STATE OF NEW MEXICO DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES OIL CONSERVATION DIVISION

APPLICATION OF SELECT WATER SOLUTIONS, LLC FOR APPROVAL OF A SALTWATER DISPOSAL WELL, LEA COUNTY, NEW MEXICO.

CACENO	
CASE NO) .

APPLICATION

Pursuant to 19.15.26.8 NMAC, Select Water Solutions, LLC ("Select Water") requests that the New Mexico Oil Conservation Division ("Division") issue an order approving a saltwater disposal well in Lea County, New Mexico. In support of its application, Select Water states the following.

- 1. Select Water (OGRID No. 289068) seeks an order approving its proposed Antelope Fed 28 SWD #1, to be drilled at a location 629' from the south line and 2,543' from the west line (Unit N) of Section 28, Township 25 South, Range 35 East, Lea County, New Mexico, for the purpose of produced water disposal.
- 2. Select Water seeks authorization to inject produced water into the Bell Canyon and Cherry Canyon formations (SWD; Bell Canyon-Cherry Canyon; Code 96802) at a depth of approximately 5,270 feet to 7,545 feet.
- 3. Select Water proposes to inject an average of 15,000 barrels of water per day up to a maximum of 20,000 barrels of water per day.
- 4. Select Water requests that the Division approve a maximum surface injection pressure of 1,054 psi.
- 5. A Division Form C-108, which includes an area of review map, structural cross sections, seismic sections and analysis, no hydrologic connection statement, reservoir characterization, source water analysis, injection formation water analysis, water well map and

data, reservoir performance modeling, list of wells, and list of affected parties, is attached as Exhibit A.

6. The granting of this application will prevent waste and protect correlative rights.

WHEREFORE, Select Water requests that this application be set for hearing on September 11, 2025, and that, after notice and hearing, the Division enter an order approving this application and authorizing Select Water to inject produced water into the Antelope Fed 28 SWD #1.

Respectfully submitted,

HARDY MCLEAN LLC

/s/ Dana S. Hardy

Dana S. Hardy
Jaclyn M. McLean
Jaime R. Kennedy
125 Lincoln Ave, Ste. 223
Santa Fe, NM 87501
Phone: (505) 230-4410
dhardy@hardymclean.com
jmclean@hardymclean.com

Counsel for Select Water Solutions, LLC

RECEIVED:	REVIEWER:	TYPE:	APP NO:	
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Signature			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

<u>APPLICATION FOR AUTHORIZATION TO INJECT</u>

I.	PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage Application qualifies for administrative approval? Yes X No
II.	OPERATOR: Select Water Solutions, LLC
	ADDRESS: 1820 N I-35, Gainesville, TX 76240
	CONTACT PARTY: David Cheek PHONE: 405-482-7508
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 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:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, 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: Reed Davis TITLE: Geophysicist
	SIGNATURE: DATE: 07/28/25
*	E-MAIL ADDRESS:rdavis@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:

Application for Authorization to Inject Well Name: Antelope Fed 28 SWD #1

III – Well Data (The wellbore diagram is included as **Attachment 1**)

Α.

(1) General Well Information:

Operator: Select Water Solutions, LLC (OGRID No. 289068) Lease Name & Well Number: Antelope Fed 28 SWD #1

Location Footage Calls: 629' FSL & 2,543' FWL

Legal Location: Lot N, S28 T25S R35E

Ground Elevation: 3,195'

Proposed Injection Interval: 5,270' - 7,545'

County: Lea

(2) Casing Information:

Туре	Hole Size	Casing Size	Casing Weight	Setting Depth	Sacks of Cement	Estimated TOC	Method Determined
Conductor	20"	18-5/8"	94.5 lb/ft	120'	35	Surface	Circulation
Surface	17-1/2"	13-3/8"	54.5 lb/ft	985'	685	Surface	Circulation
Intermediate	12-1/4"	9-5/8"	40.0 lb/ft	5,190'	1,395	Surface	Circulation
Production	8-3/4"	7-5/8"	29.7 lb/ft	7,565'	2,345	Surface	CBL
Tubing		5-1/2"	17.0 lb/ft	5,250'			

(3) Tubing Information:

5-1/2" (17.0 lb/ft) fiberglass or equivalent lined tubing with setting depth of 5,250'.

(4) Packer Information: SC-2 or equivalent packer set at 5,250'.

В.

(1) Injection Formation Name: Bell Canyon and Cherry Canyon

Pool Name: SWD; BELL CANYON-CHERRY CANYON

Pool Code: 96802

- (2) Injection Interval: Perforated injection between 5,270′ 7,545′
- (3) Drilling Purpose: New drill for saltwater 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.
 - None

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

- Brushy Canyon (7,780')
- Bone Spring (9,100')
- Wolfcamp (12,375')

V – Well and Lease Details

The following maps and documents are included as **Attachment 2**:

- 2-mile Production Review Map
- 1-mile Problem Well Map
- 1-mile AOR Well Table
- 2-Mile Lease Map
- 2-Mile Mineral Ownership Map
- 2-Mile Surface Ownership Map
- Potash Lease Map

VI – AOR Well List

As recommended by the Oil Conservation Division (OCD) in Cases 23686 and 23687 Exhibit 11a 1.d, the proposed Select Delaware Mountain Group SWDs have been planned with uniform spacing and a one-mile radius area of review.

A list of the well(s) within the 1-mile AOR is included in Attachment 2.

Two wells have been drilled in the 1-mile AOR. Both of these wells have been properly cased and cemented through the proposed injection zone.

VII – Proposed Operation

(1) Proposed Maximum Injection Rate: 20,000 bpd

Proposed Average Injection Rate: 15,000 bpd

Step Rate Test: Select intends to conduct a Step Rate Test (SRT) at the proposed Antelope Fed 28 SWD #1 location, prior to commencement of injection, to determine the formation fracture gradient and maximum allowable surface injection pressure.

- (2) A closed-loop system will be used.
- (3) Proposed Maximum Injection Pressure: 1,054 psi (surface)
 Proposed Average Injection Pressure: Approximately 790 psi (surface)
- (4) Source Water Analysis: The expected injectate will consist of produced water from production wells completed in the Abo, Yeso Group, Avalon Shale, Bone Spring, and Wolfcamp formations. Publicly available water quality analysis from the Go-Tech database is included for these formations as *Attachment 3*.
- (5) Injection Formation Water Analysis: The proposed SWD will be injecting water into the Bell Canyon and Cherry Canyon formations of the Delaware Mountain Group, which are non-productive zones known to be compatible with formation water from the Abo, Yeso Group, Avalon Shale, Bone Spring, and Wolfcamp formations. Water analyses from the Delaware Mountain Group in the area are included as *Attachment 4*.

VIII - Geologic Description

The proposed injection interval includes the Bell Canyon and Cherry Canyon formations of the Delaware Mountain Group from 5,270'-7,545'. The Guadalupian-age Bell Canyon and Cherry Canyon formations consist primarily of sandstones and siltstones with significant primary porosity and permeability, indicating these formations are viable injection targets. Select Water

Solutions, LLC will not perforate or inject into the Lamar Dolomite or Brushy Canyon Formation of the Delaware Mountain Group.

Further reservoir characterization, including discussion of the injection formation, overlying and underlying confinement zones, and historic use of the field is included as **Attachment 5**. In addition, structural and seismic cross sections depicting the area are included as **Appendix A**. Expert evaluation of the 3-D seismic section and structural cross sections are included within the 3-D Seismic Interpretation Statement as **Attachment 8**.

Reservoir performance modeling, over 20 years, is included as Appendix B.

The base of the USDW is the Rustler Formation at a depth of approximately 985 feet. Depth of the nearest water well in the area is approximately 105 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 to be run include gamma ray, resistivity, neutron density, and sonic and will be submitted to the Division upon completion of the well.

Every two years, a static bottomhole pressure reading will be obtained, and a report will be generated to summarize performance based on injection volume, injection pressure, and any additional information collected during the period. The evaluation will include a delineation of the injection pressure front and a Hall's plot for each year and every four years an injection survey will be conducted.

XI – Fresh Groundwater Samples

Based on a review of data from the New Mexico Office of the State Engineer, there are no groundwater wells located within 1-mile of the proposed SWD location.

A water well map is included as **Attachment 6**.

XII – No Hydrologic Connection Statement

No publicly known 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 signed No Hydrologic Connection Statement is included as Attachment 7.

XIII - Notice

A list of notice recipients is included as **Attachment 9**.

Attachment 1:

- C-102
- Wellbore Diagram
- Packer Diagram

Attachment 2: Area of Review Information:

- 2-mile Production Review Map
- 1-mile Problem Well Map
- 1-mile AOR Well Table
- 2-mile Lease Map
- 2-mile Mineral Ownership Map
- 2-mile Surface Ownership Map
- Potash Lease Map

Attachment 3: Source Water Analysis

Attachment 4: Injection Formation Water Analysis

Attachment 5: Reservoir Characterization

Attachment 6: Water Well Map and Well Data

Attachment 7: No Hydrologic Connection Statement

Attachment 8: 3-D Seismic Interpretation Statement

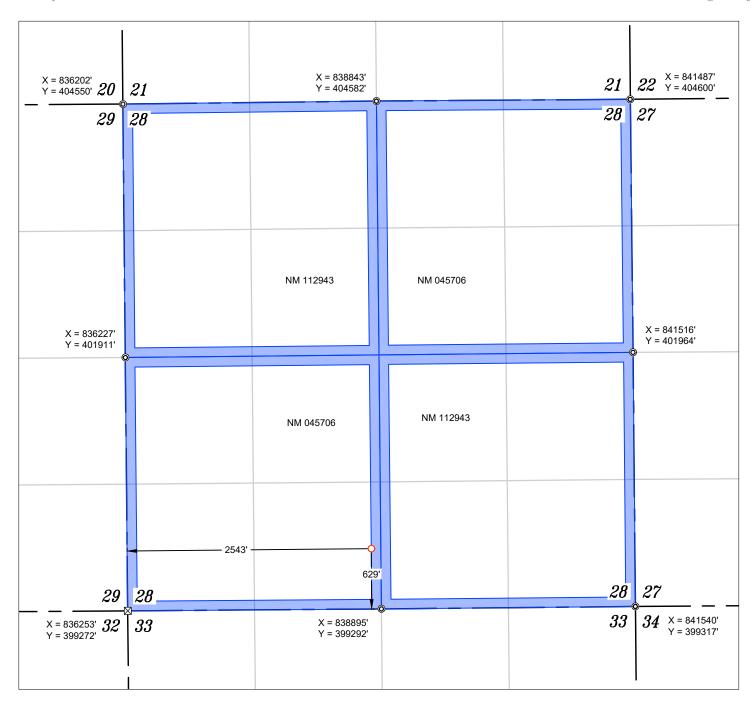
Attachment 9: List of Affected Persons

Appendix A: Seismic and Structural Cross Sections

Appendix B: Reservoir Performance Modeling

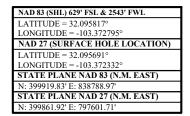
- C-102
- Wellbore Diagram
- Packer Diagram

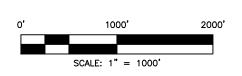
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Unitize	d Area or Ar	ea of Uniform I	nterest	Spacing	Unit Type □ Hoi	rizontal 🗆	☐ Vertical	Grou	nd Floor El	levation: 3195'			
OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.					I hereb	VEYOR CERTIFI by certify that the well s made by me or under belief:	location shown	n, and that t	he same is true and	PARA MEtro			
JANUARY 27, 2025 Signature Date				Signati	ture and Seal of Profe			20 3810	ONAL SUR				
Signature Date Reed Davis							JANUAR		25				
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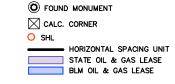


WELL NAME: ANTELOPE FED 28 SWD #1

ELEVATION: 3195'

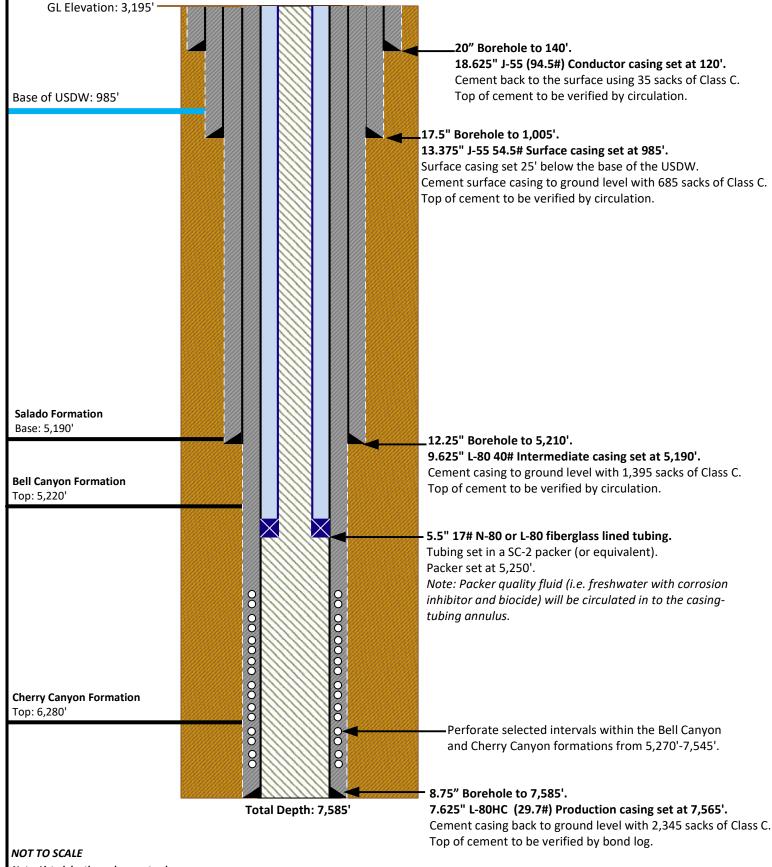






<u>NOTES</u>

- 1. ALL COORDINATES, BEARINGS, AND DISTANCES CONTAINED HEREIN ARE GRID, BASED UPON THE NEW MEXICO STATE PLANE COORDINATES SYSTEM, NORTH AMERICAN DATUM 83, NEW MEXICO EAST (3001).
- 2. THIS DOCUMENT IS BASED UPON AN ON THE GROUND SURVEY PERFORMED DURING JANUARY, 2025. CERTIFICATION OF THIS DOCUMENT IS ONLY TO THE LOCATION OF THIS EASEMENT IN RELATION TO RECORDED MONUMENT OF DEEDS PROVIDED BY THE CLIENT.
- 3. ELEVATIONS MSL, DERIVED FROM G.N.S.S. OBSERVATION AND DERIVED FROM SAID ON-THE-GROUND SURVEY.



Note: Listed depths and cement volumes are approximates based on available information.



Drawn by: Joshua Ticknor

Project Manager: Reed Davis

Date: 06/10/2025

Antelope Fed 28 SWD #1
Proposed Wellbore Diagram
Operated by Select Water Solutions. LLC
S28, T25S, R35E
Lea County, New Mexico

SC-2 Retrievable Packer

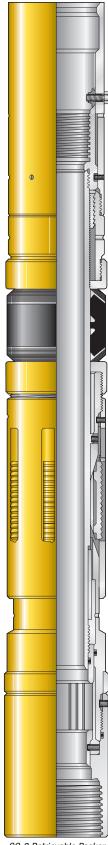
Product Family No. H48807

APPLICATION

The Baker Hughes SC- 2^{TM} retrievable packer is a high-performance, retrievable, sealbore packer. It can be run and set on electric wireline, slick line/tubing with the same setting tools used for the D packer.

Advantages

- Can be set with wireline or hydraulic setting tools
- Can be equipped with a variety of bottom guides (must be ordered separately)
- Packer easily accommodates tubing expansion or contraction
- Tubing and seals can be removed without accidentally unsetting packer
- Easy retrieval due to caged slips and releasing mechanism located in protected area below packing element
- Packer's releasing mechanism is not affected by differential pressure or tailpipe weight
- Case-hardened slips suitable for all grades of casing including V-150
- Compatible with standard Baker Hughes' seal accessories, tubingconveyed perforating and gravel-packing systems



SC-2 Retrievable Packer Product Family No. H48807

SPECIFICATION GUIDE

SC-2™ Retrievable Packer, Product Family No. H48807

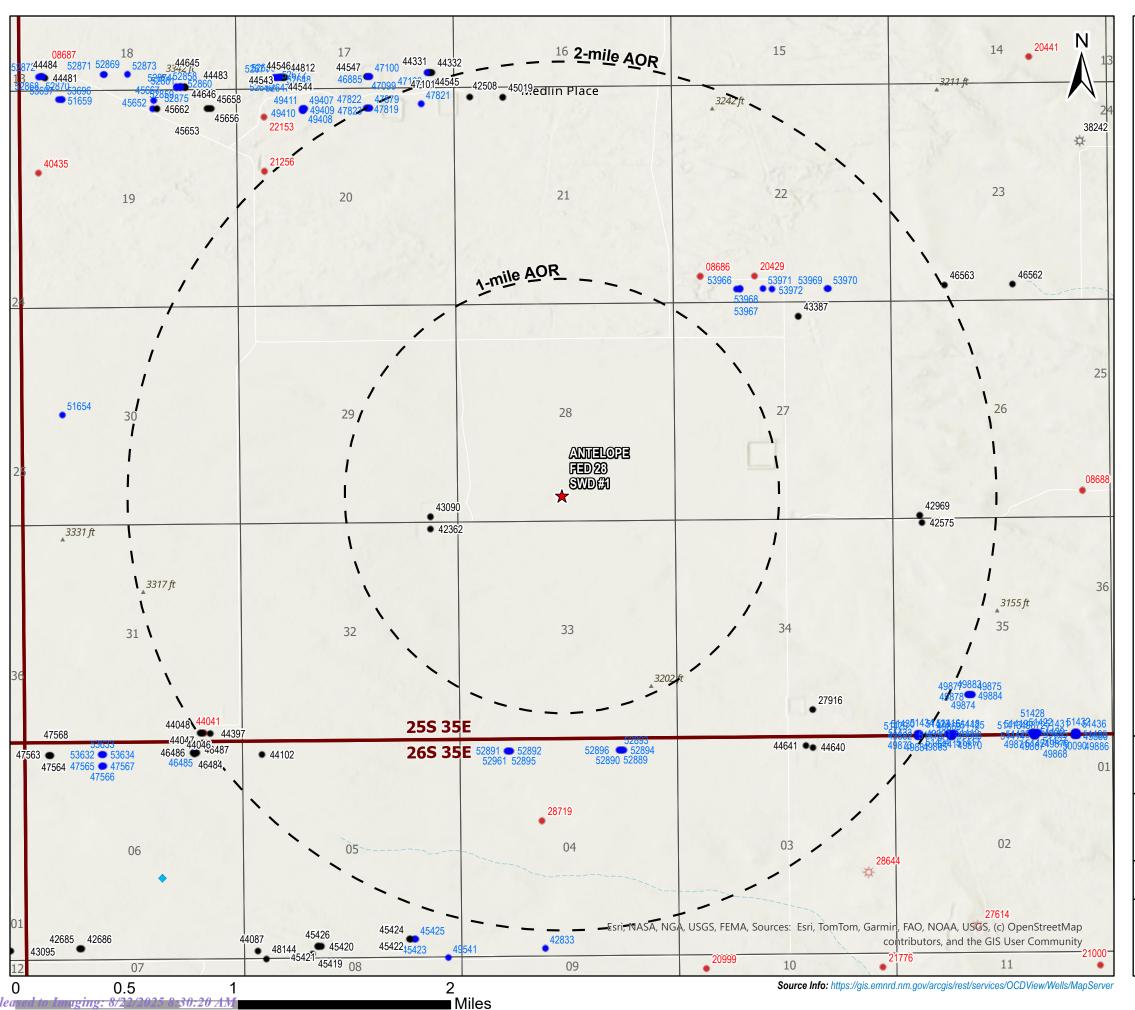
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	Casing				Packer	FdURU ★						
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		20–23	55A2	2–26	4.485	113.9	4.406	111.9				
5-1/2	139.7	17–20	55A	4–26	4.593	116.6	4.500	114.3				
		13–15.5	55B	3–26	4.765	121.0	4.687	119.0				
		35–38	70A	2–32	5.735	145.6	5.687	144.4				
7	177.0	29–32	70A4-32		5.820	147.8	5.750	146.0				
1	177.8	23–29	70E	3–32	6.000	152.4	5.937	150.8				
		17–20	700	C-32	6.250	158.7	6.187	157.1				
		33.7–39	76A2-32 ◆	76A2-40 ◆	6.440	163.6	6.375	161.9				
7-5/8	193.6	29.7–33.7	76A4-32 ◆	76A4-40 ◆	6.580	167.1	6.500	165.1				
7-0/0	193.6	24-29.7	76B2-32 ◆	76B2-40 ◆	6.690	169.9	6.625	168.2				
		20-24	76B4-32 ◆	76B4-40 ◆	6.784	172.3	6.718	170.6				
		53.5-58.4	96A	96A-47		208.0	8.125	206.3				
9-5/8	244.4	47–53.5	96A2-47		8.319	211.3	8.250	209.5				
9-3/6	244.4	40–47	96A	4–47	8.465	215.0	8.375	212.7				
		36–40	96B	3–47	8.619	218.9	8.500	215.9				

	Sealbore Dia for Seal Nipples ■		Seal	Min Bore Thru Seal Nipples				
Size	in.	mm	Accessory Size ▲	in.	mm			
55A2-26								
55A4-26	2.688	68.2	40–26	1.968	50.0			
55B-26								
70A2-32								
70A4-32								
70B-32	3.250	82.5	80-32 or 81-32	2.406 or 1.995	61.1 or 50.6			
700-32								
76A2-32								
76A2-40	4.000	101.6	80–40	3.000	72.6			
76A4-32	3.250	82.5	80-32 or 81-32	2.406 or 1.995	61.1 or 50.6			
76A4-40	4.000	101.6	80–40	3.000	72.6			
76B2-32	3.250	82.5	80-32 or 81-32	2.406 or 1.995	61.1 or 50.6			
76B2-40	4.000	101.6	80–40	3.000	72.6			
76B4-32	3.250	82.5	80-32 or 81-32	2.406 or 1.995	61.1 or 50.6			
76B4-40	4.000	101.6	80–40	3.000	72.6			
96A-47								
96A2-47	4.750	120.6	190–47 or 192–47	3.000 or 3.875	72.6 or 98.4			
96A4-47	4.750	120.0	190-47 01 192-47	3.000 01 3.070	72.0 UI 90.4			
96B-47								

- * For information on packer or accessory sizes not found in this specification guide, refer to Baker Hughes' packer systems technical manual or your Baker Hughes representative.
- When proposed for use in other than the casing weight range shown, contact your Baker Hughes representative.
- The maximum OD (including tolerance) of any part run through a production packer should be at least 1/16-in. (1.59mm) smaller than the minimum bore through the packer body. This may occasionally require that the coupling ODs be turned down.
- ▲ Tubing-seal assemblies, tubing seal and spacer nipples.
- ◆ This tool available with 3.250 in. (82.5 mm) or 4.000 in. (101.6 mm) seal bore diameter and uses sizes 80-32/81-32 or 80-40 accessories respectively.
- ▼ When selecting a SC-2 packer for a casing weight common to two size packers choose the packer with the smallest OD to maximize running clearances. Example: In 5-1/2-in. (139.7-mm), 20.0-lb/ft casing, use size 55A2–26.

Area of Review Information:

- 2-mile Production Review Map
- 1-mile Problem Wells Map
- 1-mile AOR Well Table
- 2-mile Lease Map
- 2-mile Mineral Ownership Map
- 2-mile Surface Ownership Map
- Potash Lease Map



Legend

- ★ Proposed SWD (1)
- Gas, Active (1)
- Gas, Plugged (2)
- Oil, Active (52)
- Oil, New (114)
- Oil, Plugged (13)
- Reclamation Fund (1)
- Wells Producing from Target Injection Zone (0)

2-mile Production Review

ANTELOPE FED 28 SWD #1

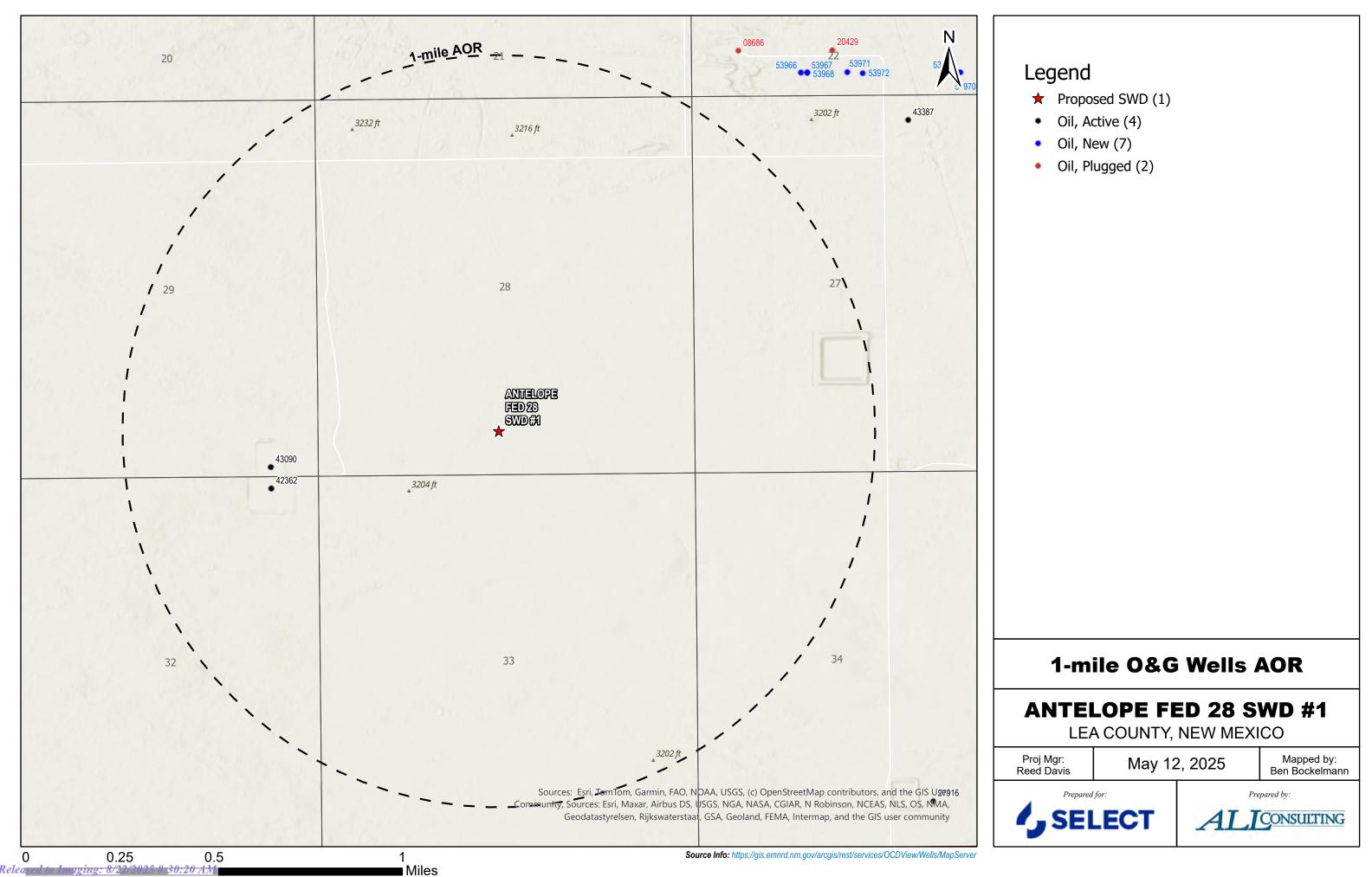
LEA COUNTY, NEW MEXICO

Proj Mgr: Reed Davis May 12, 2025

Mapped by: Ben Bockelmann





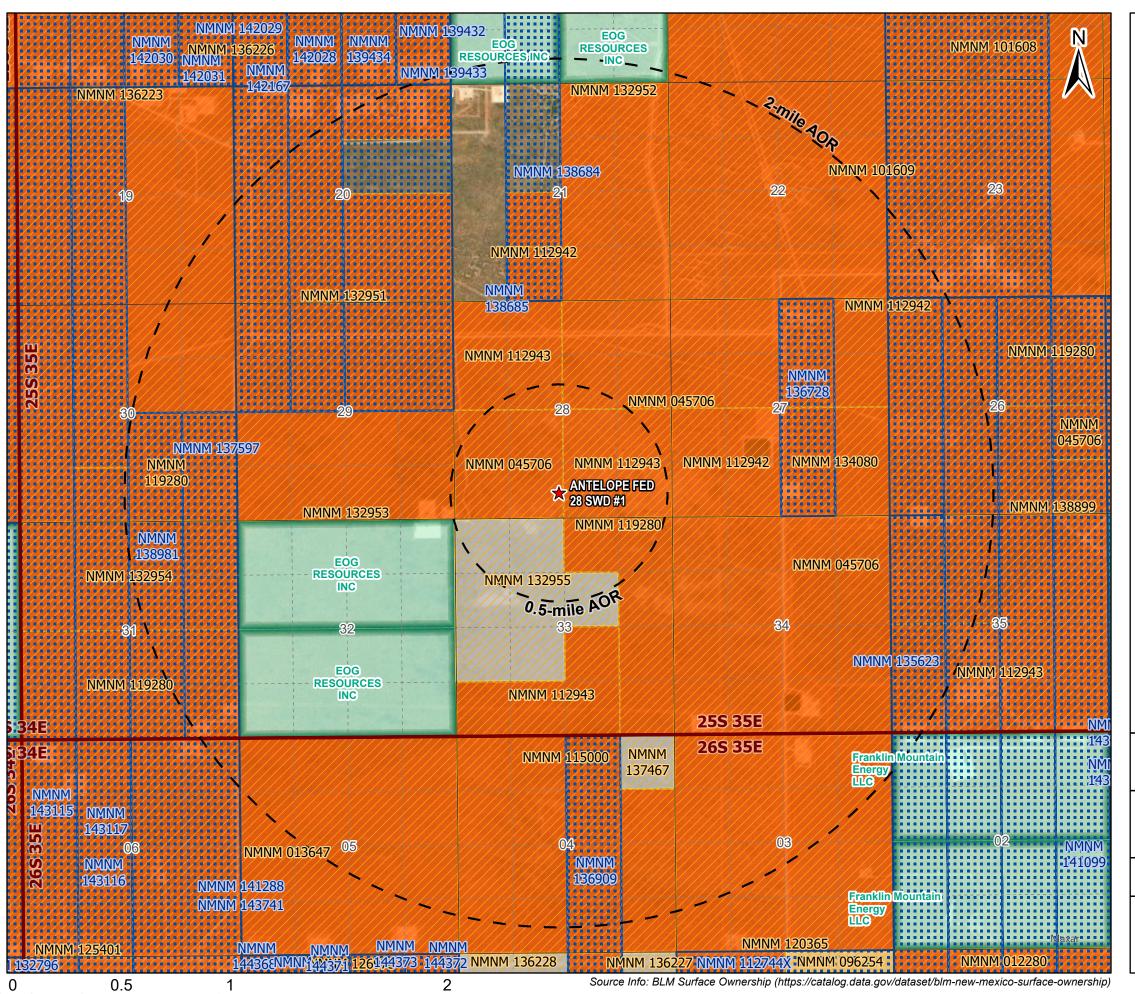


AOR Tabulation for Antelope Fed 28 SWD #1 (Bell Canyon and Cherry Canyon - Injection Interval: 5,270' - 7,545'), Lea County									
Well Name	API#	Well Type	Operator	Spud Date	Location (Sec., Tn., Rng.)	Total Vertical Depth (feet)	Penetrate Inj. Zone?		
Duo Sonic 29 Federal #004H	30-025-43090	Oil	COG Operating LLC	9/11/2016	29-25S-35E	10,963'	Yes		
Tele Delux 32 State #004H	30-025-42362	Oil	COG Operating LLC	3/15/2015	32-25S-35E	12,405'	Yes		
Tele Delux 32 State #706C	30-025-43084	Oil	COG Operating LLC	Cancelled	29-25S-35E	NA	NA		
Tele Delux 32 State #504C	30-025-43123	Oil	COG Operating LLC	Cancelled	32-25S-35E	NA	NA		
Duo Sonic 29 Federal #104H	30-025-43327	Oil	COG Operating LLC	Cancelled	29-25S-35E	NA	NA		
Tele Delux 32 State #503C	30-025-43122	Oil	COG Operating LLC	Cancelled	32-25S-35E	NA	NA		
Tele Delux 32 State #103C	30-025-43120	Oil	COG Operating LLC	Cancelled	32-25S-35E	NA	NA		
Duo Sonic 29 Federal #003H	30-025-43455	Oil	COG Operating LLC	Cancelled	29-25S-35E	NA	NA		
Duo Sonic 29 Federal #103H	30-025-43481	Oil	COG Operating LLC	Cancelled	29-25S-35E	NA	NA		
Duo Sonic 29 Federal #503H	30-025-43446	Oil	COG Operating LLC	Cancelled	29-25S-35E	NA	NA		

Casing / Plugging Information for Wells Penetrating the Antelope Fed 28 SWD #1 Injection Zone									
Well Name	Туре	Set Depth	Casing Size	тос	TOC Method Determined	Sks of Cement	Hole Size		
	Surface	1,099'	13-3/8"	Surface	Circulation	950	17-1/2"		
DUO CONIC 30 EEDEDAL #004H	Intermediate	5,239'	9-5/8"	Surface	Circulation	1380	12-1/4"		
DUO SONIC 28 FEDERAL #004H	Production	15,550'	5-1/2"	4,980'	Calculated	1405	8.75"		
	No Issues.								
	Surface	1,047'	13-3/8"	Surface	Circulation	460	17-1/2"		
TELE DELLIV 22 CTATE #00411	Intermediate	9,177'	9-5/8"	Surface	Circulation	2405	12-1/4"		
TELE DELUX 32 STATE #004H	Production	16,933'	5-1/2"	Surface	Circulation	2046	8-3/4"		
	No Issues.								

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Legend

- ★ Proposed SWD
- NMSLO Mineral Leases
- BLM Communitization Units
- **BLM O&G Leases**
- Case Disposition
- **Authorized**
- BLM Oil and Gas Leases
- **Production Status**
- Held by Actual Production
- Held by Allocated Production
- Non-Producing

1/2-mile Affected Parties AOR

BLM Lessees:

- DEVON ENERGY PROD CO LP
- CHEVRON USA INC
- COG OPERATING LLC
- OCCIDENTAL PERMIAN LP

SLO Lessees:

- EOG RESOURCES INC

Mineral Lease AOR

ANTELOPE FED 28 SWD #1

LEA COUNTY, NEW MEXICO

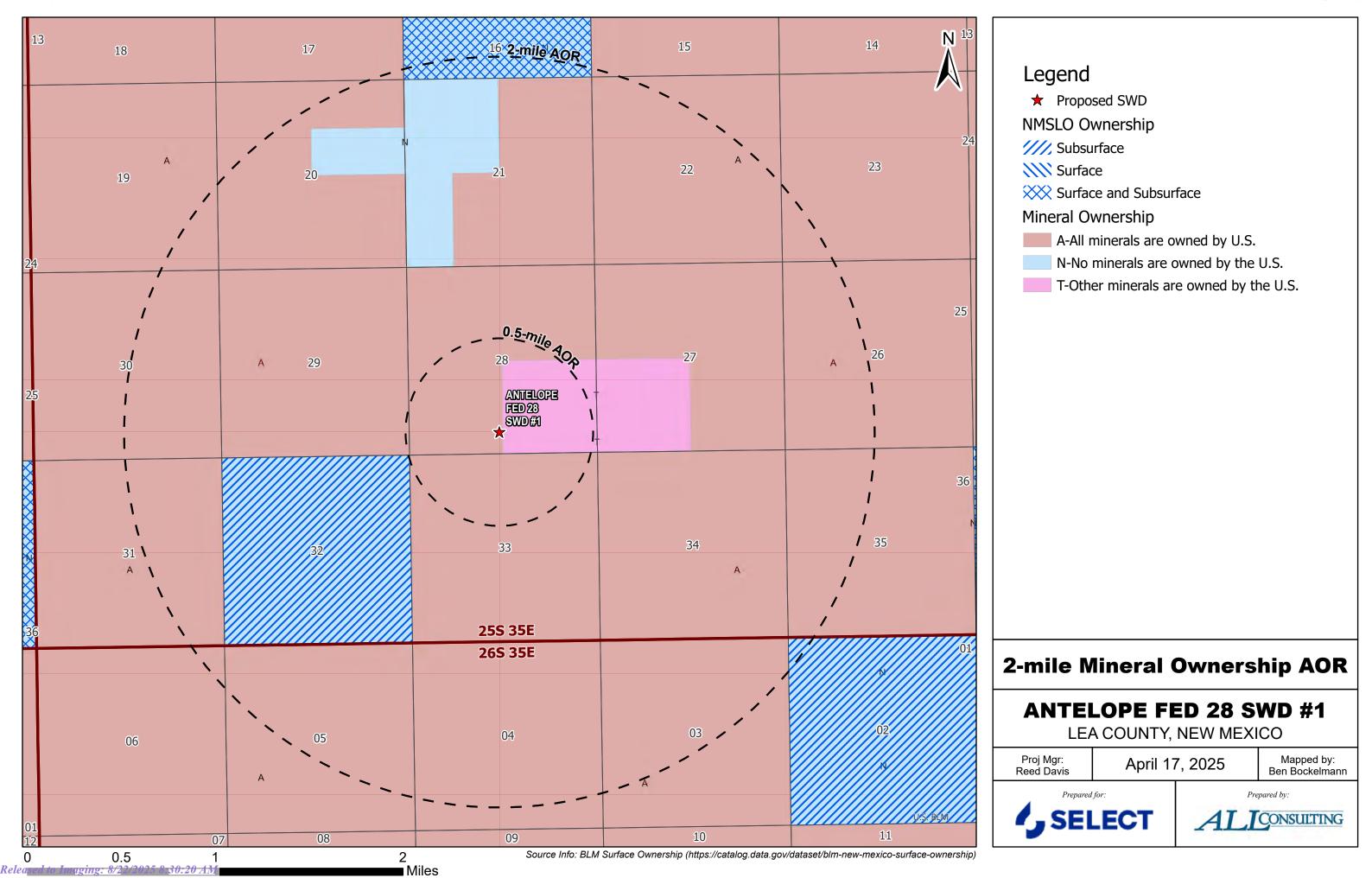
Proj Mgr: Reed Davis June 06, 2025

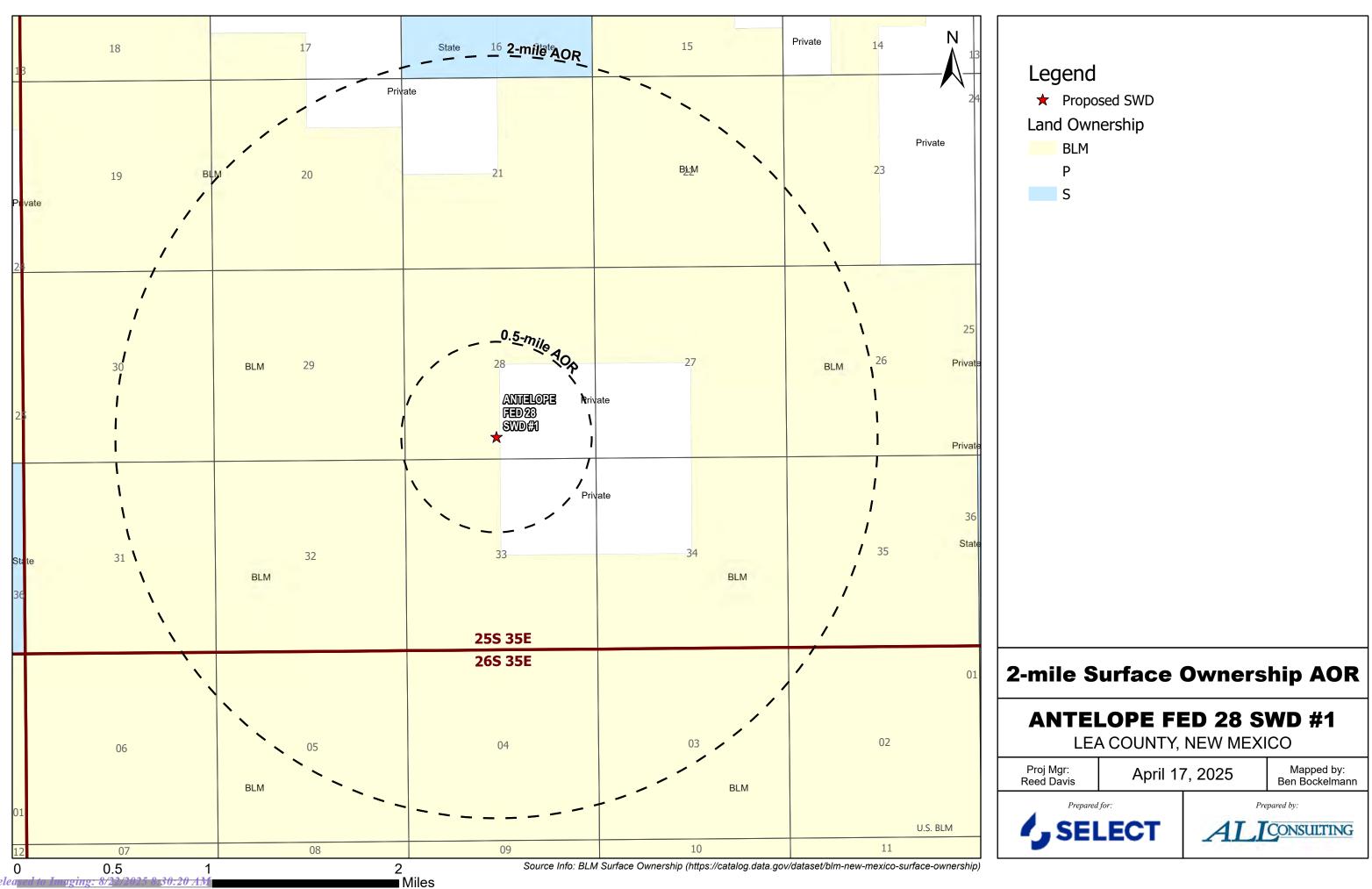
Mapped by: Ben Bockelmann

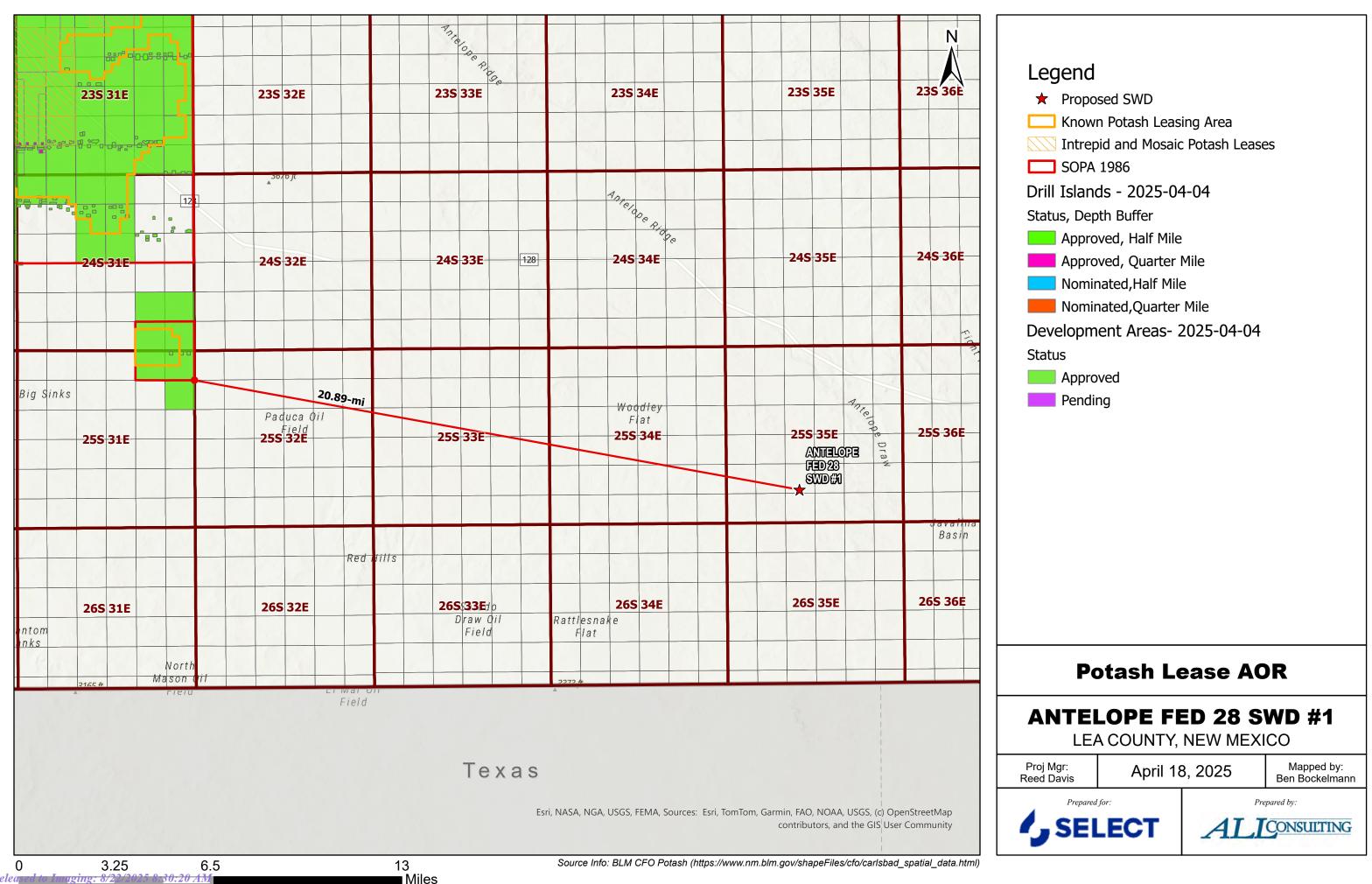




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Source Water Analysis

Well Name	АРІ	Latitude	Longitude	Formation	Tds (mg/L)		Calcium (mg/L)		Barium (mg/L)	_	Strontium (mg/L)	Manganese (mg/L)				H2S (mg/L)
BELL LAKE UNIT #009	3002520261	32.3028488	-103.5110779	BONE SPRING	204652								130000	512	260	20.
SALADO DRAW 6 FEDERAL #001H	3002541293	32.0657196	-103.5146942	BONE SPRING 3RD SAND	99401.9	34493.3	3295	0.4		396.8		0.37	59986.5	109.8	710	25
FIGHTING OKRA 18 FEDERAL COM #001H	3002540382	32.0435333	-103.5164566	AVALON UPPER	201456	66908.6	9313	10		1603		1.6	121072.7	1024.8	940	4:
SOUTH JUSTIS UNIT #031	3002511929	32.0777092	-103.1099548	BLINEBRY/TUBB/DRINKARD	141326								83740	549	2286	
SNAPPING 2 STATE #014H	3001542688	32.06555986	-103.7413815	WOLFCAMP	81366.4	26319.4	2687.4	26.1		326.7			50281.2		399.7	2
C C CAGLE C #003	3002511933	32.0777206	-103.157135	ABO	187443	_		•					113000	483	2150	PN

Injection Formation Water Analysis

Antelope Fed 28 SWD #1 - Injection Formation Water	r Analysis (Delaware - Bell Canyon and Cherry Canyon)
--	---

		A	ntelope Fed 2	28 SWD #1 - Injection Format	tion Wa	ter Anal	ysis (De	laware	e - Bell C	Canyon and	Cherry Ca	nyon)						_
Well Name	API	Latitude	Longitude	Formation	Tds (mg/L)	Sodium (mg/L)			Barium (mg/L)	_		Strontium (mg/L)	_			Bicarbonate (mg/L)	Sulfate (mg/L)	
ELL LAKE UNIT #002	3002508489	32.2701836	-103.5112457	DELAWARE	52115		$\overline{}$							32200	·	451	529	_
VEETNESS 30 STATE FED COM #001H	3002541864	32.278347	-103.4042511	DELAWARE-BRUSHY CANYON	67516.1	23558.7	2923.2	0.1		401			0.03	39091.2		732	740	
HABOD 7 FEDERAL #004H	3002540574	32.0509529	-103.5018997	DELAWARE-BRUSHY CANYON	232755	71556.2	15222.7	113.1		2609.4			4.05	140558		244	0	
CHABOD 7 FEDERAL #004H Iote: Select agrees to collect one formation wat Glorieta sampling results will be electronically presented to the control of the co	3002540574 er sample for analysi	32.0509529 is prior to comme	-103.5018997 encing commercial	DELAWARE-BRUSHY CANYON	232755	71556.2	15222.7		H2S, cation	2609.4	available withi	n 1/2-mile.				244	-	0

Reservoir Characterization

Reservoir Characterization at the Antelope Fed 28 SWD #1

1. Injection Formation and Confinement

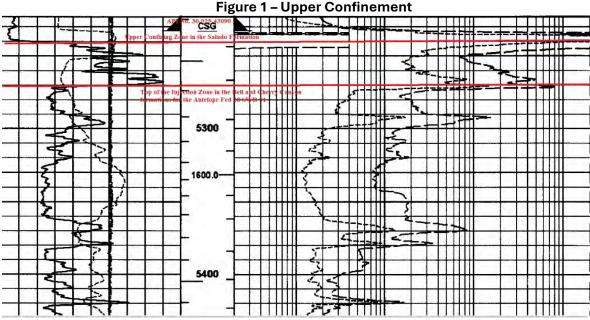
a. Injection Formation

The proposed injection interval includes the Bell Canyon and Cherry Canyon formations of the Delaware Mountain Group from 5,270' – 7,545'. The Guadalupian-age Bell Canyon and Cherry Canyon members consist primarily of sandstones and siltstones with significant primary porosity and permeability, indicating these formations are viable injection targets. Select will not perforate or inject into the Lamar Dolomite or Brushy Canyon Formation of the Delaware Mountain Group. Reservoir performance modeling suggests injection pressure into the Bell Canyon-Cherry Canyon injection interval would be below the fracture pressures of the upper and lower confining layers.

b. Upper Confinement

Nearby open hole geophysical well logs indicate the proposed Bell Canyon-Cherry Canyon injection interval is overlain by thousands of feet of tight evaporites within the Salado Formation, which will prevent the upward migration of fluids and act as the upper confining layer.

Estimated fracture gradient for the upper confinement layer is 0.726 psi/ft, per reservoir performance modeling in Appendix B.

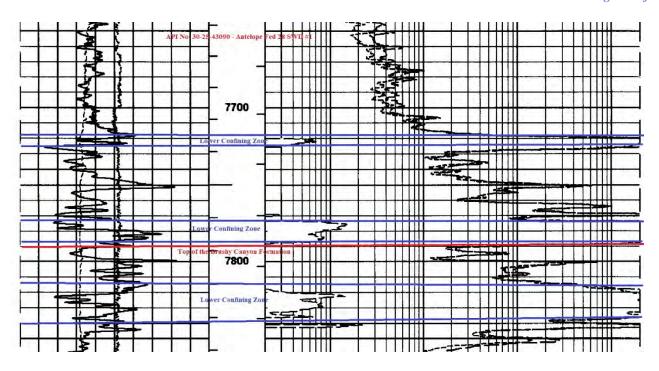


c. Lower Confinement

Nearby open hole geophysical well logs indicate the proposed Bell Canyon-Cherry Canyon injection interval is underlain by approximately 55 feet of low porosity and low permeability rocks within the lower Brushy Canyon Formation of the Delaware Mountain Group, which will prevent the downward migration of fluid and act as the lower confining layer.

Estimated fracture gradient for the lower confinement layer is 0.771 psi/ft, per reservoir performance modeling in Appendix B.

Figure 2 - Lower Confinement



2. Historic Field Usage

a. Offset Production

A review of all wells in the NMOCD database within a 2-mile radius of the Antelope Fed 28 SWD #1 does not show any historic or current hydrocarbon production from the Bell Canyon or Cherry Canyon formations of the Delaware Mountain Group.

b. Commercial Water Sources

A review of all wells in the NMOCD and OSE databases within a 2-mile radius of the Antelope Fed 28 SWD #1 does not show any historic or current commercial water supply sources from the Delaware Mountain Group.

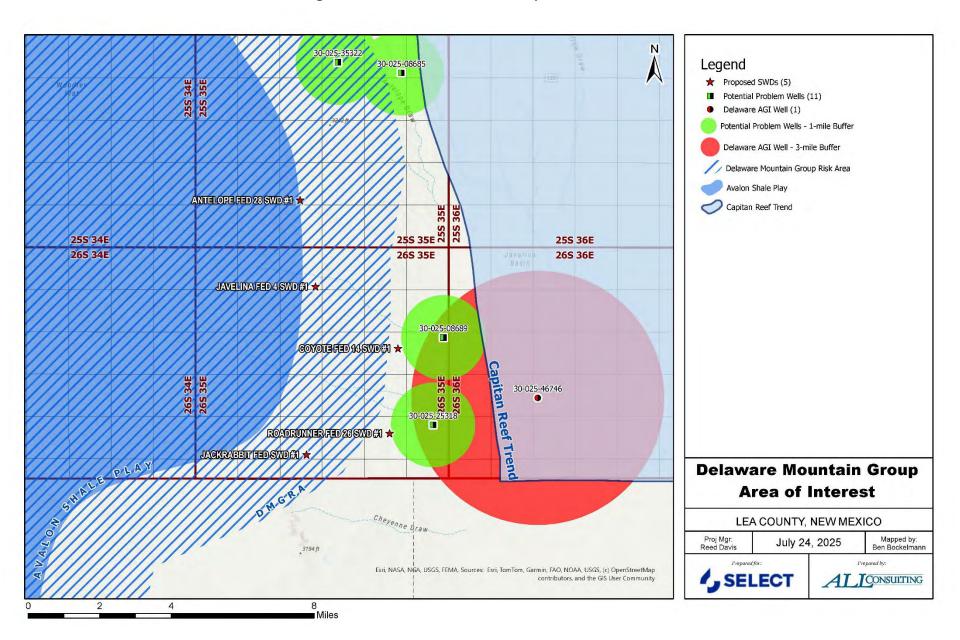
c. Enhanced Oil Recovery

A review of all wells in the NMOCD database within a 2-mile radius of the Antelope Fed 28 SWD #1 does not show any historic or current enhanced oil recovery operations utilizing the overlying Lamar Dolomite, or the underlying Brushy Canyon.

d. Additional OCD Exhibit 11a Requirements

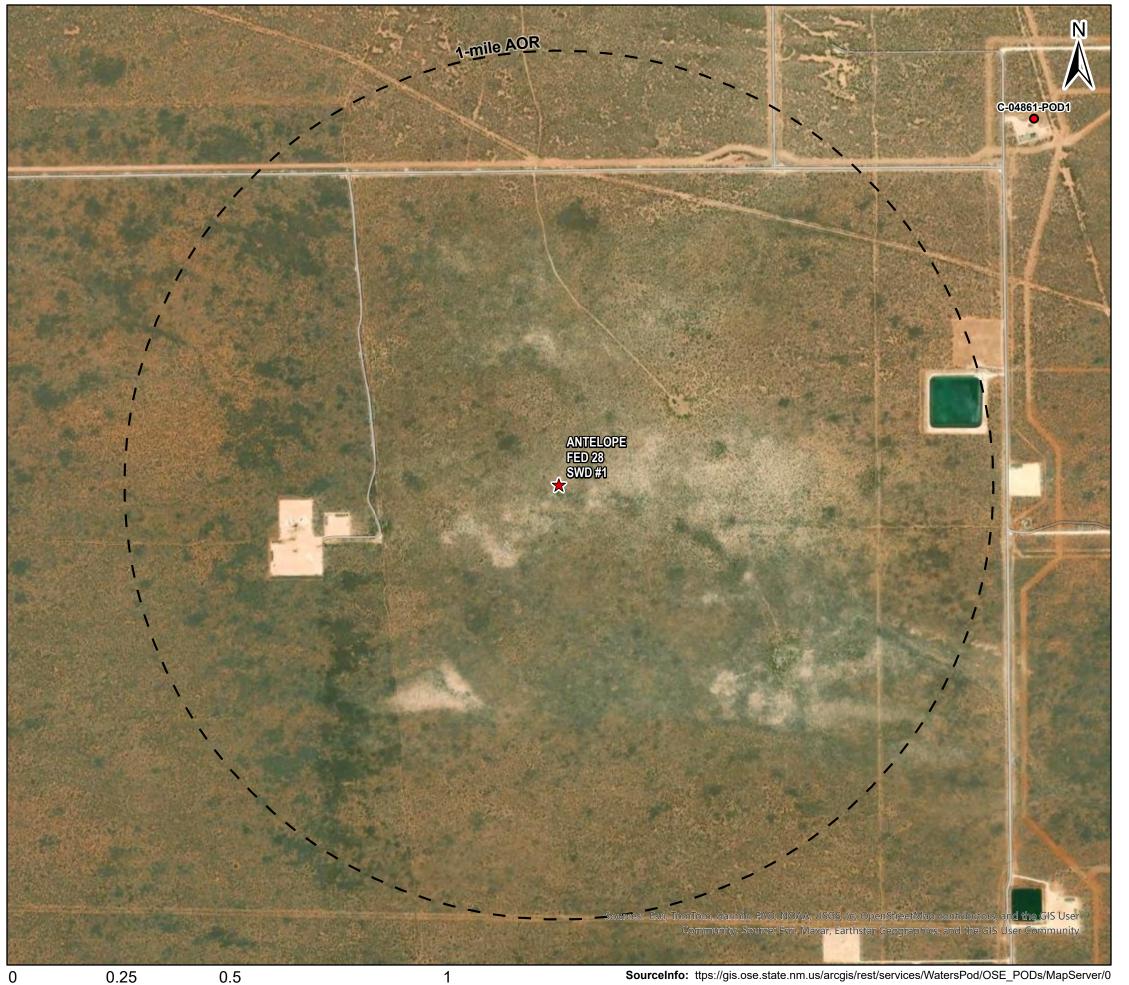
No Delaware Acid Gas Injection wells are located within 3-miles of the proposed Antelope Fed 28 SWD #1. In addition, the proposed SWD is located outside of the Avalon Shale play, the Capitan Reef Trend, and has been positioned more than 1-mile from any identified wells with potential wellbore concerns or lack of data for evaluation (see **Figure 3**).

Figure 3 - Delaware Mountain Group Area of Interest



Water Well Map and Well Data

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Miles

Legend

★ Proposed SWD

OSE Water PODs

POD Status

- Active (0)
- Pending (0)
- Changed Location of Well (0)
- Inactive (0)
- Capped (0)
- Plugged (1)
- Unknown (0)

1-mile Water Well AOR

ANTELOPE FED 28 SWD #1

LEA COUNTY, NEW MEXICO

Proj Mgr: Reed Davis

April 17, 2025

Mapped by: Ben Bockelmann





SourceInfo: ttps://gis.ose.state.nm.us/arcgis/rest/services/WatersPod/OSE_PODs/MapServer/0

Antelope Fed 28 SWD #1 - Water Well Sampling Rationale									
Water Wells	Owner	Available Contact Information	Use	Sampling Required	Notes				
Note: There are no water wells within	1 mile of the proposed Antologo End	20 CM/D #1							

Note: There are no water wells within 1-mile of the proposed Antelope Fed 28 SWD #1.

No Hydrologic Connection Statement



RE: Select Water Solutions LLC – Antelope Fed 28 SWD #1 application, Lea County, New Mexico

ALL Consulting LLC (ALL) has performed a thorough hydrologic investigation related to the one saltwater disposal well (SWD) listed above. The investigation was conducted to determine if there were any existing or potential connections between the proposed injection zones in the Bell Canyon and Cherry Canyon formations and the deepest underground source of drinking water (USDW).

ALL performed an assessment and analysis of the subsurface geophysical log data along with published documents on the groundwater in this vicinity of Lea County, New Mexico. The area is within the South Plain and the surficial geology is Quaternary alluvial deposits consisting predominantly of sand and silt deposits. In this area the depths to potable water for stock and domestic supplies are less than 175 feet below the surface. The USDW is the Rustler Formation and the base of the USDW plus 25 feet into the anhydrite unit is approximately 985 feet below the surface.

Based on ALL's assessment and analysis there is containment through multiple confining zones above the proposed Bell Canyon and Cherry Canyon injection zones and the USDW and over 4,285 feet of vertical separation between the base of the USDW and the top of the injection interval. Additionally, there is no evidence of faults that would allow for communication between the USDW and Bell Canyon and Cherry Canyon injection zones.

tom tomastik		
	<u>June 11, 2025</u>	
Tom Tomastik	Date	
Chief Geologist and Regulatory Specialist		
ALL Consulting LLC		

Attachment 8

3-D Seismic Interpretation Statement

HENORRAH RESOURCES, LLC

503 STOUT STREET

BRIDGEPORT, WV 26330

As a consulting geophysicist/geologist and third-party contractor for ALL Consulting, I, Joseph Smith, have performed a complete seismic interpretation of the 3-D seismic reflection survey that covered the area of the proposed of the Antelope Fed 28 SWD #1, including the Bell Canyon and Cherry Canyon formations that will be utilized as injection zone. Additionally, I have created seismic sections and geologic cross sections that clearly demonstrate there are no obvious faults cutting across the proposed Bell Canyon and Cherry Canyon injection zones and no obvious faults that would breach the upper confining zones with the Salado Formation or the lower confining zones within the top of the Brushy Canyon Formation.

Joseph Smith, Consulting Geophysicist/Geologist

Date

6-24-25

Joseph P. Smith II

Owner - Geologist

Hennora Resources, LLC

937.621.0558 (c)



Attachment 9

List of Affected Persons

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Antelope Fed 28 SWD #1 - Notice of Application Recipients						
Affected Party Classification	Entity - Proof of Notice	Entity - As Mapped/Exhibited	Address	City	State	Zip Code
Surface and Mineral Owner	New Mexico Bureau of Land Management	BLM	620 E Greene St.	Carlsbad	NM	88220
NMOCD District Office	New Mexico Oil Conservation District 1	N/A	1625 N. French Drive	Hobbs	NM	88240
BLM - Lessee	Devon Energy Production Company, LP	DEVON ENERGY PROD CO LP	333 West Sheridan Ave.	Oklahoma City	OK	73102
BLM - Lessee	CHEVRON U S A INC	CHEVRON USA INC	6301 Deauville	Midland	TX	79706-2964
BLM - Lessee and Unit Operator	COG OPERATING LLC	COG OPERATING LLC	600 W Illinois Ave	Midland	TX	79701
BLM - Lessee	OCCIDENTAL PERMIAN LIMITED PARTNERSHIP	OCCIDENTAL PERMIAN LP	5 Greenway Plz Ste. 110	Houston	TX	77046-0521
SLO - Lessee	EOG RESOURCES INC	EOG RESOURCES INC	5509 Champions Drive	Midland	TX	79706

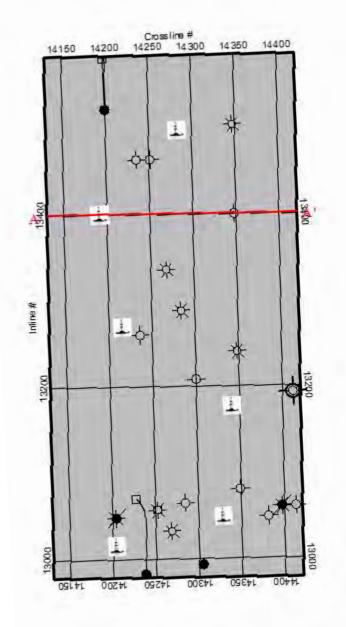
Note: The affected parties above received notification of this C-108 application.

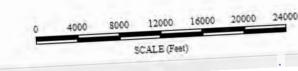
BLM Unit Operators and Lessee information was retrieved from BLM MLRS (https://mlrs.blm.gov/s/).

NMSLO Lessee information retreived from NMOCD Operator Search (https://wwwapps.emnrd.nm.gov/OCD/OCDPermitting/Operators/Search/OperatorSearch.aspx).

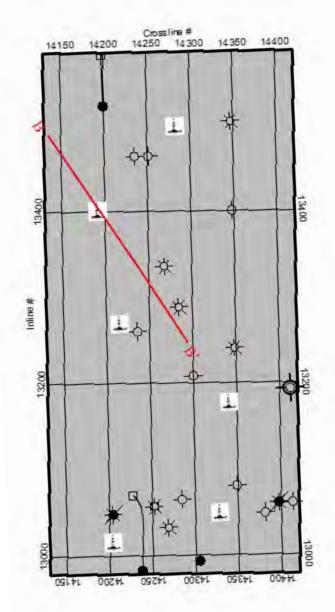
Seismic and Structural Cross Sections

Seismic A-A'

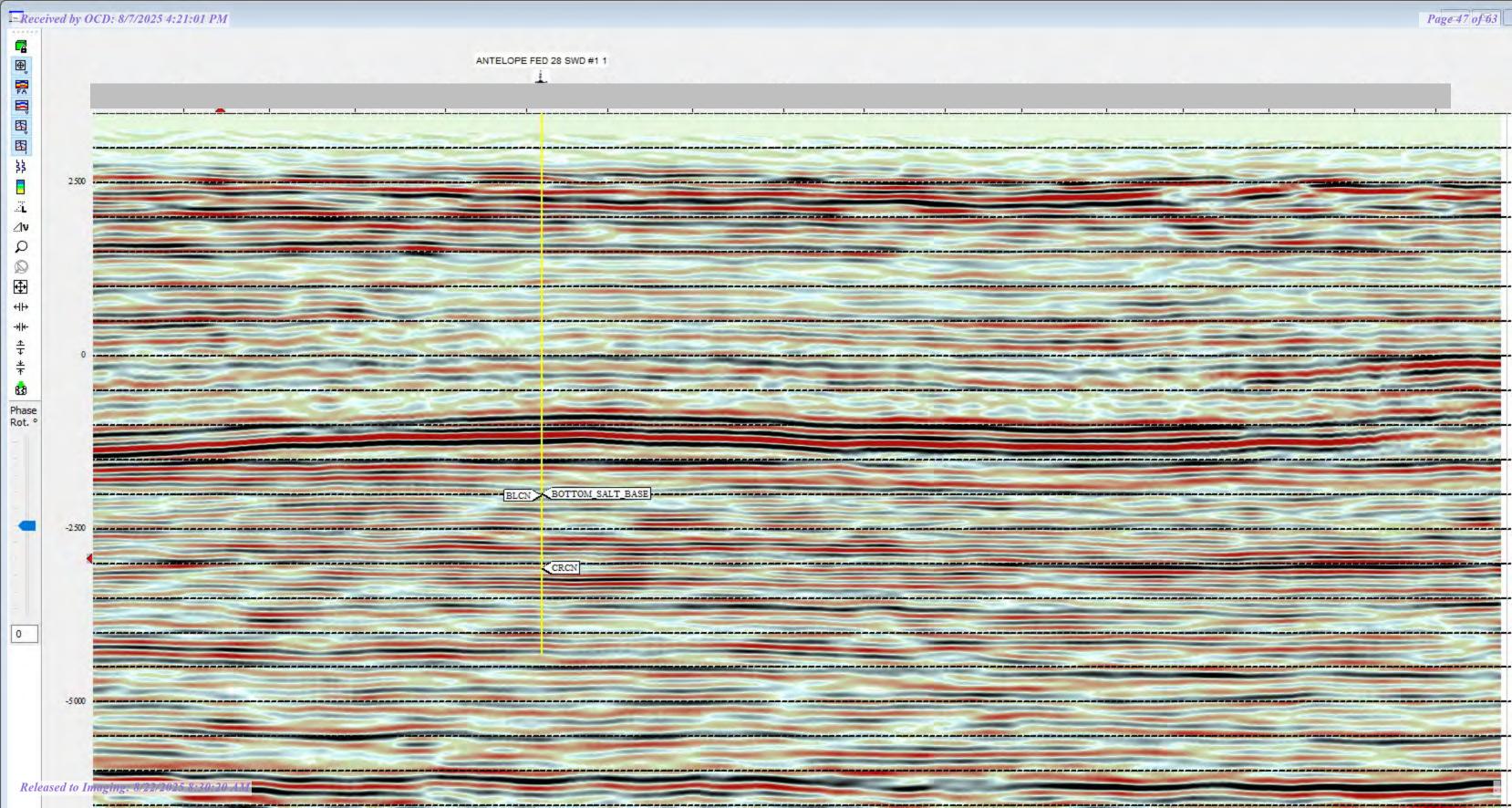




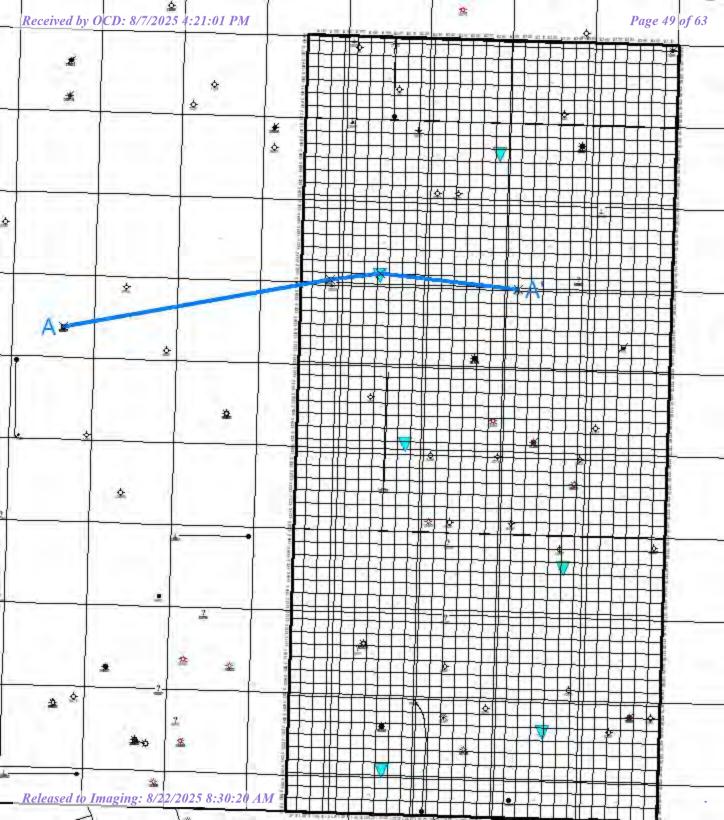
Seismic B-B'

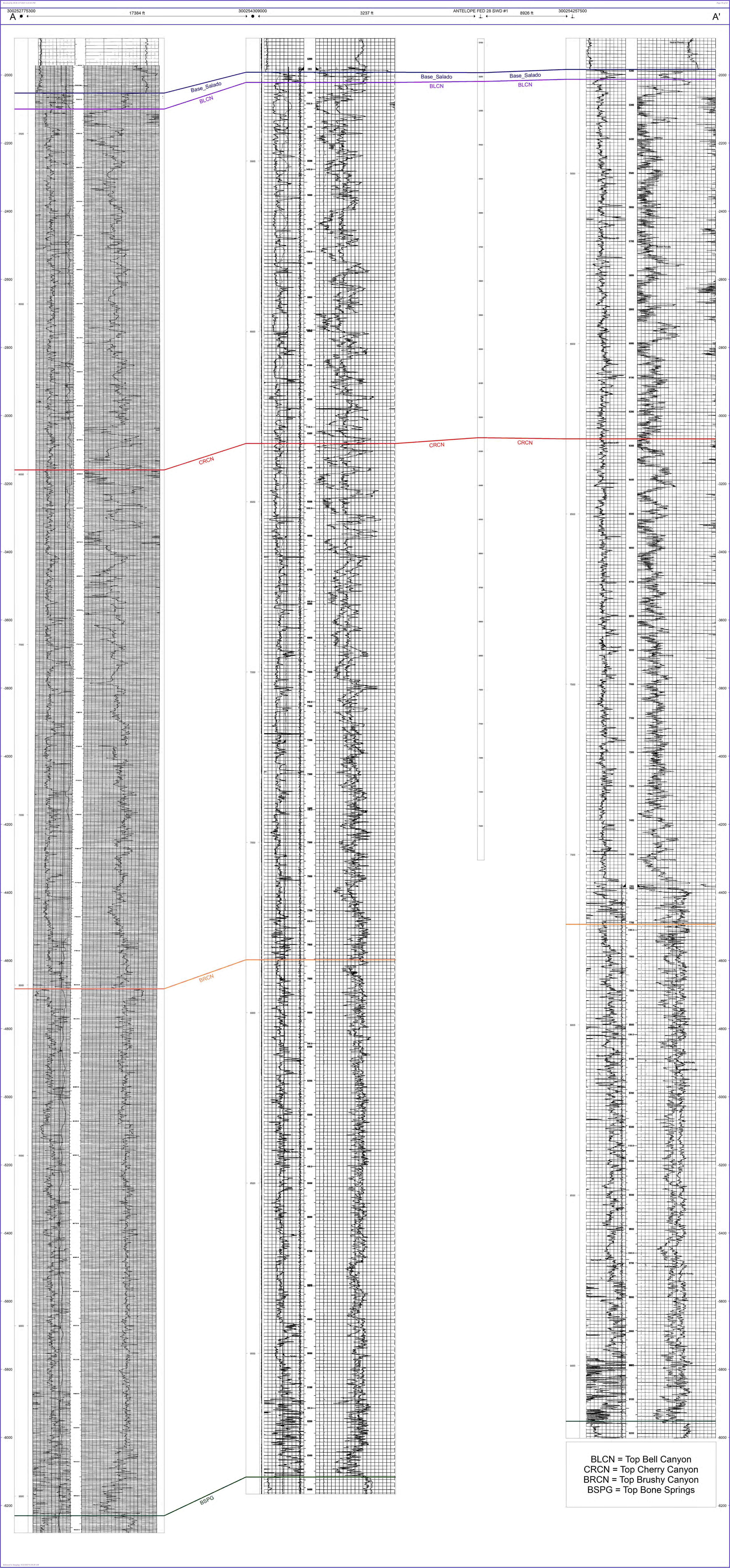


0 4000 8000 12000 16000 20000 24 SCALE (Feet)

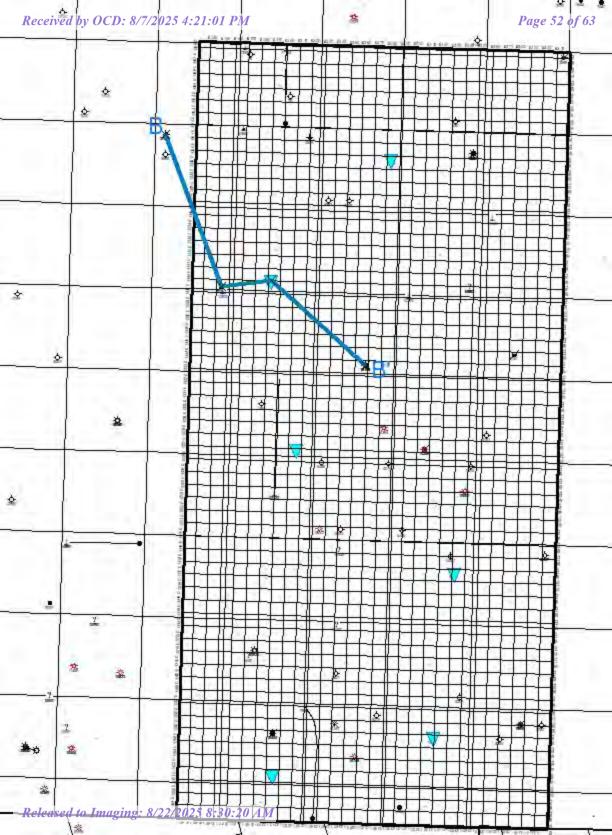


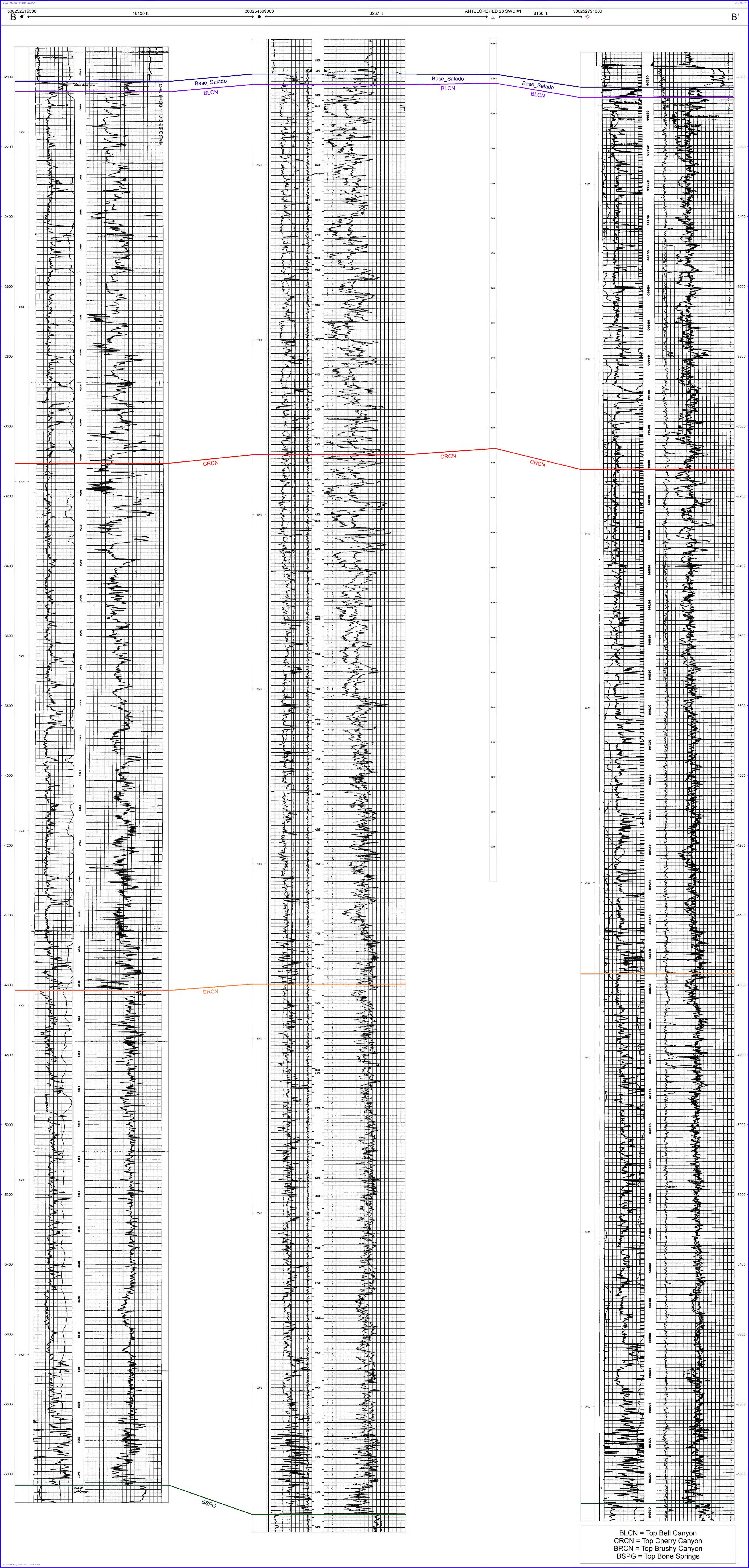
Structural A-A'





Structural B-B'





Appendix B

Reservoir Performance Modeling

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Southeast Lea County 5 DMG SWDs east of Jal New Mexico

TASP Group, June 9, 2025

Dave Childers, Sr. Reservoir Engineer



Scope of Work

• Determine:

- Reservoir and geomechanical properties to approximate reservoir and wellbore hydraulics.
- Analyze confining layers and estimate fracture gradients.
- Estimate operational pressure gradients based on maximum injection rates and SWD life.

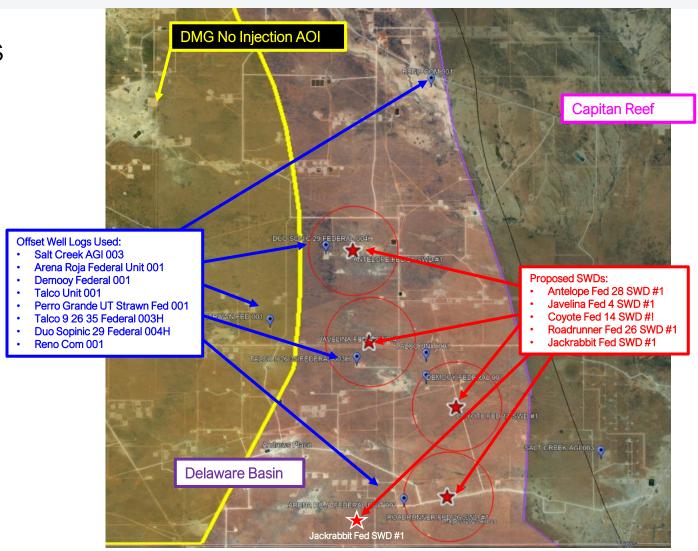
Proposed SWDs:

- Antelope Fed 28 SWD #1
- Javelina Fed 4 SWD #1
- Coyote 14 SWD #1
- Roadrunner Fed 26 SWD #1
- Jackrabbit Fed SWD #1



Locations & Offset Logs

- Review viability of SWD operations based on disposal injection rates.
- DMG Formation Injection Targets
 - Bell Canyon
 - Cherry Canyon
- Confining Layers
 - Lamar (upper interval)
 - Brushy Canyon (lower interval)





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Injection Interval

Well Name	Target Interval	Top of Interval Approximated (ft)	Gross Injection Zone Thickness (ft)			
	Bell Canyon	5,250'				
Antelope Fed 28 SWD #1	Cherry Canyon	2,500'				
	Brushy Canyon	7,750'				
Javelina Fed 4 SWD #1	Bell Canyon	5,350'				
	Cherry Canyon	2,430'				
	Brushy Canyon	7,780'				
Coyote Fed 14 SWD #1	Bell Canyon 5,200'					
	Cherry Canyon	6,250'	2,350'			
	Brushy Canyon	7,550'				
	Bell Canyon	5,275'				
Roadrunner Fed 26 SWD #1	Cherry Canyon	6,300'	2,475'			
	Brushy Canyon	7,750'				
Jackrabbit Fed SWD #1	Bell Canyon	5,250'				
	Cherry Canyon	6,350'	2,450'			
	Brushy Canyon	7,700'				

Offset Wells used to Estimate Reservoir/Geomechanical Properties

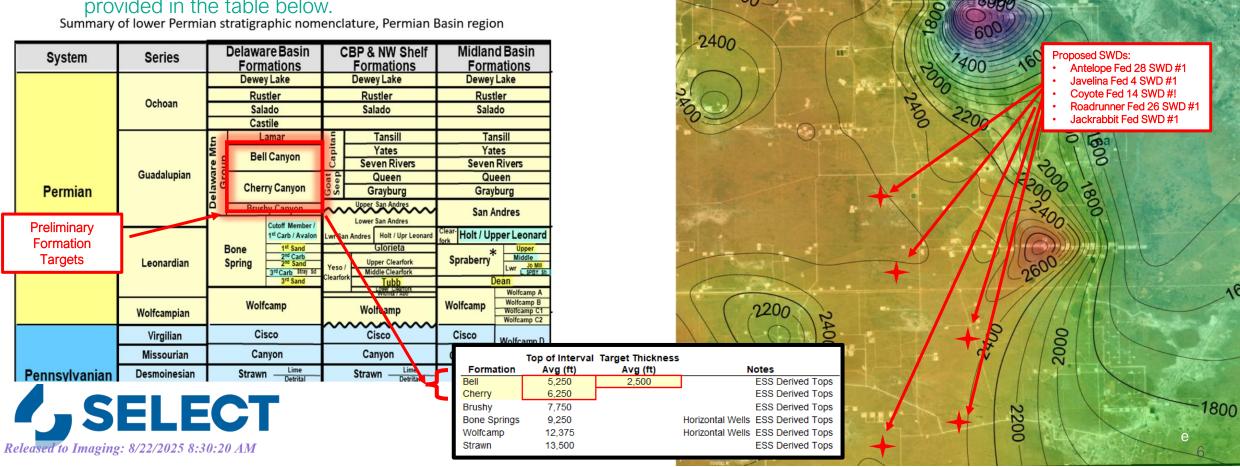
					Logs l	Logs Used to Ascertain Reservoir and Geomechanical Properties				
					Porosity	Rock Density	Water or Hydrocarbon bearing Layers	Lithology	Lithology	Geomechanical Properties
API Well Name	Lat. Long.	Interval of Interest	Top of Interval (feet	Thickness			Resistivity	Photoelectric		
300255186500 Salt Creek AGI 003	32° 1'40.67"N 103°16'39.73"W		1900		Yes	Yes	Yes	Yes	Yes	Yes
		Bell Canyon	5300	1900						
		Cherry Canyon	6200							
		Brushy Canyon (Approximation)	7200							
300253725700 Arena Roja Federal Unit 001	32° 0'44.66"N 103°21'11.39"W		4876		No	Yes	No	Yes	No	No
		Bell Canyon	5156	2494						
		Cherry Canyon (Approximation	6350							
		Brushy Canyon (Approximation)	7650							
300252253100 Demooy Federal 001	32° 3'8.46"N 103°20'40.96"W		1900		No	No	No	No	Yes	Yes
		Bell Canyon	5250	2375						
		Cherry Canyon (Approximation	6250							
		Brushy Canyon (Approximation)	7625						.,	
300252674700 Talco Unit 001	32° 3'34.62"N 103°20'41.02"W		1900		No	No	Yes	No	Yes	Yes
		Bell Canyon	5250	2400						
		Cherry Canyon	6250							
000050705000 0 1 1/7 0: 5 1004	000 4440 04881 40000445 05884	Brushy Canyon (Approximation)	7650							
300252735900 Perro Grande UT Strawn Fed 001	32° 4'13.84"N 103°24'15.85"W		1900	0505	No	No	Yes	No	Yes	No
		Bell Canyon	5350	2525						
		Cherry Canyon	6550							
200254245000 T-I 0 00 25 T-I 00011	200 2120 4411N 40202014C 54110A	Brushy Canyon (Approximation)	7875		V	V	V	V	V	NI-
300254345800 Talco 9 26 35 Federal 003H 32° 3'30.1	32° 3'30.11"N 103°22'16.54"W		5332	2440	Yes	Yes	Yes	Yes	Yes	No
		Bell Canyon	5360	2410						
		Cherry Canyon	6300 7770							
300254309000 Duo Sopnic 29 Federal 004H	32° 5'40.23"N 103°22'59.30"W	Brushy Canyon (Approximation)	5239		No	No	No	No	No	No
300 2 34303000 Duo Sopnic 29 Federal 004H	32 340.23 N 103 22 59.30 W	Bell Canyon	5239 5269	2558	140	INO	INO	INO	140	INO
			6329	2000						
		Cherry Canyon Brushy Canyon (Approximation)	7827							
300252686700 Reno Com 001 32° 8'55	32° 8'55.60"N 103°20'34.62"W		1900		Yes	Yes	Yes	Yes	No	Yes
Nello Colli oo i	32 0 35.00 N 103 20 34.02 W	Bell Canyon	5300	2025	162	162	res	162	140	res
		Cherry Canyon	6180	2023						
		Brushy Canyon (Approximation)	7325							
		brushy Carryon (Approximation)	1323							



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Isopach Thickness: Top of Bell Canyon - Bottom of Cherry Canyon

- Zones of interest (ZOI) are Bell Canyon and Cherry Canyon formations.
 - Average depth, thickness, and injection interval is provided in the table below.



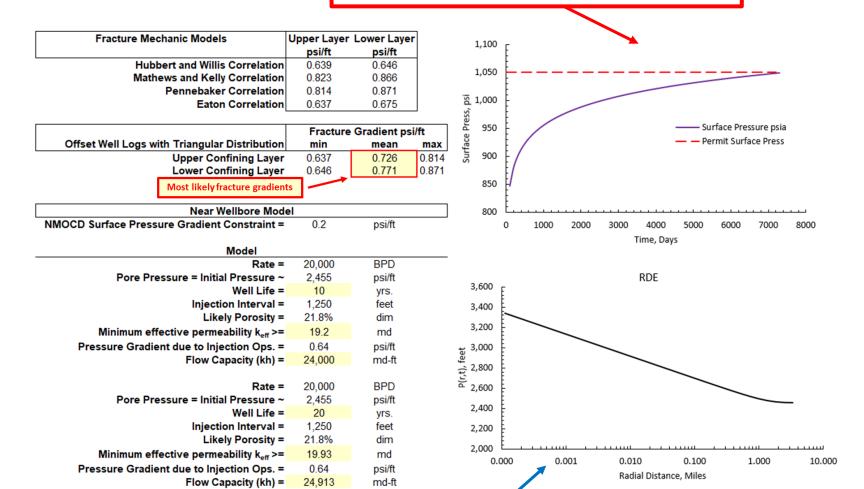
Findings

• Fracture Gradients:

- Fracture Models used to estimate fracture limits (Bourgoyne, 1986).
- Triangular distribution with cumulative distribution function was used to estimate the most probable fracture gradient.
 - Deviation from the most likely facture gradient will result in lower probable fracture gradient outcomes.
- Pressure gradients from injection operations are less than upper and lower confining layer fracture gradients indicating injectate confinement.

Near Wellbore Hydraulic Model:

• Coupling of reservoir and wellbore hydraulic models to estimate the pressure response as a function of injection rate (Spivey et.al, 2013, and Lee et.al, 2003).



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Radial Diffusion Model:

• Estimate of pressure diffusion with respect to SWD well life (Spivey et.al, 2013, and Lee et.al, 2003).

Conclusions

- Injection pressure into the Bell/Cherry Canyon is below the fracture pressures of the upper and lower confining zones (Injectate Confinement).
- Radial Diffusion Model shows that initial pressure of 2,455 psi will be approached at approximately two-miles away from the wellbore with an injection rate of 20k bwpd for 20years.
- Pressure Gradient (PG) near wellbore is approximately 0.64 psi/ft or 12.3 ppg EMW
 - Near Wellbore PG levels are around 0.64 psi/ft for 10 or 20-year time period.
- Simulations presented are for the least amount of flow capacity (kh) needed for disposal. We expect that the kh could be significantly higher due to additional height available and having higher reservoir porosity and permeability contrasts.
 - Step rate test will quantify the actual fracture gradient of the injection zone followed by a pressure fall off test to determine the actual reservoir properties.



References

- Applied Drilling Engineering by Bourgoyne:
 - Bourgoyne, A. T., Millheim, K. K., Chenevert, M. E., & Young, F. S. (1986). Applied drilling engineering. Society of Petroleum Engineers.
- Applied Well Test Interpretation by Spivey and Lee
 - Spivey, J. P., & Lee, W. J. (2013). Applied well test interpretation. Society of Petroleum Engineers.
- Pressure Transient Analysis by Lee, Rollins, and Spivey (SPE Textbook Volume 9)
 - Lee, W. J., Rollins, J. B., & Spivey, J. P. (2003). Pressure transient testing (Vol. 9). Society of Petroleum Engineers.

