## Initial

# Application

## Part I

Received: <u>06/28/2019</u>

This application is placed in file for record. It MAY or MAY NOT have been reviewed to be determined Administratively Complete

RECEIVED: 06/28/2019 APP NO: pMAM1918229881 TYPE: SWD REVIEWER:

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY



- Geological & E	CONSERVATION DIVISION Engineering Bureau – Drive, Santa Fe, NM 87505
	APPLICATION CHECKLIST
	STRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND OCESSING AT THE DIVISION LEVEL IN SANTA FE
Applicant: XTO Permian Operating, LLC	OGRID Number: 373075
Well Name: Poker Lake Unit 26 Bridge SWD #1	API: TBA
Pool: SWD: Devonian-Silurian	Pool Code: 97869
	TION REQUIRED TO PROCESS THE TYPE OF APPLICATION CATED BELOW
1) TYPE OF APPLICATION: Check those which of A. Location – Spacing Unit – Simultaneou   NSL   NSP (PROJECT AREA)	SVVD-21/6
[ II ] Injection – Disposal – Pressure Incr	]PC □OLS □OLM
2) NOTIFICATION REQUIRED TO: Check those v. A. Offset operators or lease holders B. Royalty, overriding royalty owners, r. C. Application requires published notice D. Notification and/or concurrent application and/or concurrent application.  Notification and/or concurrent application.	which apply.  revenue owners ce proval by SLO  FOR OCD ONLY Notice Complete  Application Content Complete
3) CERTIFICATION: I hereby certify that the info administrative approval is accurate and co understand that no action will be taken on notifications are submitted to the Division.	
Note: Statement must be completed by an	n Individual with managerial and/or supervisory capacity.
Tracie J. Cherry, Regulatory Lead	06/28/19 Date
Print or Type Name  Signature	432-221-7379  Phone Number  tracie_cherry@xtoenergy.com e-mail Address
oldi More	6-IIIdii Addi 633

#### McMillan, Michael, EMNRD

**From:** Cherry, Tracie <Tracie\_Cherry@xtoenergy.com>

**Sent:** Friday, June 28, 2019 10:42 AM **To:** McMillan, Michael, EMNRD

**Subject:** [EXT] Poker Lake Unit 26 Bridge SWD #1

Attachments: 3901\_001.pdf; 6 PLU 26 Bridge SWD one mile buffer.pdf; 7 PLU 26 Bridge SWD two mile buffer.pdf

Good morning Michael.

Attached is scanned copy of For C-108, Application for Authorization to Inject and all required attachments. The "hard copy" application is being mailed to you via certified mail. Attached is PDF copy of the one-mile and two-mile radius maps in case the scanned copies are not clear.

All required notices were also mailed this date via certified mail.

As always, please do not hesitate to contact me if you have any questions or need any additional information.

Thank you....Tracie

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Tracie J Cherry
Regulatory Coordinator
Direct number 432-221-7379



From: noreply2@xtoenergy.com [mailto:noreply2@xtoenergy.com]

Sent: Friday, June 28, 2019 11:17 AM

To: Cherry, Tracie < Tracie\_Cherry@xtoenergy.com>

Subject: Attached Image

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 XX Disposal Storage Application qualifies for administrative approval? XX Yes No
II.	OPERATOR: XTO Permian Operating, LLC (373075)
	ADDRESS: 6401 Holiday Hill Rd. Bldg 5, Midland, TX 79707
	CONTACT PARTY: Tracie J. Cherry, Regulatory Coordinator PHONE: 432-221-7379
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 XX No 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:
	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected;</li> <li>Whether the system is open or closed;</li> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,</li> <li>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.).</li> </ol>
*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: Tracie J. Cherry
	SIGNATURE: DATE: Ole/18/19
*	E-MAIL ADDRESS: tracie_cherry@xtoenergy.com  If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted.  Please show the date and circumstances of the earlier submittal:

#### III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
  - (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
  - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
  - (3) A description of the tubing to be used including its size, lining material, and setting depth.
  - (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
  - (1) The name of the injection formation and, if applicable, the field or pool name.
  - (2) The injection interval and whether it is perforated or open-hole.
  - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
  - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
  - (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

#### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

#### III. Well Data

A. 1) Lease name: Poker Lake Unit 26 Bridge SWD

Well #:

API # TBA 1

Section: Township:

26 **25S** 

Range:

29E

Footage:

875' FSL & 2306 FEL

2) Casing Info:

Casing size	Set depth	Sacks cmt	Hole size	TOC	Method
18-5/8", 87.5# J-55 BTC	1250'	2035 sx C	24	Surf	Circ
13-3/8" 68# HCL-80 BTC	3880'	2230 sx Poz/C 870 sx C	17-1/2"	Surf	Circ
9-5/8" 53.5# HCP-110 BTC	11,820'	Stage 1 2210 sx Poz/H Stage 2	12-1/4"	Surf	Circ
	11,870'	1205 sx Poz/H			
7" 32# HCP-110 BTC	11,400'-16,840'	800 sx Poz/H	8-1/2"	11,400'	Circ

Tubing to be used (size, lining material, setting depth):

**Tapered String** 

5-1/2", 17#, P-110 IPC to 10,900'

4-1/2", 13.65#, P-110 IPC tubing @ 10,900'-16,740'

4) Name, model, and depth of packer to be used:

Baker Series F nickle plated permanent packer @ 16,740'

В. 1) Name of the injection formation and, if applicable, the field or pool name:

SWD; Devonian-Silurian

The injection interval and whether it is perforated or open hole:

Open hole, 16,840'-18,187' (or to the base of the Fusselman as determined by mud logs)

3) State if the well was drilled for injection or, if not, the original purpose of the well:

This well is being drilled for the purpose of injection

Give the depths of any other perforated intervals and detail on the sacks of cement or BPs used to seal off such perforations:

N/A

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:

Higher: Bell Canyon (+/- 4015), Cherry Canyon (+/-4922') Brushy Canyon (+/-6167'),

Bone Spring (+/-8737'), Wolfcamp (+/-11,132'), Atoka (+/-13,847)Morrow (+/-14,467')

Lower: None

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

1 API Number

## 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

3 Pool Name

MARK DILLON HARP 23786 Certificate Number

AW

2018112625

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

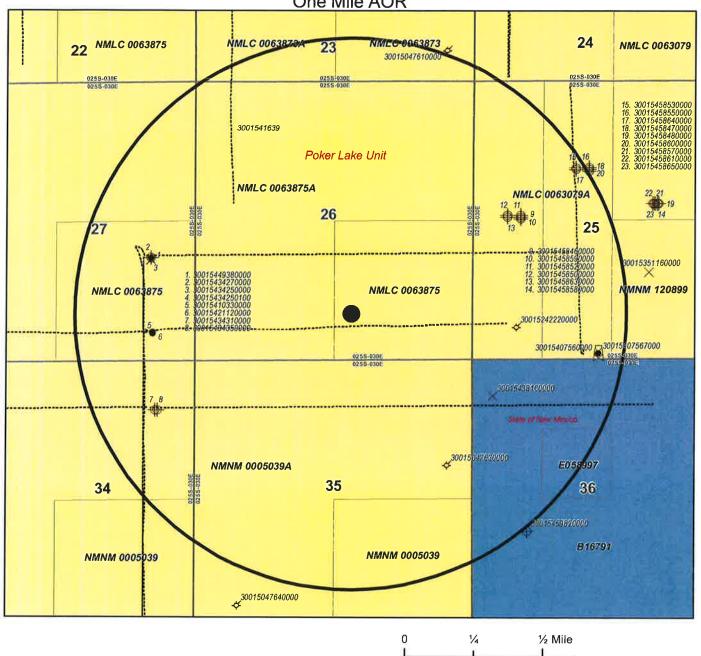
30-015-								
<sup>4</sup> Property Code		<sup>5</sup> Property Name				6 W	Vell Number	
7 cann v		PLU 26 BRIDGE					1	
<sup>7</sup> OGRID No. 260737	хт	<sup>8</sup> Operator Nam O PERMIAN OPERA		C		,	Elevation 3,315'	
200737		<sup>10</sup> Surface Loc		·			3,513	
UL or lot no. Section Township	Range Lot Idn		North/Sout	h line	Feet from the	East/West line	County	
O 26 25 S	30 E	875	SOUTH		2,306	EAST	EDDY	
20 200		ole Location If D				Drio 1		
UL or lot no. Section Township	Range Lot Idn		North/Sout		Feet from the	East/West line	County	
	2111167					2454 11454 11115	County	
12 Dedicated Acres 13 Joint or Infill 14 Co	7	order No.	n consolid	lated or a	non-standard	unit has been app	proved by the	
<sup>16</sup> SEC. 22	SEC. 23		SEC.	24		CRATOR CERT	IFICATION therein is true and complete	
SEC, 27	SEC 26 T25S R30E	 	SEC	25	owns a working in the proposed bott location pursuant interest, or to a vo order heretofore e	best of my knowledge and belief, and that this organization either a working interest or unleased mineral interest in the land includin oposed bottom hole location or has a right to drill this well at this on pursuant to a contract with an owner of such a mineral or work at, or to a voluntary pooling agreement or a compulsory pooling heretofore entered by the division.  Date		
	1 1 1 1 1	—2,J306'————			Printed Name  E-mail Address		Date	
SEC. 34	SEC. 35   57	D	SEC.	36	I hereby certi plat was ploti	YOR CERTII fy that the well locat ted from field notes of or under my supervisi	ion shown on this f actual surveys	
GEODETIC COORDINATE: NAD 83 NME SURFACE LOCATION Y= 399,095.7 X= 690,768.3 LAT.= 32.096274*N LONG.= 103.850777*W		GEODETIC COORDIN NAD 27 NME SURFACE LOCATI Y= 399,037.6 X= 649,582.6 LAT.= 32.0961.5 LONG.= 103.8502	: TION B 9 60'N		o6-03-2019  Date of Survey Signatue and Se Professional Su		t of my belief.	
CORNER COORDINATES TA NAD 83 NME A - Y= 400,883.8 N, X= 690 B - Y= 400,896.3 N, X= 693 C - Y= 398,218.5 N, X= 693 D - Y= 398,235.0 N, X= 693	0,424.7 E A = 3,078.2 E B = 0,423.4 E C =	CORNER COORDINATE: NAD 27 NME - Y= 400,825.8 N, X= - Y= 400,838.4 N, X= - Y= 398,160.6 N, X= - Y= 398,177.1 N, X=	649,239.4 651,892.9 649,238.0	E E	BE RECO	IARY, THIS DOCUME DRDED FOR ANY PU IOT BE USED OR VI S A FINAL SURVEY	IRPOSE AND IEWED OR RELIED	

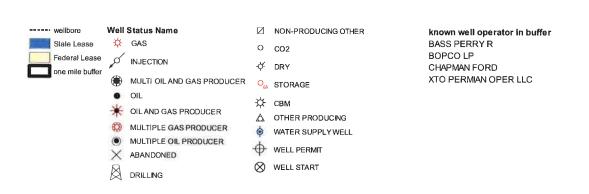
#### PLU 26 Bridge SWD #1 Proposed SWD Schematic (June 26, 2019) County: Eddy SHL: 875' FSL, 2306' FEL Sec 26, T 25S, R 30E API# N/A BHL: 875' FSL, 2306' FEL Sec 26, T 25S, R 30E GL 3315', KB 3347' (32' AGL) Elevation Rig: TBD (RKB 32') Wellhead Hole Size Geology Casing & Cement **General Notes** TVD Formation (Tech Data Sheet) Lead (100% OH excess) 1075 sx 12.8ppg Class C Top of Tail @ 0' 24" 1,047' Rustler Tail (100% OH excess) 960 sx 14.8ppg Class C Top of Tail @ 800' 18-5/8" 87.5# J-55 BTC 1250' MD 17-1/2" 1,437' Top Salt Lead (150% OH excess) 2230 sx 12.8ppg Poz/C Top of Lead @ 0 Tall (100% OH excess) 870 sx 14.8ppg Class C Top of Tall @ 3100' 3,772' Base Salt 13-3/8" 68# HCL-80 BTC 3880' MD Stg 2 Lead (100% OH excess) 12-1/4" 3,970' Delaware 790 sx 11.5ppg Poz/H Top of Lead @ 0' Stg 2 Tail (100% OH excess) 5-1/2" 17# P-110 IPC tbg 415 sx 14.8ppg Poz/H 0 - 10,900' Top of Tail @ 3100' DV tool at 3980' Crossover @ 10,900' Sta 1 Lead (100% OH excess) 1655 sx 11.5ppg Poz/H Top of Lead @ 3980' 7,829' Bone Spring 11400' MD $\boxtimes$ 4-1/2" 13.65## P-110 IPC tbg Stg 1 Tail (100% OH excess) 555 sx 14.8ppg Poz/H Top of Tall @ 10820' 10,900' - 16,737' 11,132' Wolfcamp 11,672' Wolfcamp B 9-5/8" 53.5# HCP-110 BTC 11820' MD 8-1/2" Tail (40% OH excess) 805 sx 14.5ppg Poz/H Top of Tail @ 11400' 13,677' Strawn 13,847' Atoka 14,467' Morrow Baker Series F Nickle Plated Permanent pkr @ 16,737' 16,347' Mississippian Lm 16,647' Woodford 16,817' Devonian 7" 32# HCP-110 BTC 16840' MD 17,937' Base of Fusselman 6" 18,187' TVD at BHL Open hole completion 18,187' MD 18,187' TVD **Approvals** Prepared by: \_ Peer Reviewed by: Date

Approved by: \_

Reviewed by: \_

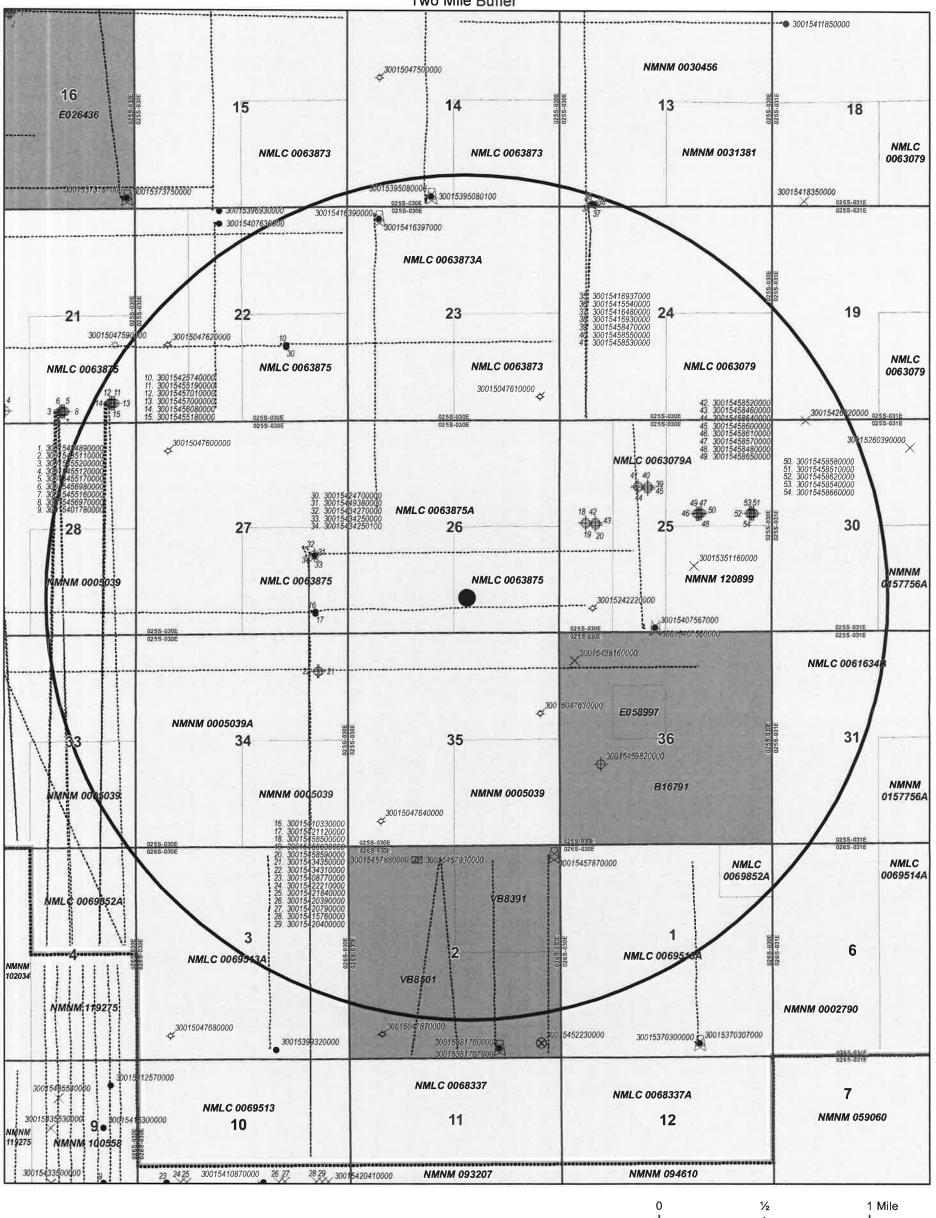
#### PLU 26 Bridge SWD 1 Eddy County, New Mexico One Mile AOR

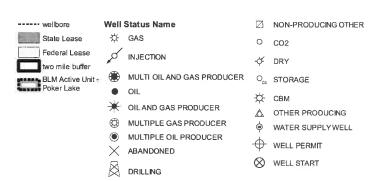




1 Kilomeler

#### PLU 26 Bridge SWD 1 Eddy County, New Mexico Two Mile Buffer





known well operator in buffer ALAMO CORP BASS PERRY R BOPCO LP CHAPMAN FORD CHESAPEAKE OPERG INC EL PASO NAT GAS CO EOG RESOURCES INC FASKEN DAVID XTO PERMIAN OPER LLC

					WELLS	WELLS WITHIN ONE MILE	EMILE				
API	wellname	section township	hip range	unit_ltr	ogrid_name	status	spud year di	directional	pool id list	WellType	Well Status
30-015-04761	Poker Lake Unit #9-A-5	23 255	30E	۵	ALAMO CORPORATION	۵	1958	0	Wildcat	IIO	Plugged (Site Released
30-015-04763	MARSHAL FEDERAL #001	35 255	30E	н	FORD CHAPMAN	۵	1960	0	No Data	10	Plugged (Site Released
30-015-24222	POKER LAKE UNIT #056	25 255	30E	Σ	PERRY R BASS	۵	1982	0	Wildcat	100	Plugged (Site Released
30-015-40756	POKER LAKE CVX JV PB #004H	25 255	30E	z	XTO PERMIAN OPERATING LLC.	4	2012	r	[97814] WILDCAT G-015 52630010, BONE SPRING	IIO	Active
30-015-41033	POKER LAKE UNIT #421H	27 255	30E	Ь	XTO PERMIAN OPERATING LLC,	Ą	2014	Í	[96620] CORRAL CANYON, DELAWARE, SOUTH; [97814] WILDCAT (OII	CATCOIL	Active
30-015-42112	POKER LAKE UNIT #457	27 255	30E	۵	XTO PERMIAN OPERATING LLC.	A	2014	I	[96620] CORRAL CANYON, DELAWARE, SOUTH	IIO	Active
30-015-43816	POKER LAKE UNIT CVX JV PB #020C	36 255	30E	٥	XTO PERMIAN OPERATING LLC,	Ų	6666	I	[97814] WILDCAT G-015 S2630010, BONE SPRING	IIO	Cancelled APD
30-015-44938	POKER LAKE UNIT #474Y	27 255	30E		XTO PERMIAN OPERATING LLC,	4	2018	I	[98220] PURPLE SAGE, WOLFCAMP (GAS)	Gas	Active
30-015-45846	POKER LAKE UNIT 25 BD #102H	25 255	30E	ш	XTO PERMIAN OPERATING LLC.	z	6666	Ŧ	[98220] PURPLE SAGE, WOLFCAMP (GAS)	Gas	New (Not Drilled/Completed)
30-015-45847	POKER LAKE UNIT 25 BD #104H	25 255	305	ш	XTO PERMIAN OPERATING LLC.	z	6666	I	(98220) PURPLE SAGE, WOLFCAMP (GAS)	Gas	New (Not Drilled/Completed)
30-015-45850	POKER LAKE UNIT 25 BD #121H	25 255	30E	ш	XTO PERMIAN OPERATING LLC,	z	6666	I	[98220] PURPLE SAGE, WOLFCAMP (GAS)	Gas	New (Not Drilled/Completed)
30-015-45852	POKER LAKE UNIT 25 BD #122H	25 255	30E	ш	XTO PERMIAN OPERATING LLC.	z	6666	I	[98220] PURPLE SAGE, WOLFCAMP (GAS)	Gas	New (Not Drilled/Completed)
30-015-45853	POKER LAKE UNIT 25 BD #123H	25 255	30E	ų.	XTO PERMIAN OPERATING LLC.	z	6666	I	[98220] PURPLE SAGE, WOLFCAMP (GAS)	Gas	New (Not Drilled/Completed)
30-015-45855	POKER LAKE UNIT 25 BD #124H	25 255	306	щ	XTO PERMIAN OPERATING LLC.	z	6666	I	[98220] PURPLE SAGE, WOLFCAMP (GAS)	Gas	New (Not Drilled/Completed)
30-015-45859	POKER LAKE UNIT 25 BD #701H	25 255	30E	ш	XTO PERMIAN OPERATING LLC.	z	6666	I	[97814] WILDCAT G-015 S2630010, BONE SPRING	lio	New (Not Drilled/Completed)
30-015-45860	POKER LAKE UNIT 25 BD #703H	25 255	30E	u.	XTO PERMIAN OPERATING LLC.	z	6666	I	[97814] WILDCAT G-015 S2630010, BONE SPRING	iõ	New (Not Drilled/Completed)
30-015-45863	POKER LAKE UNIT 25 BD #901H	25 255	30E	ш	XTO PERMIAN OPERATING LLC.	z	6666	I	[97814] WILDCAT G-015 \$2630010, BONE SPRING	ē	New (Not Drilled/Completed)
30-015-45864	POKER LAKE UNIT 25 BD #903H	25 258	30E	u.	XTO PERMIAN OPERATING LLC.	z	6666	ı	[97814] WILDCAT G-015 \$2630010, BONE SPRING	Oil	New (Not Drilled/Completed)
30-015-45982	PLU 36 BD BROMISTA MON STATE #001	36 255	30E	_	XTO PERMIAN OPERATING LLC.	z	6666	>	[98210] STRATAGRAPHIC	Miscellaneous	New (Not Drilled/Completed)
30-015-43425	POKER LAKE UNIT #474H	27 255	30E	-	XTO PERMIAN OPERATING LLC,	z	6666	I	[96620] CORRAL CANYON, DELAWARE, SOUTH; [98220] PURPLE SA OII	LESAOII	New (Not Drilled/Completed)
30-015-43427	POKER LAKE UNIT #475H	27 255	306	_	XTO PERMIAN OPERATING LLC.	z	6666	I	[98165] WC-015 G-04 S2530271, DELAWARE	llo	New (Not Drilled/Completed)
30-015-43431	POKER LAKE UNIT #470H	34 255	30E	A	XTO PERMIAN OPERATING LLC.	z	6666	I	[98165] WC-015 G-04 S253027I, DELAWARE	IIO	New (Not Drilled/Completed)
30-015-43435	POKER LAKE UNIT CVX JV PB #021H	34 255	30E	4	XTO PERMIAN OPERATING LLC.	z	6666	I	[98165] WC-015 G-04 S253027I, DELAWARE	Tō.	New (Not Drilled/Completed)
Well bores that ter	Well bores that terminate inside or pass through the 1-mile buffer										
30-015-45848	POKER LAKE UNIT 25 BD #106H	12 255	30E	ŋ	XTO PERMIAN OPERATING LLC	z	6666	I	[98220] PURPLE SAGE, WOLFCAMP (GAS)	Gas	New (Not Drilled/Completed)
30-015-45861	POKER LAKE UNIT 25 BD #705H	25 255	30E	ŋ	XTO PERMIAN OPERATING LLC	z	6666	I	[97814] WILDCAT G-015 S2630010, BONE SPRING	iö	New (Not Drilled/Completed)
30-015-45865	POKER LAKE UNIT 25 BD #905H	25 255	30E	ŋ	XTO PERMIAN OPERATING LLC	z	6666	I	[97814] WILDCAT G-015 S2630010, BONE SPRING	iio	New (Not Drilled/Completed)
30-015-45857	POKER LAKE UNIT 25 BD #125H	25 255	30E	v	XTO PERMIAN OPERATING LLC	z	6666	I	[98220] PURPLE SAGE, WOLFCAMP (GAS)	Gas	New (Not Drilled/Completed)
30-015-41639	POKER LAKE UNIT CVX JV BS #025H	23 255	30E	۵	XTO PERMIAN OPERATING LLC	A	2014	I	[13354] CORRAI CANYON BONF SPRING SOLITH	ē	Active



An Ecolab Company

#### **Complete Water Analysis Report**

Customer: XTO ENERGY INC

Region: Carlsbad, NM Location: Nash Draw 19 System: Production System Equipment: Nash Draw 19 Federal 001 SWD

Sample Point: Transfer Pump

Sample ID: AL07043
Acct Rep Email: Anthony.Baeza@ecolab.com

Collection Date: 06/08/2018

Receive Date: 06/21/2018
Report Date: 06/25/2018
Location Code: 375624

		Field	l Analysis			
Bicarbonate	<b>60</b> mg/L	Dissolved CO2	1100 mg/L	Dissolved H2S	9 mg/L	
Pressure Surface	<b>20</b> psi	Temperature	<b>96</b> ° F	pH of Water	6.3	
Oil per Day	0 B/D	Gas per Day	0 Mcf/D	Water per Day	3500 B/D	

		Samp	ie Alialysis		
Calculated Gaseous CO2	1.11%	Calculated pH	6.30	Conductivity (Calcula	ted) <b>392527</b> µS - cm3
Ionic Strength	5.25	Resistivity	<b>0.025</b> ohms - m	Specific Gravity	1.196
Total Dissolved Solids 25	<b>1270.3</b> mg/L				
			W		

		" B	Cation	าร		1 No. 100	
Iron	46	mg/L	Manganese 7.1	4 mg/L	Barium	7.61	mg/L
Strontium	2000	mg/L	Calcium 2840	0 mg/L	Magnesium	4050	mg/L
Sodium	51200.00	mg/L	Potassium 153	0 mg/L	Boron	28.9	mg/L
Lithium	15.1	mg/L	Copper 0.41	4 mg/L	Nickel	0.122	mg/L
Zinc	1.88	mg/L	Lead 0.2	5 mg/L	Cobalt	0.043	mg/L
Chromium	0.02	mg/L	Silicon 4.7	9 mg/L	Aluminum	Not Detected	mg/L
Molybdenum	0.026	mg/L	Phosphorus 6.4	4 mg/L			

			Anions			
Bromide	1744.463 mg/L	Chloride	<b>165315</b> mg/L	Sulfate	<b>184.003</b> mg/L	

			PTB	Valu	е				Saturation Index								
	Barite PTB	Calcile PTB	Celestite PTB	Gypsum PTB	Halite PTB	Iron Carbonate PTB	Iron Sulfide PTB		Barite SI	Calcite SI	Celestite SI	Gypsum SI	Halite SI	Iron Carbonate SI	Iron Sulfide SI		
50°	4.29	11,73	93,75	25.67	0.00	0.00	7,10	50°	1,28	1,32	0.65	0,11	-0,52	-0,16	2,1		
75°	3 93	10.87.	78.70	0.00	0.00	0.00	6.56	75°	0.88	1.18	0.47	-0,06	-0.54	-0,19	1,8		
100°	3 30	10.04	66,11	0.00	0.00	0.00	6.05	100°	0.57	1.06	0.35	-0.16	-0.56	-0,21	1.6		
125°	2 32	9.28	56,94	0,00	0.00	0,00	5 62	125°	0.32	0.96	0 29	-0.23	-0.58	-0.23	1.4		
150°	0.96	8.63	51,03	0,00	0.00	0.00	5 29	150°	0.11	0,88	0.25	-0.29	-0.60	-0.25	1,3		
175°	0.00	8,11	47,56	0,00	0.00	0,00	5.06	175°	-0.07	0,81	0.23	-0.35	-0.61	-0.27	1.2		
200°	0.00	7.71	45,63	0.00	0,00	0.00	4.90	200°	-0.23	0.76	0.23	-0.41	-0.63	-0.30	1,1		
225°	0.00	7,43	44,51	0.00	0,00	0.00	4.82	225°	-0,36	0,73	0.21	-0.49	-0.65	-0.32	1,1		
250°	0.00	7.26	43.71	0.00	0,00	0.00	4,79	250°	-0.48	0,70	0.20	-0.57	-0,66	-0.36	1,1		
275°	0.00	7,17	42,91	0.00	0,00	0.00	4,79	275°	-0,59	0,68	0.20	-0.64	-0,68	-0.40	1.13		
300°	0.00	7.14	42.00	0.00	0,00	0.00	4.82	300°	-0.70	0.67	0,19	-0.71	-0,69	-0.45	1,13		
325°	0,00	7.16	40.97	0.00	0.00	0.00	4,86	325°	-0,81	0.66	0.19	-0.74	-0,71	-0.52	1,14		
350°	0.00	7.22	39.85	0.00	0,00	0.00	4,90	350°	-0.92	0.65	0,18	-0.73	-0.72	-0.60	1,15		
375°	0.00	7.27	38,56	0.00	0,00	0.00	4.94	375°	-1,04	0.63	0,17	-0,66	-0.73	-0.71	1,15		
400°	0.00	9.14	36,83	0.00	0,00	0.00	6,24	400°	-1,17	0.81	0.17	-0,49	-0.74	-0.63	1,56		

Scaling predictions calculated using Scale Soft Pitzer 2017

Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

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06/27/2018



#### **Complete Water Analysis Report**

**Customer: XTO ENERGY INC** 

Region: Carlsbad, NM Location: Nash Draw 19 System: Production System Equipment: Nash Draw 19 Federal 001 SWD

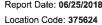
Sample Point: Transfer Pump

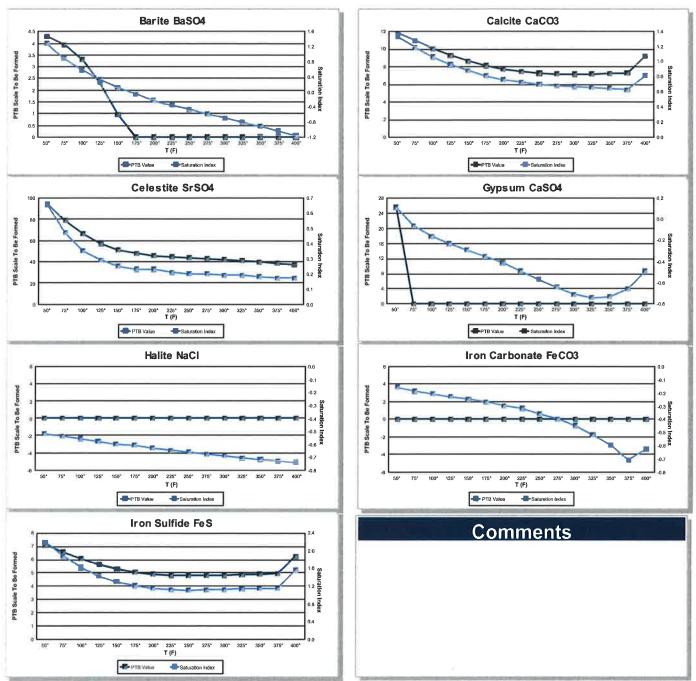
Sample ID: AL07043

Acct Rep Email: Anthony.Baeza@ecolab.com

Collection Date: 06/08/2018 Receive Date: 06/21/2018

Report Date: 06/25/2018





Scaling predictions calculated using Scale Soft Pitzer 2017 Scaling predictions dependent on provided field data. Incomplete/partial field data may impact results generated by scaling software.

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#### New Mexico Office of the State Engineer

#### **Active & Inactive Points of Diversion**

(with Ownership Information)

No PODs found.

PLSS Search:

Section(s): 25-27

Township: 268

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make ne warranties, expressed or implied, concerning the accuracy, completeness, reliability, use



#### New Mexico Office of the State Engineer

#### **Active & Inactive Points of Diversion**

(with Ownership Information)

C=the file is closed)

(R=POD has been replaced and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

X Y 609665 3550314\*

(acre fl per annum)

basin Use Diversion Owner
CUB PLS 17 BUCK & LARUE JACKSON TRUST

County POD Number ED LWD 01210 POD1

Tag Code Grant

q q q Source 6416 4 Sec Twe Rng 3 2 3 36 258 30E

Record Count: 1

WR File Nor LWD 01210

Section(s): 34-36

Township: 258 Range: 30E

Sorted by: File Number

\*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 sultability for any particular purpose of the data.

6/24/19 3:23 PM

ACTIVE & INACTIVE POINTS OF DIVERSION

June 24, 2019

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

Re: Geology Statement per Question XII on the Application for Authorization to Inject Form C-108 for

XTO Energy Inc., an ExxonMobil subsidiary
PLU 26 Bridge SWD 1,
Section 26, Township 25 South, Range 30 East,
Eddy County, New Mexico

#### To whom it may concern:

XTO Energy, Inc., an ExxonMobil subsidiary, has examined available geological data at the abovementioned well located at 875 feet from north line and 2,306 feet from east line of Section 26, Township 25 South, Range 30 East, Eddy County, New Mexico; and finds no evidence of open faults or other hydrologic connection between the disposal zone and the underground sources of drinking water.

Respectively Submitted,

Matthew W. Kearney, P.G.

Geoscientist Geologist

XTO Energy Inc., an ExxonMobil subsidiary

22777 Springwoods Village Parkway

Spring, Texas 77389

### CURRENT-ARGUS

#### AFFIDAVIT OF PUBLICATION

Ad No. 0001289668

Tracie J Cherry XTO ENERGY 6401 HOLIDAY HILL RD. BLDG 5

MIDLAND TX 79707

I, a legal clerk of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

06/26/19

Legal Clerk

Subscribed and sworn before me this 26th of June 2019.

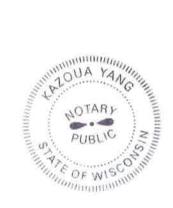
State of WI, County of Brown NOTARY PUBLIC

My Commission Expires

Ad#:0001289668

PO: Poker Lake Unit 26 Bridge SWD #1

# of Affidavits: 0.00



NOTICE OF APPLICATION FOR WATER DISPOSAL WELL PERMIT XTO Permian Operating, LLC is applying to the New Mexico Oil Conservation Division for a permit to dispose of produced water into a porous formation not productive of oil or gas. The applicant proposes to dispose of produced water into the Poker Lake Unit 26 Bridge SWD #1 (Siluro-Devonian and Fusselman Formations). The maximum injection pressure will be 3,367 psi and the maximum rate will be 40,000 bbls, produced water per day. The proposed disposal well is located approximately 17 miles Southeast of Malaga, New Mexico in Section 26, T25S, R30E, 875' FSL & 2,306' FEL, Eddy County, New Mexico. The produced water will be disposed at a subsurface depth of 16,837'-18,187'. Any questions concerning this application should be directed to Tracie J Cherry, Regulatory Coordinator, XTO Energy, Inc, 6401 Holiday Hill Rd, Bldg 5, Midland, Texas 79707, (432) 221-7379.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, New Mexico 87505 within 15 days. June 26, 2019 # 1289668

### CERTIFIED MAILING LIST XTO PERMIAN OPERATING, LLC POKER LAKE UNIT 26 BRIDGE SWD #1

Surface Owner <u>Certified #7018 1130 0001 5531 4439</u>

**Bureau of Land Management** 

620 E. Greene Street Carlsbad NM 88220-6292

Grazing Lessee Certified #7018 1130 0001 5531 4446

DK Farms, Inc. David Kirk

2727 Raquet Club Drive Midland, TX 79705

Offset Notices Certified #7018 1130 0001 5531 4453

The New Mexico State Land Office

310 Old Santa Fe Trail Santa Fe, NM 87501

Certified #7018 1130 0001 5531 4460

Chevron USA Inc 630 Deauville

Midland, TX 79706-2964

I, Tracie J Cherry, do hereby certify the surface owner and offset parties for the well shown were furnished a copy of XTO Permian Operating, LLC's application for salt water disposal, via certified mail on this date.

Signed:

Title:

Regulatory Coordinator

Date:



#### Statements Regarding Seismicity

XTO has performed a seismicity risk assessment associated with the proposed Poker Lake Unit 26 Bridge SWD Well by investigating historic seismicity, the presence of deep faulting and the potential for pore pressure build up that might cause a fault to slip. The analysis was done utilizing Stanford's Fault Slip Potential Tool version 2.0 (FSP; Walsh et al. 2017).

As part of our risk assessment we also consider mitigation options to address inherent uncertainties associated with the evaluation of possible seismicity. XTO has developed and will implement, as a precautionary measure, a seismicity monitoring plan to address the inherent uncertainty in the subsurface characterization, future rates of disposal and reservoir response.

A summary of the evaluation and seismicity monitoring plan follows:

#### **Historic Seismicity**

There are no seismic events reported by the USGS and State Geologic Survey within 6 miles of the proposed well. Additionally, the Texas Bureau of Economic Geology's TexNet website shows no recent earthquakes in Texas within ~25 miles of the New Mexico border in the Delaware Basin (Figure 1).

#### **Deep Faulting**

Utilizing licensed 3D seismic data in the area of the proposed SWD well, XTO did not interpret any coherent faults and/or linear features near the subject well. There are several seismic discontinuities that are interpreted as karst features in the Devonian section that do not appear to have significant lateral continuity.

#### Stress Regime

Utilizing data and analysis from Snee and Zoback, 'State of Stress in the Permian Basin, Texas and New Mexico: Implications for Induced Seismicity' (Feb 2018, The Leading Edge) the region near the well is primarily a normal faulting regime (Figure 1).

#### Pore Pressure Modeling

A screening level investigation of possible pore pressure increases due to the proposed SWD well was performed utilizing the FSP tool. For this screening level analysis a 'high-side' flat rate model was run assuming disposal of 40,000 BWPD beginning in 2019 and continuing at that rate until 2040 (Figure 2). Snapshots of the calculated pore pressure increase in 2025 and 2040 are also shown in Figure 2.

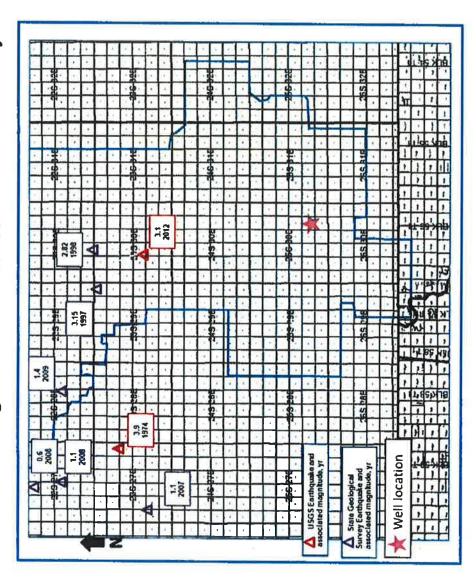
#### **Monitoring Plan**

To manage the inherent uncertainty, XTO has contracted with a third party to provide seismicity monitoring using public seismometers augmented by a private array in the area of the proposed well. This will allow for a better determination of baseline seismicity as well as early detection should there be anomalous events. Additionally, XTO will determine the original pore pressure of the disposal interval prior to initiating operations. Upon request, XTO will share the results of this work with the EMNRD's UIC staff.

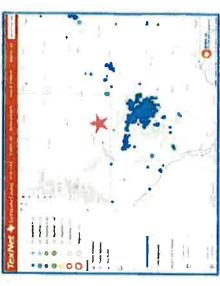
Tim Tyrrell

**XTO Geoscience Technical Manager** 

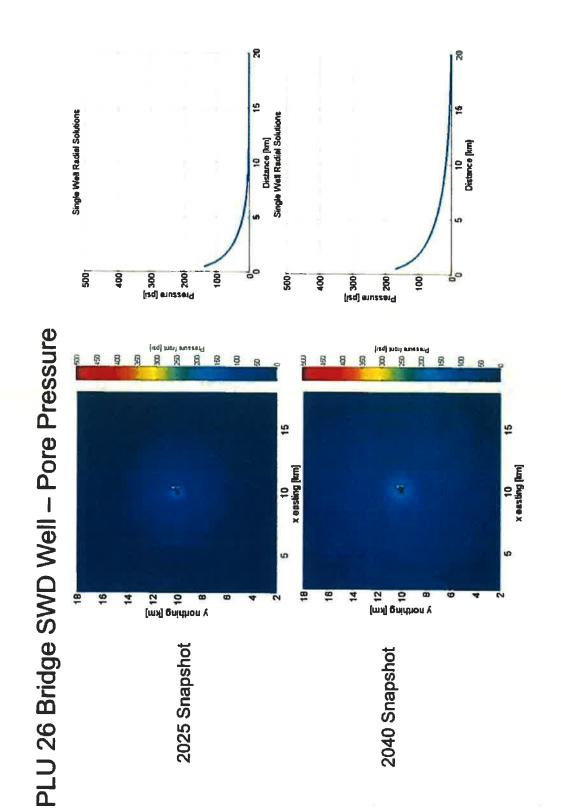
PLU 26 Bridge SWD Well - Historic Seismicity



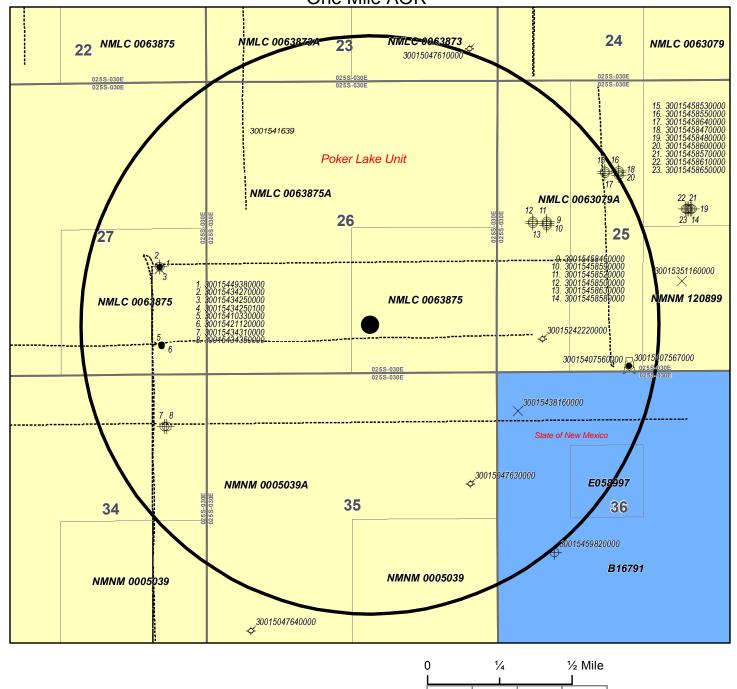


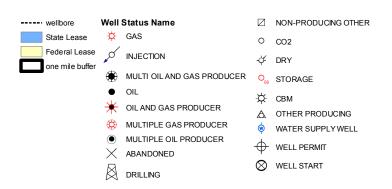


Figure



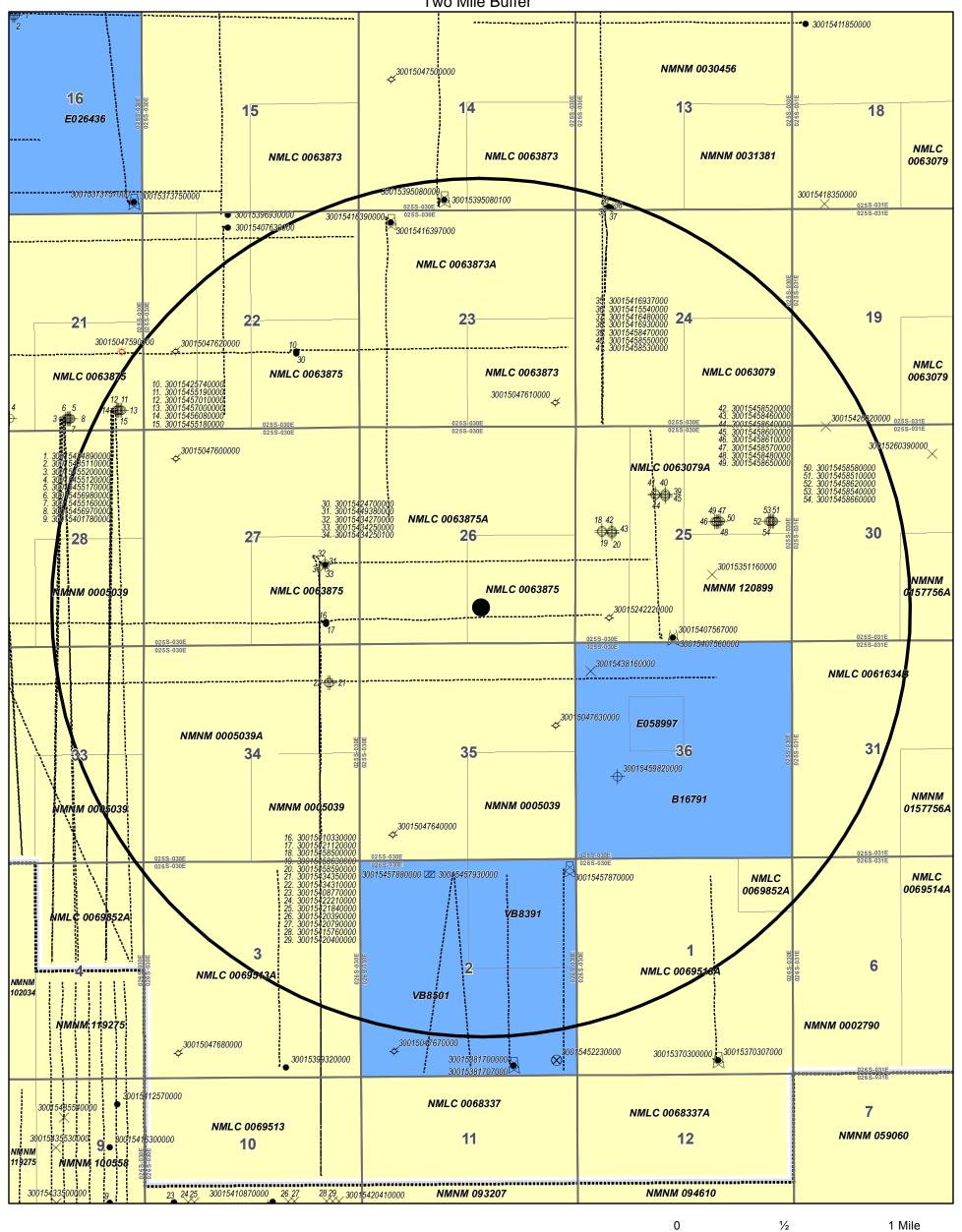
#### PLU 26 Bridge SWD 1 Eddy County, New Mexico One Mile AOR

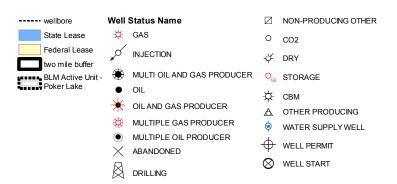




known well operator in buffer BASS PERRY R BOPCO LP CHAPMAN FORD XTO PERMIAN OPER LLC 1 Kilometer

### PLU 26 Bridge SWD 1 Eddy County, New Mexico Two Mile Buffer





known well operator in buffer ALAMO CORP BASS PERRY R BOPCO LP CHAPMAN FORD CHESAPEAKE OPERG INC EL PASO NAT GAS CO EOG RESOURCES INC FASKEN DAVID XTO PERMIAN OPER LLC