Initial Application Part I

Received: **06/28/2019**

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

Revised March 23, 2017

RECEIVED: 06/28/2019	REVIEWER:	TYPE: SWD	APP NO: pMAM1918231216

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Geological & Engineering Bureau –
1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Applicant: XTO Permian Operating, LLC **OGRID Number:** 373075
Well Name: Poker Lake Unit 14 Gin SWD #1 **API:** TBA
Pool: SWD: Devonian-Silurian **Pool Code:** 97869

SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED BELOW

SWD-2177

1) **TYPE OF APPLICATION:** Check those which apply for [A]
A. Location – Spacing Unit – Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD

B. Check one only for [I] or [II]
[I] Commingling – Storage – Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
[II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery
☐ WFX ☐ PMX ■ SWD ☐ IPI ☐ EOR ☐ PPR

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

2) **NOTIFICATION REQUIRED TO:** Check those which apply.
A. ■ Offset operators or lease holders
B. ☐ Royalty, overriding royalty owners, revenue owners
C. ■ Application requires published notice
D. ☐ Notification and/or concurrent approval by SLO
E. ■ Notification and/or concurrent approval by BLM
F. ■ Surface owner
G. ■ For all of the above, proof of notification or publication is attached, and/or,
H. ☐ No notice required

3) **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Tracie J. Cherry, Regulatory Coordinator
Print or Type Name

Signature

06/28/19
Date

432-221-7379
Phone Number

tracie_cherry@xtoenergy.com
e-mail Address

McMillan, Michael, EMNRD

From: Cherry, Tracie <Tracie_Cherry@xtoenergy.com>
Sent: Monday, July 1, 2019 8:57 AM
To: McMillan, Michael, EMNRD
Subject: [EXT] FW: Poker Lake Unit 14 Gin SWD #1
Attachments: 3897_001.pdf; 7 PLU 14 Gin SWD two mile buffer.pdf; 6 PLU 14 Gin SWD one mile buffer.pdf

Good morning Mike. Here are the forms that were emailed to you Friday.

If you need anything else, let me know.

Thanks….Tracie

From: Cherry, Tracie
Sent: Friday, June 28, 2019 11:45 AM
To: 'McMillan, Michael, EMNRD' <Michael.McMillan@state.nm.us>
Subject: Poker Lake Unit 14 Gin SWD #1

Good morning again.

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

From: noreply2@xtoenergy.com [mailto:noreply2@xtoenergy.com]
Sent: Friday, June 28, 2019 10:18 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:

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: Tracie J. Cherry TITLE: Regulatory Lead

SIGNATURE:  DATE: 06/28/19

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: _____

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

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 14 Gin SWD**
Well #: **1** **API # TBA**
Section: **14**
Township: **25S**
Range: **30E**
Footage: **1925 FSL & 2167 FEL**

2) Casing Info:

Casing size	Set depth	Sacks cmt	Hole size	TOC	Method
18-5/8", 87.5# J-55 BTC	1240'	2130 sx C	24	Surf	Circ
13-3/8" 68# HCL-80 BTC	3950'	2465 sx Poz/C 685 sx C	17-1/2"	Surf	Circ
9-5/8" 53.5# HCP-110 BTC	11,930'	Stage 1 2210 sx Poz/H	12-1/4"	Surf	Circ
DV @ 4060		Stage 2 1245 Poz/H			
7" 32# HCP-110 BTC	11,500'-16,800'	780 sx Poz/H	8-1/2"	10,500'	Circ

3) Tubing to be used (size, lining material, setting depth):
Tapered String
5-1/2" , 17#, P-110 IPC to 11,000'
4-1/2", 13.65#, P-110 IPC tubing @ 11,000'-16,700'

4) Name, model, and depth of packer to be used:
Baker Series F nickle plated permanent packer @ 16700'

B. 1) Name of the injection formation and, if applicable, the field or pool name:
SWD; Devonian-Siluran

2) The injection interval and whether it is perforated or open hole:
Open hole, 16,800'-18,129' (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

4) 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 (+/-4079), Cherry Canyon (+/-4967') Brushy Canyon (+/-6324'),
Bone Spring (+/-7924'), Wolfcamp (+/-11,269'), Atoka (+/-13,799)Morrow (+/-14,419')
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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-		

[4] Property Code	[5] Property Name	[6] Well Number
	PLU 14 GIN SWD	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
260737	XTO PERMIAN OPERATING, LLC.	3,367'

[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
J	14	25 S	30 E		1,925	SOUTH	2,167	EAST	EDDY

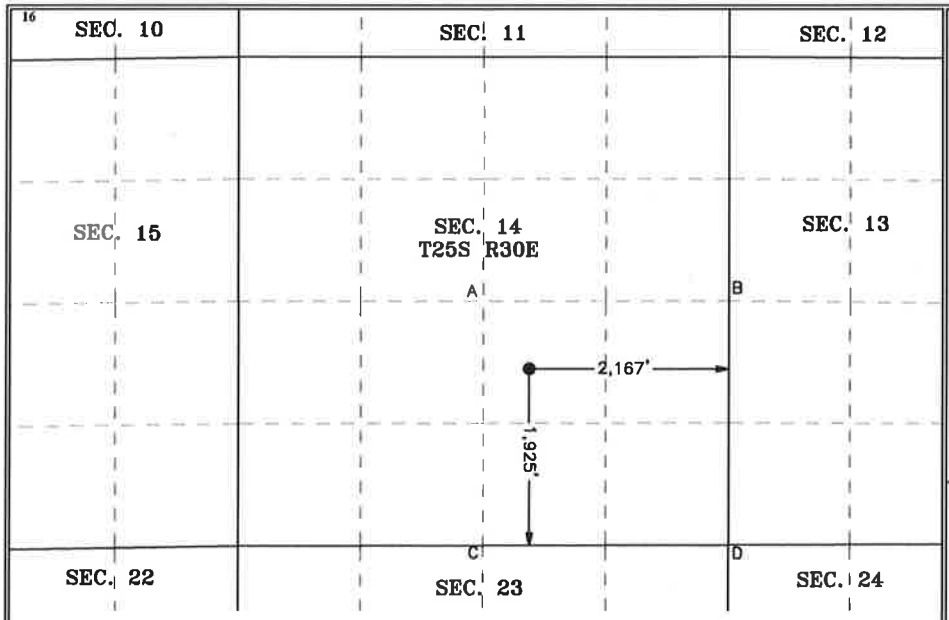
[11] Bottom Hole Location If Different From Surface

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.

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

[16]



GEODETIC COORDINATES
NAD 83 NME
SURFACE LOCATION
Y= 410,803.0
X= 690,912.8
LAT.= 32.128454°N
LONG.= 103.850141°W

GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION
Y= 410,744.8
X= 649,727.8
LAT.= 32.128330°N
LONG.= 103.849660°W

CORNER COORDINATES TABLE
NAD 83 NME
A - Y= 411,539.7 N, X= 690,413.3 E
B - Y= 411,543.5 N, X= 693,080.5 E
C - Y= 408,876.9 N, X= 690,413.6 E
D - Y= 408,883.9 N, X= 693,078.5 E

CORNER COORDINATES TABLE
NAD 27 NME
A - Y= 411,481.5 N, X= 649,228.4 E
B - Y= 411,485.3 N, X= 651,895.5 E
C - Y= 408,818.8 N, X= 649,228.6 E
D - Y= 408,825.8 N, X= 651,893.4 E

[17] OPERATOR CERTIFICATION

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

Signature Date

Printed Name

E-mail Address

[18] SURVEYOR CERTIFICATION

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

06-03-2019
Date of Survey

Signature and Seal of Professional Surveyor:

PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT

MARK DILLON HARP 23786
Certificate Number AW 2018112627

PLU 14 Gin SWD #1

Proposed SWD Schematic (June 26, 2019)

County: Eddy
SHL: 1925' FSL, 2167' FEL
Sec 14, T 25S, R 30E

BHL: 1925' FSL, 2167' FEL
Sec 14, T 25S, R 30E

API # N/A
Elevation GL 3367', KB 3397' (32' AGL)
Rig: TBD (RKB 32')

TVD	Formation	Casing & Cement	Wellhead	Hole Size	General Notes
			(Tech Data Sheet)		
		Lead (100% OH excess) 1075 sx 12.8ppg Class C Top of Tail @ 0'		24"	
1,184'	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**		
1,299'	Top Salt	*Lead (150% OH excess)* 2230 sx 12.8ppg Poz/C Top of Lead @ 0		17-1/2"	
		Tail (100% OH excess) 955 sx 14.8ppg Class C Top of Tail @ 3100'			
3,859'	Base Salt	**13-3/8" 68# HCL-80 BTC**	**3960' MD**		
		Stg 2 Lead (100% OH excess)		12-1/4"	
4,049'	Delaware	790 sx 11.5ppg Poz/H Top of Lead @ 0'			5-1/2" 17# P-110 IPC tbg 0 - 11,000'
		Stg 2 Tail (100% OH excess) 455 sx 14.8ppg Poz/H Top of Tail @ 3100'			
		DV tool at 4060'			Crossover @ 11,000'
7,887'	Bone Spring	*Stg 1 Lead (100% OH excess)* 1655 sx 11.5ppg Poz/H Top of Lead @ 4060'	**11500' MD**		4-1/2" 13.65## P-110 IPC tbg 10,000' - 16,700
		Stg 1 Tail (100% OH excess)			
11,224'	Wolfcamp	555 sx 14.8ppg Poz/H Top of Tail @ 10930'			
11,779'	Wolfcamp B	**9-5/8" 53.5# HCP-110 BTC**	**11930' MD**		
				8-1/2"	
		Tail (40% OH excess)			
13,624'	Strawn	780 sx 14.5ppg Poz/H			
13,799'	Atoka	Top of Tail @ 11500'			
14,419'	Morrow				
16,349'	Mississippian Lm				Baker Series F Nickle Plated Permanent pkr @ 16,700'
16,614'	Woodford				
16,779'	Devonian				
		7" 32# HCP-110 BTC	**16800' MD**		
17,850'	Base of Fusselman			6"	
18,129'	TVD at BHL	**Open hole completion**	**18,129' MD** **18,129' TVD**		

Approvals

Prepared by: _____ **Peer Reviewed by:** _____
Date

Reviewed by: _____ **Approved by:** _____

C-108 DATA

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.
Maps attached (Exhibit A & Exhibit B).

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 wells type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
(Exhibit C)
Four (4) horizontal wells terminiate within the one-mile Area of Review. None of the wells penetrates the proposed dispsal zone.
Two (2) plugged and abandoned wells are within the one-mile Area of Review. Neither of the wells penetrates the proposed disposal zone.

VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected:
20,000 average, 40,000 maximum BWPD
2. Whether the system is open or closed: **closed**
3. Proposed average and maximum injection pressure: **2,000 psi average, 3360 psi maximum**
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water: **Well will be part of a multi-well SWD system taking Permian waters. The majority of the produced water will come from Delaware, Bone Spring and Wolfcamp formations with minor amouts from Atoka and Morrow.**
An analysis of water to be disposed is attached (Exhibit D)

5. If injection is for disposal purposes into a zone not productive of oil & gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water:

No disposal wells are within one mile of the proposed well.

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 TDS 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*:

Lithologic Detail:	**Carbonates (Dolomite and Limestone)**
Geological Name:	**Devonian (Silurian-Devonian)**
Thickness:	**Est. 1,350'**
Depth:	**Est. 16,779' to 18,129' (includes 100' buffer)**

The Dewey Lake Red Beds consisting of alluvial sandstones, siltstones, and shales are present from the surface to the top of the Rustler Anhydrite. The top of the Rustler Anhydrite is estimated to be at approximately 1,184 feet below the surface in this PLU 14 GIN SWD 1 well. These Dewey Lake Red Beds may contain fresh water throughout this geographic area, but it is not likely of drinking water quality (TDS of 10,000 mg/L or less).

Based on published maps, the Capitan Reef Aquifer is not present in this area

No sources of fresh water are known to exist below the proposed disposal zone.

IX. Describe the proposed stimulation program, if any:
Acid stimulate with approximately 5000 gallons of 15% NEFE HCL acid.

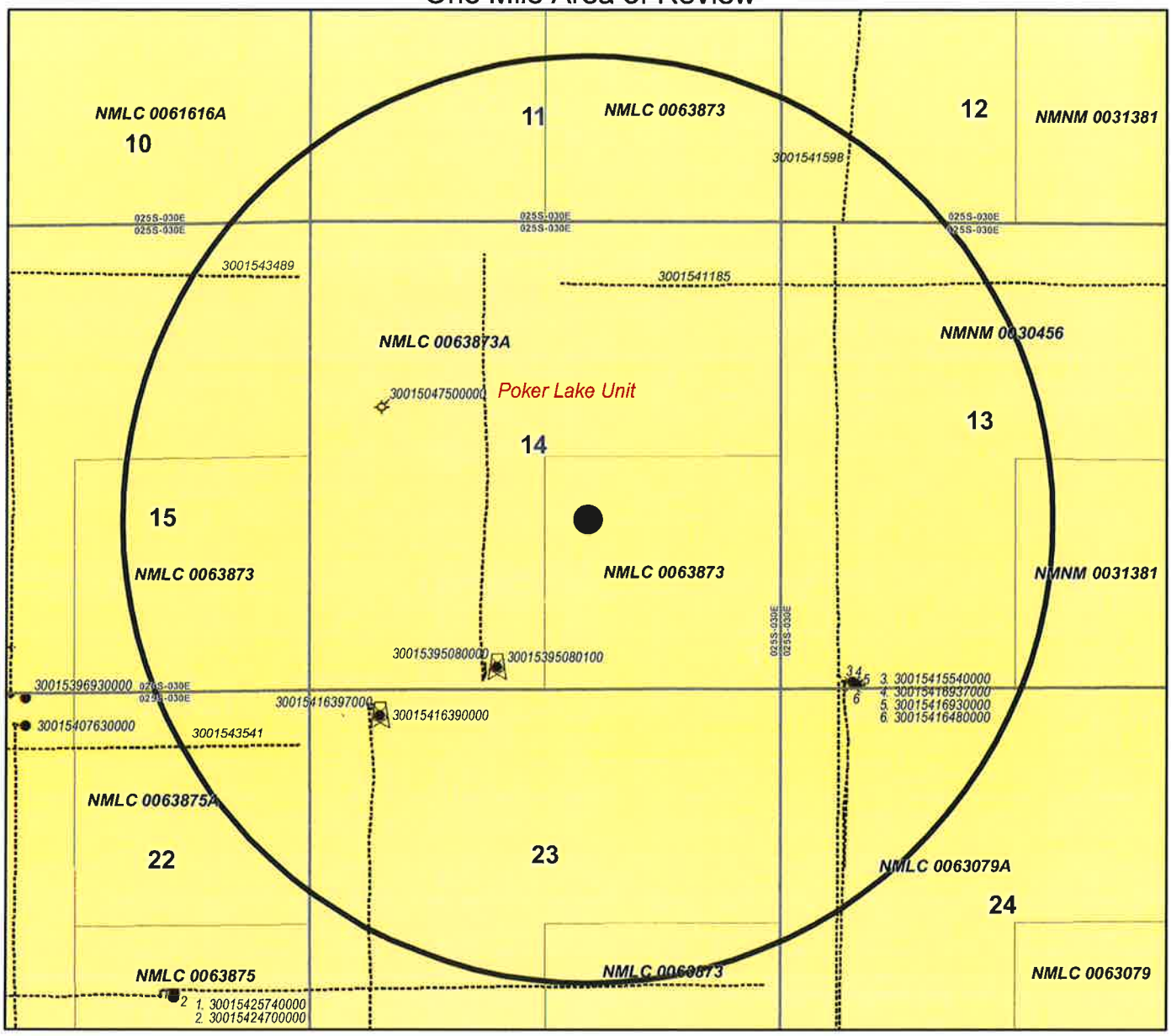
X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted.)
Logs will be submitted with completion papers when well is drilled.

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.
According to the New Mexico Office of State Engineer database, one water well exhists within a one-mile radius of the proposed well. Status of the well has not been determined. Based on location on company name, well most likely used as water supply for drilling. Well was drilled to 720'.
(Exhibit E)

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

XIV. Proof of Notice
(Exhibit G)

PLU 14 Gin SWD 1
Eddy County, New Mexico
One Mile Area of Review



wellbore
State Lease
Federal Lease
one mile buffer

Well Status Name

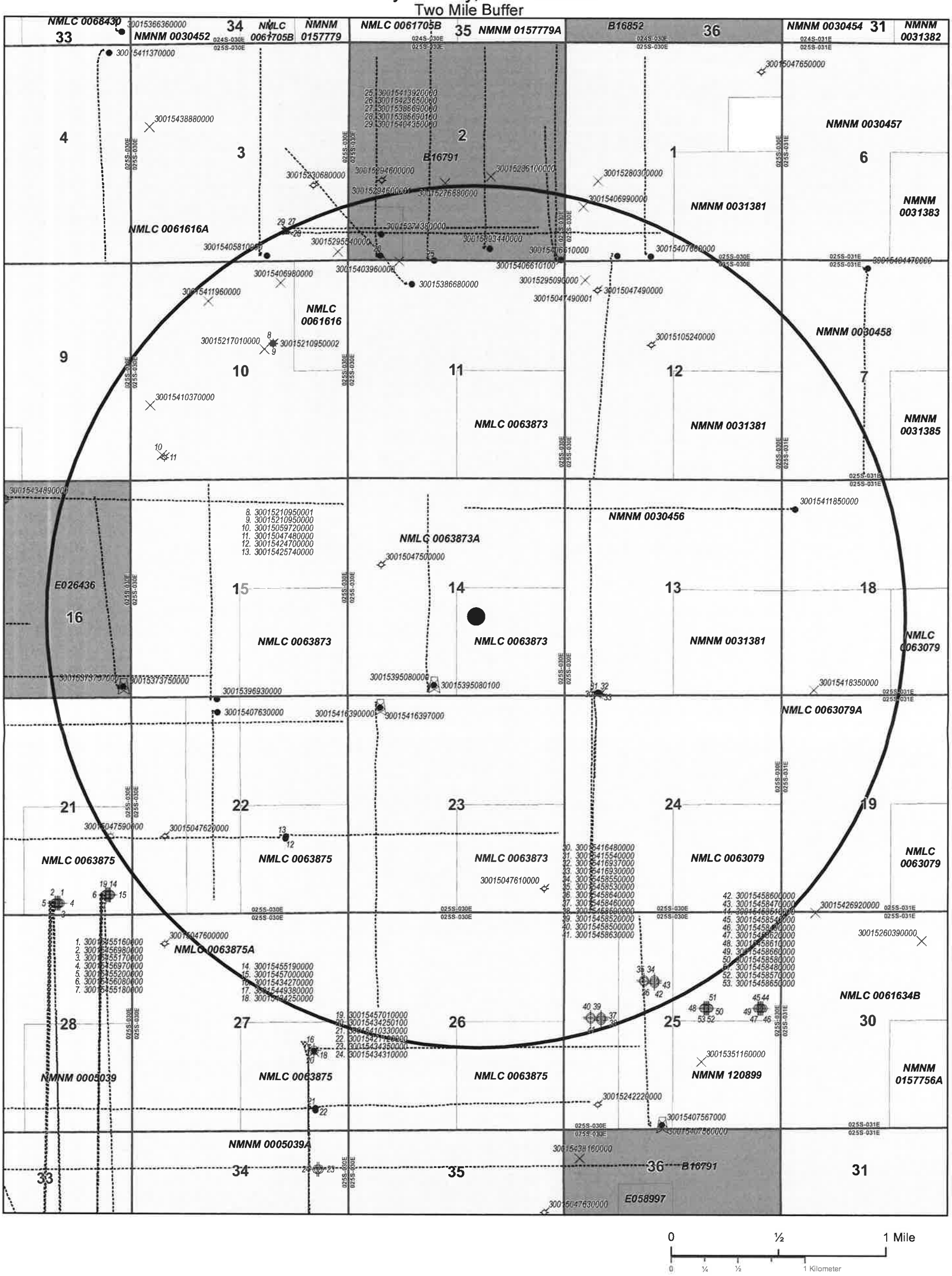
- GAS
- INJECTION
- MULTI OIL AND GAS PRODUCER
- OIL
- OIL AND GAS PRODUCER
- MULTIPLE GAS PRODUCER
- MULTIPLE OIL PRODUCER
- ABANDONED
- DRILLING
- NON-PRODUCING OTHER
- CO2
- DRY
- STORAGE
- CBM
- OTHER PRODUCING
- WATER SUPPLY WELL
- WELL PERMIT
- WELL START

known well operator in buffer

BASS PERRY R
BOPCO LP
CHAPMAN FORD
XTO PERMIAN OPER LLC

Exhibit A

PLU 14 Gin SWD 1
Eddy County, New Mexico
Two Mile Buffer



wellbore
State Lease
Federal Lease
two mile buffer

Well Status Name

- GAS
- INJECTION
- MULTI OIL AND GAS PRODUCER
- OIL
- OIL AND GAS PRODUCER
- MULTIPLE GAS PRODUCER
- MULTIPLE OIL PRODUCER
- ABANDONED
- DRILLING
- NON-PRODUCING OTHER
- CO2
- DRY
- STORAGE
- CBM
- OTHER PRODUCING
- WATER SUPPLY WELL
- WELL PERMIT
- WELL START

known well operator in buffer

ALAMO CORP
BASS ENTRPRS PROD CO
BASS PERRY R
BOPCO LP
CHESAPEAKE OPERG INC
CHOCTAW PROD CO
EL PASO NAT GAS CO
RICHARD & BASS
SWEENEY H N
XTO PERMIAN OPER LLC

Exhibit B

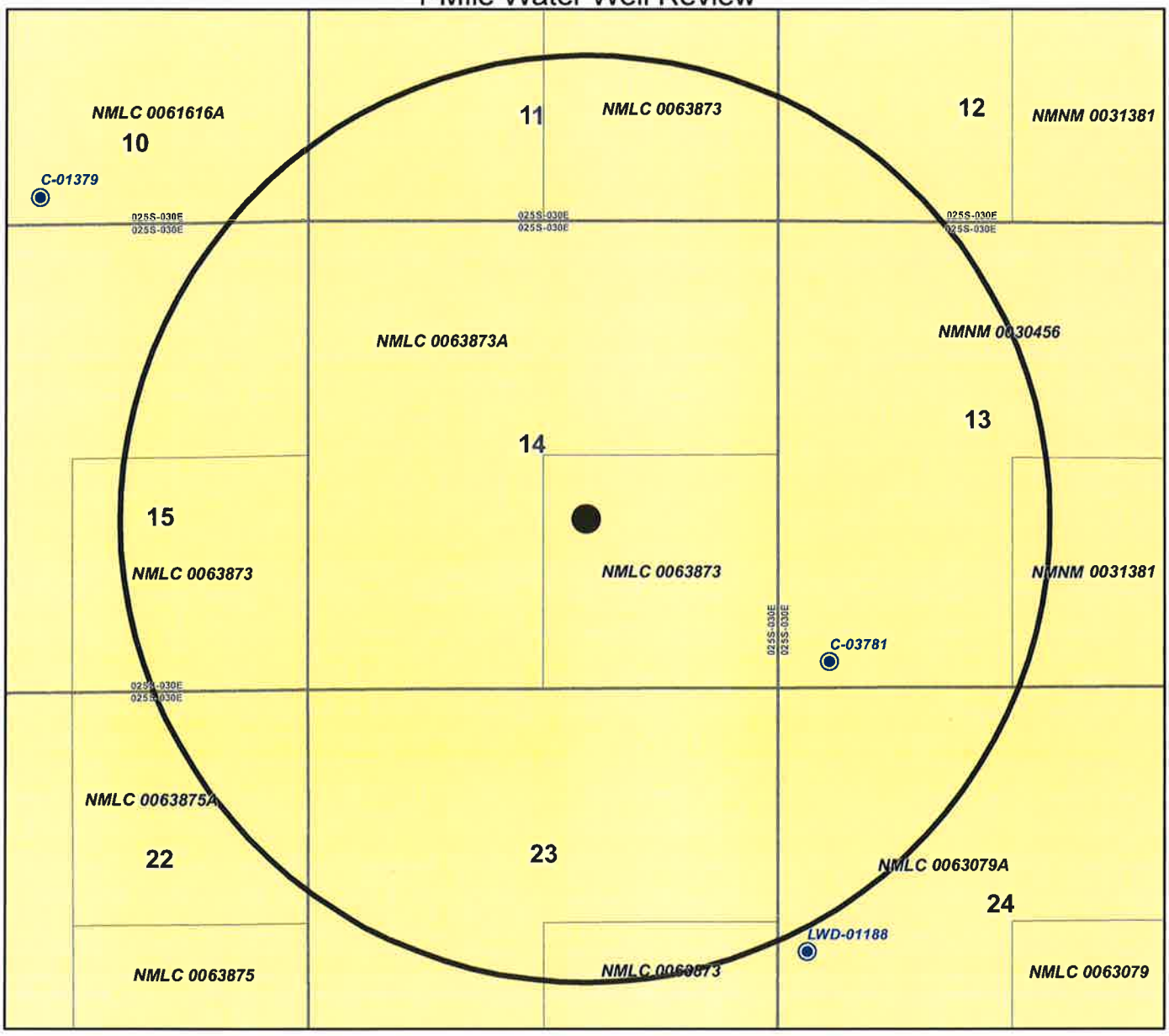
XTO Permian Operating, LLC
Poker Lake Unit 14 Gin SWD #1

WELLS WITHIN 1-MILE AOR

API	wellname	section	township	range	unit_ltr	ogrid_name	spud_yr	directional_	pool_id_list	Well Type	Well Status
30-015-04750	POKER LAKE UNIT #006	14	25S	30E	E	ALAMO CORPORATION #006	1900	0	No Data	Oil	Plugged (Site Released
30-015-39508	POKER LAKE CVX JV BS #008H	14	25S	30E	N	XTO PERMIAN OPERATING LLC.	2011	H	[97913] WILDCAT G-06 S253002O, BONE SPRING	Oil	Active
30-015-41554	POKER LAKE CVX JV BS #021H	13	25S	30E	M	XTO PERMIAN OPERATING LLC.	2013	H	[97913] WILDCAT G-06 S253002O, BONE SPRING	Oil	Active
30-015-41639	POKER LAKE CVX JV BS #025H	23	25S	30E	D	XTO PERMIAN OPERATING LLC.	2014	H	[13354] CORRAL CANYON, BONE SPRING, SOUTH	Oil	Active
30-015-41648	PLU BIG SINKS 24 25 30 USA #001	13	25S	30E	M	BOPCO, L.P.	2013	V	[97814] WILDCAT G-015 S263001O, BONE SPRING	Oil	Plugged (Site Released
30-015-41693	POKER LAKE CVX JV BS #022H	13	25S	30E	M	XTO PERMIAN OPERATING LLC.	2013	H	[97814] WILDCAT G-015 S263001O, BONE SPRING	Oil	Active
Wells terminating inside one-mile buffer											
30-015-43489	POKER LAKE UNIT #483H	16	25S	30E	C	XTO PERMIAN OPERATING LLC.	9999	H	[96209] CORRAL CANYON, DELAWARE, NORTHEAST	Oil	New; Not Drilled/Completed
30-015-41185	POKER LAKE UNIT #387H	18	25S	31E	D	XTO PERMIAN OPERATING LLC.	2013	H	[50386] POKER LAKE, DELAWARE, SOUTH	Oil	Active
30-015-43541	POKER LAKE UNIT #485H	21	25s	30E	C	XTO PERMIAN OPERATING LLC.	9999	H	[96209] CORRAL CANYON, DELAWARE, NORTHEAST	Oil	New; Not Drilled/Completed
30-015-41598	POKER LAKE UNIT CVX JV BS #024H	1	25S	30E	M	XTO PERMIAN OPERATING LLC.	2013	H	[97913] WILDCAT G-06 S253002O, BONE SPRING	Oil	Active

Exhibit C

PLU 14 Gin SWD 1
Eddy County, New Mexico
1-Mile Water Well Review



0 ¼ ½ Mile

0 ¼ ½ 1 Kilometer

water well
-location
-surface declaration
-surface permit

State Lease

Federal Lease

one mile buffer

Exhibit D

NALCO Champion
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 Analysis

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

Sample Analysis

Calculated Gaseous CO2	**1.11** %	Calculated pH	**6.30**	Conductivity (Calculated)	**392527** µS - cm3
Ionic Strength	**5.25**	Resistivity	**0.025** ohms - m	Specific Gravity	**1.196**
Total Dissolved Solids	**251270.3** mg/L				

Cations

Iron	**46** mg/L	Manganese	**7.14** mg/L	Barium	**7.61** mg/L
Strontium	**2000** mg/L	Calcium	**28400** mg/L	Magnesium	**4050** mg/L
Sodium	**51200.00** mg/L	Potassium	**1530** mg/L	Boron	**28.9** mg/L
Lithium	**15.1** mg/L	Copper	**0.414** mg/L	Nickel	**0.122** mg/L
Zinc	**1.88** mg/L	Lead	**0.25** mg/L	Cobalt	**0.043** mg/L
Chromium	**0.02** mg/L	Silicon	**4.79** mg/L	Aluminum	**Not Detected** mg/L
Molybdenum	**0.026** mg/L	Phosphorus	**6.44** mg/L		

Anions

Bromide	**1744.463** mg/L	Chloride	**165315** mg/L	Sulfate	**184.003** mg/L

PTB Value

	Barite PTB	Calcite PTB	Celestite PTB	Gypsum PTB	Halite PTB	Iron Carbonate PTB	Iron Sulfide PTB
50°	4.29	11.73	93.75	25.67	0.00	0.00	7.10
75°	3.93	10.87	78.70	0.00	0.00	0.00	6.56
100°	3.30	10.04	66.11	0.00	0.00	0.00	6.05
125°	2.32	9.28	56.94	0.00	0.00	0.00	5.62
150°	0.96	8.63	51.03	0.00	0.00	0.00	5.29
175°	0.00	8.11	47.56	0.00	0.00	0.00	5.06
200°	0.00	7.71	45.63	0.00	0.00	0.00	4.90
225°	0.00	7.43	44.51	0.00	0.00	0.00	4.82
250°	0.00	7.26	43.71	0.00	0.00	0.00	4.79
275°	0.00	7.17	42.91	0.00	0.00	0.00	4.79
300°	0.00	7.14	42.00	0.00	0.00	0.00	4.82
325°	0.00	7.16	40.97	0.00	0.00	0.00	4.86
350°	0.00	7.22	39.85	0.00	0.00	0.00	4.90
375°	0.00	7.27	38.56	0.00	0.00	0.00	4.94
400°	0.00	9.14	36.83	0.00	0.00	0.00	6.24

Saturation Index

	Barite SI	Calcite SI	Celestite SI	Gypsum SI	Halite SI	Iron Carbonate SI	Iron Sulfide SI
50°	1.28	1.32	0.65	0.11	-0.52	-0.16	2.19
75°	0.88	1.18	0.47	-0.06	-0.54	-0.19	1.87
100°	0.57	1.06	0.35	-0.16	-0.56	-0.21	1.62
125°	0.32	0.96	0.29	-0.23	-0.58	-0.23	1.43
150°	0.11	0.88	0.25	-0.29	-0.60	-0.25	1.30
175°	-0.07	0.81	0.23	-0.35	-0.61	-0.27	1.21
200°	-0.23	0.76	0.23	-0.41	-0.63	-0.30	1.15
225°	-0.36	0.73	0.21	-0.49	-0.65	-0.32	1.12
250°	-0.48	0.70	0.20	-0.57	-0.66	-0.36	1.11
275°	-0.59	0.68	0.20	-0.64	-0.68	-0.40	1.12
300°	-0.70	0.67	0.19	-0.71	-0.69	-0.45	1.12
325°	-0.81	0.66	0.19	-0.74	-0.71	-0.52	1.14
350°	-0.92	0.65	0.18	-0.73	-0.72	-0.60	1.15
375°	-1.04	0.63	0.17	-0.66	-0.73	-0.71	1.15
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.

NALCO Champion
An Ecolab Company

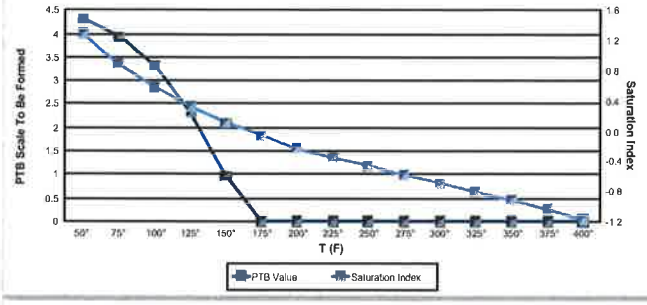
Complete Water Analysis Report

Customer: **XTO ENERGY INC**
Region: **Carlsbad, NM**
Location: **Nash Draw 19**
System: **Production System**

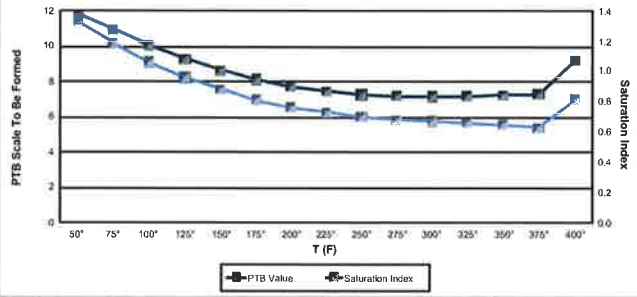
Equipment: **Nash Draw 19 Federal 001 SWD**
Sample Point: **Transfer Pump**
Sample ID: **AL07043**
Acct Rep Email: **Anthony.Baeza@ecolab.com**

Collection Date: **06/08/2018**
Receive Date: **06/21/2018**
Report Date: **06/25/2018**
Location Code: **375624**

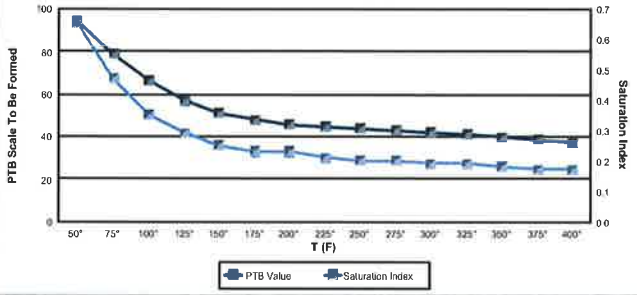
Barite BaSO4



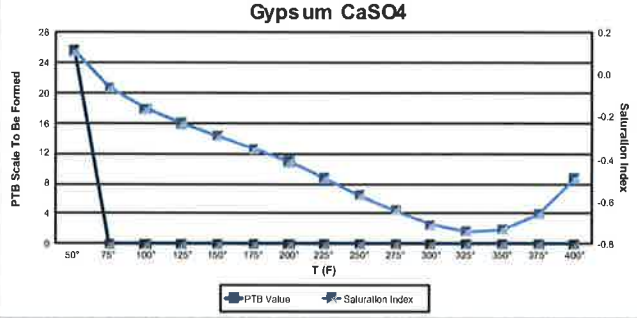
Calcite CaCO3



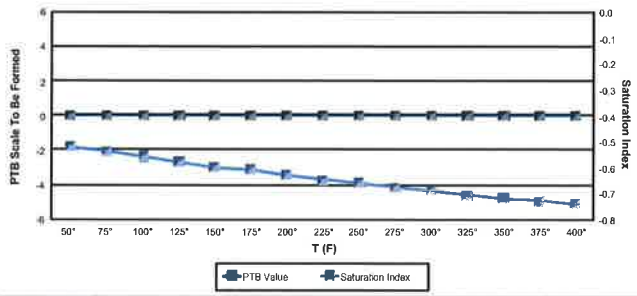
Celestite SrSO4



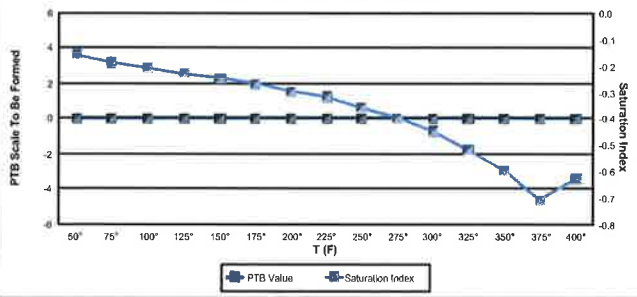
Gypsum CaSO4



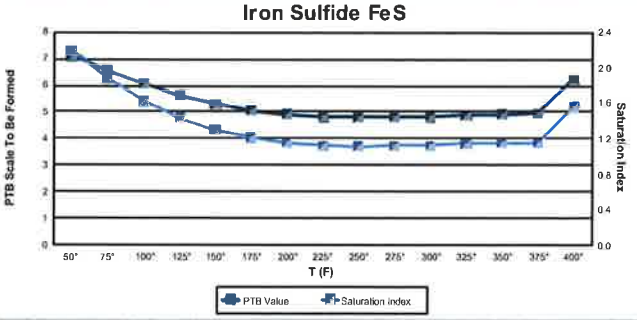
Halite NaCl



Iron Carbonate FeCO3



Iron Sulfide FeS



Comments

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.

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 03781 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: EXP EXPLORATION

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Agent: ATKINS ENGR ASSOC INC

Contact: CHRIS CORTEZ

Owner: BOPCO, L.P.

Contact: BRIAN PREGGER

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	555114	EXPL	2014-11-14	PMT	LOG	C 03781	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 03781 POD1		Artesian	3	3	3	13	25S	30E	609306	3554761	1/3 MILE W. OF BUCK JACKSON RD

6/26/19 2:10 PM

WATER RIGHT SUMMARY

June 24, 2019

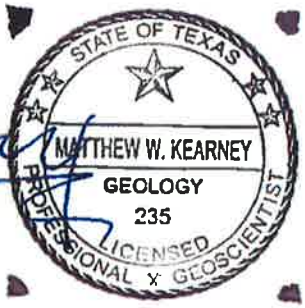
New Mexico, Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: **Geology Statement per Question XII on the Application for Authorization to Inject Form C-108 for**
XTO Energy Inc., an ExxonMobil subsidiary
PLU 14 Gin SWD 1,
Section 14, 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 above-mentioned well located at 1,925 feet from south line and 2,167 feet from east line of Section 14, 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

Exhibit E

CARLSBAD
CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

Ad No.
0001289676

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

11/9/22
My Commission Expires

KAZOUA YANG
NOTARY PUBLIC
STATE OF WISCONSIN

NOTICE OF APPLICATION FOR WATER DISPOSAL WELL PERMIT

XTO Energy, Inc. has applied 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 14 Gin SWD #1** (Siluro-Devonian and Fusselman Formations). The maximum injection pressure will be 3,360 psi and the maximum rate will be 40,000 bbls. produced water per day. The proposed disposal well is located approximately 16 miles Southeast of Malaga, New Mexico in Section 14, T25S, R30E, 1,926' FSL & 2,167' FEL, Eddy County, New Mexico. The produced water will be disposed at a subsurface depth of 16,799'-18,129'.

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.

Published: June 26, 2019

Ad#:0001289676
P O : Pker Lake Unit
# of Affidavits :0 00

Exhibit F

CERTIFIED MAILING LIST
XTO PERMIAN OPERATING, LLC
POKER LAKE UNIT 14 GIN SWD #1

Surface Owner

Certified #7018 1130 0001 5531 4552
Bureau of Land Management
620 E. Greene Street
Carlsbad NM 88220-6292

Grazing Lessee

Certified #7018 1130 0001 5531 4538
DK Farms, Inc.
David Kirk
2727 Raquet Club Drive
Midland, TX 79705

Offset Notices

Certified #7018 1130 0001 5531 4545
The New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe, NM 87501

Certified #7018 1130 0001 5531 4521
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: Tracie J. Cherry

Title: Regulatory Coordinator

Date: 06/28/19

XTO ENERGY

Statements Regarding Seismicity

XTO has performed a seismicity risk assessment associated with the proposed Poker Lake Unit 14 Gin 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

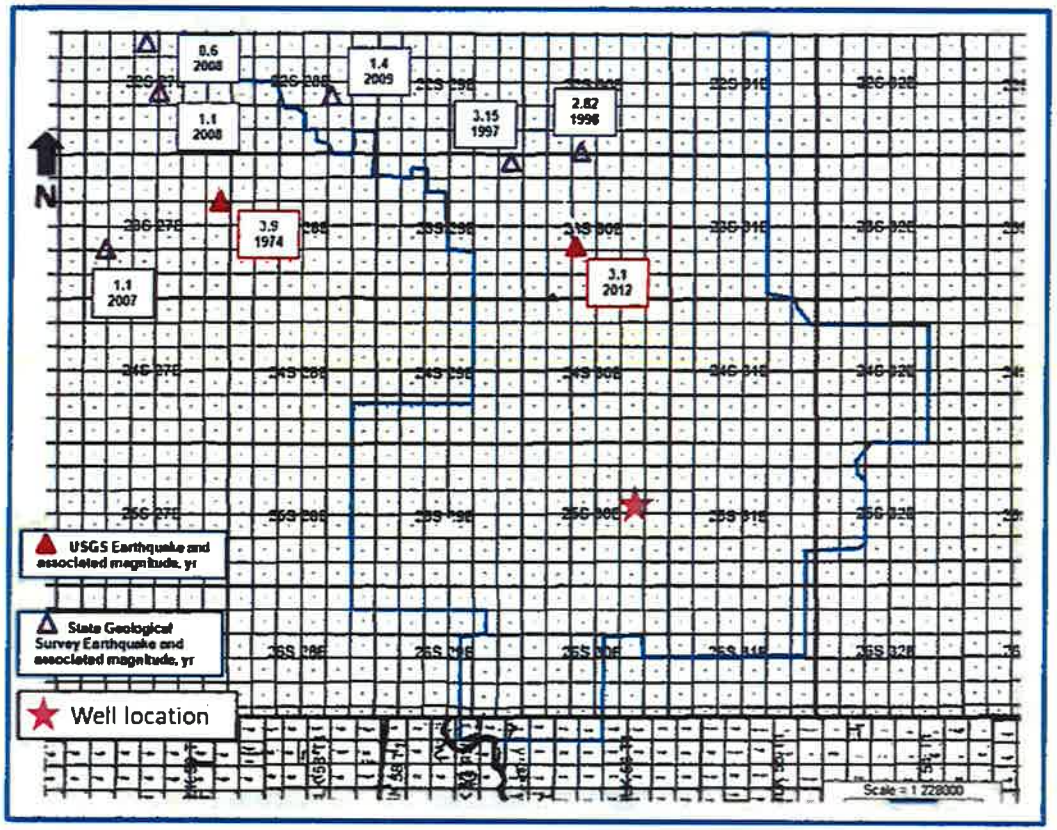
A screening level investigation of possible pore pressure increases due to the proposed SWD well was performed utilizing the FSP tool. For this screening level analysis a 'high-side' flat rate model was run assuming disposal of 40,000 BWPD beginning in 2019 and continuing at that rate until 2040 (Figure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

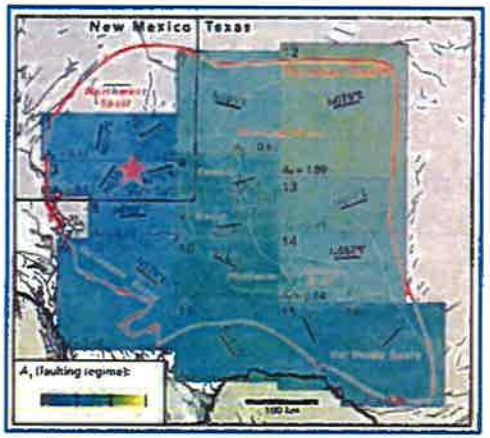
Monitoring Plan

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 14 Gin SWD Well - Historic Seismicity





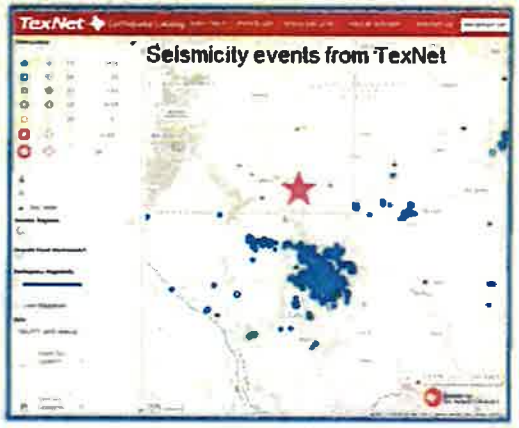
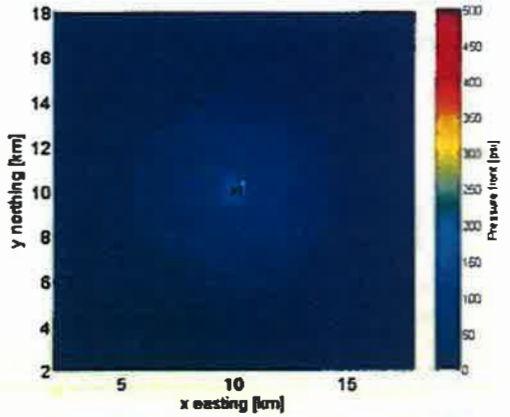
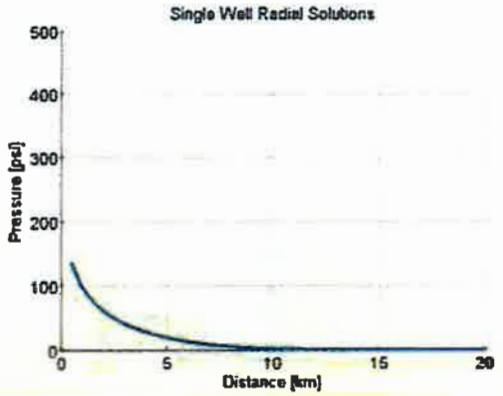


Figure 1

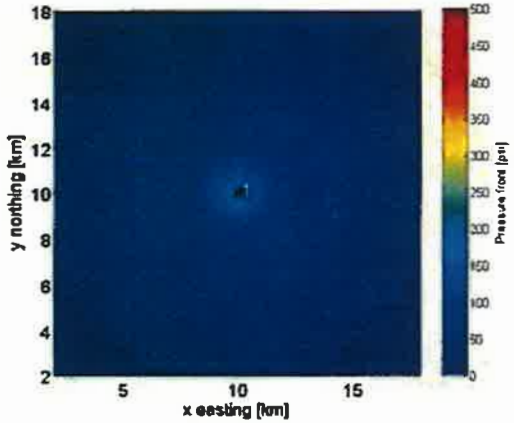
PLU 14 Gin SWD Well – Pore Pressure

2025 Snapshot





2040 Snapshot



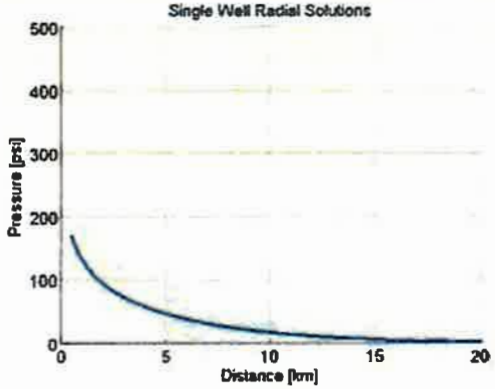
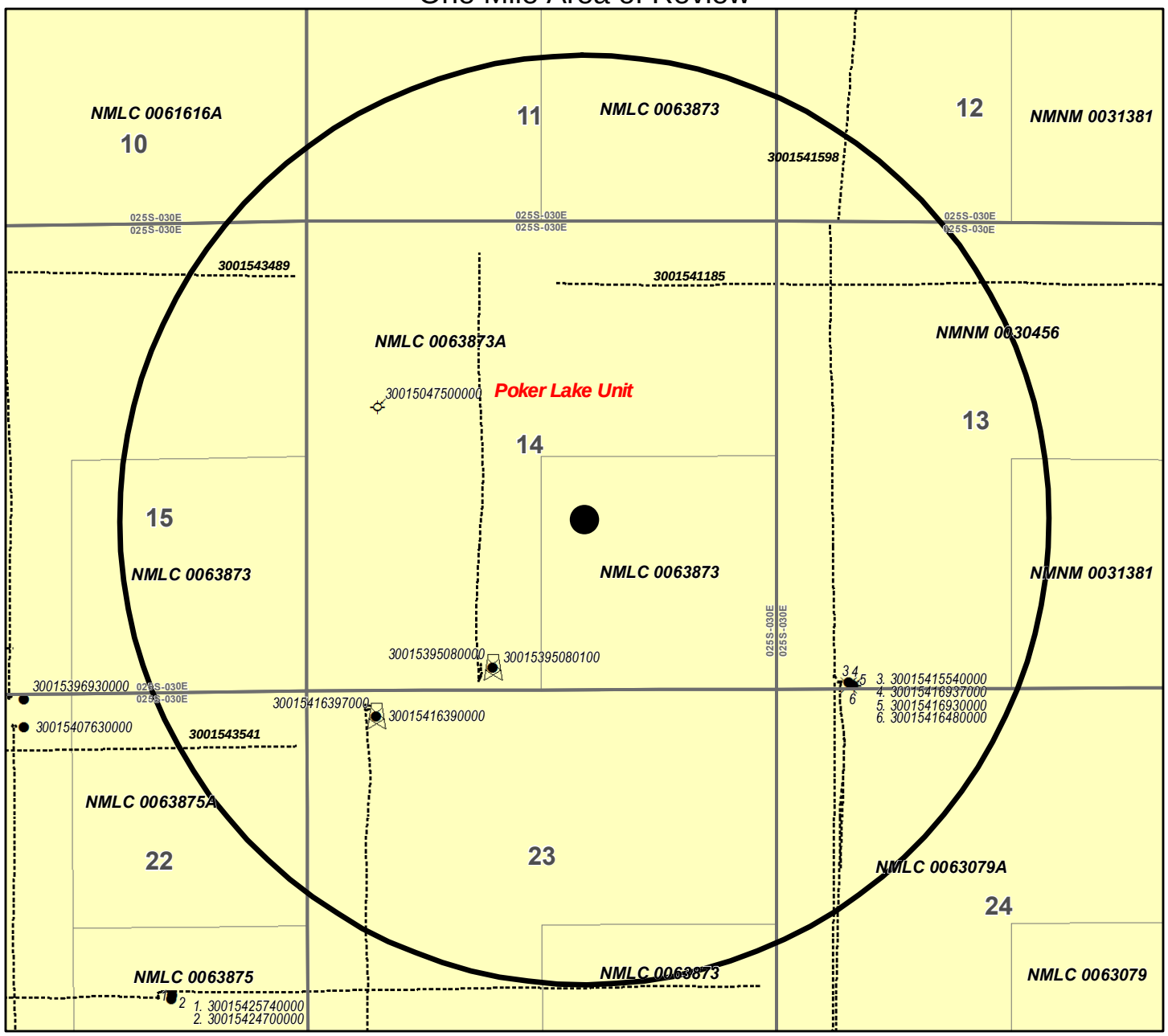


Figure 2

PLU 14 Gin SWD 1
Eddy County, New Mexico
One Mile Area of Review



0 ¼ ½ Mile

0 ¼ ½ 1 Kilometer

wellbore
State Lease
Federal Lease
one mile buffer

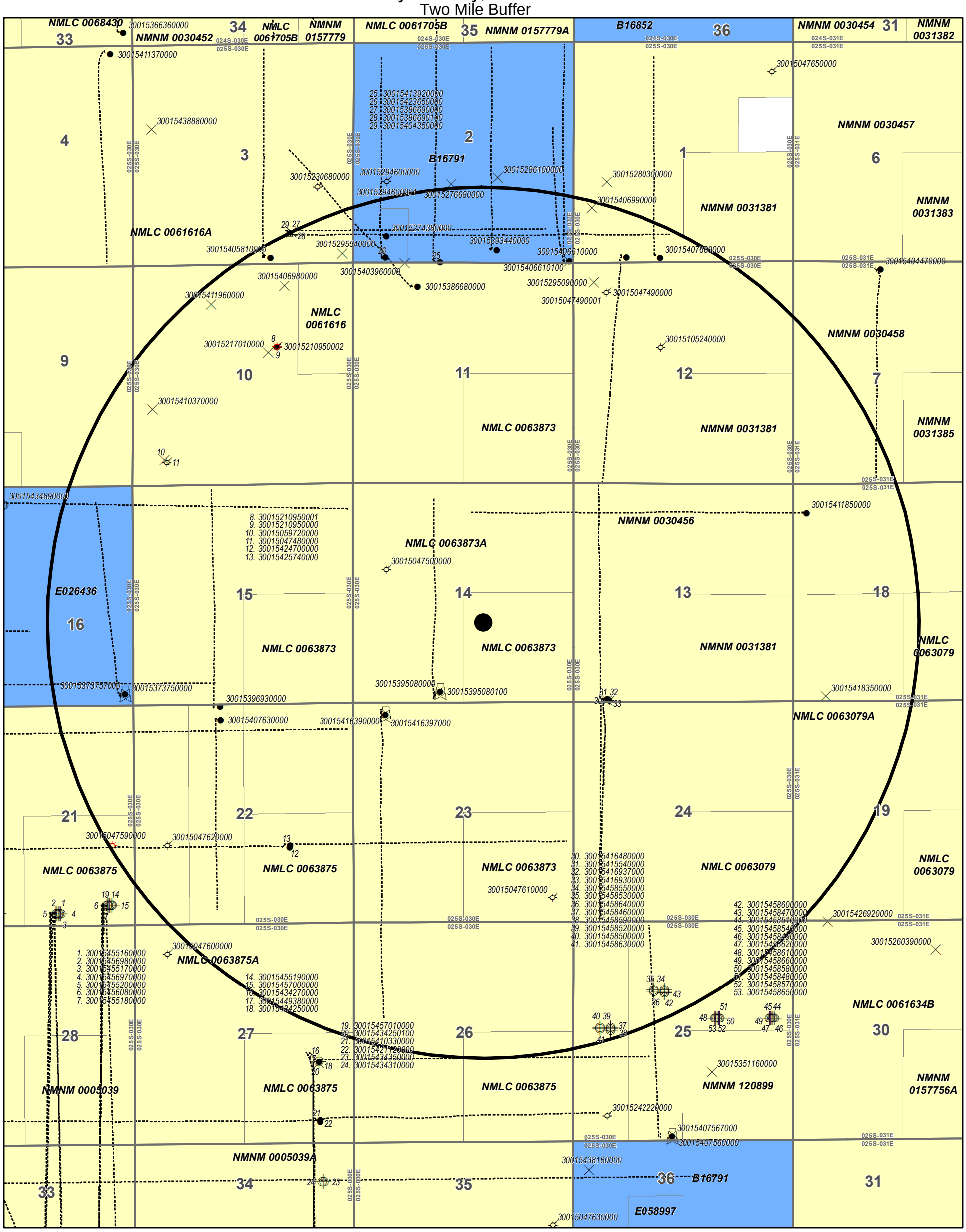
Well Status Name

- GAS
- INJECTION
- MULTI OIL AND GAS PRODUCER
- OIL
- OIL AND GAS PRODUCER
- MULTIPLE GAS PRODUCER
- MULTIPLE OIL PRODUCER
- ABANDONED
- DRILLING
- NON-PRODUCING OTHER
- CO2
- DRY
- STORAGE
- CBM
- OTHER PRODUCING
- WATER SUPPLY WELL
- WELL PERMIT
- WELL START

known well operator in buffer

BASS PERRY R
BOPCO LP
CHAPMAN FORD
XTO PERMIAN OPER LLC

PLU 14 Gin SWD 1
Eddy County, New Mexico
Two Mile Buffer



wellbore
State Lease
Federal Lease
two mile buffer

Well Status Name

- GAS
- INJECTION
- MULTI OIL AND GAS PRODUCER
- OIL
- OIL AND GAS PRODUCER
- MULTIPLE GAS PRODUCER
- MULTIPLE OIL PRODUCER
- ABANDONED
- DRILLING
- NON-PRODUCING OTHER
- CO2
- DRY
- STORAGE
- CBM
- OTHER PRODUCING
- WATER SUPPLY WELL
- WELL PERMIT
- WELL START

known well operator in buffer

ALAMO CORP
BASS ENTRPRS PROD CO
BASS PERRY R
BOPCO LP
CHESAPEAKE OPERG INC
CHOCTAW PROD CO
EL PASO NAT GAS CO
RICHARD & BASS
SWEENEY H N
XTO PERMIAN OPER LLC