

# SWD Initial Application

Received: 11/4/2019



November 1, 2019

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

Subject: Select Energy Services – Cersei State SWD #3  
Application for Authorization to Inject

To Whom It May Concern,

On behalf of Select Energy Services (Select), ALL Consulting, LLC (ALL) is submitting the enclosed Application for Authorization to Inject for the Cersei State SWD #3, a proposed salt water disposal well, in Eddy County, NM.

Should you have any questions regarding the enclosed application, please contact Nate Alleman at (918) 382-7581 or [nalleman@all-llc.com](mailto:nalleman@all-llc.com).

Sincerely,  
ALL Consulting

Nate Alleman  
Sr. Regulatory Specialist

# LJUXC-191104-C-1080

Revised March 23, 2017

RECEIVED: <b>11/4/19</b>	REVIEWER: <b>BLL</b>	TYPE: <b>SWD</b>	APP NO: <b>pBL1932658509</b>
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

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



## ADMINISTRATIVE APPLICATION CHECKLIST

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

Applicant: \_\_\_\_\_ OGRID Number: \_\_\_\_\_  
 Well Name: \_\_\_\_\_ API: \_\_\_\_\_  
 Pool: \_\_\_\_\_ Pool Code: \_\_\_\_\_

**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

**SWD-2316**

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

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**

- Notice Complete
- 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.**

\_\_\_\_\_  
 Print or Type Name

\_\_\_\_\_  
 Date

*Nathan Adema*  
 \_\_\_\_\_  
 Signature

\_\_\_\_\_  
 Phone Number

\_\_\_\_\_  
 e-mail Address

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL  
RESOURCES DEPARTMENT

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

FORM C-108  
Revised June 10, 2003

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance \_\_\_\_\_  Disposal  
\_\_\_\_\_ Storage Application qualifies for administrative approval? \_\_\_\_\_  Yes \_\_\_\_\_ No
- II. OPERATOR: Select Energy Services  
ADDRESS: 1820 N I-35, Gainesville, TX 76240  
CONTACT PARTY RJ Metzler PHONE: (940)-665-7000
- 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 \_\_\_\_\_  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: Nate Alleman TITLE: Regulatory Specialist - ALL Consulting
- SIGNATURE:  DATE: 11/01/2019  
E-MAIL ADDRESS: nalleman@all-llc.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.

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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.

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 Rd., 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, New Mexico 87505

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

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number	Pool Code <b>97869</b>	Pool Name <b>SWD; DEVONIAN - SILURIAN</b>
Property Code	Property Name <b>CERSEI STATE SWD</b>	Well Number <b>3</b>
OGRID No. <b>289068</b>	Operator Name <b>SELECT ENERGY SERVICES, LLC</b>	Elevation <b>3270.4'</b>

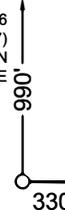
**Surface Location**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>A</b>	<b>16</b>	<b>25 S</b>	<b>30 E</b>		<b>990</b>	<b>NORTH</b>	<b>330</b>	<b>EAST</b>	<b>EDDY</b>

**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
Dedicated Acres		Joint or Infill		Consolidated Code		Order No.			

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

		N 1/4 COR SEC 16 NMSP-E (NAD 27) Y = 414098.93' N X = 679729.66' E	NE COR SEC 16 NMSP-E (NAD 27) Y = 414121.56' N X = 682401.37' E
		CERSEI STATE SWD 3 SHL NMSP-E (NAD 83) Y = X = 413128.76' N LAT 82° 20' 56.62" E LONG 32° 13' 49.53" W -103.878657" NMSP-E (NAD 27) Y = X = 413070.54' N LAT 84° 08' 59.61" E LONG 32° 13' 48.29" W -103.878175" W	
			E 1/4 COR SEC 16 NMSP-E (NAD 27) Y = 411459.45' N X = 682412.77' E

**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 voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.*


11/01/2019

Signature Date

**Nate Alleman**  
Print Name

**nalleman@all-llc.com**  
E-mail Address

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**SURVEYORS 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.*

AUGUST 15, 2019  
Date of Survey

Signature and Seal of Professional Surveyor



Job No.: SEL.190001

Application for Authorization to Inject  
Well Name: Cersei State SWD #3

### III – Well Data *(The Wellbore Diagram is included as Attachment 1)*

#### A.

##### (1) General Well Information:

Operator: Select Energy Services (OGRID No. 289068)  
Lease Name & Well Number: Cersei State SWD #3  
Location Footage Calls: 990' FNL & 330' FEL  
Legal Location: Unit Letter A, S16 T25S R30E  
Ground Elevation: 3,270'  
Proposed Injection Interval: 16,400' – 17,770'  
County: Eddy

##### (2) Casing Information:

Type	Hole Size	Casing Size	Casing Weight	Setting Depth	Sacks of Cement	Estimated TOC	Method Determined
Surface	24"	20"	133.0 lb/ft	1,015'	1,030	Surface	Circulation
Intermediate 1	14-3/4"	13-3/8"	68.0 lb/ft	4,050'	905	Surface	Circulation
Intermediate 2	12-1/4"	9-5/8"	53.5 lb/ft	13,430'	4,960	Surface	Circulation
Liner	8-1/2"	7-5/8"	39.0 lb/ft	16,400'	260	13,230'	CBL

Note: A DV Tool will be set at 5,000'.

##### (3) Tubing Information:

5.5" (composite weight string) of fiberglass-coated tubing with setting depth of 16,380'

(4) Packer Information: Baker SC-2 or equivalent packer set at 16,380'

#### B.

(1) Injection Formation Name: Devonian and Silurian-Fusselman formations

Pool Name: SWD; DEVONIAN - SILURIAN

Pool Code: 97869

(2) Injection Interval: Open-hole injection between 16,400' – 17,770'

(3) Drilling Purpose: New Drill for Salt Water Disposal

(4) Other Perforated Intervals: No other perforated intervals exist.

(5) Overlying Oil and Gas Zones: Below are the approximate formation tops for known oil and gas producing zones in the area.

- Delaware (4,050')
- Bone Springs (7,720')
- Wolfcamp (11,050')
- Atoka (13,615')
- Morrow (14,330')

Underlying Oil and Gas Zones: No underlying oil and gas zones exist.

## V – Well and Lease Maps

The following maps are included in **Attachment 2**:

- 2-mile Oil & Gas Well Map
- 2-mile Lease Map
- 2-mile Mineral Ownership Map
- 2-mile Surface Ownership Map
- 1.5-mile Deep SWD Map (Devonian/Silurian SWDs)
- 1-mile Well Detail List
- Potash Lease Map
- 2-mile Karst Potential Map

## VI – AOR Well List

There are no wells within the 1-mile AOR that penetrate the proposed injection zone.

A list of the wells within the 1-mile AOR is included in **Attachment 2**.

## VII – Proposed Operation

- (1) **Proposed Maximum Injection Rate:** 30,000 bpd  
**Proposed Average Injection Rate:** 15,000 bpd
- (2) A closed system will be used.
- (3) **Proposed Maximum Injection Pressure:** 3,280 psi (surface)  
**Proposed Average Injection Pressure:** approximately 1,500 – 2,000 psi (surface)
- (4) **Source Water Analysis:** It is expected that the injectate will consist of produced water from production wells completed in the Wolfcamp and Bone Springs formations. Analysis of water from these formations is included in **Attachment 3**.
- (5) **Injection Formation Water Analysis:** The proposed SWD will be injecting water into the Devonian and Silurian-Fusselman formations which is a non-productive zone known to be compatible with formation water from the Wolfcamp and Bone Springs formations. Water analyses from the Devonian-Silurian formation in the area are included in **Attachment 4**.

## VIII – Geologic Description

The proposed injection interval includes the Devonian and Silurian-Fusselman formations from 16,400 – 17,770 feet. These formations consist of carbonates including light colored dolomite and chert intervals interspersed with some tight limestone intervals. Several thick sections of porous dolomite capable of taking water are present within the subject formations in the area.

The base of the USDW is at a depth of approximately 990 feet. Water well depths in the area range from approximately 325 - 429 feet below ground surface.

## IX – Proposed Stimulation Program

A small cleanup acid job may be used to remove mud and drill cuttings from the formation. However, no other formation stimulation is currently planned.

## **X – Logging and Test Data**

Logs will be submitted to the Division upon completion of the well.

## **XI – Fresh Groundwater Samples**

Based on a review of data from the New Mexico Office of the State Engineer, there is one groundwater well located within 1-mile of the proposed SWD location; however, after multiple phone calls, and a letter sent via certified mail (10/22/2019), the landowner was not able to be contacted. Therefore, no groundwater samples were collected in association with this application.

A water well map of the area is included in **Attachment 5**.

## **XII – No Hydrologic Connection Statement**

No faulting is present in the area that would provide a hydrologic connection between the injection interval and overlying USDWs. Additionally, the casing program has been designed to ensure there will be no hydrologic connection between the injection interval and overlying USDWs. A letter from a knowledgeable and qualified expert stating that there is a low risk of seismic activity from the proposed injection activities is included in **Attachment 6**.

## **XIII – Proof of Notice**

A Public Notice was filed with the Carlsbad Current Argus newspaper and an affidavit is included in **Attachment 7**.

A copy of the application was mailed to the OCD District Office, landowner, and leasehold operators within 1-mile of the proposed SWD location. A list of the recipients, as well as delivery confirmations, are included in **Attachment 7**.

# Attachments

**Attachment 1:** Wellbore Diagram

**Attachment 2:** Area of Review Information:

- 2-mile Oil & Gas Well Map
- 2-mile Lease Map
- 2-mile Mineral Ownership Map
- 2-mile Surface Ownership Map
- 1.5-mile Deep SWD Map (Devonian/Silurian SWDs)
- 1-mile Well Detail List
- Potash Lease Map
- 2-mile Karst Potential Map

**Attachment 3:** Source Water Analyses

**Attachment 4:** Injection Formation Water Analyses

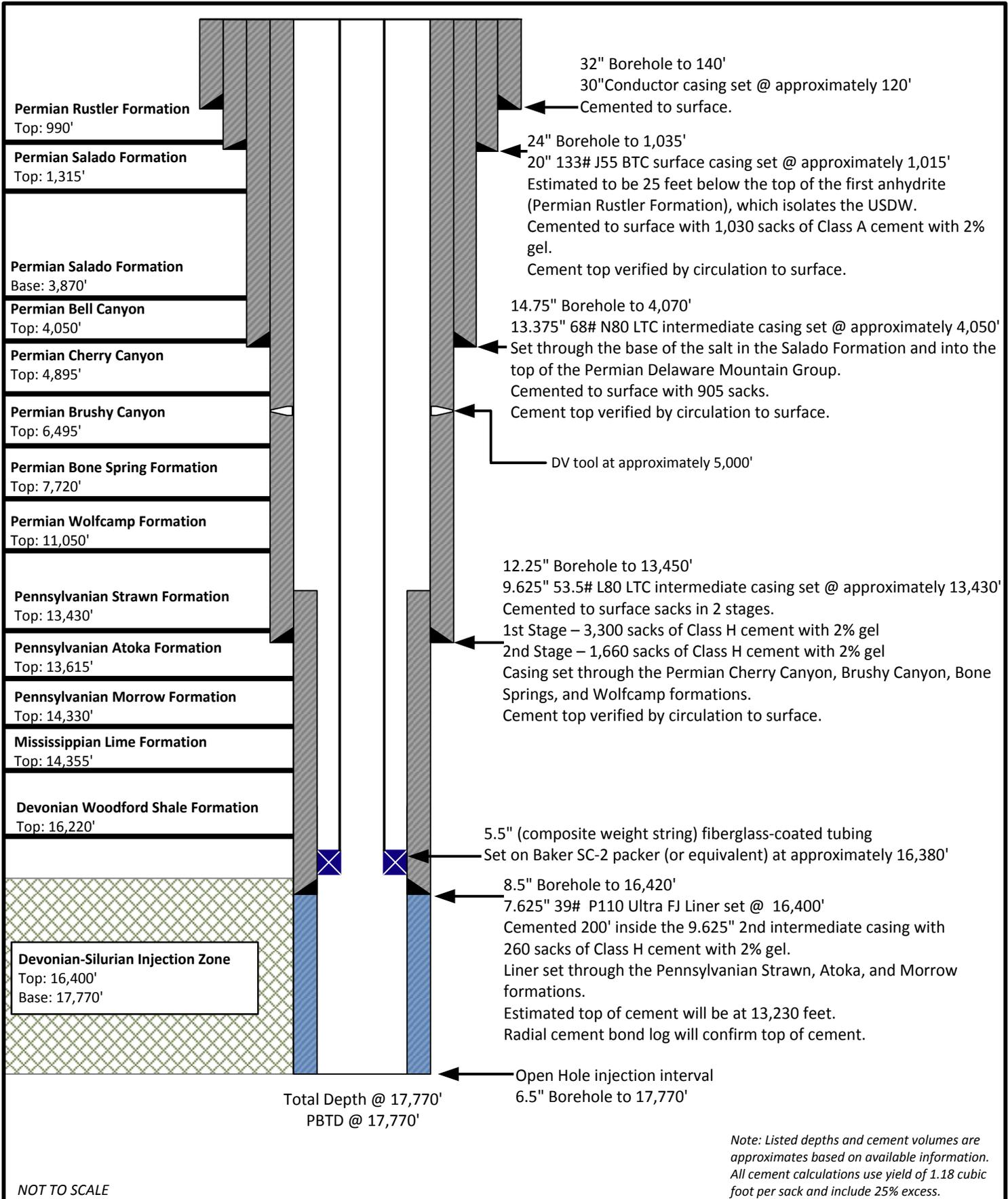
**Attachment 5:** Water Well Map and Well Data

**Attachment 6:** Induced Seismicity Assessment Letter

**Attachment 7:** Public Notice Affidavit and Notice of Application Confirmations

**Attachment 1**

Wellbore Diagram



NOT TO SCALE

Prepared by:



Drawn by: Joshua Ticknor

Project Manager:  
Dan Arthur

Date: 10/21/2019

Select Energy Services  
Cersei State SWD #3  
Section 15, Twp 25S, Rng 30E  
990' FNL & 330' FEL  
Eddy County, NM

## A-3 and AL-2 LOK-SET Retrievable Casing Packers

Product Family No. H64630 and H64628

### APPLICATION

The A-3™ LOK-SET™ packer combines advantages of a retrievable packer with the features of a permanent packer. An ability to lock down tubing forces makes the A-3 suitable for a broad range of applications, including production, injection, zone isolation, and remedial operations. The AL-2™ LOK-SET packer is similar to the A-3, and has a larger bore.

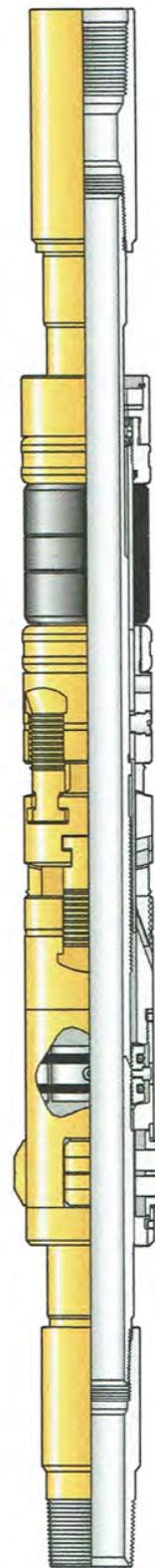
### Advantages

- Holds pressure from above and below, without relying on set-down weight, tubing tension, or hydraulic hold down
- Provides tubing anchoring with tension applied, suitable for pumping wells or injection, controlling tubing forces related to change fluid temperatures
- Opposed, non-transferring, dovetail slips prevent packer movement associated with changing differential pressures, while allowing the landing of the tubing in tension, neutral or compression
- Right-hand tubing rotation controls setting and releasing
- Packing element compression locks in by ratcheting action of lock segments, which restricts rotation to one direction

### Accessories

To provide a simple and reliable injection system for retrieving an injection string without having to unseat the packer:

L-10 or L-316 on-off sealing connectors, Product Family Nos. H68420 and H68422. Baker Hughes blanking plug can be used in the seating nipple profile of the on-off sealing connector to provide a means of plugging the lower zone while the tubing is being pulled.



A-3 LOK-SET  
Retrievable Casing Packer  
Product Family No. H64630

Retrievable Packer Systems

**SPECIFICATION GUIDES**

**A-3™ LOK-SET Retrievable Casing Packer, Product Family No. H64630**

Casing			Packer				
OD		Weight * lb/ft	Size	Nom ID		Max Gage Ring OD	
in.	mm			in.	mm	in.	mm
4	101.6	9.5-12.9	41A2	1.500	38.1	3.244	82.4
4-1/2	144.3	21.6-23.6	41A2	1.500	38.1	3.244	82.4
4	101.6	9.5	41A4	1.500	38.1	3.423	112.4
4-1/2	114.3	18.8	41A4	1.500	38.1	3.423	112.4
		13.5-17.7	41B			3.578	90.9
		11.6-13.5	43A2	1.978	50.2	3.786	96.2
		9.5-10.5	43A4			3.786	96.2
5	127.0	15-18	43B	1.978	50.2	4.140	105.2
		11.5-15	43C			4.265	108.3
5-1/2	139.7	26	43C	1.978	50.2	4.265	108.3
		20-23	45A2			4.515	114.7
		15.5-20	45A4			4.656	118.3
		13-15.5	45B			4.796	121.8
6	152.4	26	45B	1.978	50.2	4.796	121.8
		20-23	45C			5.078	129.0
		15-18	45D			5.171	131.3
6-5/8	168.3	34	45E	1.978	50.2	5.421	137.7
		24-32	45F			5.499	139.7
		24	47A2	2.441	62.0	5.671	144.0
		17-24	45G	1.978	50.2	5.796	147.2
		17-20	47A4	2.441	62.0	5.827	148.0
7	177.8	38	47A2	2.441	62.0	5.671	144.0
		32-35	47A4			5.827	148.0
		26-29	47B2			5.983	152.0
		23-26	47B4			6.093	154.8
		17-20	47C2			6.281	159.5
7-5/8	193.7	33.7-39	47C4	2.441	62.0	6.468	164.3
		24-29.7	47D2			6.687	169.9
		20-24	47D4			6.827	173.4
8-5/8	219.1	44-49	49A2	3.500	88.9	7.327	186.1
		32-40	49A4			7.546	191.7
		20-28	49B			7.796	198.0
9-5/8	244.5	47-53.5	51A2	3.500	88.9	8.234	209.1
		40-47	51A4			8.452	214.7
		29.3-36	51B			8.608	218.6

**AL-2™ Large Bore LOK-SET Retrievable Casing Packer Product Family No. H64628**

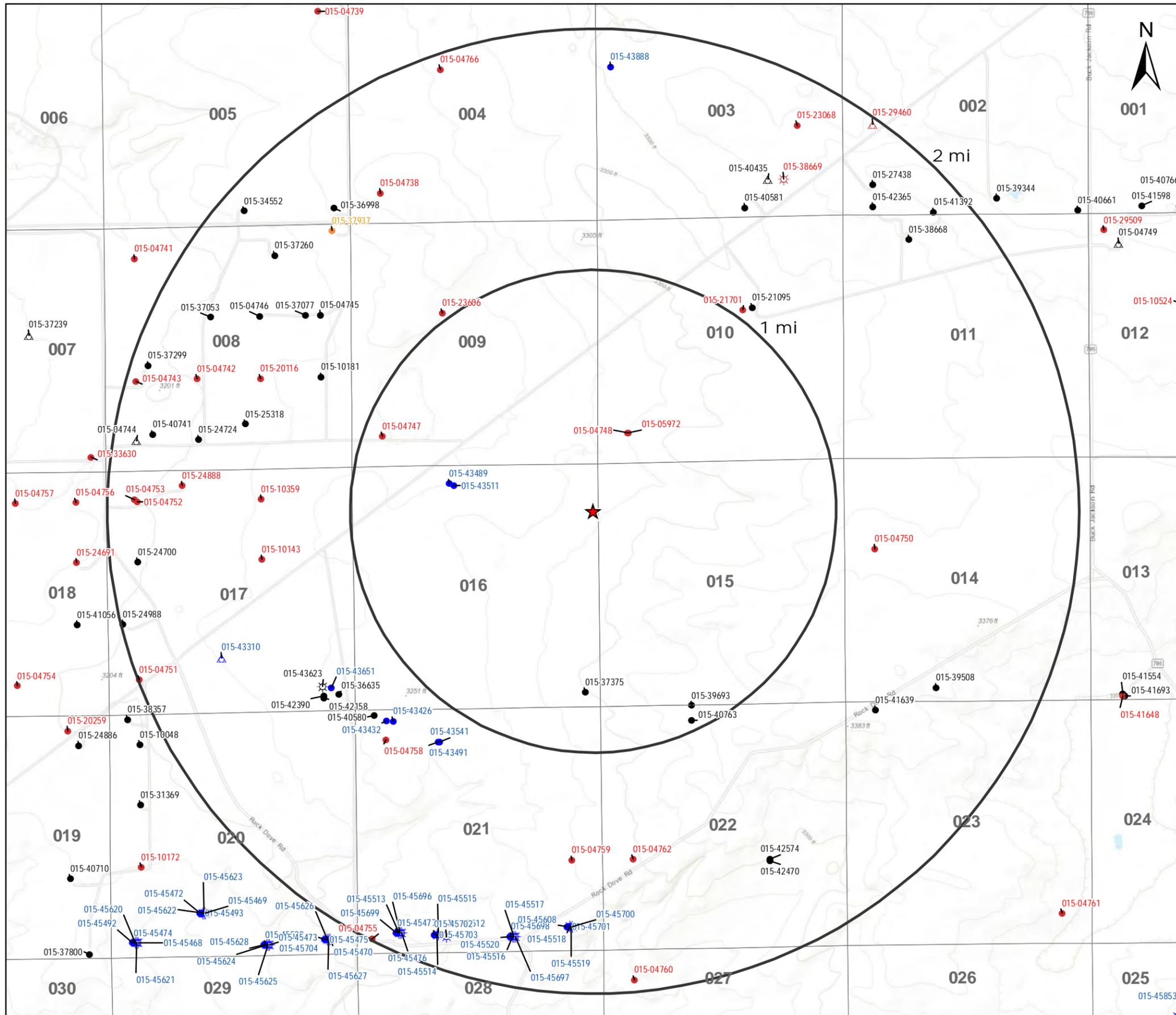
Casing			Packer						
OD		Weight * lb/ft	Size	Nom ID		Max Gage Ring OD		Max Diameter of Compressed Drag Block	
in.	mm			in.	mm	in.	mm	in.	mm
5-1/2	139.7	20	45A2 x 2-3/8	2.375	60.3	4.562	115.9	4.592	116.6
		15.5-17	45A4 x 2-3/8			4.656	118.3	4.750	120.7
		13	45B x 2-3/8			4.796	121.8	4.902	124.5
6	152.4	26	45B x 2-3/8	2.375	60.3	4.796	121.8	4.902	124.5

- When selecting a packer for a casing weight common to two weight ranges (same OD), choose the packer size shown for the lighter of the two weight ranges. Example: for 7-in. (177.8 mm) OD 26 lb/ft casing use packer size 47B4. Under certain circumstances the other packer size may be run, such as when running in mixed casing strings.
- Repair kits, including such items as packing elements, seal rings, etc., are available for redressing Baker Retrievable Packers. Contact your Baker Hughes representative. Use only Baker Hughes repair parts.

## **Attachment 2**

### Area of Review Information:

- 2-mile Oil & Gas Well Map
- 2-mile Lease Map
- 2-mile Mineral Ownership Map
- 2-mile Surface Ownership Map
- 1.5-mile Deep SWD Map (Devonian/Silurian SWDs)
- 1-mile Well Detail List
- Potash Lease Map
- 2-mile Karst Potential Map

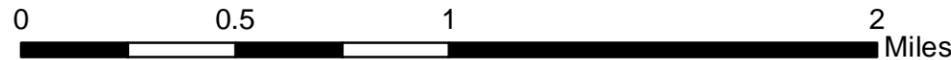


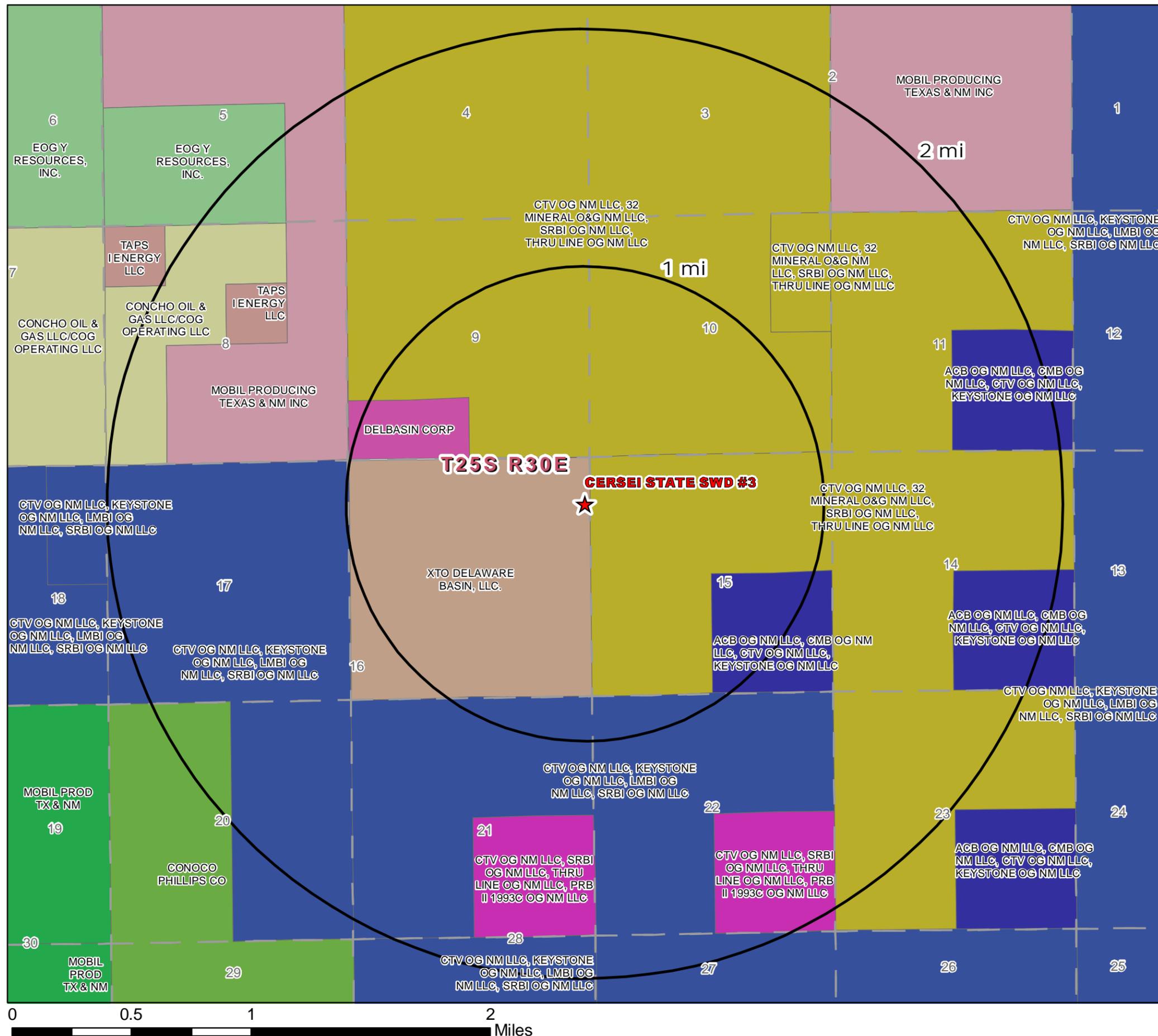
### Legend

- ★ Proposed SWD
- ☼ Gas, Active (1)
- ☼ Gas, New (25)
- ☼ Gas, Plugged (1)
- Oil, Active (44)
- Oil, New (25)
- Oil, Plugged (36)
- Oil, Temporarily Abandoned (1)
- △ Salt Water Injection, Active (4)
- △ Salt Water Injection, New (1)
- △ Salt Water Injection, Plugged (1)

<h2>O&amp;G Wells Area of Review</h2>		
<h3>CERSEI STATE SWD #3</h3> <h4>Eddy County, New Mexico</h4>		
Proj Mgr: Dan Arthur	October 18, 2019	Mapped by: Ben Bockelmann
Prepared by: 		

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community





**Legend**

★ Proposed SWD



**BLM Mineral Leases**

- ACB OG NM LLC, CMB OG NM LLC, CTV OG NM LLC, KEYSTONE OG NM LLC
- CONOCO PHILLIPS CO
- CTV OG NM LLC, 32 MINERAL O&G NM LLC, SRBI OG NM LLC, THRU LINE OG NM LLC
- CTV OG NM LLC, KEYSTONE OG NM LLC, LMBI OG NM LLC, SRBI OG NM LLC
- CTV OG NM LLC, SRBI OG NM LLC, THRU LINE OG NM LLC, PRB II 1993C OG NM LLC
- DELBASIN CORP
- MOBIL PROD TX & NM

**NMSLO Mineral Leases**

- CONCHO OIL & GAS LLC/COG OPERATING LLC
- EOG Y RESOURCES, INC.
- MOBIL PRODUCING TEXAS & NM INC
- TAPS I ENERGY LLC
- XTO DELAWARE BASIN, LLC.

Mineral Lease  
Area of Review

CERSEI STATE SWD #3  
Eddy County, New Mexico

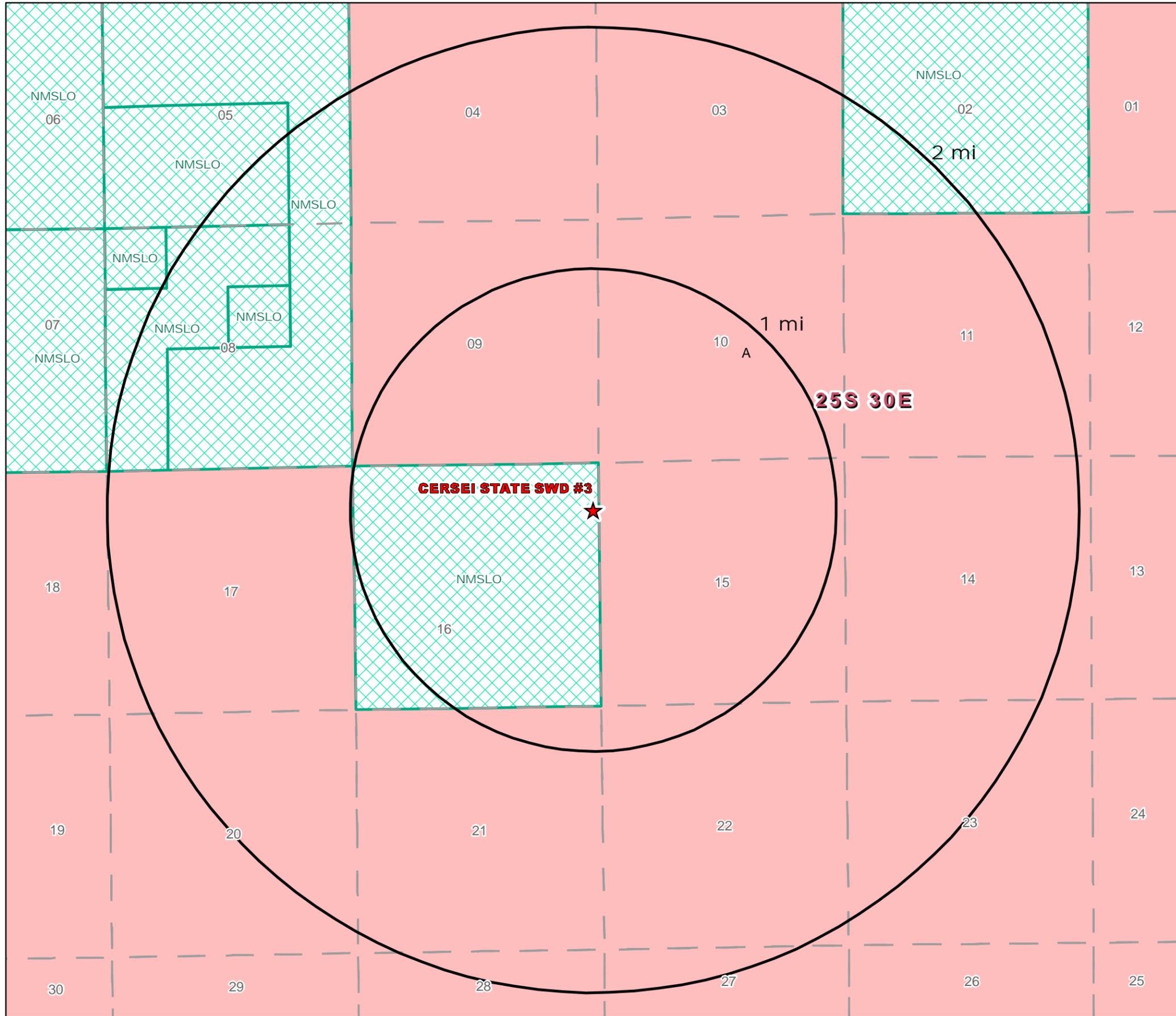
Proj Mgr:  
Dan Arthur

October 31, 2019

Mapped by:  
Ben Bockelmann

Prepared by:





**Legend**

★ Proposed SWD

▨ NMSLO Lease

**Mineral Ownership**

A - All minerals are owned by U.S.

Mineral Ownership  
Area of Review

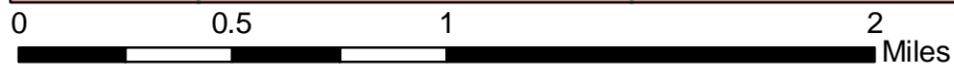
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**Eddy County, New Mexico**

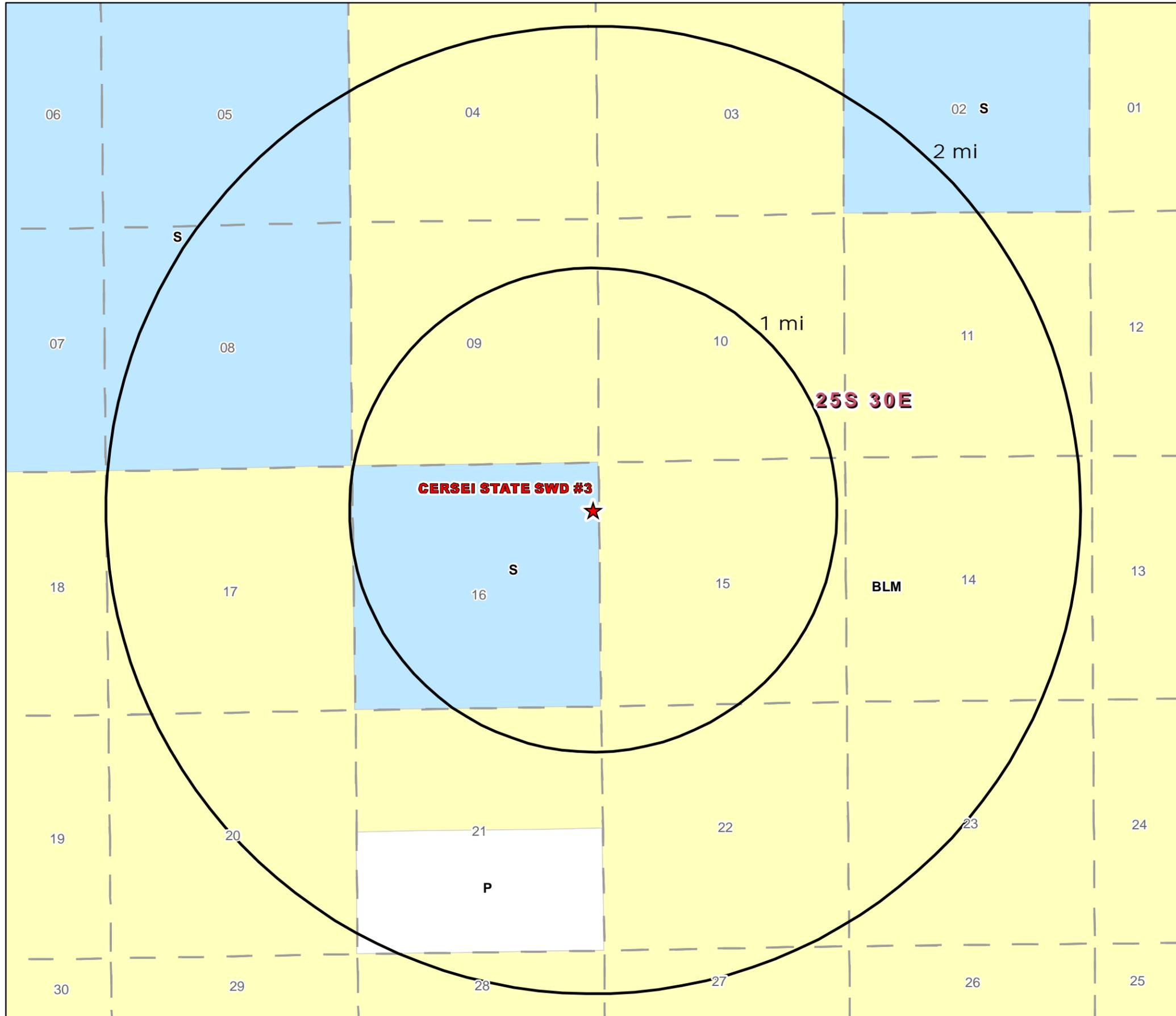
Proj Mgr:  
Dan Arthur

October 30, 2019

Mapped by:  
Ben Bockelmann

Prepared by:





**Legend**

★ Proposed SWD

**Surface Ownership**

- BLM
- Private
- State

Surface Ownership  
Area of Review

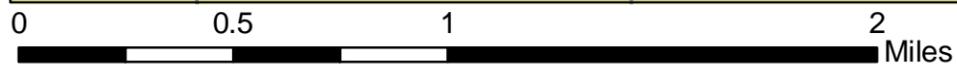
**CERSEI STATE SWD #3**  
**Eddy County, New Mexico**

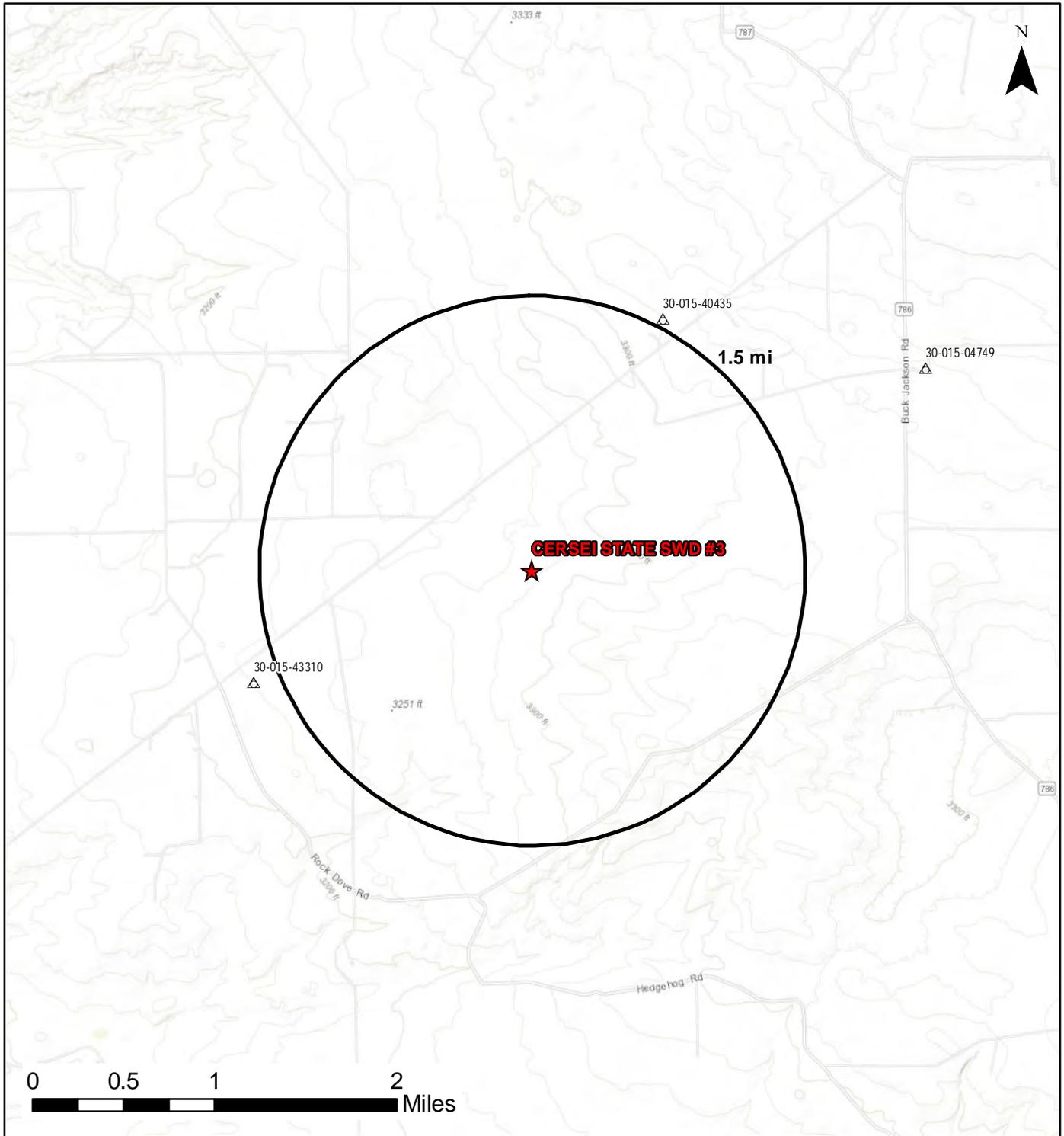
Proj Mgr:  
Dan Arthur

October 30, 2019

Mapped by:  
Ben Bockelmann

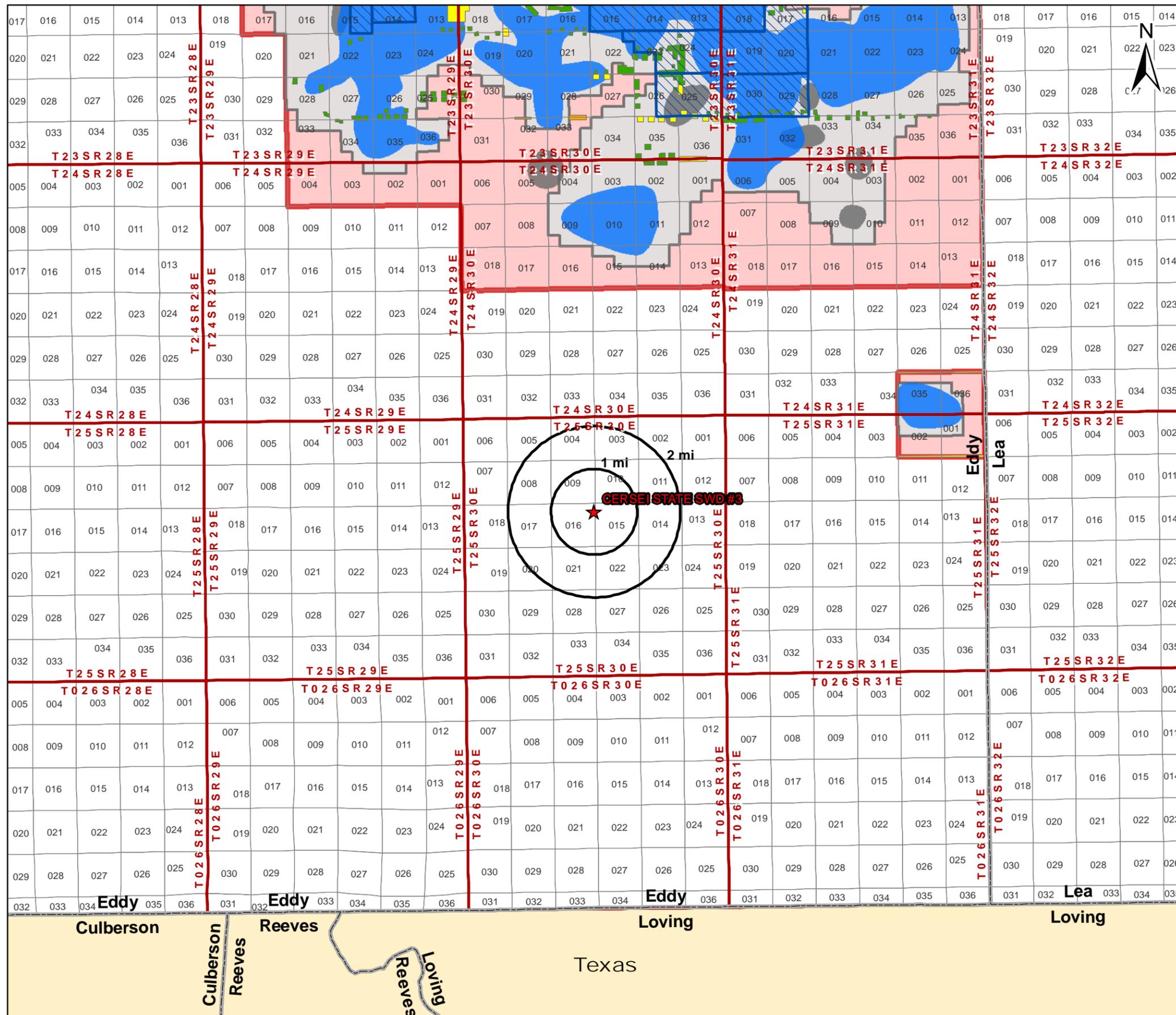
Prepared by:





<b>CERSEI STATE SWD #3</b> Deep SWDs AOR			<p style="text-align: center;"><b>Legend</b></p> <p>★ Proposed SWD <b>Devonian/Silurian SWDs</b></p> <p>△ Salt Water Injection, Active (3)</p>
Proj Mgr: Dan Arthur	Oct 30, 2019	Mapped by: Ben Bockelmann	
Prepared for: 		Prepared by: 	
<small>Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community</small>			

AOR Tabulation for Cersei State SWD #3 (Top of Injection Interval: 16,400')							
Well Name	API#	Well Type	Operator	Spud Date	Location (Sec., Tn., Rng.)	Total Vertical Depth (feet)	Penetrate Inj. Zone?
PRE-ONGARD WELL #005	30-015-04748	Plugged	PRE-ONGARD WELL OPERATOR (Alamo Corporation)	2/11/1958	M-10-25S-30E	Plugged (3930)	No
PRE-ONGARD WELL #001	30-015-04747	Plugged	PRE-ONGARD WELL OPERATOR (Fred Pool Drilling Co.)	10/5/1962	M-09-25S-30E	Plugged (3762)	No
PRE-ONGARD WELL #005	30-015-05972	Plugged	PRE-ONGARD WELL OPERATOR (Alamo Corporation)	*Unknown	M-10-25S-30E	Plugged (0)	No
POKER LAKE CVX JV BS #011H	30-015-39693	O	XTO PERMIAN OPERATING LLC.	2/29/2012	C-22-25S-30E	8449	No
POKER LAKE CVX JV PB #005H	30-015-40763	O	XTO PERMIAN OPERATING LLC.	12/1/2012	C-22-25S-30E	9086	No
POKER LAKE CVX JV PC #009H	30-015-37375	O	XTO PERMIAN OPERATING LLC.	4/22/2011	P-16-25S-30E	8359	No
POKER LAKE UNIT #482H	30-015-43511	O	XTO PERMIAN OPERATING LLC.	Not Drilled	C-16-25S-30E	Proposed (7287)	No
POKER LAKE UNIT #483H	30-015-43489	O	XTO PERMIAN OPERATING LLC.	Not Drilled	C-16-25S-30E	Proposed (7624)	No
<b>Notes:</b> No wells within the 1-mile AOR penetrate the injection interval.							
<b>Unknown*</b> - Data not available from the NMOCD Imaging - Well Files Data Base.							



**Legend**

- ★ Proposed SWD
- Potash Leases
- Ore Type - Measured
- Ore Type - Indicated
- KPLA
- SOPA
- Drill Islands**
- Status**
- Approved
- Nominated
- Withdrawn

Potash Leases  
Area of Review

CERSEI STATE SWD #3  
Eddy County, New Mexico

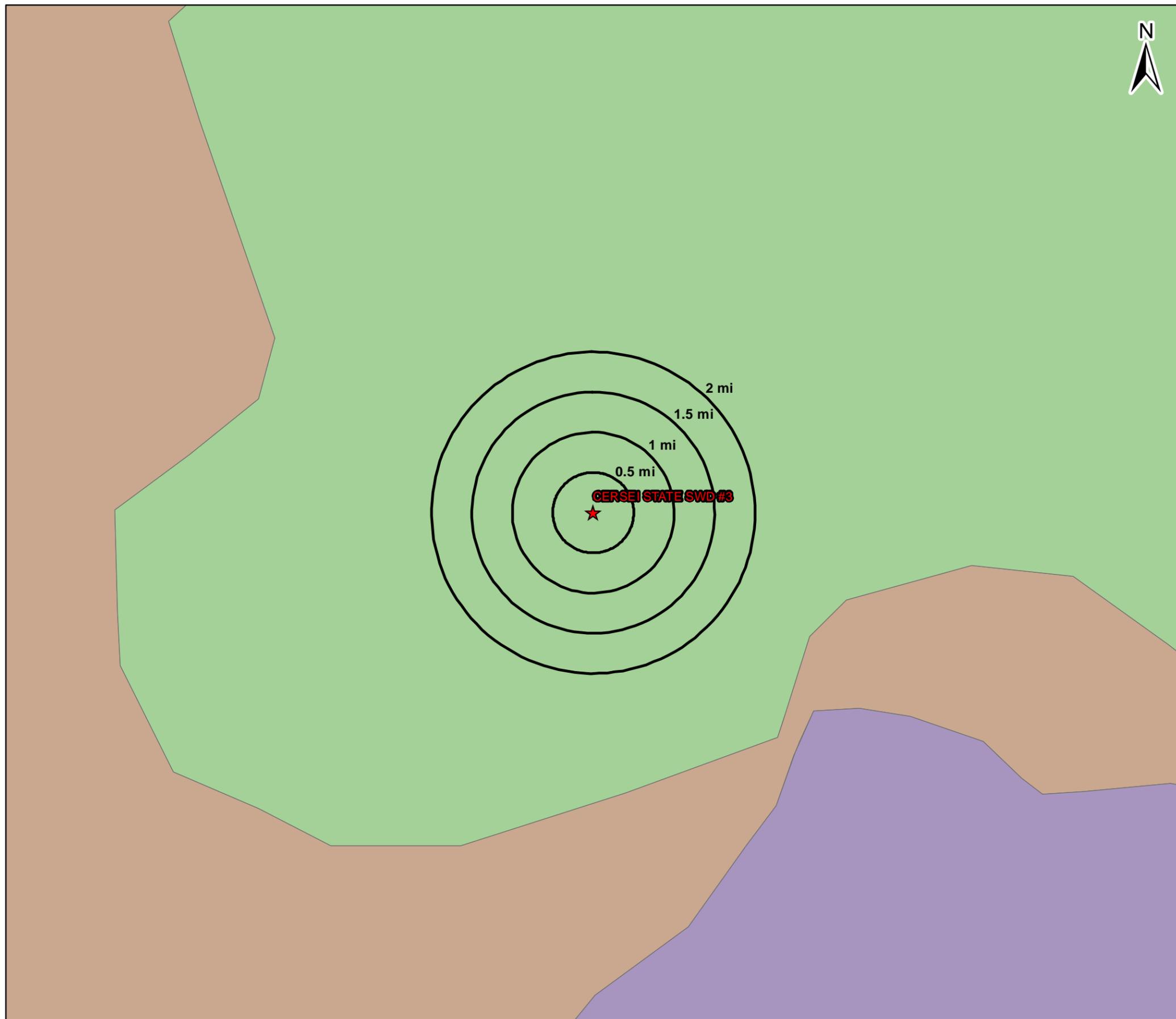
Proj Mgr:  
Dan Arthur

October 18, 2019

Mapped by:  
Ben Bockelmann

Prepared by:





**Legend**

★ Proposed SWD

**Karst Potential**

High

Low

Medium

Karst Potential  
Area of Review

CERSEI STATE SWD #3  
Eddy County, New Mexico

Proj Mgr:  
Dan Arthur

October 18, 2019

Mapped by:  
Ben Bockelmann

Prepared by:

**ALL**CONSULTING

0 1.5 3 6 Miles

**Attachment 3**

Source Water Analyses

*Wolfcamp*



**Water Analysis**

Date: 23-Aug-11

2708 West County Road, Hobbs NM 88240

Phone (575) 392-5556 Fax (575) 392-7307

Analyzed For

*Brushy Draw 1#1*

Company	Well Name	County	State
	BD	Lea	New Mexico

*Eddy* *1-265-295*

Sample Source	Swab Sample	Sample #	Depth
		1	

Specific Gravity	1.170	SG @ 60 °F	1.172
pH	6.30	Sulfides	Absent
Temperature (°F)	70	Reducing Agents	

**Cations**

Sodium (Calc)	in Mg/L	77,962	in PPM	66,520
Calcium	in Mg/L	4,000	in PPM	3,413
Magnesium	in Mg/L	1,200	in PPM	1,024
Soluble Iron (FE2)	in Mg/L	10.0	in PPM	9

**Anions**

Chlorides	in Mg/L	130,000	in PPM	110,922
Sulfates	in Mg/L	250	in PPM	213
Bicarbonates	in Mg/L	127	in PPM	108
Total Hardness (as CaCO3)	in Mg/L	15,000	in PPM	12,799
Total Dissolved Solids (Calc)	in Mg/L	213,549	in PPM	182,209
Equivalent NaCl Concentration	in Mg/L	182,868	in PPM	156,031

**Scaling Tendencies**

\*Calcium Carbonate Index 507,520

*Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable*

\*Calcium Sulfate (Gyp) Index 1,000,000

*Below 500,000 Remote / 500,000 - 10,000,00 Possible / Above 10,000,000 Probable*

*\*This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.*

Remarks RW=.048@70F

Report # 3188

Sec 22, T25S, R28E

North Permian Basin Region  
 P.O. Box 740  
 Sundown, TX 79372-0740  
 (806) 229-8121  
 Lab Team Leader - Sheila Hernandez  
 (432) 495-7240

Bone Spring

**Water Analysis Report by Baker Petrolite**

Company:		Sales RDT:	33514.1
Region:	PERMIAN BASIN	Account Manager:	TONY HERNANDEZ (575) 910-7135
Area:	ARTESIA, NM	Sample #:	534665
Lease/Platform:	PINOCHLE 'BPN' STATE COM	Analysis ID #:	106795
Entity (or well #):	2 H	Analysis Cost:	\$90.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary		Analysis of Sample 534665 @ 75 F					
		Anions		Cations			
		mg/l	meq/l	mg/l	meq/l		
Sampling Date:	03/10/11	Chloride:	109618.0	3091.92	Sodium:	70275.7	3056.82
Analysis Date:	03/18/11	Bicarbonate:	2135.0	34.99	Magnesium:	195.0	18.04
Analyst:	SANDRA GOMEZ	Carbonate:	0.0	0.	Calcium:	844.0	42.12
TDS (mg/l or g/m3):	184911.1	Sulfate:	747.0	15.55	Strontium:	220.0	5.02
Density (g/cm3, tonne/m3):	1.113	Phosphate:			Barium:	0.8	0.01
Anion/Cation Ratio:	1	Borate:			Iron:	6.5	0.23
Carbon Dioxide:	0.50 PPM	Silicate:			Potassium:	889.0	22.22
Oxygen:		Hydrogen Sulfide:		0 PPM	Aluminum:		
Comments:		pH at time of sampling:		7	Chromium:		
		pH at time of analysis:			Copper:		
		pH used in Calculation:		7	Lead:		
					Manganese:	0.100	0.
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite CaCO <sub>3</sub>		Gypsum CaSO <sub>4</sub> ·2H <sub>2</sub> O		Anhydrite CaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Barite BaSO <sub>4</sub>		CO <sub>2</sub> Press
		Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	
80	0	1.06	188.52	-1.20	0.00	-1.18	0.00	-0.11	0.00	0.58	0.29	1.72
100	0	1.10	208.05	-1.29	0.00	-1.20	0.00	-0.15	0.00	0.35	0.29	2.35
120	0	1.12	224.17	-1.36	0.00	-1.19	0.00	-0.17	0.00	0.16	0.00	3.17
140	0	1.13	243.17	-1.42	0.00	-1.18	0.00	-0.18	0.00	0.00	0.00	4.21

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

**Attachment 4**

Injection Formation Water Analyses

Injection Formation Water Analysis																			
Select Energy Services - Devonian , Fusselman & Silurian formations																			
Wellname	API	Latitude	Longitude	Section	Township	Range	Unit	ftgns	ftgew	County	State	company	Field	Formation	Depth	tds_mgL	chloride_mgL	bicarbonate_mgL	sulfate_mgL
FARNSWORTH FEDERAL #006	3002511950	32.0777245	-103.162468	4	26S	37E	A	660N	990E	LEA	NM		CROSBY	DEVONIAN		31,931	20,450	302	591
ARNOTT RAMSAY NCT-B #003	3002511863	32.0922279	-103.1784439	32	25S	37E	A	660N	660E	LEA	NM		CROSBY	DEVONIAN	8797		100,382	476	
STATE NJ A #001	3002511398	32.1647491	-103.1273346	2	25S	37E	A	663N	660E	LEA	NM		JUSTIS NORTH	DEVONIAN		105,350	59,300	660	4,950
COPPER #001	3002511818	32.0994835	-103.1656723	28	25S	37E	J	1980S	1981E	LEA	NM		CROSBY	DEVONIAN		27,506	15,270	1,089	1,079
ARNOTT RAMSAY NCT-B #003	3002511863	32.0922279	-103.1784439	32	25S	37E	A	660N	660E	LEA	NM		CROSBY	DEVONIAN		158,761			
BELL LAKE UNIT #006	3002508483	32.3282585	-103.507103	6	23S	34E	O	660S	1980E	LEA	NM		BELL LAKE NORTH	DEVONIAN		71,078	42,200	500	1,000
CLINE FEDERAL #001	3002510717	32.3025551	-103.1358261	14	23S	37E	K	1980S	1980W	LEA	NM		CLINE	DEVONIAN		118,979	71,280	462	2,593
E C HILL B FEDERAL #001	3002510945	32.2658463	-103.1443634	34	23S	37E	A	810N	660E	LEA	NM		TEAGUE	DEVONIAN		112,959	67,390	288	2,765
E C HILL D FEDERAL #001	3002510947	32.2622147	-103.1443634	34	23S	37E	H	2131N	660E	LEA	NM		TEAGUE	DEVONIAN		35,639			
E C HILL D FEDERAL #004	3002510950	32.2653503	-103.1443634	34	23S	37E	A	990N	660E	LEA	NM		TEAGUE	DEVONIAN		236,252	147,000	129	781
ANTELOPE RIDGE UNIT #003	3002521082	32.2593155	-103.4610748	34	23S	34E	K	1980S	1650W	LEA	NM		ANTELOPE RIDGE	DEVONIAN		80,187	47,900	476	900
REMUDA BASIN UNIT #001	3001503691	32.2886238	-103.9360428	24	23S	29E	J	1980S	1980E	EDDY	NM		REMUDA	DEVONIAN		64,582	37,500	610	1,700
REMUDA BASIN UNIT #001	3001503691	32.2886238	-103.9360428	24	23S	29E	J	1980S	1980E	EDDY	NM		REMUDA	DEVONIAN		56,922	29,000	1,740	4,980
STATE B COM #001	3002509716	32.1794052	-103.2212524	36	24S	36E	C	600N	1880W	LEA	NM		CUSTER	DEVONIAN		176,234	107,400	128	1,004
WHITE CITY PENN GAS COM UNIT 1 #001	3001500408	32.1937523	-104.3088455	29	24S	26E	A	660N	660E	EDDY	NM			DEVONIAN			10,120	653	1,336
BIG EDDY UT #001	3001502475	32.4421539	-104.042305	36	21S	28E	C	660N	1980W	EDDY	NM			DEVONIAN		16,223	7,000	1,030	2,290
BIG EDDY UT #001	3001502475	32.4421539	-104.042305	36	21S	28E	C	660N	1980W	EDDY	NM			DEVONIAN		19,941	10,700	640	1,130
Source:		<a href="http://gotech.nmt.edu/gotech/Water/producedwater.aspx">http://gotech.nmt.edu/gotech/Water/producedwater.aspx</a>																	

**Attachment 5**

Water Well Map and Well Data



### Legend

★ Proposed SWD

### NMOSE PODs

#### Status

- Active (1)
- Pending (0)
- Change Location of Well (0)
- Capped (0)
- Plugged (0)
- Incomplete (0)
- Unknown (0)

Water Wells Area of Review

**CERSEI STATE SWD #3**  
**Eddy County, New Mexico**

Proj Mgr:  
Dan Arthur

October 18, 2019

Mapped by:  
Ben Bockelmann

Prepared by:

**ALL**CONSULTING



Water Well Sampling Rationale					
Cerseil State SWD #3					
Water Wells	Owner	Available Contact Information	Use	Sampling Required	Notes
C-01379	Buck Jackson	Buck Jackson P.O. Box 671 Pecos, Texas	Livestock Watering	No	Multiple phone calls, and a letter sent via certified mail, were attempted in order to contact Mr. Johnson; however, Mr. Johnson did not respond to any of the attempts to contact. The certified mailing label is attached.

**Note:** None of the water wells within 1 mile of the proposed SWD location are currently in use.



October 31, 2019

Buck Jackson  
P.O. Box 671  
Pecos, TX 79772

Subject: Permission to Sample Water Well C-0002337

Mr. Jackson:

My name is Oliver Seekins and I work for ALL-Consulting, an environmental consulting firm out of Tulsa, Oklahoma. As part of the requirements to file a C-108 application with the New Mexico Oil Conservation Division, we are writing to you to request additional information pertaining to a water well that you own. Please confirm the status of the water well listed below (Active – has a functioning pump currently installed at the well; Non-active – water is removed by a manual system, or the well is not in use) and indicate if the well produces freshwater well.

- C-002337 (SE ¼ NW ¼ S35 T23S R32E)

If the water well is operational and producing freshwater, we would like to request permission to collect or have a third-party water sampling company collect a sample.

Please let me know if you need further information, or if there are any questions.

Sincerely,  
ALL Consulting

Oliver W. Seekins  
Consultant  
Email: [Oseekins@all-llc.com](mailto:Oseekins@all-llc.com)  
Work: 918-382-7581  
Cell: 918-805-5037

Place label at top of the center of the envelope and fold at dotted line.

Place label at top of the center of the envelope and fold at dotted line.

ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

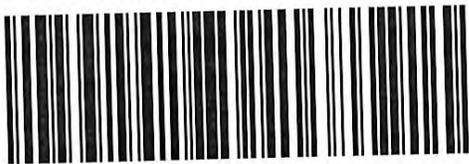
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US POSTAGE  
FIRST-CLASS  
FROM 74119  
OCT 22 2019  
stamps.com  
062S0008663991

Place label at top of the center of the envelope and fold at dotted line.

Place label at top of the center of the envelope and fold at dotted line.

**CERTIFIED MAIL®**  
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**CERTIFIED MAIL®**



9414 8118 9956 1959 7837 53

Buck Jackson  
PO Box 671  
Pecos TX 79772-0671

**Attachment 6**

Induced Seismicity Assessment Letter



October 31, 2019

Mr. Phillip Goetze, P.G.  
NM EMNRD – Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Subject: Induced Seismicity Potential Statement for the Cersei State SWD #3

Dear Mr. Goetze,

This letter provides information regarding the seismic potential associated with injection operations associated with Select Energy Services, LLC (Select), proposed Cersei State SWD #3, hereinafter referred to as the “Subject Well.”

As outlined herein, based on my experience as an expert on the issue of induced seismicity, it is my opinion that the potential for the proposed injection well to cause injection-induced seismicity is expected to be minimal, at best. This conclusion is based on (1) the lack of historic seismic activity and faulting in the area, (2) the low fault slip potential (FSP) of Precambrian faults in the area, (3) the presence of confining layers, and (4) the overall vertical distance between the proposed injection zone and basement rock.

The Subject Well, is located 990’ FNL & 330 FEL of Section 16, in T25-S and R30-E of Eddy County, New Mexico. Historically, the Eddy and Lea Counties area has experienced very limited recorded seismic activity (per the U.S. Geological Survey [USGS] earthquake catalog database). There has been one known seismic events located within a 25-mile radius of the proposed Subject Well. The closest recorded seismic event was a M3.1 that occurred on March 18<sup>th</sup>, 2012 and was located approximately 10.1 miles northwest of the Subject Well (See Exhibit 1). The closest Class IID wells injecting into the same formations (Devonian-Silurian) of the Subject Well is approximately 1.6 miles to the southwest, and northeast (See Exhibit 1).

Select does not own either 2D or 3D seismic reflection data in the area of the Subject Well. Fault data from USGS indicates that the closest known fault is approximately 7.6 miles northwest of the Subject Well (See Exhibit 1).

In a recent paper written by Snee and Zoback (2018) entitled “State of Stress in the Permian Basin, Texas and New Mexico: Implications for Induced Seismicity,”, the authors found that large groups of mostly north-south striking Precambrian basement faults, predominantly located along the Central Basin Platform, the western Delaware Basin, and large parts of the Northwest Shelf (which includes Eddy and Lea counties, New Mexico) have low FSP at the modeled fluid-pressure

Induced Seismicity Potential Statement for the Cersei State SWD #3  
October 31, 2019

perturbation. The map in Exhibit 2 depicts the low probability risk of FSP for the Delaware Basin and Northwest Shelf areas (Snee and Zoback 2018).

Geologic analysis indicates that the proposed Devonian-Silurian injection zone is overlain by approximately 200 to 400 feet of Woodford Shale, which is the upper confining zone and will serve as a barrier for upward injection fluid migration. Additionally, the Simpson Group that lies directly below the Montoya Formation will act as a lower confining zone to prohibit fluids from migrating downward into the underlying Ellenberger Formation and Precambrian basement rock. See the stratigraphic column for the Delaware Basin included in Exhibit 3.

In the Eddy and Lea Counties area of New Mexico, the Simpson Group is comprised of a series of Middle to Upper Ordovician carbonates, several sandstones, and sandy shales that range from approximately 350 to 650 feet thick (Jones 2008). This group of rocks is capped by the limestones of the Bromide Formation, which is approximately 200 feet thick in this area (Jones 2008). The closest deep well drilled into the Precambrian basement was completed by the Skelly Oil Company in 1975. This well is located in Section 17, Range 36E, Township 25S of Lea County (API No.30-025-25046) and encountered 602 feet of Ellenburger Formation before reaching the top of the Precambrian granite at a depth of 18,920 feet. Based on the estimated thickness of the Simpson Group and Ellenburger Formation in this area, the Precambrian basement should be approximately 1,000 to 1,200 feet below the bottom of the proposed injection zones in the Subject Well.

### **Conclusion**

As an expert on the issue of induced seismicity, it is my opinion that the potential for the proposed injection well to cause injection-induced seismicity is expected to be minimal, at best. This conclusion is based on (1) the lack of historic seismic activity and faulting in the area, (2) the low FSP of Precambrian faults in the area, (3) the presence of confining layers, and (4) the overall vertical distance between the proposed injection zone and basement rock.

Sincerely,  
ALL Consulting



J. Daniel Arthur, P.E., SPEC  
President and Chief Engineer

Enclosures  
References  
Exhibits

Induced Seismicity Potential Statement for the Cersei State SWD #3  
October 31, 2019

## References

Induced Seismicity Potential Statement for the Cersei State SWD #3  
October 31, 2019

Ball, Mahlon M. 1995. "Permian Basin Province (044)." In *National Assessment of United States Oil and Gas Resources—Results, Methodology, and Supporting Data*. U.S. Geological Survey. <https://certmapper.cr.usgs.gov/data/noga95/prov44/text/prov44.pdf> (accessed June 18, 2018).

Green, G.N., and G.E. Jones. 1997. "The Digital Geologic Map of New Mexico in ARC/INFO Format." U.S. Geological Survey Open-File Report 97-0052. <https://mrdata.usgs.gov/geology/state/state.php?state=NM> (accessed June 14, 2018).

Jones, Rebecca H. 2008. "The Middle-Upper Ordovician Simpson Group of the Permian Basin: Deposition, Diagenesis, and Reservoir Development." [http://www.beg.utexas.edu/resprog/permianbasin/PBGSP\\_members/writ\\_synth/Simpson.pdf](http://www.beg.utexas.edu/resprog/permianbasin/PBGSP_members/writ_synth/Simpson.pdf) (accessed June 19, 2018).

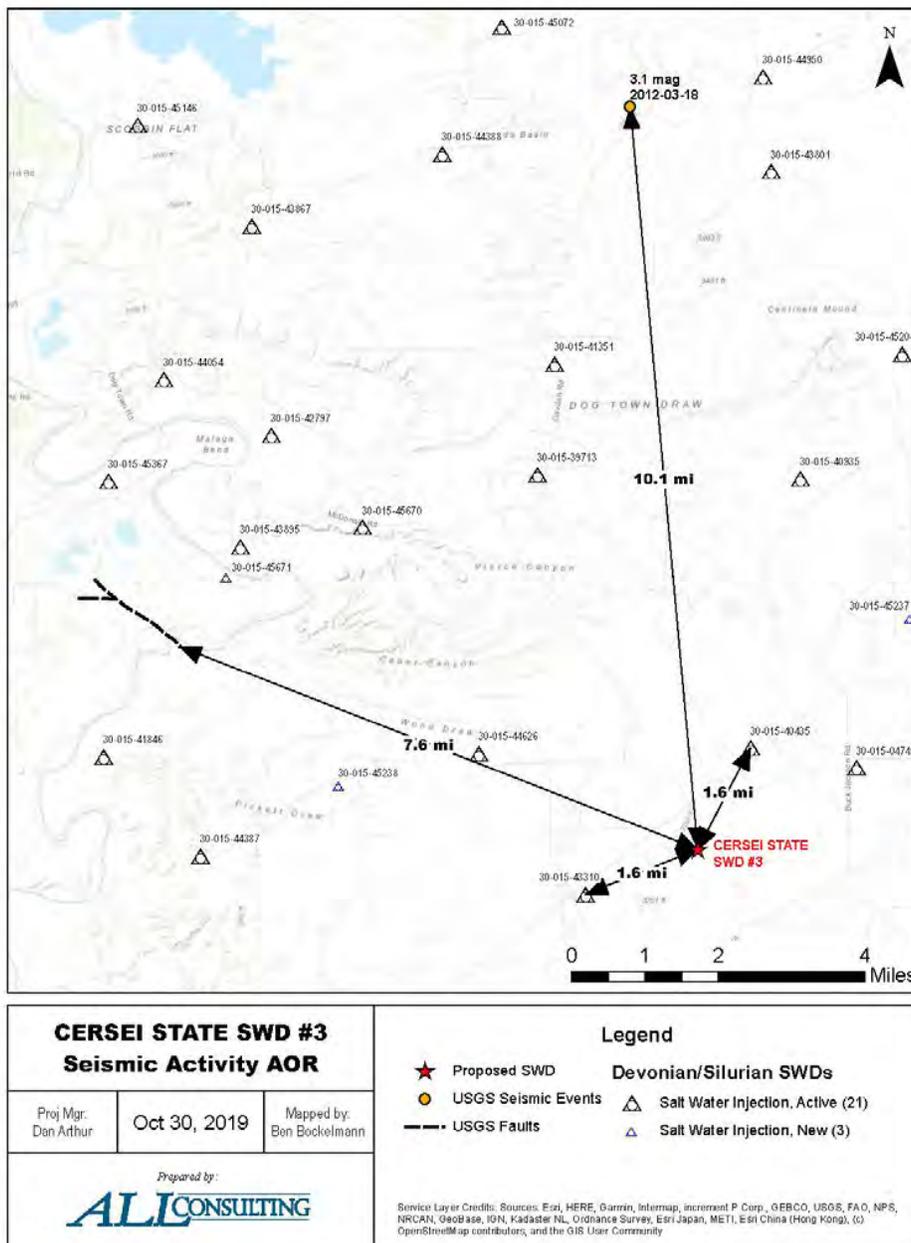
Snee, Jens-Erik Lund, and Mark D. Zoback. 2018. "State of Stress in the Permian Basin, Texas and New Mexico: Implications for Induced Seismicity." *The Leading Edge* 37, no. 2 (February 2018): 127-34.

U.S. Geological Survey (USGS). No date. Earthquakes Hazard Program: Earthquake Catalog. <https://earthquake.usgs.gov/earthquakes/search/> (accessed June 14, 2018).

Induced Seismicity Potential Statement for the Cersei State SWD #3  
October 31, 2019

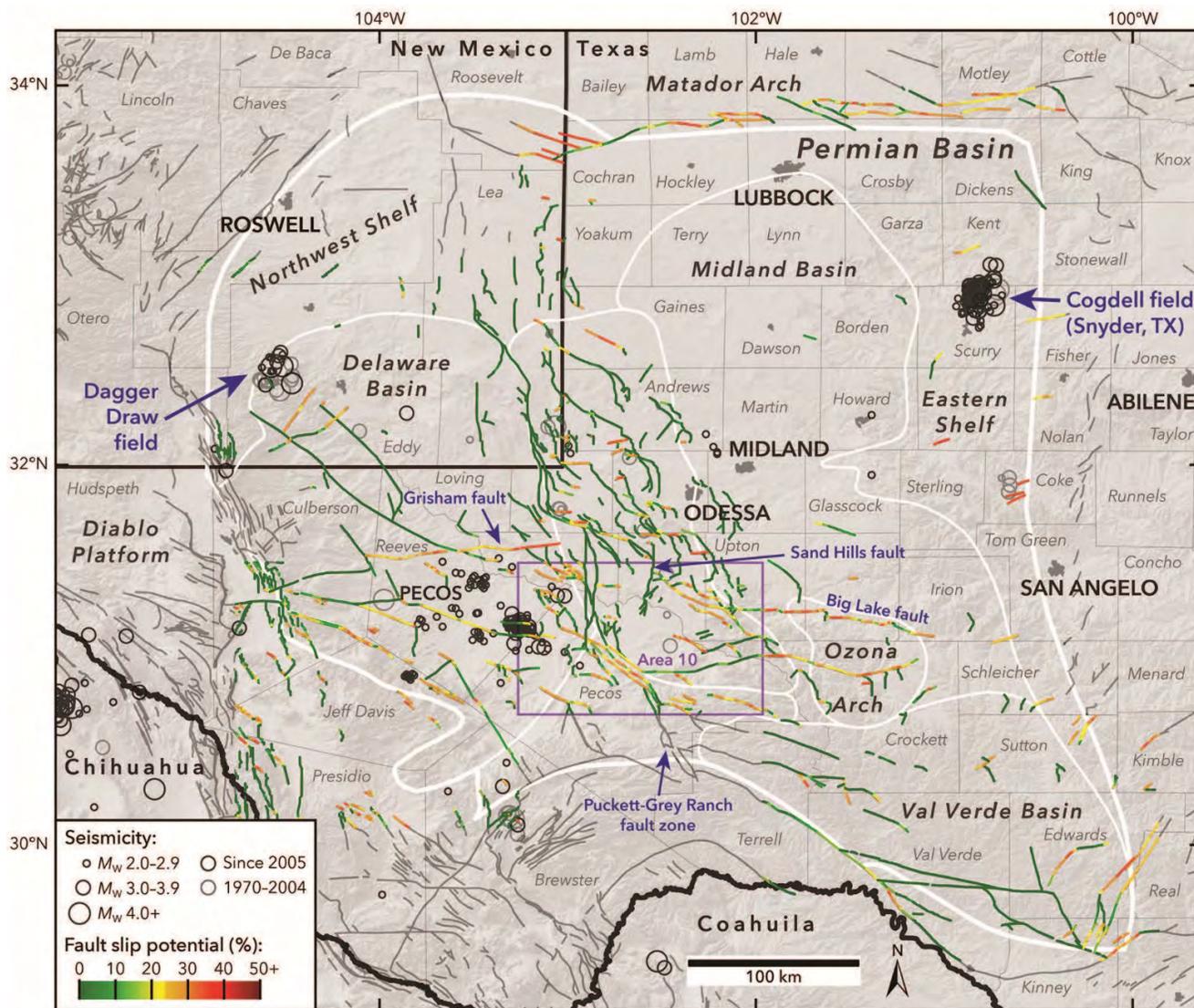
## **Exhibits**

Induced Seismicity Potential Statement for the Cersei State SWD #3  
 October 31, 2019



**Exhibit 1. Map Showing the Distances from Known and Inferred Faults, Seismic Event, and Closest Deep Injection Well**

Induced Seismicity Potential Statement for the Cersei State SWD #3  
October 31, 2019



**Exhibit 2. Results of the Snee and Zoback (2018) Probabilistic FSP Analysis Across the Permian Basin**

Induced Seismicity Potential Statement for the Cersei State SWD #3  
 October 31, 2019

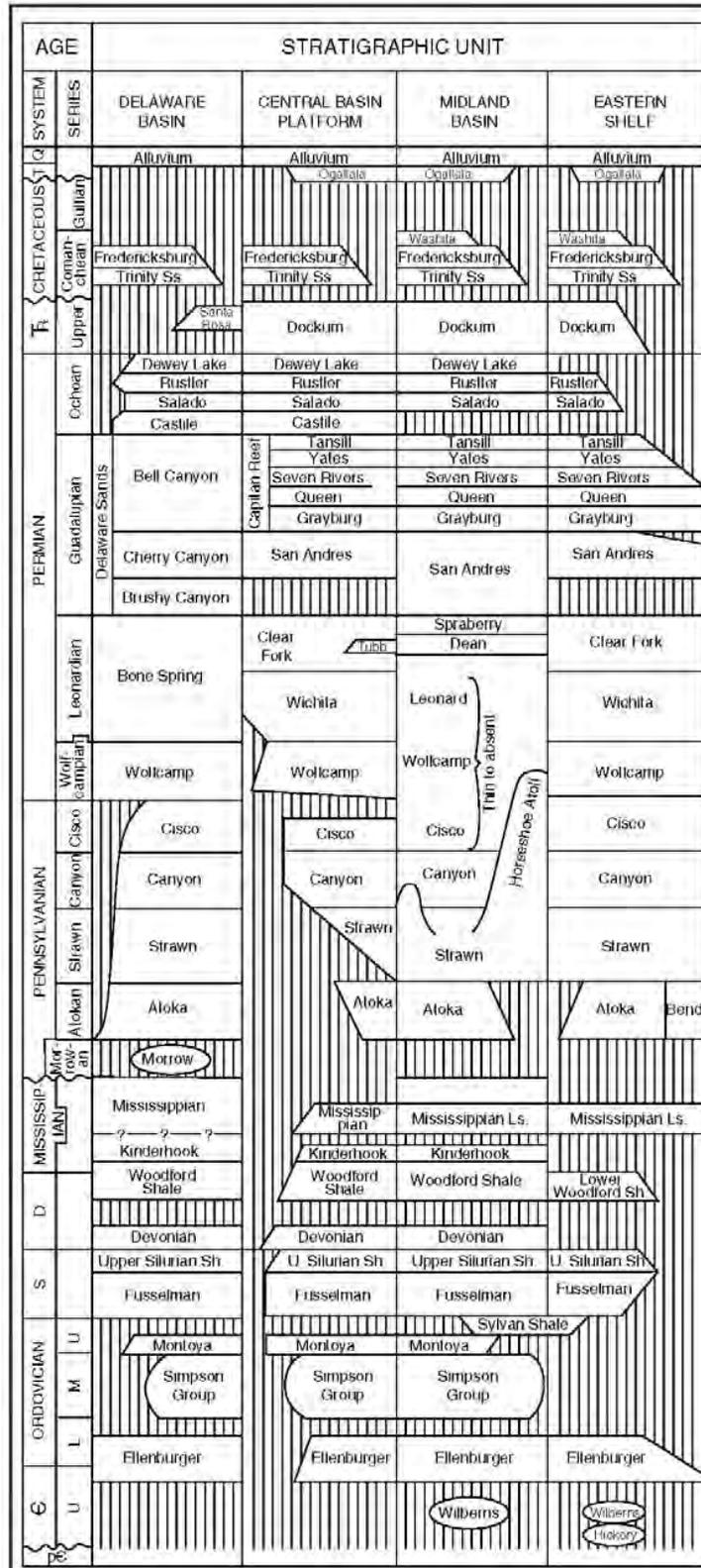


Exhibit 3. Delaware Basin Stratigraphic Chart (Ball 1995)

**Attachment 7**

Public Notice Affidavit and Notice of Application Confirmations

**APPLICATION FOR AUTHORIZATION TO INJECT**

NOTICE IS HEREBY GIVEN: That Select Energy Services, 1820 N I-35, Gainesville, TX 76240, is requesting that the New Mexico Oil Conservation Division administratively approve the APPLICATION FOR AUTHORIZATION TO INJECT as follows:

PURPOSE: The intended purpose of the injection well is to dispose of saltwater produced from permitted oil and gas wells.

WELL NAME AND LOCATION:  Cersei State SWD #3  
 Located 13 miles southeast of Malaga, NM  
 NE ¼ NE ¼, Section 16, Township 25S, Range 30E  
 990' FNL & 330' FEL  
 Eddy County, NM

NAME AND DEPTH OF DISPOSAL ZONE:  Devonian - Silurian (16,400 – 17,700')  
EXPECTED MAXIMUM INJECTION RATE:  30,000 Bbls/day  
EXPECTED MAXIMUM INJECTION PRESSURE:  3,280 psi (surface)

Objections or requests for hearing must be filed with the New Mexico Oil Conservation Division within fifteen (15) days. Any objection or request for hearing should be mailed to the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505.

Additional information may be obtained by contacting Nate Alleman at 918-382-7581.

# Carlsbad Current Argus.

PART OF THE USA TODAY NETWORK

## Affidavit of Publication

Ad # 0003861184

**ALL CONSULTING- CARL SBAD**  
1718 SOUTH CHEYENNE AVENUE

**TULSA, OK 74119**

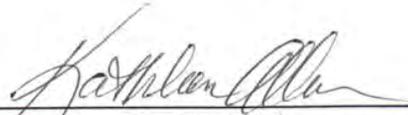
### APPLICATION FOR AUTHORIZATION TO INJECT

NOTICE IS HEREBY GIVEN:  
That Select Energy Services,  
1820 N I-35, Gainesville, TX  
76240, is requesting that the  
New Mexico Oil Conserva-  
tion Division administrative-  
ly approve the APPLICATION  
FOR AUTHORIZATION TO IN-  
JECT as follows:

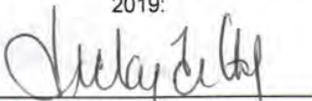
PURPOSE: The intended pur-  
pose of the injection well is  
to dispose of saltwater pro-  
duced from permitted oil  
and gas wells.

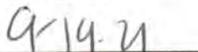
I, a legal clerk of the **Carlsbad Current Argus**, a  
newspaper published daily at the City of Carlsbad, in  
said county of Eddy, state of New Mexico and of  
general paid circulation in said county; that the same  
is a duly qualified newspaper under the laws of the  
State wherein legal notices 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:

**October 24, 2019**

  
\_\_\_\_\_  
Legal Clerk

Subscribed and sworn before me this October 24,  
2019:

  
\_\_\_\_\_  
State of WI, County of Brown  
NOTARY PUBLIC

  
\_\_\_\_\_  
My commission expires

WELL NAME AND LOCA-  
TION: Cersel State SWD #3  
Located 13 miles southeast  
of Malaga, NM  
NE 1/4 NE 1/4, Section 16,  
Township 25S, Range 30E  
990' FNL & 330' FEL  
Eddy County, NM

NAME AND DEPTH OF DIS-  
POSAL ZONE:  
Devonian - Silurian (16,400 -  
17,700')  
EXPECTED MAXIMUM IN-  
JECTION RATE: 30,000  
Bbls/day  
EXPECTED MAXIMUM IN-  
JECTION PRESSURE 3,280 psi  
(surface)

Objections or requests for  
hearing must be filed with  
the New Mexico Oil Conser-  
vation Division within fif-  
teen (15) days. Any objec-  
tion or request for hearing  
should be mailed to the Oil  
Conservation Division, 1220  
South St. Francis Dr., Santa  
Fe, New Mexico 87505.

Additional information may  
be obtained by contacting  
Nate Alleman at 918-382-  
7581.

October 24, 2019

Ad # 0003861184  
PO #: Cersel State SWD #3  
# of Affidavits : 1



<b>Cersei State SWD #3 - Notice of Application Recipients</b>				
<b>Entity</b>	<b>Address</b>	<b>City</b>	<b>State</b>	<b>Zip Code</b>
<b>Land &amp; Mineral Owner</b>				
Commision of Public Lands - State Land Office	310 Old Santa Fe Trail	Santa Fe	NM	87501
<b>OCD District</b>				
NMOCD District 2	811 S. 1st St.	Artesia	NM	88210
<b>Leasehold Operators</b>				
32 Mineral Oil & Gas New Mexico, LLC (32 MINERAL O&G NM LLC)	123 E Marcy St., Suite 101	Santa Fe	NM	87501
ACB Oil & Gas New Mexico, LLC (ACB OG NM LLC)	201 Main Street, Suite 2700	Fort Worth	TX	76102
CMB Oil & Gas New Mexico, LLC (CMB OG NM LLC)	201 Main Street	Fort Worth	TX	76102
CTV Oil & Gas New Mexico, LLC (CTV OG NM LLC)	201 Main Street, Suite 2700	Fort Worth	TX	76102
Delbasin Corporation (DELBASIN CORP)	201 Main Street, Suite 2300	Fort Worth	TX	76102
Keystone Petroleum NM, LLC (KEYSTONE OG NM LLC)	222 W. Las Colinas Blvd.	Irving	TX	75039
LMBI Oil & Gas New Mexico, LLC (LMBI OG NM LLC)	201 Main Street, Ste 2700	Fort Worth	TX	76102
New Mexico BLM	620 E Greene St.	Carlsbad	NM	88220
SRBI O&G NM, LLC (SRBI OG NM LLC)	201 Main Street, Suite 3200	Fort Worth	TX	76102
Thru Line Oil & Gas New Mexico, LLC (THRU LINE OG NM LLC)	201 Main Street, Ste 2700	Fort Worth	TX	76102
XTO Delaware Basin, LLC	22777 Springwood Village Pkwy.	Spring	TX	77389
XTO Permian Operating, LLC (XTO PERMIAN OPERATING LLC.)	6401 Holiday Hill Rd.	Midland	TX	79707
<b>Notes:</b> The table above shows the Entities who were identified as parties of interest requiring notification on either the 1-mile well detail list (Attachment 2) or on the 2-mile Mineral Lease Map (Attachment 2). The names listed above in parenthesis, are the abbreviated entity names used on either the 1-mile well detail list (Attachment 2) or on the 2-mile Mineral Lease Map (Attachment 2).				

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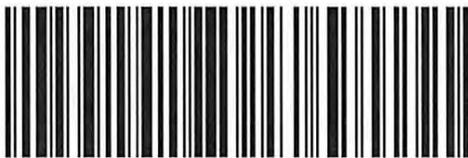
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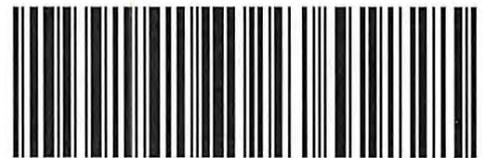
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ACB Oil & Gas New Mexico, LLC  
201 Main Street, Suite 2700  
Fort Worth TX 76102-3131

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Fort Worth TX 76102-3105

CTV Oil & Gas New Mexico, LLC  
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Fort Worth TX 76102-3131

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201 Main Street, Suite 2300  
Fort Worth TX 76102-3137

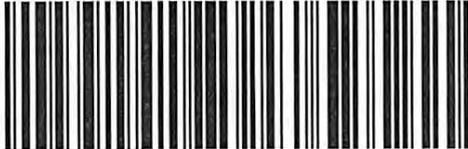
Keystone Petroleum NM, LLC  
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Irving TX 75039-5421

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Artesia NM 88210-2834

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Commission of Public Lands  
State Land Office  
310 Old Santa Fe Trail  
Santa Fe NM 87501-2708

Thru Line Oil & Gas New Mexico, LLC  
201 Main Street, Ste 2700  
Fort Worth TX 76102-3131

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XTO Delaware Basin, LLC  
22777 Springwoods Village Pkwy.  
Spring TX 77389-1425

XTO Permian Operating, LLC  
6401 Holiday Hill Rd.  
Midland TX 79707-2156