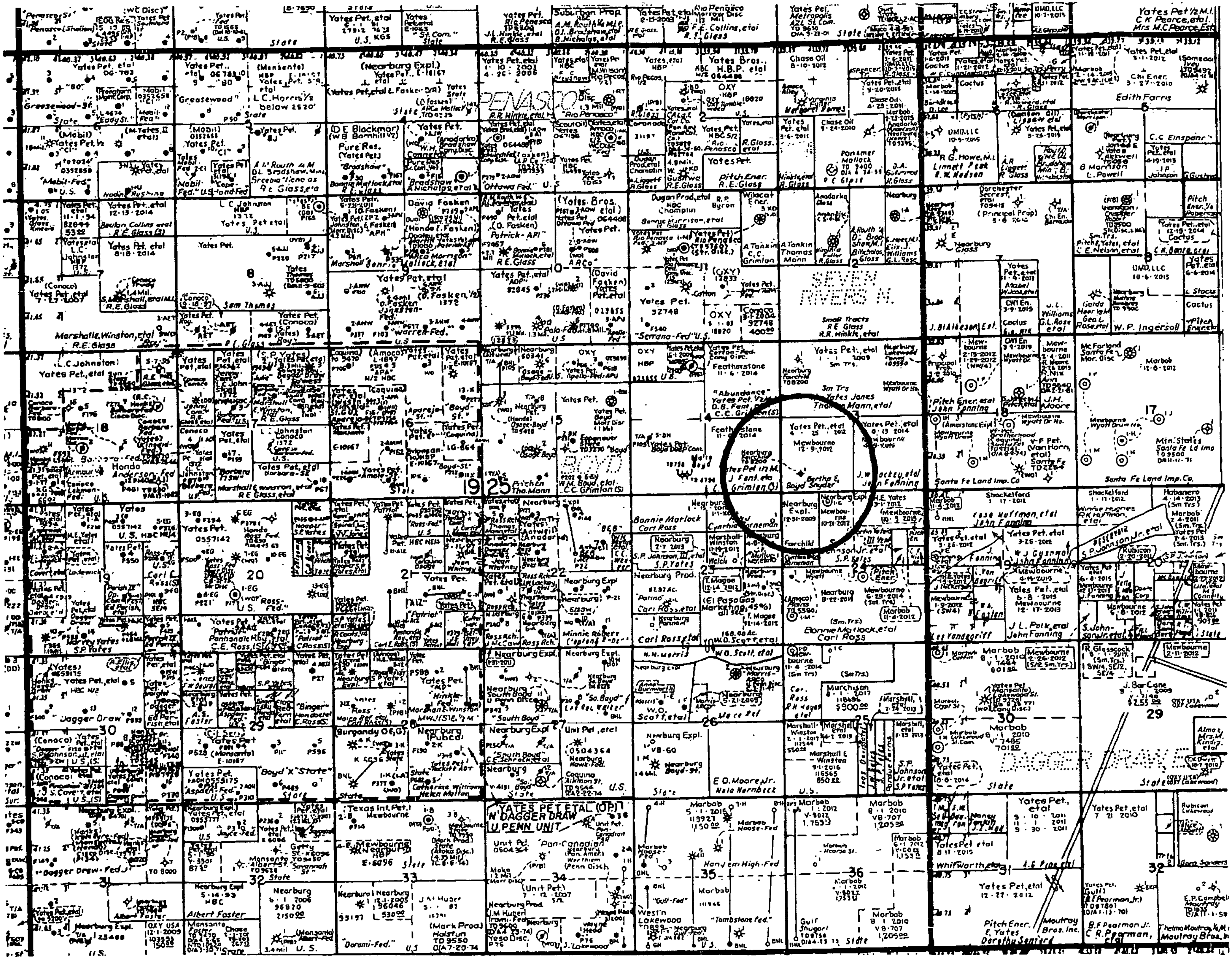
SIGNATURE [signature] TITLE Manager of Drilling and Production DATE 2/20/98

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

(This space for State Use)

APPROVED BY [signature] TITLE District Supervisor DATE 3/12/99

CONDITIONS OF APPROVAL, IF ANY:



PENASCO
SEVEN RIVERS N.
BOYD
DAGGER DRAW
YATES PET ETAL (OP)
N DAGGER DRAW
U PENN UNIT
Yates Pet., etal
Nearburg Expl.
Mewbourne
Marbob
Santa Fe Land Imp. Co.
Bonnie Matlock, etal
Carl Ross
Edith Farris
Dagger Draw-Fed.

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

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	
Sampling Date	1/19/11
Analysis Date	1/21/11
Analyst	STACY SMITH
TDS (mg/l or g/m³)	7,726
Density (g/cm³ or tonne/m³)	1.0060
Anion/Cation Ratio	1.00
Carbon Dioxide	120 PPM

Sample 538168 @ 75°F					
Anions	mg/l	meq/l		Cations	mg/l	meq/l
Chloride	**1,842**	**52.0**		**Sodium**	**2,019**	**87.8**
Bicarbonate	**976**	**16.0**		**Magnesium**	**59.0**	**4.85**
Carbonate	**0.00**	**0.00**		**Calcium**	**444**	**22.2**
Sulfate	**2,330**	**48.5**		**Strontium**	**7.50**	**0.17**
Phosphate	N/A	N/A		**Barium**	**0.10**	**0.00**
Borate	N/A	N/A		**Iron**	**21.0**	**0.75**
Silicate	N/A	N/A		Potassium	26.0	0.66
				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										CO_2
Temp.	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		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

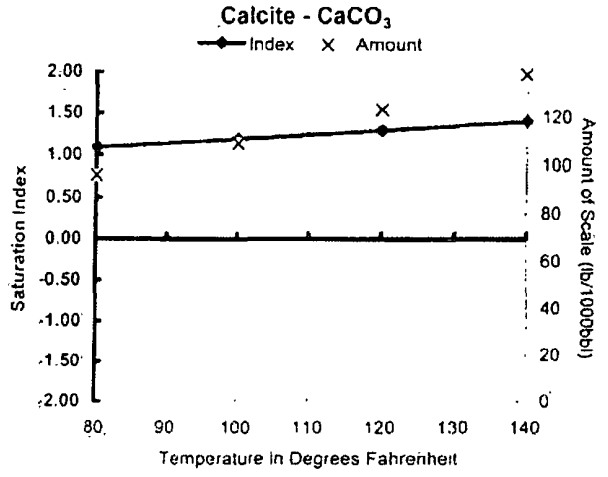
Precipitation of each scale is considered separately; total scale will be less than the sum of the amounts of the five scales.
The amount of scale indicates the severity of the problem; the index (equivalent to Stiff Davis SI) indicates how difficult it is to control the problem
The CO_2 fugacity is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

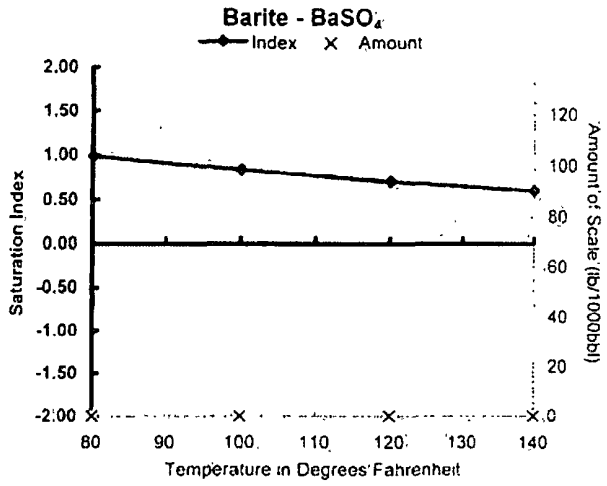
Scale Predictions

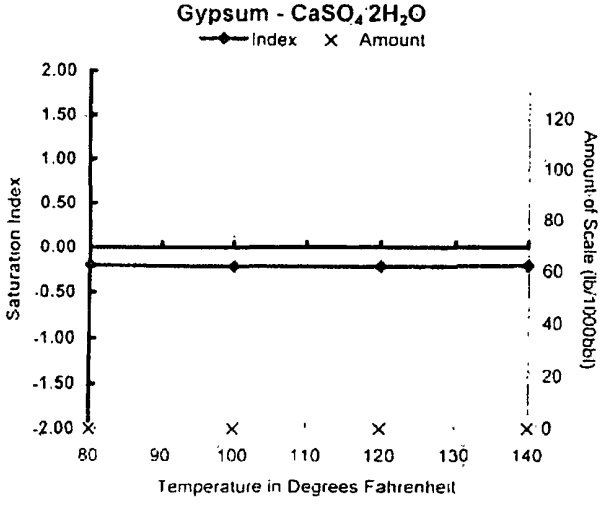
BAKER HUGHES

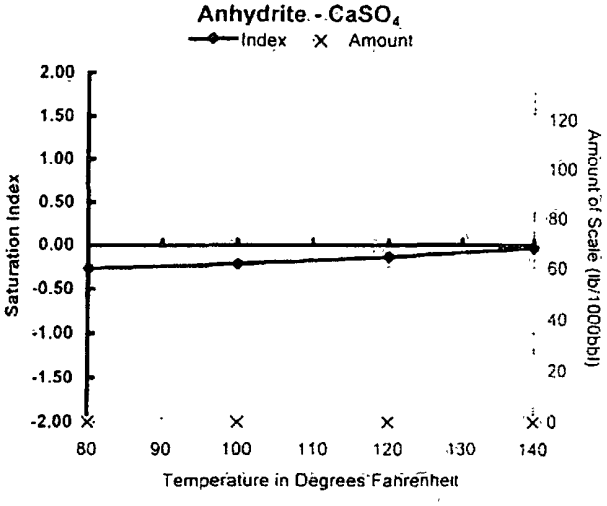
Baker Petrolite

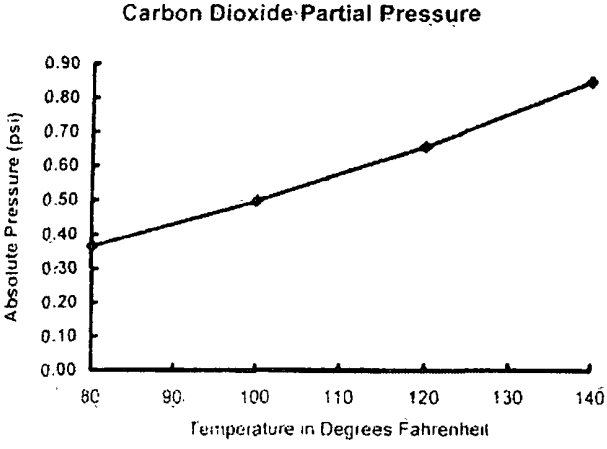
For Sample 538168 @ 75°F from MEWBOURNE OIL CO , B & B C SISCO CANYON , 4 , WELLHEAD , Jan/21/11

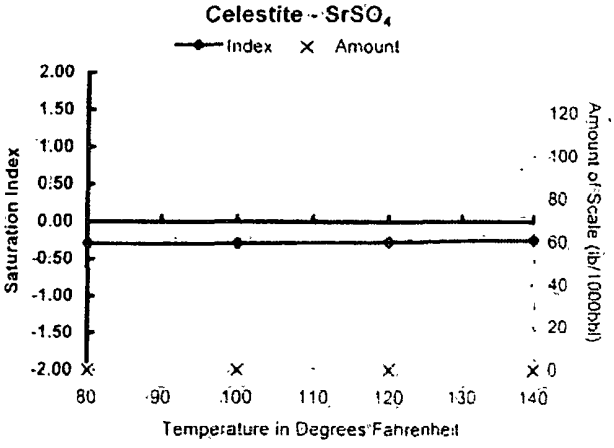












BJ Services

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:**	

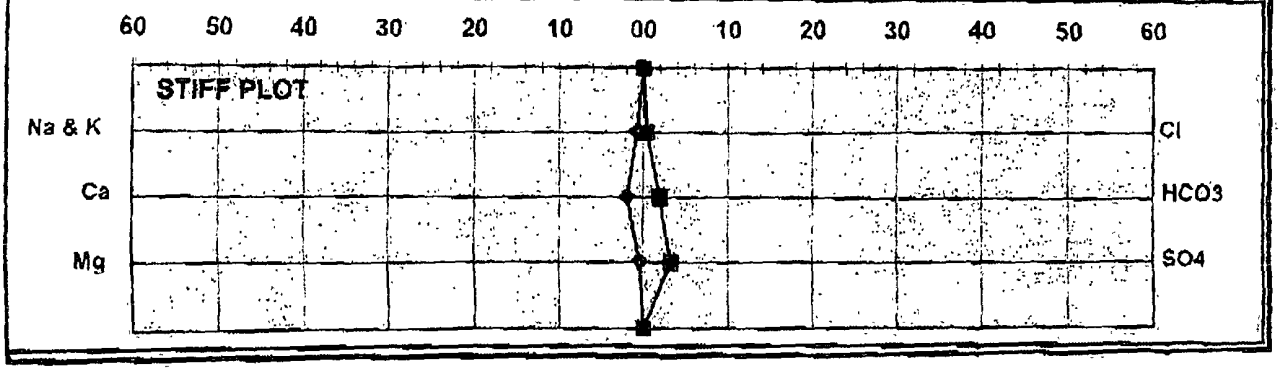
CATIONS	mg/l	me/l	ppm
Sodium (calc.)	1743	75.8	1718
Calcium	385	19.2	379
Magnesium	44	3.6	43
Barium	< 25	----	----
Potassium	< 10	----	----
Iron	0	0.0	0
ANIONS			
Chloride	1600	45.1	1576
Sulfate	1600	33.3	1576
Carbonate	< 1	----	----
Bicarbonate	1232	20.2	1214
Total Dissolved Solids(calc.)	6604		6507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

Analysis: 47116

Water Analysis Report

BAKER HUGHES
Baker Petrolite

MEWBOURNE OIL CO
WYATT DRAW 18/19
LD 1H
WELLHEAD

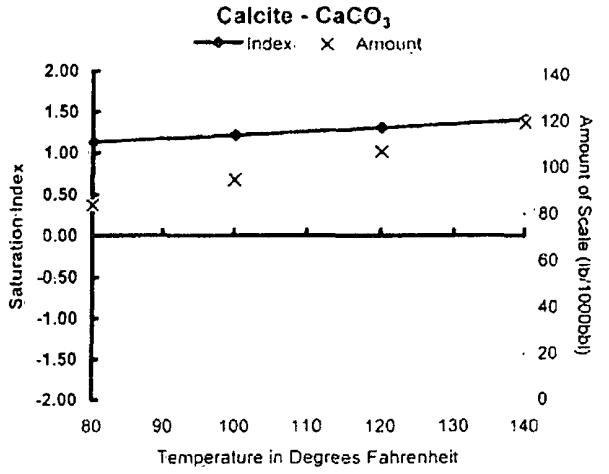
Account Manager
GENE ROGERS

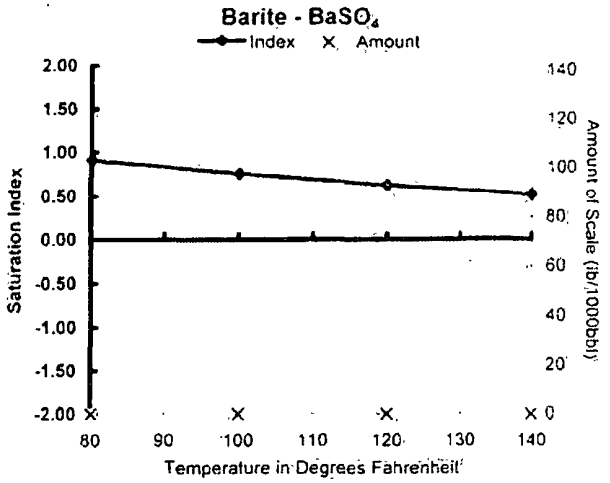
Summary of Entered Data		Sample 538170 @ 75°F					
Sampling Date	1/19/11	*Anions*	*mg/l*	*meq/l*	*Cations*	*mg/l*	*meq/l*
Analysis Date	1/21/11	**Chloride**	**5,432**	**153**	**Sodium**	**3,896**	**169**
Analyst	STACY SMITH	**Bicarbonate**	**780**	**12.8**	**Magnesium**	**199**	**16.4**
		Carbonate	**0.00**	**0.00**	**Calcium**	**762**	**38.0**
TDS (mg/l or g/m³)	13,936	**Sulfate**	**2,827**	**58.9**	**Strontium**	**11.0**	**0.25**
Density (g/cm³ or tonne/m³)	1.0110	Phosphate	N/A	N/A	**Barium**	**0.10**	**0.00**
Anion/Cation Ratio	1.00	Borate	N/A	N/A	**Iron**	**1.50**	**0.05**
		Silicate	N/A	N/A	Potassium	27.0	0.69
Carbon Dioxide	280 PPM				Aluminum	N/A	N/A
		Hydrogen Sulfide		850 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	0.06	0.00
		pH used in Calculations		**7.50**	Nickel	N/A	N/A

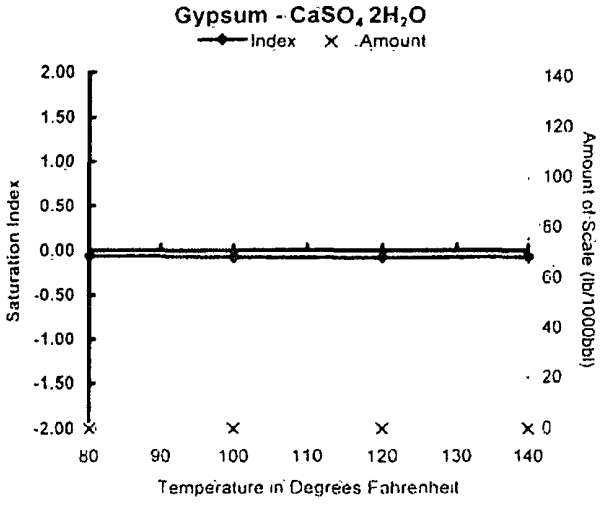
Specific ion interactions calculated for ions in bold faced type; other ions contribute to ionic strength

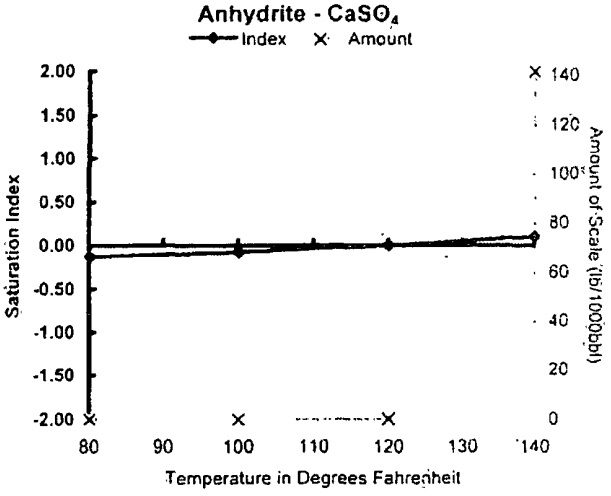
Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000bbl										
Temp.	*Gauge Press.*	*Calcite $CaCO_3$*		*Gypsum $CaSO_4 \cdot 2H_2O$*		*Anhydrite $CaSO_4$*		*Celestite $SrSO_4$*		*Barite $BaSO_4$*		*CO_2 Fugacity*
°F	*psi*	*Index*	*Amount*	*Index*	*Amount*	*Index*	*Amount*	*Index*	*Amount*	*Index*	*Amount*	*psi*
80	0.00	1.13	84	-0.06		-0.13		-0.20		0.91	0.05	0.27
100	0.00	1.22	95	-0.08		-0.08		-0.20		0.75	0.05	0.37
120	0.00	1.31	107	-0.08		0.00	0	-0.18		0.62	0.04	0.50
140	0.00	1.40	119	-0.07		0.10	142	-0.15		0.52	0.04	0.66

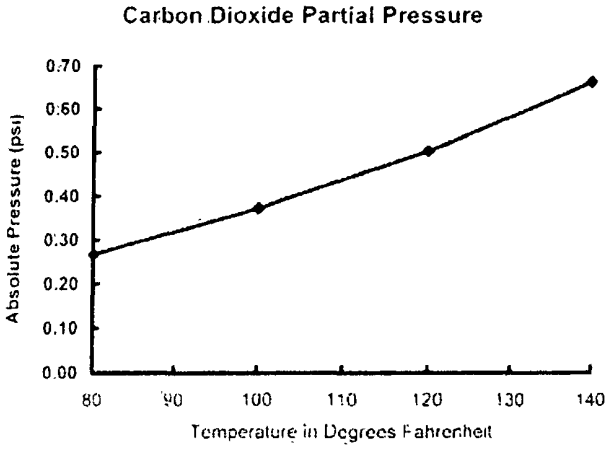
Precipitation of each scale is considered separately; total scale will be less than the sum of the amounts of the five scales
The amount of scale indicates the severity of the problem; the index (equivalent to Stiff Davis SI) indicates how difficult it is to control the problem.
The CO_2 fugacity is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

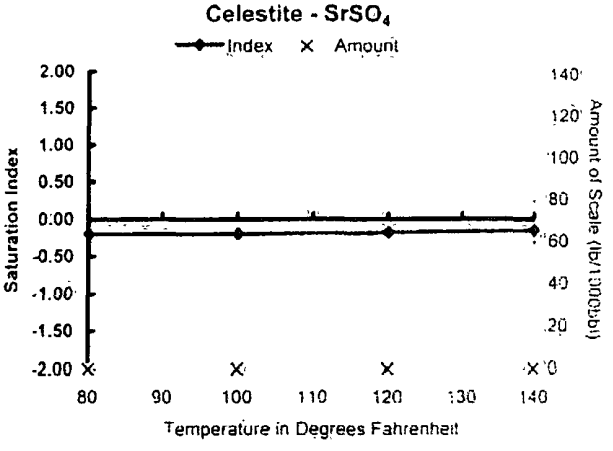












BJ Services

WATER ANALYSIS

Artesia District Laboratory
(575) 746-3140

Operator:	Mewbourne Oil Company	Date:	012011
Well:	Wyatt Draw 17/14	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

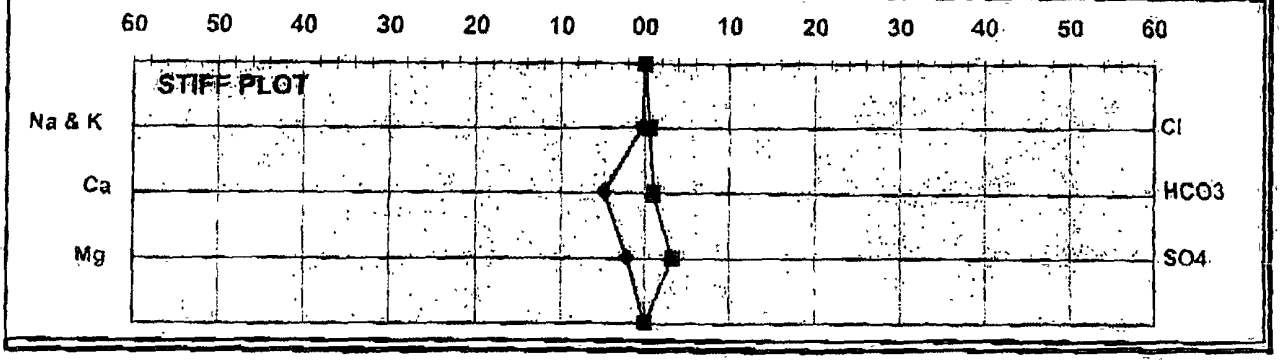
Total Dissolved Solids(calc.)	6158		6067
Total Hardness as CaCO3	3524	70.4	3472

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.

Scale Predictions

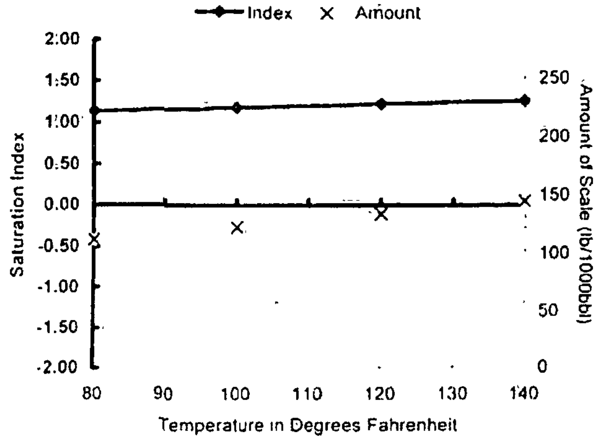
BAKER HUGHES

Baker Petrolite

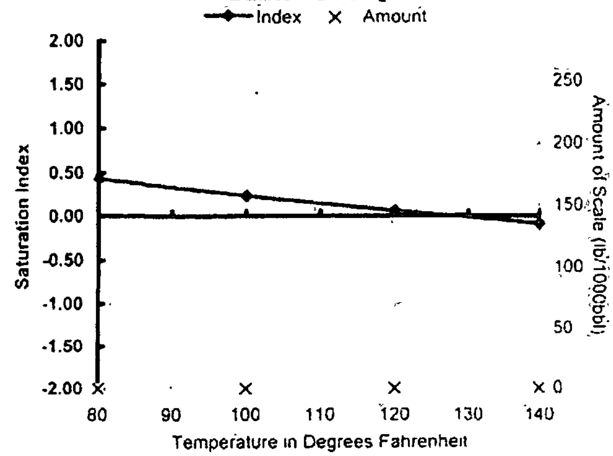
Baker Petrolite

Rp. Sample 528169 @ 75°F from MEWBOURNE OIL CO , WYATT DRAW 24/25 , LE 1H , WELLHEAD , Jan/21/11

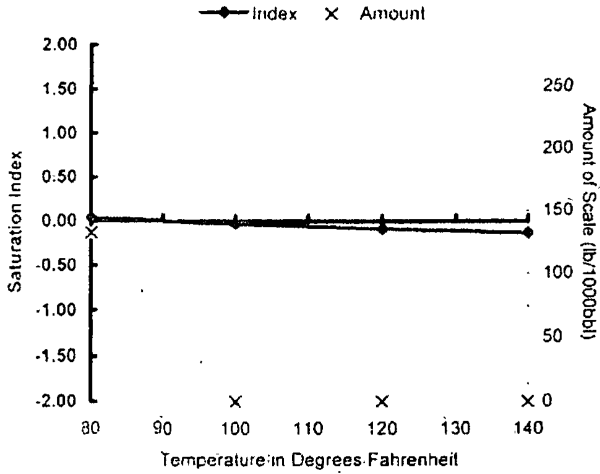
Calcite - $CaCO_3$



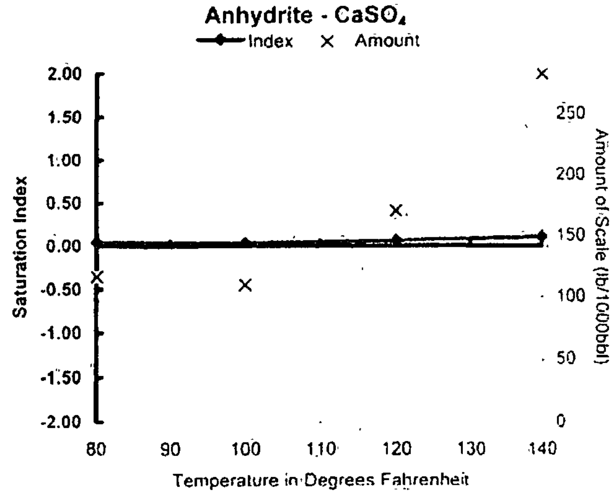
Barite - $BaSO_4$



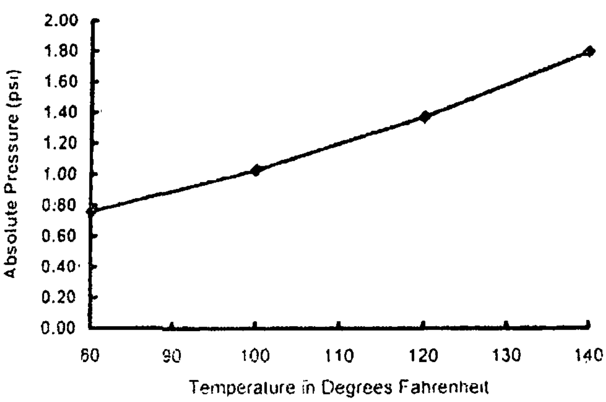
Gypsum - $CaSO_4 \cdot 2H_2O$



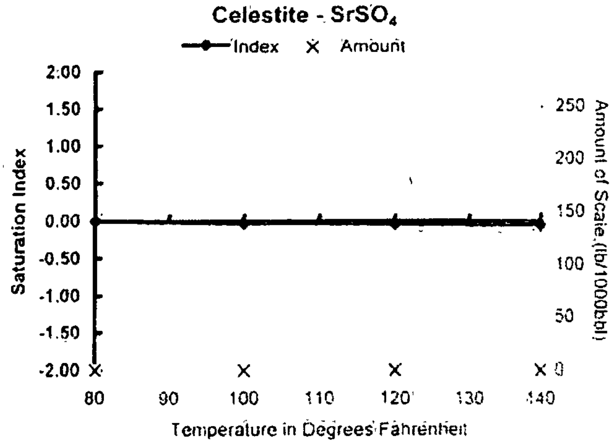
Anhydrite - $CaSO_4$



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:	

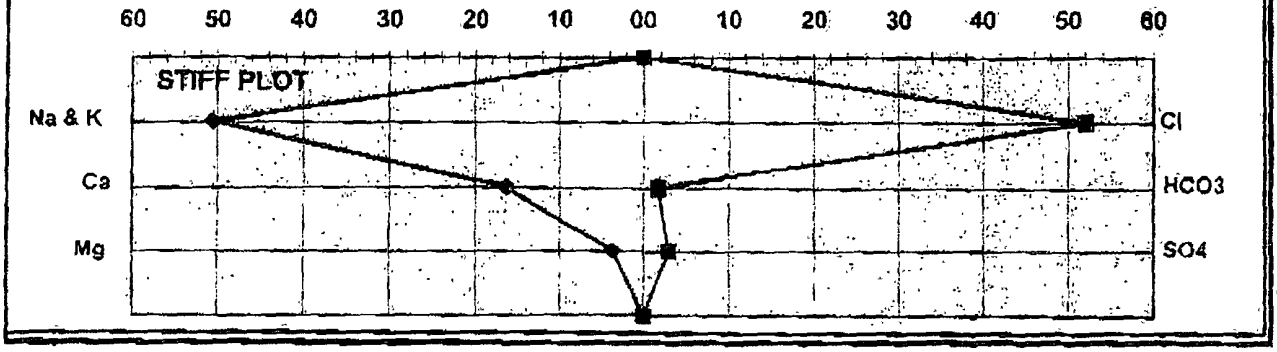
CATIONS	mg/l	me/l	ppm
Sodium (calc.)	128455	5587.4	116249
Calcium	3609	180.1	3266
Magnesium	486	40.0	440
Barium	< 25	----	----
Potassium	< 10	----	----
Iron	0	0.0	0

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

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

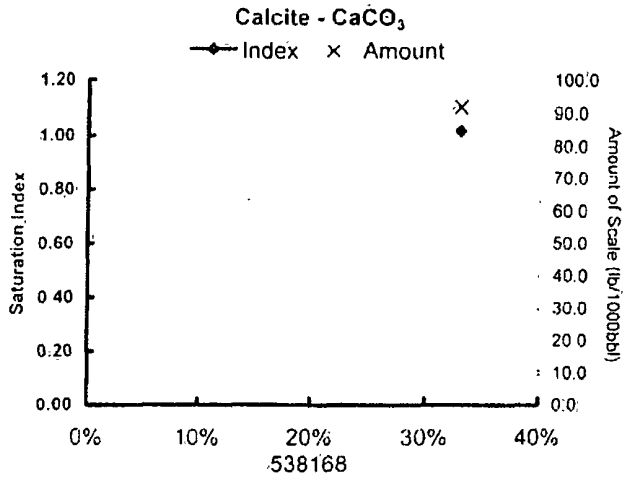
Precipitation of each scale is considered separately; total scale will be less than the sum of the amounts of the five scales.
The amount of scale indicates the severity of the problem; the index (equivalent to Stiff Davis SI) indicates how difficult it is to control the problem
The CO_2 fugacity is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

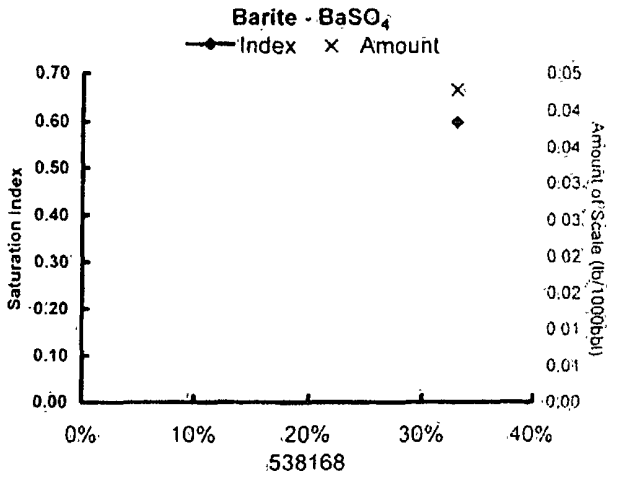
Complete Water Compositions									
538168	538169	538170							
33.0%	34.0%	33.0%							

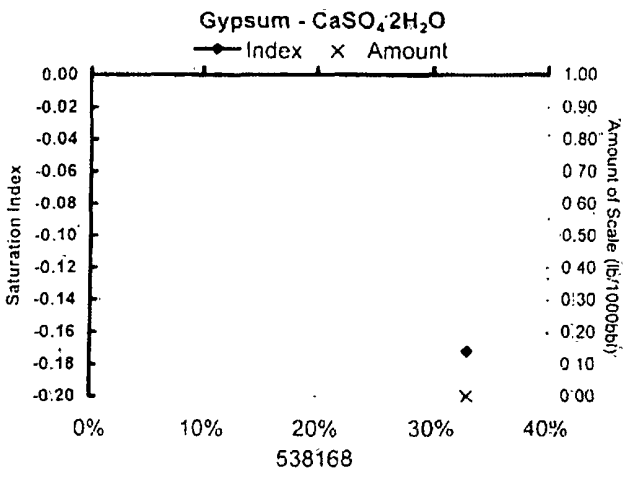
Scale Predictions

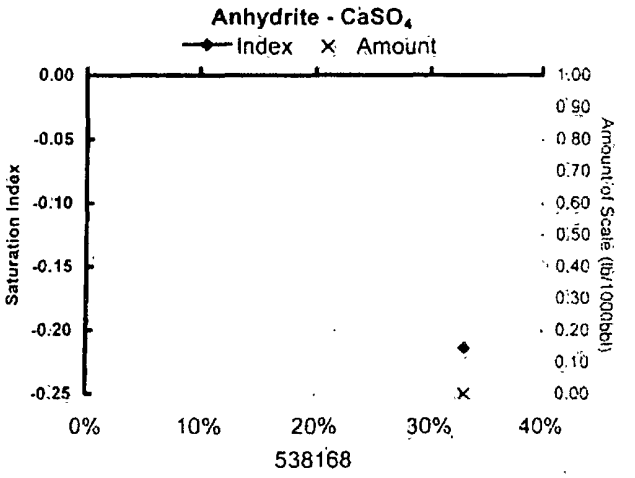
Mixes of 538168 and 538169 with 538170 at 80°F and 0 psi

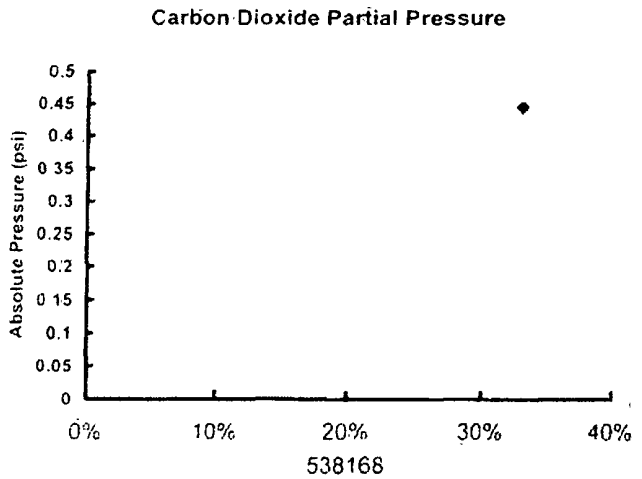
Baker Petrolite

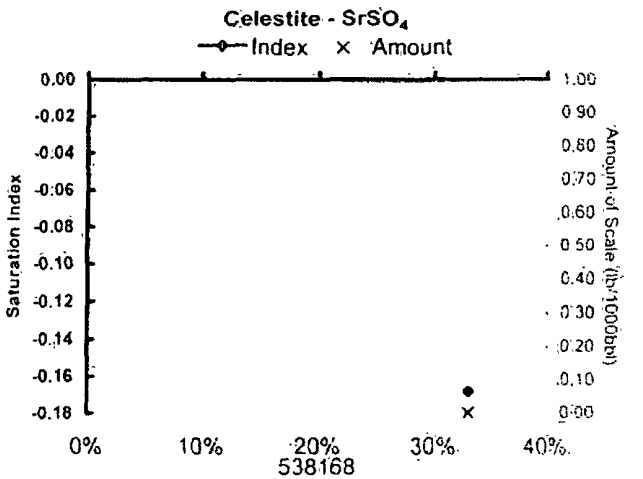












Fairchild 13 # 1 SWD C-108 Application Attachments # 11

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.

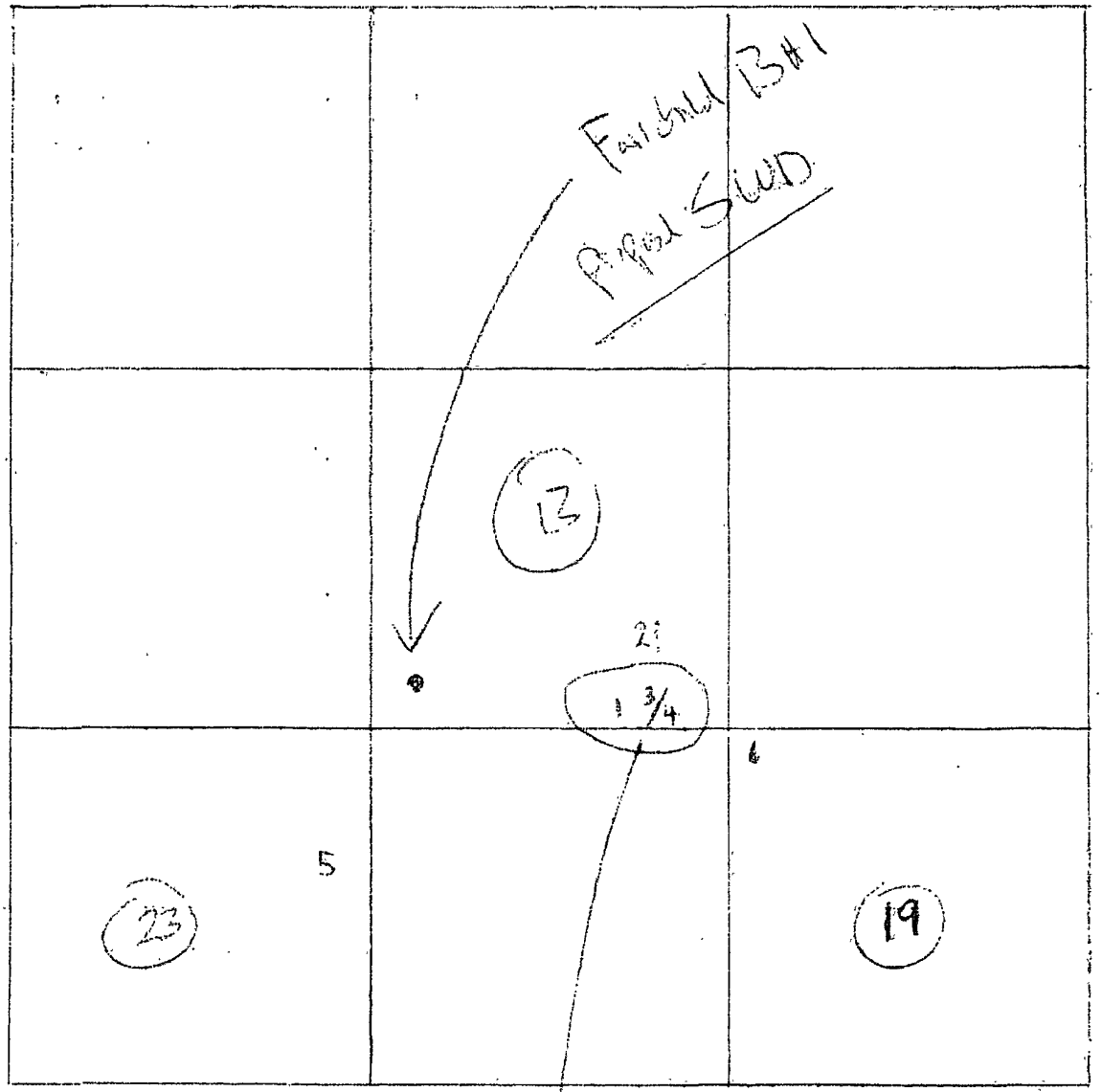
The New Mexico Office of State Engineer showed there to be 6 fresh water wells in this 1 mile radius. One of the six was never drilled, another is without pump or unable to produce now, and another had no trespassing signs up all around the property with dogs, and no means of getting in touch with property 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



Samples taken from these 3 locations taken 1/21/11

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 64 16 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