Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:

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: Northeast Drinkard Unit 510 **API:** 30-025-20218
Pool: Eunice; Blinebry-Tubb-Drinkard, 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

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

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

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

B. Wood
Signature

3-15-23
Date

505 466-8120
Phone Number

brian@permitswest.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: 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
If yes, give the Division order number authorizing the project: R-8541

NEDU 510
30-025-20218

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

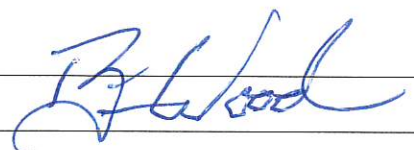
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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

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

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

NAME: BRIAN WOOD TITLE: CONSULTANT

SIGNATURE:  DATE: 3-14-23

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: _____

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

Side 2

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,

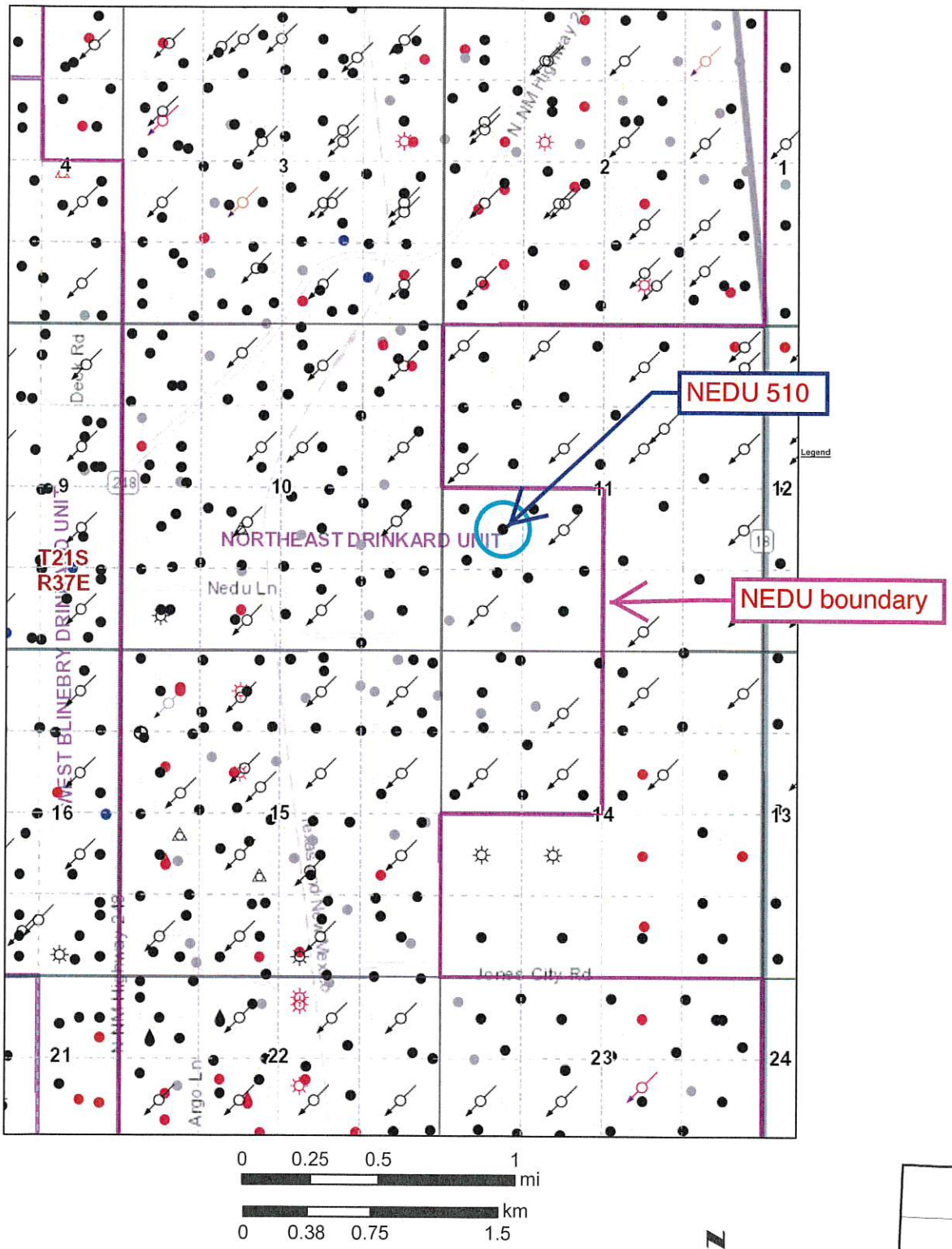
(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

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.

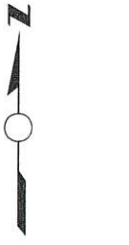
New Mexico State Land Office

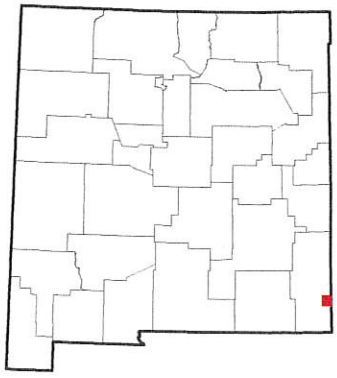
EXHIBIT A



0 0.25 0.5 1 mi

0 0.38 0.75 1.5 km

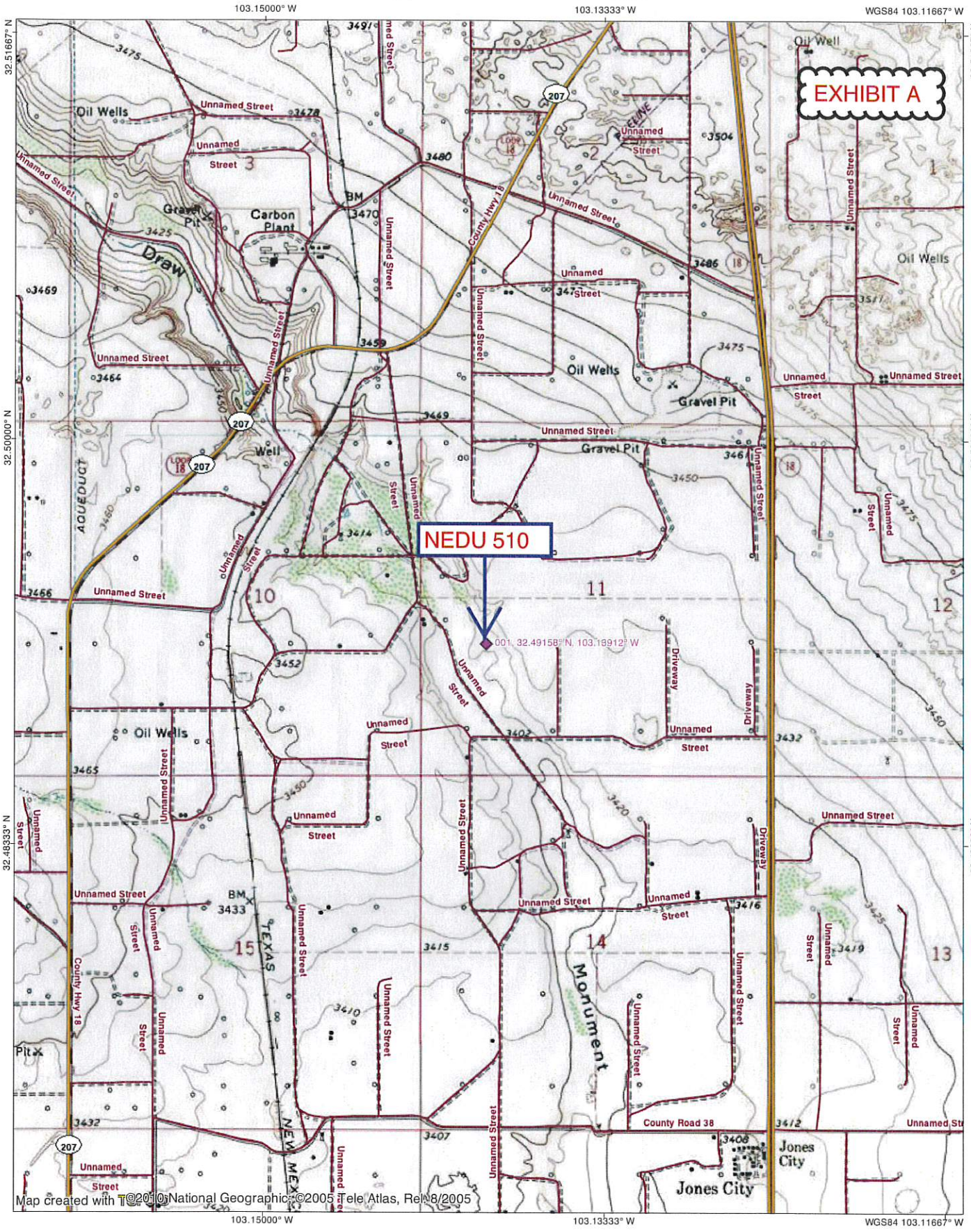




Disclaimer:
The New Mexico State Land Office assumes no responsibility or liability for, or in connection with the accuracy, reliability or use of the information provided herein with respect to State Land Office data or data from other sources.

Data pertaining to New Mexico State Trust Lands are provisional and subject to revision, and do not constitute an official record of title. Official records may be reviewed at the New Mexico State Land Office in Santa Fe, New Mexico.

TOPO! map printed on 11/26/22 from "Untitled.tpo"



NATIONAL GEOGRAPHIC

0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 miles
0.0 0.5 1.0 km

TN MN
6°
11/26/22

EXHIBIT A

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE O. C. C.
NOV 21 10 18 AM '63

FORM C-128
Revised 5/1/57

WELL LOCATION AND ACREAGE DEDICATION PLAT

SEE INSTRUCTIONS FOR COMPLETING THIS FORM ON THE REVERSE SIDE

SECTION A

Operator	Lease	Well No.
AZTEC OIL & GAS COMPANY	GUTMAN	2

Unit Letter	Section	Township	Range	County
L	11	21 SOUTH	37 EAST	LEA

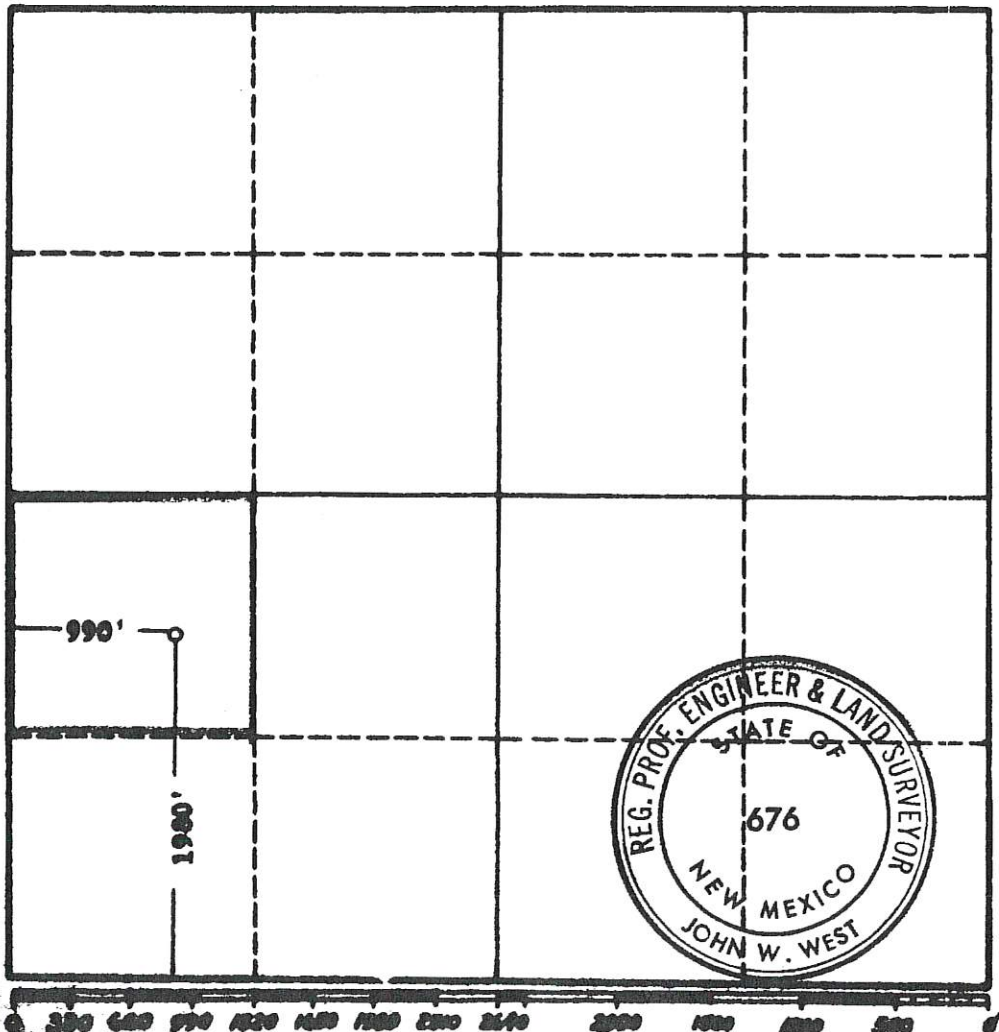
Actual Footage Location of Well:
1980 feet from the SOUTH line and 990 feet from the WEST line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3426	Abo	~~Undesignated~~ Hartley	40 Acres

1. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES X NO _____. ("Owner" means the person who has the right to drill into and to produce from any pool and to appropriate the production either for himself or for himself and another. (65-3-29 (e) NMSA 1935 Comp.)
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

SECTION B



CERTIFICATION

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

Lester L. Duke

Name: Lester L. Duke
Position: Dist. Superintendent
Company: Aztec Oil & Gas Company
Date: 11-20-63

I hereby 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: Nov. 15, 1963
Registered Professional Engineer and/or Land Surveyor, John W. West
John W. West
Certificate No. N. M. - P.E. & L.S. [illegible]

Side 1

INJECTION WELL DATA SHEET

OPERATOR: APACHE CORPORATION

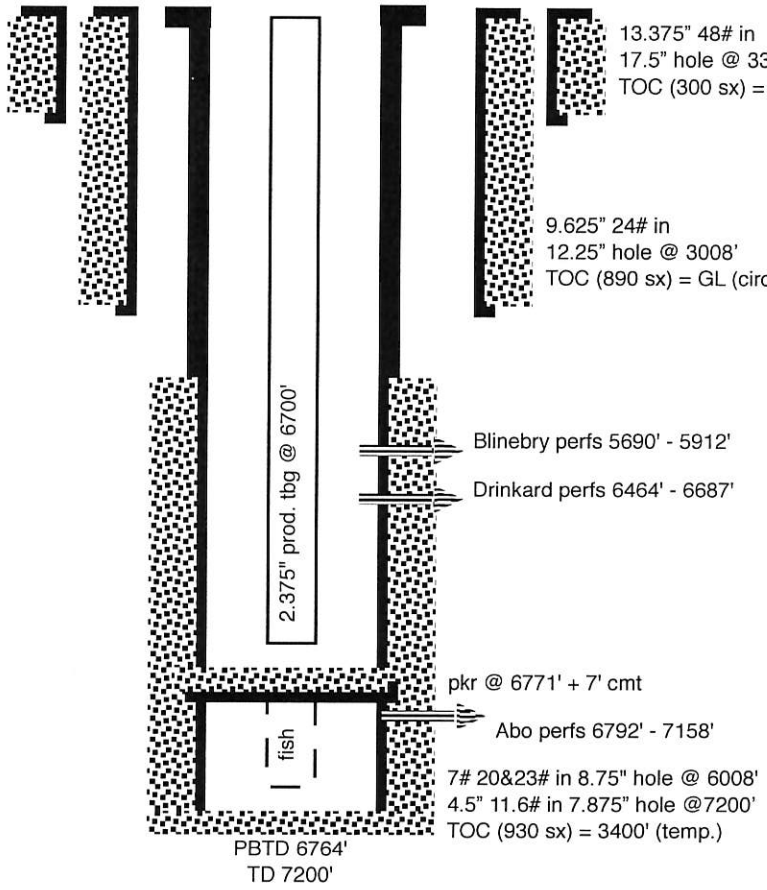
WELL NAME & NUMBER: NORTHEAST DRINKARD UNIT 510

WELL LOCATION:	1980 FSL & 990 FEL	L	11	21 S	37 E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

"AS IS"

(not to scale)



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17.5" Casing Size: 13.375"

Cemented with: 300 sx. *or* _____ ft³

Top of Cement: GL Method Determined: CIRC.

Intermediate Casing

Hole Size: 12.25" Casing Size: 9.625"

Cemented with: 890 sx. *or* _____ ft³

Top of Cement: GL Method Determined: CIRC.

Production Casing

Hole Size: 8.75" & 7.875" Casing Size: 7" & 5.5"

Cemented with: 930 sx. *or* _____ ft³

Top of Cement: 3400' Method Determined: TEMP. SURV.

Total Depth: 7200'

Injection Interval

6468 feet to 6690'

(Perforated or Open Hole; indicate which)

Side 1

INJECTION WELL DATA SHEET

OPERATOR: APACHE CORPORATION

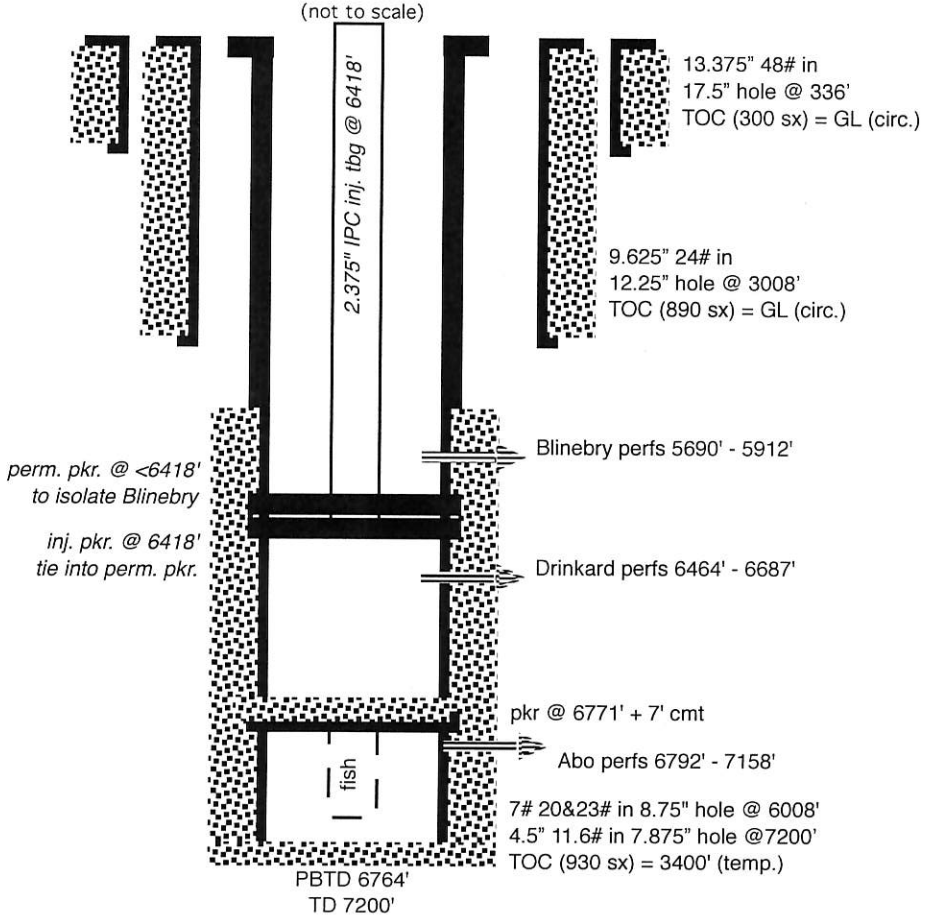
WELL NAME & NUMBER: NORTHEAST DRINKARD UNIT 510

WELL LOCATION:	1980 FSL & 990 FEL	L	11	21 S	37 E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

"PROPOSED"

(not to scale)



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Production Casing

Hole Size: 8.75" & 7.875" Casing Size: 7" & 5.5"

Cemented with: 930 sx. *or* _____ ft³

Top of Cement: 3400' Method Determined: TEMP. SURV.

Total Depth: 7200'

Injection Interval

6468 feet to 6690'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2.375" Lining Material: IPC

Type of Packer: LOCK SET INJECTION

Packer Setting Depth: 6418'

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

Additional Data

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

   If no, for what purpose was the well originally drilled? ABO OIL WELL

2. Name of the Injection Formation: DRINKARD

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

   BLINEBRY 5690' - 5912', DRINKARD 6467' - 6654', & ABO 6792' - 7158'
   WILL SET PERMANENT PACKER ABOVE DRINK. TO ISOLATE BLINE.; ABO ISOLATED BELOW CMT & PKR

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

   OVER: SAN ANDRES (3922'), BLINEBRY (5634'), TUBB (6116')

   UNDER: ABO (6695'), ELLENBURGER (7400')

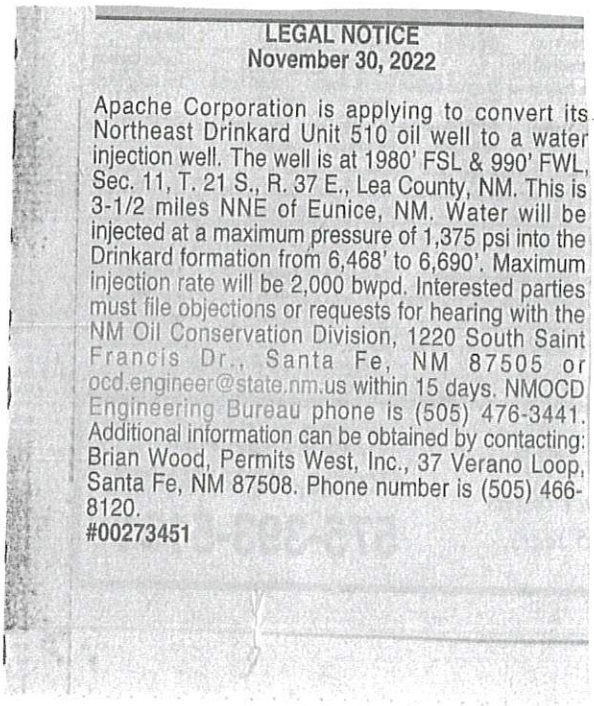
Affidavit of Publication

EXHIBIT K

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
November 30, 2022
and ending with the issue dated
November 30, 2022.



LEGAL NOTICE
November 30, 2022

Apache Corporation is applying to convert its Northeast Drinkard Unit 510 oil well to a water injection well. The well is at 1980' FSL & 990' FWL, Sec. 11, T. 21 S., R. 37 E., Lea County, NM. This is 3-1/2 miles NNE of Eunice, NM. Water will be injected at a maximum pressure of 1,375 psi into the Drinkard formation from 6,468' to 6,690'. Maximum injection rate will be 2,000 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 or ocd.engineer@state.nm.us within 15 days. NMOCD Engineering Bureau phone is (505) 476-3441. 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.
#00273451

Publisher

Sworn and subscribed to before me this
30th day of November 2022.

Business Manager

My commission expires
January 29, 2023
(Seal)

GUSSIE BLACK
Notary Public - State of New Mexico
Commission # 1087526
My Comm. Expires Jan 29, 2023

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

02108485

00273451

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

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

EXHIBIT L

March 14, 2023

James Allan Bryant
8204 Indigo Ct. NE
Albuquerque NM 87122

TYPICAL NOTICE

Apache Corporation is planning (see attached application) to convert its Northeast Drinkard Unit 510 oil well to a water injection well. As required by NM Oil Conservation Division (NMOCD) Rules, I am notifying you of the following proposal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Northeast Drinkard Unit 510 TD: 7200'
Proposed Injection Zone: Drinkard from 6468' to 6690'
Where: 1980' FSL & 990' FWL Sec. 11, T. 21 S., R. 37 E., Lea County, NM
Approximate Location: 3-1/2 air miles north-northeast of Eunice, NM
Applicant Name: Apache Corporation (432) 818-1088
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 NMOCD Enginering Bureau address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Phone number is (505) 476-3441. E-mail is: OCD.Engineer@emnrd.nm.gov

Please call me if you have any questions.

Sincerely,

Brian Wood

EXHIBIT L

7022 1670 0001 2804 4390

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- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Sent To: BP America Production Co
Street and Apt. No., or PO Box No.: 501 Westlake Park Blvd
City, State, ZIP+4®: Houston TX 77079
Apache NEDU 510

CORONADO STATION SANTA FE NEW MEXICO 87505 MAR 14 2023

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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Sent To: BLM
Street and Apt. No., or PO Box No.: 620 E. Greene
City, State, ZIP+4®: Carlsbad NM 88210
Apache NEDU 510

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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Sent To: ConocoPhillips Co
Street and Apt. No., or PO Box No.: 600 W. Illinois
City, State, ZIP+4®: Midland TX 79701
Apache NEDU 510

CORONADO STATION SANTA FE NEW MEXICO 87505 MAR 14 2023

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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Sent To: Chevron USA Inc
Street and Apt. No., or PO Box No.: 6301 Deauville
City, State, ZIP+4®: Midland TX 79706
Apache NEDU 510

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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Sent To: Energen Resources CO
Street and Apt. No., or PO Box No.: 605 Richard Arrington Jr Blvd
City, State, ZIP+4®: Birmingham AL 35203
Apache NEDU 510

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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Sent To: Empire NM LLC
Street and Apt. No., or PO Box No.: 2200 S. Utica Place
City, State, ZIP+4®: Suite 150
Tulsa OK 74114
Apache NEDU 510

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EXHIBIT L

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OFFICIAL USE

Certified Mail Fee $

Extra Services & Fees (check box, add fee as appropriate)
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage $

Total Postage and Fees $

Sent To: NM State Land Office
P. O. Box 1148
Santa Fe NM 87504

Street and Apt. No., or PO Box No.: Apache NEDU 510

City, State, ZIP+4®

Postmark Here

CORONADO STATION SANTA FE NEW MEXICO 87505 MAR 14 2023

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

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Houston TX 77210

Street and Apt. No., or PO Box No.: Apache NEDU 510

City, State, ZIP+4®

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CORONADO STATION SANTA FE NEW MEXICO 87505 MAR 14 2023

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

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Sent To: Sabinal Energy Operating LLC
1780 Hughes Landing Blvd
Suite 1200
The Woodlands TX 77380

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Sent To: Petro Strategies Inc
PO Box 5562
Midland TX 79704

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Sent To: St Croix Corp
13601 Preston #406E
Dallas TX 75240

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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage $

Total Postage and Fees $

Sent To: Southwest Royalties Inc
200 N Loraine St
Suite 400
Midland TX 79701

Street and Apt. No., or PO Box No.: Apache NEDU 510

City, State, ZIP+4®

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CORONADO STATION SANTA FE NEW MEXICO 87505 MAR 14 2023

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EXHIBIT L

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$

Extra Services & Fees (check box, add fee as appropriate)
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Sent To
XTO Holdings
6401 Holiday Hill Rd.
Midland TX 79707
Apache NEDU 510

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

Postmark Here

CORONADO STATION
SANTA FE, NEW MEXICO 87501
MAR 14 2023

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

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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
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Total Postage and Fees
$

Sent To
Tanos Energy Holdings II LLC
821 E Southeast Loop 323
Tyler TX 75701
Apache NEDU 510

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

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CORONADO STATION
SANTA FE, NEW MEXICO 87501
MAR 14 2023

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

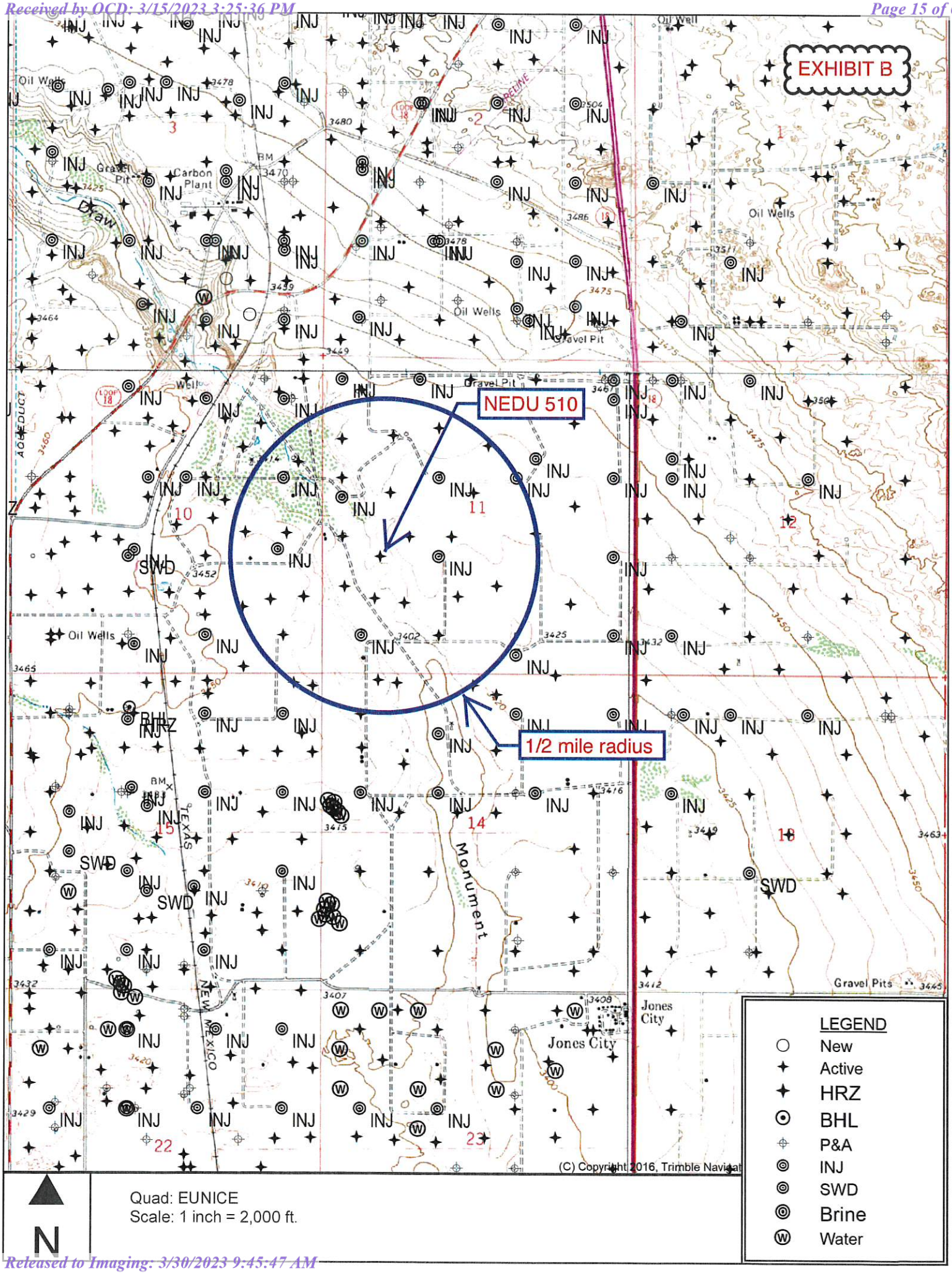
EXHIBIT B
NEDU 510
1/2 mile radius
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
Quad: EUNICE
Scale: 1 inch = 2,000 ft.
N
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SORTED BY DISTANCE FROM NEDU 510

API	OPERATOR	WELL	TYPE	UNIT-SECTION-T21S-R37E	TVD	ZONE @ TVD	FEET FROM NEDU 510
3002537729	Apache	Northeast Drinkard Unit 530	O	K-11	6900	Abo	594
3002541157	Apache	Northeast Drinkard Unit 567	O	M-11	6956	Abo	715
3002506537	Apache	Northeast Drinkard Unit 509	O	L-11	7576	granite	721
3002538532	Apache	Northeast Drinkard Unit 532	O	L-11	6875	Abo	789
3002534885	Apache	Northeast Drinkard Unit 517	O	N-11	6860	Abo	889
3002506534	Apache	Northeast Drinkard Unit 512	I	K-11	7492	Ellenburger	1000
3002539678	Apache	East Blinebry Drinkard Unit 101	O	E-11	7211	Abo	1080
3002506535	Apache	East Blinebry Drinkard Unit 027	I	E-11	6635	Drinkard	1185
3002537728	Apache	Northeast Drinkard Unit 424	O	K-11	6955	Abo	1264
3002506532	Apache	Northeast Drinkard Unit 511	I	M-11	7523	Ellenburger	1364
3002506525	Apache	Lockhart B 11 003	O	E-11	7659	Ellenburger	1471
3002534437	Apache	Northeast Drinkard Unit 516	O	P-10	6800	Abo	1474
3002537673	Apache	Northeast Drinkard Unit 528	O	N-11	6900	Abo	1494
3002537028	Apache	Northeast Drinkard Unit 420	O	I-10	6914	Abo	1645
3002506531	Apache	East Blinebry Drinkard Unit 025	I	F-11	7450	Ellenburger	1653
3002506533	Apache	Northeast Drinkard Unit 513	O	N-11	6711	Drinkard	1661
3002506470	Apache	Northeast Drinkard Unit 507	I	I-10	7573	granite	1757
3002539644	Apache	East Blinebry Drinkard Unit 086	O	F-11	7112	Abo	1919
3002541156	Apache	Northeast Drinkard Unit 566	O	P-10	6959	Abo	2001
3002538234	Apache	East Blinebry Drinkard Unit 063	O	J-11	6968	Abo	2026
3002538301	Apache	East Blinebry Drinkard Unit 064	O	D-11	6975	Abo	2038
3002539461	Apache	East Blinebry Drinkard Unit 100	O	E-11	6900	Abo	2073

SORTED BY DISTANCE FROM NEDU 510

API	OPERATOR	WELL	TYPE	UNIT-SECTION-T21S-R37e	TVD	ZONE @ TVD	FEET FROM NEDU 510
3002541168	Apache	Northeast Drinkard Unit 565	O	D-14	6945	Abo	2080
3002506475	Apache	Hawk B 10 001	O	H-10	6625	Drinkard	2112
3002506453	Apache	Northeast Drinkard Unit 410	I	H-10	7728	granite	2113
3002520548	Apache	Northeast Drinkard Unit 508	O	P-10	6710	Drinkard	2118
3002534740	Apache	Northeast Drinkard Unit 518	O	D-14	6860	Abo	2145
3002506530	Apache	East Blinebry Drinkard Unit 024	I	J-11	6760	Abo	2295
3002534434	Apache	Northeast Drinkard Unit 413	O	I-10	6850	Abo	2337
3002539865	Apache	East Blinebry Drinkard Unit 099	O	C-11	7204	Abo	2367
3002534413	Apache	Northeast Drinkard Unit 519	O	A-15	6780	Abo	2456
3002534436	Apache	Northeast Drinkard Unit 515	O	O-10	6800	Abo	2489
3002541601	Apache	Northeast Drinkard Unit 536	O	A-15	6956	Abo	2581
3002539380	Apache	East Blinebry Drinkard Unit 073	O	G-11	6978	Abo	2601
3002506536	*Apache*	*East Blinebry Drinkard Unit 026*	*I*	*G-11*	*7500*	*Ellenburger*	*2660*
3002506579	*Apache*	*Northeast Drinkard Unit 614*	*I*	*D-14*	*7614*	*granite*	*2660*

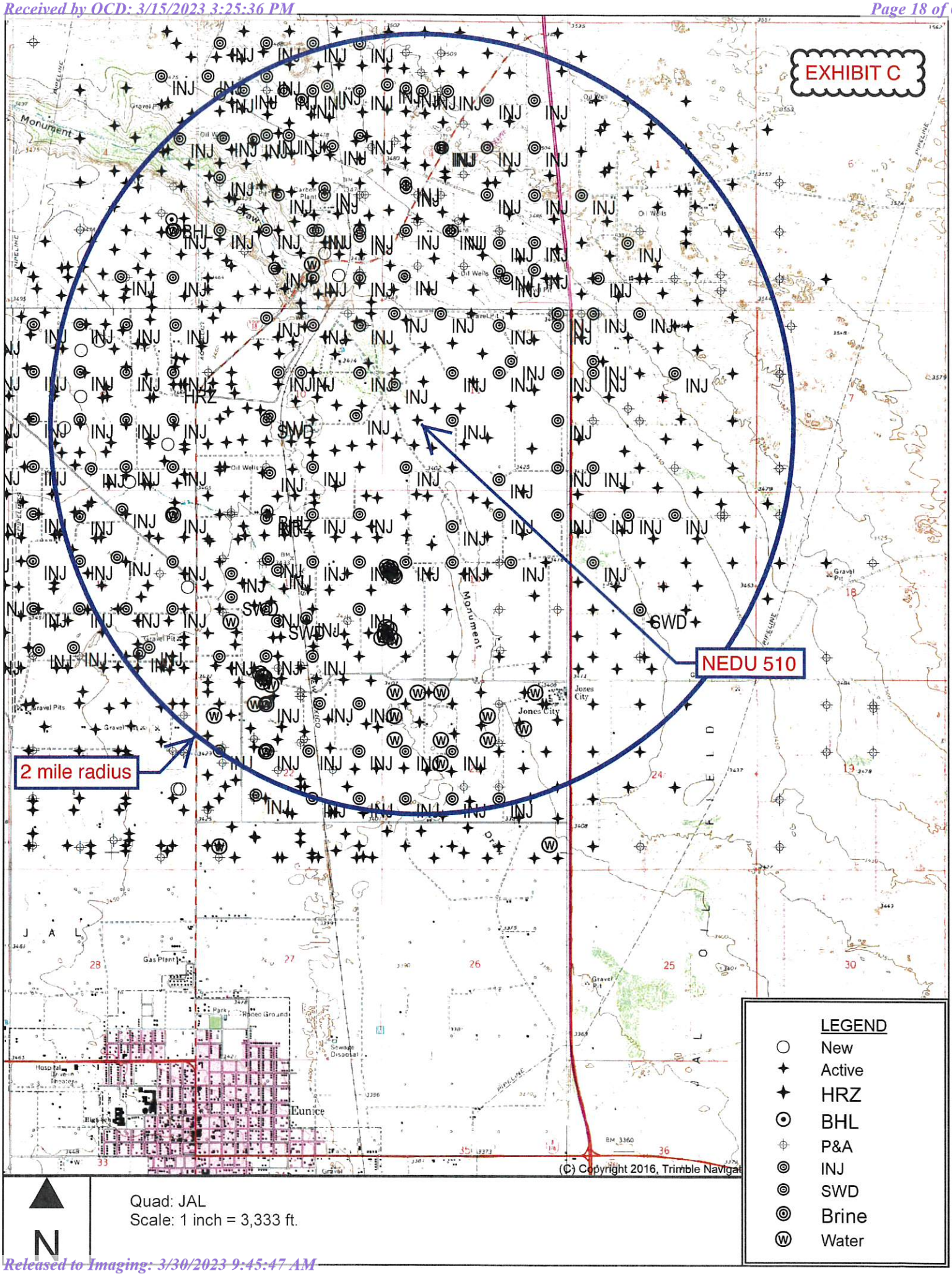
EXHIBIT C
NEDU 510
2 mile radius
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
Quad: JAL
Scale: 1 inch = 3,333 ft.
N
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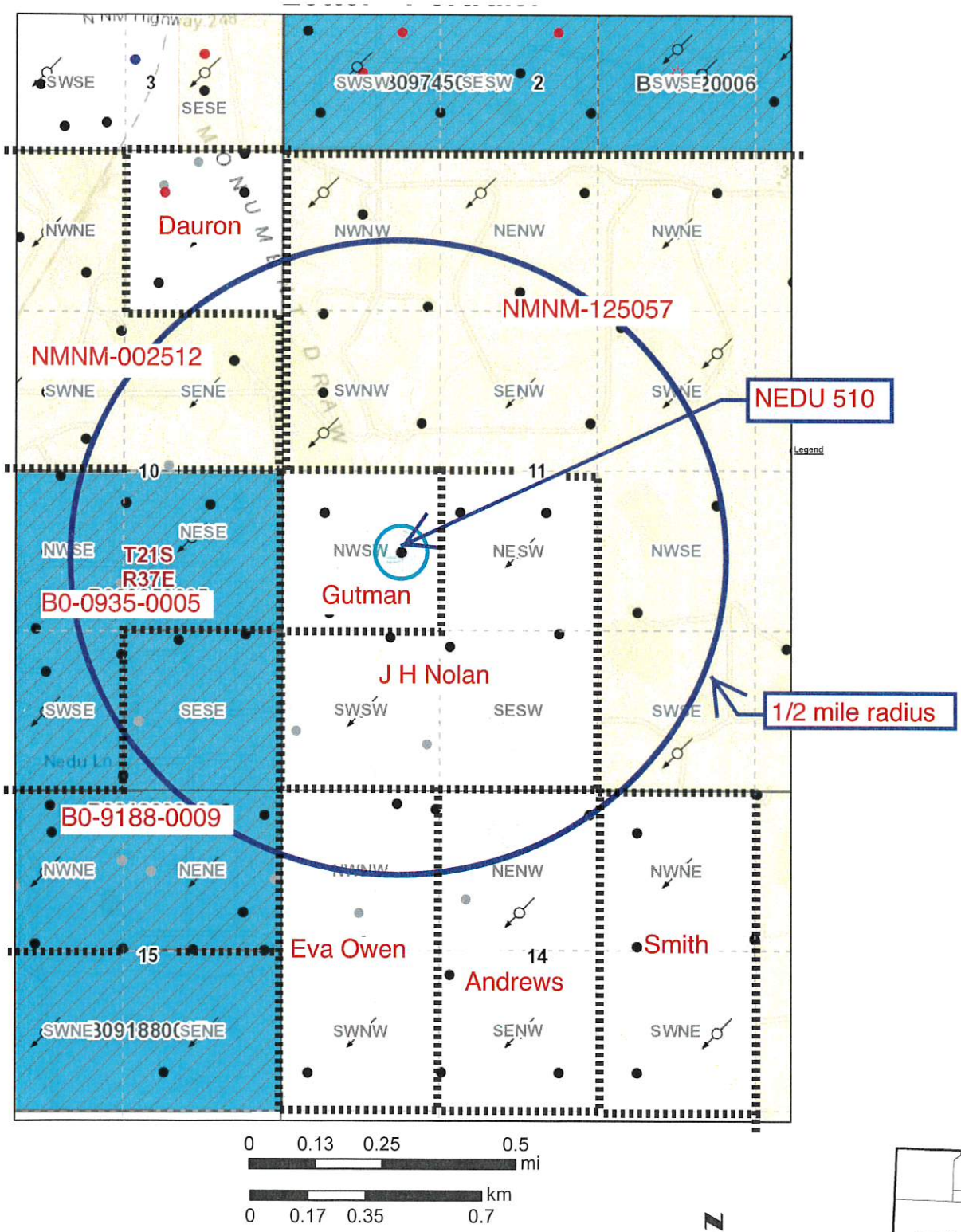
New Mexico State Land Office

EXHIBIT D



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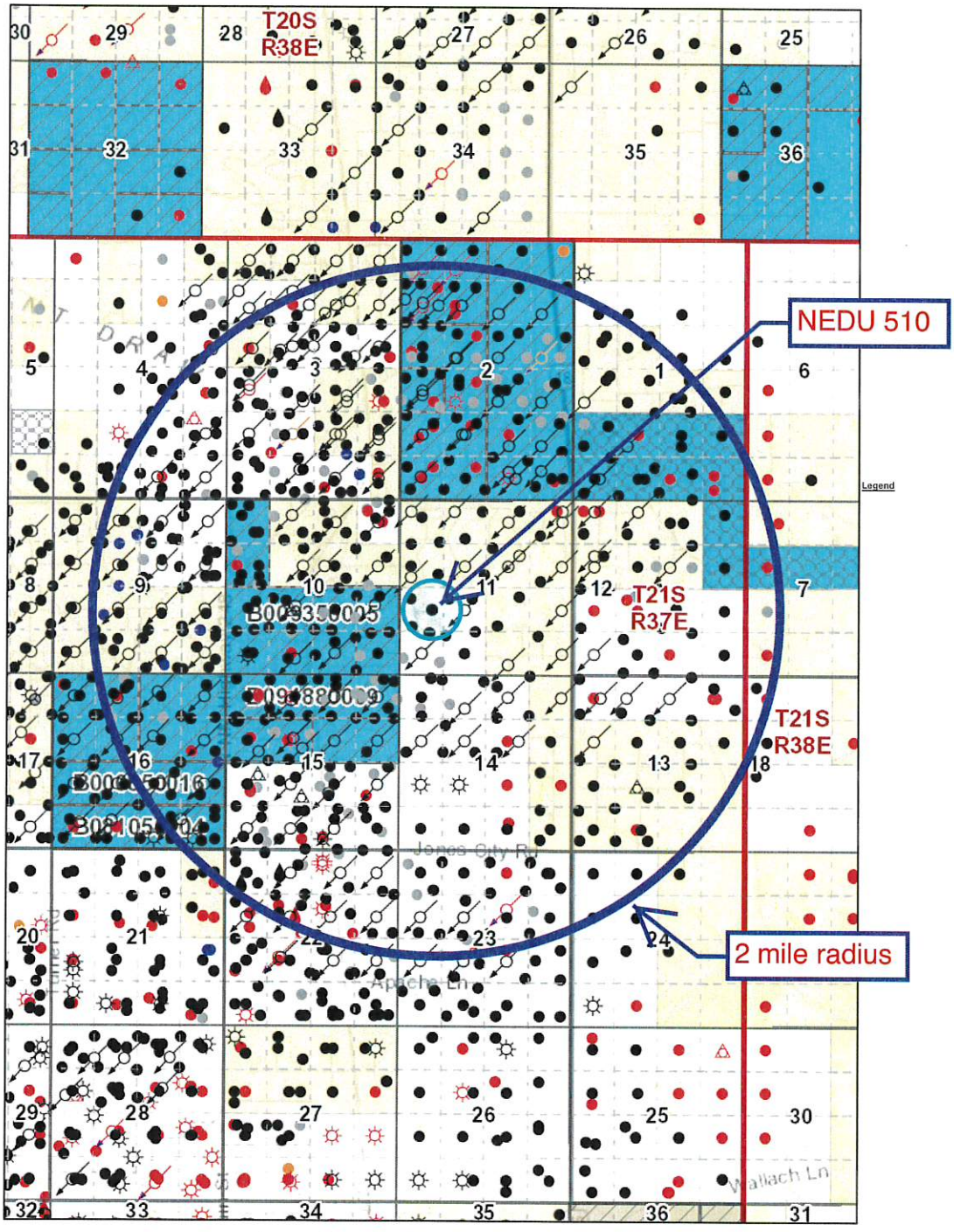
NEDU 510 AREA OF REVIEW LEASES

Aliquot Parts in Area of Review (T. 21 S., R. 37 E.)	Lessor	Lease	Lessee(s) of Record	Well Operators (all zones)
NENE Sec. 10	fee	Dauron	Apache	Apache
S2NE4 Sec. 10	BLM	NMNM-002512	Apache, Southwest Royalties	Apache
N2SE4 & SWSE Sec. 10	NMSLO	B0-0935-0005	XTO Holdings	Apache, Empire NM
SESE Sec. 10	NMSLO	B0-9188-0009	Southwest Royalties	Apache
W2E2 & NW4 Sec. 11	BLM	NMNM-125057	Apache, BP, & Southwest Royalties	Apache
E2SW4 & SWSW Sec. 11	fee	J H Nolan	Apache	Apache
NWSW Sec. 11	fee	Gutman	Apache	Apache
NWNE Sec. 14	feee	Smith		
NENW Sec. 14	fee	Andrews	Apache	Apache
NWNW Sec. 14	fee	Eva Owen	Apache	Apache
NENE Sec. 15	NMSLO	B0-9188-0009	Southwest Royalties	Apache, SW Royalties

EXHIBIT D

New Mexico State Land Office

EXHIBIT E



0 0.5 1 2 mi

0 0.75 1.5 3 km

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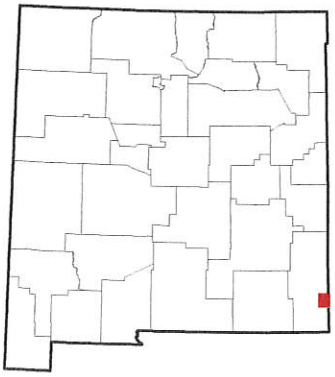

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DRINKARD PENETRATORS WITHIN 1/2 MILE OF NEDU 510

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
NEDU 530	4/24/06	6900	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1218	500	GL	Circ 107 sx
3002537729					8.625	5.5	6900	1225	186	CBL
K-11-21S-37E										
NEDU 567	6/25/13	6956	Eunice; Bli-Tu-Dr, N	O	11	8.625	1301	475 sx	GL	Circ 48 sx
3002541157					7.875	5.5	6956	1900 sx	154	CBL
M-11-21S-37E										
NEDU 509	2/14/52	7576	Eunice; Bli-Tu-Dr, N	O	17.5	13.375	245	275 sx	GL	Circ
3002506537					11	8.625	3005	2450 sx	GL	Circ
L-11-21S-37E					7.875	5.5	7490	500 sx	4310	Temp survey
NEDU 532	10/31/07	6875	Eunice;Bli-Tu-Dr, N	O	12.25	8.625	1267	650 sx	GL	Circ
3002538532					7.875	5.5	6875	1150 sx	85	CBL
L-11-21S-37E										

EXHIBIT F

DRINKARD PENETRATORS WITHIN 1/2 MILE OF NEDU 510

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
NEDU 517	5/17/00	6860	Eunice;Bli-Tu-Dr, N	O	12.25	8.625	1341	460 sx	GL	Circ 96 sx
3002534885					7.875	5.5	6860	1340 sx	GL	Circ 125 sx
N-11-21S-37E										
NEDU 512	11/21/37	7492	Eunice; Bli-Tu-Dr, N	I	17.5	13.375	350	250 sx	GL	Circ
3002506534					12.25	9.625	3093	1200 sx	1500	Temp survey
K-11-21S-37E					8.75	7	7492	625 sx	3800	Temp survey
EBDU 101	6/29/10	7211	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1340	700 sx	GL	Circ
3002539678					7.875	5.5	7051	1400 sx	94	CBL
E-11-21S-37E										
EBDU 027	2/9/53	6635	Eunice; Bli-Tu-Dr, N	I	15.75	13.375	174	200 sx	GL	Circ
3002506535					12.25	8.625	3043	900 sx	1540	Temp survey
E-11-21S-37E					7.75	5.5	6464	250 sx	4650	Temp survey

EXHIBIT F

DRINKARD PENETRATORS WITHIN 1/2 MILE OF NEDU 510

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
NEDU 424	8/7/06	6955	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1239	550 sx	GL	Circ 146 sx
3002537728					7.875	5.5	6955	1325 sx	140	CBL
K-11-21S-37E										
NEDU 511	10/26/64	7523	Eunice; Bli-Tu-Dr, N	I	13.75	10.75	269	225 sx	GL	Circ
3002506532					9.875	7.625	3069	2040 sx	GL	Circ
M-11-21S-37E					6.75	5.5	6699	356 sx	3225	Temp Survey
Lockhart B 11 003	8/10/51	7659	Penrose Skelly; Grayburg	O	15	10.75	262	250 sx	GL	Circ
3002506525					9.875	7.625	3099	1680 sx	GL	Circ
E-11-21S-37E					6.75	5.5	7658	546 sx	880	CBL
NEDU 516	7/13/98	6800	Eunice;Bli-Tu-Dr, N	O	11	8.625	1315	410 sx	GL	Circ 91 sx
3002534437					7.875	5.5	6800	1315 sx	GL	Circ 35 sx
P-10-21S-37E										

EXHIBIT F

DRINKARD PENETRATORS WITHIN 1/2 MILE OF NEDU 510

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
NEDU 528	2/24/06	6900	Eunice;Bli-Tu-Dr, N	O	12.25	8.625	1230	525 sx	GL	Circ 104 sx
3002537673					7.875	5.5	6900	1325 sx	190	CBL
N-11-21S-37E										
NEDU 420	3/17/05	6914	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1195	575 sx	GL	Circ 162 sx
3002537028					7.875	5.5	6914	1050 sx	76	CBL
I-10-21S-37E										
EBDU 025	12/27/61	7450	Eunice; Bli-Tu-Dr, N	O		13.375	322	250 sx	GL	Circ
3002506531						9.625	2912	950 sx	1500	Temp survey
F-11-21S-37E						7	7450	770 sx	1200	Temp survey
NEDU 513	5/12/55	6711	Eunice;Bli-Tu-Dr, N	O	13.75	10.75	254	250 sx	GL	Circ
3002506533					9.875	7.625	3049	1242 sx	700	No report
N-11-21S-37E					7.625	5.5	6479	467 sx	GL	Circ

EXHIBIT F

DRINKARD PENETRATORS WITHIN 1/2 MILE OF NEDU 510

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
NEDU 507	12/10/51	7573	Eunice; Bli-Tu-Dr, N	I	17.25	11.75	305	350 sx	GL	Circ
3002506470					11	7.625	3105	1100 sx	GL	Circ
I-10-21S-37E					7.875	5.5	7573	400 sx	2950	Calc
EBDU 086	6/27/10	7112	Eunice;Bli-Tu-Dr, N	O	12.25	8.625	1370	750 sx	GL	Circ
3002539644					7.875	5.5	7112	1400 sx	340	CBL
F-11-21S-37E										
NEDU 566	9/17/13	6959	Eunice;Bli-Tu-Dr, N	O	11	8.625	1305	475 sx	GL	Circ 5 Bbls
3002541156					7.875	5.5	6959	1330 sx	190	CBL
P-10-21S-37E										
EBDU 063	5/26/07	6968	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1321	600 sx	GL	Circ
3002538234					7.875	5.5	6968	1050 sx	70	CBL
J-11-21S-37E										

EXHIBIT F

DRINKARD PENETRATORS WITHIN 1/2 MILE OF NEDU 510

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
EBDU 064	6/6/07	6975	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1320	600 sx	GL	Circ
3002538301					7.875	5.5	6975	1150 sx	90	CBL
D-11-21S-37E										
EBDU 100	8/8/09	0	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1325	650 sx	GL	Circ 173 sx
3002539461					7.875	5.5	6900	1050 sx	GL	Circ
E-11-21S-37E										
NEDU 565	9/8/13	6945	Eunice; Bli-Tu-Dr, N	O	11	8.625	1285	475 sx	GL	Circ 64 sx
30-025-41168					7.875	5.5	6955	1350 sx	136	CBL
D-14-21S-37E										
Hawk B 10 001	5/9/53	6625	Penrose Skelly; Grayburg	O	13.75	10.75	180	150 sx	GL	Circ
3002506475					8.75	7.625	3005	900 sx	1415	Temp survey
H-10-21S-37E					6.75	5.5	6453	315 sx	3580	CBL

EXHIBIT F

DRINKARD PENETRATORS WITHIN 1/2 MILE OF NEDU 510

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
NEDU 410	6/29/51	7728	Eunice;Bli-Tu-Dr, N	I	13.75	10.75	260	250 sx	GL	Circ
3002506453					9.875	7.625	3099	1695 sx	550	Temp survey
H-10-21S-37E					6.75	5.5	7727	529 sx	GL	Circ
NEDU 530	4/24/06	6900	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1218	500 sx	GL	Circ 107 sx
					7.875	5.5	6900	1225 sx	186	CBL
NEDU 508	2/7/64	6710	Eunice; Bli-Tu-Dr, N	O	17.25	13.375	336	325 sx	GL	Circ
30-025-20548					12.25	8.625	2999	960 sx	GL	Circ 10 sx
P-10-21S-37E					7.875	5.5	6709	1065 sx	GL	Cement to top
NEDU 518	6/1/00	6860	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1269	460 sx	GL	Circ 125 sx
30-025-34740					7.875	5.5	6860	1400 sx	GL	Circ 120 sx
D-14-21S-37E										

EXHIBIT F

DRINKARD PENETRATORS WITHIN 1/2 MILE OF NEDU 510

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
EBDU 024	1/12/60	6760	Eunice; Bli-Tu-Dr, N	I	17.5	13.375	307	260 sx	GL	Circ
3002506530					12.25	9.625	2995	1150 sx	2000	Calc
J-11-21S-37E					8.75	7	6760	475 sx	3000	Calc
NEDU 413	8/10/98	6850	Eunice; Bli-Tu-Dr, N	O	11	8.625	1325	410 sx	GL	Circ 116 sx
3002534434					7.875	5.5	6850	1350 sx	GL	Circ 175 sx
I-10-21S-37E										
EBDU 099	10/6/10	7204	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1378	700 sx	GL	Circ 189 sx
3002539865					7.875	5.5	7204	1425 sx	100	CBL
C-11-21S-37E										
NEDU 519	7/2/98	6780	Eunice; Bli-Tu-Dr, N	O	11	8.625	1325	410 sx	GL	Circ 96 sx
30-025-34413					7.875	5.5	6780	1410 sx	GL	Circ 125 sx
A-15-21S-37E										

EXHIBIT F

DRINKARD PENETRATORS WITHIN 1/2 MILE OF NEDU 510

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
NEDU 515	7/27/98	6800	Eunice; Bli-Tu-Dr, N	O	11	8.625	1310	410 sx	GL	Circ 96 sx
3002534436					7.875	5.5	6800	1365 sx	1260	CBL
O-10-21S-37E										
NEDU 536	2/20/14	6956	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1270	430 sx	GL	Circ 108 sx
30-025-41601					7.875	5.5	6963	1250 sx	60	CBL
A-15-21S-37E										
EBDU 073	9/18/09	6978	Eunice; Bli-Tu-Dr, N	O	12.25	8.625	1430	650 sx	GL	Circ
3002539380					7.875	5.5	6978	1150 sx	GL	Circ
G-11-21S-37E										
EBDU 026	4/10/62	7500	Eunice; Bli-Tu-Dr, N	I	17.5	13.375	368	300 sx	GL	Circ
3002506536					12.25	9.625	3094	1150 sx	1600	Calc
G-11-21S-37E					8.75	7	7499	650 sx	3600	Calc

EXHIBIT F

DRINKARD PENETRATORS WITHIN 1/2 MILE OF NEDU 510

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
NEDU 614	4/8/50	7614	Eunice; Bli-Tu-Dr, N	O	17.25	13.375	170	150 sx	GL	Circ
30-025-06579					11	8.625	2930	800 sx	1350	Temp survey
D-14-21S-37E					7.875	5.5	7608	875 sx	3152	Temp survey
NEDU 529	7/7/05	6875	Eunice;Bli-Tu-Dr, N	O	12.25	8.625	1198	575 sx	GL	Circ 128 sx
3002537249					7.875	5.5	6898	1300 sx	150	CBL
C-14-21S-37E										

EXHIBIT F

AE Order Number Banner

Application Number: pAZS2308333529

WFX-1059

APACHE CORPORATION [873]

Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:

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: Northeast Drinkard Unit 510 **API:** 30-025-20218
Pool: Eunice; Blinebry-Tubb-Drinkard, 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

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

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

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

B. Wood
Signature

3-15-23
Date

505 466-8120
Phone Number

brian@permitswest.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: 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
If yes, give the Division order number authorizing the project: R-8541

NEDU 510
30-025-20218

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

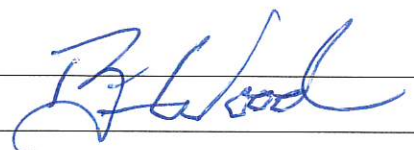
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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

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

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

NAME: BRIAN WOOD TITLE: CONSULTANT

SIGNATURE:  DATE: 3-14-23

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: _____

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

Side 2

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.

EXHIBIT G

Baker Petrolite

from WFX-784

South Permian Basin Region
10520 West I-20 East
Odessa, TX 79765
(915) 498-9191
Lab Team Leader - Sheila Hernandez
(915) 495-7240

Water Analysis Report by Baker Petrolite

Company:	APACHE CORPORATION	Sales RDT:	33102
Region:	PERMIAN BASIN	Account Manager:	MIKE EDWARDS (505) 910-9517
Area:	EUNICE, NM	Sample #:	223099
Lease/Platform:	NORTHEAST DRINKARD UNIT	Analysis ID #:	28971
Entity (or well #):	WATER INJECTION STATION	Analysis Cost	$40.00
Formation:	UNKNOWN		
Sample Point:	INJECTION PUMP DISCHARGE		

Summary	
Sampling Date:	10/3/02
Analysis Date:	10/4/02
Analyst:	SHEILA HERNANDE
TDS (mg/l or g/m3):	20702.9
Density (g/cm3, tonne/m3):	1.015
Anion/Cation Ratio:	1.000000
Carbon Dioxide:	60 PPM
Oxygen:	
Comments:	

Analysis of Sample 223099 @ 75 °F

Anions	mg/l	meq/l	Cations	mg/l	meq/l
Chloride:	10086.0	284.49	Sodium:	5799.5	252.26
Bicarbonate:	671.0	11.	Magnesium:	439.0	36.11
Carbonate:	0.0	0.	Calcium:	1099.0	54.84
Sulfate	2465.0	51.32	Strontium:	28.0	0.64
Phosphate:			Barium:	0.1	0.
Borate:			Iron:	0.3	0.01
Silicate:			Potassium:	115.0	2.94
			Aluminum:		
Hydrogen Sulfide:		90 PPM	Chromium:		
pH at time of sampling:		7.5	Copper:		
pH at time of analysis:			Lead:		
pH used in Calculation:		7.5	Manganese:		
			Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		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	1.18	75.54	-0.08	0.00	-0.14	0.00	0.07	2.75	0.75	0.00	0.21
100	0	1.25	85.15	-0.09	0.00	-0.09	0.00	0.07	3.09	0.60	0.00	0.3
120	0	1.33	95.11	-0.10	0.00	-0.02	0.00	0.09	3.78	0.47	0.00	0.42
140	0	1.41	105.41	-0.10	0.00	0.08	128.07	0.11	4.46	0.36	0.00	0.56

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.

UNICHEM

A Division of BJ Services Company

EXHIBIT G

Lab Test No. 23748

Apache

Sample Date: 3/10/99

Water Analysis

Listed below please find water analysis report from: NEDU #919-S

WFX-774 application indicates this is San Andres source water

Specific Gravity:	1.009
Total Dissolved Solids:	13273
pH:	6.49
Conductivity (µmhos):	
Ionic Strength:	0.265

Cations:		mg/l
Calcium	(Ca++):	608
Magnesium	(Mg++):	244
Sodium	(Na+):	3909
Iron	(Fe++):	0.00
Dissolved Iron	(Fe++):	
Barium	(Ba++):	0.38
Strontium	(Sr):	19
Manganese	(Mn++):	0.01
Resistivity:		
Anions:		
Bicarbonate	(HCO3-):	562
Carbonate	(CO3--):	
Hydroxide	(OH-):	0
Sulfate	(SO4--):	1750
Chloride	(Cl-):	6200

Gases:		ppm		
Carbon Dioxide	(CO2):	80.00	Oxygen	(O2):
Hydrogen Sulfide	(H2S):	408.00		

Scale Index (positive value indicates scale tendency) a blank indicates some tests were not run

Temperature		CaCO3 SI	CaSO4 SI
86F	30.0C	-0.14	-17.28
104F	40.0C	0.09	-17.28
122F	50.0C	0.35	-17.28
140F	60.0C	0.57	-16.80
168F	70.0C	0.87	-15.02
176F	80.0C	1.20	-15.51

Comments:

cc: Jerry White
Jay Brown

P.O. Box 61427 • Midland, TX 79711 • 4312 S. County Rd. 1298, Midland, TX 79765
Office: (915) 563-0241 • Fax: (915) 563 0243

TOPO! map printed on 11/26/22 from "Untitled.tpo"

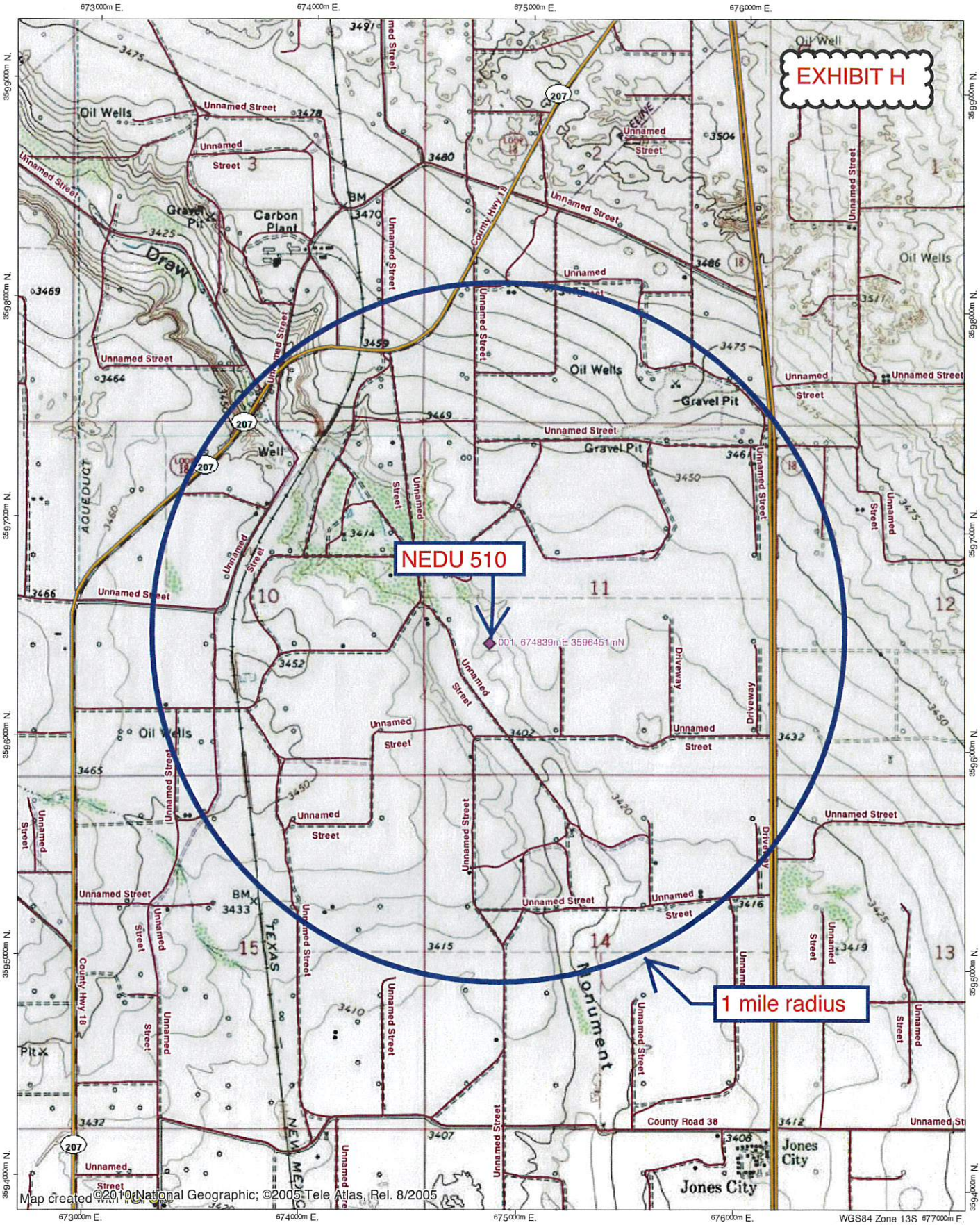


EXHIBIT H

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

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00286 POD1		CP	LE	2	1	2	10	21S	37E	674019	3597338*	1207	70		
CP 01794 POD2		CP	LE	3	3	1	14	21S	37E	674594	3595204	1269	198		
CP 01794 POD6		CP	LE	3	3	1	14	21S	37E	674624	3595194	1274	104		
CP 01794 POD5		CP	LE	3	3	1	14	21S	37E	674606	3595176	1296	30	22	8
CP 01794 POD3		CP	LE	3	3	1	14	21S	37E	674623	3595163	1305	34		
CP 01794 POD1		CP	LE	3	3	1	14	21S	37E	674646	3595143	1321	34	18	16
CP 01794 POD4		CP	LE	3	3	1	14	21S	37E	674662	3595126	1336	28	19	9
CP 01741 POD1		CP	LE	1	3	4	03	21S	37E	673895	3597759	1613	45		
CP 01185 POD1		CP	LE		1	3	14	21S	37E	674598	3594689	1778	70		
CP 01185 POD2		CP	LE		1	3	14	21S	37E	674623	3594674	1789	70		
CP 01110 POD1		CP	LE		1	3	14	21S	37E	674586	3594648	1820	70		
CP 01110 POD2		CP	LE		1	3	14	21S	37E	674586	3594648	1820	70		
CP 01110 POD3		CP	LE		1	3	14	21S	37E	674586	3594648	1820	70		
CP 01110 POD4		CP	LE		1	3	14	21S	37E	674586	3594648	1820	20		
CP 01110 POD5		CP	LE		1	3	14	21S	37E	674586	3594648	1820	20		
CP 01185 POD3		CP	LE		1	3	14	21S	37E	674592	3594620	1847	70		
CP 01185 POD4		CP	LE		1	3	14	21S	37E	674633	3594610	1851	70		
CP 01574 POD1		CP	LE	2	4	4	15	21S	37E	674559	3594598	1873	68	57	11
CP 01574 POD2		CP	LE	1	3	3	14	21S	37E	674666	3594578	1880	68	57	11
CP 00137 POD1		CP	LE	2	2	1	13	21S	37E	676862	3595783*	2130	65		
CP 00554		CP	LE		2	2	16	21S	37E	672744	3595610*	2257	80	70	10
CP 00235 POD6		CP	LE	2	1	1	23	21S	37E	674881	3594137*	2314	85	65	20
CP 00235 POD3		CP	LE	1	1	1	23	21S	37E	674681	3594137*	2319	90	61	29
CP 00235 POD2		CP	LE	1	2	1	23	21S	37E	675083	3594144*	2319	96	65	31
CP 00235 POD1		CP	LE	2	2	1	23	21S	37E	675283	3594144*	2349	81		
CP 00729 POD1		CP	LE	4	1	3	15	21S	37E	673259	3594711*	2350	8015		
CP 00239 POD1		CP	LE	1	1	2	23	21S	37E	675485	3594152*	2388	89	61	28
CP 00235 POD7		CP	LE	3	1	1	23	21S	37E	674681	3593937*	2518	85	65	20
CP 00562		CP	LE	1	2	2	23	21S	37E	675887	3594159*	2520	136	65	71
CP 00240 POD1		CP	LE	4	2	1	23	21S	37E	675283	3593944*	2546			

1610 m = 1 mile

EXHIBIT H

CP 00241 POD1		CP	LE	4	2	1	23	21S	37E	675283	3593944*	2546	79			
CP 01141 POD3		CP	LE				15	21S	37E	673520	3594272	2546	40			
CP 01141 POD2		CP	LE				15	21S	37E	673543	3594250	2554	40			
CP 01141 POD4		CP	LE				15	21S	37E	673556	3594239	2556	45			
CP 01575 POD2		CP	LE	2	2	1	22	21S	37E	673615	3594181	2578	35	35	0	
CP 00235 POD8		CP	LE	3	1	2	23	21S	37E	675485	3593952*	2581	94	58	36	
CP 00236 POD1		CP	LE	3	1	2	23	21S	37E	675485	3593952*	2581	83			
CP 01575 POD1		CP	LE	1	2	1	22	21S	37E	673544	3594204	2592	40	35	5	
CP 00552		CP	LE		2	4	04	21S	37E	672700	3598022*	2653	90	75	15	
CP 00553		CP	LE		2	4	04	21S	37E	672700	3598022*	2653	90	75	15	
CP 00134 POD1		CP	LE	1	1	1	24	21S	37E	676289	3594166*	2706	85			
CP 00235 POD4		CP	LE	1	3	1	23	21S	37E	674688	3593735*	2720	100	80	20	
CP 00235 POD5		CP	LE	1	4	1	23	21S	37E	675090	3593742*	2720	90	70	20	
CP 00731 POD1		CP	LE		2	1	22	21S	37E	673577	3594015*	2743	8130			
CP 00700		CP	LE			2	23	21S	37E	675794	3593851*	2769	75	65	10	
CP 00235 POD10		CP	LE	1	3	2	23	21S	37E	675492	3593749*	2779	92	60	32	
CP 00235 POD11		CP	LE	1	3	2	23	21S	37E	675492	3593749*	2779	97	60	37	
CP 00237 POD1		CP	LE	1	3	2	23	21S	37E	675492	3593749*	2779	84			
CP 00197	O	CP	LE	1	4	1	01	21S	37E	676611	3598599*	2784	85			
CP 00197 POD1		CP	LE	1	4	1	01	21S	37E	676611	3598599*	2784	85			
CP 00235 POD9		CP	LE	3	4	1	23	21S	37E	675090	3593542*	2919	94	58	36	
CP 00238 POD1		CP	LE	3	3	2	23	21S	37E	675492	3593549*	2974	81			
CP 00732 POD1		CP	LE		4	1	22	21S	37E	673584	3593613*	3103	6633			

Average Depth to Water: **56 feet**

Minimum Depth: **18 feet**

Maximum Depth: **80 feet**

Record Count: 53

UTMNAD83 Radius Search (in meters):

Easting (X): 674839 **Northing (Y):** 3596451 **Radius:** 3220

***UTM location was derived from PLSS - see Help**

3/6/23 6:26 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

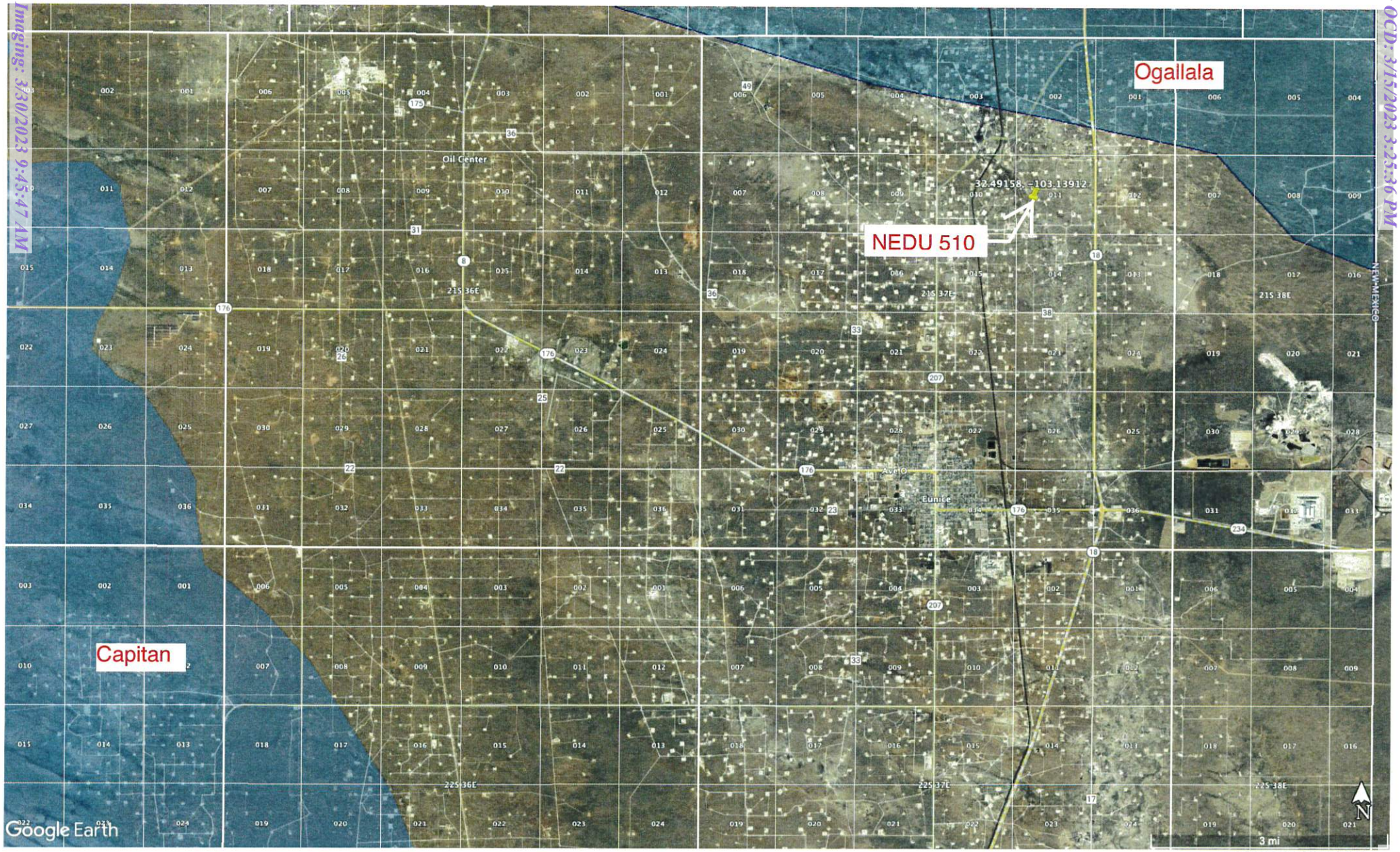
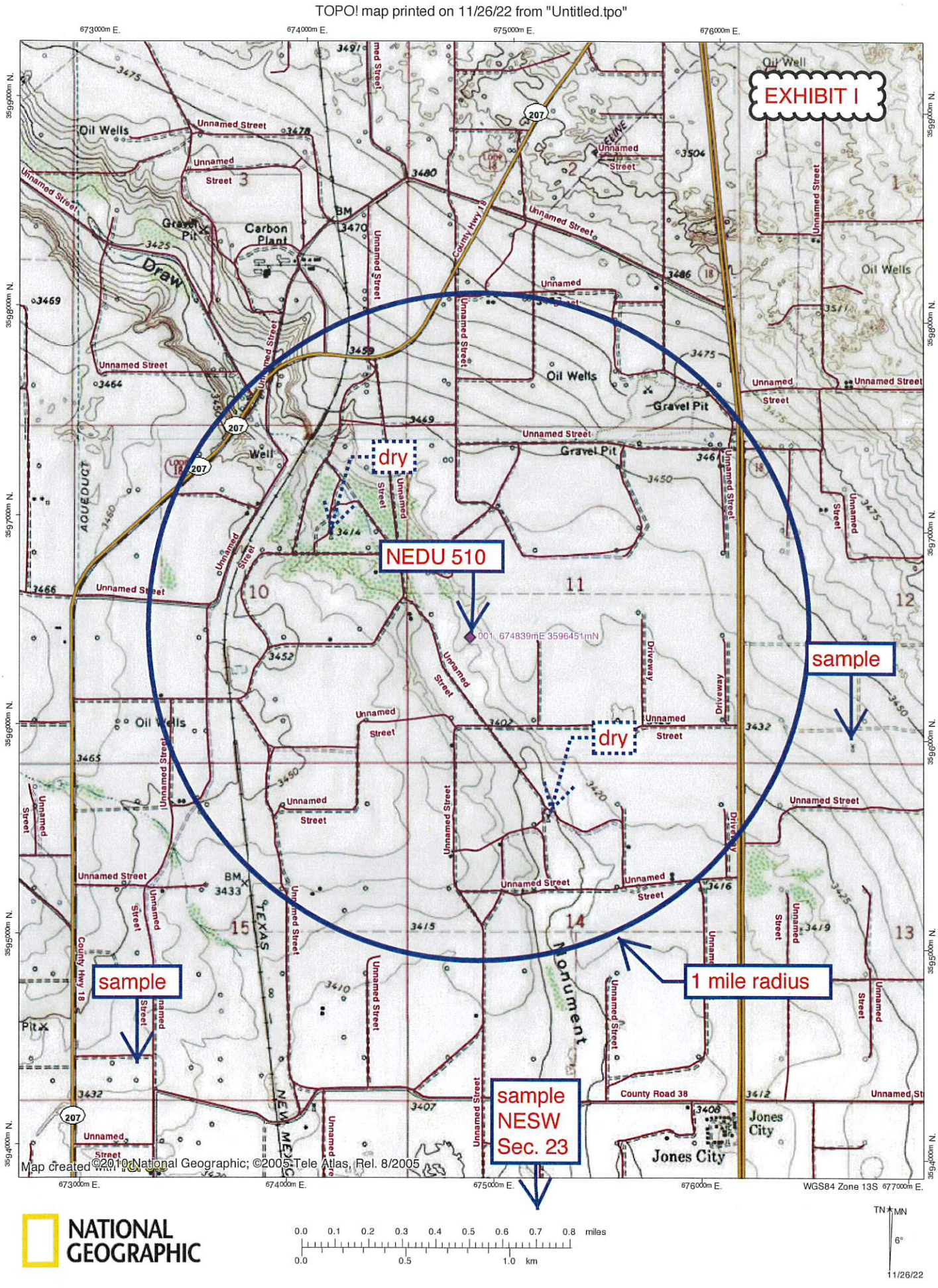


EXHIBIT H


TOPO! map printed on 11/26/22 from "Untitled.tpo"
EXHIBIT I
NEDU 510
dry
dry
sample
sample
sample
NESW
Sec. 23
1 mile radius
Map created with TOPO!
©2010 National Geographic; ©2005 Tele Atlas, Rel. 8/2005
WGS84 Zone 13S
NATIONAL GEOGRAPHIC
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 miles
0.0 0.5 1.0 km
TN MN
6°
11/26/22

Analytical Report
Lab Order **2211E78**
Date Reported: **12/9/2022**

Hall Environmental Analysis Laboratory, Inc.

EXHIBIT I

CLIENT: Permits West
Project: NEDU
Lab ID: 2211E78-001 **Matrix:** AQUEOUS

Client Sample ID: SW 15
Collection Date: 11/28/2022 1:15:00 PM
Received Date: 11/30/2022 9:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 1664B						Analyst: **dms**	
N-Hexane Extractable Material	ND	9.72		mg/L	1	12/7/2022 5:00:00 PM	71862
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Chloride	320	50	*	mg/L	100	12/1/2022 12:50:45 AM	R92932
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNS**	
Total Dissolved Solids	1080	40.0	*D	mg/L	1	12/6/2022 9:54:00 AM	71820

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2211E78**
Date Reported: **12/9/2022**

EXHIBIT I

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West
Project: NEDU
Lab ID: 2211E78-002 **Matrix:** AQUEOUS

Client Sample ID: SW 12
Collection Date: 11/29/2022 7:50:00 AM
Received Date: 11/30/2022 9:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 1664B						Analyst: **dms**	
N-Hexane Extractable Material	ND	9.50		mg/L	1	12/7/2022 5:00:00 PM	71862
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Chloride	560	50	*	mg/L	100	12/1/2022 1:16:28 AM	R92932
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNS**	
Total Dissolved Solids	1850	40.0	*D	mg/L	1	12/6/2022 9:54:00 AM	71820

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	Above Quantitation Range/Estimated Value
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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2211E78**
Date Reported: **12/9/2022**

EXHIBIT I

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West
Project: NEDU
Lab ID: 2211E78-003 **Matrix:** AQUEOUS

Client Sample ID: SW 23
Collection Date: 11/29/2022 8:30:00 AM
Received Date: 11/30/2022 9:32:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 1664B						Analyst: **dms**	
N-Hexane Extractable Material	ND	10.3		mg/L	1	12/7/2022 5:00:00 PM	71862
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Chloride	420	50	*	mg/L	100	12/1/2022 1:42:11 AM	R92932
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNS**	
Total Dissolved Solids	1380	20.0	*	mg/L	1	12/6/2022 9:54:00 AM	71820

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	Above Quantitation Range/Estimated Value
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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2211E78

09-Dec-22

EXHIBIT I

Client: Permits West

Project: NEDU

Sample ID: MB-71862	SampType: MBLK	TestCode: EPA Method 1664B
Client ID: PBW	Batch ID: 71862	RunNo: 93103
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3353593 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	ND	10.0								

Sample ID: LCS-71862	SampType: LCS	TestCode: EPA Method 1664B
Client ID: LCSW	Batch ID: 71862	RunNo: 93103
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3353594 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	31.2	10.0	40.00	0	78.0	78	114			

Sample ID: LCSD-71862	SampType: LCSD	TestCode: EPA Method 1664B
Client ID: LCSS02	Batch ID: 71862	RunNo: 93103
Prep Date: 12/6/2022	Analysis Date: 12/7/2022	SeqNo: 3353595 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Hexane Extractable Material	38.0	10.0	40.00	0	95.0	78	114	19.7	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2211E78

09-Dec-22

EXHIBIT I

Client: Permits West

Project: NEDU

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R92932	RunNo: 92932							
Prep Date:	Analysis Date: 11/30/2022	SeqNo: 3346167	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: R92932	RunNo: 92932							
Prep Date:	Analysis Date: 11/30/2022	SeqNo: 3346168	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2211E78

09-Dec-22

EXHIBIT I

Client: Permits West

Project: NEDU

Sample ID: MB-71820	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: PBW	Batch ID: 71820	RunNo: 93032
Prep Date: 12/2/2022	Analysis Date: 12/6/2022	SeqNo: 3350387 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-71820	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: LCSW	Batch ID: 71820	RunNo: 93032
Prep Date: 12/2/2022	Analysis Date: 12/6/2022	SeqNo: 3350388 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			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

PERMITS WEST
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 505-466-8120

EXHIBIT J

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

Re: Geology Statement
Apache Corporation
Northeast Drinkard Unit #510
Section 11, T. 21S, R. 37E
Lea County, New Mexico

To whom it may concern:

Publicly available geologic and engineering data related to the proposed well have been thoroughly reviewed, and no evidence for open faults or any other hydrologic connection between the proposed Drinkard injection zone and any underground sources of drinking water has been found. Please see the attached seismic risk assessment for additional information.

Sincerely,

Cory Walk

Cory Walk
Geologist

EXHIBIT J

Seismic Risk Assessment

Apache Corporation

Northeast Drinkard Unit #510

Section 11, Township 21 South, Range 37 East

Lea County, New Mexico

Cory Walk, M.S.

Cory Walk

Geologist

Permits West Inc.

February 16, 2023

EXHIBIT J

GENERAL INFORMATION

Northeast Drinkard Unit #510 is located in the SE ¼, section 11, T21S, R37E, about 3 miles north of Eunice, NM in the Central Basin Platform of the greater Permian Basin. Apache Corporation proposes to convert this existing oil well to a water injection well. The proposed injection zone is within the Drinkard member of the Yeso Formation through a cased hole from 6,468'-6,690' below ground surface. The Drinkard is primarily a carbonate reservoir. This report assesses any potential concerns relating to induced seismicity along deep penetrating Precambrian faults or the connection between the injection zone and known underground potable water sources.

SEISMIC RISK ASSESSMENT

Historical Seismicity

Searching the USGS earthquake catalog resulted in no (0) earthquakes above a magnitude 2.5 within 6 miles (9.7 km) of the proposed injection site since 1970 (Fig 1). According to this dataset, the nearest historical earthquake occurred June 2, 2001 about 10.9 miles (~17.5 km) south and had a magnitude of 3.3.

Basement Faults and Subsurface Conditions

A structure contour map (Fig. 1) of the Precambrian basement shows the Northeast Drinkard Unit #510 is approximately 1.4 miles from the nearest basement-penetrating fault inferred by Ewing et al (1990) and about 63 miles from the nearest surface fault.

Snee and Zoback (2018) state, "In the western part of Eddy County, New Mexico, S_{Hmax} is ~north–south (consistent with the state of stress in the Rio Grande Rift; Zoback and Zoback, 1980) but rotates to ~east-northeast–west-southwest in southern Lea County, New Mexico, and the northernmost parts of Culberson and Reeves counties, Texas." Around the Northeast Drinkard Unit #510 site, Snee and Zoback indicate a **S_{Hmax} direction of N075°E and an A_φ of 0.81, indicating a normal/strike-slip faulting stress regime**.

Induced seismicity is a growing concern of deep injection wells. Snee and Zoback (2018) show that due to its orientation, the nearest Precambrian fault has a low probability of slipping (Fig. 2). Also, the proposed injection zone is much shallower in the Drinkard member of the Yeso Formation and therefore would not affect the deep Precambrian faults. In addition to the existing fault orientation, the vertical (approx. 1500') and horizontal (1.4 miles) separation between the proposed water injection zone and any deep Precambrian faults is large enough to infer that there is no immediate concern or potential of induced seismicity as a result from this injection well.

GROUNDWATER SOURCES

Three principal aquifers are used for potable groundwater in southern Lea County; these geologic units include the Triassic Santa Rosa formation, Tertiary Ogallala formation, and Quaternary alluvium. Nicholson and Clebsch (1961) state, "Potable ground water is not available below the Permian and Triassic unconformity but, because this boundary is not easily defined, the top of the Rustler anhydrite formation is regarded as the effective lower limit of 'potable' ground water." Around the Northeast

EXHIBIT J

Drinkard Unit #510 well, the top of a thick anhydrite unit interpreted to represent the Rustler Formation lies at a depth of ~1260 feet bgs.

STRATIGRAPHY

A thick permeability barrier (Rustler Anhydrite and Salado Fm; 1500+ ft thick) exists above the targeted Drinkard injection zone. Well data indicates ~5,200 ft of rock separating the top of the injection zone from the previously stated lower limit of potable water at the top of the Rustler anhydrite formation.

CONCLUDING STATEMENT

All available geologic and engineering data evaluated around the Northeast Drinkard Unit #510 well show no potential structural or stratigraphic connection between the Drinkard injection zone and any subsurface potable water sources. The shallow injection zone, spatial location and orientation of nearby faults also removes any major concern of inducing seismic activity.

Apache Corporation
Northeast Drinkard Unit #510

SEISMIC RISK ASSESSMENT PAGE 3

EXHIBIT J

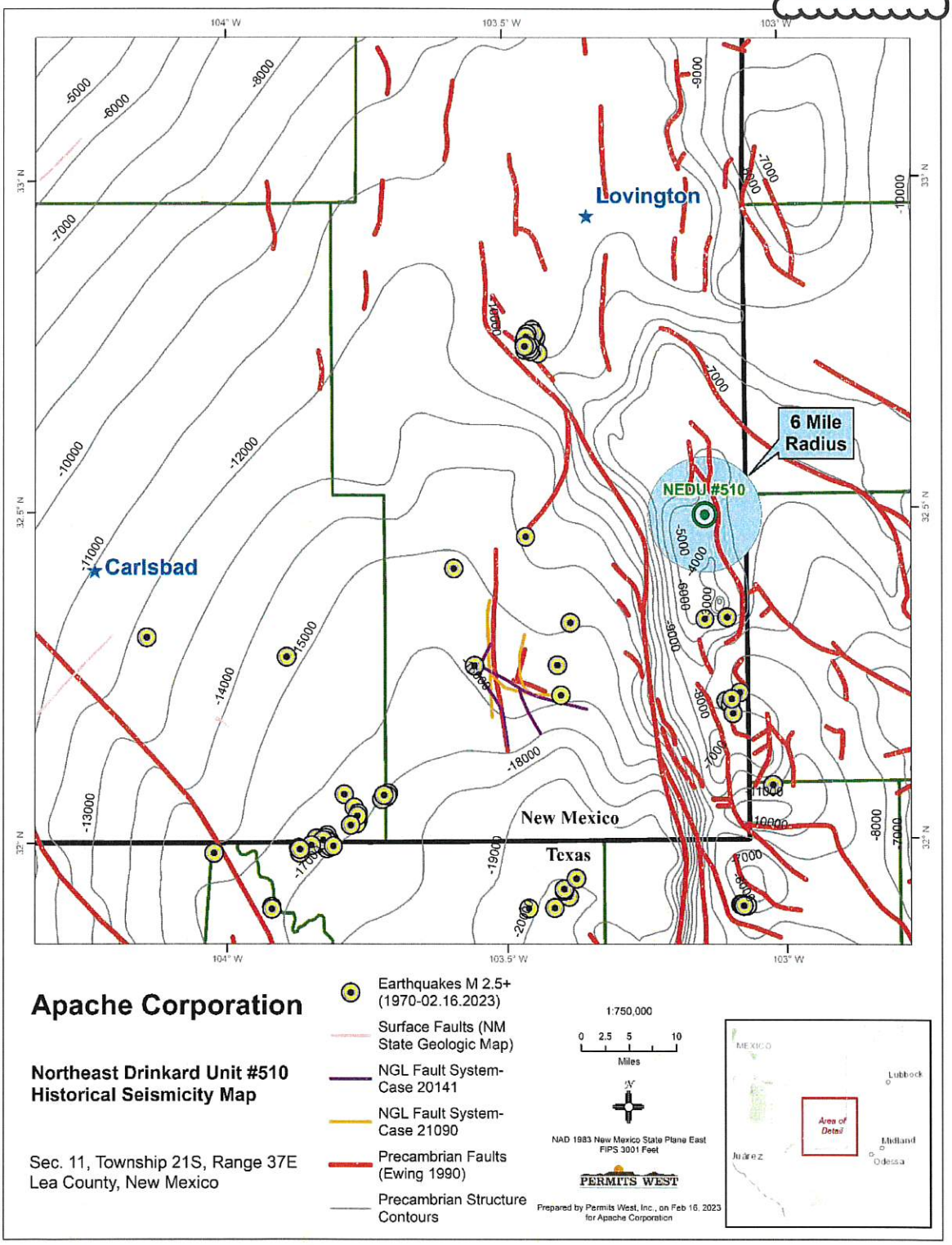


Figure 1. Structural contour map of the Precambrian basement in feet below sea level. Red lines represent the locations of Precambrian basement-penetrating faults (Ewing et al., 1990). The Northeast Drinkard Unit #510 well lies ~1.4 miles west of the closest deeply penetrating fault, ~63 miles from the nearest surface fault and ~10.9 miles from the closest historic earthquake.

PERMITS WEST

Apache Corporation
Northeast Drinkard Unit #510

SEISMIC RISK ASSESSMENT PAGE 4

EXHIBIT J

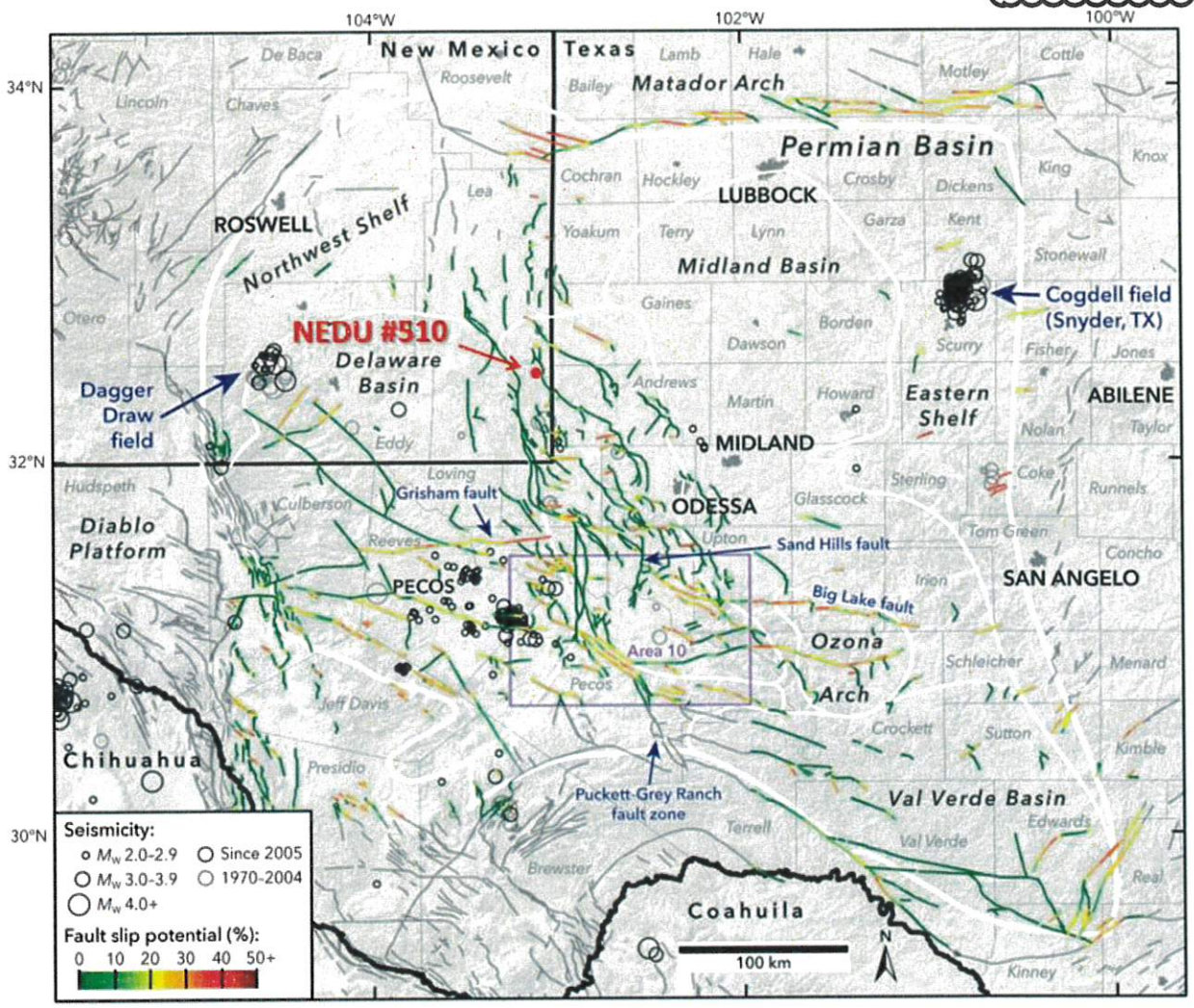


Figure 2. Modified from Snee and Zoback (2018). The nearest deep Precambrian fault lies ~1.4 miles east of the proposed water injection well and has a low probability (0%) of slip. Also, the proposed injection zone is much shallower in the Drinkard and therefore removes any major concern of inducing seismicity on any known fault.

PERMITS WEST

EXHIBIT J

References Cited

Ewing, T. E., 1990, The tectonic map of Texas: Austin, Bureau of Economic Geology, The University of Texas at Austin.

Geologic Map of New Mexico, New Mexico Bureau of Geology and Mineral Resources, 2003, Scale 1:500,000.

Nicholson, A., Jr., and Clebsch, A., Jr., 1961, Geology and ground-water conditions in southern Lea County, New Mexico: New Mexico Bureau of Mines and Mineral Resources, Ground-Water Report 6, 123 pp., 2 plates.

Snee, J.-E.L., Zoback, M.D., 2018, State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity: Leading Edge, v. 37, p. 127–134.

APACHE CORPORATION
NORTHEAST DRINKARD UNIT 510
1980' FSL & 990' FWL
SEC. 11, T. 21 S., R. 37 E., LEA COUNTY, NM

PAGE 1

30-025-20218

I. Plan is to convert an oil well to a water injection well. The well will inject (6468' - 6690') into the Drinkard, which is part of the Eunice; Blinebry-Tubb-Drinkard, North Pool (aka, Eunice; BLI-TU-DR, North and pool code = 22900). The well and zone are part of the Northeast Drinkard Unit (Unit Number 300160, Case 9231, Order R-8540) that was established in 1987 by Shell. The Unit was subsequently operated by Altura, and now, by Apache. It is an active water flood. See Exhibit A for C-128 and maps.

II. Operator: Apache Corporation (OGRID #873)
Operator phone number: (432) 818-1088
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: Gutman (fee)
Lease Size: 40 acres
Closest Lease Line: 330'
Lease Area: NWSW Sec. 11, T. 21 S., R. 37 E.
Unit Size: 4,938 acres
Closest Unit Line: 660'
Unit Area:

T. 21 S., R. 37 E.
Section 2: all
Section 3: all
Section 4: Lots 1, 8, 9, & 16
Section 10: all
Section 11: SW4
Section 14: NW4
Section 15, 22, & 23: all

A. (2) Surface casing (13.375", 48#, H-40) is set in at 336' in a 17.5" hole and cemented to GL with 300 sacks. Cement circulated.

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

Intermediate casing (9.625", 36#, J-55) is set at 3008' in a 12.25" hole and cemented to GL with 890 sacks. Circulated to GL.

A tapered long string was run. 7", 20# & 23#, J-55 was set at 6008' in a 8.75" hole. 4.5", 11.6#, N-80 and 10.5#, J-55 was set at 7200' in a 7.875" hole. Long string was cemented with 930 sacks to 3400' (temperature survey). The well was dually completed as a cased hole in the Abo and Blinebry in 1964.

A packer is set at 6771' and topped with 7' of cement after cutting the tubing. The well is dual completed in the Drinkard and Blinebry.

Mechanical integrity of the casing will be assured by hydraulically pressure testing to 500 psi for 30 minutes. OCD will be notified before the MIT is run.

A. (3) Tubing will be 2.375", J-55, 4.7#, and internally plastic coated. Setting depth will be ≈6418'. (Top perforation will be 6468'.)

A. (4) A lock set injection packer will be set at ≈6418' (≈50' above the top perforation of 6468'). A 4.5" hydraulic permanent packer will be set above the Drinkard to isolate the Blinebry from the Drinkard. Blinebry will not be produced. Permanent packer setting depth depends on casing inspection log. Packers will tie into each other.

B. (1) Injection zone will be the Drinkard. It is part of the Eunice; Blinebry-Tubb-Drinkard, North Pool. Estimated fracture gradient is 0.56 psi per foot.

B. (2) Injection interval will be 6468' to 6690'. The well is cased.

B. (3) Well was originally drilled in 1964 as an Abo oil well.

B. (4) Will perforate from 6468' to 6690'.

B. (5) Next higher oil or gas zone within the area of review is the Tubb at 6116' - 6466'. Injection interval will be 6468' - 6690'. Tubb is unitized with the Drinkard. Next lower oil or gas zone within the area of review is the Abo. Its top is at 6695'.

IV. This is not a horizontal or vertical expansion of an existing injection project. The case file for the unit approval (R-8540) includes a discussion of the Drinkard water flood. The water flood (R-8541) was approved at the same time in 1987. At least 18 water flood expansions have been approved since then. Closest unit boundary is 660' north. Five injection wells are within a half-mile radius (see Exhibit B).

V. Exhibit B shows and tabulates all 34 existing wells (27 producers + 7 injectors) within a half-mile radius, regardless of depth. All 34 wells are operated by Apache. Exhibit C shows all 830 existing wells (535 oil or gas producing wells + 154 injection or disposal wells + 88 P & A wells + 53 freshwater wells) within a two-mile radius.

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

VI. Thirty-three existing wells are within a half-mile. All 34 of the wells penetrated the Drinkard. The 34 penetrators include 27 oil wells and 7 water injectors. There are no P & A wells. Exhibit F tabulates the penetrators.

VII. 1. Average injection rate will be ≈1000 bwpd.
Maximum injection rate will be 2000 bwpd.

2. System will be closed. The 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 ≈1100 psi. Standard maximum injection pressure would be 1293 psi (= 0.2 psi/foot x 6468' (top perforation)). However, in accordance with IPI-185, Apache requests a maximum injection pressure of 1375 psi.

4. Water source will be water pumped from existing ≈4000' deep San Andres water supply wells plus produced water from the Blinebry, Tubb, and Drinkard zones. The source water and produced water are collected in separate skim tanks. The two water streams (source and produced) are commingled in a tank before being piped to injection wells. Commingling began in the 1970s. A comparison of analyses from the discharge pump and San Andres follows. Analyses are in Exhibit G.

	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/	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 Drinkard currently produces from multiple wells within a mile. It is the goal of the project to increase production from the Drinkard.

APACHE CORPORATION
NORTHEAST DRINKARD UNIT 510
1980' FSL & 990' FWL
SEC. 11, T. 21 S., R. 37 E., LEA COUNTY, NM

30-025-20218

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˚. Core data summary shows:

	Blinebry	Tubb	Drinkard
Porosity (%)	9.79	8.28	11
Permeability (md)	2.45	1.19	2.45
Lithology	dolomite, packstone	sandy dolomite	limestone, packstone, grainstone

Adjacent to the Northeast Drinkard Unit are three other Drinkard water floods (Apache's West Blinebry Drinkard and East Blinebry Drinkard Units and Southwest Royalties' Central Drinkard Unit).

Notable depths are:

Quaternary = 0'
Rustler = 1265'
Salt top = 1350'
Queen = 3384'
San Andres= 3922'
Glorieta = 5174'
Paddock = 5350'
Blinebry = 5634'
Tubb = 6116'
Drinkard = 6467'
injection interval = 6468' - 6690'
Abo = 6695'
PBTD (now) = 6764'
TD = 7200'

State Engineer records (Exhibit H) show three water wells are ≥6633' deep and within 1.45 to 1.92 miles. All three were oil wells that were plugged back to produce from the San Andres for water floods. San Andres water had a TDS of 13,273 in NEDU 919S (Exhibit G). Excluding those three wells, then the deepest water well within 2-miles is 198'. NEDU 510 is 1.0 mile south of the Ogallala aquifer and 10.8 miles northeast of the Capitan Reef. No existing underground drinking water source is below the Drinkard within a mile radius. Produced water

has been disposed into two zones (Grayburg, San Andres) above the Drinkard within T. 21 S., R. 37 E. via nine SWD wells. There are 223 water injection wells in T. 21 S., R. 37 E. Over 202,270,759 barrels of water have been injected in the Northeast Drinkard Unit to date.

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

X. Micro-caliper, induction-electrical, and gamma ray-neutron logs are on file with NMOCD. A CBL will be run to confirm TOC on the 5.5" casing and 4.5" liner.

XI. Analyses from three water wells are in Exhibit I. They are the closest (1.2 miles – 1.9 miles) active water wells that were found during November 28 and 29, 2022 field inspections. Two water wells within a mile were found, but both were dry.

XII. Apache (Exhibit J) is not aware of any geologic or engineering data that may indicate the Drinkard is in hydrologic connection with any underground source of water. There are 144 Drinkard injectors in New Mexico. Previously approved Unit water flood expansions are WFX-583, -624, -674, -722, -740, -752, -759, -774, -784, -881, -882, -896, -906, -907, -910, -911, -971, -975, -1044, -1045, -1046, and -1047.

XIII. A legal ad (see Exhibit K) was published on November 30, 2022. Notice (this application) has been sent (Exhibit L) to the surface owner (James Bryant), lessees of record (BP, Southwest Royalties, XTO Holdings), government lessors (BLM, NMSLO), operating rights holders (Apache, Chevron USA, ConocoPhillips, Energen Resources, Kerr-McGee, Petro Strategies, Sabinal Energy, Southwest Royalties, St. Croix, Tanos Energy), and all well operators (Apache, Empire NM, Southwest Royalties) within the ½ mile area of review.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 197627

CONDITIONS

Operator: APACHE CORPORATION 303 Veterans Airpark Ln Midland, TX 79705	OGRID: 873
	Action Number: 197627
	Action Type: [C-108] Fluid Injection Well (C-108)

CONDITIONS

Created By	Condition	Condition Date
mgebremichael	None	3/30/2023