AE Order Number Banner

Application Number: pMSG2411637349

SWD-2616

Permian Water Solutions, LLC [373626]

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: PERMIAN WATER SOLUTIONS, LLC **OGRID Number:** 373626
Well Name: KAISER STATE SWD 9 **API:** 30-025--02538
Pool: SWD;YATES-SEVEN RIVERS **Pool Code:** 96141

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

4-7-24
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: _____Secondary Recovery _____Pressure Maintenance YES Disposal _____Storage
Application qualifies for administrative approval? XXX Yes _____No

II. OPERATOR: PERMIAN WATER SOLUTIONS, LLC

ADDRESS: P. O. BOX 2106, MIDLAND, TX 79702

CONTACT PARTY: JENNI USHER PHONE: 512 820-8772

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 (Renew SWD-923)
If yes, give the Division order number authorizing the project: _____

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

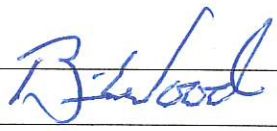
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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

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

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

NAME: BRIAN WOOD TITLE: CONSULTANT

SIGNATURE:  DATE: APRIL 5, 2024

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 03/09/24 from "Untitled.tpo"

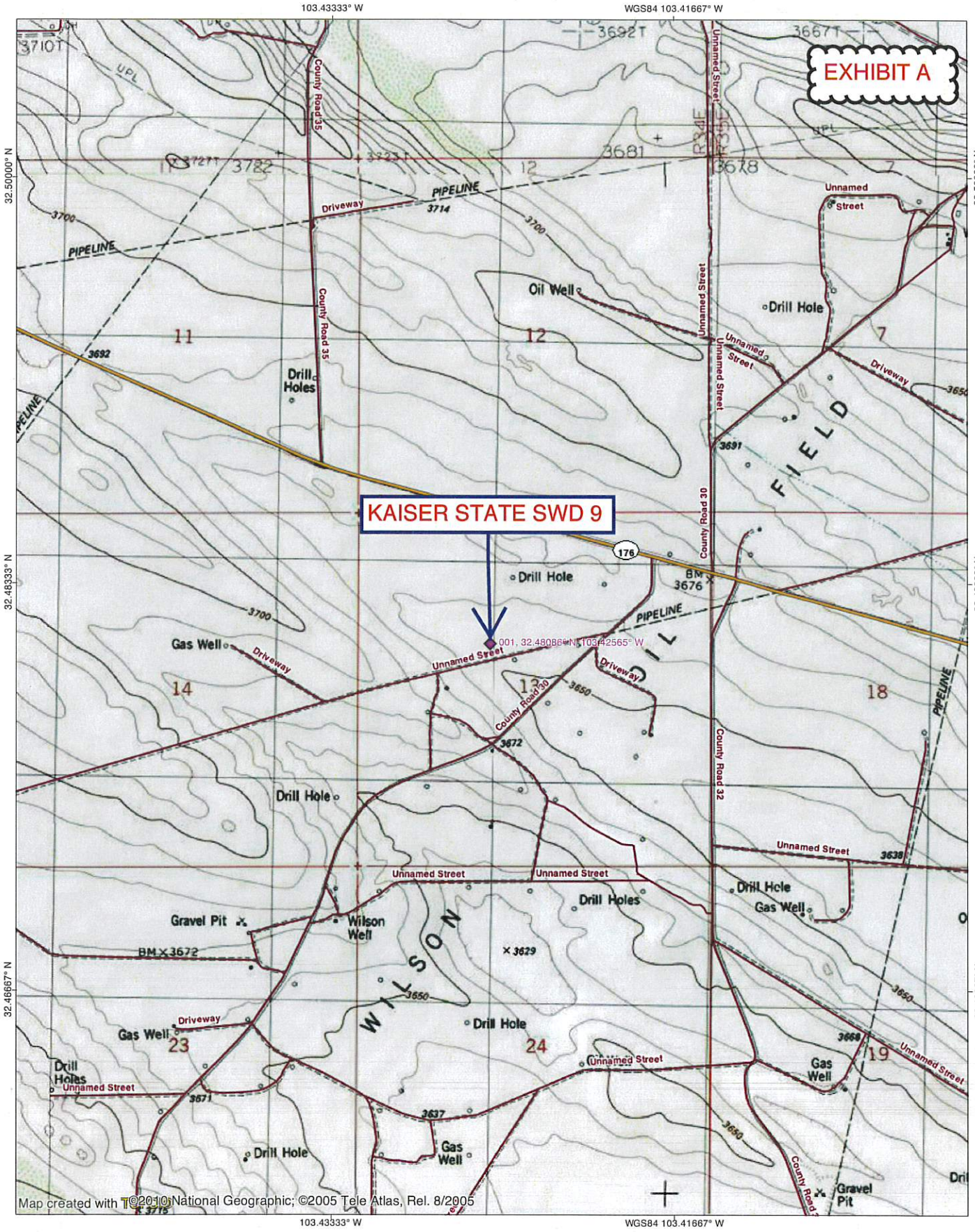


EXHIBIT A

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 Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-02538	96141	SWD; YATES-SEVEN RIVERS

[4] Property Code	[5] Property Name	[6] Well Number
322735	KAISER STATE SWD	9

[7] OGRID No.	[8] Operator Name	[9] Elevation
373626	PERMIAN WATER SOLUTIONS, LLC	3661

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	13	21 S	34 E		1980	NORTH	1980	FWL	LEA

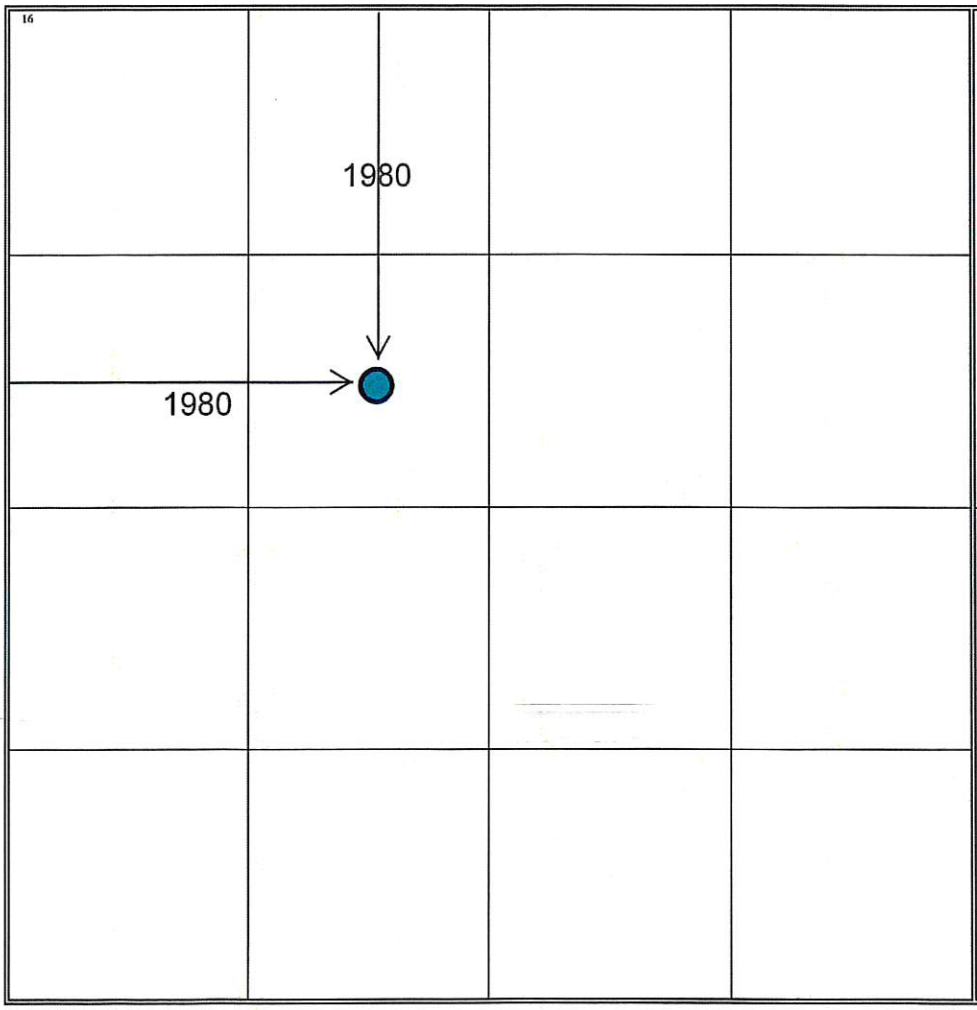
[11] Bottom Hole Location If Different From Surface

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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
			SWD-923

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.

[16]



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 3-9-24

BRIAN WOOD
Printed Name

brian@permitswest.com
E-mail Address

505 466-8120

[18] 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 supervision, and that the same is true and correct to the best of my belief.

Date of Survey

Signature and Seal of Professional Surveyor:

NO C-102 ON FILE
WITH NMOCD
LOCATION FROM NMOCD

Certificate Number

Side 1

INJECTION WELL DATA SHEET

OPERATOR: PERMIAN WATER SOLUTIONS, LLC

WELL NAME & NUMBER: KAISER STATE SWD 9

WELL LOCATION:	1980 FNL & 1980 FWL	F	13	21 S	34 E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

SEE ATTACHED DIAGRAM

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 18" Casing Size: 15.5"

Cemented with: 125 sx. *or* _____ ft³

Top of Cement: GL Method Determined: NO REPORT

Intermediate Casing

Hole Size: 15", 12", 9", & 8" Casing Size: 12.5", 10", 8.625", & 7"

Cemented with: 850 sx. *or* _____ ft³

Top of Cement: GL Method Determined: CALC. TOP 3 STRINGS, NO REPORT 7" STRING

Production Casing

Hole Size: 6.25" Casing Size: 5"

Cemented with: 340 sx. *or* _____ ft³

Top of Cement: GL Method Determined: NO REPORT

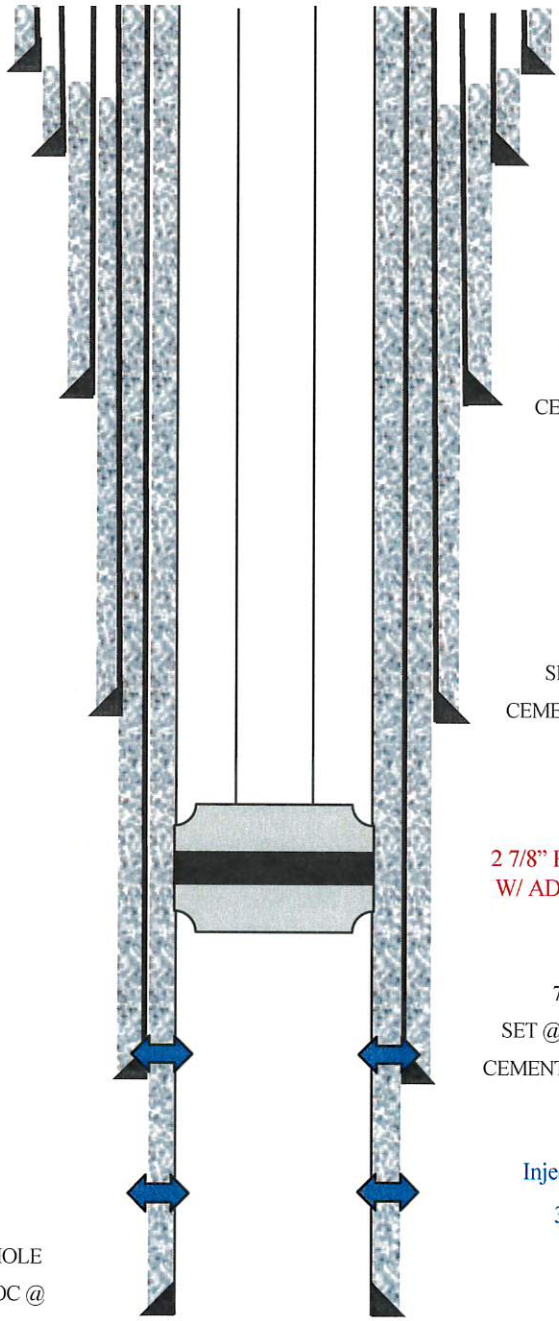
Total Depth: 3781'

Injection Interval

3590 feet to 3668'

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

CURRENT & PROPOSED WELLBORE SCHEMATIC



15 1/2" 70# CASING SET @ 108' IN 18" HOLE
CEMENT W/ 125 Sks. TOC @ SURFACE

12 1/2" 50# CASING SET @ 744' IN 15" HOLE
CEMENT W/ 150 Sks. TOC @ 309' CALC.

10" 40# J-55 CASING SET @ 1240' IN 12" HOLE
CEMENT W/ 100 Sks. TOC @ 412' CALC.

8 5/8" 35# CASING
SET @ 2840' IN 9" HOLE
CEMENT W/ 200 Sks. TOC @ 563' CALC.

2 7/8" PLASTIC LINED TUBING
W/ AD-1 PACKER SET @ 3510'

7" 20# CASING
SET @ 3600' IN 8" HOLE
CEMENT W/ 400 Sks. TOC @ SURFACE

Injection Perforations:
3590' to 3668'

5" 15.5# CASING
SET @ 3781' IN 6 1/4" HOLE
CEMENT W/ 340 Sks. TOC @ SURFACE

PBTD 3752'
TD 3781'

PERMIAN WATER SOLUTIONS LLC

KAISER STATE SWD #009

30-025-02538

1980' FWL & 1980' FNL, F-13-21S-34E, LEA COUNTY, NEW MEXICO

INJECTION WELL DATA SHEET

Tubing Size: 2.875" Lining Material: PLASTIC

Type of Packer: AD-1

Packer Setting Depth: 3510'

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

Additional Data

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

   If no, for what purpose was the well originally drilled? OIL WELL IN 1942

2. Name of the Injection Formation: YATES - SEVEN RIVERS

3. Name of Field or Pool (if applicable): SWD; YATES-SEVEN RIVERS

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: ABOVE: NONE

   BELOW: BONE SPRING (8,250'), ATOKA (11,400'), & MORROW (11,900')

Affidavit of Publication

EXHIBIT M

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
February 28, 2024
and ending with the issue dated
February 28, 2024.

LEGAL NOTICE
February 28, 2024

Permian Water Solutions, LLC is applying to renew the Kaiser State SWD 9 as a saltwater disposal well. The well is at 1980' FNL & 1980' FWL, Sec. 13, T. 21 S., R. 34 E., Lea County, NM. This is 15 miles west-northwest of Eunice, NM. Water will be injected at a maximum pressure of 718 psi into the Yates and Seven Rivers formations from 3590' to 3668'. Maximum disposal rate will be 7,000 bwpd. Interested parties must file objections, protests, or requests for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM 87505 or OCD.Engineer@emnrd.nm.gov within 15 days. NMOCD Engineering Bureau phone is 505 476-3441. Additional information can be obtained by contacting: Jenni Usher, Permian Water Solutions, LLC, P. O. Box 2106, Midland, TX 79702. Phone number is (512) 820-8772. Or, contact Brian Wood, Permits West, Inc., 37 Verano Loop, Santa Fe, NM 87508. Phone number is (505) 466-8120.
#00287821

Publisher

Sworn and subscribed to before me this
28th day of February 2024.

Business Manager

My commission expires
January 29, 2027
(Seal)

STATE OF NEW MEXICO
NOTARY PUBLIC
GUSSIE RUTH BLACK
COMMISSION # 1087526
COMMISSION EXPIRES 01/29/2027

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 publication has been made.

02108485 00287821

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 N

April 5, 2024

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

TYPICAL NOTICE

Permian Water Solutions, LLC is applying (see attached application) to renew its Kaiser State SWD 9 well as a saltwater disposal well. As required by NM Oil Conservation Division (NMOCD) rules, I am notifying you of the following proposed saltwater disposal well renewal. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Kaiser State SWD 9 (NMSLO lease) TD = 3,781'
Proposed Disposal Zone: Yates-Seven Rivers (3,590' – 3,668')
Location: 1980' FNL & 1980' FWL Sec. 13, T. 21 S., R. 34 E., Lea County, NM
Approximate Location: 15 air miles west-northwest of Eunice, NM
Applicant Name: Permian Water Solutions, LLC (512) 820-8772
Applicant's Address: P. O. Box 2106, Midland, TX 79702

Submittal Information: Application for a saltwater disposal 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. NMOCD address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3441. Their e-mail address is: ocd.engineer@emnrd.nm.gov.

Please call me if you have any questions.

Sincerely,

Brian Wood

EXHIBIT N

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

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

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

PS Form 3800, January 2023 PSN 7530-02-000-9047 See Reverse for Instructions

Postmark Here

9589 0710 5270 0750 2787 49

Sent To: EOG Resources Inc
Street and Apt. No., or PO Box No.: PO Box 2267
City, State, ZIP+4®: Midland TX 79702

Postage and Fees: Chisholm Energy Operating, LLC; 801 Cherry St.; Suite 1200, Unit 20; Ft. Worth TX 76102

Permian Water Kaiser SWD 9

9589 0710 5270 0750 2787 94

Sent To: MRC Permian Company
Street and Apt. No., or PO Box No.: 5400 LBJ Freeway
City, State, ZIP+4®: Suite 1500, Dallas TX 75240

Permian Water Kaiser SWD 9

9589 0710 5270 0750 2787 56

Sent To: Hal J Rasmussen Oper. LLC
Street and Apt. No., or PO Box No.: PO Box 10851
City, State, ZIP+4®: Midland TX 79702

Permian Water Kaiser SWD 9

9589 0710 5270 0750 2787 30

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

Permian Water Kaiser SWD 9

9589 0710 5270 0750 2787 18

Sent To: Colgate Operating, LLC
Street and Apt. No., or PO Box No.: 300 N. Marienfeld St.
City, State, ZIP+4®: Midland TX 79701

Permian Water Kaiser SWD 9

9589 0710 5270 0750 2787 63

Sent To: Magnum Hunter Production, Inc.
Street and Apt. No., or PO Box No.: 600 N. Marienfeld St.
City, State, ZIP+4®: Midland TX 79701

Permian Water Kaiser SWD 9

9589 0710 5270 0750 2787 25

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

Permian Water Kaiser SWD 9

9589 0710 5270 0750 2787 70

Sent To: Mark Shidler & Zeus Petroleum
Street and Apt. No., or PO Box No.: 1313 Campbell Rd
City, State, ZIP+4®: Houston TX 77055

Permian Water Kaiser SWD 9

9589 0710 5270 0750 2787 32

Sent To: Earthstone Operating, LLC
Street and Apt. No., or PO Box No.: 1400 Woodloch Forest
City, State, ZIP+4®: Suite 300, The Woodlands TX 77380

Permian Water Kaiser SWD 9

9589 0710 5270 0750 2787 87

Sent To: Matador Production Company
Street and Apt. No., or PO Box No.: 5400 LBJ Freeway
City, State, ZIP+4®: Suite 1500, Dallas TX 75240

Permian Water Kaiser SWD 9

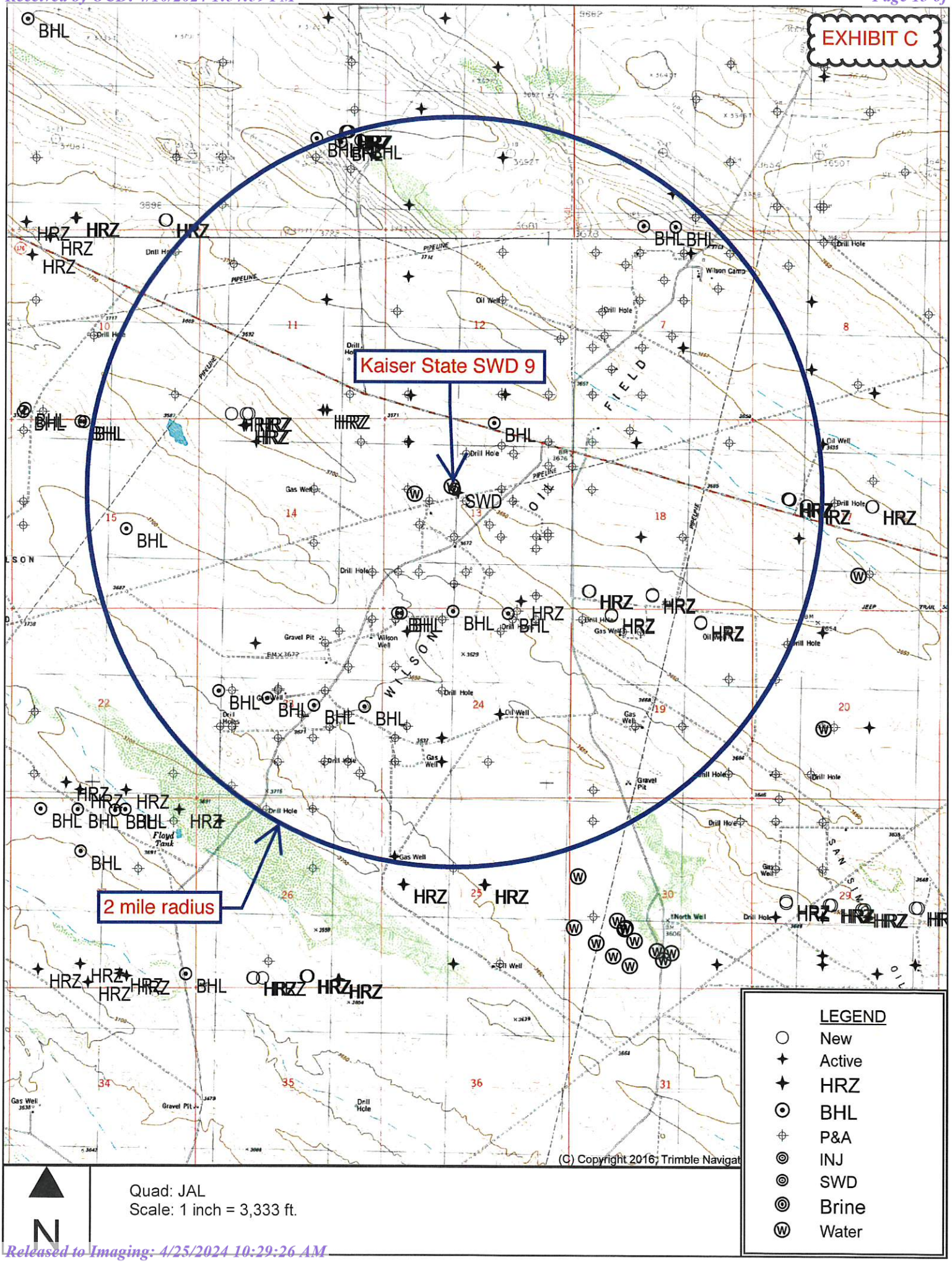
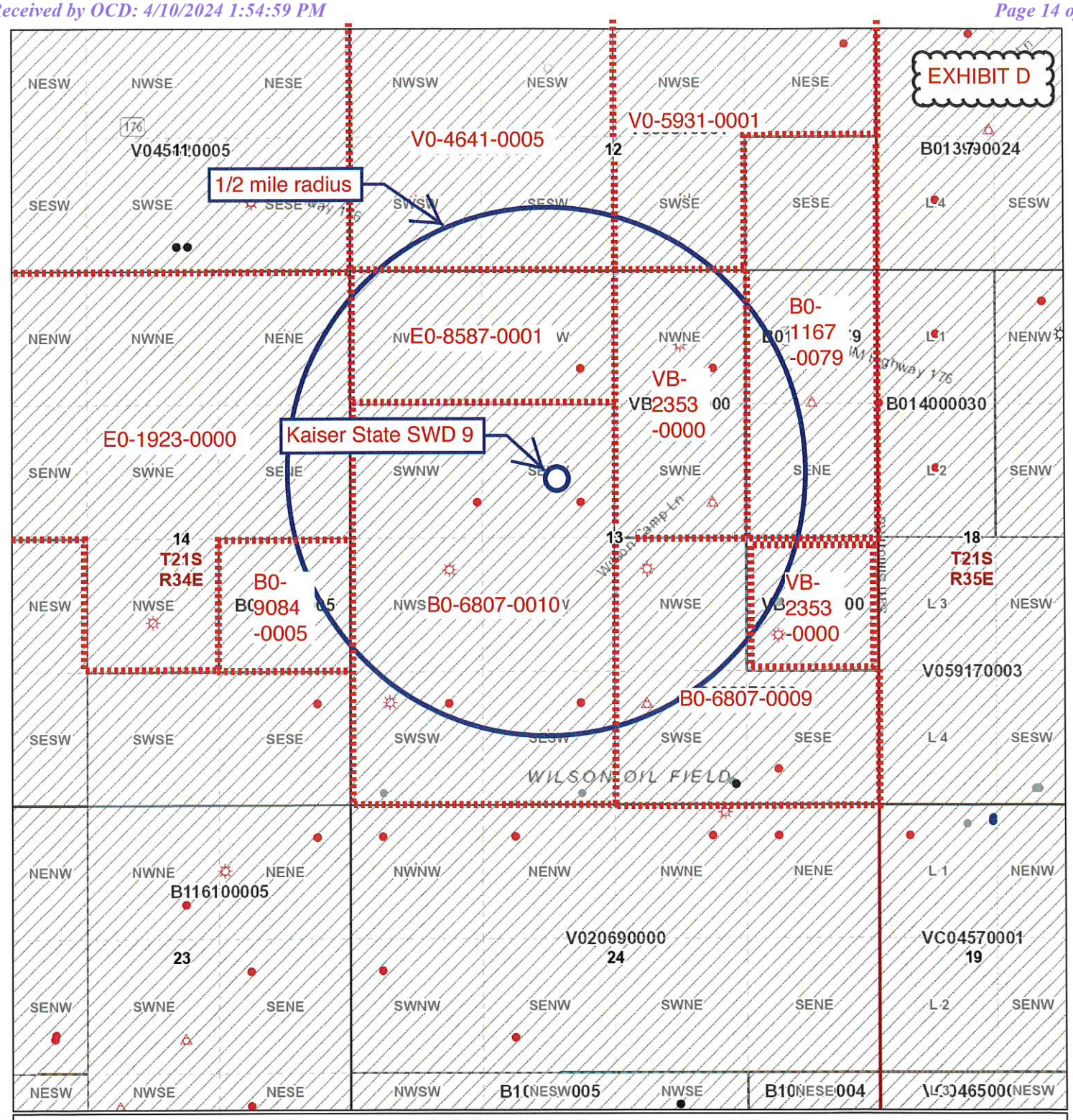


EXHIBIT C
Kaiser State SWD 9
SWD
2 mile radius
BHL
HRZ
Quad: JAL
Scale: 1 inch = 3,333 ft.
N
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
(C) Copyright 2016, Trimble Navigat



Oil, Gas, and Minerals Leases and Wells

0 0.1 0.2 0.4 mi

N

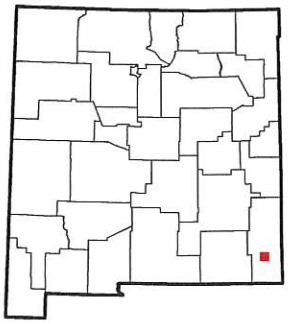
New Mexico State Land Office

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: 3/17/2024

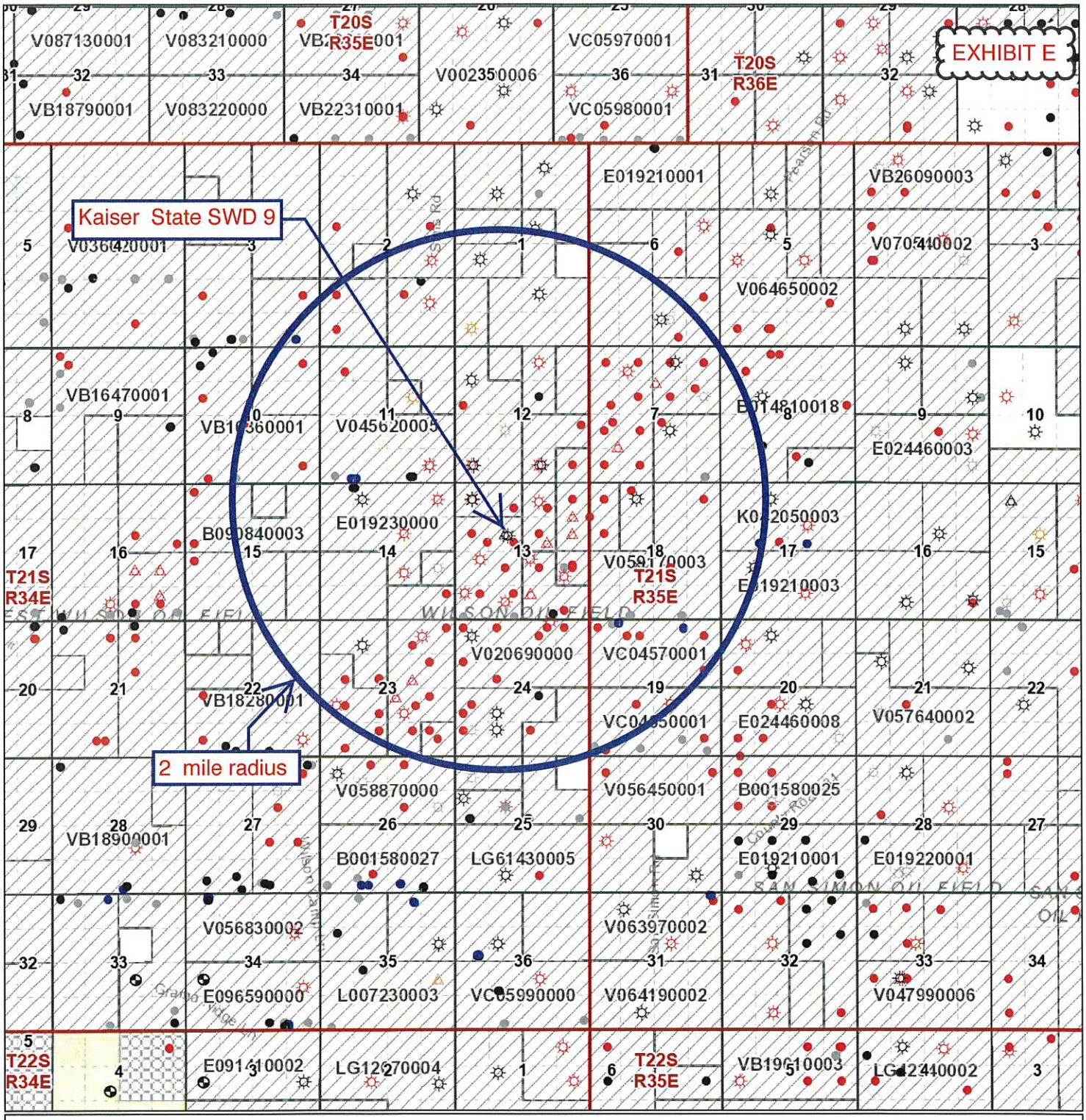
- Subdivisions
- Sections
- Townships
- NMOCD_Inactive Symbology
- Miscellaneous
- CO2 Cancelled
- CO2, Plugged
- CO2, Temporarily Abandoned
- Gas, Cancelled
- Gas, Plugged
- Gas, Temporarily Abandoned
- Injection, Cancelled
- Injection, Plugged
- Injection, Temporarily Abandoned



KAISER STATE SWD 9 AREA OF REVIEW LEASES

Aliquot Parts in Area of Review (T. 21 S., R. 34 E.)	Lessor	Lease	Lessee(s) of Record	Well Operators (regardless of depth)
S2SW4 Sec. 12	NMSLO	V0-4641-0005	Chisholm	Earthstone Operating
SWSE Sec. 12	NMSLO	V0-5931-0001	Magnum Hunter	Cimarex Energy of Colorado
E2NE4 Sec. 13	NMSLO	B0-1167-0079	MRC	none
W2NE4 Sec. 13	NMSLO	VB-2353-0000	MRC	Matador Production
N2NW4 Sec. 13	NMSLO	E0-8587-0001	Mark Shidler & Zeus Petroleum	EOG Resources
S2SW4 & SW4 Sec. 13	NMSLO	B0-6807-0010	Colgate	EOG Resources
W2SE4 & SESE Sec. 13	NMSLO	B0-6807-0009	MRC	Matador Production
NESE Sec. 13	NMSLO	VB-2353-0000	MRC	none
E2NE4 Sec. 14	NMSLO	E0-1923-0000	ConocoPhillips	Earthstone Operating
NESE Sec. 14	NMSLO	B0-9084-0005	Hal Rasmussen Operating	none

EXHIBIT D



Oil, Gas, and Minerals Leases and Wells

0 0.42 0.85 1.7 mi

N

New Mexico State Land Office

Disclaimer:
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Map Created: 3/17/2024

Subdivisions
Sections
Townships
NMOCD_Inactive
Symbology
Miscellaneous
CO2 Cancelled
CO2, Plugged
CO2, Temporaily Abandoned
Gas, Cancelled
Gas, Plugged
Gas, Temporarily Abandoned
Injection, Cancelled
Injection, Plugged
Injection, Temporarily Abandoned

Yates - Seven Rivers Penetrators Sorted by distance from Kaiser State SWD 9

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
Wilson Deep Unit 001	2/18/63	13862	Wilson; Morrow	G	17.5	13.375	668	775 sx	Surface	No report
3002520461					12.25	9.625	5635	3378 sx	Surface	Circ
F-13-21S-34E					8.75	7	13097	300 sx	12210	Temp survey
Kaiser State 044	12/13/94	4190	Wilson; Yates-7 Rvrs	P&A	14.75	10.75	400	340 sx	Surface	Circ
3002532741					9.5	7.625	4190	500 sx	1369	Calc
F-13-21S-34E										
Kaiser State 041	4/20/50	3811	Wilson; Yates-7 Rvrs	P&A	22	16	234	275 sx	Surface	Circ
3002502546					15.5	12.5	870	No report	No report	No report
E-13-21S-34E					12.5	10	1239	No report	No report	No report
					8	7	3600	500 sx	Surf	No report

EXHIBIT F

Yates - Seven Rivers Penetrators Sorted by distance from Kaiser State SWD 9

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
State B 001	2/25/48	3896	Wilson; Yates-7 Rvrs	P&A	11	8.625	195	150 sx	Surface	Circ
3002502528					7.875	5.5	3657	200 sx	3085	Calc
C-13-21S-34E										
Amerada State 002	9/11/41	3829	Wilson; Yates-7 Rvrs	P&A	22	16	100	150 sx	No report	No report
3002502530					8	7	3450	300 sx	1490	Calc
G-13-21S-34E										
State Battery 4 007	11/27/41	3795	Wilson; Yates-7 Rvrs	P&A	18	16	110	175 sx	Surface	No report
3002502536					8	7	3540	300 sx	2463	Calc
K-13-21S-34E										

EXHIBIT F

Yates - Seven Rivers Penetrators Sorted by distance from Kaiser State SWD 9

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
State 011	2/24/44	3860	Wilson; Yates-7 Rvrs	P&A	18	16	110	120 sx	Surface	No report
3002502540					8	none	N/A	none	N/A	N/A
E-13-21S-34E					6	none	N/A	none	N/A	N/A
Kaiser State 042	7/22/55	3808	Wilson; Yates-7 Rvrs	P&A	22	16	116	100 sx	Surface	Circ
3002502547					15.5	12.5	711	719 sx	Surface	Calc
J-13-21S-34E					12.5	10.75	1210	12 sx aquagel	No report	No report
					8	7	3577	400 sx	456	Calc
					No report	4.5	3808	200	185	Calc
Kaiser State 014	7/16/44	3836	Wilson; Yates-7 Rvrs	P&A	18	16	142	150 sx	Surface	Circ
3002502543					8	7	3699	150 sx	2530	Calc
L-13-21S-34E					No report	4.5	3828	365 sx	Surface	Calc

EXHIBIT F

Yates - Seven Rivers Penetrators Sorted by distance from Kaiser State SWD 9

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
Amerada State 003	4/6/61	3773	Wilson; Yates-7 Rvrs	P&A	12.25	8.625	172	125 sx	Surface	Circ
3002502531					7.75	4.5	3686	150 sx	2243	Calc
G-13-21S-34E										
Laura 13 State Com 001	11/27/01	12522	Wilson; Morrow	P&A	17.5	13.375	1404	1045 sx	Surface	Circ
3002535682					12.25	9.625	5540	1615 sx	Surface	Circ
B-13-21S-34E					8.75	7	11352	400 sx	8530	Calc
					6.125	4.5	12520	140	11054	TOL
Wilson Deep Unit 002Y	5/11/01	12945	Wilson; Atoka	G	17.25	13.375	1417	1035 sx	Surface	Calc
3002535551					12.25	9.625	5304	2850 sx	Surface	Calc
D-13-21S-34E					8.75	5.5	12945	435 sx	11890	CBL

EXHIBIT F

Yates - Seven Rivers Penetrators Sorted by distance from Kaiser State SWD 9

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
Kaiser State 005	8/21/41	3746	Wilson; Yates-7 Rvrs	P&A	21	16	96	135 sx	Surface	Circ
3002502534					8	7	3450	300 sx	1750	Calc
J-13-21S-34E										
Amerada State 001	1/2/53	4153	Wilson; Yates-7 Rvrs	P&A	No report	15.5	113	75 sx	Surface	No report
3002502529					No report	7	3479	250 sx	470	Calc
B-13-21S-34E					6.5	5.5	3917	200 sx	2775	Calc
State Battery 4 040	2/20/50	4206	Wilson; Yates-7 Rvrs	P&A	22	16	237	150 sx	Surface	Circ
3002502545					8	7	3643	500 sx	Surface	Calc
N-13-21S-34E										

EXHIBIT F

Yates - Seven Rivers Penetrators Sorted by distance from Kaiser State SWD 9

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
Kaiser State 008	1/18/42	3810	Wilson; Yates-7 Rvrs	P&A	18	16	123	160 sx	Surface	Circ
3002502537					15	12.25	752	No report	No report	No report
O-13-21S-34E					12	10	1238	No report	No report	No report
					8	7	3436	300 sx	Surface	Circ
State Battery 4 015	10/21/44	3815	Wilson; Yates-7 Rvrs	P&A	18	16	122	150 sx	Surface	No report
3002502544					8	7	3714	300sx	1365	Calc
M-13-21S-34E										
Shell A State 013	11/22/52	3765	Wilson; Yates-7 Rvrs	P&A	20	16	114	80 sx	Surface	No report
3002502533					8	7	3523	300 sx	1185	Calc
H-13-21S-34E										

EXHIBIT F

Yates - Seven Rivers Penetrators Sorted by distance from Kaiser State SWD 9

WELL	SPUD	TVD	POOL	TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
Kaiser State 010	3/20/42	3944	Wilson; Yates-7 Rvrs	P&A	18	16	110	120 sx	Surface	Circ
3002502539					8	7	3452	300 sx	1493	Calc
N-13-21S-34E										
Wilson State 001	11/23/73	12591	Wilson; Strawn	P&A	17	13.375	510	500 sx	Surface	Circ
3002524587					12.25	9.625	5505	500 sx	2202	Calc
I-13-21S-34E					8.5	5.5	12416	500 sx	11300	Temp Surv

EXHIBIT F

EXHIBIT G

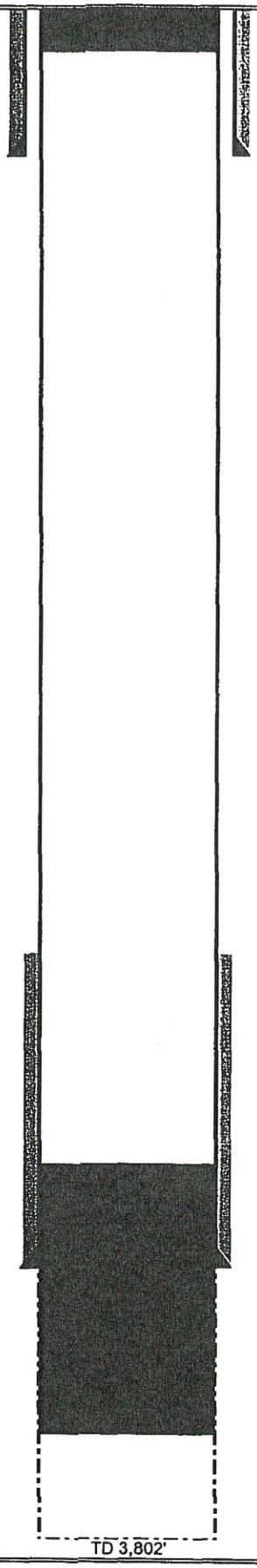
STATE B #1

CURRENT WELLBORE DIAGRAM

C H SWEET

SU-T-R	990 FNL & 2310 FWL 13-21S-34E	**API #:**	30-025-02528
FIELD:	WILSON		
CO, ST:	LEA, NEW MEXICO	**LAND TYPE:**	STATE
STATUS:	P&A		

FORM	TOP



8 5/8" @ 176'
w/150 sx Cmt,
TOC @ surface

P&A
30 sx cmt @ 3,596' to 3,796'
Cmt marker @ surface.

CASING		
Pipe	8 5/8"	5 1/2"
Depth	176'	3,657'
Cement	150 sx	100 sx

YATES-7 RVRS ZONE HISTORY
2/25/48 Spud. **8/29/48** Initial Completion **Open Hole** 3,657-3,802' **IP** 75 BOPD

TOC @ 3,085' (calc)

5 1/2" @ 3,657' w/100 sx Cmt

Current

EXHIBIT G

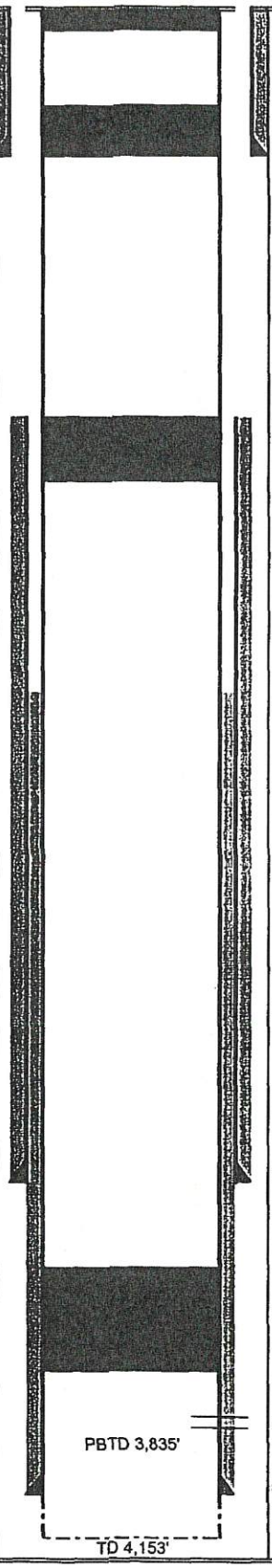
AMERADA STATE #1

CURRENT WELLBORE DIAGRAM

WILSON OIL CO.

SU-T-R 990 FNL & 1650 FEL 13-21S-34E	**API #:** 30-025-02529
FIELD: WILSON	
CO, ST: LEA, NEW MEXICO	**LAND TYPE:** STATE
STATUS: P&A	

FORM	TOP



15 1/2" @ 113'
w/75 sx Cmt

P&A 2/67
25 sx @ 3,660-3,780'
25 sx @ top 7" @ 608'
25 sx @ base of 16" @ 110'
10 sx surface plug.

7" TOC @ 615' (calc)

5 1/2" TOC @ 2,775' (calc)

7" @ 3,479' w/250 sx Cmt

Perfs: 3,820-30'

5 1/2" @ 3,917' w/200 sx Cmt

CASING			
Pipe	15 1/2"	7"	5 1/2"
Depth	113'	3,479'	3,917'
Cement	80 sx	250 sx	200 sx

YATES-7 RVRS ZONE HISTORY
12/30/52 Spud. **2/23/53** Initial Completion **Perforated** 3,820-3,830' **IP** 60 BOPD, 9 BWPD

EXHIBIT G

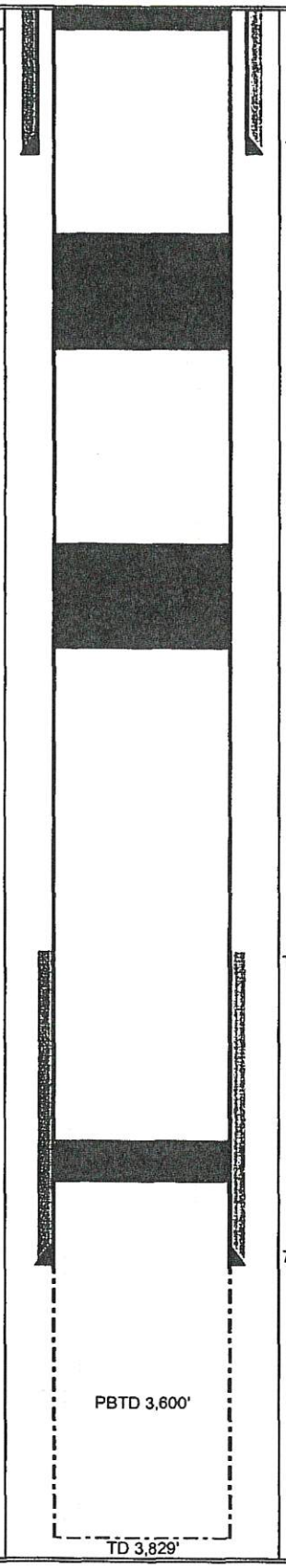
AMERADA STATE #2

CURRENT WELLBORE DIAGRAM

WILSON OIL CO.

SU-T-R	1980 FNL & 1980 FEL 13-21S-34E	**API #:**	30-025-02530
FIELD:	WILSON		
CO, ST:	LEA, NEW MEXICO	**LAND TYPE:**	STATE
STATUS:	P&A		

FORM	TOP



P&A 11/79
50 sx cmt 3,350-3,340'
35 sx 1.600-1,421'
60 sx 450-347'
13 sx @ surface

CASING		
Pipe	16"	7"
Depth	101'	3,450'
Cement	150 sx	300 sx

YATES-7 RVRS ZONE HISTORY
9/24/41 Initial Completion
Open Hole 3,450-3,600'
Natural
IP 728 BOPD

EXHIBIT G

COMPANY: Hal J. Rasmussen Operating, Inc.
WELL NAME: Amerada State
WELL # : 3
API# : 30-025-02531
COUNTY: Lea

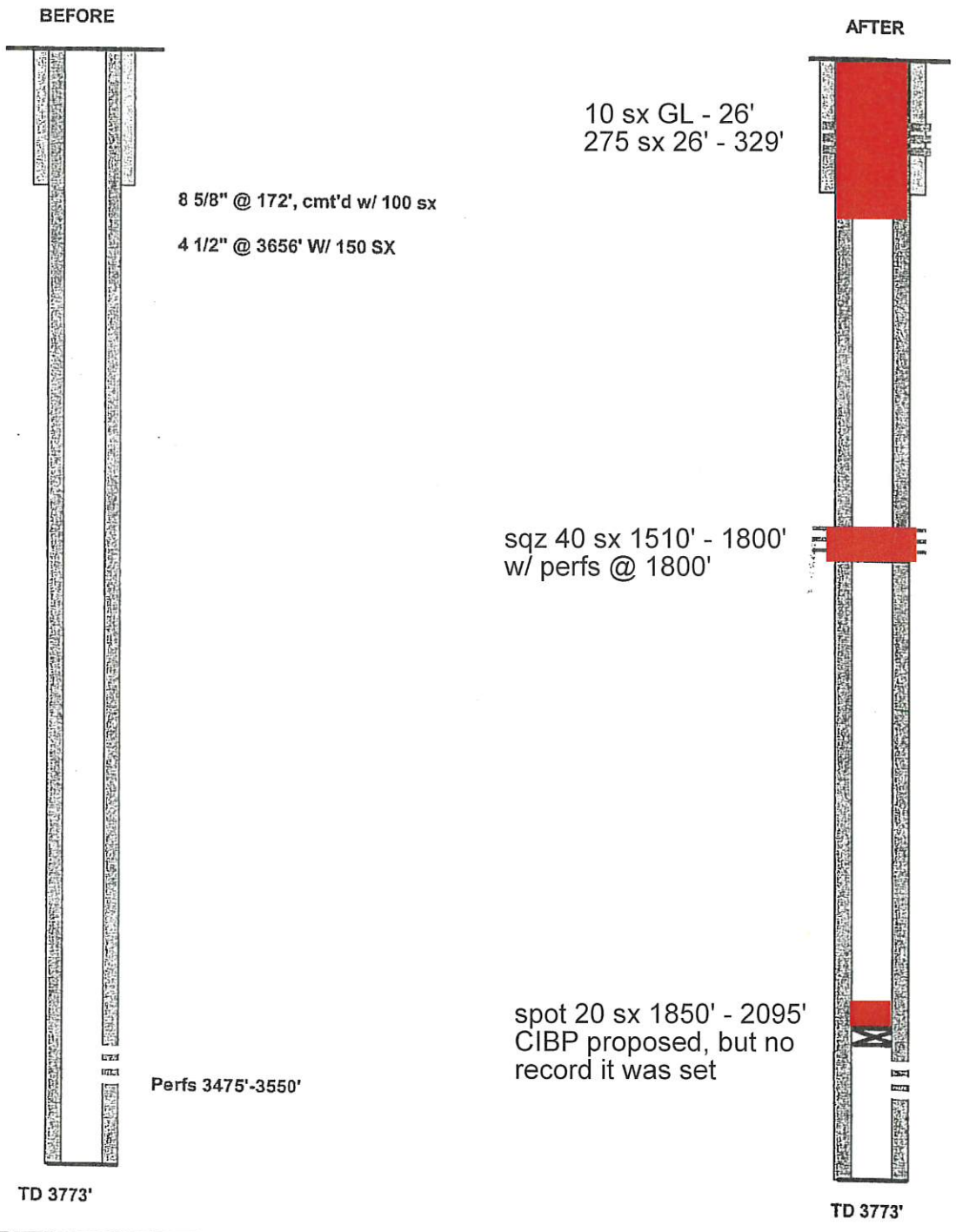


EXHIBIT G

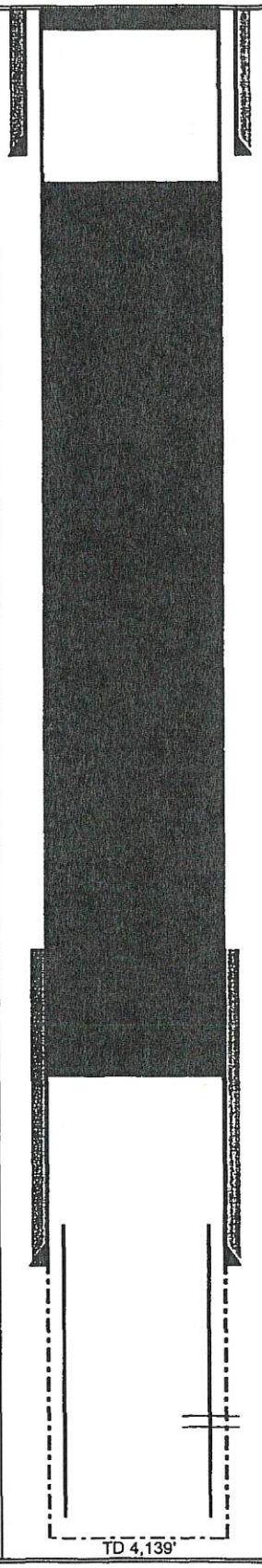
SHELL A STATE #13

CURRENT WELLBORE DIAGRAM

MARKS & GARNER

SU-T-R 1980 FNL & 660 FEL 13-21S-34E	**API #:** 30-025-02533
FIELD: WILSON	
CO, ST: LEA, NEW MEXICO	**LAND TYPE:** STATE
STATUS: P&A	

FORM	TOP



16" @ 113' w/80 sx Cmt, TOC @ surface

TOC @ 1,185' (calc)

7" @ 3,529' w/250 sx Cmt

Perfs: 3,744-52'

5 1/2" liner to 3,930'

P&A 2/7/85
Ran 6 jts tbg & pmpd 380 sx cmt. (This amt of cmt should be sufficient to fill 7" csg from 180' to 2,437'.)
LD 4 jts tbg & pmpd 20 sx cmt.
Install dry hole marker.

CASING			LINER
Pipe	16"	7"	5 1/2"
Depth	113'	3,529'	3,930'
Cement	80 sx	250 sx	200 sx

YATES-7 RVRS ZONE HISTORY

7/26/41 Spud. **8/4/41** Initial Completion
Open Hole 3,529-3,765'
Shot w/205 qts nitro
IP 300 BOPD, 0 BWPD
12/15/52 Deepen well to 4,139'. Ran a 5 1/2" liner to 3,930' cmt w/200 sx.
Perforated 3,744-52'

EXHIBIT G

COMPANY: Hal J. Rasmussen Operating, LP.
WELL NAME: Kaiser State
WELL # : 5
API# : 30-025-~~02536~~ 30-025-02534
COUNTY: Lea

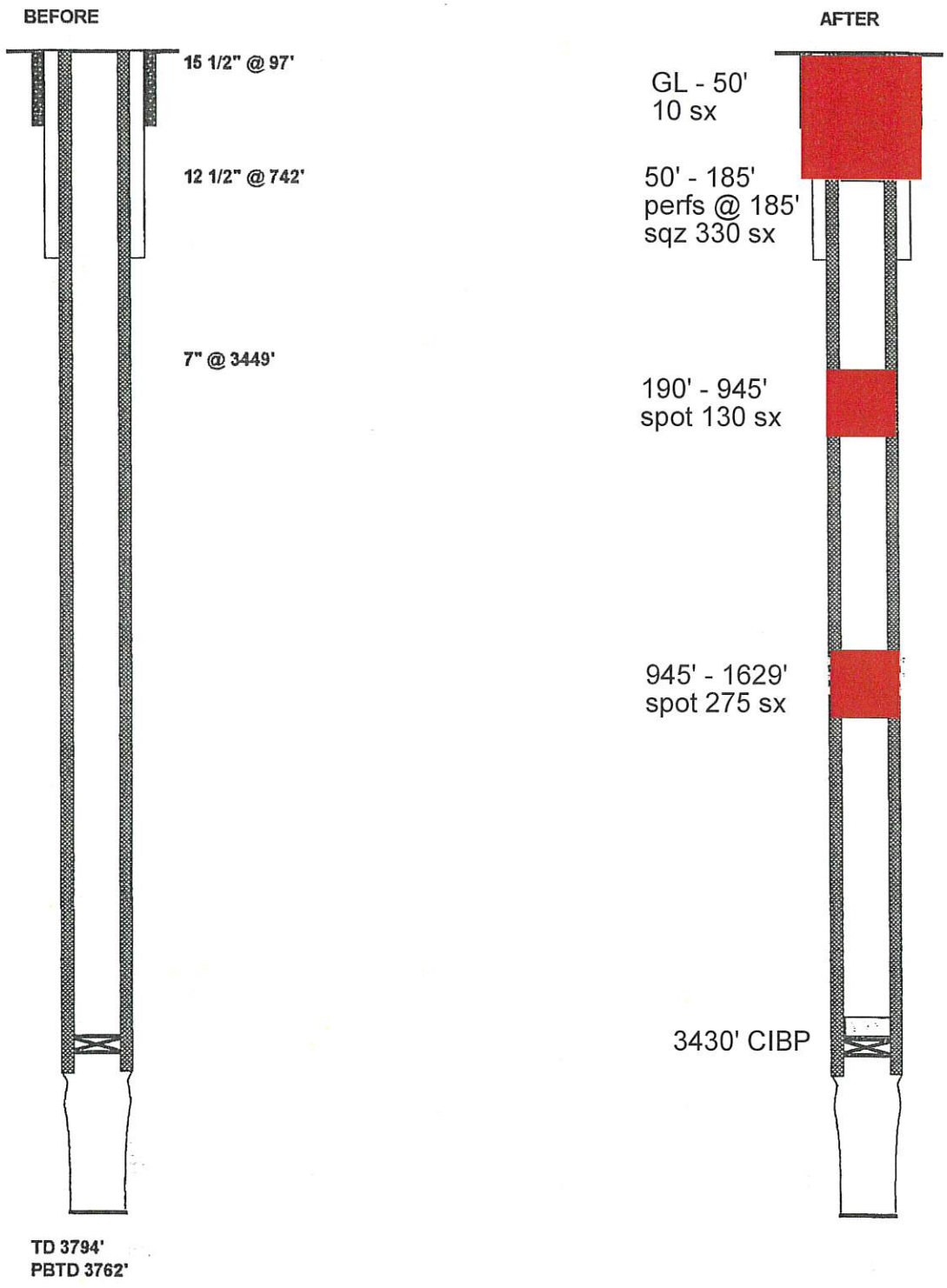


EXHIBIT G

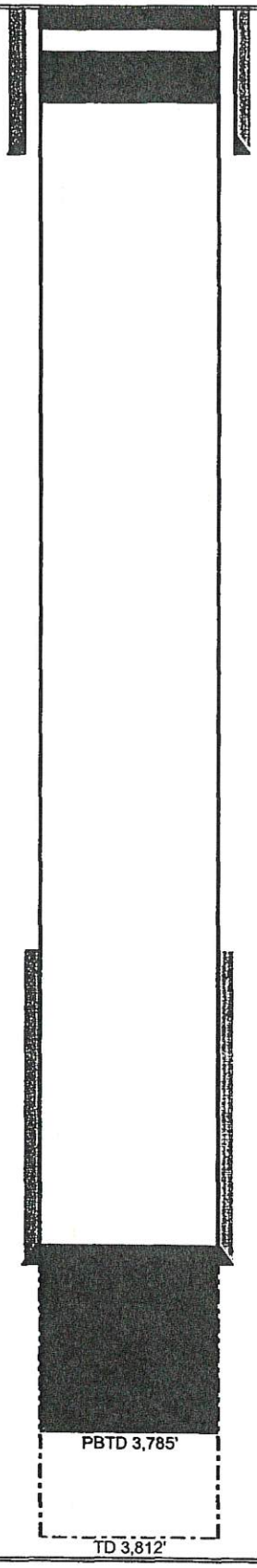
STATE #7

CURRENT WELLBORE DIAGRAM

WILSON OIL CO

SU-T-R	1980 FSL & 1980 FWL 13-21S-34E	**API #:**	30-025-02536
FIELD:	WILSON		
CO, ST:	LEA, NEW MEXICO	**LAND TYPE:**	STATE
STATUS:	P&A		

FORM	TOP



16" @ 101'
w/175 sx Cmt

P&A 5/5/71
50 sx cmt & 50 gal pea gravel 3,545-3,785'
Top jt of 7" unscrewed, pmp 25 sx @ top of 7"
15 sx @ surface

CASING		
Pipe	16"	7"
Depth	101'	3,543'
Cement	175 sx	300 sx

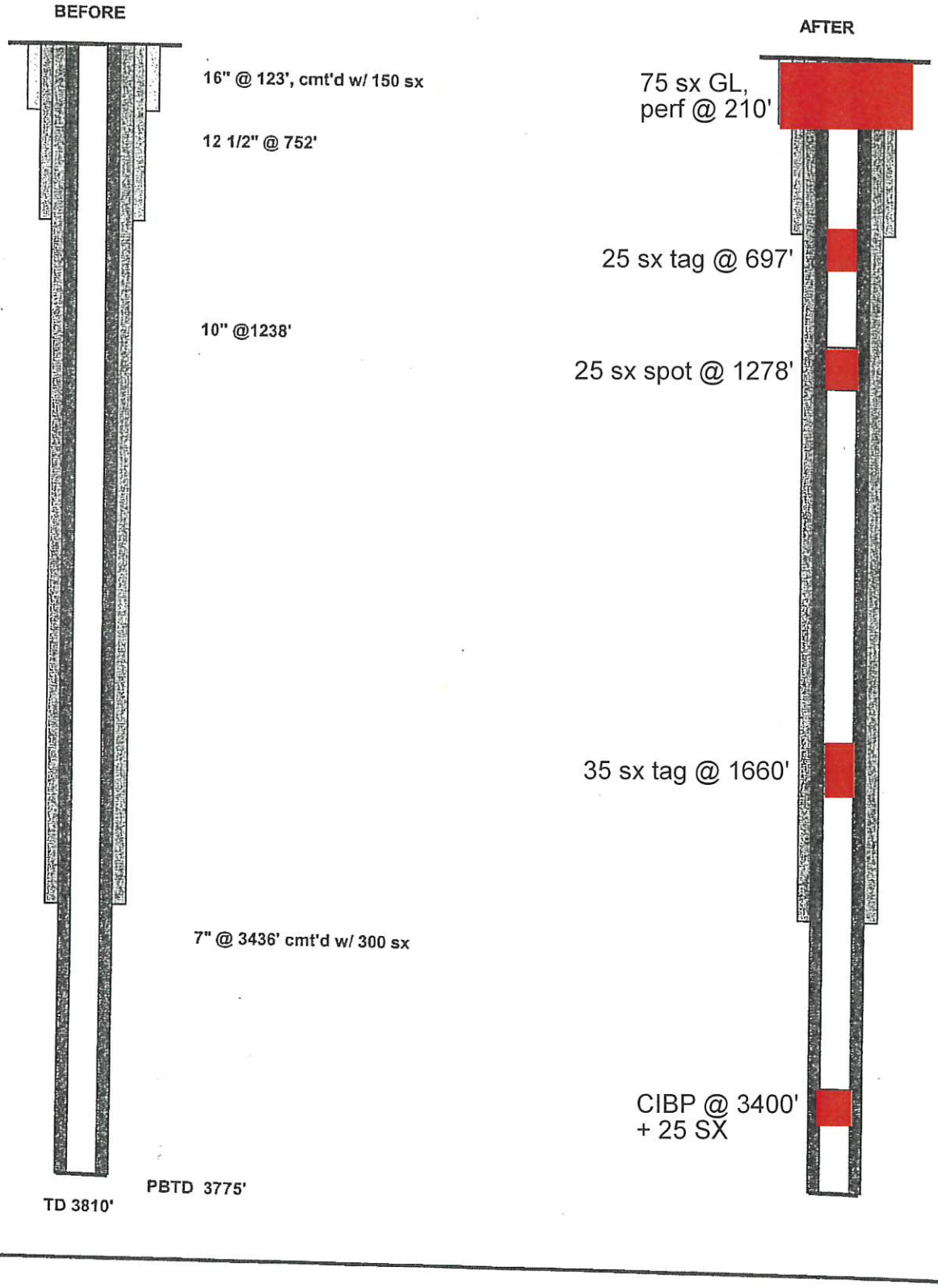
YATES-7 RVRS ZONE HISTORY
12/7/41 Spud. **2/26/42** Initial Completion **Open Hole** 3,543-3,785' **IP** 120 BOPD

TOC @ 2,463' (calc)

7" @ 3,543' w/300 sx Cmt

EXHIBIT G

COMPANY: Hal J. Rasmussen Operating, L.P.
WELL NAME: Kaiser State
WELL # : 8
API# : 30-025-02546 30-025-02537
COUNTY: Lea



HAL J. RASMUSSEN OPER

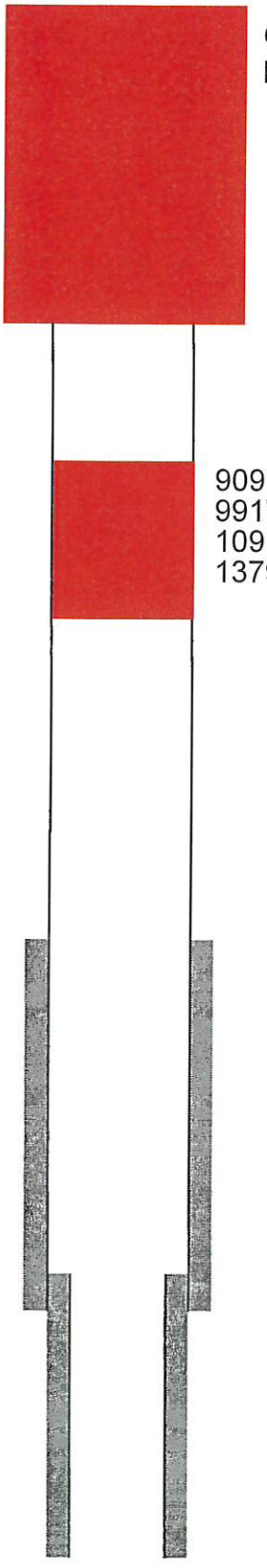
KAISER STATE ~~KAISER~~ # 10

30-025-02539

N-13-21s-34e

EXHIBIT G

CURRENT



GL - 250' 85 sx
perf @ 200'

16" @ 110' w/ 110 sx.

8' Hole

909' - 991' spot 25 sx
991' - 1091' spot 30 sx
1091' - 1379' spot 50 sx
1379' - 1569' spot 100 sx

7" @ 3452 w/ 300 sx cmt.

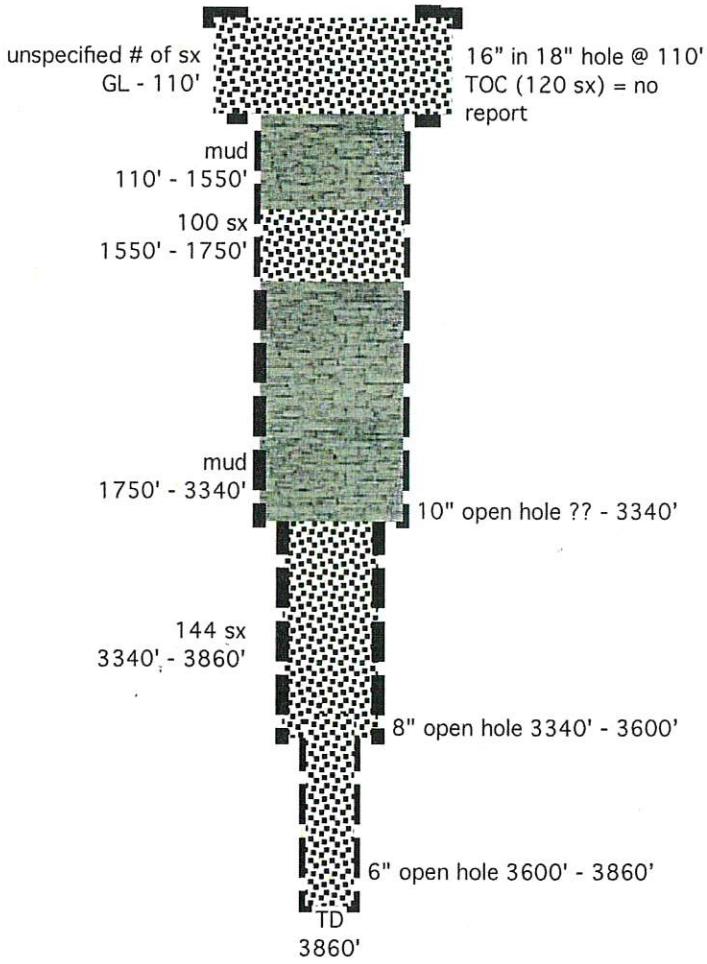
Perfs 3600'-3615', 3870'-3975', 3879'-3884'
5 1/2" liner from 3420' to 3924'

TD 3944'

EXHIBIT G

State 11
30-025-02540
E-13-21s-34e
spud 2-24-44
P&A 5-5-44

(not to scale)

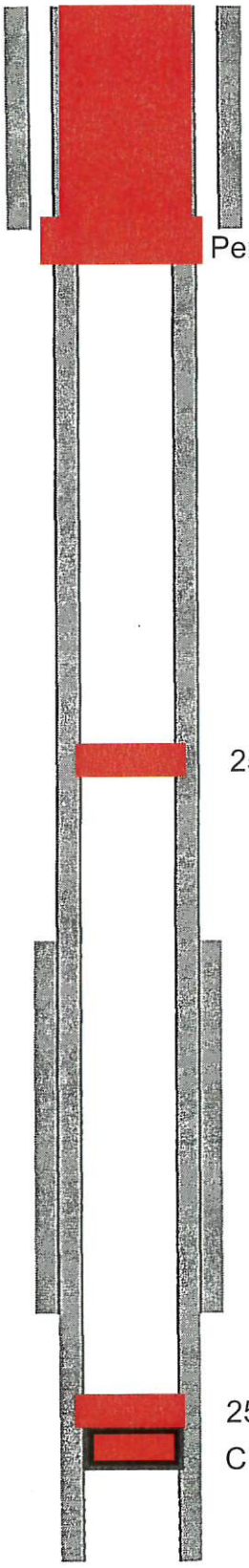


PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

HAL J. RASMUSSEN OPER
KAISER STATE # 14
30-025-02543
L-13-21s-34e

EXHIBIT G

CURRENT



>25 sx down 4.5" csg & filled same

16" @ 142' w/ 150 sx. (circ)

Perforated csg @ 200'

25 sx @ 1701'

7" @ 3699' w/ 150 sx cmt.

25 sx atop CIBP

CIBP @ 3475'

Perfs 3523'-3656'

4 1/2" liner from 3828' to surface w/ 365 sx cmt.

TD 3828'

EXHIBIT G

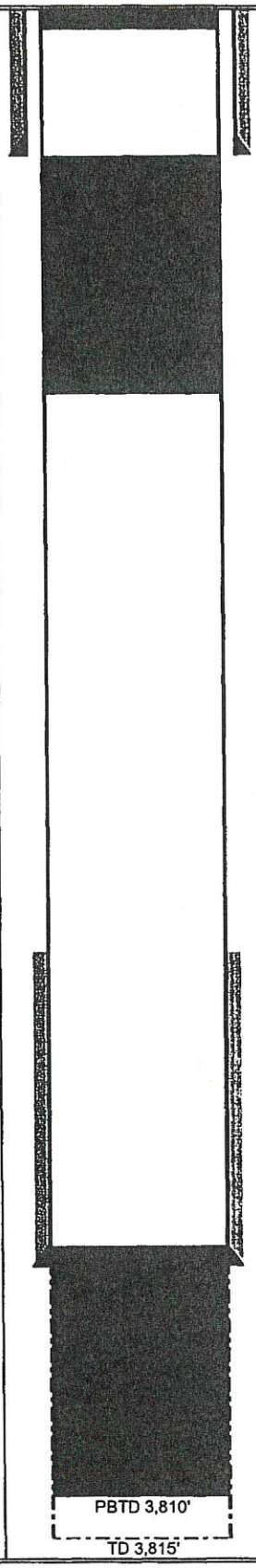
STATE 15

CURRENT WELLBORE DIAGRAM

WILSON OIL CO.

SU-T-R 990 FSL & 990 FWL 13-21S-34E	**API #:** 30-025-02544
FIELD: WILSON	
CO, ST: LEA, NEW MEXICO	**LAND TYPE:** STATE
STATUS: P&A	

FORM	TOP



16" @ 122'
w/150 sx Cmt,
TOC @ surface

P&A 3/21/71
50 sx cmt & 50 gal pea gravel @ 3700-3810'
Pulled 172' 7" csg
35 sx cmt @ top of 7" & base of 16"
15 sx cmt @ surface w/dry hole marker.

CASING		
Pipe	16"	7"
Weight	70#	20#
Depth	122'	3,714'
Cement	150 sx	300 sx

YATES-7 RVRS ZONE HISTORY
10/29/44 Spud. **1/10/45** Initial Completion
Open Hole 3,705-3,810'
Acidized w/1500 gal acid
IP 500 BOPD

TOC @ 1,365' (calc)

7" @ 3,714' w/300 sx Cmt

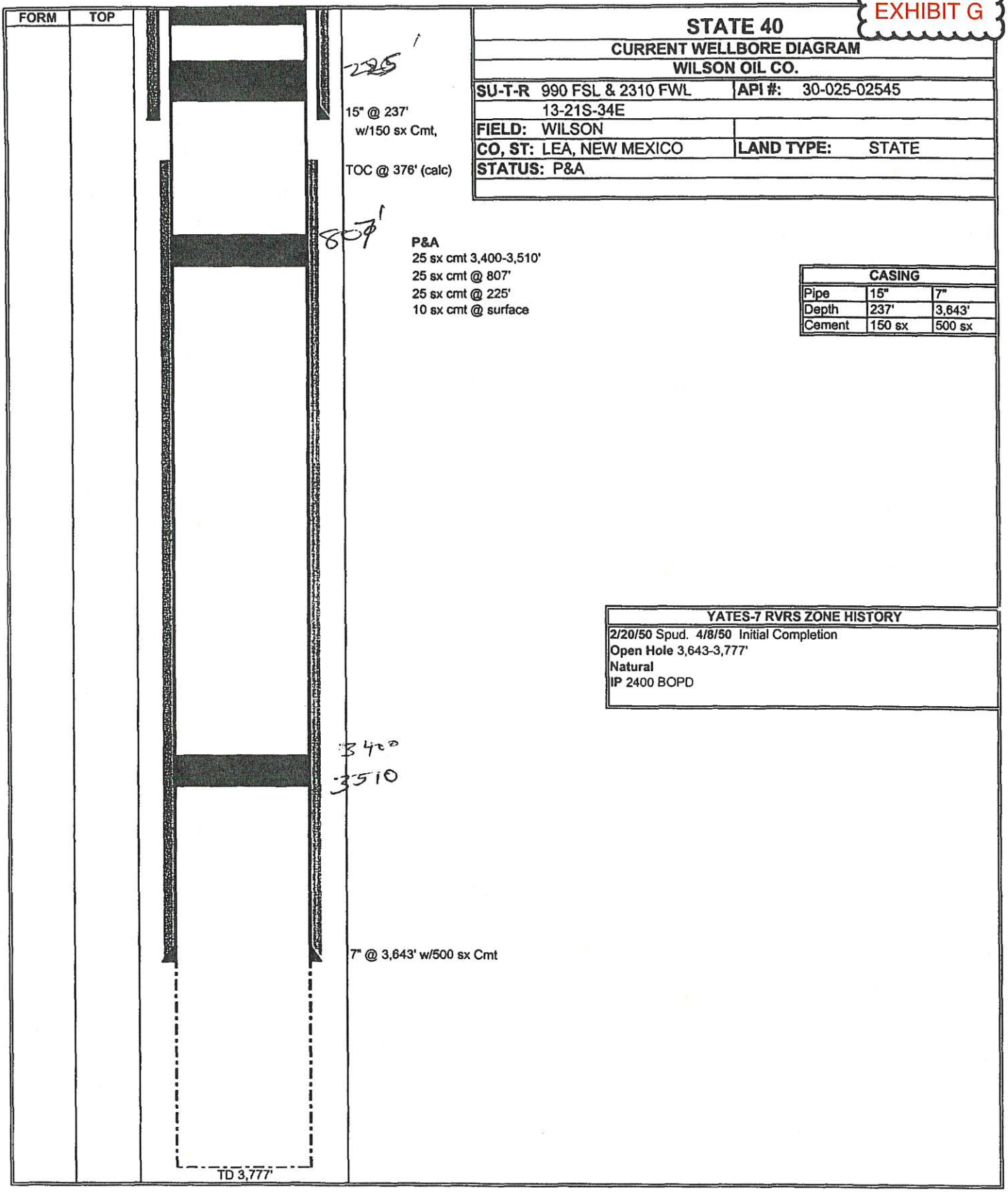
EXHIBIT G

STATE 40

CURRENT WELLBORE DIAGRAM

WILSON OIL CO.

SU-T-R	990 FSL & 2310 FWL 13-21S-34E	**API #:**	30-025-02545
FIELD:	WILSON		
CO, ST:	LEA, NEW MEXICO	**LAND TYPE:**	STATE
STATUS:	P&A		



CASING		
Pipe	15"	7"
Depth	237'	3,643'
Cement	150 sx	500 sx

YATES-7 RVRS ZONE HISTORY

2/20/50 Spud. 4/8/50 Initial Completion
Open Hole 3,643-3,777'
Natural
IP 2400 BOPD

EXHIBIT G

COMPANY: Hal J. Rasmussen Operating, L.P.
WELL NAME: Kaiser State
WELL # : 41
API# : 30-025-02546
COUNTY: Lea

O-13-21S-34E

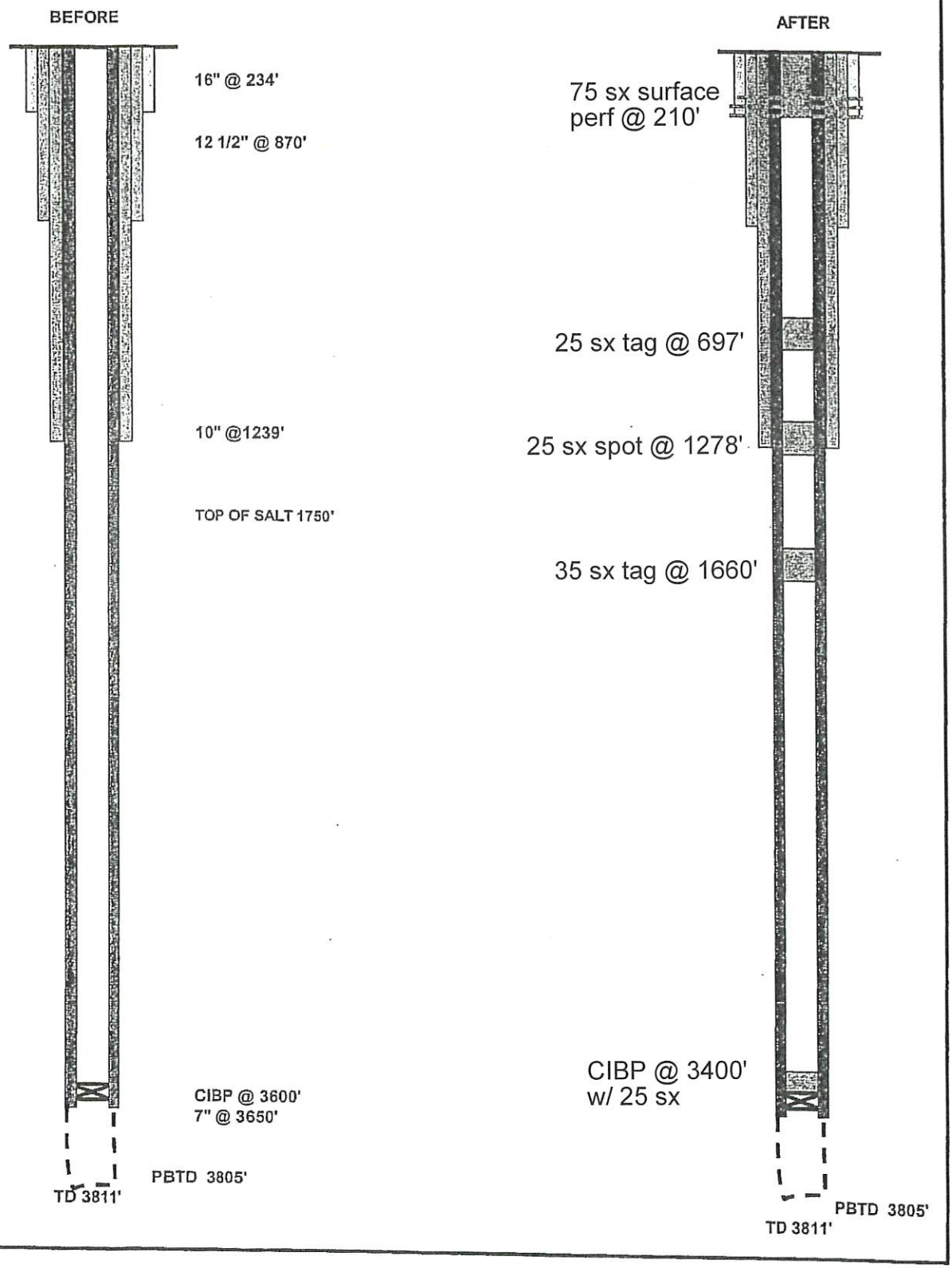
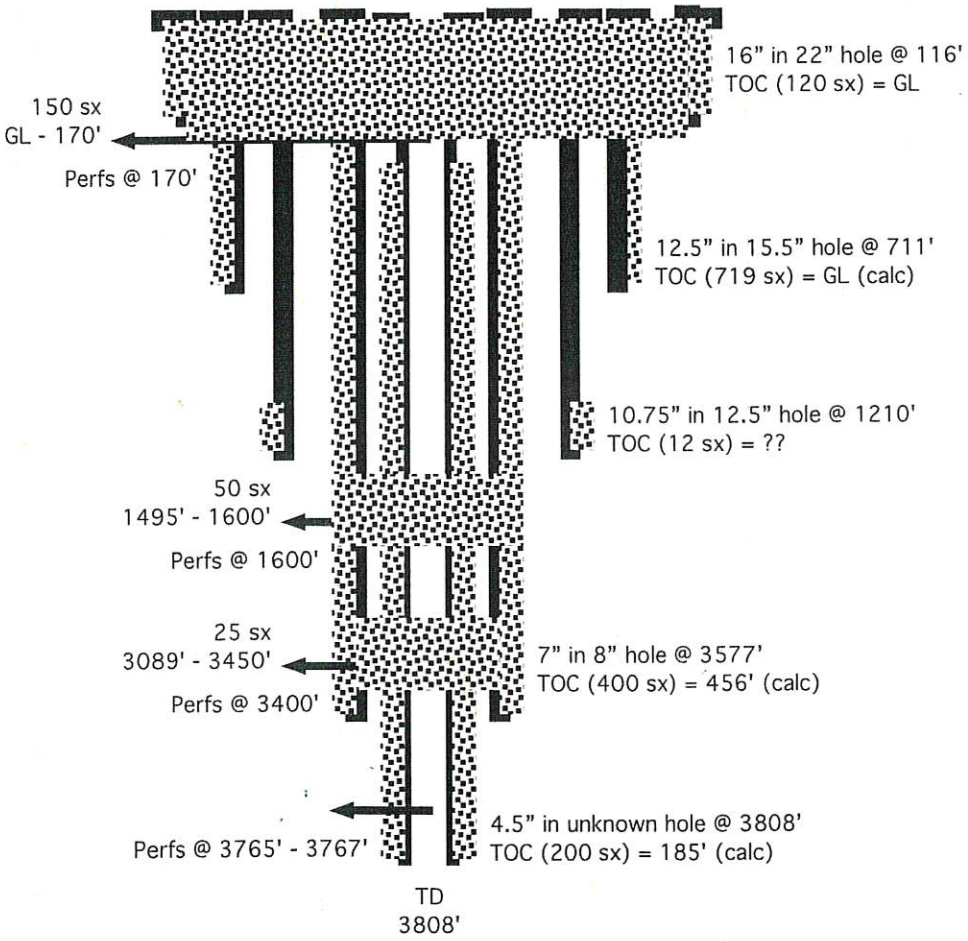


EXHIBIT G

Kaiser State 42
30-025-02547
J-13-21s-34e
spud 7-22-55
P&A 3-21-05

(not to scale)

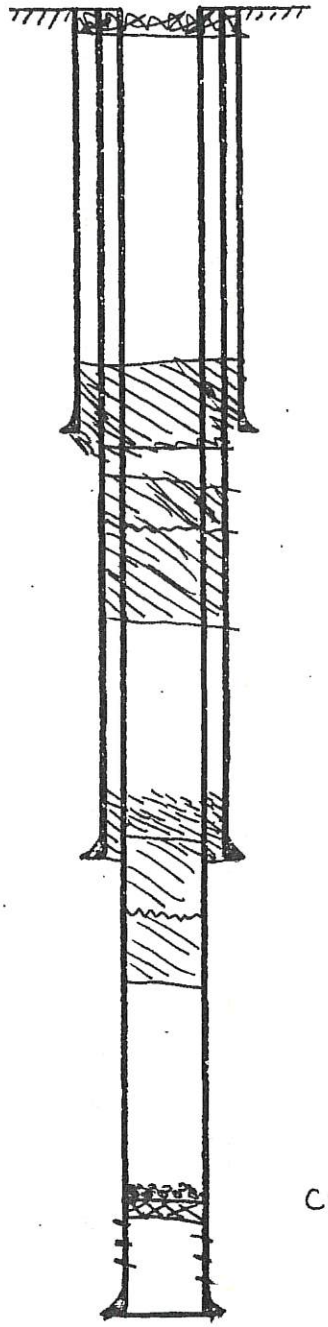


PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

EXHIBIT G

OPERATOR			DATE
Dorchester Exp Inc			P+A 1979
LEASE	WELL No.	LOCATION	
Wilson State Com	1-I	1980/S 990/E 13-21-34	

30-025-24587



surface plug.

Pump 384 sx plug from 817 to 450

13 3/8 " casing set at 510 ' with 500 sx of class C cement
Hole size 16 " Circ

Cut + Pull 9 5/8 casing 1600 put cement plug from 1800 - 1520

TOC 8202 by calc.

9 5/8 " casing set at 5505 ' with 500sx sx of C/C cement
Hole size 10 3/4 "

5 1/2 casing cut + pulled from 5574 Cement plug from 5700 to 5360

CIBP set at 11100 w/ 35' cement

5 1/2 " casing set at 12416 ' with 500 sx of C/C cement
Hole size 7 "

Total depth 12416 '

EXHIBIT G

Operator Name: Mesquite SWD

Lease Name: Kaiser State #44

API #: 30-025-32741

F-13-21S-34E

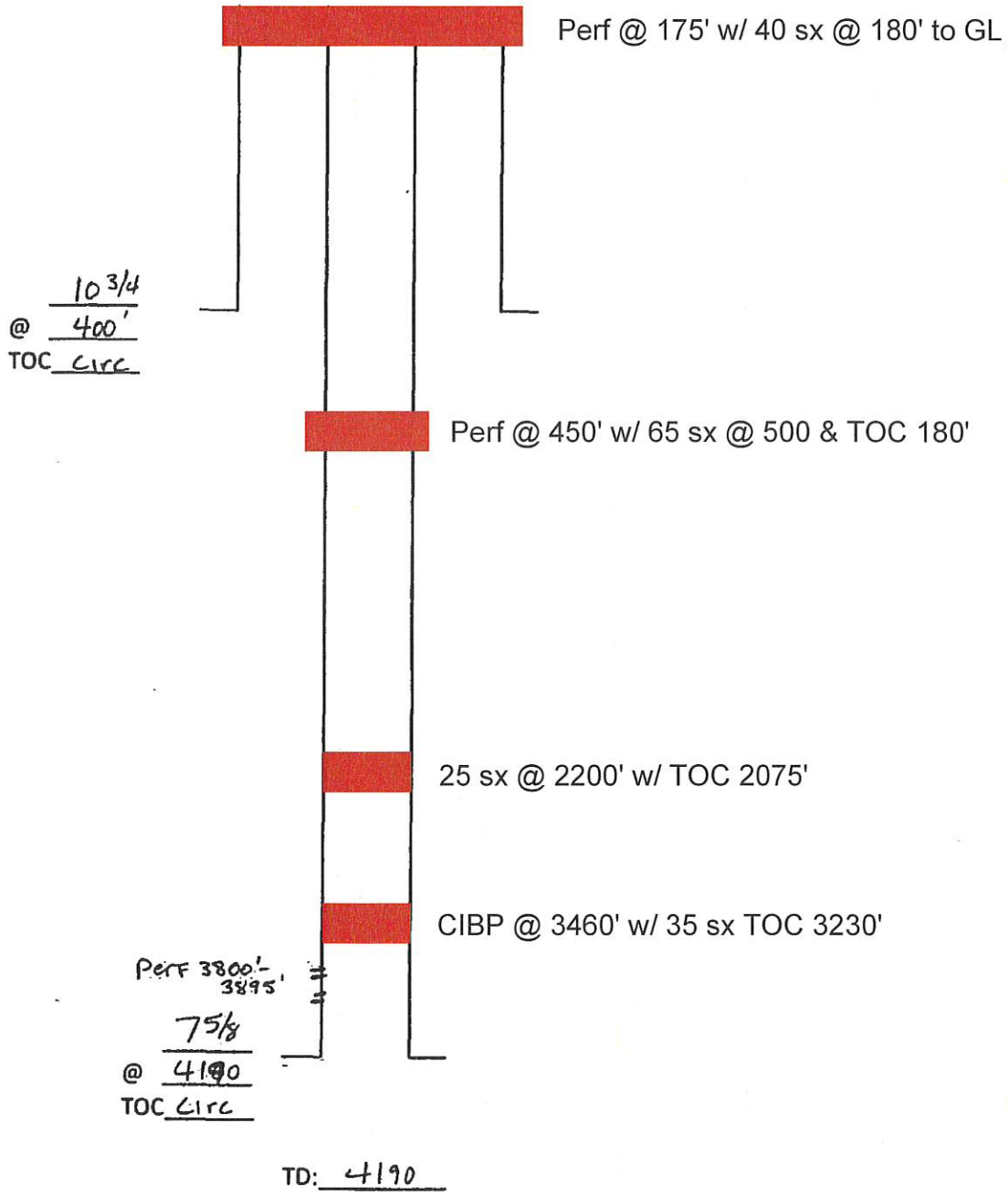


EXHIBIT G

PLUGGING & ABANDONMENT WORKSHEET (3 STRING CSNG)

30-025-35682

OPERATOR GRUY PETROLEUM MANAGEMENT

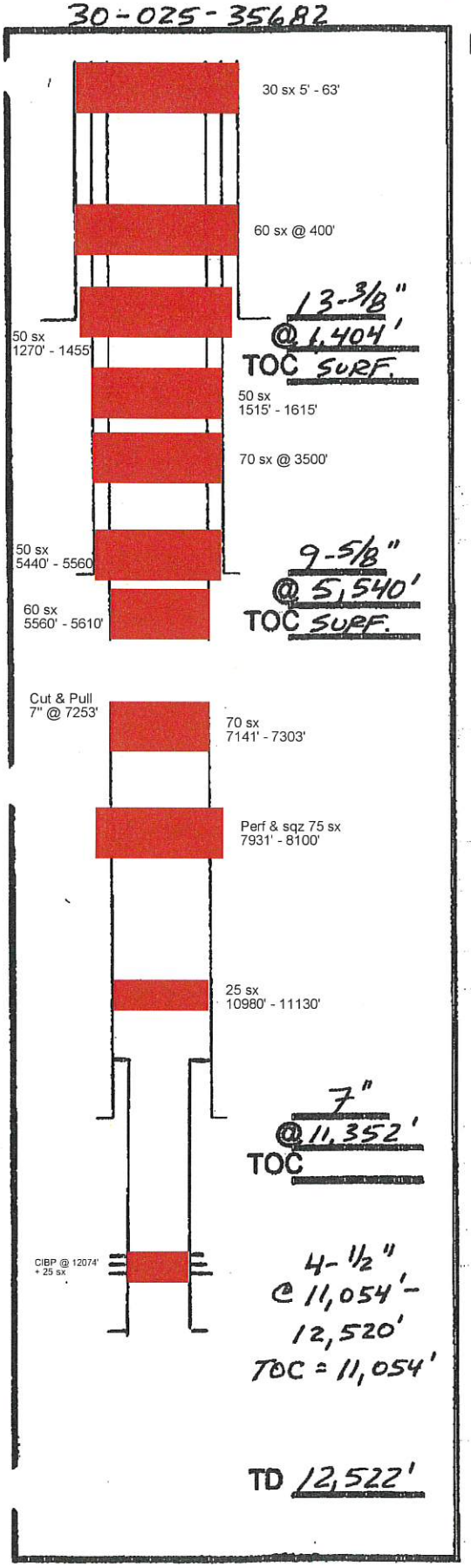
LEASENAME LAURA 13 STATE COM WELL # 1

SECT 13 TWN 21S RNG 34E

FROM 760 N/S L 1980 E/W L

TD: 12,522' FORMATION @ TD MISSISSIPPIAN

PBTD: 12,497' FORMATION @ PBTD



	SIZE	SET @	TOC	TOC DETERMINED BY
SURFACE	13-3/8"	1,404	SURF.	CIRC.
INTMED 1	9-5/8"	5,540	SURF.	CIRC.
INTMED 2				
PROD	7"	11,352'	8,530'	CALC.

	SIZE	TOP	BOT	TOC	DETERMINED BY
LINER 1	4-1/2"	11,054'	12,520'	11,054.	—
LINER 2					

	CUT & PULL @		TOP - BOTTOM
INTMED 1		PERFS	12,188' - 12,325'
INTMED 2		OPENHOLE	-
PROD			

* REQUIRED PLUGS DISTRICT I

RUSTLER (ANHYD)	1,666'	*
YATES		
QUEEN		
GRAYBURG		
SAN ANDRES		
CAPITAN REEF		*
DELAWARE		
BELL CANYON		
CHERRY CANYON		
BRUSHY CANYON		
BONE SPRING		
GLORIETA		*
BLINEBRY		
TUBB		
DRINKARD		
ABO		
WC	10,969'	
PENN		
STRAWN	11,256'	
ATOKA	11,453'	
MORROW	11,936'	
MISS	12,480'	
DEVONIAN		

PLUG	TYPE PLUG	SACKS CMNT	DEPTH
EXAMPLES			
PLUG # 1	OH	25 SXS	9850'
PLUG # 2	SHOE	50 SXS	8700'-8800'
PLUG #3	CIBP/35'		5300'
PLUG # 3	CIBP	25 SXS	5300'
PLUG # 4	STUB	50 SXS	4600'-4700'
PLUG # 6	RETNR SQZ	200 SXS	400
PLUG # 7	SURF	10 SXS	0-10'
PLUG #1			
PLUG # 2			
PLUG # 3			
PLUG # 4			
PLUG # 5			
PLUG # 6			
PLUG # 7			
PLUG # 8			
PLUG # 9			
PLUG # 10			
PLUG #			
PLUG #			

Parameters In mg/l

API	Section	Unit	Formation	TDS	Sodium	Calcium	Iron	Magnesium	Chloride	Bicarbonate	Sulfate
3002520462	2	T	Artesia	305848					179100	158	7808
3002520462	2	T	Artesia	145214					81910	1095	6570
3002502545	13	N	Artesia	13955					6090	545	2598
3002502545	13	N	Artesia	19597					9292	1151	2293
3002502545	13	N	Artesia	19284					8888	1273	2424
3002502587	24	D	Artesia	10118					5217	1175	264
3002502587	24	D	Artesia	9127					4402	1457	277
3002502587	24	D	Artesia	29241					17340	1714	549
3002502595	24	L	Artesia	15050					6747	731	2296
3002502595	24	L	Artesia	17860					8332	732	2424
3002502595	24	L	Artesia	12540					5000	317	2720
3002502595	24	L	Artesia	12590					5180	268	2600
3002502595	24	L	Artesia	12560					4960	317	2780
3002527135	4	T	Bone Spring	294627	98900	26317	27	5157	216575	74	403
3002527135	4	T	Bone Spring			23095	43	4173	154965	146	350
3002527250	5	L	Bone Spring	192871	67071	12762	97	1372	132048	163	445
3002527250	5	L	Bone Spring	127888	49358	2925	1	793	82783	616	1391
3002527250	5	L	Bone Spring	128117	49793	2715	0	632	82351	567	1723
3002521342	17	F	Bone Spring			10581	235	2	95978	391	400
3002540681	17	O	Bone Spring 2nd Sand		67843	14246	65	1867	135000	146	474
3002542193	21	B	Bone Spring 2nd Sand	184233	54225	13341	23	2310	112775	488	425
3002540986	21	D	Bone Spring 2nd Sand	261089	67168	27203	39	4750	160264	122	425
3002540986	21	D	Bone Spring 2nd Sand		54887	8497	28	1253	103000	207	439
3002520461	13	F	Morrow	11648					566	2161	5252
3002520849	23	L	Penn.	10316					5991	390	415
3002520849	23	L	Penn.	12800					5252	480	2832

EXHIBIT H

PG.2

Wallen-Bass #4
30-025-26288
O-21-20s-34e

WATER ANALYSIS

EXHIBIT I

(from SWD-715)

S.I.=PH - PC - -PC - PALK - K
S.I. = STABILTY INDEX
PH. = AS MEASURED ON FRESH SAMPLE
PCA. = NEG. LOGARITHM OF CALCIUM CONCENTRATION
PALK.= NEG. LOGARITHM OF TOTAL ALKALINITY
K. = CONSTANT, DEPENDS UPON TEMP. & SALT

CALCULATIONS

NA	18037.82	0.00	0.40
CA	1680.00	0.00	0.08
MG	534.60	0.00	0.04
CI	31000.00	0.00	0.43
HCO 3	1098.00	0.00	0.01
SO 4	1000.00	0.00	0.02
TOTAL IONIC STRENGTH		0.00	0.99

STABILTY INDEX

PH =	8.50	PH =	8.50
PCA =	1.37	PCA =	1.37
PALK =	1.78	PALK=	1.78
K =	1.86	K =	3.44
SI @180°	3.51	SI @ 80°	1.93

SI= 0 OR	WATER RELATIVELY STABLE UNDER	50 °F
REMARKS	INDICATES SCALING @ TEMP ABOVE (POS. SI INDICATES SCALING)	50 °F

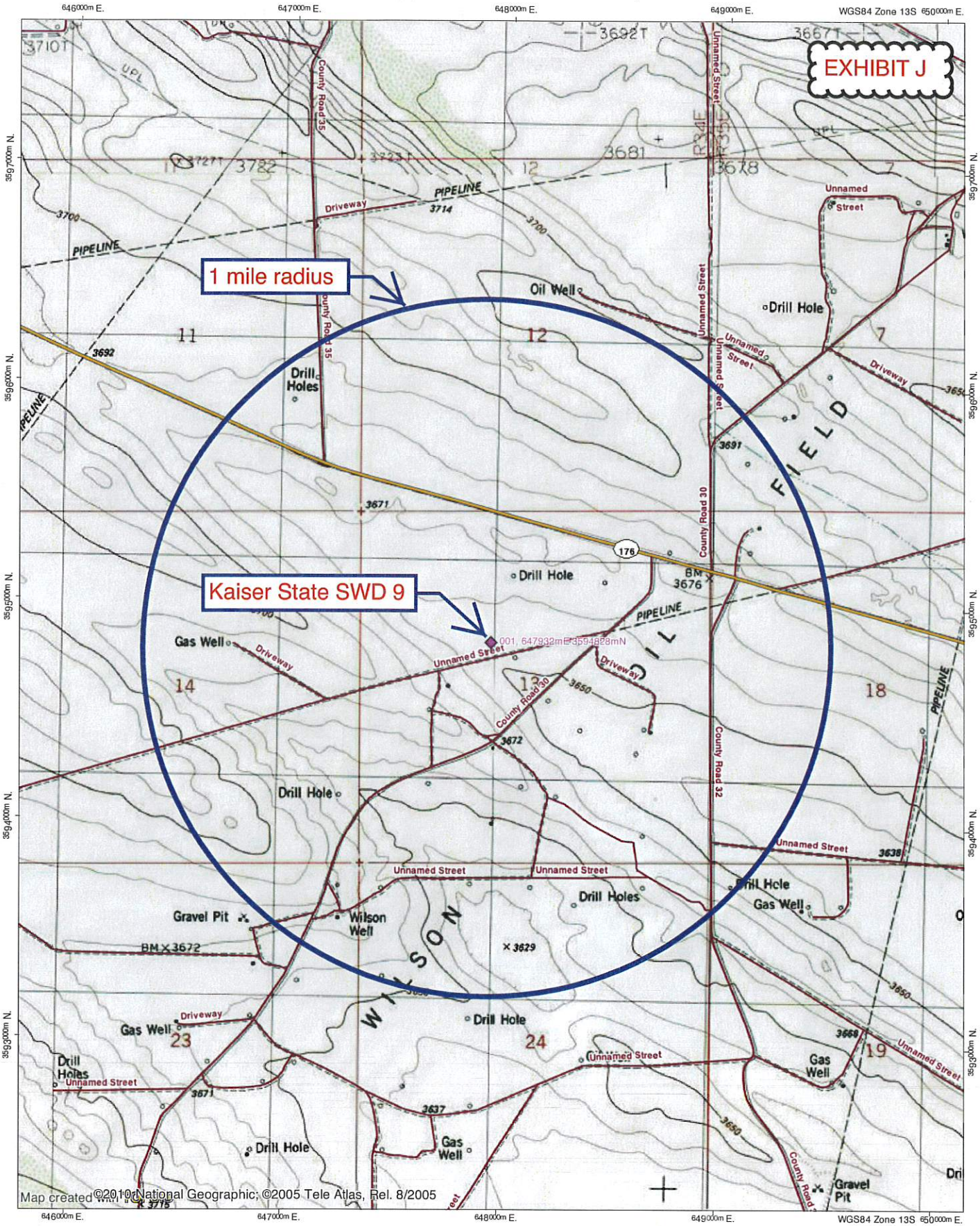
SCALING TENDENCY CALCULATION USING SKILLMAN-McDONALD-STIFF METHOD

@ 80°, K =	0.001755000
@ 180°, K =	0.001653600
X =	0.031600000
X*X =	0.000998560

	meq/l	mg/l
@80°, S =	57.90	3941.00
@180°, S =	55.70	3791.00
From Probable Mineral Composition, Ca SO4 =		1418.13
		4630.00

Because probable mineral composition is less than 4813 (calculated), the water should be stable. At temperatures close to 180 degrees, there is a slight potential toward the deposition of Calcium Sulphate

TOPO! map printed on 05/02/23 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° 05/02/23

EXHIBIT J

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 01848 POD3		CP	LE	2	4	1	13	21S	34E	647904	3594858	41	87	70	17
CP 00089	O	CP	LE		2	1	13	21S	34E	647840	3594615	231	235		
CP 01848 POD2		CP	LE	4	3	1	13	21S	34E	647587	3594789	347	96	80	16
CP 00939 POD1		CP	LE	4	1	2	07	21S	35E	649974	3596760*	2811	400	165	235
CP 00940 POD1		CP	LE	4	1	2	07	21S	35E	649974	3596760*	2811	400	165	235
CP 00590 POD1		CP	LE				01	21S	34E	648099	3597829*	3005	79		
CP 00092 POD1		CP	LE	1	3	1	25	21S	34E	647479	3591694*	3166	196		

1 mile = 1610 meters

Average Depth to Water: **120 feet**

Minimum Depth: **70 feet**

Maximum Depth: **165 feet**

Record Count: 7

UTMNAD83 Radius Search (in meters):

Easting (X): 647932 **Northing (Y):** 3594828 **Radius:** 3220

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

3/17/24 4:23 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

EXHIBIT K

Permian Water Solutions
Kaiser SWD
Table 1
Summary of Analysis of Groundwater Samples
Lea County, New Mexico

Well ID *(TOC Elev.)*	Sample Date	Water Level	TDS	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)	Chloride (mg/L)
New Mexico Water Quality Control Commission Human Health Standard Maximum Allowable Concentration			**mg/L**	**0.010 mg/L**	**0.75 mg/L**	**0.75 mg/L**	**0.62 mg/L**	**250.0 mg/L**
Temp WW	06/08/21	81.18	760	0.00880	0.01230	<0.00200	0.00594	147
MW-1	08/27/21	71.50	9,590	<0.00200	<0.00200	<0.00200	<0.00400	**3,570**

212C-MD-00320
Trace Analysis
Xenco Labs

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37 Verano Loop, Santa Fe, New Mexico 87508 505-466-8120

EXHIBIT L

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

Re: Geology Statement
Permian Water Solutions, LLC
Kaiser State SWD #9
Section 13, T. 21S, R. 34E
Lea County, New Mexico

To whom it may concern:

Publicly available geologic and engineering data related to the well have been thoroughly reviewed, and no evidence for open faults or any other hydrologic connection between the proposed Yates and Seven Rivers injection zones 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 L

Seismic Risk Assessment

Permian Water Solutions, LLC

Kaiser State SWD #9

Section 13, Township 21 South, Range 34 East

Lea County, New Mexico

Cory Walk, M.S.

Cory Walk

Geologist

Permits West Inc.

March 11, 2024

EXHIBIT L

GENERAL INFORMATION

Kaiser State SWD #9 is located in the NW ¼, section 13, T21S, R34E, about 15 miles west-northwest of Eunice, NM in the Central Basin Platform of the greater Permian Basin. Permian Water Solutions, LLC proposes to renew this existing salt water disposal well. The proposed injection zone is within the Yates and Seven Rivers Formations through a cased hole from 3,590'-3,668' below ground surface. The Yates Formation is primarily a siliciclastic reservoir with some carbonates present, whereas the Seven Rivers Formation 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 one (1) earthquake 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 December 14, 2021 about 2.6 miles (~4.2 km) southwest at a depth of 4km (~13,000') and had a magnitude of 2.9.

Basement Faults and Subsurface Conditions

A structure contour map (Fig. 1) of the Precambrian basement shows the Kaiser State SWD #9 is approximately 0.1 miles from the nearest basement-rooted fault inferred by Horne et al (2021).

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 Kaiser State SWD #9 site, Snee and Zoback indicate a **S_{Hmax} direction of N75°E and an A_φ of 0.60, 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 Yates and Seven Rivers Formations and therefore would not affect the deep-rooted Precambrian faults. In addition to the existing fault orientation, the vertical (approx. 9,400') separation between the proposed water injection zone and the projected depth at which the epicenter of the nearby earthquake occurred is large enough to infer that there is no immediate concern or potential of induced seismicity as a result from continued injection into this existing well. Within that ~9,400' of rock are several thick horizons of impermeable shales including ~200' of Woodford shale and ~700' of shale rich Simpson Group (Plate 2, Comer et al., 1991; Fig. 8, Frenzel et al., 1988).

EXHIBIT L

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 Kaiser State SWD #9 well, the top of a thick anhydrite unit interpreted to represent the Rustler Formation lies at a depth of ~1614 feet bgs.

STRATIGRAPHY

A thick permeability barrier (Rustler Anhydrite and Salado Fm; 1600+ ft thick) exists above the targeted Yates and Seven Rivers injection zone. Well data indicates ~1,975 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 Kaiser State SWD #9 well show no potential structural or stratigraphic connection between the Yates and Seven Rivers injection zone and any subsurface potable water sources. The shallow injection zone and orientation of nearby faults also removes any major concern of inducing seismic activity.

EXHIBIT L

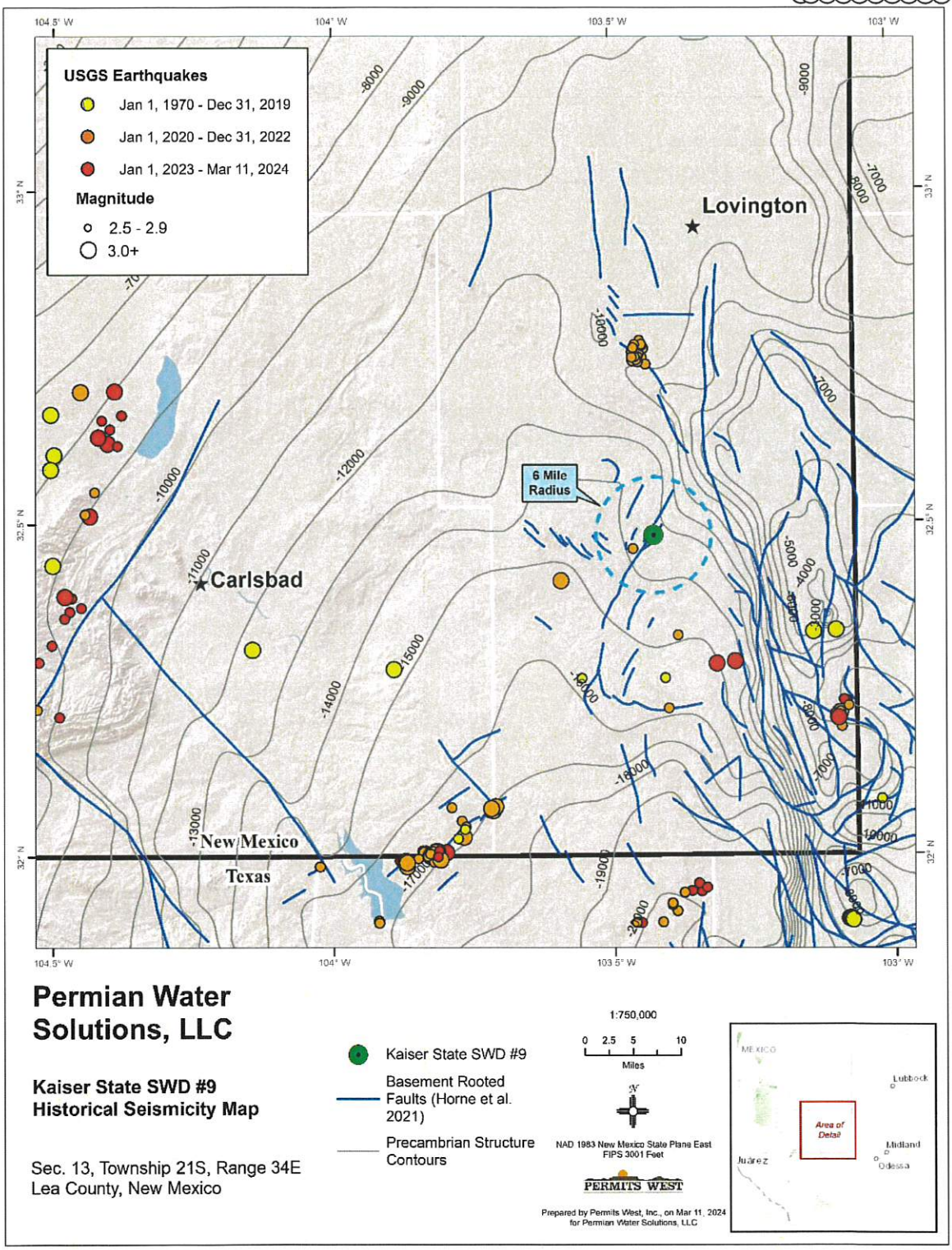

Figure 1. Structural contour map of the Precambrian basement in feet below sea level. Blue lines represent the locations of Precambrian basement-rooted faults (Horne et al., 2021). The Kaiser State SWD #9 well lies ~0.1 miles east and ~2 miles vertically above the closest deeply penetrating fault, and ~2.6 miles from the closest historic earthquake.

PERMITS WEST

EXHIBIT L

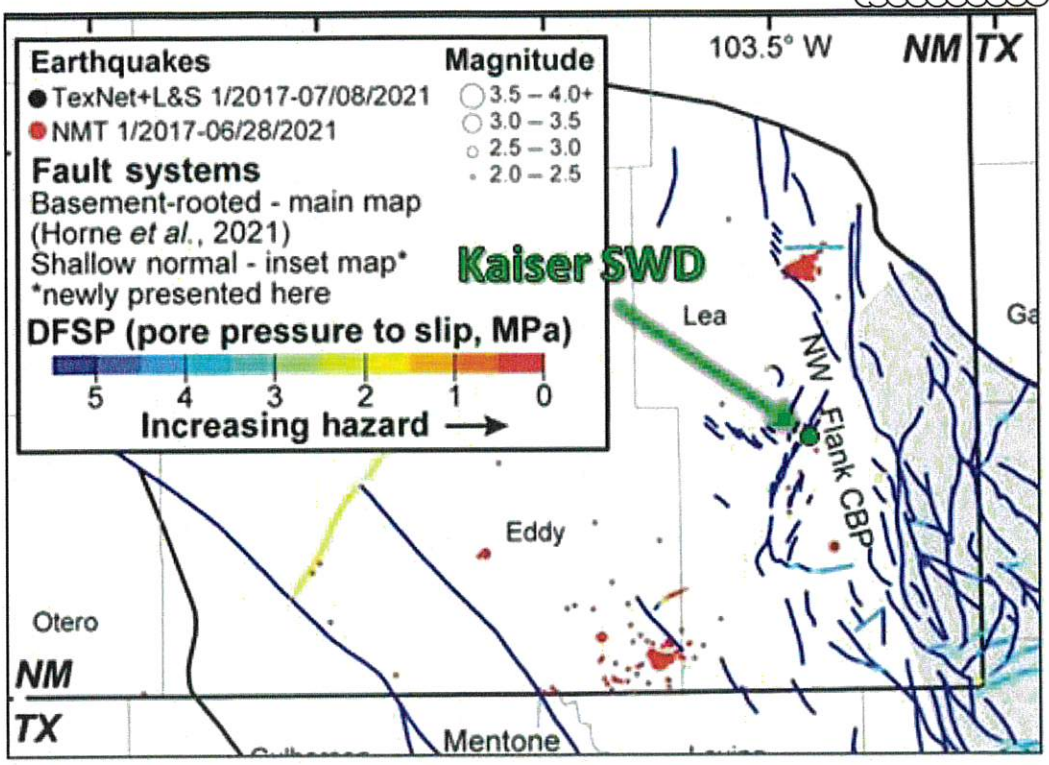

Figure 2. Modified from Hennings et. al. (2021) and shows an increased pore pressure to slip on the nearby faults which decreases the hazard potential. The proposed injection zone is much shallower in the Yates and Seven Rivers Formations and therefore removes any major concern of inducing seismicity on any known fault.

EXHIBIT L

References Cited

Comer, J. B., 1991, Stratigraphic Analysis of the Upper Devonian Woodford Formation, Permian Basin, West Texas and Southeastern New Mexico: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 201, 63 p.

Frenzel, H. N., Bloomer, R. R., Cline, R. B., Cys, J. M., Galley, J. E., Gibson, W. R., Hills, J. M., King, W. E., Seager, W. R., Kottlowski, F. E., Thompson, S., III, Luff, G. C., Pearson, B. T., and Van Siclen, D. C., 1988, The Permian Basin region, in Sloss, L. L., ed., Sedimentary cover—North American Craton, U.S.: Boulder, Colorado, Geological Society of America, The Geology of North America, v. D-2, p. 261–306.

Horne, E. A., Hennings, P. H., and Zahm, C. K., 2021, Basement-rooted faults of the Delaware Basin and Central Basin Platform, Permian Basin, West Texas and southeastern New Mexico, in Callahan, O. A., and Eichhubl, P., eds., The geologic basement of Texas: a volume in honor of Peter T. Flawn: The University of Texas, Bureau of Economic Geology Report of Investigations No. 286, doi:10.23867/RI0286C6.

Hennings, P., Dvory, N., Horne, E., Li, P., Savvaidis, A., and Zoback, M. (2021). Stability of the Fault Systems That Host-Induced Earthquakes in the Delaware Basin of West Texas and Southeast New Mexico. The Seismic Record. 1(2), 96–106, doi: 10.1785/0320210020

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.

PERMIAN WATER SOLUTIONS, LLC
KAISER STATE SWD 9
1980' FNL & 1980' FWL
SEC. 13, T. 21 S., R. 34 E., LEA COUNTY, NM

PAGE 1

API 30-025-02538

I. Goal is to renew NMOCD injection authority (SWD-923). The well was drilled in 1942 as a 3781' deep Wilson Yates-Seven Rivers oil well. Conversion to a Yates-Seven Rivers SWD well was approved (R-3657) in 1969. That approval was subsequently lost due to a one-year period of non-injection. Approval (SWD-923) was regained in 2004, and then lost a second time due to a one-year period of non-injection. Disposal interval will be in the same 3590' – 3668' in the SWD; Yates-Seven Rivers (96141) that was approved in 2004. At least 16,772,997 barrels have been disposed to date. See Exhibit A for C-102 and map. The well is on NMSLO surface and NMSLO minerals.

II. Operator: Permian Water Solutions, LLC [OGRID 373626]
Operator phone number: (432) 219-0741
Operator address: P. O. Box 2106
Midland, TX 79702
Contact for Application: Jenni Usher (Permian Water Solutions, LLC)
Phone: (512) 820-8772 or
Brian Wood (Permits West, Inc.)
Phone: (505) 466-8120

III. A. (1) Lease name: Kaiser State SWD
Lease over: NMSLO SW-0330-0003
Lease under: NMSLO B0-6807-0010 (S2NW4 & SW4 13-21s-34e)
Well name and number: Kaiser State SWD 9
Location: 1980' FNL & 1980' FWL Section 13, T. 21 S., R. 34 E.

A. (2) Surface casing (15.5", 70#) is set at 108' in an 18" hole and cemented to GL with 125 sacks. No report on how TOC determined.

Intermediate casing 1 (12.5", 50#) is set at 744' in a 15" hole and cemented to 309' (calc.) with 150 sacks.

Intermediate casing 2 (10", 40#, J-55) is set at 1240' in a 12" hole and cemented to 412' (calc.) with 100 sacks.

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Intermediate casing 3 (8.625", 35#) is set at 2840' in a 9" hole and cemented to 563' (calc.) with 200 sacks.

Intermediate casing 4 (7", 20#) is set at 3600' in an 8" hole and cemented to GL with 400 sacks. No report on how TOC determined.

Production casing (5", 15.5#, J-55) is set at 3781' in a 6.25" hole and cemented to GL with 340 sacks. No report on how TOC determined. TD = 3781'. PBTD = 3752'.

A. (3) IPC, 2.875", 6.5# tubing is set at 3510'. (Disposal interval is 3590' to 3668.)

A. (4) A plastic coated AD-1 packer is set at 3510' (80' above the top perforation (3590')).

B. (1) Disposal zone is the Yates-Seven Rivers (SWD; Yates-Seven Rivers (96141) pool).

B. (2) Disposal interval is perforated from 3590' to 3668'.

B. (3) Well was drilled as a Yates Seven Rivers oil well. It was converted to a saltwater disposal well in 1969.

B. (4) Well is perforated from 3590' to 3668'. No change is planned.

B. (5) No productive zone in the area of review is above the Yates. Bone Spring (8,250'), Atoka (11,400'), and Morrow (11,900') are the only productive zones in the area of review and below the Seven Rivers.

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

V. Exhibit B shows and tabulates the 21 existing wells within a half-mile radius. Nineteen of the wells are P&A. Twenty of the 21 wells penetrated the Yates-Seven Rivers. Exhibit C shows all 179 existing wells (7 water + 56 oil or gas + 116 P&A) within a two-mile radius.

All leases within a half-mile radius are NMSLO. Exhibit D shows and tabulates all leases within a half-mile radius. Two-mile radius leases (Exhibit E) are fee or NMSLO.

VI. Twenty of the 21 wells within a half-mile penetrated the Yates-Seven Rivers. Well construction details of the penetrators are in Exhibit F. Eighteen of the penetrators are P&A. Diagrams of the P&A penetrators are in Exhibit G and are sorted by API number.

VII. 1. Average injection rate will be ≈6,000 bwpd.
Maximum injection rate will be 7,000 bwpd.
2. System will be open and closed. Water will both be trucked and piped.
3. Average injection pressure will be ≈700 psi.
Maximum injection pressure will be 718 psi (= 0.2 psi/foot x 3590' (top perforation)).
4. Disposal water will be produced water, mainly Bone Spring. There are 121 approved Bone Spring wells in T. 21 S., R. 34 E. The well will take other Permian Basin waters (e. g., Delaware, Morrow) too. Abstracts from the NM Produced Water Quality Database v.2 for wells in T. 21 S., R. 34 E. are in Exhibit H. A table of TDS ranges from those wells in T. 21 S., R. 34 E. is below. Exhibit I is a water analysis from the Yates-Seven Rivers in O-21-20s-34e.

Formation	TDS range (mg/l)
Artesia	9,127 – 305,848
Bone Spring	127,888 – 294,627
Morrow	11,648
Pennsylvanian	10,316 – 12,800

No compatibility problems were reported from the 16,772,997 barrels that have been disposed to date in the well.

5. Closest Yates – Seven Rivers producer (30-025-02591) is 1.31 miles south.

VIII. The Yates – Seven Rivers (235' thick) consists of dolomite with some sand. Closest possible underground source of drinking water above the proposed disposal interval are the Quaternary red beds near the surface. Water sands were found from 217' to 225' and from 910' to 955' in the well. There are at least 4 layers of anhydrite between the top of the Yates and the bottom of the deepest water sand. The 4 anhydrite layers are a cumulative 234' thick.

According to State Engineer records (Exhibit J), deepest water well within 2 miles is 400' deep. Closest non-monitoring water well (CP 00089) is 757' southwest. The 235' deep well, drilled in 1943, was not found during a May 4, 2023, field inspection. There is no record of water being found.

State Engineer Records show two other wells (CP 01848 POD 2 & 3) within a mile. One, CP 01848 POD 2, was plugged on August 19, 2021. POD 2 found water bearing strata from 81' to 96' in the 96' deep well. The second, CP 01848 POD 3, was a soil bore hole that was converted to a monitoring well. POD 3 found water bearing strata from 65' to 87' in the 87' deep well.

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

Estimated formation tops are:

Quaternary = 0'
Anhydrite = 1614'
Salt top = 1755'
Salt base = 3277'
Yates = 3444'
disposal interval = 3590' – 3668'
Seven Rivers = 3700'
TD = 3781'

According to State Engineer records (Exhibit J), closest water well (CP 01848 POD 3) is 134' northwest. It is an 87' deep monitoring well for Permian Water Solutions. There will be >2,000' of vertical separation including shale, salt, and anhydrite intervals between the bottom of the only likely underground water source (Quaternary red beds) and the top of the Yates.

IX. Well will be stimulated with acid as needed.

X. No logs are on file.

XI. According to State Engineer records (Exhibit J), three water wells are within a 1-mile radius. One could not be found, a second is now P&A, and the third is aa monitoring well. Analyses from the latter two wells are in Exhibit K.

XII. Permian Water Solutions, LLC (Exhibit L) is not aware of any geologic or engineering data that may indicate the Yates-Seven Rivers is in hydrologic connection with any underground sources of water. Deepest water well within a 2-mile radius is 400'. There are 14 active SWD; Yates-Seven Rivers wells in New Mexico.

XIII. A legal ad (Exhibit M) was published on February 28, 2024, in the Hobbs News-Sun. Notice (Exhibit N) and this application has been sent to the surface owner (NM State Land Office), all well operators regardless of depth, government lessors, lessees, and operating right holders within a mile.

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 332070

CONDITIONS

Operator: Permian Water Solutions, LLC PO Box 2106 Midland, TX 79702	OGRID: 373626
	Action Number: 332070
	Action Type: [C-108] Fluid Injection Well (C-108)

CONDITIONS

Created By	Condition	Condition Date
mgebremichael	None	4/25/2024