

RECEIVED: 5/25/2018	REVIEWER:	TYPE: WFX	APP NO: PMDM 18241 4148
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Geological & 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

Applicant: Apache Corporation	OGRID Number: 873
Well Name: West Blinbry Drinkard Unit 90	API: 30-025-06634
Pool: Eunice; BLI-TU-DR, North	Pool Code: 22900

**SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION
 INDICATED BELOW**

- 1) **TYPE OF APPLICATION:** Check those which apply for [A]
 A. Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD
- B. Check one only for [I] or [II]
 [I] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
 [II] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☒ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

WFX - 984

- 2) **NOTIFICATION REQUIRED TO:** Check those which apply.
- A. ☒ Offset operators or lease holders
 B. ☐ Royalty, overriding royalty owners, revenue owners
 C. ☒ Application requires published notice
 D. ☒ Notification and/or concurrent approval by SLO
 E. ☒ Notification and/or concurrent approval by BLM
 F. ☒ Surface owner
 G. ☒ For all of the above, proof of notification or publication is attached, and/or,
 H. ☐ No notice required

FOR OCD ONLY

- ☐ Notice Complete
☐ Application
 Content
 Complete

- 3) **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

8-27-18

Date

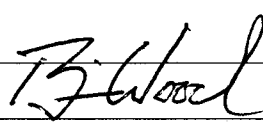
505 466-8120

Phone Number

brian@permitswest.com

e-mail Address

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: XXX Secondary Recovery Pressure Maintenance 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 R-12981 et al
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.
WEST BLINEBRY DRINKARD UNIT 90
- VII. Attach data on the proposed operation, including: **30-025-06634**
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: AUG. 11, 2018
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.

INJECTION WELL DATA SHEET

OPERATOR: APACHE CORPORATIONWELL NAME & NUMBER: WEST BLINEBRY DRINKARD UNIT 90WELL LOCATION: 330' FSL & 330' FEL

P

FOOTAGE LOCATION

UNIT LETTER

16

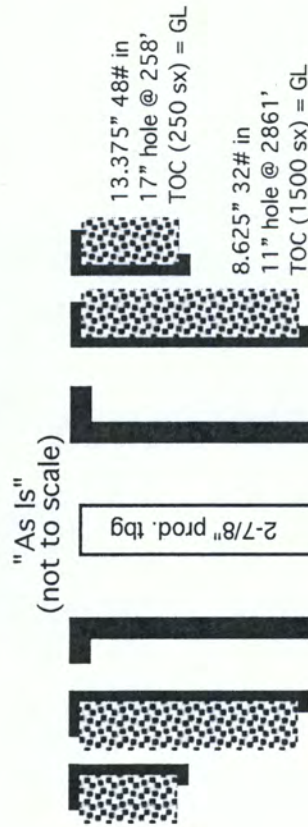
SECTION

21 S

TOWNSHIP

37 E

RANGE

WELBORE SCHEMATICWELL CONSTRUCTION DATASurface CasingHole Size: 17" Casing Size: 13.375"Cemented with: 250 sx. or ft³Top of Cement: SURFACE Method Determined: CIRCULATEDIntermediate CasingHole Size: 11" Casing Size: 8.625"Cemented with: 1500 sx. or ft³Top of Cement: SURFACE Method Determined: CIRCULATEDProduction CasingHole Size: 7.875" Casing Size: 5.5"Cemented with: 400 sx. or ft³Top of Cement: 3376' Method Determined: TEMP. SURV.Total Depth: 8261'Injection Interval6400 feet to 6660'(Perforated ~~or~~ Open Hole; indicate which)

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INJECTION WELL DATA SHEET

OPERATOR: APACHE CORPORATIONWELL NAME & NUMBER: WEST BLINEBRY DRINKARD UNIT 90WELL LOCATION: 330' FSL & 330' FEL

P

FOOTAGE LOCATION

UNIT LETTER

SECTION

TOWNSHIP

RANGE

WELLS SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: 17" Casing Size: 13.375"

Cemented with: 250 sx. or ft³

Top of Cement: SURFACE Method Determined: CIRCULATED

Intermediate Casing

Hole Size: 11" Casing Size: 8.625"

Cemented with: 1500 sx. or ft³

Top of Cement: SURFACE Method Determined: CIRCULATED

Production Casing

Hole Size: 7.875" Casing Size: 5.5"

Cemented with: 400 sx. or ft³

Top of Cement: 3376' Method Determined: TEMP. SURV.

Total Depth: 8261'

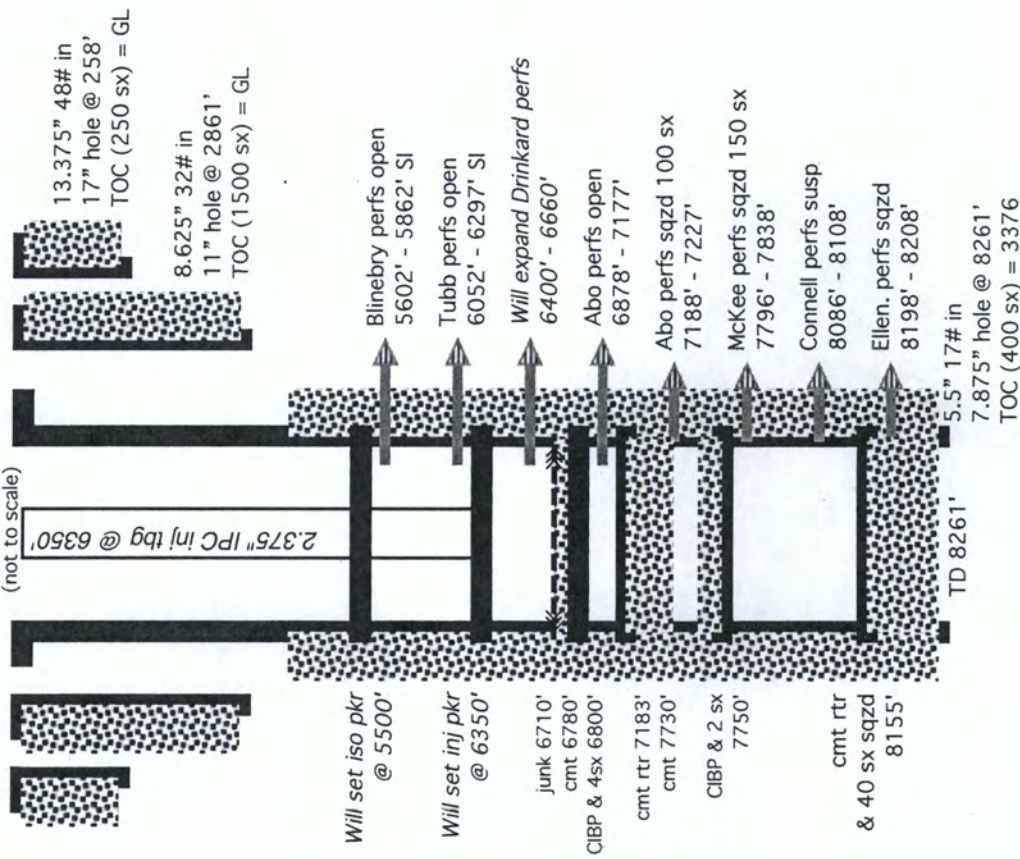
Injection Interval

6400 feet to 6660'

(Perforated ~~or~~ Open Hole; indicate which)

"Proposed"

(not to scale)



INJECTION WELL DATA SHEET

Tubing Size: 2-3/8" J-55 4.7# Lining Material: INTERNAL PLASTIC COAT

Type of Packer: LOCK SET INJECTION

Packer Setting Depth: 5500' (isolation) & 6350' (injection)

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

Additional Data

1. Is this a new well drilled for injection? ~~XXX~~ Yes ✓ No

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

2. Name of the Injection Formation: DRINKARD

3. Name of Field or Pool (if applicable): EUNICE; BLI-TU-DR, NORTH (POOL CODE 22900)

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. _____

NO

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

OVER: GRAYBURG (3725'), SAN ANDRES (3970'), PADDOCK (5235'),
BLINEBRY (5595'), & TUBB (6125'),

UNDER: ABO (6680'), SIMPSON (7420'), MCKEE (7770'), CONNEL (8084'),
& ELLENBURGER (8150')

APACHE CORPORATION
WEST BLINEBRY DRINKARD UNIT 90
330' FSL & 330' FEL
SEC. 16, T. 21 S., R. 37 E.
LEA COUNTY, NM

PAGE 1

30-025-06634

I. Plan is to convert an oil well to a water injection well to increase oil recovery. The well will inject (6400' - 6660') into the Drinkard, which is in the Eunice; Blinebry-Tubb-Drinkard, North Pool (aka, Eunice; BLI-TU-DR, North and pool code = 22900). The well and zone are in the West Blinebry Drinkard Unit (Unit Number 300341, Case Numbers 14125 and 14126, both Order Number R-12981) that was established in 2008 by Apache. There have been 20 subsequent WFX approvals. This is an active water flood with 53 water injectors in the Unit.

II. Operator: Apache Corporation (OGRID #873)
Operator phone number: (432) 818-1062
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: NMSLO B081050004
Lease Size: 160 acres (see Exhibit A for maps and C-102)
Closest Lease Line: 330'
Lease Area: S2S2 of Section 16, T. 21 S., R. 37 E.
Unit Number: 300341
Unit Size: 2,480 acres
Closest Unit Line: 330'
Unit Area: T. 21 S., R. 37 E.
Section 4: Lot 15, S2SW4, & SE4
Section 8: E2, NENW, & E2SW
Sections 9 & 16: all
Section 17: E2 & E2SW4
Section 21: E2NE4

A. (2) Surface casing (13.375", 48#, H-40) was set at 258' in a 17" hole with 250 sacks. Cement circulated to the surface.

30-025-06634

Intermediate casing (8.625", 32#, H-40) was set at 2861' in an 11" hole and cemented with 1500 sacks. Cement circulated to surface.

Production casing (5.5", 17#, N-80) was set at 8261' (TD) in a 7.875" hole and cemented with 400 sacks to 3376' (temperature).

Mechanical integrity of the casing will be assured by hydraulically pressure testing to 500 psi for 30 minutes.

- A. (3) Tubing specifications are 2.375", J-55, 4.7#, and IPC. Setting depth will be \approx 6350'. (Injection interval will be 6400' to 6660'.)
- A. (4) A dual packer system will be installed. Lock set packers will be set at \approx 5500' (above the Blinebry) and at \approx 6350' (below the Tubb and 50' above the highest proposed perforation of 6400'). Blinebry and Tubb will be isolated, production suspended, and conserved for future development.
- B. (1) Injection zone will be the Drinkard carbonates. Zone is part of the Eunice; Blinebry-Tubb-Drinkard, North Pool. Estimated fracture gradient is \approx 0.56 psi per foot.
- B. (2) Injection interval will be 6400' to 6660'. The well is a cased hole.
- B. (3) Well was drilled in 1952 as a McKee oil well.
- B. (4) Well will be perforated from 6400' to 6660' with 2 shots per foot. Shot diameter = 0.40". Well is currently perforated as follows:
 - Blinebry 5600' - 5942' (no squeeze)
 - Tubb 6052' - 6297' (no squeeze)
 - Drinkard 6438' - 6647' (no squeeze)
 - Abo 6878' - 7177' (no squeeze)
 - Abo 7188' - 7227' (squeezed)
 - McKee 7796' - 7838' (squeezed)
 - Connell 8086' - 8108' (suspended)
 - Ellenburger 8198' - 8208' (squeezed)

APACHE CORPORATION
WEST BLINEBRY DRINKARD UNIT 90
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LEA COUNTY, NM

PAGE 3

30-025-06634

- B. (5) Next higher oil or gas zone in the area of review is the Tubb. Deepest Tubb perf is at 6297'. Injection will occur in the Drinkard (6400' - 6660'). Tubb will be isolated with packers, production suspended, and conserved for future development. Injection zone is part of the Eunice; Blinebry-Tubb-Drinkard, North Pool (NMOCD pool code number = 22900).

Next lower oil or gas zone in the area of review is the Abo (Pool Code = 62700). Highest Abo perf is at 6878'. Deepest perforation in the injection interval will be 6660'.

IV. This is not a horizontal or vertical expansion of an existing injection project. The case file for the Unit approval (R-12981) includes a discussion of the water flood. There have been 20 subsequent water flood expansions. Closest Unit boundary is 330' south. Seven injection wells are within a half-mile radius, four of which are in the Unit.

V. Exhibit B shows 57 existing wells (42 oil or gas wells + 8 water injection wells + 4 P&A wells + 1 SWD well + 2 water supply wells) within a half-mile radius, regardless of depth. Exhibit C shows 838 existing wells (589 oil or gas wells + 104 injection or disposal wells + 85 P & A wells + 59 water wells + 1 brine well) within a two-mile radius.

Exhibit D shows and details all leases (BLM, State, and fee) within a half-mile radius. Exhibit E shows all lessors (BLM, fee, and state) within a 2-mile radius.

VI. Fifty-seven wells are within a half-mile radius (Exhibit F). Forty-four of the wells penetrated the Drinkard. The penetrators include 29 oil or gas wells, 9 water injection or SWD wells, 4 P&A wells, and 2 water supply wells. A table abstracting the well construction details and histories of the penetrators is in Exhibit F. Diagrams of the P&A penetrators are in Exhibit G.

APACHE CORPORATION
 WEST BLINEBRY DRINKARD UNIT 90
 330' FSL & 330' FEL
 SEC. 16, T. 21 S., R. 37 E.
 LEA COUNTY, NM

PAGE 4

30-025-06634

- VII. 1. Average injection rate will be \approx 2500 bwpd.
 Maximum injection rate will be 3000 bwpd.
2. System will be closed. Well will tie into the existing Unit pipeline system. The system consists of a branched injection system with centrifugal injection pumps.
3. Average injection pressure will be \approx 1200 psi. Maximum injection pressure will be 1280 psi ($= 0.2$ psi/foot \times 6400' (top perforation)).
4. Water source will be two existing \approx 4000' deep San Andres water supply wells, plus produced water from Blinebry, Tubb, and Drinkard zones. The source water and produced water are collected in separate skim tanks. Both water streams (source and produced) are commingled in a tank before being piped to the injection wells. Analyses and San Andres follows. No compatibility problems have reported from the 54,000,543 barrels that have been injected to date in the Unit.

	NEDU Injection Pump Discharge	San Andres 919-S
Anion/Cation Ratio	1.0	N/A
Barium	0.1 mg/l	0.38 mg/l
Bicarbonate	671.0 mg/l	562.0 mg/l
Calcium	1,099.0 mg/l	608.0 mg/l
Carbon Dioxide	80.0 ppm	80.0 ppm
Chloride	10,086.0 mg/l	6,200.0 mg/l
Hydrogen Sulfide	90.0 ppm	408.0 ppm
Iron	0.3 mg/l	0.0 mg/l
Magnesium	439.0 mg/l	244.0 mg/l
Manganese	N/A	0.01 mg/l
pH	7.5	6.49
Potassium	115.0 mg/l	N/A
Sodium	5,799.5 mg/l	3,909.0 mg/l
Strontium	28.0 mg/l	19.0 mg/l
Sulfate	2,465.0 mg/l	1,750.0 mg/l
Total Dissolved Solids	20,702.9 mg/l	13,273.0 mg/l

5. The Blinebry, Tubb, and/or Drinkard currently produce, or will produce, from 109 active or new oil wells in the Unit. Project goal is to increase production.

APACHE CORPORATION
WEST BLINEBRY DRINKARD UNIT 90
330' FSL & 330' FEL
SEC. 16, T. 21 S., R. 37 E.
LEA COUNTY, NM

PAGE 5

30-025-06634

VIII. The Unit is on the north end of a north-northwest to south-southeast trending anticline. It is part of the Penrose Skelly trend and parallels the west edge of the Central Basin Platform. Dips are 1° to 2°. The injection interval is Leonardian in age, 260' thick, and consists of tan to dark gray shallow marine carbonates, many of which have been dolomitized. Core filling and replacement anhydrite are common in the limestone. Nodular anhydrite is common in the dolomite. Five per cent porosity cut off is used to determine pay zones. Impermeable shale and carbonates vertically confine the interval.

There are currently 150 Drinkard injection wells in New Mexico. The West Blinebry Drinkard Unit shares its east border with Apache's Northeast Drinkard Unit. Three other similar water floods (East Blinebry Drinkard Unit, Central Drinkard Unit, and Warren Blinebry Unit) are within a mile of the West Blinebry Drinkard Unit. The Central Drinkard Unit has been under water flood since the 1960s.

Formation depths are:

Quaternary = 0'
Rustler = 1198'
Tansill = 2446'
Yates = 2570'
Seven Rivers = 2838'
Queen = 3345'
Grayburg = 3725'
San Andres = 3970'
Glorieta = 5140'
Blinebry = 5595'
Tubb = 6125'
Drinkard = 6400'
Abo = 6680'
Montoya = 7305'
Simpson = 7420'
McKee = 7770'
Connel = 8084'
Ellenburger = 8150'
Total Depth = 8261'

APACHE CORPORATION
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LEA COUNTY, NM

PAGE 6

30-025-06634

State Engineer (Exhibit H) records indicate ten water wells are within a mile. One (CP 00729) is a P&A water supply well. Three are closed waterflood supply wells. The other six could not be found during a November 7, 2017 inspection. Two sources were sampled (Exhibit H) that day. Decky 15 tank, ¼ mile east, is not in the State Engineer database. Kerbo tank (CP 01026) is 1.8 miles west.

Deepest water well within a mile (1610 meter) radius is 8130'. This is one of 4 water wells drilled by Shell Western E&P within a mile that are $\geq 6633'$ deep. However, water-bearing strata are 4010' – 4925' deep in the 4 wells. This range is within the San Andres. Three are being used as waterflood supply wells by Apache. The fourth is P&A. The other 6 water wells within a mile range in depth from 35' to 80'. None of the six could be found. No existing underground drinking water source is below the injection interval within a mile radius. The well is 2.6 miles southwest of the Ogallala aquifer.

There will be 5202' of vertical separation and 1652' of salt, anhydrite, and gypsum between the bottom of the only likely underground fresh water source (red beds) and the top of the injection interval.

Produced water is currently being injected (215 wells) or disposed (8 wells) into the Blinebry-Tubb-Drinkard, San Andres, Grayburg, Queen, Seven Rivers, and Yates within T. 21 S., R. 37 E.

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

X. GR-Neutron logs are on file with NMOCD.

XI. One active fresh water well is within a mile. Analyses from that well (Decky (¼ mile east) and Kerbo (1.8 miles west) are attached (Exhibit H).

XII. Apache is not aware of any geologic or engineering data that may indicate the injection interval is in hydrologic connection with any underground sources of water. Closest Quaternary faults are 109 miles southwest (Exhibit I).

APACHE CORPORATION
WEST BLINEBRY DRINKARD UNIT 90
330' FSL & 330' FEL
SEC. 16, T. 21 S., R. 37 E.
LEA COUNTY, NM

PAGE 7

30-025-06634

There are 150 Drinkard injectors in New Mexico. Previously approved water flood expansions (WFX-) in the Unit include 854, 857, 913, 921, 922, 923, 924, 948, 952, 954, 955, 958, 959, 960, 962, 964, 965, 967, 968, and 972.

XIII. A legal ad (see Exhibit J) was published on August 9, 2018. Notice (this application) has been sent (Exhibit K) to the surface owner (NM State Land Office), BLM, the offset Blinebry, Tubb, and Drinkard operators (only Apache and Stephens & Johnson), and lessees of record (Chevron USA, Elliott Hall Co., Elliott Industries, Oxy USA WTP LP).

NEW MEXICO OIL CONSERVATION COMMISSION
Well Location and Acreage Dedication Plat

EXHIBIT A

Section A.

Date December 31, 1962

Operator Sunray Oil Company Release 1:24 State Land "15"
Well No. 5 Unit Letter 1803 Section 16 Township 21S Range 37E NMP
Located 330 Feet From south Line, 330 Feet From east Line
County Lea G. L. Elevation 3445 DF Dedicated Acreage 4.0 Acres
Name of Producing Formation Blinberry Pool Blinberry oil

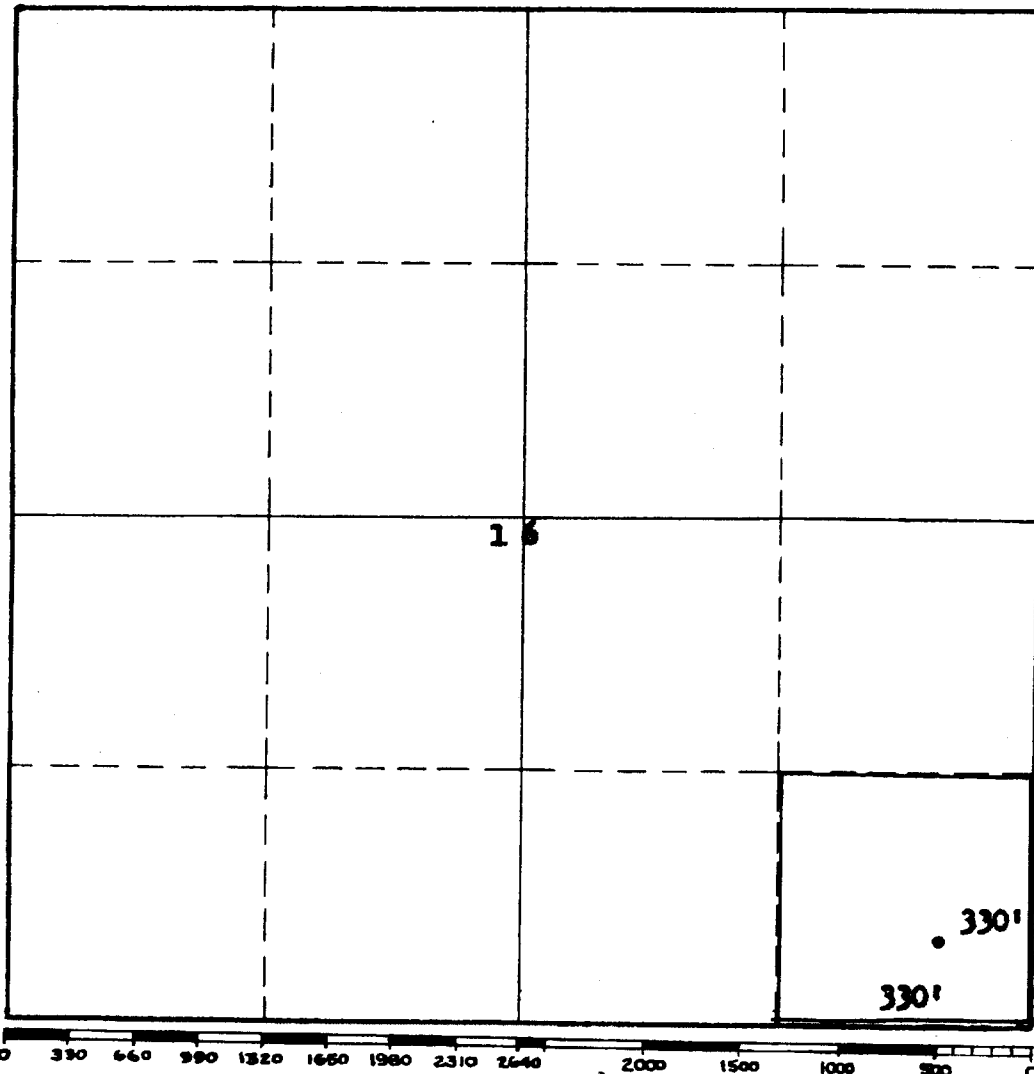
1. Is the Operator the only owner* in the dedicated acreage outlined on the plat below?
Yes ☒ No ☐.
2. If the answer to question one is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? Yes ☐ No ☐. If answer is "yes," Type of Consolidation _____
3. If the answer to question two is "no," list all the owners and their respective interests below:

Owner

Land Description

<u>Owner</u>	<u>Land Description</u>

Section B



This is to certify that the information in Section A above is true and complete to the best of my knowledge and belief.

Sunray Oil Company

(Operator)

(Representative)

R. E. Statton

Box 128, Hobbs, New Mexico

Address

This is to certify that the well location shown on the plat in Section B 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 knowledge and belief.

Date Surveyed _____

Registered Professional
Engineer and/or Land Surveyor

Certificate No. _____

(See instructions for completing this form on the reverse side)

103.18333° W

103.16667° W

WGS84 103.15000° W

EXHIBIT A

WBDU 90



32.47252° N, 103.16047° W

Map created with 102010 National Geographic, ©2005 Tele Atlas, Rel. 8/2005

103.18333° W

103.16667° W

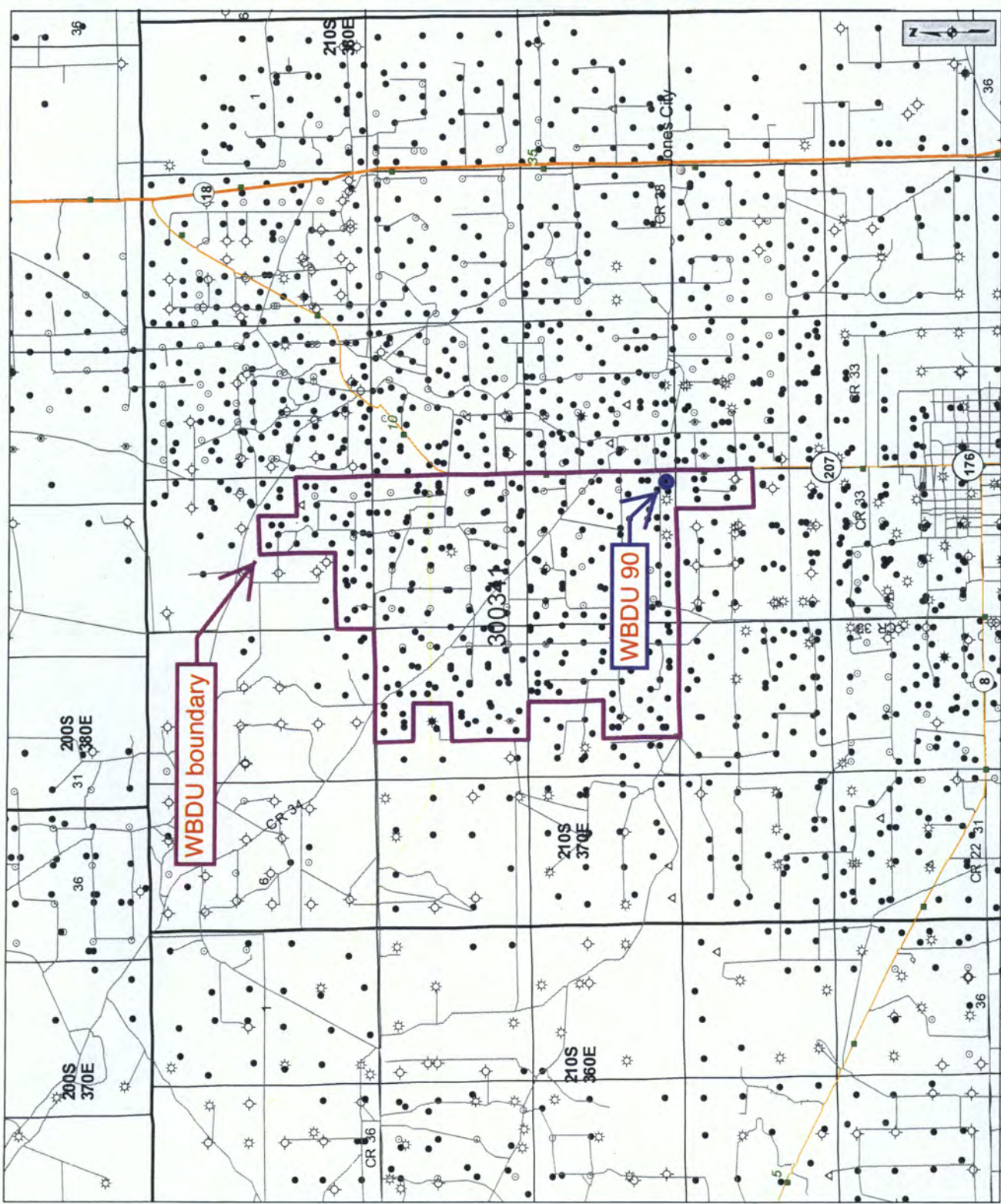
WGS84 103.15000° W



TN * MN

6.5°

06/16/18



New Mexico State Land Office Oil, Gas and Minerals

0 0.2 0.4 0.8 1.2 1.6 Miles
 Universal Transverse Mercator Projection, Zone 13
 1983 North American Datum

The New Mexico State Land Office assumes no responsibility or liability for, or in connection with, the accuracy, reliability or use of the information provided here, in State Land Office data layers or any other data layer.

Land Office Geographic Information Center
 logis@sls.state.nm.us

Cartographic Features

- County Boundaries
- County Seats
- City, Town or Village
- SLO District Offices
- SLO District Boundary
- Hwy Mileposts
- Interstate
- NM Hwy
- Continental Divide
- US Hwy
- Local Road

Federal Minerals Ownership

- All Minerals
- Coal Only
- Oil and Gas Only
- Oil, Gas and Coal Only
- Other Minerals

State Trust Lands

- Surface Estate
- Subsurface Estate
- Surface and Subsurface Estate

State Leases

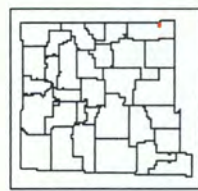
- Oil and Gas Leases
- Agricultural Leases
- Commercial Leases
- Minerals Leases
- Not Available for Oil and Gas Leasing
- Oil and Gas Leasing Influenced by Restriction

Oil and Gas Related Features

- Oil and Gas Unit Boundary
- Participating Areas in Units
- Geologic Regions
- Volcanic Vents
- NMOC D Order R-111-P
- Potash Enclave Outline

NMOC D Oil and Gas Wells

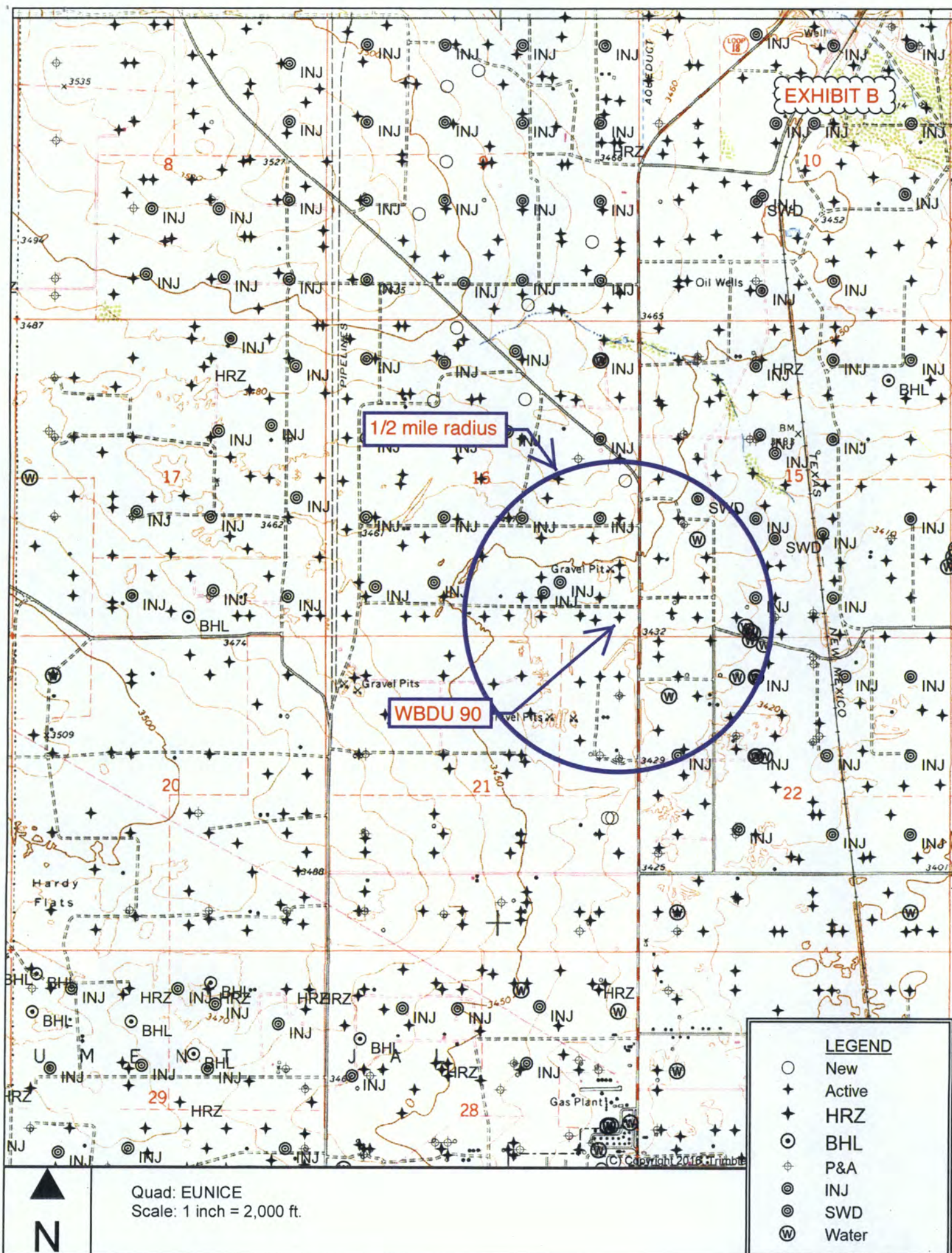
- CO₂
- Injection
- Oil
- Water
- Gas
- Miscellaneous
- Salt Water Disposal
- DA or PA



www.nmstate Lands.org

EXHIBIT A

Created On: 4/15/2017 2:26:45 PM



SORTED BY DISTANCE FROM WBDU 90

API	OPERATOR	UNIT- SECTION- T21S-R37E	TVD	WELL	TYPE	ZONE	FEET FROM WBDU 90
3002539300	Apache	P-16	7022	WBDU 115	O	Eunice; Bli-Tu-Dr, N	428
3002506633	Apache	P-16	6665	WBDU 089	O	Eunice; Bli-Tu-Dr, N	469
3002537496	Apache	P-16	4415	State Land 15 012	G	Penrose Skelly; Grayburg	683
3002539449	Apache	P-16	4415	State Land 15 017	O	Penrose Skelly; Grayburg	710
3002536806	Apache	D-22	6850	NEDU 720	O	Eunice; Bli-Tu-Dr, N	775
3002506608	Apache	M-15	8035	Argo 012	O	Penrose Skelly; Grayburg	887
3002539686	Apache	D-22	4400	Argo A 014	O	Penrose Skelly; Grayburg	892
3002539963	Apache	P-16	6970	WBDU 114	O	Eunice; Bli-Tu-Dr, N	920
3002539151	Apache	A-21	4410	Elliott A 010	O	Penrose Skelly; Grayburg	941
3002506716	Apache	A-21	6630	WBDU 095	O	Eunice; Bli-Tu-Dr, N	1043
3002509911	Apache	M-15	6646	NEDU 702	I	Eunice; Bli-Tu-Dr, N	1048
3002537243	Apache	M-15	6850	NEDU 721	O	Eunice; Bli-Tu-Dr, N	1183
3002537535	Apache	O-16	7284	WBDU 092	I	Eunice; Bli-Tu-Dr, N	1200
3002539381	Apache	A-21	6878	WBDU 127	O	Eunice; Bli-Tu-Dr, N	1239
3002506718	John H Hendrix	A-21	7859	Elliott A 003	P&A	Wantz; Abo	1310
3002506605	Apache	M-15	8179	NEDU 723	O	Eunice; Bli-Tu-Dr, N	1327
3002520311	Apache	O-16	7300	WBDU 091	O	Eunice; Bli-Tu-Dr, N	1327
3002539605	Apache	O-16	4382	State Land 15 018	O	Penrose Skelly; Grayburg	1395
3002509928	Apache	D-22	6636	NEDU 801	O	Eunice; Bli-Tu-Dr, N	1404
3002537916	Apache	I-16	4398	State DA 013	O	Penrose Skelly; Grayburg	1448
3002543528	Apache	O-16	6876	WBDU 179	I	Eunice; Bli-Tu-Dr, N	1515
3002538378	Apache	O-16	4135	State Land 15 016	O	Penrose Skelly; Grayburg	1519

SORTED BY DISTANCE FROM WBDU 90

3002506741	Apache	D-22	8035	Argo A 009	W	WSW; San Andres	1554
3002539557	Apache	M-15	4401	Argo 013	O	Penrose Skelly; Grayburg	1583
3002534660	Apache	D-22	6810	NEDU 716	O	Eunice; Bli-Tu-Dr, N	1598
3002506617	Apache	I-16	8330	State DA 005	O	Paddock	1650
3002506619	Apache	I-16	6644	WBDU 078	I	Eunice; Bli-Tu-Dr, N	1684
3002506632	Apache	O-16	6660	WBDU 088	O	Eunice; Bli-Tu-Dr, N	1692
3002534888	Apache	L-15	6790	NEDU 713	O	Eunice; Bli-Tu-Dr, N	1785
3002506740	Apache	D-22	8188	Argo A 008	O	Paddock	1872
3002537201	Apache	J-16	7310	WBDU 079	O	Eunice; Bli-Tu-Dr, N	1874
3002537482	Apache	O-16	4392	State Land 15 013	G	Penrose Skelly; Grayburg	1897
3002506606	Apache	L-15	8015	Argo 010	P&A	Hare; San Andres (Gas)	1897
3002509916	Apache	L-15	6654	NEDU 701	O	Eunice; Bli-Tu-Dr, N	1926
3002506722	Stephens & Johnson	B-21	6612	Weatherly 004	O	Blinebry (Oil) & Drinkard	1929
3002539829	Apache	N-15	4408	Argo 015	O	Penrose Skelly; Grayburg	1974
3002537244	Apache	E-22	6845	NEDU 840	O	Eunice; Bli-Tu-Dr, N	1999
3002539152	Apache	H-21	5656	Elliott A 011	O	Penrose Skelly; Grayburg	2123
3002538802	Stephens & Johnson	B-21	6696	Weatherly 009	O	Eunice; Bli-Tu-Dr, N	2184
3002506742	Apache	C-22	8130	Argo A 010	W	WSW; San Andres	2232
3002537536	Apache	O-16	7102	WBDU 093	O	Eunice; Bli-Tu-Dr, N	2308
3002536786	Apache	J-16	4345	State DA 010	O	Penrose Skelly; Grayburg	2332
3002506717	Apache	H-21	6635	WBDU 096	P&A	Eunice; Bli-Tu-Dr, N	2333
3002506618	Apache	J-16	6701	WBDU 077	I	Eunice; Bli-Tu-Dr, N	2343
3002509917	Apache	N-15	6630	NEDU 704	I	Eunice; Bli-Tu-Dr, N	2345

SORTED BY DISTANCE FROM WBDU 90

3002506719	Sun	H-21	7851	Elliott A 004	P&A	Blinebry (Oil)	2360
3002537238	Apache	L-15	6900	NEDU 629	O	Eunice; Bli-Tu-Dr, N	2393
3002509915	Apache	L-15	8193	Argo 007	SWD	Penrose Skelly; Grayburg	2407
3002535523	Apache	B-21	7152	Weatherly 21 002	O	Penrose Skelly; Grayburg	2409
3002506739	Apache	E-22	8180	Argo A 007	O	Penrose Skelly; Grayburg	2468
3002535765	Apache	J-16	4200	State DA 008	O	Penrose Skelly; Grayburg	2504
3002506735	Apache	E-22	6629	NEDU 802	I	Eunice; Bli-Tu-Dr, N	2516
3002509929	Apache	C-22	6628	NEDU 803	I	Eunice; Bli-Tu-Dr, N	2524
3002535275	Apache	F-22	6780	NEDU 822	O	Eunice; Bli-Tu-Dr, N	2526
3002538415	Apache	K-16	6835	WBDU 084	O	Eunice; Bli-Tu-Dr, N	2548
3002538231	Apache	J-16	6875	WBDU 082	O	Eunice; Bli-Tu-Dr, N	2575
3002506624	Chevron	H-16	8220	Harry Leonard NCT E 005	O	Penrose Skelly; Grayburg	2640
3002506607	Apache	K-15	7891	Argo 011	O	Penrose Skelly; Grayburg	2649

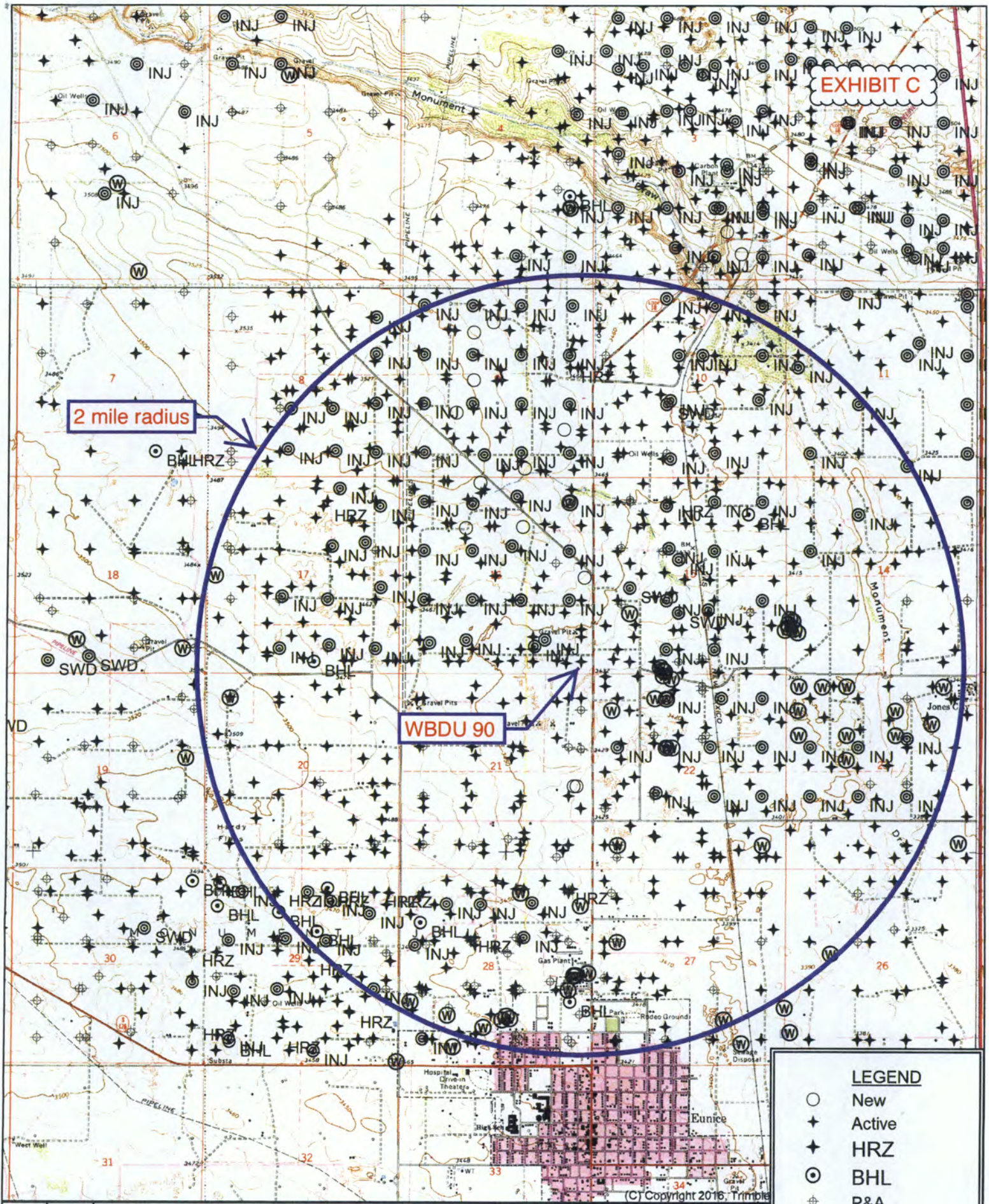


EXHIBIT C

2 mile radius

WBDU 90

LEGEND

- New
- ★ Active
- ✦ HRZ
- ⊙ BHL
- ⊕ P&A
- ⊗ INJ
- ⊗ SWD
- ⊗ Water

Quad: JAL
Scale: 1 inch = 3,333 ft.

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Northeast
Drinkard
Unit



B0-1732-0001

B0-1481-0018

B0-0085-0016

B0-8105-0004

WBDU 90

NMLC-032591A

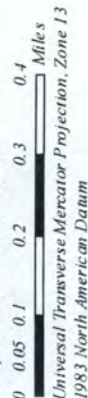
Weatherly & Weatherly E

1/2 mile radius

WBDU boundary

Northeast
Drinkard
Unit

New Mexico State Land Office
Oil, Gas and Minerals



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EXHIBIT D

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WBDU 90 AREA OF REVIEW LEASES

Aliquot Parts in Area of Review (T21S, R37E)	Lessor	Lease	Lessee(s) of Record	Blinebry, Tubb, &/or Drinkard Operator
SWNW Sec. 15	NMSLO	B0-1481-0018	Oxy USA WTP LP	Apache
SW4 Sec. 15	fee	NEDU (Argo)	Apache	Apache
S2NE4 Sec. 16	NMSLO	B0-1732-0001	Chevron USA	Apache
NESW & N2SE4 Sec. 16	NMSLO	B0-0085-0016	Apache	Apache
SESW & S2SE4 Sec. 16	NMSLO	B0-8105-0004	Apache	Apache
E2NE4 Sec. 21	BLM	NMLC-032591A	Apache, Elliott Hall Co, & Elliott Industries	Apache
W2NE4 & NENW Sec. 21	fee	Weatherly & Weatherly E	Stephens & Johnson	Stephens & Johnson
NW4 Sec. 22	fee	NEDU (Argo A)	Apache	Apache

Cartographic Features

- County Boundaries
- County Seats
- City, Town or Village
- SLO District Offices
- SLO District Boundary
- Hwy Mileposts
- Interstate
- NM Hwy
- US Hwy
- Local Road
- Continental Divide

Federal Minerals Ownership

- All Minerals
- Coal Only
- Oil and Gas Only
- Oil, Gas and Coal Only
- Other Minerals

State Trust Lands

- Surface Estate
- Subsurface Estate
- Surface and Subsurface Estate

State Leases

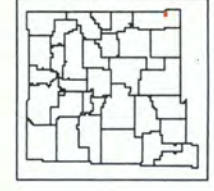
- Oil and Gas Leases
- Agricultural Leases
- Commercial Leases
- Minerals Leases
- Not Available for Oil and Gas Leasing
- Oil and Gas Leasing Influenced by Restriction

Oil and Gas Related Features

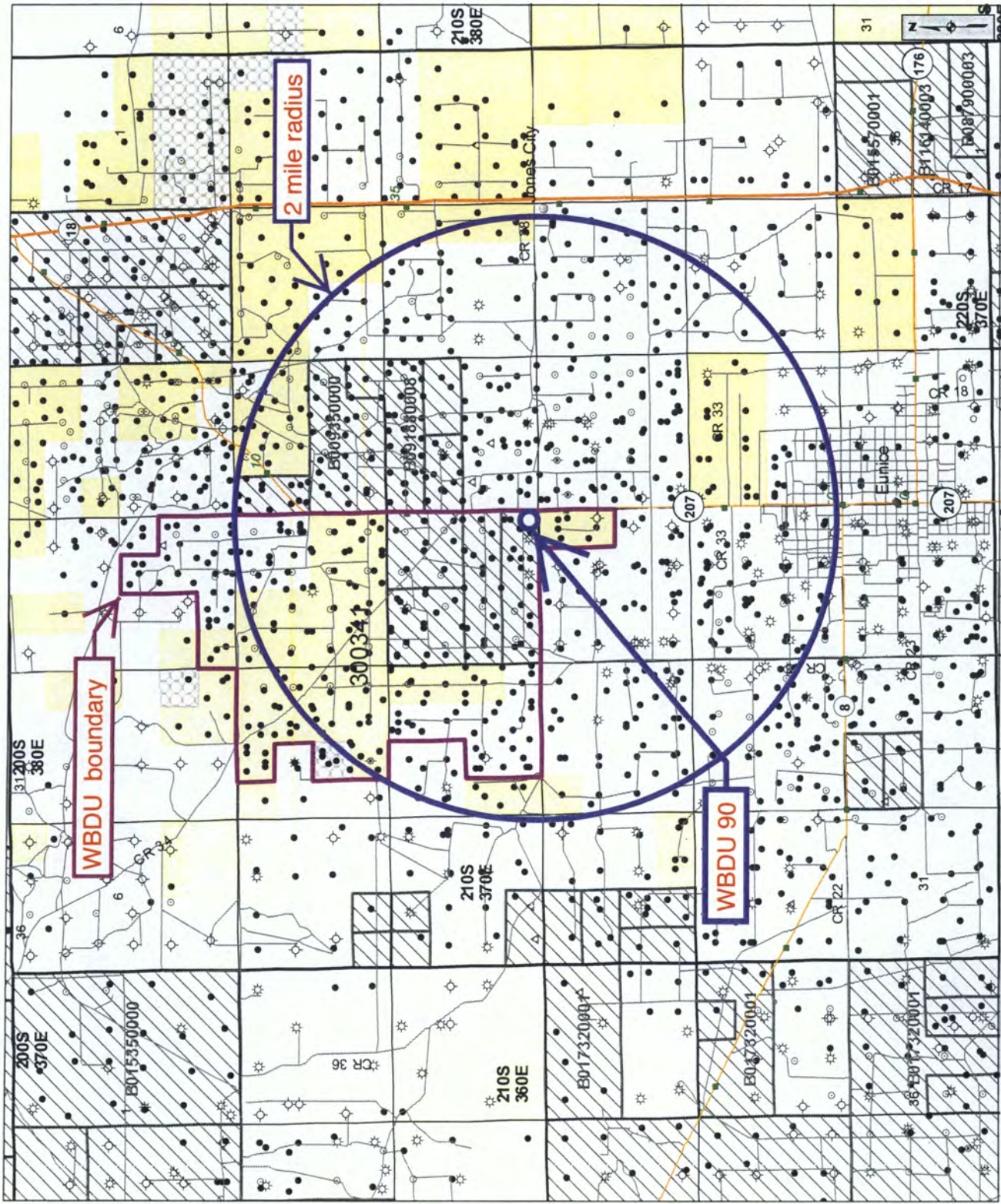
- Oil and Gas Unit Boundary
- Participating Areas in Units
- Ceologic Regions
- Volcanic Vents
- NMOC D Order R-111-P
- Potash Enclave Outline

NMOC D Oil and Gas Wells

- Gas
- CO₂
- Injection
- Miscellaneous
- Oil
- Water
- Salt Water Disposal
- DA or PA



www.nmstateands.org



New Mexico State Land Office
Oil, Gas and Minerals

0 0.2 0.4 0.8 1.2 1.6 Miles
Universal Transverse Mercator Projection, Zone 13
1983 North American Datum

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EXHIBIT E

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Sorted by distance from Apache WBDU 90

WELL	SPUD	TD	POOL	WELL TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
WBDU 115	5/8/10	7225	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1273	650 sx	GL	Circ
30-025-39300					7.875	5.5	7225	1300 sx	GL	Circ
P-16-21S-37E										
WBDU 089	11/24/47	6665	Eunice; Bli-Tu-Dr, N	O	17.5	13.375	219	250 sx	No report	No report
30-025-06633					11	8.625	2864	1700 sx	No report	No report
P-16-21S-37E					7.875	5.5	6664	400 sx	1282	No report
NEDU 720	10/16/04	6850	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1195	600 sx	GL	Circ 130 sx
30-025-36806					7.875	5.5	6850	1150 sx	460	No report
D-22-21S-37E										
Argo 012	8/5/86	8035	Penrose Skelly; Grayburg	O	17.5	13.375	227	250 sx	GL	Circ 60 sx
30-025-06608					11	8.625	2882	1900 sx	GL	Circ 300 sx
M-15-21S-37E					7.875	5.5	2662-8033	900 sx	3480	CBL

Sorted by distance from Apache WBDU 90

[illegible]

Sorted by distance from Apache WBDU 90

[illegible]

• •

[illegible]

Sorted by distance from Apache WBDU 90

[illegible]

Sorted by distance from Apache WBDU 90

[illegible]

Sorted by distance from Apache WBDU 90

[illegible]

Sorted by distance from Apache WBDU 90

[illegible]

Sorted by distance from Apache WBDU 90

						EXHIBIT F								
NEDU 704	5/27/63	6630	Eunice; Bli-Tu-Dr, N	I	17.5	13.375	210	250 sx	GL				GL	Circ 15 sx
30-025-09917					12.25	9.625	2883	1500 sx	GL				GL	Circ 460 sx
N-15-21S-37E					8.75	7	6560	1000 sx	2500					Calc
Elliott A 004	3/26/52	7851	Blinebry (Oil)	P&A	17.25	13.375	258	300 sx	GL				GL	Circ
30-025-06719					12.5	9.625	2950	2000 sx	1000					Temp Survey
H-21-21S-37E					7.875	5.5	7851	395 sx	No report				No report	
NEDU 629	6/25/05	6900	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1200	575 sx	GL				GL	Circ
30-025-37238					7.875	5.5	6900	1300 sx	130					CBL
L-15-21S-37E														
Argo 007	4/13/51	8193	Penrose Skelly; Grayburg	S	17.25	13.375	223	250 sx	GL				GL	Circ
30-025-09915					11	8.625	2907	1900 sx	GL				GL	Circ
L-15-21S-37E					7.875	5.5	8016	779 sx	3280					CBL

EXHIBIT F

Sorted by distance from Apache WBDU 90

[illegible]

Sorted by distance from Apache WBDU 90

[illegible]

Sorted by distance from Apache WBDU 90

[illegible]



WELL BORE INFO.

LEASE NAME	Argo	(NEDU 712S)
WELL #	10	
API #	30-025-06606	EXHIBIT G
COUNTY	Lea	

L-15-21s-37e
spud 7-19-51
P&A 11-1-11

13 3/8" 48# @ 241'
w/250 sx to surf

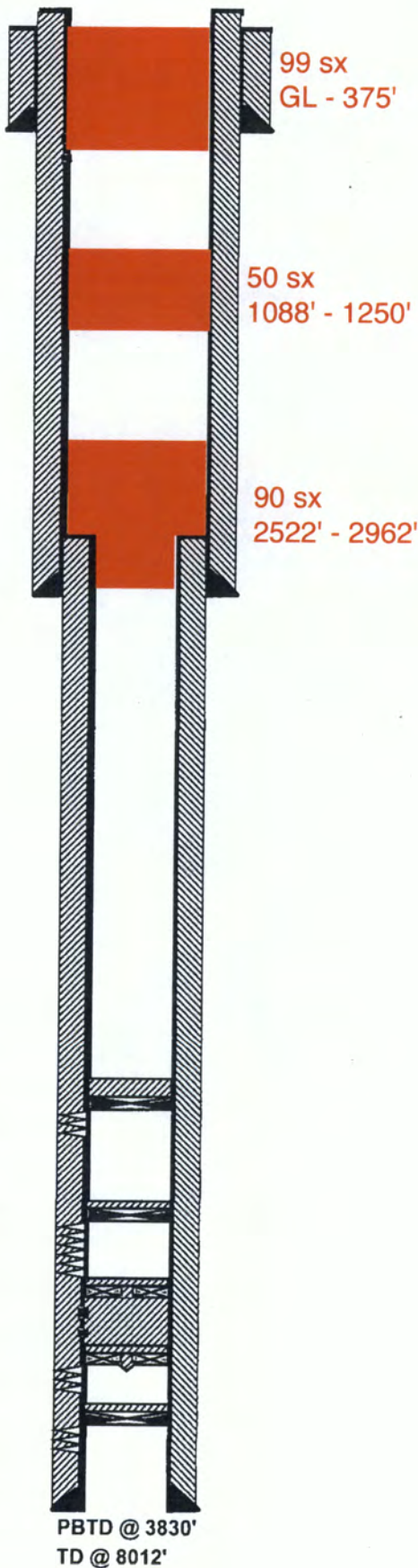
Casing leak identified & sqzd to surf
w/ 33.5 bbls of cmt above 345' in 8 5/8" csg

8 5/8" 32# @ 2907'
w/1700 sx to surf

CIBP @ 3960' w/ 35 sx TOC @ 3830'
SA perfs @ 4016'-4100'

CIBP @ 6375' w/ 35' cmt
DI perfs @ 6421'-6498'
DI perfs @ 6419'-6481'
CICR @ 6530' w/ 250 sx
Casing leaks @ 6550'-6680'
CICR @ 6680'
Abo perfs @ 6686'-7214'
CIBP @ 7600' w/ 1sx cmt
Hare perfs @ 7647'-7960'

5 1/2" 15.5-17# liner @ 2660'-8912'
w/ 875 sx circ TOL





LEASE NAME

West Blinebry Drinkard Ut.

WELL #

96

API #

30-025-06717

COUNTY

Lea

EXHIBIT G

WELL BORE INFO.

H-21-21s-37e

perf @ 370'
sqz 125 sx
GL - 370'

spud 5-28-54
P&A 8-14-14

13 3/8" 32# @ 320'
w/ 300 sx CIRC to surf

perf @ 1500'
sqz 120 sx
1130' - 1500'

perf @ 2900'
sqz 175 sx
2319' - 2900'

9 5/8" 32/36# @ 2847'
w/ 1000 sx CIRC to surf

TOC Cal @ 3489'

55 sx: 3330' - 3626'

65 sx: 3626' - 4015'

150 sx: 5042' - 5886'

50 sx: 5886' - 6350'

7" 23# @ 6514'
w/ 500 sx Cal TOC @ 3489'

OH: 6514'-6635'

PBTD @ 6595'
TD @ 6635'

Top of Salt @
1407'

Rustler & Tansil
@ 1214' & 2430'

Base of Salt @
2433'

Yates @ 2572'

7 Rvrs @ 2824'

Penrose &
Queen @ 3393'
& 3533'

Grayburg & S.A.
@ 3700' & 3965'

Paddock perms @ 5124'-5237', sqzd w/ 250 sx

Glorieta &
Paddock @
5107'

Blinebry perms @ 5547'-5893'

Blinebry @ 5500'

Tubb @ 6150'

Tubb perms @ 6150'-6267'

Drinkard @ 6400'

Drinkard perms @ 6417'-6492'

spud 1-26-52

SECTION 21 TOWNSHIP 21-S RANGE 37-E COUNTY Lea STATE N.M.
API Well # 30-025-06710 Lease Designation + Serial # NMLC032691A

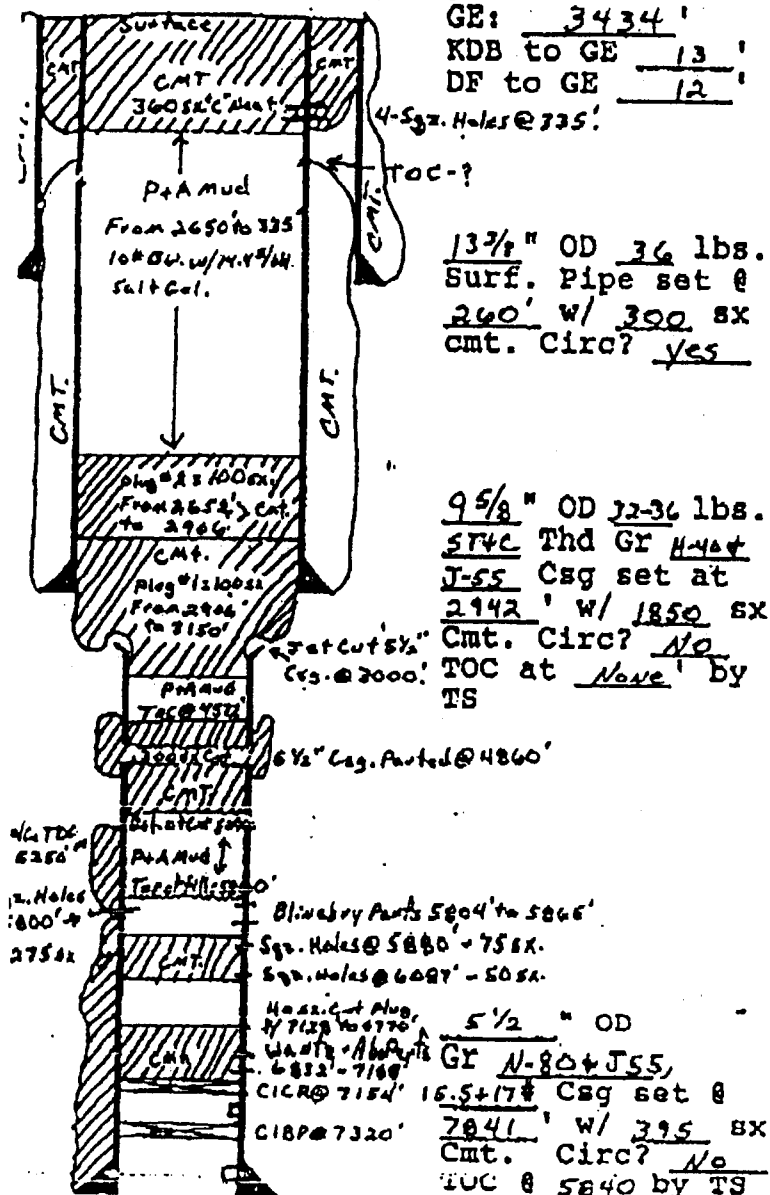
* WH conn: NONE

GE: 3434
KDB to GE 13
DF to GE 12
Holes @ 335'

Initial Production _____ BOPD _____ BWPD _____
 _____ MCFPD _____ GOR _____

Plug + Abandon. Start 2-1-95, End 2-5-95
2-2-95 - Spot 300 ex. Class "C" cnt. w/ 2% CaCl₂.
from 5096' up to 4572'. - Plug Tagged.
2-3-95 - Cnt 5 1/2" Csg @ 3000' + Pull 5 1/2" Csg.
2-4-95 - Spot 40 bbls P+A Mud from 4571' to 2000'.
Spot 100 ex. Class "C" cnt. w/ 2% CaCl₂ from 3150'
to 2902'. - Spot 100 ex. "C" cnt. w/ 2% CaCl₂ from
2902' to 2652'. (All Plugs Tagged)
Circ P+A Mud from 2650' to Surface w/ 208
bbls 10% gal B.W. w/ 14.4 #/bbl Salt Gel.
Test 9 5/8" Csg. to 500 psi - OK. - Perf. 9 5/8"
Csg. w/ 4 Spz Holes @ 335'.
2-5-95 - Cnt. dn 9 5/8" Csg. Thru Spz. Holes
@ 335', Up 9 5/8" X 13 3/8" Annulus w/ 360 ex. Class
"C" Neat Cnt. - leave 9 5/8" Csg + 13 3/8" X 9 5/8"
Annulus Full of Cnt. from 335' to Surface
Subsequent Workover or Reconditioning:

Present Prod. _____ BOPD _____ BWPD _____
 _____ MCFPD _____ GOR _____
 _____ Date _____

Remarks or Additional Data:

PBD Surface

Sun Oil Company

EXHIBIT G

Elliot A No. 4

API No. 30-025-06719

2030' FNL & 330' FEL, Unit H

Section 21, T-21S, R-37E

Type Well: Producer

5 sx. surface plug

Perforate 5 1/2" csg. @
260'. Pumped 100 sx.
cmt. to surface between
5 1/2" X 9 5/8" annulus.

17 1/2" Hole. 13 3/8" csg. set @ 258'

Cemented w/300 sx. Cement circulated to surface

Date Drilled: 3/52

Date PA'd: 12/81

Perforate 5 1/2" csg. @ 2,400. Established circulation. Set CR @ 2,356'.
Pumped 75 sx. cmt. Left 2 Bbls of cmt. on top of retainer.

12 1/4" Hole; 9 5/8" csg. set @ 2,950' cemented w/2000 sx.
TOC @ surface by calc.

Perforate 5 1/2" casing @ 3,000' for squeeze. Pumped 150 sx. cmt.
Could not tag. Set CIBP @ 2,775' + 10 sx. cmt on top

TOC by squeeze job @ 4,300' by calc.

Set 40 sx. cmt. plug 5,189'-5,239'. Tagged

Possible casing collapse @ 5,255'

Original TOC @ 5,745' by calc. (Note: Perforated 5 1/2" csg. & squeeze cemented at the following
depths: 5,870'-5,871' w/75 sx. 5,785'-5,786' w/300 sx. New TOC @ 4,300' by calc.

Blinbry Perforations: 5,793-5,856'

Set CIBP @ 6,805' + cmt.

Abo Perforations: 6,903'-7,234'
squeezed w/145 sx. cmt.

CIBP @ 7,325' w/1 sx. cmt.

Hare-Simpson Perforations: 7,725'-7,824'

7 7/8" Hole; 5 1/2" csg. set @ 7,851'

Apache Corporation

Form C-108: NEDU No. 802

PA Schematic



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

EXHIBIT H

(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	Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
CP00729 POD1		CP	LE	4	1	3	15	21S	37E	673259	3594711*	564	8015		
CP01141 POD3		CP	LE				15	21S	37E	673520	3594272	651	40		
CP01141 POD2		CP	LE				15	21S	37E	673543	3594250	675	40		
CP01575 POD1		CP	LE	1	2	1	22	21S	37E	673544	3594204	682	40	35	5
CP01141 POD4		CP	LE				15	21S	37E	673556	3594239	690	45		
CP01575 POD2		CP	LE	2	2	1	22	21S	37E	673615	3594181	756	35	35	0
CP00731 POD1		CP	LE		2	1	22	21S	37E	673577	3594015*	764	8130		
CP00732 POD1		CP	LE		4	1	22	21S	37E	673584	3593613*	993	6633		
CP00554		CP	LE		2	2	16	21S	37E	672744	3595610*	1312	80	70	10
CP00733 POD1		CP	LE		3	3	22	21S	37E	673196	3592801*	1537	7864		
CP01574 POD1		CP	LE	2	4	4	15	21S	37E	674559	3594598	1715	68	57	11
CP01110 POD1		CP	LE		1	3	14	21S	37E	674586	3594648	1750	70		
CP01110 POD2		CP	LE		1	3	14	21S	37E	674586	3594648	1750	70		
CP01110 POD3		CP	LE		1	3	14	21S	37E	674586	3594648	1750	70		
CP01110 POD4		CP	LE		1	3	14	21S	37E	674586	3594648	1750	20		
CP01110 POD5		CP	LE		1	3	14	21S	37E	674586	3594648	1750	20		
CP01185 POD3		CP	LE		1	3	14	21S	37E	674592	3594620	1752	70		
CP01185 POD1		CP	LE		1	3	14	21S	37E	674598	3594689	1771	70		
CP01185 POD4		CP	LE		1	3	14	21S	37E	674633	3594610	1790	70		
CP01185 POD2		CP	LE		1	3	14	21S	37E	674623	3594674	1793	70		
CP01574 POD2		CP	LE	1	3	3	14	21S	37E	674666	3594578	1818	68	57	11
CP00235 POD3		CP	LE	1	1	1	23	21S	37E	674681	3594137*	1819	90	61	29
CP00235 POD7		CP	LE	3	1	1	23	21S	37E	674681	3593937*	1848	85	65	20
CP00251 POD1		CP	LE	2	3	4	22	21S	37E	674099	3592915*	1854	103		
CP00235 POD4		CP	LE	1	3	1	23	21S	37E	674688	3593735*	1905	100	80	20
CP00252 POD1		CP	LE	4	2	4	22	21S	37E	674493	3593125*	2006	106	78	28
CP00711		CP	LE	4	2	2	28	21S	37E	672900	3592291*	2012	100	65	35
CP00235 POD6		CP	LE	2	1	1	23	21S	37E	674881	3594137*	2018	85	65	20
CP00881		CP	LE		4	4	22	21S	37E	674402	3592824*	2130	95	53	42
CP00017 POD1		CP	LE	2	1	2	27	21S	37E	674106	3592513*	2175	101		

1 mile =
1610 m

CP 00235 POD2	CP	LE	1	2	1	23	21S	37E	675083	3594144*		2219	96	65	31
CP 00294 POD1	CP	LE	1	3	1	27	21S	37E	673110	3592096*		2220			
CP 00285 POD1	CP	LE	3	1	2	27	21S	37E	673906	3592313*		2243	80		
CP 00235 POD5	CP	LE	1	4	1	23	21S	37E	675090	3593742*		2290	90	70	20
CP 00736	CP	LE		3	1	27	21S	37E	673211	3591997*		2331	120	76	44
CP 00235 POD9	CP	LE	3	4	1	23	21S	37E	675090	3593542*		2347	94	58	36
CP 00293 POD1	CP	LE	2	4	1	27	21S	37E	673711	3592104*		2354	80		
CP 00235 POD1	CP	LE	2	2	1	23	21S	37E	675283	3594144*		2419	81		
CP 00242 POD1	CP	LE	3	4	2	28	21S	37E	672708	3591889*		2419			
CP 00240 POD1	CP	LE	4	2	1	23	21S	37E	675283	3593944*		2440			
CP 00241 POD1	CP	LE	4	2	1	23	21S	37E	675283	3593944*		2440	79		
CP 00249 POD1	CP	LE	2	3	2	27	21S	37E	674113	3592111*		2520	102		
CP 00250 POD1	CP	LE	2	3	2	27	21S	37E	674113	3592111*		2520	101		
CP 01096 POD2	CP	LE	2	2	4	28	21S	37E	672976	3591731		2573	98	48	50
CP 01095 POD1	CP	LE	2	2	4	28	21S	37E	672859	3591714		2588	108	48	60
CP 01095 POD2	CP	LE	2	2	4	28	21S	37E	672876	3591714		2588	109	48	61
CP 01096 POD1	CP	LE	2	2	4	28	21S	37E	672861	3591708		2595	108	48	60
CP 00239 POD1	CP	LE	1	1	2	23	21S	37E	675485	3594152*		2620	89	61	28
CP 00235 POD8	CP	LE	3	1	2	23	21S	37E	675485	3593952*		2639	94	58	36
CP 00236 POD1	CP	LE	3	1	2	23	21S	37E	675485	3593952*		2639	83		
CP 00235 POD10	CP	LE	1	3	2	23	21S	37E	675492	3593749*		2680	92	60	32
CP 00235 POD11	CP	LE	1	3	2	23	21S	37E	675492	3593749*		2680	97	60	37
CP 00237 POD1	CP	LE	1	3	2	23	21S	37E	675492	3593749*		2680	84		
CP 00735	CP	LE		2	4	28	21S	37E	672816	3591588*		2715	105		
CP 00238 POD1	CP	LE	3	3	2	23	21S	37E	675492	3593549*		2729	81		
CP 00253 POD1	CP	LE	3	4	2	27	21S	37E	674315	3591918*		2789	101		
CP 00895	CP	LE		1	1	20	21S	37E	669957	3593956*		2932	163		
CP 00700	CP	LE		2		23	21S	37E	675794	3593851*		2959	75	65	10
CP 00966 POD1	CP	LE	1	3	4	28	21S	37E	672306	3591367		2988	154		
CP 00965 POD1	R CP	LE	1	3	4	28	21S	37E	672333	3591346		3004	123	60	63
CP 00562	CP	LE	1	2	2	23	21S	37E	675887	3594159*		3021	136	65	71
CP 00965 POD2	CP	LE	1	3	4	28	21S	37E	672273	3591336		3025	135		
CC 01999 POD1	CU	CU	3	3	2	29	03N	36E	670385	3592502		3068	415	372	43
CP 00322	CP	LE		3		28	21S	37E	671818	3591366*		3119	138	73	65
CP 00749	CP	LE	2	4	3	28	21S	37E	672118	3591271*		3123	123	75	48
CP 01026 POD1	CP	LE	1	1	3	17	21S	37E	669809	3594958		3129	167	95	72
CP 00513 POD1	CP	LE	3	1	3	28	21S	37E	671508	3591467*		3145	5000	4374	626
CP 01274 POD1	CP	LE		2	1	26	21S	37E	674992	3591934		3180	60		
CP 01274 POD2	CP	LE		2	1	26	21S	37E	674992	3591934		3180	60		

Average Depth to Water: 201 feet
Minimum Depth: 35 feet
Maximum Depth: 4374 feet

Record Count: 70

UTMNAD83 Radius Search (in meters):

Easting (X): 672869

Northing (Y): 3594303

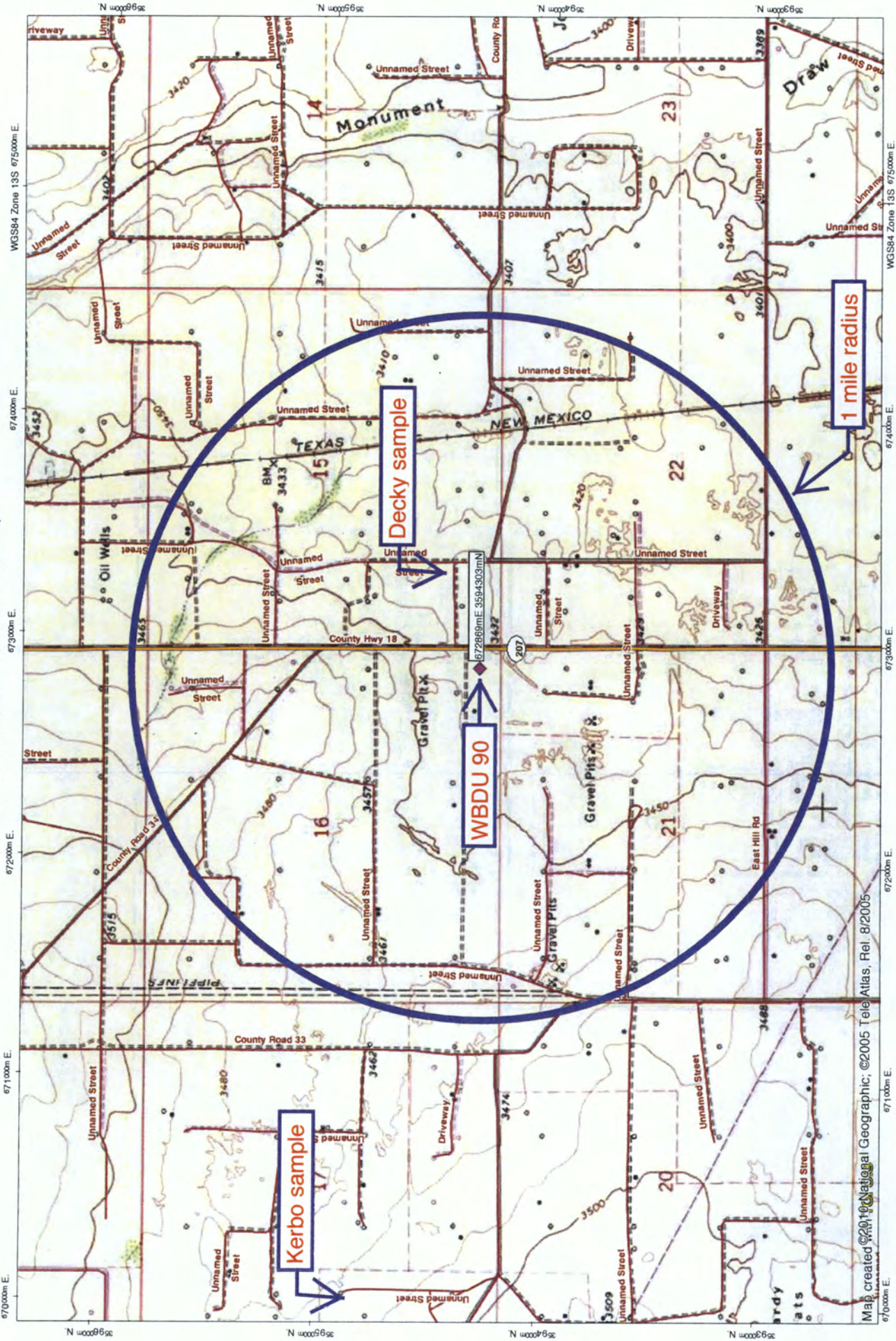
Radius: 3220

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

8/11/18 11:46 AM

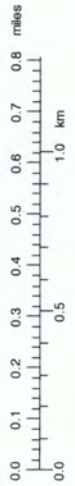
WATER COLUMN/ AVERAGE DEPTH TO
WATER



Map created ©2010 National Geographic, ©2005 Tele Atlas, Rel. 8/2005



EXHIBIT H



TN#MN
6.5°
06/17/18

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Permits West**Project:** APACHE WBDU 90**Lab ID:** 1711695-001**Client Sample ID:** DECKY 15 TANK**Collection Date:** 11/7/2017 2:37:00 PM**Received Date:** 11/14/2017 8:53:00 AM**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	580	25	*	mg/L	50	11/28/2017 10:14:29 PM
EPA METHOD 1664B						Analyst: dbf
N-Hexane Extractable Material	ND	10.4		mg/L	1	11/21/2017 11:00:00 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: KS
Total Dissolved Solids	1660	20.0	*	mg/L	1	11/15/2017 5:20:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Permits West**Client Sample ID:** KERBO TANK**Project:** APACHE WBDU 90**Collection Date:** 11/7/2017 5:06:00 PM**Lab ID:** 1711695-002**Matrix:** AQUEOUS**Received Date:** 11/14/2017 8:53:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	46	10		mg/L	20	11/16/2017 11:56:55 AM
EPA METHOD 1664B						Analyst: dbf
N-Hexane Extractable Material	ND	11.0		mg/L	1	11/21/2017 11:00:00 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: KS
Total Dissolved Solids	451	20.0		mg/L	1	11/15/2017 5:20:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.



WO#: 1711695

04-Dec-17

Client: Permits West
Project: APACHE WBDU 90

Sample ID	MB-35070		SampType:	MBLK		TestCode:	EPA Method 1664B				
Client ID:	PBW		Batch ID:	35070		RunNo:	47261				
Prep Date:	11/20/2017		Analysis Date:	11/21/2017		SeqNo:	1507342		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

N-Hexane Extractable Material ND 10.0

Silica Gel Treated N-Hexane Extrac ND 10.0

Sample ID	LCS-35070		SampType:	LCS		TestCode:	EPA Method 1664B				
Client ID:	LCSW		Batch ID:	35070		RunNo:	47261				
Prep Date:	11/20/2017		Analysis Date:	11/21/2017		SeqNo:	1507343		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

N-Hexane Extractable Material 36.2 10.0 40.00 0 90.5 78 114

Silica Gel Treated N-Hexane Extrac 16.0 10.0 20.00 0 80.0 64 132

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RI Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.



WO#: 1711695

04-Dec-17

Client: Permits West
Project: APACHE WBDU 90

Sample ID	MB	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R47209	RunNo:	47209					
Prep Date:		Analysis Date:	11/16/2017	SeqNo:	1505831	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID	LCS	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R47209	RunNo:	47209					
Prep Date:		Analysis Date:	11/16/2017	SeqNo:	1505832	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	91.6	90	110			

Sample ID	MB	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R47364	RunNo:	47364					
Prep Date:		Analysis Date:	11/28/2017	SeqNo:	1512470	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID	LCS	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R47364	RunNo:	47364					
Prep Date:		Analysis Date:	11/28/2017	SeqNo:	1512471	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.5	0.50	5.000	0	90.9	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

EXHIBIT H
WO#: 1711695

04-Dec-17

Client: Permits West
Project: APACHE WBDU 90

Sample ID	MB-34986	SampType:	MBLK	TestCode:	SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW	Batch ID:	34986	RunNo:	47158					
Prep Date:	11/14/2017	Analysis Date:	11/15/2017	SeqNo:	1504413	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	LCS-34986	SampType:	LCS	TestCode:	SM2540C MOD: Total Dissolved Solids					
Client ID:	LCSW	Batch ID:	34986	RunNo:	47158					
Prep Date:	11/14/2017	Analysis Date:	11/15/2017	SeqNo:	1504414	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1040	20.0	1000	0	104	80	120			

Sample ID	1711695-001AMS	SampType:	MS	TestCode:	SM2540C MOD: Total Dissolved Solids					
Client ID:	DECKY 15 TANK	Batch ID:	34986	RunNo:	47158					
Prep Date:	11/14/2017	Analysis Date:	11/15/2017	SeqNo:	1504435	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	2770	20.0	1000	1665	111	80	120			

Sample ID	1711695-001AMSD	SampType:	MSD	TestCode:	SM2540C MOD: Total Dissolved Solids					
Client ID:	DECKY 15 TANK	Batch ID:	34986	RunNo:	47158					
Prep Date:	11/14/2017	Analysis Date:	11/15/2017	SeqNo:	1504436	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	2780	20.0	1000	1665	111	80	120	0.216	5	

Qualifiers:

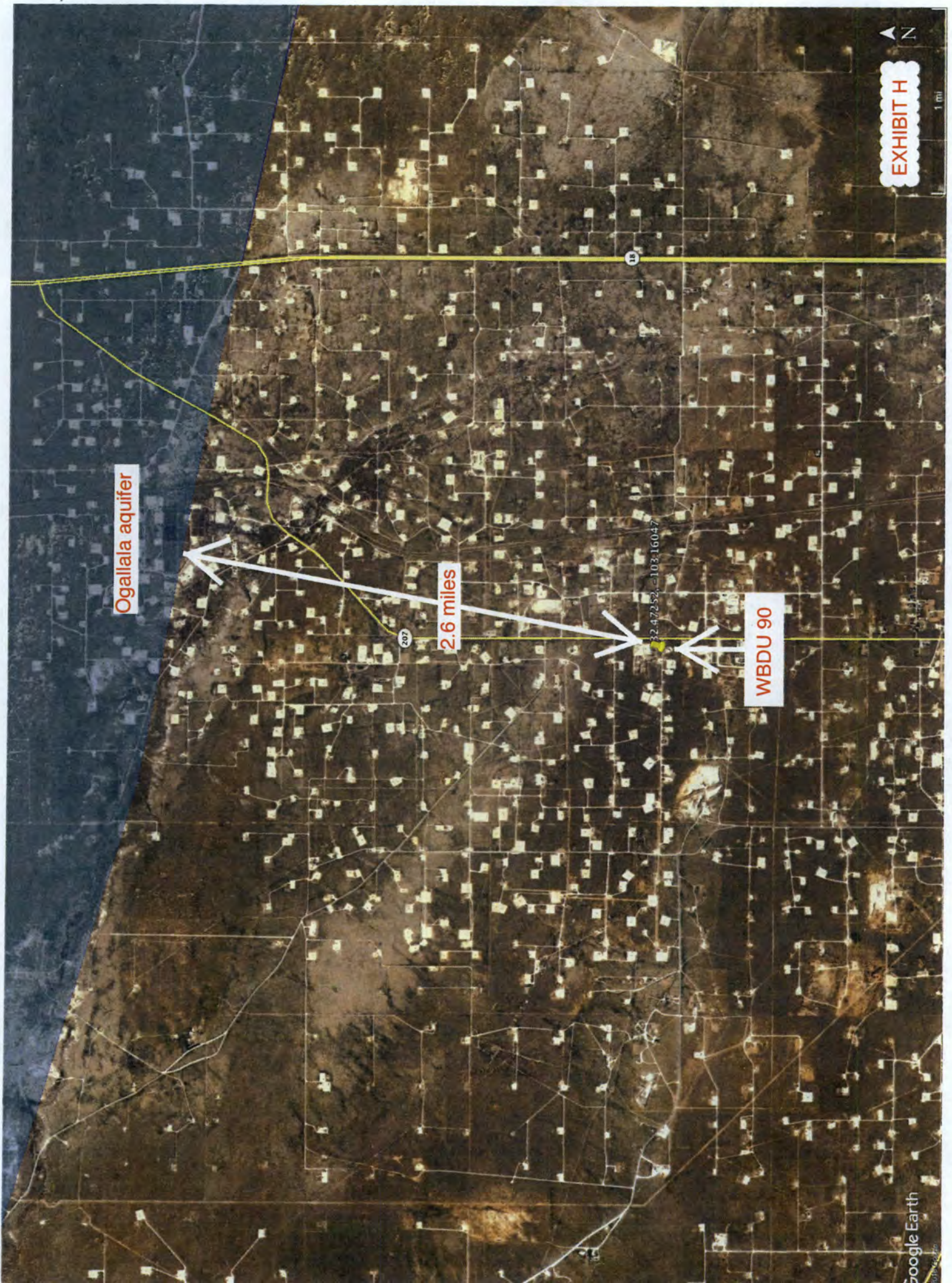
- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

Ogallala aquifer

2.6 miles

WBDU 90

32.47252, -103.16047



From: **Oldani, Martin** Martin.Oldani@apachecorp.com
Subject: FW: shallow faulting in the vicinity of WBDU
Date: January 11, 2016 at 4:27 PM
To: brian@permitswest.com
Cc: **Shapot, Bret** Bret.Shapot@apachecorp.com



Brian,

As per Mark's comments below, our G&G staff has taken a look at the potential issue of shallow faulting in the WBDU area and have concluded there is none present across the area and no danger of shallow faulting as a conduit to groundwater contamination.

Regards,

MARTIN J. OLDANI
PERMIAN REGION EXPLORATION & EXPLOITATION MANAGER
Apache main (432) 818 1000 | fax (432) 818 1982
office 6100A | direct (432) 818 1030 | mobile (432) 234-1925
martin.oldani@apachecorp.com
APACHE CORPORATION - PERMIAN REGION
303 Veterans Airway Park
Midland, TX 79705

From: Pasley, Mark
Sent: Monday, January 11, 2016 4:48 PM
To: Oldani, Martin <Martin.Oldani@apachecorp.com>
Cc: O'Shay, Justin <Justin.O'Shay@apachecorp.com>; Riley, Brent <Brent.Riley@apachecorp.com>; Shapot, Bret <Bret.Shapot@apachecorp.com>; Piggott, Fiona <fiona.piggott@apachecorp.com>
Subject: shallow faulting in the vicinity of WBDU

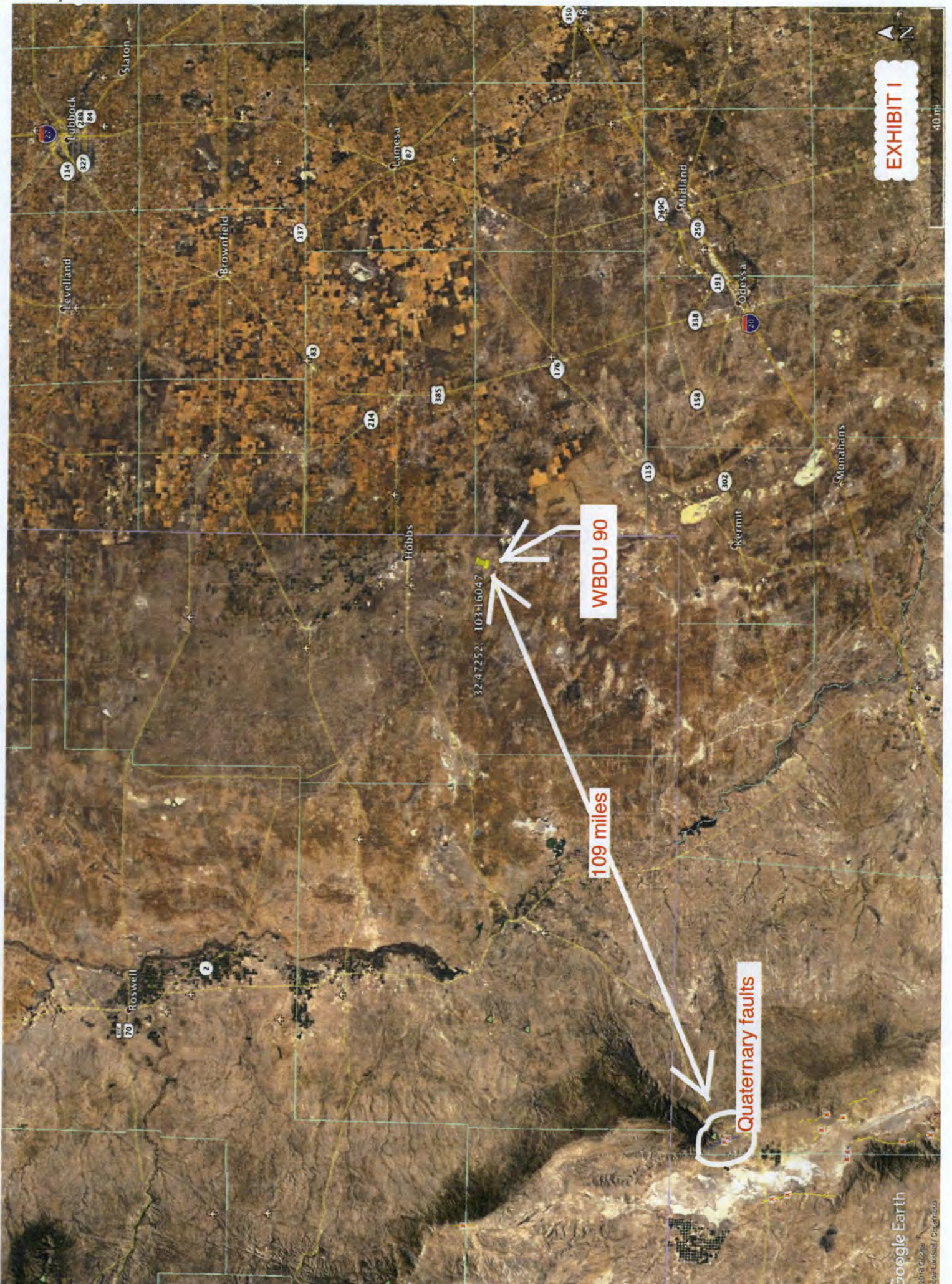
Martin:

In reference to the meeting this morning where we discussed the possibility of shallow faulting in the WBDU area and its potential impact on the permitting of the injection well(s) into the Drinkard, I submit to you the attached slide set from me and Justin. You will see that we have done several extractions on the seismic data and there is no indication of faulting above the Glorieta which is well above the Drinkard and below the younger evaporites. Also, as we suspected, there are no surface faults mapped in the area – the nearest being more than 50 miles away.

Please contact me or Justin if you have further questions.

Sincerely,

DR. MARK PASLEY
GEOLOGICAL ADVISOR
direct +1 432.818.1835 | mobile +1 832.943.9040 | office 6112A
mark.pasley@apachecorp.com
303 Veterans Airpark Lane
Midland TX 79705 USA
ApacheCorp.com | [LinkedIn](#) | [Facebook](#) | [Twitter](#) | [StockTwits](#) | [YouTube](#)



Affidavit of Publication

EXHIBIT J

STATE OF NEW MEXICO
COUNTY OF LEA

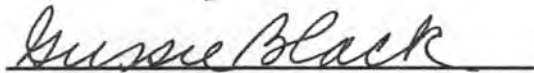
I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
August 09, 2018
and ending with the issue dated
August 09, 2018.



Publisher

Sworn and subscribed to before me this
9th day of August 2018.



Business Manager

My commission expires

January 29, 2019

(Seal)



OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico

My Commission Expires 1-29-19

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL NOTICE August 9, 2018

Apache Corporation is applying to convert the West Blinberry Drinkard Unit 90 oil well to a water injection well. The well is at 330 FSL & 330 FEL, Sec. 16, T. 21 S., R. 37 E., Lea County, NM. This is 2 miles north of Eunice, NM. It will inject water into the Drinkard (maximum injection pressure = 1,280 psi) from 6,400' to 6,860'. Injection will be at a maximum rate of 3,000 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. #33094

02108485

00216298

BRIAN WOOD
PERMITS WEST
37 VERANO LOOP
SANTA FE, NM 87508

August 13, 2018

NM State Land Office
PO Box 1148
Santa Fe NM 87504

TYPICAL LETTER

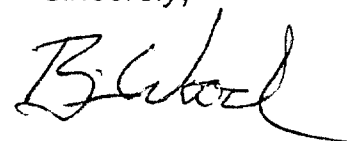
Apache Corporation is applying (see attached application) to convert its West Blinebry Drinkard Unit 90 oil well to a water injection well. As required by NM Oil Conservation Division (NMOCD) Rules, I am notifying you of the following proposed water injection well. This letter is a notice only and replaces the notice dated 6-18-18. No action is needed unless you have questions or objections.

Well Name: West Blinebry Drinkard Unit 90 (state lease) TD = 8,261'
Proposed Injection Zone: Drinkard from 6,400' to 6,660'
Where: 330' FSL & 330' FEL Sec. 16, T. 21 S., R. 37 E., Lea County, NM
Approximate Location: 2 air miles north of Eunice, NM
Applicant Name: Apache Corporation (432) 818-1062
Applicant's Address: 303 Veterans Airpark Lane, #3000, Midland, TX 79705

Submittal Information: Application for a water injection well will be filed with the 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 K

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Certified Mail Fee \$3.45

Extra Services & Fees (check box, add fee \$2.75 per box)

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<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$2.05

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620 E Greene Street
Carlsbad NM 88220

08/13/2018

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Apache WBDU 90

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City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$2.05

Total Postage and Fees \$5.50

Chevron USA Inc
5301 Deauville Blvd
Midland TX 79706

08/13/2018

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Apache WBDU 90

Street and Apt. No. or PO Box No.

City, State, ZIP+4®

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SANTA FE, NM 87504

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Extra Services & Fees (check box, add fee \$2.75 per box)

<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$2.05

Total Postage and Fees \$5.50

Elliott Industries LTD Partnership
PO Box 1328
Santa Fe NM 87504

08/13/2018

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Apache WBDU 90

Street and Apt. No. or PO Box No.

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Certified Mail Fee \$3.45

Extra Services & Fees (check box, add fee \$2.75 per box)

<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$2.05

Total Postage and Fees \$5.50

Elliott Hall CO UT LP
PO Box 1231
Ogden UT 84402

08/13/2018

Sent To
Apache WBDU 90

Street and Apt. No. or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

SANTA FE, NM 87504

Certified Mail Fee \$3.45

Extra Services & Fees (check box, add fee \$2.75 per box)

<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$2.05

Total Postage and Fees \$5.50

PO Box 1148
Santa Fe NM 87504

08/13/2018

Sent To
Apache WBDU 90

Street and Apt. No. or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

U.S. Postal Service™
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For delivery information, visit our website at www.usps.com®.

HOUSTON, TX 77210

Certified Mail Fee \$3.45

Extra Services & Fees (check box, add fee \$2.75 per box)

<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$2.05

Total Postage and Fees \$5.50

08/13/2018

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WICHITA FALLS, TX 76307

Certified Mail Fee \$3.45

Extra Services & Fees (check box, add fee \$2.75 per box)

<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$1.80

Total Postage and Fees \$5.25

Stephens & Johnson Op Co
PO Box 2249
Wichita Falls TX 76308

08/13/2018

Sent To
Apache WBDU 90

Street and Apt. No. or PO Box No.

City, State, ZIP+4®

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



FORM C-108 Technical Review Summary [Prepared by reviewer and included with application; V16.2]

DATE RECORD: First Rec: 8/28/2018 Admin Complete: 8/28/2018 or Suspended: _____ Add. Request/Reply: _____

ORDER TYPE: WEX / PMX / SWD Number: _____ Order Date: _____ Legacy Permits/Orders: 2-12581

Well No. 90 Well Name(s): WBD4

API: 30-0 25-06634 Spud Date: 4-12-1952 New or Old (EPA): 0 (UIC Class II Primacy 03/07/1982)

Footages 330FSL 330FEL Lot _____ or Unit P Sec 16 Tsp 21S Rge 37E County LEC

General Location: 2 mile N/E of Ute Pool: _____ Pool No.: 2290

BLM 100K Map: JAL Operator: Apache Corp OGRID: 873 Contact: Brian Wood, Apache

COMPLIANCE RULE 5.9: Total Wells: 209 Inactive: 3 Fincl Assur: OK Compl. Order: N/A IS 5.9 OK? X Date: 09-12-2018

WELL FILE REVIEWED ☒ Current Status: ACTIVE

WELL DIAGRAMS: NEW: Proposed ☐ or RE-ENTER: Before Conv. ☐ After Conv. ☒ Logs in Imaging: X

Planned Rehab Work to Well: _____

Well Construction Details		Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sbr Cf	Cement Top and Determination Method
Planned ___ or Existing ___ Surface		<u>17" / 13 3/4"</u>	<u>258</u>	<u>250</u>	<u>Surface / Viscon</u>
Planned ___ or Existing ___ Interm/Prod		<u>11" / 8 9/16"</u>	<u>1500</u>	<u>1500</u>	<u>Surface / Viscon</u>
Planned ___ or Existing ___ Interm/Prod		<u>7 1/8" / 5 1/2"</u>	<u>400</u>	<u>3376</u>	<u>T.S. / 5500</u>
Planned ___ or Existing ___ Prod/Liner					
Planned ___ or Existing ___ Liner					
Planned ___ or Existing ___ OH/PERF		<u>6400/6600</u>			

Injection Lithostratigraphic Units:		Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.			<u>BL</u>	<u>5555</u>
Confining Unit: Litho. Struc. Por.			<u>Tb</u>	<u>6125</u>
Proposed Inj Interval TOP:			<u>DE</u>	<u>6420</u>
Proposed Inj Interval BOTTOM:			<u>ABO</u>	<u>6680</u>
Confining Unit: Litho. Struc. Por.				
Adjacent Unit: Litho. Struc. Por.				

Completion/Operation Details:	
Drilled TD _____	PBTD _____
NEW TD _____	NEW PBTD _____
NEW Open Hole <input type="checkbox"/> or NEW Perfs <input type="checkbox"/>	
Tubing Size <u>2 3/8"</u> in. Inter Coated? <u>X</u>	
Proposed Packer Depth <u>6350</u> ft	
Min. Packer Depth <u>6300</u> (100-ft limit)	
Proposed Max. Surface Press. <u>1280</u> psi	
Admin. Inj. Press. <u>1120</u> (0.2 psi per ft)	

AOR: Hydrologic and Geologic Information

POTASH: R-111-P N/A Noticed? _____ BLM Sec Ord ☐ WIPP ☐ Noticed? _____ Salt/Salado T: _____ B: _____ NW: Cliff House fm _____

FRESH WATER: Aquifer Quaternary Max Depth 100' HYDRO AFFIRM STATEMENT By Qualified Person ☒

NMOSE Basin: CAPITAN CAPITAN REEF: thru _____ adj _____ NA ☒ No. GW Wells in 1-Mile Radius? 10 FW Analysis? ☒

Disposal Fluid: Formation Source(s) Production Analysis? ☒ On Lease ☒ Operator Only ☐ or Commercial ☐

Disposal Interval: Inject Rate (Avg/Max BWPD): 2500/3000 Protectable Waters? _____ Source: _____ System: Closed or Open

HC Potential: Producing Interval? ☒ Formerly Producing? _____ Method: Logs/DST/P&A/Other _____ 2-Mi Radius Pool Map ☒

AOR Wells: 1/2-M Radius Map and Well List? 477 No. Penetrating Wells: 477 [AOR Horizontals: NA AOR SWDs: 9]

Penetrating Wells: No. Active Wells 38 Num Repairs? _____ on which well(s)? _____ Diagrams? _____

Penetrating Wells: No. P&A Wells 8 Num Repairs? _____ on which well(s)? _____ Diagrams? X

NOTICE: Newspaper Date Aug 9, 2018 Mineral Owner BLM Surface Owner NMSLO N. Date _____

RULE 26.7(A): Identified Tracts? _____ Affected Persons: Apache, Johnson, Taylor N. Date _____

Order Conditions: Issues: _____

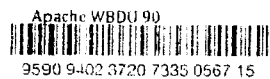
Additional COAs: _____

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3.
Print your name and address on the reverse so that we can return the card to you.
Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

BLM
620 E Greene Street
Carlsbad NM 88220



Article Number (Transfer from service label)
7018 0680 0001 6411 7246

Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]* ☐ Agent ☒ Addressee

B. Received by (Printed Name) *[Signature]* C. Date of Delivery *8/16/15*

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature ☐ Priority Mail Express®
☐ Adult Signature Restricted Delivery ☐ Registered Mail™
☐ Certified Mail® ☐ Registered Mail Restricted Delivery
☐ Certified Mail Restricted Delivery ☐ Return Receipt for Merchandise
☐ Collect on Delivery ☐ Signature Confirmation™
☐ Collect on Delivery Restricted Delivery ☐ Signature Confirmation Restricted Delivery (over \$500)

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3.
Print your name and address on the reverse so that we can return the card to you.
Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Oxy USA WTP Limited Partnership
PO Box 4294
Houston TX 77210



2. Article Number (Transfer from service label)
7018 0680 0001 6411 7222

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]* ☐ Agent ☒ Addressee

B. Received by (Printed Name) *[Signature]* C. Date of Delivery *8/16/15*

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature ☐ Priority Mail Express®
☐ Adult Signature Restricted Delivery ☐ Registered Mail™
☐ Certified Mail® ☐ Registered Mail Restricted Delivery
☐ Certified Mail Restricted Delivery ☐ Return Receipt for Merchandise
☐ Collect on Delivery ☐ Signature Confirmation™
☐ Collect on Delivery Restricted Delivery ☐ Signature Confirmation Restricted Delivery (over \$500)

EXHIBIT K

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3.
Print your name and address on the reverse so that we can return the card to you.
Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Chevron USA Inc
6301 Deauville Blvd
Midland TX 79706



Article Number (Transfer from service label)
7018 0680 0001 6411 7284

Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]* ☐ Agent ☒ Addressee

B. Received by (Printed Name) *[Signature]* C. Date of Delivery *8/16/15*

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

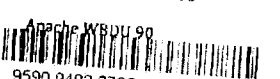
3. Service Type
☐ Adult Signature ☐ Priority Mail Express®
☐ Adult Signature Restricted Delivery ☐ Registered Mail™
☐ Certified Mail® ☐ Registered Mail Restricted Delivery
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☐ Collect on Delivery Restricted Delivery ☐ Signature Confirmation Restricted Delivery (over \$500)

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Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Stevens & Johnson Op Co
PO Box 2249
Wichita Falls TX 76308



Article Number (Transfer from service label)
7018 0680 0001 6411 7239

Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]* ☐ Agent ☒ Addressee

B. Received by (Printed Name) *[Signature]* C. Date of Delivery *8/16/15*

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature ☐ Priority Mail Express®
☐ Adult Signature Restricted Delivery ☐ Registered Mail™
☐ Certified Mail® ☐ Registered Mail Restricted Delivery
☐ Certified Mail Restricted Delivery ☐ Return Receipt for Merchandise
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Print your name and address on the reverse so that we can return the card to you.
Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Elliott Industries LTD Ptnrshp
PO Box 1328
Santa Fe NM 87504



Article Number (Transfer from service label)
7018 0680 0001 6411 7291

Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]* ☐ Agent ☒ Addressee

B. Received by (Printed Name) *[Signature]* C. Date of Delivery *8/16/15*

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
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☐ Adult Signature Restricted Delivery ☐ Registered Mail™
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Print your name and address on the reverse so that we can return the card to you.
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1. Article Addressed to:

Elliott Hall CO UT LP
PO Box 1231
Ogden UT 84402



Article Number (Transfer from service label)
7018 0680 0001 6411 7307

Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]* ☐ Agent ☒ Addressee

B. Received by (Printed Name) *[Signature]* C. Date of Delivery *8/16/15*

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

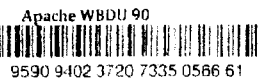
3. Service Type
☐ Adult Signature ☐ Priority Mail Express®
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Elliott Hall CO UT LP
PO Box 1231
Ogden UT 84402



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Form 3811, July 2015 PSN 7530-02-000-9053

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D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

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☐ Adult Signature Restricted Delivery ☐ Registered Mail™
☐ Certified Mail® ☐ Registered Mail Restricted Delivery
☐ Certified Mail Restricted Delivery ☐ Return Receipt for Merchandise
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☐ Collect on Delivery Restricted Delivery ☐ Signature Confirmation Restricted Delivery (over \$500)

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Print your name and address on the reverse so that we can return the card to you.
Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

NE-SLO
PO Box 1148
Santa Fe NM 87504



Article Number (Transfer from service label)
7018 0680 0001 6411 7307

Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]* ☐ Agent ☒ Addressee

B. Received by (Printed Name) *[Signature]* C. Date of Delivery *8/16/15*

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

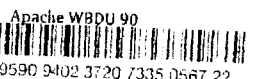
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Article Addressed to:

NE-SLO
PO Box 1148
Santa Fe NM 87504



Article Number (Transfer from service label)
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☐ Collect on Delivery Restricted Delivery ☐ Signature Confirmation Restricted Delivery (over \$500)