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: North Monument G/SA Unit 290 **API:** 30-025-33958
Pool: Eunice - Monument; Grayburg - San Andres **Pool Code:** 23000

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

Signature

12-17-22
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? XXX 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-9596

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.

NORTH MONUMENT G/SA UNIT 290
30-025-33958

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: DEC. 16, 2022

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,

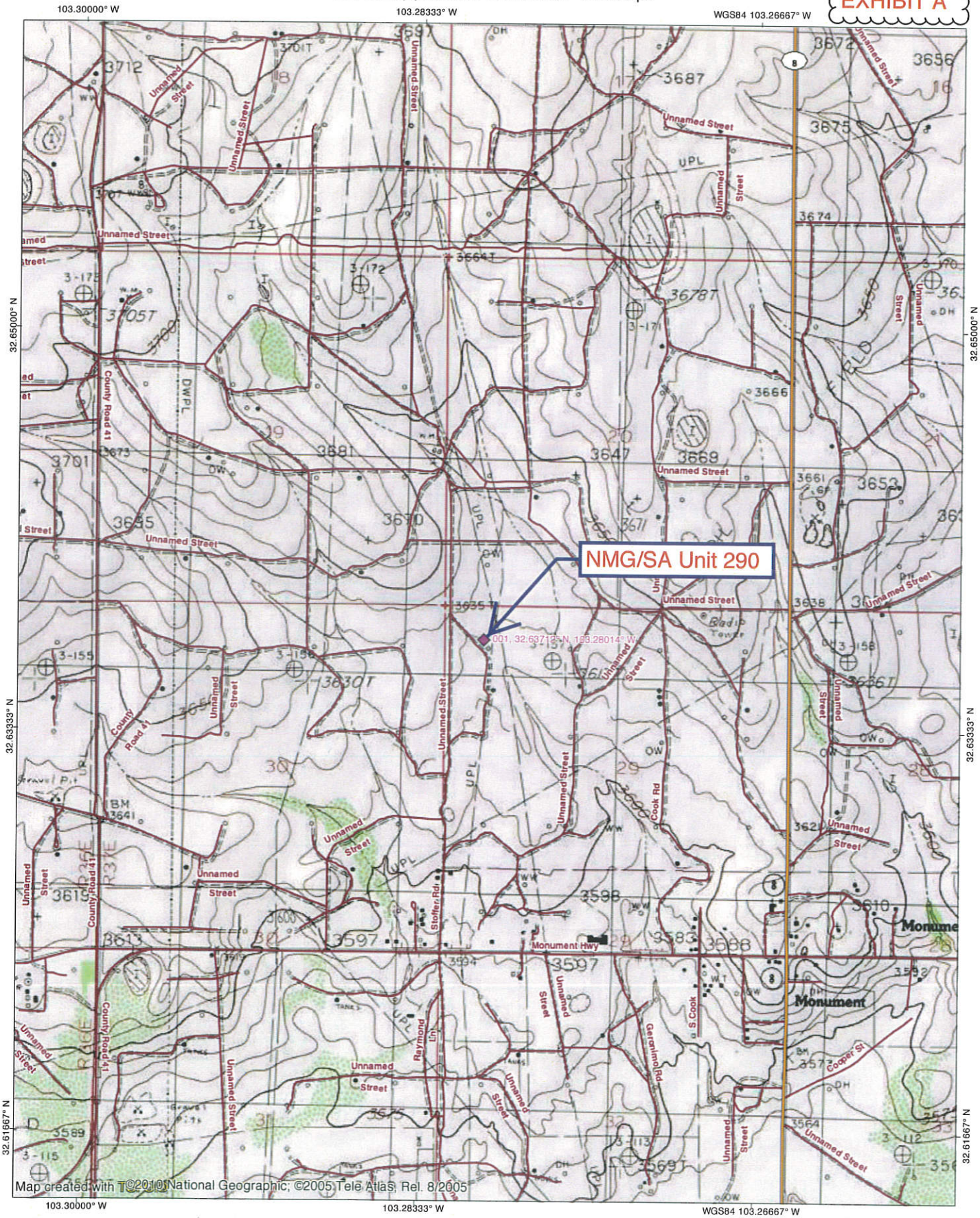
(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

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.

TOPO! map printed on 12/04/22 from "Untitled.tpo"

EXHIBIT A



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° 12/04/22

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-102
Revised February 10, 1994
Instruction on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

EXHIBIT A

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-33958	23000	EUNICE MONUMENT/GRAYBURG SAN ANDRES

Property Code	Property Name	Well Number
135	NMGSAU	

OGRID No.	Operator Name	Elevation
000495	Amerada Hess Corporation	3618'

Surface Location

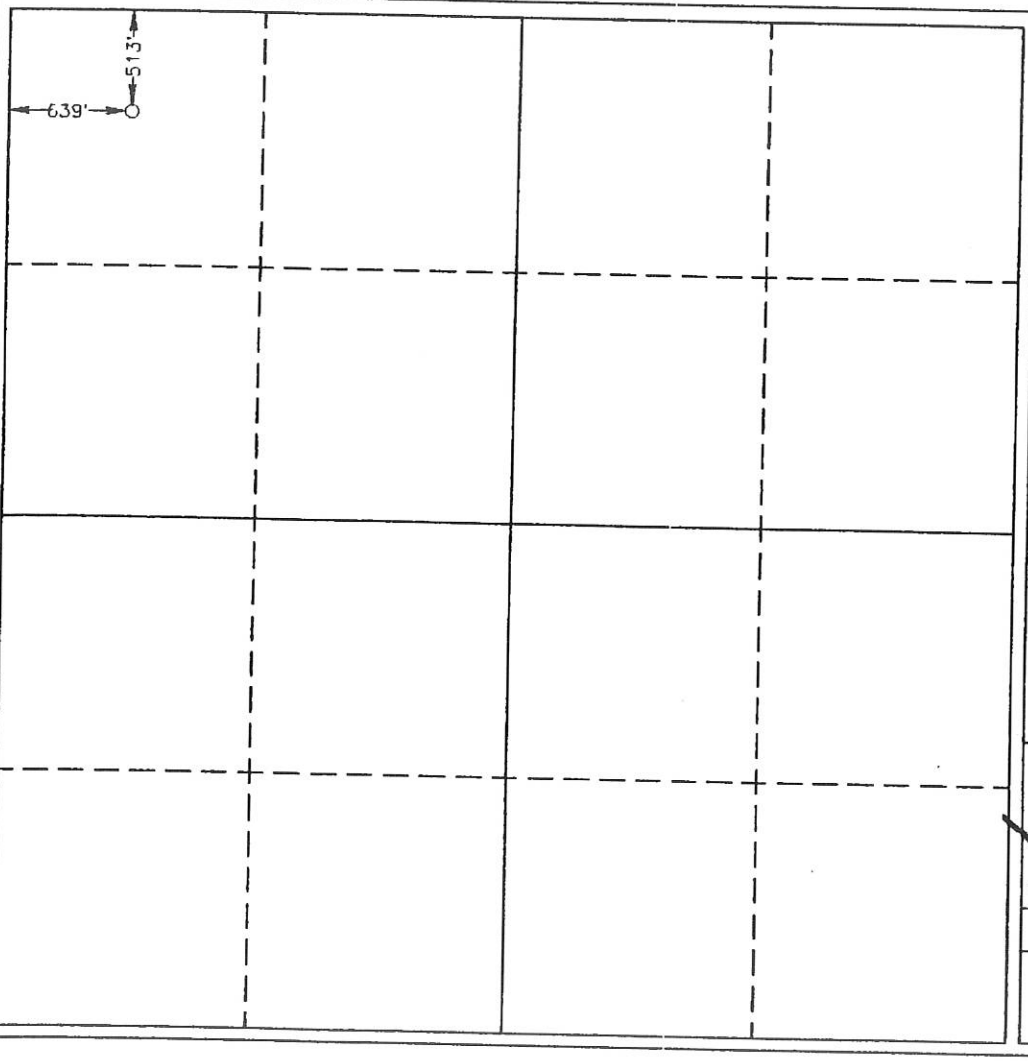
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	29	19 S	37 E		513	North	639	West	Lea

Bottom Hole Location If Different From Surface

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40	NO	U	UNITIZATION ORDER #R-9494/WF ORDER #9596

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



OPERATOR CERTIFICATION

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

Signature

MIKE JUMPER
Printed Name

ADM. SUPERVISOR DRILLING
Title

APRIL 18, 1997
Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

April 10, 1997
Date Surveyed

Signature & Seal of Professional Surveyor

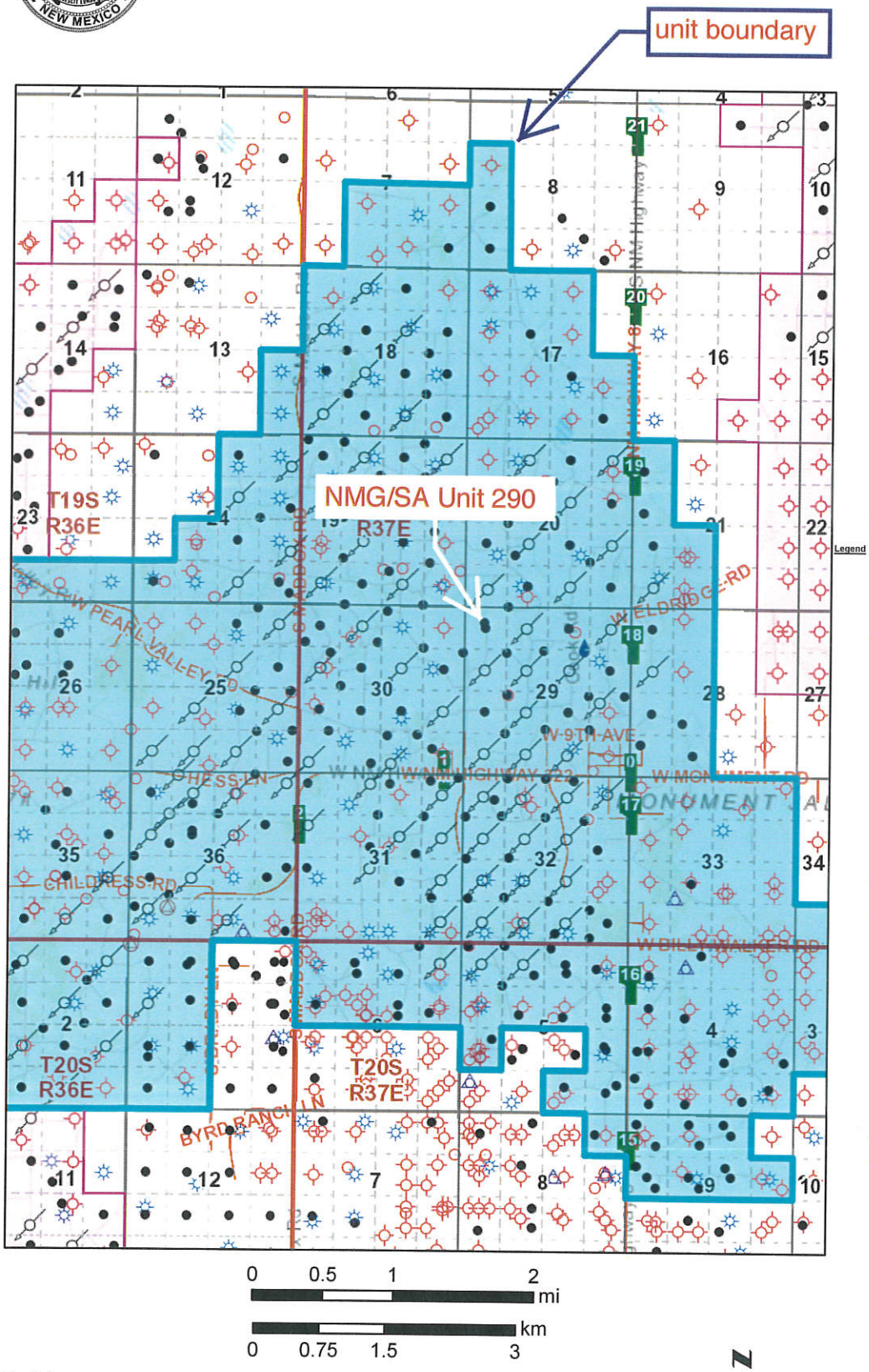
W.O. No. 7197B

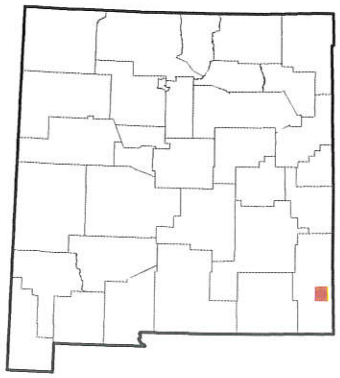
Certificate No. Gary L. Jones 7977

BASIN SURVEYS

New Mexico State Land Office

EXHIBIT A





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.

Map Created: 10/27/2022

Side 1

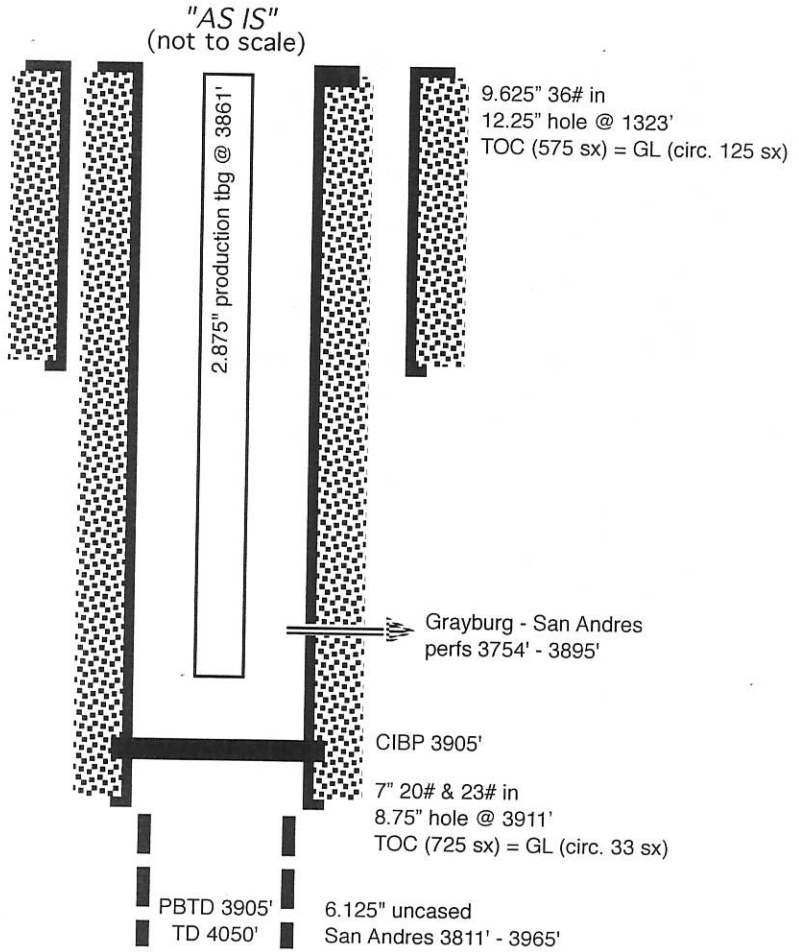
INJECTION WELL DATA SHEET

OPERATOR: APACHE CORPORATION

WELL NAME & NUMBER: NORTH MONUMENT G/SA UNIT 290

WELL LOCATION:	513' FNL & 639' FWL	D	29	19 S	37 E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 12.25" Casing Size: 9.625"

Cemented with: 575 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRC. 125 SX

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 8.75" Casing Size: 7"

Cemented with: 725 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRC. 33 SX

Total Depth: 3911' (OPEN HOLE TO 4050')

Injection Interval

3754 feet to 3895'

(Perforated or Open Hole; indicate which)

Side 1

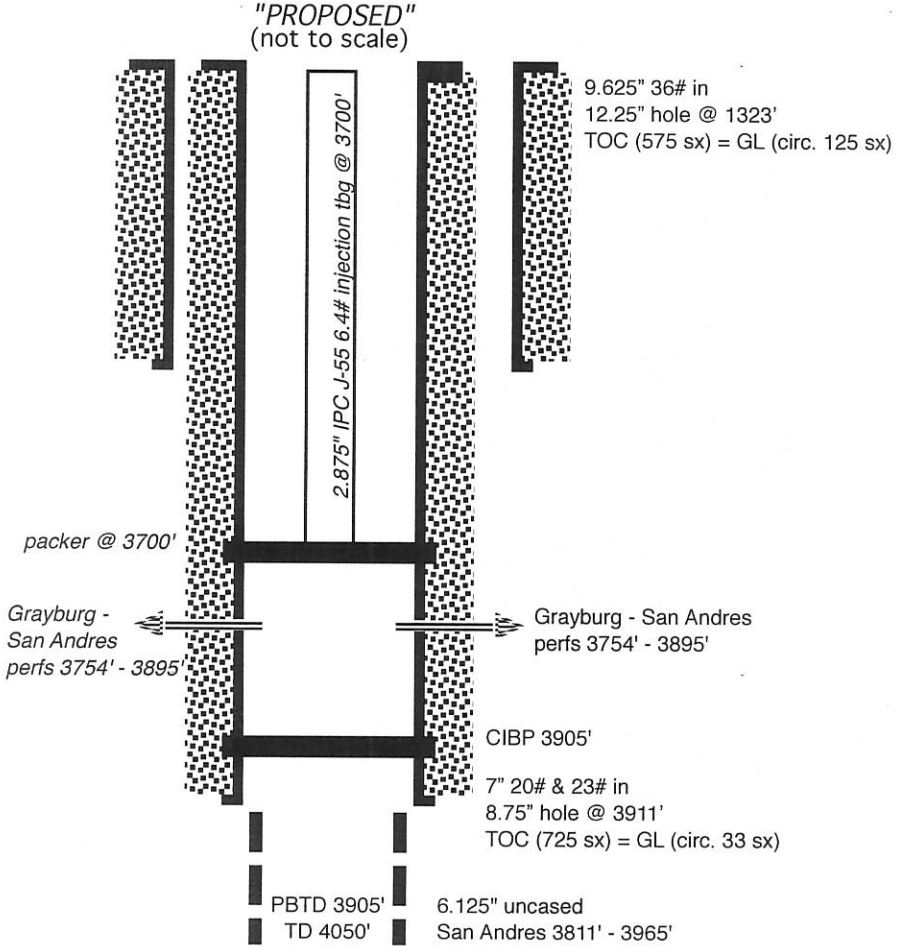
INJECTION WELL DATA SHEET

OPERATOR: APACHE CORPORATION

WELL NAME & NUMBER: NORTH MONUMENT G/SA UNIT 290

WELL LOCATION:	513' FNL & 639' FWL	D	29	19 S	37 E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



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Top of Cement: SURFACE Method Determined: CIRC. 125 SX

Intermediate Casing

Hole Size: _____ Casing Size: _____

Cemented with: _____ sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 8.75" Casing Size: 7"

Cemented with: 725 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRC. 33 SX

Total Depth: 3911' (OPEN HOLE TO 4050')

Injection Interval

3754 feet to 3895'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2.875" J-55 6.4# Lining Material: INTERNAL PLASTIC COAT

Type of Packer: LOCK SET INJECTION

Packer Setting Depth: 3700'

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? GRAYBURG - SAN ANDRES OIL WELL

2. Name of the Injection Formation: GRAYBURG & SAN ANDRES

3. Name of Field or Pool (if applicable): EUNICE-MONUMENT; GRAYBURG-SAN ANDRES (POOL #23000)

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: YATES (2570'), SEVEN RIVERS (2790'), & QUEEN (3320')

   UNDER: ABO (7065')

Affidavit of Publication

EXHIBIT K

STATE OF NEW MEXICO
COUNTY OF LEA

I, Blake Ovard, Editor 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
December 14, 2022
and ending with the issue dated
December 14, 2022.

LEGAL NOTICE
December 14, 2022

Apache Corporation is applying to convert the North Monument G/SA Unit 290 oil well to a water injection well. The well, API 30-025-33958, is at 513 FNL & 639 FWL, Sec. 29, T. 19 S., R. 37 E., Lea County, NM. This is 1-1/4 miles NW of the Monument, NM Post Office. Water will be injected at a maximum pressure of 750 psi into the Grayburg and San Andres formation from 3754' to 3895'. Maximum injection rate will be 700 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.
#00273884

Editor

Sworn and subscribed to before me this
14th day of December 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

00273884

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

December 16, 2022

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

TYPICAL NOTICE

Apache Corporation is planning (see attached application) to convert its North Monument G/SA Unit 290 oil well (30-025-33958) 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: North Monument G/SA Unit 290 (NMSLO lease) TD: 4050'
Proposed Injection Zones: Grayburg & San Andres from 3754' to 3895'
Where: 513' FNL & 639' FWL Sec. 29, T. 19 S., R. 37 E., Lea County, NM
Approximate Location: 1-1/4 miles NW of the Monument, NM Post Office
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 address is: ocd.engineer@state.nm.us

Please call me if you have any questions.

Sincerely,

Brian Wood

EXHIBIT L

7022 1670 0001 2804 3577

CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
Santa Fe, NM 87504
OFFICIAL USE

Certified Mail Fee	$4.00
Extra Services & Fees (check box, add fee as appropriate)	$3.25
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery $	
Postage	$2.16
Total Postage and Fees	$9.41

0535
04
Postmark Here
DEC 17 2022
12/17/2022

Sent To: NM State Land Office
Street and Apt. No., or PO Box No.: PO Box 1148
City, State, ZIP+4®: Santa Fe NM 87504
Apache NMGSAU 1104

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

7022 1670 0001 2804 3546

CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
Midland, TX 79701
OFFICIAL USE

Certified Mail Fee	$4.00
Extra Services & Fees (check box, add fee as appropriate)	$3.25
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery $	
Postage	$2.16
Total Postage and Fees	$9.41

0535
04
Postmark Here
DEC 17 2022
12/17/2022

Sent To: David H Arrington Oil & Gas Inc
Street and Apt. No., or PO Box No.: 500 W Wall St
City, State, ZIP+4®: Suite 300
Midland TX 79701
Apache NMGSAU 1104

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

7022 1670 0001 2804 3584

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
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For delivery information, visit our website at www.usps.com®.
Midland, TX 79702
OFFICIAL USE

Certified Mail Fee	$4.00
Extra Services & Fees (check box, add fee as appropriate)	$3.25
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery $	
Postage	$2.16
Total Postage and Fees	$9.41

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04
Postmark Here
DEC 17 2022
12/17/2022

Sent To: Oil Well Drilling Co.
Street and Apt. No., or PO Box No.: 110 Gihls Tower East
City, State, ZIP+4®: Midland TX 79702
Apache NMGSAU 1104

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

7022 1670 0001 2804 3553

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
Tulsa, OK 74114
OFFICIAL USE

Certified Mail Fee	$4.00
Extra Services & Fees (check box, add fee as appropriate)	$3.25
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery $	
Postage	$2.16
Total Postage and Fees	$9.41

0535
04
Postmark Here
DEC 17 2022
12/17/2022

Sent To: Empire New Mexico LLC
Street and Apt. No., or PO Box No.: 2200 S Utica Place
City, State, ZIP+4®: Suite 150
Tulsa OK 74114
Apache NMGSAU 1104

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

7022 1670 0001 2804 3560

U.S. Postal Service™
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Midland, TX 79701
OFFICIAL USE

Certified Mail Fee	$4.00
Extra Services & Fees (check box, add fee as appropriate)	$3.25
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery $	
Postage	$2.16
Total Postage and Fees	$9.41

0535
04
Postmark Here
DEC 17 2022
12/17/2022

Sent To: Mulloy Operating Inc
Street and Apt. No., or PO Box No.: 415 W Wall St
City, State, ZIP+4®: Suite 200
Midland TX 79701
Apache NMGSAU 1104

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

EXHIBIT L

7022 1670 0001 2804 3621

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
Fort Worth, TX 76102

OFFICIAL USE

Certified Mail Fee	$4.00
Extra Services & Fees (check box, add fee as appropriate)	$3.25
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery $	
Postage	$2.16
Total Postage and Fees	$9.41
Sent To	Wagner Oiil Co.
Street and Apt. No., or PO Box No.	500 Commerce St. Suite 600
City, State, ZIP+4®	Fort Worth TX 76102
	Apache NMGSAU 1104

0535 04

Postmark Here
DEC 17 2022

12/17/2022

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

7022 1670 0001 2804 3591

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
Oklahoma City, OK 73113

OFFICIAL USE

Certified Mail Fee	$4.00
Extra Services & Fees (check box, add fee as appropriate)	$3.25
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery $	
Postage	$2.16
Total Postage and Fees	$9.41
Sent To	Remington Monument, L. L. C.
Street and Apt. No., or PO Box No.	P. O. Box 13540
City, State, ZIP+4®	Oklahoma City OK 73113
	Apache NMGSAU 1104

0535 04

Postmark Here
DEC 17 2022

12/17/2022

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

7022 1670 0001 2804 3638

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
Midland, TX 79702

OFFICIAL USE

Certified Mail Fee	$4.00
Extra Services & Fees (check box, add fee as appropriate)	$3.25
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery $	
Postage	$2.16
Total Postage and Fees	$9.41
Sent To	Wiser Oil Co.
Street and Apt. No., or PO Box No.	110 Gihls Tower East
City, State, ZIP+4®	Midland TX 79702
	Apache NMGSAU 1104

0535 04

Postmark Here
DEC 17 2022

12/17/2022

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

7022 1670 0001 2804 3607

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OFFICIAL USE

Certified Mail Fee	$4.00
Extra Services & Fees (check box, add fee as appropriate)	$3.25
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery $	
Postage	$2.16
Total Postage and Fees	$9.41
Sent To	Shell Western E&P
Street and Apt. No., or PO Box No.	PO Box 576
City, State, ZIP+4®	Houston TX 77001
	Apache NMGSAU 1104

0535 04

Postmark Here
DEC 17 2022

12/17/2022

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

7022 1670 0001 2804 3614

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Extra Services & Fees (check box, add fee as appropriate)	$3.25
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery $	
Postage	$2.16
Total Postage and Fees	$9.41
Sent To	Southwest Royalties
Street and Apt. No., or PO Box No.	PO Box 53570
City, State, ZIP+4®	Midland TX 79710
	Apache NMGSAU 1104

0535 04

Postmark Here
DEC 17 2022

12/17/2022

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

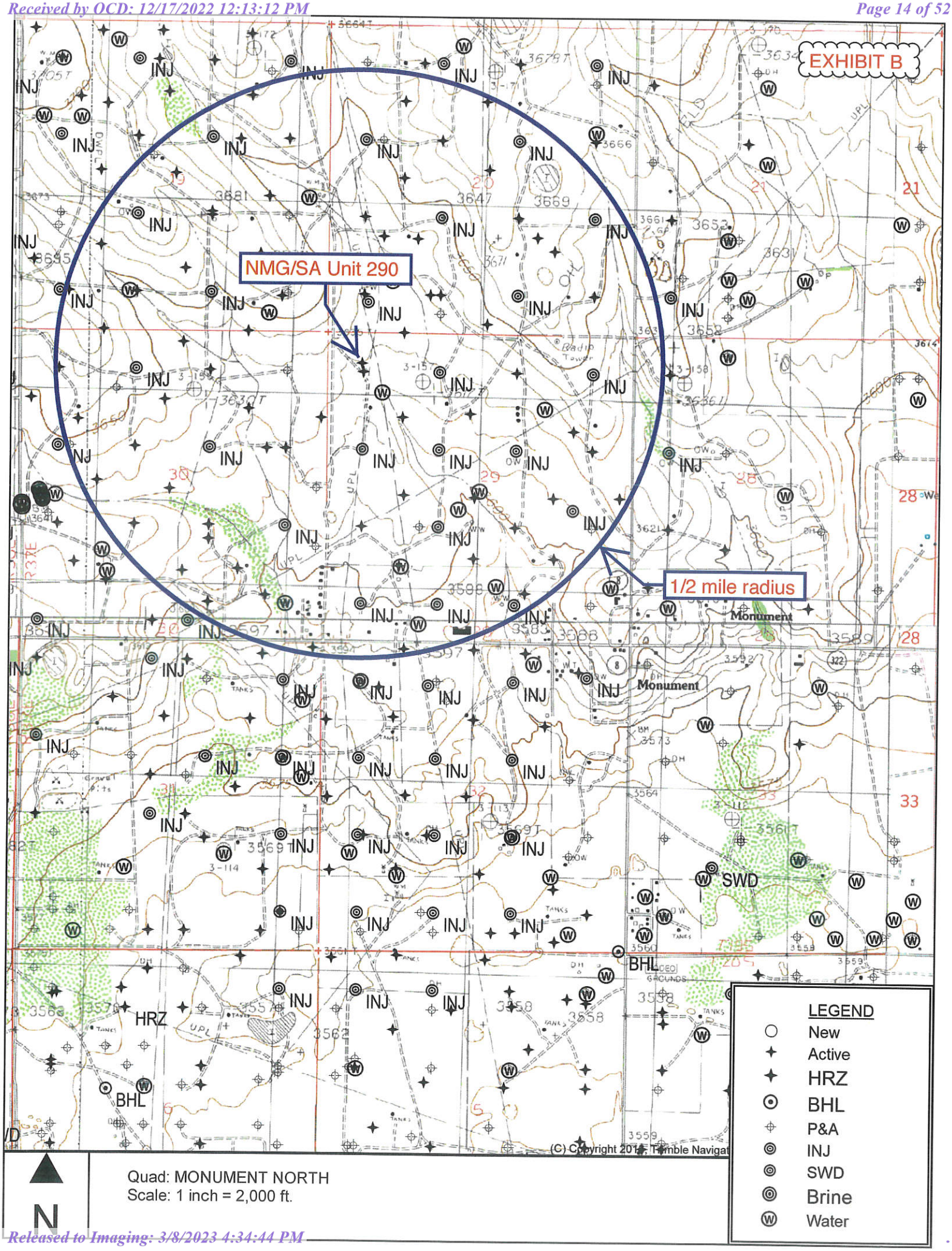
EXHIBIT B
NMG/SA Unit 290
1/2 mile radius
INJ
SWD
HRZ
BHL
Monument
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
Quad: MONUMENT NORTH
Scale: 1 inch = 2,000 ft.
N
(C) Copyright 2014, Trimble Navigat

SORTED BY DISTANC FROM NMG/SAU 290

API	OPERATOR	WELL	TYPE WELL	UNIT-SECTION-T19S-R37E	TVD	ZONE @ TD	FEET FROM NMG/SAU 290
3002505728	Empire New Mexico	Fred Luthy Com 002	O	D-29	3950	Grayburg	148
3002541040	Apache	N Monument G/SA Unit 388	O	N-20	4068	San Andres	895
3002533943	Apache	N Monument G/SA Unit 629	I	M-20	3915	Grayburg	1048
3002538454	Apache	N Monument G/SA Unit 358	O	F-29	4060	Grayburg	1161
3002539054	Apache	N Monument G/SA Unit 371	O	H-30	4040	San Andres	1164
3002505665	Apache	N Monument G/SA Unit 013	O	M-20	3942	Grayburg	1174
3002505742	Hess	State O 004	P&A	A-30	3970	Grayburg	1311
3002505722	Apache	N Monument G/SA Unit 003	I	C-29	3960	Grayburg	1358
3002505727	Apache	N Monument G/SA Unit 005	I	E-29	3946	Grayburg	1466
3002534770	Me-Tex	Texaco 20 001	P&A	N-20	7550	Abo	1591
3002530916	Empire New Mexico	H T Mattern 006	G	N-20	3725	Penrose	1655
3002505649	Me-Tex	Graham State NCT D 002	P&A	P-19	4004	Grayburg	1758
3002505666	Apache	N Monument G/SA Unit 014	O	N-20	3960	Grayburg	1787
3002530332	Apache	N Monument G/SA Unit 016	G	P-19	3975	Grayburg	1803
3002505741	Apache	N Monument G/SA Unit 008	O	H-30	3954	Grayburg	1957
3002505721	Apache	N Monument G/SA Unit 006	I	F-29	3945	Grayburg	1995
3002541039	Apache	N Monument G/SA Unit 387	O	O-19	4100	San Andres	2048
3002538147	Apache	N Monument G/SA Unit 345	O	F-29	3990	Grayburg	2065
3002541705	Apache	N Monument G/SA Unit 434	O	B-30	4026	Grayburg	2108
3002526170	Apache	Apache State O 005	G	H-30	3570	Queen	2190
3002509885	Empire New Mexico	H T Mattern 005	G	L-20	3639	Queen	2192
3002537934	Apache	N Monument G/SA Unit 340	O	O-20	4206	San Andres	2237

EXHIBIT B

SORTED BY DISTANC FROM NMG/SAU 290

API	OPERATOR	WELL	TYPE WELL	UNIT-SECTION-T19S-R37E	TVD	ZONE @ TD	FEET FROM NMG/SAU 290
3002538317	Apache	N Monument G/SA Unit 363	P&A	I-30	4060	Grayburg	2266
3002541038	Apache	N Monument G/SA Unit 386	O	K-20	4048	Grayburg	2327
3002541044	Apache	N Monument G/SA Unit 391	O	K-29	4020	Grayburg	2365
3002505664	Apache	N Monument G/SA Unit 012	O	L-20	3965	San Andres	2494
3002541037	Apache	N Monument G/SA Unit 385	O	I-19	4114	San Andres	2567
3002505739	Apache	N Monument G/SA Unit 002	G	B-30	3975	Grayburg	2633
3002505733	*Apache*	*N Monument G/SA Unit 002*	*O*	*B-29*	*3960*	*Grayburg*	*2660*

EXHIBIT B

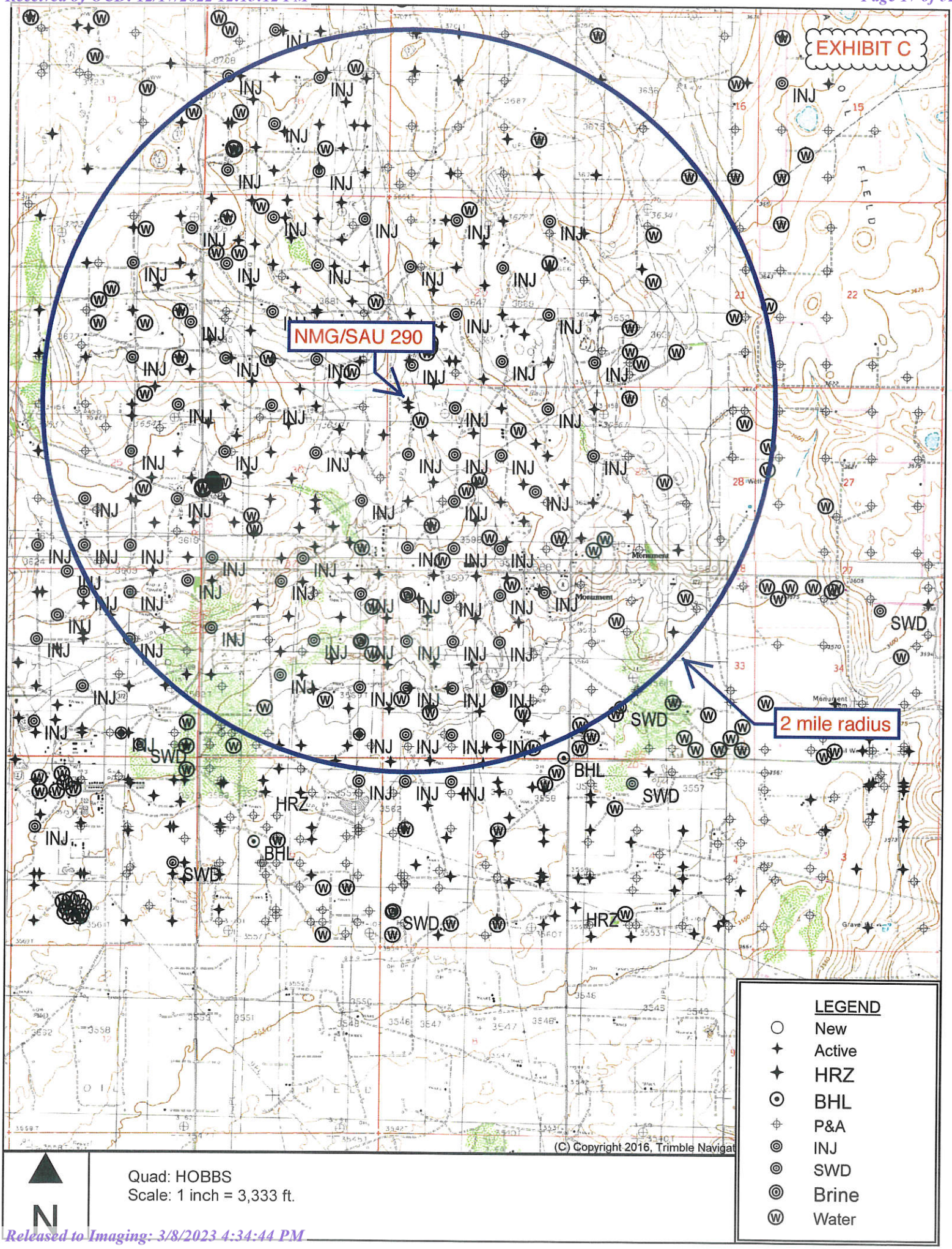
EXHIBIT C
NMG/SAU 290
2 mile radius
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
Quad: HOBBS
Scale: 1 inch = 3,333 ft.
N
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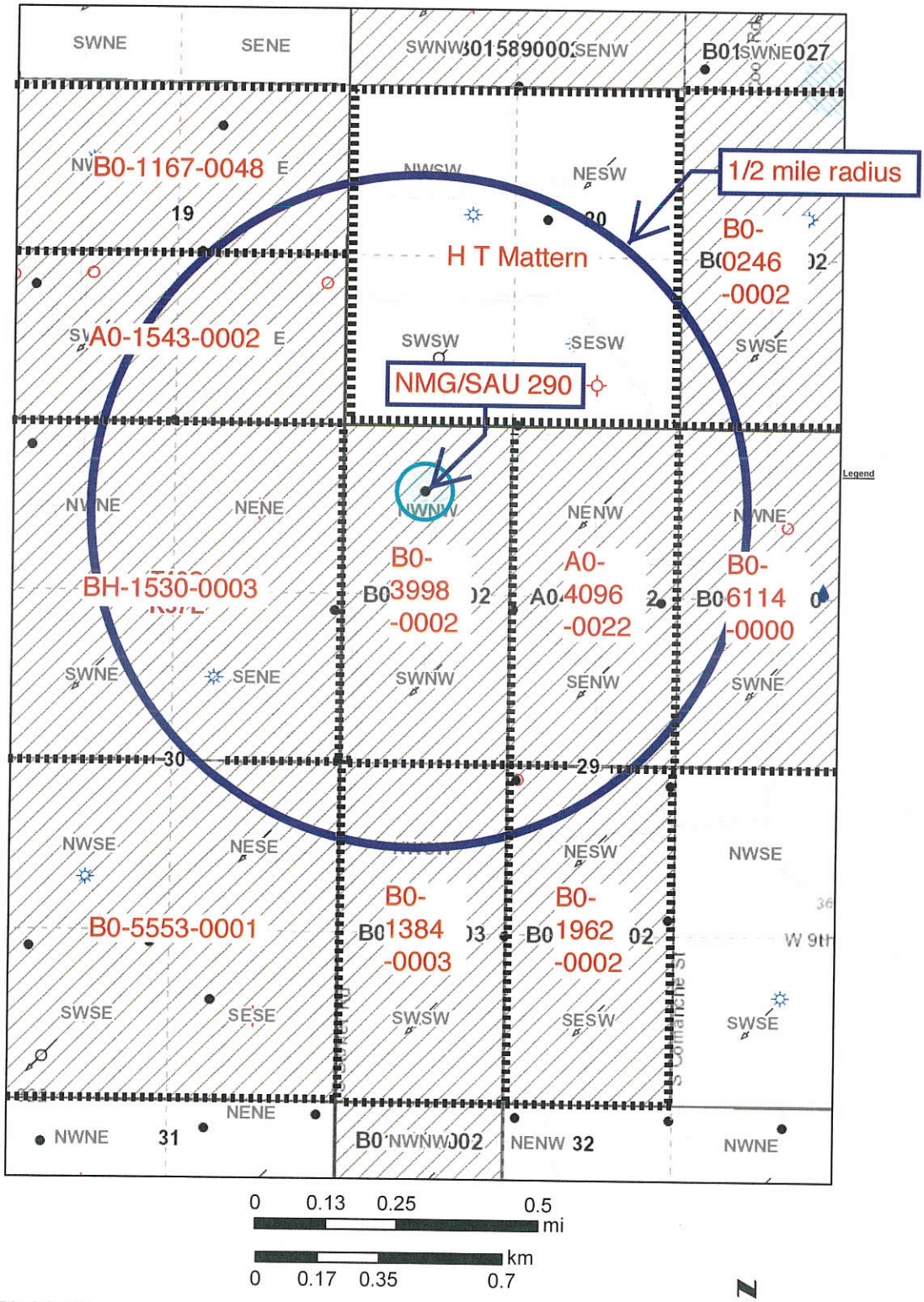
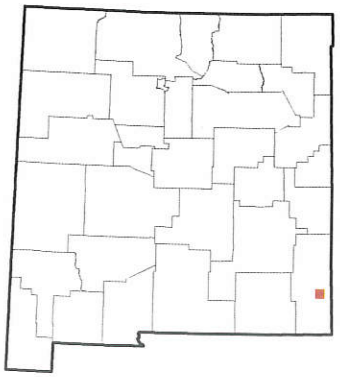
EXHIBIT D

New Mexico State Land Office





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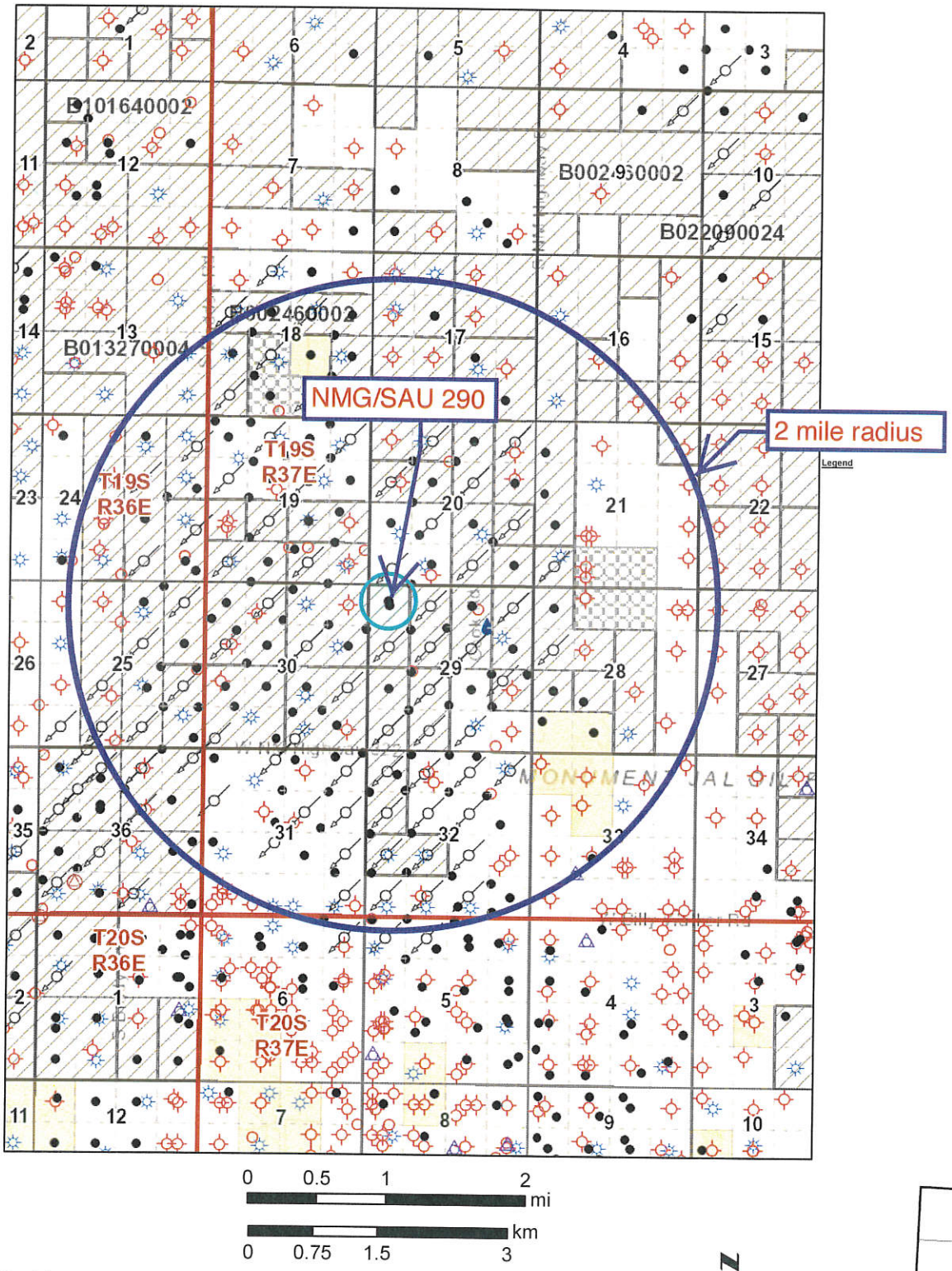
NORTH MONUMENT G/SA UNIT 012 AREA OF REVIEW LEASES

Aliquot Parts in Area of Review (T. 19 S., R. 37 E.)	Lessor	Lease	Lessee(s) of Record	Well Operators (all zones)
NESE Sec. 19	NMSLO	B0-1167-0048	Shell Western E&P	Apache, Arrington, Mulloy
S2SE4 Sec. 19	NMSLO	A0-1543-0002	Southwest Royalties	Apache, Arrington, Mulloy
SW4 Sec. 20	fee	H T Mattern	Apache	Apache, Empire NM
SWSE Sec. 20	NMSLO	B0-0246-0002	Southwest Royalties	Apache, Empire NM
W2NE4 Sec. 29	NMSLO	B0-6114-0000	Oil Well Drilling & Wiser Oil	Apache, Wagner
E2NW4 Sec. 29	NMSLO	A0-4096-0022	Leaco NM E&P, aka, Apache	Apache
W2NW4 Sec. 29	NMSLO	B0-3998-0002	Southwest Royalties	Apache, Empire NM
NESW Sec. 29	NMSLO	B0-1962-0002	Leaco NM E&P, aka, Apache	Apache
NWSW Sec. 29	NMSLO	B0-1384-0003	Leaco NM E&P, aka, Apache	Apache
NE4 Sec. 30	NMSLO	BH-1530-0003	Leaco NM E&P, aka, Apache	Apache
NESE Sec. 30	NMSLO	B0-5553-0001	Remington. Monument	Apache

EXHIBIT D

New Mexico State Land Office

EXHIBIT E



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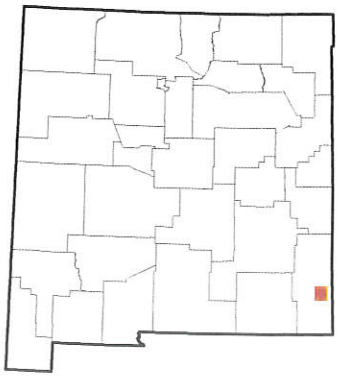


Map Created: 12/11/2022

SORTED BY DISTANCE FROM NMG/SA UNIT 290

WELL	SPUD	TVD	POOL	WELL TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
Fred Luthy Com 002	4/21/36	3950	Eumont; Yates-7Rvrs-Queen	O	14.375	10.75	192	200 sx	GL	Calc
3002505728					9.75	7.625	1351	300 sx	400	Calc
D-29-19S-37E					6.75	5.5	3784	300 sx	2525	Calc
N Monument GSA Unit 388	6/5/13	4068	Eunice Monument; Grayburg-SA	O	11	8.625	1361	520 sx	GL	Circ 141 sx
3002541040					7.875	5.5	4068	820 sx	GL	Circ 110 sx
N-20-19S-37E										
N Monument GSA Unit 629	9/23/97	3915	Eunice Monument; Grayburg-SA	I	12.25	9.625	480	330 sx	GL	Circ
3002533943					8.75	7	3915	1050 sx	GL	Circ 50 sx
M-20-19S-37E										
N Monument GSA Unit 358	11/19/07	4060	Eunice Monument; Grayburg-SA	O	12.25	8.625	1274	650 sx	GL	Circ
3002538454					7.875	5.5	4060	650 sx	35	CBL
F-29-19S-37E										

EXHIBIT F

SORTED BY DISTANCE FROM NMG/SA UNIT 290

WELL	SPUD	TVD	POOL	WELL TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
N Monument GSA Unit 371	3/21/10	4040	Eunice Monument; Grayburg-SA	O	12.25	8.625	1304	650 sx	GL	Circ
3002539054					7.875	5.5	4040	715 sx	GL	Circ
H-30-19S-37E										
N Monument GSA Unit 013	4/6/36	3942	Eunice Monument; Grayburg-SA	O	no report	15.5	266	250 sx	no report	no report
3002505665					no report	9.625	1348	800 sx	no report	no report
M-20-19S-37E					no report	7	3800	400 sx	no report	no report
State O 004	5/4/36	3970	Monument	P&A	17.5	13	175	150 sx	GL	no report
3002505742					11	8.625	2505	500 sx	433	Calc
A-30-19S-37E					7.875	6.625	3843	100 sx	2787	Calc
N Monument GSA Unit 003	5/29/36	3960	Eunice Monument; Grayburg-SA	I	17.5	12.5	264	150 sx	GL	Calc
3002505722					11	9.625	2011	500 sx	561	Calc
C-29-19S-37E					7.875	6.625	3924	100 sx	2934	Calc

EXHIBIT F

SORTED BY DISTANCE FROM NMG/SA UNIT 290

WELL	SPUD	TVD	POOL	WELL TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
N Monument GSA Unit 005	3/17/36	3946	Eunice Monument; Grayburg-SA	I	13.75	10.75	183	250 sx	GL	Calc
3002505727					9.875	7.625	1550	300 sx	726	Calc
E-29-19S-37E					6.75	5.5	3760	500 sx	3211	Calc
Texaco 20 001	12/4/99	7550	Wildcat	P&A	11	8.625	1349	700 sx	GL	Circ 125 sx
3002534770					7.875	5.5	4125	850 sx	GL	CBL
N-20-19S-37E										
Graham State NCT D 002	3/28/36	4004	Eunice Monument	P&A	13.75	10.75	256	200 sx	no report	no report
3002505649					9.875	7.625	1372	300 sx	no report	no report
P-19-19S-37E					6.75	5.5	3813	400 sx	no report	no report
N Monument GSA Unit 014	6/23/61	3960	Eunice Monument; Grayburg-SA	O	no report	12.5	247	250 sx	GL	no report
3002505666					no report	9.625	1361	600 sx	GL	no report
N-20-19S-37E					no report	7	3837	400 sx	GL	no report

EXHIBIT F

SORTED BY DISTANCE FROM NMG/SA UNIT 290

WELL	SPUD	TVD	POOL	WELL TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
N Monument GSA Unit 016	5/3/88	3975	Eunice Monument; Grayburg-SA	G	12.25	8.625	1330	850 sx	GL	Circ 163 sx
3002530332					7.875	5.5	3975	825 sx	GL	Circ 98 sx
P-19-19S-37E										
N Monument GSA Unit 008	4/21/36	3954	Eunice Monument; Grayburg-SA	O	17.5	12.5	185	150 sx	GL	no report
3002505741					11	8.625	2496	500 sx	GL	no report
H-30-19S-37E					7.875	6.625	3820	100 sx	GL	no report
N Monument GSA Unit 006	1/24/36	3945	Eunice Monument; Grayburg-SA	I	17.5	12.5	162	200 sx	GL	Calc
3002505721					11	9.625	2510	500 sx	595	Calc
F-29-19S-37E					8.75	7	3815	100 sx	2976	Calc
					5.5 - 4.75	open hole	N/A	N/A	N/A	N/A
N Monument GSA Unit 387	4/26/13	4100	Eunice Monument; Grayburg-SA	O	11	8.625	1335	475 sx	GL	Circ 39 sx
3002541039					7.875	5.5	4100	650 sx	GL	Circ 39 sx
O-19-19S-37E										

EXHIBIT F

SORTED BY DISTANCE FROM NMG/SA UNIT 290

WELL	SPUD	TVD	POOL	WELL TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
N Monument GSA Unit 345	11/13/06	3990	Eunice Monument; Grayburg-SA	O	11	8.625	395	300 sx	GL	Circ
3002538147					7.875	5.5	3990	750 sx	125	CBL
F-29-19S-37E										
N Monument GSA Unit 434	7/1/14	4026	Eunice Monument; Grayburg-SA	O	11	8.625	1290	450 sx	GL	Circ 93 sx
3002541705					7.875	5.5	4026	950 sx	GL	Circ & CBL
A-30-19S-37E										
N Monument GSA Unit 340	7/6/06	4206	Eunice Monument; Grayburg-SA	O	11	8.625	390	300 sx	GL	Circ
3002537934					7.875	5.5	4206	850 sx	80	CBL
O-20-19S-37E										
N Monument GSA Unit 363	5/24/07	4060	Eunice Monument; Grayburg-SA	P&A	11	8.625	395	400 sx	GL	Circ
3002538317					7.875	5.5	4060	1050 sx	60	CBL
I-30-19S-37E										

EXHIBIT F

SORTED BY DISTANCE FROM NMG/SA UNIT 290

WELL	SPUD	TVD	POOL	WELL TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
N Monument GSA Unit 386	6/1/13	4080	Eunice Monument; Grayburg-SA	O	11	8.625	1333	372 sx	GL	Circ 128 sx
3002541038					7.875	5.5	4080	692 sx	40	CBL
K-20-19S-37E										
N Monument GSA Unit 391	5/15/13	4020	Eunice Monument; Grayburg-SA	O	11	8.625	1269	445 sx	GL	Circ
3002541044					7.875	5.5	4020	695 sx	72	CBL
K-29-19S-37E										
N Monument GSA Unit 012	11/16/35	3965	Eunice Monument; Grayburg-SA	O	no report	12.5	258	250 sx	GL	no report
3002505664					13	9.625	1367	800 sx	GL	Calc
L-20-19S-37E					8.75	7	3811	400 sx	1369	Calc
N Monument GSA Unit 385	5/6/13	4114	Eunice Monument; Grayburg-SA	O	11	8.625	1310	445 sx	GL	Circ 96 sx
3002541037					7.875	5.5	4114	735 sx	GL	Circ 98 sx
I-19-19S-37E										

EXHIBIT F

SORTED BY DISTANCE FROM NMG/SA UNIT 290

WELL	SPUD	TVD	POOL	WELL TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
N Monument GSA Unit 002	3/12/36	3975	Eunice Monument; Grayburg-SA	G	17.5	12.5	180	150 sx	no report	no report
3002505739					11	8.625	2502	500 sx	no report	no report
B-30-19S-37E					7.875	6.625	3860	100 sx	no report	no report
N Monument GSA Unit 002	5/27/36	3960	Eunice Monument; Grayburg-SA	O	16	12	114	200 sx	no report	no report
3002505733					12.5	9.625	1190	400 sx	no report	no report
B-29-19S-37E					9.75	7	3750	200 sx	no report	no report

EXHIBIT F

Apache

EXHIBIT F

Well Name: NMGSAU #0516A aka, Graham State NCT D 002

Wellbore API/UWI (10 Digits)	Surface Legal Location	Field Name	State/Province
3002505649	P-19-19S-37E 660' FSL & 660' FEL	Monument	New Mexico

Spud Date	Original KB Elevation (ft)	Ground Elevation (ft)	KB-Ground Distance (ft)
3/25/1936	3,676.0	3,666.0	10.0

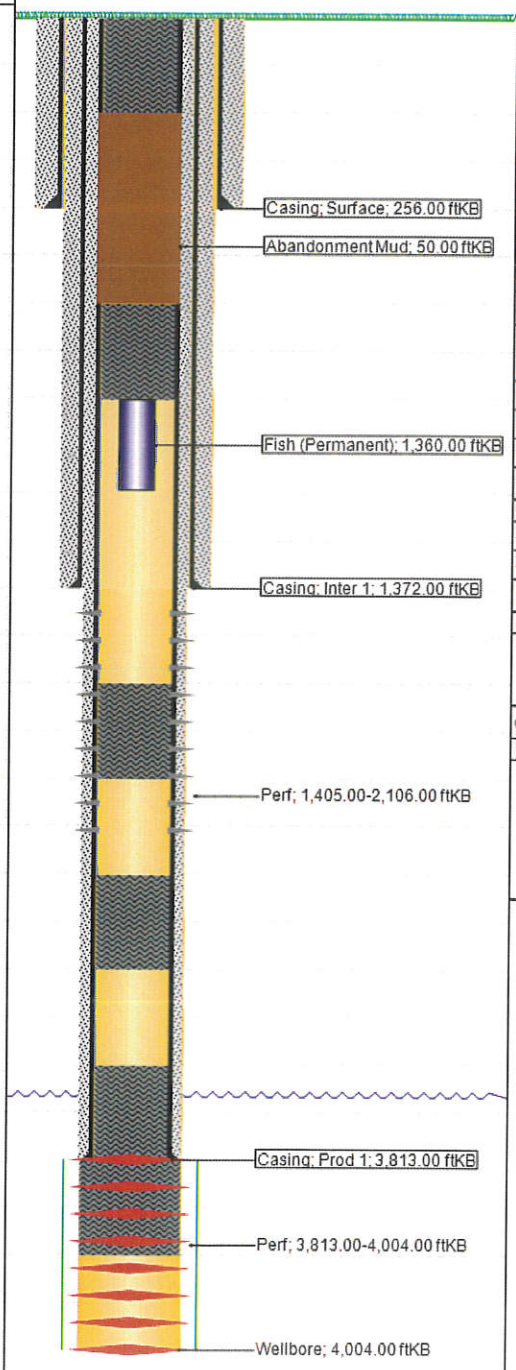
PBTD (All) (ftKB)	Total Depth (ftKB)	Apache Working Interest (%)
	4,004.0	43.23

Production, NORTH MONUMENT G/SA UNIT #0516A - Original Hole, 11/9/2022 4:43:23 PM

Survey | Vertical schematic (actual)

DLS (°/100ft)

Incl (°)



Casing Strings

Run Date	Csg Des	OD (in)	Grade	Wt/Len (lb/ft)	Top Thread	Set Depth (ftKB)
3/25/1936	Surface	10 3/4		32.00		256.00
3/25/1936	Inter 1	7 5/8		26.00		1,372.00
3/25/1936	Prod 1	5 1/2		17.00		3,813.00

Cement

Type	Stg #	String	Top (ftKB)	Btm (ftKB)	Top Meas Meth
Casing	1	Surface, 256.00ftKB, 10 3/4	10.00	256.00	
Casing	1	Prod 1, 3,813.00ftKB, 5 1/2	10.00	3,813.00	
Casing	1	Inter 1, 1,372.00ftKB, 7 5/8	10.00	1,372.00	
Plug	1	NORTH MONUMENT G/SA UNIT #0516A - Original Hole	3,813.00	3,919.00	
Plug	1	NORTH MONUMENT G/SA UNIT #0516A - Original Hole	3,608.00	3,813.00	
Plug	1	NORTH MONUMENT G/SA UNIT #0516A - Original Hole	2,478.00	2,578.00	
Plug	1	NORTH MONUMENT G/SA UNIT #0516A - Original Hole	1,500.00	1,600.00	
Plug		NORTH MONUMENT G/SA UNIT #0516A - Original Hole	1,327.00	1,360.00	
Plug		NORTH MONUMENT G/SA UNIT #0516A - Original Hole	10.00	50.00	

Perforations

Date	Formation	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Com
10/1/1954		1,385	1,385			
12/1/1961		1,405	2,106		4	
10/1/1954		3,813	4,004			

Other In Hole

Run Date	Icon	Des	OD (in)	Top (ftKB)
2/27/1979		Abandonment Mud	5 1/2	50
2/27/1979		Fish (Permanent)	2 3/8	1,360

Stimulation Jobs

Start Date	Com
12/26/1961	Treated OH 3813-4004' w/1000 gals 15% NEA

Comments

Type	Com
	Well History: 10/1954: Repaired csg lk @ 52'/83' & 1028'/59' through perfs @ 1385' and cmt'd to surf, DO cmt & CO to TD. 12/1961: Repaired csg lk @ 2411, 2355, 1380' through perfs @ 2106 and 1405' (4 holes) 2/1979: P&A'd, csg parted @ 2159'

EXHIBIT F

Apache Corporation -- State O # 4 (NMGSAU # 1001A)

Wellbore Diagram – Current Status - P&A'd 3/4/2002

GL=3576'
Spud: 5/4/36

API: 30-025-05742

Date : 11/9/22
M. Monzon

Surface Location

660' FEL & 660' FNL,
Sec 30, T19S, R37E, Lea County, NM

Surface Casing
12-1/2" 40# @ 164' w/ 150 sx to surface

Plug surf - 225'

Hole Size
=17-1/2"

Plug 950 - 1150

Intermediate Casing
8-5/8" 28# @ 2510' w/ 500 sx (Calc TOC @ 433')

Plug - 60 sxs from surf to 225'
Tagged TOC @ 950'
Plug - 50 sxs from 950 - 1150'
Tagged TOC @ 2418'
cmt retainer @ 2478' - pumped 320 sxs cmt below and set 13 sxs above retainer

Top of 6-5/8" @ 2511

Hole Size
=11"

Perfs: 3449; 53; 57; 63; 91; 3515; 17; 19; 23; 25; 27; 29; 33; 35; 37; 39; 41; 43; 45; 57; 59; 61; 71; 73; 89; 91; 93; 95; 97

Perfs: 3656; 59; 60 ;61; 65; 66; 69; 70; 84; 85; 86; 93; 94; 95; 96; 97; 98; 99; 3700; 01; 02; 03; 04; 05; 06; 3772; 74; 76; 78; 84; 86; 88; 92; 94; 3806; 08; 15; 17; 19'

CIBP @ 3825'
Inflatable BP @ 3874'

Hole Size
=7-5/8"

Production Casing
6-5/8" 20# @ 3855' w/ 100 sxs
(Calc TOC @ 2787')

OH from 3855-3970'

TD =3970'

EXHIBIT F

GL=3627'
Spud: 12/4/99

Me-Tex Oil & Gas, Inc. - Texaco 20 # 1

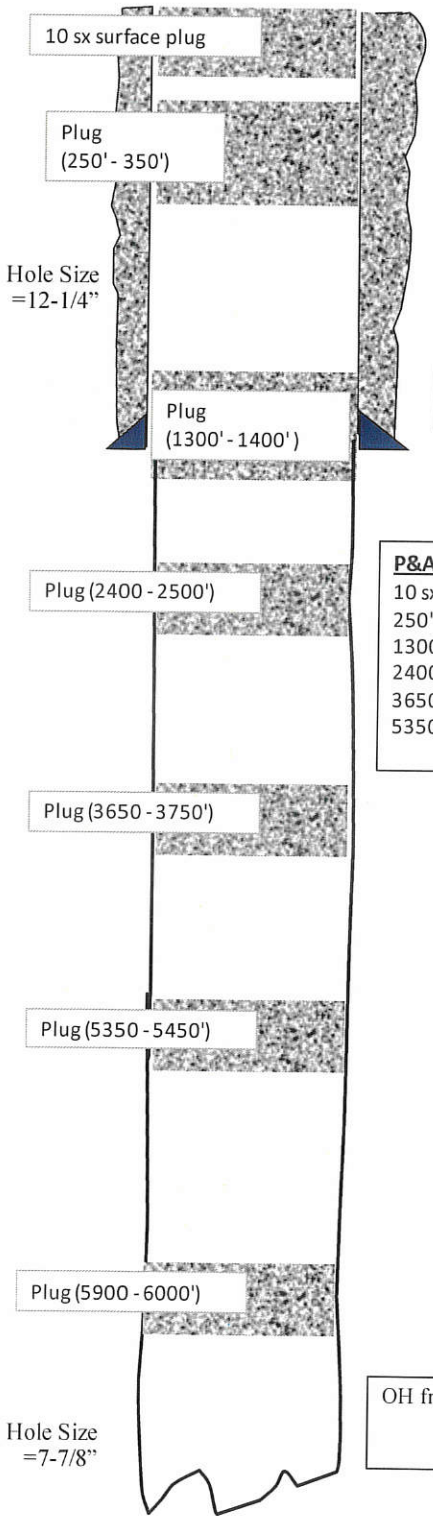
Wellbore Diagram – P&A (12/22/1999)

Date : 11/3/2022

API: 30-025-34770

Surface Location M. Monzon

330' FSL & 1980' FWL,
Sec 20, T19S, R37E, Lea County, NM



Surface Casing
8-5/8" 24# @ 1349' w/ 500 sx cmt to surface

P&A Cmt Plugs:
10 sx surface plug w/ marker
250' - 350' -> spot 35 sx cmt
1300' - 1400' -> spot 35 sx cmt
2400' - 2500' -> spot 35 sx cmt
3650' - 3750' -> spot 35 sx cmt
5350' - 5450' -> spot 35 sx cmt

OH from 1349'-7550 - well deemed Dry-Hole and plugged w/ drilling rig

Drawing not to scale

Apache

EXHIBIT F

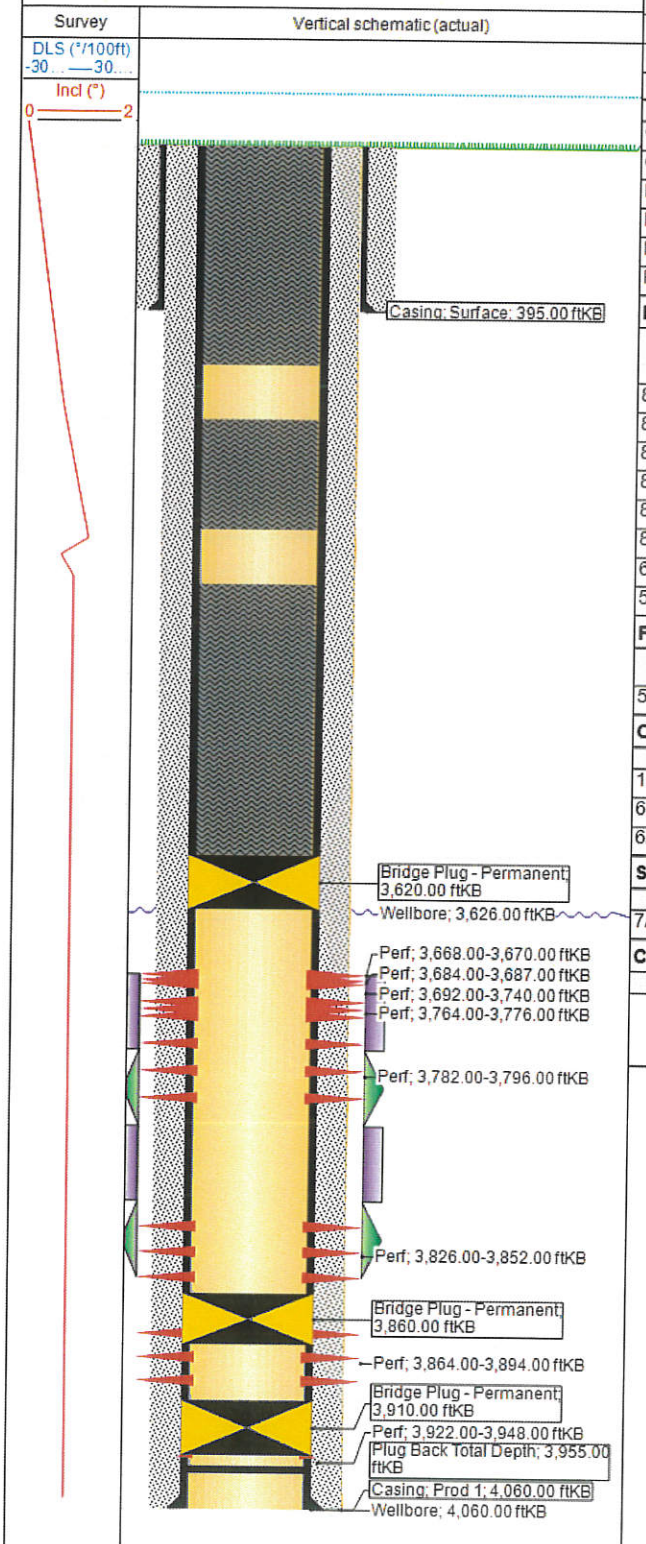
Well Name: NMGSAU #0363

Wellbore API/UWI (10 Digits)	Surface Legal Location	Field Name	State/Province
3002538317	SEC 30-19S-37E, 2630' FSL & 130' FEL	Eunice Monument	New Mexico

Spud Date	Original KB Elevation (ft)	Ground Elevation (ft)	KB-Ground Distance (ft)
5/24/2007	3,626.0	3,615.0	11.0

PBTD (All) (ftKB)	Total Depth (ftKB)	Apache Working Interest (%)
Original Hole - 3,955	4,060.0	42.87

Production, NORTH MONUMENT G/SA UNIT #0363 - Original Hole, 11/9/2022 4:41:50 PM



Casing Strings

Run Date	Csg Des	OD (in)	Grade	Wt/Len (lb/ft)	Top Thread	Set Depth (ftKB)
	Surface	8 5/8	J-55	24.00		395.00
	Prod 1	5 1/2	J-55	17.00		4,060.00

Cement

Type	Stg #	String	Top (ftKB)	Btm (ftKB)	Top Meas Meth
Casing	1	Surface, 395.00ftKB, 8 5/8	11.00	395.00	Returns at Surface
Casing	1	Prod 1, 4,060.00ftKB, 5 1/2	11.00	4,060.00	Returns at Surface
Plug	1	Prod 1, 4,060.00ftKB, 5 1/2	3,585.00	3,620.00	
Plug	1	Prod 1, 4,060.00ftKB, 5 1/2	3,375.00	3,590.00	
Plug	1	Prod 1, 4,060.00ftKB, 5 1/2	1,141.00	1,400.00	Tag
Plug	1	Prod 1, 4,060.00ftKB, 5 1/2	11.00	455.00	Returns at Surface

Perforations

Date	Formation	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Com
8/1/2007		3,668	3,670	2.0		
8/1/2007		3,684	3,687	2.0		
8/1/2007		3,692	3,740	2.0		
8/1/2007		3,764	3,776	2.0		
8/1/2007		3,782	3,796	2.0		
8/1/2007		3,826	3,852	2.0		
6/1/2007		3,864	3,894	2.0		
5/1/2007		3,922	3,948	2.0		

Plug Back Total Depths

Date	Type	Com	Depth (ftKB)	Depth (TVD) (ftKB)
5/31/2007			3,955	3,955

Other In Hole

Run Date	Icon	Des	OD (in)	Top (ftKB)
11/9/2015		Bridge Plug - Permanent	5 1/2	3,620
6/25/2007		Bridge Plug - Permanent	5 1/2	3,860
6/17/2007		Bridge Plug - Permanent	5 1/2	3,910

Stimulation Jobs

Start Date	Com
7/23/2015	

Comments

Type	Com
Engineer	The well was frac'd on 7/23/2015 and produced 100% water. There is no way to isolate the water with the frac in place. It is recommended to P&A the wellbore as there is no future utility on this wellbore

P.O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 or 563-1040

Martin Water Laboratories, Inc.
WATER CONSULTANTS SINCE 1953
BACTERIAL AND CHEMICAL ANALYSES

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

EXHIBIT G

To: Ms. Denise Wann
P. O. Drawer "D"
Monument, NM 88265

Laboratory No. 1290205
Sample received 12-20-90
Results reported 1-2-91

Company: Amerada Hess Corporation
County: Lea, NM
Field: Eunice Monument
Lease: As Listed

Subject: To determine the amount of precipitated barium sulfate in submitted mixtures of waters.

Mixture of Waters	Precipitated Barium Sulfate as $BaSO_4$, mg/l
1. 90% EMSU water supply well #460 & 10% Larsen #4	0.2
2. 60% EMSU water supply well #460 & 40% Larsen #4	0.2
3. 50% EMSU water supply well #460 & 50% Larsen #4	0.0
4. 40% EMSU water supply well #460 & 60% Larsen #4	0.3
5. 90% EMSU water supply well #460 & 10% State F #3	0.4
6. 60% EMSU water supply well #460 & 40% State F #3	0.0
7. 50% EMSU water supply well #460 & 50% State F #3	0.4
8. 40% EMSU water supply well #460 & 60% State F #3	3.4
9. 90% EMSU water supply well #460 & 10% State F #4	0.0
10. 60% EMSU water supply well #460 & 40% State F #4	0.3
11. 50% EMSU water supply well #460 & 50% State F #4	0.3
12. 40% EMSU water supply well #460 & 60% State F #4	0.5
13. 90% EMSU water supply well #460 & 10% State K #1	0.2
14. 60% EMSU water supply well #460 & 40% State K #1	0.2
15. 50% EMSU water supply well #460 & 50% State K #1	*
16. 40% EMSU water supply well #460 & 60% State K #1	0.0
17. 90% EMSU water supply well #461 & 10% Larsen #4	0.4
18. 60% EMSU water supply well #461 & 40% Larsen #4	0.0
19. 50% EMSU water supply well #461 & 50% Larsen #4	0.2
20. 40% EMSU water supply well #461 & 60% Larsen #4	0.0
21. 90% EMSU water supply well #461 & 10% State F #3	0.0
22. 60% EMSU water supply well #461 & 40% State F #3	0.1
23. 50% EMSU water supply well #461 & 50% State F #3	0.2
24. 40% EMSU water supply well #461 & 60% State F #3	0.2
25. 90% EMSU water supply well #461 & 10% State F #4	0.0
26. 60% EMSU water supply well #461 & 40% State F #4	0.0
27. 50% EMSU water supply well #461 & 50% State F #4	0.0
28. 40% EMSU water supply well #461 & 60% State F #4	0.3

*No sample submitted at this mixture. We did not consider it necessary to make an extra mixture of these waters because of the absence of any detectable barium sulfate in the other combinations.

Ms. Denise Wann, Amerada Hess Corporation - Laboratory No. 1290205 (Page 2)

EXHIBIT G

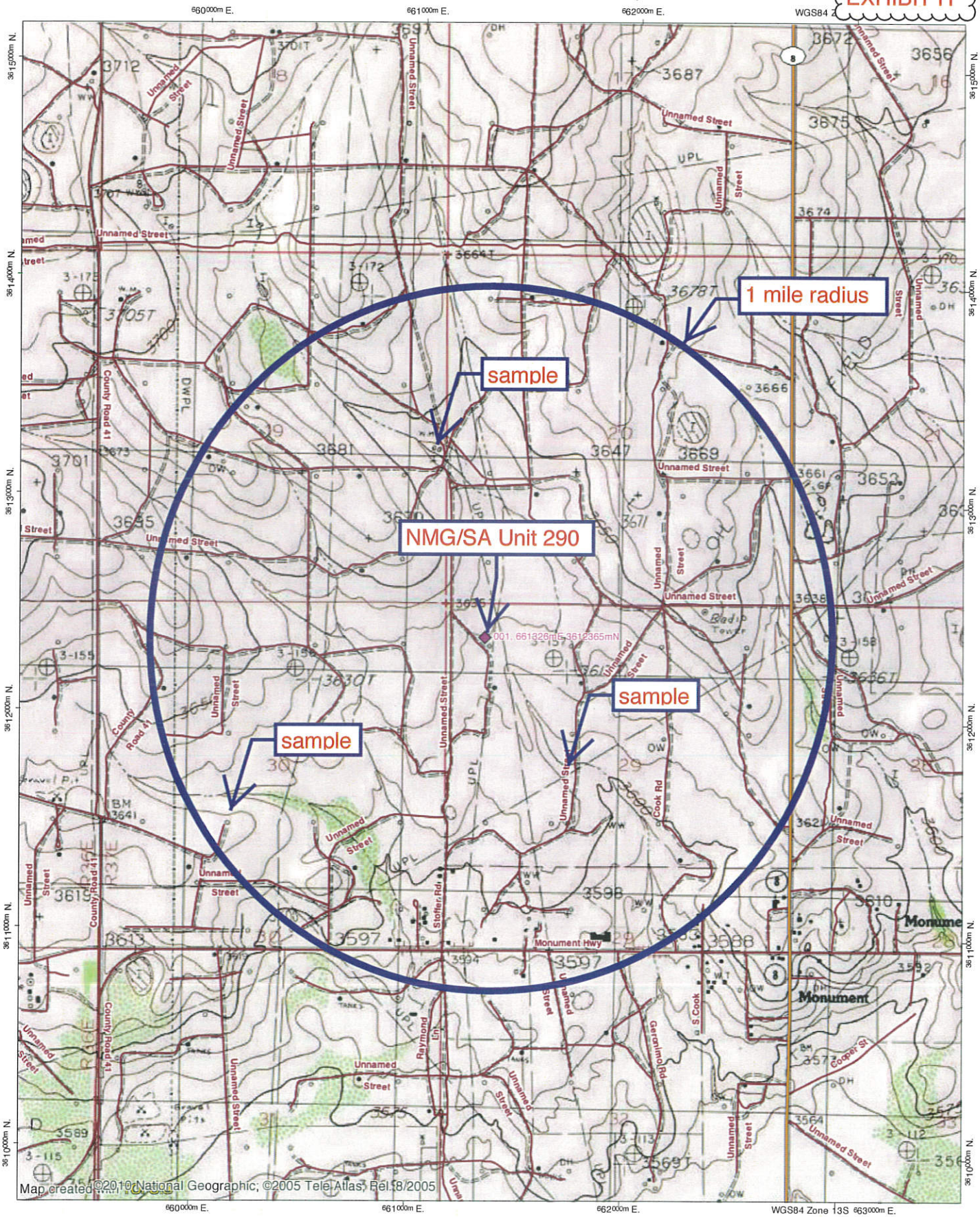
Mixture of Waters	Precipitated Barium Sulfate as $BaSO_4$, mg/l
29. 90% EMSU water supply well #461 & 10% State K #1	0.0
30. 60% EMSU water supply well #461 & 40% State K #1	0.0
31. 50% EMSU water supply well #461 & 50% State K #1	0.0
32. 40% EMSU water supply well #461 & 60% State K #1	0.0

Remarks: The above results clearly need to be qualified. We have reported the results acquired, but our detectable limits are estimated to be approximately 0.5 mg/l; and when we get a reading below that level, we do not consider it conclusive evidence that any barium sulfate is present. Therefore, only a single sample herein showed what we consider to be a reasonable quantity of barium sulfate in the mixed waters. This was 3.4 mg/l that was detected in the combination of 40 percent of well #460 and 60 percent of State "F" #3. It is our carefully considered conclusion that these results do not indicate any significant incompatibility between the waters that were mixed herein. We would only consider it advisable to maintain some observation over conditions in a system handling the mixture of these waters for the possibility of any barium sulfate deposits or precipitates. We do not consider the results to indicate that any of the waters mixed herein are actually sufficiently incompatible to prevent their mixing.

Waylan C. Martin, M.A.

TOPO! map printed on 12/04/22 from "Untitled.tpo"

EXHIBIT H



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°

12/04/22

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	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 01251		L	LE	4	1	1	29	19S	37E	661434	3612218*	182	51	38	13
L 14366 POD2		L	LE	2	3	3	20	19S	37E	661473	3612797	456	32		
L 14366 POD1		L	LE	2	3	3	20	19S	37E	661500	3612840	505	32		
L 13926 POD2		L	LE	2	3	3	20	19S	37E	661495	3612857	520	32	21	11
L 13926 POD3		L	LE	2	3	3	20	19S	37E	661485	3612865	525	32	21	11
L 13926 POD1		L	LE	2	3	3	20	19S	37E	661484	3612874	533	32	21	11
L 13521 POD1		L	LE	4	4	3	20	19S	37E	661504	3612887	552	34	22	12
L 14366 POD3		L	LE	2	3	3	20	19S	37E	661477	3612899	555	32		
L 01273		L	LE	3	4	4	19	19S	37E	660827	3612617*	559	62	45	17
L 03922		L	LE				29	19S	37E	661958	3611717*	905	42	22	20
L 03949		L	LE				29	19S	37E	661958	3611717*	905	36	18	18
L 03956		L	LE				29	19S	37E	661958	3611717*	905	40	20	20
L 04799		L	LE				29	19S	37E	661958	3611717*	905	150		
L 10498		L	LE				29	19S	37E	661958	3611717*	905	60		
L 10277		L	LE	2	2	4	19	19S	37E	661020	3613219*	907	70	40	30
L 05611 POD3		L	LE	2	2	3	29	19S	37E	661850	3611620*	910	80	28	52
L 02596		L	LE			3	29	19S	37E	661556	3611315*	1074	50	20	30
L 09631		L	LE		1	4	29	19S	37E	662153	3611526*	1178	35		
L 09632		L	LE		1	4	29	19S	37E	662153	3611526*	1178	35		
L 09633		L	LE		1	4	29	19S	37E	662153	3611526*	1178	35		
L 13525 POD1		L	LE	4	3	4	19	19S	37E	660096	3612717	1279	30	21	9
L 03905		L	LE		4	4	30	19S	37E	660953	3611109*	1310	35	20	15
L 03906		L	LE		4	4	30	19S	37E	660953	3611109*	1310	35	20	15
L 03954		L	LE		4	4	30	19S	37E	660953	3611109*	1310	35	20	15
L 03995		L	LE		4	4	30	19S	37E	660953	3611109*	1310	35	20	15
L 05995		L	LE		4	4	30	19S	37E	660953	3611109*	1310	40	23	17
L 01252		L	LE	1	3	4	29	19S	37E	662058	3611223*	1356	43		
L 05314		L	LE	1	3	4	29	19S	37E	662058	3611223*	1356	34	14	20

EXHIBIT H

L 06496		L	LE	3	4	3	29	19S	37E	661656	3611018*		1386	50	27	23

Average Depth to Water: **24 feet**

Minimum Depth: **14 feet**

Maximum Depth: **45 feet**

Record Count: 29

UTMNAD83 Radius Search (in meters):

Easting (X): 661326 **Northing (Y):** 3612365 **Radius:** 1610

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

12/15/22 1:55 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

EXHIBIT I

Analytical R

Lab Order **2211086**

Date Reported: **11/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West
Project: NMGSAU
Lab ID: 2211086-001 **Matrix:** AQUEOUS

Client Sample ID: Sec 29
Collection Date: 11/1/2022 12:50:00 PM
Received Date: 11/2/2022 11:33:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 1664B						Analyst: **dms**	
N-Hexane Extractable Material	ND	9.46		mg/L	1	11/9/2022 4:42:00 PM	71367
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Chloride	210	50		mg/L	100	11/3/2022 8:38:51 AM	R92333
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNS**	
Total Dissolved Solids	720	40.0	*D	mg/L	1	11/8/2022 10:21:00 AM	71300

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

EXHIBIT I

Analytical Rep
Lab Order **2211086**
Date Reported: **11/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West
Project: NMGSAU
Lab ID: 2211086-002 **Matrix:** AQUEOUS

Client Sample ID: Sec 30
Collection Date: 11/1/2022 1:30:00 PM
Received Date: 11/2/2022 11:33:00 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	11/9/2022 4:42:00 PM	71367
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Chloride	110	5.0		mg/L	10	11/3/2022 8:51:16 AM	R92333
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNS**	
Total Dissolved Solids	512	20.0	*	mg/L	1	11/8/2022 10:21:00 AM	71300

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

EXHIBIT I

Analytical Re

Lab Order **2211086**

Date Reported: **11/14/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West
Project: NMGSAU
Lab ID: 2211086-003 **Matrix:** AQUEOUS

Client Sample ID: Sec 19
Collection Date: 11/1/2022 10:20:00 AM
Received Date: 11/2/2022 11:33:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 1664B						Analyst: **dms**	
N-Hexane Extractable Material	ND	9.44		mg/L	1	11/9/2022 4:42:00 PM	71367
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Chloride	110	5.0		mg/L	10	11/3/2022 9:16:05 AM	R92333
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNS**	
Total Dissolved Solids	515	20.0	*	mg/L	1	11/8/2022 10:21:00 AM	71300

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

EXHIBIT J

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

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

Re: Geology Statement
Apache Corporation
North Monument G/SA Unit #290
Section 29, T. 19S, 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 Grayburg and San Andres 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

North Monument G/SA Unit #290

Section 29, Township 19 South, Range 37 East

Lea County, New Mexico

Cory Walk, M.S.

Cory Walk

Geologist

Permits West Inc.

December 08, 2022

Apache Corporation
North Monument G/SA Unit #290

EXHIBIT J

GENERAL INFORMATION

North Monument G/SA Unit #290 is located in the NW ¼, section 29, T19S, R37E, about 1.25 miles northwest of Monument, 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 Grayburg and San Andres Formations through a cased hole from 3,754'-3,895' below ground surface. The Grayburg and San Andres are primarily carbonate reservoirs with some sandstones present. 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 28, 2020 about 11.5 miles (~18.5 km) northwest and had a magnitude of 2.7.

Basement Faults and Subsurface Conditions

A structure contour map (Fig. 1) of the Precambrian basement shows the North Monument G/SA Unit #290 is approximately 4.9 miles from the nearest basement-penetrating fault inferred by Ewing et al (1990) and about 58 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 North Monument G/SA Unit #290 site, Snee and Zoback indicate a **S_{Hmax} direction of N105°E and an A_φ of 0.85, 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 Grayburg and San Andres Formations and therefore would not affect the deep Precambrian faults. In addition to the existing fault orientation, the vertical (approx. 7000') and horizontal (4.9 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

PERMITS WEST

formation is regarded as the effective lower limit of 'potable' ground water." Around the North Monument G/SA Unit #290 well, the top of a thick anhydrite unit interpreted to represent the Rustler Formation lies at a depth of ~1283 feet bgs.

STRATIGRAPHY

A thick permeability barrier (Rustler Anhydrite and Salado Fm; 1100+ ft thick) exists above the targeted Grayburg and San Andres injection zone. Well data indicates ~2,470 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 North Monument G/SA Unit #290 well show no potential structural or stratigraphic connection between the Grayburg and San Andres 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
North Monument G/SA Unit #290

SEISMIC RISK ASSESSMENT PAGE 3

EXHIBIT J

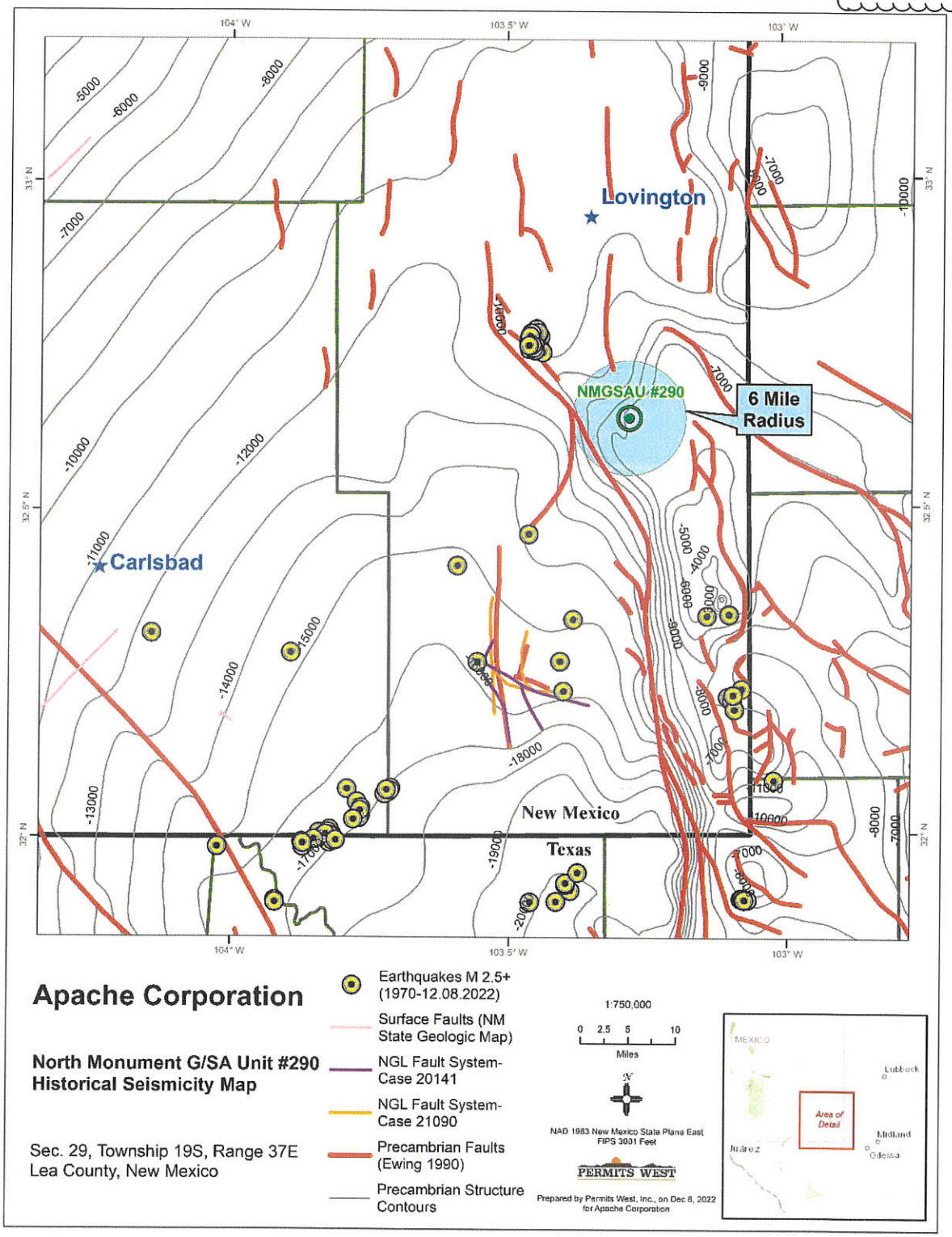


Figure 1. Structural contour map of the Precambrian basement in feet below sea level. Red lines represent the locations of Precambrian basement-penetrating faults (Ewing et al., 1990). The North Monument G/SA Unit #290 well lies ~4.9 miles east of the closest deeply penetrating fault, ~58 miles from the nearest surface fault and ~11.5 miles from the closest historic earthquake.

PERMITS WEST

Apache Corporation
North Monument G/SA Unit #290

SEISMIC RISK ASSESSMENT PAGE 4

EXHIBIT J

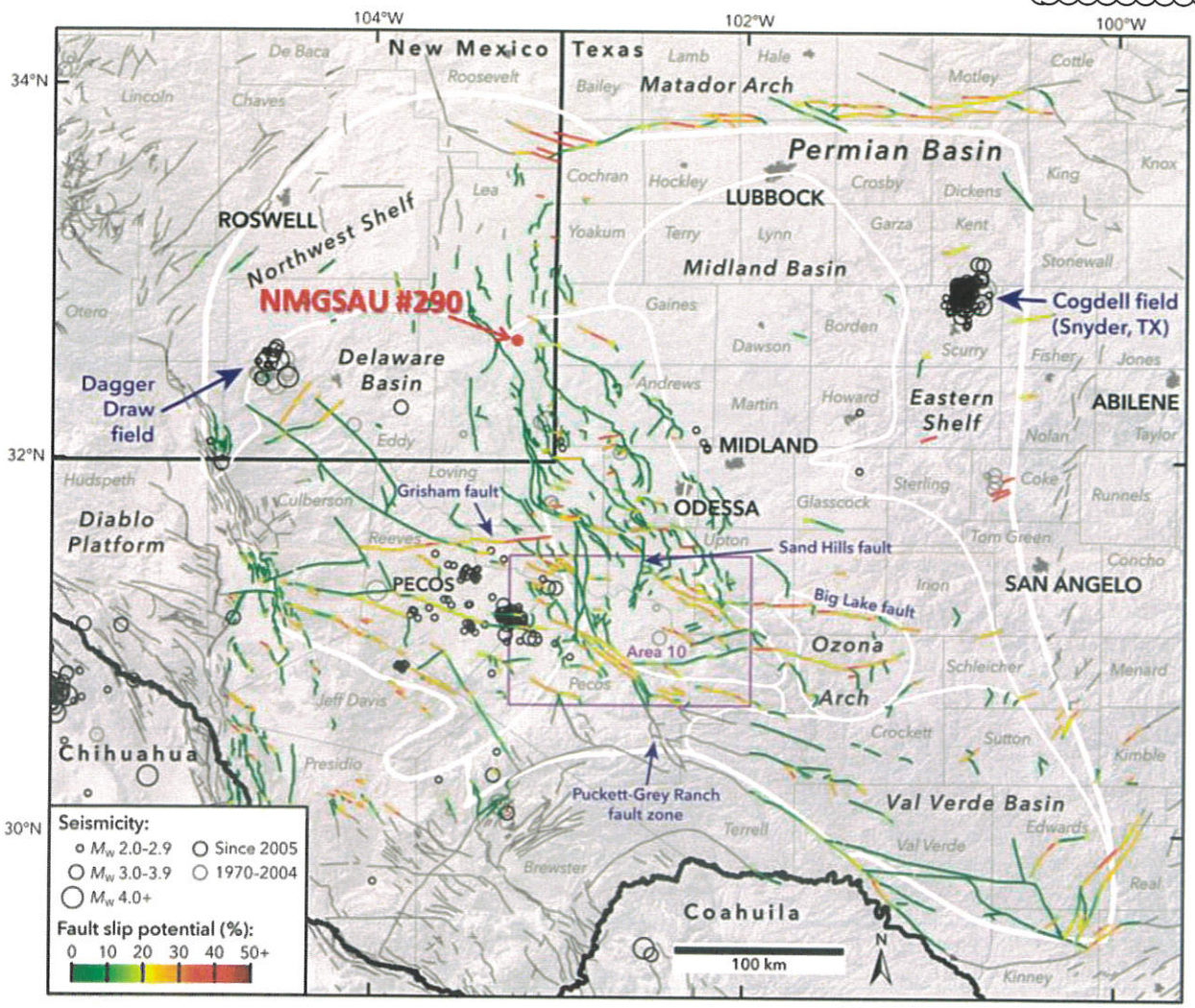


Figure 2. Modified from Snee and Zoback (2018). The nearest deep Precambrian fault lies ~4.9 miles west of the proposed injection well and has a low probability (0%) of slip. Also, the proposed injection zone is much shallower in the Grayburg and San Andres and therefore removes any major concern of 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
NORTH MONUMENT G/SA UNIT 290
513' FNL & 639' FWL
SEC. 29, T. 19 S., R. 37 E., LEA COUNTY, NM

30-025-33958

I. Goal is to convert an oil well to a water injection well. The well is 4050' deep and is producing from the Grayburg and San Andres. Current perforations are in 4 groups from 3754' to 3895'. Three more groups of perforations will be added to the same interval. Net result is that the entire interval will be perforated. The Grayburg and San Andres are part of the Eunice – Monument; Grayburg – San Andres Pool (code = 23000).

The well and zones are part of the North Monument G/SA Unit (Unit #300156, Case 10253, Order R-9494) that was established in 1991 by Amerada Hess Corp. The waterflood was approved in Case 10252, Order R-9596, also in 1991. Apache became Unit operator in 2006. (The well is also known as NMGSAU 1104.)

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: NMSLO B0-3998-0002
Lease Size: 80 acres (see Exhibit A for maps)
Closest Lease Line: 513'
Lease Area: W2NW4 Section 29, T. 19 S., R. 37 E.
Unit Size: 13,385 acres
Closest Unit Line: 7281'

A. (2) Surface casing (9.625", 36#) was set at 1323' in a 12.25" hole and cemented with 575 sacks to GL. Circulated 125 sacks to pit.

Production casing (7", 23# & 20#) was set at 3911' in an 8.75" hole and cemented with 725 sacks to GL. Circulated 33 sacks to pit.

The well is open hole (6.125") in the San Andres from 3911' to 4050'. PBTD = 3905' (San Andres).

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

A. (3) Tubing will be IPC, 2.875", J-55, 6.4#. Setting depth will be 3700'. (Top perforation will be 3754'.)

A. (4) A lock set injection packer will be set at 3700' (54' above the highest perforation of 3754').

B. (1) Injection will be in the Grayburg and San Andres zones in the Eunice – Monument; Grayburg – San Andres Pool (pool code = 23000).

B. (2) Injection interval is and will be 3754' - 3895', all cased. The well is cased to 3911'.

B. (3) Well was originally drilled in 1997 as a Grayburg - San Andres oil well.

B. (4) The well is currently perforated in 4 intervals: 3754' – 3765', 3776' – 3800', 3811' – 3843', and 3854' – 3895'. Will perforate casing in 3 more intervals: 3765' – 3775', 3800' – 3810', and 3843' – 3854'. Injection interval is and will be 3754' to 3895'. A CIBP is at 3905'. The well is uncased from 3911' to 4050' and will remain so in that interval.

B. (5) Next higher oil or gas zone within the area of review is the Queen at 3320' – 3425'. Injection interval will be 3754' – 3895'. Next lower oil or gas zone within the area of review is the Abo. Its top is at ≈7065'.

IV. This is not a horizontal or vertical expansion of an existing injection project. Records for the unit approval (R-9494, Case 10253) include a discussion of the Grayburg - San Andres water flood. The water flood (R-9596, Case 10252) was approved at the same time in 1991. At least three water flood expansions (WFX-739, -773, and -942) have been approved since then. Closest unit boundary is 7281' east. Four injection wells are within a half-mile radius (see Exhibit B).

V. Exhibit B shows and tabulates all 29 existing wells (21 producers + 4 injectors + 4 P&A) within a half-mile (2640') radius, regardless of depth. Exhibit C shows all 454 existing wells (195 oil or gas producing wells + 70 injection or disposal wells + 98 P & A wells + 2 waterflood supply wells + 89 freshwater wells) within a two-mile radius.

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

VI. Twenty-nine wells are within a half-mile. Twenty-six of the 29 wells penetrated the Grayburg and/or San Andres. The 26 penetrators include 21 oil or gas wells, 4 water injectors, and 4 P&A wells. Exhibit F tabulates the penetrators and diagrams the P&A wells.

VII. 1. Average injection rate will be ≈600 bwpd. Maximum will be 700 bwpd.

2. System will be closed. The well will tie into the existing Unit pipeline system.

3. Average injection pressure will be ≈350 psi. Maximum injection pressure would be 750 psi (= 0.2 psi/foot x 3754' (top perforation)).

4. Water source will be two existing ≈5125' deep lower San Andres water supply wells (#018 and #624) plus produced water from the Grayburg and San Andres. Both water streams (source and produced) are commingled before being piped to injection wells. An analysis (Exhibit G) from the hearing concluded the waters are compatible.

5. Grayburg and San Andres are productive within one mile of the well.

VIII. The Grayburg Formation is intebedded mudstone, wackestone, packstone, grainstone, and dolomite. The San Andres Formation is a massive dolomite with some siltstone and sandstone strata. There is a not a clear marker between the

Grayburg and San Andres in the Unit. The porous dolomites are the productive part of the formations. Notable depths are:

Quaternary = 0'
Ogallala= 50'
Rustler = 1283'
Top Salt = 1400'
Base Salt = 2415'
Tansill = 2476'
Yates = 2570'
Seven Rivers = 2790'
Queen = 3320'
Penrose = 3426'
Grayburg = 3695'
injection interval = 3754' - 3895'
San Andres = 3767'
TD = 4050'

State Engineer records (Exhibit H) show 29 water wells are within a 1-mile radius. Deepest of the 29 is 150'.

NMG/SA Unit 290 penetrates the Ogallala aquifer and is >9 miles northeast of the Capitan Reef. No existing underground drinking water source is below the San Andres within a mile radius. Produced water has been injected into 3 zones (Yates, Seven Rivers, Queen) above the Grayburg within T. 19 S., R. 37 E. via ten wells. Produced water has been disposed into 3 zones (San Andres, Delaware, Bone Spring) below the Grayburg within T. 19 S., R. 37 E. via five SWD wells. Over 393,816,692 barrels of water have been injected in the NMG/SA Unit to date.

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

X. Micro-CFL GR, gamma ray, BHC Sonic GR, and Compensated Neutron logs are on file with NMOCD.

XI. Three windmills within a mile radius were sampled during a November 1, 2022, field inspection. Analyses from both windmills are in Exhibit I. (Floyd Cody, Manager of the Monument Municipal Domestic Water Consumers Association says most well owners abandoned their wells when the utility came on line.)

XII. Apache (Exhibit J) is not aware of any geologic or engineering data that may indicate the Grayburg or Saan Andres are in hydrologic connection with any underground source of water. There are 1,622 Grayburg injectors and 1,181 San Andres injectors in New Mexico. Previously approved Unit water flood expansions include WFX-739, -773, and -942.

XIII. A legal ad (see Exhibit K) was published on December 14, 2022. Notice (this application) has been sent (Exhibit L) to the surface owner (NM State Land Office), lessees of record (Oil Well Drilling, Remington. Monument, Shell Western, Southwest Royalties, and Wiser Oil), government lessors (NMSLO), and all other well operators (Arrington, Empire NM, Mulloy, and Wagner) 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 167959

CONDITIONS

Operator: APACHE CORPORATION 303 Veterans Airpark Ln Midland, TX 79705	OGRID: 873
	Action Number: 167959
	Action Type: [C-108] Fluid Injection Well (C-108)

CONDITIONS

Created By	Condition	Condition Date
mgebremichael	None	3/8/2023