

DATE IN 9/17/12	SUSPENSE	ENGINEER W Jones	LOGGED IN 9/24/12	TYPE SWD	APP NO. PKVR1226841710
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



Apache Corp
Red Lake 3 State #1

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

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

Red Lake 3 State 1
30-015-32421

[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

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[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.

Brian Wood

Print or Type Name

Signature

Consultant

Title

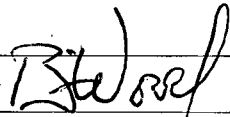
brian@permitswest.com

e-mail Address

9-15-12

Date

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance XXX Disposal _____ Storage
Application qualifies for administrative approval? _____ Yes _____ No
- II. OPERATOR: APACHE CORPORATION
ADDRESS: 303 VETERANS AIRPARK LANE, SUITE 3000, MIDLAND, TX 79705
CONTACT PARTY: BRIAN WOOD (PERMITS WEST, INC.) PHONE: 505. 466-8120
- 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 XXX 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: **RED LAKE 3 STATE #1**
30-015-32421
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: BRIAN WOOD TITLE: CONSULTANT
SIGNATURE:  DATE: SEPTEMBER 14, 2012
E-MAIL ADDRESS: brian@permitswest.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: _____

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.

WELL LOCATION:	1720' FNL & 1075' FWL	E	3	18 S	28 E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

Surface Casing

(not to scale)

Intermediate Casing

Production Casing

Injection Interval

7,428 feet to 7,890'

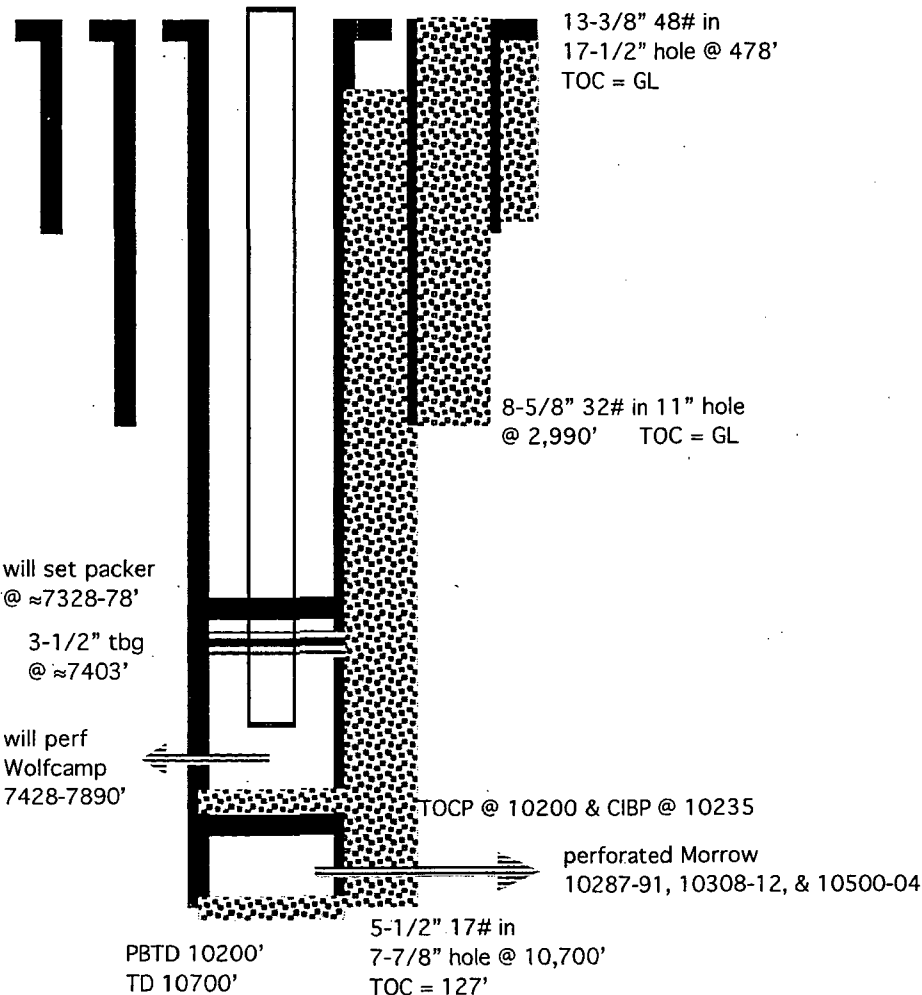
(Perforated or Open Hole; indicate which)

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WELL LOCATION:	1720' FNL & 1075' FWL	E	3	18 S	28 E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELL CONSTRUCTION DATA

Surface Casing



Hole Size: 17-1/2" Casing Size: 13-3/8"
Cemented with: 725 sx. *or* 971.5 ft³
Top of Cement: SURFACE Method Determined: 20 SX TO PIT

Intermediate Casing

Hole Size: 11" Casing Size: 8-5/8"
Cemented with: >1,040 sx. *or* _____ ft³
Top of Cement: SURFACE Method Determined: VISUAL

Production Casing

Hole Size: 7-7/8" Casing Size: 5-1/2"
Cemented with: 970 sx. *or* ft³
Top of Cement: 127' Method Determined: TEMPERATURE
10,700' SURVEY

Injection Interval

7,428 feet to 7,890'

(Perforated or Open Hole; indicate which)

■■■■■■■■■■

INJECTION WELL DATA SHEETTubing Size: 3-1/2" J-55 9.3# Lining Material: INTERNAL PLASTIC COATEDType of Packer: ARROW AS-1XPacker Setting Depth: 7,328' - 7,378'

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

Additional Data

1. Is this a new well drilled for injection? (DISPOSAL) _____ Yes
- XXX
- No

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

ORIGINALLY DRILLED AS MORROW & WOLFCAMP TESTS. NO PRODUCTION FROM EITHER.

2. Name of the Injection Formation:
- WOLFCAMP

3. Name of Field or Pool (if applicable):
- SWD; WOLFCAMP (POOL CODE 96135)

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

MORROW PERFS: 10,287' - 10312' WOLFCAMP PERFS: 7650' - 7846'SEE PRECEDING PAGE FOR PLUGGING DETAILS

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

OVER: BONE SPRING (7,068'), ABO (6,050'), YESO (4,206'),SAN ANDRES (2,384'), QUEEN (1,520'), & SEVEN RIVERS (1,295')UNDER: STRAWN (9,245'), ATOKA (9,842'), & MORROW (10,172')

APACHE CORPORATION

PAGE 1

RED LAKE 3 STATE #1

1720' FNL & 1075' FWL SEC. 3, T. 18 S., R. 28 E.

EDDY COUNTY, NEW MEXICO

30-015-32421

I. Purpose is to reenter a 10,700' deep plugged and abandoned well and convert it to a saltwater disposal well. Disposal will be in the Wolfcamp (7428' - 7890'). This is the SWD; Wolfcamp Pool (NMOCD pool code number 96135).

II. Operator: Apache Corporation (OGRID #873)
Operator phone number: (432) 818-1167
Operator address: 303 Veterans Airpark Lane, Suite 3000
Midland, TX 79705
Contact for Application: Brian Wood (Permits West, Inc.)
Phone: (505) 466-8120

III. A. (1) Lease: New Mexico State Land Office lease XO-0647-0335
Lease Size: 160.08 acres (see Exhibit A for C-102 and map)
Closest Lease Line: 400'
Lease: Lot 3 (\approx NENW), S2NW4, & NESW Section 3, T. 18 S., R. 28 E.

A. (2) Surface casing (13-3/8", 48#, H-40) was set at 478' in a 17-1/2" hole. Casing was cemented to the surface with 725 sacks Class C + 2% CaCl₂ mixed at 14.8 pounds per gallon and 1.34 cubic feet per sack. Twenty sacks of cement were circulated to the pit.

Intermediate casing (8-5/8", 32#, J-55) was set at 2,990' in an 11" hole. Cement was circulated to the surface with 840 sacks 50:50 poz and 200 sacks Class C.

Production casing (5-1/2", 17#, L-80) was set at 10,700' (TD) in a 7-7/8" hole. It was cemented with 970 sacks 50:50 poz. The top of the cement is at 127' according to a temperature survey.

A. (3) Tubing will be 3-1/2", J-55, 9.3#, and internally plastic coated. Setting depth will be \approx 7,403'. (Disposal interval will be \approx 7,428' to \approx 7,890'.)

- A. (4) An Arrow AS-1X packer will be set between $\approx 7,328'$ and $\approx 7,378'$ (50' to 100' above the highest proposed perforation of $\approx 7,428'$).
- B. (1) Injection zone will be the Wolfcamp carbonates, which are part of the SWD; Wolfcamp Pool (NMOCD pool code number 96135). Estimated fracture gradient is ≈ 0.75 psi per foot.
- B. (2) Injection interval will be $\approx 7,428'$ to $\approx 7,890'$. The entire well bore is cased.
- B. (3) The well was spudded in 2003 and plugged and abandoned in 2004. There was no production from either of the two zones (Morrow and Wolfcamp) that were tested.
- B. (4) The well will be perforated from $\approx 7,428'$ to $\approx 7,890'$ with 2 shots per foot. Shot diameter = 0.40".
- B. (5) Bone Spring is the next higher potential oil or gas zone. Closest Bone Spring production is ≈ 2 miles south in 15-18s-28e in the Illinois Camp; Bone Spring Pool at a depth of 6,418' - 6,428' in the Turkey Track 15 State 1 (30-015-27009). Disposal will occur in the Wolfcamp. Wolfcamp top is at 7,128'. Disposal interval will be $\approx 7,428'$ to $\approx 7,890'$. Potential oil or gas zones above the Bone Spring (from deep to shallow) include the Abo (Empire; Abo Pool produces in Section 4 to the west and Section 34 to the north), Yeso and Glorieta (Artesia; Glorieta-Yeso Pool produces in Section 34), San Andres, Grayburg, and Queen (Artesia; Queen-Grayburg-San Andres Pool produces in Section 3), and Seven Rivers (Empire; Yates-Seven Rivers, East Pool produces in Section 34).
- Lower potential oil or gas zones (from shallow to deep) are the Cisco (Illinois Camp; Cisco Pool produces in Section 10 to the south), Strawn (Millman; Strawn Pool produces in Section 8 to the southwest), Atoka (Empire; Atoka Pool produces in Section 35 to the northeast), and Morrow (Empire; Morrow South produces in Section 2 to the east).

IV. This is not an expansion of an existing injection project. It is disposal only.

V. Exhibit B shows all 28 existing wells (12 producing oil + 10 plugged & abandoned + 6 water injectors) within a half-mile radius. Exhibit C shows all 633 existing wells (404 oil or gas producing wells + 43 injection or disposal wells + 183 P & A wells + 3 water wells) within a two-mile radius.

Exhibits D and E shows all leases and lessors (all BLM or State) within a one half mile and two radius. Details on the leases within a half-mile radius are:

<u>Area (T. 17 S., R. 28 E.)</u>	<u>Lessor</u>	<u>Lease Number</u>	<u>Lessee</u>
SE4SE4 Sec. 33	NMSLO	X0-0647-0408	Apache
S2SW4 Sec. 34	NMSLO	B0-2071-0034	Apache
SWSE Sec. 34	NMSLO	B1-1538-0017	ConocoPhillips & Chisos

<u>Area (T. 18 S., R. 28 E.)</u>	<u>Lessor</u>	<u>Lease Number</u>	<u>Lessee</u>
W2NE4, W2SW4, & SESW Sec. 3	NMSLO	X0-0647-0405	Khody
E2NW4, SWNW, & NESW Sec. 3	NMSLO	X0-0647-0335	SDX
NWNW Sec. 3	NMSLO	B0-6043--0018	H&S
NWSE Sec. 3	NMSLO	E0-1285-0010	Hanson-McBride
E2NE4 Sec. 4	NMSLO	X0-2029-0072	Oxy
W2NE4 Sec. 4	NMSLO	B0-3823-0009	Chase
NWSE Sec. 4	NMSLO	VA-0920-0000	Mewbourne
NESE Sec. 4	NMSLO	B1-1539-0000	ExxonMobil
SESE Sec. 4	NMSLO	X0-0703-0070	Melrose

VI. None of the 29 existing wells that are within a half-mile penetrated the Wolfcamp. The deepest of those 29 wells was a 6,405' deep test of the Abo. That well (Dunigan's State 1; API 30-015-05889) is now P & A. There is a 1,023' interval between the bottom of that well and the highest proposed perforation (7,428') in the Red Lake 3 State 1.

The 29 (13 producing + 10 plugged + 6 water injectors) wells that are within a half-mile (regardless of depth) are:

APACHE CORPORATION
RED LAKE 3 STATE #1
1720' FNL & 1075' FWL SEC. 3, T. 18 S., R. 28 E.
EDDY COUNTY, NEW MEXICO

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<u>OPERATOR</u>	<u>WELL</u>	<u>API #</u> <u>30-015-</u>	<u>LOCATION</u>	<u>ZONE(S)</u>	<u>STATUS</u>	<u>ID</u>	<u>DISTANCE</u>
Quantum	Artesia 44	01796	2310 FN & 990 FW 3-18s-28e	AQGSA	WIW	2430	597'
Quantum	Artesia 45	01775	2390 FN & 1570 FW 3-18s-28e	AQGSA	OW	2965	824'
Quantum	Artesia 40	01799	1070 FN & 1570 FW 3-18s-28e	AQGSA	OW	2515	829'
Quantum	Artesia 43	01790	1980 FN & 250 FW 3-18s-28e	AQGSA	OW	2366	872'
Depco	Artesia 66	20322	1550 FN & 1950 FW	AQGSA 3-18s-28e	P & A	2435'	897'
Quantum	Artesia 42	02547	990 FN & 330 FW 3-18s-28e	AQGSA	OW	2338	1035'
Western	State 647	01794	2390 FS & 1070 FW	AQGSA 3-18s-28e	P & A	2432	1185'
Quantum	Artesia 55	01798	2390 FS & 1570 FW 3-18s-28e	AQGSA	OW	2448	1274'
Quantum	Artesia 46	02541	2310 FN & 2267 FW 3-18s-28e	AQGSA	WIW	2567	1321'
Quantum	Artesia 39	02542	992 FN & 2275 FW 3-18s-28e	AQGSA	OW	2401	1419'
Dunigan	State 1	05889	330 FN & 345 FW 3-18s-28e	Empire Abo	P & A	6405	1563'
Quantum	Artesia 41	01776	330 FN & 330 FW 3-18s-28e	AQGSA	OW	2286	1570'
Quantum	Artesia 67	20327	2200 FS & 2200 FW 3-18s-28e	AQGSA	WIW	2478	1763'
American Petrofina	Humble Stout 1	02590	2310 FS & 330 FE 4-18s-28e	AQGSA	P & A	2526	1912'

APACHE CORPORATION
RED LAKE 3 STATE #1
1720' FNL & 1075' FWL SEC. 3, T. 18 S., R. 28 E.
EDDY COUNTY, NEW MEXICO

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<u>OPERATOR</u>	<u>WELL</u>	<u>API</u> <u>30-015-</u>	<u>LOCATION</u>	<u>ZONE(S)</u>	<u>STATUS</u>	<u>ID</u>	<u>DISTANCE</u>
McGonagill	Carper 1	02557	330 FN & 330 FE 4-18s-28e	AQGSA	P & A	2818	1963'
Depco	Artesia 57	01795	1570 FS & 1070 FW 3-18s-28e	AQGSA	P & A	2438	2006'
Alamo	Smith 1	02556	660 FN & 660 FE 4-18s-28e	AQGSA	OW	2307	2022'
Melrose	Artesia 56	01797	1570 FS & 1570 FW 3-18s-28e	AQGSA	P & A	2450	2059'
Quantum	Artesia 102	33286	2396 FS & 2372 FE 3-18s-28e	AQGSA	OW	3500	2079'
Quantum	Artesia 47	02545	1980 FN & 1980 FE 3-18s-28e	AQGSA	WIW	2576	2139'
Gordon Phillips	Carper 3	01722	330 FS & 1650 FW 34-17s-28e	AQGSA	P & A	3000	2146'
Legacy	Carper 2	01705	330 FS & 330 FW 34-17s-28e	AQGSA	OW	2400	2175'
Western	State 647	01793	1570 FS & 250 FW 3-18s-28e	AQGSA	P & A	2428	2185'
Quantum	Artesia 65	20273	2280 FN & 1980 FE 3-18s-28e	AQGSA	WIW	2600	2191'
Quantum	Artesia 54	01801	1654 FS & 2272 FW 3-18s-28e	AQGSA	WIW	2473	2245'
Quantum	Artesia 38	02543	660 FN & 1980 FE 3-18s-28e	AQGSA	OW	2425	2401'
ARCO	Yates 3	01682	330 FS & 330 FE 33-17s-28e	AQGSA	P & A	2220	2473'
Apache	Washington 33 State 65	40120	330 FS & 360 FE 33-17s-28e	Artesia; Glorieta-Yeso	OW	5100	2502'

APACHE CORPORATION
 RED LAKE 3 STATE #1
 1720' FNL & 1075' FWL SEC. 3, T. 18 S., R. 28 E.
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<u>OPERATOR</u>	<u>WELL</u>	<u>API</u> 30-015-	<u>LOCATION</u>	<u>ZONE(S)</u>	<u>STATUS</u>	<u>ID</u>	<u>DISTANCE</u>
Quantum	Artesia 105	34702	1076 FS & 789 FW 3-18s-28e	AQGSA	OW	3400	2523'
Quantum	Artesia 58	01791	1070 FS & 250 FW 3-18s-28e	AQGSA	OW	2445	2657'

- VII. 1. Average injection rate will be $\approx 7,500$ bwpd.
 Maximum injection rate will be $\approx 10,000$ bwpd.
2. System will be open and closed. Water will initially be trucked. Later, the well may be tied into a proposed Apache pipeline system. Even after the well is connected to a pipeline system, Apache will continue to truck water to the well.
3. Average injection pressure will be $\approx 1,000$ psi
 Maximum injection pressure will be $\approx 1,485$ psi ($= 0.2$ psi/foot $\times \approx 7,428'$ (highest perforation)).
4. Water source will be produced water from Apache wells, mainly from the Abo and Yeso. Apache has 358 active wells in T. 17 & 18 S., R. 28 E. There are 202 Yeso wells and 121 Abo wells.

A summary of closest analyses in the WAIDS database from Abo (≈ 1 mile west), Yeso (≈ 2 miles northwest), and Wolfcamp (≈ 8 miles south) wells follows. In addition, there is a summary from 3 Apache Yeso wells in T. 17 S., R. 28 E. If there are multiple samples from the same formation, then the data below represents the average (all in mg/l). The abstracts are in Exhibit F.

No compatibility problems have been reported from Apache's Washington 34 #1 (30-015-29344). This Wolfcamp disposal well is 2,753' north at 1017 FSL & 1379 FWL Section 34 T. 17 S., R. 28 E. Over 4,962,907 barrels have been disposed into it.

APACHE CORPORATION

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RED LAKE 3 STATE #1

1720' FNL & 1075' FWL SEC. 3, T. 18 S., R. 28 E.

EDDY COUNTY, NEW MEXICO

30-015-32421

	<u>Abo</u>	<u>Yeso-WAIDS</u>	<u>Wolfcamp</u>	<u>Yeso-Apache</u>
Barium	-	0.28	-	0.1
Bicarbonate	1,914.0	626.0	2,700.0	496.1
Calcium	-	560.0	-	2,011.3
Carbonate	-	26.0	-	-
Chloride	15,497.0	3,563.0	70,200.0	121,223.0
Hydrogen Sulfide	-	-	-	96.3
Iron	-	4.546	-	2.0
Magnesium	-	111.0	-	2,092.0
Potassium	-	52.0	-	593.0
Sodium	-	2,466.0	-	79,314.8
Strontium	-	16.632	-	53.0
Sulfate	2,179.0	1,663.0	1,080.0	4,516.3
Total Dissolved Solids	31,00.0	4,510.0	118,720.0	205,301.7

5. There is no current Wolfcamp production with one mile. Closest (6,522' northwest) Wolfcamp production is RKL's Geronimo State 33 #2 (30-015-31373) at 660 FNL & 660 FEL 33-17s-28e. It produces from the Empire; Wolfcamp.

The Geronimo State 33 #2 is 4,140' northwest of Apache's Washington 34 #1 (30-015-29344) and 2,113' southwest of Judah's Geronimo State Com 2 C (30-015-31716). The latter two wells are both Wolfcamp saltwater disposal wells.

The Red Lake 3 State #1 was initially drilled as a Morrow test in the first quarter of 2003. The Morrow was unproductive and plugged back. BP subsequently tested the Wolfcamp in May and June, 2003. It was perforated and acidized. Wolfcamp results were 2,250 barrels of black water and no oil cut. The well was plugged and abandoned in 2004.

A Wolfcamp saltwater disposal well is currently being drilled within a mile of the Red Lake 3 State 1. LRE's Eddy Humble 4 State SWD 1 (30-015-40553) is located 2,788' to the west at 2310 FSL & 1650 FEL 4-18s-28e. As of August 31, 2012, surface casing had been set and the intermediate hole was being drilled.

VIII. The Wolfcamp ($\approx 1,800'$ thick) in this well is on the transition from the Delaware shelf to its basin. The Wolfcamp consists of limestone alternating with dolomite and shale. The latter two have little porosity and confine the dolomite. The dolomite (diagenetically alternated carbonate) is the goal within the Wolfcamp.

Closest possible underground source of drinking water above the proposed disposal interval is the Quaternary deposit at the surface or the Yates sand. Exhibit G shows nearby water wells.

A locked Arco water supply well that is 1,307' northwest in Section 3 is the closest known water source. The shed housing the well is locked and its electric meter is inactive. State Engineer records show Atlantic Richfield Company as the well operator and its use as "Oil Field Maintenance". State records do not indicate its depth. Surface owner is Bogle Ltd. Company. Lewis Derrick, ranch manager, indicated on October 10, 2011 that he did not have a key, does not know who has a key, and did not think it was producing water.

Second closest known well is a dismantled wood windmill that is 6,688' southeast in Section 10. The well casing has been capped and welded shut. The State Engineer does not have any records for the windmill.

No underground source of drinking water is below the proposed disposal interval.

Formation tops are:

<u>Zone</u>	no date <u>OCD memo</u>	no date <u>OCD memo</u>	6-5-03 <u>Sundry</u>	2-27-04 <u>Completion Report</u>
Quaternary	0'	0'	0'	0'
Yates	-	613'	861'	861'
Seven Rivers	970'	888'	-	1295'
Bowers	1280'	1280'	-	-
Queen	1520'	1520'	-	1839'
Grayburg	-	2015'	-	-
San Andres	2384'	2385'	-	-
Glorieta	3975'	3891'	3891'	3891'
Yeso	-	-	-	4206'
Tubb	4472'	-		
Abo	?????	-		

APACHE CORPORATION
 RED LAKE 3 STATE #1
 1720' FNL & 1075' FWL SEC. 3, T. 18 S., R. 28 E.
 EDDY COUNTY, NEW MEXICO

PAGE 9

30-015-32421

<u>Zone</u>	no date <u>OCD memo</u>	no date <u>OCD memo</u>	6-5-03 <u>Sundry</u>	2-27-04 <u>Completion Report</u>
Bone Spring	-	-	7068'	
Wolfcamp	*7128'	7404'	7404'	7404'
Cisco	*8354'	-	-	8975'
Strawn	9245'	9243'	-	9644'
Atoka	9842'	9843'	-	9845'
Morrow	-	10172'	-	10172'
Morrow clastics	10246'			
Mississippian	-	-	-	10524'
Total Depth	-	-	10700'	10700'

*per conversation between Craig Shepard & Bret Percy February 9, 2012

One water well is within a mile radius (see Exhibit G). There will be >5,800' of vertical separation between the bottom of the only likely underground water source (Yates sand) and the top of the Wolfcamp.

Produced water has been injected or disposed into zones above (Queen, Grayburg, San Andres, and Abo), opposite (Wolfcamp), and below (Cisco) the proposed disposal interval in 45 injection and 1 disposal well within Section 3 and the 8 bordering sections.

IX. The well will be stimulated with acid to clean out scale or fill.

X. Compensated neutron/GR and micro-CFL/GR logs were run and are on file NMOCD.

XI. Based on a field inspection and a review of the State Engineer's records, there is one water well (see VIII. on PAGE 8) is within a mile radius.

APACHE CORPORATION
RED LAKE 3 STATE #1
1720' FNL & 1075' FWL SEC. 3, T. 18 S., R. 28 E.
EDDY COUNTY, NEW MEXICO

PAGE 10

30-015-32421

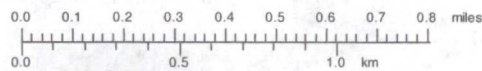
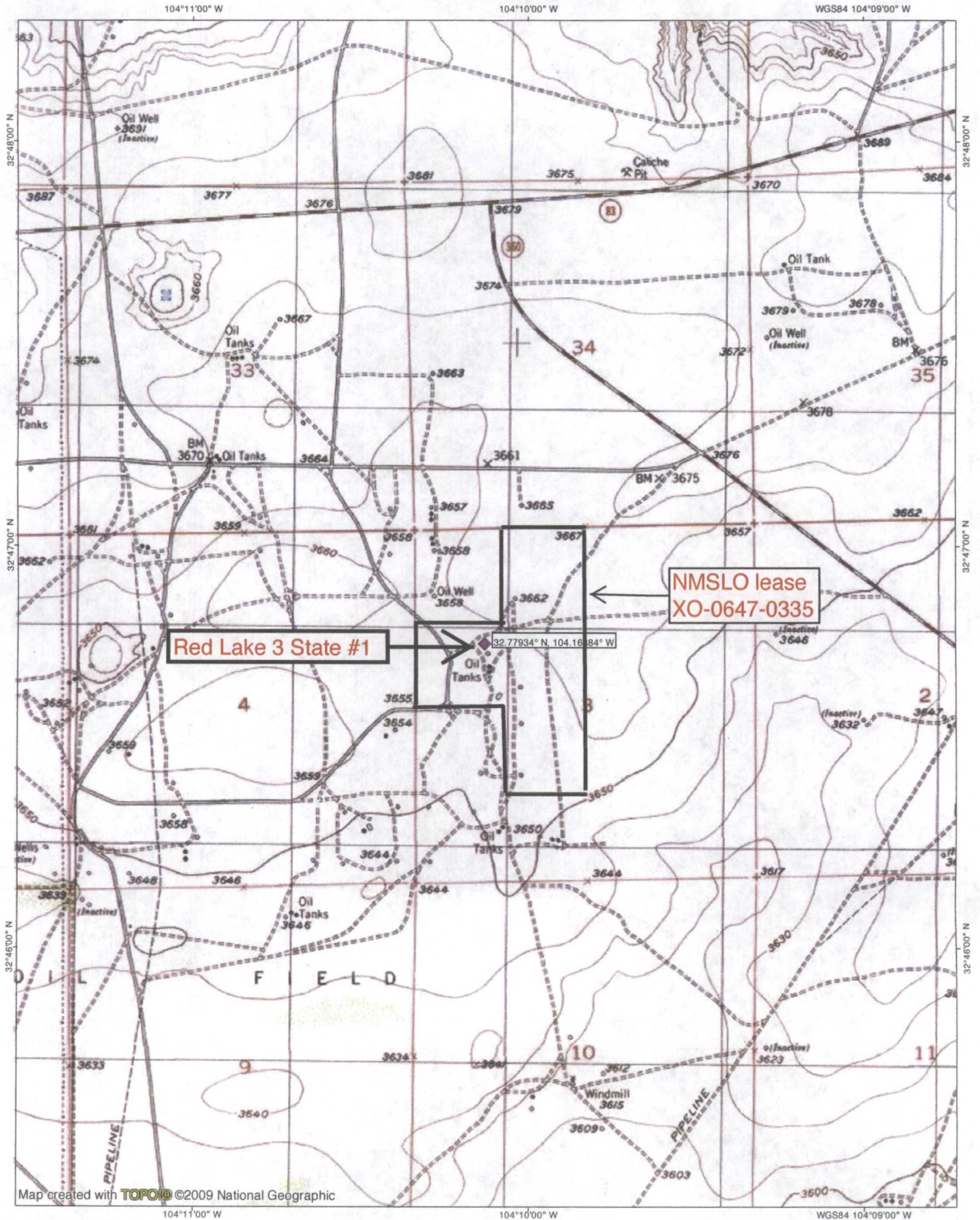
XII. Apache is not aware of any geologic or engineering data that may indicate the Wolfcamp is in hydrologic connection with any underground sources of water. There are 42 Wolfcamp saltwater disposal wells in New Mexico.

XIII. Notice (this application) has been sent (Exhibit H) to the surface owner. (Bogle Ltd. Company), all oil and gas lessees or operating right holders (see below and on the next page), and all oil and gas lessors (only New Mexico State Land Office) within one-half mile.

A legal ad (see Exhibit I) was published on August 31, 2012.

<u>T. 17 S., R. 28 E.</u>	<u>Lease Number</u>	<u>Lessee or Operating Right</u>
SESE Section 33	X0-0657-0408	Apache
S2SW4 Section 34	B0-2071-0034	COG, Legacy, & Apache
SWSE Section 34	B1-1538-0017	Quantum, ConocoPhillips, & Chisos

<u>T. 18 S., R. 28 E.</u>	<u>Lease Number</u>	<u>Lessee or Operating Right</u>
NWNW Section 3	B0-6043-0018	Quantum and Heinsch & Spencer
NWSE Section 3	E0-1285-0010	Quantum & Hanson-McBride
E2NW4, SWNW, & NESW Section 3	X0-0647-0335	Quantum, Murchison, & SDX
W2NE4, W2SW4, & SESW Section 3	ditto	ditto
W2NE4 Section 4	X0-0647-0405	Quantum, Khody
NESE Section 4	ditto	ditto
W2NE4 Section 4	B0-3823-0009	Chase
NESE Section 4	B1-1539-0000	ExxonMobil
NWSE Section 4	VA-0920-0000	Mewbourne
SESE Section 4	X0-0703-0070	Melrose
E2NE4 Section 4	X0-2029-0072	Oxy



State of New Mexico

Energy, Minerals and Natural Resources Department

DISTRICT I

P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II

P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

P.O. BOX 2088, SANTA FE, N.M. 87504-2088

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

Form C-102

Revised February 10, 1994

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 76400	Pool Name Empire Marine South (615)
Property Code	Property Name RED LAKE 3 STATE	Well Number 1
OGRID No. 000778	Operator Name BP America Production Company	Elevation 3658'

Surface Location

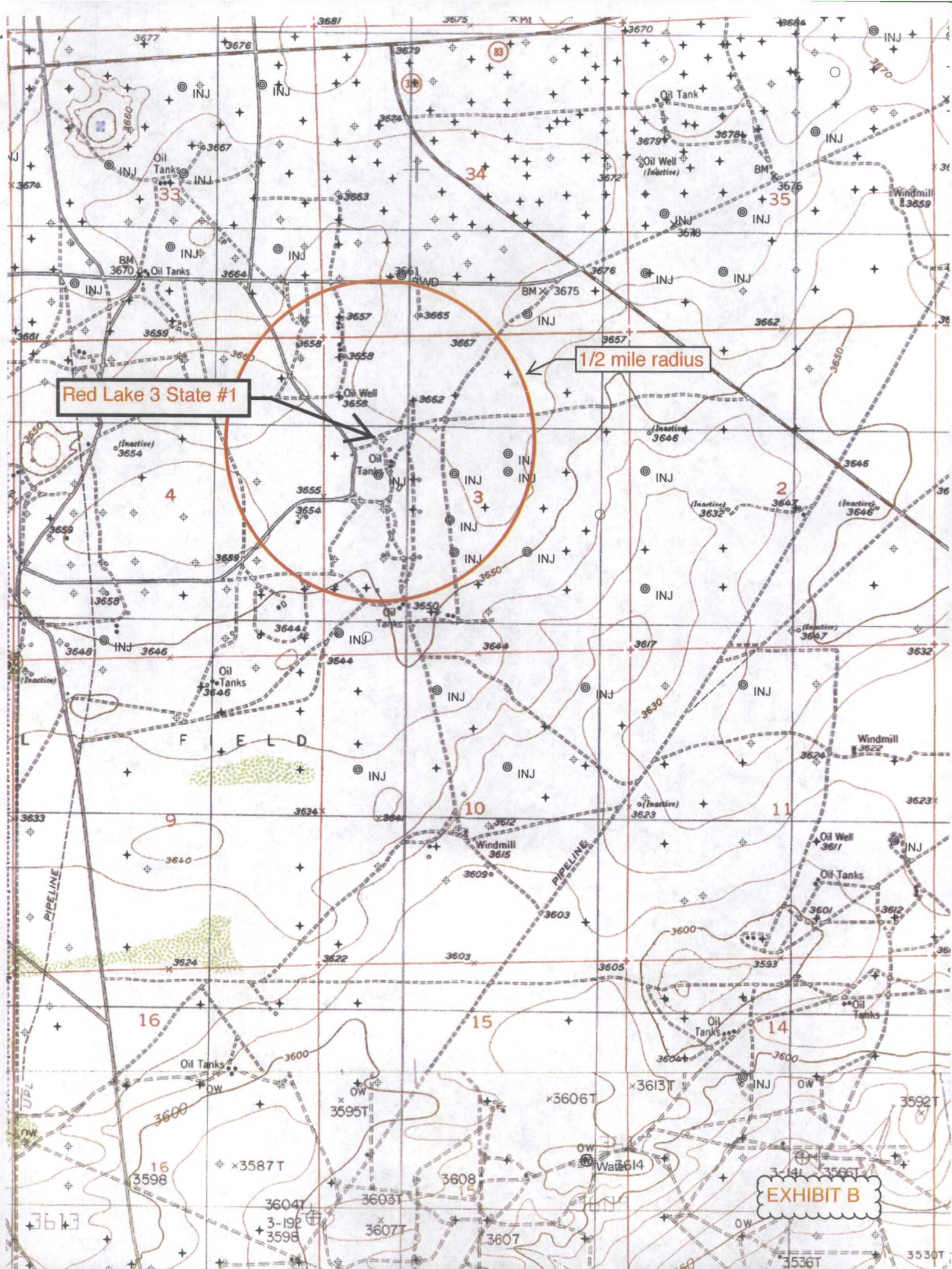
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	3	18-S	28-E		1720	NORTH	1075	WEST	EDDY

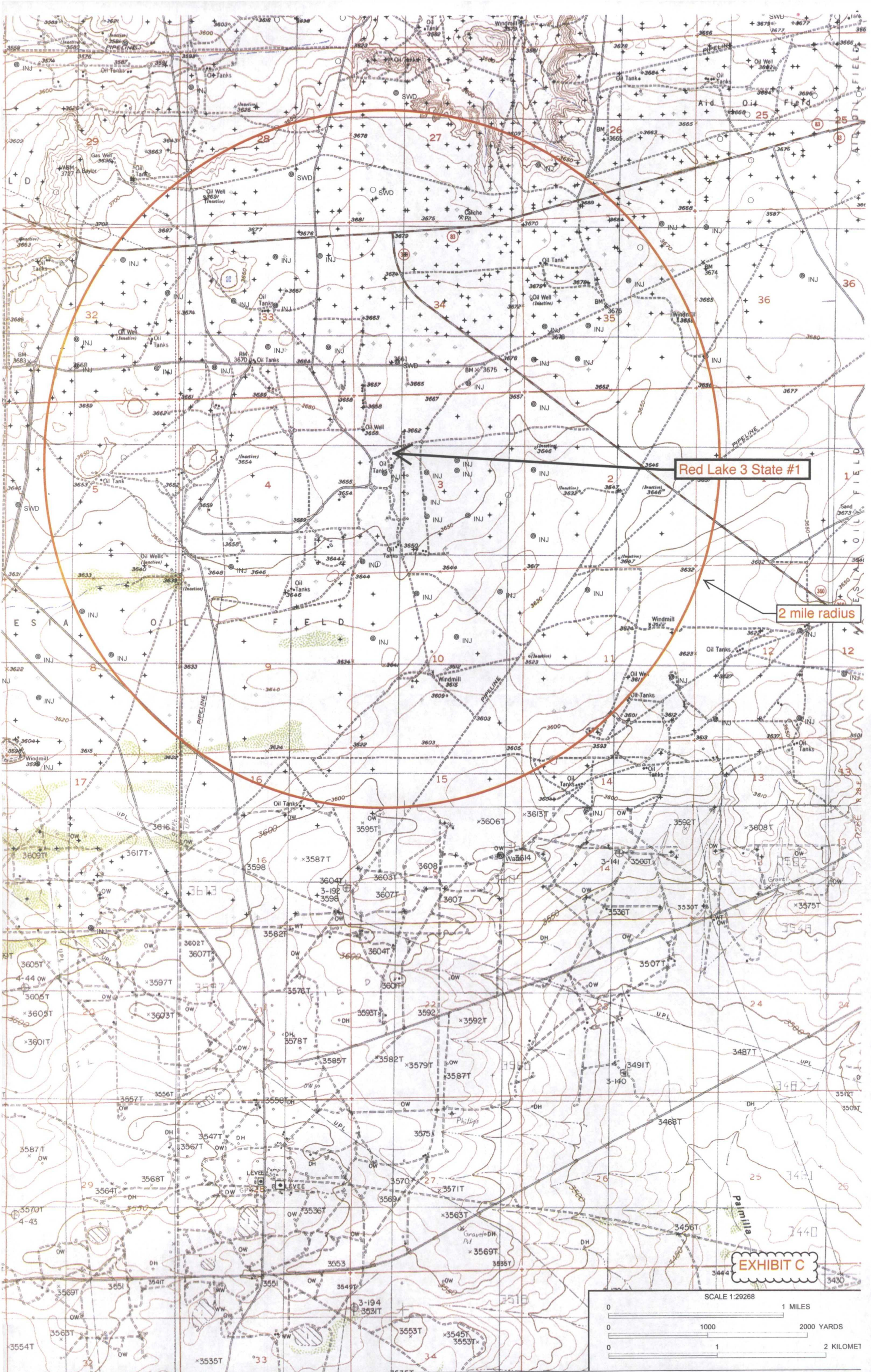
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 3.20		Joint or Infill		Consolidation Code		Order No.			

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

<p>LOT 4</p> <p>1720'</p> <p>39.54 AC</p> <p>3654.6'</p> <p>1075'</p> <p>3653.0'</p> <p>3659.2'</p> <p>3655.7'</p> <p>39.60 AC</p> <p>39.67 AC</p> <p>39.72 AC</p> <p>LOT 3</p> <p>LOT 2</p> <p>LOT 1</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Garry T. Spang</i></p> <p>Signature</p> <p><i>Garry T. Spang</i></p> <p>Printed Name</p> <p><i>Regulatory Compliance Analyst</i></p> <p>Title</p> <p><i>8/28/02</i></p> <p>Date</p> <p>SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>AUGUST 23, 2002</p> <p>Date Surveyed</p> <p>Signature <i>AWB</i></p> <p>Prof</p> <p>EXHIBIT A</p> <p><i>Ronald J. Edson 8/23/02</i></p> <p>02.11.0601</p> <p>Certificate No. RONALD J. EDSON 3239</p> <p>CARY EDSON 12641</p>
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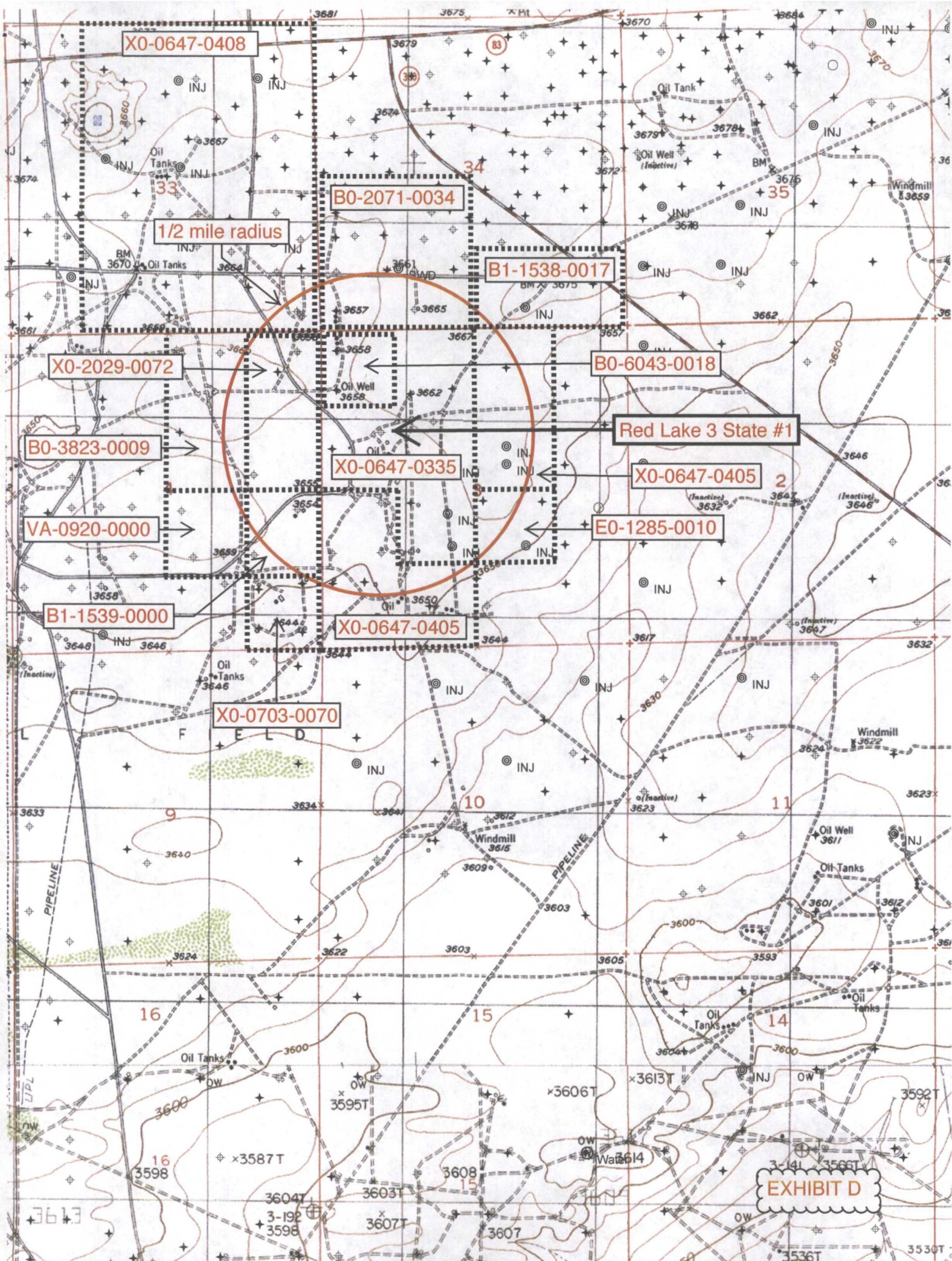
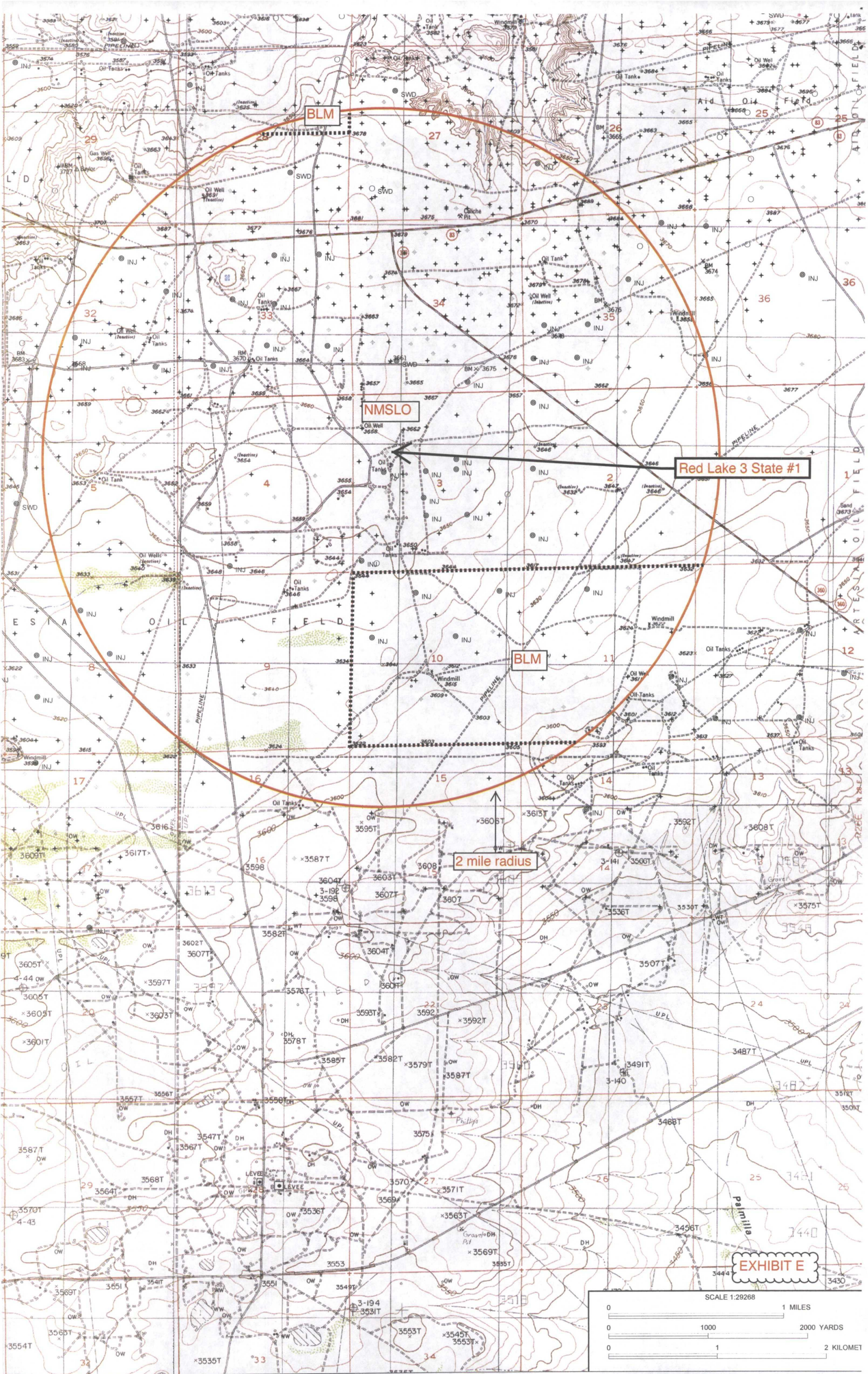


EXHIBIT D



NM WAIDS

[DATA](#)[MAPS](#)[HOME](#)[SCALE](#)[CORROSION](#)

Water Samples for Well EMPIRE ABO UNIT 029C

API = 3001502587

Formation = ABO

Field = EMPIRE

664 FNL & 550 FWL
4-18s-28e

Instructions:

Click 

For general information about this sample.

Click 

For scale calculation pages (Stiff-Davis or Oddo Tomson methods).

Click To select **this water sample** for water mixing. It will lead to the main page, and add the sample ID to the mixing table.Click **664**Click the hyperlinked sample number to make a .csv for that sample, **or** select several check boxes and click Submit for multiple samples

The ions are in (mg/L) units.

	SampleID	T	R	S	SO4	CL	CO3	HCO3	K	Na	Ca	Mg
<input type="checkbox"/>	5228	18S	28E	04	2148	15340	null	1882	null	null	null	null
<input type="checkbox"/>	5158	18S	28E	04	2214	15780	null	1988	null	null	null	null
<input type="checkbox"/>	5321	18S	28E	04	2138	15370	null	1873	null	null	null	null

☐ SELECT/DESELECT ALL

EXHIBIT F

NM WAIDS

DATA

MAPS

HOME

SCALE

CORROSION

General Information About: Sample 5228			
EMPIRE ABO UNIT 029C			
API	3001502587	Sample Number	
Unit/Section/ Township/Range	4 / 04 / 18 S / 28 E	Field	EMPIRE
County	Eddy	Formation	ABO
State	NM	Depth	
Lat/Long	32.78154 / -104.18707	Sample Source	DST
TDS (mg/L)	30713	Water Type	
Sample Date(MM/DD/YYYY)		Analysis Date(MM/DD/YYYY)	
Remarks/Description			
Cation Information (mg/L)		Anion Information (mg/L)	
Potassium (K)		Sulfate (SO)	2148
Sodium (Na)		Chloride (Cl)	15340
Calcium (Ca)		Carbonate (CO ₃)	
Magnesium (Mg)		Bicarbonate (HCO ₃)	1882
Barium (Ba)		Hydroxide (OH)	
Manganese (Mn)		Hydrogen Sulfide (H ₂ S)	
Strontium (Sr)		Carbon Dioxide (CO ₂)	
Iron (Fe)		Oxygen (O)	



EXHIBIT F

NM WAIDS

[DATA](#)
[MAPS](#)
[HOME](#)
[SCALE](#)
[CORROSION](#)

General Information About: Sample 5158			
EMPIRE ABO UNIT 029C			
API	3001502587	Sample Number	
Unit/Section/ Township/Range	4 / 04 / 18 S / 28 E	Field	EMPIRE
County	Eddy	Formation	ABO
State	NM	Depth	
Lat/Long	32.78154 / -104.18707	Sample Source	DST
TDS (mg/L)	31644	Water Type	
Sample Date(MM/DD/YYYY)		Analysis Date(MM/DD/YYYY)	
Remarks/Description			
Cation Information (mg/L)		Anion Information (mg/L)	
Potassium (K)		Sulfate (SO)	2214
Sodium (Na)		Chloride (Cl)	15780
Calcium (Ca)		Carbonate (CO ₃)	
Magnesium (Mg)		Bicarbonate (HCO ₃)	1988
Barium (Ba)		Hydroxide (OH)	
Manganese (Mn)		Hydrogen Sulfide (H ₂ S)	
Strontium (Sr)		Carbon Dioxide (CO ₂)	
Iron (Fe)		Oxygen (O)	

Corrosion
Theory >
Equipment
Gases >
Prevention
References



EXHIBIT F

NM WAIDS

DATA

MAPS

HOME

SCALE

CORROSION

General Information About: Sample 5321			
EMPIRE ABO UNIT 029C			
API	3001502587	Sample Number	
Unit/Section/ Township/Range	4 / 04 / 18 S / 28 E	Field	EMPIRE
County	Eddy	Formation	ABO
State	NM	Depth	
Lat/Long	32.78154 / -104.18707	Sample Source	UNKNOWN
TDS (mg/L)	30668	Water Type	
Sample Date(MM/DD/YYYY)		Analysis Date(MM/DD/YYYY)	
Remarks/Description			
Cation Information (mg/L)		Anion Information (mg/L)	
Potassium (K)		Sulfate (SO)	2138
Sodium (Na)		Chloride (Cl)	15370
Calcium (Ca)		Carbonate (CO ₃)	
Magnesium (Mg)		Bicarbonate (HCO ₃)	1873
Barium (Ba)		Hydroxide (OH)	
Manganese (Mn)		Hydrogen Sulfide (H ₂ S)	
Strontium (Sr)		Carbon Dioxide (CO ₂)	
Iron (Fe)		Oxygen (O)	



EXHIBIT F

NM WAIDS

988 FSL & 330 FEL
21-19s-28e

DATA

MAPS

HOME

SCALE

CORROSION

General Information About: Sample 5272			
ANGELL ST 004			
API	3001502280	Sample Number	
Unit/Section/ Township/Range	G / 21 / 19 S / 28 E	Field	MILLMAN EAST
County	Eddy	Formation	WOLF
State	NM	Depth	
Lat/Long	32.64772 / -104.17854	Sample Source	WELLHEAD
TDS (mg/L)	118720	Water Type	
Sample Date(MM/DD/YYYY)		Analysis Date(MM/DD/YYYY)	
Remarks/Description			
Cation Information (mg/L)		Anion Information (mg/L)	
Potassium (K)		Sulfate (SO)	1080
Sodium (Na)		Chloride (Cl)	70200
Calcium (Ca)		Carbonate (CO ₃)	
Magnesium (Mg)		Bicarbonate (HCO ₃)	2700
Barium (Ba)		Hydroxide (OH)	
Manganese (Mn)		Hydrogen Sulfide (H ₂ S)	
Strontium (Sr)		Carbon Dioxide (CO ₂)	
Iron (Fe)		Oxygen (O)	



EXHIBIT F

NM WAIDS

[DATA](#)[MAPS](#)[HOME](#)[SCALE](#)[CORROSION](#)

Water Samples for Well MIMOSA STATE 001

API = 3001530575

Formation = YESO

Field = EMPIRE

2310 FSL & 1580 FWL
30-17s-29e

Current Water Production Information

Instructions:

Click 

For general information about this sample.

Click 

For scale calculation pages (Stiff-Davis or Oddo Tomson methods).





Click 

To select **this water sample** for water mixing. It will lead to the main page, and add the sample ID to the mixing table.

Click 664

Click the hyperlinked sample number to make a .csv for that sample, **or** select several check boxes and click Submit for multiple samples

The ions are in (mg/L) units.

	SampleID	T	R	S	SO4	CL	CO3	HCO3	K	Na	Ca	Mg
<input type="checkbox"/>	<u>6042</u>  	17S	29E	30	1710	3308	52	447	44	2363	495	105
<input type="checkbox"/>	<u>6275</u>  	17S	29E	30	1615	3819	0	806	59	2569	624	116

☐ SELECT/DESELECT ALL

Submit



EXHIBIT F

NM WAIDS

DATA

MAPS

HOME

SCALE

CORROSION

General Information About: Sample 6042			
MIMOSA STATE001			
API	3001530575	Sample Number	
Unit/Section/ Township/Range	K / 30 / 17 S / 29 E	Field	EMPIRE
County	Eddy	Formation	YESO
State	NM	Depth	
Lat/Long	32.80442 / -104.11573	Sample Source	
TDS (mg/L)	8482.82	Water Type	
Sample Date(MM/DD/YYYY)	3/5/1999	Analysis Date(MM/DD/YYYY)	3/22/1999
Remarks/Description			
Cation Information (mg/L)		Anion Information (mg/L)	
Potassium (K)	44.352	Sulfate (SO)	1710.58
Sodium (Na)	2363.76	Chloride (Cl)	3308.26
Calcium (Ca)	495.936	Carbonate (CO ₃)	52.416
Magnesium (Mg)	105.84	Bicarbonate (HCO ₃)	447.552
Barium (Ba)	0.07056	Hydroxide (OH)	
Manganese (Mn)		Hydrogen Sulfide (H ₂ S)	
Strontium (Sr)	14.112	Carbon Dioxide (CO ₂)	
Iron (Fe)	8.064	Oxygen (O)	



EXHIBIT F

NM WAIDS

DATA

MAPS

HOME

SCALE

CORROSION

General Information About: Sample 6275			
MIMOSA STATE001			
API	3001530575	Sample Number	
Unit/Section/ Township/Range	K / 30 / 17 S / 29 E	Field	EMPIRE
County	Eddy	Formation	YESO
State	NM	Depth	
Lat/Long	32.80442 / -104.11573	Sample Source	
TDS (mg/L)	9556.9	Water Type	
Sample Date(MM/DD/YYYY)	1/18/2000	Analysis Date(MM/DD/YYYY)	1/26/2000
Remarks/Description			
Cation Information (mg/L)		Anion Information (mg/L)	
Potassium (K)	59.472	Sulfate (SO)	1615.82
Sodium (Na)	2569.39	Chloride (Cl)	3819.31
Calcium (Ca)	624.96	Carbonate (CO ₃)	0
Magnesium (Mg)	116.928	Bicarbonate (HCO ₃)	806.4
Barium (Ba)	0.504	Hydroxide (OH)	
Manganese (Mn)		Hydrogen Sulfide (H ₂ S)	
Strontium (Sr)	19.152	Carbon Dioxide (CO ₂)	
Iron (Fe)	1.008	Oxygen (O)	



EXHIBIT F

30-015-35869
 330 FNL & 2210 FWL 36-17s-28e
 ≈2.5 miles from Red Lake 3 State #1

North Permian Basin Region
 P.O. Box 740
 Sundown, TX 79372-0740
 (806) 229-8121
 Lab Team Leader - Sheila Hernandez
 (432) 495-7240

Water Analysis Report by Baker Petrolite

Company:	APACHE CORPORATION	Sales RDT:	33512
Region:	PERMIAN BASIN	Account Manager:	WAYNE PETERSON (575) 910-9389
Area:	LOCO HILL, NM	Sample #:	544722
Lease/Platform:	'D' STATE	Analysis ID #:	105109
Entity (or well #):	25	Analysis Cost:	\$90.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary		Analysis of Sample 544722 @ 75 F					
Sampling Date:	12/13/10	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	12/20/10	Chloride:	117907.0	3325.73	Sodium:	66758.8	2903.84
Analyst:	JENNIFER HARDELL	Bicarbonate:	512.4	8.4	Magnesium:	5214.0	428.92
TDS (mg/l or g/m3):	197846.9	Carbonate:	0.0	0.	Calcium:	1841.0	91.87
Density (g/cm3, tonne/m3):	1.134	Sulfate:	5043.0	105.	Strontium:	47.0	1.07
Anion/Cation Ratio:	1	Phosphate:			Barium:	0.1	0.
		Borate:			Iron:	2.5	0.09
		Silicate:			Potassium:	521.0	13.32
Carbon Dioxide:	100 PPM	Hydrogen Sulfide:		153 PPM	Aluminum:		
Oxygen:		pH at time of sampling:		6.55	Chromium:		
Comments:		pH at time of analysis:			Copper:		
		pH used in Calculation:		6.55	Lead:		
					Manganese:	0.050	0.
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄		CO ₂ Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.28	17.36	-0.09	0.00	-0.07	0.00	-0.02	0.00	0.43	0.00	1.07
100	0	0.38	23.73	-0.16	0.00	-0.07	0.00	-0.04	0.00	0.22	0.00	1.33
120	0	0.46	30.67	-0.22	0.00	-0.06	0.00	-0.06	0.00	0.05	0.00	1.62
140	0	0.54	37.91	-0.28	0.00	-0.02	0.00	-0.07	0.00	-0.11	0.00	1.94

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

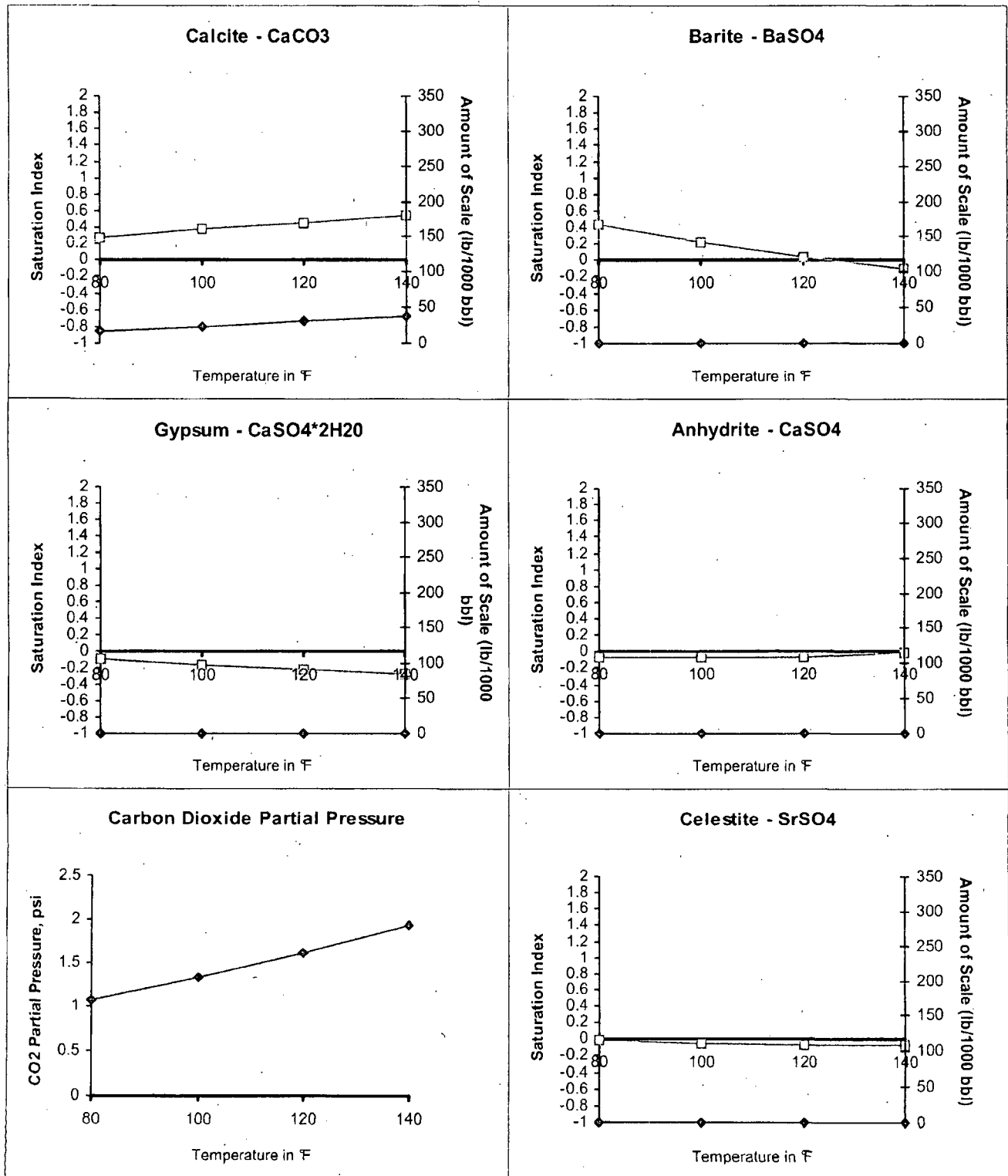
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

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

EXHIBIT F

Scale Predictions from Baker Petrolite

Analysis of Sample 544722 @ 75 °F for APACHE CORPORATION, 12/20/10



30-015-39075
 990 FNL & 2120 FWL 25-17s-28e
 ~3.1 miles from Red Lake 3 State #1

North Permian Basin Region
 P.O. Box 740
 Sundown, TX 79372-0740
 (806) 229-8121
 Lab Team Leader - Sheila Hernandez
 (432) 495-7240

Water Analysis Report by Baker Petrolite

Company:	APACHE CORPORATION	Sales RDT:	33512
Region:	PERMIAN BASIN	Account Manager:	WAYNE PETERSON (575) 910-9389
Area:	LOCO HILL, NM	Sample #:	544723
Lease/Platform:	N B TWEEN	Analysis ID #:	105110
Entity (or well #):	STATE 5	Analysis Cost:	\$90.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary		Analysis of Sample 544723 @ 75 °F					
Sampling Date:	12/13/10	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	12/20/10	Chloride:	121356.0	3423.01	Sodium:	76321.0	3319.78
Analyst:	JENNIFER HARDELL	Bicarbonate:	414.8	6.8	Magnesium:	634.0	52.16
TDS (mg/l or g/m3):	205904.1	Carbonate:	0.0	0.	Calcium:	2445.0	122.01
Density (g/cm3, tonne/m3):	1.138	Sulfate:	3988.0	83.03	Strontium:	64.0	1.46
Anion/Cation Ratio:	1	Phosphate:			Barium:	0.1	0.
		Borate:			Iron:	2.0	0.07
		Silicate:			Potassium:	679.0	17.36
Carbon Dioxide:	110 PPM	Hydrogen Sulfide:		34 PPM	Aluminum:		
Oxygen:		pH at time of sampling:		6.4	Chromium:		
Comments:		pH at time of analysis:			Copper:		
		pH used in Calculation:		6.4	Lead:		
					Manganese:	0.200	0.01
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄		CO ₂ Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.23	12.92	-0.05	0.00	-0.02	0.00	0.00	0.00	0.31	0.00	1.23
100	0	0.31	17.80	-0.14	0.00	-0.04	0.00	-0.03	0.00	0.10	0.00	1.51
120	0	0.39	22.97	-0.21	0.00	-0.03	0.00	-0.05	0.00	-0.08	0.00	1.8
140	0	0.47	28.13	-0.27	0.00	-0.01	0.00	-0.07	0.00	-0.25	0.00	2.09

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

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

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

EXHIBIT F

Scale Predictions from Baker Petrolite

Analysis of Sample 544723 @ 75 °F for APACHE CORPORATION, 12/20/10

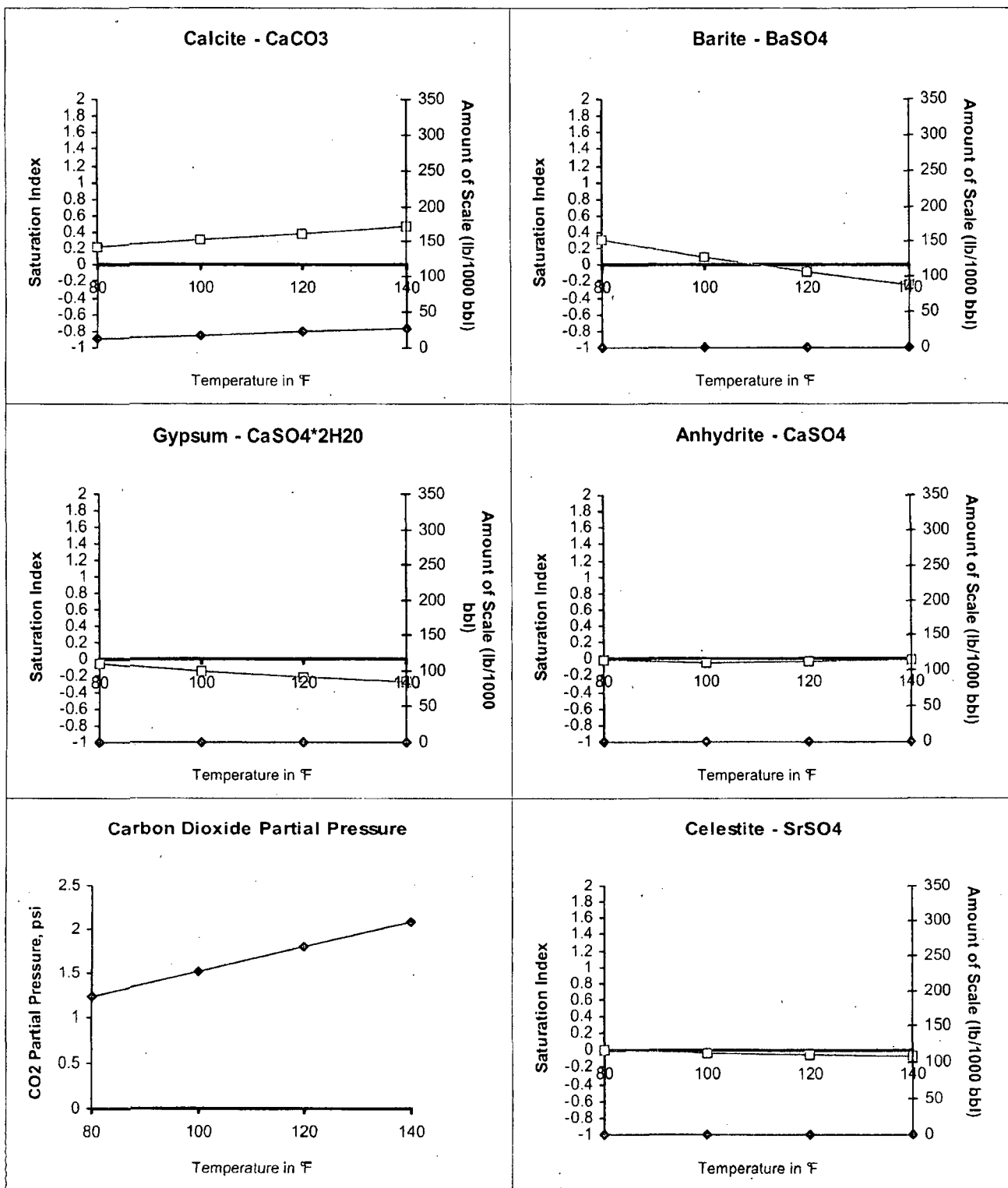


EXHIBIT F

30-015-33454
990 FSL & 2135 FWL 26-17s-28e
≈1.9 miles from Red Lake 3 State #1

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
Lab Team Leader - Sheila Hernandez
(432) 495-7240

Water Analysis Report by Baker Petrolite

Company:	APACHE CORPORATION	Sales RDT:	33512
Region:	PERMIAN BASIN	Account Manager:	WAYNE PETERSON (575) 910-9389
Area:	LOCO HILL, NM	Sample #:	544721
Lease/Platform:	DAD STATE	Analysis ID #:	105108
Entity (or well #):	40	Analysis Cost:	\$90.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary		Analysis of Sample 544721 @ 75 F					
Sampling Date:	12/13/10	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	12/20/10	Chloride:	124406.0	3509.04	Sodium:	79864.6	3473.91
Analyst:	JENNIFER HARDELL	Bicarbonate:	561.2	9.2	Magnesium:	428.0	35.21
TDS (mg/l or g/m3):	212154.4	Carbonate:	0.0	0.	Calcium:	1748.0	87.23
Density (g/cm3, tonne/m3):	1.141	Sulfate:	4518.0	94.06	Strontium:	48.0	1.1
Anion/Cation Ratio:	1	Phosphate:			Barium:	0.1	0.
		Borate:			Iron:	1.5	0.05
		Silicate:			Potassium:	579.0	14.81
Carbon Dioxide:	130 PPM	Hydrogen Sulfide:		102 PPM	Aluminum:		
Oxygen:		pH at time of sampling:		6.4	Chromium:		
Comments:		pH at time of analysis:			Copper:		
		pH used in Calculation:		6.4	Lead:		
					Manganese:	0.030	0.
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite CaCO ₃		Gypsum CaSO ₄ *2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄		CO ₂ Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.24	17.69	-0.14	0.00	-0.10	0.00	-0.08	0.00	0.36	0.00	1.7
100	0	0.32	23.97	-0.23	0.00	-0.13	0.00	-0.11	0.00	0.15	0.00	2.07
120	0	0.39	30.53	-0.30	0.00	-0.12	0.00	-0.14	0.00	-0.04	0.00	2.46
140	0	0.47	37.66	-0.37	0.00	-0.10	0.00	-0.15	0.00	-0.20	0.00	2.86

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

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

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

EXHIBIT F

Scale Predictions from Baker Petrolite

Analysis of Sample 544721 @ 75 °F for APACHE CORPORATION, 12/20/10

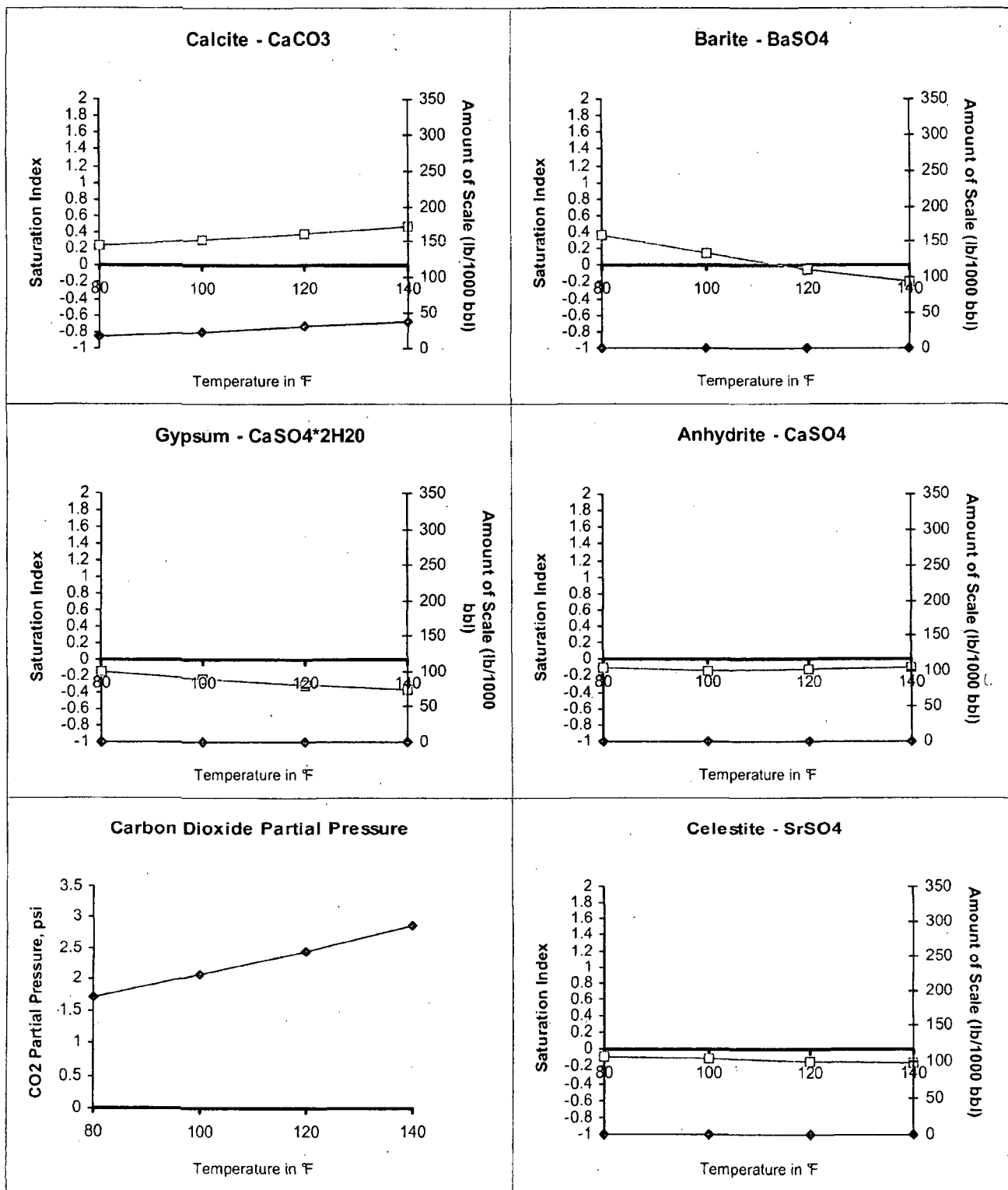


EXHIBIT F

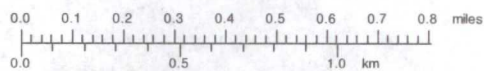
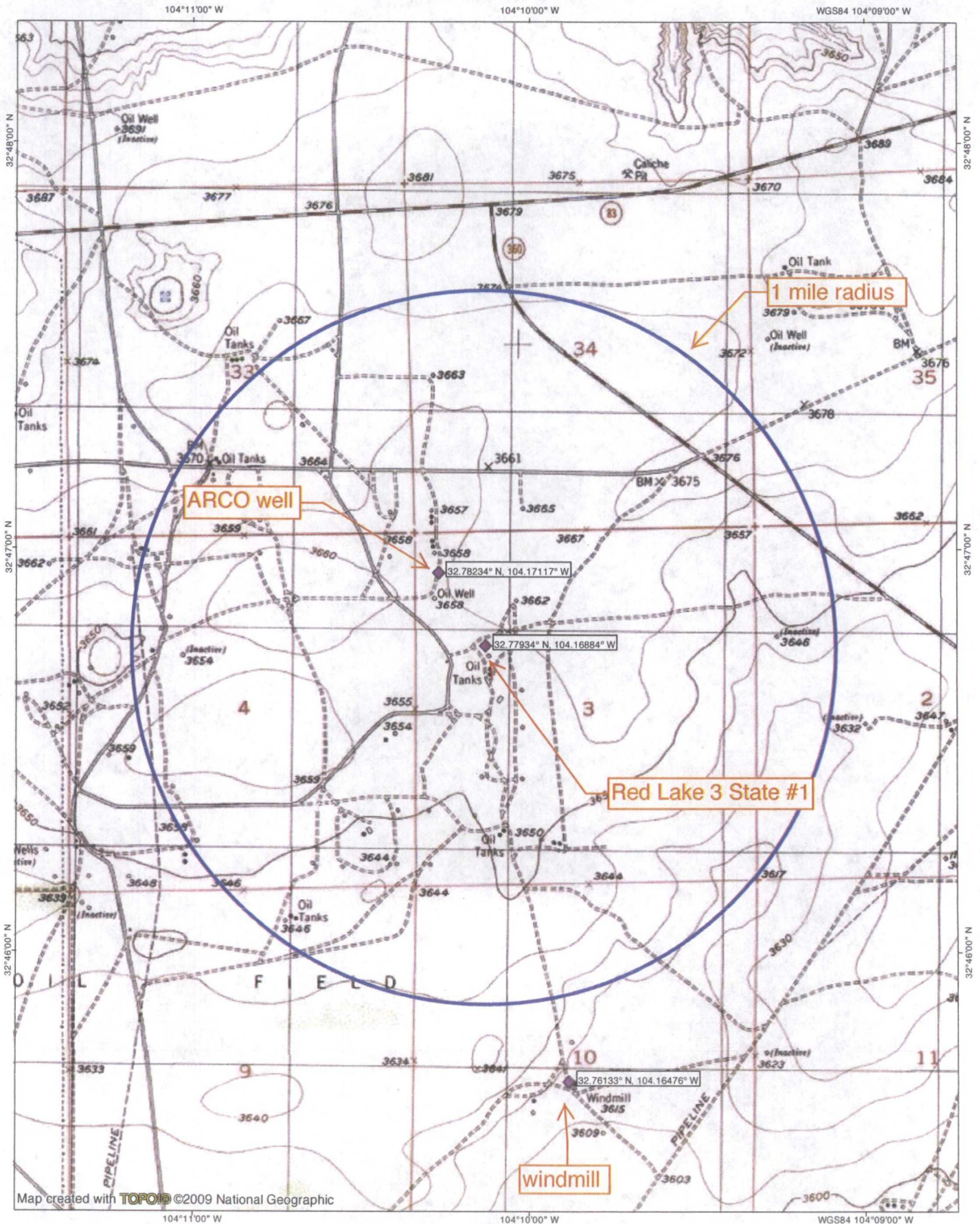
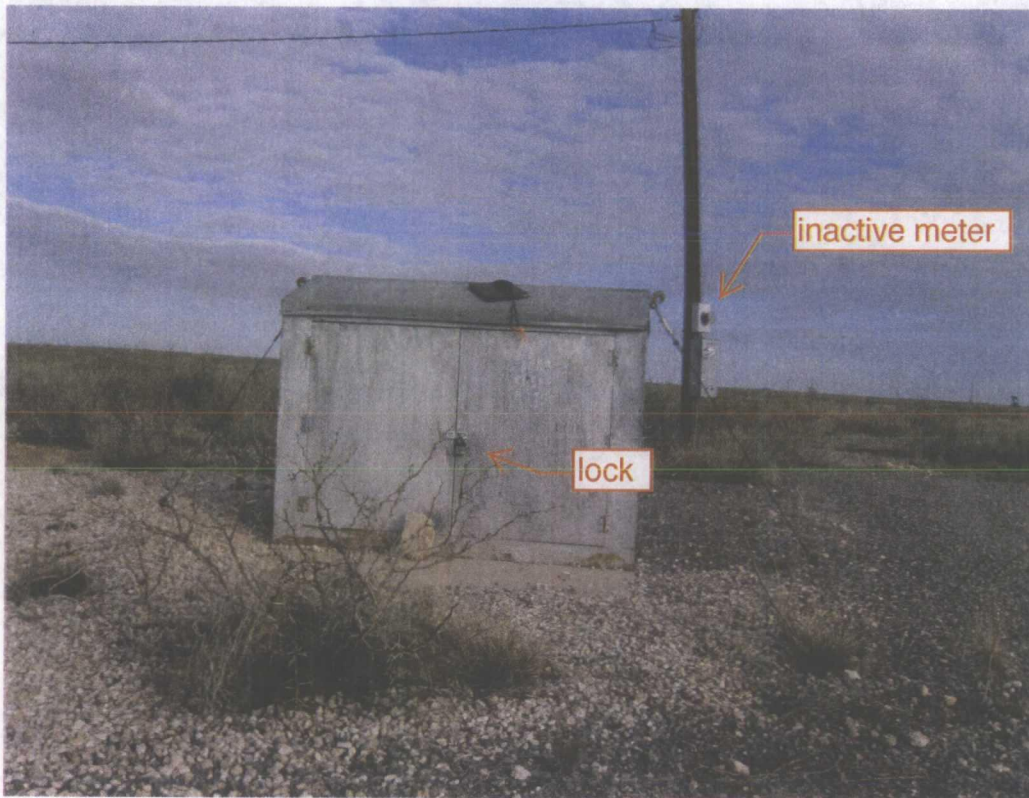
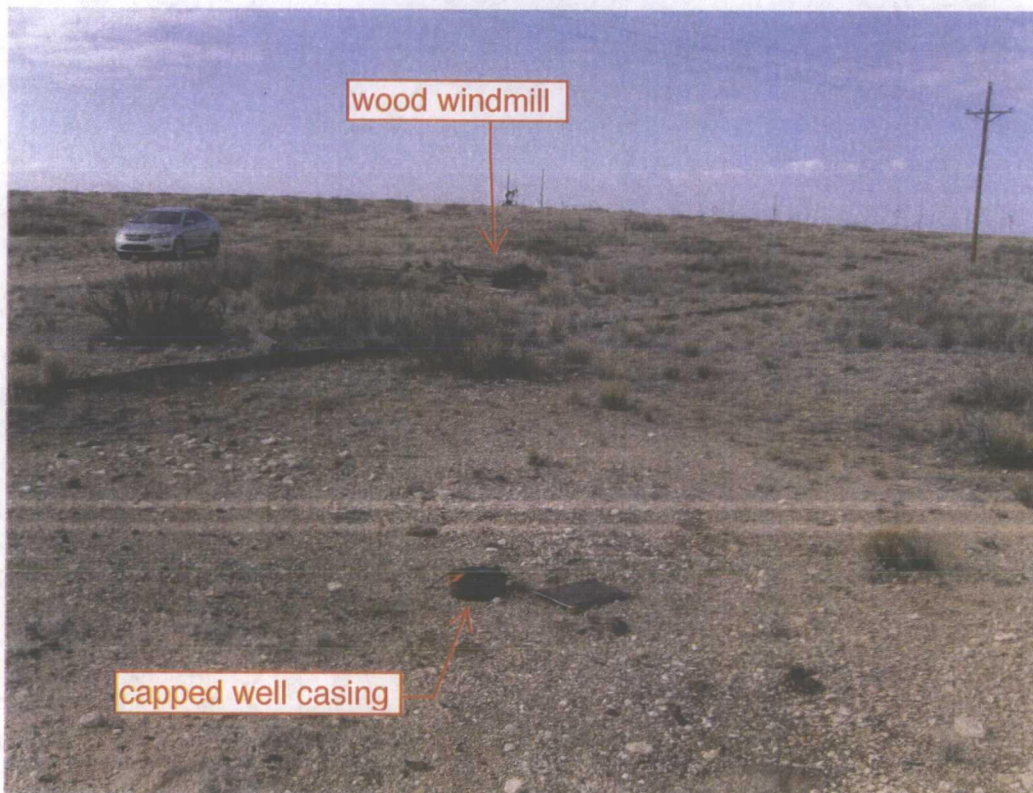


EXHIBIT G



ARCO well



windmill

PERMITS WEST, INC.

PROVIDING PERMITS for LAND USERS

37 Verano Loop, Santa Fe, New Mexico 87508

(505) 466-8120

September 14, 2012

Nick Jaramillo
New Mexico State Land Office
P. O. Box 1148
Santa Fe, NM 87504-1148

Dear Nick,

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Red Lake 3 State #1 (state lease) ID = 10,700'

Proposed Injection Zone: Wolfcamp (from 7,428' to 7,890')

Location: 1720' FNL & 1075' FWL Sec. 3, T. 18 S., R. 28 E., Eddy County, NM

Approximate Location: ~14 air miles east of Artesia, NM

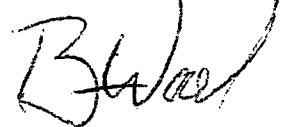
Applicant Name: Apache Corporation (432) 818-1167

Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a saltwater disposal well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

EXHIBIT H

U.S. Postal Service
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OFFICIAL USE	
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Total Postage & Fees	\$ 4.80

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Street, Apt. No.,
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City, State, ZIP+4

Postmark: SEP 19 2012 87552

September 14, 2012

Quantum Resources Management, LLC
 1401 McKinney Street
 Houston, TX 77010

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Approximate Location: ~14 air miles east of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1167
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submission Information: Application for a saltwater disposal well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood
 Brian Wood

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 87552

Sent To
Quantum
 Street, Apt. No. or PO Box No.
 City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

EXHIBIT H

September 14, 2012

Legacy Reserves Operating, LP
 P. O. Box 10848
 Midland, TX 79702

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submission Information: Application for a saltwater disposal well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood
 Brian Wood

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 Total Postage & Fees \$ *700*

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 SEP 15 2012
 87552

Sent To
Legacy
 Street, Apt. No. or PO Box No.
 City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

September 14, 2012

Hanson-McBride Petroleum Co.
 P. O. Box 1515
 Roswell, NM 88201

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a saltwater disposal well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood
 Brian Wood

EXHIBIT H

U.S. Postal Service
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 Total Postage & Fees \$ 1.08

Sent To *Hanson-McB*
 Street Apt. No. or PO Box No.
 City, State, ZIP+4

PS Form 3800, August 2008 See Reverse for Instructions

September 14, 2012

H & S Oil Co. and Heinsch & Spencer
 P. O. Box 186
 Artesia, NM 88211-0186

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

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Please call me if you have any questions.

Sincerely,

Brian Wood
 Brian Wood

U.S. Postal Service
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 Total Postage & Fees \$ 1.08

Sent To *H & S*
 Street Apt. No. or PO Box No.
 City, State, ZIP+4

PS Form 3800, August 2008 See Reverse for Instructions

September 14, 2012

SDX Resources Inc.
 P. O. Box 5061
 Midland, TX 79704

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Please call me if you have any questions.

Sincerely,

Brian Wood

Brian Wood

EXHIBIT H

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Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	5.00

Sent to: SDX
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 City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

September 14, 2012

Murchison Oil & Gas Inc.
 1100 Mesa Vista Blvd.
 Plano, TX 75093

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Approximate Location: ≈14 air miles east of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1167
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

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Please call me if you have any questions.

Sincerely,

Brian Wood

Brian Wood

U.S. Postal ServiceSM
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Total Postage & Fees	\$	7.00

Sent to: Murchison
 Street Apt. No. or PO Box No.
 City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

September 14, 2012

ExxonMobil Corporation
P. O. Box 4358
Houston, TX 77210-4358

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Approximate Location: ~14 air miles east of Artesia, NM
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Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

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Please call me if you have any questions.

Sincerely,

Brian Wood

Brian Wood

EXHIBIT H

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Total Postage & Fees	\$	7.00

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Sent To: *Exxon*

Street Apt. No. or PO Box No.
City, State, Zip+4

PS Form 3800, August 2009 See Reverse for Instructions

September 14, 2012

Khody Land & Minerals Co.
3817 NW Expressway, Suite 950
Oklahoma city, OK 73112

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Approximate Location: ~14 air miles east of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1167
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

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Please call me if you have any questions.

Sincerely,

Brian Wood

Brian Wood

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Total Postage & Fees	\$	7.00

Postmark: SEP 15 2012

Sent To: *Khody*

Street Apt. No. or PO Box No.
City, State, Zip+4

PS Form 3800, August 2009 See Reverse for Instructions

September 14, 2012

Melrose Operating Company
One Chasewood, Suite 310
20333 Chasewood Park
Houston, TX 77070

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Please call me if you have any questions.

Sincerely,

Brian Wood

Brian Wood

EXHIBIT H

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Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees \$ 1702
Sent To
Melrose
City, State, ZIP+4
PS Form 3800, August 2009 See Reverse for Instructions

SEP 15 2012
Postmark Here
87552

September 14, 2012

Mewbourne Oil Company
P. O. Box 7698
Tyler, TX 75711

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Approximate Location: ≈14 air miles east of Artesia, NM
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Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

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Please call me if you have any questions.

Sincerely,

Brian Wood

Brian Wood

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Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees \$ 1702
Sent To
Mewbourne
City, State, ZIP+4
PS Form 3800, August 2009 See Reverse for Instructions

SEP 15 2012
Postmark Here
87662

September 14, 2012

Bogle Ltd, Company
 P. O. Box 460
 Dexter, NM 88231

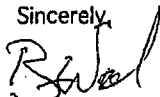
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Please call me if you have any questions.

Sincerely,



Brian Wood

EXHIBIT H

7011 2970 0003 9317 3083

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Postage	\$	
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Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	7.00

Sent to: Bogle
 Street, Apt. No., or PO Box No.
 City, State, ZIP+4

PS Form 3800, August 2009 See Reverse for Instructions

SEP 19 2012 87552

September 14, 2012

Oxy USA WTP Limited Partnership
 P. O. Box 4294
 Houston, TX 77210

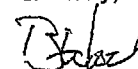
Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Red Lake 3 State #1 (state lease) ID = 10,700'
Proposed Injection Zone: Wolfcamp (from 7,428' to 7,890')
Location: 1720' FNL & 1075' FWL Sec. 3, T. 18 S., R. 28 E., Eddy County, NM
Approximate Location: ≈14 air miles east of Artesia, NM
Applicant Name: Apache Corporation (432) 818-1167
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a saltwater disposal well will be filed with the NM Oil Conservation Division (NMOCD). If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,



Brian Wood

7011 2970 0003 9317 3076

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Total Postage & Fees	\$	7.00

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 Street, Apt. No., or PO Box No.
 City, State, ZIP+4

PS Form 3800, August 2009 See Reverse for Instructions

SEP 19 2012 87552

September 14, 2012

COG Operating LLC
 550 W. Texas, Suite 1300
 Midland, TX 79701

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Sincerely,

Brian Wood

Brian Wood

EXHIBIT H

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Total Postage & Fees	\$	7.00

Postmark
 SEP 15 2012
 87554

Sent To
 COG

PS Form 3800, August 2009 See Reverse for Instructions

September 14, 2012

Chase Oil Corporation
 P. O. Box 1767
 Artesia, NM 88211-1767

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Please call me if you have any questions.

Sincerely,

Brian Wood

Brian Wood

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Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	7.00

Postmark
 SEP 15 2012
 87554

Sent To
 Chase

PS Form 3800, August 2009 See Reverse for Instructions

September 14, 2012

Chisos Ltd.
 670 Dona Ana Road SW
 Deming, NM 88030

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Please call me if you have any questions.

Sincerely,

Brian Wood
 Brian Wood

EXHIBIT H

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 Chisos

Postmark Here
 SEP 15 2012
 87551

US Form 3800, August 2006 See Reverse for Instructions

September 14, 2012

ConocoPhillips Company
 P. O. Box 2197
 Houston, TX 77252

Apache Corporation is applying (see attached application) to reenter and convert the plugged and abandoned Red Lake 3 State #1 well to a saltwater disposal well. As required by NM Oil Conservation Division Rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

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Please call me if you have any questions.

Sincerely,

Brian Wood
 Brian Wood

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 Restricted Delivery Fee (Endorsement Required)
 Total Postage & Fees \$ 4.00

Sent to
 Special Agent
 or PO Box No.
 City, State, ZIP+4[®]
 ConocoPhillips

Postmark Here
 SEP 15 2012
 87551

US Form 3800, August 2006 See Reverse for Instructions

Affidavit of Publication

NO.

22292

STATE OF NEW MEXICO

County of Eddy:

Danny Scott

being duly sworn, says that he is the

Publisher

of the Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and state, and that the hereto attached

Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for

1 Consecutive weeks/days on the same day as follows:

First Publication

August 31, 2102

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Subscribed and sworn to before me this

31st day of

August

2012



OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 5/12/2015

Latisha Romine

Latisha Romine

Notary Public, Eddy County, New Mexico

Copy of Publication:

LEGAL NOTICE

Apache Corporation is applying to re-enter a plugged well and convert it to saltwater disposal well. The well is in Eddy County and 14 miles east of Artesia. The Red Lake 3 State #1 will dispose into the Wolfcamp from 7428' to 7890'. It is at 1720 ENL & 1075 FWL Sec. 3 T. 18 S. R. 28 E. Maximum injection pressure will be 1,485 psi. Maximum disposal rate will be 10,000 bwpd. Interested parties must file objections or requests for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM 87505 within 15 days. Additional information can be obtained by contacting Brian Wood, Permits West, Inc., 37 Verano Loop, Santa Fe, NM 87508. Phone number is (505) 466-8120. Published in the Artesia Daily Press, Artesia, N.M., Aug. 31, 2012. Legal No. 22292

CROSSWORD

EXHIBIT I



SUSPENSE 1/6/12	ENGINEER WVJ	LOGGED IN 12.20.11	TYPE SND	APP NO. 1136434349
--------------------	-----------------	-----------------------	-------------	-----------------------

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505

ABOVE THIS LINE FOR DIVISION USE ONLY

OPPOSED 1/4/12 BY COG

Apache
873
Red Lake 3 State #1
30-015-32421

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

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 _____

Apache Corporation's 873
Red Lake 3 State #1
30-015-32421

[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

7428'-7890
1606P5E

[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.

Print or Type Name

Signature

Title

Date

BRIAN WOOD
(505) 466-8120
FAX 466-9682

B Wood

CONSULTANT

12-19-11

e-mail Address

brian@permitswest.com

Jones, William V., EMNRD

From: brian wood [brian@permitswest.com]
Sent: Tuesday, February 14, 2012 5:16 PM
To: Jones, William V., EMNRD
Subject: Apache's Red Lake 3 State 1 tops

Apache geologist Bret Percy spoke with Craig Shepard last week.
They agreed Wolfcamp top is 7128 and Cisco top is 8354.
Disposal zone will be Wolfcamp, not Cisco.

They are still working with surface owner COG.
Apache does not, at this time, plan for a hearing.

30-015-32421

Jones, William V., EMNRD

From: Sean Johnson <SJohnson@concho.com>
Sent: Wednesday, August 22, 2012 9:39 AM
To: Jones, William V., EMNRD
Cc: Lanning, Chris; David Evans; Dean Chumbley; brian@permitswest.com
Subject: RE: Red Lake 3 State #1 (30-015-32421)

Mr. Jones:

In regards to the below email dated January 4, 2012 covering the objection to the Red Lake 3 State #1 (30-015-32421) application, COG Operating LLC as owner of the surface lands involved has entered into a mutually acceptable agreement with Apache Corporation relieving the concerns regarding surface use activities discussed below. It is the intent of this email for COG Operating LLC to withdrawal the objection to the application mentioned in this email.

Thank you for your assistance in this matter and please do not hesitate to contact myself if any further questions arise.

COG OPERATING LLC

Sean Johnson
Landman
550 W. Texas Avenue, Suite 100
Midland, Texas 79701
432-818-2230 phone
432-686-3000 fax



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From: Dean Chumbley [<mailto:dchumbley@concho.com>]
Sent: Wednesday, January 04, 2012 10:37 AM
To: william.v.jones@state.nm.us
Cc: Lanning, Chris; Jim Burnett; brian@permitswest.com
Subject: Red Lake 3 State #1 (30-015-32421)

Mr. Jones:

COG Operating LLC as owner of the surface lands involved with the subject application respectfully request that you accept this email as our objection to the application. We have concerns regarding surface use activities and compensation that have not been relieved through discussions with the operator.

Thank you for your assistance with this matter and please do not hesitate to contact Jim Bob Burnett or myself should you have any further questions.

Dean Chumbley | Surface Operations Advisor | COG Operating LLC
2208 West Main Street| Artesia, NM 88210| p: 575.748.6940| f: 575.748.6950| dchumbley@concho.com

Jones, William V., EMNRD

From: Brian Wood [brian@permitswest.com]
Sent: Thursday, April 26, 2012 10:12 AM
To: Jones, William V., EMNRD
Subject: Re: Disposal permit application from Apache Corp: Red Lake 3 State #1 30-015-32421 Wolfcamp from 7428 to 7890 feet

They have not reach agreement.
It looks like they will go for a hearing.
I do not yet know which attorney they will use.
On Apr 25, 2012, at 4:11 PM, Jones, William V., EMNRD wrote:

Hello Brian:
Please let me know if Apache has worked out the protest from COG?

Thank You,

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462

<image001.jpg>

Brian Wood
Permits West, Inc.
37 Verano Loop, Santa Fe, NM 87508
Phone: 505 466-8120
FAX: 505 466-9682
Cellular Phone: 505 699-2276

See To Hearing

Jones, William V., EMNRD

From: brian wood [brian@permitswest.com]
Sent: Monday, January 30, 2012 6:56 AM
To: Jones, William V., EMNRD
Subject: Re: Disposal application from Apache Corp: Red Lake 3 State #1 30-015-32421 interval Wolfcamp from 7428 to 7890 feet

Apache feels like they are making progress with COG.
There is a similar situation in Texas, but the roles are reversed.
On Jan 27, 2012, at 3:47 PM, Jones, William V., EMNRD wrote:

Hello Brian,
As Agent for Apache who prepared this application, sending this review to you.

As you know, there is still an outstanding protest to this proposal from COG, but had promised you I would look this one over anyway.

All otherwise seems fine with the application, the top of the Wolfcamp seems to vary depending on the geologist and log information and the top of the Cisco is listed one time in your application at 8975 feet. If these tops are better defined let me know? *WC @ 7128, Cisco @ 8354*

- cannot release this permit administratively until the protest is withdrawn and until the Rule 5.9 issues are explained or the bonds posted.

As far as the protest from the surface owner (COG), I suppose Apache knows they could pursue this application to an examiner hearing?

Thank You Sir,

William V. Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462

<image001.jpg>

Jones, William V., EMNRD

From: brian wood [brian@permitswest.com]
Sent: Tuesday, January 03, 2012 10:49 AM
To: Jones, William V., EMNRD
Subject: Re: Disposal application from Apache Corp: Red Lake 3 State #1 30-015-32421 E/3/18S/28E Wolfcamp
Attachments: green card.PDF

County shows Bogle as surface owner.
Bogle surface was bought by Johnny Gray LLC, aka COG.
In any even, attached is green card from COG.
I'll get you revised drawings.

On Jan 3, 2012, at 9:54 AM, Jones, William V., EMNRD wrote:

Hello Brian,
Hope all is well.

Got a call today from Concho, apparently COG owns the surface of this well location instead of Bogle?

Please send a copy of the application to COG.

I haven't looked this over yet, but just a quick glance.
Please send to me here a separate wellbore diagram of the well as it will be configured after re-entry and conversion.
The bottom depths on the combo diagram sent differ from depths shown for bottom of interval.
You could scan and email if you want.

Happy New Year,

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462

<image001.jpg>

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Wednesday, August 22, 2012 5:21 PM
To: brian@permitswest.com; reesa.holland@apachecorp.com
Cc: 'Sean Johnson'; Ezeanyim, Richard, EMNRD; Brooks, David K., EMNRD
Subject: RE: Red Lake 3 State #1 (30-015-32421)

Hello Reesa and Brian,

Below is evidence that Concho as the surface owner of this well site has dropped its objection.

However, because the notices are over 6 months old, please re-apply for disposal into this well by sending the OCD (Santa Fe and Artesia) a new copy of this application. In addition, please post another newspaper notice and send copies of your application to the surface owner and "affected persons" as was done before.

I will save my notes on this application for use when the new application arrives.

Regards,

William V. Jones, P.E.

505-476-3448W 505-476-3462F

Engineering Bureau, Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

From: Sean Johnson [<mailto:SJohnson@concho.com>]
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COG OPERATING LLC

Sean Johnson

Landman

550 W. Texas Avenue, Suite 100

Midland, Texas 79701

432-818-2230 phone

432-686-3000 fax

 **CONCHO**

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2208 West Main Street| Artesia, NM 88210| p: 575.748.6940| f: 575.748.6950| dchumbley@concho.com



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Injection Permit Checklist (11/15/2010)

WFX _____ PMX _____ SWD 365 Permit Date 11/15/12 UIC Qtr (0/N/D)

Wells 1 Well Name(s): Red Lake 3 State #1

API Num: 30-0 15-32421 Spud Date: 2003 New/Old: N (UIC primacy March 7, 1982)

Footages 1720 FNL/1075 FUL Unit E Sec 3 Tsp 18S Rge 28E County EDDY

General Location:

Operator: APACHE CORP. Contact _____

OGRID: 873 RULE 5.9 Compliance (Wells) 2730K (Finan Assur) OK IS 5.9 OK? 2 Bonds

Well File Reviewed ✓ Current Status: PEA 2004 OLD MOWAN ~~WELL~~ DRY HOLE

Planned Work to Well:

Diagrams: Before Conversion ✓ After Conversion ✓ Elogs in Imaging File: ✓

Well Details:		Sizes	Setting	Stage	Cement	Determination
		Hole.....Pipe	Depths	Tool	Sx or Cf	Method
New <u>✓</u> Existing <u>—</u>	Surface	<u>17 1/2 13 7/8</u>	<u>478</u>	<u>—</u>	<u>725 SX</u>	<u>Surf (Visual)</u>
New <u>✓</u> Existing <u>—</u>	Interm	<u>11 8 5/8</u>	<u>2990</u>	<u>—</u>	<u>21040 SX</u>	<u>Surf (Visual)</u>
New <u>✓</u> Existing <u>—</u>	LongSt	<u>7 7/8 5 1/2</u>	<u>10700</u>	<u>?</u>	<u>970 SX</u>	<u>127 TS.</u>
New <u>—</u> Existing <u>—</u>	Liner					
New <u>—</u> Existing <u>—</u>	OpenHole					

Depths/Formations:

	Depths, Ft.	Formation	Tops?
Formation(s) Above	<u>7428</u>	<u>WC</u>	<u>✓</u>
Injection TOP:	<u>7428</u>	<u>WC</u>	Max. PSI <u>1486</u> OpenHole <u>—</u> Perfs <u>✓</u>
Injection BOTTOM:	<u>7890</u>	<u>WC</u>	Tubing Size <u>3 1/2</u> Packer Depth <u>7828-78</u>
Formation(s) Below	<u>8354</u>	<u>C1500</u>	<u>✓</u>

Capitan Reef? — (Potash? — Noticed? —) [WIPP? — Noticed? —] Salado Top/Bot < 613' Cliff House? —

Fresh Water: Depths: _____ Formation Q Wells? yes Analysis? (inactive) Affirmative Statement ✓

Disposal Fluid Analysis? ✓ Sources: ABO / X-200 (FROM APACHE wells)

Disposal Interval: Analysis? ✓ Production Potential/Testing: Tested well in June 2003

Notice: Newspaper Date 8/31/12 Surface Owner COG Operaty: US Mineral Owner(s) SLO Murch

RULE 26.7(A) Affected Persons: Conoco PH. / KROD / Loring / HES / Hout / McB / Oxy / Cera / Vandal / EGM / BK

AOR: Maps? W Well List? ✓ Producing in Interval? NO Wellbore Diagrams? —

.....Active Wells 0 Repairs? — Which Wells? —

.....P&A Wells 0 Repairs? — Which Wells? —

Issues:

Request Sent _____ Reply: _____