8/29/2014 DATE IN	SUSPENSE	PRG ENGINEER	9/02/2014 LOGGED IN	SWD TYPE	PMAM1424531609 APP NO.

+ Letter of Request

1512

ABOVE THIS LINE FOR DIVISION USE ONLY

RECEIVED OCD
2014 AUG 29 A 9:00

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]

-SWD
-Sahara Operating

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

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

Well 1
- Management State #26
30-025-34477
Pool
- SWD, Bone Spring
96095

Check One Only for [B] or [C]

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

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

[D] Other: Specify _____

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

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

[B] ■ Offset Operators, Leaseholders or Surface Owner

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

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

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

[F] ☐ Waivers are Attached

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

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

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

Robert McAlpine		President
Print or Type Name	Signature	Title
	8-28-2014	rob@saharaoper.com
	Date	E-Mail Address

SAHARA OPERATING COMPANY

August 28, 2014

Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Attention: Ms. Jami Bailey
Division Director

Re: Form C-108
Sahara Operating Company
Monument 1 State No. 26
API No. (30-025-34477)
2279' FSL & 2276' FEL, Unit J
Section 1, T-19S, R-36E, NMPM,
Lea County, New Mexico

Dear Ms. Bailey,

Enclosed please find a Division Form C-108 (Application for Authorization to Inject) for the Sahara Operating Company Monument 1 State No. 26. Sahara Operating Company proposes to convert this well from a producing well to a produced water disposal well, injection to occur into the Bone Spring formation through the perforated interval from approximately 5,400 feet to 6,050 feet. Produced water from the Abo formation originating from Sahara Operating Company operated wells in this area will be injected into the well.

I believe that all the information necessary to approve the application is enclosed. If additional information is needed, please contact me at (432) 697-0967, or David Catanach at (505) 690-9453.

Sincerely,

Robert McAlpine
President

P.O. Box 4130 • Midland, Tx • 79704
Phone: 432-697-0967 • Fax: 432-697-0969

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: Sahara Operating Company (OGRID-20077)

ADDRESS: P.O. Box 4130, Midland, Texas 79704

CONTACT PARTY: Robert McAlpine or David Catanach PHONE: (432) 697-0967 or (505) 690-9453

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: Robert McAlpine TITLE: President

SIGNATURE: _____ DATE: 8-28-2014

E-MAIL ADDRESS: rob@saharaoper.com

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

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

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

C-108 Application
Sahara Operating Company
Monument 1 State No. 26
2279' FSL & 2276' FEL (Unit J)
Section 1, T-19S, R-36E, NMPM
Lea County, New Mexico

I. The purpose of the application is to request approval to utilize the Monument 1 State No. 26 as a produced water disposal well. This is a producing well that has depleted the Abo formation and will be converted to injection in the Bone Spring interval.

II. Sahara Operating Company
P.O. Box 4130
Midland, Texas 79704
Contact Parties: Robert McAlpine-President (432) 697-0967 or
David Catanach (505) 690-9453

III. Injection well data sheet and wellbore schematic diagram showing the proposed wellbore configuration are attached.

IV. This is not an expansion of an existing project.

V. Attached is a map that identifies all wells/leases within a 2-mile radius of the proposed water disposal well and a map that identifies the ½ mile "Area of Review" ("AOR").

VI. A listing of all wells within the AOR, including API No., operator, well name & number, well type and status, well location, total depth and well construction details for those wells that penetrate the injection interval is attached. An examination of the AOR well data indicates that all wells that penetrate the injection interval are constructed and/or plugged and abandoned in a manner that will confine the injected fluid to the proposed injection interval.

VII. 1. The average injection rate is anticipated to be approximately 200 BWPD. The maximum rate will be approximately 1,000 BWPD. If the average or maximum rates increase in the future, the Division will be notified.

2. This will be a closed system.

3. Sahara Operating Company will initially inject water into the subject well at or below a surface injection pressure that is in compliance with the Division's limit of 0.2 psi/ft., or approximately 1,080 psi. If a surface injection pressure above 1,080 psi is necessary, the operator will conduct a

step rate injection test to determine the fracture pressure of the Bone Spring formation in this area.

4. Produced water from the Abo formation originating from Sahara Operating Company operated wells in this area will be injected into the subject well. Attached is a water analysis from the Sahara Operating Company Indiana 1 Well No. 1, which is located in Section 1-19S-36E, and which produces from the Goodwin-Abo Pool.

5. The Bone Spring formation is productive approximately 1.25 miles northwest of Section 1 (Arkansas Junction-Bone Spring Pool).

VIII.

Geologic Formation:	Bone Spring
Estimated Top:	5,403'
Thickness:	923'
Lithology:	Limestone/Sandstone
USDW's:	According to data obtained from the New Mexico State Engineer, there are numerous Ogallala fresh water wells within one mile of the proposed injection well. Average depth to water in this area is approximately 45-55 feet.

IX. If necessary, the well will be stimulated with a mild acid job.

X. Logs were filed at the time the well was drilled.

XI. Attached are water analysis from two fresh water wells located in Section 1-19S-36E and Section 7-19S-27E.

XII. Affirmative statement is enclosed.

XIII. Proof of Notice is enclosed.

INJECTION WELL DATA SHEET

OPERATOR: Sahara Operating Company

WELL NAME & NUMBER: Monument 1 State No. 26

WELL LOCATION:	2279' FSL & 2276' FEL	J	1	19 South	36 East
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

See Attached Wellbore Schematic

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 11" Casing Size: 8 5/8" @ 1,483'

Cemented with: 450 Sx. or _____ ft^3

Top of Cement: Surface Method Determined: Circulated

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ or _____ ft^3

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 7 7/8" Casing Size: 5 ½" @ 7,313'

Cement with: 1000 sx. or _____ ft^3

Top of Cement: 1,120' Method Determined: CBL

Total Depth: 7,510'

Injection Interval

Perforated Interval –5,400' -6,050 (Perforated)

INJECTION WELL DATA SHEET

Tubing Size: 2 3/8" Lining Material: Duo Line (fiberglass liner cemented inside tubing)

Type of Packer: Baker AD-1

Packer Setting Depth: 5,350' or within 100' of the uppermost injection perforations

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 drilled in 1998 as an Abo producing well. Abo is depleted and the well is currently TA'd.

2. Name of the Injection Formation: Bone Spring

3. Name of Field or Pool (if applicable): N/A

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.

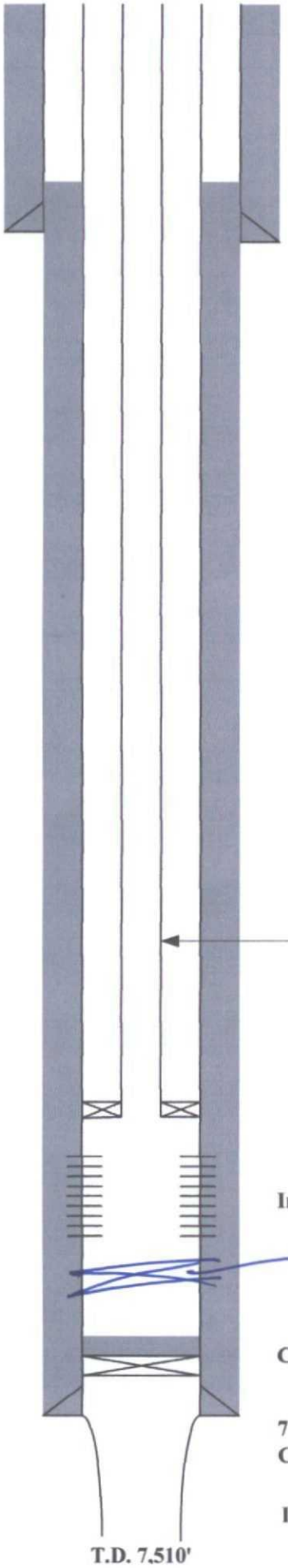
   None

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

   Eumont Yates-Seven Rivers-Queen Pool (22800) (2,810'-4,176'); Goodwin-Abo Pool (28370) (7,295'-7,500'); North Monument-Abo (46980) (7,200'-7,550')

Proposed Wellbore Configuration

Sahara Operating Company
Monument 1 State No. 26
API No. 30-025-34477
2279' FSL & 2276' FEL (Unit J)
Section 1, T-19 South, R-36 East, NMPM



TOC @ 1120' (CBL)

11" Hole; Set 8 5/8" 24# WC-50 Csg @ 1,483'
Cemented w/450 Sx. Cement circulated to surface.

2 3/8" Duo Line Injection Tubing set in a
Baker AD-1 Packer @ 5,350'

Injection Interval: 5,400'-6,050' Perforated

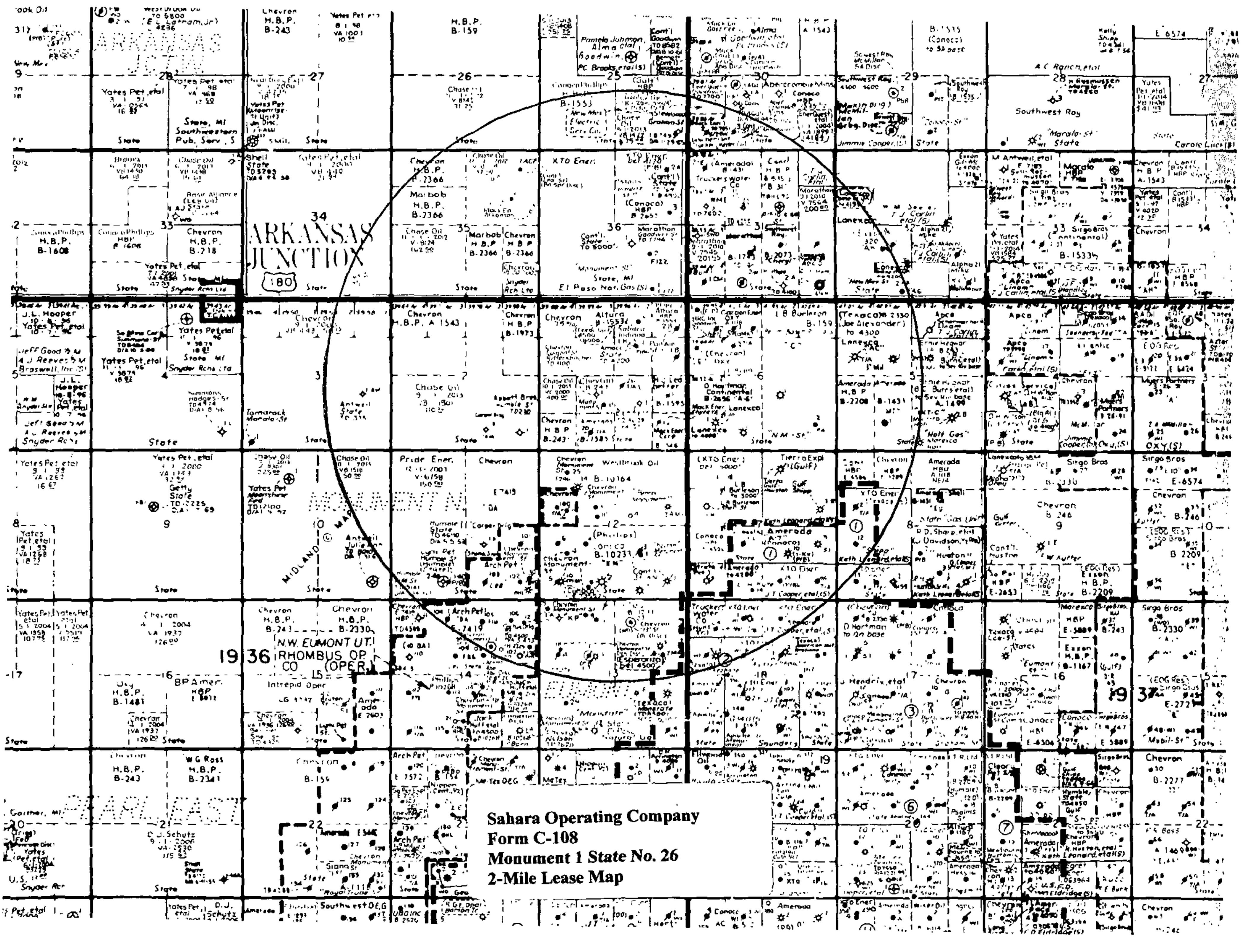
Set CIBP @ 5250'

CIBP @ 7,253' (Will set 35' of cement on top of CIBP)

7 7/8" Hole; Set 5 ½" 15.5# K-55 Csg. @ 7,313'
Cemented w/1000 sx. TOC @ 1,120' (CBL)

Initial Abo Completion: Open Hole 7,313'-7,510'

T.D. 7,510'


Sahara Operating Company
Form C-108
Monument 1 State No. 26
2-Mile Lease Map
ARKANSAS JUNCTION
180
N.W. EUMONT UT.
RHOMBUS OP.
CO (OPER.)
MIDLAND
19 36
19 37
Southwest Roy
A C Ranch, etal
El Paso Nat. Gas (S)
Chevron
H.B.P.
State

Sahara Operating application for SWD into the Upper Bone Spring

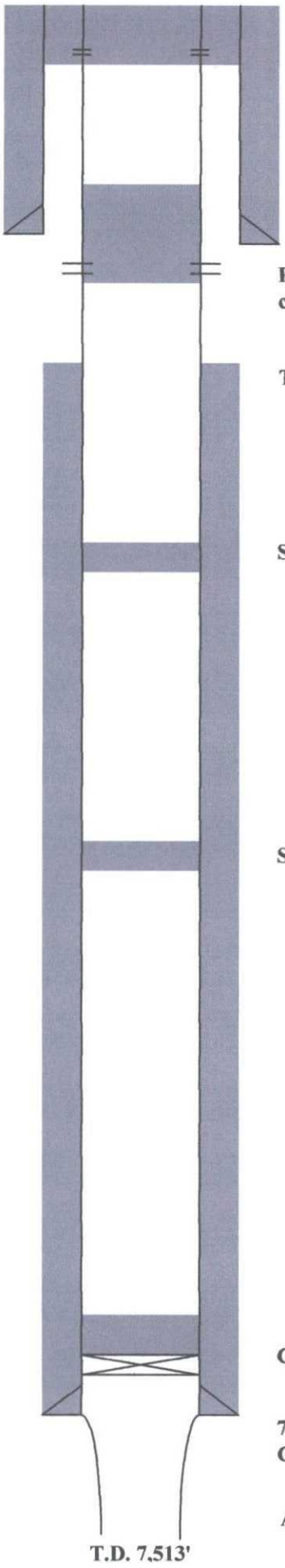
All currently active wells were drilled in 1998.

3002534477	MONUMENT 1 STATE 026	SAHARA OPERATING CO	2279	S	2276	E	J	1	19.0S	36E	30-025-34477	7510	312469	S	O	E		1	40	03-Sep-98	TA
API	WELL_NAME	OPERATOR	FTG_NS	NS_C	FTG_E	EW_CD	OCD_	SE	TOWNSHIP	RANGE	Dist	TVD_DEP	PROPERTY	LAND	WELL	WI_SE	PLUG_DATE	NBR_CO	ACRES	SPUD_DATE	COMPL_STA
3002503981	LEA STATE 001	BYARD BENNETT	1650	S	1650	E	J	1	19.0S	36E	887	4014	30041	S	O	P	02-Jan-00			02-Jan-00	Plugged
3002534167	MONUMENT 1 STATE 015	CHEVRON U S A INC	1650	S	2310	W	K	1	19.0S	36E	937	7490	21716	S	O	A		1	40	05-Jan-98	Active
3002534482	EUMONT STATE 1 RITTERSBAC	CHEVRON U S A INC	1980	S	1980	W	K	1	19.0S	36E	1,067	3100	23552	S	O	P	15-Oct-98	1	40	18-Aug-98	Plugged
3002534364	INDIANA 1 001	SAHARA OPERATING CO	1682	N	1975	E	G	1	19.0S	36E	1,348	7480	23179	S	O	A		1	40	02-Jun-98	Active
3002526064	STATE B 003	BP AMERICA PRODUCTI	1650	N	1980	E	G	1	19.0S	36E	1,378	4200	30041	S	O	P	02-Jan-00			02-Jan-00	Plugged
3002503982	STATE Y 001	MACK ENERGY CORP	1980	S	660	E	I	1	19.0S	36E	1,643	4040	6219	S	O	P	17-Aug-94	1	40		Plugged
3002503983	STATE YA 001	MACK ENERGY CORP	990	S	990	E	P	1	19.0S	36E	1,821	4057	6220	S	O	P	19-Aug-94	1	40		Plugged
3002534310	MONUMENT 1 STATE 020	CHEVRON U S A INC	651	S	1815	W	N	1	19.0S	36E	2,016	7513	21716	S	O	H		1	40	08-May-98	TA
3002503984	STATE B 001	PAN AMERICAN PETROLEUI	1980	N	330	E	H	1	19.0S	36E	2,195	4054	30041	S	O	P	02-Jan-00	1	40	02-Jan-00	Plugged
3002534476	INDIANA 1 002	SAHARA OPERATING CO	744	N	1653	E	B	1	19.0S	36E	2,337	7480	23179	S	O	A		1	39.96	21-Aug-98	Active

(DIVISION Generated AOR) 10/29/14

Chevron U.S.A., Inc.
Monument 1 State No. 20
API No. 30-025-34310
651' FSL & 1815' FWL (Unit N)
Section 1, T-19 South, R-36 East, NMPM

Drilled: 5/98
PA'd: 2/14



Perforated 5 ½" csg. @ 300'. Circulated 80 sx. cmt. 300'-Surface

11" Hole; Set 8 5/8" Csg. @ 1,519'
Cemented w/550 Sx. Cement circulated to surface.

Perforated 5 ½" csg. @ 1,570'. Could not establish circulation. Set 25 sx. cmt. plug 1,430'-1,633'. Tagged @ 1,430'

TOC @ 1,800' by Calculation

Set 25 sx. cmt. plug 2,535'-2,795'. Tagged @ 2,535'

Set 25 sx. cmt. plug 4,395'-4,650'. Tagged @ 4,395'

CIBP @ 7,203' w/25 sx. cmt. on top.

7 7/8" Hole; Set 5 ½" Csg. @ 7,232'
Cemented w/1075 sx. TOC @ 1,800' by Calculation

Abo Completion: Open Hole 7,232'-7,513'

T.D. 7,513'

Sahara Operating Company
Form C-108
Monument 1 State No. 26
PA Schematic-Monument 1 St. 20

Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

HOBBS OCD
FEB 28 2014
RECEIVED

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised August 1, 2011

WELL API NO. 30-025-34310	
5. Indicate Type of Lease STATE ☒ FEE ☐	
6. State Oil & Gas Lease No.	
SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	7. Lease Name or Unit Agreement Name: Monument "1" State
1. Type of Well: Oil Well ☒ Gas Well ☐ Other Water Injection	8. Well Number: 20
2. Name of Operator: Chevron U.S.A. INC..	9. OGRID Number: 4323
3. Address of Operator: 15 Smith Road Midland, TX 79705	10. Pool name or Wildcat: Monument ABO, N
4. Well Location: Unit Letter N : 651' feet from the South line and 1815' feet from the West line; Section 1 Township 19-S Range 36-E NMPM County Lea	
	11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 3744'' GL

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

NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
REMEDIAL WORK ☐	ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐	P AND A ☒
CASING/CEMENT JOB ☐	
OTHER: ☐	OTHER: ☐

Approved for Plugging of well bore only.
Liability under bond is retained pending receipt of C-103 (Specifically for Subsequent Report of Well Plugging) which may be found at OCD web page under forms
www.emnrd.state.nm.us/ocd

...proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

02/17/2014 – Tag CIBP @ 7198'
Spot 25 sks @ 7198' – 6951', 25 sks @ 4650' – 4403', WOC
02/18/2014 – Tag TOC, @ 4395', Spot 25 sks @ 2795' – 2548', WOC
Tag @ 2535', Perf @ 1570', couldn't establish injection rate @ 1500 psi, Spot 25 sks @ 1633' – 1386' WOC, & TAG
Tag @ 1430', Perf @ 300' establish injection rate of 1.5 @ 400', circulate 80 sks @ 300' – Surface

Spud Date: Rig Release Date:

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

SIGNATURE [signature] TITLE Representative DATE 02/26/2014

Type or print name Robert Holden E-mail address: rholden@keyenergy.com PHONE: 432-523-5155

For State Use Only

APPROVED BY: [signature] TITLE Compliance Officer DATE 02/28/2014

Conditions of Approval (if any):

MAR 03 2014

DownHole SAT™ Water Analysis Report

OMEGA TREATING CHEMICALS INC

SYSTEM IDENTIFICATION

SAHARA

INDIANA #1

CC: JOHN NOGELMEIER

Sample ID#: 0
ID:

Sample Date: 05-12-2014 at 0841
Report Date: 05-23-2014

WATER CHEMISTRY

CATIONS		ANIONS	
Calcium(as Ca)	2240	Chloride(as Cl)	31879
Magnesium(as Mg)	2624	Sulfate(as SO_4)	193.00
Barium(as Ba)	0.00	Dissolved CO_2(as CO_2)	3.49
Sodium(as Na)	13370	Bicarbonate(as HCO_3)	390.40
Iron(as Fe)	21.70	Carbonate(as CO_3)	0.00
Aluminum(as Al)	0.00	H_2S (as H_2S)	0.00
Manganese(as Mn)	0.00		

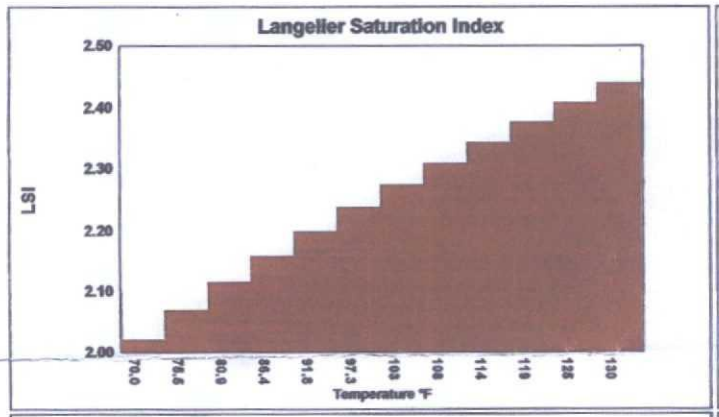
PARAMETERS

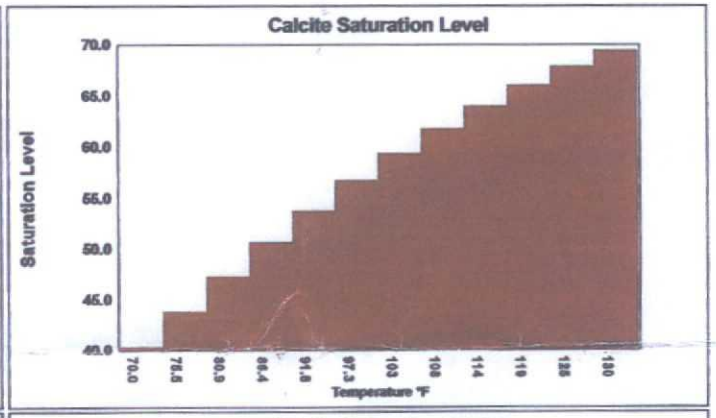
Temperature(°F)	77.00	Sample pH	8.23

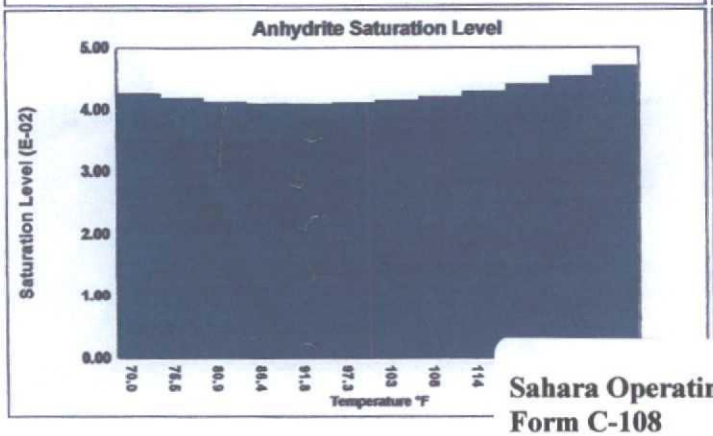
SCALE AND CORROSION POTENTIAL

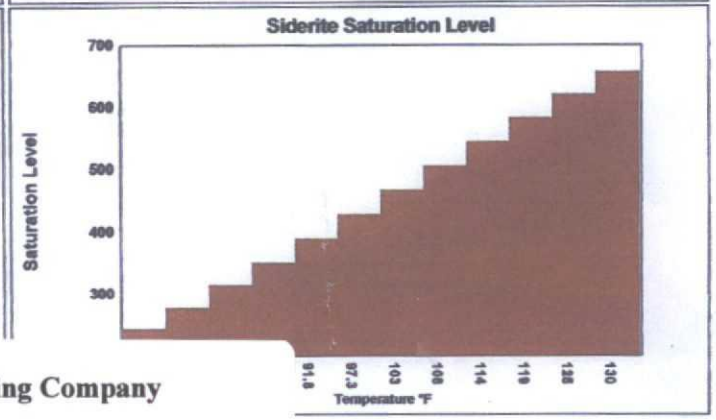
Temp. (°F)	Press. (atm)	Calcite $CaCO_3$		Anhydrite $CaSO_4$		Gypsum $CaSO_4*2H_2O$		Barite $BaSO_4$		Celestite $SrSO_4$		Siderite $FeCO_3$		Mackawenite FeS		CO_2 (mpy)	pCO_2 (atm)
		xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels		
70.00	0.00	40.41	2.30	0.0426	-703.34	0.0688	-518.02	0.00	-0.328	0.00	-160.66	244.36	2.72	0.00	-0.00465	0.0101	0.00223
75.45	0.00	43.91	2.41	0.0418	-698.88	0.0658	-526.57	0.00	-0.383	0.00	-161.39	278.06	2.84	0.00	-0.00469	0.0115	0.00223
80.91	0.00	47.35	2.50	0.0412	-690.65	0.0632	-534.09	0.00	-0.445	0.00	-161.67	314.14	2.94	0.00	-0.00472	0.0129	0.00223
86.36	0.00	50.67	2.58	0.0409	-678.96	0.0607	-540.60	0.00	-0.514	0.00	-161.58	350.64	3.03	0.00	-0.00477	0.0143	0.00223
91.82	0.00	53.83	2.65	0.0409	-664.11	0.0585	-546.13	0.00	-0.589	0.00	-161.22	389.09	3.11	0.00	-0.00482	0.0157	0.00223
97.27	0.00	56.76	2.70	0.0410	-646.42	0.0564	-550.71	0.00	-0.670	0.00	-160.64	428.12	3.17	0.00	-0.00487	0.0171	0.00223
102.73	0.00	59.42	2.73	0.0414	-626.25	0.0546	-554.37	0.00	-0.759	0.00	-159.90	467.11	3.21	0.00	-0.00492	0.0185	0.00223
108.18	0.00	61.81	2.76	0.0420	-603.94	0.0551	-536.17	0.00	-0.855	0.00	-159.12	505.75	3.23	0.00	-0.00498	0.0183	0.00223
113.64	0.00	64.05	2.77	0.0429	-579.83	0.0560	-516.34	0.00	-0.962	0.00	-158.41	544.71	3.25	0.00	-0.00505	0.0174	0.00223
119.09	0.00	66.09	2.78	0.0440	-554.27	0.0568	-497.86	0.00	-1.08	0.00	-157.79	583.25	3.25	0.00	-0.00513	0.0165	0.00223
124.55	0.00	67.90	2.77	0.0453	-527.58	0.0575	-480.65	0.00	-1.21	0.00	-157.23	620.80	3.25	0.00	-0.00521	0.0154	0.00223
130.00	0.00	69.48	2.76	0.0469	-500.09	0.0582	-464.59	0.00	-1.36	0.00	-156.76	656.75	3.24	0.00	-0.00531	0.0143	0.00223

Saturation Levels (xSAT) are the ratio of ion activity to solubility, e.g. $\{Ca\}\{CO_3\}/K_{sp}$. pCO_2 (atm) is the partial pressure of CO_2 in the gas phase.
Lbs/1000 Barrels scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.









Sahara Operating Company
Form C-108
Monument 1 State No. 26
Produced Water Analysis

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Twws	Rng	X	Y		Depth Well	Depth Water	Water Column
L 00564		L	LE	1	3	3	07	19S	37E	659583	3616034*		142		
L 01257		L	LE	3	1	4	07	19S	37E	660368	3616237*		120	80	40
L 01753		L	LE		1	2	07	19S	37E	660455	3617144*		142	43	99
L 02601		L	LE		3	3	06	19S	37E	659655	3617548*		115	60	55
L 02695		L	LE	3	4	3	06	19S	37E	659946	3617446*		100	50	50
L 03074		L	LE		4	2	07	19S	37E	660864	3616740*		90	65	25
L 03369		L	LE		4	3	07	19S	37E	660074	3615935*		95	45	50
L 03557		L	LE	3	3	1	07	19S	37E	659568	3616641*		143	52	91
L 03744		L	LE				07	19S	37E	660287	3616538*		100	50	50

Average Depth to Water: **55 feet**

Minimum Depth: **43 feet**

Maximum Depth: **80 feet**

Record Count: 9

PLSS Search:

Section(s): 6, 7 **Township:** 19S **Range:** 37E

Sahara Operating Company
Form C-108
Monument 1 State No. 26
State Engineer Fresh Water Data

*UTM location was derived from PLSS - see Help

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 02096		L	LE	4	4	12	19S	36E		659282	3615928*	110	40	70
L 02158		L	LE	1	4	11	19S	36E		657262	3616301*	105	55	50
L 03792		L	LE	4	2	01	19S	36E		659238	3618348*	106	47	59
L 04324		L	LE	1	4	01	19S	36E		658843	3617938*	110	40	70

Average Depth to Water: **45 feet**

Minimum Depth: **40 feet**

Maximum Depth: **55 feet**

Record Count: 4

PLSS Search:

Section(s): 1, 2, 11, 12 **Township: 19S** **Range: 36E**

Sahara Operating Company
Form C-108
Monument 1 State No. 26
State Engineer Fresh Water Data

*UTM location was derived from PLSS - see Help

Martin Water Laboratories, Inc.

Analysts & Consultants since 1953
Bacterial & Chemical Analysis

TO:	Robert McAlpine	LABORATORY NO.	0714-26
ADDRESS:	PO Box 4130, Midland, TX 79704	SAMPLE RECEIVED:	6/25/14
COMPANY:	Sahara Operating	RESULTS REPORTED:	6/26/14
SAMPLED:	June 24, 2014	COUNTY, STATE:	Lea, NM

DESCRIPTION OF SAMPLES

No. 1 Submitted water sample - taken from Gackle Drilling Co (Permit #WD-111) Lea County, NM (Sec 1-T-19S&R-36E)
No. 2 Submitted water sample - taken from Versado Gas Producers (Permit #L-3557) Lea County, NM (Sec 7-T-19S&R-37E)
No. 3
No. 4

Chemical and Physical Properties (milligrams per liter)	No. 1	No. 2	No. 3	No. 4
Specific Gravity @ 60°F.	1.0028	1.0028		
pH When Received	7.30	7.20		
Bicarbonate as HCO_3	137	229		
Total Hardness, as CaC03	212	204		
Calcium, as Ca	70	66		
Magnesium, as Mg	9	10		
Sodium and/or Potassium	39	40		
Sulfate, as SO4	112	60		
Chloride, as Cl	48	28		
Iron, as Fe	0.15	0.15		
Barium, as Ba	0	0		
Total Dissolved Solids, Calculated	415	432		
Hydrogen Sulfide	0.00	0.00		
Resistivity, ohms/m @ 77°F.	18.750	20.800		

REMARKS: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Sahara Operating Company
Form C-108
Monument 1 State No. 26
Fresh Water Well Analysis

By: Greg Ogden, B.S.

(432) 683-4521 * 709 W. Indiana, Midland, Texas 79701 * (fax) 682-8819
Remit to Address: P.O. Box 98, Midland, Texas 79702
Email: martinwaterlabs@nts-online.net

Form C-108
Affirmative Statement
Sahara Operating Company
Monument 1 State No. 26
Section 1, T-19 South, R-36 East, NMPM,
Lea County, New Mexico

Available geologic and engineering data has been examined and no evidence of open faults or hydrological connection between the injection zone and any underground sources of drinking water has been found.

Robert McAlpine
President-Sahara Operating Company

8-28-2014
Date

SAHARA OPERATING COMPANY

August 28, 2014

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

TO: OFFSET OPERATORS/LEASEHOLD OWNERS & SURFACE OWNER

Re: Sahara Operating Company
Form C-108 (Application for Authorization to Inject)
Monument 1 State No. 26 (API No. 30-025-34477)
2279' FSL & 2276' FEL, Unit J, Section 1, T-19S, R-36E, NMPM,
Lea County, New Mexico

Ladies & Gentlemen:

Enclosed please find a copy of Oil Conservation Division Form C-108 (Application for Authorization to Inject) for the Sahara Operating Company Monument 1 State No. 26. You are being provided a copy of the application as an offset operator/leaseholder or as the owner of the surface where the subject well is located. Sahara Operating Company proposes to convert this well from a producing well to a produced water disposal well, injection to occur into the Bone Spring formation through the perforated interval from approximately 5,400 feet to 6,050 feet.

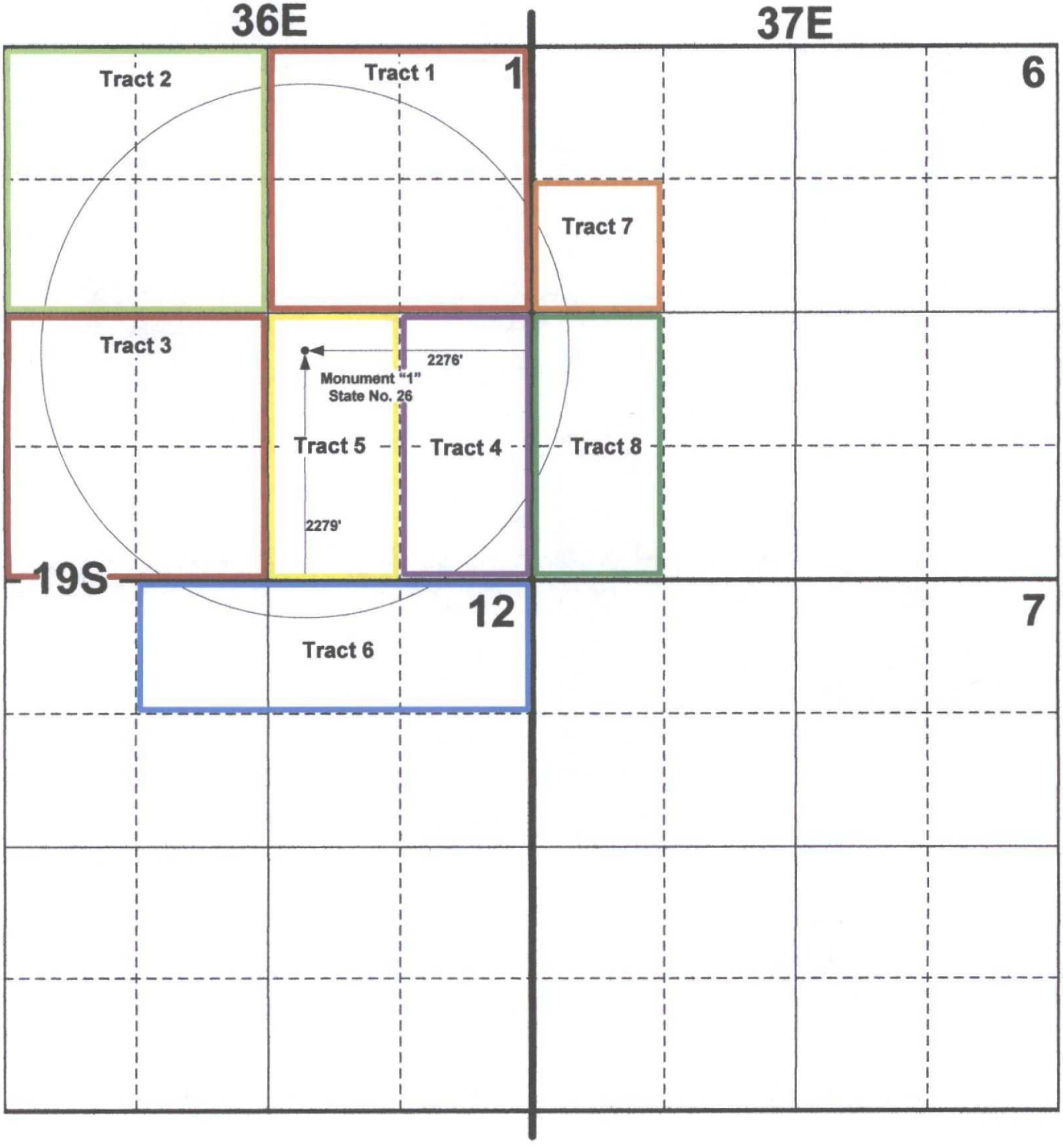
Objections must be filed with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, within 15 days.

If you should have any questions, please contact me at (432) 697-0967 or David Catanach at (505) 690-9453.

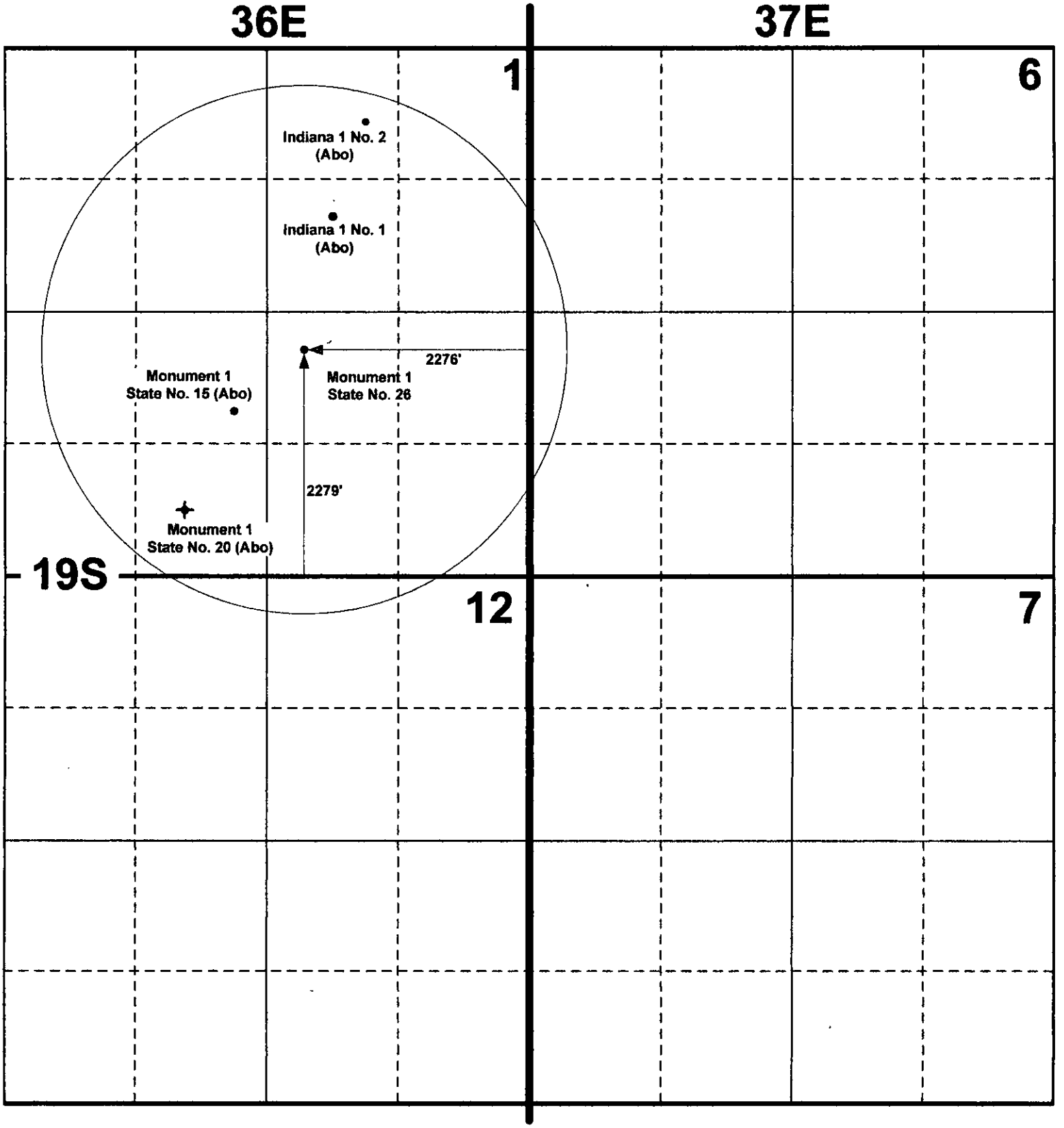
Sincerely,

Robert McAlpine
President

P.O. Box 4130 • Midland, Tx • 79704
Phone: 432-697-0967 • Fax: 432-697-0969



Sahara Operating Company
Form C-108: Monument 1 State No. 26
½ Mile Notice Area Map
Tract Identification



Sahara Operating Company
Form C-108: Monument 1 State No. 26
½ Mile Area of Review Map

(Note: Only wells that pentrate the injection interval are shown)

SAHARA OPERATING COMPANY
FORM C-108: AREA OF REVIEW WELL LIST
MONUMENT 1 STATE NO. 26

API NUMBER	OPERATOR	LEASE NAME	WELL NO.	WELL TYPE	STATUS	FTG. N/S	N/S	FTG. E/W	E/W	UNIT	SEC.	TSHP.	RNG.	DATE DRILLED	TOTAL DEPTH	HOLE SIZE	CSG. SIZE	SET AT	SX. CMT.	CMT. TOP	MTD.	HOLE SIZE	CSG. SIZE	SET AT	SX. CMT.	CMT. TOP	MTD.	COMPLETION	REMARKS
30-025-03981	Byard Bennett	Lea State	1	Dry	PA	1650'	S	1650'	E	J	1	19S	36E	Aug-59	4,024'			Wells in This Section Do Not Penetrate the Proposed Injection Interval											Dry Hole
30-025-03982	Mack Energy Corp.	State Y	1	P	PA	1980'	S	660'	E	I	1	19S	36E	Jun-58	4,040'														Eumont Yates-Seven Rivers-Queen Pool Completion
30-025-03983	Mack Energy Corp.	State YA	1	P	PA	990'	S	990'	E	P	1	19S	36E	Oct-58	4,057'														Eumont Yates-Seven Rivers-Queen Pool Completion
30-025-03984	Pan American Pet. Corp.	State B	1	P	PA	1980'	N	330'	E	H	1	19S	36E	Feb-58	4,054'														Eumont Yates-Seven Rivers-Queen Pool Completion
30-025-26064	Amoco Production Co.	State B	3	Dry	PA	1650'	N	1980'	E	G	1	19S	36E	Nov-78	4,200'														Dry Hole
30-025-34482	Chevron U.S.A., Inc.	Eumont State 1	1	Dry	PA	1980'	S	1980'	W	K	1	19S	36E	Aug-98	3,100'														Dry Hole
		Rittersbacher																											
30-025-34167	Chevron U.S.A., Inc.	Monument 1 State	15	P	Active	1650'	S	2310'	W	K	1	19S	36E	Jan-98	7,490'	11"	8 5/8"	1,550'	350	Surface	Circ.	7 7/8"	5 1/2"	7,264'	1040	1500'	Well File	7,264'-7,490' O.H.	North Monument-Abo Pool Completion
30-025-34310	Chevron U.S.A., Inc.	Monument 1 State	20	P	PA	651'	S	1815'	W	N	1	19S	36E	May-98	7,513'	11"	8 5/8"	1,519'	550	Surface	Circ.	7 7/8"	5 1/2"	7,232'	1075	750'	Well File	7,232'-7,513' O.H.	North Monument-Abo Pool Completion. PA'd 2/14. Schematic Attached.
30-025-34364	Sahara Operating Co.	Indiana 1	1	P	Active	1682'	N	1975'	E	G	1	19S	36E	Jun-98	7,480'	12 1/4"	8 5/8"	1,550'	800	Surface	Circ.	7 7/8"	5 1/2"	7,480'	1530	Surface	Circ.	7,459'-7,476' Perf.	Goodwin-Abo Pool Completion
30-025-34476	Sahara Operating Co.	Indiana 1	2	P	Active	744'	N	1653'	E	B	1	19S	36E	Aug-98	7,480'	12 1/4"	8 5/8"	1,593'	790	Surface	Circ.	7 7/8"	5 1/2"	7,205'	1285	1,330'	T.S.	7,205'-7,480' O.H.	Goodwin-Abo Pool Completion

Sahara Operating Company
Form C-108: Monument 1 State No. 26
Section 1, T-19 South, R-36 East, NMPM
Lea County, New Mexico

Offset Operator/Leasehold Owner Notification List (See Attached Map)

Tract No. 1: NE/4 of Section 1-19S-36E

Leasehold Owners:

Leede Operating Company, LLC
COLT Development, LLC
6400 S. Fiddler's Green Circle
Suite 2100
Greenwood Village, CO 80111

Peak 9 Production
P.O. Box 4130
Midland, Texas 79704

RAMB Ventures, LLC
7999 S. Jasmine Circle
Centennial, CO 80112-3052

OGA 1992-1 Revenue Ltd.
Attn: Gary Little
P.O. Box 162810
Austin, Texas 78716

McDonnold Producing, Inc.
Attn: M. McDonnold, Jr.
505 North Big Spring, Suite 204
Midland, Texas 79701-4347

Craig M. & Leslie W. McDonnold
505 N. Big Spring, Suite 204
Midland, Texas 79701-4347

Tract No. 2: NW/4 of Section 1-19S-36E

Leasehold Owners:

Occidental Permian, LP
Attn: Steve Flynn
P.O. Box 4294
Houston, Texas 77210-4294

Chevron U.S.A., Inc.
Attn: Denise Beckham
15 Smith Road
Midland, Texas 79705

Sahara Operating Company
Form C-108: Monument 1 State No. 26
Section 1, T-19 South, R-36 East, NMPM
Lea County, New Mexico

Offset Operator/Leasehold Owner Notification List (Page 2)

Tract No. 3: SW/4 of Section 1-19S-36E

Leasehold Owners/Operator:

Chevron U.S.A., Inc.

ConocoPhillips Company
Attn: Tom Atkins
P.O. Box 2197
Houston, Texas 77252

Amerada Hess Corp.
Attn: Randy Pharr
P.O. Box 2040
Houston, Texas 77252-2040

Leaco Exploration & Production, NM
c/o Apache Corporation-Timothy Custer
303 Veterans Airpark Lane, Suite 3000
Midland, Texas 79705-9909

Tract No. 4: E/2 SE/4 of Section 1-19S-36E

Leasehold Owner:

Amerada Hess Corp.

Tract No. 5: W/2 SE/4 of Section 1-19S-36E

Leasehold Owner:

Chevron U.S.A., Inc.

Tract No. 6: NE/4 NW/4 & N/2 NE/4 of Section 12-19S-36E

Leasehold Owner/Operator:

Chevron, U.S.A., Inc.

Vierson Oil & Gas Company
P.O. Box 702708
Tulsa, Oklahoma 74119

Sahara Operating Company
Form C-108: Monument 1 State No. 26
Section 1, T-19 South, R-36 East, NMPM
Lea County, New Mexico

Offset Operator/Leasehold Owner Notification List (Page 3)

Tract No. 7: SW/4 NW/4 of Section 6-19S-37E

Leasehold Owners:

Chevron U.S.A., Inc.

Tract No. 8: W/2 SW/4 of Section 6-19S-37E

Leasehold Owners:

ConocoPhillips Company

Surface Owner

Commissioner of Public Lands
P.O. Box 1148
Santa Fe, New Mexico 87504

Additional Notice

Oil Conservation Division
1625 N. French Drive
Hobbs, New Mexico 88240

Sahara Operating Company
Form C-108: Monument 1 State No. 26
Section 1, T-19 South, R-36 East, NMPM,
Lea County, New Mexico

The following-described legal notice will be published in the:

Hobbs News-Sun
201 North Thorp
Hobbs, New Mexico 88240

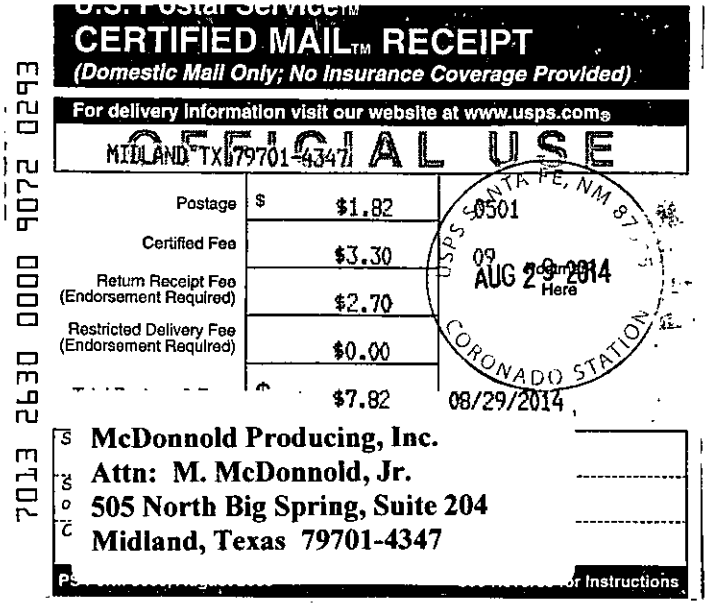
The Affidavit of Publication will be forwarded to the Division upon receipt by Sahara Operating Company

Sahara Operating Company, P.O. Box 4130, Midland, Texas 79704 has filed a Form C-108 (Application for Authorization to Inject) with the Oil Conservation Division ("Division") seeking authorization to utilize its Monument 1 State No. 26 (API No. 30-025-34477) located 2279 feet from the South line and 2276 feet from the East line (Unit J) of Section 1, Township 19 South, Range 36 East, NMPM, Lea County, New Mexico, as a produced water disposal well, injection to occur into the Bone Spring formation through the perforated interval from approximately 5,400 feet to 6,050 feet.

Produced water from the Abo formation originating from Sahara Operating Company operated wells in this area will be injected into the Monument 1 State No. 26 at average and maximum rates of 200 and 1,000 barrels of water per day, respectively. The initial surface injection pressure for the well is anticipated to be at or below 1080 psi, which is in compliance with Division regulations. The maximum surface injection pressure will be determined by step rate injection test.

Interested parties must file objections with the New Mexico Oil Conservation Division, 1220 S. St Francis Drive, Santa Fe, New Mexico 87505, within 15 days of the date of this publication.

Additional information can be obtained by contacting Mr. Rob McAlpine, President-Sahara Operating Company at (432) 697-0967 or Mr. David Catanach at (505) 690-9453.



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McDonnold Producing, Inc.
Attn: M. McDonnold, Jr.
505 North Big Spring, Suite 204
Midland, Texas 79701-4347

7013 2630 0000 9072 0293

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OGA 1992-1 Revenue Ltd.
Attn: Gary Little
P.O. Box 162810
Austin, Texas 78716

7013 2630 0000 9072 0309

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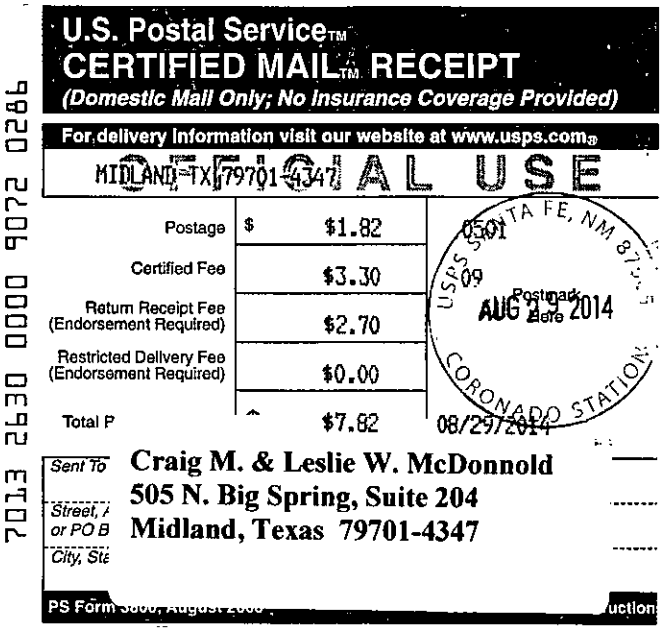
Occidental Permian, LP
Attn: Steve Flynn
P.O. Box 4294
Houston, Texas 77210-4294

PS Form 3800, August 2006

7013 2630 0000 9072 0279



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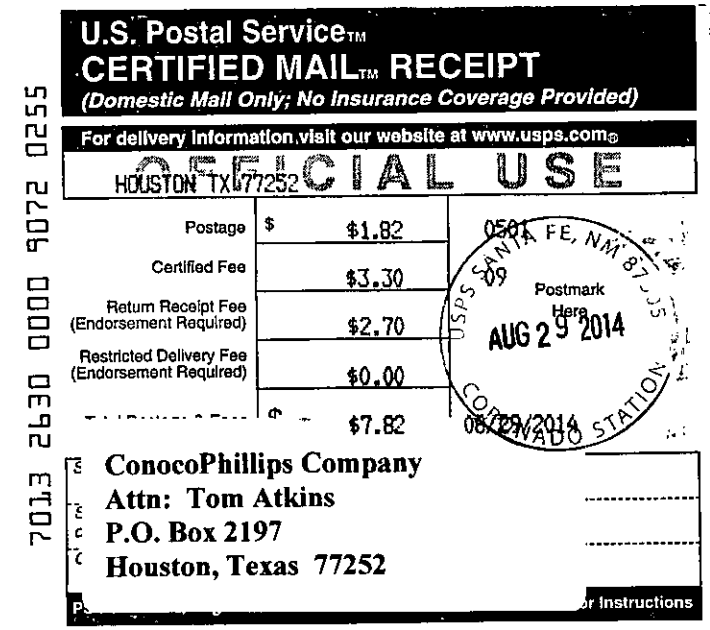
Craig M. & Leslie W. McDonnold
505 N. Big Spring, Suite 204
Midland, Texas 79701-4347

7013 2630 0000 9072 0286



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Restricted Delivery Fee (Endorsement Required)	$0.00
	$7.82

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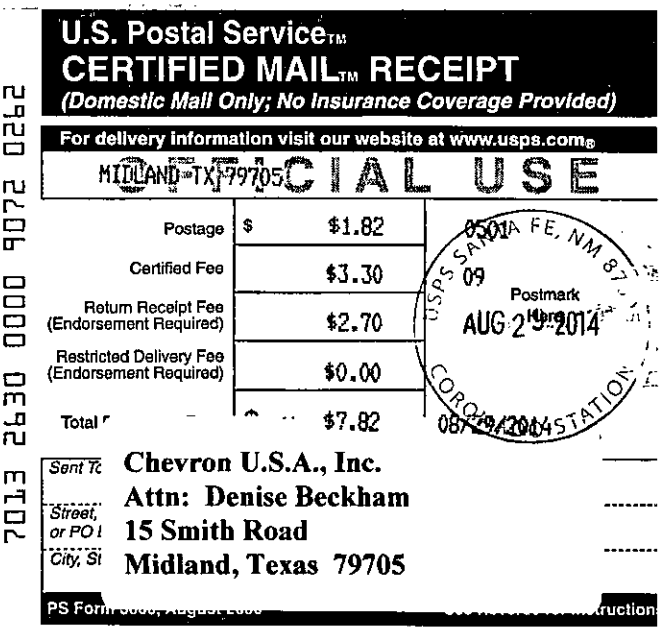
08/29/2014

ConocoPhillips Company
Attn: Tom Atkins
P.O. Box 2197
Houston, Texas 77252

7013 2630 0000 9072 0255



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Restricted Delivery Fee (Endorsement Required)	$0.00
Total	$7.82

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USPS SANTA FE, NM 87 CORONADO STATION
08/29/2014

Chevron U.S.A., Inc.
Attn: Denise Beckham
15 Smith Road
Midland, Texas 79705

7013 2630 0000 9072 0262

7013 2630 0000 9072 0361

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Certified Fee	$3.30
Return Receipt Fee (Endorsement Required)	$2.70
Restricted Delivery Fee (Endorsement Required)	$0.00
Total	$7.82

0501 09 Postmark Here AUG 29 2014 08/29/2014
USPS SANTA FE, NM 87 CORONADO STATION

Sent To
Leaco Exp. & Prod., NM
c/o Apache Corporation
Street, or PO Box
303 Veterans Airpark Lane,
Suite 3000
City, State
Midland, Texas 79705-9909

PS Form 3800, August 2006 See Reverse for Instructions

7013 2630 0000 9072 0354

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Return Receipt Fee (Endorsement Required)	$2.70
Restricted Delivery Fee (Endorsement Required)	$0.00
Total	$7.82

0501 09 Postmark Here AUG 29 2014 08/29/2014
USPS SANTA FE, NM 87 CORONADO STATION

Sent To
Vierson Oil & Gas Company
P.O. Box 702708
Tulsa, Oklahoma 74119

PS Form 3800, August 2006 See Reverse for Instructions

7013 2630 0000 9072 0330

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Postage	$ $1.82
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Restricted Delivery Fee (Endorsement Required)	$0.00
Total	$7.82

0501 09 Postmark Here AUG 29 2014 08/29/2014
USPS SANTA FE, NM 87 CORONADO STATION

Sent To
Leede Operating Company, LLC
COLT Development, LLC
Street, or PO Box
6400 S. Fiddler's Green Circle
Suite 2100
City, State
Greenwood Village, CO 80111

PS Form 3800, August 2006 See Reverse for Instructions

7013 2630 0000 9072 0347

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SANTA FE NM 87504 OFFICIAL USE

Postage	$ $1.82
Certified Fee	$3.30
Return Receipt Fee (Endorsement Required)	$2.70
Restricted Delivery Fee (Endorsement Required)	$0.00
Total	$7.82

0501 09 Postmark Here AUG 29 2014 08/29/2014
USPS SANTA FE, NM 87 CORONADO STATION

Sent To
Commissioner of Public Lands
Street, or PO Box
P.O. Box 1148
City, State
Santa Fe, New Mexico 87504

PS Form 3800, August 2006 See Reverse for Instructions

7013 2630 0000 9072 0316

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ENGLEWOOD CO 80112-3052 OFFICIAL USE

Postage	$ $1.82
Certified Fee	$3.30
Return Receipt Fee (Endorsement Required)	$2.70
Restricted Delivery Fee (Endorsement Required)	$0.00
Total Postage & Fees	$ $7.82

0501 AUG 29 2014 Postmark Here 08/29/2014
USPS SANTA FE, NM 87 CORONADO STATION

Sent To
RAMB Ventures, LLC
Street, or PO Box
7999 S. Jasmine Circle
City, State
Centennial, CO 80112-3052

PS Form 3800, August 2006 See Reverse for Instructions

7013 2630 0000 9072 0323

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MIDLAND TX 79704 OFFICIAL USE

Postage	$ $1.82
Certified Fee	$3.30
Return Receipt Fee (Endorsement Required)	$2.70
Restricted Delivery Fee (Endorsement Required)	$0.00
Total	$7.82

0501 09 Postmark Here AUG 29 2014 08/29/2014
USPS SANTA FE, NM 87 CORONADO STATION

Sent To
Peak 9 Production
Street, or PO Box
P.O. Box 4130
City, State
Midland, Texas 79704

PS Form 3800, August 2006 See Reverse for Instructions

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com®
HOUSTON TX 77252-2040
OFFICIAL USE

Postage	$ $1.82
Certified Fee	$3.30
Return Receipt Fee (Endorsement Required)	$2.70
Restricted Delivery Fee (Endorsement Required)	$0.00
Total P	$7.82

0501
09
Postmark Here
AUG 29 2014
USPS SANTA FE, NM 87
CORONADO STATION
08/29/2014

Sent To
Amerada Hess Corp.
Attn: Randy Pharr
Street, / or PO B
P.O. Box 2040
City, St
Houston, Texas 77252-2040

PS Form ... uctions

7013 2630 0000 9072 0248

C-108 Review Checklist: Received ________ Add. Request: ________ Reply Date: ________ Suspended: ________ [Ver 14]

PERMIT TYPE: WFX / PMX / (SWD) Number: ________ Permit Date: ________ Legacy Permits/Orders: ________

Well No. 26 Well Name(s): MONUMENT 1 STATE

API : 30-0 25-34477 Spud Date: 1998 New or Old: N (*UIC Class II Primacy 03/07/1982*)

Footages 2279 FSL/2276 FEL Lot ___ or Unit J Sec 1 Tsp 19S Rge 36E County LEA

General Location: NE of Reef on ST. Line Pool: ________ Pool No.: ________

BLM 100K Map: ________ Operator: SAHARA OPERATING OGRID: 20077 Contact: DAVID CATANACH / ROBERT McALPINE

COMPLIANCE RULE 5.9: Total Wells: 90 Inactive: 3 Fincl Assur: ✓ Compl. Order? ______ **IS 5.9 OK?** YES Date: 12/[illegible]/14

WELL FILE REVIEWED ○ Current Status: TA'ED ABO well

WELL DIAGRAMS: NEW: Proposed ○ or **RE-ENTER:** Before Conv. ✓ After Conv. ✓ Logs in Imaging: ✓

Planned Rehab Work to Well: Re-enter (Set PLUG) Run tbg in [illegible]

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Stage Tool	Cement Sx or Cf	Cement Top and Determination Method
Planned __ or Existing ✓ Surface	11 / 8 5/8	1483'		450	Surf.
Planned __ or Existing __ Interm/Prod					
Planned __ or Existing ✓ Interm/Prod	7 7/8 / 5 1/2	7313'		1000SX	1120 CBL
Planned __ or Existing __ Prod/Liner					
Planned __ or Existing __ Liner					
Planned __ or Existing __ OH / PERF			Inj Length 650'		

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.			
Confining Unit: Litho. Struc. Por.			
Proposed Inj Interval TOP:	5400	BS.	
Proposed Inj Interval BOTTOM:	6050	BS	
Confining Unit: Litho. Struc. Por.			
Adjacent Unit: Litho. Struc. Por.			

Completion/Operation Details:

Drilled TD 7510' PBTD ________

NEW TD ________ NEW PBTD ________

NEW Open Hole ○ or NEW Perfs ○

Tubing Size 2 3/8 in. Inter Coated? ✓

Proposed Packer Depth 5350 ft

Min. Packer Depth ________ (100-ft limit)

Proposed Max. Surface Press. 1080 psi

Admin. Inj. Press. 1080 (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

POTASH: R-111-P ⊗ *Noticed?* ___ **BLM Sec Ord** ⊗ **WIPP** ○ *Noticed?* ___ **SALT/SALADO T:** ___ **B:** ___ **CLIFF HOUSE** ___

FRESH WATER: Aquifer Ogallala Max Depth 140' **HYDRO AFFIRM STATEMENT By Qualified Person** ✓

NMOSE Basin: ________ **CAPITAN REEF:** thru ○ adj ○ NA ○ **No. Wells within 1-Mile Radius?** LOTS FW Analysis ✓

Disposal Fluid: Formation Source(s) ABO Analysis? ________ On Lease ○ Operator Only ✓ or Commercial ○

Disposal Int: Inject Rate (Avg/Max BWPD): 200/1000 Protectable Waters? ________ Source: ________ System: Closed ✓ or Open ○

HC Potential: Producing Interval? NO Formerly Producing? NO Method: Logs/DST/P&A/Other ________ 2-Mile Radius Pool Map ✓

AOR Wells: 1/2-M Radius Map? ✓ Well List? ✓ Total No. Wells Penetrating Interval: 4 Horizontals? 0

Penetrating Wells: No. Active Wells 3 Num Repairs? 0 on which well(s)? ________ Diagrams? ________

Penetrating Wells: No. P&A Wells 1 Num Repairs? 0 on which well(s)? ________ Diagrams? ✓

~~**NOTICE:**~~ Newspaper Date ________ Mineral Owner SLO Surface Owner SLO N. Date 8/28/14

RULE 26.7(A): Identified Tracts? ✓ Affected Persons: See AP. N. Date 8/28/14

~~**Permit Conditions:** Issues:~~ Set CIBP within 200' Below 6050'.

Add Permit Cond: ~~is BS prospective here? (Perf ? Test Before~~

SW (It is 1.25 Mi NW) (Brushy JUST ABOVE)

LMIT ... 5550 ... SWD ...

Jones, William V, EMNRD

From: Kautz, Paul, EMNRD
Sent: Wednesday, October 29, 2014 7:59 AM
To: Jones, William V, EMNRD; Holm, Anchor E.; Khalsa, Niranjan K.; Holm, Anchor E.
Cc: Goetze, Phillip, EMNRD; Sanchez, Daniel J., EMNRD
Subject: RE: Catanach's Sahara application for disposal into the upper Bone Spring

Will,

1) This well is located on the edge of the Central Basin Platform in what is referred to as the transitional zone between the Basin facies and shelf facies. In other words you have shelf formations and basin formations present in this well.
2) The Bone Spring formation is not 4500 feet thick at this location. It is approximately 2000' thick. The Abo is at a depth of approximately 7300 feet.
3) The interval from 5403-5624 does not show the typical log characteristics of the Bone Spring. Which may be due to possible shelf facies.
4) Starting at 5624 one definitely sees the start of typical Bone Spring log characteristics.

Paul Kautz
Hobbs District Geologist
NM Oil Conservation Div.
1625 N French Dr.
Hobbs, NM 88240
575-393-6161 Ext. 104

From: Jones, William V, EMNRD
Sent: Tuesday, October 28, 2014 4:56 PM
To: Kautz, Paul, EMNRD; Holm, Anchor E.; Khalsa, Niranjan K.; Holm, Anchor E.
Cc: Goetze, Phillip, EMNRD; Sanchez, Daniel J., EMNRD
Subject: Catanach's Sahara application for disposal into the upper Bone Spring

Hi Paul, Anchor and Niranjan,
Hope all of you are doing well.

I don't want to bug you, but we have this application pending and I have already spent too much time on it.
I think it is OK with some modifications, but because it is "Bone Spring", I wanted to run it by you guys.
The Bone Spring is approx. 4500 feet thick here on the ?Central Basin Platform?. Paul is that really twuu?

Sahara bought some Abo production from Chevron and they need some disposal capacity – I don't think this is a "Trucked In" commercial SWD application.
This well is about 1.5 to 2 miles SW of the Linam AGI well #1 which is disposing of Acid Gas into the lower Bone Spring at 8700 to 9000 feet.
Between this location and the Linam well, Cheyenne and XTO each have permitted (and active) SWDs into a thick interval that both include this upper Bone Spring – so this would not be the first SWD in this vertical Bone Spring interval in this area.

Sahara proposed disposal from 5400 to 6050 feet, but I did a quick Log Analysis and want to squeeze the interval to only 5400 to 5780 feet. Looks like the depths around 5400 is high Sw but around 5850 may be a prospective oil interval – hard to tell exactly because I don't have an actual Rw. But that would still separate it from the AGI well by almost 3000 feet vertically and 2 miles away.

Niranjan – do you see any interest from the oil patch for Upper Bone Spring development in this area just west of Hobbs?
Paul and Anchor – do you have any thoughts? If you don't have time to look at it, no worries.

As an aside – when the Linam AGI well was being drilled, they encountered a huge area of LCM (I believe) around 4500 feet in the Delaware. Alberto was thinking of asking for this interval for AGI, but I hope he doesn't.

Anyway, have a cool day!

Will

Jones, William V, EMNRD

From: Jones, William V, EMNRD
Sent: Wednesday, October 29, 2014 12:16 PM
To: 'rob@saharaoper.com'
Cc: Goetze, Phillip, EMNRD; Sanchez, Daniel J., EMNRD; 'drcatanach@netscape.net'
Subject: Sahara Operating Company's proposed Monument 1 State SWD Well No. 26 30-025-34477

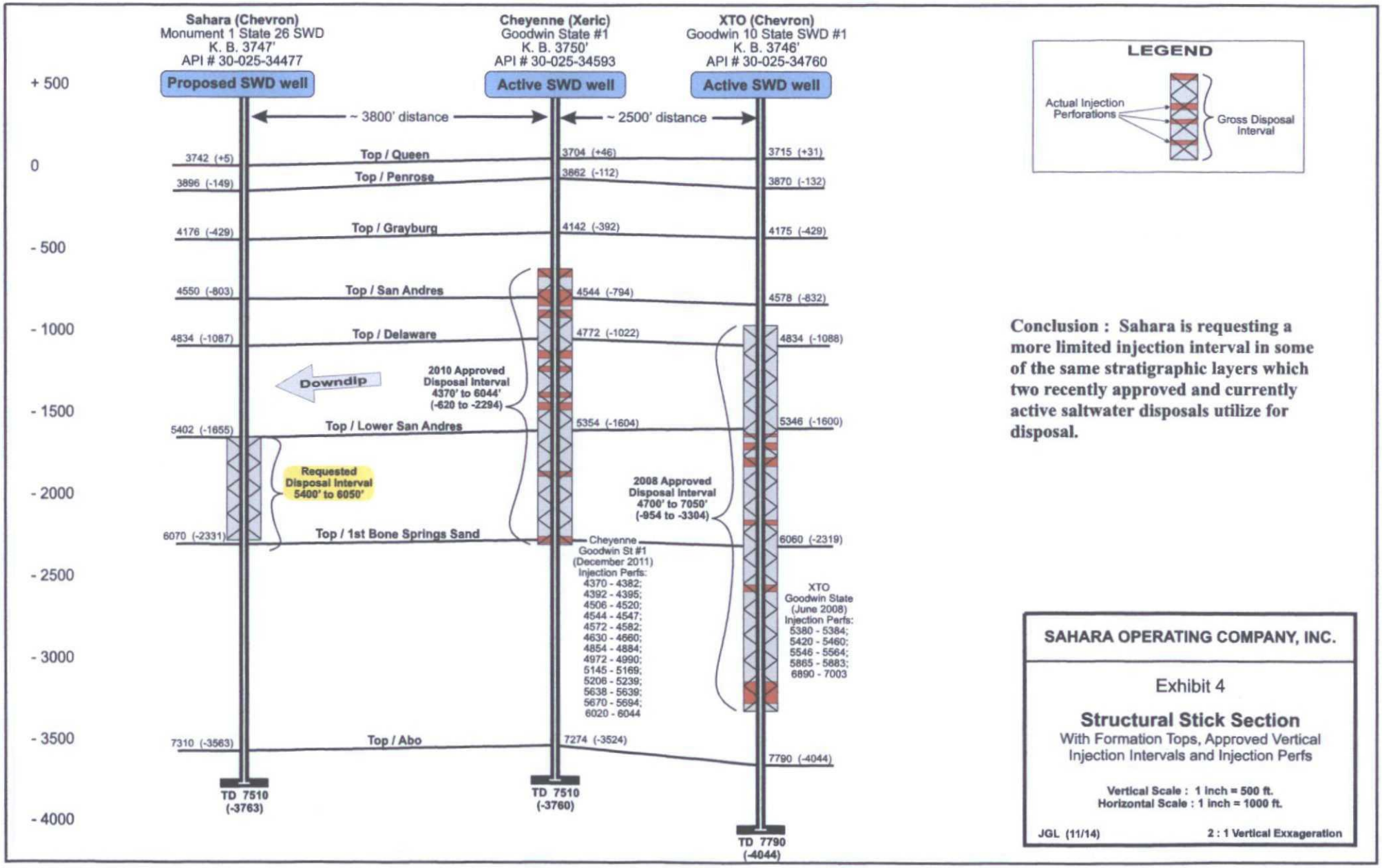
Hello Mr. McAlpine,
Our geologist in Hobbs, Paul Kautz says the upper portion of your proposed interval seems to be inter-fingered Delaware Basin deposits (I am guessing they are San Andres dolomite) and the lower portion with the higher resistivity would be Bone Spring as stated in the application.

Also, my calculations of Sw show that some of the porosity stringers in the lower portion of this proposed interval may have relatively low Sw – a lot lower than the upper portion of the proposed interval. Of course, this could be explained with varying Rw and lithology between formations – but if we include this lower interval, we would need some perf/swab tests which could be expensive.

I am proposing to shorten the disposal interval to include depths: 5400 to 5780 feet and call the formations: San Andres and Bone Spring.

Let me know if you are OK with these changes.

William V. Jones, P.E.
EMNRD/OCD District IV Supervisor
505.476.3477 W, 505.690.2365 C 505.476.3462 F,
(Alt. Leonard Lowe 505.476.3492 W)
WilliamV.Jones@state.nm.us
http://www.emnrd.state.nm.us/OCD/about.html



Conclusion : Sahara is requesting a more limited injection interval in some of the same stratigraphic layers which two recently approved and currently active saltwater disposals utilize for disposal.

SAHARA OPERATING COMPANY, INC.

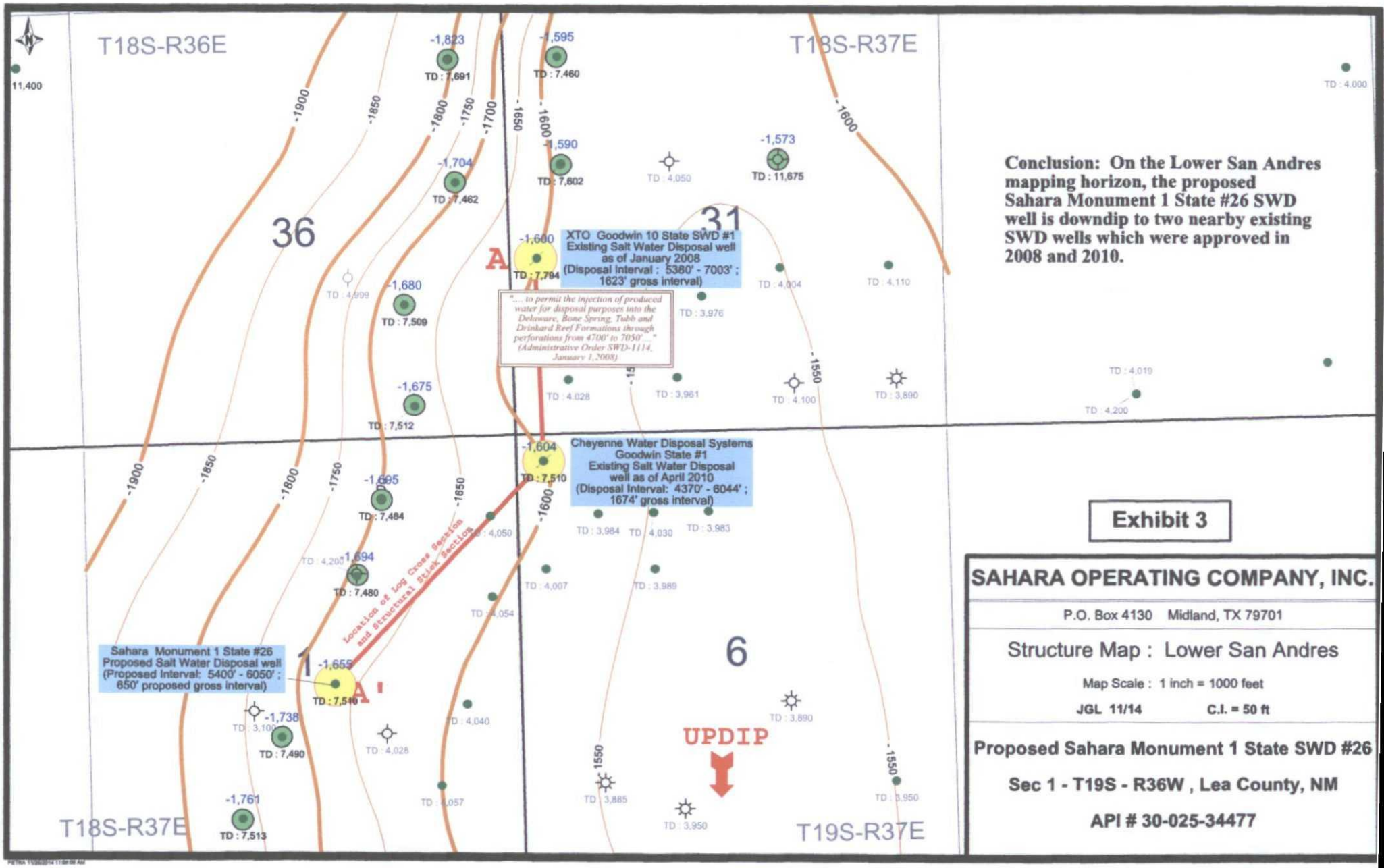
Exhibit 4

Structural Stick Section

With Formation Tops, Approved Vertical Injection Intervals and Injection Perfs

Vertical Scale : 1 inch = 500 ft.
Horizontal Scale : 1 inch = 1000 ft.

JGL (11/14) **2 : 1 Vertical Exxageration**



Conclusion: On the Lower San Andres mapping horizon, the proposed Sahara Monument 1 State #26 SWD well is downdip to two nearby existing SWD wells which were approved in 2008 and 2010.

Exhibit 3

SAHARA OPERATING COMPANY, INC.

P.O. Box 4130 Midland, TX 79701

Structure Map : Lower San Andres

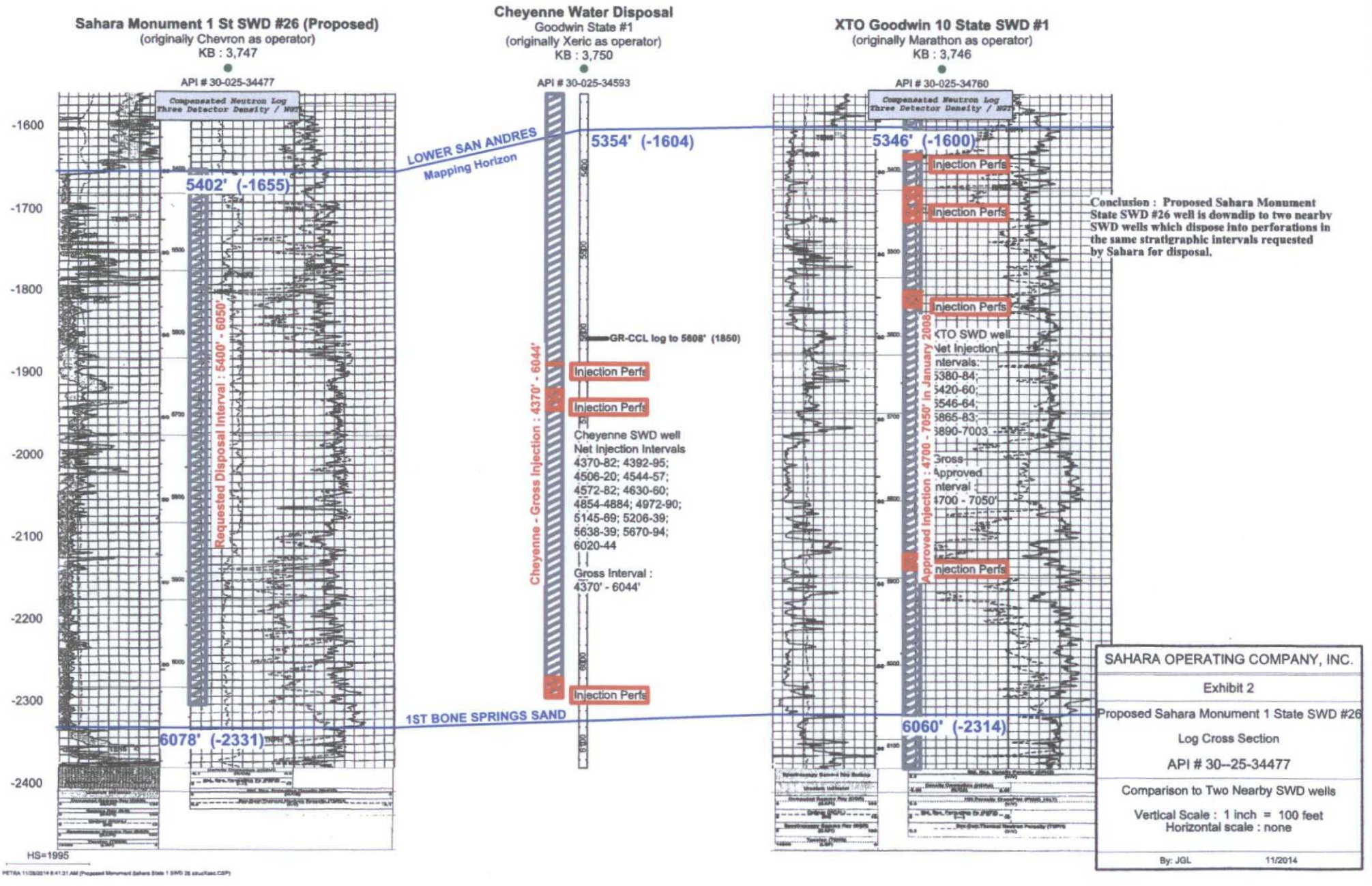
Map Scale : 1 inch = 1000 feet

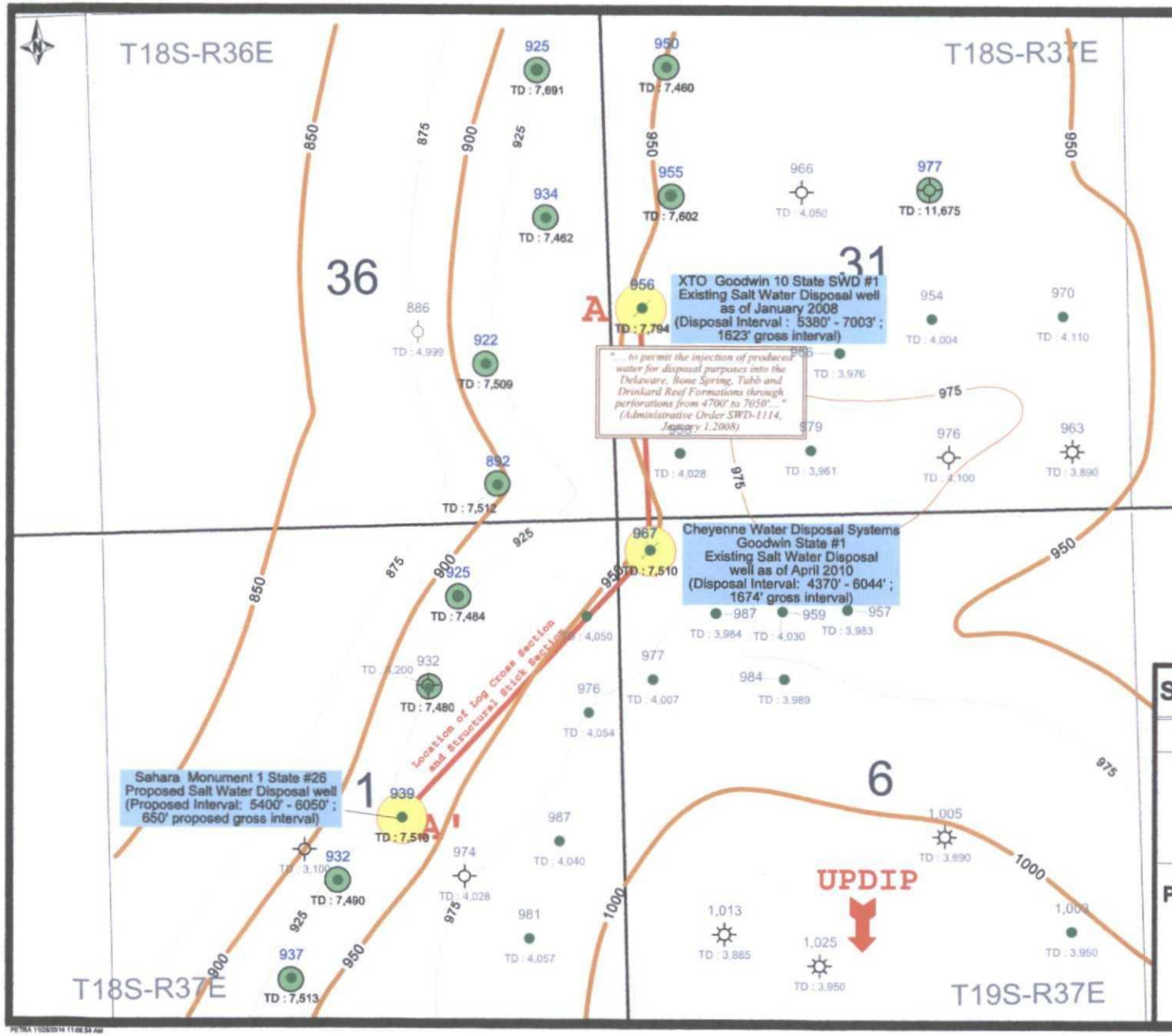
JGL 11/14 C.I. = 50 ft

Proposed Sahara Monument 1 State SWD #26

Sec 1 - T19S - R36W , Lea County, NM

API # 30-025-34477


Sahara Monument 1 St SWD #26 (Proposed)
(originally Chevron as operator)
KB : 3,747
API # 30-025-34477
Compensated Neutron Log
Three Detector Density / MGT
Cheyenne Water Disposal
Goodwin State #1
(originally Xeric as operator)
KB : 3,750
API # 30-025-34593
XTO Goodwin 10 State SWD #1
(originally Marathon as operator)
KB : 3,746
API # 30-025-34760
-1600
-1700
-1800
-1900
-2000
-2100
-2200
-2300
-2400
LOWER SAN ANDRES
Mapping Horizon
5402' (-1655)
5354' (-1604)
5346' (-1600)
Requested Disposal Interval : 5400' - 6050'
Cheyenne - Gross Injection : 4370' - 6044'
Approved Injection : 4700 - 7050' in January 2008
GR-CCL log to 5608' (1850)
Injection Perfs
Cheyenne SWD well
Net Injection Intervals
4370-82; 4392-95;
4506-20; 4544-57;
4572-82; 4630-60;
4854-4884; 4972-90;
5145-69; 5206-39;
5638-39; 5670-94;
6020-44
Gross Interval :
4370' - 6044'
XTO SWD well
Net Injection
Intervals:
5380-84;
5420-60;
5546-64;
5865-83;
5890-7003
Gross
Approved
Interval :
4700 - 7050'
1ST BONE SPRINGS SAND
6078' (-2331)
6060' (-2314)
HS=1995
Conclusion : Proposed Sahara Monument State SWD #26 well is downdip to two nearby SWD wells which dispose into perforations in the same stratigraphic intervals requested by Sahara for disposal.
SAHARA OPERATING COMPANY, INC.
Exhibit 2
Proposed Sahara Monument 1 State SWD #26
Log Cross Section
API # 30--25-34477
Comparison to Two Nearby SWD wells
Vertical Scale : 1 inch = 100 feet
Horizontal scale : none
By: JGL
11/2014



Conclusion: On Top / Yates mapping horizon, the proposed Sahara Monument 1 State #26 SWD well is slightly downdip to two nearby existing SWD wells which were approved in 2008 and 2010.

Exhibit 1

SAHARA OPERATING COMPANY, INC.

P.O. Box 4130 Midland, TX 79701

Structure Map : Top of Yates

Map Scale : 1 inch = 1000 feet

JGL 11/14 C.I. = 25 ft

Proposed Sahara Monument 1 State SWD #26

Sec 1 - T19S - R36W , Lea County, NM

API # 30-025-34477