Protested SWD Application

By Danglade/Speight Fmly
O&G I LP Recieved 1/2/2025

From:	Sandoval, Stacy, EMNRD
To:	Brian Wood
Cc:	jlindemood@catoicoresource.com; Goetze, Phillip, EMNRD; Harris, Anthony, EMNRD; Gebremichael, Million, EMNRD
Subject:	Protest of 3R Operating, LLC Application to Convert Liberty 4 #1 Gas Well to an SWD
Date:	Friday, January 3, 2025 10:18:00 AM
Attachments:	image001.png

Greetings Mr. Wood,

The OCD was notified by Danglade/Speight Fmly O&G I LP, it is protesting the following injection permit request application of 3R Operating, LLC ("3R") for produced water disposal in Lea County, NM:

- Liberty 4 #1 well is located in Section 4, Township 20 South, Range 36 East, Lea County, New Mexico

Danglade/Speight Fmly O&G I LP is identified as an affected person for the referenced application. For the application to proceed, 3R has two options; either resolve the matter with the protesting party or to go to a hearing before the Division. If the protest is withdrawn, then the application could be processed administratively. Meanwhile, OCD will retain your application until a resolution is reached on the status of the submittal. If you have any questions, please don't hesitate to reach out to the UIC group.

Thank you,
Stacy Sandoval
Petroleum Specialist B
Stacy.Sandoval@emnrd.nm.gov

From: Sandoval, Stacy, EMNRD
To: Sandoval, Stacy, EMNRD
Subject: FW: [EXTERNAL] Protest of 3R Operating LLC Application to convert Liberty 4 1 (API 30-025-35371) well to SWD
Date: Friday, January 3, 2025 11:05:53 AM

From: Joe Lindemood <jlindemood@catoicoresource.com>
Sent: Thursday, January 2, 2025 9:28 AM
To: Engineer, OCD, EMNRD <OCD.Engineer@emnrd.nm.gov>
Cc: Laurie Vehar <lvehar@catoicoresource.com>
Subject: [EXTERNAL] Protest of 3R Operating LLC Application to convert Liberty 4 1 (API 30-025-35371) well to SWD

You don't often get email from jlindemood@catoicoresource.com. Learn why this is important

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

On behalf of Danglade/Speight Family Oil & Gas I LP, we are protesting the application submitted by 3R Operating LLC to convert the Liberty 4 #1 from active gas well to salt water disposal well. This well is located 1800' FSL & 330' FWL of Section 4-20S-36E, Lea Co., NM.

I have attached copy of application received December 20, 2024. Please don't hesitate to let me know if you require any further information.

Joe Lindemood
Oil & Gas Manager
(432) 686-1044 x203

****

Catoico Resource Management LP, EMAIL NOTICE - This transmission may be strictly confidential. If you are not the intended recipient of this message, you may not disclose, print, copy, or disseminate this information. If you have received this in error, please reply and notify the sender (only) and delete the message. Unauthorized interception of this e-mail is a violation of federal criminal law. This communication does not reflect an intention by the sender or the sender's principal to conduct a transaction or make any agreement by electronic means. Nothing contained in this message or in any attachment shall satisfy the requirements for a writing, and nothing contained herein shall constitute a contract or electronic signature under the Electronic Signatures in Global and National Commerce Act, any version of the Uniform Electronic Transactions Act, or any other statute governing electronic transactions

DSI
30025001 82

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

RECEIVED
DEC 20 2024
BY:

December 10, 2024

Danglade/Speight Famil Oil & Gas 1 LP
PO Box 53567
Midland TX 79710

3R Operating, LLC is applying (see attached application) to convert the Liberty 4 #1 gas well to a saltwater disposal well. As required by NM Oil Conservation Division (NMOCD) rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well: Liberty 4 #1 (fee lease) TD = 13,630'
Proposed Disposal Zone: Delaware (5,350' – 6,300')
Location: 1800' FSL & 330' FWL Sec. 4, T. 20 S., R. 36 E., Lea County, NM
Approximate Location: 6 air miles southwest of Monument, NM
Applicant Name: 3R Operating, LLC (432) 684-7877
Applicant's Address: 4000 N. Big Spring St., Suite 210, Midland, TX 79705

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

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 ___XXX___Disposal _____Storage
Application qualifies for administrative approval? ___XXX___Yes _____No

II. OPERATOR: 3R OPERATING, LLC

ADDRESS: 4000 N. BIG SPRING ST., SUITE 210, 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: _____

LIBERTY 4 # 1
SWD; DELAWARE
96100-

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).

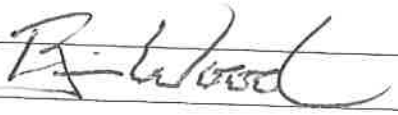
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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: 12-10--24

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.

Released to Imaging: 1/3/2025 11:57:03 AM
Received by OCD: 1/3/2025 11:53:03 AM

INJECTION WELL DATA SHEET

OPERATOR: 3R OPERATING, LLC

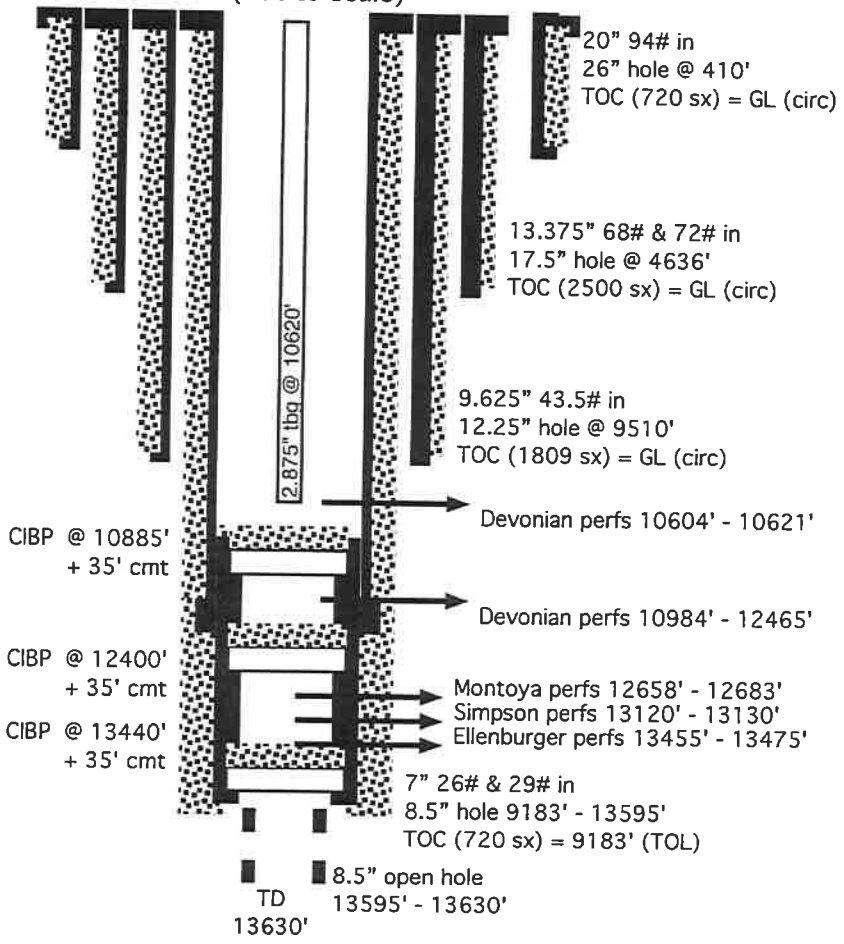
WELL NAME & NUMBER: LIBERTY 4 #1

WELL LOCATION: 1800' FSL & 330' FWL (FOOTAGE LOCATION) | L (UNIT LETTER) | 04 (SECTION) | 20 S (TOWNSHIP) | 36 E (RANGE)

WELLBORE SCHEMATIC

"As Is"

(not to scale)



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 26" Casing Size: 20"

Cemented with: 720 sx. *or* _____ ft³

Top of Cement: GL Method Determined: CIRC.

Intermediate Casing

Hole Size: 17.5" Casing Size: 13.375"

Cemented with: 2500 sx. *or* _____ ft³

Top of Cement: GL Method Determined: CIRC.

Production Casing

Hole Size: 12.25" Casing Size: 9.625"

Cemented with: 1650 sx. *or* _____ ft³

Top of Cement: GL Method Determined: CIRC.

Total Depth: CSG @ 9510', LINER @ 13595', & OPEN HOLE 13630'

Injection Interval

5350 feet to 6300'

(Perforated or Open Hole; indicate which)

Released to Imaging: 1/3/2025 11:57:03 AM
Received by OCD: 1/3/2025 11:53:03 AM

Side 1

INJECTION WELL DATA SHEET

OPERATOR: 3R OPERATING, LLC

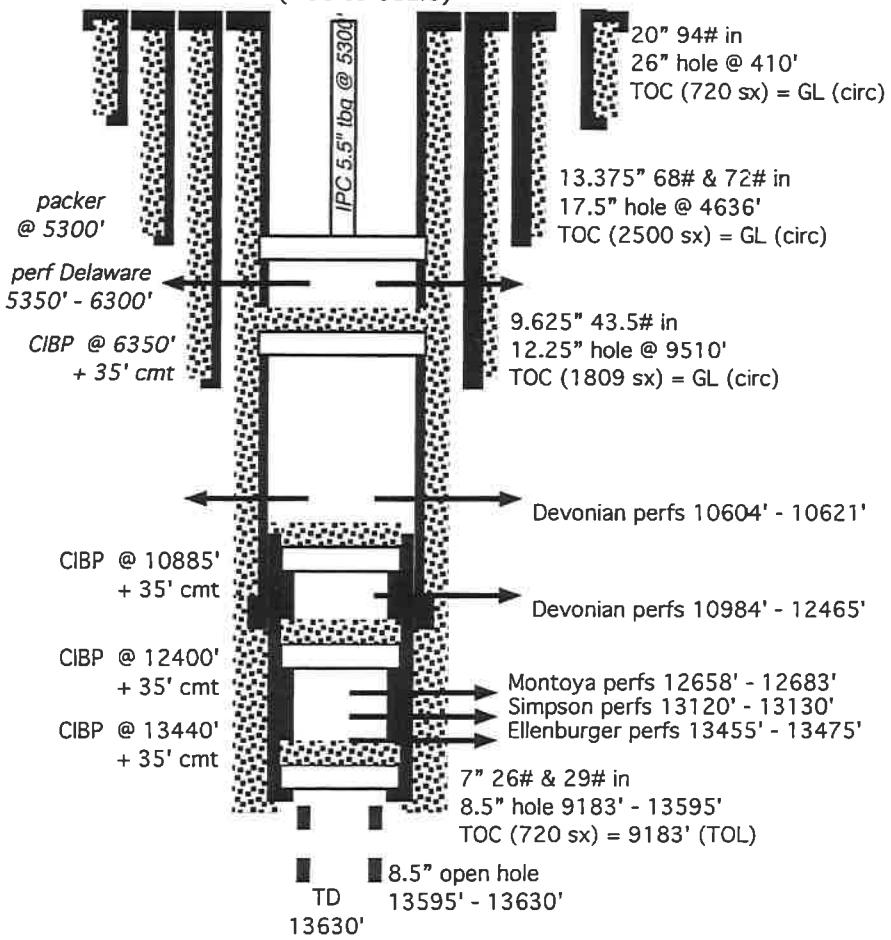
WELL NAME & NUMBER: LIBERTY 4 #1

WELL LOCATION:	1800' FSL & 330' FWL	L	04	20 S	36 E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

"Proposed"

(not to scale)



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 26" Casing Size: 20"

Cemented with: 720 sx. *or* _____ ft³

Top of Cement: GL Method Determined: CIRC.

Intermediate Casing

Hole Size: 17.5" Casing Size: 13.375"

Cemented with: 2500 sx. *or* _____ ft³

Top of Cement: GL Method Determined: CIRC.

Production Casing

Hole Size: 12.25" Casing Size: 9.625"

Cemented with: 1650 sx. *or* _____ ft³

Top of Cement: GL Method Determined: CIRC.

Total Depth: CSG @ 9510', LINER @ 13595', & OPEN HOLE 13630'

Injection Interval

5350 feet to 6300'

(Perforated or Open Hole; indicate which)

Released to Imaging: 1/3/2025 11:57:03 AM

Received by OCD: 1/3/2025 11:53:03 AM

INJECTION WELL DATA SHEET

Tubing Size: 5.5" Lining Material: IPC

Type of Packer: STAINLESS STEEL OR NICKEL

Packer Setting Depth: 5300'

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? DEVONIAN-ELLENBURGER GAS WELL

2. Name of the Injection Formation: DELAWARE

3. Name of Field or Pool (if applicable): SWD; DELAWARE (96100)

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

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

   OVER: YATES (3116'), SEVEN RIVERS (3500'), QUEEN (4094'),

   UNDER: BONE SPRING (6659'), WOLFCAMP (9305'), STRAWN (9473'), ATOKA (9646'), MORROW (9800'), MONTOYA (12510'), SIMPSON (12848'), & ELLENBURGER (13375')

3R OPERATING, LLC
LIBERTY 4 #1
1800' FSL & 330' FWL
SEC. 4, T. 20 S., R. 36 E., LEA COUNTY, NM

30-025-35371

I. Goal is to convert a 13,630' deep gas well to a saltwater disposal well. Proposed disposal interval will be 5,350' - 6,300' in the SWD; Delaware (96100). Well currently produces from the Osudo; Devonian, North (9715). It is the only well in the field. Production in the first nine months of 2024 has averaged <7 bopd and <4 Mcfd. The well is no longer economical to produce. The well is on private surface and private minerals. See Exhibit A for C-102 and map.

II. Operator: 3R Operating, LLC [OGRID 331569]
Operator phone number: (832) 304-8093
Operator address: 4000 N. Big Spring St., Suite 210, Midland, TX 79705
Contact for Application: Brian Wood (Permits West, Inc.)
Phone: (505) 466-8120

III. A. (1) Lease name: Liberty
Lease area: S2NW4 & N2SW4 Sec. 4, T. 20 S., R. 36 E.
Well name and number: Liberty 4 #1
Location: 1800' FSL & 330' FWL Section 4, T. 20 S., R. 36 E.

A. (2) Surface casing (20", 94#) is set at 410' in a 26" hole and cemented to GL with 720 sacks. Circulated.

Intermediate casing (13.375", 68# & 72#) is set at 4,636' in a 17.5" hole and cemented to GL with 2,500 sacks. DV tool and packer @ 3700'. Circulated.

Production casing (9.625", 43.5#) is set at 9,510' in a 12.25" hole and cemented to GL with 1,650 sacks. Circulated.

Liner (7", 26# & 29#) is set from 9,183' to 13,595' in an 8.5" hole and cemented to TOL with 720 sacks.

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

CIBPs are set at 13,440', 12,400', and 10,885'. Each is topped with 35' of cement.

3R will set a CIBP at 6350' (50' below lowest perforation) and top it with 35' of cement.

A. (3) IPC 5.5" 23# P-110 injection string will be run from GL to ≈5,300'. (Disposal interval will be 5,350' to 6,300'.)

A. (4) A stainless-steel or nickel-plated packer will be set at ≈5,300'.

B. (1) Disposal zone will be the Delaware (SWD; Delaware (96100) pool).

B. (2) Disposal interval will be perforated from 5,350' to 6,300'.

B. (3) Well was drilled as a Devonian oil well.

B. (4) Devonian, Montoya, Simpson, and Ellenburger were perforated (Exhibit B). Latter three are isolated below CIBPs and cement. Devonian will be similarly isolated after the C-108 is approved.

B. (5) Actual or potentially productive zones above the Delaware (5,338') are the Yates (3,116'), Seven Rivers (≈3,500'), and Queen (4,094'). Bone Spring (6,659'), Wolfcamp (9,305'), Strawn (9,473'), Atoka (9,646'), Morrow (≈9,800'), Devonian (10,536'), Montoya (12,510'), Simpson (12,848'), and Ellenburger (13,375') are actual or potentially productive zones below the Delaware.

Closest Delaware, Bell Canyon, Cherry Canyon, or Brushy Canyon producer is >4 miles northwest in E-22-19s-35e.

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

V. Exhibit C shows and tabulates the 3 existing wells within a half-mile radius. All three wells are P&A and all three penetrated the Delaware. Exhibit D shows all 103 existing wells (21 oil or gas + 52 P&A + 9 WIW + 21 water) within a two-mile radius. The water injectors are Yates-Seven Rivers-Queen or Grayburg-San Andres.

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

VI. All 3 wells within a half-mile penetrated the Delaware. All are P&A and their well bore diagrams are in Exhibit G. Closest Delaware well (30-025-27960 is 4 miles SW in G-23-20s-35e. It is a SWD; Queen-Delaware-Bone Spring well.

VII. 1. Average injection rate will be ≈4,000 bwpd.
Maximum injection rate will be 5,000 bwpd.
2. System will be open and closed. Water will both be trucked and piped.
3. Average injection pressure will be ≈1,000 psi. Maximum injection pressure will be 1070 psi (= 0.2 psi/ft x 5350' (top perforation)).
4. Disposal water will be produced water, mainly Bone Spring, but also Grayburg, Morrow, San Andres, Strawn, Wolfcamp, et al. There are 299 approved Bone Spring and 113 approved Wolfcamp wells in T. 19 S., R. 35 & 36 E. and T. 20 S., R. 35 & 36 E. Abstracts from the NM Produced Water Quality Database v.2 for wells in T. 19 & 20 S., R. 35 & 36 E. are in Exhibit H. A table of TDS ranges from those wells is below.

Formation	TDS range (mg/l)
Abo	54,512 – 84,095
Artesia	13,609 – 311,153
Bone Spring	25,800 – 195,200
Devonian	44,825
Grayburg	17,249
Grayburg San Andres	10,905 – 71,407
San Andres	26,344 – 73,409

No compatibility problems have been reported from the closest (4 miles southwest) Delaware SWD well (30-025-27960). At least 2,231,636 barrels have been disposed in the Queen, Delaware, and Bone Spring since 1994.

5. No Delaware oil or gas well is within 4 miles.

VIII. The Delaware interval (1,321' thick) is mainly sandstone with some limestone and shale. Sandstone strata will be the well's goal. Confining strata are 180' to 200' of tight impermeable limestone at the top of the Bone Spring. There are also a few thin (30' - 80') and tight intervals at the base of the Brushy Canyon. Closest possible underground source of drinking water above the proposed disposal interval are the Quaternary sand, gravel, and conglomerate deposits at the surface. According to State Engineer records (Exhibit I), closest water well is 0.71 miles north. Deepest water well within 2-miles is 135'. Liberty 4 #1 (Exhibit I) is 2 miles inside the Ogallala aquifer and 4 miles outside the Capitan reef. No underground source of drinking water is below the proposed disposal interval.

Formation tops are:

Quaternary = 0'
Rustler = 1,584'
Yates = 3,116'
Queen = 4,094'
San Andres= 4,441'
Delaware = 5,338'
disposal interval = 5,350' - 6,300'
Bone Spring = 6,659'
Wolfcamp = 9,305'
Strawn = 9,473'
Atoka = 9,646'
Mississippian = 9,978'
Devonian = 10,576'
Montoya = 12,510'

Simpson = 12,848'
Ellenburger = 13,375'
TD = 13,630'

According to State Engineer records (Exhibit I), the deepest water well within 2-miles is 135'. There will be >5,200' of vertical separation, including multiple layers of shale and anhydrite, between the bottom of the only likely underground water source (Quaternary) and the top of the Delaware.

IX. Well will be stimulated with acid as needed.

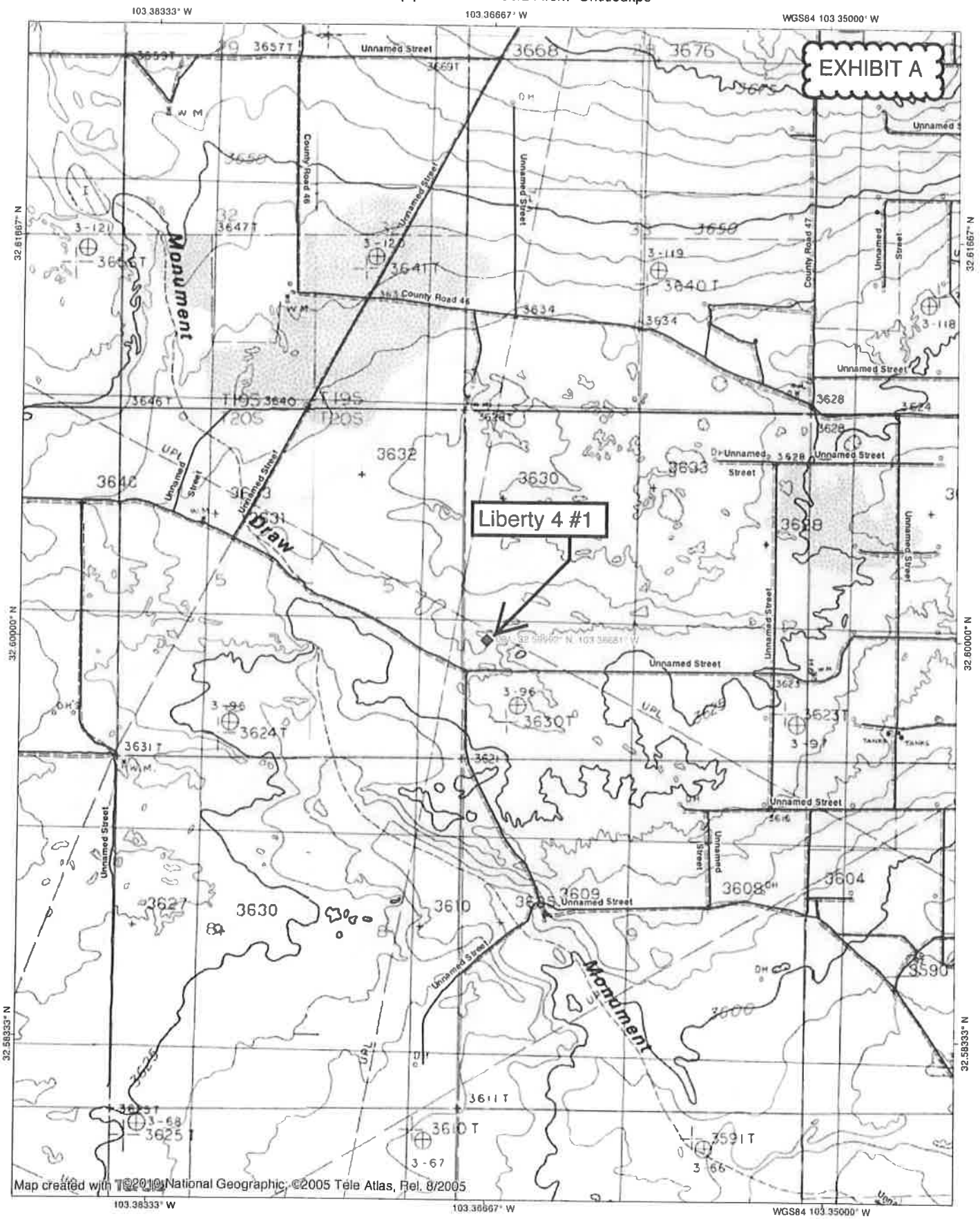
X. GR/CCL/CBL/USIT logs were run and are on file with NNMOCD.

XI. According to State Engineer records (Exhibit I), 21 water wells are within a 2-mile radius, closest of which is 0.71 miles north. Two water wells within a mile were sampled. Locations and analyses are in Exhibit J.

XII. 3R Operating, LLC (Exhibit K) is not aware of any geologic or engineering data that may indicate the Delaware is in hydrologic connection with any underground source of water. Deepest water well within a 2-mile radius is 135'. There are 105 active Delaware SWD wells in New Mexico.

XIII. A legal ad (Exhibit L) was published on November 21, 2024. Notice (Exhibit M) and this application has been sent to the surface owner (L & K Ranch), all well operators regardless of depth, government lessors, lessees, and operating right holders within a half-mile.

TOPO! map printed on 07/30/24 from "Untitled.tpo"



Received by OCD: 1/3/2025 11:53:03 AM

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

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

DISTRICT III
1000 Rio Brazos Rd
Aztec, NM 87410

DISTRICT IV
P. O. Box 2088
Santa Fe, NM 87507-2088

State of New Mexico
Energy, Minerals, and Natural Resources Department

EXHIBIT A

Form C-102
Revised 02-10-94

Instructions on back

Submit to the Appropriate District Office
State Lease - 4 copies
Fee Lease - 3 copies

RECEIVED JAN 8 2001

OIL CONSERVATION DIVISION

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-025-35371		Wildcat Ellenburger

4 Property Code	5 Property Name	6 Well Number
27169	LIBERTY 4 ~~FEDERAL~~ COM	1

7 OGRID No.	8 Operator Name	9 Elevation
018917	READ & STEVENS, INC.	3629'

10 SURFACE LOCATION

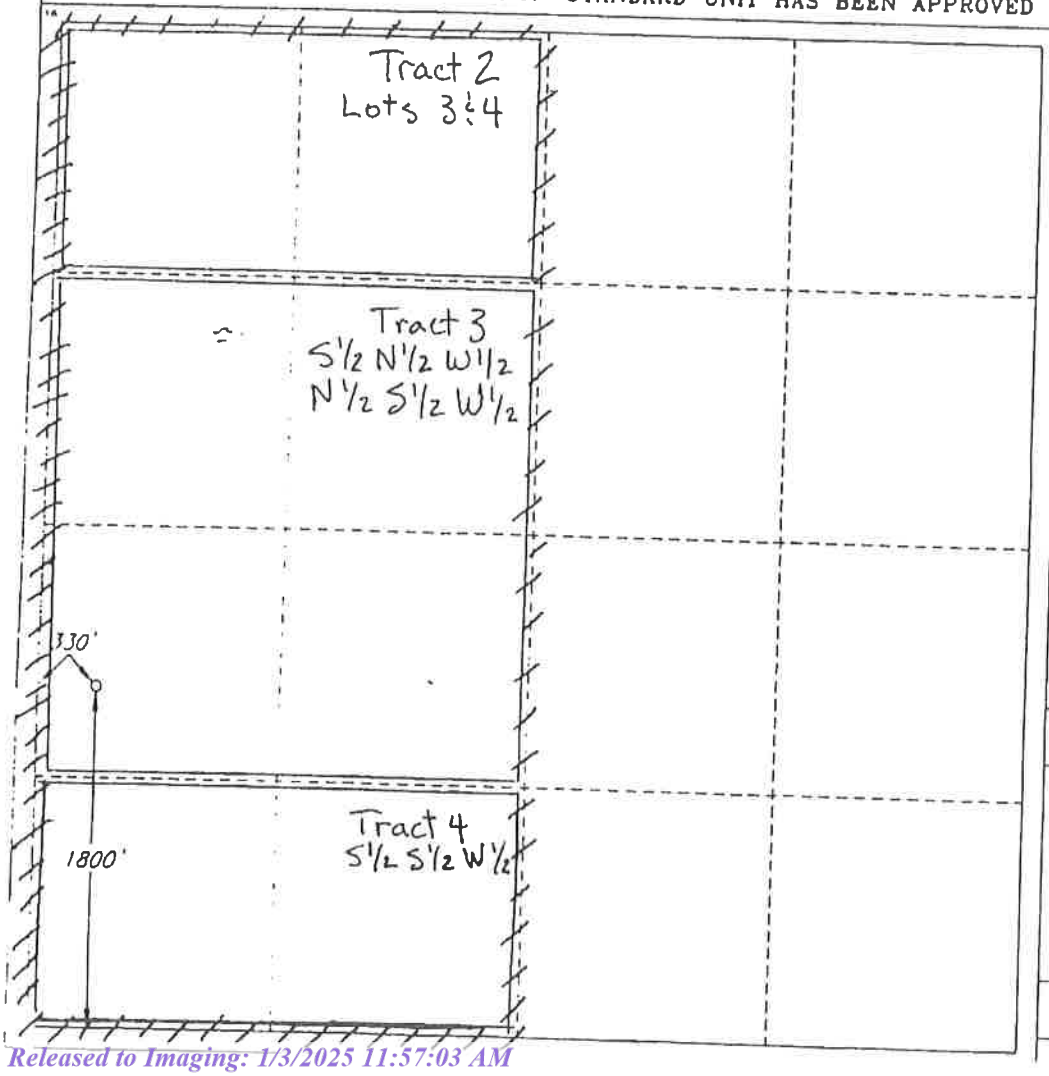
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	4	20 SOUTH	36 EAST, N.M.P.M.		1800'	SOUTH	330'	WEST	LEA

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.
320	N	P	NSL 4536

NO ALLOWABLE WELL 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 that the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Printed Name: John C. Maxey, Jr.

Title: Operations Manager

Date: 1-16-2001

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: DECEMBER 29, 2000

Signature and Seal of Professional Surveyor

STATE OF NEW MEXICO
BEZNER
NO. 7920

Certificate No. V. BEZNER RLS #7920

JOB

Released to Imaging: 1/3/2025 11:57:03 AM

Santa Fe Main Office
Phone: (505) 476-3441 Fax: (55) 476-3462
General Information
Phone: (505) 629-6116

Online Phone Directory Visit:
https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico
Energy, Minerals & Natural Resources
Department
OIL CONSERVATION DIVISION

EXHIBIT A

C-102
Revised July 9, 2024
Submit Electronically via OCD Permitting

Submittal Type: ☐ Initial Submittal ☑ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-025-35371	96100	SWD; DELAWARE

Property Code	Property Name	Well Number
334247	LIBERTY 4	001

OGRID No.	Operator Name	Ground Level Elevation
331569	3R OPERATING, LLC	3629'

Surface Owner: ☐ State ☑ Fee ☐ Tribal ☐ Federal
Mineral Owner: ☐ State ☑ Fee ☐ Tribal ☐ Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	4	20 S	36 E		1800 FSL	330 FWL	32.59992	-103.36681	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
L	4	20 S	36 E		1800 FSL	330 FWL	32.59992	-103.36681	LEA

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
N/A	N/A	N/A	N/A	N/A

Order Numbers. NSL-4536 & NSL-4536A
Well setbacks are under Common Ownership: ☐Yes ☐No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County

Unitized Area or Area of Uniform Interest	Spacing Unit Type ☐ Horizontal ☑ Vertical	Ground Floor Elevation:

OPERATOR CERTIFICATIONS

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Signature: Brian Wood Date: 11-22-24

BRIAN WOOD
Printed Name

brian@permitswest.com
Email Address

SURVEYOR CERTIFICATIONS

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.

ORIGNAL SURVEY BY VYRON L. BEZNER
ON FILE WITH NMOCD

Signature and Seal of Professional Surveyor

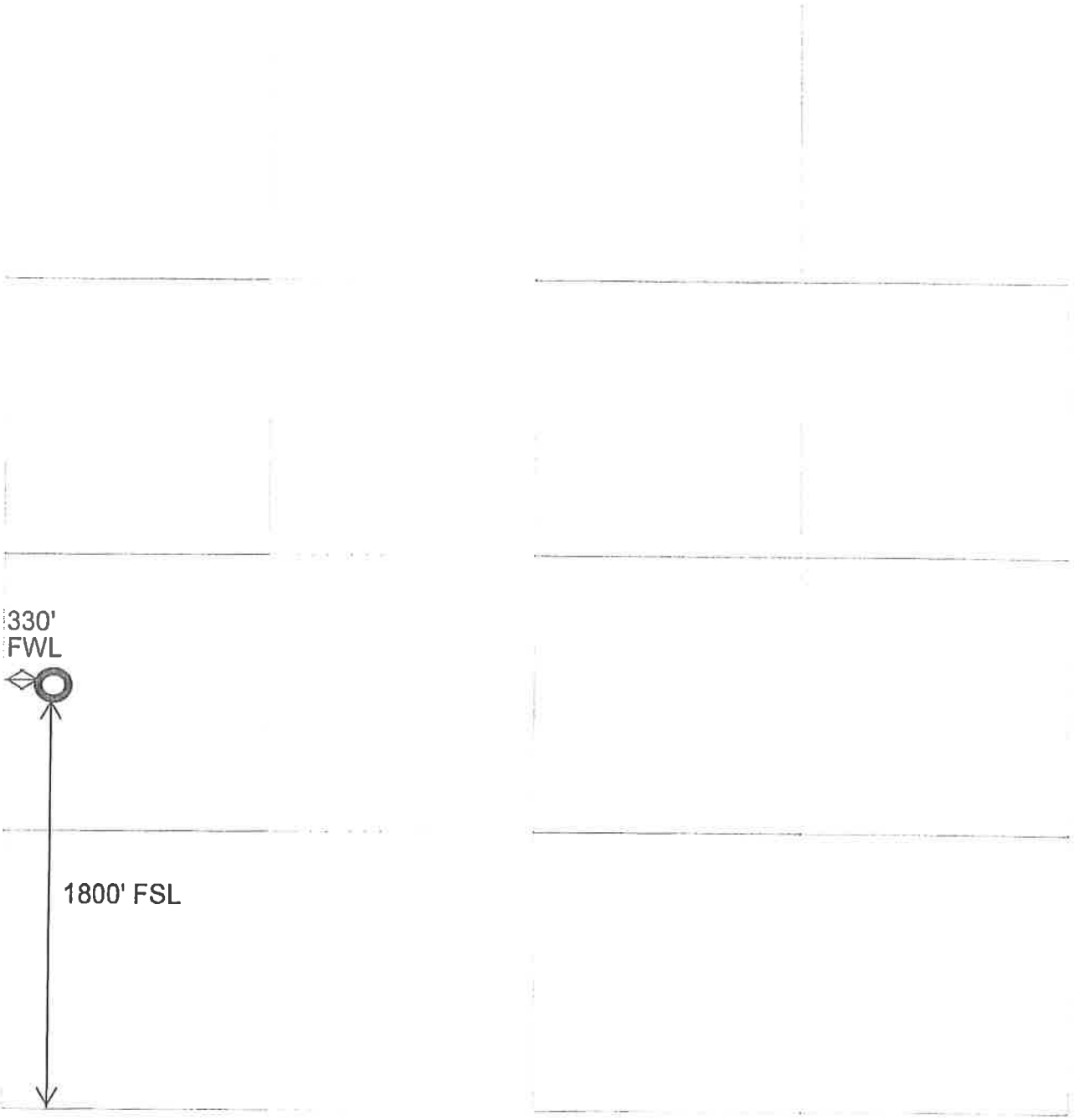
Certificate Number: 7920
Date of Survey: 12-29-2000

Note: 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.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators EXHIBIT A m dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, w the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



PERFORATION TABLE

DEPTH	HOLES	COMMENT
10576'	n/a	Devonian top
10600' - 10800'	*planned*	*proposed disposal interval*
10604' - 10614'	50	500 gal 15% NEFe HCl (twice)
10619' - 10621'		
10647' - 10650'		
10657' - 10660'		
10669' - 10671'		
10694' - 10696'		
10885'	n/a	CIBP w/ 35' cement on top
10984' - 10986'	8	swab test, 100% water, squeeze perfs w/ 75 sx cmt
11714' - 11719'	31	no acid, swab water
11731' - 11737'		
11747' - 11750'		
11841' - 11847'	22	1000 gal, 15% NEFe HCl, swab water
11863' - 11867'		
12041' - 12043'	25	500 gas 15% NEFe HCl, sab water
12049' - 12051'		
12056' - 12058'		
12064' - 12066'		
12071' - 12073'		
12115' - 12118'	32	500 gal 15% NEFe HCl, swab water
12124' - 12126'		
12132' - 12134'		
12138' - 12140'		
12144' - 12146'		
12152' - 12154'		
12400'	n/a	CIBP w/ 35' cement on top
12455' - 12465'	21	no acid, swab water
12510'	n/a	Montoya top
12658' - 12660'	24	100 gal 15% NEFe HCl, swab, show of oil
12668 - 12670'		
12674' - 12678'		
12681' - 12683'		
12848'	n/a	Simpson top
13120' - 13130'	21	500 gal 7.5% NEFe HCl, swab water
13440'	n/a	CIBP w/ 35' cement on top
13348' - 13358'	21	500 gal 7.5% NEFe HCl, swab water
13375'	n/a	Ellenburger top
13455' - 13475'	41	2000 gal 15% NEFe, swab water
13490'	n/a	PBTD
13524'	n/a	Granite Wash top
13630'	n/a	TD

EXHIBIT B

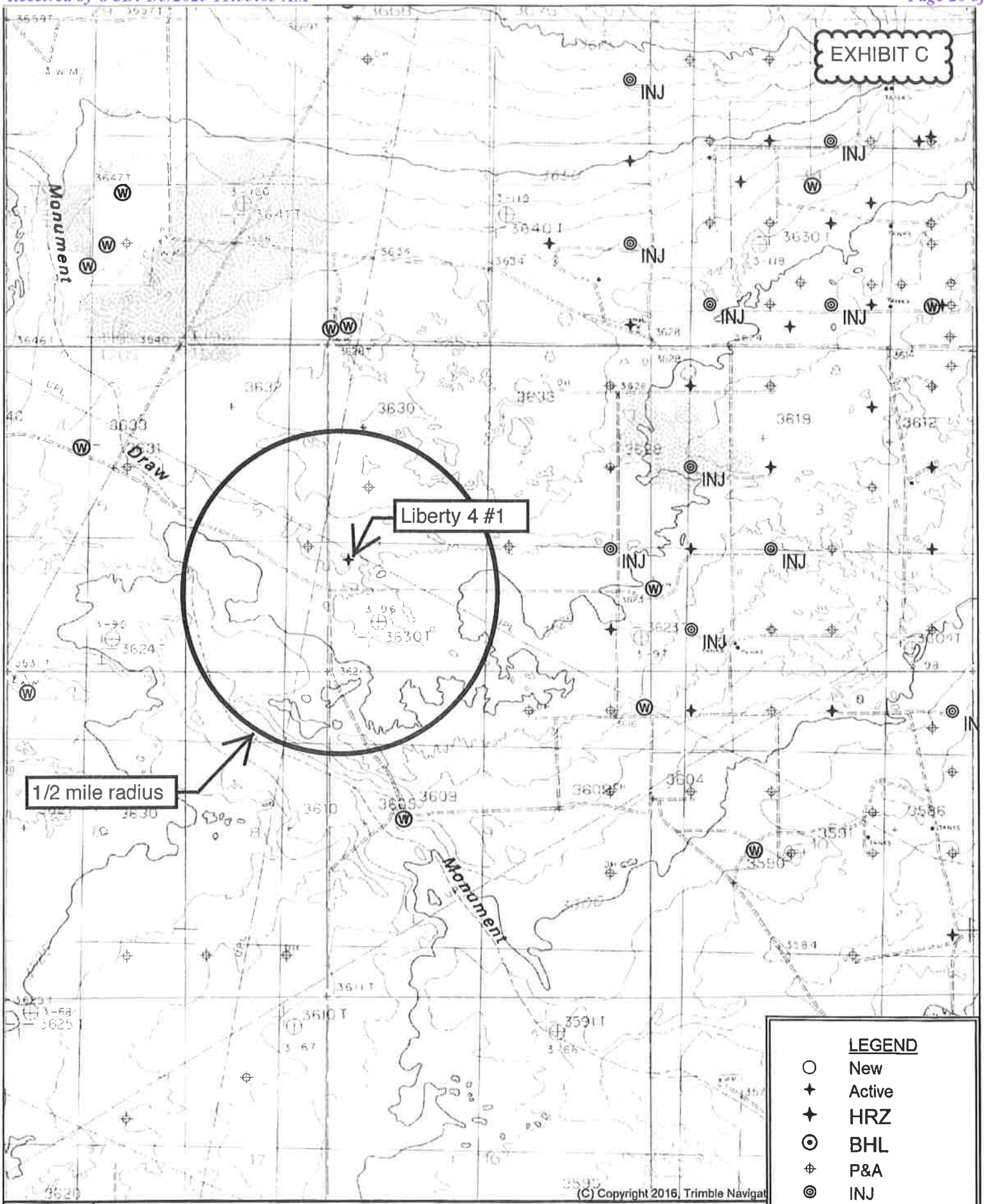


EXHIBIT C
Liberty 4 #1
1/2 mile radius
Monument
Draw
INJ
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
N
Quad: MONUMENT SOUTH
Scale: 1 inch = 2,000 ft.
(C) Copyright 2016, Trimble Navigat

SORTED BY DISTANCE FROM LIBERTY 4 #1

API	OPERATOR	WELL	STATUS	UNIT-SECTION-T20S-R36E	TVD	ZONE @ TD	FEET FROM LIBERTY 4 #1
3002535847	Read & Stevens	Klein 5 001	P&A	I-5	10933	Devonian	695
3002536164	Read & Stevens	Liberty 4 003	P&A	E-4	7200	Bone Spring	1260
3002535947	Read & Stevens	Liberty 4 002	P&A	J-4	9400	Wolfcamp	2644

EXHIBIT C

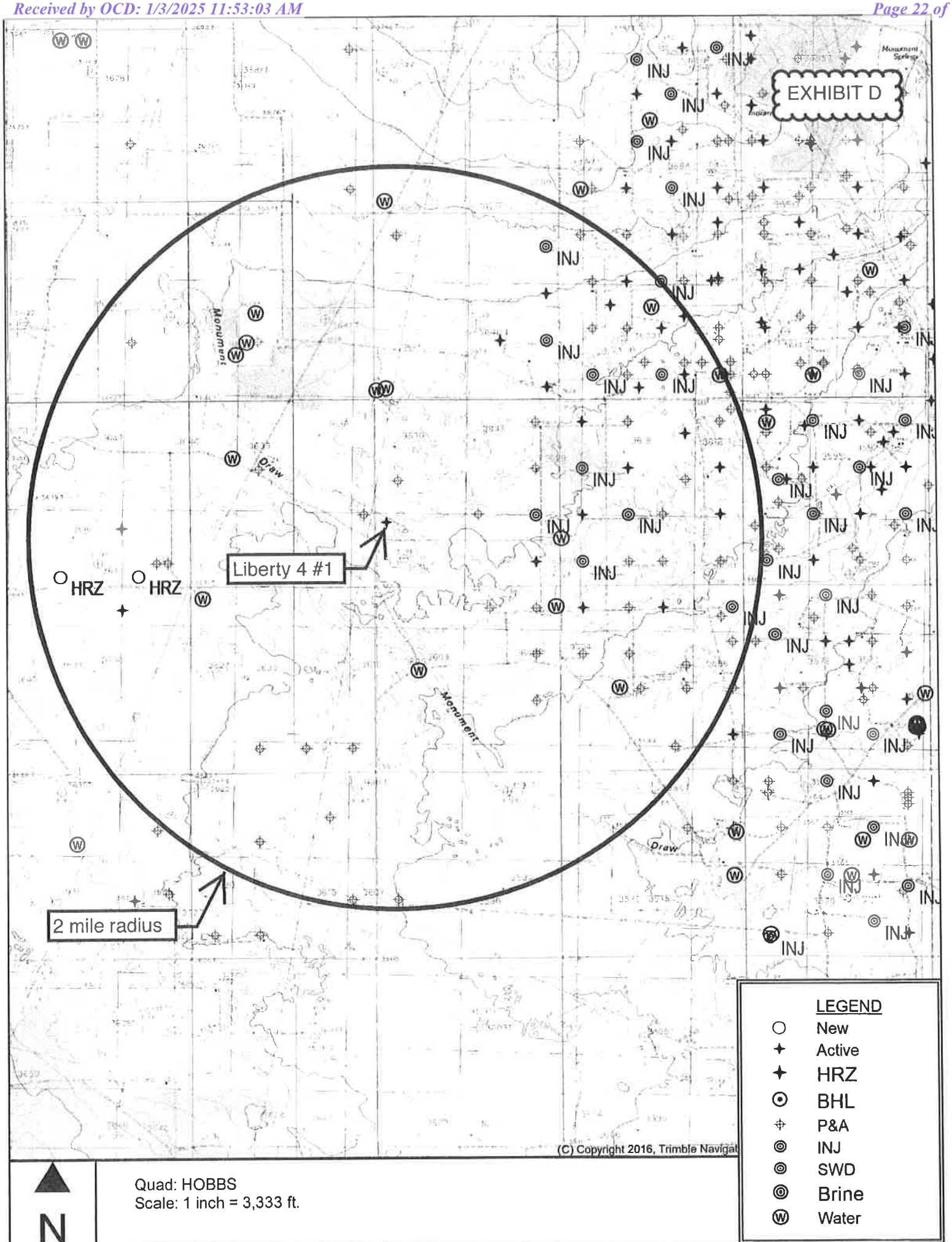
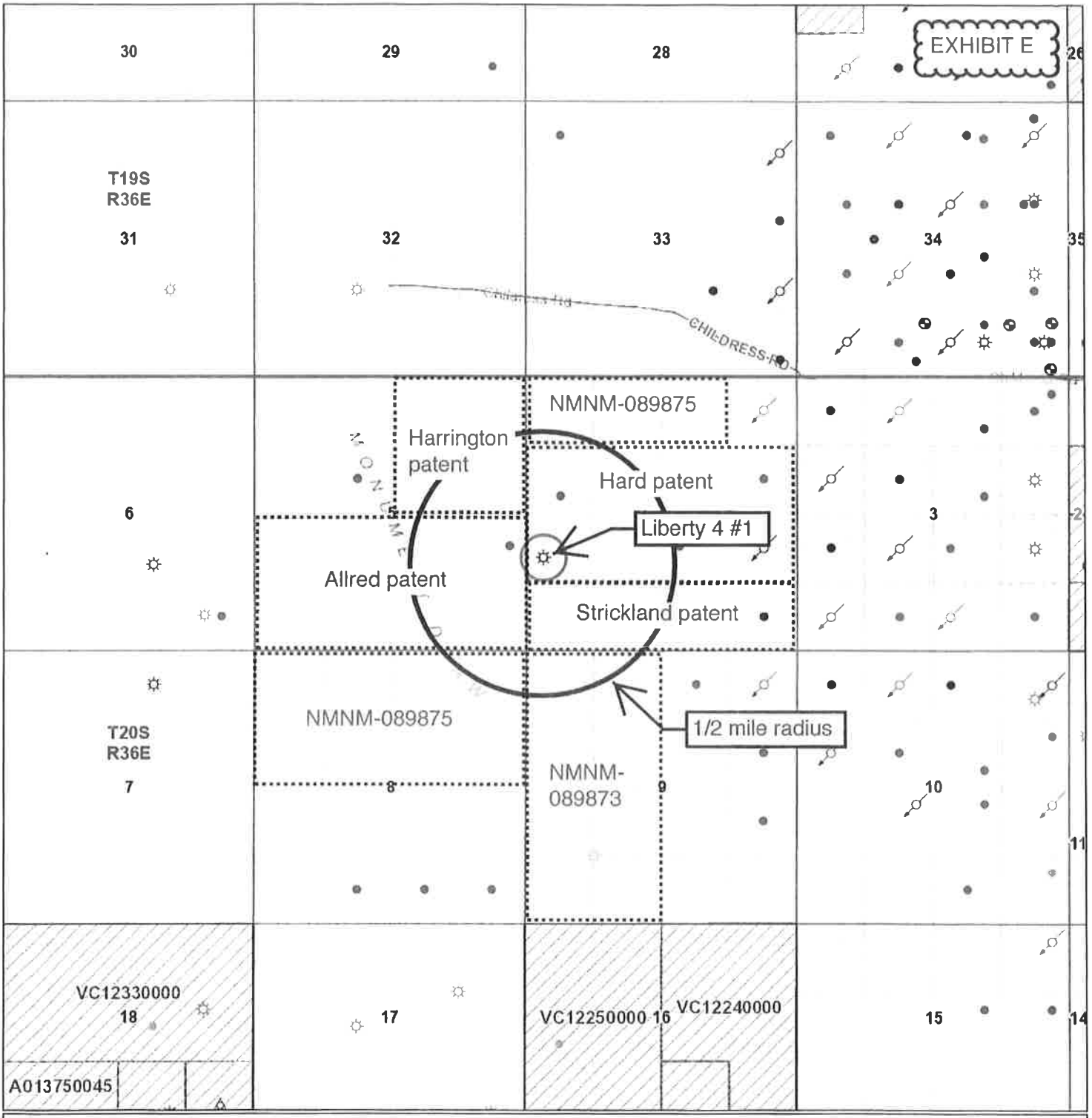


EXHIBIT D
Liberty 4 #1
HRZ
HRZ
2 mile radius
Monument
Draw
Monument
Draw
INJ
(C) Copyright 2016, Trimble Navigat
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
N
Quad: HOBBS
Scale: 1 inch = 3,333 ft.

LIBERTY 4 #1 AREA OF REVIEW (1 MILE RADIUS) LEASES

Aliquot Parts in Area of Review	Lessor	Lease	Lessee(s) of Record	Well Operators (regardless of depth)
N2NW4 4-20s-34e	BLM	NMNM-089875	L G Nesrsta, G H Sanderson, & F Thompson	none
S2NW4, SWNE, NWSE, & N2SW4 4-20s-36e	fee	Hard patent	3R	3R (S2NW4)
S2SW4 & SWSE 4-20s-36e	fee	Strickland patent	3R	3R (N2SW4)
E2NE4 & SWSE 5-20s-36e	fee	Harrington patent	L & K et al	none
SE4 5-20s-36e	fee	Allred patent	L & K et al	none
N2NE4 8-20s-36e	BLM	NMNM-089875	L G Nesrsta, G H Sanderson, & F Thompson	none
N2NW4 9-20s-36e	BLM	NMNM-089873	Apache, Chevron Maverick, ZPZ	none

EXHIBIT E



Oil, Gas, and Minerals Leases and Wells

0 0.2 0.4 0.8 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: 7/29/2024

Override 1

Subdivisions

Sections

Townships

County Boundaries

State Boundary

County Seats

NMOCD_Inactive Symbology

Miscellaneous

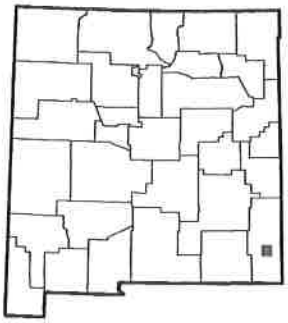
CO2 Cancelled

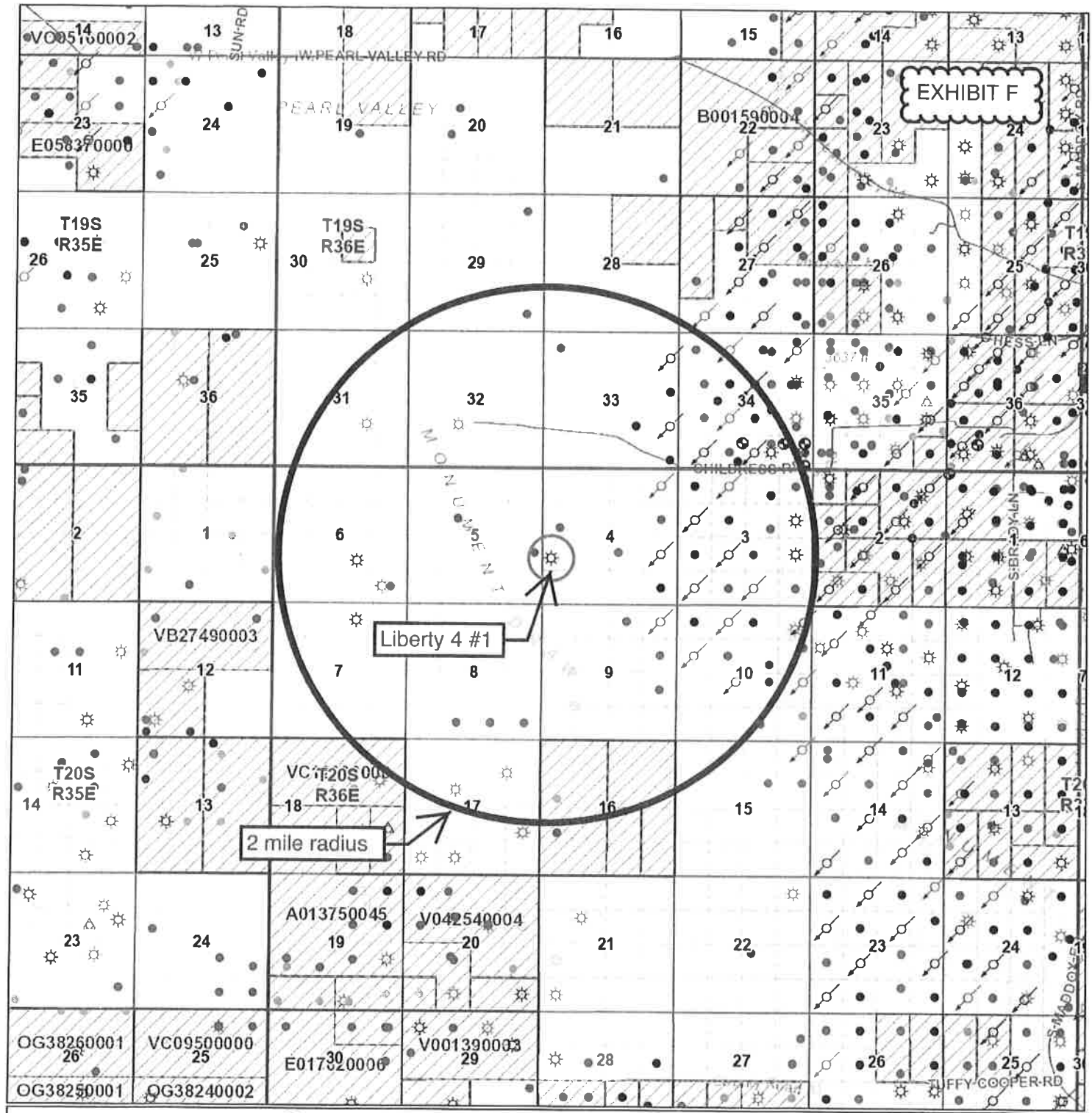
CO2, Plugged

CO2, Temporaily Abandoned

Gas, Cancelled

Gas, Plugged





Oil, Gas, and Minerals Leases and Wells

0 0.42 0.85 1.7 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: 7/29/2024

Override 1

Subdivisions

Sections

Townships

County Boundaries

State Boundary

County Seats

NMOCD_Inactive Symbology

Miscellaneous

CO2 Cancelled

CO2, Plugged

CO2, Temporaily Abandoned

Gas, Cancelled

Gas, Plugged

Released to Imaging: 1/3/2025 11:57:03 AM

Received by OCD: 1/3/2025 11:53:03 AM

Sorted by distance from Liberty 4 #1

WELL	SPUD	TVD	ZONE @ TD	WELL TYPE	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
Klein 5 001	3/1/02	10933	Devonian	P&A	17.5	13.375	408	375 sx	GL	Circ 90 sx
3002535847					11	8.625	4598	1000 sx	GL	Circ 60 sx
I-5-20S-36E					7.875	5.5	10913	875 sx	3600	Calc
Liberty 4 #1	7/4/02	9400	Wolfcamp	P&A	17.5	13.375	401	375 sx	GL	Circ.
3002535947					11	8.625	3500	650 sx	GL	Circ.
J-4-20S-36E					7.875	5.5	9400	975 sx	GL	Circ.
Liberty 4 #3	2/27/03	7200	Bone Spring	P&A	17.5	13.375	445	375 sx	GL	Circ.
3002536164					11	8.625	3110	800 sx	GL	Circ.
E-4-20S-36E					7.875	5.5	7200	850 sx	2994	CBL

EXHIBIT G

EXHIBIT G

6/19/2013

Wellbore Diagram

r263

30-025-35847-00-00

KLEIN 5 No. 001

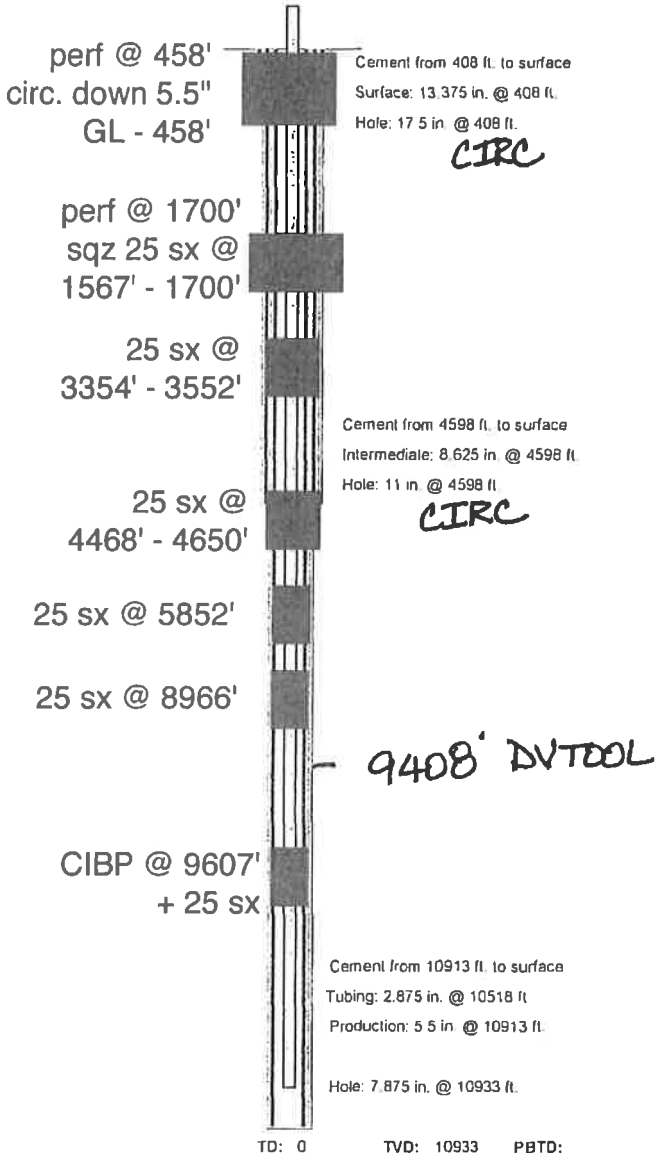
Company Name: READ & STEVENS INC

Location: Sec: 5 T: 20S R: 36E Spot:

Lat: 32.6005279393325 Long: -103.368961229494

Property Name: KLEIN 5

County Name: Lea



String Information

String	Bottom (ft sub)	Diameter (inches)	Weight (lb/ft)	Length (ft)
HOL1	408	17.5		
SURF	408	13.375	54.5	408
HOL2	4598	11		
I1	4598	8.625	32	4598
HOL3	10933	7.875		
PROD	10913	5.5	17	10913
T1	10518	2.875		

Cement Information

String	BOC (ft sub)	TOC (ft sub)	Class	Sacks
I1	4598	0	UK	1000
PROD	10913	0	UK	875
SURF	408	0	UK	375

Perforation Information

Top (ft sub)	Bottom (ft sub)	Shts/Ft	No Shts	Dt Sqz
10656	10680			
9668	9723			

8836 - 8909 — SQZ 7/2009

Formation Information

St Code	Formation	Depth

CIBP @ 10,600' + 35' CMT
3/2009 ?

1ST STAGE
?

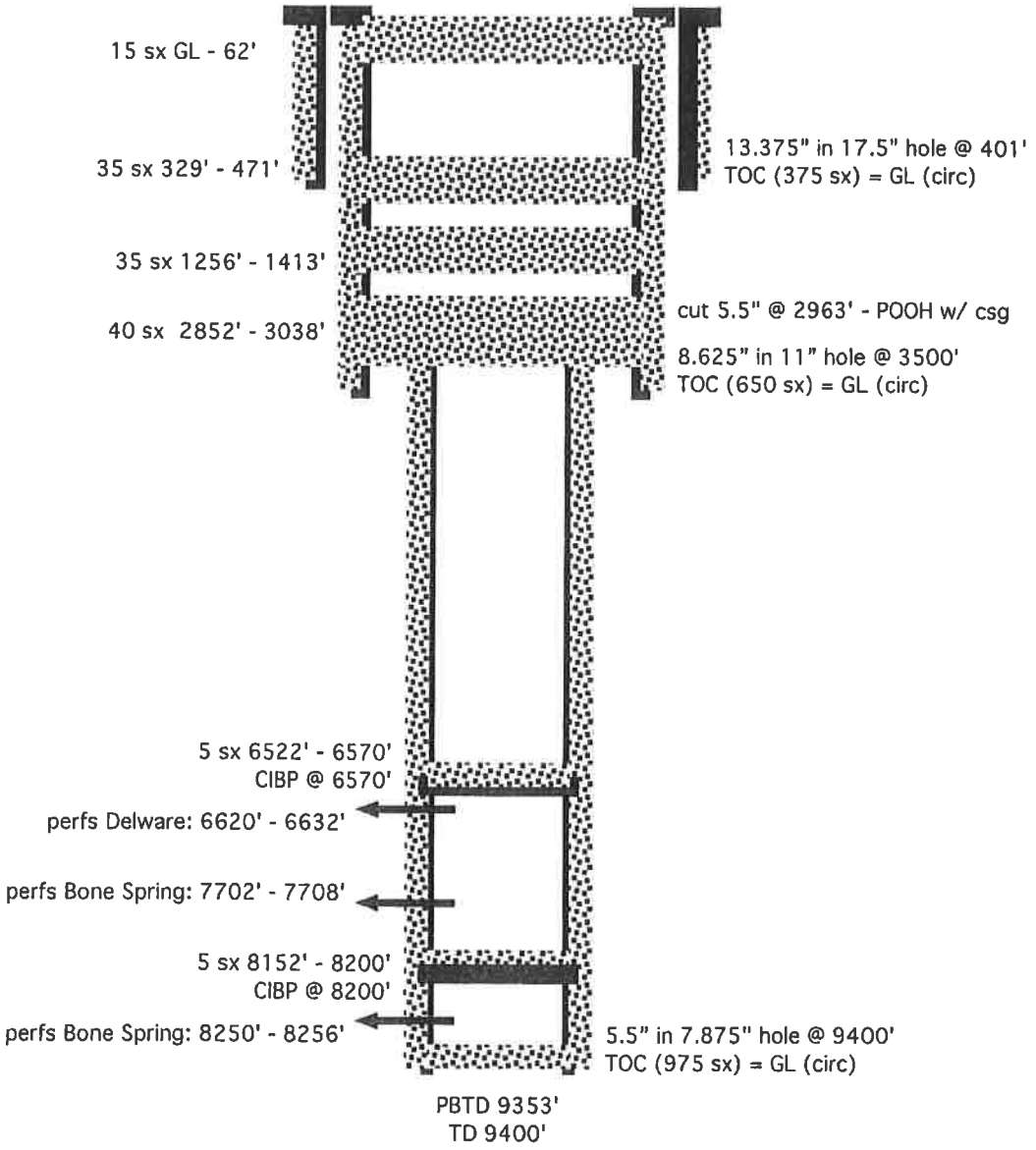
2ND Stage
TOC 3600'
CALC.?
5/2009

Copyright 2021 ALL LLC

EXHIBIT G

Liberty 4 #2
30-025-35947
J-4-20s-36e
spud 7-4-02
P&A 8-5-04

(not to scale)

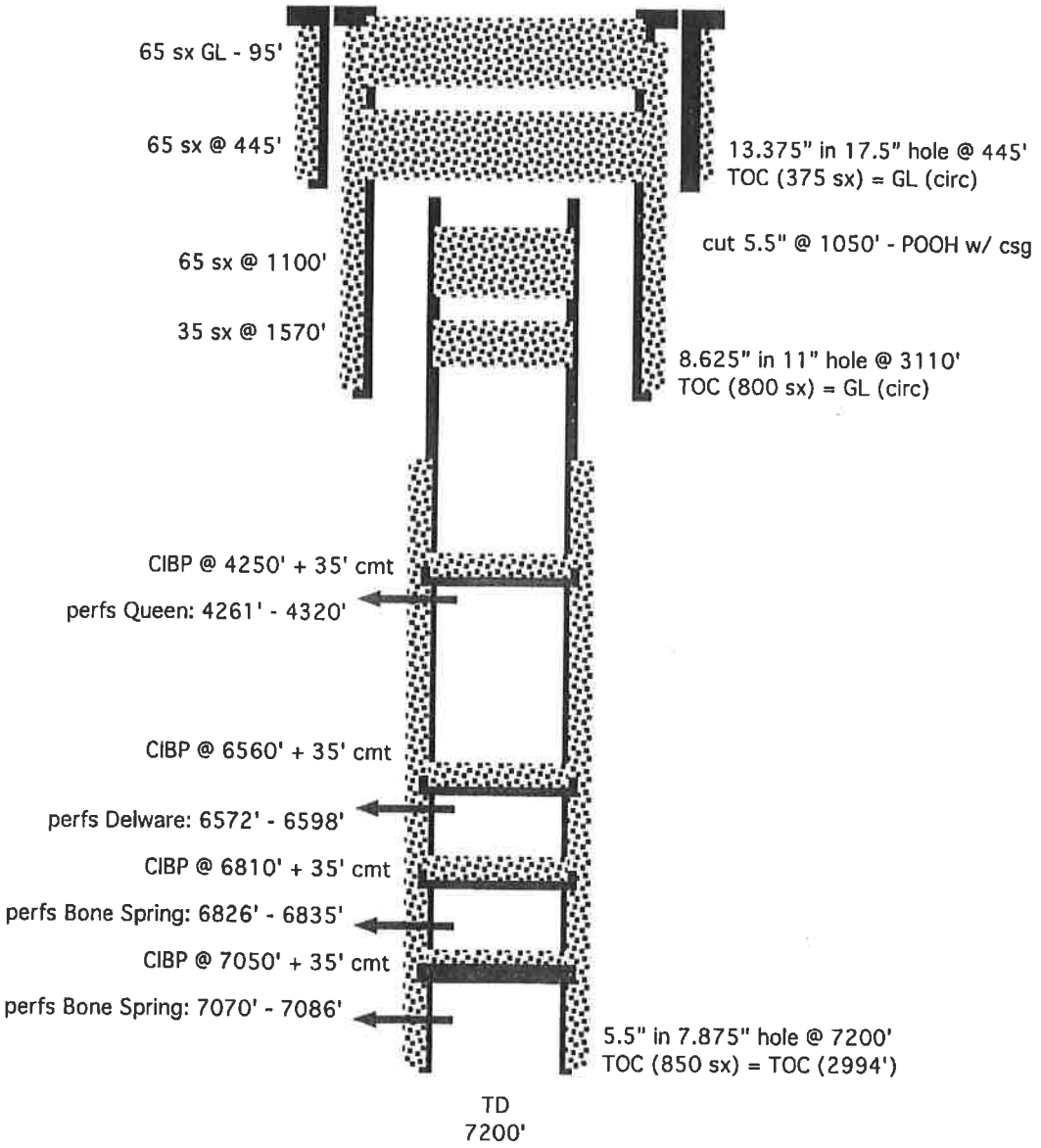


PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

EXHIBIT G

Liberty 4 #3
30-025-36164
E-4-20s-36e
spud 2-27-03
P&A 7-3-03

(not to scale)



PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

Released to Imaging: 1/3/2025 11:57:03 AM
Received by OCD: 1/3/2025 11:53:03 AM

Paramaters in mg/l

API	Section	Township	Range	UL	Formation	TDS	Sodium	Calcium	Chloride	Bicarbonate	Sulfate
3002534310	1	19S	36E	N	Abo	54512	18351	2288	31939	627	2558
3002534778	11	19S	36E	P	Abo	84095	27214	5045	52487	530	2468
3002534191	12	19S	36E	C	Abo	57619	19539	2329	33819	597	2738
3002534470	12	19S	36E	D	Abo	56387	20462	1469	35220	689	26
3002503163	15	19S	35E	O	Artesia	311153			193100	564	747
3002503189	22	19S	35E	B	Artesia	302747			188000	215	1140
3002503212	27	19S	35E	J	Artesia	242504			150400	563	1492
3002503229	28	19S	35E	O	Artesia	240799			149200	352	711
3002503247	29	19S	35E	C	Artesia	250156			154900	65	1432
3002503247	29	19S	35E	C	Artesia	243283			151500	141	940
3002503244	29	19S	35E	F	Artesia	238283			148500	106	372
3002503244	29	19S	35E	F	Artesia	238553			148800	106	372
3002503248	29	19S	35E	J	Artesia	237684			149500	35	257
3002503241	29	19S	35E	K	Artesia	242263			152100	71	350
3002503241	29	19S	35E	K	Artesia	241833			151700	71	350
3002503242	29	19S	35E	P	Artesia	242146			151100	53	372
3002503284	33	19S	35E	C	Artesia	219950			138000	38	418
3002503304	34	19S	35E	I	Artesia	221538			137500	225	971
3002504023	20	19S	36E	K	Artesia	257353			158500	187	1108
3002504099	33	19S	36E	H	Artesia	68631			38110	405	4317
3002504113	34	19S	36E	O	Artesia	19393			8383	2050	2252
3002503315	3	20S	35E	E	Artesia	218754			135000	4	1700
3002503327	4	20S	35E	L	Artesia	149470			94150	164	1246
3002503361	25	20S	35E	A	Artesia	174035			106839	367	2726
3002504130	1	20S	36E	A	Artesia	13609			4934	615	3330
3002504152	1	20S	36E	N	Artesia	33835			17060	812	3691
3002504350	26	20S	36E	A	Artesia	79120			47790	1445	738
3002504350	26	20S	36E	A	Artesia	44140			26230	1461	93

EXHIBIT H

Released to Imaging: 1/3/2025 11:57:03 AM

Received by OCD: 1/3/2025 11:53:03 AM

Paramaters in mg/l

API	Section	Township	Range	UL	Formation	TDS	Sodium	Calcium	Chloride	Bicarbonate	Sulfate
3002504374	32	20S	36E	O	Artesia	177450					
3002503156	6	19S	35E	L	Bone Spring	25800			14100	830	1120
3002503156	6	19S	35E	L	Bone Spring	53622			30550	1123	2280
3002503156	6	19S	35E	L	Bone Spring	195200			118000	220	1030
3002520377	17	20S	35E	H	Bone Spring					7916	
3002520377	17	20S	35E	H	Devonian	44825					
3002504063	25	19S	36E	P	Grayburg		2394	601	4577	463	312
3002504063	25	19S	36E	P	Grayburg		2777	237	4799	592	352
3002504063	25	19S	36E	P	Grayburg		3035	482	5326	1065	352
3002504254	13	20S	36E	M	Grayburg		4368	520	7532	601	1375
3002504254	13	20S	36E	M	Grayburg	17249	4848	904	9595	1262	205
3002504053	25	19S	36E	N	Grayburg San Andres					5531	
3002504063	25	19S	36E	P	Grayburg San Andres					352	
3002504063	25	19S	36E	P	Grayburg San Andres					312	
3002504063	25	19S	36E	P	Grayburg San Andres					352	
3002521886	35	19S	36E	G	Grayburg San Andres					660	
3002512481	36	19S	36E	F	Grayburg San Andres					430	

EXHIBIT H

Released to Imaging: 1/3/2025 11:57:03 AM

Received by OCD: 1/3/2025 11:53:03 AM

Paramaters in mg/l

API	Section	Township	Range	UL	Formation	TDS	Sodium	Calcium	Chloride	Bicarbonate	Sulfate
3002504139	1	20S	36E	D	Grayburg San Andres						
3002504151	1	20S	36E	M	Grayburg San Andres					2250	
3002504151	1	20S	36E	M	Grayburg San Andres					530	
3002504165	2	20S	36E	A	Grayburg San Andres	10905	2829	740	2350	1220	3700
3002504165	2	20S	36E	A	Grayburg San Andres	40497	12952	1680	20800	1390	3100
3002504165	2	20S	36E	A	Grayburg San Andres	71407	24177	2320	29800	810	3500
3002504165	2	20S	36E	A	Grayburg San Andres	27045	7815	1670	14500	1370	1020
3002504168	2	20S	36E	G	Grayburg San Andres					5710	
3002504224	11	20S	36E	F	Grayburg San Andres		1132	1	0	959	
3002504224	11	20S	36E	F	Grayburg San Andres		1089	0	0	922	
3002504235	12	20S	36E	C	Grayburg San Andres					55	
3002504259	13	20S	36E	I	Grayburg San Andres					177	
3002504259	13	20S	36E	I	Grayburg San Andres					125	

EXHIBIT H

Released to Imaging: 1/3/2025 11:57:03 AM

Received by OCD: 1/3/2025 11:53:03 AM

Paramaters in mg/l

API	Section	Township	Range	UL	Formation	TDS	Sodium	Calcium	Chloride	Bicarbonate	Sulfate
3002504254	13	20S	36E	M	Grayburg San Andres					205	
3002504254	13	20S	36E	M	Grayburg San Andres					1375	
3002504272	14	20S	36E	K	Grayburg San Andres					1618	
3002504272	14	20S	36E	K	Grayburg San Andres					1746	
3002504266	14	20S	36E	P	Grayburg San Andres		1113	0	0	932	
3002504297	23	20S	36E	B	Grayburg San Andres		612	1	0	1289	
3002504297	23	20S	36E	B	Grayburg San Andres		872	0	0	1094	
3002504297	23	20S	36E	B	Grayburg San Andres		602	1	0	1459	
3002504299	23	20S	36E	O	Grayburg San Andres		914	1	0	996	
3002504299	23	20S	36E	O	Grayburg San Andres		881	0	0	970	
3002503229	28	19S	35E	O	Penrose		69960	15974	149248	352	711
3002504350	26	20S	36E	A	Permo-Penn.					739	
3002503247	29	19S	35E	C	Queen		65212	19975	151575	141	940
3002503247	29	19S	35E	C	Queen		78188	8394	154968	65	1432
3002503248	29	19S	35E	J	Queen		64824	15418	149504	35	257

EXHIBIT H

Released to Imaging: 1/3/2025 11:57:03 AM
Received by OCD: 1/3/2025 11:53:03 AM

Paramaters in mg/l

API	Section	Township	Range	UL	Formation	TDS	Sodium	Calcium	Chloride	Bicarbonate	Sulfate
3002503284	33	19S	35E	C	Queen		59508	15080	138040	38	418
3002503307	35	19S	35E	G	San Andres	66415			39600	313	993
3002503307	35	19S	35E	G	San Andres	73409			43880	450	865
3002504099	33	19S	36E	H	San Andres		22745	2211	38119	405	4317
3002512476	36	19S	36E	J	San Andres			3454	16406	611	
3002512476	36	19S	36E	J	San Andres		4687	3454	16406	611	
3002512476	36	19S	36E	J	San Andres	26344					
3002504326	25	20S	36E	A	Yates		32533	107798	247872	1091	30984

EXHIBIT H

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 smallest to largest)

(meters)

(In feet)

EXHIBIT I

POD Number	Code	Sub basin	County	Q64	Q16	Q4	Sec	Tws	Range	X	Y	Map	Distance	Well Depth	Depth Water	Water Column
L 15456 POD1		L	LE	SW	SW	SW	33	19S	36E	653151.0	3609259.5		1152	62	33	29
L 10248		L	LE		SW	NW	09	20S	36E	653376.0	3606958.0 *		1159	65		
L 01312		L	LE	SW	SW	SW	33	19S	36E	653237.0	3609276.0 *		1164	67	40	27
L 10245		L	LE	SW	SW	SW	33	19S	36E	653237.0	3609276.0 *		1164	75		
L 14757 POD1		L	LE	SE	SW	NW	09	20S	36E	653553.3	3606832.1		1313	62	34	28
L 14758 POD1		L	LE	NW	SW	NW	05	20S	36E	651908.7	3608655.2		1455	112	30	82
L 14752 POD1		L	LE	SW	NW	SW	03	20S	36E	654781.9	3607997.0		1527	72	36	36
L 10247		L	LE		SW	NW	05	20S	36E	651739.0	3608544.0 *		1580	75		
L 10246		L	LE	NW	NW	SW	03	20S	36E	654869.0	3608291.0 *		1619	60		
L 02707		L	LE	NE	NE	NE	09	20S	36E	654744.1	3607405.0		1644	85	38	47
L 01522 POD1		L	LE	NW	NW	NW	08	20S	36E	651658.0	3607434.0 *		1738	50	30	20
L 08083		L	LE			SW	32	19S	36E	651926.0	3609553.0 *		1963	50	35	15
L 00512 S		L	LE	SW	NE	SW	32	19S	36E	652020.0	3609660.0 *		1982	65	30	35
L 00512 POD3		L	LE	NE	NE	SW	32	19S	36E	652097.0	3609914.9		2144	60	30	30
L 15039 POD1		L	LE	NW	NE	SW	10	20S	36E	655302.6	3606705.1		2481	71	38	33
L 10249		L	LE		SW	NE	10	20S	36E	655790.0	3606997.0 *		2765	60		
L 02969		L	LE	SW	SW	SW	28	19S	36E	653209.0	3610891.0 *		2779	60	34	26
L 00011		L	LE	SW	NW	NW	32	19S	36E	651602.0	3610461.0 *		2874	42		
L 03114		L	LE				34	19S	36E	655553.0	3610005.0 *		2974	135		
L 10804		L	LE		SE	SE	34	19S	36E	656159.0	3609422.0 *		3182	66	50	16
L 10250		L	LE		SW	SE	10	20S	36E	655800.0	3606192.0 *		3184	60		

Average Depth to Water: **35 feet**

Minimum Depth: **30 feet**

Maximum Depth: **50 feet**

Record Count: 21

EXHIBIT I

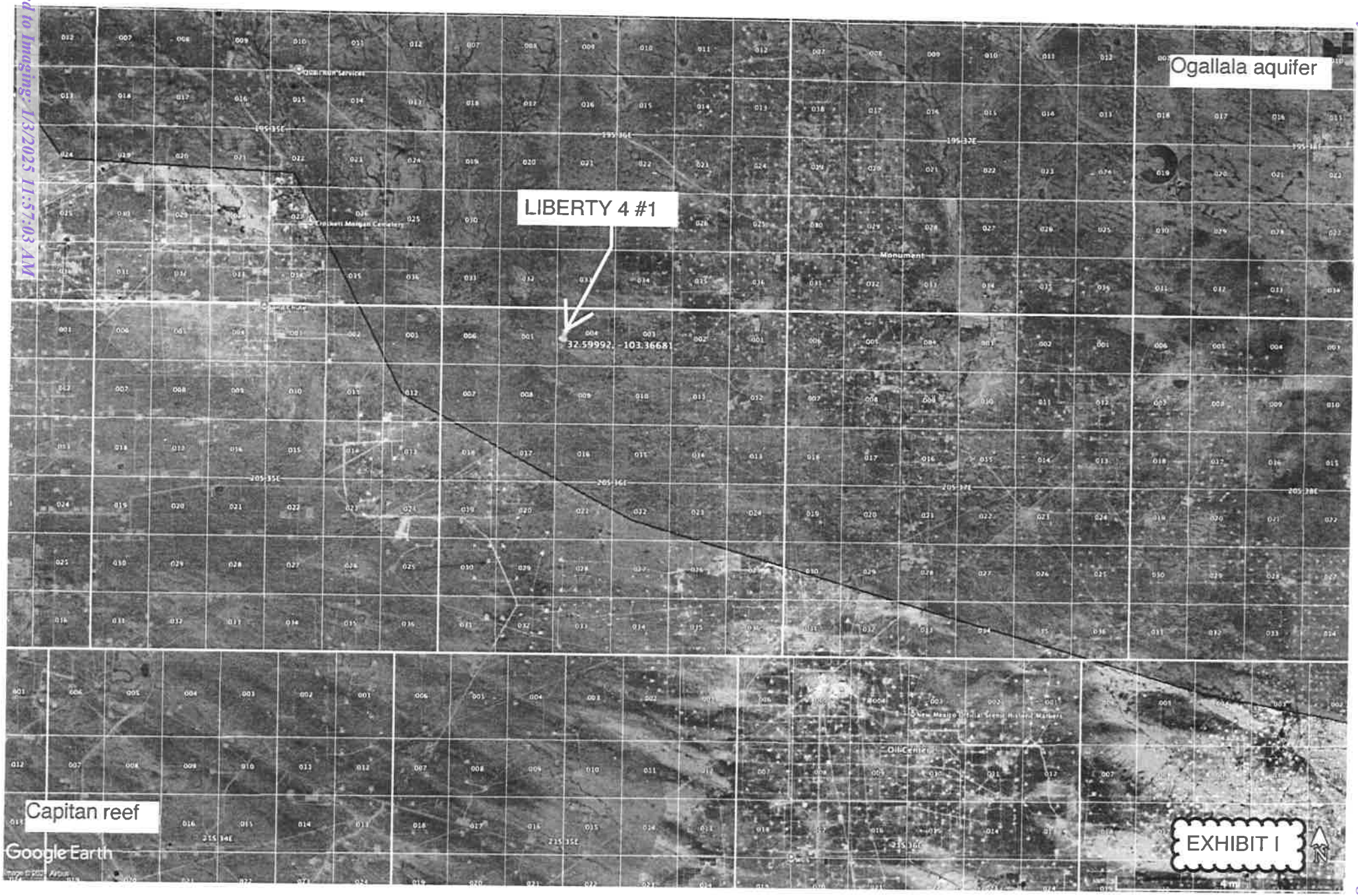
Basin/County Search:
County: LE

UTM Filters (in meters):
Easting: 653259
Northing: 3608112
Radius: 003220

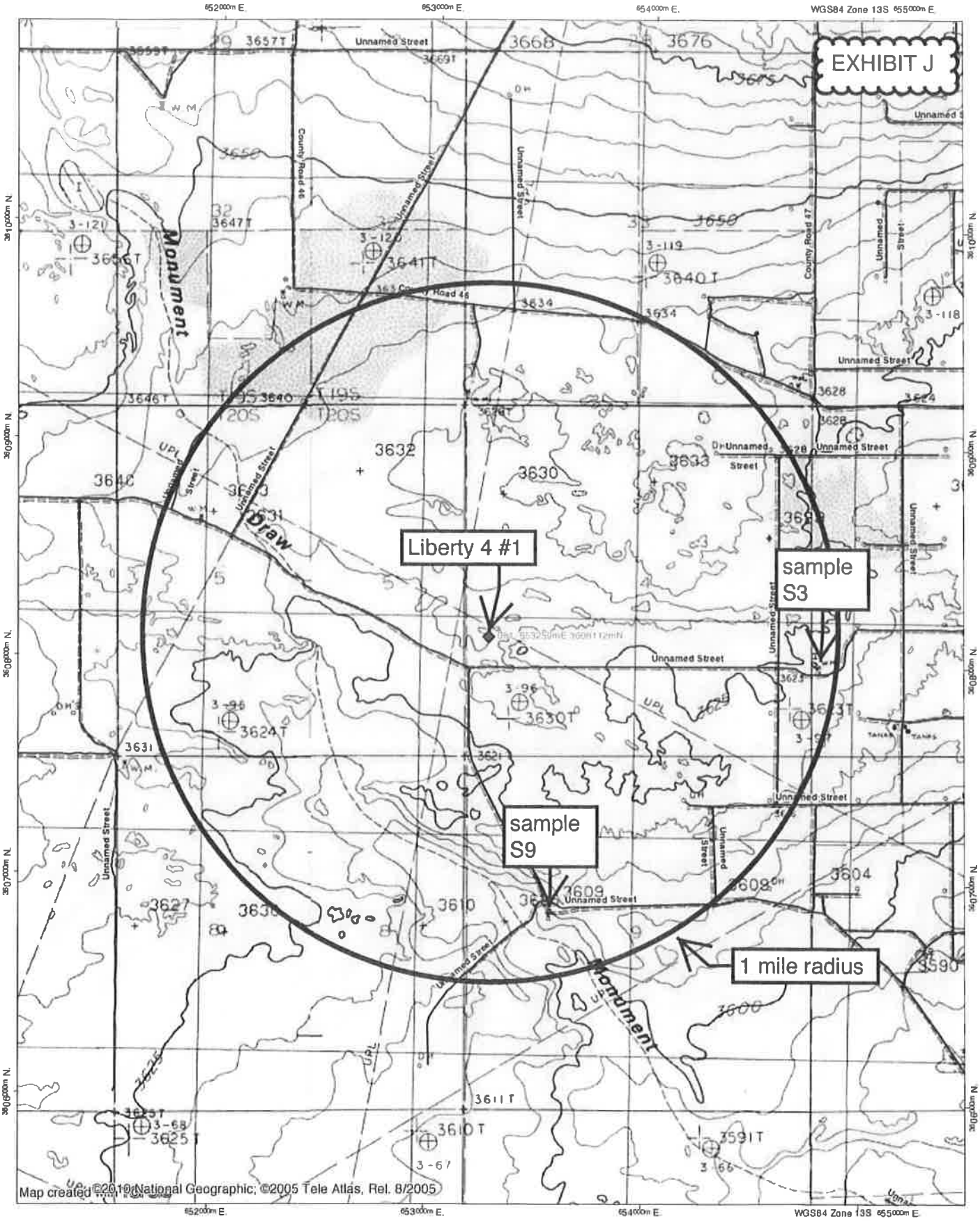
*** UTM location was derived from PLSS - see Help**

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

Released to Imaging: 1/3/2025 11:57:03 AM
Received by OCD: 1/3/2025 11:53:03 AM



TOPO! map printed on 07/30/24 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° 07/30/24

eurofins | Environment Testing

EXHIBIT J

ANALYTICAL REPORT

PREPARED FOR

Attn: Brian Wood
Permits West Inc
37 Verano Loop
Santa Fe, New Mexico 87508

Generated 9/10/2024 12:47:36 PM

JOB DESCRIPTION

3R Liberty

JOB NUMBER

885-9520-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

Released to Imaging: 1/3/2025 11:57:03 AM

my EOL

Eurofins Albuquerque

EXHIBIT J

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

Generated
9/10/2024 12:47:36 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
Designee for
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Permits West Inc
Project/Site: 3R Liberty

Laboratory Job ID: 885-9520-1

EXHIBIT J

Table of Contents

Definitions/Glossary

Client: Permits West Inc
Project/Site: 3R Liberty

Job ID: 885-9520-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

EXHIBIT J

Case Narrative

Client: Permits West Inc
Project: 3R Liberty

Job ID: 885-9520-1

Job ID: 885-9520-1 **Eurofins Albuquerque**

Job Narrative
885-9520-1

EXHIBIT J

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 8/8/2024 3:55 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 21.7°C.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Permits West Inc
Project/Site: 3R Liberty

EXHIBIT J

Job ID: 885-9520-1

Client Sample ID: S3
Date Collected: 08/08/24 07:00
Date Received: 08/08/24 15:55

Lab Sample ID: 885-9520-1
Matrix: Water

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**86**		10	mg/L			08/29/24 09:31	20

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664B)	ND		4.9	mg/L			08/09/24 09:50	1
Total Dissolved Solids (SM 2540C)	**5600**		500	mg/L			08/09/24 15:06	1

Client Sample Results

Client: Permits West Inc
Project/Site: 3R Liberty

EXHIBIT J

Job ID: 885-9520-1

Client Sample ID: S9
Date Collected: 08/08/24 07:35
Date Received: 08/08/24 15:55

Lab Sample ID: 885-9520-2
Matrix: Water

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	370		10	mg/L			08/29/24 09:56	20

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664B)	ND		4.9	mg/L			08/15/24 12:27	1
Total Dissolved Solids (SM 2540C)	1500		100	mg/L			08/09/24 15:06	1

QC Sample Results

Client: Permits West Inc
Project/Site: 3R Liberty

EXHIBIT J

Job ID: 885-9520-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-11393/7
Matrix: Water
Analysis Batch: 11393

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	mg/L			08/29/24 08:54	1

Lab Sample ID: MB 885-11393/85
Matrix: Water
Analysis Batch: 11393

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	mg/L			08/30/24 01:33	1

Lab Sample ID: LCS 885-11393/8
Matrix: Water
Analysis Batch: 11393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	5.00	4.89		mg/L		98	90 - 110

Lab Sample ID: LCS 885-11393/86
Matrix: Water
Analysis Batch: 11393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	5.00	4.80		mg/L		96	90 - 110

Lab Sample ID: MRL 885-11393/6
Matrix: Water
Analysis Batch: 11393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.509		mg/L		102	50 - 150

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 885-10354/1
Matrix: Water
Analysis Batch: 10354

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		5.0	mg/L			08/15/24 12:27	1

Lab Sample ID: LCS 885-10354/2
Matrix: Water
Analysis Batch: 10354

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	35.8		mg/L		90	78 - 114

QC Sample Results

Client: Permits West Inc
Project/Site: 3R Liberty

EXHIBIT J

Job ID: 885-9520-1

Method: 1664B - HEM and SGT-HEM (Continued)

Lab Sample ID: LCSD 885-10354/3
Matrix: Water
Analysis Batch: 10354

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	37.2		mg/L		93	78 - 114	4	20

Lab Sample ID: MB 885-9984/1
Matrix: Water
Analysis Batch: 9984

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		5.0	mg/L			08/09/24 09:50	1

Lab Sample ID: LCS 885-9984/2
Matrix: Water
Analysis Batch: 9984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	37.2		mg/L		93	78 - 114

Lab Sample ID: LCSD 885-9984/3
Matrix: Water
Analysis Batch: 9984

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	37.2		mg/L		93	78 - 114	0	20

Method: 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 885-10020/1
Matrix: Water
Analysis Batch: 10020

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		50	mg/L			08/09/24 15:06	1

Lab Sample ID: LCS 885-10020/2
Matrix: Water
Analysis Batch: 10020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1000		mg/L		100	80 - 120

Lab Sample ID: 885-9520-2 DU
Matrix: Water
Analysis Batch: 10020

Client Sample ID: S9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1500		1540		mg/L		0.4	10

QC Association Summary

EXHIBIT J

Client: Permits West Inc
Project/Site: 3R Liberty

Job ID: 885-9520-1

HPLC/IC

Analysis Batch: 11393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-9520-1	S3	Total/NA	Water	300.0	
885-9520-2	S9	Total/NA	Water	300.0	
MB 885-11393/7	Method Blank	Total/NA	Water	300.0	
MB 885-11393/85	Method Blank	Total/NA	Water	300.0	
LCS 885-11393/8	Lab Control Sample	Total/NA	Water	300.0	
LCS 885-11393/86	Lab Control Sample	Total/NA	Water	300.0	
MRL 885-11393/6	Lab Control Sample	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 9984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-9520-1	S3	Total/NA	Water	1664B	
MB 885-9984/1	Method Blank	Total/NA	Water	1664B	
LCS 885-9984/2	Lab Control Sample	Total/NA	Water	1664B	
LCSD 885-9984/3	Lab Control Sample Dup	Total/NA	Water	1664B	

Analysis Batch: 10020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-9520-1	S3	Total/NA	Water	2540C	
885-9520-2	S9	Total/NA	Water	2540C	
MB 885-10020/1	Method Blank	Total/NA	Water	2540C	
LCS 885-10020/2	Lab Control Sample	Total/NA	Water	2540C	
885-9520-2 DU	S9	Total/NA	Water	2540C	

Analysis Batch: 10354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-9520-2	S9	Total/NA	Water	1664B	
MB 885-10354/1	Method Blank	Total/NA	Water	1664B	
LCS 885-10354/2	Lab Control Sample	Total/NA	Water	1664B	
LCSD 885-10354/3	Lab Control Sample Dup	Total/NA	Water	1664B	

Lab Chronicle

Client: Permits West Inc
Project/Site: 3R Liberty

EXHIBIT J

Job ID: 885-9520-1

Client Sample ID: S3

Date Collected: 08/08/24 07:00
Date Received: 08/08/24 15:55

Lab Sample ID: 885-9520-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	11393	KB	EET ALB	08/29/24 09:31
Total/NA	Analysis	1664B		1	9984	CO	EET ALB	08/09/24 09:50
Total/NA	Analysis	2540C		1	10020	ES	EET ALB	08/09/24 15:06

Client Sample ID: S9

Date Collected: 08/08/24 07:35
Date Received: 08/08/24 15:55

Lab Sample ID: 885-9520-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	11393	KB	EET ALB	08/29/24 09:56
Total/NA	Analysis	1664B		1	10354	KH	EET ALB	08/15/24 12:27
Total/NA	Analysis	2540C		1	10020	ES	EET ALB	08/09/24 15:06

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Permits West Inc
Project/Site: 3R Liberty

Job ID: 885-9520-1

EXHIBIT J

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1664B		Water	HEM (Oil & Grease)
2540C		Water	Total Dissolved Solids
300.0		Water	Chloride

Oregon	NELAP	NM100001	02-26-25

Released to Imaging: 1/3/2025 11:57:03 AM
Received by OCD: 1/3/2025 11:53:03 AM

Chain-of-Custody Record

Client: Permits West, Inc.

Mailing Address: 37 Verano Lp
SF NM 87508

Phone #: 505 466 8120

email or Fax#: brian@permitswest.com

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: 3R Liberty

Project #: 4-1

Project Manager: Brian Wood

Sampler: BW

On Ice: ☐ Yes ☒ No

# of Coolers:

Cooler Temp(including CF): 21.4 + 0.2 = 21.7 (°C) Tag

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

885-9520 COC

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	TDS Chlorides	Oil Grease
8-8	7:00	Aq	S3														1	
8-8	7:35	Aq	S9														1	1

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8-8	3:55			CDO	8-8-24	15:55
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

EXHIBIT J

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Login Sample Receipt Checklist

EXHIBIT J

Client: Permits West Inc

Job Number: 885-9520-1

Login Number: 9520
List Number: 1
Creator: McQuiston, Steven

List Source: Eurofins Albuquerque

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Water present in cooler, indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
TCEQ Mtd 1005 soil sample was frozen/delivered for prep within 48H of sampling.	N/A	

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

EXHIBIT K

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

Re: Geology Statement
3R Operating, LLC
Liberty 4 #1
Section 4, T. 20S, R. 36E
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 Delaware injection zone and any underground sources of drinking water has been found. Please see the attached assessment for additional information.

Sincerely,

Cory Walk

Cory Walk
Geologist

EXHIBIT K

Seismic Risk Assessment

3R Operating, LLC

Liberty 4 No. 1

Section 4, Township 20 South, Range 36 East

Lea County, New Mexico

Cory Walk, M.S.

Cory Walk

Geologist

Permits West Inc.

December 4, 2024

EXHIBIT K

GENERAL INFORMATION

Liberty 4 #1 is located in the SW 1/4, section 4, T.20S, R.36E, about 6 miles southwest of Monument, NM in the Permian Basin. 3R Operating, LLC proposes to dispose produced water within the Delaware Mountain Group (Brushy Canyon Formation) through a perforated liner from 5,350'-6,300' below ground surface. This report assesses any potential concerns relating to induced seismicity along deep penetrating basement-rooted faults or the connection between the injection zone and known underground potable water sources.

SEISMIC RISK ASSESSMENT

Historical Seismicity

Searching the USGS and NMT earthquake catalog resulted in no (0) earthquakes above a magnitude 2.5 within 6 miles (9.7 km) of the proposed disposal site since 1970 (Fig. 1). The nearest earthquake above a magnitude 2.5 occurred on December 14, 2021, about 7.8 miles (12.5 km) southwest of the proposed SWD site and had a magnitude of 2.53.

Basement Faults and Subsurface Conditions

A structure contour map (Fig. 1) of the Precambrian basement shows Liberty 4 #1 is approximately 0.4 miles (0.6 km) from the nearest basement-rooted fault interpreted by an unidentified oil and gas operator using proprietary 3D Seismic data and published 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 Liberty 4 #1 site, Snee and Zoback indicate a S_{Hmax} direction of N060°E and an A_φ of 0.65, indicating an extensional (normal) stress regime.**

Induced seismicity is a growing concern of deep SWD 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 Delaware Mountain Group (Brushy Canyon Formation) and therefore would not affect the deep-rooted Precambrian faults. Seismic data shows that the deep-rooted Precambrian faults do not penetrate anything above the Bone Spring Formation.

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 Liberty 4 #1 well, the top of the Rustler Formation lies at an estimated depth of 1,584' bgs.

EXHIBIT K

VERTICAL MIGRATION OF FLUIDS

Well logs show a 180-200' thick impermeable limestone cap lies at the top of the Bone Spring Formation that would prevent injected water from migrating into producing Bone Spring zones and deep-rooted Precambrian faults below. OCD well records show the basement to be at a depth of approximately 13,524' (Top of Granite Wash) in this area. Therefore, the injection zone lies approximately 7,225' above the Precambrian basement and approximately 3,766' below the previously stated lower limit of potable water at the top of the Rustler formation.

CONCLUDING STATEMENTS

After examination of publicly available geologic and engineering data, there is no evidence of open faults or any other hydrologic connection between the disposal 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 K

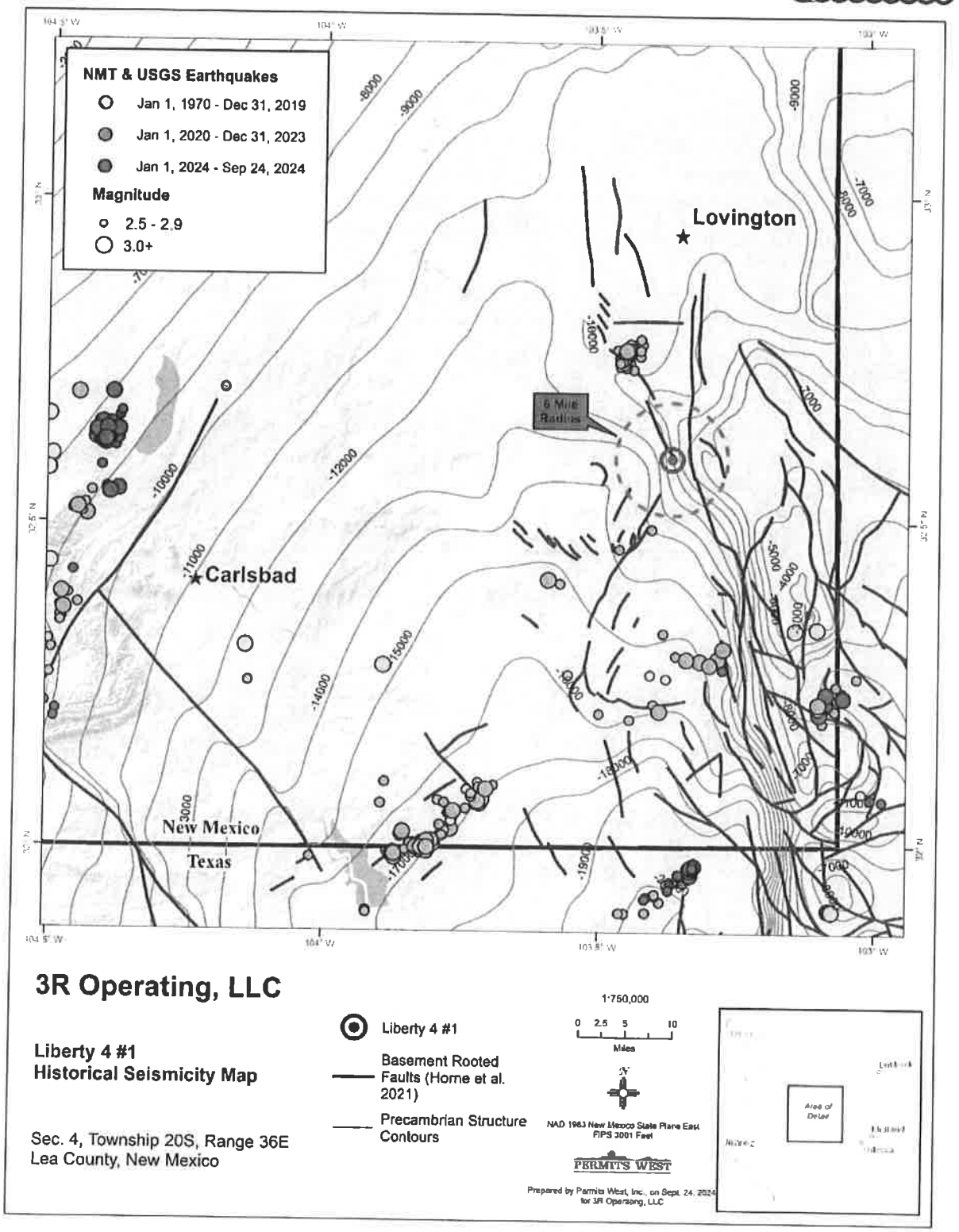


Figure 1. Structural contour map of the Precambrian basement in feet below sea level. Blue lines represent the locations of Precambrian basement-rooted faults (Horne et al., 2021). Liberty 4 #1 well lies ~0.4 miles southwest of the closest deeply penetrating fault and 7.8 miles north from the closest historic earthquake with a magnitude >2.5.

EXHIBIT K

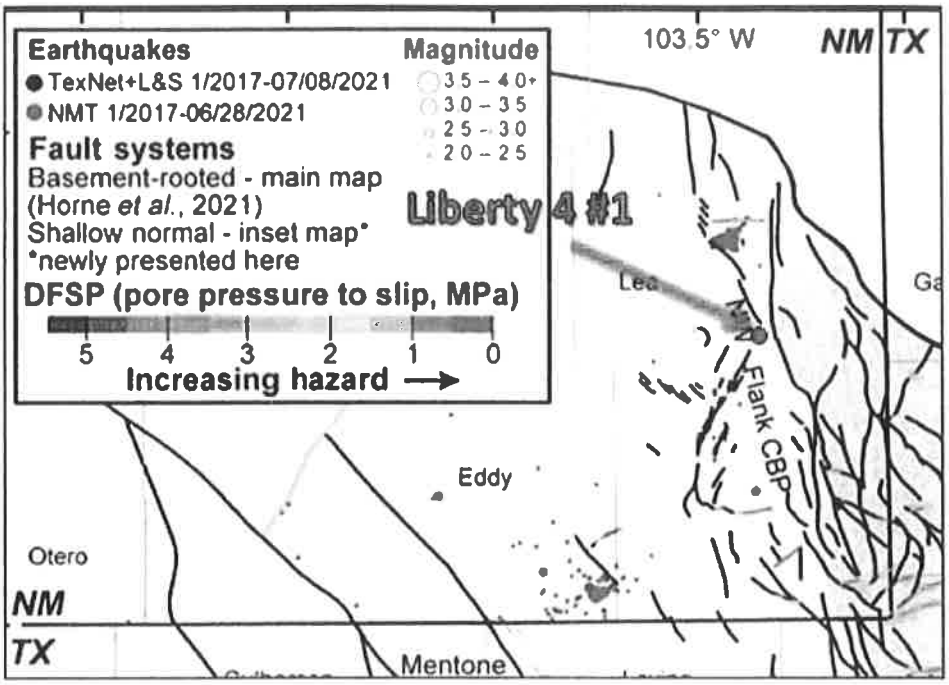


Figure 2. Modified from Hennings et. al. (2021) and shows an increased pore pressure to slip on the nearby faults which decreases the hazard potential. The proposed injection zone is shallower in the Delaware Mountain Group (Brushy Canyon Formation) and therefore removes any major concern of inducing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

EXHIBIT K

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.

Affidavit of Publication

EXHIBIT L

STATE OF NEW MEXICO
COUNTY OF LEA

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

Beginning with the issue dated
November 21, 2024
and ending with the issue dated
November 21, 2024.

LEGAL LEGAL

LEGAL NOTICE
November 21, 2024

3R Operating, LLC is applying to convert its Liberty 4 #1 gas well to a saltwater disposal well. The well is at 1800' FSL & 330' FWL, Sec. 4, T. 20 S., R. 36 E., Lea County, NM. This is 6 miles southwest of Monument, NM. It will dispose water into the Delaware (maximum injection pressure = 1,070 psi) from 5,350' to 6,300'. Disposal will be at a maximum rate of 5,000 bwpd. Interested parties must file objections or requests for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM 87505, or OCD.Engineer@emnrd.nm.gov, within 15 days. Additional information can be obtained by contacting: Brian Wood, Permits West, Inc., 37 Verano Loop, Santa Fe, NM 87508. Phone number is (505) 466-8120.
#00296216

Publisher

Sworn and subscribed to before me this
21st day of November 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 00296216

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 M

December 10, 2024

BLM
620 E. Greene
Carlsbad NM 88220

TYPICAL NOTICE

3R Operating, LLC is applying (see attached application) to convert the Liberty 4 #1 gas well to a saltwater disposal well. As required by NM Oil Conservation Division (NMOCD) rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well: Liberty 4 #1 (fee lease) TD = 13,630'
Proposed Disposal Zone: Delaware (5,350' - 6,300')
Location: 1800' FSL & 330' FWL Sec. 4, T. 20 S., R. 36 E., Lea County, NM
Approximate Location: 6 air miles southwest of Monument, NM
Applicant Name: 3R Operating, LLC (432) 684-7877
Applicant's Address: 4000 N. Big Spring St., Suite 210, Midland, TX 79705

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

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Action 416912

CONDITIONS

Operator: 3R Operating, LLC 20405 State Highway 249 Houston, TX 77070	OGRID: 331569
	Action Number: 416912
	Action Type: [IM-SD] Admin Order Support Doc (ENG) (IM-AAO)

CONDITIONS

Created By	Condition	Condition Date
stacy.sandoval	None	1/3/2025