Oil Conservation Division
Energy, Minerals and Natural Resources Department
State of New Mexico

CASE NO. 15753
LIST OF DIVISION EXHIBITS

Division Exhibit No. 1: Map Showing Location of Maralo Sholes B Well No. 2 (API 30-025-09806)

Division Exhibit No. 2: Well Completion Diagram for Maralo Sholes B Well No. 2

Division Exhibit No. 3: Division Administrative Order SWD-1127

Division Exhibit No. 4: Form C-105 (Well Record) for Maralo Sholes B Well No. 2

Division Exhibit No. 5: Form C-103 (Miscellaneous Reports on Well) dated June 30, 1947

Division Exhibit No. 6: Form 3160-5 (Sundry Notices and Reports on Wells) dated March 3, 1992

Division Exhibit No. 7: Form 3160-5 (Sundry Notices and Reports on Wells) dated March 6, 2009

Division Exhibit No. 8: Final Report and Recommendations Regarding Injection Survey Results for the Maralo Sholes B Well No. 2 (API 30-025-09806; SWD-1127) OWL SWD Operating LLC dated March 15, 2017

Division Exhibit No. 9: Form WR-05 (Application for Permit) File No. CP-1310 dated January 21, 2016

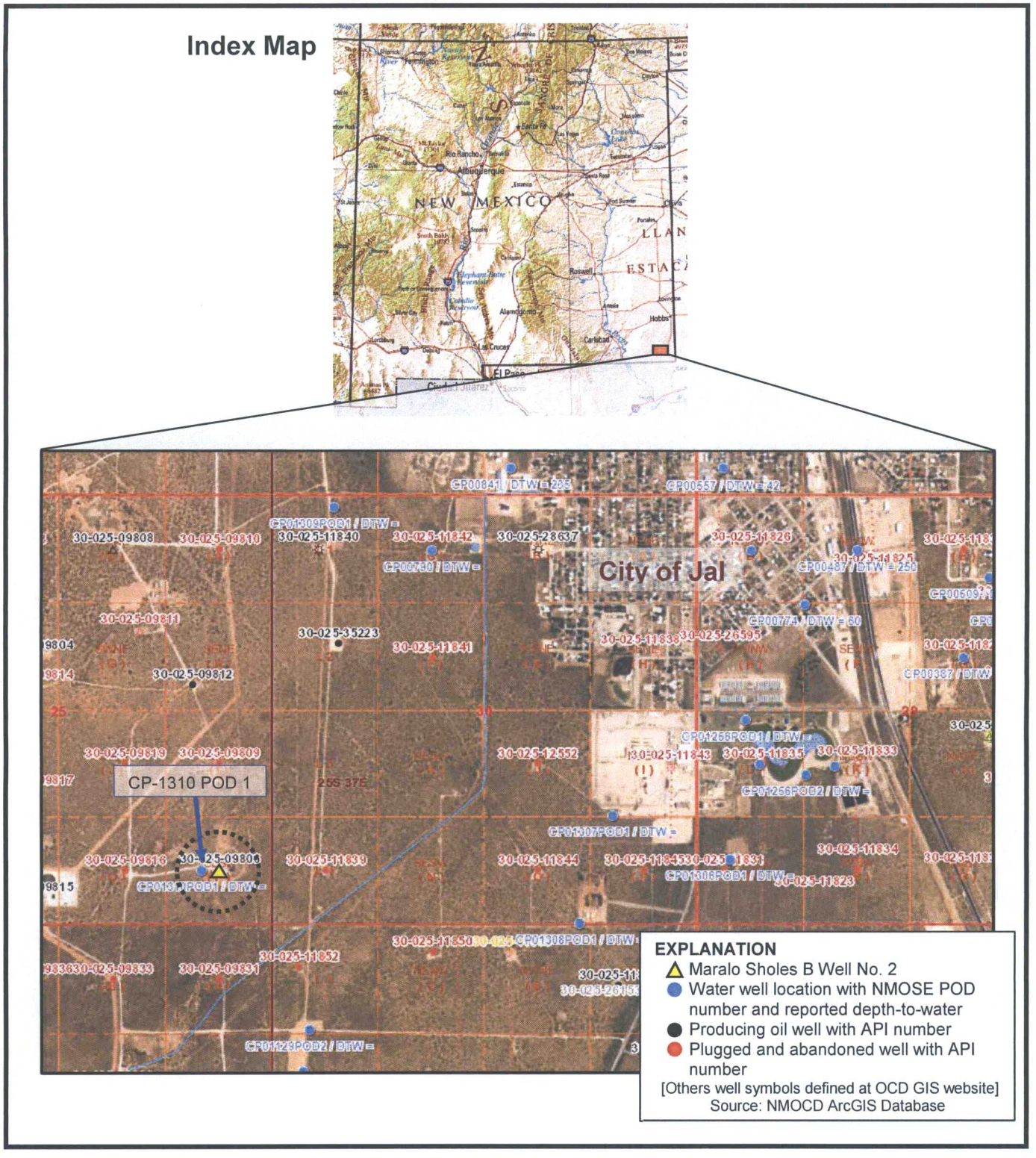
Division Exhibit No. 10: Form C-108 (Application for Authorization to Inject) dated May 9, 2008

Division Exhibit No. 11: Resume of Phillip R. Goetze, Oil Conservation Division

Exhibit 12: Rule.
EXHIBIT 13; PICTURE OF WELL RISERS

Oil Conservation Division
Energy, Minerals and Natural Resources Department
State of New Mexico

CASE NO. 15753 Division Exhibit No. 1:
Map Showing Location of Maralo Sholes B Well No. 2 (API 30-025-09806)

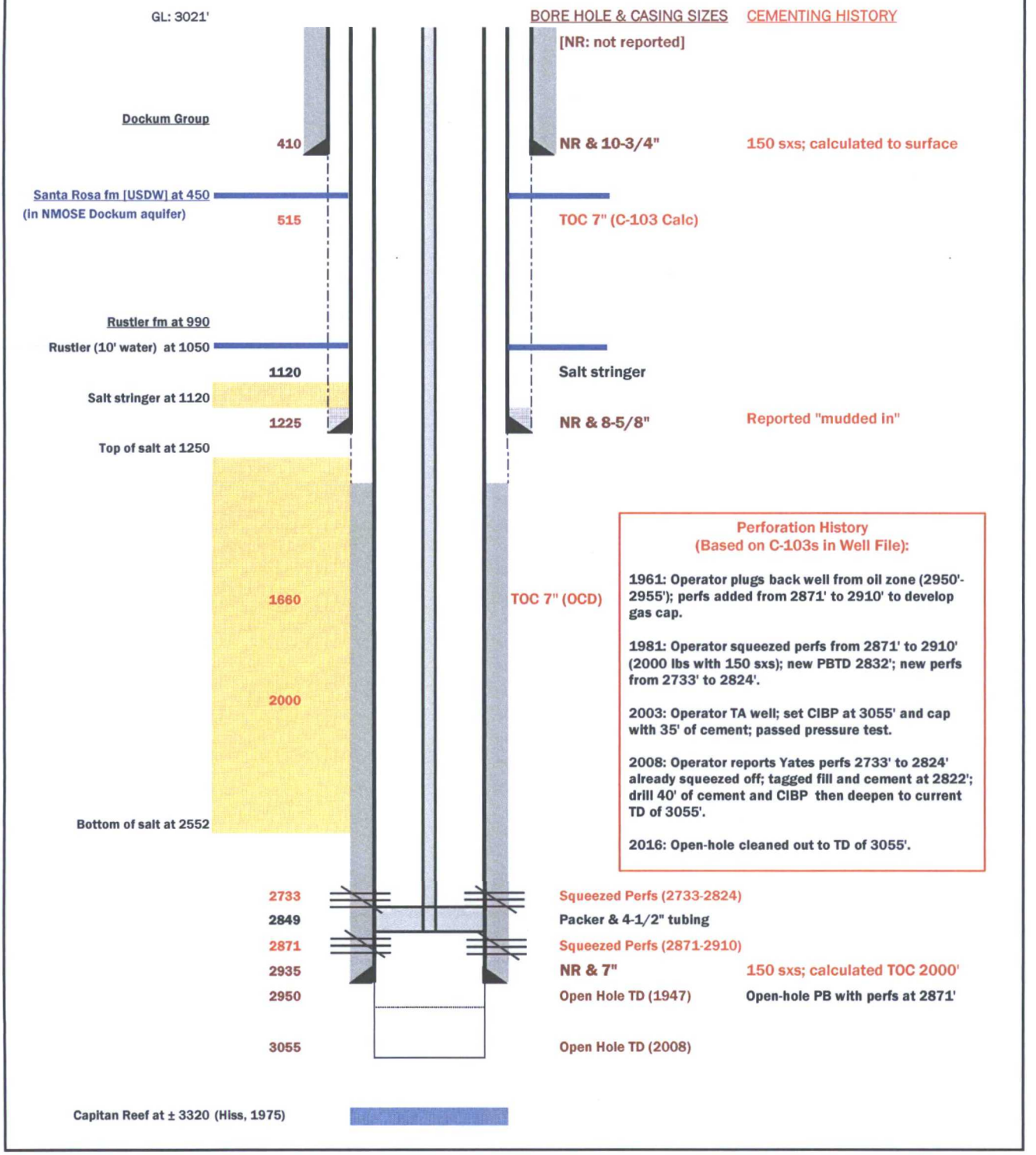


Oil Conservation Division
Energy, Minerals, and Natural Resources Department
State of New Mexico

CASE NO. 15753 Division Exhibit No. 2: Well Completion Diagram for the Maralo Sholes B Well No. 2

Maralo Sholes B Well No. 2 (SWD-1127)
API 30-025-09806
OWL SWD Operating, LLC
UL P, Sec 25, T25S, R36E, NMPM; Lea County

Footage: 660' FSL & 660' FEL
Spud Date: 5/25/1947
Status: Former Yates Producer
Author: PRG; 07/2017



CASE NO. 15753
Division Exhibit No. 3

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

Administrative Order SWD-1127
June 1, 2008

APPLICATION OF FULFER OIL & CATTLE LLC FOR PRODUCED WATER DISPOSAL, LEA COUNTY, NEW MEXICO

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701(B), Fulfer Oil & Cattle LLC (OGRID 141402) made application to the New Mexico Oil Conservation Division for permission to utilize for produced water disposal its Maralo Sholes "B" Well No. 2 (API No. 30-025-09806) located 660 feet from the South line and 660 feet from the East line of Section 25, Township 25 South, Range 36 East, NMPM, Lea County, New Mexico.

THE DIVISION DIRECTOR FINDS THAT:

(1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations;

(2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified;

(3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met;

(4) No objections have been received within the waiting period prescribed by said rule; and

(5) The operator is in compliance with the Division's Rule 40.

IT IS THEREFORE ORDERED THAT:

Fulfer Oil & Cattle LLC is hereby authorized to utilize its Maralo Sholes "B" Well No. 2 (API No. 30-025-09806) located 660 feet from the South line and 660 feet from the East line of Section 25, Township 25 South, Range 36 East, NMPM, Lea County, New Mexico, in such manner as to permit the injection of produced water for disposal

purposes into the Lower Yates and Upper Seven Rivers formations through an open-hole from 2938 feet to approximately 3055 feet and through plastic-lined tubing set with a packer located within 100 feet of the top of the injection interval.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

As preparation and prior to any injection, the operator shall squeeze off the existing upper Yates gas perforations from 2733 feet to 2824 feet and successfully pressure test the casing prior to drilling out the intended open hole injection interval. The operator shall notify the Hobbs district office 72 hours prior to any squeeze and/or pressure test operations – so those operations may be witnessed by the Division.

After installing injection 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.

The wellhead injection pressure on the well shall be limited to **no more than 588 psi.** In addition, the injection well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface injection pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the injection formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment and of any mechanical integrity test so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Hobbs district office of the Division of the failure of the tubing, casing, or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

PROVIDED FURTHER THAT, 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 water or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the injection authority granted herein.

The operator shall provide written notice of the date of commencement of injection to the Hobbs district office of the Division.

The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Rule Nos. 706 and 1120 of the Division Rules and Regulations.

The injection authority granted herein shall terminate one year 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 by the operator received by the Division prior to the termination date, may grant an extension thereof for good cause shown.

MARK E. FESMIRE, P.E.
Director

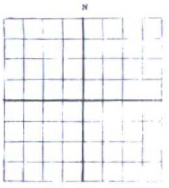
MEF/wvjj

cc: Oil Conservation Division – Hobbs
Bureau of Land Management - Carlsbad

CASE NO. 15753 Division Exhibit No. 4

FORM C-105

N



ACRES 640 ACRES
LOCATE WELL CORRECTLY

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

WELL RECORD

Mail to Oil Conservation Commission, Santa Fe, New Mexico, proper agent not more than twenty days after completion of well. Follow instructions in the Rules and Regulations of the Commission. Indicate questionable data by following it with (?). SUBMIT IN TRIPLICATE.

RECEIVED
JULY 0 1947
HOBBS OFFICE

Ralph Lowe — Midland, Texas
Company or Operator — Address

Sholes — Well No. 2 — In SE of SE — of Sec. 25 — T. 25
Lease

R. 36 — North — M. — South — Jal — Field, — east — west — Lea — County.
Well is 660 feet South of the North line and 660 feet East of the East line of 25-25-36

If State land the oil and gas lease is No. _____ Assignment No. _____

If patented land the owner is _____ Address _____

If Government land the permittee is Ralph Lowe Address Midland, Texas

The Lessee is _____ Address _____

Drilling commenced May 25, 1947 Drilling was completed June 25, 1947

Name of drilling contractor Self Address _____

Elevation above sea level at top of casing 3021 feet.

The information given is to be kept confidential until _____, 19____

OIL SANDS OR ZONES

No. 1, from 2945 to 2950 No. 4, from _____ to _____

No. 2, from _____ to _____ No. 5, from _____ to _____

No. 3, from _____ to _____ No. 6, from _____ to _____

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from _____ to _____ feet. _____

No. 2, from _____ to _____ feet. _____

No. 3, from _____ to _____ feet. _____

No. 4, from _____ to _____ feet. _____

CASING RECORD

SIZE	WEIGHT PER FOOT	THREADS PER INCH	MAKE	AMOUNT	KIND OF SHOE	CUT & FILLED FROM	PERFORATED FROM	PERFORATED TO	PURPOSE
10 3/4	36#	8thd		410					
8 5/8	22#	8thd		1225					
7	20#	8thd		2935					

MUDDING AND CEMENTING RECORD

SIZE OF HOLE	SIZE OF CASING	WHERE SET	NO. SACKS OF CEMENT	METHOD USED	MUD GRAVITY	AMOUNT OF MUD USED
	10 3/4	410	150	Halliburton		
	8 5/8	1225		Mudded in		
	7	2935	150			

PLUGS AND ADAPTERS

Heaving plug—Material _____ Length _____ Depth Set _____

Adapters—Material _____ Size _____

RECORD OF SHOOTING OR CHEMICAL TREATMENT

SIZE	SHELL USED	EXPLOSIVE OR CHEMICAL USED	QUANTITY	DATE	DEPTH SHOT OR TREATED	DEPTH CLEANED OUT

Results of shooting or chemical treatment _____

RECORD OF DRILL-STEM AND SPECIAL TESTS

If drill-stem or other special tests or deviation surveys were made, submit report on separate sheet and attach hereto.

TOOLS USED

Rotary tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

Cable tools were used from 0 feet to 2950 feet, and from _____ feet to _____ feet

PRODUCTION

Put to producing _____, 19____

The production of the first 24 hours was 240 barrels of fluid of which 240 % was oil; _____ %

emulsion; _____ % water; and _____ % sediment. Gravity, Be. _____

If gas well, cu. ft. per 24 hours _____ Gallons gasoline per 1,000 cu. ft. of gas _____

Rock pressure, lbs. per sq. in. _____

EMPLOYEES

_____ Driller _____ Driller

_____ Driller _____ Driller

FORMATION RECORD ON OTHER SIDE

I hereby swear or affirm that the information given herewith is a complete and correct record of the well and all work done on it so far as can be determined from available records.

Subscribed and sworn to before me this 30th day of June, 19 47

Willette Parr Notary Public

My Commission expires June 1, 1949

Midland, Texas June 30, 1947
Place Date

Name _____

Position Agent

Representing Ralph Lowe
Company or Operator

Address Midland, Texas

FORMATION RECORD

FROM	TO	THICKNESS IN FEET	FORMATION
0	10	10	Cellar
10	15	5	Caliche
15	115	100	Sand
115	140	25	Red rock
140	162	22	Sand
162	195	33	Sandy shale
195	235	40	Sand
235	265	30	Sandy shale
265	325	60	Sand
325	340	15	Red rock
340	385	45	Sand and blue shale
385	415	30	Blue shale
415	445	30	Red shale
445	990	545	Red rock
990	1050	60	Anhydrite
1050	1060	10	Water sand
1060	1120	60	Anhydrite
1120	1140	20	Salt
1140	1155	15	Anhydrite
1155	1175	20	Red rock
1175	1240	65	Anhydrite
1240	1250	10	Red rock
1250	1265	15	Salt
1265	1292	27	Anhydrite and red rock
1292	1295	3	Anhydrite
1295	1325	30	Red shale
1325	1348	23	Red rock
1348	1375	27	Anhydrite, salt and potash
1375	1560	85	Salt and potash
1560	1575	15	Salt
1575	1690	115	Salt, anhy, potash
1690	1705	15	Anhydrite
1705	1790	85	Anhydrite, salt & potash
1790	1915	125	Salt and shells
1915	1950	35	Anhydrite
1950	1985	35	Salt
1985	2230	245	Salt, potash & anhydrite
2230	2275	45	Salt
2275	2360	85	Salt and anhydrite
2360	2450	90	Salt and shells
2450	2495	45	Salt and anhydrite
2495	2552	57	Salt
2552	2570	18	Brown lime
2570	2590	20	Lime
2590	2615	25	Brown Lime
2615	2950	335	Lime - total depth

Dockum Group (including Santa Rosa formation)

RUSTLER

1120-1140'

CASE NO. 15753
Division Exhibit No. 5

FORM C-103

R.O.Y.

NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

MISCELLANEOUS REPORTS ON WELL

Submit this report in triplicate to the Oil Conservation Commission or its proper agent within ten days after the work specified is completed. It should be signed and sworn to before a notary public for reports on beginning drilling operations, results of shooting well, results of test of casing shut-offs, result of plugging of well, and other important operations, even though the work was witnessed by an agent of the commission. Reports on minor operations need not be signed and sworn to before a notary public. See additional instructions in the Rules and Regulations of the Commission.

Indicate nature of report by checking below:

REPORT ON BEGINNING DRILLING OPERATIONS		REPORT ON REPAIRING WELL	
REPORT ON RESULT OF SHOOTING OR CHEMICAL TREATMENT OF WELL		REPORT ON PULLING OR OTHERWISE ALTERING CASING	
REPORT ON RESULT OF TEST OF CASING SHUT-OFF	X	REPORT ON DEEPENING WELL	
REPORT ON RESULT OF PLUGGING OF WELL			

Midland, Texas (Place) June 30, 1947 (Date)

OIL CONSERVATION COMMISSION
Santa Fe, New Mexico.
Gentlemen:

Following is a report on the work done and the results obtained under the heading noted above at the

Ralph Lowe (Company or Operator) Sholes (Lease) Well No. 2 in the

SE of SE of Sec. 25, T. 25, R. 36, N. M. P. M.,

Jal Field, Lea County

The dates of this work were as follows:

Notice of intention to do the work was (was not) submitted on Form C-102 on 19
and approvalof the proposed plan was (was not) obtained. (Cross out incorrect words.)

DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED

10 3/4" casing - shut off

8 5/8" casing - mudded in

7" casing - shut off

Witnessed by C. K. Lowe (Name) Ralph Lowe (Company) Agent (Title)

Subscribed and sworn to before me this

30 day of June, 19 47

Willette Parr Notary Public

My Commission expires

I hereby swear or affirm that the information given above is true and correct.

Name C. K. Lowe

Position Agent

Representing Ralph Lowe (Company or Operator)

Address Midland, Texas

Remarks:

Name

Agent (Title)

CASE NO. 15752
Division Exhibit No. 6

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
MAR 6 11 05 AM '92

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: LC 032581 (B)
6. If Indian, Allottee or Tribe Name:
7. If Unit or CA, Agreement Designation:

1. Type of Well: [X] Oil Well [ ] Gas Well [ ] Other
2. Name of Operator: Maralo, Inc.
3. Address and Telephone No.: P. O. Box 832, Midland, Texas 79702 0832 915 684-7441
4. Location of Well (Footage, Sec., T., R., M., or Survey Description): 660' FSL & 660' FEL Unit P
8. Well Name and No.: Sholes "B" #2
9. API Well No.: 30-025-09806
10. Field and Pool, or Exploratory Area: ~~Cooper-Jal~~ Jalmat
11. County or Parish, State: Lea, New Mexico

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[X] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[ ] Other _____	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

1. Notify NMOCC when plugging begins.
2. Set CIBP capped w/35' cmt. @ +/- 2925'.
3. Load hole with 10# mud laden fluid.
4. ~~Set 100' (30 sx) plug across top Yates~~ from 2673 - 2783' inside 7" csg.
5. Determine free-point cut & pull 7" csg.
6. ~~Set 100' plug (30 sx) across 7" csg. stub.~~
7. ~~Set 100' plug (30 sx) aacross base 8 5/8"~~ csg. 1175' - 1275'.
8. Determine free-point cut & pull 8 5/8" csg.
9. ~~Set 100' (40 sx)~~ plug across 8" csg. stub.
10. Set 100' (40 sx) plug across base of 10 3/4" csg. 360' - 460'.
11. Set surface plug w/10 sx. cmt.
12. Remove wellhead, cut off sasing & weld plate on csg.
13. Clean location and set dry hole marker.

14. I hereby certify that the foregoing is true and correct

Signed Brenda Coffman Title Agent Date March 3, 1992

(This space for Federal or State office use)

Approved by David R. Glass Title _____ Date 3-11-92
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

Form 3160-4

RECEIVED
OCD-HOBBS
MAR 18 2009
HOBBSOCD

CASE NO. 15753
Division Exhibit No. 7

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a TYPE OF WELL: ☐ Oil Well ☐ Gas Well ☐ Dry ☒ Other **SWD**

1b TYPE OF COMPLETION: ☐ New Well ☐ Work Over ☒ Deepen ☐ Plug Back ☐ Diff Resvr

6. IF INDIAN, ALLOTEES OR TRIBE NAME:

7. UNIT OR CA AGREEMENT NAME:

8 LEASE NAME AND WELL NO.: **SHOLES B #2 (MARALO SHOLES B 2)**

2 NAME OF OPERATOR: **FULFER OIL & CATTLE CO. LLC**

9. API WELL NO.: **30-025-09806** SC

3 ADDRESS: **P. O. BOX 1224, JAL, NM 88252**

3A. PHONE NO.: **575-395-9970**

10. FIELD AND POOL, OR EXPLORATORY: **~~JALMAT,~~ YATES 7RIVERS SWD**

4 LOCATION OF WELL (Report location clearly and in accordance with Federal requirements)*
At surface: **660' FSL & 660' FEL**
At top prod Interval reported below: SAME
At total depth: SAME

11 SEC., T.,R.,M., OR BLOCK AND SURVEY OR AREA: **SEC. 25, T25S, R36E**

12 COUNTY: **LEA** 13. STATE: **NM**

14 DATE SPUDDED: **8-4-08**
15 DATE TD REACHED:
16 DATE COMPLETED: ☐ D&A ☒ **Ready to Dispose 8-6-08**

17. ELEVATIONS (DF, RKB, RG, GL)*: **3021 GL**

18 TOTAL DEPTH MD / TVD: **3055'**
19. PLUG BACK TD. MD / TVD:
20. DEPTH BRIDGE PLUG SET. MD / TVD:

21 TYPE ELECTRIC & OTHER MECH LOGS RUN (Submit copy of each)

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit report)
Directional Survey? ☒ No ☐ Yes (Submit copy)

23 CASING and LINER RECORD (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cmtr Depth	No. of Sks. & Type of Cmt	Slurry Vol. (Bbl)	Cement Top*	Amount Pulled
NO	**CHANGE**								
	10 ¾"			**410'**		**150 sx**			
	7"			**2935'**		**150 sx**			

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
3 ½"	**2850'**	**2850'**						

25 Producing Intervals / 26 Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. of Holes	Perf Status
A) **Lower Yates & 7Rivers**	**2938'**	**3055'**	**OPEN HOLE**			
B)			**2733'-2824'**		**30**	**SQUEEZED**
C)						

27 Acid, Fracture, Treatment, Cement Squeeze, etc.

Depth Interval	Amount and Type of Material
2733-2824' (SQUEEZED)	**2000 GALS. 15% HCL ACID**

28 Production – Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Ready 8-6-08			➡						**SWD**

Choke Size	Tbg Press Flwg SI	Csg. Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status
			➡					~~DISPOSING 1/6/09 @ 3000 BWPD ON VACUUM~~

28a Production – Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr API	Gas Gravity	Production Method
			➡						

Choke Size	Tbg Press Flwg SI	Csg Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status

ACCEPTED FOR RECORD
MAR 14 2009
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

SWD-1127

28b. Producution – Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr API	Gas Gravity	Production Method
			➡						
Choke Size	**Tbg Press Flwg SI**	**Csg. Press**	**24 Hr. Rate**	**Oil BBL**	**Gas MCF**	**Water BBL**	**Gas/Oil Ratio**	**Well Status**	
			➡						

28c Prdocution – Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr API	Gas Gravity	Production Method
			➡						
Choke Size	**Tbg Press Flwg SI**	**Csg Press**	**24 Hr Rate**	**Oil BBL**	**Gas MCF**	**Water BBL**	**Gas/Oil Ration**	**Well Status**	
			➡						

29 Disposition of Gas (Sold, used for fuel, vented, etc.)

30 Summary of Porous Zones (Include Aquifers)

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem test, including depth interval tested, cushion used, time tool open, flower and shut-in pressures and recoveries

Formation	Top	Bottom	Descriptions, Contents, etc.

31 Formation (Log) Markers

Name	Top Meas Depth

32. Additional remarks (include plugging procedure):

Found that Yates perfs., 2733-2824', had been squeezed by one of the previous operators.

33 Indicate which items have been attached by placing a check in the appropriate boxes.

☐ Electrical/Mechanical Logs (1 full set req'd) ☐ Geologic Report ☐ DST Report ☐ Directional Survey

☐ Sundry Notice for plugging and cement verification ☐ Core Analysis ☐ Other DEVIATION SURVEY

34 I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name (*please print*) DEBBIE MCKELVEY Title AGENT

Signature Debbie McKelvey Date 3/6/09

CASE NO. 15753
Division Exhibit No. 8

State of New Mexico
Energy, Minerals and Natural Resources Department

March 15, 2017

TO: David Catanach, Director, OCD DRC
Daniel Sanchez, UIC Program Manager, OCD

FROM: Phillip Goetze, Engineering Bureau, OCD

RE: FINAL REPORT AND RECOMMENDATIONS REGARDING INJECTION SURVEY RESULTS FOR THE MARALO SHOLES B WELL NO. 2 (API 30-025-09806; SWD-1127); OWL SWD OPERATING LLC

This document is a summary of recent activities related to the testing for the Maralo Sholes B Well No. 2 (the "subject well") performed by the operator, OWL SWD Operating LLC (OWL or the "Operator"). The subject is located 660 feet from the South line and 660 feet from the East line (Unit letter P) of Section 25, Township 25 South, Range 36 East, NMPM. The well is approximately one mile west of the City of Jal in southeastern New Mexico (see Figure 1). The well is located on federal mineral estate under the regulatory authority of the Bureau of Land Management.

The authority to inject was approved by administrative order SWD-1127 dated June 1, 2008. The order approved an injection interval from 2938 feet to approximately 3055 feet below surface in the lower Yates and upper Seven Rivers Formations. The injection interval is open hole and the maximum surface injection pressure is limited to 588 pounds per square inch (psi).

The origins for the investigation of the subject well was due to the following initiatives:

1. The Oil Conservation Division (the "Division") received a formal correspondence from the City of Jal dated April 28, 2016;
2. The review of three applications (Administrative applications No. pMAM1530041540 [Abyss SWD No. 1]; No. pMAM1530040908 [Mojo SWD No. 1]; and No. pMAM1530039137 [Nomad SWD No. 1]) by OWL for additional commercial disposal wells in the same vicinity of the subject well with similar proposed disposal intervals; and
3. The Division's review to a formal request by the United States Environmental Protection Agency (EPA) correspondence dated August 31, 2016, to review current oil and gas injection activities within New Mexico that may potentially impact Underground Sources of Drinking Water (USDWs).

The Division submitted a request as a Notice to Operator dated July 28, 2016, to initiate an injection survey for the subject well. The deadline to complete requested survey was modified on several occasions due to equipment limitations, due to well conditions, and due to

scheduling/availability issues. Two different injection surveys were completed; the second survey being conducted after the open-hole portion of the well was cleared of debris following the initial injection survey.

The three cited applications for new disposal wells in this area as the subject well were reviewed by the Division during the fourth quarter of 2015. All three applications were denied in November 2015 as not being qualified for approval through an administrative review process and would require an examiner hearing for the review.

SUBJECT WELL CONSTRUCTION AND HISTORY:

The subject well was spudded on May 25, 1947, and was completed as an oil producer in the Yates Formation on June 30, 1947. The production was from an open-hole interval beginning at the shoe of the 7-inch production casing set at 2935 feet below ground surface (BGS) to a total depth of 2950 feet BGS. Figure 3 provides a current well completion diagram.

Following a period of oil production, the well was recompleted in 1961 with bottom plugged back and shallow perforations added from 2871 feet BGS to 2910 feet BGS to produce from a gas sand zone in the Yates.

The well files showed three sizes of casing being used for the construction of the well. One exclusive feature of the well is the 8⅝-inch intermediate casing which has no cement in the annulus between the casing and borehole and was reported as having the shoe of the casing sealed only with drilling mud. This portion of the borehole was reported to penetrate the Santa Rosa Formation, a 10-foot water show in the Rustler Formation, and a single stringer of salt above the major salt interval at 1250 feet BGS (see Figure 3).

The well was proposed for plugging on October 26, 1993, but the Notice of Intent was subsequently withdrawn. The remaining period between 1993 and 2003, when Southwest Royalties, Inc. became the new operator, are not documented in the Division's well file. In 2003, Southwest Royalties, Inc. initiated plans to convert the producing well to a disposal well, but did not complete the application process and the well was placed into a temporary abandonment status.

Notice for the conversion of the well to a disposal well was initiated on May 19, 2008, after Division received an application from the Fulfer Oil and Cattle Company, LLC (Fulfer).

INJECTION HISTORY OF SUBJECT WELL:

In 2008, a revised application was submitted to the Division to convert the well by performing remedial action to squeeze cement the perforations used in the recovery from the gas sand and deepening the open hole interval to 3055 feet BGS.

In the C-108 application provided to the Division, the applicant included the following information:

1. [Response to C-108 Section VII, Item 1] the proposed daily injection rate and sources as being "5000 bpd of produced water from Fulfer's own operation and surrounding production of the same waters."

2. [Response to C-108 Section VII, Item 4] the sources are described as "only produced water from formation in this area."

The C-108 application also included an extensive discussion by the Division, including the Hobbs District Geologist, to determine the potential of the Capitan Reef complex being part of the proposed interval. The District Geologist provided his opinion in an e-mail dated May 16, 2008, that "the reef is not present in the area of the proposed disposal" and further states that the "Reef is probably at least a mile or more to the west."

The Division reviewer also noted that an area of review (AOR) well, the Sholes B 25 Well No. 1 (API No. 30-025-09812; Unit letter H of Section 25, Township 25 South, Range 36 East, NMPM), should be plugged or temporarily abandoned (see Figure 2). Both this AOR well and the subject well produced from the Jalmat; Tansill-Yates-Seven Rivers (Oil) pool (pool code: 33820; referred to as the "Jalmat pool"). The application also lists another AOR well, the Humphreys Well No. 1 (API No. 30-025-09815), as being "inactive".

With this information, the administrative order was issued and injection in the well commenced on January 6, 2009, with a reported average daily injection rate of 3,000 barrels. Injection continued until the end of November 2014 with the same operator and averaged an injection rate of 3,843 barrels of water per day (BWPD) with a peak injection rate for a single month being 6,088 BWPD (August 2010) (see Graph 1). Change of ownership of the subject well occurred in late 2015 and OWL commenced injection in 2016 averaging 18,427 BWPD with a peak injection for a single month being August 2016 with 34,580 BWPD.

INJECTION SURVEYS:

Prior to the commencing the first injection survey, the Division requested that the Operator install a bradenhead valve for the 8⅝-inch intermediate casing. This was to be monitored for any changes in pressure in this annular space during the injection surveys.

The well was initially tested in September 2016 without any modifications or maintenance of the injection interval. Results of this first survey activity were inconclusive in presenting the distribution of injection fluids for the entire permitted interval due to debris in the borehole. However, the pre-survey testing for the first survey effort did not demonstrate upward migration of fluids between the production casing and the intermediate casing or any issues with the existing tubing and packer system. A copy of the survey results is found in Attachment 3.

The Division and representatives from OWL participated in a meeting in Santa Fe on October 24, 2016. The result of the meeting was to have a new survey with an injection profile over the entire open-hole interval along with an additional effort to be conducted by OWL to demonstrate that the injection interval is not hydrologically connected with the Capitan Reef aquifer system.

Prior to the second testing of the injection interval, the Operator replaced and replumbed the valve recently installed in the 8⅝-inch casing for monitoring of annular pressure for this casing.

Consultant for OWL provided a Sundry NOI to the District Supervisor for the second injection survey on November 15, 2016, following discussions on possible deepening of the exiting open-

hole interval to provide additional borehole depth to accommodate survey logging tools. This proposal was withdrawn by the consultant and the final proposed plan included only a cleaning of the borehole to the original depth of 3055 feet BGS.

OWL activities for the second test at the well were initiated on November 28, 2016, and completed on December 9, 2016. Copies of the survey results are found in Attachments 5 and 6.

Mr. Chad Kronkosky, P.E., CEK Engineering LLC (CEK) of Lubbock, TX, conducted a review of the injection survey results and compiled a summary report on behalf of OWL. The report was forwarded through the Operator to the Division on January 20, 2017. This report included the efforts to address the items found in the Division's Notice to Operator. A copy of the report is included as Attachment 7.

ADDITIONAL INFORMATION SOURCES:

As part of this effort, the Division compiled and reviewed other sources of data and information available through public sources or personal communications. One of these documents was the Hydrologic Investigation Report prepared by Souder, Miller and Associates (2015) on behalf of the City of Jal. The report presented a thorough evaluation of the hydrology and ground water sources in this area including the Westfield Facility, the current municipal well field for the city. The report identified both the Santa Rosa Formation of the Dockum Group and the Capitan Reef aquifer as potential sources for assessment and possible future development to provide sustainable water sources for the city.

Another source for investigation of the hydrology for this area of Lea County was a presentation by Dr. Lewis Land of the National Cave and Karst Research Institute/New Mexico Bureau of Geology and Mineral Resources (NMBGMR) with regards to water levels in this area of the Capitan Reef aquifer. Dr. Land and the Bureau of Land Management (BLM) have attempted to assess and quantify the impacts of multiple sources (such as drought cycles, diversions of the Pecos River, agriculture uses, oil and gas industry uses, municipal area uses, etc.) on the Capitan Reef aquifer by continuing the effort to monitor the existing groundwater network in Eddy and Lea Counties.

CONCLUSIONS:

The Division reviewed all the submittals by OWL, the information provided to the Division and Division's records and offers the following conclusions:

1. The injection surveys completed by the Operator have demonstrated that injection fluids are entering the approved interval described in Administrative order SWD-1127 for the rate of injection used in the surveys. The injection survey results also indicate no vertical migration of disposal fluids to shallower formations.

2. Though the injection surveys did not demonstrate migration to shallower formations, the technical review and subsequent administrative order SWD-1127 did not contain a condition for remedial action to be completed on the open annulus of the 8⅝-inch intermediate casing where two USDWs are exposed to the Salado formation with its salt intervals. The current well construction is in violation of Rule 19.15.16.10(A) NMAC and,

with continued disposal operation, increased risk for impacts to USDWs if this situation is not addressed.

3. The calculations for assessing the radius of influence (Perturbed/Displaced reservoir Volume Due to Injection (Kronkosky, 2017)) estimated an effected area of 223 acres based on the current total of injection volume. Though these calculations are viable, the model used for these calculations assumes a radial, uniform growth of the injection plume under homogeneous and isotropic conditions.

   Division contends that location of the well in the backreef transition into the Capitan Reef lithosome (and inclusive aquifer) in not lithologically homogenous and is modified by structural features, such as the South Jal submarine canyon (Hiss, 1975), which impacts flow direction and transmissivity (see Figure 4C). These features result in a model with a geometry that is non-radial and very susceptible to a preferred flow direction. This model is further augmented by the higher specific gravity of the disposal fluids and its preference to migrate in the down-dip direction towards the west, in general, and possibly north due to the effects of the South Jal submarine canyon. This model would favor a migration of disposal fluids towards the lithostratigraphic boundary of the Seven Rivers Formation and the Capitan Reef, as presented in cross sections by Kronkosky (2017) and Hiss (1976), with the opportunity to impact the Capitan Reef aquifer (see Figure 4D).

4. Additionally, there is indication of impacts to correlative rights and the existing production from wells still active in the Jalmat pool. The AOR well identified in the C-108 application review, the Sholes B 25 Well No. 1 (API No. 30-025-09812), showed a significant increase in water cut from production in the same interval being used for disposal. This producing well is north of the subject well and has a continuous record of monthly production starting prior to 1993 (see Figure 2).

   The well is completed with an open hole interval from 2906 feet to 2950 feet. Prior production information showed a period that well was shut-in in 1979 due to high water production. The average production at this time was reported as 10 barrels of oil per day (BOPD), six thousand cubic feet of gas (MCFPD), and 1000 BWPD. A 24-hour test conducted in 1982 showed production results of 27 barrels of oil (BO), 35 thousand cubic feet of gas (MCF), and 936 BW.

   Graph 2 shows a summary of production (gas and water) for the Sholes B 25 Well No. 1 for a period beginning in 2007. Prior to the period of the graph, no significant water production was reported during a period from 2004 to 2007. However, with the increased injection rates utilized by OWL, the graphed data showed a significant increase in the water cut for this well.

   For November 2016, this well reported 182 MCF produced with 50,400 BW during 19 days of operation and in the following month reported 204 MCF of gas produced along with 71,067 BW during 31 days of operation. The reported totals for the four previous months in 2016 starting with July were as follows: 5 BO, 361 MCF, 599 BW, 31 days of

operation; 296 MCF, 564 BW, 25 days of operation; 322 Mcf, 0 BW, 30 days of operation; and 355 MCF, 78 BW, 31 days of operation.

There are no other producing wells adjacent to the subject well that have continuous monthly reporting for this same period. The only active injection well, the Sholes B 25 Well No. 2 (API No. 30-025-09808), in the vicinity of the subject well shows significant lower injection volumes for the same period of review and is interpreted as having little influence on the production of the Sholes B 25 Well No. 1.

5. The operation of the subject well is not consistent with the information provided in the Form C-108 application submitted for administrative review by the Division. Sources proposed for disposal in the subject well were identified as being from the area and, primarily, for the produced water from the original applicant with primary production from the Jalmat pool. Based on volumes, the subject well is now a commercial operation and the current operator has not provided any supplemental information as to the additional sources of the produced water or its water quality.

6. The Capitan Reef aquifer in this southern area of Lea County continues to have an increase in water levels as represented by measurements from deep monitoring wells located in the Reef. Figure 6 shows a significant decrease in the depth-to-water for the aquifer with the Southwest Jal monitoring well demonstrating a rise of over 400 feet in the water level for a 35-year period. As proposed by Land (2016), the only source with potential for such impacts would have to be associated with the disposal activities of UIC Class II wells.

   If the City of Jal is going to have the opportunity for the future assessment of this portion of the Capitan Reef aquifer for municipal use, the Division should make every effort to minimize all potential sources that may impact the aquifer. This should include commercial disposal operations in shallower zones above the Capitan Reef aquifer in the vicinity.

Finally, the Operator's report provides the following statement regarding water quality:

> "The WELL's equivalent (injection interval) in the Capitan Reef (Late/Upper Seven Rivers) Margin is located 3.5+ miles to the west and approximately 200-300' down dip structurally. *Additionally, in our opinion, there is sufficient evidence (HISS 1975, NMOCD Case No. 8405 testimony/Water Sample Analysis, IC Potash Corp Feasibility Study) that the interstitial waters of the Capitan Reef and back reef Artesia Group members near the WELL are mineralized above 10,000 mg/L (TDS), digital copies provided on FTP site.*"

Division counters that the Capitan Reef is shown to have occurrences of both water quality below and above the 10,000 milligrams per liter (mg/L) total dissolved solids (TDS) threshold as defined in Rule 19.15.2.7(U)(1) NMAC. In response to the examples offered in the report:

1. Hiss (1975) provided a figure compiling water quality that showed historical dissolved chloride concentrations for this area of the Capitan Reef aquifer (CPAQ) ranging from 1,200 to 3,300 mg/L (see Figure 4B). Samples obtained from intervals in the Seven Rivers Formation (SVRV) range from 1,900 to 18,000 mg/L while the samples from the shallower Yates Formation (YTES) range from 1,500 to 69,000 mg/L.

2. The referenced sample for Case No. 8405 (offered as Exhibit 1) for Division Order R-7935 demonstrated a TDS of 12,856 mg/L for the Capitan Reef from a well located 4.2 miles to the northwest [West Jal Disposal No. 1; API 30-025-26676; last injecting at an average of 3,576 BWPD into 10 feet of perforations].
3. The IC Potash report (Crowl et al, 2011) provided an extensive discussion of the Jal Water System, a former municipal water source currently being operated by Chevron for oil and gas operations. This report included an assessment for water quality for its proposed production field ranging from 8,000 parts per million (ppm) to 13,000 ppm based on data from the Jal Water System wells.

The approach to characterize the Capitan Reef aquifer based on limited water quality information is not acceptable to support the statement that this aquifer is not protectable as a USDW, and additionally, does not satisfy the requirements for determination of an Exempted Aquifer as accepted under New Mexico State Demonstration for Class II Wells as detailed in 40 CFR 146.4.

RECOMMENDATIONS:

Based upon the findings of the testing and the reports, the Division recommends the following actions for the Director to consider:

1. **For the Operator:** Amend Administrative order SWD-1127 to include a maximum daily injection rate of 6550 BWPD. This rate was based on the maximum injection rate used for the second survey that showed disposal fluids confined to the approved interval. This maximum injection rate was also consistent with the daily rates of injection by the prior operator for the operation of the well during 2010 and 2011 report periods.
2. **For the Operator:** Include in the amended order a requirement for the operator to install a monitoring system at the wellhead to verify and document this disposal rate for inspection of the well site and that can be compiled for later review.
3. **For the Operator:** Require the operator to submit a remedial plan that shall seal the shoe and the length of the 8⅝-inch intermediate casing as to isolate the following lithologies in the annulus of the borehole: the salt section, the identified occurrence of groundwater in the Rustler formation and the exposed section of the Santa Rosa Formation. This remedial plan should be submitted in a C-103 Sundry Notice of Intent to the District Supervisor for review and approval.
4. **For the Operator:** Require the operator to provide a list of produced water sources representative of current fluids being disposed in the subject well. This submittal would also provide laboratory analyses representative of the major volumes or from the tank battery/pipeline for the subject well.
5. **For the Division:** Continued compilation and verification of hydrologic information including current efforts by the New Mexico Office of the State Engineer, the USGS, the BLM and the NMBGMR for this area of the Capitan Reef aquifer system.

The effort to assess and manage injection of the area of Jal is necessary to provide a minimum potential to impact the Capitan Reef aquifer in this area. This allows the maintenance of the current aquifer system without additional contributions from shallow disposal at high rates of injection and the opportunity for assessment of the USDWs in this area by the City of Jal. If the investigation of the aquifer determines that there are portions which can be excluded based on criteria in 40 CFR

146.4, then a hearing can be conducted to establish an Exempted Aquifer based on applications for future disposal in this interval.

REFERENCES:

Crowl, W. J., Hulse, D. E., and Tucker, G., 2011, Prefeasibility study for the Ochoa Project, Lea County, NM; NI 43-101 Technical Report, prepared by Gustavson Associates for IC Potash Corporation;

Harris, P. M., and Saller, A. H., 1999, Subsurface expression of the Capitan depositional system and implications for hydrocarbon reservoirs, northeastern Delaware Basin: *in* Geologic Framework of the Capitan Reef: Society for Sedimentary Geology (SEPM), Special publication No. 65, p. 37-49.

Hiss, W. L., 1973, Capitan aquifer observation-well network, Carlsbad to Jal New Mexico: New Mexico State Engineer Technical Report 38, 76 p.

Hiss, W. L., 1975, Stratigraphy and ground-water hydrology of the Capitan aquifer, southeastern New Mexico and western Texas: University of Colorado Department of Geological Sciences, Ph.D. Dissertation, 396 p.

Hiss W. L., 1976, Structure of the Permian Guadalupian Capitan aquifer, southeastern New Mexico and western Texas: U. S. Geological Survey Open-File Report 76-0053, 338 p.

Hiss W. L., 1976a, Structure of the Permian Guadalupian Capitan aquifer, southeast New Mexico and western Texas: New Mexico Bureau of Geology and Mineral Resources Resource Map 6; one page.

Hiss, W. L., 1980, Movement of ground water in the Permian Guadalupian aquifer systems, southeastern New Mexico and western Texas: *in* New Mexico Geological Society Guidebook, 31st Field Conference, Trans-Pecos Region, p. 289-294.

Land, Lewis, 2016, Using brackish water from karstic aquifers to augment freshwater resources in the semi-arid southwest, Paper No. 31-4; Geological Society of America Annual Meeting, Denver Colorado.

Souder, Miller and Associates, 2015, Hydrologic Investigation Report, City of Jal Water Rights Appropriation Project, Jal, Lea County, New Mexico; prepared for the City of Jal, p. 110.

Records of the New Mexico Oil Conservation Division: Publicly available information (well files, hearing orders, case files, production information) offered through E-permitting, Imaging and GIS databases.

FIGURES:

FIGURE 1: General Location Map of City of Jal and Related Geologic Features

FIGURE 2: Aerial Photograph Map Showing Major Features and Wells Near the Maralo Sholes B Well No. 2 Location

FIGURE 3: Maralo Sholes B No. 2 Well Diagram
FIGURE 4: Relevant Excerpts from Referenced Reports on the Capitan Reef Aquifer
FIGURE 5: Hydrographs of Capitan Reef Aquifer Monitoring Wells Near Jal, New Mexico

GRAPHS:

GRAPH 1: Daily Injection Rate vs. Time: Maralo Sholes B Well No. 2 (30-025-09806; SWD-1127)
GRAPH 2: Recent Production vs. Time: Sholes B 25 Well No. 1 (30-025-09812)

ATTACHMENTS:

Attachment 1: New Mexico Oil Conservation Division: Notice to Operator dated July 28, 2016
Attachment 2: City of Jal Correspondence dated April 28, 2016
Attachment 3: OWL SWD Operating LLC: Results of Indepth Injection Profile dated September 2, 2016
Attachment 4: OWL SWD Operating LLC: Daily Summaries for Second Injection Surveys
Attachment 5: OWL SWD Operating LLC: Results of Indepth Injection Profile dated December 2, 2016
Attachment 6: OWL SWD Operating LLC: Results of Pump-In Tracer dated December 2, 2016
Attachment 7: CEK Engineering LLC: Final UIC Geological Assessment dated January 12, 2017

Cc: UIC Class II Program Imaging File
Administrative Order SWD-1127
Well File API 30-025-09806
Oil Conservation Division – Hobbs District Office
Ben Stone, SOS Consulting, LLC
Robert Gallagher, Mayor, City of Jal and City Council members
Nevin Bannister, OWL SWD Operating, LLC

CASE NO. 15753 Division Exhibit No. 9

File No. CP 1310

NEW MEXICO OFFICE OF THE STATE ENGINEER

APPLICATION FOR PERMIT TO APPROPRIATE

(check applicable boxes):

2. 34270

For fees, see State Engineer website: http://www.ose.state.nm.us/

☐ Application to Appropriate Surface Water (72-5-1)

☑ Application to Appropriate Groundwater (72-12-3)

☐ Temporary Request - Requested Start Date: Requested End Date:

1. APPLICANT(S)

Name: Fulfer Oil & Cattle Company, L.L.C.	Name: Atkins Engineering Associates, Inc.
Contact or Agent: check here if Agent ☐ Gregg Fulfer	Contact or Agent: check here if Agent ☑ Richard Cibak
Mailing Address: P.O. Box 578	Mailing Address: 2904 W 2nd St
City: Jal	City: Roswell
State: NM Zip Code: 88252	State: NM Zip Code: 88201
Phone: (575) 631-0522 ☐ Home ☑ Cell Phone (Work):	Phone: ☐ Home ☐ Cell Phone (Work): (575) 624-2420
E-mail (optional):	E-mail (optional): richard@atkinseng.com

2. PURPOSE OF USE AND AMOUNT OF WATER

☐ Domestic ☐ Livestock ☐ Irrigation
☐ Municipal ☑ Industrial ☑ Commercial
☐ Other Use (specify): _____

Describe a specific use If applicable (i.e. sand & gravel washing, dairy etc): _____
Commercial Water Sales

Amount of Water (acre-feet per annum): If more details are needed, type "See Comments" in "Other" field below, and explain in Additional Statements Section.

Diversion: 100 AF/AN
Consumptive Use: 100 AF/AN
Other (include units): _____

3. COUNTY WHERE WATER RIGHT WILL BE USED

Lea

FOR OSE INTERNAL USE Application for Permit, Form wr-05, Rev 4/12/12

File Number: CP- 1310	Trn Number: 543965
Trans Description (optional): POD1 Appro	
Sub-Basin:	
PCW/LOG Due Date:	PBU Due Date:

POD Renumbered
From: CP- 1310
To: CP 1310 Pod 1

4. POINT(S) OF DIVERSION (POD)

☐ **Surface POD** **OR** ☑ **Ground Water POD (Well)**	
Name of ditch, acequia, or spring:	
Stream or water course:	Tributary of:
If application proposes a new point of diversion involving a diversion dam, storage dam, main canal, and/or pipeline, complete Attachment 2. ☐ Check here if Attachment 2 is included in this application packet.	

POD Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☑ UTM (NAD83) (Meters)
☐ Zone 12N
☑ Zone 13N

☐ Lat/Long (WGS84) (to the nearest 1/10th of second)

POD Number:	**X or Easting or Longitude:**	**Y or Northing or Latitude:**	**Provide if known:** **-Public Land Survey System (PLSS)** ***(Quarters or Halves , Section, Township, Range)* OR** **- Hydrographic Survey Map & Tract; OR** **- Lot, Block & Subdivision; OR** **- Land Grant Name**
New Well* CP-1310 POD1	668604.27*	3552457.15*	Center 10 Acres of the SE/4 SE/4, Section 25, Township 25S, Range 36E N.M.P.M.
*Applicant's Well ID 108			*UTM (NAD 83) (meters) location data is provisional

NOTE: If more PODS need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional POD descriptions are attached: ☐ **Yes** ☑ **No** **If yes, how many**_____

Point of Diversion is on Land Owned by: Fulfer Oil & Cattle Company, L.L.C.

Other description relating point of diversion to common landmarks, streets, or other:

Note: The following information is for wells only. If more than one (1) well needs to be described, provide attachment.

Approximate depth of well (feet): Up to 500	Outside diameter of well casing (inches): 13 3/8
Driller Name: Licensed New Mexico Well Driller	Driller License Number: TBD

5. PLACE(S) OF USE

List each individually **(not applicable ☐)**

a. _____ Acres of Irrigated Land Described as Follows (if applicable):

b. Legally Described By: ☑ Public Land Survey System (PLSS) ☐ Hydrographic Survey Report or Map ☐ Irrigation or Conservation District Map ☐ Subdivision PLSS Quarters or Halves, **and/or** Name of Hydrographic Survey or District, **and/or** Name and County of Subdivision	**c.** PLSS Section **and/or** Map No. **and/or** Lot No.	**d.** PLSS Township **and/or** Tract No. (Please list each tract individually) **and/or** Block No.	**e.** PLSS Range	**f.** Acres
All	All	21S	32E-38E	
All	All	22S	32E-38E	
All	All	23S	32E-38E	
All	All	24S	32E-38E	
All	All	25S	32E-38E	
All	All	26S	32E-38E	

g. Other description relating place of use to common landmarks, streets, or other:

h. Place of use is on land owned by (required):
Varies

i. Are there other sources of water for these lands? No ☑ Yes ☐ describe by OSE file number:

Note: If on Federal or State Land, please provide copy of lease.

FOR OSE INTERNAL USE

Application for Permit, Form wr-05

File Number: CP-1310 | Trn Number: 543965

6. ADDITIONAL STATEMENTS OR EXPLANATIONS

Application is made to appropriate up to 100.0 acre feet per annum of shallow groundwater from the Capitan Underground Water Basin for commercial and/or industrial uses. The total consumptive use of water under this application will be limited to 100.0 acre-feet per annum.

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Richard C. Cibak (Atkins Engineering Associates, Inc.) agent for the Applicant
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☒ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 21st day of January 20 16, for the State Engineer,

Tom Blaine, P.E., State Engineer

By: Andy Morley
Signature Print

Title: District II Manager
Print

FOR OSE INTERNAL USE Application for Permit, Form wr-05

File Number: CP-1310 Trn Number: 543965

NEW MEXICO OFFICE of the STATE ENGINEER
APPLICATION FOR PERMIT TO APPROPRIATE UNDERGROUND WATERS

SPECIFIC CONDITIONS OF APPROVAL

PBU Proof of Beneficial Use must be filed on or before 01/31/2020.
PCW Proof of Completion of Well must be filed on or before 01/31/2018.

1. This application is approved as follows:

Permit Number: CP-1310

Water Source: Artesian Groundwater

Points of Diversion:

WELL	SUBDIVISION	SECTION	TOWNSHIP	RANGE
CP-1310-POD1	Center 10 acres of the SE1/4SE1/4	25	25 S.	36 E.

Place of Use:
Land owned by various entities within Lea County in

SUBDIVISION	SECTION	TOWNSHIP	RANGE
All	1-36	21 S. - 26 S.	32 E. - 38 E.

Purpose of Use: Commercial and Industrial Purposes

Amount of Water: Up to 100.0 acre-feet per annum (Consumptive Use)

2. The consumptive use of artesian groundwater from well No. CP-1310-POD1, under this permit, shall be limited to 100.0 acre-feet per annum measured at the well.

3. The proposed new well is to be drilled by a driller currently licensed in the State of New Mexico.

4. An Artesian Well Plan of Operation shall be submitted and approved by the State Engineer before drilling is authorized for well No. CP-1310-POD1.

5. The driller's well record shall be filed with the Office of the State Engineer within 20 days after the well has been drilled or driven. Well record forms will be provided by the State Engineer upon request.

6. A totalizing meter of a type approved by and installed in a manner and at a location acceptable to the State Engineer shall be installed before the first branch of discharge line from well No. CP-1310-POD1. The District II Office of the State Engineer shall be advised of the make, model, serial number, date of installation, and initial reading of each of the meters prior to any appropriation of water under this permit.

7. The permittee shall record the meter readings in writing on the first day of each month of each year on a form acceptable to the State Engineer and submit said readings to the District II Office on or before the 10th day of that month for the previous calendar month.

OSE File: CP-1310

NEW MEXICO OFFICE of the STATE ENGINEER
APPLICATION FOR PERMIT TO APPROPRIATE UNDERGROUND WATERS

8. The permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

9. This permit shall not be exercised to the detriment of valid existing water rights, shall not be contrary to the conservation of water within the State of New Mexico, and shall not be detrimental to the public welfare of the State of New Mexico.

10. The State Engineer shall retain jurisdiction over the permit.

ACTION OF STATE ENGINEER

Notice of Intentions Rcvd:		Date Rcvd. Corrected:	
Formal Application Rcvd:	03/27/2014	Pub. Of Notice Ordered:	04/21/2014
Date Returned - Correction:		Affidavit of Pub. Filed:	05/13/2014

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 21st day of January A.D., 2016

Tom Blaine, P.E., State Engineer

By: _____
Andy Morley, District II Manager

OSE File: CP-1310

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
ROSWELL

TOM BLAINE, P.E.
STATE ENGINEER

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
Phone: 575-622-6521
Fax: 575-623-8559

January 22, 2016

Permit Nos. CP-1303 through CP-1314

Fulfer Oil and Cattle Company, L.L.C. and
Fulfer Investments, L.L.C
c/o Atkins Engineering and Associates, Inc.
2904 W. 2nd Street
Roswell, NM 88201

Greetings:

Enclosed please find your copy of the above referenced applications for permits, which have been approved subject to the Specific Conditions of Approval attached thereon.

Sincerely,

Catherine Goetz
Engineer Specialist Supervisor
District II Office of the State Engineer

Enclosures
cc Santa Fe

MEMORANDUM OF RECOMMENDATION

DATE: January 21, 2016

FILE: CP-1310

TO: Andy Morley, District II Manager

THRU: Catherine Goetz, Engineering Specialist Supervisor

FROM: Seng-Shi Deng, Water Resource Specialist

SUBJECT: Application for Permit to Appropriate the Ground Waters of the State of New Mexico No. CP-1310

APPLICANT: Fulfer Oil & Cattle Company, L.L.C. c/o Atkins Engineering Associates, Inc.

Point(s) of Diversion:

WELL:	SUBDIVISION	SECTION	TOWNSHIP	RANGE
Proposed:				
CP-1310-POD1	Center 10 Acres of SE¼SE¼	25	25 S.	36 E.

Place(s) of Use:
Land owned by various entities within Lea county in

SUBDIVISION	SECTION	TOWNSHIP	RANGE
All	1-36	21 S. - 26 S.	32 E. – 38 E.

Purpose(s) of Use: Commercial and Industrial Purposes

Discussion:
Application for Permit to Appropriate No. CP-1310 was filed with the District II Office of the State Engineer by Atkins Engineering Associates, Inc. on behalf of the applicant, Fulfer Oil & Cattle Company, L.L.C. on March 27, 2014. The legal notice was advertised in the Hobbs News-Sun on April 27, May 4, and 11, 2014. The Affidavit of Publication was filed with this office on May 13, 2014.

The subject application was protested by Mr. Mike Stapleton on behalf of Gregory Rockhouse Ranch, Inc. on May 13, 2014. The protestant withdrew the protest and the file was remanded back to the District II for processing on November 19, 2015.

The applicant seeks a permit for appropriation from the Capitan Underground Water Basin by drilling and using proposed well numbered CP-1310-POD1 located on land owned by the applicant, in the center 10 acres of the SE¼SE¼ of Section 25, Township 25 South, Range 36 East, N.M.P.M. The 100.0 acre-feet per annum (Consumptive Use) of artesian groundwater from the Dockum Aquifer will be used for commercial and industrial purposes on land owned by various entities within Lea County in

SUBDIVISION	SECTION	TOWNSHIP	RANGE
All	1-36	21 S. – 26 S.	32 E. - 38 E.

The applicant seeks to drill proposed well numbered CP-1310-POD1 up to a depth of approximately 500 feet, with well casing of 13.375 inches in diameter.

The location of the proposed well is within the Capitan Underground Water Basin, approximately 1.0 mile southwest of the City of Jal, and approximately 1.1 mile west of State Highway 205, in Lea County, New Mexico.

The applicant has requested twelve new appropriations from within the Dockum Aquifer. Wells CP-1303-POD1 through CP-1314-POD1 are the requested points of diversion for these applications. Figure 1 shows the approximate locations of these requested points of diversion and nearby wells of other ownership. Figure 2 shows a close up view of the subject point of diversion, CP-1310-POD1.

Case No. 15753 Division Exhibit No. 10

DATE IN 5/19/08	SUSPENSE	ENGINEER WJones	LOGGED IN 5/20/08	TYPE SWD 1127	APP NO. PKUR0814133527

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

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

Application Acronyms:

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

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

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

THERE are OTHER (OLDER) inj-wells in THIS area; See R-3488 — 1 (in Lower/Later UPPER TRVRS)
SWD-573 — 2
R-5196 — 3

Check One Only for [B] or [C]

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

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

[D] Other: Specify _____

RECEIVED
2008 MAY 19 PM 4 24

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

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

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

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

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

Eddie W Seay	Eddie W Seay	Agent	5/9/2008
Print or Type Name	Signature	Title	Date

Seay04@leaco.net
e-mail Address

May 14, 2008

NMOCD Engineering
ATTN: Will Jones
1220 S. Saint Francis Drive
Santa Fe, NM 87504

RE: Fulfer Oil & Cattle LLC
Maralo Sholes B #2 API 30-025-09806
C-108 Application

Mr. Jones:

Find within the new application as you suggested. We are refiling to inject into the lower Yates and 7 Rivers, all notices have been sent and advertised.

Should you have any questions, please call.

Sincerely,

Eddie W. Seay

Eddie W. Seay, Agent
Eddie Seay Consulting
601 W. Illinois
Hobbs, NM 88242
(575)392-2236
seay04@leaco.net

cc: Fulfer Oil & Cattle

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? __X__ Yes _____ No

II. OPERATOR: Fulfer Oil & Cattle LLC (OGRID-141402)

ADDRESS: P.O. Box 578 Jal, NM 88252

CONTACT PARTY: Eddie W. Seay PHONE: 575-392-2236

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____ Yes __X__ No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Eddie W. Seay TITLE: Agent

SIGNATURE: Eddie W. Seay DATE: 5/9/2008

E-MAIL ADDRESS: seay04@leaco.net

* 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

ATTACHMENT TO APPLICATION C-108

Maralo Sholes B #2
Unit P, Sect. 25, Tws. 25 S., Rng. 36 E.
API: 30-025-09806
Lea Co., NM

III. WELL DATA

A.
1) See injection well data sheets and attached schematics.
2) See injection well data sheets and attached schematics.
3) 3 1/2″ plastic coated tubing.
4) Baker AD-1.

B.
1) Injection formation is the Lower Yates and 7 Rivers.
2) Injection interval 2938′ to 3055′.
3) Well was drilled as a producer.
4) The next higher producing zone, none, the base of salt at approximately 2562′. The next lower producing zone is the Queen at approximately 3400′, but is non-productive.

IV. NO.

V. MAP ATTACHED.

VI. LIST OF WELLS AND DATA ATTACHED.

VII. Fulfer proposes to re-complete the above listed well. Clean out well bore, squeeze existing perfs and recomplete in Lower Yates and open hole in 7 Rivers from 2938′ to 3055′. Run 3 1/2″ plastic coated tubing with 3 1/2″ packer and set at approximately 2850′.

1) Plan to inject approximately 5000 bpd of produced water from Fulfers own operation and surrounding production of the same waters.
2) Closed system.
3) Average injection pressure should be approximately 500# to 700# or whatever limit OCD allows.
4) Only produced water from formation in this area.

VIII. See Attached.
There is no fresh water found for this area of review. Sample of water well in Section 26 was obtained, see attached.

IX. ACID AS NEEDED.

X. PREVIOUSLY SUBMITTED TO OCD.

XI. ATTACHED.

XII. I, Eddie W. Seay, have examined all available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zones and any underground source of drinking water pertaining to this well.

XIII. ATTACHED.

Side 1

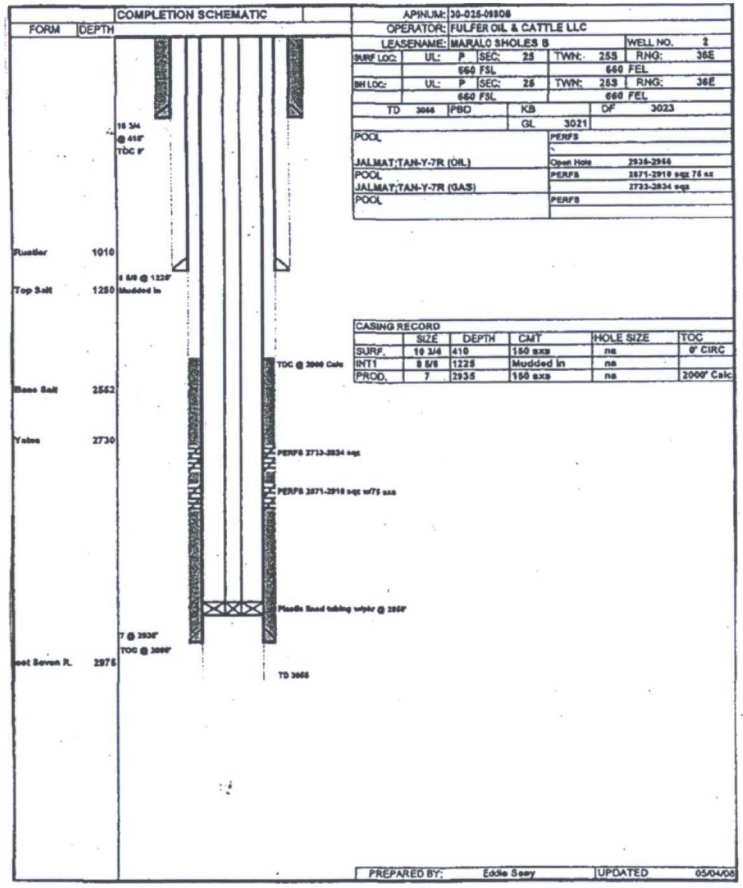
INJECTION WELL DATA SHEET

OPERATOR: Fulfer oil + Cattle Co LLC

WELL NAME & NUMBER: Maralo Sholes B #2

WELL LOCATION:	660 S	660 E	P	25	25	36
	FOOTAGE LOCATION		UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 13 Casing Size: 10 3/4 @ 410'

Cemented with: 150 sx sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Calculated

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 8" Casing Size: 7 @ 2935

Cemented with: 150 sx sx. *or* _____ ft³

Top of Cement: 1241 Method Determined: Calculated

Total Depth: 2955

Injection Interval

2938 feet to 3055

(Perforated or (Open Hole) indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 3½ Lining Material: IPC

Type of Packer: Baker AD-1 Packer

Packer Setting Depth: 2850 ft.

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

Additional Data

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

   If no, for what purpose was the well originally drilled? Well was originally drilled and produced from Jalmat Gas

2. Name of the Injection Formation: Lower Yates - 7 Rivers

3. Name of Field or Pool (if applicable): Jalmat (Yates, Tansill - 7R) Gas Pool

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. Yes, 2871 to 2910 and Squeezed. and is presently perforated from 2733 - 2824

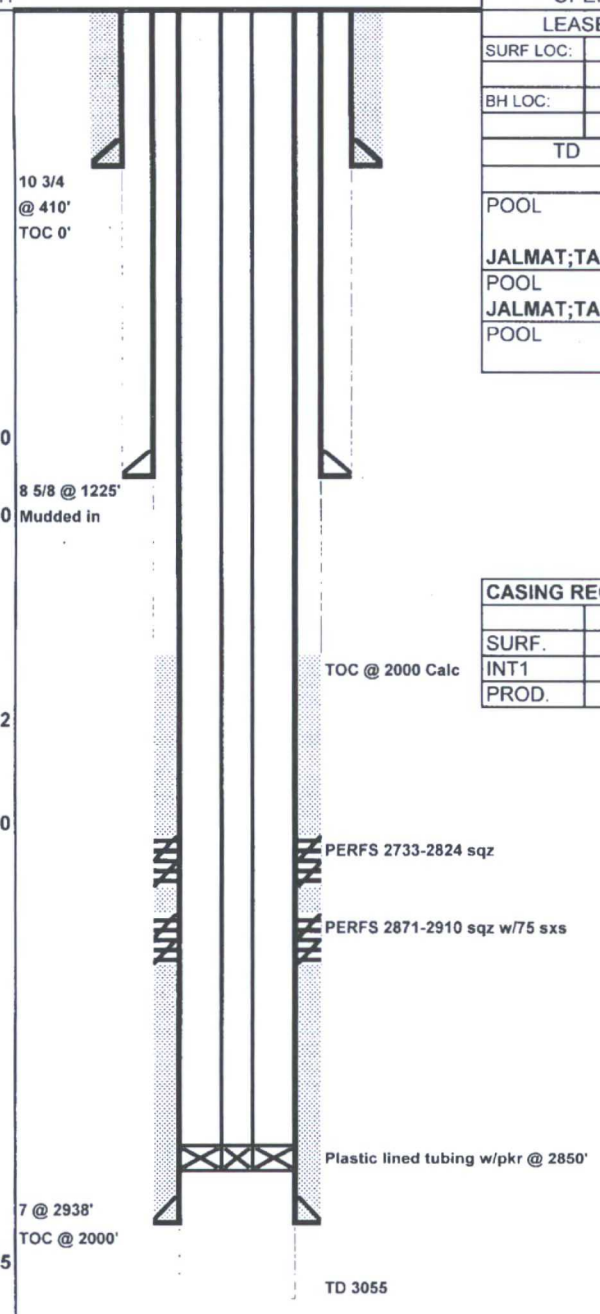
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   The upper Yates and salt section is above 2562 to 2824 Lower zone are the Queen 3400 No production.

WELLBORE SCHEMATIC AND HISTORY

COMPLETION SCHEMATIC

FORM	DEPTH
Rustler	1010
Top Salt	1280
Base Salt	2552
Yates	2730
Test Seven R.	2975



APINUM:	30-025-09806
OPERATOR:	FULFER OIL & CATTLE LLC
LEASENAME:	MARALO SHOLES B
WELL NO.	2

SURF LOC:	UL:	P	SEC:	25	TWN:	25S	RNG: 36E
	660 FSL				660 FEL		
BH LOC:	UL:	P	SEC:	25	TWN:	25S	RNG: 36E
	660 FSL				660 FEL		

TD	3055	PBD	KB	DF	3023
			GL 3021		

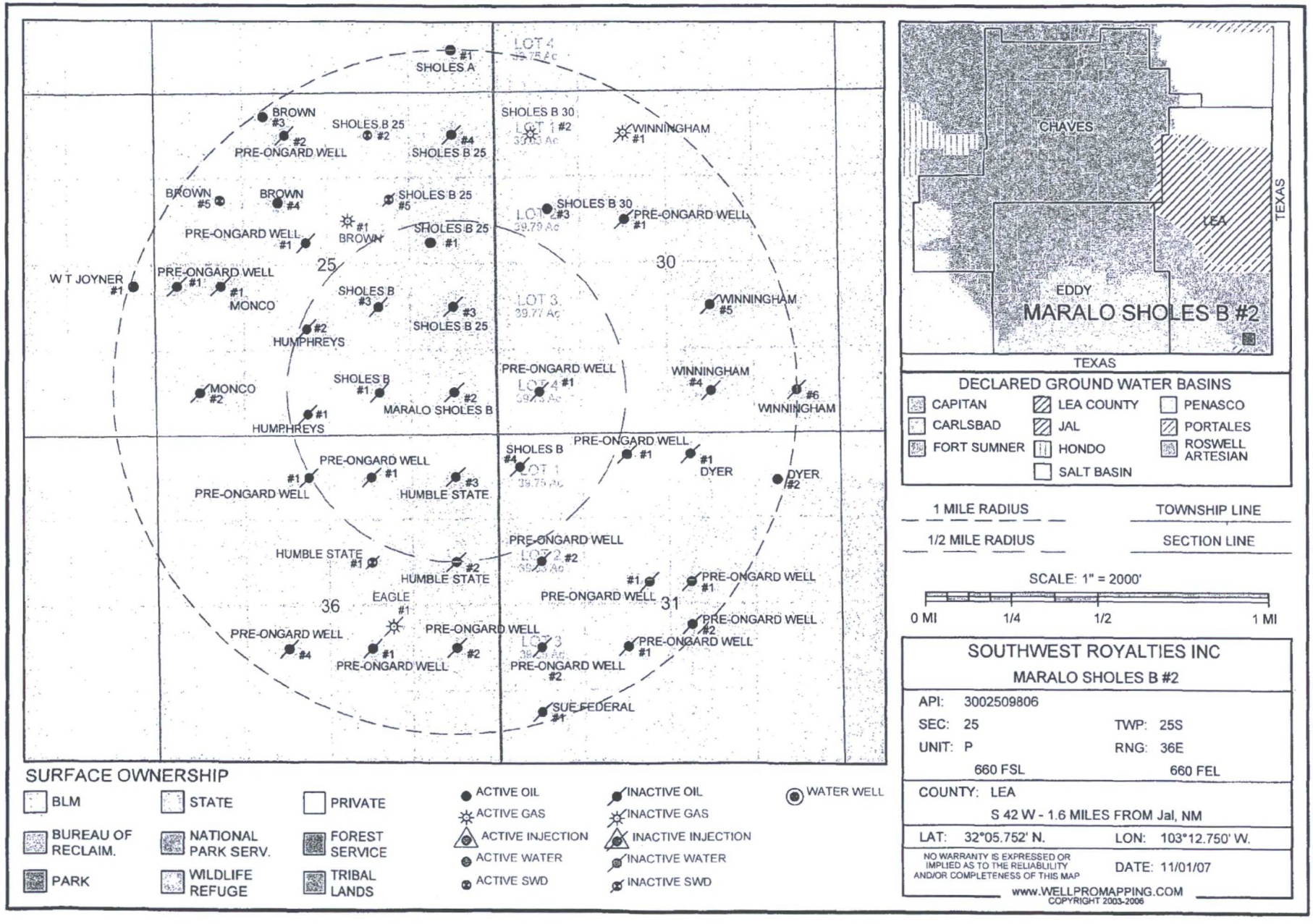
POOL	PERFS
JALMAT;TAN-Y-7R (OIL)	Open Hole 2935-2955
POOL	PERFS 2871-2910 sqz 75 sx
JALMAT;TAN-Y-7R (GAS)	2733-2824 sqz
POOL	PERFS

CASING RECORD

	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	10 3/4	410	150 sxs	na	0' CIRC
INT1	8 5/8	1225	Mudded in	na	
PROD.	7	2935	150 sxs	na	2000' Calc

AFTER

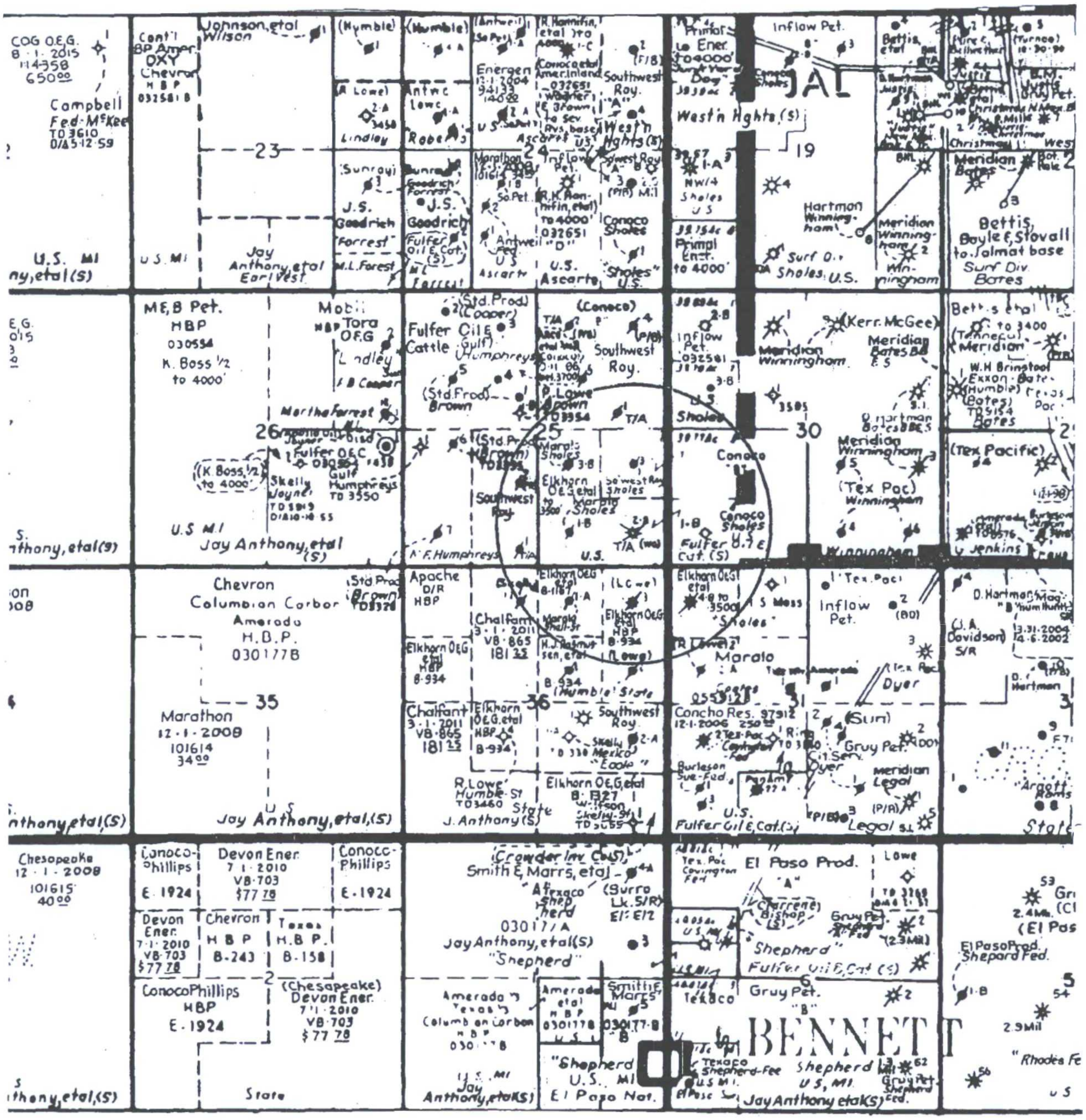
PREPARED BY:	Eddie Seay	UPDATED	05/04/08



SOUTHWEST ROYALTIES INC

MARALO SHOLES B #2

API:	3002509806		
SEC:	25	TWP:	25S
UNIT:	P	RNG:	36E
	660 FSL		660 FEL
COUNTY:	LEA		
	S 42 W - 1.6 MILES FROM Jal, NM		
LAT:	32°05.752' N.	LON:	103°12.750' W.
NO WARRANTY IS EXPRESSED OR IMPLIED AS TO THE RELIABILITY AND/OR COMPLETENESS OF THIS MAP		DATE:	11/01/07



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Lindley
U.S. MI
Jay
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Earl Vest
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Sholes U.S.
Primal
to 4000'
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030554
K. Boss 1/2
to 4000'
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Cattle
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(Conoco)
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Elkhorn O.&G. etal
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Southwest
Roy.
Skelly
Mexico
"Eddie"
R. Lowe
Humble-St
State
J. Anthony (S)
Elkhorn O.E.G. etal
Jay Anthony, etal (S)
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Fulfer Oil & Cat. (S)
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(Crowder Inv. Co.(S))
Smith & Marrs, etal
Texaco
"Shepherd"
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Jay Anthony, etal (S)
"Shepherd"
Amerada
Texaco
Columbian Carbon
HBP
030177B
Smith & Marrs
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"Shepherd"
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El Paso Nat.
Jay
Anthony, etal (S)
El Paso Prod.
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Fulfer Oil & Cat. (S)
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Jay Anthony etal (S)
El Paso Prod.
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DISPOSAL WELL

API #	PROPERTY NAME	#	OPERATOR	TD	TYPE	STAT	CO	LAND	U/L	SEC	TWN		RNG		N/S		E/W	
30-025-09806	MARALO SHOLES B	2	FULFER OIL & CATTLE LLC	3055		TA		F	P	25	25	S	36	E	660	S	660	E

Wells within 1/2 mile of the proposed disposal well.

															5280		5280	
API #	PROPERTY NAME	#	OPERATOR	TD	TYPE	STAT	CO	LAND	U/L	SEC	TWN		RNG		N/S		E/W		Distance
30-025-09809	SHOLES B 25	3	CONOCOPHILLIPS COMPANY	3035		P&A		F	I	25	25	S	36	E	1980	S	660	E	1320
30-025-09812	SHOLES B 25	1	SOUTHWEST ROYALTIES INC	2950		Active		F	H	25	25	S	36	E	2310	N	990	E	2333
30-025-09815	HUMPHREYS	1	FULFER OIL & CATTLE LLC	3255		TA		P	N	25	25	S	36	E	330	S	2310	W	2333
30-025-09816	SHOLES B 25	1	MARALO LLC	3220		P&A		F	O	25	25	S	36	E	660	S	1830	E	1170
30-025-09817	HUMPHREYS	2	MARALO LLC	3222		P&A		P	K	25	25	S	36	E	1650	S	2310	W	2513
30-025-09819	SHOLES B 25	3	MARALO LLC	3220		P&A		P	J	25	25	S	36	E	1980	S	1830	E	1763
30-025-09830	HUMBLE STATE	2	SOUTHWEST ROYALTIES INC	3006		P&A		S	H	36	25	S	36	E	1980	N	660	E	2640
30-025-09831	HUMBLE STATE	3	MARALO LLC	2950		P&A		S	A	36	25	S	36	E	660	N	660	E	1320
30-025-09833	SHELL A STATE	1	MARALO INC	3138		P&A		S	B	36	25	S	36	E	660	N	1980	E	1866
30-025-11852	SHOLES B	4	MARALO LLC	3105		P&A		F	D	31	25	S	37	E	510	N	330	W	1532

API	WELL_NAME	OPERATOR	FTG_NS	NS_CD	FTG_EW	EW_CD	OCD_U	SDIV_	Sec	Tsp	Rge	TVD_DEPTH	OGRID_CDE	PROPERTY	LAN	WELL_	NBR_C	ACRES	SPUD_DATE	COMPL_STAT
3002509804	BROWN 001	FULFER OIL & CATTLE LLC	1980	N	2310	E	F	F	25	25S	36E	3406	141402	29160	P	G	1	160		Active
3002509807	BROWN 005	FULFER OIL & CATTLE LLC	1650	N	990	W	E	E	25	25S	36E	3289	141402	29160	S	S	1	40		Active
3002509808	SHOLES B 25 002	SOUTHWEST ROYALTIES INC	660	N	1980	E	B	B	25	25S	36E	3375	21355	18085	F	S	1	40		Active
3002509818	BROWN 003	FULFER OIL & CATTLE LLC	365	N	1650	W	C	C	25	25S	36E	3225	141402	29160	P	O	1	40	02-May-60	Active
3002509820	BROWN 004	FULFER OIL & CATTLE LLC	1690	N	1870	W	F	F	25	25S	36E	3247	141402	29160	P	O	1	40	06-Aug-60	Active
3002509823	BROWN 002	FULFER OIL & CATTLE LLC	330	N	825	W	D	D	25	25S	36E	3321	141402	29160	P	O	1	40	18-Dec-59	Active
3002511854	DYER 002	INFLOW PETROLEUM RESOURCES LP	735	N	980	E	A	A	31	25S	37E	3440	225789	33728	P	O	1	40	16-Jul-75	Active
3002511854	*DYER 002*	*INFLOW PETROLEUM RESOURCES LP*	*735*	*N*	*980*	*E*	*A*	*A*	*31*	*25S*	*37E*	*3440*	*225789*	*33728*	*P*	*O*	*1*	*40*	*16-Jul-75*	*Active*
3002511858	LEGAL 003	CIMAREX ENERGY CO OF COLORADO	330	S	1980	E	O	O	31	25S	37E	3336	162683	21831	P	O	2	200	18-Oct-51	Active
3002511857	M F LEGAL 002	CIMAREX ENERGY CO OF COLORADO	1980	S	660	E	I	I	31	25S	37E		162683	21767	P	G	2	200		Active
3002528289	M F LEGAL 005	CIMAREX ENERGY CO OF COLORADO	330	S	330	E	P	P	31	25S	37E	3350	162683	21767	P	G	1	160	29-Jul-83	Active
3002511855	DYER 003	INFLOW PETROLEUM RESOURCES LP	1650	N	330	E	H	H	31	25S	37E	2968	225789	33728	P	G	1	160	10-May-76	Active
3002509812	SHOLES B 25 001	SOUTHWEST ROYALTIES INC	2310	N	990	E	H	H	25	25S	36E	2950	21355	18085	F	O	1	40		Active
3002535223	SHOLES B 30 003	INFLOW PETROLEUM RESOURCES LP	1806	N	815	W	E	2	30	25S	37E	3000	225789	33755	F	O	1	39.79	05-Jan-01	Active
3002511840	SHOLES B 30 002	INFLOW PETROLEUM RESOURCES LP	660	N	560	W	D	1	30	25S	37E	3054	225789	33755	F	G	1	80	06-Feb-50	Active
3002528637	WINNINGHAM 009	CIMAREX ENERGY CO OF COLORADO	660	N	1980	E	B	B	30	25S	37E		162683	21830	P	G	1	480		Active
3002528637	WINNINGHAM 009	CIMAREX ENERGY CO OF COLORADO	660	N	1980	E	B	B	30	25S	37E		162683	21830	P	G	1	480		Active
3002528637	WINNINGHAM 009	CIMAREX ENERGY CO OF COLORADO	660	N	1980	E	B	B	30	25S	37E		162683	21830	P	G	1	480		Active

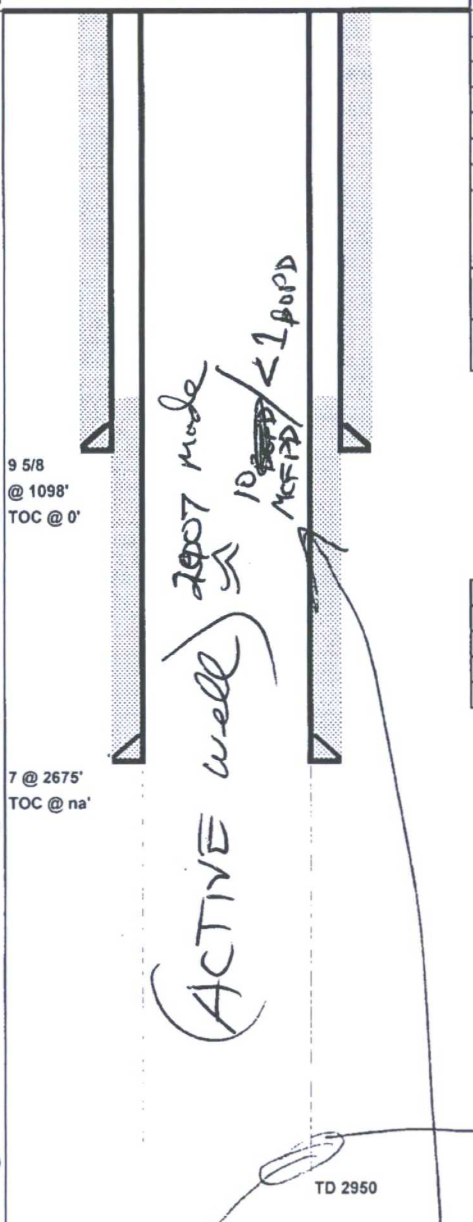
PLUG	ONE_PRODUCING_POOL_NAME	TspN	TspD	RgeN	RgeD	water_inj_2007	water_inj_2006	LAST_PROD_D	days_prod_2007	gas_prod_2007	gas_prod_2006	oil_prod_2007	oil_prod_2006	water_prod_2007	water_prod_2006
	JALMAT;TAN-YATES-7 RVRS (GAS)	25	S	36	E			2007-12	85	0	0	41	32	0	1391
		25	S	36	E	51640	47133		0	0		0		0	
		25	S	36	E		123115		0	0	0	0	0	0	0
	JALMAT;TAN-YATES-7 RVRS (OIL)	25	S	36	E			2007-10	127	0	0	40	14	24225	9350
		25	S	36	E			2007-12	168	0	0	3	0	2220	2964
	JALMAT;TAN-YATES-7 RVRS (OIL)	25	S	36	E			2007-12	179	0	0	7	0	15976	3568
		25	S	37	E				0	0	0	0	0	0	0
		25	S	37	E				0	0	0	0	0	0	0
	JALMAT;TAN-YATES-7 RVRS (GAS)	25	S	37	E			2005-12	0	0	0	0	0	0	0
	JALMAT;TAN-YATES-7 RVRS (GAS)	25	S	37	E			2007-12	363	1406	2000	0	10	673	325
	JALMAT;TAN-YATES-7 RVRS (GAS)	25	S	37	E			2007-12	365	2110	1998	0	9	431	328
	JALMAT;TAN-YATES-7 RVRS (GAS)	25	S	37	E			2007-12	365	2514	2587	0	0	0	0
	JALMAT;TAN-YATES-7 RVRS (OIL)	25	S	36	E			2008-01	365	3848	3529	0	50	0	73
	JALMAT;TAN-YATES-7 RVRS (OIL)	25	S	37	E			2007-12	365	11207	7589	98	97	131	317
	JALMAT;TAN-YATES-7 RVRS (GAS)	25	S	37	E			2007-12	365	11504	2148	30	0	49	0
	JALMAT;TAN-YATES-7 RVRS (GAS)	25	S	37	E			2007-12	330	32149	36399	0	0	4179	5156
	JALMAT;TAN-YATES-7 RVRS (GAS)	25	S	37	E			2007-12	330	32149	36399	0	0	4179	5156
	JALMAT;TAN-YATES-7 RVRS (GAS)	25	S	37	E			2007-12	330	32149	36399	0	0	4179	5156

WELLBORE SCHEMATIC AND HISTORY

APINUM:	30-025-09812				
OPERATOR:	SOUTHWEST ROYALTIES INC				
LEASENAME:	SHOLES B 25			WELL NO.	1
SURF LOC:	UL: H	SEC: 25	TWN: 25S	RNG: 36E	
	2310 FNL		990 FEL		
BH LOC:	UL: H	SEC: 25	TWN: 25S	RNG: 36E	
	2310 FNL		990 FEL		
TD 2950	PBD	KB	DF		
		GL			
POOL JALMAT;TAN-Y-7R			Open Hole: 2675-2950		
POOL			PERFS		
POOL			PERFS		

COMPLETION SCHEMATIC

FORM	DEPTH	
Rustler		9 5/8 @ 1098'
Top Salt	1200	TOC @ 0'
Base Salt	2560	
		7 @ 2675' TOC @ na'
Yates	2700	
Seven Rivers	2940	



CASING RECORD					
	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	9 5/8	1098	600 sxs	na	0'
PROD.	7	2675	650 sxs	na	na

– 1940 IP 10/200 G
– 1996 [illegible]

A) ~2333' away
B) ~ Same SS Depths

Overlap interval probably will not take too much FLUID.

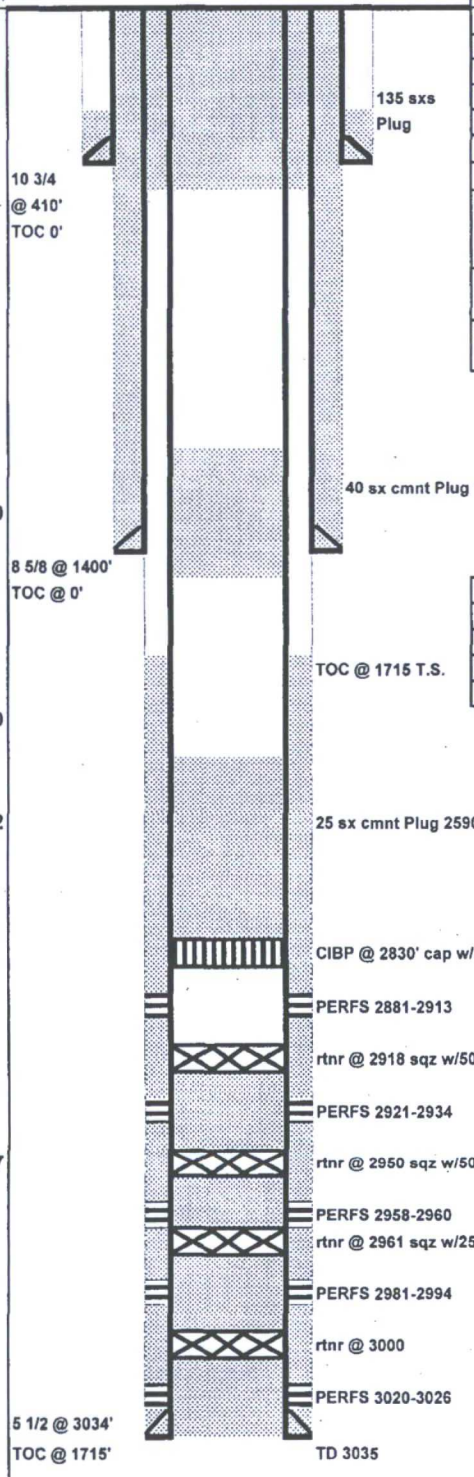
Maybe it will help!

PREPARED BY: Eddie Seay | UPDATED 05/04/08

WELLBORE SCHEMATIC AND HISTORY

COMPLETION SCHEMATIC

FORM	DEPTH
Rustler	
Top Salt	1200
Base Salt	2560
Yates	2692
Seven Rivers	2947



APINUM:	30-025-09809				
OPERATOR:	CONOCOPHILLIPS COMPANY				
LEASENAME:	SHOLES B 25			WELL NO.	3
SURF LOC:	UL: I	SEC: 25	TWN: 25S	RNG:	36E
	1980 FSL		660 FEL		
BH LOC:	UL: I	SEC: 25	TWN: 25S	RNG:	36E
	1980 FSL		660 FEL		
TD 3035	PBD	KB		DF	
		GL 3021			

POOL	PERFS 2881-2934
	2958-3026
JALMAT;TAN-Y-7R	
POOL	PERFS
POOL	PERFS

CASING RECORD

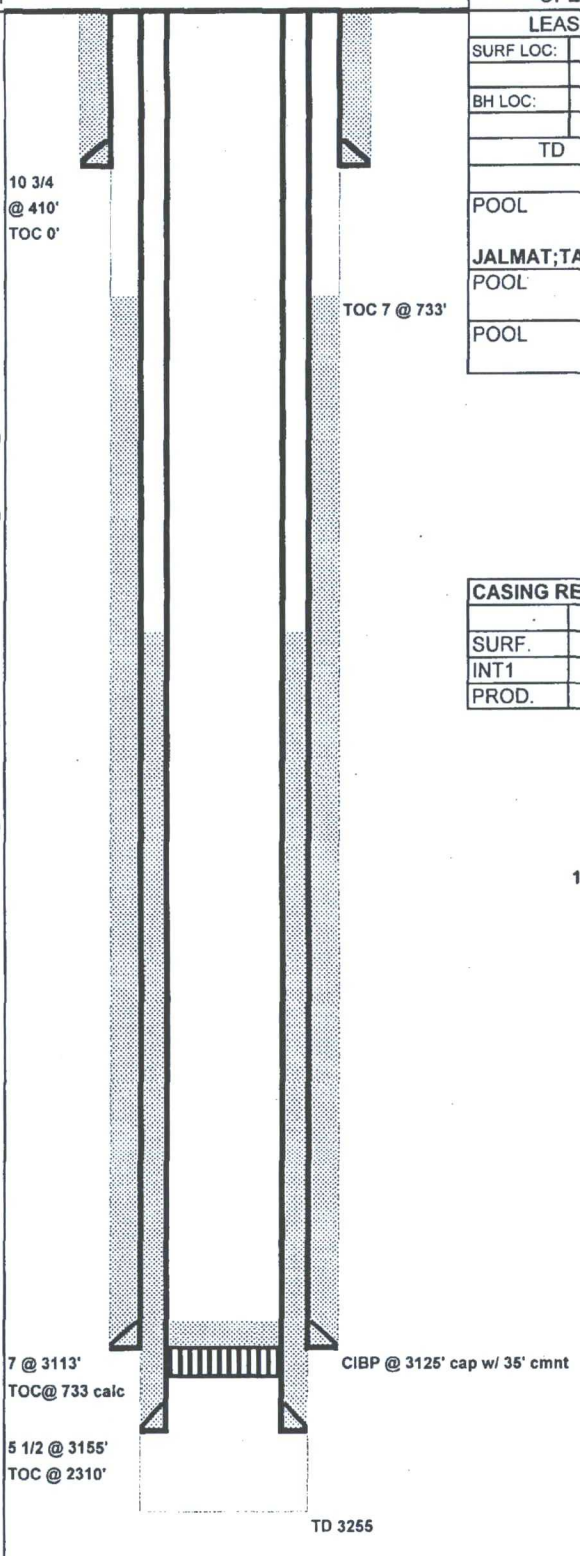
	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	10 3/4	451	300 sxs	na	395 T.S.
INT1	8 5/8	1400	600 sxs	na	0 Circ
PROD.	5 1/2	3034	500 sxs	na	1715 T.S.

PREPARED BY:	Eddie Seay	UPDATED	03/15/08

WELLBORE SCHEMATIC AND HISTORY

COMPLETION SCHEMATIC

FORM	DEPTH
Rustler	1000
Top Salt	1270
Base Salt	2595
Yates	2760
Seven Rivers	3000



APINUM:	30-025-09815				
OPERATOR:	FULFER OIL & CATTLE LLC				
LEASENAME:	HUMPHREYS			WELL NO.	1
SURF LOC:	UL: N	SEC: 25	TWN: 25S	RNG:	36E
	330 FSL		2310 FWL		
BH LOC:	UL: N	SEC: 25	TWN: 25S	RNG:	36E
	330 FSL		2310 FWL		
TD 3255	PBD	KB	DF		
		GL 3014			
POOL		PERFS	2881-2934		
			2958-3026		
JALMAT;TAN-Y-7R					
POOL		PERFS			
POOL		PERFS			

CASING RECORD

	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	10 3/4	405	150 sxs	13	0 Calc
INT1	7	3113	250 sxs	8	733 Calc
PROD.	5 1/2	3155	50 sxs	6 3/4	2310 CBL

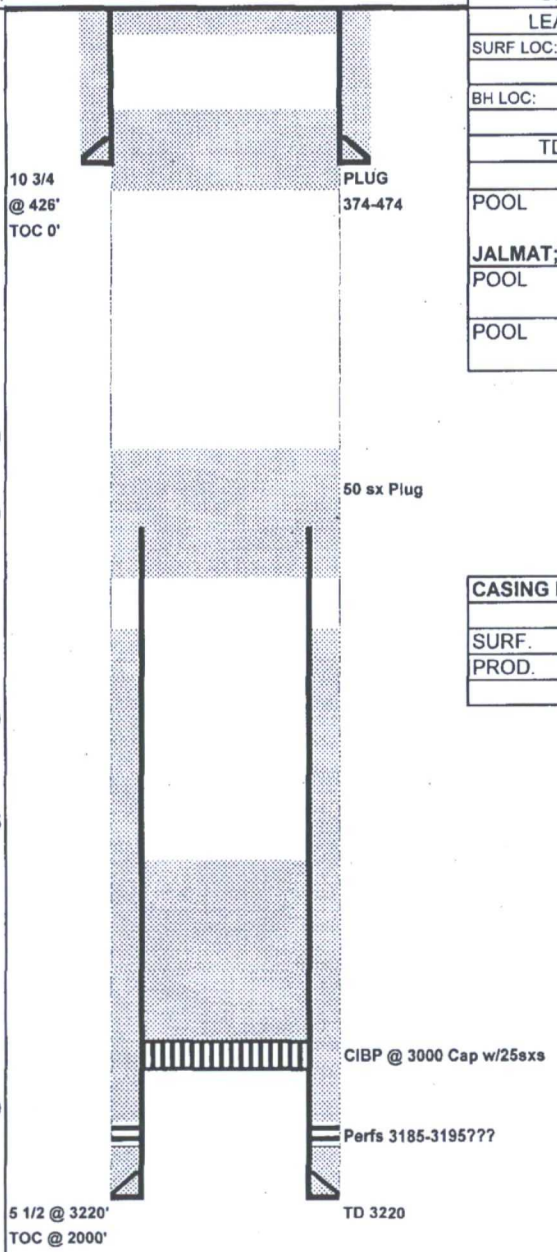
11/18/2002 Well TA

PREPARED BY:	Eddie Seay	UPDATED	03/15/08

WELLBORE SCHEMATIC AND HISTORY

COMPLETION SCHEMATIC

FORM	DEPTH
Rustler	1010
Top Salt	1280
Base Salt	2640
Yates	2805
Seven Rivers	3050



APINUM:	30-025-09816				
OPERATOR:	MARALO LLC				
LEASENAME:	SHOLES B 25			WELL NO.	1
SURF LOC:	UL: O	SEC: 25	TWN: 25S	RNG:	36E
	660 FSL		1830 FEL		
BH LOC:	UL: O	SEC: 25	TWN: 25S	RNG:	36E
	660 FSL		1830 FEL		
TD 3220	PBD	KB	DF		
		GL 3017			

POOL	PERFS 3185-3195 ???
JALMAT;TAN-Y-7R	Open Hole
POOL	PERFS
POOL	PERFS

CASING RECORD

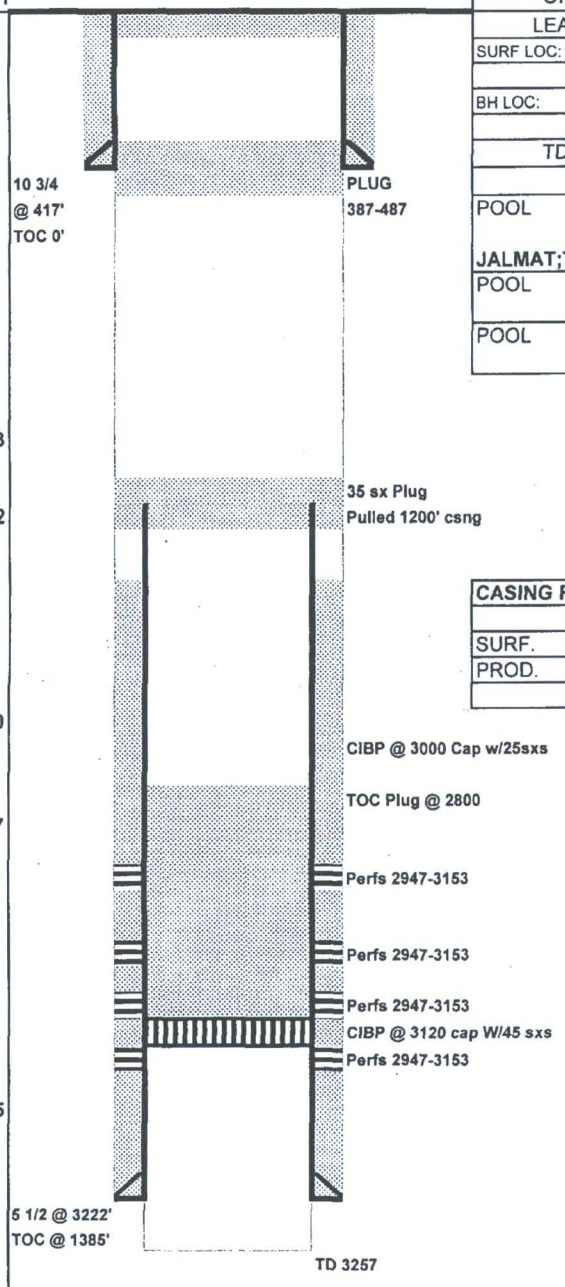
	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	10 3/4	426	150 sxs	na	0' CIRC
PROD.	5 1/2	3220	700 sxs	na	2000' calc

PREPARED BY:	Eddie Seay	UPDATED	03/15/08

WELLBORE SCHEMATIC AND HISTORY

COMPLETION SCHEMATIC

FORM	DEPTH
Rustler	1033
Top Salt	1242
Base Salt	2640
Yates	2937
Seven Rivers	3175



APINUM:	30-025-09817				
OPERATOR:	MARALO LLC				
LEASENAME:	HUMPHREYS			WELL NO.	2
SURF LOC:	UL: K	SEC: 25	TWN: 25S	RNG:	36E
	1650 FSL		2310 FWL		
BH LOC:	UL: K	SEC: 25	TWN: 25S	RNG:	36E
	1650 FSL		2310 FWL		
TD 3257	PBD	KB	DF 3023		
		GL 3035			

POOL	PERFS 2947-3153
JALMAT;TAN-Y-7R	Open Hole 3222-3257
POOL	PERFS
POOL	PERFS

CASING RECORD

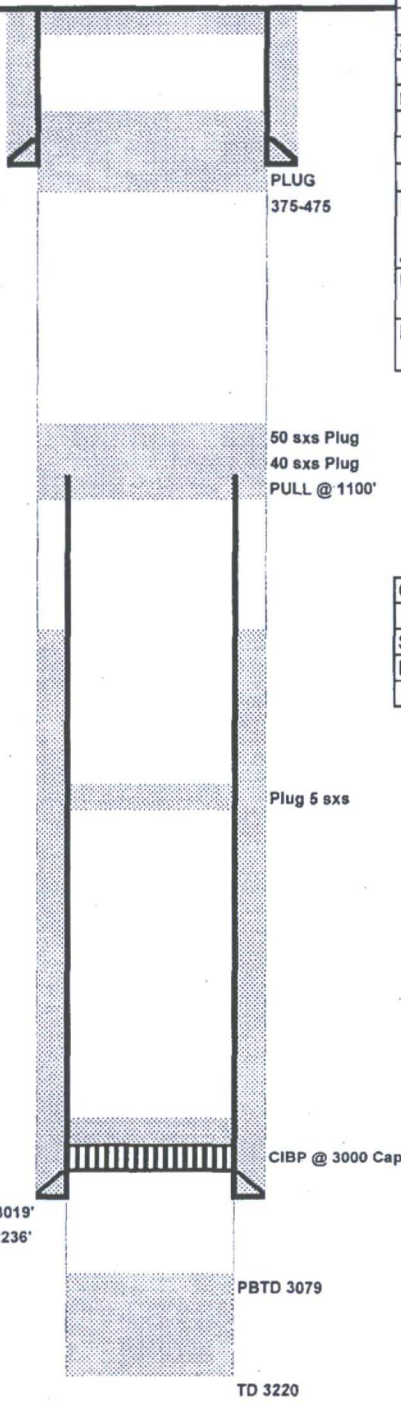
	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	10 3/4	417	150 sxs	13	0' CIRC
PROD.	5 1/2	3222	200 sxs	6 3/4	1385 calc

PREPARED BY:	Eddie Seay	UPDATED	03/15/08

WELLBORE SCHEMATIC AND HISTORY

COMPLETION SCHEMATIC

FORM	DEPTH
Rustler	1010
Top Salt	1280
Base Salt	2640
Yates	2805
Seven Rivers	3050



APINUM:	30-025-09819				
OPERATOR:	MARALO LLC				
LEASENAME:	SHOLES B 25			WELL NO.	3
SURF LOC:	UL: J	SEC: 25	TWN: 25S	RNG:	36E
	1980 FSL		1830 FEL		
BH LOC:	UL: J	SEC: 25	TWN: 25S	RNG:	36E
	1980 FSL		1830 FEL		
TD 3220	PBD 3079	KB		DF 3023	
		GL 3021			

POOL	PERFS 3019-3079
JALMAT;TAN-Y-7R	Open Hole
POOL	PERFS
POOL	PERFS

CASING RECORD

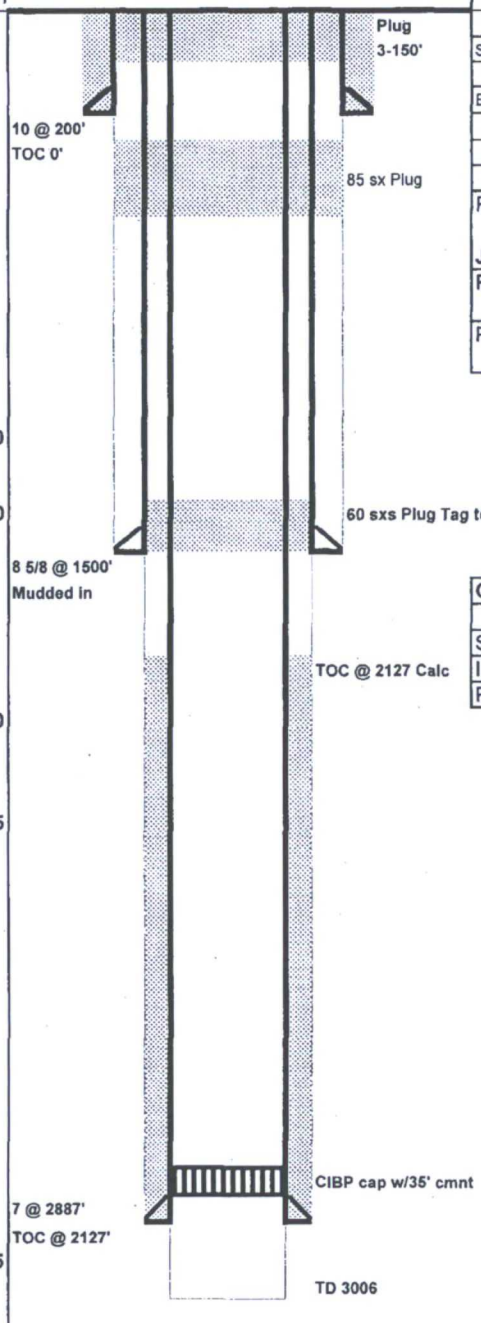
	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	10 3/4	425	150 sxs	10 3/4	0' CIRC
PROD.	5 1/2	3019	300 sxs	7	2236' calc

PREPARED BY:	Eddie Seay	UPDATED	03/15/08

WELLBORE SCHEMATIC AND HISTORY

COMPLETION SCHEMATIC

FORM	DEPTH
Rustler	1010
Top Salt	1280
Base Salt	2560
Yates	2725
Seven Rivers	2975



APINUM:	30-025-09830				
OPERATOR:	SOUTHWEST ROYALTIES INC				
LEASENAME:	HUMBLE STATE			WELL NO.	2
SURF LOC:	UL: H	SEC: 36	TWN: 25S	RNG:	36E
	1980 FNL		660 FEL		
BH LOC:	UL: H	SEC: 36	TWN: 25S	RNG:	36E
	1980 FNL		660 FEL		
TD 3006	PBD	KB	DF		
		GL 2987			

POOL	PERFS
JALMAT;TAN-Y-7R	Open Hole 2887-3006
POOL	PERFS
POOL	PERFS

CASING RECORD

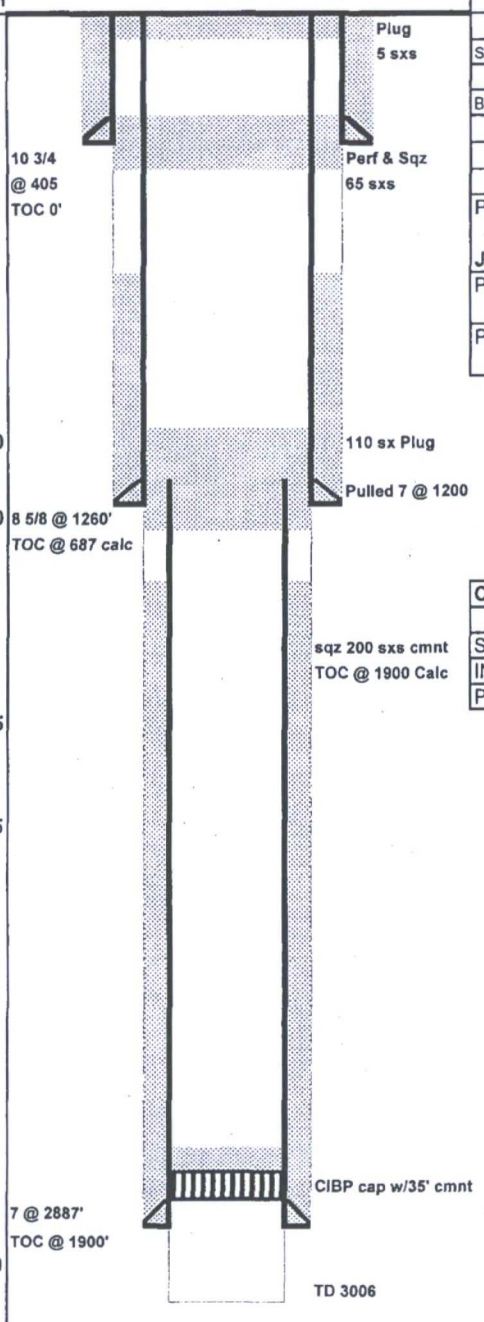
	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	10	200	100 sxs	12	0' CIRC
INT1	8	1500	200 sxs	10	0' CIRC
PROD.	7	2887	200 sxs	8	2127' Calc

PREPARED BY:	Eddie Seay	UPDATED	03/15/08

WELLBORE SCHEMATIC AND HISTORY

COMPLETION SCHEMATIC

FORM	DEPTH
Rustler	990
Top Salt	1280
Base Salt	2585
Yates	2725
Seven Rivers	2970



APINUM:	30-025-09831						
OPERATOR:	MARALO LLC						
LEASENAME:	HUMBLE STATE					WELL NO.	3
SURF LOC:	UL: A	SEC: 36		TWN: 25S		RNG:	36E
	660 FNL			660 FEL			
BH LOC:	UL: A	SEC: 36		TWN: 25S		RNG:	36E
	660 FNL			660 FEL			
TD 2950	PBD		KB		DF 3023		
			GL 3000				

POOL	PERFS
JALMAT;TAN-Y-7R	Open Hole 2887-2950
POOL	PERFS
POOL	PERFS

CASING RECORD

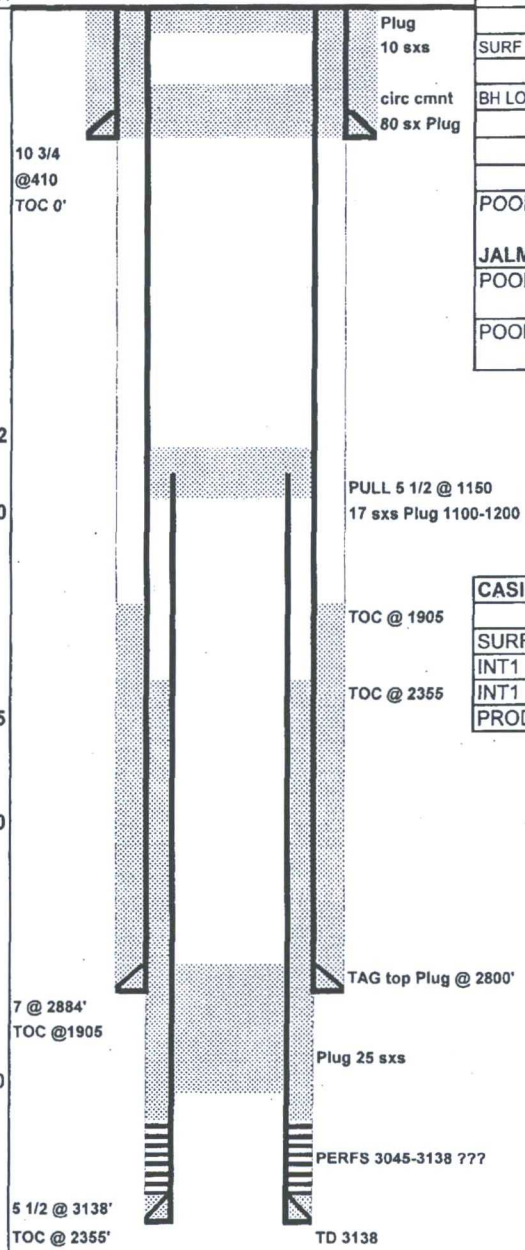
	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	10 3/4	405	100 sxs	12	0' CIRC
INT1	8 5/8	1260	150 sxs	10	687 Calc
PROD.	7	2887	150 sxs	8	1900' Calc

PREPARED BY:	Eddie Seay	UPDATED	03/15/08

WELLBORE SCHEMATIC AND HISTORY

COMPLETION SCHEMATIC

FORM	DEPTH
Rustler	992
Top Salt	1260
Base Salt	2615
Yates	2710
Seven Rivers	2950



APINUM:	30-025-09833				
OPERATOR:	MARALO INC				
LEASENAME:	SHELL A STATE			WELL NO.	1
SURF LOC:	UL: B	SEC: 36	TWN: 25S	RNG:	36E
	660 FNL		1980 FEL		
BH LOC:	UL: B	SEC: 36	TWN: 25S	RNG:	36E
	660 FNL		1980 FEL		
TD 3138	PBD	KB	DF 3023		
		GL 2999			

POOL	PERFS 3045-3138 ???
JALMAT;TAN-Y-7R	Open Hole
POOL	PERFS
POOL	PERFS

CASING RECORD

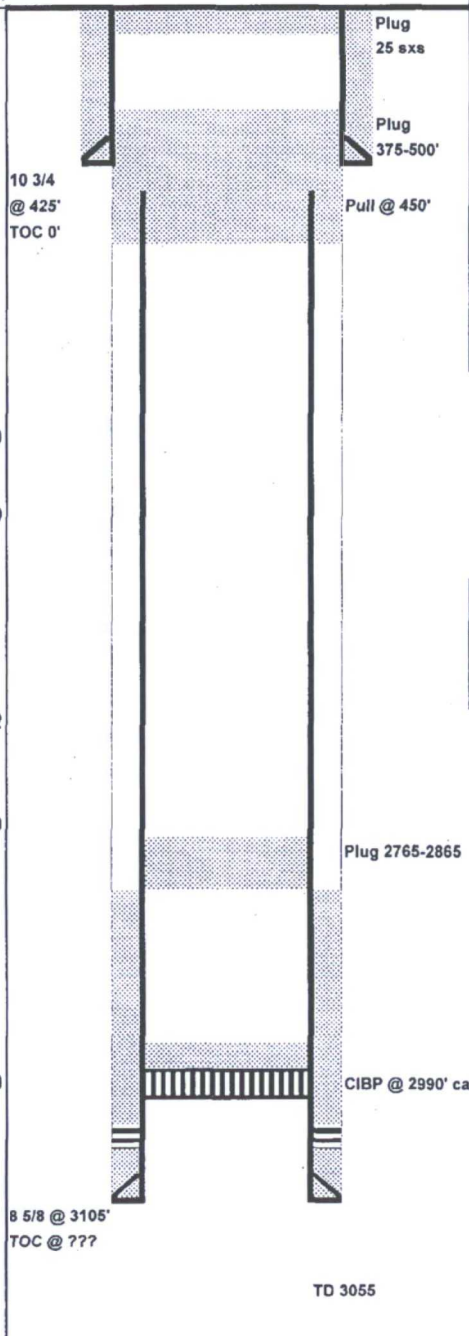
	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	10 3/4	410	150 sxs	12	0' CIRC
INT1	7	0-610		10	
INT1	7	610-2884	150 sxs	8	1905 Calc
PROD.	5 1/2	3138	150 sxs	7	2355' Calc

PREPARED BY:	Eddie Seay	UPDATED	03/15/08

WELLBORE SCHEMATIC AND HISTORY

COMPLETION SCHEMATIC

FORM	DEPTH
Rustler	1010
Top Salt	1120
Base Salt	2552
Yates	2730
Seven Rivers	2980



APINUM:	30-025-11852						
OPERATOR:	MARALO LLC						
LEASENAME:	SHOLES B					WELL NO.	4
SURF LOC:	UL: D	SEC: 31		TWN: 25S		RNG:	37E
	510 FNL			330 FWL			
BH LOC:	UL: D	SEC: 31		TWN: 25S		RNG:	37E
	510 FNL			330 FWL			
TD 3105	PBD		KB		DF 3023		
			GL				

POOL	PERFS 3065-3080
JALMAT;TAN-Y-7R	Open Hole
POOL	PERFS
POOL	PERFS

CASING RECORD

	SIZE	DEPTH	CMT	HOLE SIZE	TOC
SURF.	10 3/4	425	150 sxs	na	0' CIRC
PROD.	7	3105	300 sxs	na	na

PREPARED BY:	Eddie Seay	UPDATED	03/15/08

VIII

Geology

The proposed disposal interval is in the lower 40 feet of the Yates Formation and in the Upper 80 feet of the Seven Rivers Formation. The Yates is a dolomitic sandstone and the upper Seven Rivers consists of dolomite with some interbedded sandstone. As is shown by the structure maps on the Yates, Seven Rivers and Queen formations and the schematic section indicates that the Capitan Reef lies 1.5 miles to 3.0 miles west of the proposed disposal well. The injection into the lower Yates and upper Seven Rivers will not have any impact on the reef.

Jones, William V., EMNRD

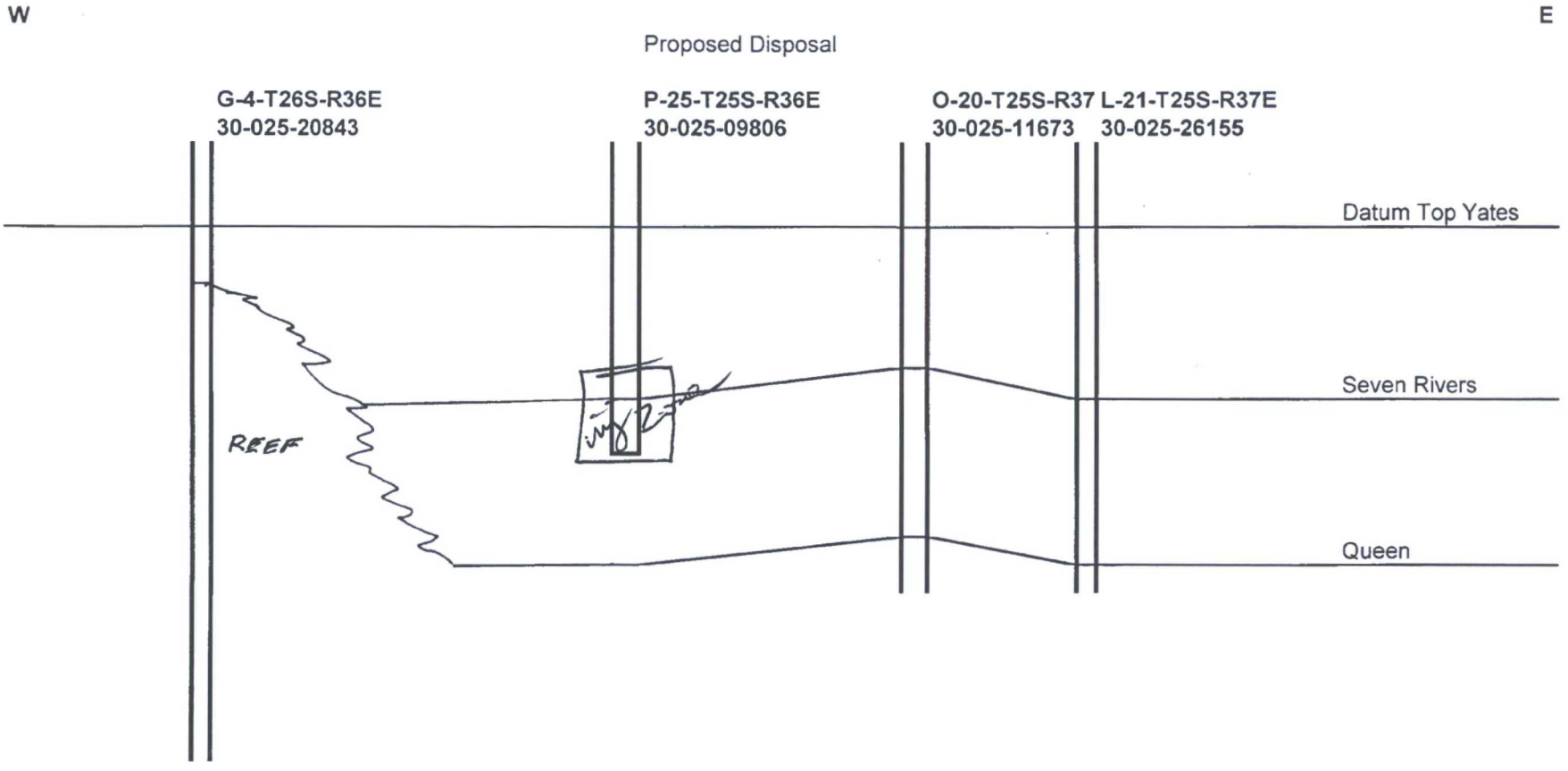
From: Kautz, Paul, EMNRD
Sent: Friday, May 16, 2008 2:44 PM
To: Jones, William V., EMNRD
Subject: Fulfer SWD revised application

Will

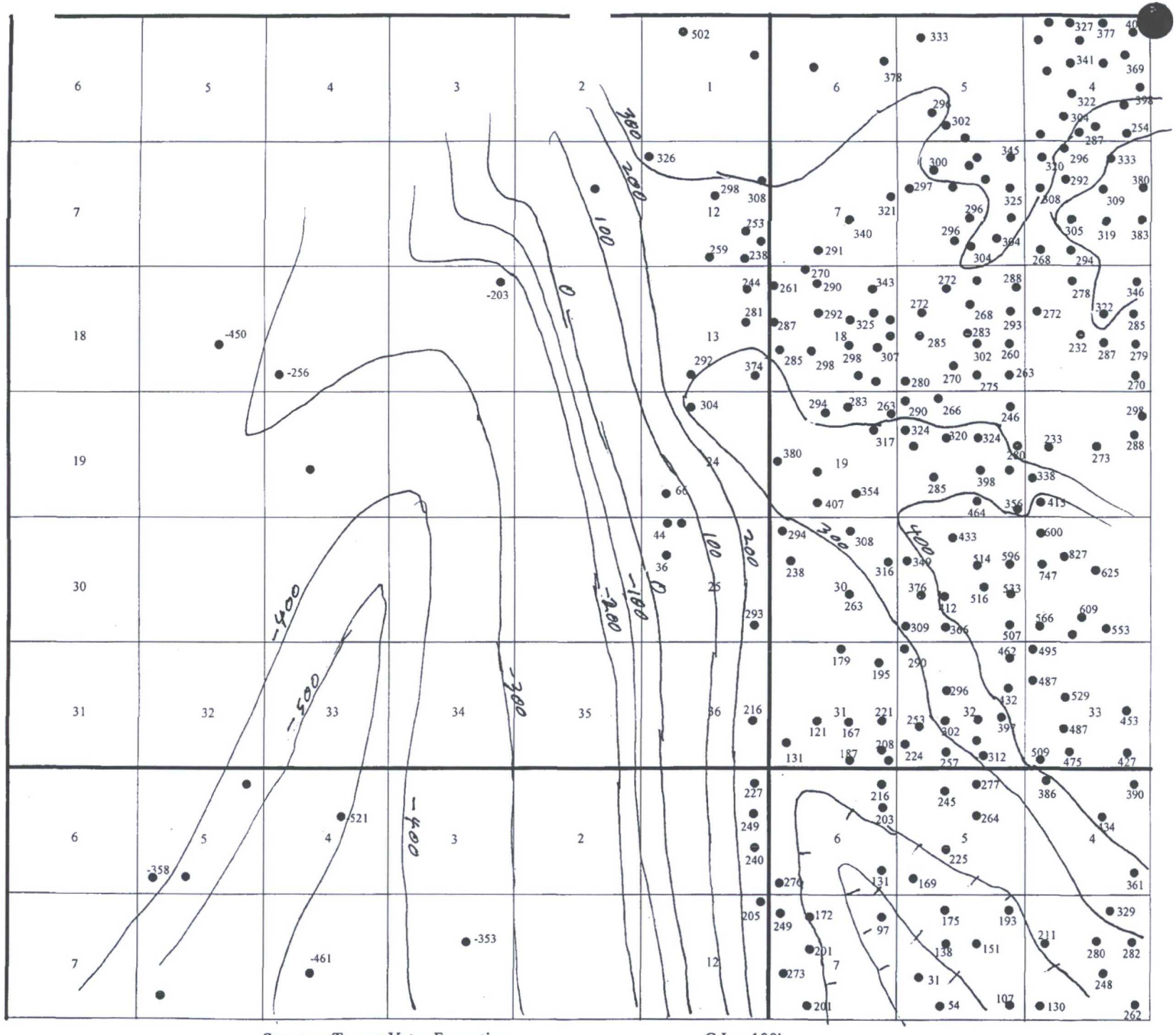
Eddie Seay was in my office this mourning. He gave me a copy of the revised Fulfer Sholes B #2 application. He asked me to review it per your request in your last e-mail. I reviewed the geology and the structure maps correspond real close to some old GEOMAP structure maps I have and to maps in the Roswell Geologic society Field maps for southeastern New Mexico. I also looked several logs online and at the Xerox copy of a log he is submitting with the application. I agree that the reef is not present in the area of the proposed disposal. I agree the Reef is probably at least a mile or more to the west. The Capitan reef is younger than the Queen formation and therefore probably is not present vertically below the well.

If you have any questions call or e-mail me.

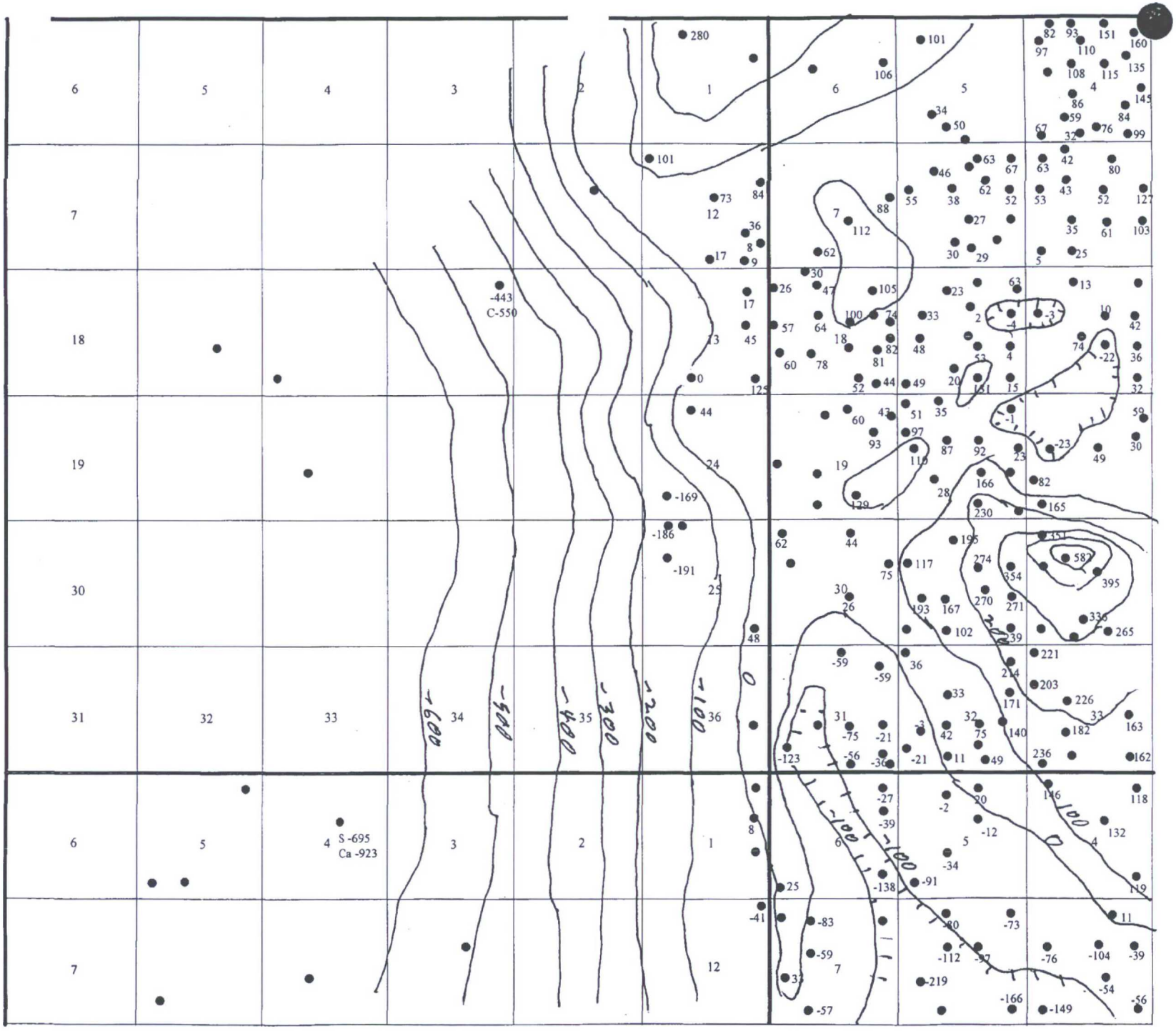
Paul Kautz



Schematic section

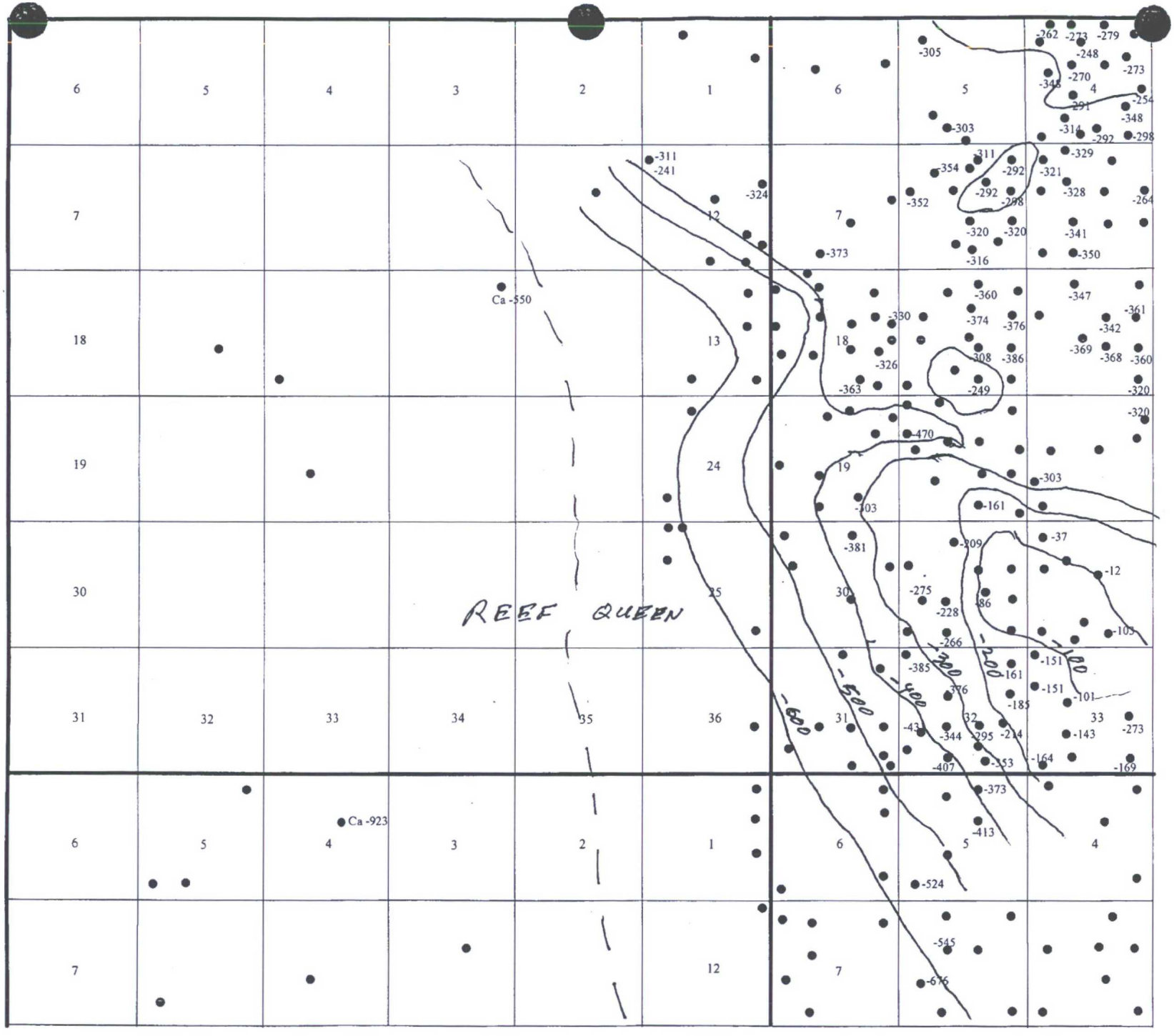


Structure Top on Yates Formation C.I. = 100'



Structure Top on Seven Rivers Formation

C.I. = 100'



Structure Top of Queen

C.I. = 100'

Schlumberger **NEUTRON LOG**

COMPANY CONOCO. INC.

WELL SHOLES B-25 #2

FIELD NMFU

COUNTY LEA STATE NEW MEXICO

LOCATION 660' FNL & 1980' FEL

Other Services: —

API SERIAL NO	SEC	TWP	RANGE
	25	25-S	36-E

nt Datum: GL ; Elev.: 3080

ısured From KB 10 Ft. Above Perm. Datum

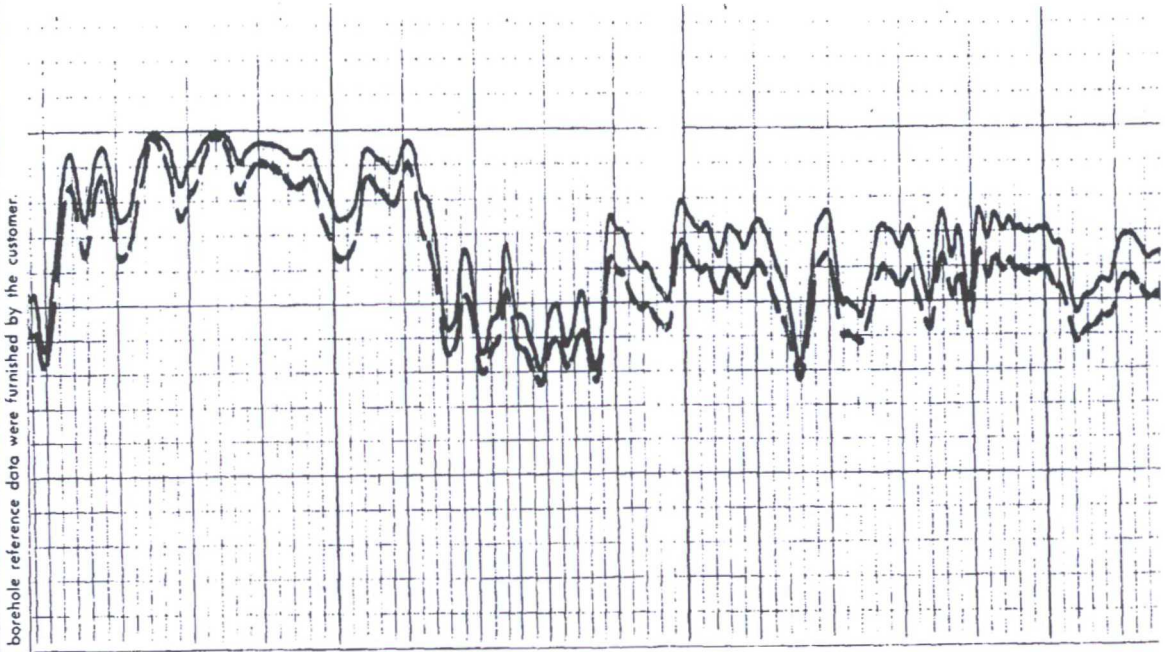
Measured From KB

Elev.: K.B. 3090
D.F. 3090
G.L. 3080

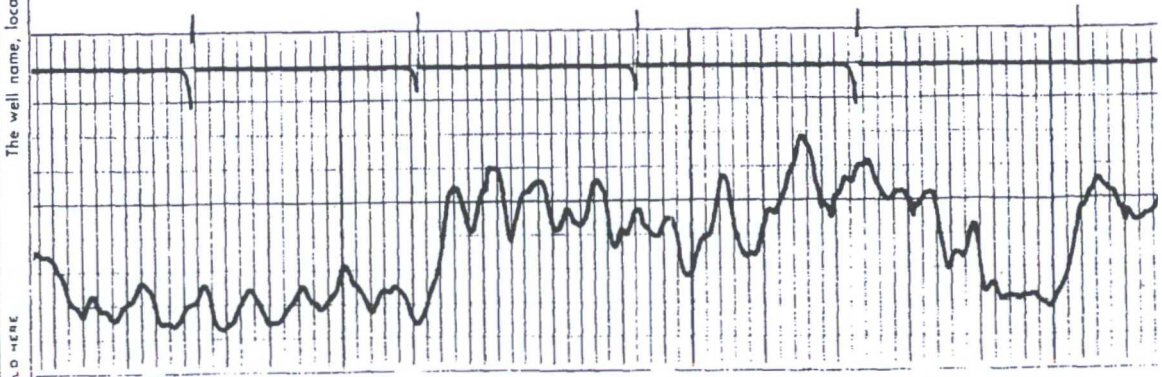
	6-28-79			
	ONE			
iller	3087			
ogger (Schl.)	3082			
Interval	3079			
nterval	2500			
Driller	@	@	@	@
.ogger				
d in Hole	WATER			
Visc.				
Fluid Loss	ml	ml	ml	ml
Sample				
Meas. Temp.	@ °F	@ °F	@ °F	@ °F
Meas. Temp.	@ °F	@ °F	@ °F	@ °F
Meas. Temp.	@ °F	@ °F	@ °F	@ °F
Rmf Rmc				
BHT	@ °F	@ °F	@ °F	@ °F
ıtion Stopped				
on Bottom				
:. Temp.	°F	°F	°F	°F
Location				
By				

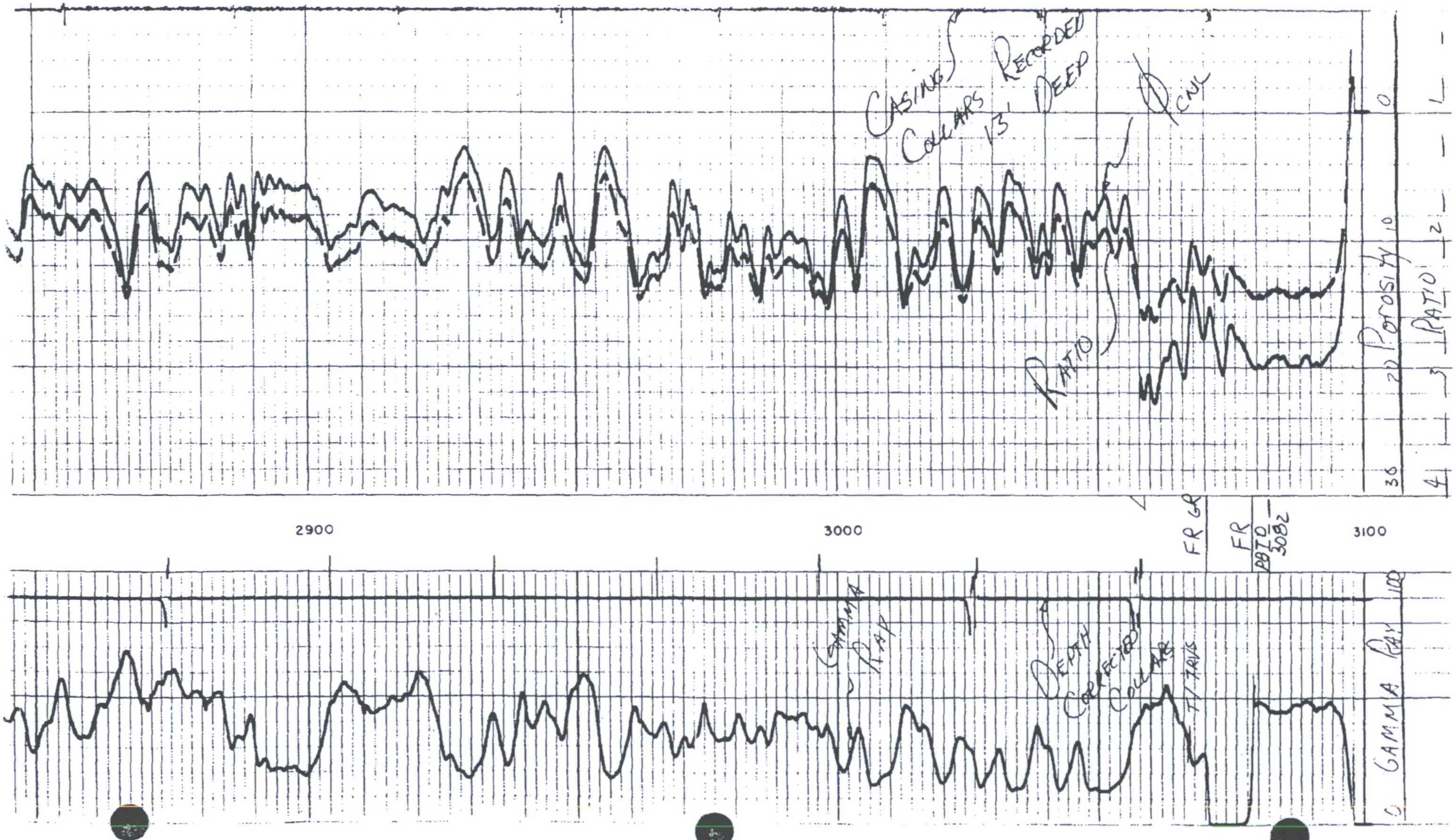
The well name, location and borehole reference data were furnished by the customer.

FOLD HERE



2800 2900




CASING COLLARS RECORDED 13' DEEP
Φ CNL
RATIO
POROSITY
RATIO
0
10
20
30
1
2
3
4
2900
3000
3100
FR GR
FR
RATIO 3082
GAMMA RAY
DEPTH CORRECTED COLLARS
GAMMA RAY
100
0

OCD - Hobbs

Form 3160-5
(September 2001)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
2003 AUG 19 PM 2 07
RECEIVED
2003 AUG 19 PM 2 07
CARLSBAD FIELD OFFICE
BUREAU OF LAND MGMT.
CARLSBAD FIELD OFFICE

FORM APPROVED
OMB No. 1004-0135
Expires January 31, 2004

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

5. Lease Serial No. LC 032581 b
6. If Indian, Allottee or Tribe Name
7. If Unit or CA/Agreement, Name and/or No.
8. Well Name and No. Maralo Stokes "B" No. 2
9. API Well No. 30-025- 09806
10. Field and Pool, or Exploratory Area Jalmat
11. County or Parish, State Lea

1. Type of Well: ☐ Oil Well ☐ Gas Well ☒ Other
2. Name of Operator: Southwest Royalties, Inc.
3a. Address: P.O. Box 11390 Midland Tx, 79702
3b. Phone No. (include area code): 432-686-9927
4. Location of Well (Footage, Sec., T., R., M., or Survey Description): Unit P, 660' FEL & SL Sec 25, T25S, R36E.

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☒ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

MIRU WS. TOH & lay down injection tbg & pkr. RU WL. TIH & set CIBP @ ± 2,700'. Cap CIBP w/ 35' of cmt. Fill csg w/ treated wtr & test to 500 psig. TA well. RD WS.

Well History
Page 1

ACCEPTED FOR RECORD
SEP 30 2003
CARLSBAD, NEW MEXICO

RECEIVED
2003 SEP 19 AM 8:21
BUREAU OF LAND MGMT.
CARLSBAD FIELD OFFICE

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed): C.M. Bloodworth, P.E.
Title: Area Supervisor
Signature:
Date: 08/18/03

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on reverse)

GWW

OCD - Hobbs

Form 3160-5
(September 2001)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires January 31, 2004

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

5. Lease Serial No. LC 032581-(b)
6. If Indian, Allottee or Tribe Name
7. If Unit or CA/Agreement, Name and/or No.
8. Well Name and No. Sholes "B" No 2
9. API Well No. 30-025-09806
10. Field and Pool, or Exploratory Area Jalmat
11. County or Parish, State Lea, NM

1. Type of Well
☐ Oil Well ☐ Gas Well ☒ Other
2. Name of Operator Southwest Royalties, Inc.
3a. Address P.O. Box 11390 Midland TX 79702
3b. Phone No. *(include area code)* 432-686-9927
4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)* 660' FSL & EL. Ut P, Sec 25, T25S, R36E

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☒ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

8/20-8/22/03 MIRU WS. TOH & lay dwn tbg & pkr. RU WL. TIH & set CIBP @ 3055'. Capped CIBP w/ 35' of cmt. RD WL. Secure well. ROWS.
9/5/03 RU pmp truck. Load csg w/ treated wtr. Press to 540 psig (Held OK) (see attached chart). Released pressure. RD pmp truck. Well TA'd.

ACCEPTED FOR RECORD
SEP 30 2003
CARLSBAD, NEW MEXICO

RECEIVED
OCT 2003
Hobbs OCD

14. I hereby certify that the foregoing is true and correct
Name *(Printed/Typed)* C.M. Bloodworth, P.E. Title Area Supervisor
Signature Date 09/11/03

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by Gary W Wink Title Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on reverse)

trict I
Box 1980, Hobbs, NM 88241-1980
trict II
Drawer DD, Artesia, NM 88211-0719
trict III
00 Rio Brazos Rd., Aztec, NM 87410
trict IV
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-104
Revised February 10, 1994
Instructions on back
Submit to Appropriate District Office
5 Copies

☐ AMENDED REPORT

REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

1 Operator name and Address	1 OGRID Number
HAL J. RASMUSSEN OPERATING, INC. 310 WEST WALL, SUITE 906 MIDLAND, TX 79701	009809 Change 1 Reason for Filing Code Property name from Sholes "B" CH EFFECTIVE 4-1-94

2 API Number	3 Pool Name	4 Pool Code
30 - 0 25-09806	JALMAT TANSILL YATES SEVEN RIVERS	33820
5 Property Code	**6 Property Name**	**7 Well Number**
~~006358~~ 14976	Maralo Sholes "B". ~~No. 2~~	2

10 Surface Location

UL or lot no.	Section	Township	Range	Lot.Idn	Feet from the	North/South Line	Feet from the	East/West line	County
P	25	25S	36E		660	SOUTH	660	EAST	LEA

11 Bottom Hole Location

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

12 Lse Code	13 Producing Method Code	14 Gas Connection Date	15 C-129 Permit Number	16 C-129 Effective Date	17 C-129 Expiration Date

II. Oil and Gas Transporters

18 Transporter OGRID	19 Transporter Name and Address	20 POD	21 O/G	22 POD ULSTR Location and Description
022628	TEXAS NEW MEXICO PIPELINE COMPANY	1238610	O	
~~007057~~ 020202	EL PASO NATURAL GAS COMPANY Sid Richardson	1238630	G	

IV. Produced Water

23 POD
1238650

This well is used for a Water Supply well but it produces a little gas so it needs an allowable

V. Well Completion I

24 Spud Date	25	26 Perforations
27 Hole Size		ks Cement

VI. Well Test Data

28 Date New Oil	29	30 Cag. Pressure
31 Choke Size		32 Test Method

I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature: [signature]
Printed name: TYSON DUNN
Title: PRODUCTION ENGINEER
Date: 4/15/94 Phone: (915) 687-1664

OIL CONSERVATION DIVISION
Approved by: Orig. Signed by Paul Kantz Geologist
Title:
Approval Date: 8-1-94

If this is a change of operator fill in the OGRID number and name of the previous operator

Previous Operator Signature	Printed Name	Title	Date
014007 MARALO, INC. Dorothea Owens	DOROTHEA OWENS, REGULATORY ANALYST		APRIL 6, 1994

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.
LC 032581 (b)

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

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—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER Water Source Well

7. UNIT AGREEMENT NAME

2. NAME OF OPERATOR
Maralo, Inc.

8. FARM OR LEASE NAME
Sholes "B"

3. ADDRESS OF OPERATOR
P.O. Box 832, Midland, TX 79702

9. WELL NO.
2

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
660' FSL & 660' FEL

10. FIELD AND POOL, OR WILDCAT
Cooper - Jal Jalmat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 25, 25-S, 36-E

14. PERMIT NO.
--

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
3021 GL

12. COUNTY OR PARISH
Lea

13. STATE
NM

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other)			
(Other) Convert to water source well	X						

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Well has reached its economic limit. The last test was 1/2 BO; 20 BW and 30 MCF gas. We propose to convert to water source well for Jalmat Waterflood Unit.

Proposed Operation

1. RUPU cement squeeze Yates perforations 2733 - 2824'. WOC. Pull equipment. Clean out to T. D. Deepen approximately 50'.
2. Set RTTS @ 2830' and acid treat open hole w/2500 gals 15% HCl acid.
3. Run Centrilift Variable Speed 125 HP series 544 submersible pump.
4. Lay water line and pump water to Jalmat Unit.

RECEIVED

MAY 16 1986

HOBBS, NEW MEXICO

18. I hereby certify that the foregoing is true and correct

SIGNED Brenda Coffman/ TITLE Agent DATE 5/15/86

(This space for Federal or State office use)

APPROVED BY TITLE DATE 6-19-86
CONDITIONS OF APPROVAL, IF ANY:

Subject to Like Approval by State

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 9-330
(Rev. 5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

5. LEASE DESIGNATION AND SERIAL NO.: 38240 LC 032581 (b)

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] DRY [ ] Other

b. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [X] DIFF. RESVR. [X] Other

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Sholes B

2. NAME OF OPERATOR: Maralo, Inc.

9. WELL NO.: 2

3. ADDRESS OF OPERATOR: P. O. Box 832, Midland, Texas 79702

10. FIELD AND POOL, OR WILDCAT: ~~Cooper Jal~~ Jalmat

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: 660' FSL & 660' FEL
At top prod. interval reported below: 660' FSL & 660' FEL
At total depth: same

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec. 25, 25S, 36E

14. PERMIT NO.	DATE ISSUED	12. COUNTY OR PARISH	13. STATE
-	-	Lea	N.M.

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
-	-	10-27-81	3021 GL	-

20. TOTAL DEPTH, MD & TVD	21. PLUG BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
2955	2832	-	→	X	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: 2733 - 2824' Upper Yates

25. WAS DIRECTIONAL SURVEY MADE: no

26. TYPE ELECTRIC AND OTHER LOGS RUN: -

27. WAS WELL CORED: no

ACCEPTED FOR RECORD
PETER W. CHESTER
JUN 28 1982
U.S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
10 3/4"		410'		150 sx	
7"		2935'		150 sx	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	2800	-

31. PERFORATION RECORD (Interval, size and number)
4" cased gun w/1 JSPF from 2733' to 2824' (30 shots)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
2733' - 2824'	2000 gals 15% HCl acid

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
11-7-81	2" x 1½" x 12' pump	producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
11-9-81	24			5	105	5	210

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
						25.9

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.): Sold - El Paso Natural Gas Company

TEST WITNESSED BY:

35. LIST OF ATTACHMENTS: -

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Brenda Coffman TITLE Agent DATE 5-10-82

*(See Instructions and Spaces for Additional Data on Reverse Side)

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

N. M. OIL CONS. COMMISSION
P. O. BOX 1980
HOBBS, NEW MEXICO 88240

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.: LC 032581 (b)

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

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—" for such proposals.)

1. OIL WELL [X] GAS WELL [ ] OTHER

7. UNIT AGREEMENT NAME:

2. NAME OF OPERATOR: Maralo, Inc.

8. FARM OR LEASE NAME: Sholes B

3. ADDRESS OF OPERATOR: P. O. Box 832, Midland, Texas 79702

9. WELL NO.: 2

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 660' FSL and 660' FEL

10. FIELD AND POOL, OR WILDCAT: ~~Cooper-Jal~~ Jal Yat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 25, 25S, 36E

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 3021 GL

12. COUNTY OR PARISH: Lea

13. STATE: New Mexico

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) Plug back & re-perf			[X]
(Other)			[ ]	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

10-20-81 - Squeezed perfs 2871 to 2910 w/75 sx Class C 3% Halad 4 + 75 sacks Class C 5#/ sack flocele 2% $CaCl_2$. Squeezed @ 2000#'s. Pressured tubing to 1000 psi and casing to 500 psi - held ok. WOC 12 hours.
10-21-81 - Tagged top cement @ 2832' (New PBTD). Spotted 150 gals 15% HCl from 2822-2734'. Perf'd Upper Yates gas sands w/4" cased gun w/1 JSPF @:2733; 2734;2735;2736;2742;2746;2747; 2748;2754;2755;2772;2773;2778;2779;2780;2785;2786;2791;2811;2812;2813;2814;2817;2818;2819; 2820;2821;2822;2823;& 2824': (30 holes). Set packer @ 2673'. Pressured annulus to 500 psi - held ok. Acidized w/1800 gals of 15% acid. Dropped 4 ball sealers after each 250 gals acid.
10-23-81 - Sand frac'd Upper Yates perfs 2733-2824' (30 holes) w/20,000 gal gelled fresh water & 200 sx 20-40 mesh sand & 100 sx 10-20 mesh sand in two stages.
10-31-81 - Ran 2" x 1 ½" x 12' pump on 110 - 3/4" rods.
11-9-81 - Put well on production.

RECEIVED
NOV 19 1981
OIL & GAS
U.S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

18. I hereby certify that the foregoing is true and correct

SIGNED Brenda Coffman TITLE Production Clerk DATE 11-11-81

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____
CONDITIONS OF APPROVAL, IF ANY:

ACCEPTED FOR RECORD
NOV 20 1981
U.S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

*See Instructions on Reverse Side

RAILROAD COMMISSION REPORTS PREPARED
LEASE APPRAISALS
EVALUATIONS

COMPLETE ENGINEERING SERVICE
BOTTOM HOLE PRESSURES
GAS-OIL RATIOS
WELL COMPLETIONS

WEST TEXAS OIL REPORTS
AND ENGINEERING SERVICE
TELEPHONE MU 4-6381 — P. O. BOX 953
401 WILKINSON-FOSTER BUILDING
MIDLAND, TEXAS

EVERETT L. SMITH
REGISTERED PROFESSIONAL ENGINEER

LAMAR ESCHBERGER
REGISTERED PROFESSIONAL ENGINEER

March 22, 1962

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Re: Application for Non-Standard Gas Proration Unit in Jalmat Pool, Lea County, New Mexico

Gentlemen:

Please consider this letter a formal application by Ralph Lowe for a 160-acre Non-Standard Gas Proration Unit for his Sholes "B" 2 well located in the Jalmat Pool, 660 feet from the South and East lines of Section 25, Township 25S, Range 36E, Lea County, New Mexico.

The Sholes "B" 2 was originally completed on August 25, 1947, as an oil well in the lower Yates dolomite. As the result of being flooded out by water due to natural causes, the well is no longer capable of producing oil. However, a sand section behind the casing, but still in the lower Yates formation, is capable of commercial dry gas production.

Since the sand section exists throughout the entire Sholes "B" Lease and is productive, it is requested that Sholes "B" 2 be assigned the 160 acres outlined in red on the attached plat for gas well proration purposes.

Yours truly,

Archie P. Farr
Petroleum Engineer

APF:jvb

Attachment

cc: Oil Conservation Commission (2)
P. O. Box 2045
Hobbs, New Mexico

NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

(Form C-104)
Revised 7/1/57

REQUEST FOR (OIL) - (GAS) ALLOWABLE

New Well
Recompletion

HOBBS OFFICE OCC
1962 APR 30 AM 7:26

This form shall be submitted by the operator before an initial allowable will be assigned to any completed Oil or Gas well. Form C-104 is to be submitted in QUADRUPLICATE to the same District Office to which Form C-101 was sent. The allowable will be assigned effective 7:00 A.M. on date of completion or recompletion, provided that this form is filed during calendar month of completion or recompletion. The completion date shall be that date in the case of an oil well when new oil is delivered into the stock tanks. Gas must be reported on 15.025 psia at 60° Fahrenheit.

Midland, Texas (Place) 4/27/62 (Date)

WE ARE HEREBY REQUESTING AN ALLOWABLE FOR A WELL KNOWN AS:

Ralph Lowe (Company or Operator) Sholes "B" -25 (Lease), Well No. 2, in SE ¼ SE ¼,

P (Unit Letter), Sec. 25, T. 25-S, R. 36-E, NMPM., Jalmat Pool

Lea County. Date Spudded 5/25/47 Date Drilling Completed 6/25/47

Elevation 3021 Total Depth 2955 PBTD 2915

Top Oil/Gas Pay 2871 Name of Prod. Form. Yates

PRODUCING INTERVAL -

Perforations 2871-75; 2880-82; 2884-94; 2902-10

Open Hole ____ Depth Casing Shoe 2918 Depth Tubing 2840

OIL WELL TEST -

Natural Prod. Test: ____ bbls.oil, ____ bbls water in ____ hrs, ____ min. Size ____

Test After Acid or Fracture Treatment (after recovery of volume of oil equal to volume of load oil used): ____ bbls.oil, ____ bbls water in ____ hrs, ____ min. Size ____

GAS WELL TEST -

Natural Prod. Test: ____ MCF/Day; Hours flowed ____ Choke Size ____

Method of Testing (pitot, back pressure, etc.): ____

Test After Acid or Fracture Treatment: 780 MCF/Day; Hours flowed 24

Choke Size 1/2 Method of Testing: Orifice meter

Acid or Fracture Treatment (Give amounts of materials used, such as acid, water, oil, and sand): acidized 1000 gal. 10/9/61

Casing Press. Pkr. Tubing Press. 165 Date first new oil run to tanks ____

Oil Transporter None

Gas Transporter El Paso Natural Gas Company

Please indicate location:

D	C	B	A
E	F	G	H
L	K	J	I
M	N	O	P X

Tubing, Casing and Cementing Record

Size	Feet	Sax
10 3/4	410	150
8 5/8	1225	-
7	2918	150
2 1/2	2840	-

Remarks: Well plugged back from oil zone @ 2950-55 to gas zone shown above.

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

Approved ____, 19____

OIL CONSERVATION COMMISSION

By: ____

Title ____

Ralph Lowe (Company or Operator)

By: ____ (Signature)

Title Agent

Send Communications regarding well to:

Name Ralph Lowe

Address Box 832, Midland, Texas

Form C-102

Ray.

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

MISCELLANEOUS NOTICES

Submit this notice in triplicate to the Oil Conservation Commission or its proper agent before the work specified is to begin. A copy will be returned to the sender on which will be given the approval, with any modifications considered advisable, or the rejection by the Commission or agent, of the plan submitted. The plan as approved should be followed, and work should not begin until approval is obtained. See additional instructions in the Rules and Regulations of the Commission.

Indicate nature of notice by checking below:

NOTICE OF INTENTION TO TEST CASING SHUT-OFF	X	NOTICE OF INTENTION TO SHOOT OR CHEMICALLY TREAT WELL	
NOTICE OF INTENTION TO CHANGE PLANS		NOTICE OF INTENTION TO PULL OR OTHERWISE ALTER CASING	
NOTICE OF INTENTION TO REPAIR WELL		NOTICE OF INTENTION TO PLUG WELL	
NOTICE OF INTENTION TO DEEPEN WELL			

Midland, Texas (Place) June 30, 1947 (Date)

OIL CONSERVATION COMMISSION,
Santa Fe, New Mexico.

Gentlemen:

Following is a notice of intention to do certain work as described below at the

Ralph Lowe (Company or Operator) Sholes (Lease) Well No. 2 in SE of SE

of Sec. 25, T. 25, R. 36, N. M. P. M., Jal Field,

Lea County.

FULL DETAILS OF PROPOSED PLAN OF WORK

FOLLOW INSTRUCTIONS IN THE RULES AND REGULATIONS OF THE COMMISSION

Set 410 feet of 10 3/4" casing - cemented with 150 sacks

Set 1225 feet of 8 5/8" casing - mudded in

Set 2935 feet of 7" casing - cemented with 150 sacks

Approved _____, 19____
except as follows:

OIL CONSERVATION COMMISSION,

By _____

Title _____

Ralph Lowe
Company or Operator

By C. E. Lowe

Position Agent

Send communications regarding well to

Name Ralph Lowe

Address Box 832

Midland, Texas

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
EDDIE SEAY CONSULTING
ATTN: EDDIE SEAY
601 W. ILLINOIS
HOBBS, NM 88240
FAX TO:

Receiving Date: 03/08/00
Reporting Date: 03/14/00
Project Owner: Fulfer
Project Name: Brown SWD
Project Location: JAL, NM

Sampling Date: 03/08/00
Sample Type: PRODUCED WATER
Sample Condition: COOL 7 INTACT
Sample Received By: BC
Analyzed By: AH

LAB NUMBER	SAMPLE ID	P-Alkalinity (mg/L)	T-Alkalinity (mg/L)	Hardness (mg/L)	Chloride (mg/L)	Sulfates (mg/L)	pH (s.u.)
ANALYSIS DATE		03/13/00	03/13/00	03/13/00	03/13/00	03/13/00	03/13/00
H4702-1	7 RIVERS	0	144	3650	8460	3080	7.41
H4702-2	QUEEN	0	820	1550	5640	529	7.20
H4702-3	DEVONIAN	0	1500	15400	20700	10600	7.55
H4702-4	LM	0	710	11500	38500	2340	6.93
Quality Control		NR	NR	53	958	50.5	6.99
True Value QC		NR	NR	50	1000	50.0	7.00
% Recovery		NR	NR	106	96	101	100
Relative Percent Difference		NR	NR	7.5	4.0	0.2	0.4
METHODS:	EPA 600/4-79-02	-	-	130.2	325.3	375.4	150.1
	Standard Method	2320 B	2320 B	-	-	-	-

LAB NUMBER	SAMPLE ID	Hydroxides (mg/L)	Carbonates (mg/L)	Bicarbonates (mg/L)	Conductivity (u mhos/cm)	TDS (mg/L)
ANALYSIS DATE		03/13/00	03/13/00	03/13/00	03/13/00	03/13/00
H4702-1	7 RIVERS	0	0	177	14300	8200
H4702-2	QUEEN	0	0	1000	10300	5000
H4702-3	DEVONIAN	0	0	1830	48400	42800
H4702-4	LM	0	0	866	98000	75000
Quality Control		NR	NR	971	1392	NR
True Value QC		NR	NR	1000	1413	NR
% Recovery		NR	NR	97	99	NR
Relative Percent Difference		NR	NR	-	0.2	NR
METHODS:	EPA 600/4-79-02	-	-	-	120.1	160.1
	Standard Method	2320 B	2320 B	2320 B	-	-

Gayle Potter, Chemist

03/14/2000
Date

H4702.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
EDDIE SEAY CONSULTING
ATTN: EDDIE SEAY
601 W. ILLINOIS
HOBBS, NM 88242
FAX TO: (575) 392-6949

Receiving Date: 05/07/08
Reporting Date: 05/09/08
Project Owner: G. FULFER
Project Name: FULFER OIL - SWD
Project Location: JAL, NM

Sampling Date: 05/07/08
Sample Type: GROUNDWATER
Sample Condition: INTACT
Sample Received By: ML
Analyzed By: HM/KS

LAB NUMBER SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity ($mgCaCO_3/L$)
ANALYSIS DATE:	05/09/08	05/09/08	05/09/08	05/07/08	05/07/08	05/07/08
H14760-1 FOS - WW #1	150	42	35	8.78	988	296
Quality Control	NR	52.9	48.6	2.57	1,410	NR
True Value QC	NR	50.0	50.0	3.00	1,413	NR
% Recovery	NR	106	97.2	85.7	99.8	NR
Relative Percent Difference	NR	3.1	7.7	4.0	0.1	NR
METHODS:		SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:	05/07/08	05/08/08	05/07/08	05/07/08	05/07/08	05/06/08
H14760-1 FOS - WW #1	60	197	0	361	7.57	620
Quality Control	500	42.6	NR	988	7.05	NR
True Value QC	500	40.0	NR	1000	7.00	NR
% Recovery	100	106	NR	98.8	101	NR
Relative Percent Difference	4.1	5.2	NR	1.2	< 0.1	NR
METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Chemist

05-12-08
Date

H14760 EDDIE SEAY

CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(505) 393-2326 Fax (505) 393-2476

Page____ of____

Company Name:	Eddie Sean Consulting	**BILL TO**	
Project Manager:	Eddie Sean	P.O. #:	
Address:	601 W Illinois	Company:	SAME
City:	Hobbs	State: NM	Zip: 88240
Attn:	Sean		
Phone #:	2-2236	Fax #:	2-6949
Address:			
Project #:	Fulfer Oil	Project Owner:	G. Fulfer
City:			
Project Name:	Fulfer Oil - SWD	State:	Zip:
Project Location:	Jal NM	Phone #:	
Sampler Name:	Eddie Sean	Fax #:	

ANALYSIS REQUEST

Gen Chem

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	
H147601	FOS-WW #1	N	1	✓							✓		5/7	9:50	✓

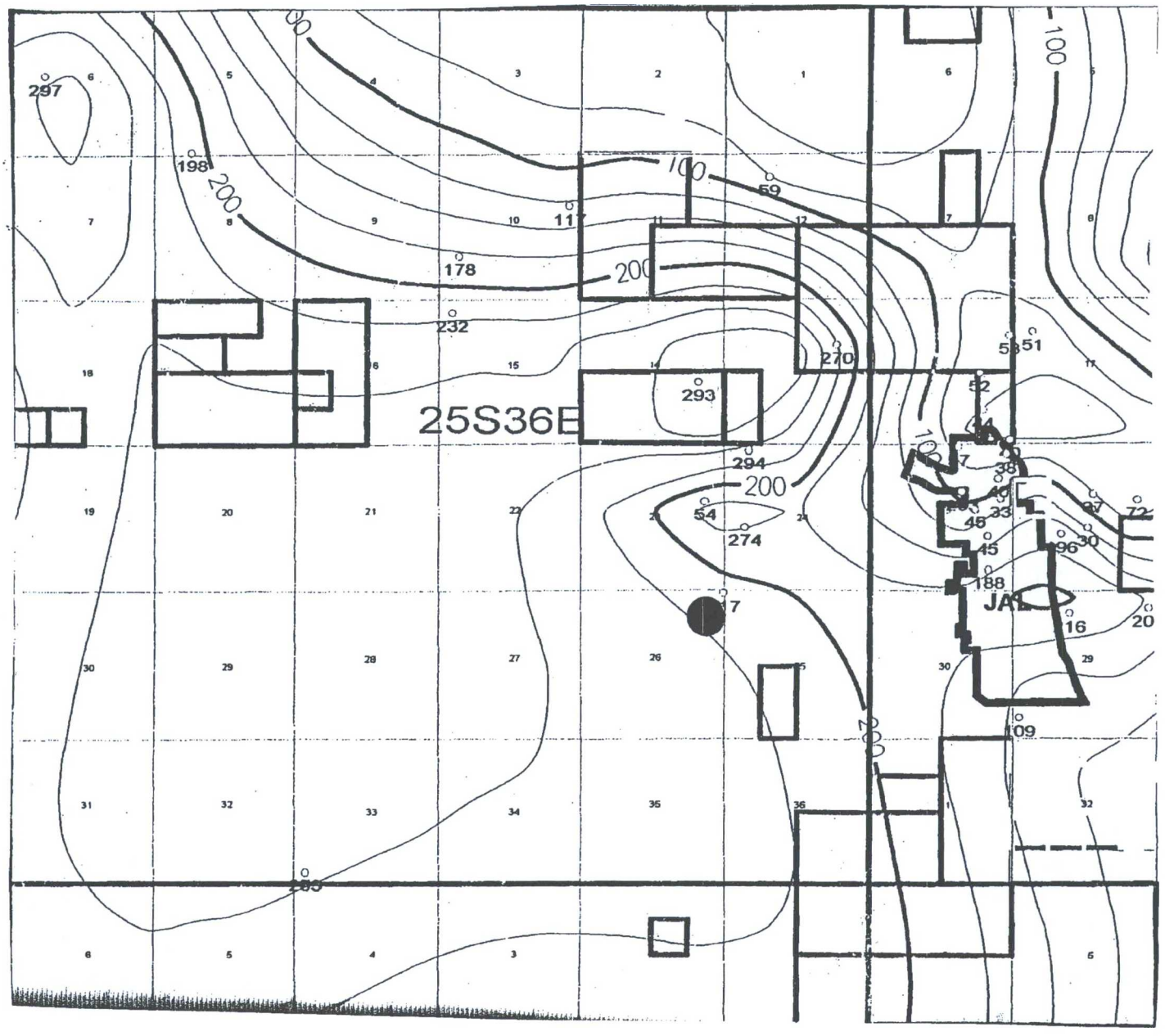
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice. and all costs of collections, including attorney's fees.

Sampler Relinquished: Eddie W Sean	Date: 5/7	Received By: Misty LeBert	
	Time: 11:30		
Relinquished By:	Date:	Received By:	
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Temp.	Sample Condition: Cool ☐ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials) MB

Phone Result:	☐	No	Add'l Phone #:
Fax Result:	☐	No	Add'l Fax #:
REMARKS:			

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



Groundwater

FULFER OIL & CATTLE LLC

RE: Maralo Sholes B #2
Unit P, Sect.25, T. 25 S., R. 36 E.
API #30-025-09806

Dear Sir:

In accordance with the Rules and Regulations of the Oil Conservation Division of the State of New Mexico, you are being provided a copy of the C-108, Application for Authorization to Inject in to the above captioned well.

Any questions about the permit can be directed to Eddie W. Seay, (575)392-2236. Any objections or request for hearing must be filed with the Oil Conservation Division within fifteen (15) days from the date received. The OCD address is 1220 S. Saint Francis Drive, Santa Fe, NM 87504, (505)476-3440.

Thank you,

Eddie W. Seay

Eddie W. Seay, Agent
601 W. Illinois
Hobbs, NM 88242
(575)392-2236
seay04@leaco.net

LEASE OWNERS AND OFFSETS

LAND OWNER:
Bureau of Land Management
620 E. Greene St.
Carlsbad, NM 88220

OFFSETS:
Southwest Royalties Inc.
6 Desta Drive, Suite 2100
Midland, TX 79705

7007 2560 0000 4575 3124

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Certified Fee	$2.70	
Return Receipt Fee (Endorsement Required)	$2.20	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	MAY 12 2008
Total Postage & Fees	$ $6.07	05/12/2008

HOBBS NM 88240 USPS

Sent To: Southwest Royalties Inc.
Street, Apt. No., or PO Box No.: 6 Desta Drive, Suite 2100
City, State, ZIP+4: Midland, TX 79705

PS Form 3800, August 2006 See Reverse for Instructions

7007 2560 0000 4575 3131

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CARLSBAD NM 88220 OFFICIAL USE

Postage	$ $1.34	0640
Certified Fee	$2.70	11
Return Receipt Fee (Endorsement Required)	$2.20	Postmark Here
Restricted Delivery Fee (Endorsement Required)	$0.00	MAY 12 2008
Total Postage & Fees	$ $6.24	05/12/2008

HOBBS NM 88240

Sent To: Bureau of Land Management
Street, Apt. No., or PO Box No.: 620 E. Greene St.
City, State, ZIP+4: Carlsbad, NM 88220

PS Form 3800, August 2006 See Reverse for Instructions

LEGAL NOTICE

Fulfer Oil & Cattle LLC, P.O. Box 578, Jal, New Mexico 88252, has filed a form C-108, Application for Authorization to Inject, with the Oil Conservation Division seeking administrative approval to convert the Maralo Sholes B Well No. 2, API No. 30-025-09806, located 660 feet from the South line and 660 feet from the East line, Unit P, of Section 25, Township 25 South, Range 36 East, NMPM, Lea County, New Mexico, to a commercial produced water disposal well. Injection of produced water originating from various formations and/or pools in Southeast New Mexico will be injected into the Lower Yates and Seven Rivers formations through the open hole interval from 2938′ to 3055′ through 3 1/2″ plastic lined injection tubing installed in a packer set at approximately 2850′. The maximum injection rate is anticipated to be 5000 barrels of produced water per day at an initial maximum surface injection pressure of 500 psi.

Interested parties must file objections with the New Mexico Oil Conservation Division, 1220 S. St. Francis Drive, Santa Fe, NM 87504, within fifteen (15) days of the date of this publication. Additional information can be obtained by contacting Eddie W. Seay, (575)390-2454.

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that she is Advertisting Director of **THE LOVINGTON LEADER**, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Legal Notice

was published in a regular and entire issue of **THE LOVINGTON LEADER** and not in any supplement thereof, for one (1) day, beginning with the issue of May 10, 2008 and ending with the issue of May 10, 2008.

And that the cost of publishing said notice is the sum of $32.24 which sum has been (Paid) as Court Costs.

Joyce Clemens

Subscribed and sworn to before me this 13th day of May 2008

Debbie Schilling

Debbie Schilling
Notary Public, Lea County, New Mexico
My Commission Expires June 22, 2010

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Published in the Lovington Leader May 10, 2008.

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Monday, May 05, 2008 2:41 PM (FIRST)
To: 'seay04@leaco.net'
Cc: Ezeanyim, Richard, EMNRD; Warnell, Terry G, EMNRD; Kautz, Paul, EMNRD; Sanchez, Daniel J., EMNRD
Subject: SWD Application on behalf of Fulfer Oil & Cattle LLC: Maralo Sholes B #2 API No. 30-025-09806 Unit P Sec 25 T25S R36E Lea County

575-395-9970
631-0522

Hello Eddie:
The OCD received your application and after reviewing have the following questions and comments:

1) Rule 40 looks OK for Fulfer.

2) AOR well 30-025-09812 reported transporting as late as 1996. The status of this well must be verified. Please ask SW Royalties whether this well is inactive with open perfs in the Yates/7Rivers or whether it has been TAed or P&Aed. If open in the injection interval and inactive, the well must be either TAed or P&Aed prior to injection. OK

3) Please attempt to find the nearest windmill or house water and get a recent analysis for our files.

4) Within this general area there have been at least three wells permitted for injection and all of these have been into the Lower Yates Seven Rivers.

5) Your application asks to inject into the Upper Yates abandoned Gas intervals, but is inconsistent with the geology write-up which mentions injection into the Lower Yates Seven Rivers.

6) There are two other operators in this general area with active Upper Yates gas wells: Cimarex Energy Co of Colorado and Inflow Petroleum Res. LP. These operators should also be noticed of your intention to inject into the Gas interval. OK, Changed

7) Please send more evidence of the boundary of the Capitan Reef in this area and more discussion from a geologist about this. The map I am using shows this area to be within the Reef boundaries. Does Paul Kautz agree this well is 1-1/2 mile east of the Reef? Can you tell me which well's elogs to look at to verify this? Is the reef present below the 7 rivers in this well but dipping upward to the West - so not a problem in the Upper Yates?

If you really intended to inject into the open hole in this well from 2938 to 3055 please send in revised paperwork showing this and revise the newspaper notice and notices to the BLM and to Southwest Royalties, Inc. Be sure and verify this interval was always oil bearing and not part of the Upper Yates Gas and not connected to the Reef.

The application as it is written to inject into the Upper Yates abandoned gas interval must be denied. You do have the option to present this at an examiner hearing.

Let me know what you and Gregg Fulfer decide on this. They ReFiled a new application into The Lower Yates / UPPER 7RVRS

Regards,

William V. Jones PE
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

Injection Permit Checklist 2/8/07

SWD Order Number 1127 Dates: Division Approved ______ District Approved ______

Well Name/Num: Marala SHOLES "B" #2 Date Spudded: OLD

API Num: (30-) 025-09806 County: Lea

UNIT P Footages 660 FSL/660 FEL Sec 25 Tsp 25 S Rge 36E

Operator Name: FULFER OIL & Cattle LLC Contact EDDIE W. Seay

Operator Address: PO Box 578, JAL, NM, 88252

Current Status of Well: TA'ED Planned Work: Commercial WDW Inj. Tubing Size: 3 1/2 @2850'

	Hole/Pipe Sizes		Depths	Cement	Top/Method
Surface	13"	10 3/4	410'	150	
Intermediate		8 5/8	1225', MUDED in.		
Production	8"	7"	2935'	150	
Last DV Tool					
Open Hole/Liner				Open Hole	
Plug Back Depth			2955' TD	3055' TD	

Diagrams Included (Y/N): Before Conversion ✓ After Conversion ✓

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

Intervals:	Depths	Formation	Producing (Yes/No)
RVS Top @ 1820'			1180'
Salt/Potash	1180 To 2562'		
Capitan Reef	Reef is 1.5 To 3 mile west		
Cliff House, Etc:			
Formation Above		Lower 7RVRS	
Top Inj Interval	~~2733~~ 2938	~~Upper~~ ~~Yates~~	
Bottom Inj Interval	~~2824~~ 3055	~~Upper~~ ~~Yates~~	
Formation Below	2975	7 RVRS	

OLD JALMAT Gas well

588 PSI Max. WHIP

~~NO~~ yes Open Hole (Y/N)

NO Deviated Hole (Y/N)

OFF RD 4/140 Rule 40 = OK @ 5/9/08

2/55 = OK

FA = OK

2938/5876

Fresh Water: Depths: ______ Wells(Y/N) None Analysis Included (Y/N): ______ Affirmative Statement ✓

Salt Water Analysis: Injection Zone (Y/N/NA) ______ DispWaters (Y/N/NA) ✓ Types: ______

Notice: Newspaper(Y/N) ✓ Surface Owner BLM ✓ Mineral Owner(s) ______

Other Affected Parties: Southwest Royalties

AOR/Repairs: NumActiveWells 2 Repairs? —— Producing in Injection Interval in AOR NO

AOR Num of P&A Wells 8 Repairs? —— Diagrams Included? Y ✓ RBDMS Updated (Y/N) ✓

Well Table Adequate (Y/N) ______ AOR STRs: Sec ______ Tsp ______ Rge ______ UIC Form Completed (Y/N) ✓

New AOR Table Filename ______ Sec ______ Tsp ______ Rge ______ This Form completed ✓

Conditions of Approval: Sec ______ Tsp ______ Rge ______ Data Request Sent Yes, new appli. Filed

Which Pools/analysis To be injected

Run CBL, Verify Bottom PLUG or Set

Run INJ Survey afterwards

AOR Required Work: ~~Send Struct w/ Map~~

why does Geology writeup Say "UPPER 80' of 7 RVRS"?

Required Work to this Well: Nearest Windmill or Ranch House water well

Find out from SW Royalties does 30-025-09812 ← SHOULD BE PLUGGED or TA'ED

NOTICE Cimarex Energy Co., Inflow Petr. Res. LP

CASE NO. 15753
Division Exhibit No. 11

PHILLIP R. GOETZE

Oil Conservation Division
Energy, Minerals and Natural Resources Department, State of New Mexico

Over 39 years of experience developing and implementing a variety of projects with environmental, hydrologic, or regulatory applications.

PROFESSIONAL EXPERIENCES:

February 2013 to Present: Senior Petroleum Geologist / Hearing Examiner
Engineering Bureau, Oil Conservation Division, Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive, Santa Fe, NM 87505

Administrative permitting for development and management of oil and gas resources under the state Oil and Gas Act. These projects include technical review of administrative applications and preparation of orders for non-standard locations, pool delineations, and non-standard proration units. Lead technical reviewer of applications for all Class II wells (including salt water disposal wells and enhanced oil recovery (EOR) projects) under the New Mexico primacy agreement with the United States Environmental Protection Agency (USEPA) for its Underground Injection Control (UIC) Program under the Safe Drinking Water Act. Hearing examiner for Division hearings for cases regarding both protested and unprotested applications for approval of non-standard oil and gas circumstances that cannot be administratively permitted. Additional assignments related to the position:

- Provide technical assistance to District personnel and General Counsel staff regarding compliance issues for disposal and EOR wells.
- Prepare quarterly reports for review by the UIC coordinator for submission to the USEPA.
- Recommend changes in policy reflecting application of new technology or processes (e.g. injection rules per 19.15.26 NMAC).
- Provided expert testimony before the Oil Conservation Commission for applications and in support of rulemaking (e.g. acid gas injection well applications).
- Provided expert testimony before the New Mexico Water Quality Control Commission (NMWQCC) in support of rulemaking (e.g. expanded authority for UIC Class I hazardous disposal wells).

Appointed as hearing examiner by the Division Director under 19.15.4.18 NMAC. Assist Santa Fe and District personnel with the Division's Loss Control Program.

March 2007 to February 2013: Hydrogeologist / Environmental Scientist / Project Manager
Gloreita Geoscience, Incorporated
1723 Second Street, Santa Fe, NM 87505

Multiple projects for environmental, hydrologic, and natural resource assessments including:

- Los Alamos National Laboratory (LANL): contract team leader for ground-water sampling (including springs, shallow wells, monitoring wells with Baski and Westbay systems) in support of the Ground Water Stewardship Program; four years of sediment mapping and soil sampling for contaminants as part of the LANL assessment of geomorphic influences following the Cerro Grande and Las Conchas fires; geodetic surveying (with Trimble RTK GPS and Geodimeter total station units) and waste characterization sampling following LANL and New Mexico Environment Department (NMED) protocols.
- Oversight of drilling, logging, and construction of deep exploration wells as part of Rio Rancho's City Water Program and the NM Office of the State Engineer (Ft. Sumner project).
- Hydrologic modeling and ground-water abatement plan development for multiple dairy facilities in southern and eastern New Mexico.
- Assistance in development of exploratory oil and gas projects for unconventional sources in the Galisteo Basin.

Numerous Phase I Environmental Site Assessments (ESAs) for commercial, industrial, and undeveloped properties in northern New Mexico, Nevada, and Texas.
Establish protocols, sampling requirements, and compile data for annual reporting for clients with Closure and Post Closure plans for landfills.
Oversight of petroleum storage tank removals, closures, and Minimum Site Investigations following closure.
Preparation and annual reporting of NPDES permits for commercial clients in New Mexico.
Preparation and implementation of Stage I Abatement Plans for dairies in violation of the NMWQCC ground-water standards.
Quality assurance for ground-water modeling and various sampling programs including mandatory monitoring and special client-specific events.

April 2006 to January 2007: Hydrogeologist / Project Manager
Tetra Tech EM Incorporated
6121 Indian School Road NE, Suite 205, Albuquerque, NM 87110

This position included responsibility for redevelopment of previous client relationships while maintaining obligations to state, Federal and private projects. Most significant projects include the following:

Supervising geologist for drilling, construction, and development of deep monitoring wells at Kirtland Air Force Base for Long-Term Monitoring Program.
Preparation of sampling and analysis plans for Texas Department of Criminal Justice landfills.

September 1999 to March 2006: Hydrogeologist / Project Manager
ASCG Incorporated *of New Mexico* (now the WH Pacific Corporation)
6501 Americas Parkway NE, Suite 400, Albuquerque, NM 87110

Responsible for a variety of environmental services for site assessment and remediation of contaminated sites associated with Federal, state, and private clients in New Mexico, Arizona, and the Navajo Nation. Significant projects entail the following:

Field Technical Leader (as subcontractor) for drilling, construction, and development of deep and shallow monitoring wells at LANL for 2005.
Developed and supervised assessment drilling programs for Risk-Based Corrective Action assessments of petroleum-contaminated NMED and Bureau of Indian Affairs (BIA) sites in New Mexico and Arizona.
Responsible for project development and management of soil and ground-water remediation of hydrocarbon and solvent-contaminated sites including quarterly water sampling events and air monitoring for compliance.
Supervised and participated in resolution of correction actions identified under USEPA CA/CO 1998-02 at approximately 35 Bureau of Indian Affairs federal facilities including review of asbestos programs, PCB investigations and remediations, Phase I ESAs for property transfer, AST/UST removals, hazardous waste disposal activities, environmental audits, and validation sampling of previous remedial activities.
Completed development and oversight of voluntary corrective actions of hazardous wastes cited in notice of violations at the Southwestern Polytechnic Indian Institute.
Provided sampling program for the AMAFCA Storm Water Study for assistance in compliance of the MS4 for the City of Albuquerque.
Completed assessment for hydrocarbon contamination and prepared plans for remedial actions for five locations at BIA facilities during the last quarter of 2004.

July 1996 to August 1999: Geologist / Environmental Scientist; General Contractor
Phillip R. Goetze, Consulting Geologist, Edgewood, New Mexico

Subcontractor for environmental firms providing on-site technical support and report preparation. Primary contractors included the following:

Billings and Associates, Inc., Albuquerque, New Mexico
Responsible for acquisition of both soil and water data for assessment and for installation of remediation systems for hydrocarbon-contaminated sites.

Roy F. Weston Inc., Albuquerque, New Mexico
Temporary position with responsibilities for on-site supervisor for data acquisition (three drilling rigs), for health and safety monitoring, and for quality assurance of installation of multiple ground-water wells at a Department of Energy tailings remediation (UMTRA) site near Tuba City, Arizona.

January 1993 to July 1996: Project Geologist / Project Manager
Billings and Associates, Inc.
6808 Academy Pkwy, E-NE, Suite A-4, Albuquerque, NM 87109

Responsible for acquisition of air, soil, and water data for site assessments related to leaking underground storage tanks throughout New Mexico. Participated and supervised installation, operation, and maintenance of biosparging/SVE remediation systems at five New Mexico locations. Site assessment activities included preparation of health and safety plans, drilling supervision, water and soil sampling preparation, chain-of–custody maintenance, analytical data review and compilation, and report preparation.

June 1985 to December 1992: Independent Geologist and Environmental Scientist
Phillip R. Goetze, Consulting Geologist, Albuquerque, New Mexico

Subcontracting services for data acquisition in geophysics and mineral exploration. Primary contractors included:

Charles B. Reynolds and Associates, Albuquerque, New Mexico
Performed functions of seismologist and crew chief for consulting group specializing in shallow seismic geophysics for environmental and engineering applications. Projects included USGS hydrologic assessment of Mesilla Bolson; plume and paleosurface mapping at Johnson Space Center facility north of Las Cruces; plume and paleosurface mapping in Mortandad Canyon and TA-22 site, LANL; plume and paleosurface mapping at Western Pipeline facility at Thoreau, NM; plume and paleosurface mapping at UNC Partners mill and tailings site north of Milan; engineering assessment of collapsible soils at Tanoan residential development and along the east edge of Albuquerque.

Glorieta Geoscience, Inc., Santa Fe, New Mexico
Initiated and conducted sampling program for assessing economic potential of low-grade gold occurrence in southwest New Mexico.

November 1983 to September 1984: Fluid Minerals Geologist
Bureau of Land Management, Department of Interior, Cheyenne, Wyoming

Temporary detail to Casper office to alleviate backlog of assessments of federal oil and gas leases in Wyoming and Nebraska. Assessments required geologic evaluation of oil and gas potential for lands in Powder River, Wind River, Big Horn and Denver-Julesburg Basins. Determination of "known geologic structures (KGSs)" per Secretarial Order for categorizing of federal oil and gas minerals into competitive and non-competitive status. Deposed as expert witness and provide expert summaries and affidavits for cases before the Interior Board of Land Appeals (example: Case No. IBLA 84-798 for protest of KGS delineation).

June 1982 to September 1983: Field Geologist
United States Bureau of Mines, Department of Interior, Lakewood, Colorado

Assisted primary authors with field inventory and evaluation of mineral occurrences in 15 wilderness areas in Colorado (Central Mineralized Region), southern Wyoming, and eastern Utah. Field work included field mapping and sampling of abandoned mines and mineral occurrences within these areas and adjacent areas with potential impacts on wilderness designation. This assignment involved strenuous work in hazardous conditions such as underground investigations, high altitudes, and severe weather.

July 1979 to January 1982: Geologist
United States Geological Survey, Department of Interior, Casper, Wyoming and Lakewood, Colorado

First two years exclusively mapping, drilling, and classifying coal resources in south central Wyoming. Detailed for two years to special team for preparation of impact statement: one of four principle authors for the Cache Creek-Bear Thrust Environmental Impact Statement which documented effects of two proposed oil and gas wells in designated wilderness area near Jackson, Wyoming. Deposed as expert witness in federal court. Final year primarily responsible for assessments of federal oil and gas leases for lands in Wyoming and Nebraska.

July 1977 to July 1979: District Geologist
Bureau of Land Management, Department of Interior, Socorro District Office, Socorro, New Mexico

Responsible for District minerals program for federal lands in west central portion of state. Assisted in environmental reports for land exchanges, classification of saleable mineral sites, mining claim validity determinations, inspection of surface reclamation for mineral extractions, inspection of oil exploration and geothermal gradient wells, and assessments for location of water wells in support of grazing projects. Also detailed as initial suppression wildfire fighter (including tractor boss and crew chief).

EDUCATION:
New Mexico Institute of Mining and Technology, Socorro, New Mexico
Bachelor of Science in Geology, 1977

Additional Courses: EPA course requirements for Asbestos Inspector (10 years as active inspector); completion of state program for Licensed Contractor (NM; GS-29); EPA course requirements for Lead-Based Paint Risk Assessor (EPA Regions VI and IX; two years as active inspector); GSI Course *Application of Ground Penetrating Radar*; NGWA Course *Monitoring Natural Attenuation of Contaminants*.

PROFESSIONAL MEMBERSHIPS, LICENSES, OR CERTIFICATIONS:
American Association of Petroleum Geologists, Member No. 51,310
American Institute of Professional Geologist, Certified Professional Geologist No. 6,657
Alliance of Hazardous Materials Professionals, CHMM No. 11,401
ASTM International, Member No. 1,314,118 (Voting Member); Committees D18 (Soil and Rock) and E50 (Environmental Assessment, Risk Management and Corrective Action)
OSHA 40HR and 8HR Refresher Hazardous Waste Operations and Emergency Response (Current)
OSHA Hazardous Waste Operations and Emergency Response Manager/Supervisor (Current)
State of Alaska, Licensed Professional Geologist No. 514
State of Arizona, Registered Professional Geologist No. 40,812
State of Nevada, Certified Environmental Manager No. 2,218
State of Texas, Licensed Professional Geologist No. 2,278

Case No. 15783 Division Exhibit No. 12

RULES

19.15.16.9 SEALING OFF STRATA:

A. During the drilling of an oil well, injection well or other service well, the operator shall seal and separate the oil, gas and water strata above the producing or injection horizon to prevent their contents from passing into other strata.

B. The operator shall ensure that fresh waters and waters of present or probable value for domestic, commercial or stock purposes are confined to their respective strata and are adequately protected by division-approved methods. The operator shall take special precautions by methods satisfactory to the division in drilling and abandoning wells to guard against loss of artesian water from the strata in which it occurs, and the contamination of artesian water by objectionable water, oil or gas.

C. The operator shall ensure that water is shut off and excluded from the various oil- and gas-bearing strata that are penetrated. The operator shall ordinarily make water shut-offs by cementing casing.

[19.15.16.9 NMAC - Rp, 19.15.3.106 NMAC, 12/1/08]

19.15.26.9 CASING AND CEMENTING OF INJECTION WELLS:

The operator of a well used for injection of gas, air, water or other medium into a formation shall case the well with safe and adequate casing or tubing so as to prevent leakage, and set and cement the casing or tubing to prevent the movement of formation or injected fluid from the injection zone into another zone or to the surface around the outside of a casing string.

[19.15.26.9 NMAC - Rp, 19.15.9.702 NMAC, 12/1/08]


EXHIBIT
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OCD Exhibit #
13