

RECEIVED: 09/26/2018	REVIEWER: <i>[Signature]</i>	TYPE: SWD	APP NO: PPRG1903634129
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

[Date stamp of District 2]

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: BOPCO, LP **OGRID Number:** 260737
Well Name: Poker Lake Unit 16 BS State SWD I **API:** To be assigned 30-015-45224
Pool: ~~Devonian, SWD~~ SWD; Devonian-Silurian **Pool Code:** 97869

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

1) TYPE OF APPLICATION: Check those which apply for [A]

A. Location - Spacing Unit - Simultaneous Dedication

NSL NSP (PROJECT AREA) NSP (PRORATION UNIT) SD

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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

SEP 26 2018

DISTRICT II-ARTESIA O.C.D.

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

FOR OCD ONLY	
<input checked="" type="checkbox"/>	Notice Complete
<input checked="" type="checkbox"/>	Application Content Complete

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.

Patricia Donald

Print or Type Name

[Signature]

Signature

09/19/2018

Date

432-571-8220

Phone Number

patricia_donald@xtoenergy.com

e-mail Address

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. OPERATOR: BOPCO, LP

ADDRESS: 6401 Holiday Hill Rd, BLDG 5, Midland TX 79707

CONTACT PARTY: Tessa Fitzhugh

PHONE: 432-620-4336

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SEP 26 2018

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.

DISTRICT II-ARTESIA O.C.D.

IV. Is this an expansion of an existing project? Yes XXXXX 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: _____ TITLE: _____

SIGNATURE: Rafael Doncel DATE: _____

E-MAIL ADDRESS: _____

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

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

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

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

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

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

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

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

INJECTION WELL DATA SHEET

OPERATOR: BOPCO, LPWELL NAME & NUMBER: Poker Lake Unit 16 BS State SWD #1WELL LOCATION: 660' FNL & 660' FWL D 16 25S 31E
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGEWELLBORE SCHEMATICWELL CONSTRUCTION DATASurface CasingHole Size: 24 Casing Size: 18 5/8
Cemented with: 1280 sx. or ft³
Top of Cement: 0 Method Determined: Intermediate CasingHole Size: 17 1/2 Casing Size: 13 3/8
Cemented with: 3000 sxs POZ/Class C & 685sxs Class C
Top of Cement: 0 Method Determined: Production CasingHole Size: 12 1/4 Casing Size: 9 5/8
Cemented with: 1950 sxs POZ/H sx. & 400 sxs POZ/H
Top of Cement: 3600 Method Determined:
Total Depth: 18139Injection Interval16910 feet to 18139(Perforated or Open Hole; indicate which)Production LinerHole Size: 8 1/2" Liner Size: 7"
Cemented with: 725 sxs Poz/H
Top of Cement: 12000'
Open Hole from 16910 to 18139

INJECTION WELL DATA SHEET

Tubing Size: 5.5 to 4.5 at 11800' Lining Material: IPC

Type of Packer: Lock Set Packer

Packer Setting Depth: 1686 16860

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

Additional Data

1. Is this a new well drilled for injection? XXX Yes No
If no, for what purpose was the well originally drilled? _____

2. Name of the Injection Formation: Devonian, Silurian, Fusselman

3. Name of Field or Pool (if applicable): Devonian, SWD

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. NO

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

PLU Big Sinks 16 SWD

Proposed SWD Schematic (Aug 28, 2018)

County: Eddy
 SHL: 660' FNL, 660' FWL
 Sec 16, T 25S, R 31E

 BHL: 660' FNL, 660' FWL
 Sec 16, T 25S, R 31E



AFE # 1802748
 XTO ID # N/A

 API # N/A
 Elevation GL 3387', KB 3414' (27' AGL)
 Rig: TBD (RKB 27')

Geology	Casing & Cement	Wellhead	Hole Size	General Notes
TVD Formation				
514' Rustler	<u>Lead (100% OH excess)</u> 410 ex 12.8ppg Poz/C Top of Lead @ 0 <u>Tail (100% OH excess)</u> 870 ex 14.8ppg Class C Top of Tail @ 300' 18-5/8" 87.5# J-55 BTC	(Tech Data Sheet) 700' MD	24"	
894' Top Salt	<u>Lead (150% OH excess)</u> 3000 ex 12.8ppg Poz/C Top of Lead @ 0 <u>Tail (100% OH excess)</u> 685 ex 14.8ppg Class C Top of Tail @ 3800' 13-3/8" 68# HCL-80 BTC	4200' MD	17-1/2"	
4,254' Delaware	<u>Lead (100% OH excess)</u> 1950 ex 11.5ppg Poz/H Top of Lead @ 3600' <u>Tail (100% OH excess)</u> 400 ex 14.8ppg Poz/H Top of Tail @ 11660'	12000' MD	12-1/4"	
8,139' Bone Spring	11,564' Wolfcamp 12,159' Wolfcamp B 9-5/8" 53.5# P-110 BTC	12300' MD		
13,939' Strawn 14,064' Atoka 14,534' Morrow	<u>Tail (100% OH excess)</u> 725 ex 14.5ppg Poz/H Top of Tail @ 12000' 7" 32# P-110 BTC	16910' MD	8-1/2"	
16,079' Mississippian Lm 16,764' Woodford 16,889' Devonian				
18,039' Simpson	Open hole completion	18,139' MD 18,139' TVD	6"	
18,139' TVD at BHL				

Approvals

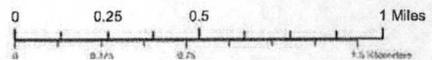
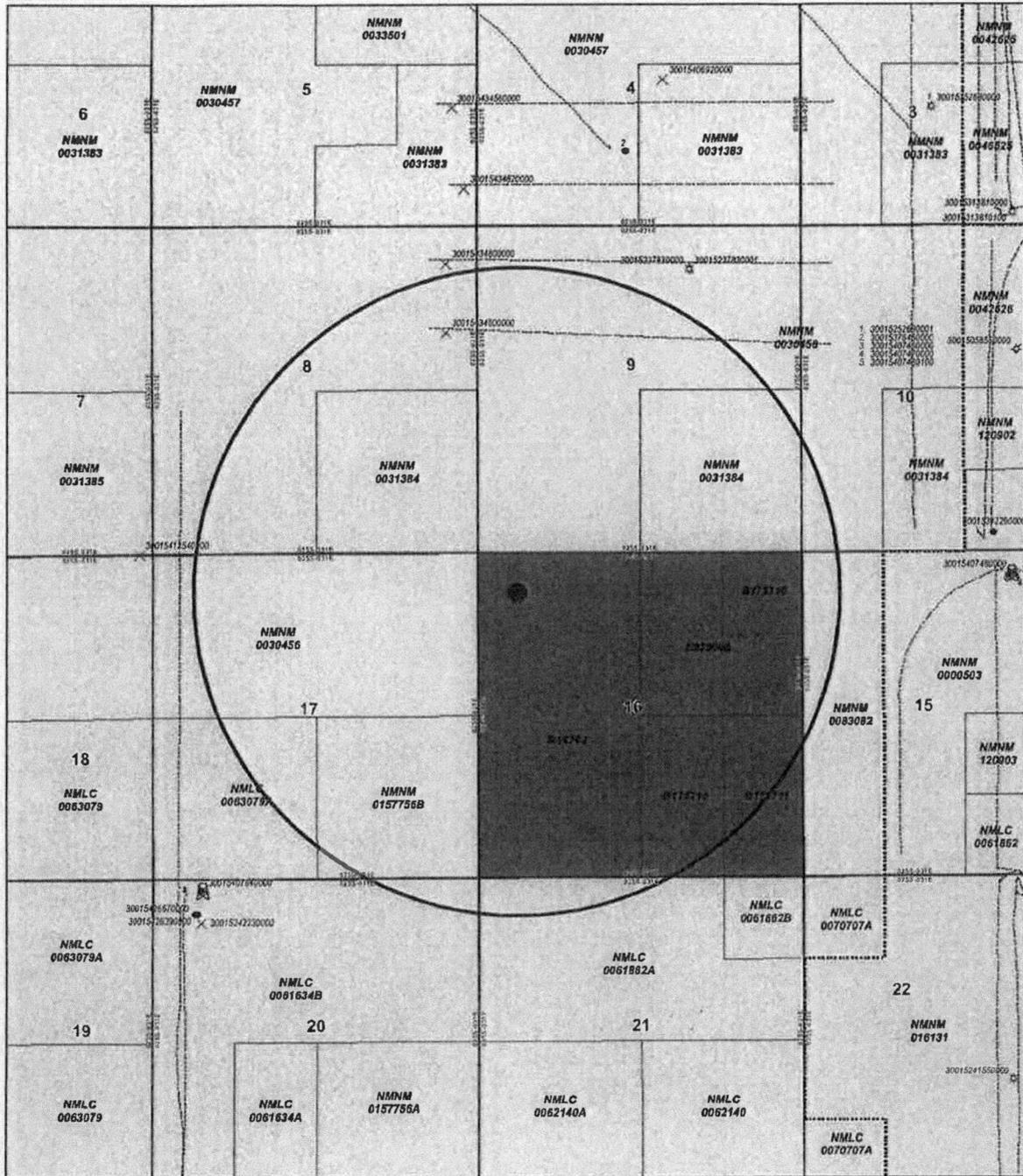
Prepared by: _____

Peer Reviewed by: _____ Date _____

Reviewed by: _____

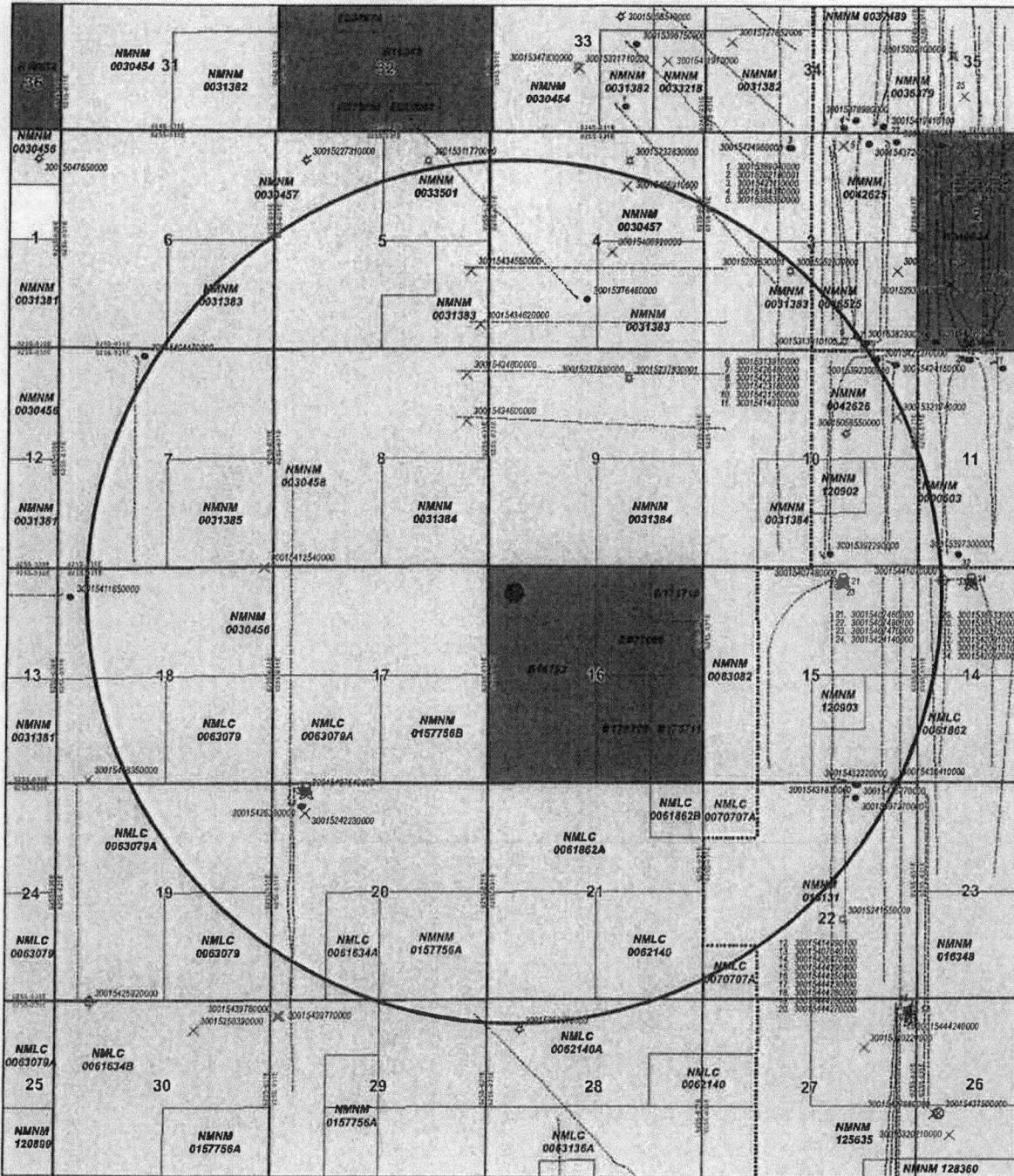
Approved by: _____

Poker Lake Unit 16 BS SWD



- | | | |
|-------------------|------------------------------|-----------------------|
| ----- wellbore | Well Status Name | ☐ NON-PRODUCING OTHER |
| ■ State Lease | ⊞ GAS | ○ CO2 |
| ▨ Federal Lease | ⊞ INJECTION | ☒ DRY |
| □ one mile buffer | ⊞ MULTI OIL AND GAS PRODUCER | ○ STORAGE |
| ⊞ BLM Active Unit | ● OIL | ⊞ CBM |
| | ⊞ OIL AND GAS PRODUCER | ⊞ OTHER PRODUCING |
| | ⊞ MULTIPLE GAS PRODUCER | ⊞ WATER SUPPLY WELL |
| | ⊞ MULTIPLE OIL PRODUCER | ⊞ WELL PERMIT |
| | × ABANDONED | ⊞ WELL START |
| | ⊞ DRILLING | |

Poker Lake Unit 16 BS SWD



----- wellbore	Well Status Name	☒ NON-PRODUCING OTHER
■ State Lease	⊠ GAS	○ CO2
■ Federal Lease	⊠ INJECTION	☒ DRY
□ two mile buffer	⊠ MULTI OIL AND GAS PRODUCER	☒ STORAGE
⊠ BLM Active Unit	● OIL	☒ CBM
	* OIL AND GAS PRODUCER	⊠ OTHER PRODUCING
	⊠ MULTIPLE GAS PRODUCER	⊠ WATER SUPPLY WELL
	⊠ MULTIPLE OIL PRODUCER	⊠ WELL PERMIT
	× ABANDONED	⊠ WELL START
	⊠ DRILLING	

Exhibit C

BOPCO, LP

Poker Lake Unit 2 TD State SWD #1

660' FNL & 660' FWL , SEC 16, T25S, R31E

Eddy County, New Mexico

Re: C-108 (Application for Authorization in Inject)

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.

Map attached

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.

No wells within the area of review penetrate the proposed injection zone

VII. Data for Proposed Operation

1. Proposed average & maximum daily rate and volume: **40,000 bwpd maximum, 20,000 bwpd average.**
2. **System is closed**
3. Proposed injection pressure: **2950 psi**
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water. **This well is part of a SWD system**

VIII.

Lithologic Detail:	Carbonate
Geological Name:	Devonian/ Silurian, Fusselman
Thickness:	Est. 1,140'
Depth:	Est.16,920'/18,060'

The alluvial beds (possibly equivalent to the Dewey Lake Red Beds) above and possible near the top of Rustler Formation may contain fresh water throughout this geographic area. The average depth to top of Rustler is near Surface to 125 feet below surface and an estimated average 275 to 350 feet thick in the area based on published Maps and off-set well tops.

IX. Proposed Stimulation Program

The open-hole with an acid frac using acid and rock salt for diversion with 5,000 gals of 15% HCL. No further stimulation is planned.

X. Well Test Information

No well test is available. Log will be provided to Division once well is drilled.

XI. Chemical Analysis

Review of OSE data base indicates no water wells in this well's area of review.

Exhibit C

XII. Geological Statement

Please see signed geological statement enclosed.

XIII. Proof of Notice

Proof of Notice is enclosed

XIV. Surface owners

The New Mexico State Land Office



New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 9

Township: 25S

Range: 31E

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

9/4/18 1:30 PM

Page 1 of 1

**WATER COLUMN/ AVERAGE
DEPTH TO WATER**



New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 17

Township: 25S

Range: 31E

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

9/4/18 1:31 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 16

Township: 25S

Range: 31E

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

9/4/18 1:29 PM

Page 1 of 1

**WATER COLUMN/ AVERAGE
DEPTH TO WATER**



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,

C=the file is (quarters are 1=NW 2=NE 3=SW 4=SE)
closed) (quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	Basin	County	Q 1	Q 2	Q 3	Q 4	Sec	Twp	Range	X	Y	Depth Well	Depth Water	Water Column
C 02250	CUB	ED		3	1	4	21	25S	31E		614912	3553620*	400	390	10

Average Depth to Water: 390 feet

Minimum Depth: 390 feet

Maximum Depth: 390 feet

Record Count: 1

PLSS Search:

Section(s): 21

Township: 25S

Range: 31E

*UTM location was derived from PLSS - see Help

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

August 22, 2018

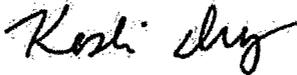
New Mexico, Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: **Geology Statement per Question XII on the Application for Authorization to Inject Form C-108 for**
XTO Energy Inc., an ExxonMobil subsidiary
PLU Big Sinks 16 SWD #1,
Section 16, Township 25S, Range 31E,
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 660 FNL & 660 FWL, Unit D, Section 16, T25S, R31E, 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,



Kesli Ivy

Geologist

XTO Energy Inc., an ExxonMobil subsidiary
22777 Springwoods Village Parkway
Spring, Texas 77389



September 19, 2018

Bureau of Land Management
620 E. Greene Street
Carlsbad, NM 88220-6292

DK Farms, Inc.
David Kirk
2727 Raquet Club Drive
Midland, TX 79705

The New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe, NM 87501

Re: Notice of Application to Inject Fluid
Poker Lake Unit 16 BS State SWD #1
Eddy County, New Mexico

To whom this may concern:

This letter is to notify you XTO Energy Inc. has submitted to the Oil Conservation Division an application to drill a salt water disposal well. Our records indicate that you are the offset operator or surface owner. Attached please find a copy of the application sent to the Oil Conservation Division for your review.

If you have any questions please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Patricia Donald'.

Patricia Donald
Regulatory Analyst
Patricia_Donald@xtoenergy.com
XTO Energy, Inc.
6401 Holiday Hill Rd, BLDG 5
Midland, Tx 79707
432-571-8220

CERTIFIED MAILING LIST
BOPCO, LP
Poker Lake Unit 16 BS State SWD #1

Certified #7016 2070 0000 9005 6362

Bureau of Land Management
620 E. Greene Street
Carlsbad, NM 88220-6292

Certified #7016 2070 0000 9005 6379

DK Farms, Inc.
David Kirk
2727 Raquet Club Drive
Midland, TX 79705

Certified #7016 2070 0000 9005 6386

The New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe, NM 87501

CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

Ad No.
0001260595

REC'D/MIDLAND

SEP 13 2018

XTO ENERGY, INC.
6401 HOLIDAY HILL RD, BLDG #5

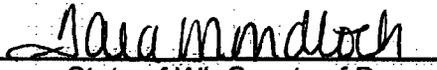
MIDLAND TX 79701

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:

09/06/18


Legal Clerk

Subscribed and sworn before me this
6th of September 2018.


State of WI, County of Brown
NOTARY PUBLIC


My Commission Expires

Ad#:0001260595
P.O.: Unit 16 BS
of Affidavits :0.00

TARA MONDLOCH
Notary Public
State of Wisconsin

NOTICE OF APPLICATION FOR WATER DISPOSAL WELL PERMIT

BOPCO, L.P. 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 16 BS State SWD #1** (Devonian, Silurian, & Fusselman Formations). The maximum injection pressure will be 3382psi and the maximum rate will be 40,000 bbls. produced water per day. The proposed disposal well is located in Section 16, T25S - R30E, 660' FNL & 660' FWL, Eddy County, New Mexico. The produced water will be disposed at a subsurface depth of 16,910' -18,139'.

Any questions concerning this application should be directed to Tessa Fitzhugh, Regulatory Coordinator, BOPCO, L.P, 6401 Holiday Hill Rd, Bldg 5, Midland, Texas 79707, (432) 620-4336.

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.

September 6, 2018

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	A. Signature <input checked="" type="checkbox"/> <i>[Signature]</i>	<input type="checkbox"/> Agent <input type="checkbox"/> Addressee
1. Article Addressed to: BLM-CARLSBAD FIELD OFFICE 620 E. GREENE STREET CARLSBAD, NM 88220	B. Received by (Printed Name)	C. Date of Delivery
 9590 9402 3579 7305 8133 39	D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
2. Article Number (Transfer from service label) 7016 2070 0000 9005 6362	3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Registered Mail Restricted Delivery (500)	
PS Form 3811, July 2015 PSN 7530-02-000-9053		Domestic Return Receipt

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	A. Signature <input checked="" type="checkbox"/> <i>[Signature]</i>	<input type="checkbox"/> Agent <input type="checkbox"/> Addressee
1. Article Addressed to: <i>DK Farms, Inc.</i> <i>David K. Kirk</i> <i>2727 Arroyo del Club Drive</i> <i>Midland, NM 88005</i>	B. Received by (Printed Name) <i>DAVID K. KIRK</i>	C. Date of Delivery <i>9-25-14</i>
 9590 9402 3579 7305 8133 53	D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
2. Article Number (Transfer from service label) 7016 2070 0000 9005 6379	3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Registered Mail Restricted Delivery	
PS Form 3811, July 2015 PSN 7530-02-000-9053		Domestic Return Receipt

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	A. Signature <input checked="" type="checkbox"/> <i>[Signature]</i>	<input type="checkbox"/> Agent <input type="checkbox"/> Addressee
1. Article Addressed to: Oil Conservation Division 811 S. First St Artesia, NM 88210	B. Received by (Printed Name) <i>Laura Tull</i>	C. Date of Delivery <i>9-26-14</i>
 9590 9402 3579 7305 8133 22	D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
2. Article Number (Transfer from service label) 7016 2070 0000 9005 7758	3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery	
PS Form 3811, July 2015 PSN 7530-02-000-9053		Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

**The New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe, NM 87501**



9590 9402 3579 7305 8133 46

2. Article Number (Transfer from service label)

7016 2070 0000 9005 6386

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

3. Service Type
- Adult Signature
 - Adult Signature Restricted Delivery
 - Certified Mail
 - Certified Mail Restricted Delivery
 - Collect on Delivery
 - Collect on Delivery Restricted
 - Registered Mail
 - Registered Mail Restricted Delivery
 - Priority Mail Express
 - Registered Mail™
 - Registered Mail Restricted Delivery

Domestic Return Receipt



Statements Regarding Seismicity

XTO has performed a seismicity risk assessment associated with the proposed Poker Lake Unit Big Sinks 16 SWD 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 (FSP; Walsh et al. 2017). To accommodate the tool's analytics, a simplified spatial relationship between the proposed well and possible fault was established.

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

A summary of our evaluation and seismicity monitoring plan follows:

Historic Seismicity

There are no seismic events reported on the USGS earthquake website within 15+ 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 has interpreted a fault and/or linear feature with an azimuth of approximately 136 degrees from north with a dip of approximately 85 degrees. 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 well is primarily a normal faulting regime with the maximum horizontal stress oriented at ~65 degrees from north.

Geomechanical Modeling

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

Pore Pressure Modeling

A screening level investigation of possible pore pressure increases due to the proposed SWD well was performed utilizing the FSP tool and a range of reservoir parameters. For this screening level analysis a 'high-side' model was run assuming disposal of 40,000 BWPD beginning in 2019 and

continuing at that rate until 2040. Sensitivities were performed by varying several reservoir parameters. Results of the model and the screening level inputs are shown in Figure 3.

Integration of Geomechanical and Pore Pressure Modeling

Integrating the geomechanical and hydrological elements of the assessment was performed using the FSP Integrated module and are shown in Figure 4. Note the y-axis in the lower right hand colored graph in Figure 4 is labeled 'Fault Slip Potential'. This a labeling convention within the tool but overstates the efficacy of the analysis. The FSP output should not 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 from 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 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

Poker Lake Unit Big Sinks 16 SWD Well Historic Seismicity

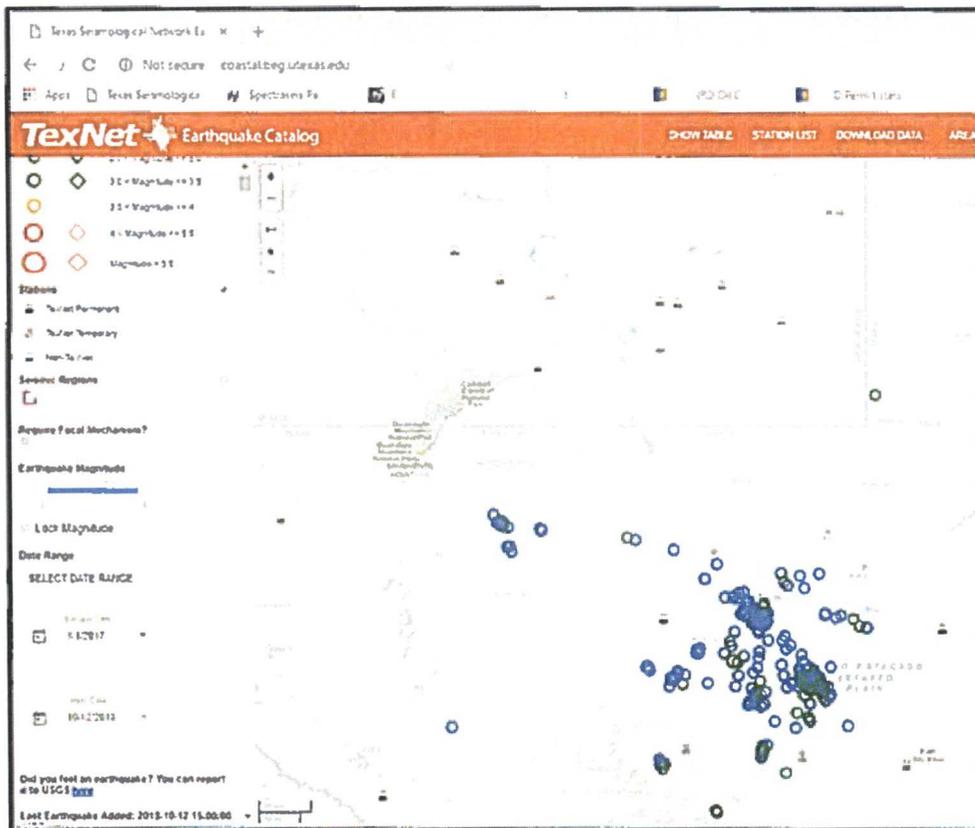
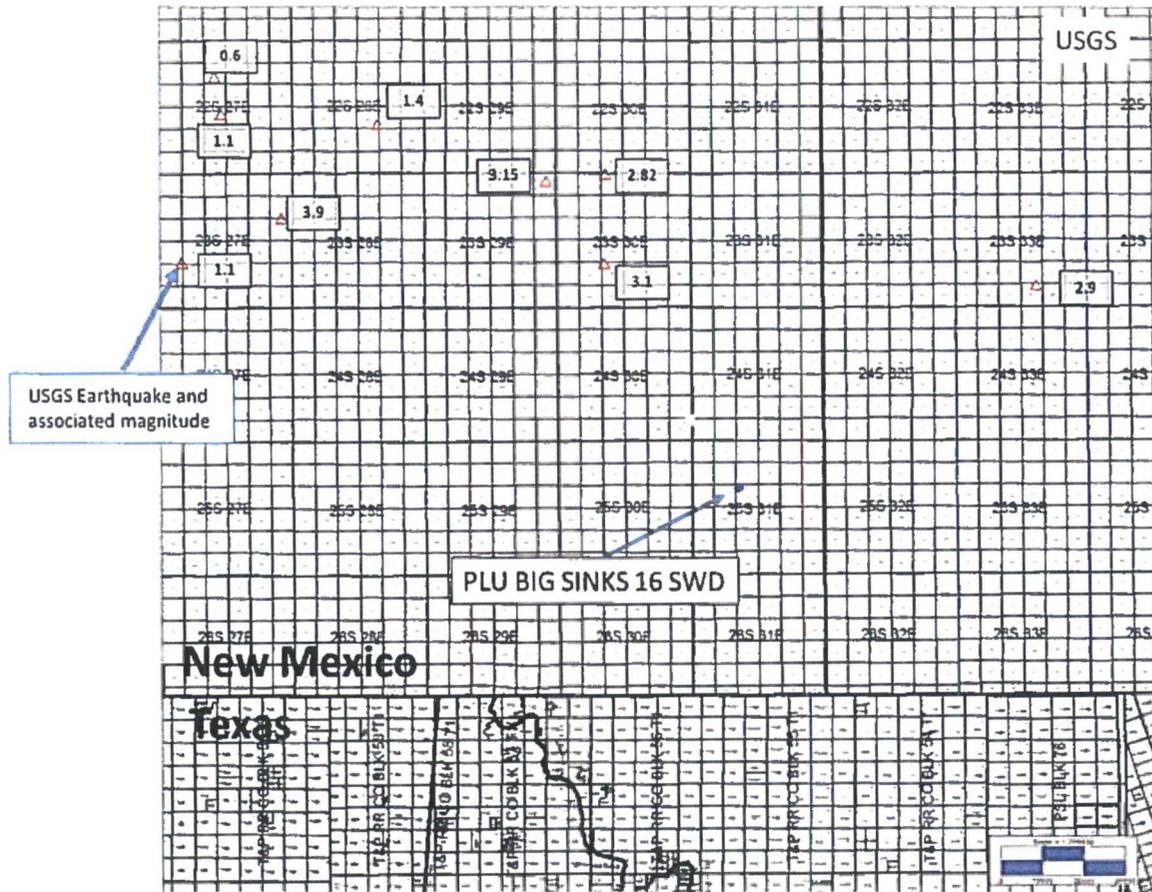
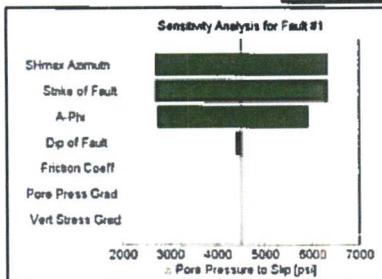
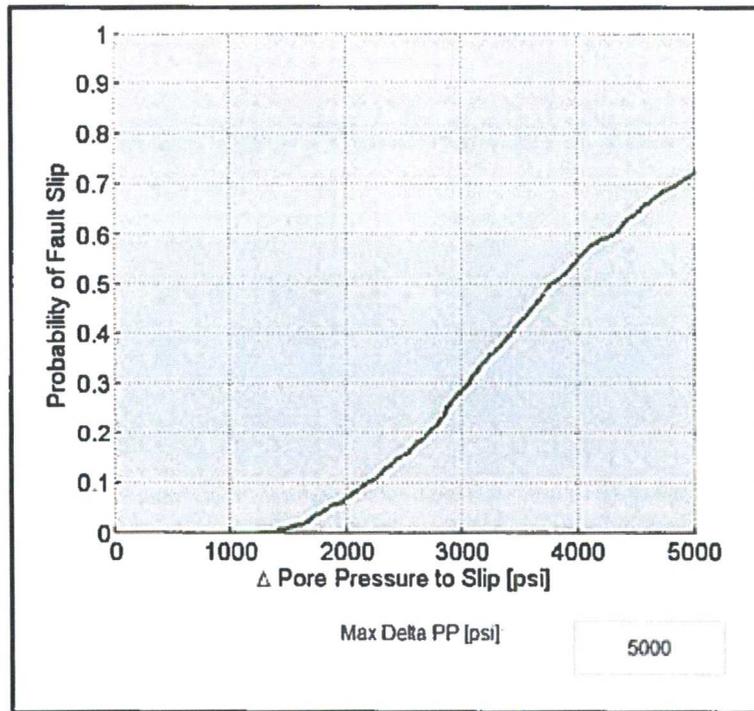
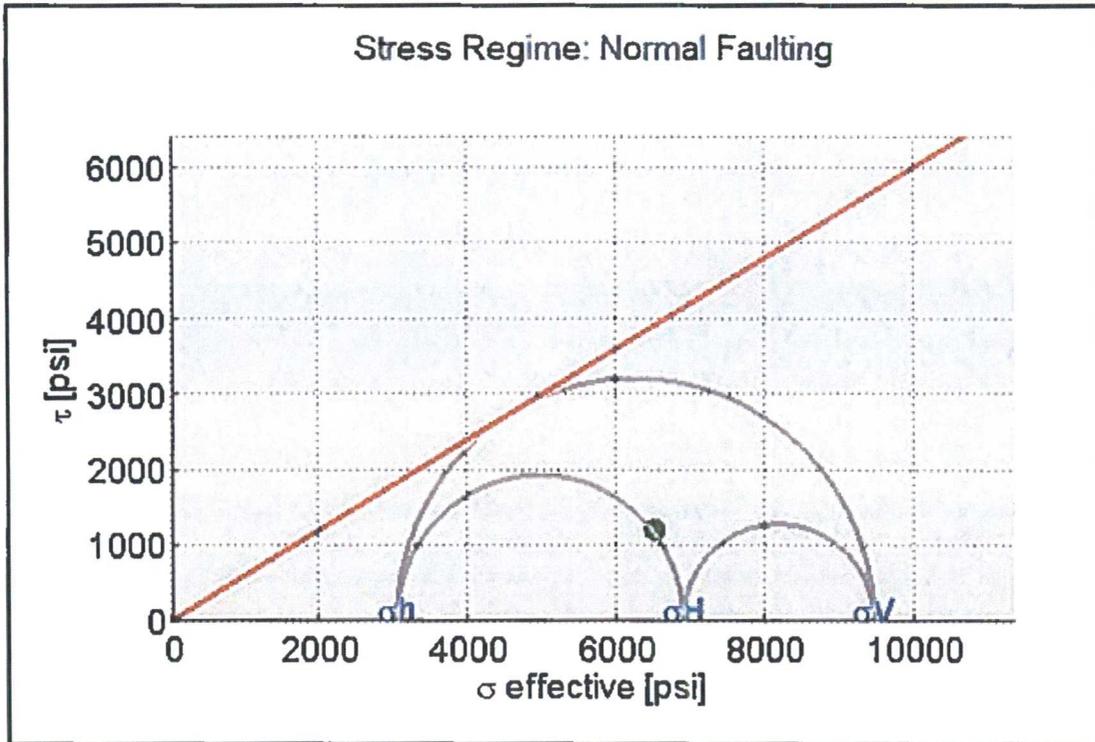


Figure 1

Poker Lake Unit Big Sinks 16 SWD Well Geomechanical Analysis



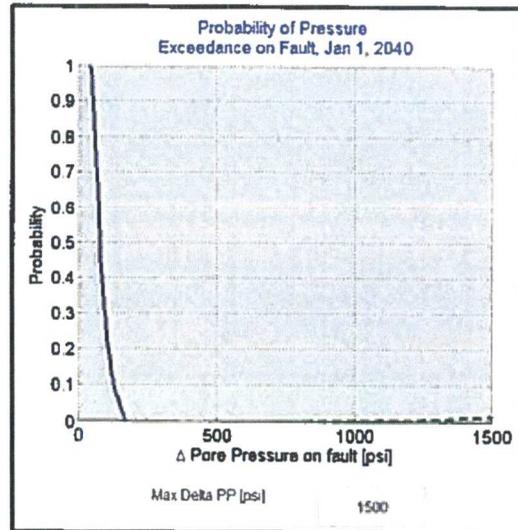
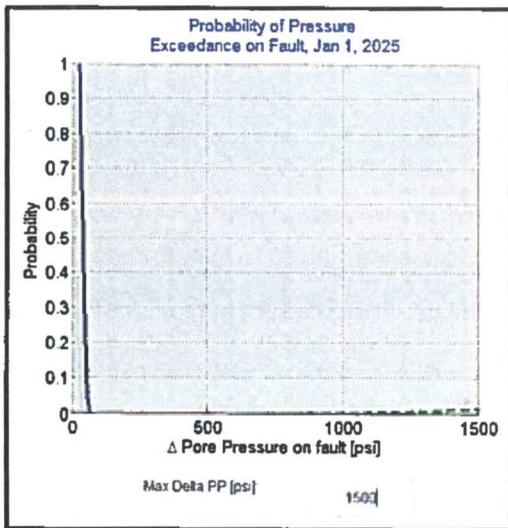
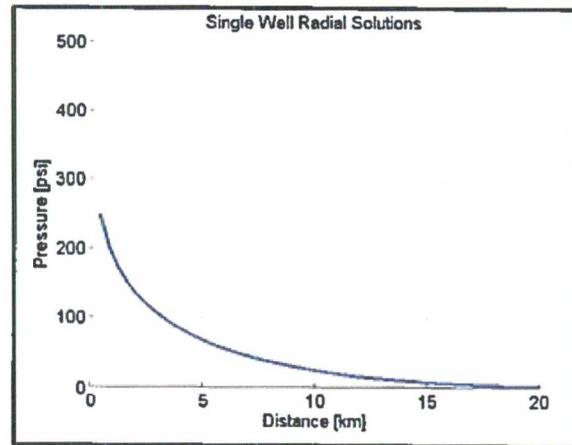
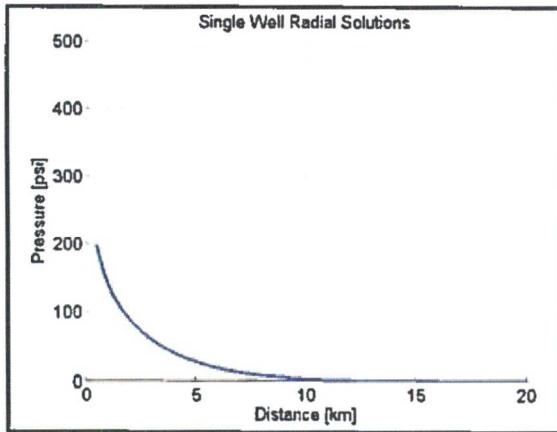
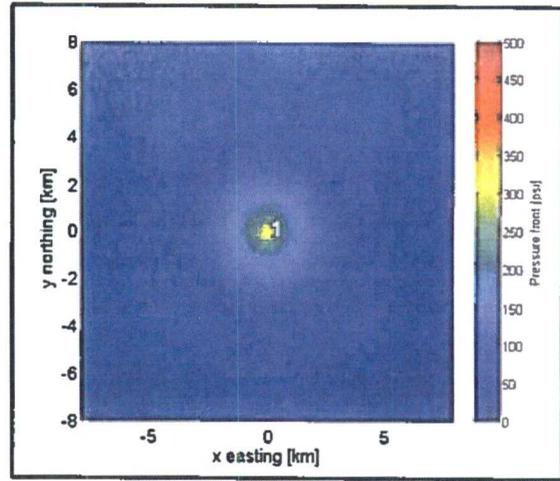
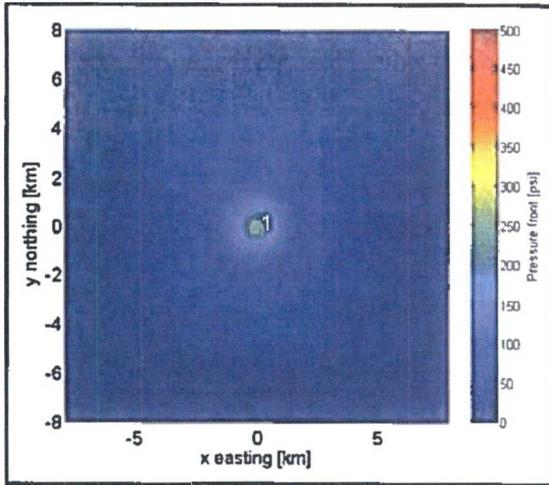
Strike Angles (88 degrees)	15
Dip Angles (72 degrees)	15
Max Horiz Stress Dir (85 degrees)	15
Friction Coeff (0.05)	0
A-Pis Parameter (0.05)	0.5

Figure 2

Poker Lake Unit Big Sinks 16 SWD Well Pore Pressure Analysis

2025 Snapshot

2040 Snapshot



Aquifer Thickness [750 ft]	750
Porosity [%]	3
Perm [75 mD]	50

Aquifer Thickness [750]	750
Porosity [%]	8
Permeability [mD]	75

Figure 3

Poker Lake Unit Big Sinks 16 SWD Well Geomechanical / Pore Pressure Integration

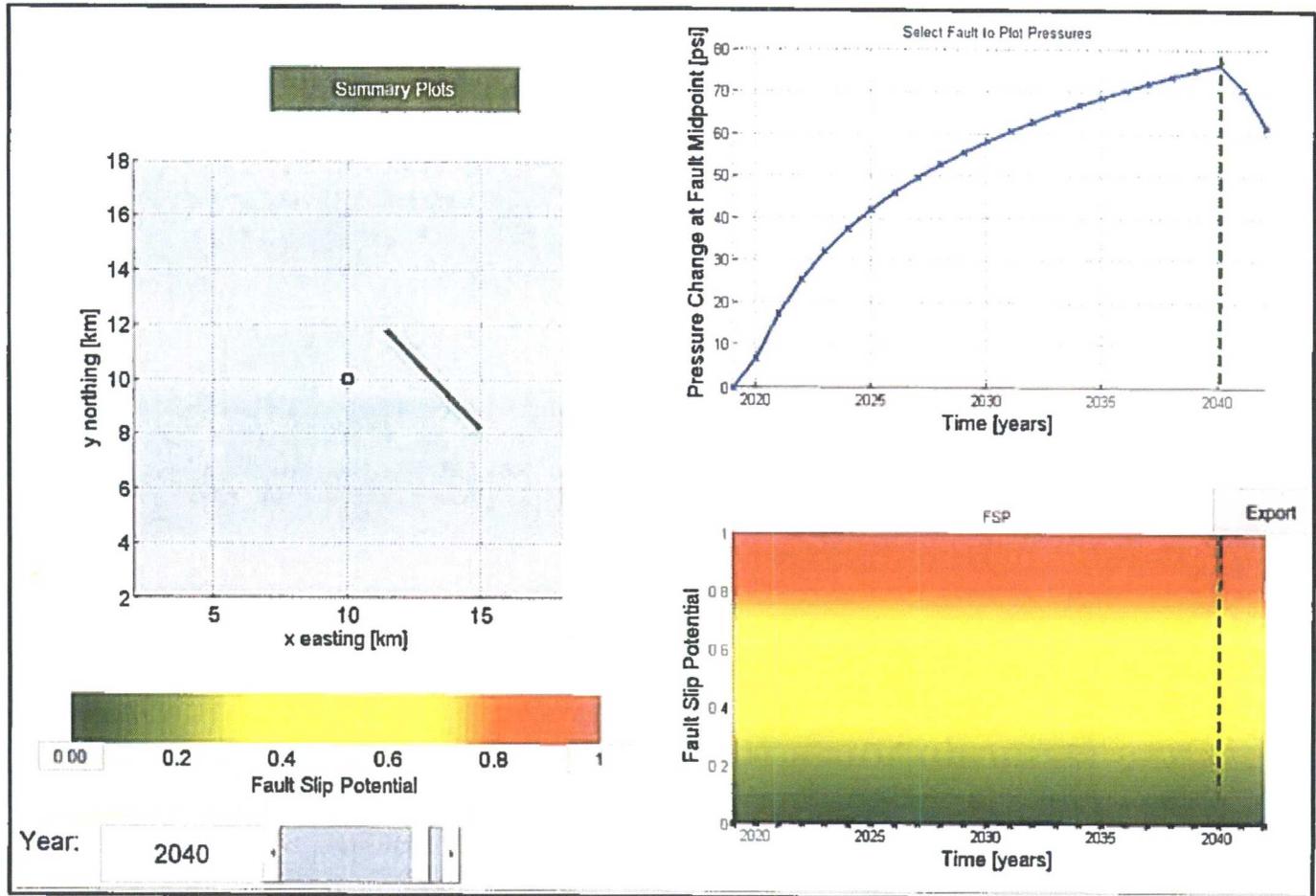


Figure 4

Complete Water Analysis Report

Customer: XTO ENERGY INC
Region: Carlsbad, NM
Location: Nash Draw 8
System: Production System

Equipment: NASH DRAW 8 FEDERAL001H SWD
Sample Point: Well Head
Sample ID: AL07041
Acct Rep Email: Anthony.Baeza@ecolab.com

Collection Date: 06/08/2018
Receive Date: 06/21/2018
Report Date: 06/25/2018
Location Code: 343691

Field Analysis					
Bicarbonate	48 mg/L	Dissolved CO2	400 mg/L	Dissolved H2S	9 mg/L
Pressure Surface	20 psi	Temperature	97 ° F	pH of Water	6.3
Oil per Day	0 B/D	Gas per Day	0 Mcf/D	Water per Day	6500 B/D

Sample Analysis					
Calculated Gaseous CO2	0.81 %	Calculated pH	6.30	Conductivity (Calculated)	319277 µS - cm3
Ionic Strength	4.15	Resistivity	0.031 ohms - m	Specific Gravity	1.175
Total Dissolved Solids	204372.5 mg/L				

Cations					
Iron	30.5 mg/L	Manganese	4.8 mg/L	Barium	5.18 mg/L
Strontium	1420 mg/L	Calcium	19900 mg/L	Magnesium	2960 mg/L
Sodium	44800.00 mg/L	Potassium	1340 mg/L	Boron	25 mg/L
Lithium	15.2 mg/L	Copper	0.037 mg/L	Nickel	0.019 mg/L
Zinc	0.377 mg/L	Lead	0.084 mg/L	Cobalt	0.014 mg/L
Chromium	0.002 mg/L	Silicon	5.26 mg/L	Aluminum	0.078 mg/L
Molybdenum	0.02 mg/L	Phosphorus	0.857 mg/L		

Anions					
Bromide	1407.806 mg/L	Chloride	134917 mg/L	Sulfate	286.045 mg/L

	PTB Value							Saturation Index						
	Barite PTB	Calcite PTB	Celestite PTB	Gypsum PTB	Halite PTB	Iron Carbonate PTB	Iron Sulfide PTB	Barite SI	Calcite SI	Celestite SI	Gypsum SI	Halite SI	Iron Carbonate SI	Iron Sulfide SI
50°	2.87	6.39	117.45	0.00	0.00	0.00	5.48	1.15	0.77	0.46	-0.06	-0.80	-0.74	1.77
75°	2.61	5.82	97.91	0.00	0.00	0.00	4.88	0.82	0.69	0.35	-0.18	-0.82	-0.72	1.47
100°	2.20	5.35	85.10	0.00	0.00	0.00	4.42	0.55	0.62	0.29	-0.24	-0.84	-0.69	1.25
125°	1.59	5.00	78.13	0.00	0.00	0.00	4.08	0.32	0.58	0.26	-0.29	-0.85	-0.66	1.10
150°	0.77	4.80	75.51	0.00	0.00	0.00	3.86	0.13	0.55	0.25	-0.33	-0.87	-0.63	1.00
175°	0.00	4.74	75.65	0.00	0.00	0.00	3.75	-0.04	0.54	0.25	-0.38	-0.88	-0.60	0.94
200°	0.00	4.80	77.23	0.00	0.00	0.00	3.73	-0.18	0.55	0.25	-0.44	-0.89	-0.57	0.91
225°	0.00	4.97	79.35	0.00	0.00	0.00	3.78	-0.30	0.56	0.27	-0.51	-0.90	-0.55	0.92
250°	0.00	5.23	81.43	0.00	0.00	0.00	3.90	-0.41	0.59	0.28	-0.58	-0.91	-0.53	0.94
275°	0.00	5.55	83.16	0.00	0.00	0.00	4.05	-0.52	0.63	0.28	-0.66	-0.92	-0.53	0.97
300°	0.00	5.91	84.45	0.00	0.00	0.00	4.22	-0.63	0.66	0.29	-0.72	-0.92	-0.54	1.01
325°	0.00	6.29	85.31	0.00	0.00	0.00	4.40	-0.73	0.70	0.29	-0.76	-0.93	-0.57	1.06
350°	0.00	6.68	85.77	0.00	0.00	0.00	4.58	-0.84	0.73	0.29	-0.76	-0.93	-0.61	1.10
375°	0.00	7.04	85.77	0.00	0.00	0.00	4.74	-0.96	0.76	0.29	-0.68	-0.94	-0.68	1.13
400°	0.00	8.16	84.99	0.00	0.00	0.00	5.87	-1.09	0.92	0.29	-0.52	-0.94	-0.63	1.48

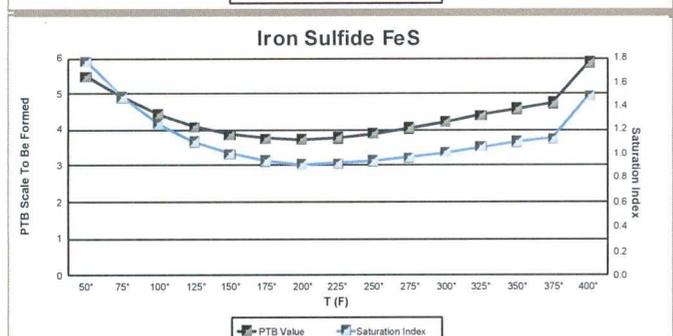
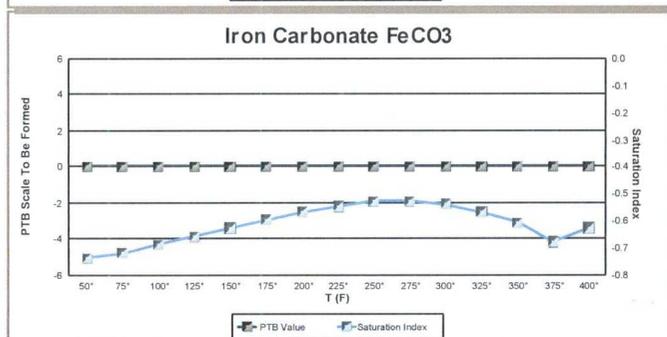
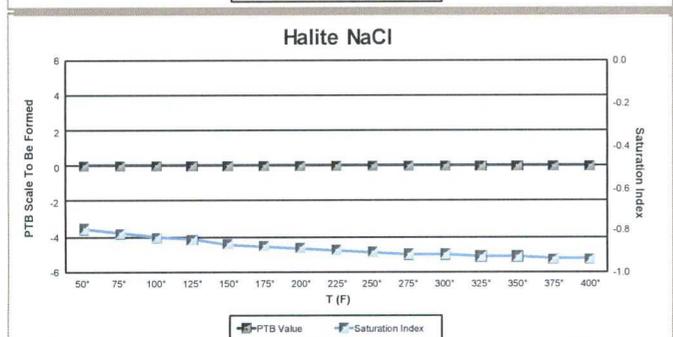
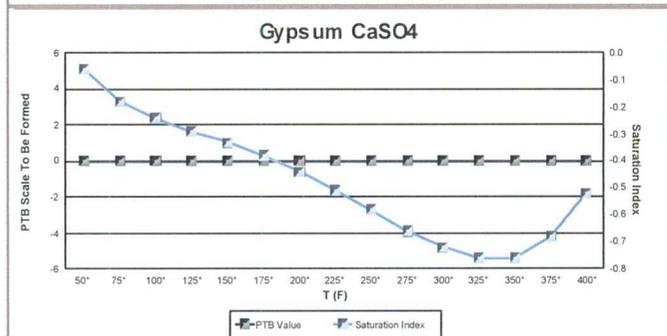
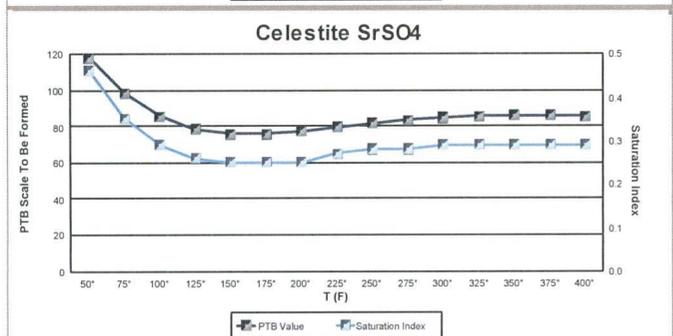
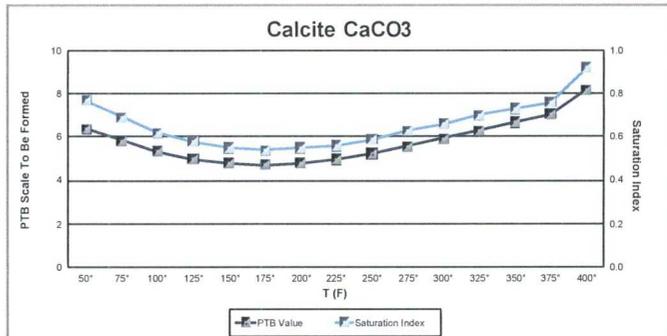
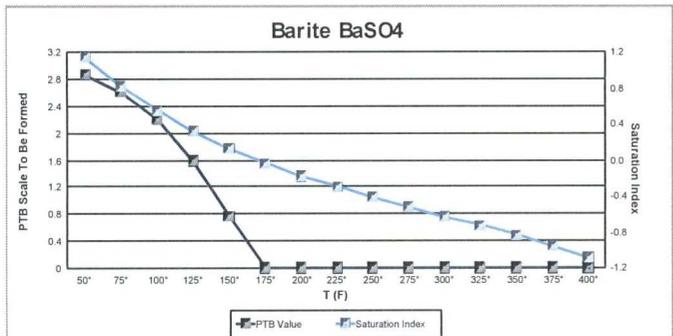
Scaling predictions calculated using Scale Soft Pitzer 2017

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

Customer: XTO ENERGY INC
 Region: Carlsbad, NM
 Location: Nash Draw 8
 System: Production System

Equipment: NASH DRAW 8 FEDERAL001H SWD
 Sample Point: Well Head
 Sample ID: AL07041
 Acct Rep Email: Anthony.Baeza@ecolab.com

Collection Date: 06/08/2018
 Receive Date: 06/21/2018
 Report Date: 06/25/2018
 Location Code: 343691



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.



FORM C-108 Technical Review Summary [Prepared by reviewer and included with application; V16.2]

DATE RECORD: First Rec: 09/26/19 Admin Complete: 09/26/19 or Suspended: wait for IS assessment Add. Request/Reply: 10/2019

ORDER TYPE: WFX / PMX / SWD Number: 1900 Order Date: 2/15/19 Legacy Permits/Orders: ---

Well No. 1 Well Name(s): Poker Lake Unit 16 BS State SWD

API: 30-015-45224 Spud Date: TBD New or Old (EPA): New (UIC Class II Primacy 03/07/1982)

Footages 660' FNL / 660' FWL Lot - or Unit D Sec 16 Tsp 25S Rge 31E County Eddy

General Location: ~33 mi west of Jal; 10 mi S of 128 Pool: SWD; Devonian-Silurian Pool No.: 97869

BLM 100K Map: Jal Operator: BOPCO, LP OGRID: 260737 Contact: Trocie Cherry/XTO

COMPLIANCE RULE 5.9: Total Wells: 698 Inactive: 3 Fincl Assur: OK Compl. Order? No IS 5.9 OK? Yes Date: 2/11/19

WELL FILE REVIEWED Current Status: APD filed; API issued 2/15/19

WELL DIAGRAMS: NEW: Proposed or RE-ENTER: Before Conv. After Conv. Logs in Imaging: ---

Planned Rehab Work to Well: IS assessment provide by XTO

Well Construction Details table with columns: Sizes (in) Borehole / Pipe, Setting Depths (ft), Cement Sx or Cf, Cement Top and Determination Method. Rows include Surface, Intern/Prod, Prod/Liner, and OH/PERF.

Injection Lithostratigraphic Units table with columns: Depths (ft), Injection or Confining Units, Tops. Rows include Adjacent Unit, Confining Unit, Proposed Inj Interval TOP/BOTTOM, and another Confining Unit.

Completion/Operation Details table with fields: Drilled TD, PBSD, NEW TD, NEW PBSD, NEW Open Hole, Tubing Size, Proposed Packer Depth, Min. Packer Depth, Proposed Max. Surface Press, Admin. Inj. Press.

AOR: Hydrologic and Geologic Information

POTASH: R-111-P No Noticed? NA BLM Sec Ord NA WIPP NA Noticed? --- Salt/Salado T: 894B: 4109 NW: Cliff House fm

FRESH WATER: Aquifer Alluvial / Twister Max Depth >600' HYDRO AFFIRM STATEMENT By Qualified Person

NMOSE Basin: Carlisbad CAPITAN REEF: thru adj NA No. GW Wells in 1-Mile Radius? 0 FW Analysis: NA

Disposal Fluid: Formation Source(s) WC / BS / DMG / BOPCO prod. Analysis: Historical from 988 Operator Only or Commercial

Disposal Interval: Inject Rate (Avg/Max BWPD): 20,000/40,000 Protectable Waters? No Source: Historical System: Closed or Open

HC Potential: Producing Interval? No Formerly Producing? No Method: Logs/DST/P&A/Other Require 2-Mi Radius Pool Map

AOR Wells: 1/2-M Radius Map and Well List? Yes No. Penetrating Wells: 0 [AOR Horizontals: 0 AOR SWDs: 6]

Penetrating Wells: No. Active Wells 0 Num Repairs? - on which well(s)? - Diagrams? -

Penetrating Wells: No. P&A Wells 0 Num Repairs? - on which well(s)? - Diagrams? -

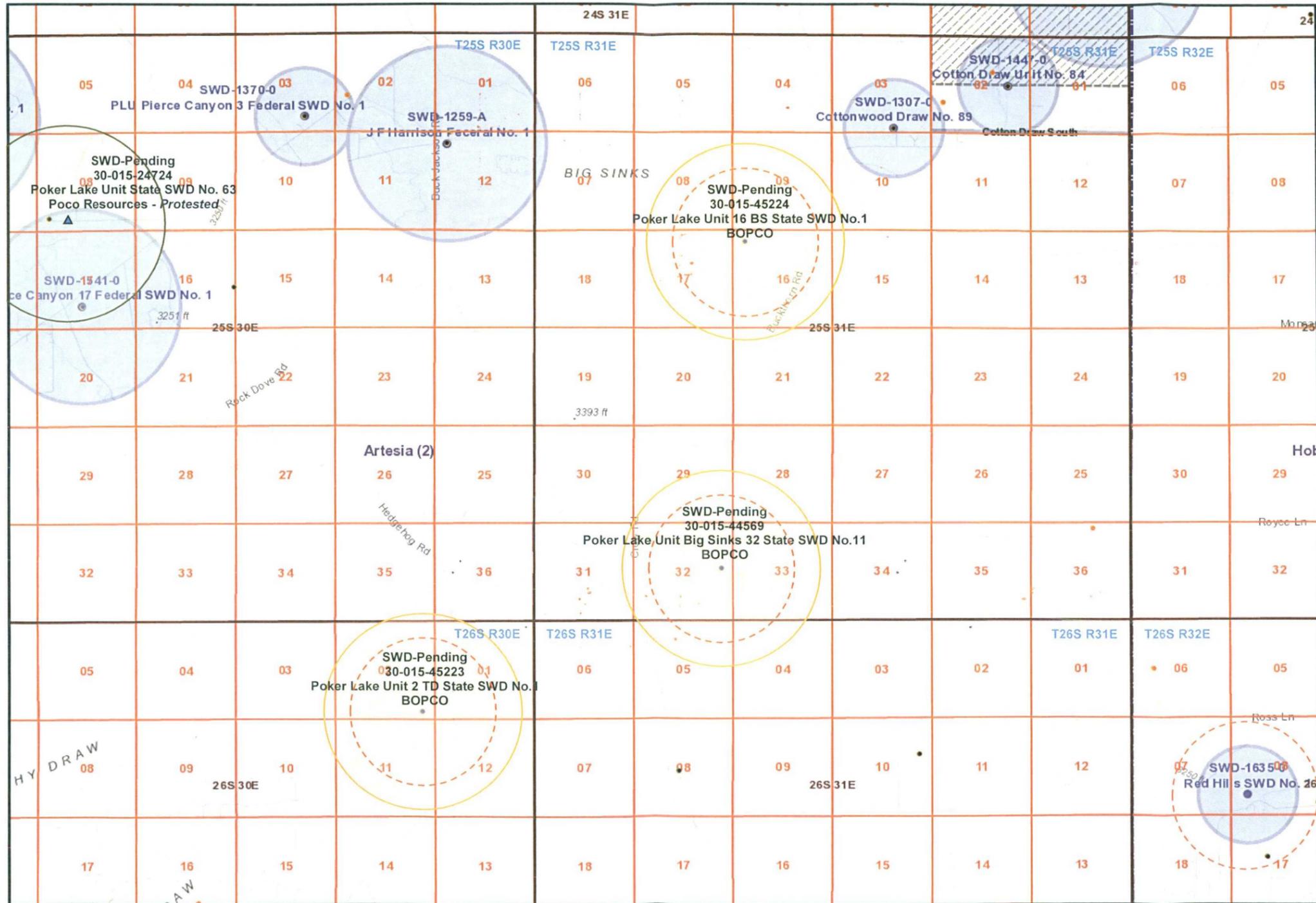
NOTICE: Newspaper Date 9/6/2018 Mineral Owner NMSLO Surface Owner NMSLO N. Date 9/25/18

RULE 26.7(A): Identified Tracts? Yes Affected Persons: BLM - (surface lessee noticed) NMSLO N. Date 9/26/18

Order Conditions: Issues: HC potential; Production casing; cmt top for 9 3/8

Additional COAs: - circulate cmt; mudlog; cmt - CBD for uncirculated; provide CBL for liner

Pending Application for High-Volume Devonian Disposal Well
C-108 Applications for Poker Lake Unit Area (T25/26S, R30/31E) – BOPCO LP [XTO Energy, Inc.]



Poker Lake Unit 2 TD State SWD No. 1; BOPCO LP [“PLU Tucker Draw 2 SWD”]
 API 30-015-45223; APD identifies well as disposal well, but no C-108 application pending
Poker Lake Unit Big Sinks 32 State SWD No. 11; BOPCO LP; SWD-Pending
 API 30-015-44569; Application No. pMAM1820056178; being processed
Poker Lake Unit 16 BS State SWD No. 1; BOPCO LP [“PLU Big Sinks 16 SWD”]
 API 30-015-45224; APD identifies well as disposal well; C-108 application pending