

# Initial Application Part I

Received 9/3/21

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

RECEIVED: <b>9/3/21</b>	REVIEWER:	TYPE: <b>SWD</b>	APP NO: <b>pBL2124639073</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:** Anthem Water Solutions, LLC **OGRID Number:** 330069  
**Well Name:** Brown Pelican 072228 Federal SWD 1 **API:** 30-015-XXXXX  
**Pool:** 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**SWD-2456**

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 holdersB. ☐ Royalty, overriding royalty owners, revenue ownersC. ☒ Application requires published noticeD. ☒ Notification and/or concurrent approval by SLOE. ☒ Notification and/or concurrent approval by BLMF. ☒ Surface ownerG. ☒ 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.**

**Marshall Tippen**

Print or Type Name

9/3/2021

Date

(972) 795-4201

Phone Number

mtippen@anthemwsllc.com

e-mail Address

Signature



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9/3/2021

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

Re: Application of Anthem Water Solutions, LLC to drill and permit the saltwater disposal well Brown Pelican 072228 Federal SWD 1 located in Unit M, Section 7, Township 22 South, Range 28 East, NMPM, Eddy County, New Mexico.

To Whom it May Concern:

Please find the enclosed C-108 Application for Authority to Inject, supporting the above-referenced request for saltwater disposal. The well will be operated as a commercial endeavor offering operations in the area additional options for produced water disposal. Please find the enclosed C-108 Application for Authority to Inject along with supporting documents.

I would like to point out that this application for a proposed Devonian-Silurian SWD interval includes the following: Published legal notice ran 7/22/2021 in Carlsbad Current-Argus and all offset operators and other interested parties have been notified individually. The legal notice affidavit is included herein. This application also all information required for a completed Form C-108, as well as a wellbore schematic, area of review maps, affected party plat and other required and pertinent information. This well is located on Federal land and Federal minerals; a copy of the application has been sent to the appropriate regulatory bodies.

I respectfully request that the approval of this saltwater disposal well proceed swiftly and if your staff requires additional information or has any questions, please do not hesitate to call or email me.


Sincerely,

Marshall Tippen

Anthem Water Solutions

[mtippen@anthemwsllc.com](mailto:mtippen@anthemwsllc.com) | (972) 795-4201

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance   X   Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval?   X   Yes \_\_\_\_\_ No
- II. OPERATOR:   Anthem Water Solutions, LLC    
ADDRESS:   5914 W. Courtyard Drive, Suite 320, Austin TX 78730    
CONTACT PARTY:   Marshall Tippen   PHONE:   (979) 795-4201
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? \_\_\_\_\_ Yes   X   No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each 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:   Marshall Tippen   TITLE:   Director of Engineering    
SIGNATURE:      DATE:   9/3/2021    
E-MAIL ADDRESS:   mtippen@anthemwsllc.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

### III. WELL DATA

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

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

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

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

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

### XIV. PROOF OF NOTICE

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

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

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

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

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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.

## Item III – Subject Well Data (Attachment 1)

### A. Well Data

#### 1) General Well Data

Operator: Anthem Water Solutions, LLC

Lease Name and Well Number: Brown Pelican 072228 Federal SWD 1

Location Footage Calls: 83' from FSL, 440' from FWL

Legal Location: Unit M, Section 7, Township 22 South, Range 28 East, NMPM

Ground Elevation: 3104 feet

Proposed Injection Interval: 13218 - 14257 (open hole)

County: Eddy

#### 2) - 3) Casing , Tubing & Cement Information

Casing Information						
Type	Conductor (1)	Surface (2)	Intermediate (3)	Production (4)	Liner (5)	Open Hole (6)
OD	30"	16"	13 3/8"	9 5/8"	7 5/8"	N/A
Weight	N/A	84 lb / ft	68 lb / ft	53.5 lb / ft	39 lb / ft	N/A
Grade	N/A	J-55 BTC	L-80 EZ-GO FJ3	HCP-110 BTC	HCP-110 EZ-GO FJ3	N/A
Hole Size	N/A	18 1/8"	14 3/4"	12 1/4"	8 1/2"	6 1/2"
Depth Set Top	-	-	-	-	10,243	13,218
Depth Set Bottom	120	228	2,495	10,443	13,218	14,257
TOC	Surf	Surf	Surf	Surface	-	-
TOC Method	Circ	Circ	Circ	Circ	CBL	-
Volume (Sacks)	250	115	445	3,077	493	N/A
DV Tool 1	N/A	N/A	N/A	2,595	N/A	N/A
DV Tool 2	N/A	N/A	N/A	7,726	N/A	N/A

Tubing Information		
Type	Upper String (7)	Lower String (8)
OD	5 1/2"	4 1/2"
Weight	20 lb / ft	18 lb / ft
Grade	HCL-80 BTC	HCL-80 LTC
Hole Size	N/A	N/A
Depth Set Top	-	10,143
Depth Set Bottom	10,143	13,168

*\*Wellbore Diagram Attached*

#### 4) Packer Information:

Arrowset AS1-X or equivalent packer set at approximately 13168 feet

*\*Packer Schematic Attached*

## B. Completion Information

- 1) **Injection Formation Name:** Devonian-Silurian  
**Pool Name:** SWD; Devonian-Silurian  
**Pool Code:** 97869
- 2) **Injection Interval:** 13218 - 14257 (open hole)
- 3) **Drilling Purpose:** Drilled for injection
- 4) **Overlying Oil and Gas Zones:** Below are approximate tops for known oil and gas producing zones in the area.
  - Delaware: 2545'
  - Bone Spring: 6922'
  - Wolfcamp: 9305'
  - Strawn: 10771'
  - Atoka: 11115'
  - Morrow: 11653'
- 5) **Underlying Oil and Gas Zones:** No underlying oil and gas zones exist.

## **Item V – Well and Lease Maps (Attachment 2)**

- 1) **2-mile oil & Gas Well Map**
- 2) **1-mile Well Detail List**
- 3) **2-Mile Lease Map**
- 4) **2-Mile Mineral Ownership Map**
- 5) **2-Mile Surface Ownership map**
- 6) **1.5-Mile Deep SWD Map (Devonian-Silurian)**
- 7) **Potash Lease Map**

## **Item VI – AOR Well List (Attachment 2)**

There have been 38 wells drilled within the 1-mile AOR. None of these wells nor any new or permitted wells penetrate the injection zone.

## **Item VII – Proposed Operation (Attachment 3)**

- 1) **Proposed Maximum Injection Rate:** 30,000 bwpd  
**Proposed Average Injection Rate:** 15,000 bwpd
- 2) A **closed system** will be used.
- 3) **Proposed Maximum Injection Pressure:** 2643 psi (surface)
- 4) **Proposed Average Injection Pressure:** 1585 psi (surface)
- 5) **Source Water Analysis:** It is expected that the injected fluid will consist of water produced from the Wolfcamp and Bone Springs formations. Water samples from these formations are included in Attachment 3.
- 6) **Injection Formation Water Analysis:** The proposed SWD will be injecting water into the Devonian-Silurian formation 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 3.

## **Item VIII – Geologic Description**

The proposed injection interval includes the Devonian–Silurian formation from 13218 feet to 14257 feet. This formation consists of interbedded carbonate rocks consisting of dolomites and limestones with some interbedded siltstones and shales. Several thick sections of porous and permeable intervals capable of taking water are present within the subject formations in the area.



The base of the lowermost Underground Source of Drinking Water (USDW) is at a depth of approximately 178 feet. The USDW is covered by 16-inch casing set at 228 feet and cemented to surface, additionally the USDW is covered by intermediate casing set at 2495 feet and cemented to surface. Geophysical log assessment was conducted to accurately determine the top of the Rustler formation, as well as the top and base of the Salado formation in the area.

## **Item IX – Proposed Stimulation**

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

## **Item X – Logging and Test Data**

Log data will be submitted to the OCD upon completion of this well.

## **Item XI – Fresh Groundwater Samples (Attachment 4)**

Based on a review of the data from the New Mexico Office of State Engineer there are 9 water wells within a 1-mile radius. Samples were acquired for POD C-01694 & POD C-01695 6/18/2021.

## **XII – No Hydrologic Connection Statement (Attachment 5)**

Anthem has examined available geologic and engineering data, and has found no evidence of faulting present in the area that would provide a hydrologic connection between the injection interval and overlying USDWs. Additionally, the casing and cementing program has been designed to further insure 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 5.

## **XIII – Proof of Notice (Attachment 6)**

A Public Notice was filed with Carlsbad Current-Argus and an affidavit is included in Attachment 6.

A copy of the application was mailed to the OCD District Office, landowners, appropriate regulatory bodies, and leasehold operators within a 1-mile radius of the proposed SWD location. A list of recipients, as well as delivery confirmations, is included in Attachment 6.

## **Attachments Table of Content:**

### **Attachment 1:**

C-102

Proposed Wellbore Diagram

Packer Schematic

### **Attachment 2:**

2-mile Oil & Gas Well Map

1-mile Well Detail List

2-Mile Lease Map

2-Mile Mineral Ownership Map

2-Mile Surface Ownership map

1.5-Mile Deep SWD Map (Devonian-Silurian)

Potash Lease Map

### **Attachment 3:**

Source Water Analysis

Formation Water Analysis

### **Attachment 4:**

1-Mile Fresh Ground Water Map

Fresh Ground Water Samples

### **Attachment 5:**

Letter of Seismic Activity

### **Attachment 6:**

Public Notice Affidavit

List of Notification Applicants & Delivery Confirmations

# Attachment 1: Form C-102

District I  
1625 N. French Dr., Hobbs, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720  
District II  
811 S. First St., Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-015-XXXXX	<sup>2</sup> Pool Code 97869	<sup>3</sup> Pool Name SWD; Devonian-Silurian
<sup>4</sup> Property Code	<sup>5</sup> Property Name Brown Pelican 072228 Federal SWD	<sup>6</sup> Well Number 1
<sup>7</sup> OGRID No. 330069	<sup>8</sup> Operator Name Anthem Water Solutions, LLC	<sup>9</sup> Elevation 3,104'

### <sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	7	22S	28E		83	South	440	West	Eddy

### <sup>11</sup> 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

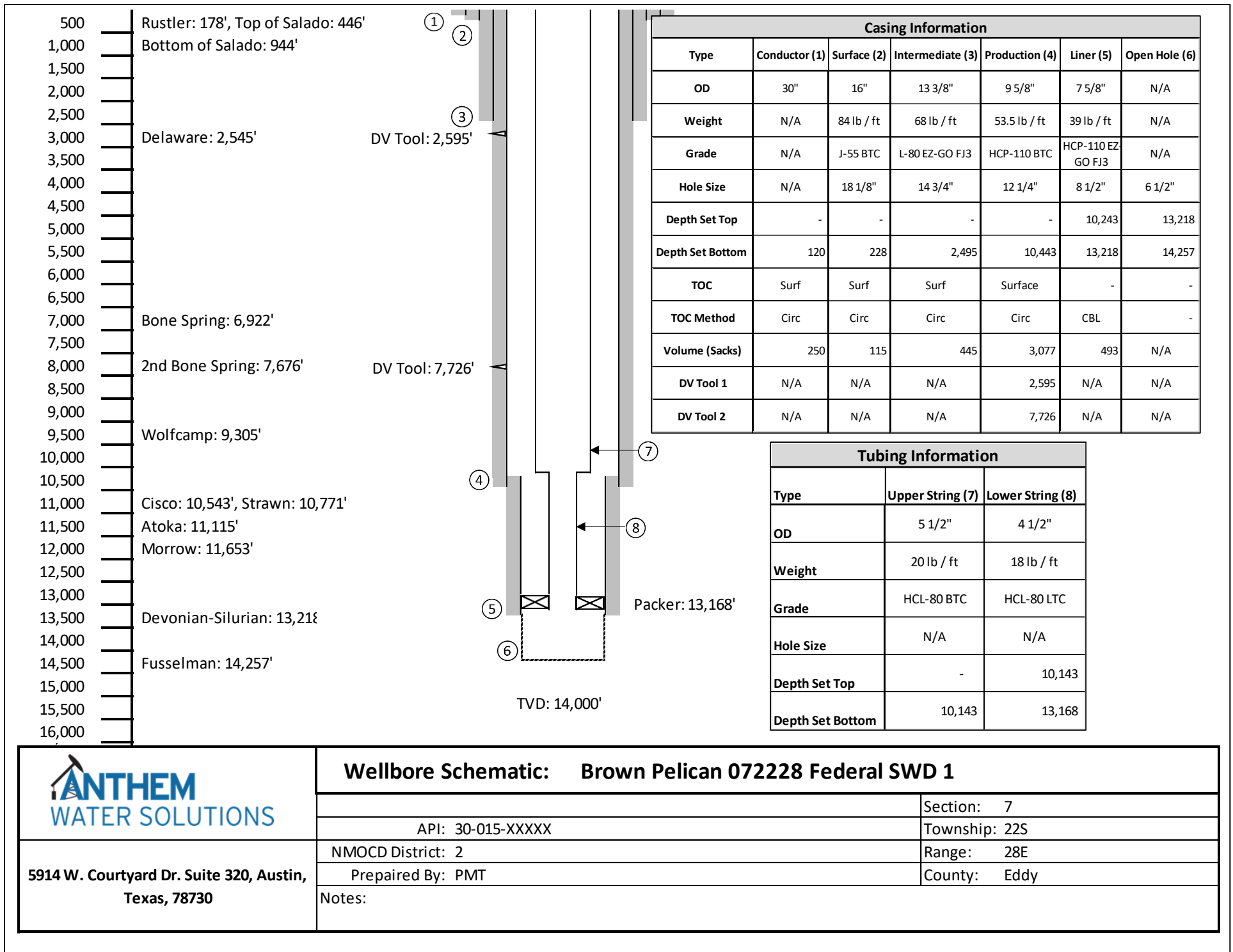
<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.

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.

D	C	B	A	<b><sup>17</sup> OPERATOR CERTIFICATION</b> <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i>  Signature _____ Date _____  Printed Name _____  E-mail Address _____
E	F	G	H	
GEODETC DATA NAD 83 GRID – NM EAST				
L	K	J	I	<b><sup>18</sup> SURVEYOR CERTIFICATION</b> <i>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.</i>  Date of Survey _____ Signature and Seal of Professional Surveyor: _____  <b>PRELIMINARY</b> Certified survey to be conducted and submitted upon C-108 approval  Certificate Number _____
M	N	O	P	

440'  
83'

# Attachment 1: Proposed Wellbore Diagram



## Attachment 1: Packer Schematic

# AS1-X MECHANICAL PACKER



The ACT AS1-X Packer is the most versatile of the mechanically set retrievable packers and may be used in any production application. Treating, testing, injecting, pumping wells, flowing wells, deep or shallow, the AS1-X is suited for all. The packer can be left in tension or compression, depending on well conditions and the required application. A large internal by-pass reduces swabbing when running and retrieving. The by-pass closes when the packer is set and opens prior to releasing the upper slips when retrieving to allow pressure equalization.

The J-slot design allows easy setting and releasing: 1/4 turn right-hand set, right-hand release. A patented upper-slip releasing system reduces the force required to release the packer. A non directional slip is released first, making it easier to release the other slips. The AS1-X packer can withstand 7,000 psi (48 MPa) of differential pressure above or below.

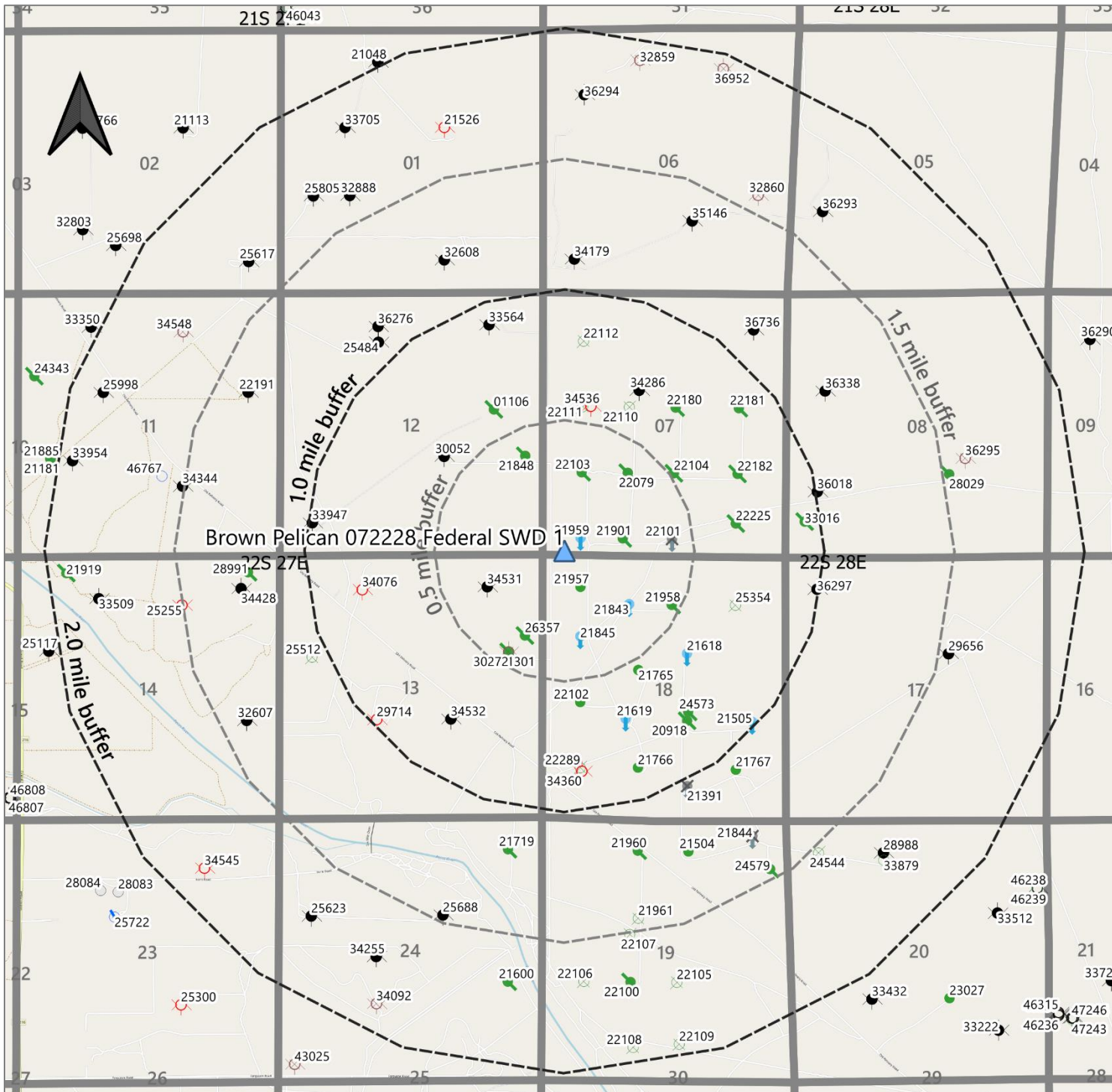
### FEATURES, ADVANTAGES AND BENEFITS:

- The design holds high differential pressure from above or below, enabling the packer to meet most production, stimulation, and injection needs
  - The packer can be set with compression, tension, or wire line, enabling deployment in shallow and deep applications
  - The packer can be set and released with only a one-quarter turn of the tubing
  - The bypass valve is below the upper slips so that debris are washed from the slips when the valve is opened, reducing the times for circulation and total retrieval
- 
- The full opening enables unrestricted flow and the passage of wire line tools and other packer systems
  - The packer can be run with the T-2 on-off tool, which enables the tubing to be disconnected and retrieved without retrieving the packer

### OPTIONS:

- Elastomer options are available for hostile environments
- Optional safety releases are available

## Attachment 2: 2-Mile Oil & Gas Map



### Legend

- Gas, Active
- ⊗ Gas, Cancelled
- ⊗ Gas, Plugged (not released)
- ⊗ Gas, Plugged (site released)
- Injection, Active
- ⊗ Injection, Plugged (site released)
- Oil, Active
- ⊗ Oil, Cancelled
- Oil, New
- Oil, Plugged (not released)
- Oil, Plugged (site released)
- Salt Water Disposal, New

Sec 07 22S 28E  
Eddy County  
New Mexico

**Offset Well Review  
Area of Review**

Brown Pelican 072228  
Federal SWD 1

01/25/2021

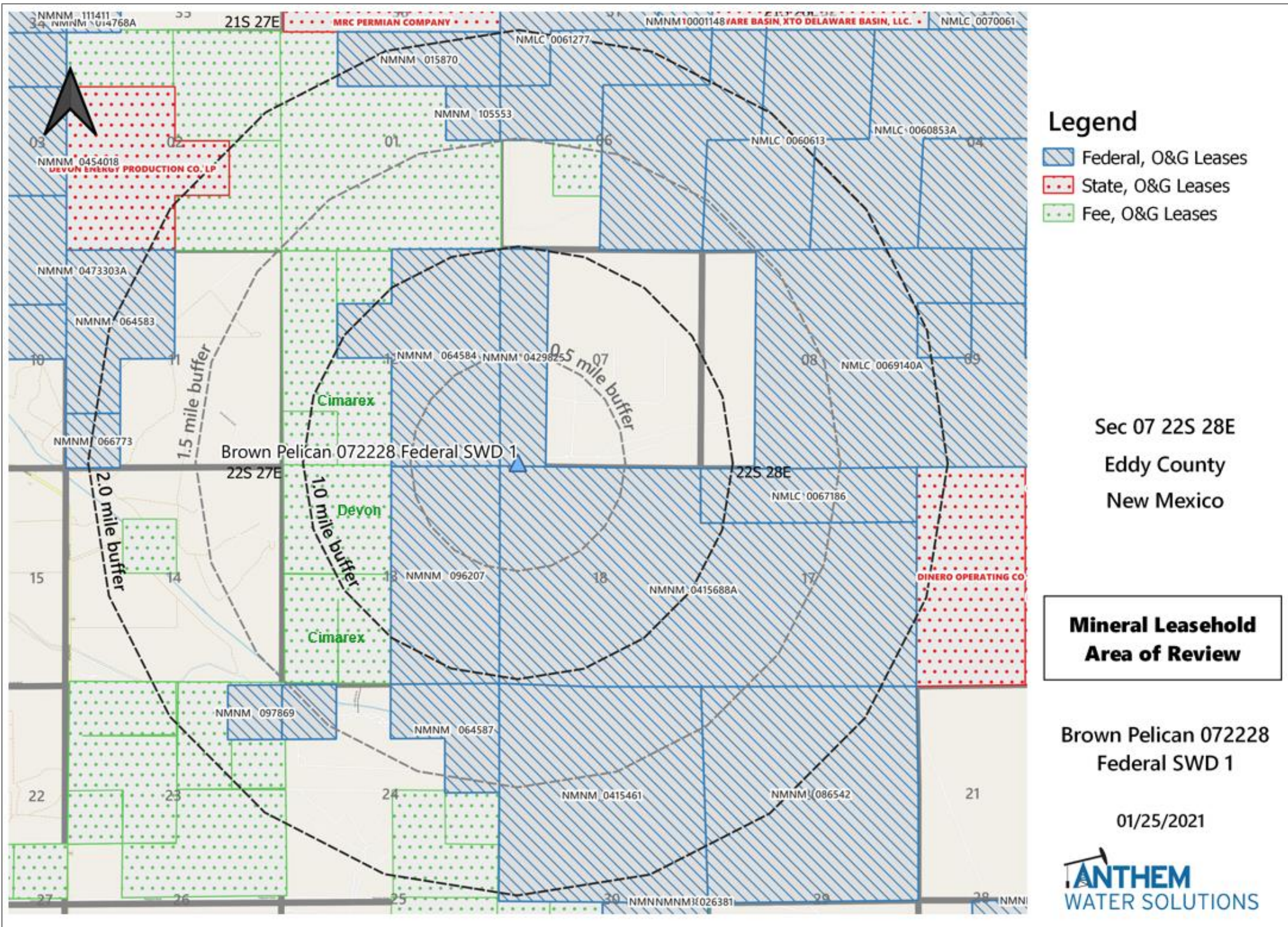


## Attachment 2: 1-mile Well Detail List

AOR Tabulation for Brown Pelican 072228 Federal SWD 1 (Top of Injection Interval: 13,218')								
Well Name	API #	Well Ty	Well Status	Operator	Spud Dat	Location (Sec, Tn, R)	TVD	Penetrate Inj Zone
DELTA M 12 FEE #002	30-015-33947	Gas	Active	DEVON ENERGY PRODUCTION COMPANY, LP	5/27/2005	M-12-22S-27E	12,183	no
INDIAN DRAW 13 FEE #002	30-015-34076	Gas	Plugged (not released)	DEVON ENERGY PRODUCTION COMPANY, LP	10/22/2005	C-13-22S-27E	12,200	no
INDIAN DRAW 13 #001	30-015-29714	Gas	Plugged (not released)	DEVON ENERGY PRODUCTION COMPANY, LP	7/30/1997	K-13-22S-27E	12,295	no
PRE-ONGARD WELL #001	30-015-01106	Oil	Plugged (site released)	PRE-ONGARD WELL OPERATOR	No Data	H-12-22S-27E	No Data	no
INDIAN DRAW 12 FEDERAL #001	30-015-30052	Gas	Active	DEVON ENERGY PRODUCTION COMPANY, LP	2/14/1998	J-12-22S-27E	12,250	no
INDIAN DRAW 12 FEDERAL #002	30-015-33564	Gas	Active	DEVON ENERGY PRODUCTION COMPANY, LP	9/9/2004	A-12-22S-27E	12,270	no
INDIAN DRAW 13 FED #004	30-015-34532	Gas	Active	DEVON ENERGY PRODUCTION COMPANY, LP	4/29/2006	J-13-22S-27E	12,335	no
INDIAN DRAW 13 FED #003	30-015-34531	Gas	Active	DEVON ENERGY PRODUCTION COMPANY, LP	1/19/2006	A-13-22S-27E	12,325	no
PRE-ONGARD WELL #001	30-015-21301	Oil	Plugged (site released)	PRE-ONGARD WELL OPERATOR	7/29/1974	H-13-22S-27E	3,422	no
PRE-ONGARD WELL #001	30-015-21848	Oil	Plugged (site released)	PRE-ONGARD WELL OPERATOR	6/16/1976	I-12-22S-27E	3,405	no
PRE-ONGARD WELL #001	30-015-26357	Oil	Plugged (site released)	PRE-ONGARD WELL OPERATOR	7/19/1990	H-13-22S-27E	3,375	no
OLD INDIAN DRAW UNIT #013	30-015-21957	Oil	Active	CHEVRON U S A INC	12/7/1976	D-18-22S-28E	3,450	no
H & K 18 FEDERAL #001	30-015-34360	Gas	Plugged (site released)	CHEVRON U S A INC	12/20/2005	M-18-22S-28E	4,525	no
OLD INDIAN DRAW UNIT #023	30-015-22103	Oil	Plugged (site released)	CHESAPEAKE OPERATING, INC.	10/18/1990	L-07-22S-28E	3,455	no
OLD INDIAN DRAW UNIT #012	30-015-21845	Injection	Active	CHEVRON U S A INC	7/17/1976	E-18-22S-28E	3,450	no
OLD INDIAN DRAW UNIT #016	30-015-21959	Injection	Active	CHEVRON U S A INC	1/18/1977	M-07-22S-28E	3,450	no
OLD INDIAN DRAW UNIT #022	30-015-22102	Oil	Active	CHEVRON U S A INC	6/1/1977	L-18-22S-28E	3,450	no
OLD INDIAN DRAW UNIT #010	30-015-21843	Injection	Active	CHEVRON U S A INC	6/27/1976	C-18-22S-28E	3,450	no
CLARK 7 FEDERAL #001	30-015-34536	Gas	Plugged (site released)	CHESAPEAKE OPERATING, INC.	1/4/2006	G-07-22S-28E	4,518	no
OLD INDIAN DRAW UNIT #014	30-015-21901	Oil	Plugged (not released)	CHEVRON U S A INC	12/17/1976	N-07-22S-28E	3,435	no
OLD INDIAN DRAW UNIT #008	30-015-21766	Oil	Active	CHEVRON U S A INC	4/19/1976	N-18-22S-28E	3,452	no
OLD INDIAN DRAW UNIT #019	30-015-22079	Oil	Plugged (not released)	CHEVRON U S A INC	3/31/1977	K-07-22S-28E	5,900	no
OLD INDIAN DRAW UNIT #007	30-015-21765	Oil	Active	CHEVRON U S A INC	4/10/1976	F-18-22S-28E	3,457	no
INDIAN DRAW DEEP 7 COM #001	30-015-34286	Gas	Active	XTO PERMIAN OPERATING LLC.	1/22/2006	F-07-22S-28E	12,350	no
OLD INDIAN DRAW UNIT #006	30-015-21619	Injection	Active	CHEVRON U S A INC	9/3/1975	K-18-22S-28E	3,420	no
OLD INDIAN DRAW UNIT #037Z	30-015-24573	Oil	Plugged (site released)	CHEVRON U S A INC	9/11/1983	J-18-22S-28E	3,100	no
PRE-ONGARD WELL #033	30-015-22180	Oil	Plugged (site released)	PRE-ONGARD WELL OPERATOR	6/19/1977	G-07-22S-28E	3,450	no
OLD INDIAN DRAW UNIT #015	30-015-21958	Oil	Plugged (site released)	CHEVRON U S A INC	1/7/1977	B-18-22S-28E	3,450	no
OLD INDIAN DRAW UNIT #021	30-015-22101	Injection	Plugged (site released)	CHEVRON U S A INC	10/8/1990	O-07-22S-28E	3,450	no
OLD INDIAN DRAW UNIT #005	30-015-21618	Injection	Active	CHEVRON U S A INC	8/22/1975	G-18-22S-28E	3,452	no
OLD INDIAN DRAW UNIT #001	30-015-20918	Oil	Plugged (site released)	CHEVRON U S A INC	8/27/1973	J-18-22S-28E	12,450	no
OLD INDIAN DRAW UNIT #024	30-015-22104	Oil	Plugged (not released)	CHEVRON U S A INC	6/10/1977	J-07-22S-28E	3,450	no
PRE-ONGARD WELL #036	30-015-22225	Oil	Plugged (site released)	PRE-ONGARD WELL OPERATOR	7/29/1977	P-07-22S-28E	3,450	no
OLD INDIAN DRAW UNIT #035	30-015-22182	Oil	Plugged (site released)	CHESAPEAKE OPERATING, INC.	7/8/1992	I-07-22S-28E	3,450	no
PRE-ONGARD WELL #034	30-015-22181	Oil	Plugged (site released)	PRE-ONGARD WELL OPERATOR	7/10/1977	H-07-22S-28E	3,450	no
OLD INDIAN DRAW UNIT #004	30-015-21505	Injection	Active	CHEVRON U S A INC	5/15/1975	I-18-22S-28E	3,463	no
PRE-ONGARD WELL #001U	30-015-33016	Oil	Plugged (site released)	PRE-ONGARD WELL OPERATOR	No Data	A-04-22S-28E	No Data	no
BIG EDDY UNIT #218	30-015-36297	Gas	Active	XTO PERMIAN OPERATING LLC.	8/31/2008	D-17-22S-28E	12,439	no
Notes: No Wells within a 1-mile radius penetrated the injection interval.								

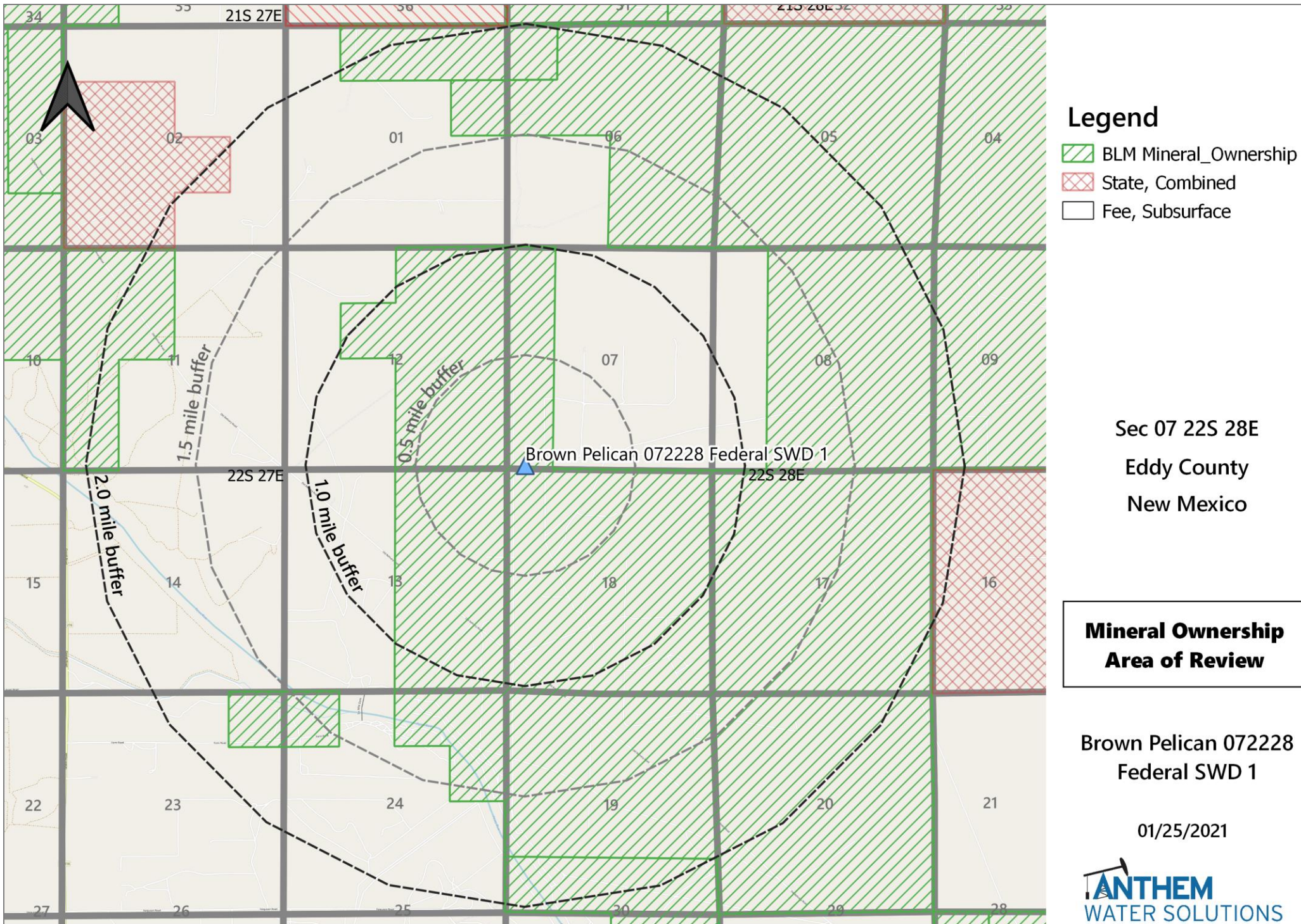


## Attachment 2: 2-Mile Oil & Gas Lease Map



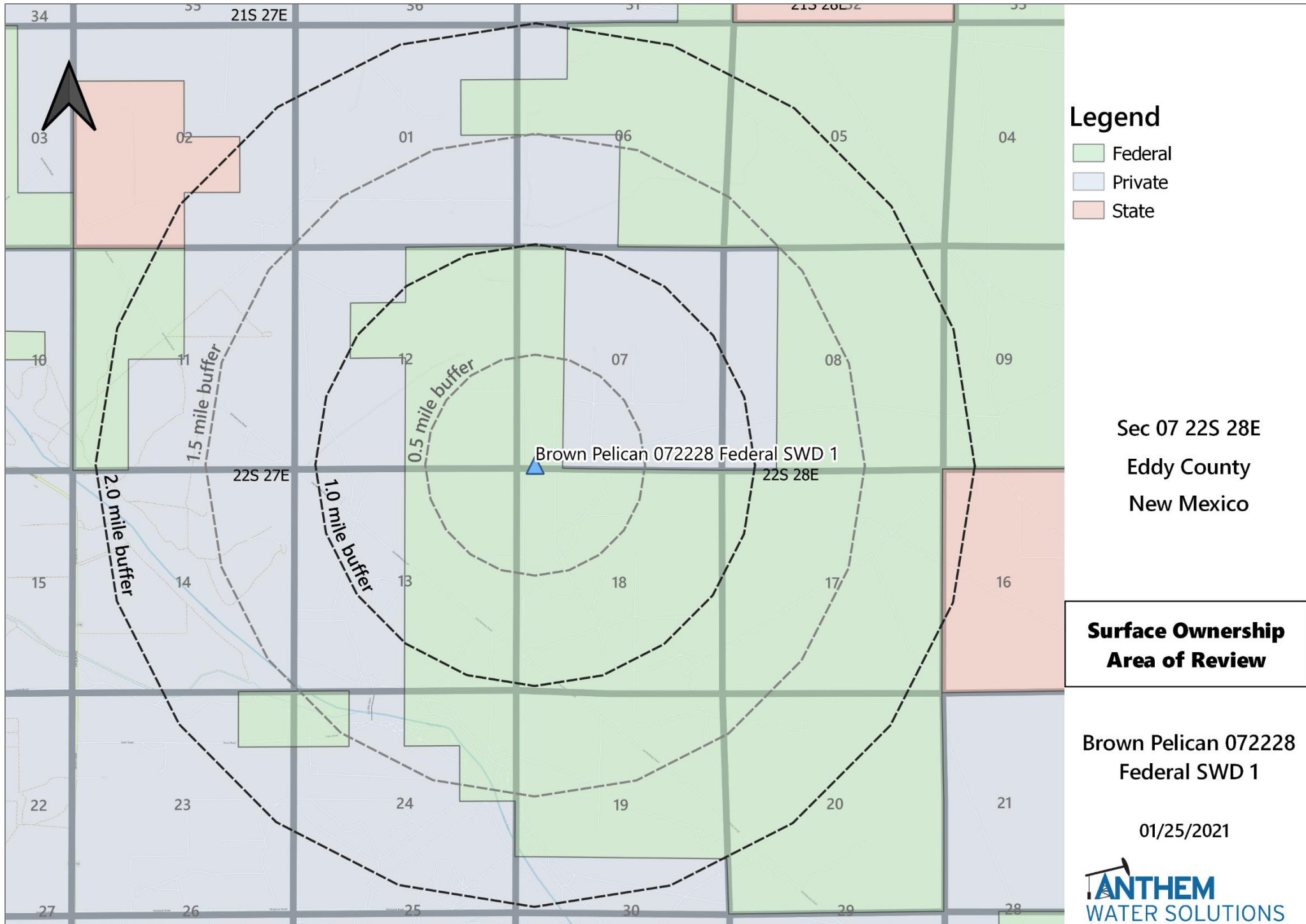


## Attachment 2: Mineral Ownership Map

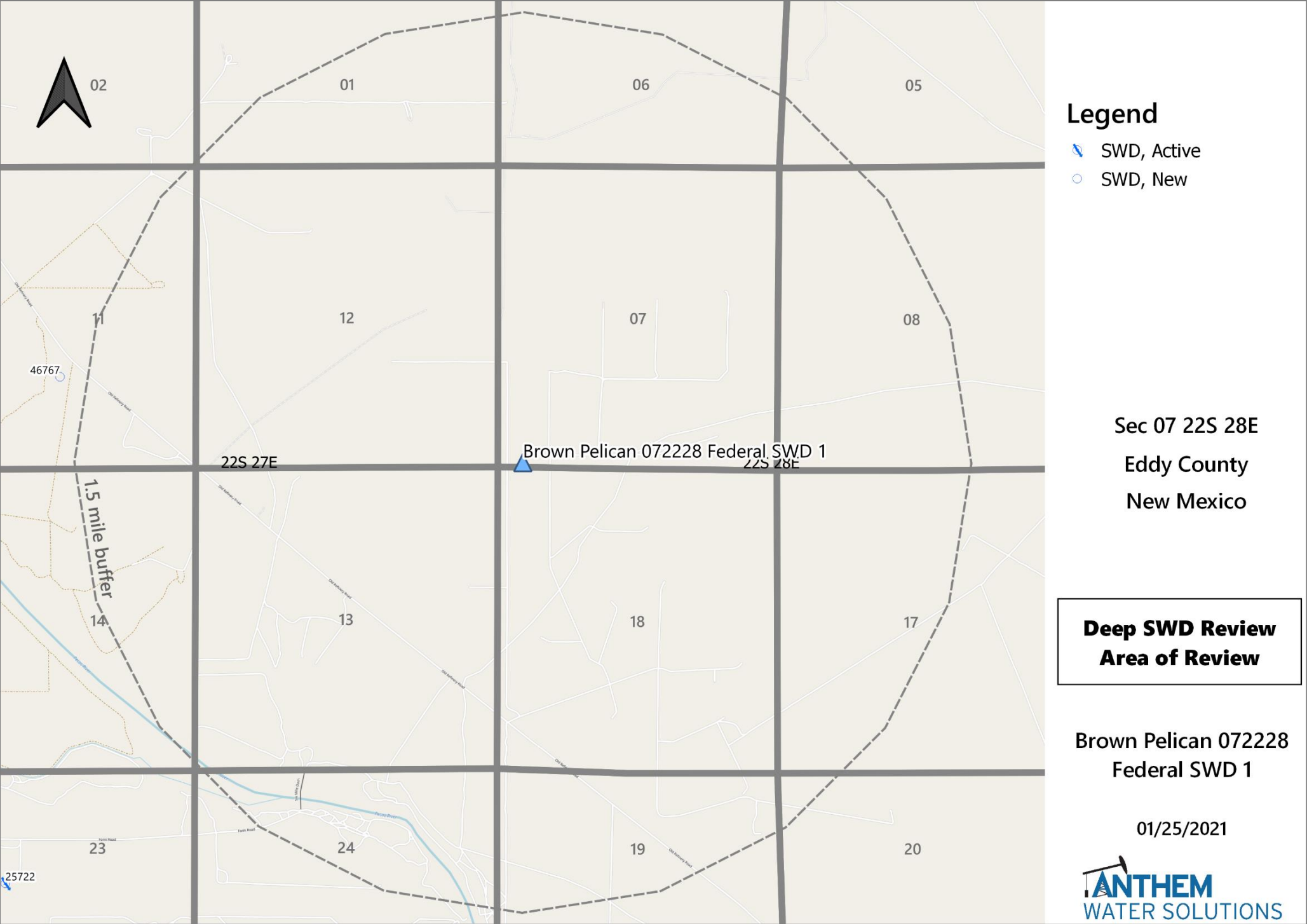




## Attachment 2: Surface Ownership Map

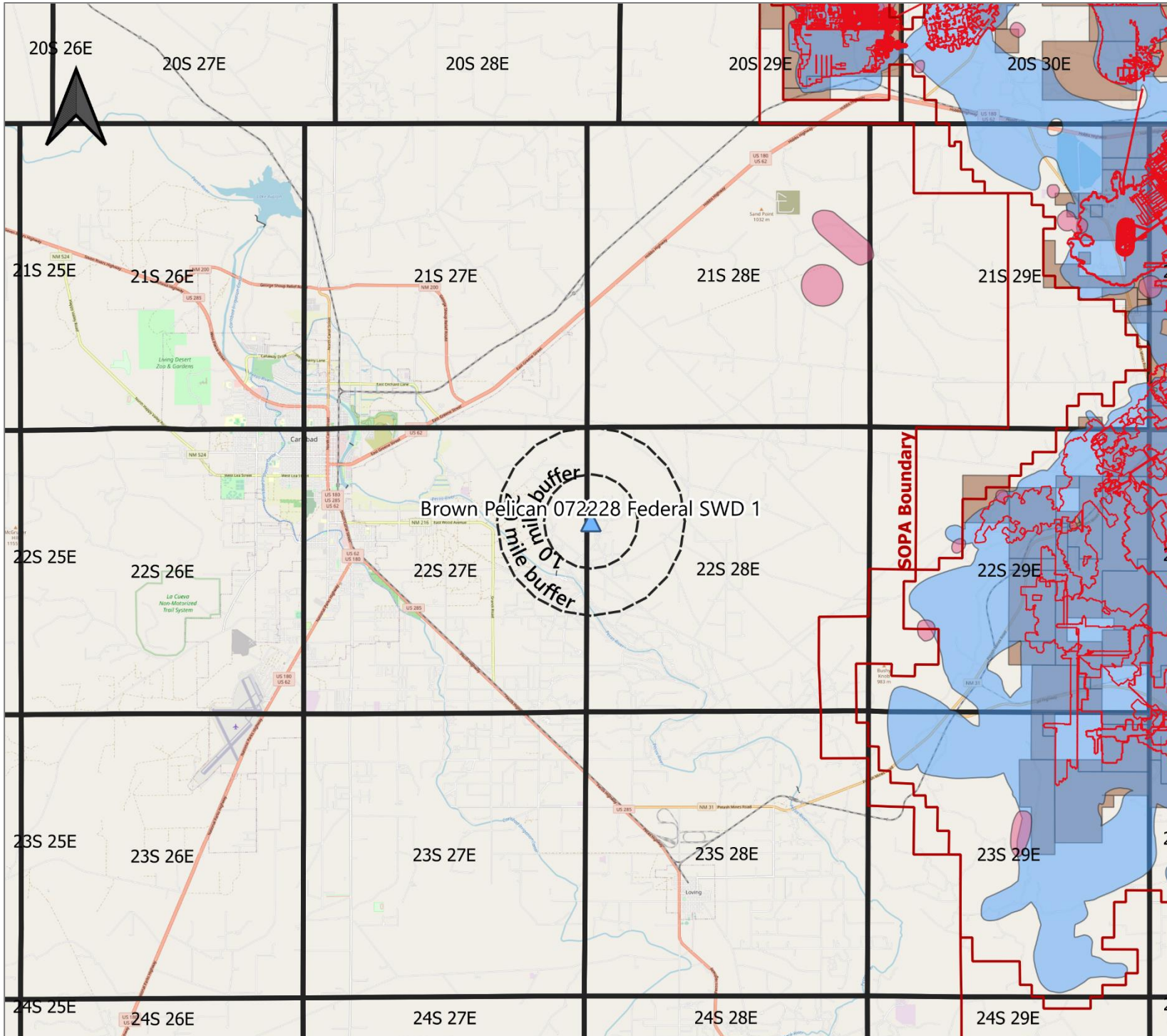


Attachment 2: 1.5 Mile Deep SWD Map





## Attachment 2: Potash Lease Map



### Legend

- Potash, Working Mines
- Potash, Ore Indicated
- Potash, Ore Measured
- Potash, Active Leases
- SOPA

Sec 07 22S 28E  
Eddy County  
New Mexico

**Potash Map  
Area of Review**

**Brown Pelican 072228  
Federal SWD 1**

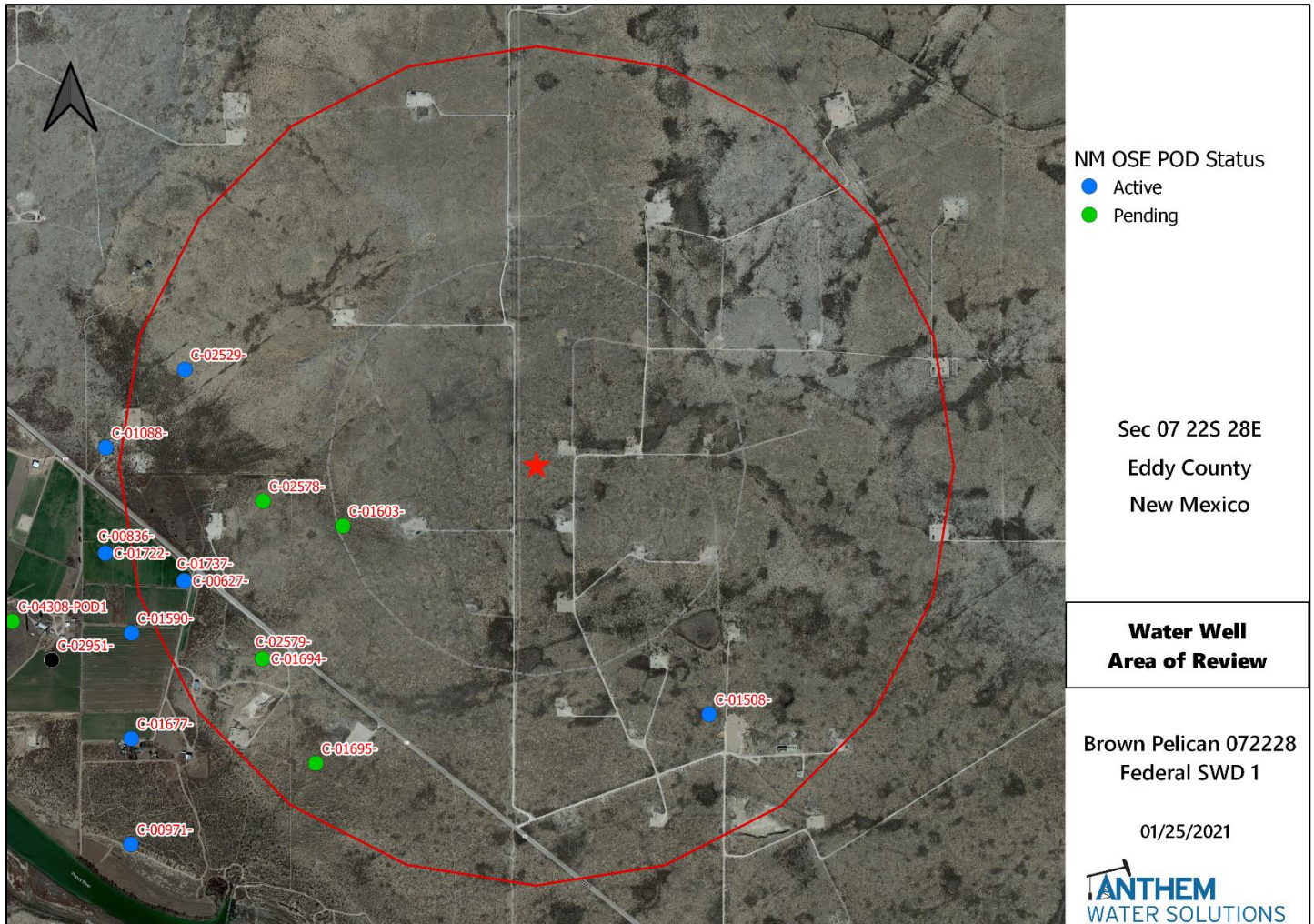
01/25/2021

### Attachment 3: Formation & Source Water Analysis

Injection Formation Water Analysis													
Anthem Water Solutions, LLC													
Well Name	API	Latitude	Longitude	Section	Township	Range	County	State	Field	Formation	TDS (Mg/L)	Bicarbonate (MG/L)	Sulfate (Mg/L)
PRE-ONGARD WELL #001	30-015-02416	32.5527229	-104.1623917	22	20S	28E	Eddy	NM		DEVONIAN	39,605	810	1,618
PRE-ONGARD WELL #001	30-015-02475	32.4421539	-104.042305	36	21S	28E	Eddy	NM		DEVONIAN	50,026	762	1,150
PRE-ONGARD WELL #001	30-015-03537	32.6839676	-104.0347595	1	19S	29E	Eddy	NM		DEVONIAN	29,011	520	1,500
WHITE CITY PENN GAS COM UNIT 1 #001	30-015-00408	32.1937523	-104.3088455	29	24S	26E	Eddy	NM	WHITE CITY	DEVONIAN	#N/A	653	1,336
REMUDA BASIN UNIT #001	30-015-03691	32.2886238	-103.9360428	24	23S	29E	Eddy	NM	REMUDA	DEVONIAN	271,010	130	100
BIG EDDY SWD #001	30-015-05819	32.5968154	-103.8504983	3	20S	31E	Eddy	NM	SWD	DEVONIAN	137,989	1,420	1,751
COTTON DRAW UNIT #084	30-015-29728	32.1592751	-103.7438736	2	25S	31E	Eddy	NM	PADUCA	DEVONIAN	85,799	59	389
COTTON DRAW UNIT #076	30-015-29252	32.1565857	-103.737999	1	25S	31E	Eddy	NM	PADUCA	DEVONIAN	128,947	317	481
COTTON DRAW UNIT #086	30-015-29850	32.1446877	-103.7278824	12	25S	31E	Eddy	NM	PADUCA	DEVONIAN	131,450	353	542
Source Water Analysis													
Anthem Water Solutions, LLC													
Well Name	API	Latitude	Longitude	Section	Township	Range	County	State	Field	Formation	TDS (Mg/L)	Bicarbonate (MG/L)	Sulfate (Mg/L)
PRE-ONGARD WELL #001	30-015-02416	32.5527229	-104.1623917	22	20S	28E	Eddy	NM		WOLFCAMP	55,965	252	2,260
PRE-ONGARD WELL #004	30-015-02280	32.6479454	-104.1791229	21	19S	28E	Eddy	NM	MILLMAN EAST	WOLFCAMP	118,720	2,700	1,080
SERRANO 29 FEDERAL #001H	30-015-37763	32.1901523	-104.2192003	29	24S	27E	Eddy	NM	SULPHATE DRAW	WOLFCAMP	102,136	183	#N/A
HABANERO 17 FEDERAL COM #001H	30-015-36108	32.2218759	-104.2189611	17	24S	27E	Eddy	NM	BLACK RIVER	WOLFCAMP	108,205	146	#N/A
WHITE CITY PENN GAS COM UNIT 1 #001	30-015-00408	32.1937523	-104.3088455	29	24S	26E	Eddy	NM	WHITE CITY	WOLFCAMP	#N/A	653	1,336
STATE AC COM #001	30-015-22299	32.5572166	-104.1806107	21	20S	28E	Eddy	NM	BURTON FLAT	WOLFCAMP	144,926	37	1,350
PURE GOLD C-17 FEDERAL #002	30-015-26021	32.3057258	-103.7987356	17	23S	31E	Eddy	NM	SAND DUNES WEST	WOLFCAMP	11,361	1,708	#N/A
PARKWAY WEST UNIT #015	30-015-32363	32.6353531	-104.0734329	28	19S	29E	Eddy	NM	PARKWAY WEST UNIT #015	BONE SPRING	215,934	98	702
APACHE 25 FEDERAL #009	30-015-32797	32.361248	-103.8309479	25	22S	30E	Eddy	NM	APACHE 25 FEDERAL #009	BONE SPRING	160,590	146	856
TODD 22 G FEDERAL #007	30-015-32881	32.2917137	-103.7635422	22	23S	31E	Eddy	NM	TODD 22 G FEDERAL #007	BONE SPRING	269,658	37	10
PARKWAY #021	30-015-32686	32.6253433	-104.0725937	28	19S	29E	Eddy	NM	PARKWAY #021	BONE SPRING	214,972	85	715
TODD 15 M FEDERAL #013	30-015-33118	32.2989769	-103.7720947	15	23S	31E	Eddy	NM	TODD 15 M FEDERAL #013	BONE SPRING	292,473	85	490
APACHE 25 FEDERAL #005	30-015-32720	32.3612404	-103.8266678	25	22S	30E	Eddy	NM	APACHE 25 FEDERAL #005	BONE SPRING	300,667	61	17
STRAWBERRY 7 FEDERAL #003	30-015-37171	32.6812553	-103.9148483	7	19S	31E	Eddy	NM	STRAWBERRY 7 FEDERAL #003	BONE SPRING	185,540	183	600
STRAWBERRY 7 FEDERAL #007	30-015-38485	32.6812526	-103.9012376	7	19S	31E	Eddy	NM	STRAWBERRY 7 FEDERAL #007	BONE SPRING	187,930	98	940
REMUDA BASIN UNIT #001	30-015-03691	32.2886238	-103.9360428	24	23S	29E	Eddy	NM	REMUDA BASIN UNIT #001	BONE SPRING	271,010	130	100
JONES FEDERAL B #003	30-015-10394	32.6405487	-103.8334885	23	19S	31E	Eddy	NM	JONES FEDERAL B #003	BONE SPRING	178,015	305	721
LONETREE STATE #001	30-015-21920	32.478508	-104.1454086	13	21S	27E	Eddy	NM	LONETREE STATE #001	BONE SPRING	244,966	122	1,013
FEDERAL HJ-27 #001	30-015-25780	32.6335258	-103.863533	27	19S	31E	Eddy	NM	FEDERAL HJ-27 #001	BONE SPRING	176,639	305	530
HANLEY FEDERAL #001	30-015-26068	32.7674713	-103.9105911	7	18S	31E	Eddy	NM	HANLEY FEDERAL #001	BONE SPRING	204,076	293	1,515
ALLIED 7 FEDERAL #001	30-015-25900	32.7638435	-103.9067764	7	18S	31E	Eddy	NM	ALLIED 7 FEDERAL #001	BONE SPRING	225,562	122	740
APACHE 25 FEDERAL #002	30-015-27478	32.3576164	-103.8298492	25	22S	30E	Eddy	NM	APACHE 25 FEDERAL #002	BONE SPRING	9,546	183	51
ORE IDA 14 FEDERAL #009	30-015-29278	32.2118607	-103.9491348	14	24S	29E	Eddy	NM	ORE IDA 14 FEDERAL #009	BONE SPRING	190,367	244	539
H B 11 FEDERAL #003	30-015-29249	32.2272186	-103.9569855	11	24S	29E	Eddy	NM	H B 11 FEDERAL #003	BONE SPRING	195,306	256	650
HACKBERRY 18 FEDERAL #001	30-015-29780	32.654953	-103.9065323	18	19S	31E	Eddy	NM	HACKBERRY 18 FEDERAL #001	BONE SPRING	180,325	85	850
WEST SHUGART 19 FEDERAL #002	30-015-30780	32.7271385	-103.9094238	19	18S	31E	Eddy	NM	WEST SHUGART 19 FEDERAL #002	BONE SPRING	144,906	390	850
WEST SHUGART 30 FEDERAL #003	30-015-30776	32.7247467	-103.9067154	30	18S	31E	Eddy	NM	WEST SHUGART 30 FEDERAL #003	BONE SPRING	136,715	244	675
ROOKIE STATE #001	30-015-10060	32.4134165	-104.3325848	7	22S	26E	Eddy	NM	ROOKIE STATE #001	BONE SPRING	67,985	61	1,148



## Attachment 4: 1-mile Fresh Water Map and Tabular List



Water Well Sampling Rational				
Brown Pelican 072228 Federal SWD 1				
Water Wells	Owner	Available Contact Information	Use	Notes
C 01508	Chevron	6301 Deauville Blvd, Midland TX 79706 (432) 687-7723	Dev of NR	
C 01737	EDEAL PATRICK & BETTYE	Patrick Edeal (575) 361-1194	Irrigation	
C 01603	BILL TAYLOR	N/A	Domestic	
C 01694	DEWEY CONNELL	N/A	Domestic	Sample Taken 6/18/2021
C 02529	ROBBIE SLUSHER	1214 W Church St, Carlsbad, NM 88220 Cell: (575) 302-4	Domestic	
C 01695	DEWEY CONNELL	N/A	Livestock	Sample Taken 6/18/2021
C 00627	JOHN B. SEARS	N/A	Not Specified	
C 02578	PATRICK EDEAL	N/A	Livestock	
C 02579	PATRICK EDEAL	N/A	Livestock	



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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June 29, 2021

Dusty Armstrong

Laboratory Services, Inc.

2609 W. Marland

Hobbs, NM 88240

RE: BROWN PELICAN

Enclosed are the results of analyses for samples received by the laboratory on 06/18/21 10:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



**Analytical Results For:**

Laboratory Services, Inc.  
2609 W. Marland  
Hobbs NM, 88240

Project: BROWN PELICAN  
Project Number: NONE GIVEN  
Project Manager: Dusty Armstrong  
Fax To: (505) 397-3713

Reported:  
29-Jun-21 13:01

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C - 01695	H211572-01	Water	16-Jun-21 15:30	18-Jun-21 10:45
C - 01694	H211572-02	Water	16-Jun-21 16:00	18-Jun-21 10:45

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

Laboratory Services, Inc.  
2609 W. Marland  
Hobbs NM, 88240

Project: BROWN PELICAN  
Project Number: NONE GIVEN  
Project Manager: Dusty Armstrong  
Fax To: (505) 397-3713

Reported:  
29-Jun-21 13:01

### C - 01695

#### H211572-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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### Cardinal Laboratories

#### Inorganic Compounds

Alkalinity, Bicarbonate	356		5.00	mg/L	1	1060808	AC	18-Jun-21	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	1060808	AC	18-Jun-21	310.1	
Chloride*	1380		4.00	mg/L	1	1061604	GM	21-Jun-21	4500-Cl-B	
Conductivity*	7200		1.00	umhos/cm @ 25°C	1	1061814	AC	18-Jun-21	120.1	
pH*	6.80		0.100	pH Units	1	1061814	AC	18-Jun-21	150.1	
Temperature °C	17.7			pH Units	1	1061814	AC	18-Jun-21	150.1	
Resistivity	1.39			Ohms/m	1	1061814	AC	18-Jun-21	120.1	
Specific Gravity @ 60° F	1.005		0.000	[blank]	1	1061801	AC	18-Jun-21	SM 2710F	
Sulfate*	2610		500	mg/L	50	1061811	AC	18-Jun-21	375.4	
TDS*	5760		5.00	mg/L	1	1061813	GM	21-Jun-21	160.1	
Alkalinity, Total*	292		4.00	mg/L	1	1060808	AC	18-Jun-21	310.1	
Sulfide, total	0.0344		0.0100	mg/L	1	1062103	AC	21-Jun-21	376.2	

### Green Analytical Laboratories

#### Total Recoverable Metals by ICP (E200.7)

Barium*	<0.250		0.250	mg/L	5	B211388	JDA	25-Jun-21	EPA200.7	
Calcium*	636		0.500	mg/L	5	B211388	JDA	25-Jun-21	EPA200.7	
Iron*	<0.250		0.250	mg/L	5	B211388	JDA	25-Jun-21	EPA200.7	
Magnesium*	257		0.500	mg/L	5	B211388	JDA	25-Jun-21	EPA200.7	
Potassium*	4.53	0.915	5.00	mg/L	5	B211388	JDA	25-Jun-21	EPA200.7	J
Sodium*	796		5.00	mg/L	5	B211388	JDA	25-Jun-21	EPA200.7	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

Laboratory Services, Inc.  
2609 W. Marland  
Hobbs NM, 88240

Project: BROWN PELICAN  
Project Number: NONE GIVEN  
Project Manager: Dusty Armstrong  
Fax To: (505) 397-3713

Reported:  
29-Jun-21 13:01

### C - 01694

### H211572-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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### Cardinal Laboratories

#### Inorganic Compounds

Alkalinity, Bicarbonate	293		5.00	mg/L	1	1060808	AC	18-Jun-21	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	1060808	AC	18-Jun-21	310.1	
Chloride*	1280		4.00	mg/L	1	1061604	GM	21-Jun-21	4500-Cl-B	
Conductivity*	7230		1.00	umhos/cm @ 25°C	1	1061814	AC	18-Jun-21	120.1	
pH*	7.12		0.100	pH Units	1	1061814	AC	18-Jun-21	150.1	
Temperature °C	17.6			pH Units	1	1061814	AC	18-Jun-21	150.1	
Resistivity	1.38			Ohms/m	1	1061814	AC	18-Jun-21	120.1	
Specific Gravity @ 60° F	1.010		0.000	[blank]	1	1061801	AC	18-Jun-21	SM 2710F	
Sulfate*	2330		500	mg/L	50	1061811	AC	18-Jun-21	375.4	
TDS*	5700		5.00	mg/L	1	1061813	GM	21-Jun-21	160.1	
Alkalinity, Total*	240		4.00	mg/L	1	1060808	AC	18-Jun-21	310.1	
Sulfide, total	0.0370		0.0100	mg/L	1	1062103	AC	21-Jun-21	376.2	

### Green Analytical Laboratories

#### Total Recoverable Metals by ICP (E200.7)

Barium*	<0.250		0.250	mg/L	5	B211388	JDA	25-Jun-21	EPA200.7	
Calcium*	601		0.500	mg/L	5	B211388	JDA	25-Jun-21	EPA200.7	
Iron*	<0.250		0.250	mg/L	5	B211388	JDA	25-Jun-21	EPA200.7	
Magnesium*	242		0.500	mg/L	5	B211388	JDA	25-Jun-21	EPA200.7	
Potassium*	5.13	0.915	5.00	mg/L	5	B211388	JDA	25-Jun-21	EPA200.7	
Sodium*	779		5.00	mg/L	5	B211388	JDA	25-Jun-21	EPA200.7	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

Laboratory Services, Inc.  
2609 W. Marland  
Hobbs NM, 88240

Project: BROWN PELICAN  
Project Number: NONE GIVEN  
Project Manager: Dusty Armstrong  
Fax To: (505) 397-3713

Reported:  
29-Jun-21 13:01

### Inorganic Compounds - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 1060808 - General Prep - Wet Chem

##### Blank (1060808-BLK1)

Prepared &amp; Analyzed: 08-Jun-21

Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							

##### LCS (1060808-BS1)

Prepared &amp; Analyzed: 08-Jun-21

Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120			
Alkalinity, Total	250	10.0	mg/L	250		100	80-120			

##### LCS Dup (1060808-BSD1)

Prepared &amp; Analyzed: 08-Jun-21

Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120	0.00	20	
Alkalinity, Total	250	10.0	mg/L	250		100	80-120	0.00	20	

#### Batch 1061604 - General Prep - Wet Chem

##### Blank (1061604-BLK1)

Prepared &amp; Analyzed: 16-Jun-21

Chloride	ND	4.00	mg/L							
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##### LCS (1061604-BS1)

Prepared &amp; Analyzed: 16-Jun-21

Chloride	104	4.00	mg/L	100		104	80-120			
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##### LCS Dup (1061604-BSD1)

Prepared &amp; Analyzed: 16-Jun-21

Chloride	100	4.00	mg/L	100		100	80-120	3.92	20	
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#### Batch 1061801 - General Prep - Wet Chem

##### Duplicate (1061801-DUP1)

Source: H211562-01

Prepared &amp; Analyzed: 18-Jun-21

Specific Gravity @ 60° F	1.003	0.000	[blank]		1.010			0.701	20	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

Laboratory Services, Inc.  
2609 W. Marland  
Hobbs NM, 88240

Project: BROWN PELICAN  
Project Number: NONE GIVEN  
Project Manager: Dusty Armstrong  
Fax To: (505) 397-3713

Reported:  
29-Jun-21 13:01

### Inorganic Compounds - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 1061811 - General Prep - Wet Chem

<b>Blank (1061811-BLK1)</b>				Prepared & Analyzed: 18-Jun-21						
Sulfate	ND	10.0	mg/L							
<b>LCS (1061811-BS1)</b>				Prepared & Analyzed: 18-Jun-21						
Sulfate	23.4	10.0	mg/L	20.0		117	80-120			
<b>LCS Dup (1061811-BSD1)</b>				Prepared & Analyzed: 18-Jun-21						
Sulfate	23.3	10.0	mg/L	20.0		116	80-120	0.257	20	

#### Batch 1061813 - Filtration

<b>Blank (1061813-BLK1)</b>				Prepared: 18-Jun-21 Analyzed: 23-Jun-21						
TDS	ND	5.00	mg/L							
<b>LCS (1061813-BS1)</b>				Prepared: 18-Jun-21 Analyzed: 21-Jun-21						
TDS	527		mg/L	500		105	80-120			
<b>Duplicate (1061813-DUP1)</b>				Prepared: 18-Jun-21 Analyzed: 23-Jun-21						
TDS	571	5.00	mg/L		571			0.00	20	

#### Batch 1061814 - General Prep - Wet Chem

<b>LCS (1061814-BS1)</b>				Prepared & Analyzed: 18-Jun-21						
pH	7.10		pH Units	7.00		101	90-110			
Conductivity	501		uS/cm	500		100	80-120			
<b>Duplicate (1061814-DUP1)</b>				Prepared & Analyzed: 18-Jun-21						
pH	6.83	0.100	pH Units		6.80			0.440	20	
Conductivity	7450	1.00	umhos/cm @ 25°C		7200			3.41	20	
Resistivity	1.34		Ohms/m		1.39			3.41	20	
Temperature °C	17.6		pH Units		17.7			0.567	200	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**Laboratory Services, Inc.  
2609 W. Marland  
Hobbs NM, 88240Project: BROWN PELICAN  
Project Number: NONE GIVEN  
Project Manager: Dusty Armstrong  
Fax To: (505) 397-3713Reported:  
29-Jun-21 13:01**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1062103 - General Prep - Wet Chem****Blank (1062103-BLK1)**

Prepared &amp; Analyzed: 21-Jun-21

Sulfide, total ND 0.0100 mg/L

**Duplicate (1062103-DUP1)**

Source: H211572-01

Prepared &amp; Analyzed: 21-Jun-21

Sulfide, total 0.0329 0.0100 mg/L 0.0344 4.54 20

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

Laboratory Services, Inc.  
2609 W. Marland  
Hobbs NM, 88240

Project: BROWN PELICAN  
Project Number: NONE GIVEN  
Project Manager: Dusty Armstrong  
Fax To: (505) 397-3713

Reported:  
29-Jun-21 13:01

### Total Recoverable Metals by ICP (E200.7) - Quality Control

#### Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B211388 - Total Rec. 200.7/200.8/200.2

##### Blank (B211388-BLK1)

Prepared: 24-Jun-21 Analyzed: 25-Jun-21

Iron	ND	0.050	mg/L							
Sodium	ND	1.00	mg/L							
Potassium	ND	1.00	mg/L							
Calcium	ND	0.100	mg/L							
Magnesium	ND	0.100	mg/L							
Barium	ND	0.050	mg/L							

##### LCS (B211388-BS1)

Prepared: 24-Jun-21 Analyzed: 25-Jun-21

Potassium	8.22	1.00	mg/L	8.00		103	85-115			
Sodium	2.91	1.00	mg/L	3.24		89.9	85-115			
Magnesium	20.6	0.100	mg/L	20.0		103	85-115			
Iron	4.00	0.050	mg/L	4.00		100	85-115			
Calcium	4.00	0.100	mg/L	4.00		100	85-115			
Barium	2.00	0.050	mg/L	2.00		99.8	85-115			

##### LCS Dup (B211388-BSD1)

Prepared: 24-Jun-21 Analyzed: 25-Jun-21

Magnesium	20.6	0.100	mg/L	20.0		103	85-115	0.00238	20	
Potassium	8.08	1.00	mg/L	8.00		101	85-115	1.71	20	
Calcium	4.00	0.100	mg/L	4.00		100	85-115	0.0699	20	
Barium	1.97	0.050	mg/L	2.00		98.6	85-115	1.13	20	
Sodium	2.89	1.00	mg/L	3.24		89.2	85-115	0.817	20	
Iron	4.03	0.050	mg/L	4.00		101	85-115	0.696	20	

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

J	Estimated concentration. Analyte concentration between MDL and RL.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager





# CARDINAL LABORATORIES

## SCALE INDEX WATER ANALYSIS REPORT

Company : LABORATORY SERVICES  
 Lease Name : BROWN PELICAN  
 Well Number : C-01695 (H211572-01)  
 Location : NOT GIVEN

Date Sampled : 06/16/21  
 Company Rep. : DUSTY ARMSTRONG

### ANALYSIS

1. pH	6.8	
2. Specific Gravity @ 60/60 F.	1.0050	
3. CaCO3 Saturation Index @ 80 F.	+0.908	'Calcium Carbonate Scale Possible'
@ 140 F.	+1.608	'Calcium Carbonate Scale Possible'

### Dissolved Gasses

4. Hydrogen Sulfide	0.034	PPM
5. Carbon Dioxide	ND	PPM
6. Dissolved Oxygen	ND	PPM

### Cations

		/	Eq. Wt.	=	MEQ/L
7. Calcium (Ca++)	636.00	/	20.1	=	31.64
8. Magnesium (Mg++)	257.00	/	12.2	=	21.07
9. Sodium (Na+)	796	/	23.0	=	45.48
10. Barium (Ba++)	0.000	/	68.7	=	0.00

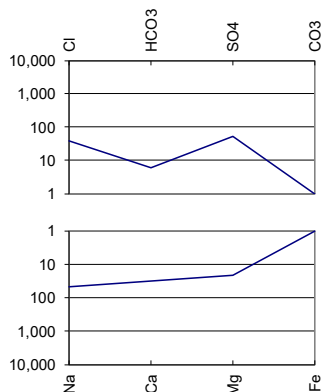
### Anions

11. Hydroxyl (OH-)	0	/	17.0	=	0.00
12. Carbonate (CO3=)	0	/	30.0	=	0.00
13. Bicarbonate (HCO3-)	356	/	61.1	=	5.83
14. Sulfate (SO4=)	2,610	/	48.8	=	53.48
15. Chloride (Cl-)	1,380	/	35.5	=	38.87

### Other

16. Total Iron (Fe)	0.000	/	18.2	=	0.00
17. Total Dissolved Solids	5,760				
18. Total Hardness As CaCO3	2,646.0				
19. Calcium Sulfate Solubility @ 90 F.	1,809				
20. Resistivity (Measured)	1.390	Ohm/Meters	@ 77	Degrees (F)	

Logarithmic Water Pattern



### PROBABLE MINERAL COMPOSITION

COMPOUND	Eq. Wt.	X	MEQ/L	=	mg/L
Ca(HCO3)2	81.04	X	5.83	=	472
CaSO4	68.07	X	25.82	=	1,757
CaCl2	55.50	X	0.00	=	0
Mg(HCO3)2	73.17	X	0.00	=	0
MgSO4	60.19	X	21.07	=	1,268
MgCl2	47.62	X	0.00	=	0
NaHCO3	84.00	X	0.00	=	0
NaSO4	71.03	X	6.60	=	469
NaCl	58.46	X	38.87	=	2,273

ND = Not Determined

# CARDINAL LABORATORIES

## SCALE INDEX WATER ANALYSIS REPORT

Company : LABORATORY SERVICES  
 Lease Name : BROWN PELICAN  
 Well Number : C-01694 (H211572-02)  
 Location : NOT GIVEN

Date Sampled : 06/16/21  
 Company Rep. : DUSTY ARMSTRONG

### ANALYSIS

1. pH	7.12	
2. Specific Gravity @ 60/60 F.	1.0100	
3. CaCO3 Saturation Index @ 80 F.	+0.798	'Calcium Carbonate Scale Possible'
@ 140 F.	+1.498	'Calcium Carbonate Scale Possible'

### Dissolved Gasses

4. Hydrogen Sulfide	0.037	PPM
5. Carbon Dioxide	ND	PPM
6. Dissolved Oxygen	ND	PPM

### Cations

		/	Eq. Wt.	=	MEQ/L
7. Calcium (Ca++)	601.00	/	20.1	=	29.90
8. Magnesium (Mg++)	242.00	/	12.2	=	19.84
9. Sodium (Na+)	779	/	23.0	=	38.86
10. Barium (Ba++)	0.000	/	68.7	=	0.00

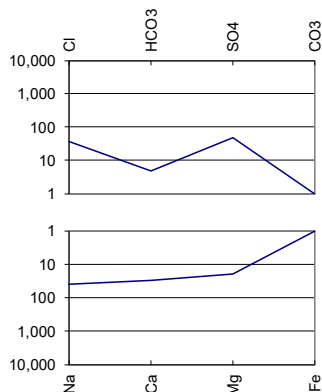
### Anions

11. Hydroxyl (OH-)	0	/	17.0	=	0.00
12. Carbonate (CO3=)	0	/	30.0	=	0.00
13. Bicarbonate (HCO3-)	293	/	61.1	=	4.80
14. Sulfate (SO4=)	2,330	/	48.8	=	47.75
15. Chloride (Cl-)	1,280	/	35.5	=	36.06

### Other

16. Total Iron (Fe)	0.000	/	18.2	=	0.00
17. Total Dissolved Solids	5,700				
18. Total Hardness As CaCO3	2,497.0				
19. Calcium Sulfate Solubility @ 90 F.	1,910				
20. Resistivity (Measured)	1.380	Ohm/Meters	@ 77	Degrees (F)	

Logarithmic Water Pattern



### PROBABLE MINERAL COMPOSITION

COMPOUND	Eq. Wt.	X	MEQ/L	=	mg/L
Ca(HCO3)2	81.04	X	4.80	=	389
CaSO4	68.07	X	25.11	=	1,709
CaCl2	55.50	X	0.00	=	0
Mg(HCO3)2	73.17	X	0.00	=	0
MgSO4	60.19	X	19.84	=	1,194
MgCl2	47.62	X	0.00	=	0
NaHCO3	84.00	X	0.00	=	0
NaSO4	71.03	X	2.80	=	199
NaCl	58.46	X	36.06	=	2,108

ND = Not Determined



NM Oil Conservation Division  
1220 S. St. Francis Dr.  
Santa Fe, NM 87505

**Re: Geology Statement**  
**Anthem Water Solutions, LLC**  
**Brown Pelican 072228 Federal SWD No. 1**  
**Section 7, T. 22S, R. 28E**  
**Eddy County, New Mexico**

To whom it may concern:

Publicly available geologic and engineering data related to the proposed well have been thoroughly reviewed, and no evidence for open faults or any other hydrologic connection between the proposed Devonian-Silurian injection zone and any underground sources of drinking water has been found. Please see the attached seismic risk assessment for additional information.

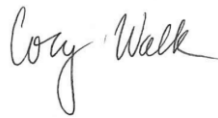
Sincerely,

A handwritten signature in dark ink that reads "Cory Walk". The signature is written in a cursive, flowing style.

Cory Walk  
Geologist

**Seismic Risk Assessment**  
**Anthem Water Solutions, LLC**  
**Brown Pelican 072228 Federal SWD No. 1**  
**Section 7, Township 22 South, Range 28 East**  
**Eddy County, New Mexico**

**Cory Walk, M.S.**

A handwritten signature in cursive script that reads "Cory Walk".

**Geologist**  
**Permits West Inc.**

**August 27, 2021**

## GENERAL INFORMATION

Brown Pelican 072228 Federal SWD No. 1 is located in the NE 1/4, section 7, T22S, R28E, about 6 miles east of Carlsbad, NM in the Permian Basin. Anthem Water Solutions proposes the injection zone to be within the Devonian-Silurian formation through an open hole from 13,218'-14,257' below ground surface. This report assesses concerns relating to induced seismicity along deep penetrating Precambrian faults or the connection between the injection zone and known underground potable water sources.

## SEISMIC RISK ASSESSMENT

### *Historical Seismicity*

**Searching the USGS earthquake catalog resulted in no (0) earthquakes above a magnitude 2.5 within 6 miles (9.7 km) of the proposed deep disposal site since 1970 (Fig. 1).** The nearest earthquake occurred on November 28, 1974 about 6.2 miles (~10.0 km) south of the proposed SWD site and had a magnitude of 3.9.

### *Basement Faults and Subsurface Conditions*

A structure contour map (Fig. 1) of the Precambrian basement shows the Brown Pelican 072228 Federal SWD #1 is approximately 12.8 miles from the nearest basement-penetrating fault inferred by Ewing et al (1990). **Information about nearby faults is listed in Table 1.**

Snee and Zoback (2018) state, “In the western part of Eddy County, New Mexico,  $S_{Hmax}$  is ~north-south (consistent with the state of stress in the Rio Grande Rift; Zoback and Zoback, 1980) but rotates to ~east-northeast-west-southwest in southern Lea County, New Mexico and the northernmost parts of Culberson and Reeves counties, Texas.” **Around the Brown Pelican 072228 Federal SWD site, Snee and Zoback indicate a  $S_{Hmax}$  direction of N035°E and an  $A_\phi$  of 0.52, indicating an extensional (normal) stress regime.**

Induced seismicity is a growing concern of deep SWD wells. Software developed by the Stanford Center for Induced and Triggered Seismicity allows for the probabilistic screening of deeply penetrating faults near the proposed injection zone (Walsh et al., 2016; Walsh et al., 2017). This software uses parameters such as stress orientations, fault strike/dip, injection rates, fault friction coefficients, etc. to estimate the potential for fault slip. Using this software, Snee and Zoback (2018) indicate that the nearest fault (13 miles to the southwest) has a 0% probability of fault slip (Fig. 2). Other faults about 15 miles away have higher FSP probabilities but due to their distance, the proposed SWD is unlikely to have any major effect on them. Nearby surface faults (7 miles away) are not connected to the Devonian-Silurian injection zone and are therefore not affected by increased pressures from disposal.

## GROUNDWATER SOURCES

Quaternary Alluvium acts as the principal aquifer used for potable ground water near the Brown Pelican 072228 Federal SWD #1 location (Hendrickson and Jones, 1952). Nicholson and Clebsch (1961) state, “Potable ground water is not available below the Permian and Triassic unconformity but, because this boundary is not easily defined, the top of the Rustler anhydrite formation is regarded as the effective lower

limit of ‘potable’ ground water.” Around the Brown Pelican 072228 Federal SWD #1, the top of the Rustler Formation lies at a depth of approximately 178’ bgs.

## **VERTICAL MIGRATION OF FLUIDS**

Permeability barriers exist above (Woodford shale; 100 ft thick) and below (Simpson Group; 155 ft thick) the targeted Devonian-Silurian injection zone (Plate 2, Comer et al., 1991; Fig. 8, Frenzel et al., 1988). Precambrian structure contours (Ruppel, 2009) show the basement to be at a depth of approximately 15,090’ in this area. Therefore, the injection zone lies approximately 830’ above the Precambrian basement and approximately 13,040’ below the previously stated lower limit of potable water at the top of the Rustler anhydrite formation. The stratigraphy suggests that the Woodford Shale and Simpson Group are adequate confining barriers that would prevent the vertical migration of injected fluids.

## **CONCLUSION**

After examination of publicly available geologic and engineering data, there is no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.



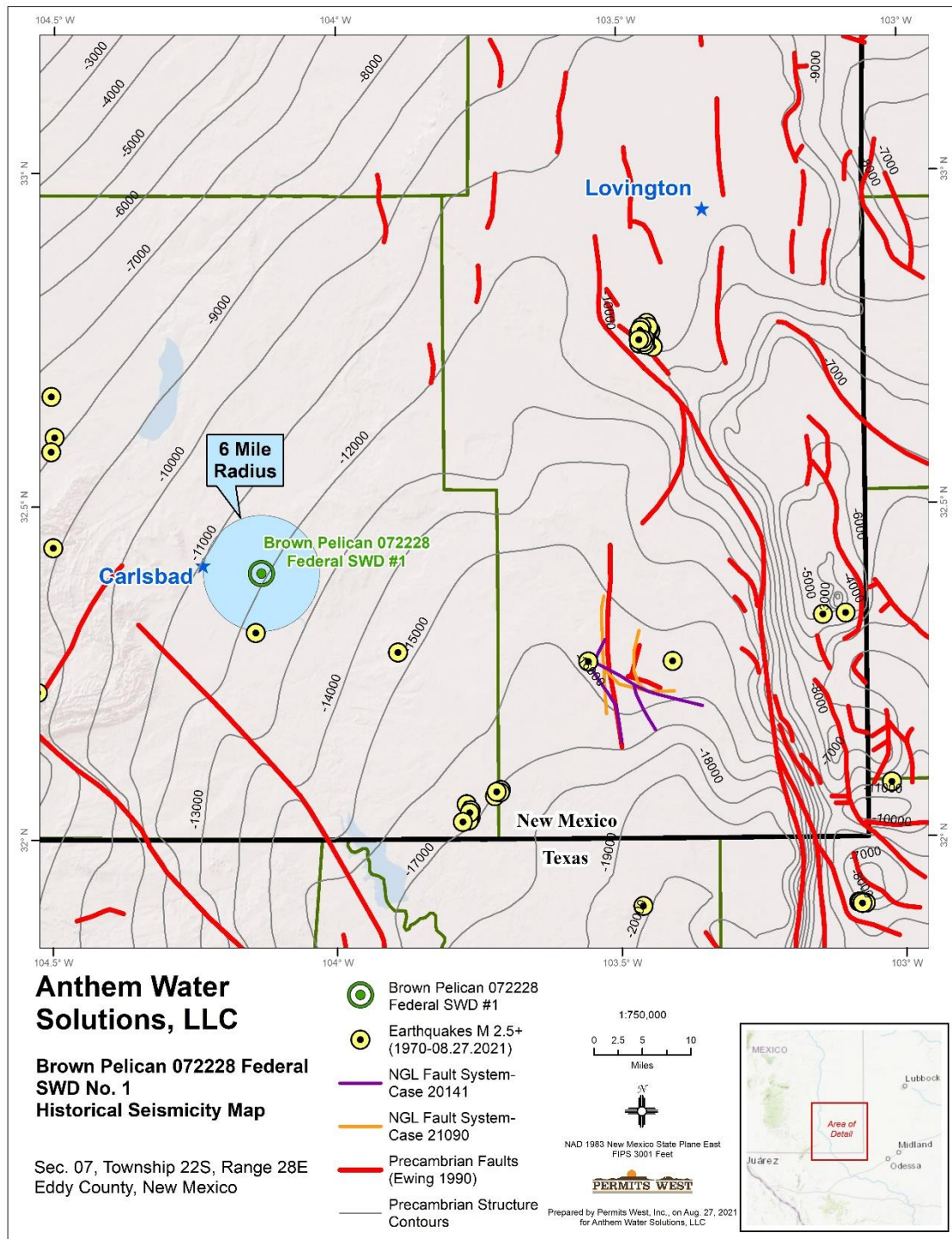


Figure 1. Structural contour map of the Precambrian basement in feet below sea level. Red lines represent the locations of Precambrian basement-penetrating faults (Ewing et al., 1990). Purple and orange lines represent the locations of basement-penetrating faults inferred by Todd Reynolds representing NGL in NMOCD Case Nos. 20141 and 21090. The Brown Pelican 072228 Federal SWD #1 well lies ~12.8 miles northeast of the closest deeply penetrating fault and ~6.2 miles north of the closest historic earthquake.



**Table 1: Nearby Fault Information**

Fault Number (Fig. 2)	Distance to proposed SWD (mi)	Strike (°)	Dip (°)	FSP (%)
1 (surface fault)	7.3	45	50-90	20-30
2	12.8	315	50-90	0
3	14.5	220	50-90	20-30

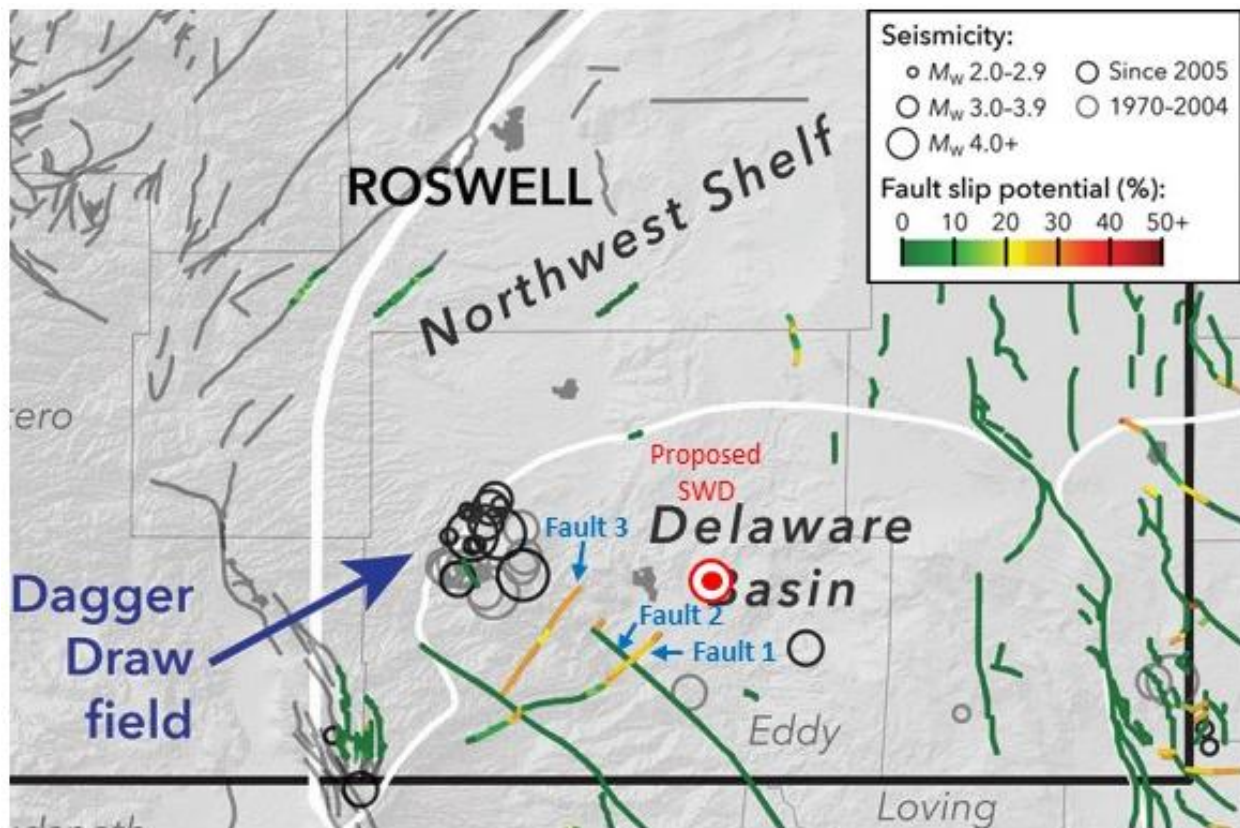


Figure 2. Modified Figure 3 from Snee and Zoback (2018). Map showing proposed location of Brown Pelican 072228 Federal SWD #1 in relation to Snee and Zoback's results of their FSP analysis.

## References Cited

- Comer, J. B., 1991, Stratigraphic Analysis of the Upper Devonian Woodford Formation, Permian Basin, West Texas and Southeastern New Mexico: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 201, 63 p.
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- Frenzel, H. N., Bloomer, R. R., Cline, R. B., Cys, J. M., Galley, J. E., Gibson, W. R., Hills, J. M., King, W. E., Seager, W. R., Kottowski, F. E., Thompson, S., III, Luff, G. C., Pearson, B. T., and Van Siclen, D. C., 1988, The Permian Basin region, in Sloss, L. L., ed., Sedimentary cover—North American Craton, U.S.: Boulder, Colorado, Geological Society of America, The Geology of North America, v. D-2, p. 261–306.
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- Hurd, O; Zoback, MD, 2012, Intraplate earthquakes, regional stress and fault mechanics in the Central and Eastern U.S. and Southeastern Canada. *Tectonophysics*, 581:182-92.
- Nicholson, A., Jr., and Clebsch, A., Jr., 1961, Geology and ground-water conditions in southern Lea County, New Mexico: New Mexico Bureau of Mines and Mineral Resources, Ground-Water Report 6, 123 pp., 2 plates.
- Ruppel, S.C., 2009, Integrated synthesis of the Permian basin: data and models for recovering existing and undiscovered oil resources from the largest oil-bearing basin: U.S. Oil & Natural Gas Technology, Bureau Economic Geology, The University of Texas at Austin, p. 1-959.
- Snee, J.-E.L., Zoback, M.D., 2018, State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity: *Leading Edge*, v. 37, p. 127–134.
- Walsh, F. R., and Zoback, M. D., (2016) Probabilistic assessment of potential fault slip related to injection induced earthquakes: Application to north central Oklahoma, USA, *Geology*, Data Repository item 2016334, doi:10.1130/G38275.1
- Walsh, F. R., Zoback, M. D., Pais, D., Weingarten, M., and Tyrrell, T. (2017) FSP 1.0: A Program for Probabilistic Estimation of Fault Slip Potential Resulting From Fluid Injection, User Guide from the Stanford Center for Induced and Triggered Seismicity, available at [SCITS.Stanford.edu/software](https://SCITS.Stanford.edu/software)
- Zoback, M. L., and M. D. Zoback, 1980, State of stress in the conterminous United States: *Journal of Geophysical Research*, 85, no. B11, 6113–6156, <https://doi.org/10.1029/JB085iB11p06113>.

Attachment 6: Public Notice Affidavit

**Carlsbad Current Argus.**  
PRINTED IN THE USA BY THE NEW MEXICO OIL CONSERVATION DIVISION

**Affidavit of Publication**

Ad # 0004833547

This is not an invoice

**ANTHEM WATER SOLUTIONS, LLC**  
5914 W. COURTYARD DR, STE 320

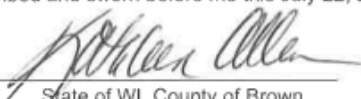
**AUSTIN, TX 78730**

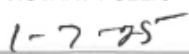
I, a legal clerk of the **Carlsbad Current Argus**, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements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

**07/22/2021**

  
Legal Clerk

Subscribed and sworn before me this July 22, 2021:

  
State of WI, County of Brown  
NOTARY PUBLIC

  
My commission expires

**APPLICATION FOR AUTHORITY TO INJECT**

**NOTICE IS HEREBY GIVEN:** That Anthem Water Solutions, LLC, 5914 W. Courtyard Dr., Suite 320, Austin Texas, 78730, is requesting that the New Mexico Oil Conservation Division administratively approve the **APPLICATION FOR AUTHORITY TO INJECT** as follow:

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

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**NAME AND DEPTH OF DISPOSAL ZONE:** Devonian-Silurian (13218' - 14257')

**EXPECTED MAXIMUM INJECTION RATE:** 30,000 barrels/day

**EXPECTED MAXIMUM INJECTION PRESSURE:** 2643 psi (surface)

Objections or requests for hearing must be filed with the New Mexico Oil Conservation Division within fifteen (15) days. Any objections or requests 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 Marshall Tippen (972) 795-4201.

#4833547, Current Argus, July 22, 2021

Ad # 0004833547

PO #: Brown Pelican 07228 Fed SWD  
# of Affidavits 1

This is not an invoice

## Attachment 6: List of Notification Applicants & Delivery Confirmations

Brown Pelican 072228 Federal SWD 1 - Notice of Application Receipts				
Entity	Address	City	State	Zip Code
Landowner and Mineral Owner				
NMOCD District 2	811 S. First St	Artesia	NM	88210
OCD District				
New Mexico BLM	620 E Greene St.	Carlsbad	NM	88220
Leasehold Operators (1-mile)				
SHUMATE GENE	P O BOX 2473	Midland	TX	79702
MRC PERMIAN COMPANY	ONE LINCOLN CENTRE 5400 LBJ FREEWAY SUITE 1	DALLAS	TX	75240
SPC RESOURCES LLC	P O BOX 1627	Carlsbad	NM	88221
CIMAREX ENERGY CO	15 EAST 5TH STREET SUITE 1000	TULSA	OK	74103
OCCIDENTAL PERMIAN LP	5 Greenway Plaza Ste 110	Houston	TX	77046
Devon	333 West Sheridan Ave	Oklahoma City	OK	73102
XTO DELAWARE BASIN LLC	6401 HOLIDAY HILL RD	MIDLAND	TX	79707
CHEVRON U S A INC	6301 Deauville Blvd	Midland	TX	79706
Chesapeake	P.O Box 18496	Oklahoma City	OK	73154
Notes: 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).				



Marshall Tippen  
Anthem Water Solutions, LLC  
3300 North A Street, Building 2, Suite 222  
Midland, Texas 79705

NMOCD District 2  
811 S. First St  
Artesia, NM 88210

**APPLICATION FOR AUTHORITY TO INJECT**

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Marshall Tippen



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Anthem Water Solutions, LLC  
3300 North A Street, Building 2, Suite 222  
Midland, Texas 79705

New Mexico BLM  
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Carlsbad, NM 88220

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SHUMATE GENE  
P O BOX 2473  
Midland, TX 79702

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Anthem Water Solutions, LLC  
3300 North A Street, Building 2, Suite 222  
Midland, Texas 79705

MRC PERMIAN COMPANY  
ONE LINCOLN CENTRE 5400 LBJ FREEWAY SUITE 1500  
DALLAS, TX 75240

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Anthem Water Solutions, LLC  
3300 North A Street, Building 2, Suite 222  
Midland, Texas 79705

SPC RESOURCES LLC  
P O BOX 1627  
Carlsbad, NM 88221

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Anthem Water Solutions, LLC  
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CIMAREX ENERGY CO  
15 EAST 5TH STREET SUITE 1000  
TULSA, OK 74103

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OCCIDENTAL PERMIAN LP  
5 Greenway Plaza Ste 110  
Houston, TX 77046

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Devon  
333 West Sheridan Ave  
Oklahoma City, OK 73102

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MIDLAND, TX 79707

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CHEVRON U S A INC  
6301 Deauville Blvd  
Midland, TX 79706

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CIMAREX ENERGY CO  
15 EAST 5TH STREET, STE 1000  
TULSA OK 74103-4311

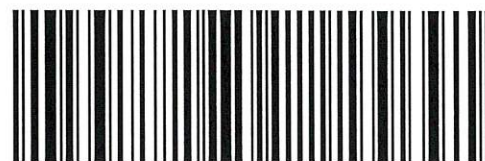
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DEVON ENERGY CO, LP  
333 West Sheridan Ave  
Oklahoma City OK 73102-5010



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Anthem Water Solutions  
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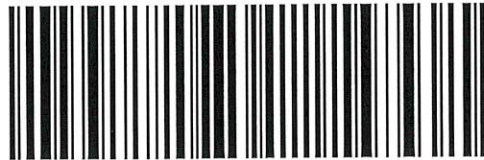
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5400 LBJ Freeway Ste 1500  
Dallas TX 75240-1017

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OCCIDENTAL PERMIAN LIMITED PARTNERSHIP  
5 GREENWAY PLAZA SUITE 110  
Houston TX 77046-0521

Jack Ball  
Anthem Water Solutions  
5914 W. Courtyard Dr., Ste 320  
Austin TX 78730-4924

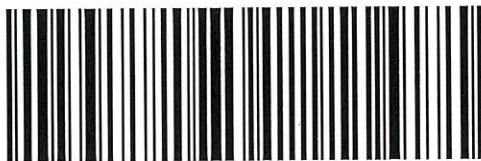
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Gene Shumate  
P O Box 2473  
Midland TX 79702-2473

Jack Ball  
Anthem Water Solutions  
5914 W. Courtyard Dr., Ste 320  
Austin TX 78730-4924

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SPC RESOURCES LLC  
PO BOX 1627  
CARLSBAD NM 88221-1627



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5914 W. Courtyard Dr., Ste 320  
Austin TX 78730-4924

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XTO DELAWARE BASIN LLC  
6401 HOLIDAY HILL RD  
MIDLAND TX 79707

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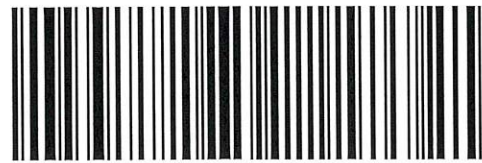
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NMOCD District 2  
811 S. First St  
Artesia NM 88210

Jack Ball  
Anthem Water Solutions  
5914 W. Courtyard Dr., Ste 320  
Austin TX 78730-4924

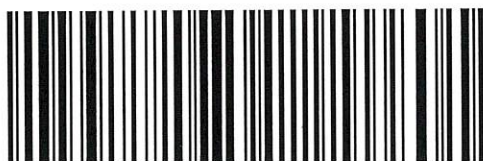
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New Mexico BLM  
620 E Greene St.  
Carlsbad NM 88220

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