# Initial Application Part I

Received 7/9/20

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

| RECEIVED: | REVIEWER: | TYPE: | APP NO: |
|---|---|---|---|
| 7/9/20 | | SWD | pBL2019634071 |

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 ATTHE DIVISION LEVEL IN SANTA FE

**Applicant:** XTO Permian Operating, LLC OGRID Number: 373075
Well Name: Poker Lake Unit 21 Lincoln Fee SWD 1 API: IBA
Pool: Devonian; SWD Pool Code: 96101

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

I) TYPE OF APPLICATION: Check those which apply for [A]
A. Location - Spacing Unit - Simultaneous Dedication
☐ N S L ☐ NSP{PROJECTAREA) ☐ N S P {PRORATION UNIT) ☐ S D

SWD-2385

B. Check one only for [ I ] or [ Ⅱ ]
[ I ] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC DOLS ☐ OLM
[ Ⅱ ] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX [i]SWD O1PI ☐ EOR ☐ PPR

FOR OCD ONLY
D Notice Complete
D Application Content Complete

2) NOTIFICATION REQUIRED TO: Check those which apply.
A. [j] Offset operators or lease holders
B. D Royalty, overriding royalty owners, revenue owners
C. [j] Application requires published notice
D. [j] Notification and/or concurrent approval by SLO
E. [j] Notification and/or concurrent approval by BLM
F. [j] Surface owner
G. [j] 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 ::€1rniAi&tF0tive-e1313Fevel-is-acet1rote-enel-eomplete-to-the-best ot-my-knowledge:-1-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.**

07/09/2020
Date

Tracie J. Cherry, Regulatory Coordinator
Print or Type Name

432-571-8205
Phone Number

Signature

cheryl_rowell@xtoenergy.com
e-mail Address

Re ). RESOURCES DEPARTMENT

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

FOR C 08
Revised June 10, 2003 rF26

# APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance _X_ Disposal _____ Storage
Application qualifies for administrative approval? _X_ Yes _____ No

II. OPERATOR: XTO PERMIAN OPERATING, LLC

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 _X_ 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 welt'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 Coordinator

SIGNATURE: ny DATE: 07/09/2020

E-MAIL ADDRESS: tracie_c_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

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.

**III. Well Data**

**A.** 1) Lease name: **Poker Lake Unit 21 Lincoln Fee SWD**
Well #: **1** **API # TBA**
Section: **21**
Township: **25S**
Range: **30E**
Footage: **370 FSL & 1355 FEL**

**2) Casing Info:**

| Casing size | Set depth | Sacks cmt | Hole size | TOC | Method |
|---|---|---|---|---|---|
| 18-5/8", 87.5# J-55 BTC | 1,303' | 2297 sx C | 24 | Surf | Circ |
| 13-3/8" 68# HCL-80 BTC | 3,753' | 2104 sx Poz/C<br>782 sx C | 17-1/2" | Surf | Circ |
| 9-5/8" 53.5# HCP-110 BTC | 11,548' | Stg 1: 2092 sx Poz/C<br>414 sx H | 12-1/4" | 2500 | Circ |
| DV Tool set @ | 3,840' | Stg 2: 669 sx Poz/C<br>205 sx C | | | |
| 7" 32# HCP-110 BTC | 11,098'-16,655' | 832 sx Poz/H | 8-1/2" | 11,098' | Circ |

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

| Tubing size | Set depth |
|---|---|
| 5-1/2" , 17#, P-110 IPC | 10,598' |
| 4-1/2", 13.65#, P-110 IPC | 10,598'-16,555' |

**4) Name, model, and depth of packer to be used:**
Baker Series F nickle plated permanent packer @ 16,555'

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

**2) The injection interval and whether it is perforated or open hole:**
Open hole, 16,655'-17,683' (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: Cherry Canyon (+/-4763') Brushy Canyon (+/-6208'), Bone Spring(+/-8568')
Wolfcamp (+/-10,938'), Atoka (+/-13,563), Morrow (+/-15,293')
Lower: None

## 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)**
**Seven (7) horizontal wells terminiate or pass through the one-mile Area of Review. None of the wells penetrates the proposed dispsal zone.**
**Four (4) plugged and abandoned wells are within the one-mile Area of Review. None 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, 3331 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. 1,390'** |
| **Depth:** | **Est. 16,293' to 17,683'** |

**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 950 feet below the surface in this Poker Lake Unit 21 Lincoln Fee SWD 1 well. Alluvium Valley Fill and underlying Dewey Lake Red Beds may contain fresh water throughout this geographic area (not typically used as potable/drinking water). There was one water well identified in a mile and half radius of proposed location. It is an active water well used for oil and gas exploration, drilled by BOPCO, L.P. (geologist Brian Preggar). The well was drilled on January 16-17, 2015 to a total depth of 805 feet, and water was encountered at 277 feet . An 8.63 inch casing was set to TD and perforated from 270 to 805 feet. The water well identification/permit number is C03782 POD**

**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, there is one active water well within a one-mile radius of the proposed well.**
**(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)**

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- | | SWD; Devonian |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| | Poker Lake Unit 21 Lincoln Fee SWD | 1 |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 373075 | XTO PERMIAN OPERATING, LLC. | 3,253' |

## [10] Surface Location

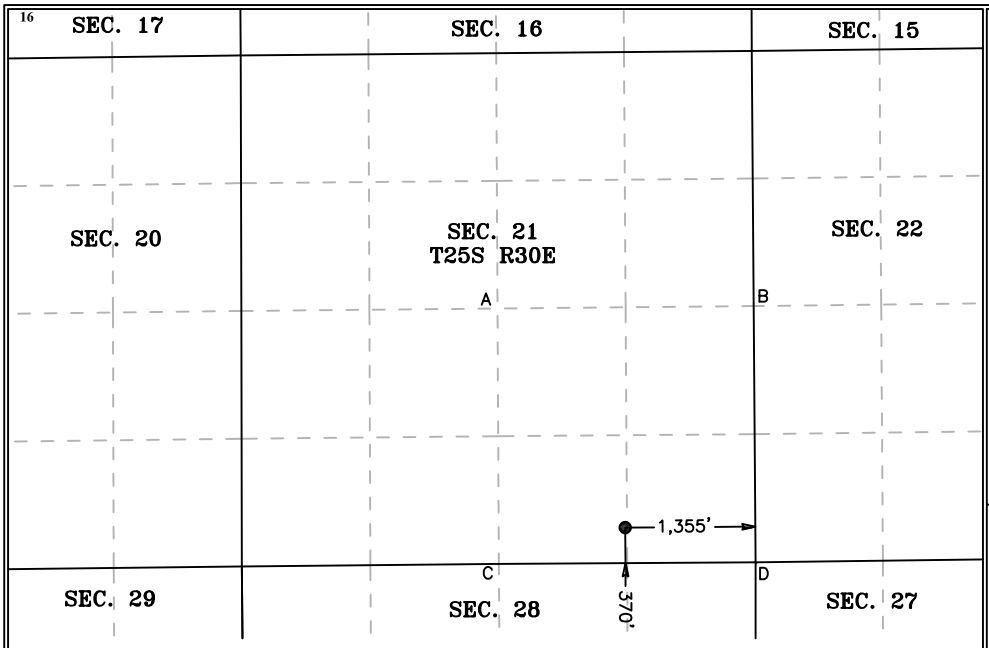
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| O | 21 | 25 S | 30 E | | 370 | SOUTH | 1,355 | EAST | EDDY |

## [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. |
|---|---|---|---|
| 0 | | | |

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.




GEODETIC COORDINATES
NAD 83 NME
SURFACE LOCATION
Y= 403,835.3
X= 681,107.4
LAT.= 32.109418°N
LONG.= 103.881910°W

GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION
Y= 403,777.2
X= 639,922.3
LAT.= 32.109294°N
LONG.= 103.881428°W

CORNER COORDINATES TABLE
NAD 83 NME
A - Y= 406,116.4 N, X= 679,777.2 E
B - Y= 406,142.1 N, X= 682,445.4 E
C - Y= 403,457.2 N, X= 679,791.0 E
D - Y= 403,473.8 N, X= 682,465.2 E

CORNER COORDINATES TABLE
NAD 27 NME
A - Y= 406,058.3 N, X= 638,592.2 E
B - Y= 406,084.0 N, X= 641,260.4 E
C - Y= 403,399.1 N, X= 638,605.9 E
D - Y= 403,415.8 N, X= 641,280.1 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.*

Stephanie Rabadue 08/20/2019
Signature Date

Stephanie Rabadue
Printed Name

stephanie_rabadue@xtoenergy.com
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.*

07-18-2019
Date of Survey

Signatue and Seal of Professional Surveyor:

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786
Certificate Number AW 2019051202

# PLU Lincoln Fee 21 SWD #1

*Devonian SWD*

**County:** Eddy
**SHL:** 370' FSL, 1355' FEL
Sec 21, T 25S, R 30E

**BHL:** 370' FSL, 1355' FEL
Sec 21, T 25S, R 30E
**AREA:** State, Water Basin

**AFE #** 1905388
**XTO ID #** 1986791001
**Permit** NMOCD w/ concurrent BLM approval (Split Estate)
**API #** TBD
**Elevation** GL 3253', KB 3286' (33' AGL)
**Rig:** Nabors X34 (RKB 33')
5 1/2" DP (XT54), 6.5" DC (XH), 8" DC (NC56)

| TVD | Formation | Casing & Cement | Wellhead (Tech Data Sheet) | Hole Size | General Notes |
|---|---|---|---|---|---|
| | | *Lead (100% OH excess)*<br>1531 sx 12.8ppg Class C<br>Top of Tail @ 0' | | 24" | |
| 948' | Rustler | *Tail (100% OH excess)*<br>766 sx 14.8ppg Class C<br>Top of Tail @ 1003' | | | |
| | | **18-5/8" 87.5# J-55 BTC** | **1303' MD** | | |
| 1,313' | Top Salt | | | 17-1/2" | |
| | | *Lead (100% OH excess)*<br>2104 sx 12.8ppg Poz/C<br>Top of Lead @ 0 | | | |
| | | *Tail (100% OH excess)*<br>782 sx 14.8ppg Class C<br>Top of Tail @ 3100' | | | |
| 3,643' | Base Salt | | | | |
| | | **13-3/8" 68# HCL-80 BTC** | **3753' MD** | | |
| | | *Stg 2 Lead (0% & 200 sx excess)*<br>669 sx 11.5ppg Poz/C<br>Top of Lead @ 0' | Composite DV Tool<br>**3838' MD** | 12-1/4" | |
| 3,828' | Delaware | | | | |
| 6,208' | Brushy Canyon | | | | |
| 7,628' | Bone Spring | *Stg 2 Tail (100% OH excess)*<br>205 sx 14.8ppg Class C<br>Top of Tail @ 3100' | | | *5-1/2", 17# P-110 IPC tbg*<br>*Cross over @ 10,598* |
| 8,568' | 1st BS Ss | *Stg 1 Lead (250% OH excess)*<br>2092 sx 10.5 ppg Poz/C<br>Top of Lead @ 3838' | **11098' MD** | | |
| 9,393' | 2nd BS Ss | | | | *4-1/2", 13.65# P-110 IPC tbg* |
| 10,453' | 3rd BS Ss | *Stage 1 Tail (100% OH excess)*<br>414 sx 15.6ppg Class H<br>Top of Tail @ 10820' | | | |
| 10,918' | Wolfcamp | | | | |
| 11,448' | Wolfcamp B | | | | |
| | | **9-5/8" 53.5# HCP-110 BTC** | **11548' MD** | | |
| 12,903' | Cisco | | | 8-1/2" | |
| 13,368' | Strawn | | | | |
| 13,563' | Atoka | | | | |
| 15,293' | Morrow | *Tail (40% OH excess)*<br>832 sx 14.2ppg Poz/H<br>Top of Tail @ 11098' | | | *Baker Series F Nickle Pkr*<br>*at 16,555'* |
| 15,638' | Barnett | | | | |
| 15,968' | Mississippian Lm | | | | |
| 16,203' | Woodford | | | | |
| 16,343' | Devonian | | | | |
| | | **7" 32# P-110 BTC** | **16655' MD** | | |
| 17,133' | Fusselman | | | 6" | |
| 17,503' | Montoya Lm | **Open hole completion** | **17,683' MD** | | |
| 17,683' | TVD at BHL | *240 feet permit buffer* | **17,683' TVD** | | |

**Approvals**

**Prepared by:** _____
Jim Bower, Drilling Engineer — Date

**Reviewed by:** _____
Brian Dunn, Drilling Engineer Supervisor — Date

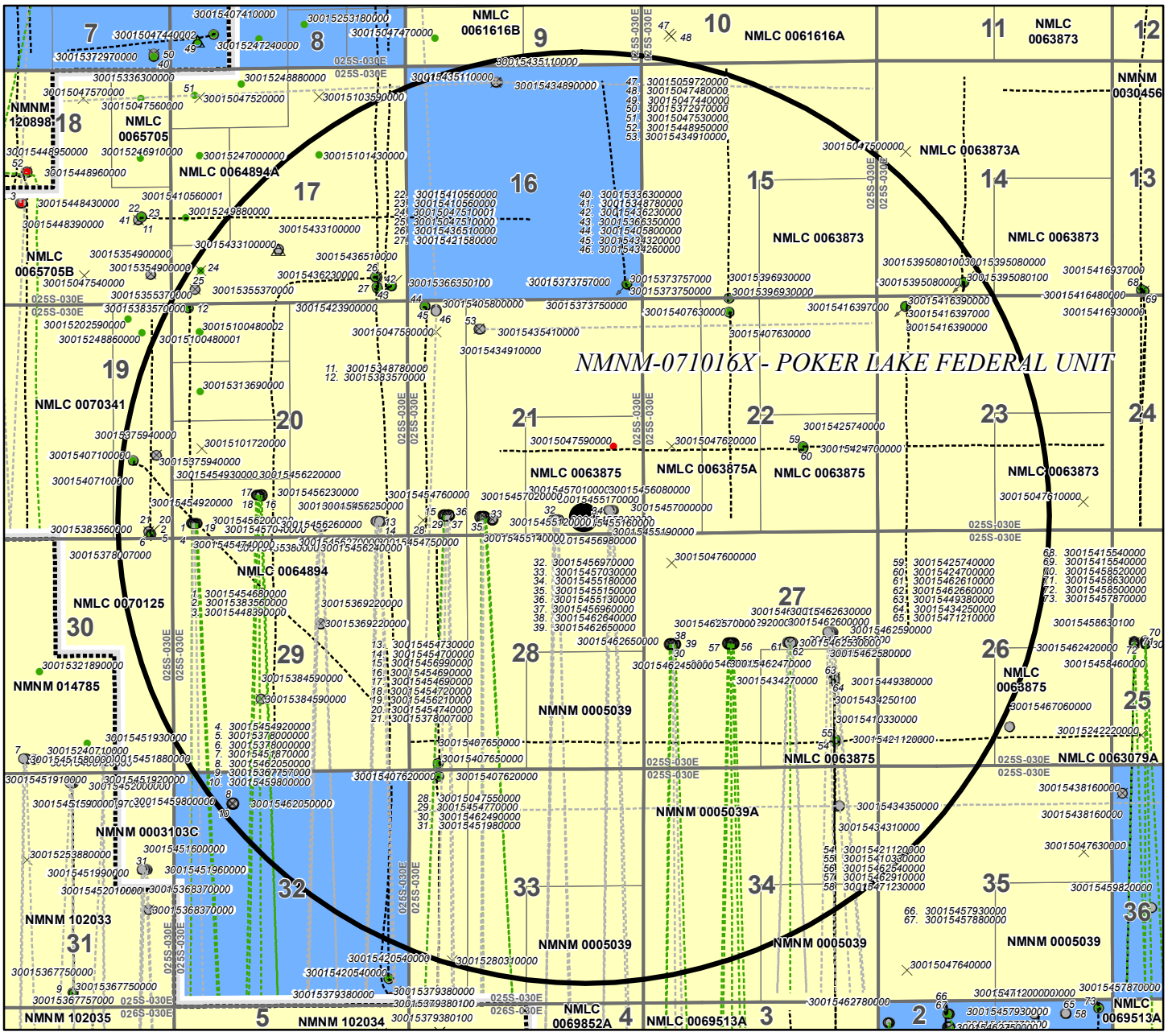
**Reviewed by:** _____
Pete Vander Veen, Directional Superintendent — Date

**Reviewed by:** _____
Randall Adamso Mud SME — Date

**Reviewed by:** _____
Sean Strode, Drilling Superintendent — Date

**Approved by:** _____
Jesse Chando, Drilling Manager — Date

# PLU Lincoln 21 FED SWD 1
## Eddy County, New Mexico
### Two Mile Radius




0 ½ 1 Mile

0 ½ 1 2 Kilometer

two mile buffer
BLM Active Unit - Poker Lake
State Lease
Federal Lease

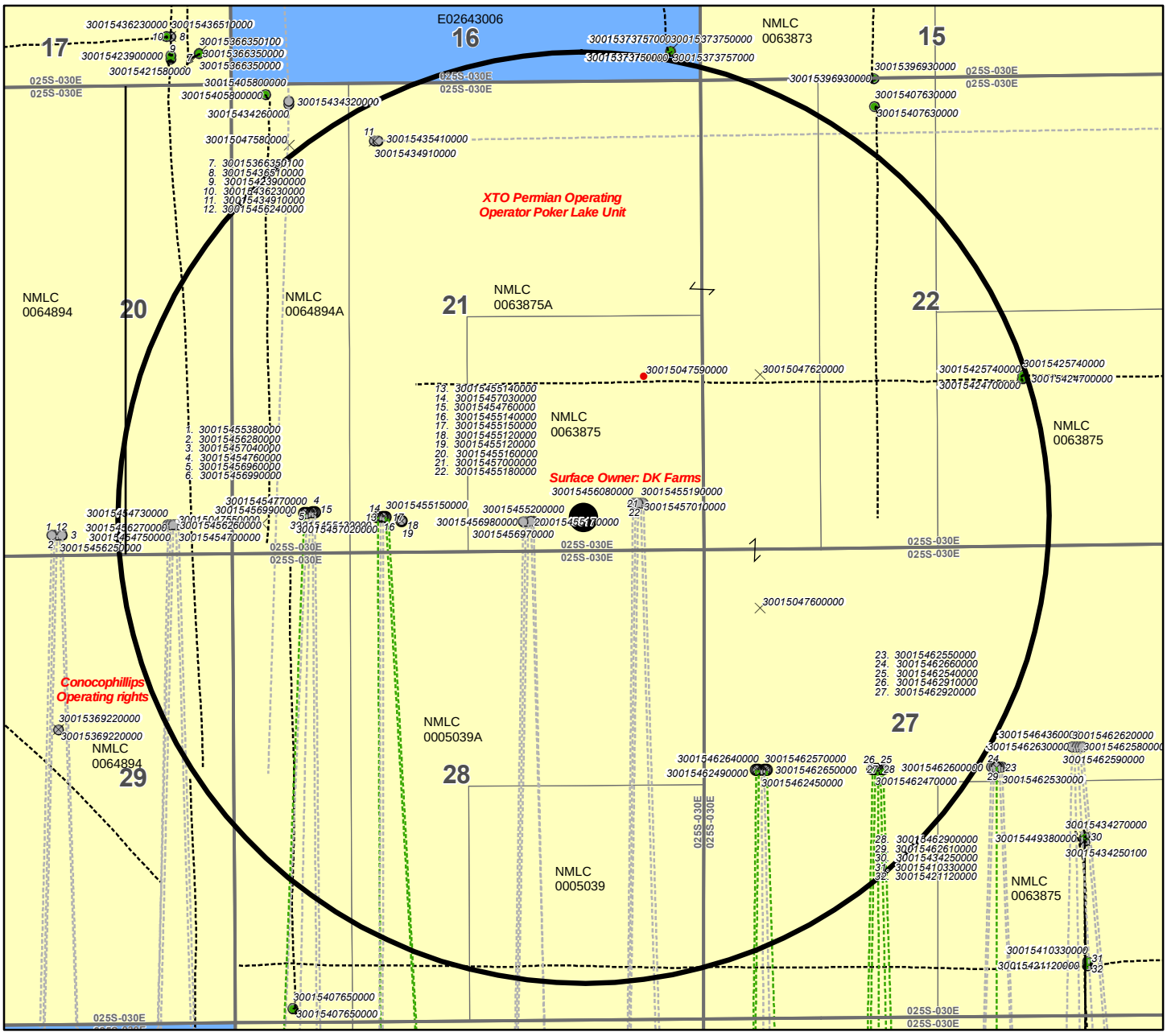
**wellbore status**
Completed
Drilling
Permit

**well status name**
ABANDONED LOCATION
GAS WELL
OIL WELL
MULTIPLE GAS PRODUCER
MULTIPLE OIL PRODUCER
OIL AND GAS PRODUCER
SWD
SUSPENDED
TREATED PENDING COMPLETION
INJ, SRV, CO2, STORAGE, WDW, PSEUDO ORIG, MINING BOREHOLE
WATER INJECTION
WATER SUPPLY WELL
WELL START
PERMIT

**known well operator in buffer**
ALAMO CORP
BASS ENTRPRS PROD CO
BASS PERRY R
BEPCO LP
BOPCO LP
CHESAPEAKE OPERG INC
CHEVRON U S A INC
EL PASO NAT GAS CO
POCO RESOURCES LLC
SUN OIL CO
SWEENEY H N
XTO PERMIAN OPER LLC

Exhibit A

# PLU Lincoln 21 FED SWD 1
## Eddy County, New Mexico
### One Mile AOR




**known well operator in buffer**
ALAMO CORP
EL PASO NAT GAS CO
SUN OIL COMPANY
SWEENEY H N
XTO PERMIAN OPER LLC

one mile buffer
State Lease
Federal Lease

**wellbore status**
Completed
Drilling
Permit

**well status name**
ABANDONED LOCATION
GAS WELL
OIL WELL
MULTIPLE GAS PRODUCER
MULTIPLE OIL PRODUCER
OIL AND GAS PRODUCER
SWD
SUSPENDED
TREATED PENDING COMPLETION
INJ, SRV, CO2, STORAGE, WDW, PSEUDO ORIG, MINING BOREHOLE
WATER INJECTION
WATER SUPPLY WELL
WELL START
PERMIT

Exhibit B

# WELLS WITHIN A ONE-MILE RADIUS

| API | Well Name | Well Type | ogrid | ogrid_name | PLSS Location (ULSTR) | SPUD Date | Measured I | Vertical De | Associated Pools |
|---|---|---|---|---|---|---|---|---|---|
| 30-015-45627 | POKER LAKE UNIT 20 BD #128H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | P-20-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45470 | POKER LAKE UNIT 20 BD #108H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | P-20-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45475 | POKER LAKE UNIT 20 BD #907H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | P-20-25S-30E | 31-Dec-99 | 0 | 0 | [13354] CORRAL CANYON, BONE SPRING, SOUTH |
| 30-015-45473 | POKER LAKE UNIT 20 BD #707H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | P-20-25S-30E | 31-Dec-99 | 0 | 0 | [13354] CORRAL CANYON, BONE SPRING, SOUTH |
| 30-015-45626 | POKER LAKE UNIT 20 BD #127H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | P-20-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| | | | | | | | | | |
| 30-015-43491 | POKER LAKE UNIT #484H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | C-21-25S-30E | 31-Dec-99 | 0 | 0 | [96209] CORRAL CANYON, DELAWARE, NORTHEAST |
| 30-015-43541 | POKER LAKE UNIT #485H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | C-21-25S-30E | 31-Dec-99 | 0 | 0 | [96209] CORRAL CANYON, DELAWARE, NORTHEAST |
| 30-015-04759 | POKER LAKE UNIT #004 | Oil P&A | 214263 | HN SWEENEY | I-21-25S-30E | 7-Sep-57 | 0 | 3878 | DELAWARE |
| 30-015-04755 | PRE-ONGARD WELL #001 | Oil P&A | 214263 | PRE-ONGARD WELL OPERATOR | M-21-25S-30E | 1-Jan-00 | 0 | 0 | No Data |
| 30-015-45513 | POKER LAKE UNIT 21 BD #121H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | M-21-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45696 | POKER LAKE UNIT 21 BD #122H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | M-21-25S-30E | 3-Feb-20 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45477 | POKER LAKE UNIT 21 BD #901H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | M-21-25S-30E | 31-Dec-99 | 0 | 0 | [13354] CORRAL CANYON, BONE SPRING, SOUTH; [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45699 | POKER LAKE UNIT 21 BD #701H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | M-21-25S-30E | 27-Jan-20 | 0 | 0 | [13354] CORRAL CANYON, BONE SPRING, SOUTH; [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45476 | POKER LAKE UNIT 21 BD #102H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | M-21-25S-30E | 4-Feb-20 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45702 | POKER LAKE UNIT 21 BD #703H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | N-21-25S-30E | 31-Dec-99 | 0 | 0 | [13354] CORRAL CANYON, BONE SPRING, SOUTH; [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45703 | POKER LAKE UNIT 21 BD #903H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | N-21-25S-30E | 31-Dec-99 | 0 | 0 | [13354] CORRAL CANYON, BONE SPRING, SOUTH |
| 30-015-45514 | POKER LAKE UNIT 21 BD #123H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | N-21-25S-30E | 16-Feb-20 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45512 | POKER LAKE UNIT 21 BD #104H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | N-21-25S-30E | 13-Mar-20 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45515 | POKER LAKE UNIT 21 BD #124H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | N-21-25S-30E | 29-Feb-20 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45697 | POKER LAKE UNIT 21 BD #106H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | O-21-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |

Exhibit C

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 30-015-45698 | POKER LAKE UNIT 21 BD #905H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | O-21-25S-30E | 31-Dec-99 | 0 | 0 | [13354] CORRAL CANYON, BONE SPRING, SOUTH |
| 30-015-45516 | POKER LAKE UNIT 21 BD #125H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | O-21-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45517 | POKER LAKE UNIT 21 BD #126H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | O-21-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45520 | POKER LAKE UNIT 21 BD #705H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | O-21-25S-30E | 31-Dec-99 | 0 | 0 | [13354] CORRAL CANYON, BONE SPRING, SOUTH |
| 30-015-45700 | POKER LAKE UNIT 21 BD #108H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | P-21-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45518 | POKER LAKE UNIT 21 BD #127H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | P-21-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45519 | POKER LAKE UNIT 21 BD #128H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | P-21-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-45701 | POKER LAKE UNIT 21 BD #907H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | P-21-25S-30E | 31-Dec-99 | 0 | 0 | [13354] CORRAL CANYON, BONE SPRING, SOUTH |
| 30-015-45608 | POKER LAKE UNIT 21 BD #707H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | P-21-25S-30E | 31-Dec-99 | 0 | 0 | [13354] CORRAL CANYON, BONE SPRING, SOUTH |
| | | | | | | | | | |
| 30-015-42470 | POKER LAKE UNIT #455H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | J-22-25S-30E | 14-Oct-15 | 14111 | 7557 | [50386] POKER LAKE, DELAWARE, SOUTH |
| 30-015-42574 | POKER LAKE UNIT #456H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | J-22-25S-30E | 13-Nov-14 | 14181 | 7794 | [96047] POKER LAKE, DELAWARE, SOUTHWEST |
| 30-015-04762 | POKER LAKE UNIT #003 | Oil P&A | 214263 | EL PASO NATURAL GAS | L-22-25S-30E | 5-Oct-55 | 0 | 14883 | No Data |
| | | | | | | | | | |
| 30-015-04760 | POKER LAKE UNIT #008 | Oil P&A | 214263 | PRE-ONGARD WELL OPERATOR | D-27-25S-30E | 31-Aug-58 | 0 | 3950 | No Data |
| 30-015-46245 | POKER LAKE UNIT 27 BD #102H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | E-27-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-46257 | POKER LAKE UNIT 27 BD #152H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | E-27-25S-30E | 17-Mar-20 | 0 | 0 | No Data |
| 30-015-46249 | POKER LAKE UNIT 27 BD #161H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | E-27-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-46264 | POKER LAKE UNIT 27 BD #121H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | E-27-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-46265 | POKER LAKE UNIT 27 BD #122H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | E-27-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-46292 | POKER LAKE UNIT 27 BD #104H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | F-27-25S-30E | 25-Jan-20 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-46290 | POKER LAKE UNIT 27 BD #124H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | F-27-25S-30E | 22-Jan-20 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-46254 | POKER LAKE UNIT 27 BD #154H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | F-27-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-46247 | POKER LAKE UNIT 27 BD #163H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | F-27-25S-30E | 31-Dec-99 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| 30-015-46291 | POKER LAKE UNIT 27 BD #103H | Gas | 373075 | XTO PERMIAN OPERATING LLC. | F-27-25S-30E | 4-Dec-19 | 0 | 0 | [98220] PURPLE SAGE, WOLFCAMP (GAS) |
| | | | | | | | | | |
| ***Wells that terminate inside or pass through one-mile radius*** | | | | | | | | | |
| 30-015-42158 | POKER LAKE UNIT CVX JV RR #010H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | P-17-25S-30E | 16-Jul-14 | 17992 | 10152 | [96238] CORRAL DRAW; BONE SPRING |
| 30-015-43432 | POKER LAKE UNIT CVX JV RR #011H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | D-21-25S-30E | | 0 | 0 | [13354] CORRAL CANYON; BONE SPRING, SOUTH |
| 30-015-40580 | POKER LAKE UNIT CVX JV RR #006H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | D-21-25S-30E | 2-Oct-12 | 13090 | 8303 | [13354] CORRAL CANYON; BONE SPRING, SOUTH |
| 30-015-40763 | POKER LAKE UNIT CVX JV PB #005H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | C-22-25S-30E | 1-Dec-12 | 13482 | 9086 | [96238] CORRAL DRAW; BONE SPRING |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 30-015-42470 | POKER LAKE UNIT #455H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | J-22-25S-30E | 14-Oct-15 | 14111 | 7557 | [50386] POKER LAKE, DELAWARE, SOUTH |
| 30-015-42112 | POKER LAKE UNIT #455H | Oil | 373075 | XTO PERMIAN OPERATING LLC. | P-27-25S-30E | 7-Mar-14 | 17019 | 7367 | [50386] POKER LAKE, DELAWARE, SOUTH |

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.





Exhibit D

NALCO Champion
An Ecolab Company

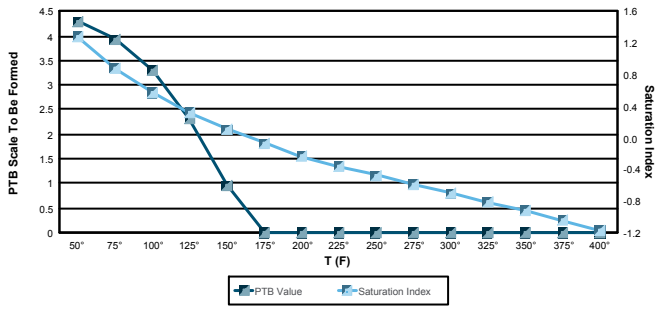
# Complete Water Analysis Report

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

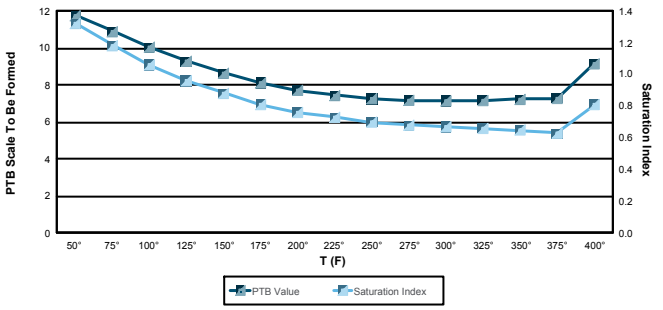
Equipment: **Nash Draw 19 Federal 001 SWD**
Sample Point: **Transfer Pump**
Sample ID: **AL07043**
Acct Rep Email: **Anthony.Baeza@ecolab.com**

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

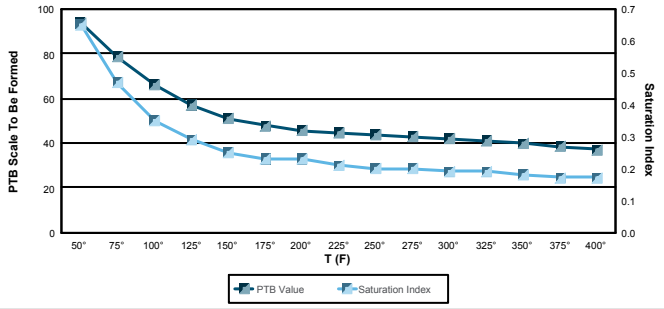
## Barite BaSO4



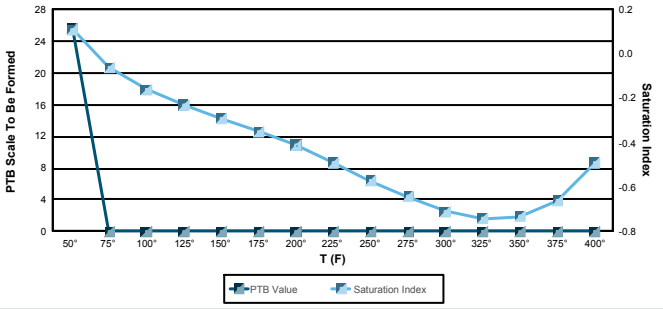

## Calcite CaCO3



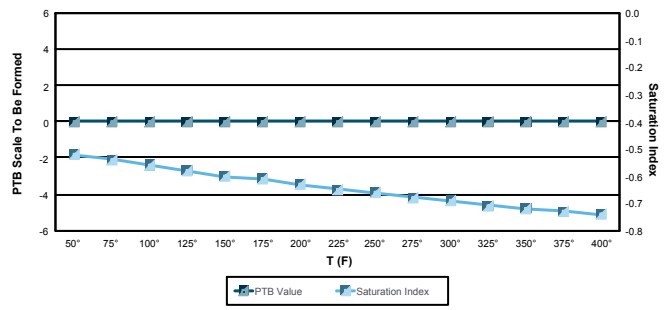

## Celestite SrSO4



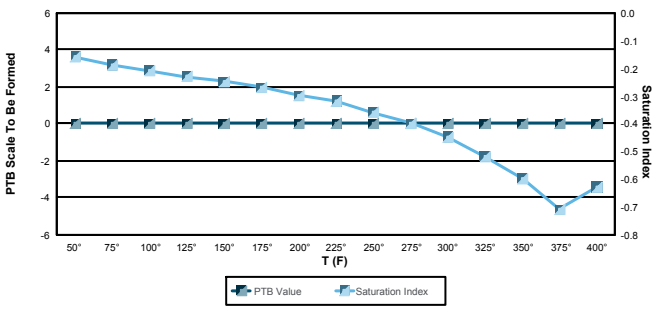

## Gypsum CaSO4



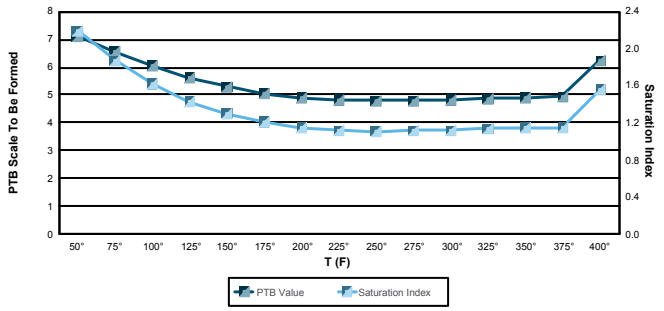

## Halite NaCl




## Iron Carbonate FeCO3




## Iron Sulfide FeS



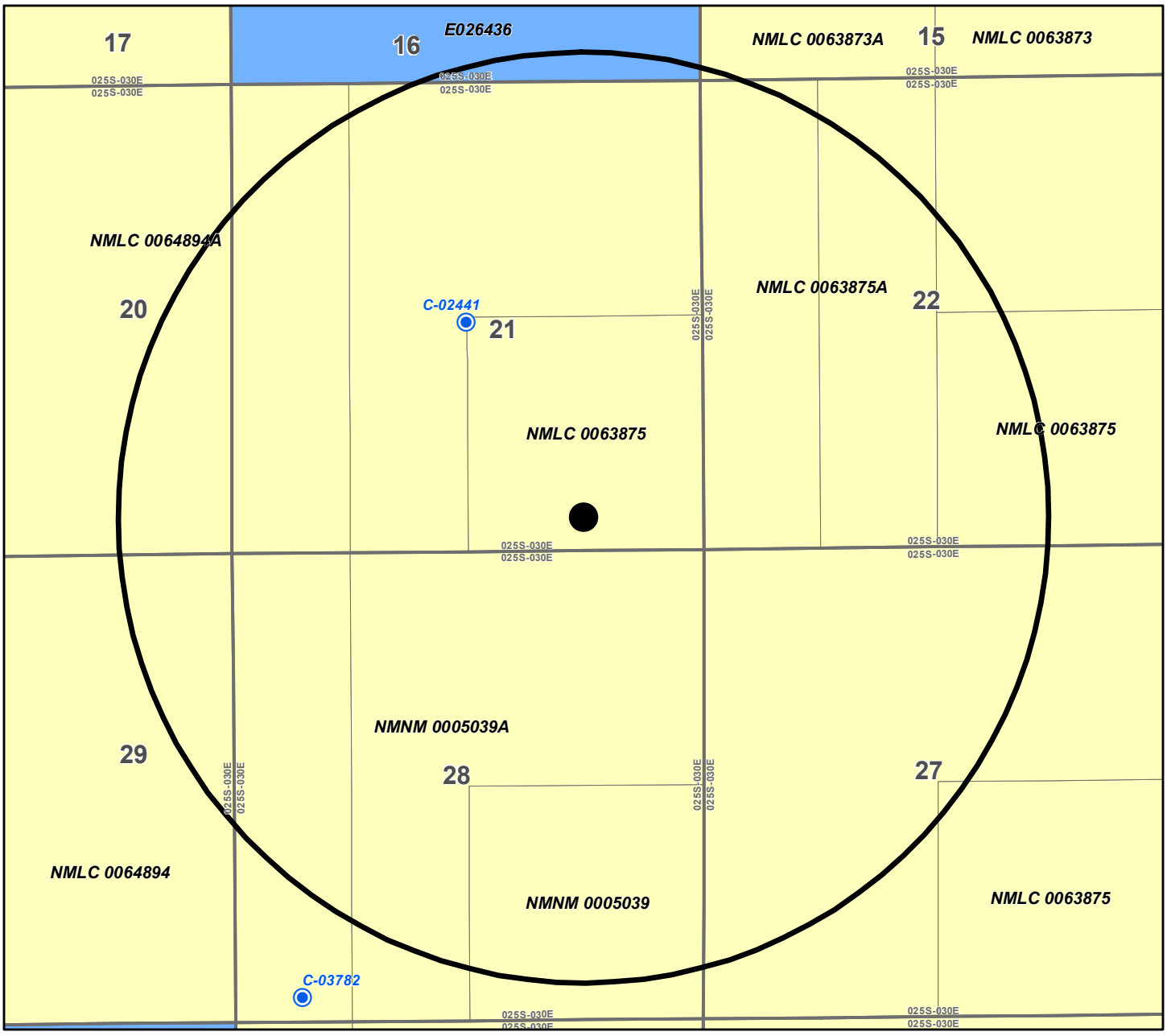

## Comments

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.

# Poker Lake Unit 21 Lincoln FED SWD 1

## Eddy County, New Mexico

### One- Mile Water Well Review




*water well*
*-location*
*-surface declaration*
*-surface permit*

State Lease

Federal Lease

one mile buffer

**known well operator in buffer**

ALAMO CORP
EL PASO NAT GAS CO
SUN OIL COMPANY
SWEENEY H N
XTO PERMIAN OPER LLC

Exhibit E

# New Mexico Office of the State Engineer
# Transaction Summary

**72121 All Applications Under Statute 72-12-1**

**Transaction Number:** 465599 **Transaction Desc:** C 02441 **File Date:** 03/17/1995

**Primary Status:** EXP Expired Permit
**Secondary Status:** EXP Expired
**Person Assigned:** *******
**Applicant:** BYRON W PASCHAL

**Events**

| | Date | Type | Description | Comment | Processed By |
|---|---|---|---|---|---|
| get images | 03/17/1995 | APP | Application Received | * | ******* |
| | 03/20/1995 | FIN | Final Action on application | | ******* |
| | 03/20/1995 | WAP | General Approval Letter | | ******* |
| | 04/01/1996 | EXP | Expired Permit (well log late) | | ******* |
| | 05/24/2011 | ARV | Rec & Arch - file location | C 02441 Box: 1873 | ******* |

**Change To:**

| WR File Nbr | Acres | Diversion | Consumptive | Purpose of Use |
|---|---|---|---|---|
| C 02441 | | 3 | | STK 72-12-1 LIVESTOCK WATERING |

****Point of Diversion**

| | | | |
|---|---|---|---|
| C 02441 | | 605077 | 3553783* |

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

**Remarks**

ABSTRACTOR NOTE: WELL NOT DRILLED SEE NOTE 04-04-1996.

ABSTRACTOR NOTE: NO WELL RECORD ON FILE WITH THE OFFICE OF THE STATE ENGINEER FOR THIS PERMIT. PER LETTER DATED 04/01/1996, THIS PERMIT IS EXPIRED.

**Conditions**

1A Depth of the well shall not exceed the thickness of the valley fill.

4 Use shall be limited to household, non-commercial trees, lawn and garden not to exceed one acre and/or stock use.

**Action of the State Engineer**

**** See Image For Any Additional Conditions of Approval ****

**Approval Code:** A - Approved
**Action Date:** 03/20/1995
**Log Due Date:** 03/31/1996
**State Engineer:**

July 9 2020

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

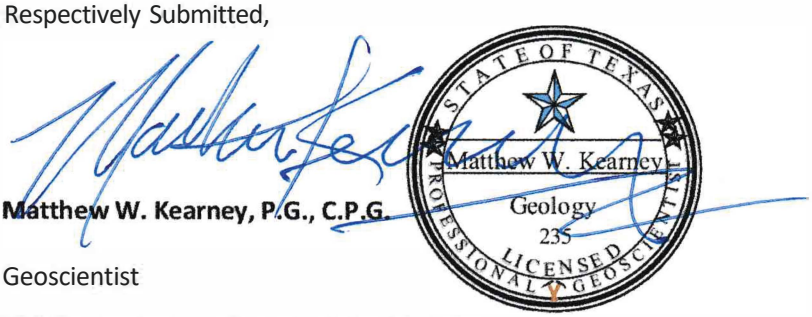
Re: **Geology Statement per Question XII on the Application for Authorization to Inject Form C-108 for**
XTO Energy Inc., an ExxonMobil subsidiary
Poker Lake Unit 21 Lincoln Fee SWD 1,
Section 21, Township 25 South, Range 30 East,
Eddy County, New Mexico

To whom it may concern:

XTO Energy, Inc., an ExxonMobil subsidiary, has examined available geological data at the above-mentioned well located at 370 feet from south line and 1,355 feet from east line of Section 21, 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.

Based on the available geologic data, XTO considers the Woodford Shale and the Montoya Limestone to be suitable confining layers for the Poker Lake Unit 21 Lincoln Fee SWD #1 well for protection of the underground drinking water resources.

Respectively Submitted,




**Matthew W. Kearney, P.G., C.P.G.**
Geoscientist
XTO Energy Inc., an ExxonMobil subsidiary
22777 Springwoods Village Parkway
Spring, Texas 77389

Exhibit F

Carlsbad Current Argus.

## Affidavit of Publication

**Ad # 0004274990**

**This is not an invoice**

**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:

**07/09/2020**

Legal Clerk

Subscribed and sworn before me this July 9, 2020:

)l '!;y of Bcowo
NOTARY PUBLIC

8-25-23
My commission expires

SHELLY HORA
Nota-ry Public
State of Wisc_ns.-

Ad # 0004274990
PO #: Water Disposal
# of Affirl;:ivits 1

**This is not an invoice**

NOTICE OF APPLICATION FOR WATER DISPOSAL WELL PERMIT

XTO Permian Operating LLC has applied to the New Mexico Oil Conservation Di-vlsion for a permit to dis-pose of produced water into a porous formation not pro-ductive of oil or gas.

The applicant proposes to dispose of produced water into the **Poker** Lake Unit **21** Lincoln Fee **SWD** #1 (Siluro-Devonian and Fusselman Formations). The maximum Injection pressure will be 3,331 psi and the maximum rate will be **40,000** bbls. pro-duced water per day. The proposed dlspos.il Well is lo-cated approximately 14 miles Southeast of Malaga, New Mexico in Section 21, T25S, R30E, 370' FSL & 1355' FEL, Eddy County, New Mexico. The produced water will be disposed at a subsurface depth of 16,655'-17,683'.

Any questions concerning this application should be directed to Tracie J Cherry, Regulatory Coordinator, XTO Energy, Inc, 6401 Holl• day Hill Rd, Bldg 5 Midland, Texas 79707, (432) 221-7379.

Interested parties must file objections or requests for hearing with the Oil Conser• vation Division, 1220 S. St. Francis Dr., Santa Fe, New Mexico 87505 within 15 days.

#4274990, Current Argus, July 9, 2020

Exhibit G

CERTIFIED MAILING LIST
XTO PERMIAN OPERATING, LLC
POKER LAKE UNIT 21 LINCOLN FEE SWD #1

Mineral Owner:

**Cert #7019 0700 0001 0025 5812**
Bureau of Land Management
620 E. Greene Street
Carlsbad, **NM 88220-6292**

Surface Owner:

**Cert #7019 0700 0001 0025 5805**
DK Farms
2727 Racquet Club Dr.
Midland, TX 79705

Offset Notice:

**Cert #7019 0700 0001 0025 5799**
New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe, NM 87501

**Cert #7019 0700 0001 0025 5782** PLU Bone Spring formation
Chevron USA Inc
630 Deauville
Midland, TX 79706-2964

**Cert #7019 0700 0001 0025 5775** Section 29 only
ConocoPhillips Company
PO Box 2197
EC3-10-W285
Houston, TX 77252

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: 07/09/2020

Exhibit G

XTO ENERGY

**Statements Regarding Seismicity**

XTO has updated the seismicity risk assessment associated with the proposed PLU Lincoln 21 FED SWD 1 well by investigating historic seismicity, the presence of deep faulting, orientation of faults relative to the current stress regime 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). To accommodate the tool's analytics, a simplified spatial relationship between the proposed well and possible faulting was established.

As part of our risk assessment we also consider mitigation options to address inherent uncertainties associated with the evaluation of possible seismicity. XTO 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**

Within 5 miles of the proposed well location, New Mexico Tech reports a few isolated seismic events and the USGS reports no seismic events (Figure 1). Additionally, TexNet reports one earthquake about 2 miles of the proposed well location (M2.1, 9 Jun 2020).

**Deep Faulting**

Utilizing recently re-processed 30 seismic data in the area of the proposed well location, XTO has interpreted several faults and/or linear features. Additionally, 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 of the proposed well is primarily within a normal faulting regime (Figure 1).

**Geomechanical Modeling**

A simple screening level geometric/ geomechanical assessment of the faults was performed utilizing the FSP tool. The models were run using the Aphi option which makes a simplifying and conservative assumption that faults are critically stressed and thus close to failure. Additionally, given the uncertainties in the geophysical interpretation and stress information, probabilistic scenarios were run which vary fault and stress characteristics. FSP model deterministic and uncertainty inputs and results of the modeling are shown in Figure 2.

**Pore Pressure Modeling**

A screening level investigation of possible pore pressure increases was performed utilizing the FSP tool and a range of reservoir parameters. For this screening level analysis a 'high-side', flat rate model was run assuming disposal at the proposed well of 22,500 BWPD beginning in 2021 and continuing at that rate until 2040. Sensitivities were performed by varying several reservoir parameters. Deterministic models, snap shots of the calculated pore pressure increases in 2025

and 2040 and cross-plots of pore pressure uncertainty analysis and fault slip probabilities are shown in Figure 3.

**Integration of Geomechanical and Pore Pressure Modeling**

Integration of the geomechanical and hydrological elements of the assessment was performed using the FSP Integrated module. The results are shown in Figure 4. Note the y-axis in the lower right hand colored graphs in Figure 4 are labeled 'Fault Slip Potential'. This is a labeling convention within the tool but overstates the efficacy of the analysis. The FSP output should l)Ot be taken as calculating a reliable probability of a fault slipping but rather a screening method for assessing the relative potential of faults to slip.

**Uncertainty**

The analysis presented is a screening level approach that encompasses a range of uncertainties in several components that are difficult to individually constrain due to the limited static and dynamic data available for deep disposal wells. Accordingly, the analysis was done by varying key inputs to understand the relative importance of each and guide the focus of future data collection efforts.

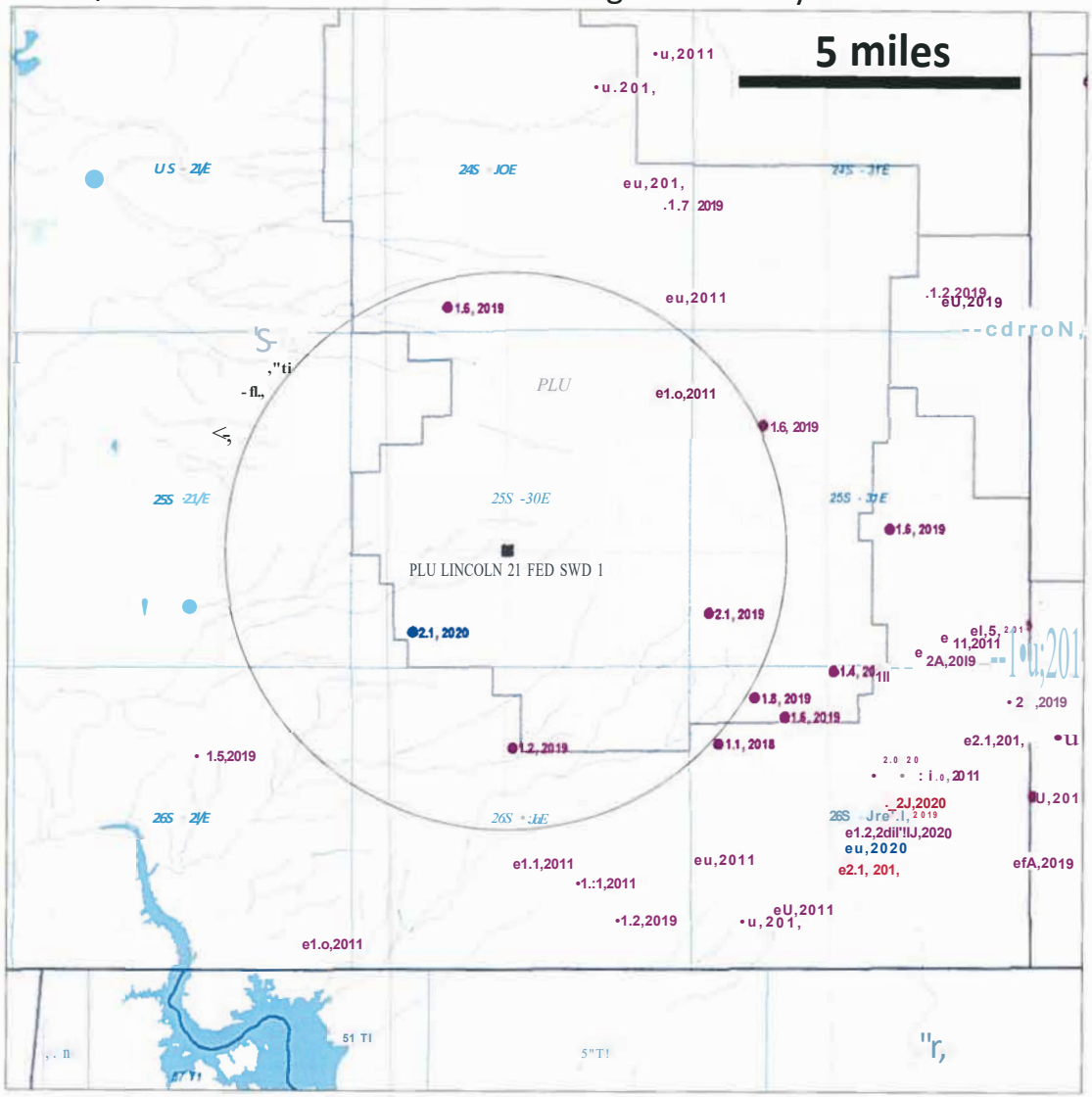
**Monitoring Plan**

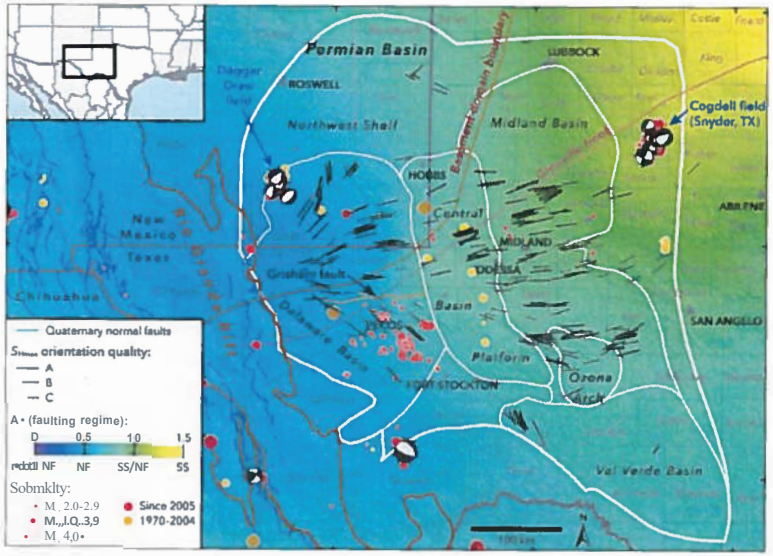
To manage the inherent uncertainty, XTO has contracted with a third party to provide seismicity monitoring using public seismometers augmented by a private array in the area of the proposed well. This will allow for a better determination of baseline seismicity as well as early detection should there be anomalous events. Additionally, XTO will monitor disposal zone reservoir pressure for a minimum period of five years to better constrain reservoir properties and pore pressure increase (if any). Upon request, XTO will share the results of this work with the EMNRD's UIC staff.

Tim Tyrrell
XTO Geoscience Technical Manager

# PLU Lincoln 21 FED SWD 1- Historic seismicity

Earthquakes >=l.OM with associated magnitude and year




Snee & Zoback, 2018

Figure 1

# PLU Lincoln 21 FED SWD 1 - Geomechanics

## Fault inputs

| | Strike (Deg) | Dip (Degl | length !km) |
|---|---|---|---|
| 1 | 59 | 65 | 1 |
| 2 | 67 | 70 | 11 |
| 3 | 75 | 73 | 11 |
| 4 | 77 | 78 | 1 |
| 5 | 73 | 81 | 11 |
| 6 | 58 | 83 | 1 |
| 7 | 52 | 86 | 1 |
| a | 56 | 87 | 1 |

Nl.mbef of ra s (max 500) 8

Fnc!lon Coellioert mu 06

## Stress inputs

Vei11ca1 Sbess Graae,t jpg,IIJ

A-Ph Parameter 05

Mn Honz Stress Grad Avail

Max Hor Sbess Ouedlon (deg N CW! 65

Irit1al Res I'reffIn Gradient (psllttl 0,S

Refe,eoce oepa, lor Calcuiatl0115 (Ill 15500

## Uncertainty ranges

Vertlcal Slr1'Ss Grad (1.1 ps>'ft] 0

In!iol PP Ornd [D.45 ps>'ft] 0

Slrike Angles [varying, degrees) 15

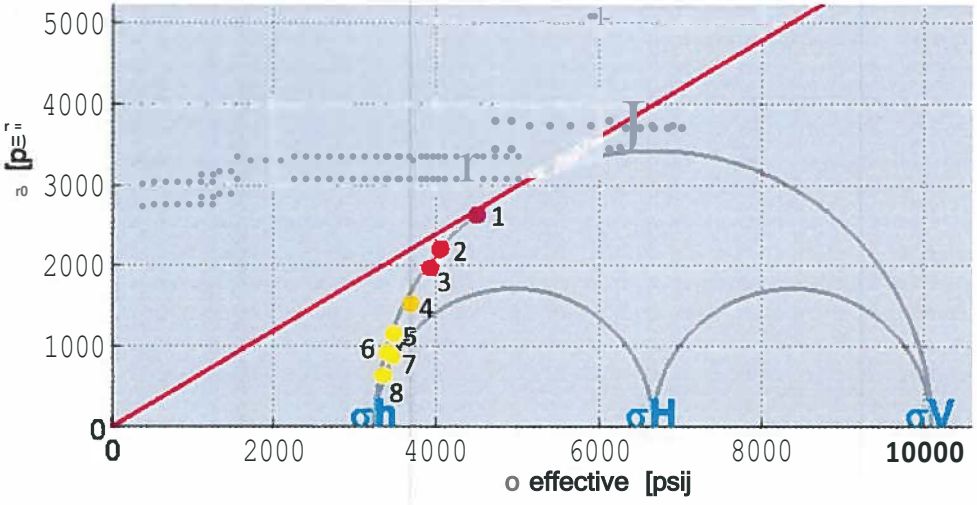
Dip Angles (varying, degrees) 15

Max Horiz. Slr1'Ss 1K [65 degrees) C1s

Friction Coeff Mu [0.6) 0

A Phi Parameter (0.5) 0 2

## Mohr circle representation of fault plane stress




## Probabilistic geomechanics

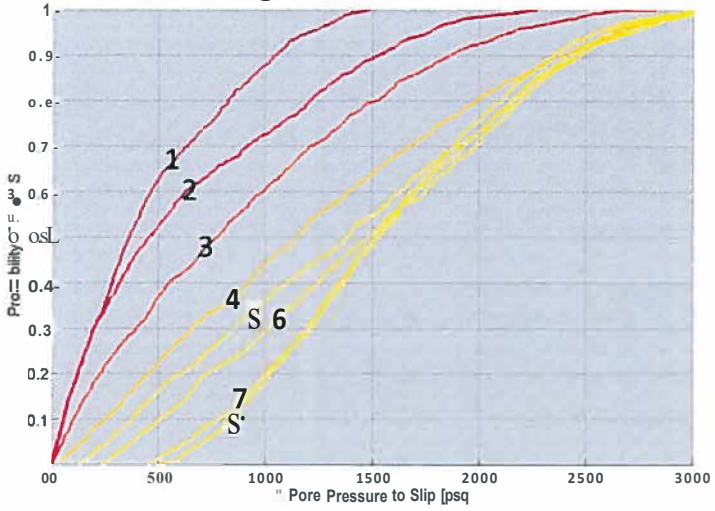


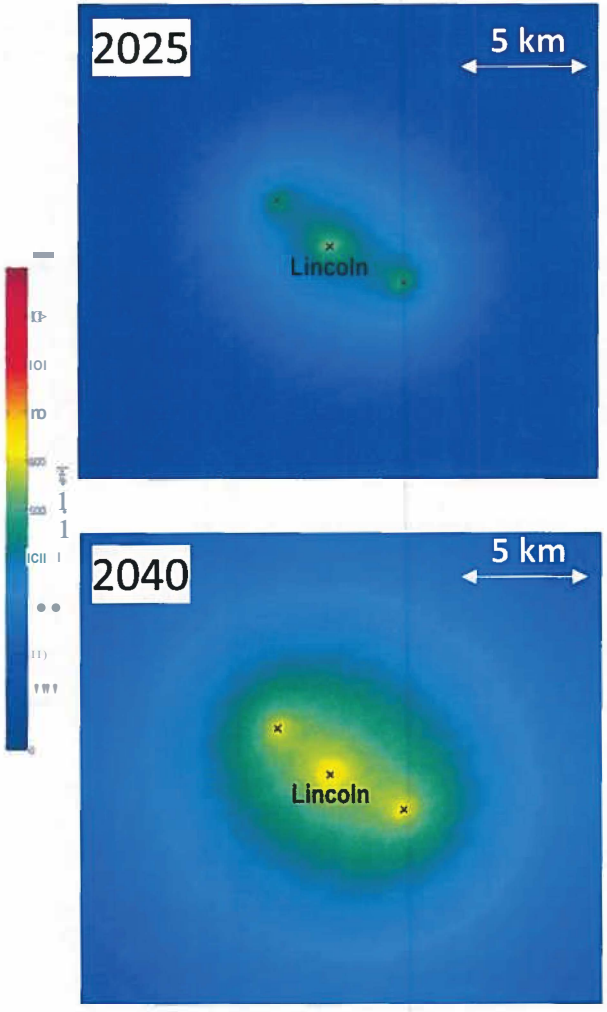

Figure 2

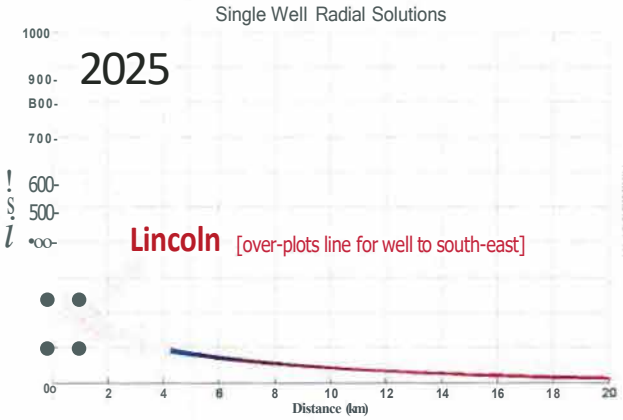
# PLU Lincoln 21 FED SWD 1- Pore Pressure Analysis

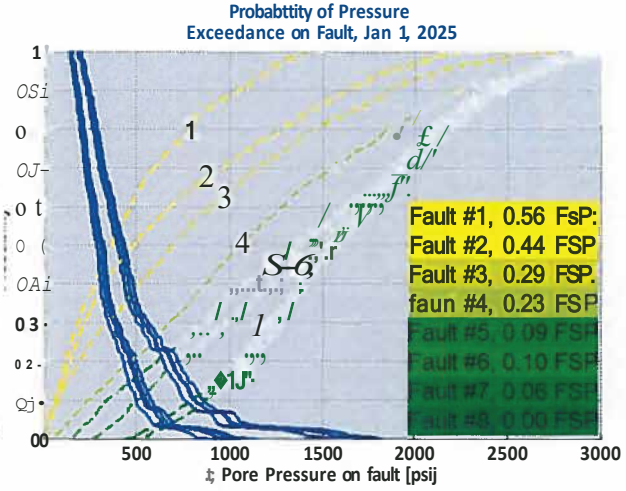
uncertaintv ranges

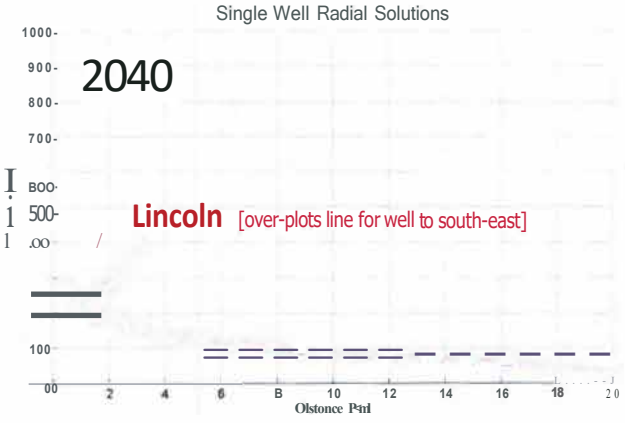
| | Plus/Minus |
|---|---|
| Aquifer Thickness [750 ft) | 250 7 |
| Porosity [10 %) | 4 |
| Perm[50mO] | 1 |

Pore pressure increase



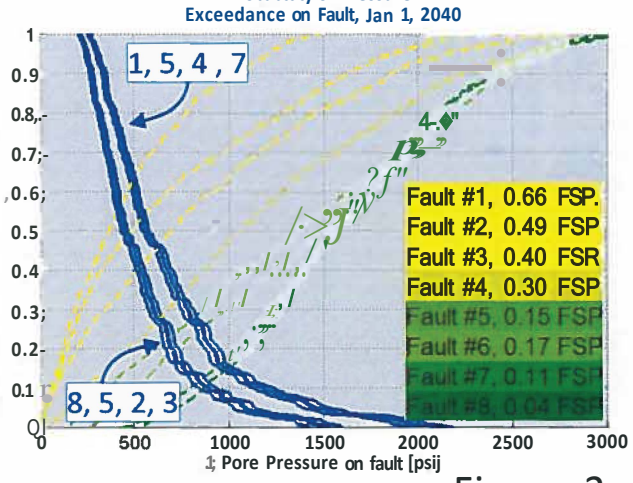
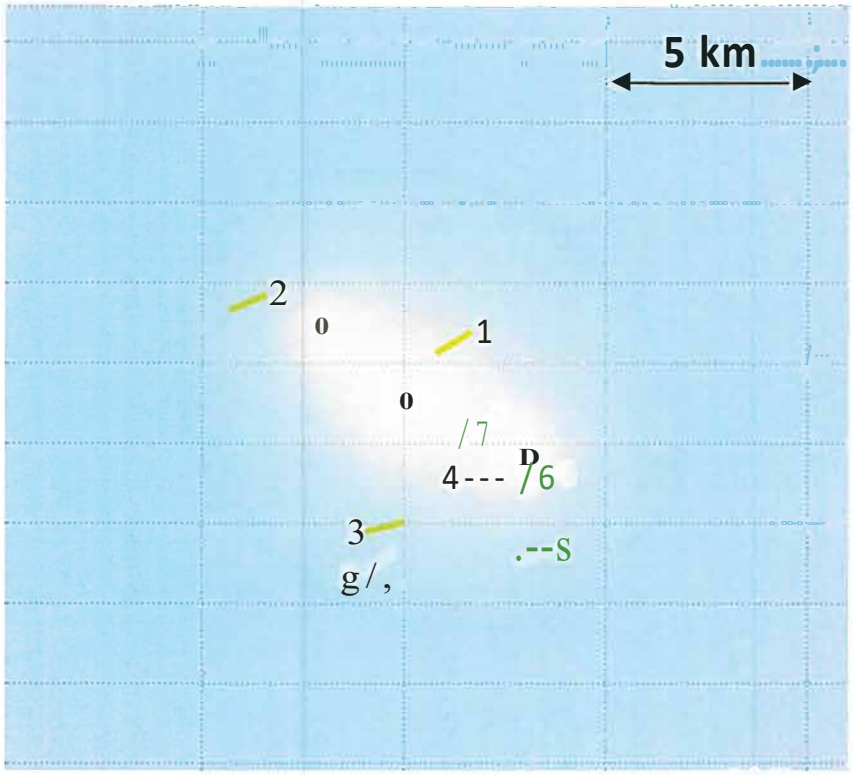
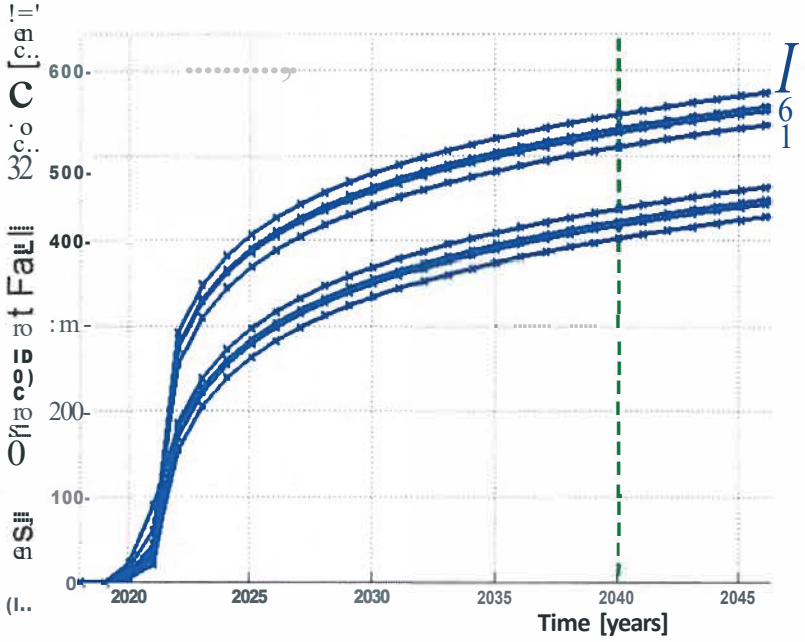




Figure 3

# PLU Lincoln 21 FED SWD 1 - Geomechanical / Pore Pressure Integration



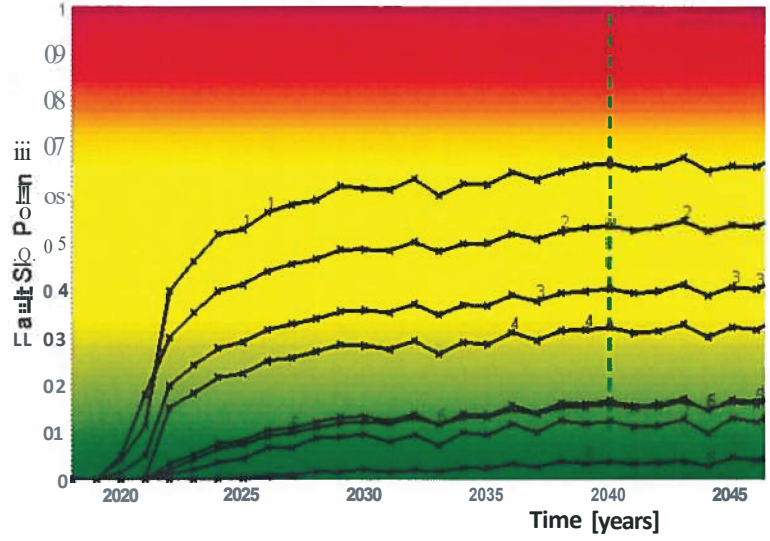




Figure 4