AE Order Number Banner

Application Number: pMSG2325251964

SWD-2572

SOLARIS WATER MIDSTREAM, LLC [371643]

Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:

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: Solaris Water Midstream, LLC **OGRID Number:** 371643
Well Name: North Lusk 32 State SWD #1 **API:** 30-025-41525
Pool: SWD; DEV-FUS-MON-SIMP-ELL (Propose: Devonian-Silurian) **Pool Code:** 97775 (Propose 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

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

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

2) **NOTIFICATION REQUIRED TO:** Check those which apply.
A. ☒ Offset operators or lease holders
B. ☐ Royalty, overriding royalty owners, revenue owners
C. ☒ Application requires published notice
D. ☒ Notification and/or concurrent approval by SLO
E. ☒ Notification and/or concurrent approval by BLM
F. ☒ Surface owner
G. ☒ For all of the above, proof of notification or publication is attached, and/or,
H. ☐ No notice required

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.

Ben Stone
Print or Type Name

Signature

9/05/2023
Date

903-377-5696
Phone Number

ben@sosconsulting.us
e-mail Address

SOS Consulting, LLC
Oil & Gas Accounting - Regulatory Processing Assistance - Oil Field Technical Assistance
16 Years of Quality Service

September 5, 2023

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

Attn: Mr. Dylan Fuge, Director

Re: Application of Solaris Water Midstream, LLC to permit and otherwise reinstate for salt water disposal its North Lusk 32 State SWD #1, API 30-025-41525) located in Section 32, Township 19 South, Range 32 East, NMPM, Lea County, New Mexico.

Dear Mr. Fuge,

Please find enclosed form C-108 Application for Authority to Inject, supporting the above-referenced request to permit for disposal the subject well. The well was previously authorized by another operator for salt water disposal by division order SWD-1394. The subject well is one of many acquired by Solaris in the last few years and due to a combination of factors, including mechanical integrity, this well want inactive. By re-permitting the SWD, the applicant can again service disposal needs for other operators in the area.

Solaris Water Midstream, LLC seeks to optimize efficiency, both economically and operationally, of all its operations in southeast New Mexico. Approval of this application is consistent with that goal as well as the NMOCD's mission of preventing waste and protection of correlative rights.

Published legal notice ran in the September 3, 2023, edition of the Hobbs News-Sun and offset operators and other affected parties have been notified individually. All required information and attachments are included for a complete Form C-108. The well is located on state land and minerals.

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

Best regards,

Ben Stone, Partner
SOS Consulting, LLC
Agent for Solaris Water Midstream, LLC

Cc: Application attachment and file

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: ***Salt Water Disposal*** and the application ***QUALIFIES*** for administrative approval.

II. OPERATOR: ***Solaris Water Midstream, LLC***
ADDRESS: ***907 Tradewinds Blvd., Midland, TX 79706***

CONTACT PARTY: ***Agent: SOS Consulting, LLC – Ben Stone (936) 377-5696***

III. WELL DATA: ***All Well Data and Applicable Wellbore Diagrams and Packer Info are ATTACHED.***

IV. ***This is not an expansion of an existing project.***

V. ***A map is attached*** 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. A ***Tabulation is ATTACHED*** of data on all wells of public record within the area of review which penetrate the proposed injection zone. ***There are NO wells in the subject AOR which Penetrate the proposed DEVONIAN interval.*** The data includes a description of each well's type, construction, date drilled, location, depth, and a schematic of any plugged well illustrating all plugging detail. ***NO P&A well penetrates.***

VII. ***The following data is ATTACHED*** 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. ***Appropriate geologic data on the injection zone is ATTACHED*** 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. ***Stimulation program – a conventional acid job of up to 25,000 gals. may be performed to clean and open the formation.***

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted). ***Well Logs are ON FILE with OCD.***

*XI. ***There is 1 P&A'd water well within one mile of the proposed salt water disposal well per OSE data.***

XII. ***An affirmative statement is ATTACHED that available geologic and engineering data has been examined and no evidence was found*** of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. ***"Proof of Notice" section on the next page of this form has been completed and ATTACHED. There are 9 offset lessees and/or operators within ONE mile plus State and Federal minerals - all have been noticed. Location is STATE.***

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: ***Ben Stone*** TITLE: ***SOS Consulting, LLC agent for Solaris Water Midstream, LLC***

SIGNATURE: _____ DATE: ***9/05/21/2023***

E-MAIL ADDRESS: ***ben@sosconsulting.us***

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

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

FORM C-108 – APPLICATION FOR AUTHORIZATION TO INJECT (cont.)

III. WELL DATA – ***The following information and data is included (See ATTACHED Wellbore Schematic):***

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 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 details 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 ***pursuant to the following criteria is ATTACHED.***

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

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

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

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

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

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

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

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-41525	97775	SWD; Dev-Fus-Mon-Simp-Ell

[4] Property Code	[5] Property Name	[6] Well Number
326896	North Lusk 32 State SWD	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
371643	Solaris Water Midstream, LLC	3685'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	32	18S	32E		1550'	FSL	1800'	FWL	Lea

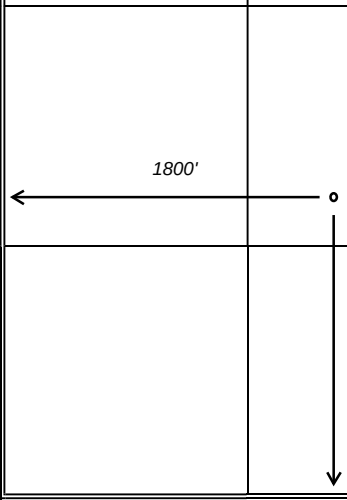
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
same									

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
n/a			

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.

[16]



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 8/15/2023

Ben Stone
Printed Name

ben@sosconsulting.us
E-mail Address

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

August 30, 2013
Date of Survey

Signature and Seal of Professional Surveyor:

Chad L. Harcrow
17777
Certificate Number

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

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-41525	97869	SWD; Devonian-Silurian (PROPOSED)

[4] Property Code	[5] Property Name	[6] Well Number
326896	North Lusk 32 State SWD	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
371643	Solaris Water Midstream, LLC	3685'

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UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
same									

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
n/a			

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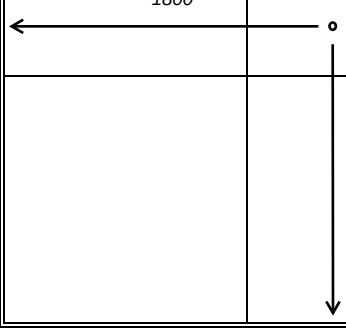
[16]



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Signature 8/15/2023 Date

Ben Stone
Printed Name

ben@sosconsulting.us
E-mail Address

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

August 30, 2013
Date of Survey

Signature and Seal of Professional Surveyor:

Chad L. Harcrow
17777
Certificate Number

C-108 - Items III, IV, V

Item III - Subject Well Data

Wellbore Diagram – CURRENT (TA'd)
Wellbore Diagram – PROPOSED
Arrow I-XS Packer Diagram & Specs

Item IV – Tabulation of AOR Wells

NO (0) Wells Penetrate the Proposed Injection Interval.

Item V – Area of Review Maps

1. Two Mile AOR Map with One-Mile Fresh Water Well Radius

2. One-Mile AOR Map

All Above Exhibits follow this page.

Form C-108 Item VI - Tabulation of AOR Wells

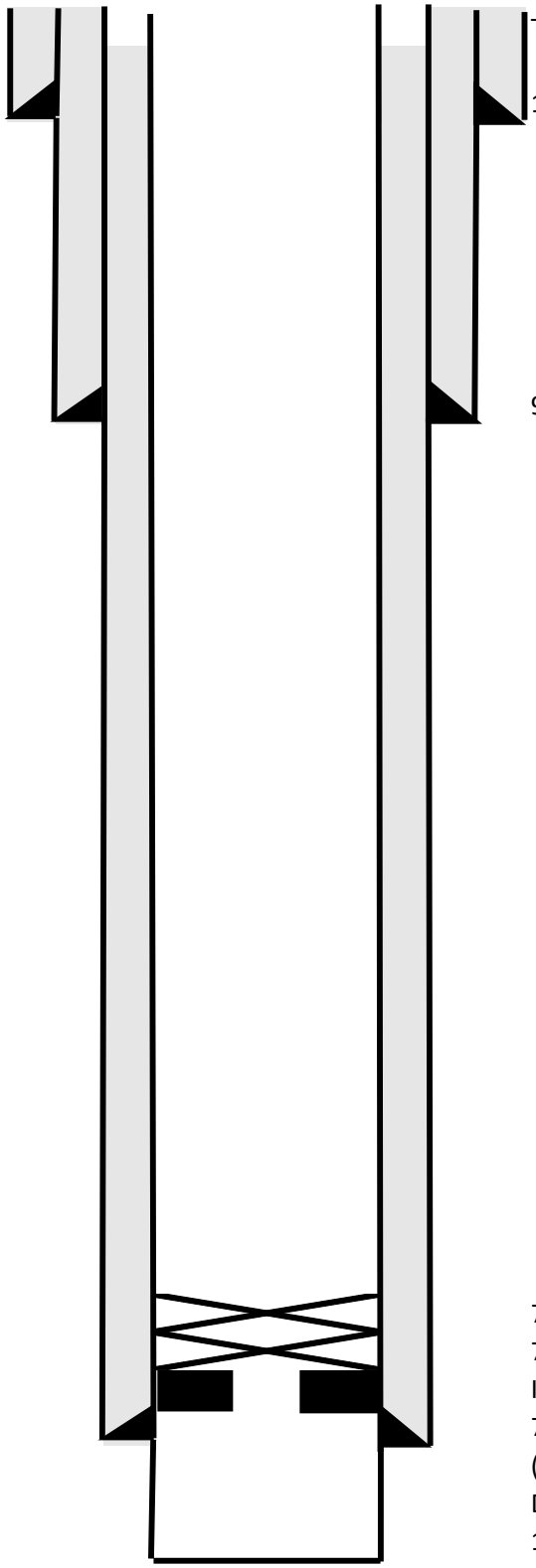
	Top of Proposed DEVONIAN Interval 13,800'				*NO Wells (0) Penetrate Proposed Interval.*				
API	Current Operator	Well Name	Type	Status	Lease	ULSTR	Depth (V)	Spud Dt.	Plug Dt.
Subject Well									
30-025-41525	**SOLARIS WATER MIDSTREAM, LLC**	**NORTH LUSK 32 STATE SWD #001**	**SWD**	**Active**	**State**	**K-32-18S-32E**	**15131'**	**10/7/1992**	
Sections 4, 5, 6 Wells									
30-025-40313	COG OPERATING LLC	PEASHOOTER 4 FEDERAL COM #001H	Oil	Active	State	D-04-19S-32E	9616'	2/19/2010	
30-025-37210	COG OPERATING LLC	VALHALLA 4 FEDERAL COM #001	Oil	Active	State	D-04-19S-32E	12980'	12/31/9999	
30-025-37590	COG OPERATING LLC	BONANZA FEDERAL #001	Gas	Active	State	05-19S-32E	13119'	3/10/1980	
30-025-40773	COG OPERATING LLC	PATTERSON B 52 FEDERAL COM #002H	Oil	Active	Federal	A-05-19S-32E	11080'	8/11/2010	
30-025-20915	RAY WESTALL	SB FEDERAL #001	Oil	P&A-R	State	E-05-19S-32E	9641'	5/22/2010	12/31/9999
30-025-26901	WARREN E & P,INC.	SHELLY FED. COM #001	Oil	P&A-R	Federal	H-05-19S-32E	13060'	7/30/1980	3/2/2004
30-025-39638	COG OPERATING LLC	PATTERSON B 52 FEDERAL #003H	Oil	Active	State	J-05-19S-32E	9630'	8/28/2010	
30-025-39289	COG OPERATING LLC	PATTERSON B 52 FEDERAL #004H	Oil	Active	Federal	L-05-19S-32E	9303'	10/9/2012	
30-025-41097	COG OPERATING LLC	HAAS 6 FEDERAL COM #001H	Oil	Active	State	A-06-19S-32E	9369'	3/15/2009	
30-025-00888	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Federal	B-06-19S-32E	5482'	6/19/1996	7/4/1996
30-025-00890	MACK ENERGY CORP	W H PECKHAM #001	Oil	P&A-R	Federal	G-06-19S-32E	9461'	11/15/2011	12/31/9999
30-025-20913	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Federal	G-06-19S-32E	13096'	8/7/2005	12/31/9999
30-025-37734	COG OPERATING LLC	HEIDI HO FEDERAL COM #001	Gas	New	Federal	H-06-19S-32E	4252'	7/29/1947	
30-025-43181	COG OPERATING LLC	HAAS 6 FEDERAL COM #004H	Oil	New	Federal	H-06-19S-32E	4300'	1/1/1900	
30-025-43173	COG OPERATING LLC	HAAS 6 FEDERAL COM #002H	Oil	New	Federal	H-06-19S-32E	9807'	8/17/2008	
Section 29 Wells									
30-025-40706	CHEVRON U S A INC	CROSS BONES 2 29 #001H	Oil	Active	Federal	M-29-18S-32E	4256'	1/1/1900	
30-025-32177	SANTA FE ENERGY OPER. PRTNRS. LP	WATKINS 29 FEDERAL #001	Oil	P&A-R	Federal	N-29-18S-32E	3196'	1/1/1900	1/1/1900
30-025-34673	CHEVRON U S A INC	NORTH LUSK 29 FEDERAL #001	Oil	Active	Federal	N-29-18S-32E	4265'	12/31/9999	
Section 31 Wells									
30-025-35690	COG OPERATING LLC	EGL FEDERAL #001	Oil	Active	Federal	A-31-18S-32E	10150'	6/27/2008	
30-025-37465	COG OPERATING LLC	SDL 31 FEDERAL #001	Oil	New	Federal	B-31-18S-32E	9980'	10/11/2005	
30-025-00880	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Federal	G-31-18S-32E	4264'	12/31/9999	4/26/2007
30-025-38157	COG OPERATING LLC	LPC 31 FEDERAL #002	Oil	Active	Federal	G-31-18S-32E	11310'	6/26/2010	
30-025-37440	COG OPERATING LLC	LPC 31 FEDERAL #001	Oil	P&A-R	Federal	G-31-18S-32E	4180'	1/1/1900	1/1/1900
30-025-21252	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Private	H-31-18S-32E	4383'	12/31/9999	8/4/1994
30-025-25243	C W STUMHOFFER	FEDERAL CST #002	Oil	P&A-R	Federal	J-31-18S-32E	4264'	12/31/9999	12/31/9999
30-025-39593	E G L RESOURCES INC	LUSK 31 FEDERAL #003	Oil	Active	Federal	J-31-18S-32E	12620'	8/24/2000	
30-025-25259	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #003	Oil	P&A-R	Federal	K-31-18S-32E	11471'	1/1/1900	1/1/1900
30-025-39079	E G L RESOURCES INC	LUSK 31 FEDERAL #002	Oil	Active	Federal	K-31-18S-32E	9807'	12/31/9999	
30-025-00883	STEPHENS & JOHNSON OP CO	MAY HIGHTOWER FEDERAL #001	Oil	Active	Federal	N-31-18S-32E	12825'	10/1/2001	
30-025-25138	C W STUMHOFFER	FEDERAL CST #001	Oil	P&A-R	Federal	O-31-18S-32E	11473'	1/1/1900	12/31/9999

30-025-00882	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Federal	O-31-18S-32E	11620'	1/1/1900	1/1/1900
30-025-35073	E G L RESOURCES INC	LUSK 31 FEDERAL COM #001	Gas	Active	Federal	O-31-18S-32E	12620'	12/31/9999	
30-025-21400	BEACH EXPLORATION INC	MOLEEN FEDERAL #001	Oil	P&A-R	Federal	P-31-18S-32E	9205'	10/3/2013	12/31/9999
Section 32 Wells									
30-025-39571	RAYBAW Operating, LLC	HULKSTER #004	Oil	Active	Federal	A-32-18S-32E	9641'	12/31/9999	
30-025-39570	RAYBAW Operating, LLC	HULKSTER #003	Oil	Active	Federal	B-32-18S-32E	9388'	9/8/2012	
30-025-35747	RAYBAW Operating, LLC	N LUSK 32 STATE #001	Oil	Active	State	C-32-18S-32E	12930'	12/2/2001	
30-025-38446	RAYBAW Operating, LLC	HULKSTER #001	Oil	Active	State	D-32-18S-32E	11600'	1/1/1900	
30-025-38844	RAYBAW Operating, LLC	HULKSTER #002	Oil	Active	Federal	E-32-18S-32E	9313'	1/25/2011	
30-025-31735	RAYBAW Operating, LLC	WATKINS 32 STATE #001	Oil	Active	Federal	F-32-18S-32E	11440'	10/17/1964	
30-025-26754	RAYBAW Operating, LLC	MAX STATE #001	Oil	Active	State	G-32-18S-32E	9890'	12/20/2004	
30-025-39572	RAYBAW Operating, LLC	HULKSTER #005	Oil	Active	State	H-32-18S-32E	9983'	2/2/2008	
30-025-38865	COG OPERATING LLC	LEAR STATE #001H	Oil	Active	State	I-32-18S-32E	9490'	8/17/2008	
30-025-26703	MARBOB ENERGY CORP	LEAR STATE SWD #003	Oil	P&A-R	State	J-32-18S-32E	9353'	8/15/2009	12/31/9999
30-025-41525	SOLARIS WATER MIDSTREAM, LLC	NORTH LUSK 32 STATE SWD #001	SWD	Active	State	K-32-18S-32E	12922'	10/7/1992	
30-025-36953	OXY USA INC	NORTH LUSK 32 STATE #003	Oil	Active	State	K-32-18S-32E	15131'	8/14/2015	
30-025-35748	OXY USA INC	NORTH LUSK 32 STATE #001	Oil	Active	Federal	L-32-18S-32E	8700'	8/19/1993	
30-025-21443	LATIGO PETROLEUM, INC.	NORTH LUSK 32 STATE #002	Oil	P&A-R	State	M-32-18S-32E	9838'	1/28/2005	12/31/9999
30-025-36982	OXY USA INC	NORTH LUSK 32 STATE #005	Oil	Active	Federal	M-32-18S-32E	11850'	8/17/1999	
30-025-38866	COG OPERATING LLC	LEAR STATE #002H	Oil	Active	Federal	N-32-18S-32E	12960'	8/3/2006	
30-025-33411	CHEVRON U S A INC	PATTERSON 33 FEDERAL #001	Oil	P&A-R	State	L-33-18S-32E	11852'	11/17/2001	12/31/9999

SUMMARY: NO wells penetrate the proposed disposal interval, NO P&A wells penetrate.

1550' FSL, 1800' FWL
K-32-18s-32e
Lea, NM
30-025-41525

Zero:	25.8' agl	C108	SWD-1394
KB elev:	3711.2'	Max Press	2760 psi
GL elev:	3685.4'	Permit	13800-15250'
		Actual	13965-15136'
		Approved	2/5/2013



17.5"

12.25"

8.75"

6.125"

TOC 7" 396' CBL

13-3/8"/54.5/J55/STC @ 1171'

700 sx "C" 4% gel + 250 sx "C"
(circ 127 sx)

9-5/8"/40/J55,L80/BTC @ 5120'

1275 sx HLC + 250 sx "C"
(circ 71 sx)

Tubing:
5" latch seal assby Inconel 718
4.5" BTC Inconel 718 xo
2.812" F nipple Inconel 718
325 jts 4.5"/13.1/P110/BTC Glassbore
1-2', 2-20' Glassbore subs
4.5" Inconel 718 BTC pin x
BTC pin xo at top of string

Packer:
7"x5"x4" Permapak Pkr Inconel 718
2.812" R nipple Inconel 718

Wellhead:
7-1/16" 2205 Duplex tbg hngr BTC
7-1/16" 3k x 4-1/16" 5k 316ss THA
4-1/16" 5k 316ss tree (2 master,
tee, crown cap--3600 psi WP)

7" RBP - Tryton @ 13,857'
7" RBP - Tryton @ 13,905'
Inj Pkr 13915'
7"/29/P110/LTC @ 13955'
(7" shoe 13965' wireline logs)
Devonian/Silurian OH
13965-15136'

1800 sx HLC + 250 sx "H"
(circ 385 sx)

15136' logs
15131' drillers

Jan 2016: Went into service.

SOLARIS WATER MIDSTREAM, LLC

WELL SCHEMATIC - PROPOSED

North Lusk 32 State SWD Well No.1

API 30-025-41525

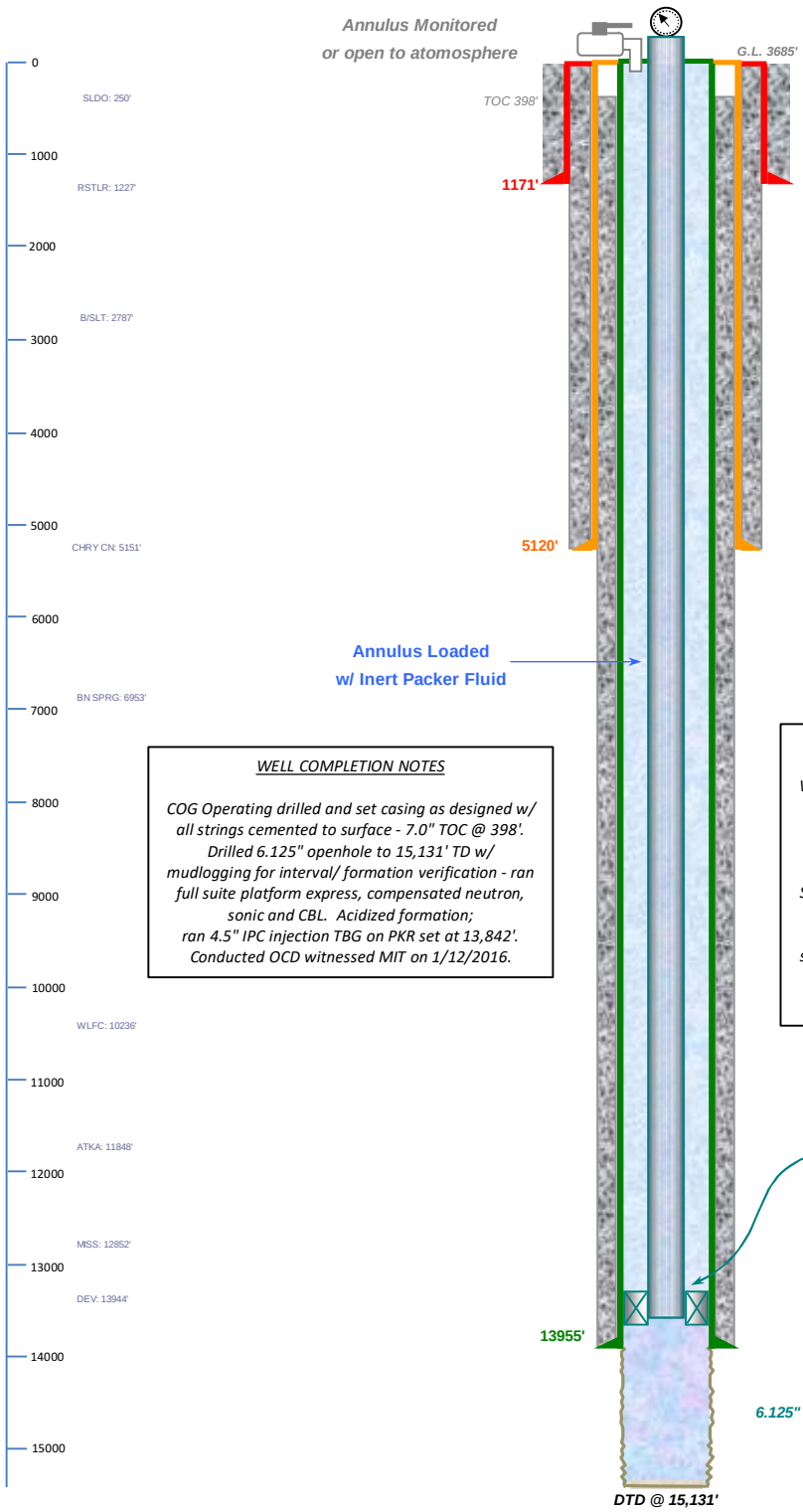
1550' FSL & 1800' FWL, SEC. 32-T18S-R32E
LEA COUNTY, NEW MEXICO

SWD; DEV-FUS-MON-SIMP-ELL (97775)

Spud Date: 8/14/2015
SWD Config Dt: 11/20/2015

Annulus Monitored or open to atomosphere

Injection Pressure Regulated and Volumes Reported
2791 psi Max. Surface (0.2 psi per foot)



Surface Casing

13.375", 54.5# J-55 Csg. (17.5" Hole) @ 1171'
950 sx - Circulated to Surface

Intermediate Casing

9.625", 49.0# J-55 Csg. (12.25" Hole) @ 5120'
1525 sx - Circulated to Surface

Annulus Loaded w/ Inert Packer Fluid

4.5" IPC Tubing set in PKR ~13,855'+

(Within 100' of Uppermost Disposal Interval)

Production Casing

7.0", 29.0# P-110 Csg (8.75" Hole) 5,120' to 13,955'
2050 sx Cls H - TOC @ 398'

6.125" Openhole Interval: 13,955' to 15,131'

WELL COMPLETION NOTES

COG Operating drilled and set casing as designed w/ all strings cemented to surface - 7.0" TOC @ 398'. Drilled 6.125" openhole to 15,131' TD w/ mudlogging for interval/ formation verification - ran full suite platform express, compensated neutron, sonic and CBL. Acidized formation; ran 4.5" IPC injection TBG on PKR set at 13,842'. Conducted OCD witnessed MIT on 1/12/2016.

Solaris Water Midstream, LLC

SWD OPERATIONAL NOTES

Well injected from early 2016 to November 2019 when mechanical integrity issued were discoverd. Well was shut in for evaluation after being acquired by Solaris Water Midstream in July 2019. Solaris monitored the well and inected small volumes to check mechanical integrity over 2020 and 2021. SWD-1394 Injection authority was effectively lost in October 2022.

August 2023, Solaris pulled the tubing and identified a damaged section. While a new C-108 was being prepared, Solaris intends to set 2 retrievable bridge plugs and temporarily abandon the well until new SWD approval is received.

Drawn by: Ben Stone, 8/21/2023

SOS Consulting, LLC

Weatherford®

Packer Systems

Arrowset I-XS Mechanical Packer

Weatherford's Arrowset I-XS mechanical packer is a versatile, field-proven retrievable double-grip packer for isolating the annulus from the production conduit. The packer can be set with tension or compression.

A patented upper-slip releasing system reduces the force required to release the packer. A nondirectional slip is released first, making it easier to release the other slips. The packer also has a straight-pull safety release.

Applications

- Production
- Pumping
- Injection
- Fiberglass tubing
- Completions requiring periodic casing-integrity tests
- Zonal isolation

Features, Advantages and Benefits

- The design holds differential pressure from above or below, enabling the packer to meet most production, stimulation, and injection needs.
- The packer can be set with compression or tension, 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 is washed from the slips when the valve is opened, reducing the times for circulation and total retrieval.
- The packer can be run with Weatherford's T-2 on-off tool, which enables the tubing to be disconnected and retrieved without retrieving the packer.

Arrowset I-XS Mechanical Packer

Specifications

Casing				Packer			
OD (in./*mm*)	Weight (lb/ft, *kg/m*)	Minimum ID (in./*mm*)	Maximum ID (in./*mm*)	Maximum OD (in./*mm*)	Minimum ID (in./*mm*)	Standard Thread Connection (in./*mm*)	Product Number
4-1/2 *114.3*	9.5 to 13.5 *14.1 to 20.1*	3.920 *99.57*	4.090 *103.89*	3.750 *95.25*	1.985 *50.42*	2-3/8 EUE 8 Rd	604-45
5-1/2 *139.7*	14.0 to 17.0 *20.8 to 25.3*	4.892 *124.26*	5.012 *127.30*	4.515 *114.68*	1.985 *50.42*	2-3/8 EUE 8 Rd	604-55
				4.625 *117.48*		2-7/8 EUE 8 Rd	604-56
	20.0 to 23.0 *29.8 to 34.2*	4.670 *118.62*	4.778 *121.36*	4.515 *114.68*		2-3/8 EUE 8 Rd	604-57
						2-7/8 EUE 8 Rd	604-59-000
6-5/8 *168.3*	24.0 to 32.0 *35.7 to 47.6*	5.675 *144.15*	5.921 *150.39*	5.515 *140.08*	2.375 *60.33*	2-7/8 EUE 8 Rd	604-65
	17.0 to 24.0 *25.3 to 35.7*	5.921 *150.39*	6.135 *155.83*	5.750 *146.00*			604-68
7 *177.8*	17.0 to 26.0 *25.7 to 39.3*	6.276 *159.41*	6.538 *166.07*	5.515 *140.08*	2.375 *60.33*	2-7/8 EUE 8 Rd	604-72
				6.000 *152.40*	3.000 *76.20*	3-1/2 EUE 8 Rd	604-74

Options

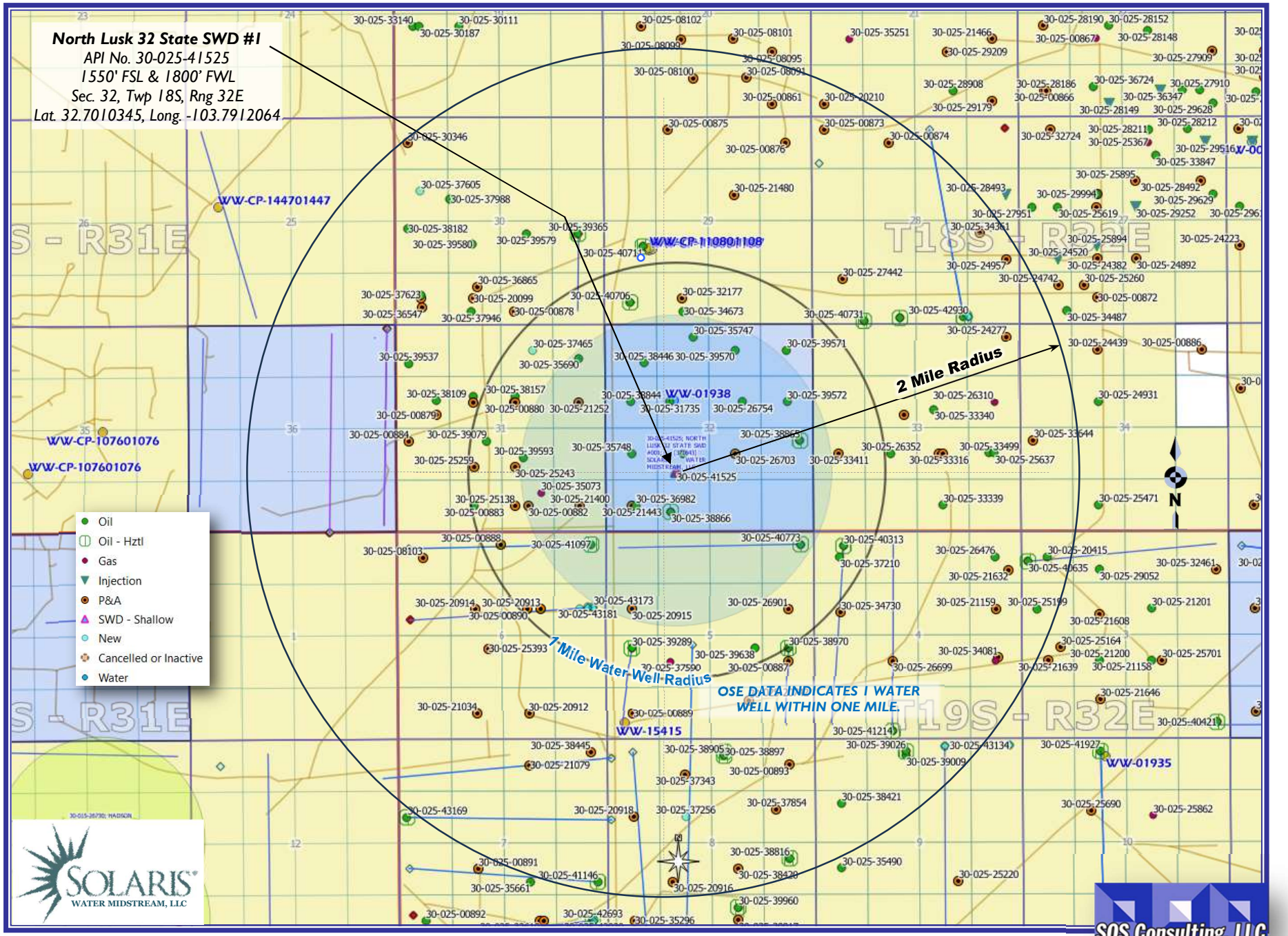
- Elastomer options are available for hostile environments.

For internal use

Link to Endeca assembly part numbers: Arrowset I-XS Mechanical Packer

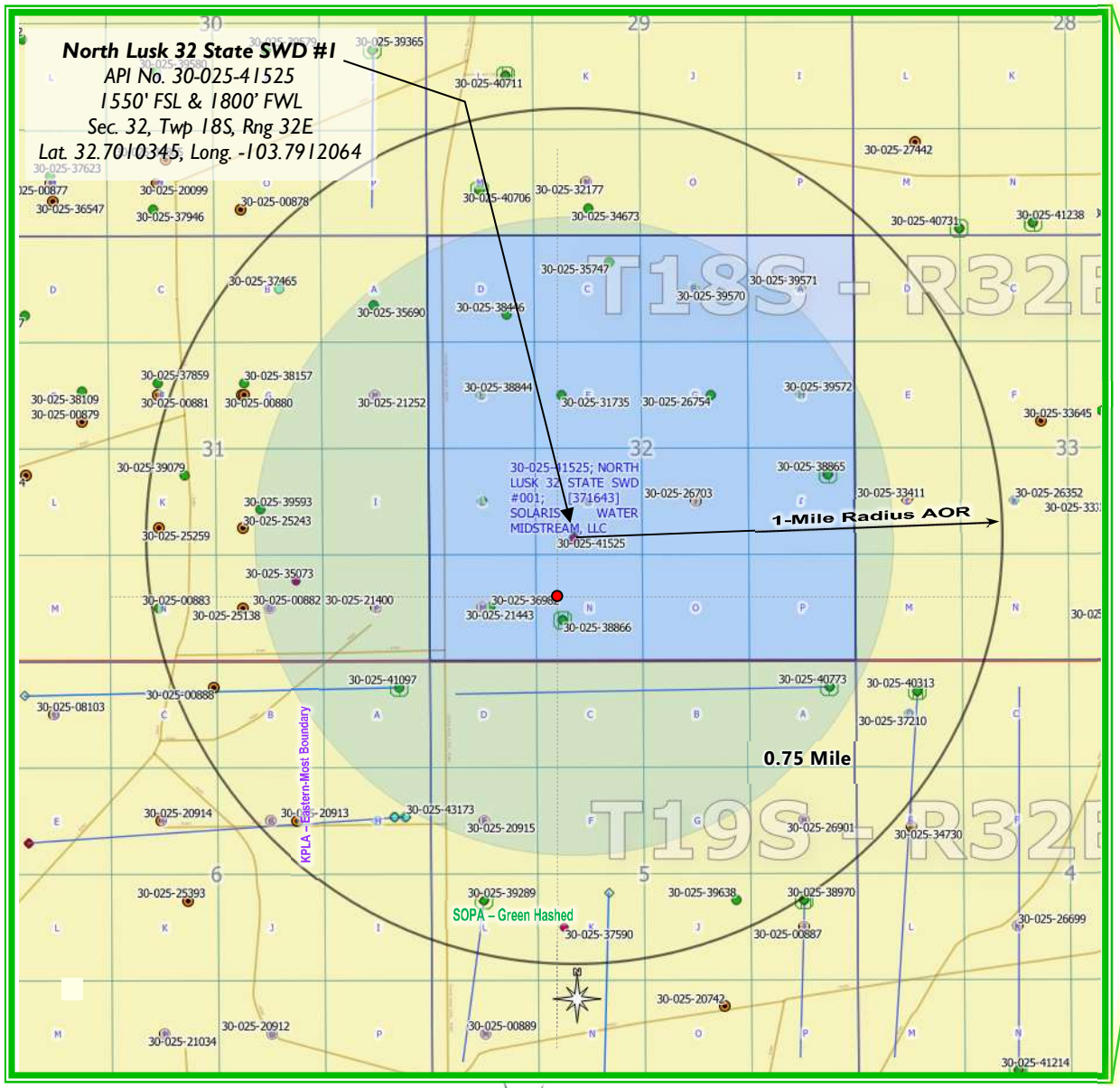
North Lusk 32 State SWD #1 - Area of Review / 2 Miles

(Attachment to NMOCD Form C-108 - Item V)

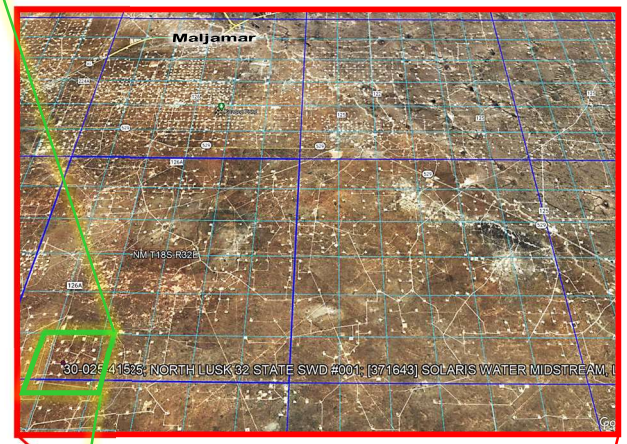


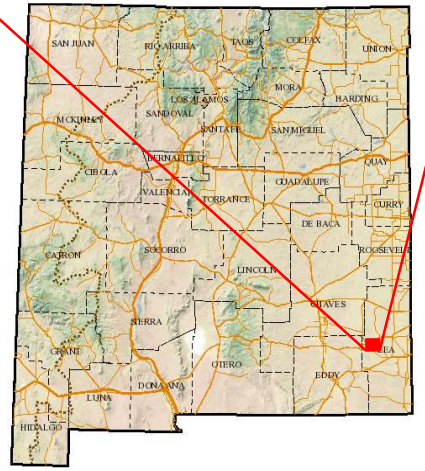
North Lusk 32 State SWD Well #1 - Area of Review / Overview Map

(Attachment to NMOCD Form C-108, Application for Authority to Inject.)



~10.7 miles S/SW of Maljamar, NM





Lea County, New Mexico

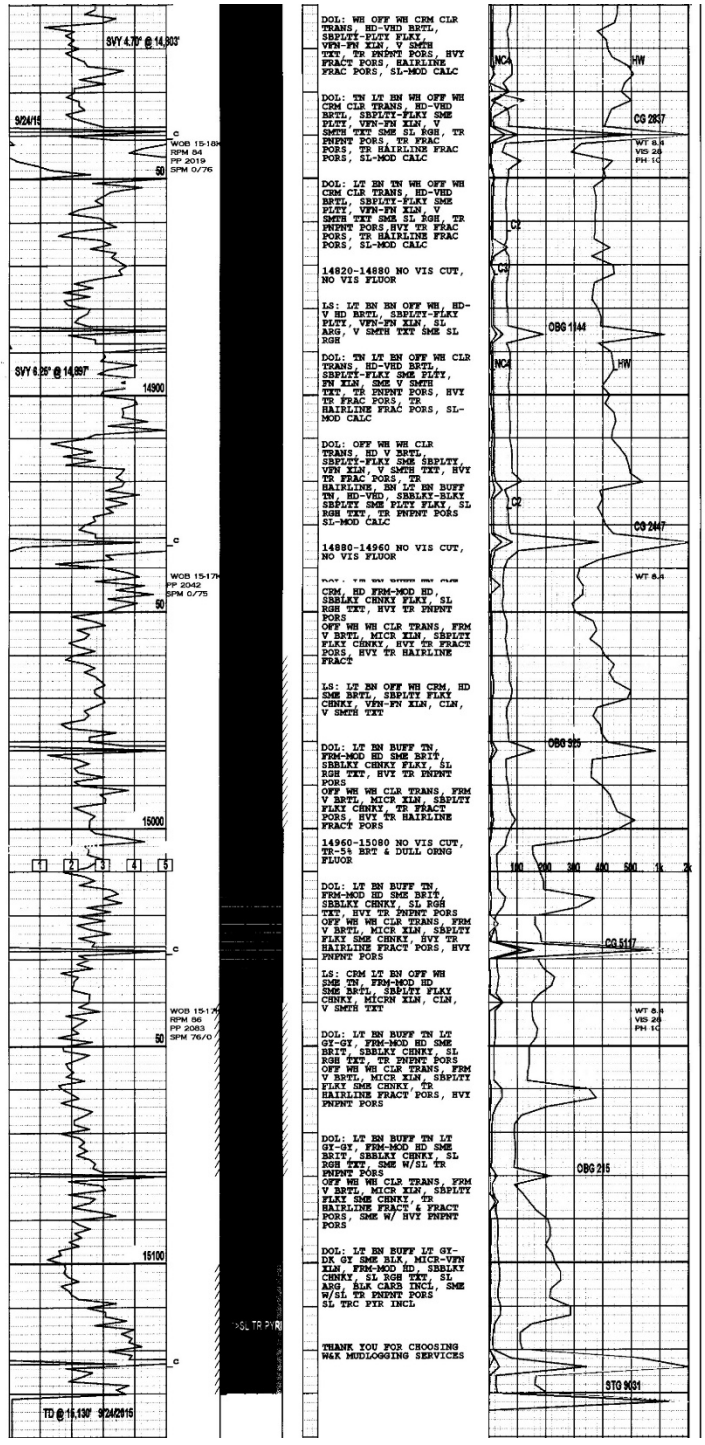
SOLARIS WATER MIDSTREAM, LLC

SOS Consulting, LLC

C-108 ITEM X – LOGS and AVAILABLE TEST DATA

Log Strip from the subject well – lower 300 feet.

This well has previously been permitted for SWD and logs are on file with the division. A strip of the mud log is shown here to support the statement in the geo opinion that consistent dolomitic structure is shown throughout and to total depth of the well. We are confident that the lower Ordovician interval is Fusselman and openhole stops above the Simpson formation.



C-108 ITEM VII – PROPOSED OPERATION

North Lusk 32 State SWD No.1

Commercial SWD Facility

The subject SWD commenced injection in January 2016. Rates were modest, averaging 1000 to 2000 bwpd at 0 psi, presumably vacuum. Injection continued at similar rates, often much less, until September/ October 2016 when the well failed a mechanical integrity test. In August 2021, 35 bbls was pumped while monitoring the annulus to confirm an issue with the tubing. The tubing was pulled in July 2023 and the bad section was identified. The tubing is stacked for now and Solaris will file a TA sundry to secure the well while this C-108 is being reviewed and approval is received to reinstate the well for SWD.

Configure for Salt Water Disposal

Solaris recently pulled the tubing and identified a bad joint. They have filed a sundry to temporarily abandon the well while this C-108 is being processed – a current wellbore diagram is included to reflect the TA status of the well with 2 retrievable bridge plugs set above the casing shoe.

Prior to commencing any additional work to run the tubing back in or otherwise reconfigure the SWD, NOI sundry(ies) will be submitted and will detail the completion workover including all work otherwise described above, any change to the procedure noted herein and to perform mechanical integrity pressure test per OCD test procedures. (Notify NMOCD 24 hours prior.) The casing/tubing annulus will be monitored for communication with injection fluid or loss of casing integrity.

Operational Summary

The well and injection equipment will be a closed system and equipped with pressure limiting devices and volume meters. The annulus, loaded with an inert, anti-corrosion packer fluid, will be monitored for pressure.

The tanks will be equipped with telemetry devices and visual alarms to alert the operator and customers of full tanks or an overflow situation.

Anticipated daily maximum volume is 25,000 bpd and an average of 20,000 bpd at a maximum surface injection pressure of 2791 psi (.2 psi/ft gradient – maximum pressure will be adjusted If the top of interval is modified after well logs are run).

Potential releases will be contained and cleaned up immediately. The operator shall repair or otherwise correct the situation within 48 hours before resuming operations. OCD will be notified within 24 hours of any release greater than 5 bbls. If required, remediation will start as soon as practicable. The operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as necessary and appropriate.

C-108 – Item VIII

Geologic Information

The Devonian, Silurian and upper Ordovician consist of carbonates including light colored (beige to light tan) dolomite and chert intervals interspersed with some tight limestone intervals. Several thick sections of porous dolomite capable of taking water are present within the subject formations in the area. Several thick sections of porous dolomite capable of taking water are present within the subject formations in the area. Original depth control data was inferred from deep wells in the vicinity and from logs once the well was drilled. The top of the Devonian, estimated at 13,800 feet came in slightly deeper than anticipated at 13,944 feet. The Silurian and Ordovician rocks came near expectations and the well was drilled deep enough for adequate logging rathole to a total depth of 15, 131 feet.

Mud logging through the interval ensured the target interval remained in Devonian, Silurian and upper Ordovician (Fusselman). The mud log shows consistent dolomite throughout the section all the way to TD. The casing shoe was set at 13,955 feet and when previously permitted, injection has occurred through the resulting openhole interval. Admittedly, the well depth may be very near the Simpson, for this reason, drilling was terminated prior to the original estimated total depth of 15,250 feet.

The Devonian is overlain by the Woodford Shale and the Fusselman is underlain by the Simpson, McKee, and Ellenburger. *(See following exhibit for Woodford Shale…)*

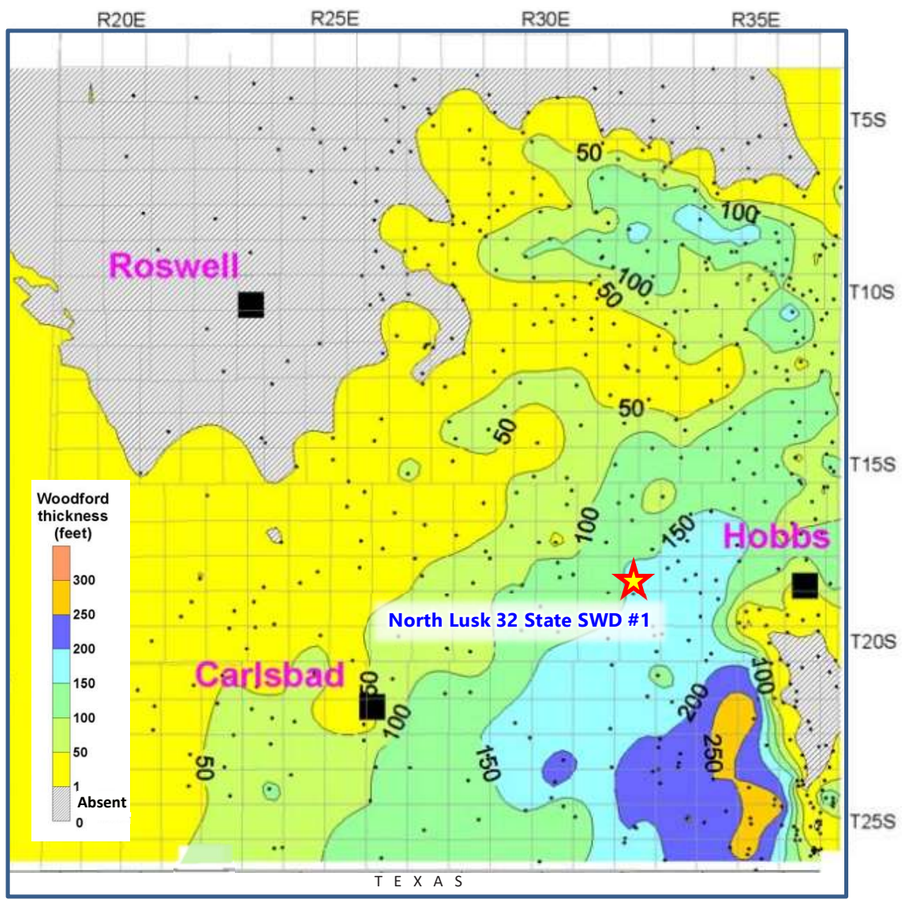
Fresh water in the area is limited but may be generally available from the Santa Rosa or Dewey Lake formations. State Engineer's records show water wells in the area with an average depth to groundwater of 318 feet in the township. OSE records indicated 1 water well/ monitor well within one mile of the subject SWD however, it was drilled and subsequently plugged at no or little water show. *(Documented in water well section.)*

Disposal Zone – *Confining Strata, Structure, Stratigraphy*

Note – *The North Lusk 32 State SWD Devonian is overlain by ~150 feet of Woodford Shale followed by lower Mississippian and Barnett Shale. The proposed Silurian portion of the interval includes part of the Fusselman. The zone is underlain by the Montoya, Simpson and Ellenburger formations.*

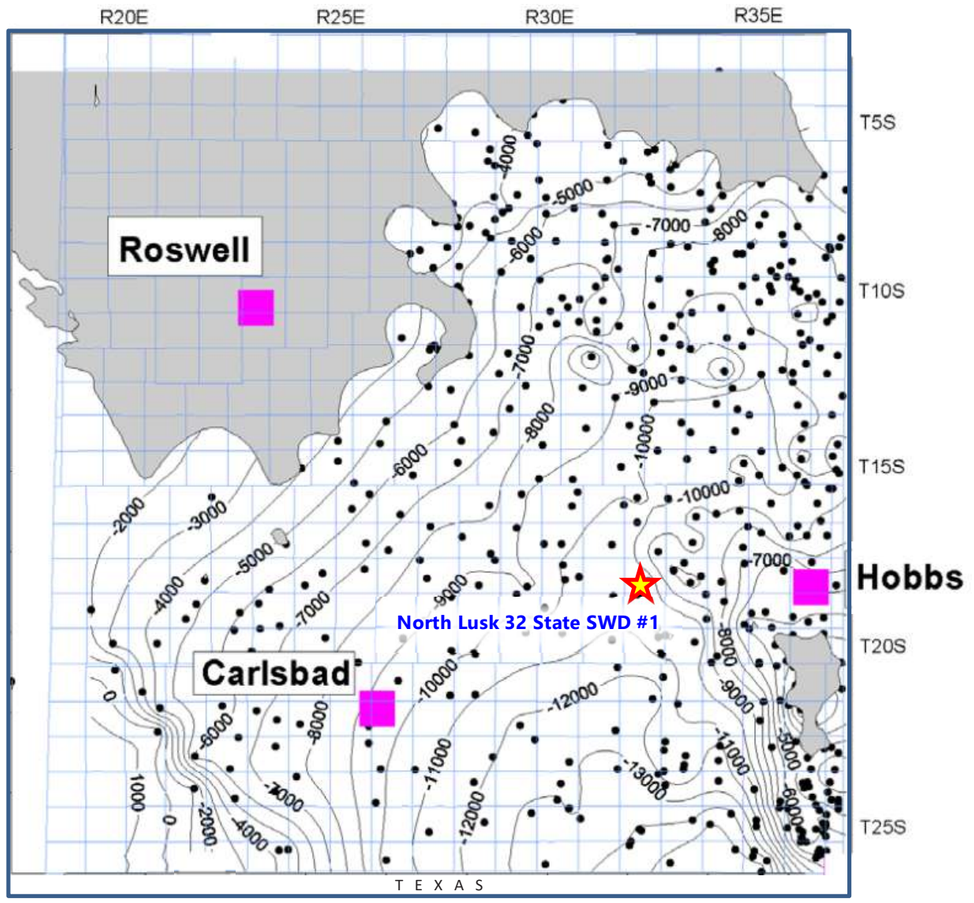
Woodford Shale Isopach Map

Pseudo-corrected thickness



Isopach map of the Woodford Shale constructed by correcting apparent thickness to true thickness in wells with dipmeter logs and by omitting wells with local anomalous and overly thick Woodford.

Structure on Siluro-Devonian Carbonates



Structure contours on Siluro-Devonian carbonate strata (Wristen Group and Thirtyone Formation) in southeastern New Mexico. The northerly limit of contours coincides with the northern extent of the Woodford Shale.

Above Figures from ***Regional aspects of the Wristen petroleum system, southeastern New Mexico; Ronald F. Broadhead, 2005***

Stratigraphic Column

Age		Strata
TRIASSIC		Chinle
		Santa Rosa
PERMIAN	Ochoan	Dewey Lake
		Rustler
		Salado
		Castile
	Guadalupian	Delaware Mountain Group: Bell Canyon
		Delaware Mountain Group: Cherry Canyon
		Delaware Mountain Group: Brushy Canyon
		Cutoff Fm.
	Leonardian	Bone Spring
	Wolfcampian	Hueco ("Wolfcamp")
PENNSYLVANIAN	Virgilian	Cisco
	Missourian	Canyon
	Des Moinesian	Strawn
	Atokan	Atoka
	Morrowan	Morrow
MISSISSIPPIAN		Barnett
		Undivided limestones
DEVONIAN	Upper	Woodford
	Middle	DEVONIAN/ SILURIAN/ UPPER ORDO. TARGET INTERVAL
	Lower	
SILURIAN	Upper	
	Middle	
	Lower	Fusselman
ORDOVICIAN	Upper	Montoya
		Simpson
	Middle	Ellenburger
	Lower	Bliss
CAMBRIAN		
PRECAMBRIAN		Igneous, metamorphics, volcanics

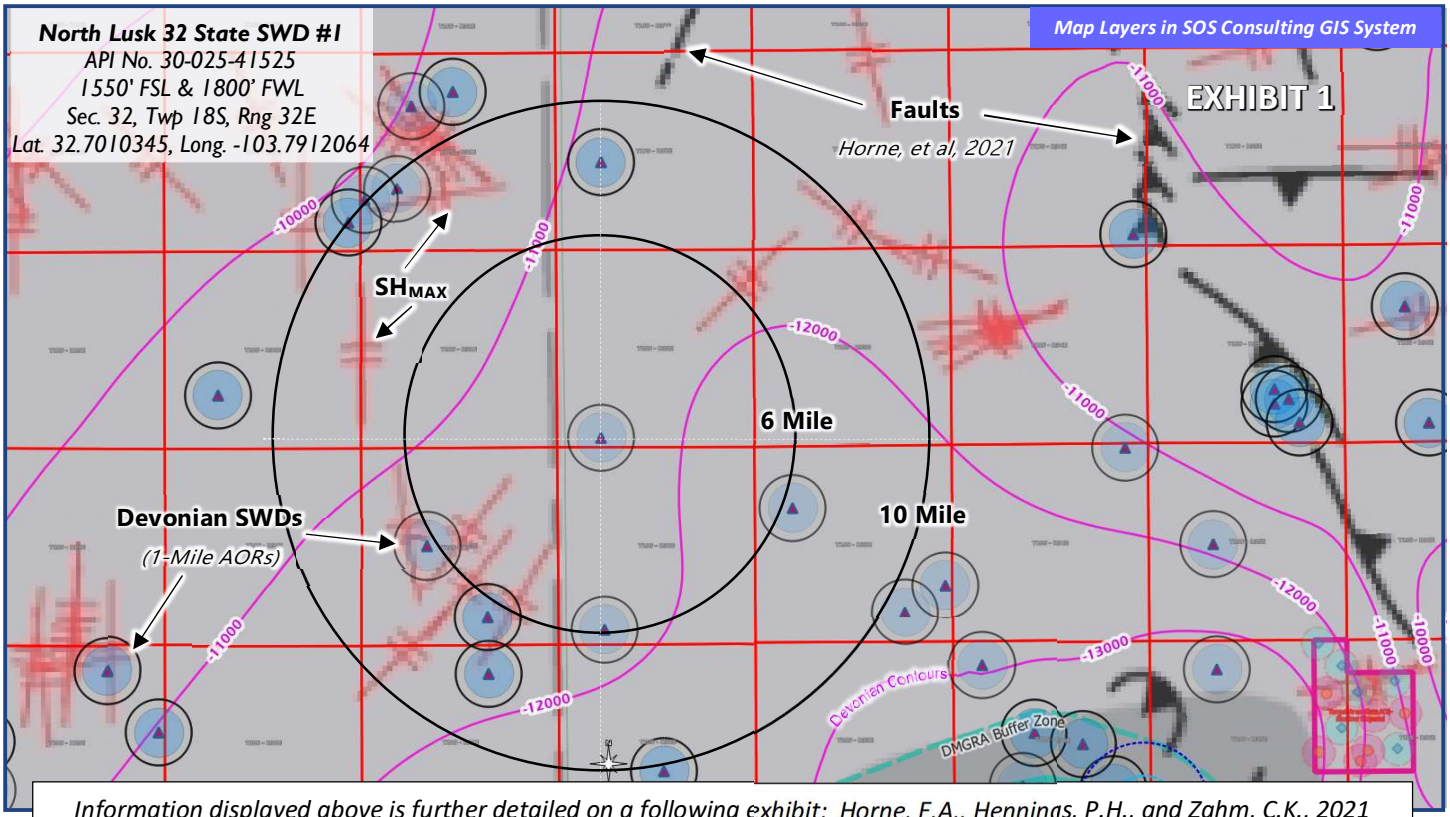
North Lusk 32 State SWD #1 – Seismic Review

(Attachment to NMOCD Form C-108 Item VIII –
Geologic Information; Seismic Information Addendum)

This well was permitted for salt water disposal by COG Operating in February 2013 by division order SWD-1394. The SWD actively injected 1000 to 2500 bwpd between January 2016 and October 2019, a cumulative total of 1.8 million barrels. The permit allowed for a standard 0.2 psi/ft however, apparent reported maximum surface injection pressure was 554 psi with most months showing zero, presumably on vacuum.

When permitted in 2013, the OCD did not require seismic analysis. In the years since, induced seismicity has caused many states regulatory agencies, particularly Texas and New Mexico to revise the process and in many cases, a seismic analysis may generally be required, especially where the proposed injection is deep. In New Mexico's case, injection into the Ellenburger (otherwise basement) formation is prohibited. The applicant seeks to address the operation with a review of available data and studies and to present its application as one where it believes little, or no risk is presented. The caveat is that as originally permitted, the well was completed in openhole and besides Devonian, includes Silurian, and Fusselman (Ordovician strata) – in fact, the currently designated pool name expounds on these formations. (e.g., [97775] SWD; DEV-FUS-MON-SIMP-ELL.)

The following review contains information from several sources to support our belief that as proposed, reinstating the subject well as an SWD poses little or no threat for induced seismicity, and does not endanger the environment or public safety.



Information displayed above is further detailed on a following exhibit; Horne, E.A., Hennings, P.H., and Zahm, C.K., 2021

North Lusk 32 State SWD #1 – Overview

Background

The C-108 for the North Lusk 32 State SWD #1 proposed a Devonian, Silurian and Ordovician interval from 13,800' to 15,250'. This interval was approved in SWD-1394 with a maximum surface injection pressure of 2670 psi.

Upon drilling and logging the well, according to the C-105 Completion Report, the top of the Devonian was determined at 13,944'. The 7.0" casing shoe was set at 13,955'. (Wireline shows the depth at 13,965').

The subject SWD commenced injection in January 2016. Rates were modest, averaging 1000 to 2000 bwpd at 0 psi, presumably vacuum. Injection continued at similar rates, often much less, until September/ October 2016 when the well failed a mechanical integrity test. In August 2021, 35 bbls was pumped while monitoring the annulus to confirm an issue with the tubing. The tubing was pulled in July 2023 and the bad section was identified. The tubing is stacked for now and Solaris will file a TA sundry to secure the well while this C-108 is being reviewed and approval is received to reinstate the well for SWD.

Geologic Notes

On the subsequent C-101 APD, the OCD geologist added to the specified SWD; Devonian pool name by also assigning by notation, Fus-Mon-Simp-Ell (i.e., Fusselman, Montoya, Simpson and Ellenburger) and modifying the pool to 97775 (from 96101). According to a paper by Ron Broadhead, 2005, the subject well is in an area of approximately 150' of Woodford Shale overlying the injection zone.

Based on other Devonian SWDs in the area and a cross-section of applicable logs, we believe the designated pool is in error as the exploited intervals do not include the Simpson or Ellenburger formations. Logs show the well total depth is appropriate and stops at or above the Simpson strata.

Potash - The subject well is over 4 miles from the nearest potash to the south.

Seismic Discussion

The subject well is located in the northern portion of the area of recent seismic studies such as Snee/ Zoback, 2018. The concentration of much of the activity and associated faults is generally in the southern portion of the Delaware Basin, in an area around the state line and largely in Loving, Winkler, Reeves, and Culberson counties.

Certainly, induced seismicity is always a concern but based on readily available data and studies, including the USGS earthquake information and maps, the North Lusk 32 State SWD is situated in a reasonably quite area.

According to the Lonquist FSP study on the Kodiak SWD, injection data was gathered from surrounding wells and as the North Lusk 32 was presented in the models, it is assumed that a reasonable conclusion of no slip impact, would include the subject well and nearby faults.

North Lusk 32 State SWD #1 – Seismic Review (cont.)

32-18S-32E, Lea County

Area SWDs

As shown on the previous map and other map exhibits contained herein, there are 9 other Devonian interval SWDs permitted within 10 miles of the subject well.

Subject Well (When Active)

North Lusk 32 State SWD #1, 30-025-41525, COG Operating, LLC, K-32-18S-32E, Lea

SWD-1394 (2/05/2013 – permitted by COG Operating) max allowed 2760 psi, 4.5" tubing.
Zone: Devonian, Silurian and Ordovician from 13,800' to 15,250' (OH) (DEV top called 13,970')*
**Upon drilling, DEV top was called 13,965', casing shoe set.*
Max Rate Reported: 2555 bwpd, 554 psi. ***Cum injection: 1.82 Mbbls.***
Well is INACTIVE (TA pending)*. Notes: SWD authority effectively terminnated in Oct. 2022.*

Beginning with the northwest (group of 3) and progressing west to east and then south, the SWDs are as follows:

Apache State SWD #1, 30-015-38977, Apache Corp., B-36-17S-30E, Eddy

SWD-1271-A (5/29/2012) w/ IPI-427 max allowed 3900 psi, 4.5" tubing.
Zone: Devonian/ Ellenburger from 12,355'-13,500' (perfs) and 13,500'-14,000' (OH).*
Openhole interval* ***was never* *drilled according to the well file and diagrams.*
Max Rate Reported: <2500 bwpd, pressure not reported. ***Cum injection: 5.126 Mbbls.***
Well is ACTIVE. Added numerous perfs in 2018. Notes: well is updip from subject ~1250', Simpson at 13,444' so Ellenburger was never entered or exploited.

Apache State SWD #3, 30-015-38978, Apache Corp., E-30-17S-31E, Eddy

SWD-1277-A (4/25/2012) max 2488 psi, 4.5" tubing.
Zone: Devonian/ Ellenburger from 12,440'-13,090' (perfs) and 13,520'-13,943' (OH).*
Openhole interval* ***was* *DRILLED according to the well file and diagrams.*
Max Rate Reported: <4903 bwpd, pressure not reported. ***Cum injection: 12.041 Mbbls.***
Well is ACTIVE. Added 158 perfs in 2012. Notes: well is updip from subject ~1250'.

Apache Federal SWD #2, 30-015-43429, Apache Corp., A-29-17S-31E, Eddy

Never Drilled. Similar proposal as both above.

Elvis SWD #1, 30-025-33584, Maverick Permian, LLC, F-20-17S-32E, Lea

SWD-1212 (4/07/2010) Permitted max 2744 psi. 4.5" tubing.
Zone: Devonian from 13,720'-13,832' (perfs).
Max Rate Reported: ~4300 bwpd, pressure not reported. ***Cum injection: 3.524 Mbbls.***
Well is ACTIVE. Notes: well is slightly updip from subject ~250'.

Kodiak SWD #1, 30-025-45391, DKL Field Services, LLC, M-9-19S-33E, Lea

SWD-2473 (12/01/2022) Permitted max rate: 25,000 bwpd, max 2950.2 psi, 5.5" tubing.
Zone: Devonian-Silurian from 14,751'-16,400' (OH).
Max Rate Reported: ***New – no reports yet. This FSP analysis data is for inference for subject C-108**.***
Well is ACTIVE. Notes: well is downdip from subject ~1000'.

Hackberry 16 SWD #1, 30-015-41783, Devon Energy Production Company, M-16-19S-31E, Eddy

SWD-1456 (1/14/2014) Permitted max 2679 psi, 4.5" tubing.
Zone: Devonian from 13,359'-~14,765' (OH).
Max Rate Reported: 6677 bwpd, max 2500 psi. ***Cum injection: 14.469 Mbbls.***
Well is ACTIVE. Notes: well is slightly updip to subject ~100'.

North Lusk 32 State SWD #1 – Seismic Review (cont.)

Area SWDs

BEU Hackberry 34 Federal SWD #1, 30-015-40288, XTO Permian Operating, LLC, A-34-19S-31E, Eddy

SWD-1319-A (10/11/2012) Permitted max 2754 psi, 4.5" tubing.
Zone: Devonian from 13,771'-14,847' (OH). (DEV top called 13,771')
Max Rate Reported: 9500 bwpd, max 2500 psi. ***Cum injection: 15.331 Mbbls.***
Well is ACTIVE. Notes: well is slightly updip to subject ~100'.

Magnum Pronto 32 State SWD #1, 30-025-41354, Solaris Water Midstream, LLC, K-32-19S-32E, Lea

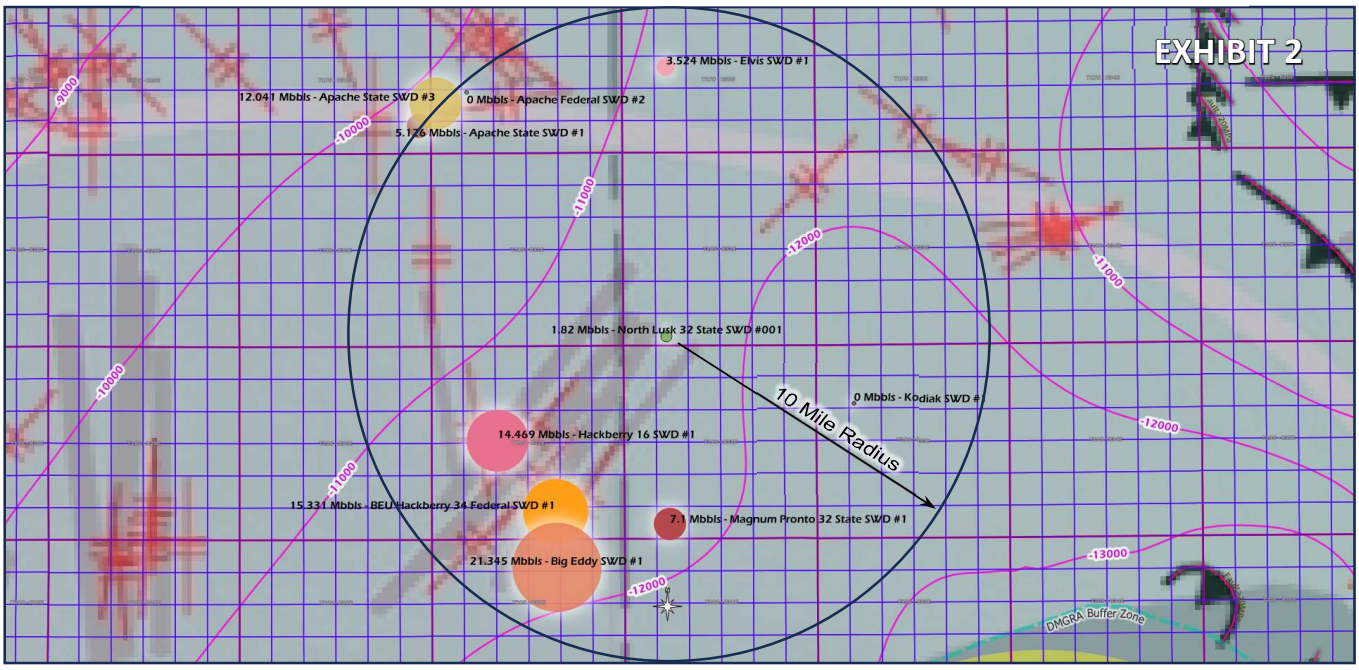
SWD-1399-A (6/10/2013, permitted by COG Operating) Permitted max 2690 psi, 4.5" tubing.
Zone: Devonian, Silurian and Ordovician from 13,450' to 14,900' (OH) (DEV top called 13,616')*
Max Rate Reported: 10,250 bwpd, 0 psi (presume vacuum). ***Cum injection: 7.1 Mbbls.***
*Well is ACTIVE. Notes: well is slightly downdip to subject ~100'. *Casing shoe set @ 13,620'.*

Big Eddy SWD #1, 30-015-05819, NGL Water Solutions Permian, LLC, P-3-20S-31E, Eddy

SWD-1186-A (8/14/2009) Permitted max 2590 psi, 3.5" tubing.
Zone: Mississippian, Siluro-Devonian from 12,950'-14,205' (OH). (DEV top called 13,930')
Max Rate Reported: 13,000 bwpd, max 203 psi. ***Cum injection: 21.345 Mbbls.***
Well is ACTIVE. Notes: well is on-depth w/ contours to subject +/-50'.

** The Kodiak SWD #1 C-108 contains an FSP analysis conducted for and submitted on behalf of the applicant, 3Bear Field Services, LLC. As indicated by NMOCD rules and regulations, inferred data from offsetting or otherwise similar projects is generally allowed and as a practice, often encouraged.

North Lusk 32 State SWD #1 – Seismic Composite w/ Cum Injection Volumes



This map shows the 9 SWDs within a 10-mile radius of the subject well. The cumulative injection volumes are represented by circles increasing in size according to the total volumes. The sizes are arbitrary except in relation to each other so relative scale is accurate. The colors are nondescript.

The background image is a composite of both the Snee/ Zoback (2018) layer and the Horne (2021) layer. This map is presented for informational purposes only, no interpretation is based on the image.

North Lusk 32 State SWD #1 – Seismic Review (cont.)

Notes and additional citation: Comments noting 'updip', 'downdip' or 'on-depth' are in reference to a layer in the SOS GIS system. This layer and these data are from: Ruppel, S. C., Jones, R. H., Breton, C.L., and Kane, J.A., 2005, Preparation of maps depicting geothermal gradient and Precambrian structure in the Permian Basin: The University of Texas at Austin, Bureau of Economic Geology, Contract report to the U.S. Geological Survey, under order no. 04CRSA0834 and requisition no. 04CRPR01474

Use of this layer is for informational purposes. Log cross-sections allow for more precision. Formations and tops calls are from various individuals over several years, from various companies and C-108 submittals would have been reviewed/ approved by different persons at OCD. It is readily apparent that much of the discrepancy is due to a combination of these factors. Tops and/or formations are called differently and the resulting designated pools drift between assignments.

SOS Consulting is making its interpretation of various elements based on experience and casual observation, understanding and knowledge of the inherent ambiguity of available data as reported or otherwise documented.

Upon review of the analysis, the North Lusk 32 State SWD was included in the review area and even in some of the evaluation and modeling results. For this discussion, it is simply noted that being approximately 6.2 miles between the locations and similar fault proximity, the Kodiak FSP report does have some validity. Based on the other information presented in this current report for the North Lusk 32 State SWD #1, SOS believes the inferred Kodiak data supports the position that this SWD poses little or no seismic risk or endangers the environment or the public. *(Selected exhibits included herein.)*

Notably, even excluding the Kodiak information, the North Lusk 32 State SWD #1 is generally located to the north and away from recognized and observed seismic activity. While basic and imprecise by comparison to data acquired in and around the Permian Basin in recent years, the latest USGS seismic hazard maps (2018) show southeast New Mexico and much of west Texas to be in an area with <1% chance of potentially minor-damage ground shaking. Obviously, we now have better, more specific coverage for our region and this is discussed on the following pages.

In reviewing all the maps and exhibits, even a casual observer will see that the North Lusk 32 State SWD #1 is situated away from denser SWD and fault areas. The well was on disposal injection since 2016 but never fully exploited at commercial volumes. In the 10-mile area of Devonian disposal injection, the location remains away from concentrations of cumulative injection volumes. Even if other nearby permitted SWDs come online, the expectation is that the North Lusk 32 State SWD #1 is well situated and would supply needed capacity for area operations.

We believe the potential for any induced seismicity event as a result of injection into the North Lusk 32 State SWD #1 is extremely low based on available data, reports and studies.

North Lusk 32 State SWD #1 – Seismic Review (cont.)

Guide to Exhibits and Maps

All maps were generated in SOS Consulting's GIS system unless otherwise noted…

Exhibit 1 - Map – *(1st page of section)* View is a raster layer of an image from the paper, 'Basement-Rooted Faults of the Delaware Basin and Central Basin Platform', Horne, E.A., Hennings, P.H., and Zahm, C.K., 2021. This map was generated to show a zoomed-in view of the subject well's location in relation to elements described in the paper and presented on a map contained therein. In addition to nearby faults and SH_{MAX} features, other Devonian SWDs are displayed with Devonian contours and circles to identify 6 and 10 radii from the well spot.

Exhibit 2 - Map – *(3rd page of section)* The cumulative injection volumes of the 9 SWDs within 10 miles of the subject are represented by circles increasing in size according to the total volumes. The sizes are arbitrary except in relation to each other so relative scale is accurate. No interpretation is made.

Exhibit 3 - Map – *(5th page)* This map is the usual presentation of the USGS One-Year Model from 2018. *(This appears to be the latest version issued by the USGS.)* Notably, the map does include a hot spot shown to represent the induced seismicity experienced in Oklahoma a few years before it became a similar issue for the greater Permian Basin area. Generally, on a continental scale, much of the county, including Texas and New Mexico, are shown to be low-risk areas, at least from a tectonic perspective. Considering the work on seismicity studies that have been performed in and around the Permian Basin, the USGS map is of little use and more of an obligatory presentation.

Exhibit 4 - Map – *(6th page, bottom collection)* This collection of maps is from the now well-known Snee/Zoback 2018 study. The larger map portion shows a zoomed-in portion of the larger study area in the Permian Basin. The inset to the upper-left to show the full and extracted/ zoomed areas. The inset at the bottom shows a closer view still of the area around the subject well and proximity to SH_{MAX} as identified in the study.

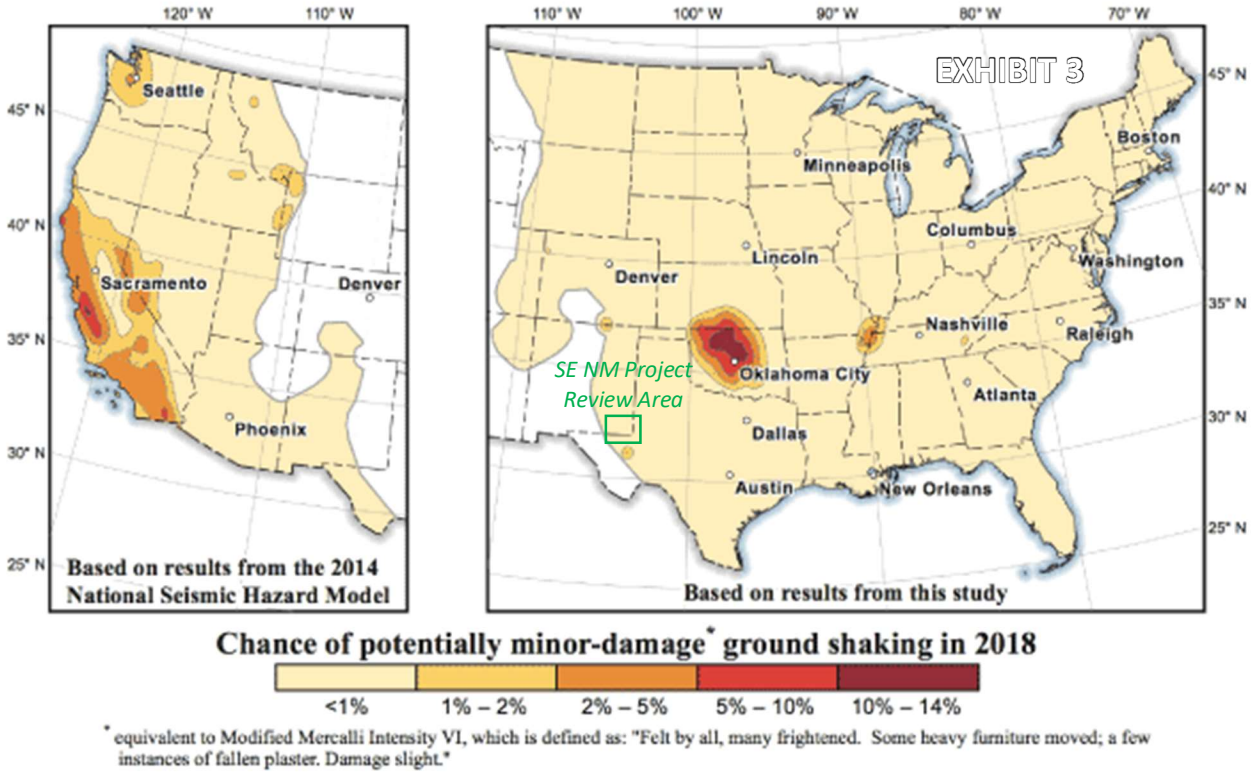
Exhibit 5 - Map – *(7th page)* This map is a large view of Map 1 and the cited study by Horne, et al. This study represents a new interpretation of more than 650 basement-rooted faults in the Permian Basin. The inset shows the selected areas and the subject well is spotted on the map with a 10-mile radius circle.

Exhibits 6-9 – *(8th page)* The 4 snapshot views are selected exhibits from an FSP analysis performed by Lonqust Engineering on behalf of 3Bear Field Services, LLC (now DKL Field Services, LLC) on its Kodiak SWD #1. The Kodiak SWD is located approximately 6 miles to the southeast of the subject North Lusk 32 SWD and was included in the analysis. While not presented as a case study or direct analysis of the North Lusk 32, it does offer good support in addition to the other information and data presented in this evaluation.

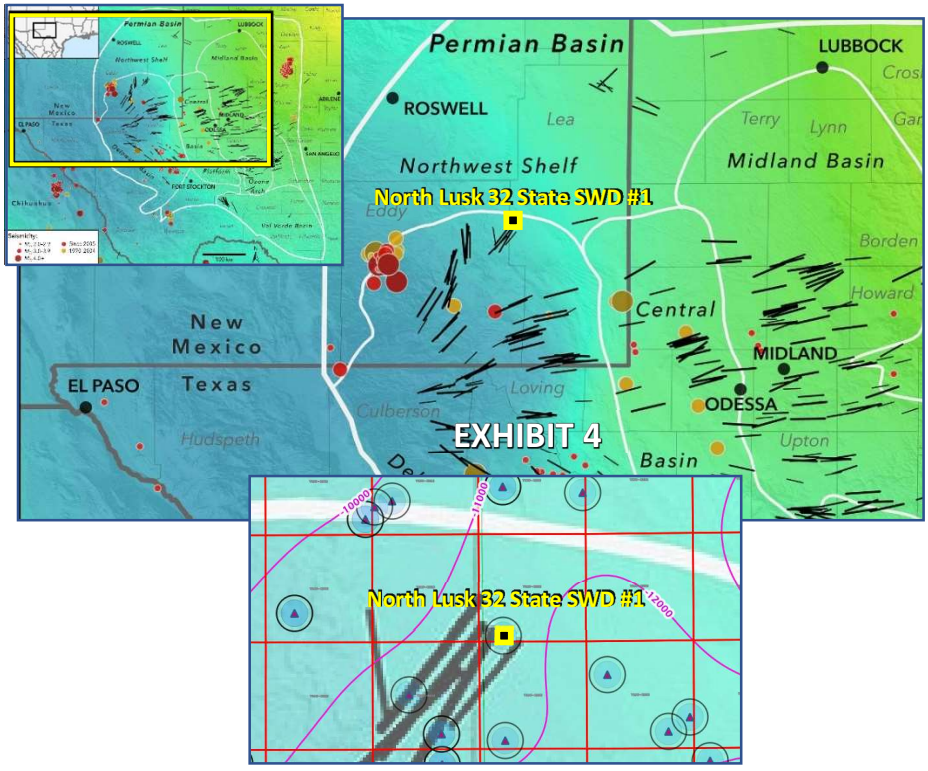
Exhibit 10 – Map *(last page)* Finally, the map on the last page is a comprehensive seismic view of the region. Several layers of seismic data are visible in the SOS system. The subject well is shown in relation to dozens of Devonian SWDs (other zone SWDs are not displayed). The map also shows OCD's designated Seismic Response Areas (SRAs) with corresponding 3, 6 and 10 miles 'heat' spots. Other map features are earthquakes (USGS Shake Map/ data) Devonian contours and faults identified by Peter Hennings, 2021. Faults are labeled when MPa was >20 based on Hennings data.

North Lusk 32 State SWD #1 – Seismic Review (cont.)

USGS 2018 ONE-YEAR MODEL



The more useful and now well-known reference is from the 2018 Snee/ Zoback study, "State of stress in the Permian Basin, Texas and New Mexico.



State of stress in the Permian Basin, Texas and New Mexico. Black lines are the measured orientations of the maximum horizontal stress (SHmax), with line length scaled by data quality. The colored background is an interpolation of measured relative principal stress magnitudes (faulting regime) expressed using the Aφ parameter (see text for details) of Simpson (1997). Blue lines are fault traces known to have experienced normal-sense offset within the past 1.6 Ma, from the USGS Quaternary Faults and Folds Database (Crone and Wheeler, 2000). The boundary between the Shawnee and Mazatzal basement domains is from Lund et al. (2015), and the Precambrian Grenville Front is from Thomas (2006). The Permian Basin boundary is from the U.S. Energy Information Administration, and the subbasin boundaries are from the Texas Bureau of Economic Geology Permian Basin Geological Synthesis Project. Earthquakes are from the USGS National Earthquake Information Center, the TexNet Seismic Monitoring Program, and Gan and Frohlich (2013). Focal mechanisms are from Saint Louis University (Herrmann et al., 2011).

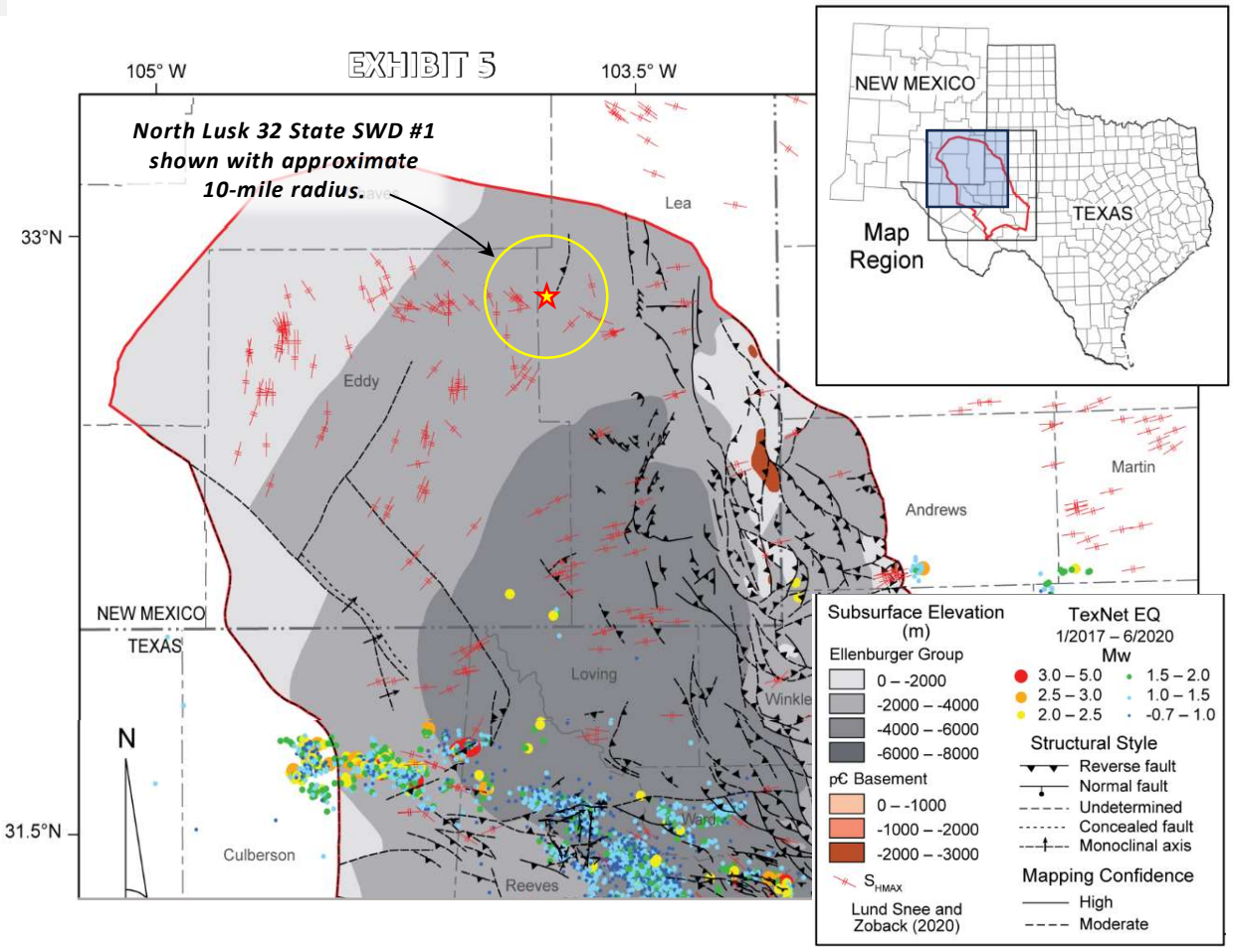
North Lusk 32 State SWD #1 – Seismic Review (cont.)

Subsequent to the work by Snee and Zoback, E.A. Horne et al, built on the understanding of those data and developed a new interpretation of basement-rooted faults. A zoomed in map view using the presented data is overlain with notations on the first page of this report.

Basement-Rooted Faults

A new interpretation of >650 basement-rooted faults was generated to better understand the subsurface architecture of the Delaware Basin and surrounding structural flanks. Faults were classified according to morphology (orientation, length, offset) and mapping confidence (high and moderate) (Fig. DB2). Deformation is dominated by NNW-SSE-striking high-angle reverse faults. These NNW-SSE primary faults are compartmentalized by two secondary fault orientations observed regionally (WNW-ESE & WSW-ENE), the most notable of which is the ENE-striking Grisham fault zone. These secondary faults accommodated significant reverse dip-slip and minor strike-slip movement, contractional fault-propagation folds, and smaller-scale, similarly trending oblique-slip fault zones. A subordinate fault orientation of NNE-SSW is also observed. These faults formed in association with accumulated contractional and localized strike-slip strain between first-and second-order faults. This interpretation can be used to understand controls on issues involving faulting, including but not limited to neotectonic stress state, basin tectonostratigraphic evolution, reservoir productivity and production characteristics, and both natural and induced seismicity.

Horne, E.A., Hennings, P.H., and Zahm, C.K., 2021, Basement-Rooted Faults of the Delaware Basin and Central Basin Platform (O. A. Callahan & P. Eichhubl, Eds.): The University of Texas at Austin, Bureau of Economic Geology Report of Investigations No. 286., 37 p., https://doi.o , rg/10.23867/RI0286C6.



North Lusk 32 State SWD #1 – Seismic Review (cont.)

Finally, a few exhibits from the afore-mentioned Kodiak FSP study with the subject well is shown below.

EXHIBITS 6-9

Model 1 – Devonian

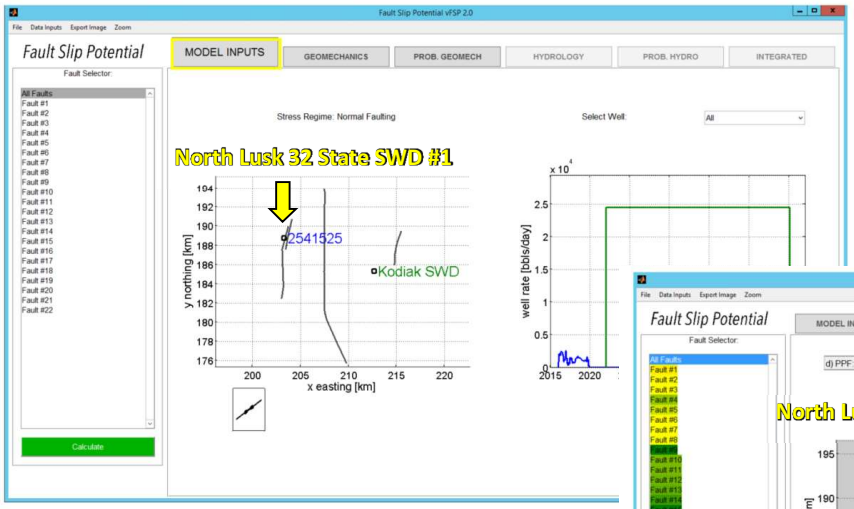


Figure 12 - FSP Model 1 Input: 2 injectors and 22 Devonian fault segr

Analysis includes:

* Fluid injection history from DrillingInfo within the 6 miles AOI.
* Proposed average injection rate (25,000 bpd) for Kodiak SWD #1.
* Proposed injection interval reservoir parameters and average depth.
* Local stress information and pressure gradients.
* Known fault locations within AOI with faults segmented to a maximum length of 3 km.

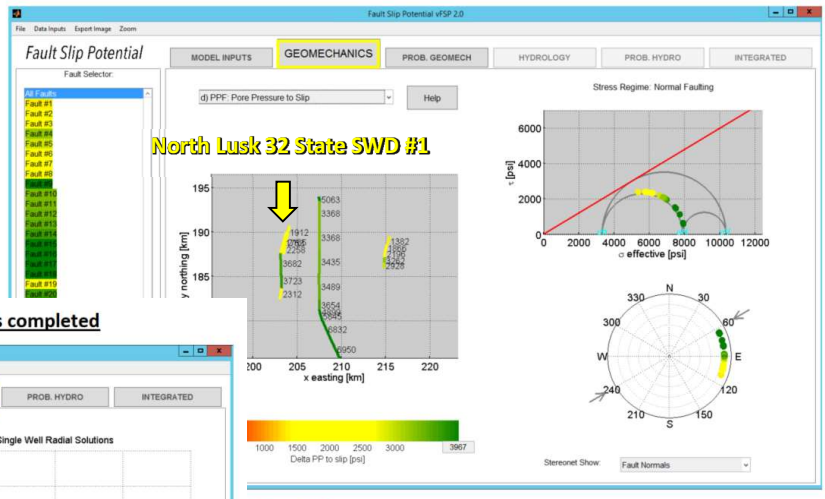


Figure 13 - FSP Geomechanics Tab, Model 1 and 2

) for each fault segment, direction of SHmax, and a Mohr diagram with frictional slip line ding to the color scale.

Model 1 – Initial conditions before Kodiak SWD #1 well is completed

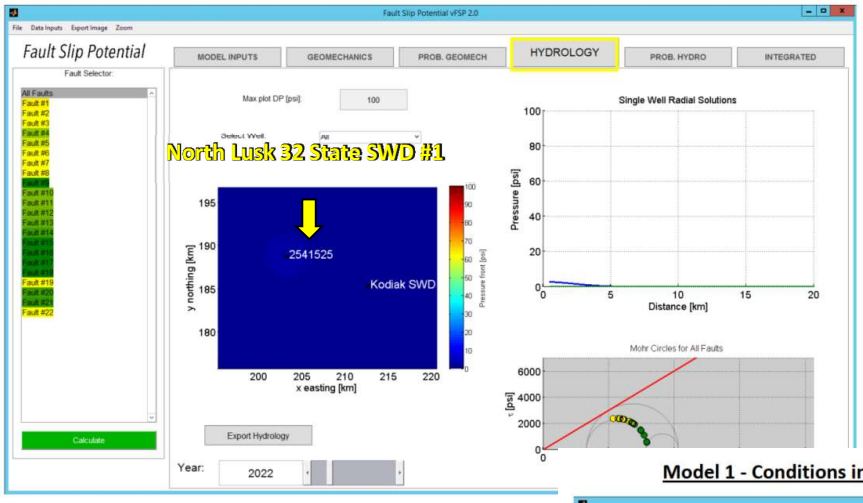


Figure 16 - FSP Hydrology Tab Before Proposed C

The software demonstrates pressure change as a function of distance from each of the

Credit: FSP Analysis performed by Lonquist Engineering, Austin, Texas on behalf of 3Bear Field Services for its Kodiak SWD #1. (Now DKL Field Services, LLC)

Model 1 - Conditions in 2042, 20 years after Kodiak SWD #1 well is completed

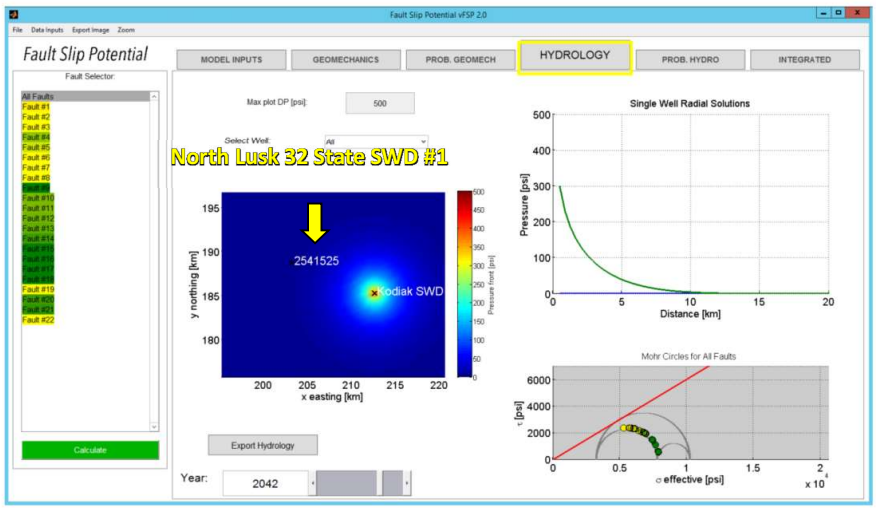


Figure 17 - Model 1 FSP Hydrology Tab

The software projects pressure changes away from each injector 20 years after completion.

* Model #1: includes permitted injection well in the AOI plus the proposed injection interval (2 wells total).

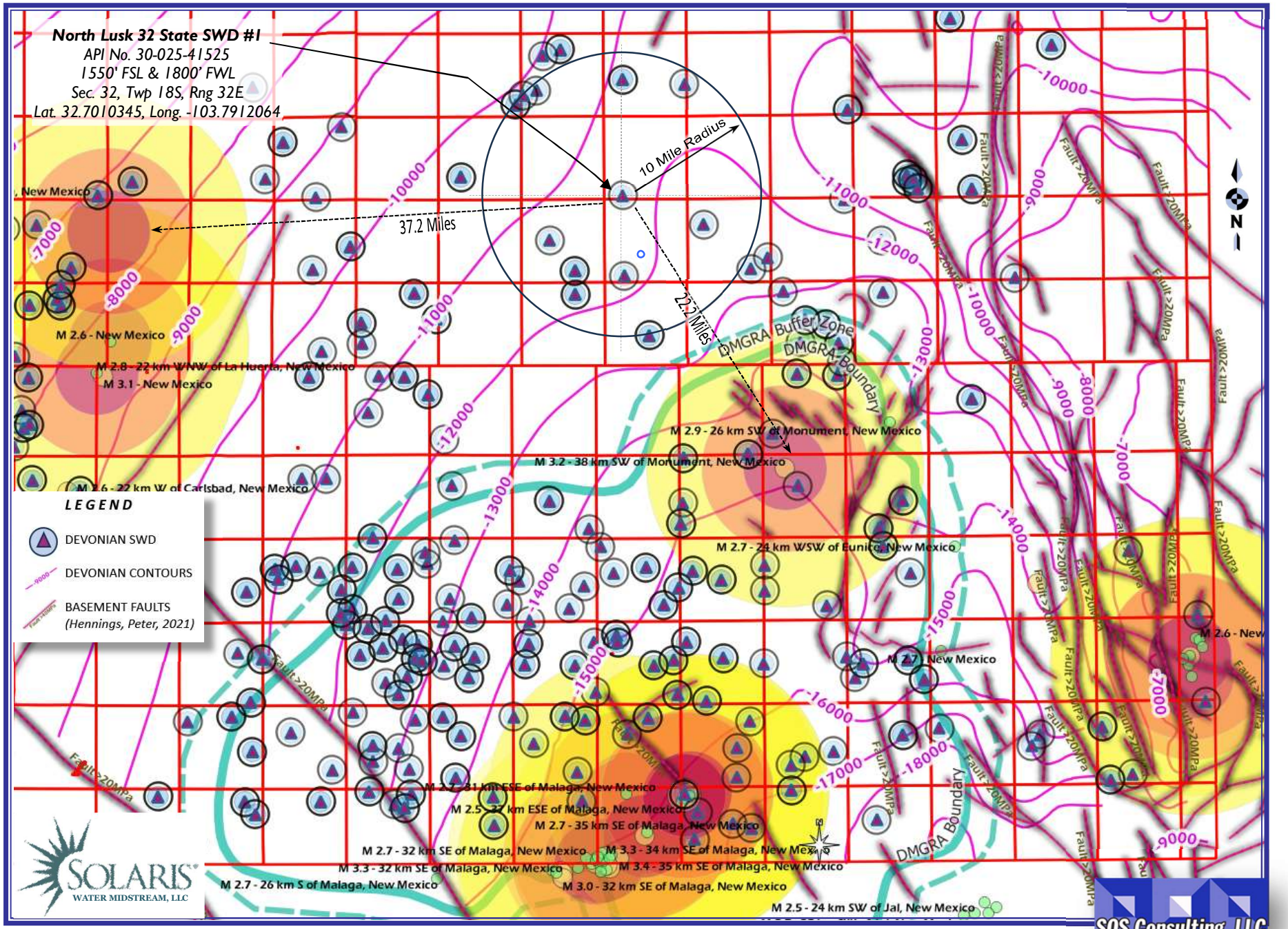
* Model #2: includes only the proposed injection well interval.

In summary, the proposed fluid injection does not significantly increase the risk that these faults will slip.

North Lusk 32 State SWD #1 – Seismic Composite – Regional Map

(Attachment to NMOCD Form C-108 - Item V)

EXHIBIT 10



C-108 ITEM VII – PRODUCED WATER ANAYLSES

Item VII.4 – Water Analysis of Source Zone Water

Delaware
Bone Spring
Wolfcamp

Item VII.5 – Water Analysis of Disposal Zone Water

Devonian

Water Analyses follow this page.

C-108 Item VII.5 - Produced Water Data

Solaris Water Midstream, LLC - North Lusk 32 State SWD #1

SOURCE ZONE

BONE SPRING

Lab ID

Sample ID 5954

Sample No

API No 3002527135

Well Name HUNT APO STATE 001

Location ULSTR 04 21 S 34 E **Lat / Long** 32.50703 -103.48081

2310 S 660 W **County** Lea

Operator (when sampled) YATES PETROLEUM CORPORATION

Field GRAMA RIDGE NORTH Unit L

Sample Date 11/18/1999 Analysis Date 12/1/1999

Sample Sourc Depth (if known)

Water Typ

ph	5.8	alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity	1.19	hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	294627	resistivity_ohm_cm_temp_l	
tds_mgL_180C		conductivity	
chloride_mgL	216575	conductivity_temp_F	
sodium_mgL	98899.7	carbonate_mgL	0
calcium_mgL	26316.8	bicarbonate_mgL	74.018
iron_mgL	27.37	sulfate_mgL	403.41
barium_mgL	1.19	hydroxide_mgL	
magnesium_mgL	5157.46	h2s_mgL	10.71
potassium_mgL	2226.49	co2_mgL	
strontium_mgL	924.63	o2_mgL	
manganese_mgL		anionremarks	

Remarks

(Produced water data courtesy of NMT Octane NM WAIDS database.)

C-108 Item VII.5 - Produced Water Data

Ray Westall Operating, Inc. - DHY B State No.1 SWD

SOURCE ZONE

BONE SPRING

Lab ID

Sample ID 6070

Sample No

API No 3002527250

Well Name BERRY APN STATE 001

Location ULSTR 05 21 S 34 E **Lat / Long** 32.50569 -103.49786

1980 S 660 W **County** Lea

Operator (when sampled) YATES PETROLEUM CORPORATION

Field BERRY NORTH Unit L

Sample Date 1/12/1998 Analysis Date 1/21/1998

Sample Sourc Depth (if known)

Water Typ

ph	7.18	alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity	1.08	hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	128117	resistivity_ohm_cm_temp_l	
tds_mgL_180C		conductivity	
chloride_mgL	82351.1	conductivity_temp_F	
sodium_mgL	49793.4	carbonate_mgL	0
calcium_mgL	2715.12	bicarbonate_mgL	567
iron_mgL	0.216	sulfate_mgL	1722.6
barium_mgL	1.62	hydroxide_mgL	
magnesium_mgL	631.8	h2s_mgL	
potassium_mgL	466.56	co2_mgL	
strontium_mgL	116.64	o2_mgL	
manganese_mgL		anionremarks	

Remarks

(Produced water data courtesy of NMT Octane NM WAIDS database.)

SOS Consulting, LLC

C-108 Item VII.5 - Produced Water Data
Solaris Water Midstream, LLC - North Lusk 32 State SWD #1

SOURCE ZONE

WOLFCAMP

Lab ID

Sample ID 5096

Sample No

API No. 3002501678

Well Name LAGUNA PLATA FEDERAL UNIT 001

Location ULSTR 22 19 S 33 E **Lat / Long** 32.64341 -103.64461

1980 S 710 E **County** Lea

Operator (when sampled)

Field TONTO Unit I

Sample Date Analysis Date

Sample Source DST Depth (if known)

Water Type

ph		alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	46915	resistivity_ohm_cm_temp_I	
tds_mgL_180C		conductivity	
chloride_mgL	27270	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	714
iron_mgL		sulfate_mgL	1116
barium_mgL		hydroxide_mgL	
magnesium_mgL		h2s_mgL	
potassium_mgL		co2_mgL	
strontium_mgL		o2_mgL	
manganese_mgL		anionremarks	

Remarks

(Produced water data courtesy of NMT Octane NM WAIDS database.)

SOS Consulting, LLC

C-108 Item VII.5 - Produced Water Data

Solaris Water Midstream, LLC - North Lusk 32 State SWD #1

DISPOSAL ZONE

DEVONIAN

Lab ID

Sample ID 5733

Sample No

API No. 3002508483

Well Name BELL LAKE UNIT 006

Location ULSTR 06 23 S 34 E **Lat / Long** 32.32821 -103.50663

660 S 1980 E **County** Lea

Operator (when sampled)

Field BELL LAKE NORTH Unit O

Sample Date Analysis Date

Sample Source HEATER/TREATER Depth (if known)

Water Type

ph	7	alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	71078	resistivity_ohm_cm_temp_	
tds_mgL_180C		conductivity	
chloride_mgL	42200	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	500
iron_mgL		sulfate_mgL	1000
barium_mgL		hydroxide_mgL	
magnesium_mgL		h2s_mgL	
potassium_mgL		co2_mgL	
strontium_mgL		o2_mgL	
manganese_mgL		anionremarks	

Remarks

(Produced water data courtesy of NMT Octane NM WAIDS database.)

SOS Consulting, LLC

C-108 Item VII.5 - Produced Water Data

Solaris Water Midstream, LLC - North Lusk 32 State SWD #1

DISPOSAL ZONE

DEVONIAN

Lab ID

Sample ID 5720

Sample No

API No. 3002521082

Well Name ANTELOPE RIDGE UNIT 003

Location ULSTR 34 23 S 34 E

1980 S 1650 W

Lat / Long 32.25922 -103.46068

County Lea

Operator (when sampled)

Field ANTELOPE RIDGE Unit K

Sample Date 11/14/1967 Analysis Date

Sample Source UNKNOWN Depth (if known)

Water Type

ph	6.9	alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	80187	resistivity_ohm_cm_temp_	
tds_mgL_180C		conductivity	
chloride_mgL	47900	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	476
iron_mgL		sulfate_mgL	900
barium_mgL		hydroxide_mgL	
magnesium_mgL		h2s_mgL	
potassium_mgL		co2_mgL	
strontium_mgL		o2_mgL	
manganese_mgL		anionremarks	

Remarks

(Produced water data courtesy of NMT Octane NM WAIDS database.)

SOS Consulting, LLC

C-108 ITEM XII – GEOLOGIC AFFIRMATION

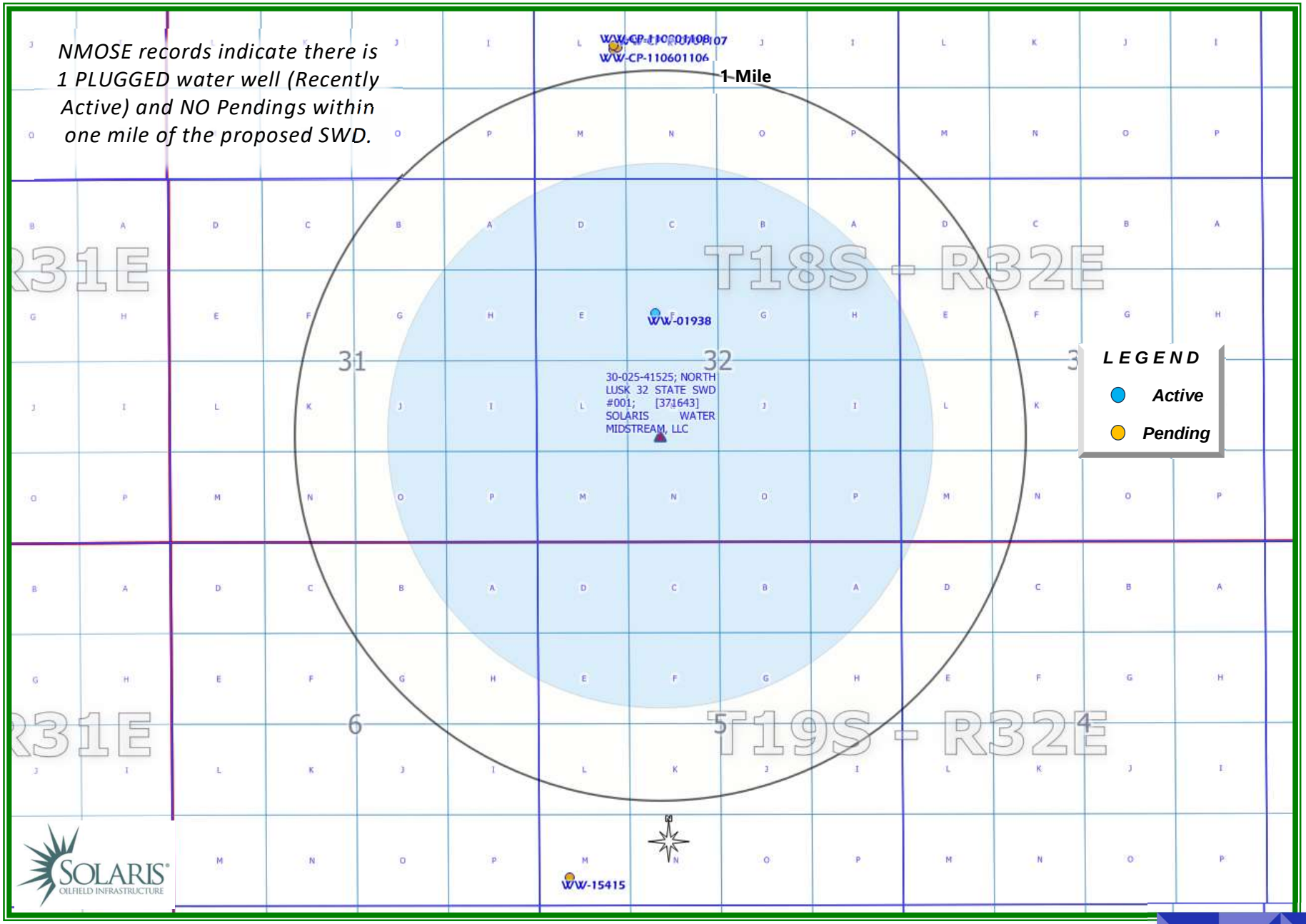
We have examined available geologic and engineering data and have found no evidence of open faults or other hydrologic connection between the disposal interval and any underground sources of drinking water.

Ben Stone, Partner
SOS Consulting, LLC

Project: Solaris Water Midstream, LLC
North Lusk 32 State SWD #1
Reviewed 8/14/2023

North Lusk 32 State SWD #1 – 1-Mile AOR Water Wells

(Attachment to NMOCD Form C-108, Application for Authority to Inject.)



SOS Consulting, LLC

WELL PLUGGING PLAN OF OPERATIONS

NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging. This form may be used to plug a single well, or if you are plugging multiple monitoring wells on the same site using the same plugging methodology.

Alert! Your well may be eligible to participate in the Aquifer Mapping Program (AMP)-NM Bureau of Geology geoinfo.nmt.edu/resources/water/cgmn/ if within an area of interest and meets the minimum construction requirements, such as there is still water in your well, and the well construction reflected in a well record and log is not compromised, contact AMP at 575-835-5038 or -6951, or by email nmbg-waterlevels@nmt.edu, prior to completing this prior form. Showing proof to the OSE that your well was accepted in this program, may delay the plugging of your well until a later date.

I. FILING FEE: There is no filing fee for this form.

II. GENERAL / WELL OWNERSHIP: ☐ Check here if proposing one plan for multiple monitoring wells on the same site and attaching WD-08m

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: CP-1938-POD1

Name of well owner: Raybaw Operating, LLC

Mailing address: 2626 Cole Avenue Suite 300 County: Dallas

City: Dallas State: TX Zip code: 75204

Phone number: 281-793-5452 E-mail: nwinn@sbcglobal.net

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Hungry Horse, LLC

New Mexico Well Driller License No.: 1755 Expiration Date: 10-14-2023

2022 DEC -7 PM 9:18 STATE ENGINEERS OFFICE SANTA FE, NEW MEXICO

IV. WELL INFORMATION: ☐ **Check here if this plan describes method for plugging multiple monitoring wells on the same site and attach supplemental form WD-08m and skip to #2 in this section.**

Note: A copy of the existing Well Record for the well(s) to be plugged should be attached to this plan.

1) GPS Well Location: Latitude: 32 deg, 42 min, 21.34 sec
Longitude: 103 deg, 47 min, 29.13 sec, NAD 83

2) Reason(s) for plugging well(s):

No water present

OSE DIT DEC 12 2022 PM 2:29

3) Was well used for any type of monitoring program? Yes If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4) Does the well tap brackish, saline, or otherwise poor quality water? No If yes, provide additional detail, including analytical results and/or laboratory report(s): N/A

5) Static water level: >100 feet below land surface / feet above land surface (circle one)

6) Depth of the well: 51' feet

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

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

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00566 POD1		CP	LE	4	4	1	04	18S	32E	614960	3627280*	133	65	68
CP 00672		CP	LE		4	4	07	18S	32E	612475	3624947*	524	430	94
CP 00672 CLW475398	O	CP	LE		4	4	07	18S	32E	612475	3624947*	540	460	80
CP 00677		CP	LE		1	1	26	18S	32E	617750	3621373*	700		
CP 00814 POD1		CP	LE		2	2	08	18S	32E	614074	3626168*	480		
CP 01938 POD1		CP	LE	1	4	1	32	18S	32E	613277	3619332	51		

Average Depth to Water: **318 feet**

Minimum Depth: **65 feet**

Maximum Depth: **460 feet**

Record Count: 6

PLSS Search:

Township: 18S **Range:** 32E

***UTM location was derived from PLSS - see Help**

C-108 ITEM XIII – PROOF OF NOTIFICATION

IDENTIFICATION AND NOTIFICATION OF AFFECTED PARTIES

Exhibits for Section

Affected Parties Map

List of Affected Parties

Notification Letter to Affected Parties

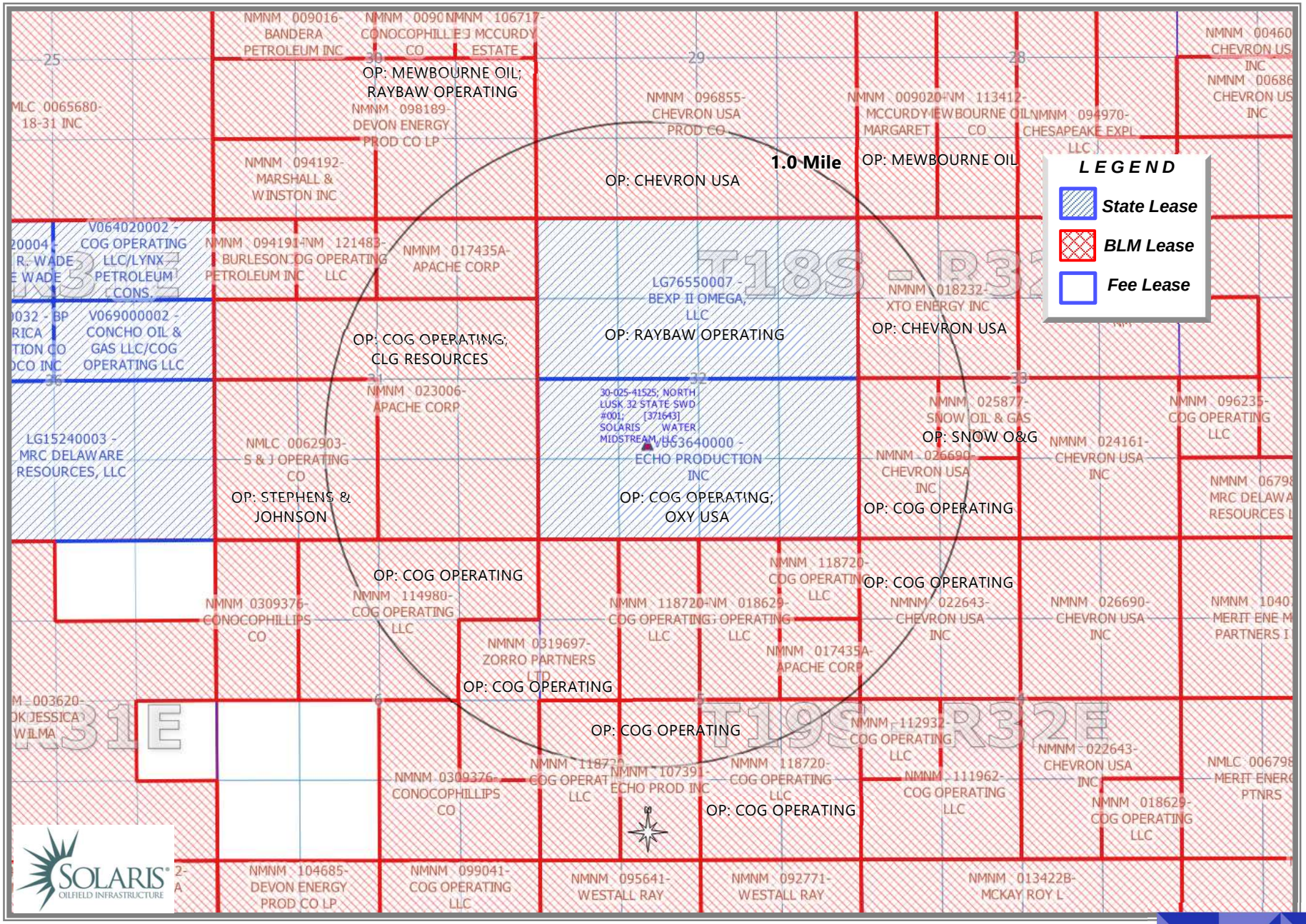
Instructions for PDF Document Access

Proof of Certified Mailing

Affidavit Published Legal Notice

North Lusk 32 State SWD State #1 – Lease/ Affected Party Plat

(Attachment to NMOCD Form C-108, Application for Authority to Inject.)



SOS Consulting, LLC

C-108 ITEM XIII – PROOF OF NOTIFICATION
AFFECTED PARTIES LIST

ALL AFFECTED PARTIES ARE PROVIDED A NOTICE LETTER VIA US CERTIFIED MAIL CONTAINING UNIQUE 6 CHARACTER DOCUMENT ACCESS CODES FOR SECURE DOWNLOAD OF A PDF COPY OF THE SUBJECT C-108 APPLICATION. AFFECTED PARTIES MAY ALSO REQUEST A PDF COPY VIA SENT EMAIL.

"AFFECTED PERSON" MEANS THE DIVISION DESIGNATED OPERATOR; IN THE ABSENCE OF AN OPERATOR, A LESSEE WHOSE INTEREST IS EVIDENCE BY A WRITTEN CONVEYANCE DOCUMENT EITHER OF RECORD OR KNOWN TO THE APPLICANT AS OF THE DATE THE APPLICANT FILES THE APPLICATION; OR IN THE ABSENCE OF AN OPERATOR OR LESSEE, A MINERAL INTEREST OWNER WHOSE INTEREST IS EVIDENCED BY A WRITTEN CONVEYANCE DOCUMENT EITHER OF RECORD OR KNOWN TO THE APPLICANT AS OF THE DATE THE APPLICANT FILED THE APPLICATION FOR PERMIT TO INJECT.; PER OCD RULES NMAC 19.15.26.7, A. AND 19.15.26.8, B.2.

SURFACE OWNER

NOTICE #	ENTITY	US CERTIFIED TRACKING	SOS DOC ACCESS CODE
1	**STATE OF NEW MEXICO** *State Land Office - Commissioner of Public Lands, Oil, Gas and Minerals Division* 310 Old Santa Fe Trail Santa Fe, NM 87504	7018 2290 0001 2038 7695	☒

OFFSET MINERALS LESSEES and/ or OPERATORS

2	**COG OPERATING, LLC** 600 W. Illinois Avenue Midland, TX 79701	7018 2290 0001 2038 7701	☒
3	**RAYBAW OPERATING, LLC** 2626 Cole Ave., Ste.300 Dallas, TX 75204	7018 2290 0001 2038 7718	☒
4	**CHEVRON USA, INC.** 6301 Deauville Blvd Midland, TX 79706	7018 2290 0001 2038 7725	☒
5	**MEWBOURNE OIL COMPANY** P.O. Box 5270 Hobbs, NM 88241	7018 2290 0001 2038 7732	☒
6	**ELG RESOURCES** P.O. Box 10886 Midland, TX 79702	7018 2290 0001 2038 7749	☒
7	**OXY USA, INC.** P.O. Box 50250 Midland, TX 79710-0250	7018 2290 0001 2038 7756	☒
8	**STEPHENS & JOHNSON** P.O. Box 2249 Wichita Falls, TX 76307	7018 2290 0001 2038 7763	☒
9	**SNOW OIL & GAS** P.O. Box 1277 Andrews, TX 79714	7018 2290 0001 2038 7770	☒

LESSEES (Without operated wells on lease)

10	**APACHE CORP.** 303 Veterans Airpark Ln., Ste.3000 Midland, TX 79705-4231	7018 2290 0001 2038 7787	☒

C-108 ITEM XIII – PROOF OF NOTIFICATION AFFECTED PARTIES LIST (cont.)

REGULATORY

	NM OIL CONSERVATION DIVISION 1220 S. St. Francis Dr. Santa Fe, NM 87505	*Filed via OCD Online e-Permitting*	
	NEW MEXICO STATE LAND OFFICE Commissioner of Public Lands Oil, Gas and Minerals Division 310 Old Santa Fe Trail Santa Fe, NM 87501		☒
11	**U.S. DEPARTMENT OF INTERIOR** **Bureau of Land Management** Oil & Gas Division 620 E. Greene St. Carlsbad, NM 88220	7018 2290 0001 2038 7794	☒

August 18, 2023

NOTIFICATION TO INTERESTED PARTIES
via U.S. Certified Mail – Return Receipt Requested

To Whom It May Concern:

Solaris Water Midstream, Houston, Texas, has made application to the New Mexico Oil Conservation Division to [re-]permit for salt water disposal the North Lusk 32 State SWD #1. (Previously authorized by OCD order SWD-1394). The SWD operation will be for commercial water disposal from area operators. As indicated in the notice below, the well is located in Section 32, Township 18 South, Range 32 East in Lea County, New Mexico.

The published notice states that the interval will be from 13,800 feet to 15,250 feet into the Devonian/ Silurian and Ordovician formations. Following is the notice published in the Hobbs News-Sun, Hobbs, New Mexico on or about August 20, 2023.

LEGAL NOTICE

Solaris Water Midstream, LLC, 9651 Katy Freeway, Suite 400, Houston, Texas, 77024, is filing Form C-108 (Application for Authority to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The well, the North Lusk 32 State SWD No.1, (API 30-025-41525) is located 1550' FSL and 1800' FWL, Section 32, Township 18 South, Range 32 East, Lea County, New Mexico. Produced water from area production will be commercially disposed into the Devonian/ Silurian/ Ordovician formations at a depth of 13,800' to 15,250' at a maximum surface pressure of 2760 psi with a maximum daily rate of 12,500 bwpd and an average daily rate of 7500 bwpd. The proposed SWD well is located approximately 10.7 miles south/ southwest of Maljamar, NM. The well was previously authorized for SWD by NMOCD order SWD-1394 and approval will effectively reinstate the well under a new permit.

Interested parties wishing to object to the proposed application must file with the New Mexico Oil Conservation Division, 1220 St. Francis Dr., Santa Fe, NM 87505, (505)476-3460 within 15 days of the date of this notice. Additional information may be obtained from the applicant's agent, SOS Consulting, LLC, (936)377-5696 or, email info@sosconsulting.us.

You have been identified as a party who may be interested as an offset lessee or operator.

You are entitled to a full copy of the application. SOS Consulting has deployed a new app for the explicit secure delivery of a full PDF copy of the application. Any user employed with **Affected Party** may log into the system and when prompted for a *Document Access Code*, enter **0000XX** to View or Download the document as desired. Using the *SOS Client and Affected Party Document Access* app takes about one minute, start to finish – instructions are included, and only name, email and company name are needed to access the system.

Thank you for your attention in this matter.

Best regards,

Ben Stone, SOS Consulting, LLC
Agent for Solaris Water Midstream, LLC
Cc: Application File

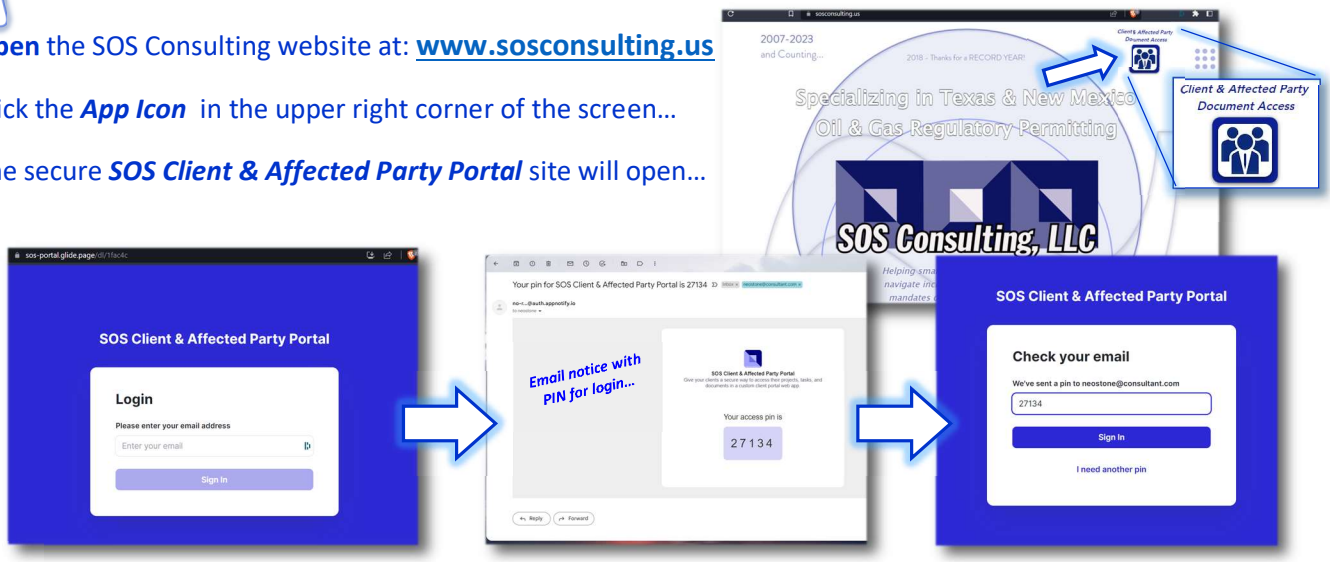
User Information for the SOS Client & Affected Party Portal

*Thank you for using the new SOS Document Portal. This system allows for the **secure delivery of all types of applications and any resulting permits**. The system is built in and stored in the cloud using the best available platforms and code for a secure and robust app. We hope you appreciate our efforts to reduce printed paper copies and deliver pertinent documents in a much more efficient way. If you're a client, you may use the portal to view all the applications that SOS Consulting, LLC has generated on behalf of you or your organization.*

1 **Open** the SOS Consulting website at: **www.sosconsulting.us**

Click the ***App Icon*** in the upper right corner of the screen…

The secure ***SOS Client & Affected Party Portal*** site will open…



2 *Become a user of the site by entering your email address and basic info for your profile* – minimal information is required although we ask that you provide your company name so we may view who and which companies have reviewed a particular document.

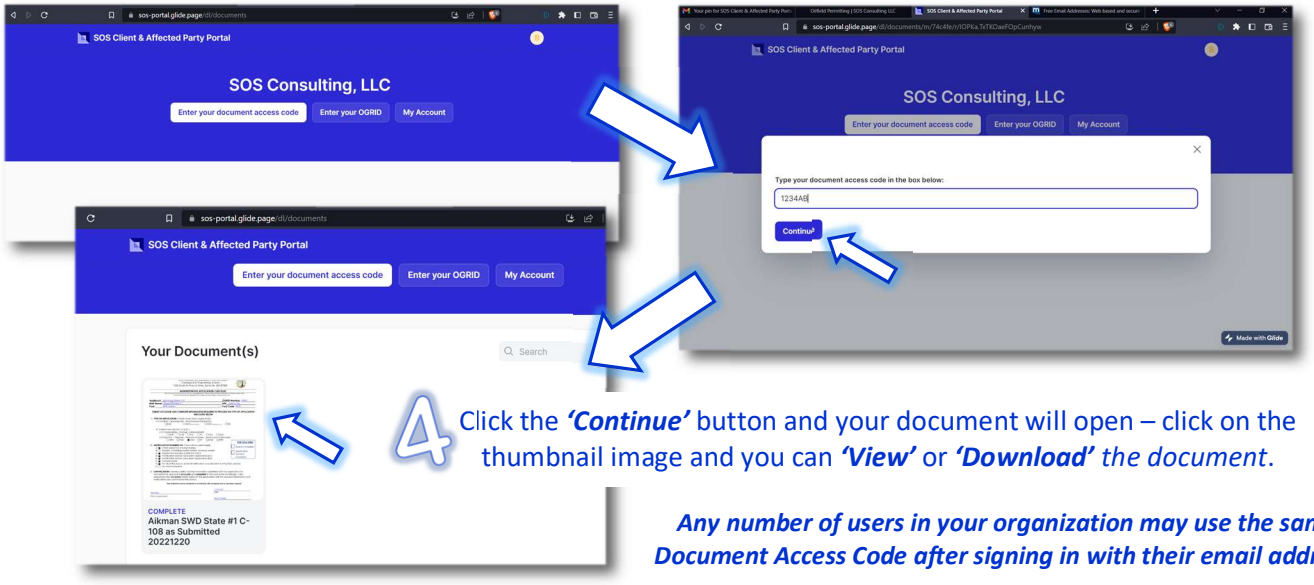
(Please note that nothing is done with your information – it is only for access to this portal.)

*Each time you log into the SOS Portal, you will be sent a pin code for **2-Step Verification** to your email within 15 seconds. Enter the code for access to the portal.*

MOBILE ACCESS

3 The SOS portal will open to your user page or the portal home. If you don't see this screen, simply click on the SOS Client & Affected Party title and the home page will open. This page allows you to enter a ***'Document Access Code'*** or if a client, ***'Enter your OGRID'***. ***(When entering an OGRID, you will also be prompted for a Client ID for security – SOS Consulting will have already provided this to its clients.)***

*Note: The unique **Document Access Code** is provided in your **'Notice Letter to Affected Parties'**.*



4 Click the ***'Continue'*** button and your document will open – click on the thumbnail image and you can ***'View'*** or ***'Download'*** *the document*.

Any number of users in your organization may use the same Document Access Code after signing in with their email address!

C-108 - Item XIV

Proof of Notice (Certified Mail Receipts)

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Santa Fe, NM 87501

OFFICIAL USE

Certified Mail Fee $4.35
Extra Services & Fees (check box, add fee as appropriate)
- Return Receipt (hardcopy) $0.00
- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $0.66
Total Postage and Fees $7.55

0360 02

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08/18/2023

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City, State, Z

NEW MEXICO STATE LAND OFFICE
Oil, Gas and Minerals Division
310 Old Santa Fe Trail
Santa Fe, NM 87504

PS Form 38

7018 2290 0001 2038 7695

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Midland, TX 79701

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- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $0.66
Total Postage and Fees $8.56

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08/18/2023

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Street and
City, State,

COG OPERATING LLC
600 W Illinois Ave
Midland, TX 79701

PS Form 3

7018 2290 0001 2038 7701

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Dallas, TX 75204

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City, St

RAYBAW OPERATING, LLC
2626 Cole Ave., Ste.300
Dallas, TX 75204

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Midland, TX 79706

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Postage $0.66
Total Postage and Fees $8.56

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Street and
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CHEVRON USA, INC.
6301 Deauville Blvd
Midland, TX 79706

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Hobbs, NM 88241

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- Adult Signature Restricted Delivery $

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Total Postage and Fees $8.56

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08/18/2023

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City, State, ZIP

MEWBOURNE OIL COMPANY
P.O. Box 5270
Hobbs, NM 88241

PS Form 3800

7018 2290 0001 2038 7732

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Midland, TX 79702

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- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $0.66
Total Postage and Fees $8.56

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08/18/2023

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Street and
City, State,

ELG RESOURCES
P.O. Box 10886
Midland, TX 79702

7018 2290 0001 2038 7749

C-108 - Item XIV

Proof of Notice (Certified Mail Receipts – cont.)

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Postage $0.66
Total Postage and Fees $8.56

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08/18/2023

7018 2290 0001 2038 7756

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Street and Ap
City, State, Zi

OXY USA, INC.
P.O. Box 50250
Midland, TX 79710-0250

PS Form 38

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For delivery information, visit our website at www.usps.com®.

Wichita Falls, TX 76307

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Postage $0.66
Total Postage and Fees $8.56

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08/18/2023

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STEPHENS & JOHNSON
P.O. Box 2249
Wichita Falls, TX 76307

PS Form

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Andrews, TX 79714

OFFICIAL USE

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- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
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Postage $0.66
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08/18/2023

7018 2290 0001 2038 7770

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City, State,

SNOW OIL & GAS
P.O. Box 1277
Andrews, TX 79714

PS Form 3

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Midland, TX 79705

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- Certified Mail Restricted Delivery $0.00
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Postage $0.66
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City, State, Z

APACHE CORP.
303 Veterans Airpark Ln., Ste.3000
Midland, TX 79705-4231

PS Form 38

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Carlsbad, NM 88220

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- Return Receipt (electronic) $0.00
- Certified Mail Restricted Delivery $0.00
- Adult Signature Required $0.00
- Adult Signature Restricted Delivery $

Postage $0.66
Total Postage and Fees $8.56

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08/18/2023

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Street and
City, State

Bureau of Land Management
Oil & Gas Division
620 E. Greene St.
Carlsbad, NM 88220

PS Form

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Your item was picked up at a postal facility at 8:28 am on August 25, 2023 in SANTA FE, NM 87501.

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Delivered, Individual Picked Up at Postal Facility

SANTA FE, NM 87501
August 25, 2023, 8:28 am

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MIDLAND, TX 79701
August 28, 2023, 7:59 am

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70182290000120387718

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Latest Update

Your item was delivered to the front desk, reception area, or mail room at 3:07 pm on August 25, 2023 in DALLAS, TX 75204.

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DALLAS, TX 75204
August 25, 2023, 3:07 pm

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70182290000120387725

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Latest Update

Your item was delivered to the front desk, reception area, or mail room at 1:47 pm on August 25, 2023 in MIDLAND, TX 79706.

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Delivered, Front Desk/Reception/Mail Room
MIDLAND, TX 79706
August 25, 2023, 1:47 pm

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Tracking Number:

70182290000120387732

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Latest Update

Your item was picked up at the post office at 1:56 pm on August 25, 2023 in HOBBS, NM 88240.

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USPS Tracking Plus®

Delivered
Delivered, Individual Picked Up at Post Office
HOBBS, NM 88240
August 25, 2023, 1:56 pm

See All Tracking History

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Tracking Number:

70182290000120387749

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Latest Update

Your item was delivered to the front desk, reception area, or mail room at 11:33 am on August 29, 2023 in MIDLAND, TX 79701.

Get More Out of USPS Tracking:

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Delivered, Front Desk/Reception/Mail Room
MIDLAND, TX 79701
August 29, 2023, 11:33 am

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What Do USPS Tracking Statuses Mean?
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Tracking Number:

70182290000120387756

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Latest Update

This is a reminder to pick up your item before September 8, 2023 or your item will be returned on September 9, 2023. Please pick up the item at the MIDLAND, TX 79710 Post Office.

Get More Out of USPS Tracking:

USPS Tracking Plus®

Delivery Attempt
Reminder to pick up your item before September 8, 2023
MIDLAND, TX 79710
August 30, 2023

Available for Pickup
CLAYDESTA
612 VETERANS AIRPARK LN
MIDLAND TX 79705-9998
M-F 0800-1700
August 25, 2023, 10:05 am

See All Tracking History

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Tracking Number:

70182290000120387770

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Latest Update

Your item was picked up at the post office at 9:08 am on August 28, 2023 in ANDREWS, TX 79714.

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Delivered, Individual Picked Up at Post Office
ANDREWS, TX 79714
August 28, 2023, 9:08 am

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70182290000120387787

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Delivered, Left with Individual
MIDLAND, TX 79705
August 25, 2023, 9:07 am

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Tracking Number:

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Latest Update

Your item was delivered to an individual at the address at 11:41 am on August 25, 2023 in CARLSBAD, NM 88220.

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CARLSBAD, NM 88220
August 25, 2023, 11:41 am

See All Tracking History

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FAQs

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
September 03, 2023
and ending with the issue dated
September 03, 2023.

Publisher

Sworn and subscribed to before me this
3rd day of September 2023.

Business Manager

My commission expires
January 29, 2027
(Seal)

STATE OF NEW MEXICO
NOTARY PUBLIC
GUSSIE RUTH BLACK
COMMISSION # 1087526
COMMISSION EXPIRES 01/29/2027

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said publication has been made.

LEGAL NOTICE
September 3, 2023

Solaris Water Midstream, LLC, 9651 Katy Freeway, Suite 400, Houston, Texas, 77024, is filing Form C-108 (Application for Authority to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The well, the North Lusk 32 State SWD No.1, (API 30-025-41525) is located 1550' FSL and 1800' FWL, Section 32, Township 18 South, Range 32 East, Lea County, New Mexico. Produced water from area production will be commercially disposed into the Devonian/ Silurian/ Fusselman /Montoya (Ordovician) formations at a depth of 13,955' to 15,131' at a maximum surface pressure of 2791 psi with a maximum daily rate of 25,000 bwpd and an average daily rate of 20,000 bwpd. The proposed SWD well is located approximately 10.7 miles south/ southwest of Maljamar, NM. The well was previously authorized for SWD by NMOCD order SWD-1394 and approval will effectively reinstate the well under a new permit.

Interested parties wishing to object to the proposed application must file with the New Mexico Oil Conservation Division, 1220 St. Francis Dr., Santa Fe, NM 87505, (505)476-3460 within 15 days of the filing of the application which is expected 10 days from the date of this notice. Additional information may be obtained from the applicant's agent, SOS Consulting, LLC, (936)377-5696 or, email info@sosconsulting.us.
#00282458

67104420 00282458

BEN STONE
SOS CONSULTING, LLC.
21 RED OAK CIRCLE
POINT BLANK, TX 77364

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

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

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-41525	97775	SWD; Dev-Fus-Mon-Simp-Ell

[4] Property Code	[5] Property Name	[6] Well Number
326896	North Lusk 32 State SWD	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
371643	Solaris Water Midstream, LLC	3685'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	32	18S	32E		1550'	FSL	1800'	FWL	Lea

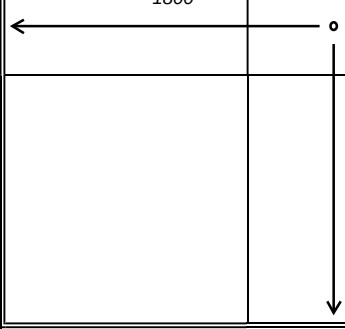
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
same									

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
n/a			

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.

[16]



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 8/15/2023 Date

Ben Stone
Printed Name

ben@sosconsulting.us
E-mail Address

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

August 30, 2013
Date of Survey

Signature and Seal of Professional Surveyor:

Chad L. Harcrow
17777
Certificate Number

SOLARIS WATER MIDSTREAM, LLC

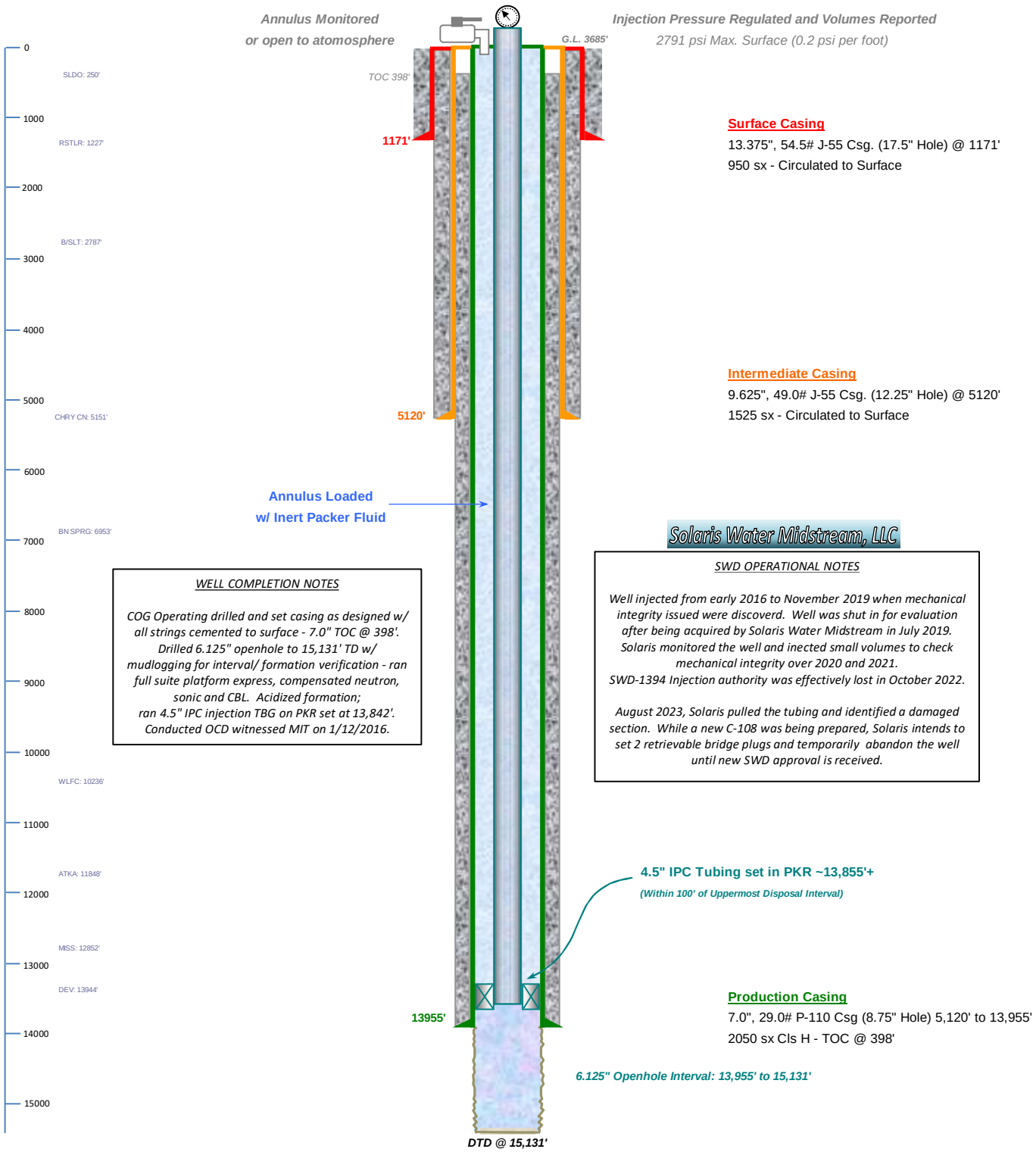
WELL SCHEMATIC - PROPOSED
North Lusk 32 State SWD Well No.1

API 30-025-41525

1550' FSL & 1800' FWL, SEC. 32-T18S-R32E
LEA COUNTY, NEW MEXICO

SWD; DEV-FUS-MON-SIMP-ELL (97775)

Spud Date: 8/14/2015
SWD Config Dt: 11/20/2015



Surface Casing
13.375", 54.5# J-55 Csg. (17.5" Hole) @ 1171'
950 sx - Circulated to Surface

Intermediate Casing
9.625", 49.0# J-55 Csg. (12.25" Hole) @ 5120'
1525 sx - Circulated to Surface

Production Casing
7.0", 29.0# P-110 Csg (8.75" Hole) 5,120' to 13,955'
2050 sx Cls H - TOC @ 398'

WELL COMPLETION NOTES

COG Operating drilled and set casing as designed w/ all strings cemented to surface - 7.0" TOC @ 398'. Drilled 6.125" openhole to 15,131' TD w/ mudlogging for interval/ formation verification - ran full suite platform express, compensated neutron, sonic and CBL. Acidized formation; ran 4.5" IPC injection TBG on PKR set at 13,842'. Conducted OCD witnessed MIT on 1/12/2016.

Solaris Water Midstream, LLC

SWD OPERATIONAL NOTES

Well injected from early 2016 to November 2019 when mechanical integrity issued were discoverd. Well was shut in for evaluation after being acquired by Solaris Water Midstream in July 2019. Solaris monitored the well and inected small volumes to check mechanical integrity over 2020 and 2021. SWD-1394 Injection authority was effectively lost in October 2022.

August 2023, Solaris pulled the tubing and identified a damaged section. While a new C-108 was being prepared, Solaris intends to set 2 retrievable bridge plugs and temporarily abandon the well until new SWD approval is received.

Drawn by: Ben Stone, 8/21/2023

SOS Consulting, LLC

C-108 ITEM XIII – PROOF OF NOTIFICATION

IDENTIFICATION AND NOTIFICATION OF AFFECTED PARTIES

Exhibits for Section

Affected Parties Map

List of Affected Parties

Notification Letter to Affected Parties

Instructions for PDF Document Access

Proof of Certified Mailing

Affidavit Published Legal Notice

Form C-108 Item VI - Tabulation of AOR Wells

	Top of Proposed DEVONIAN Interval 13,800'				*NO Wells (0) Penetrate Proposed Interval.*				
API	Current Operator	Well Name	Type	Status	Lease	ULSTR	Depth (V)	Spud Dt.	Plug Dt.
Subject Well									
30-025-41525	**SOLARIS WATER MIDSTREAM, LLC**	**NORTH LUSK 32 STATE SWD #001**	**SWD**	**Active**	**State**	**K-32-18S-32E**	**15131'**	**10/7/1992**	
Sections 4, 5, 6 Wells									
30-025-40313	COG OPERATING LLC	PEASHOOTER 4 FEDERAL COM #001H	Oil	Active	State	D-04-19S-32E	9616'	2/19/2010	
30-025-37210	COG OPERATING LLC	VALHALLA 4 FEDERAL COM #001	Oil	Active	State	D-04-19S-32E	12980'	12/31/9999	
30-025-37590	COG OPERATING LLC	BONANZA FEDERAL #001	Gas	Active	State	05-19S-32E	13119'	3/10/1980	
30-025-40773	COG OPERATING LLC	PATTERSON B 52 FEDERAL COM #002H	Oil	Active	Federal	A-05-19S-32E	11080'	8/11/2010	
30-025-20915	RAY WESTALL	SB FEDERAL #001	Oil	P&A-R	State	E-05-19S-32E	9641'	5/22/2010	12/31/9999
30-025-26901	WARREN E & P,INC.	SHELLY FED. COM #001	Oil	P&A-R	Federal	H-05-19S-32E	13060'	7/30/1980	3/2/2004
30-025-39638	COG OPERATING LLC	PATTERSON B 52 FEDERAL #003H	Oil	Active	State	J-05-19S-32E	9630'	8/28/2010	
30-025-39289	COG OPERATING LLC	PATTERSON B 52 FEDERAL #004H	Oil	Active	Federal	L-05-19S-32E	9303'	10/9/2012	
30-025-41097	COG OPERATING LLC	HAAS 6 FEDERAL COM #001H	Oil	Active	State	A-06-19S-32E	9369'	3/15/2009	
30-025-00888	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Federal	B-06-19S-32E	5482'	6/19/1996	7/4/1996
30-025-00890	MACK ENERGY CORP	W H PECKHAM #001	Oil	P&A-R	Federal	G-06-19S-32E	9461'	11/15/2011	12/31/9999
30-025-20913	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Federal	G-06-19S-32E	13096'	8/7/2005	12/31/9999
30-025-37734	COG OPERATING LLC	HEIDI HO FEDERAL COM #001	Gas	New	Federal	H-06-19S-32E	4252'	7/29/1947	
30-025-43181	COG OPERATING LLC	HAAS 6 FEDERAL COM #004H	Oil	New	Federal	H-06-19S-32E	4300'	1/1/1900	
30-025-43173	COG OPERATING LLC	HAAS 6 FEDERAL COM #002H	Oil	New	Federal	H-06-19S-32E	9807'	8/17/2008	
Section 29 Wells									
30-025-40706	CHEVRON U S A INC	CROSS BONES 2 29 #001H	Oil	Active	Federal	M-29-18S-32E	4256'	1/1/1900	
30-025-32177	SANTA FE ENERGY OPER. PRTNRS. LP	WATKINS 29 FEDERAL #001	Oil	P&A-R	Federal	N-29-18S-32E	3196'	1/1/1900	1/1/1900
30-025-34673	CHEVRON U S A INC	NORTH LUSK 29 FEDERAL #001	Oil	Active	Federal	N-29-18S-32E	4265'	12/31/9999	
Section 31 Wells									
30-025-35690	COG OPERATING LLC	EGL FEDERAL #001	Oil	Active	Federal	A-31-18S-32E	10150'	6/27/2008	
30-025-37465	COG OPERATING LLC	SDL 31 FEDERAL #001	Oil	New	Federal	B-31-18S-32E	9980'	10/11/2005	
30-025-00880	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Federal	G-31-18S-32E	4264'	12/31/9999	4/26/2007
30-025-38157	COG OPERATING LLC	LPC 31 FEDERAL #002	Oil	Active	Federal	G-31-18S-32E	11310'	6/26/2010	
30-025-37440	COG OPERATING LLC	LPC 31 FEDERAL #001	Oil	P&A-R	Federal	G-31-18S-32E	4180'	1/1/1900	1/1/1900
30-025-21252	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Private	H-31-18S-32E	4383'	12/31/9999	8/4/1994
30-025-25243	C W STUMHOFFER	FEDERAL CST #002	Oil	P&A-R	Federal	J-31-18S-32E	4264'	12/31/9999	12/31/9999
30-025-39593	E G L RESOURCES INC	LUSK 31 FEDERAL #003	Oil	Active	Federal	J-31-18S-32E	12620'	8/24/2000	
30-025-25259	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #003	Oil	P&A-R	Federal	K-31-18S-32E	11471'	1/1/1900	1/1/1900
30-025-39079	E G L RESOURCES INC	LUSK 31 FEDERAL #002	Oil	Active	Federal	K-31-18S-32E	9807'	12/31/9999	
30-025-00883	STEPHENS & JOHNSON OP CO	MAY HIGHTOWER FEDERAL #001	Oil	Active	Federal	N-31-18S-32E	12825'	10/1/2001	
30-025-25138	C W STUMHOFFER	FEDERAL CST #001	Oil	P&A-R	Federal	O-31-18S-32E	11473'	1/1/1900	12/31/9999

30-025-00882	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Federal	O-31-18S-32E	11620'	1/1/1900	1/1/1900
30-025-35073	E G L RESOURCES INC	LUSK 31 FEDERAL COM #001	Gas	Active	Federal	O-31-18S-32E	12620'	12/31/9999	
30-025-21400	BEACH EXPLORATION INC	MOLEEN FEDERAL #001	Oil	P&A-R	Federal	P-31-18S-32E	9205'	10/3/2013	12/31/9999
Section 32 Wells									
30-025-39571	RAYBAW Operating, LLC	HULKSTER #004	Oil	Active	Federal	A-32-18S-32E	9641'	12/31/9999	
30-025-39570	RAYBAW Operating, LLC	HULKSTER #003	Oil	Active	Federal	B-32-18S-32E	9388'	9/8/2012	
30-025-35747	RAYBAW Operating, LLC	N LUSK 32 STATE #001	Oil	Active	State	C-32-18S-32E	12930'	12/2/2001	
30-025-38446	RAYBAW Operating, LLC	HULKSTER #001	Oil	Active	State	D-32-18S-32E	11600'	1/1/1900	
30-025-38844	RAYBAW Operating, LLC	HULKSTER #002	Oil	Active	Federal	E-32-18S-32E	9313'	1/25/2011	
30-025-31735	RAYBAW Operating, LLC	WATKINS 32 STATE #001	Oil	Active	Federal	F-32-18S-32E	11440'	10/17/1964	
30-025-26754	RAYBAW Operating, LLC	MAX STATE #001	Oil	Active	State	G-32-18S-32E	9890'	12/20/2004	
30-025-39572	RAYBAW Operating, LLC	HULKSTER #005	Oil	Active	State	H-32-18S-32E	9983'	2/2/2008	
30-025-38865	COG OPERATING LLC	LEAR STATE #001H	Oil	Active	State	I-32-18S-32E	9490'	8/17/2008	
30-025-26703	MARBOB ENERGY CORP	LEAR STATE SWD #003	Oil	P&A-R	State	J-32-18S-32E	9353'	8/15/2009	12/31/9999
30-025-41525	SOLARIS WATER MIDSTREAM, LLC	NORTH LUSK 32 STATE SWD #001	SWD	Active	State	K-32-18S-32E	12922'	10/7/1992	
30-025-36953	OXY USA INC	NORTH LUSK 32 STATE #003	Oil	Active	State	K-32-18S-32E	15131'	8/14/2015	
30-025-35748	OXY USA INC	NORTH LUSK 32 STATE #001	Oil	Active	Federal	L-32-18S-32E	8700'	8/19/1993	
30-025-21443	LATIGO PETROLEUM, INC.	NORTH LUSK 32 STATE #002	Oil	P&A-R	State	M-32-18S-32E	9838'	1/28/2005	12/31/9999
30-025-36982	OXY USA INC	NORTH LUSK 32 STATE #005	Oil	Active	Federal	M-32-18S-32E	11850'	8/17/1999	
30-025-38866	COG OPERATING LLC	LEAR STATE #002H	Oil	Active	Federal	N-32-18S-32E	12960'	8/3/2006	
30-025-33411	CHEVRON U S A INC	PATTERSON 33 FEDERAL #001	Oil	P&A-R	State	L-33-18S-32E	11852'	11/17/2001	12/31/9999

SUMMARY: NO wells penetrate the proposed disposal interval, NO P&A wells penetrate.

Form C-108 Item VI - Tabulation of AOR Wells

	Top of Proposed DEVONIAN Interval 13,800'				*NO Wells (0) Penetrate Proposed Interval.*				
API	Current Operator	Well Name	Type	Status	Lease	ULSTR	Depth (V)	Spud Dt.	Plug Dt.
Subject Well									
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30-025-20913	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Federal	G-06-19S-32E	13096'	8/7/2005	12/31/9999
30-025-37734	COG OPERATING LLC	HEIDI HO FEDERAL COM #001	Gas	New	Federal	H-06-19S-32E	4252'	7/29/1947	
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30-025-00880	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Federal	G-31-18S-32E	4264'	12/31/9999	4/26/2007
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30-025-00883	STEPHENS & JOHNSON OP CO	MAY HIGHTOWER FEDERAL #001	Oil	Active	Federal	N-31-18S-32E	12825'	10/1/2001	
30-025-25138	C W STUMHOFFER	FEDERAL CST #001	Oil	P&A-R	Federal	O-31-18S-32E	11473'	1/1/1900	12/31/9999

30-025-00882	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL #001	Oil	P&A-R	Federal	O-31-18S-32E	11620'	1/1/1900	1/1/1900
30-025-35073	E G L RESOURCES INC	LUSK 31 FEDERAL COM #001	Gas	Active	Federal	O-31-18S-32E	12620'	12/31/9999	
30-025-21400	BEACH EXPLORATION INC	MOLEEN FEDERAL #001	Oil	P&A-R	Federal	P-31-18S-32E	9205'	10/3/2013	12/31/9999
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30-025-35747	RAYBAW Operating, LLC	N LUSK 32 STATE #001	Oil	Active	State	C-32-18S-32E	12930'	12/2/2001	
30-025-38446	RAYBAW Operating, LLC	HULKSTER #001	Oil	Active	State	D-32-18S-32E	11600'	1/1/1900	
30-025-38844	RAYBAW Operating, LLC	HULKSTER #002	Oil	Active	Federal	E-32-18S-32E	9313'	1/25/2011	
30-025-31735	RAYBAW Operating, LLC	WATKINS 32 STATE #001	Oil	Active	Federal	F-32-18S-32E	11440'	10/17/1964	
30-025-26754	RAYBAW Operating, LLC	MAX STATE #001	Oil	Active	State	G-32-18S-32E	9890'	12/20/2004	
30-025-39572	RAYBAW Operating, LLC	HULKSTER #005	Oil	Active	State	H-32-18S-32E	9983'	2/2/2008	
30-025-38865	COG OPERATING LLC	LEAR STATE #001H	Oil	Active	State	I-32-18S-32E	9490'	8/17/2008	
30-025-26703	MARBOB ENERGY CORP	LEAR STATE SWD #003	Oil	P&A-R	State	J-32-18S-32E	9353'	8/15/2009	12/31/9999
30-025-41525	SOLARIS WATER MIDSTREAM, LLC	NORTH LUSK 32 STATE SWD #001	SWD	Active	State	K-32-18S-32E	12922'	10/7/1992	
30-025-36953	OXY USA INC	NORTH LUSK 32 STATE #003	Oil	Active	State	K-32-18S-32E	15131'	8/14/2015	
30-025-35748	OXY USA INC	NORTH LUSK 32 STATE #001	Oil	Active	Federal	L-32-18S-32E	8700'	8/19/1993	
30-025-21443	LATIGO PETROLEUM, INC.	NORTH LUSK 32 STATE #002	Oil	P&A-R	State	M-32-18S-32E	9838'	1/28/2005	12/31/9999
30-025-36982	OXY USA INC	NORTH LUSK 32 STATE #005	Oil	Active	Federal	M-32-18S-32E	11850'	8/17/1999	
30-025-38866	COG OPERATING LLC	LEAR STATE #002H	Oil	Active	Federal	N-32-18S-32E	12960'	8/3/2006	
30-025-33411	CHEVRON U S A INC	PATTERSON 33 FEDERAL #001	Oil	P&A-R	State	L-33-18S-32E	11852'	11/17/2001	12/31/9999

SUMMARY: NO wells penetrate the proposed disposal interval, NO P&A wells penetrate.

SOS Consulting, LLC

C-108 ITEM VII – PRODUCED WATER ANAYLSES

Item VII.4 – Water Analysis of Source Zone Water

Delaware
Bone Spring
Wolfcamp

Item VII.5 – Water Analysis of Disposal Zone Water

Devonian

Water Analyses follow this page.

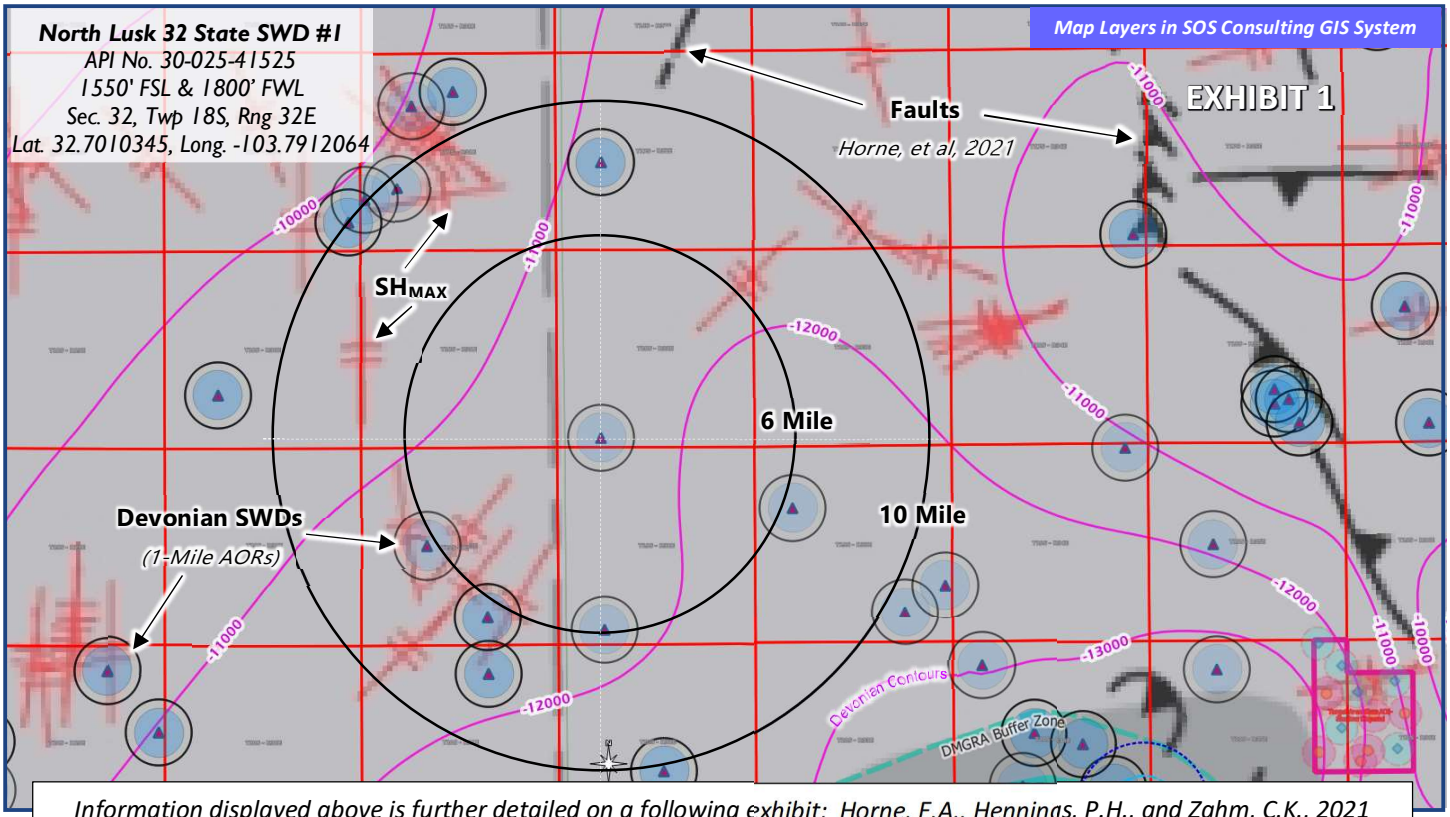
North Lusk 32 State SWD #1 – Seismic Review

(Attachment to NMOCD Form C-108 Item VIII –
Geologic Information; Seismic Information Addendum)

This well was permitted for salt water disposal by COG Operating in February 2013 by division order SWD-1394. The SWD actively injected 1000 to 2500 bwpd between January 2016 and October 2019, a cumulative total of 1.8 million barrels. The permit allowed for a standard 0.2 psi/ft however, apparent reported maximum surface injection pressure was 554 psi with most months showing zero, presumably on vacuum.

When permitted in 2013, the OCD did not require seismic analysis. In the years since, induced seismicity has caused many states regulatory agencies, particularly Texas and New Mexico to revise the process and in many cases, a seismic analysis may generally be required, especially where the proposed injection is deep. In New Mexico's case, injection into the Ellenburger (otherwise basement) formation is prohibited. The applicant seeks to address the operation with a review of available data and studies and to present its application as one where it believes little, or no risk is presented. The caveat is that as originally permitted, the well was completed in openhole and besides Devonian, includes Silurian, and Fusselman (Ordovician strata) – in fact, the currently designated pool name expounds on these formations. (e.g., [97775] SWD; DEV-FUS-MON-SIMP-ELL.)

The following review contains information from several sources to support our belief that as proposed, reinstating the subject well as an SWD poses little or no threat for induced seismicity, and does not endanger the environment or public safety.



Information displayed above is further detailed on a following exhibit; Horne, E.A., Hennings, P.H., and Zahm, C.K., 2021

North Lusk 32 State SWD #1 – Overview

Background

The C-108 for the North Lusk 32 State SWD #1 proposed a Devonian, Silurian and Ordovician interval from 13,800' to 15,250'. This interval was approved in SWD-1394 with a maximum surface injection pressure of 2670 psi.

Upon drilling and logging the well, according to the C-105 Completion Report, the top of the Devonian was determined at 13,944'. The 7.0" casing shoe was set at 13,955'. (Wireline shows the depth at 13,965').

The subject SWD commenced injection in January 2016. Rates were modest, averaging 1000 to 2000 bwpd at 0 psi, presumably vacuum. Injection continued at similar rates, often much less, until September/ October 2016 when the well failed a mechanical integrity test. In August 2021, 35 bbls was pumped while monitoring the annulus to confirm an issue with the tubing. The tubing was pulled in July 2023 and the bad section was identified. The tubing is stacked for now and Solaris will file a TA sundry to secure the well while this C-108 is being reviewed and approval is received to reinstate the well for SWD.

Geologic Notes

On the subsequent C-101 APD, the OCD geologist added to the specified SWD; Devonian pool name by also assigning by notation, Fus-Mon-Simp-Ell (i.e., Fusselman, Montoya, Simpson and Ellenburger) and modifying the pool to 97775 (from 96101). According to a paper by Ron Broadhead, 2005, the subject well is in an area of approximately 150' of Woodford Shale overlying the injection zone.

Based on other Devonian SWDs in the area and a cross-section of applicable logs, we believe the designated pool is in error as the exploited intervals do not include the Simpson or Ellenburger formations. Logs show the well total depth is appropriate and stops at or above the Simpson strata.

Potash - The subject well is over 4 miles from the nearest potash to the south.

Seismic Discussion

The subject well is located in the northern portion of the area of recent seismic studies such as Snee/ Zoback, 2018. The concentration of much of the activity and associated faults is generally in the southern portion of the Delaware Basin, in an area around the state line and largely in Loving, Winkler, Reeves, and Culberson counties.

Certainly, induced seismicity is always a concern but based on readily available data and studies, including the USGS earthquake information and maps, the North Lusk 32 State SWD is situated in a reasonably quite area.

According to the Lonquist FSP study on the Kodiak SWD, injection data was gathered from surrounding wells and as the North Lusk 32 was presented in the models, it is assumed that a reasonable conclusion of no slip impact, would include the subject well and nearby faults.

North Lusk 32 State SWD #1 – Seismic Review (cont.)

32-18S-32E, Lea County

Area SWDs

As shown on the previous map and other map exhibits contained herein, there are 9 other Devonian interval SWDs permitted within 10 miles of the subject well.

Subject Well (When Active)

North Lusk 32 State SWD #1, 30-025-41525, COG Operating, LLC, K-32-18S-32E, Lea

SWD-1394 (2/05/2013 – permitted by COG Operating) max allowed 2760 psi, 4.5" tubing.
Zone: Devonian, Silurian and Ordovician from 13,800' to 15,250' (OH) (DEV top called 13,970')*
**Upon drilling, DEV top was called 13,965', casing shoe set.*
Max Rate Reported: 2555 bwpd, 554 psi. ***Cum injection: 1.82 Mbbls.***
Well is INACTIVE (TA pending)*. Notes: SWD authority effectively terminnated in Oct. 2022.*

Beginning with the northwest (group of 3) and progressing west to east and then south, the SWDs are as follows:

Apache State SWD #1, 30-015-38977, Apache Corp., B-36-17S-30E, Eddy

SWD-1271-A (5/29/2012) w/ IPI-427 max allowed 3900 psi, 4.5" tubing.
Zone: Devonian/ Ellenburger from 12,355'-13,500' (perfs) and 13,500'-14,000' (OH).*
Openhole interval* ***was never* *drilled according to the well file and diagrams.*
Max Rate Reported: <2500 bwpd, pressure not reported. ***Cum injection: 5.126 Mbbls.***
Well is ACTIVE. Added numerous perfs in 2018. Notes: well is updip from subject ~1250', Simpson at 13,444' so Ellenburger was never entered or exploited.

Apache State SWD #3, 30-015-38978, Apache Corp., E-30-17S-31E, Eddy

SWD-1277-A (4/25/2012) max 2488 psi, 4.5" tubing.
Zone: Devonian/ Ellenburger from 12,440'-13,090' (perfs) and 13,520'-13,943' (OH).*
Openhole interval* ***was* *DRILLED according to the well file and diagrams.*
Max Rate Reported: <4903 bwpd, pressure not reported. ***Cum injection: 12.041 Mbbls.***
Well is ACTIVE. Added 158 perfs in 2012. Notes: well is updip from subject ~1250'.

Apache Federal SWD #2, 30-015-43429, Apache Corp., A-29-17S-31E, Eddy

Never Drilled. Similar proposal as both above.

Elvis SWD #1, 30-025-33584, Maverick Permian, LLC, F-20-17S-32E, Lea

SWD-1212 (4/07/2010) Permitted max 2744 psi. 4.5" tubing.
Zone: Devonian from 13,720'-13,832' (perfs).
Max Rate Reported: ~4300 bwpd, pressure not reported. ***Cum injection: 3.524 Mbbls.***
Well is ACTIVE. Notes: well is slightly updip from subject ~250'.

Kodiak SWD #1, 30-025-45391, DKL Field Services, LLC, M-9-19S-33E, Lea

SWD-2473 (12/01/2022) Permitted max rate: 25,000 bwpd, max 2950.2 psi, 5.5" tubing.
Zone: Devonian-Silurian from 14,751'-16,400' (OH).
Max Rate Reported: ***New – no reports yet. This FSP analysis data is for inference for subject C-108**.***
Well is ACTIVE. Notes: well is downdip from subject ~1000'.

Hackberry 16 SWD #1, 30-015-41783, Devon Energy Production Company, M-16-19S-31E, Eddy

SWD-1456 (1/14/2014) Permitted max 2679 psi, 4.5" tubing.
Zone: Devonian from 13,359'-~14,765' (OH).
Max Rate Reported: 6677 bwpd, max 2500 psi. ***Cum injection: 14.469 Mbbls.***
Well is ACTIVE. Notes: well is slightly updip to subject ~100'.

North Lusk 32 State SWD #1 – Seismic Review (cont.)

Area SWDs

BEU Hackberry 34 Federal SWD #1, 30-015-40288, XTO Permian Operating, LLC, A-34-19S-31E, Eddy

SWD-1319-A (10/11/2012) Permitted max 2754 psi, 4.5" tubing.
Zone: Devonian from 13,771'-14,847' (OH). (DEV top called 13,771')
Max Rate Reported: 9500 bwpd, max 2500 psi. ***Cum injection: 15.331 Mbbls.***
Well is ACTIVE. Notes: well is slightly updip to subject ~100'.

Magnum Pronto 32 State SWD #1, 30-025-41354, Solaris Water Midstream, LLC, K-32-19S-32E, Lea

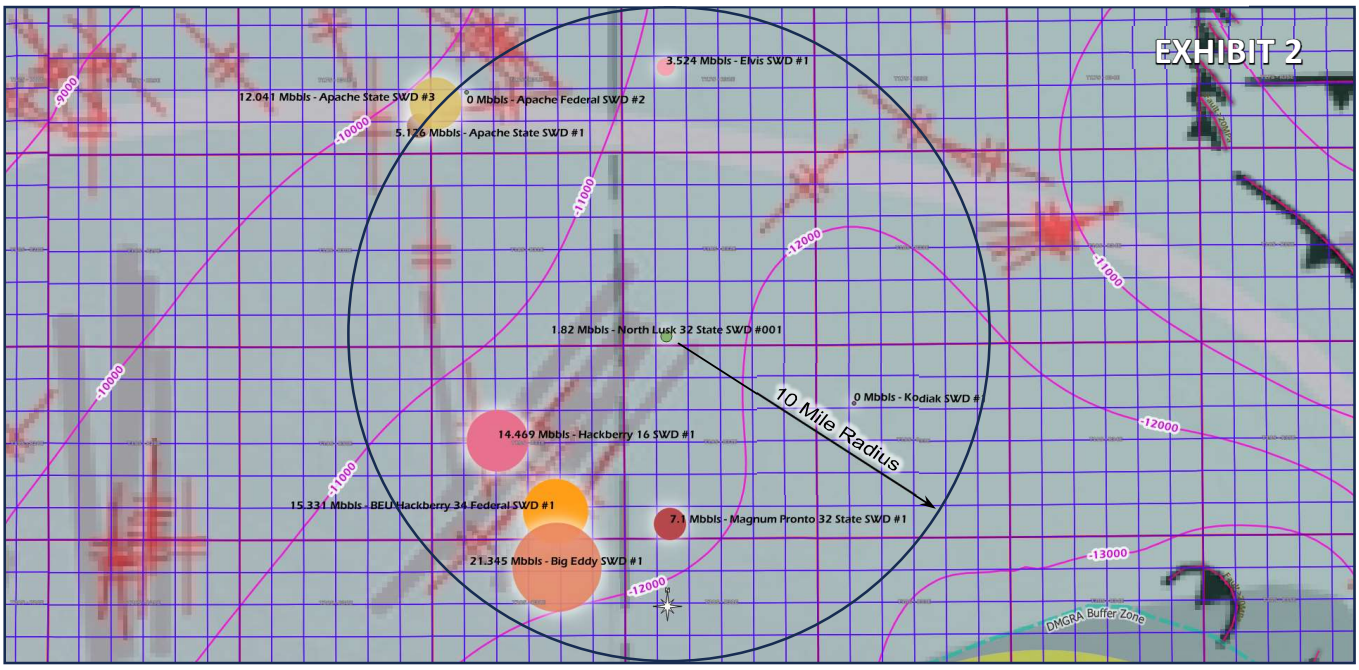
SWD-1399-A (6/10/2013, permitted by COG Operating) Permitted max 2690 psi, 4.5" tubing.
Zone: Devonian, Silurian and Ordovician from 13,450' to 14,900' (OH) (DEV top called 13,616')*
Max Rate Reported: 10,250 bwpd, 0 psi (presume vacuum). ***Cum injection: 7.1 Mbbls.***
*Well is ACTIVE. Notes: well is slightly downdip to subject ~100'. *Casing shoe set @ 13,620'.*

Big Eddy SWD #1, 30-015-05819, NGL Water Solutions Permian, LLC, P-3-20S-31E, Eddy

SWD-1186-A (8/14/2009) Permitted max 2590 psi, 3.5" tubing.
Zone: Mississippian, Siluro-Devonian from 12,950'-14,205' (OH). (DEV top called 13,930')
Max Rate Reported: 13,000 bwpd, max 203 psi. ***Cum injection: 21.345 Mbbls.***
Well is ACTIVE. Notes: well is on-depth w/ contours to subject +/-50'.

** The Kodiak SWD #1 C-108 contains an FSP analysis conducted for and submitted on behalf of the applicant, 3Bear Field Services, LLC. As indicated by NMOCD rules and regulations, inferred data from offsetting or otherwise similar projects is generally allowed and as a practice, often encouraged.

North Lusk 32 State SWD #1 – Seismic Composite w/ Cum Injection Volumes



This map shows the 9 SWDs within a 10-mile radius of the subject well. The cumulative injection volumes are represented by circles increasing in size according to the total volumes. The sizes are arbitrary except in relation to each other so relative scale is accurate. The colors are nondescript.

The background image is a composite of both the Snee/ Zoback (2018) layer and the Horne (2021) layer. This map is presented for informational purposes only, no interpretation is based on the image.

North Lusk 32 State SWD #1 – Seismic Review (cont.)

Notes and additional citation: Comments noting 'updip', 'downdip' or 'on-depth' are in reference to a layer in the SOS GIS system. This layer and these data are from: Ruppel, S. C., Jones, R. H., Breton, C.L., and Kane, J.A., 2005, Preparation of maps depicting geothermal gradient and Precambrian structure in the Permian Basin: The University of Texas at Austin, Bureau of Economic Geology, Contract report to the U.S. Geological Survey, under order no. 04CRSA0834 and requisition no. 04CRPR01474

Use of this layer is for informational purposes. Log cross-sections allow for more precision. Formations and tops calls are from various individuals over several years, from various companies and C-108 submittals would have been reviewed/ approved by different persons at OCD. It is readily apparent that much of the discrepancy is due to a combination of these factors. Tops and/or formations are called differently and the resulting designated pools drift between assignments.

SOS Consulting is making its interpretation of various elements based on experience and casual observation, understanding and knowledge of the inherent ambiguity of available data as reported or otherwise documented.

Upon review of the analysis, the North Lusk 32 State SWD was included in the review area and even in some of the evaluation and modeling results. For this discussion, it is simply noted that being approximately 6.2 miles between the locations and similar fault proximity, the Kodiak FSP report does have some validity. Based on the other information presented in this current report for the North Lusk 32 State SWD #1, SOS believes the inferred Kodiak data supports the position that this SWD poses little or no seismic risk or endangers the environment or the public. *(Selected exhibits included herein.)*

Notably, even excluding the Kodiak information, the North Lusk 32 State SWD #1 is generally located to the north and away from recognized and observed seismic activity. While basic and imprecise by comparison to data acquired in and around the Permian Basin in recent years, the latest USGS seismic hazard maps (2018) show southeast New Mexico and much of west Texas to be in an area with <1% chance of potentially minor-damage ground shaking. Obviously, we now have better, more specific coverage for our region and this is discussed on the following pages.

In reviewing all the maps and exhibits, even a casual observer will see that the North Lusk 32 State SWD #1 is situated away from denser SWD and fault areas. The well was on disposal injection since 2016 but never fully exploited at commercial volumes. In the 10-mile area of Devonian disposal injection, the location remains away from concentrations of cumulative injection volumes. Even if other nearby permitted SWDs come online, the expectation is that the North Lusk 32 State SWD #1 is well situated and would supply needed capacity for area operations.

We believe the potential for any induced seismicity event as a result of injection into the North Lusk 32 State SWD #1 is extremely low based on available data, reports and studies.

North Lusk 32 State SWD #1 – Seismic Review (cont.)

Guide to Exhibits and Maps

All maps were generated in SOS Consulting's GIS system unless otherwise noted…

Exhibit 1 - Map – *(1st page of section)* View is a raster layer of an image from the paper, 'Basement-Rooted Faults of the Delaware Basin and Central Basin Platform', Horne, E.A., Hennings, P.H., and Zahm, C.K., 2021. This map was generated to show a zoomed-in view of the subject well's location in relation to elements described in the paper and presented on a map contained therein. In addition to nearby faults and SH_{MAX} features, other Devonian SWDs are displayed with Devonian contours and circles to identify 6 and 10 radii from the well spot.

Exhibit 2 - Map – *(3rd page of section)* The cumulative injection volumes of the 9 SWDs within 10 miles of the subject are represented by circles increasing in size according to the total volumes. The sizes are arbitrary except in relation to each other so relative scale is accurate. No interpretation is made.

Exhibit 3 - Map – *(5th page)* This map is the usual presentation of the USGS One-Year Model from 2018. *(This appears to be the latest version issued by the USGS.)* Notably, the map does include a hot spot shown to represent the induced seismicity experienced in Oklahoma a few years before it became a similar issue for the greater Permian Basin area. Generally, on a continental scale, much of the county, including Texas and New Mexico, are shown to be low-risk areas, at least from a tectonic perspective. Considering the work on seismicity studies that have been performed in and around the Permian Basin, the USGS map is of little use and more of an obligatory presentation.

Exhibit 4 - Map – *(6th page, bottom collection)* This collection of maps is from the now well-known Snee/Zoback 2018 study. The larger map portion shows a zoomed-in portion of the larger study area in the Permian Basin. The inset to the upper-left to show the full and extracted/ zoomed areas. The inset at the bottom shows a closer view still of the area around the subject well and proximity to SH_{MAX} as identified in the study.

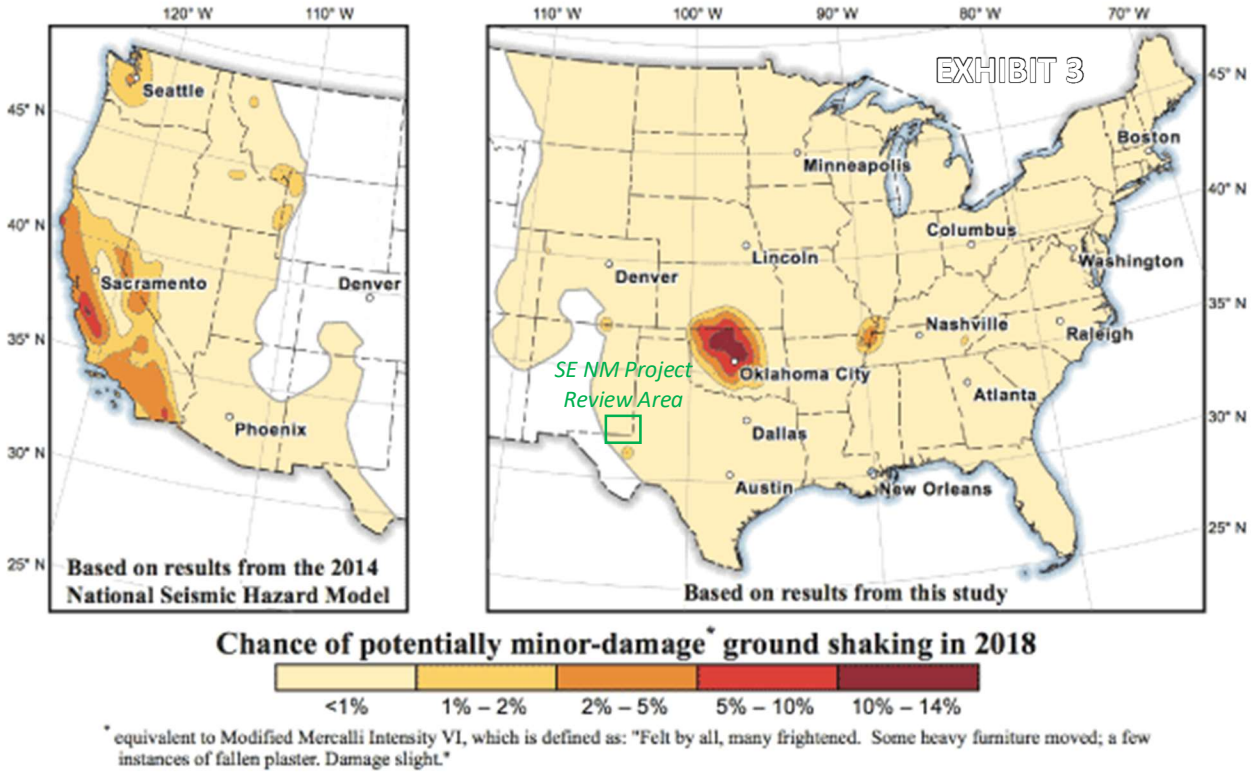
Exhibit 5 - Map – *(7th page)* This map is a large view of Map 1 and the cited study by Horne, et al. This study represents a new interpretation of more than 650 basement-rooted faults in the Permian Basin. The inset shows the selected areas and the subject well is spotted on the map with a 10-mile radius circle.

Exhibits 6-9 – *(8th page)* The 4 snapshot views are selected exhibits from an FSP analysis performed by Lonqust Engineering on behalf of 3Bear Field Services, LLC (now DKL Field Services, LLC) on its Kodiak SWD #1. The Kodiak SWD is located approximately 6 miles to the southeast of the subject North Lusk 32 SWD and was included in the analysis. While not presented as a case study or direct analysis of the North Lusk 32, it does offer good support in addition to the other information and data presented in this evaluation.

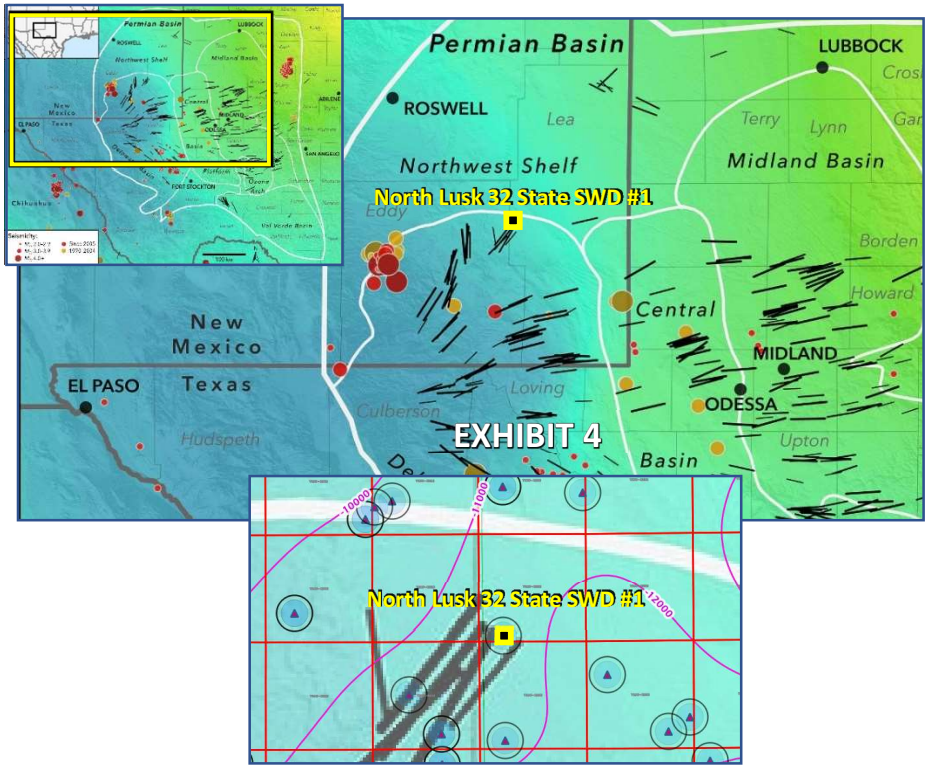
Exhibit 10 – Map *(last page)* Finally, the map on the last page is a comprehensive seismic view of the region. Several layers of seismic data are visible in the SOS system. The subject well is shown in relation to dozens of Devonian SWDs (other zone SWDs are not displayed). The map also shows OCD's designated Seismic Response Areas (SRAs) with corresponding 3, 6 and 10 miles 'heat' spots. Other map features are earthquakes (USGS Shake Map/ data) Devonian contours and faults identified by Peter Hennings, 2021. Faults are labeled when MPa was >20 based on Hennings data.

North Lusk 32 State SWD #1 – Seismic Review (cont.)

USGS 2018 ONE-YEAR MODEL



The more useful and now well-known reference is from the 2018 Snee/ Zoback study, "State of stress in the Permian Basin, Texas and New Mexico.



State of stress in the Permian Basin, Texas and New Mexico. Black lines are the measured orientations of the maximum horizontal stress (SHmax), with line length scaled by data quality. The colored background is an interpolation of measured relative principal stress magnitudes (faulting regime) expressed using the Aφ parameter (see text for details) of Simpson (1997). Blue lines are fault traces known to have experienced normal-sense offset within the past 1.6 Ma, from the USGS Quaternary Faults and Folds Database (Crone and Wheeler, 2000). The boundary between the Shawnee and Mazatzal basement domains is from Lund et al. (2015), and the Precambrian Grenville Front is from Thomas (2006). The Permian Basin boundary is from the U.S. Energy Information Administration, and the subbasin boundaries are from the Texas Bureau of Economic Geology Permian Basin Geological Synthesis Project. Earthquakes are from the USGS National Earthquake Information Center, the TexNet Seismic Monitoring Program, and Gan and Frohlich (2013). Focal mechanisms are from Saint Louis University (Herrmann et al., 2011).

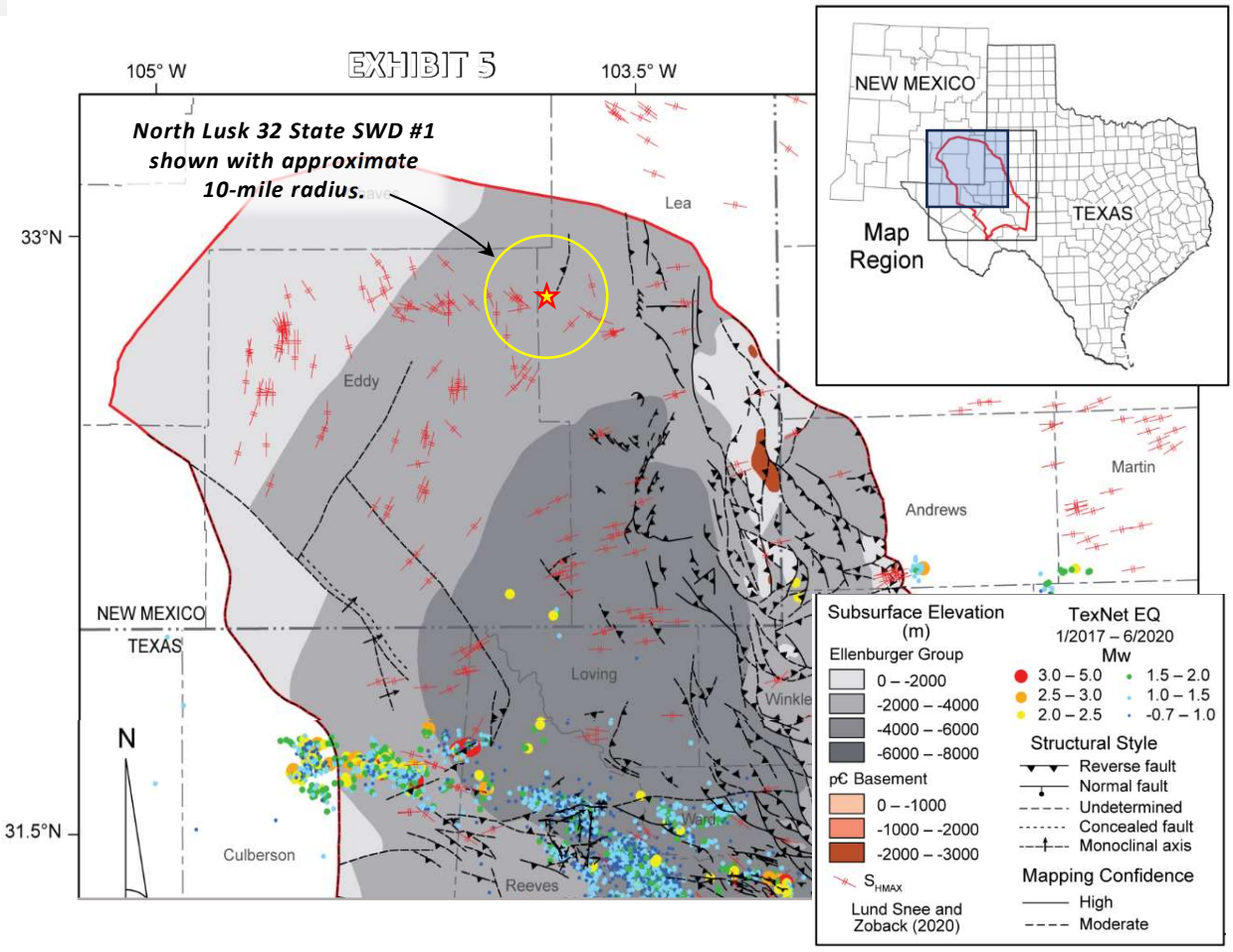
North Lusk 32 State SWD #1 – Seismic Review (cont.)

Subsequent to the work by Snee and Zoback, E.A. Horne et al, built on the understanding of those data and developed a new interpretation of basement-rooted faults. A zoomed in map view using the presented data is overlain with notations on the first page of this report.

Basement-Rooted Faults

A new interpretation of >650 basement-rooted faults was generated to better understand the subsurface architecture of the Delaware Basin and surrounding structural flanks. Faults were classified according to morphology (orientation, length, offset) and mapping confidence (high and moderate) (Fig. DB2). Deformation is dominated by NNW-SSE-striking high-angle reverse faults. These NNW-SSE primary faults are compartmentalized by two secondary fault orientations observed regionally (WNW-ESE & WSW-ENE), the most notable of which is the ENE-striking Grisham fault zone. These secondary faults accommodated significant reverse dip-slip and minor strike-slip movement, contractional fault-propagation folds, and smaller-scale, similarly trending oblique-slip fault zones. A subordinate fault orientation of NNE-SSW is also observed. These faults formed in association with accumulated contractional and localized strike-slip strain between first-and second-order faults. This interpretation can be used to understand controls on issues involving faulting, including but not limited to neotectonic stress state, basin tectonostratigraphic evolution, reservoir productivity and production characteristics, and both natural and induced seismicity.

Horne, E.A., Hennings, P.H., and Zahm, C.K., 2021, Basement-Rooted Faults of the Delaware Basin and Central Basin Platform (O. A. Callahan & P. Eichhubl, Eds.): The University of Texas at Austin, Bureau of Economic Geology Report of Investigations No. 286., 37 p., https://doi.o , rg/10.23867/RI0286C6.



North Lusk 32 State SWD #1 – Seismic Review (cont.)

Finally, a few exhibits from the afore-mentioned Kodiak FSP study with the subject well is shown below.

EXHIBITS 6-9

Model 1 – Devonian

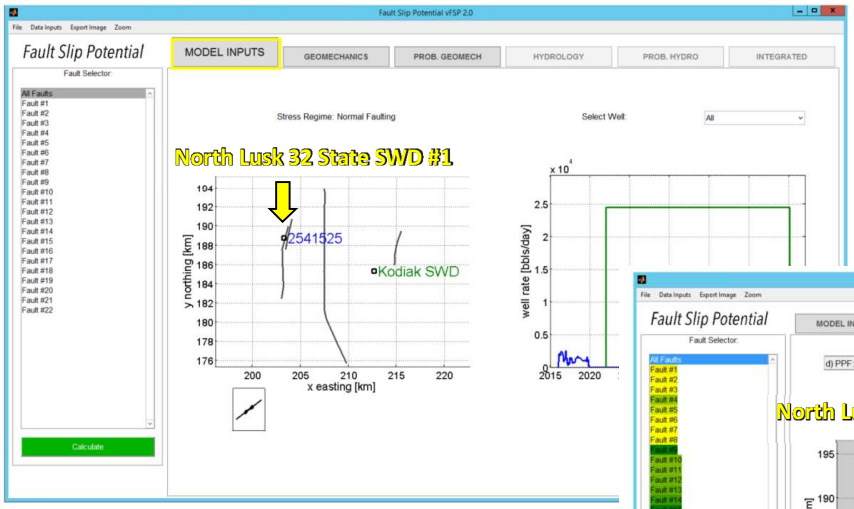


Figure 12 - FSP Model 1 Input: 2 injectors and 22 Devonian fault segr

Analysis includes:

* Fluid injection history from DrillingInfo within the 6 miles AOI.
* Proposed average injection rate (25,000 bpd) for Kodiak SWD #1.
* Proposed injection interval reservoir parameters and average depth.
* Local stress information and pressure gradients.
* Known fault locations within AOI with faults segmented to a maximum length of 3 km.

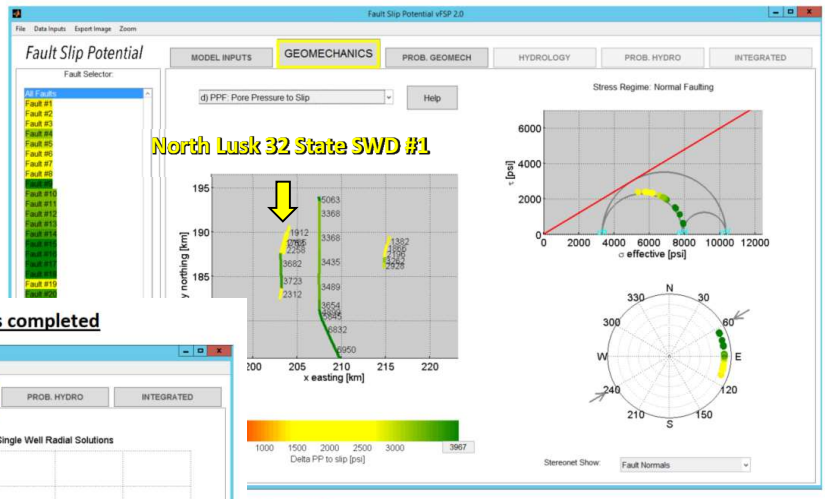


Figure 13 - FSP Geomechanics Tab, Model 1 and 2

) for each fault segment, direction of SHmax, and a Mohr diagram with frictional slip line ding to the color scale.

Model 1 – Initial conditions before Kodiak SWD #1 well is completed

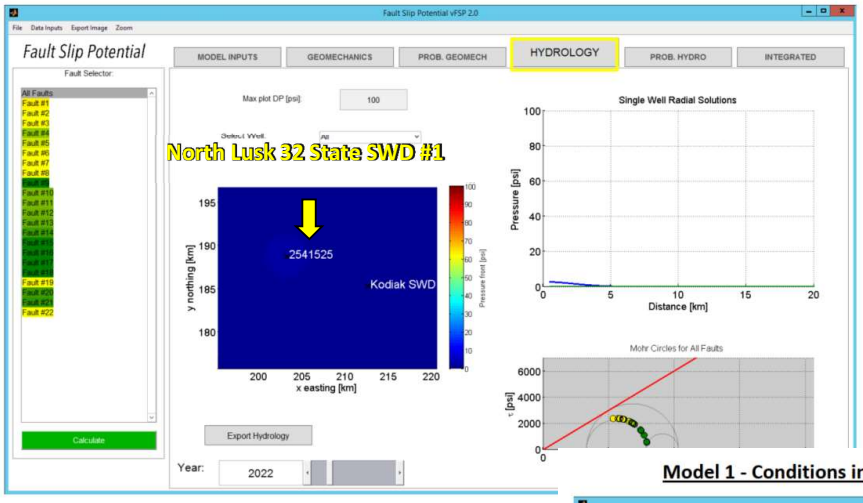


Figure 16 - FSP Hydrology Tab Before Proposed C

The software demonstrates pressure change as a function of distance from each of the

Credit: FSP Analysis performed by Lonquist Engineering, Austin, Texas on behalf of 3Bear Field Services for its Kodiak SWD #1. (Now DKL Field Services, LLC)

Model 1 - Conditions in 2042, 20 years after Kodiak SWD #1 well is completed

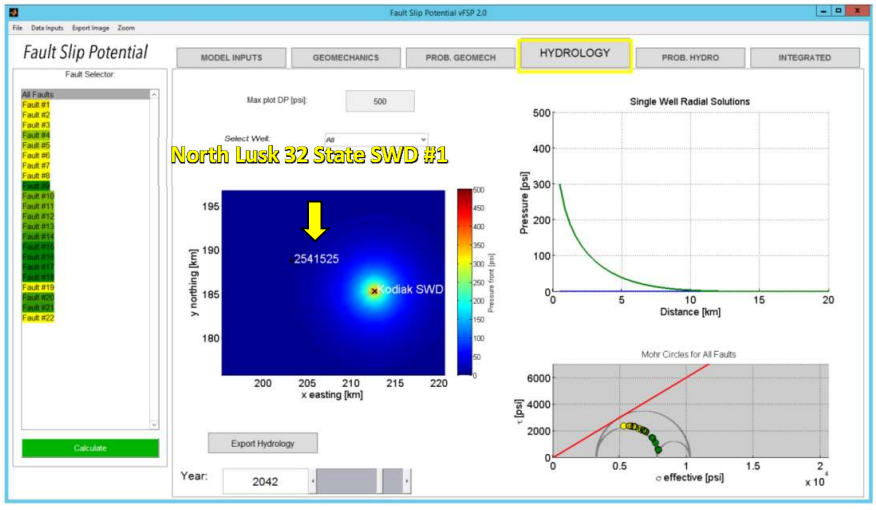


Figure 17 - Model 1 FSP Hydrology Tab

The software projects pressure changes away from each injector 20 years after completion.

* Model #1: includes permitted injection well in the AOI plus the proposed injection interval (2 wells total).

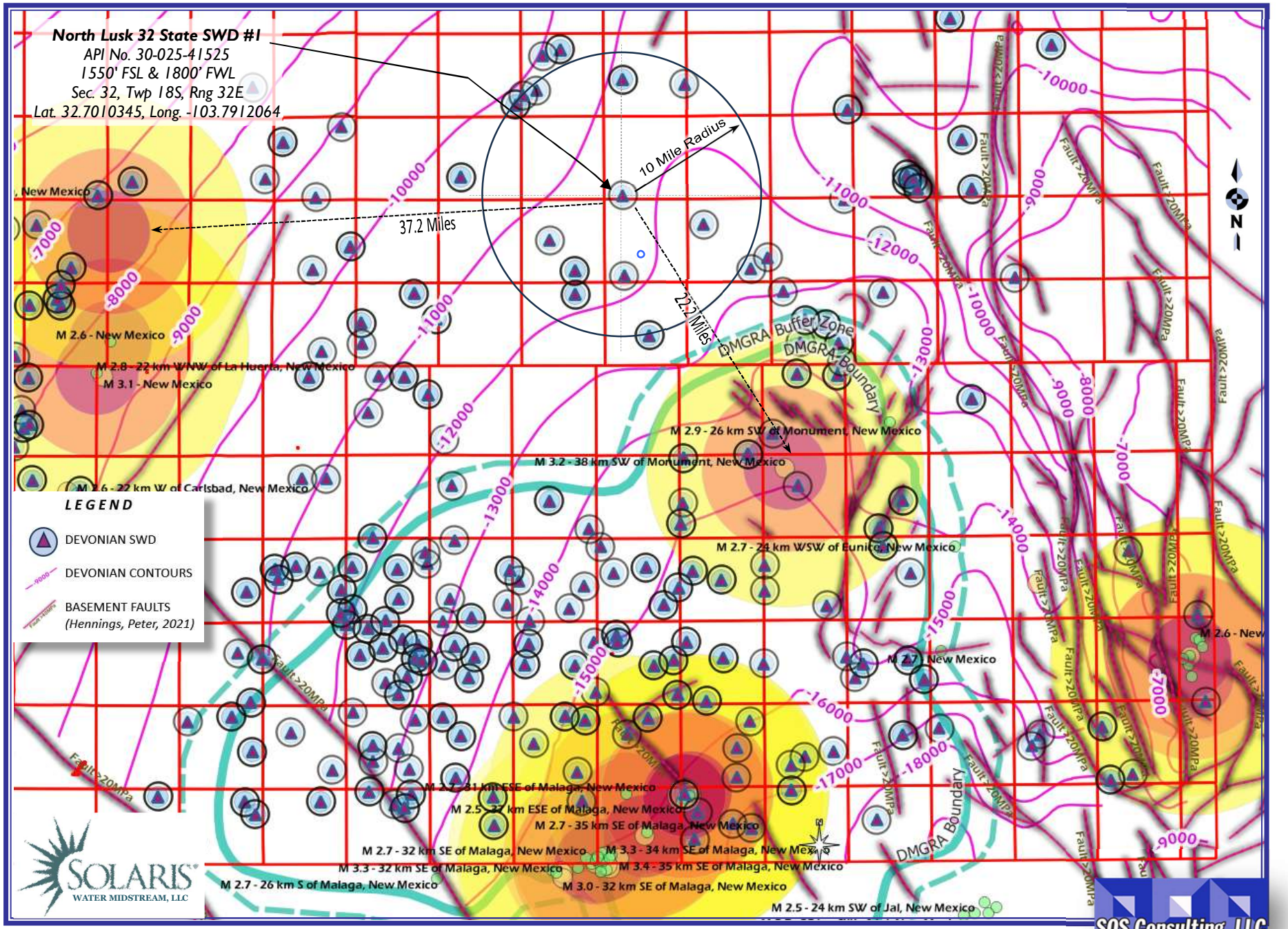
* Model #2: includes only the proposed injection well interval.

In summary, the proposed fluid injection does not significantly increase the risk that these faults will slip.

North Lusk 32 State SWD #1 – Seismic Composite – Regional Map

(Attachment to NMOCD Form C-108 - Item V)

EXHIBIT 10



C-108 ITEM VII – PROPOSED OPERATION

North Lusk 32 State SWD No.1

Commercial SWD Facility

The subject SWD commenced injection in January 2016. Rates were modest, averaging 1000 to 2000 bwpd at 0 psi, presumably vacuum. Injection continued at similar rates, often much less, until September/ October 2016 when the well failed a mechanical integrity test. In August 2021, 35 bbls was pumped while monitoring the annulus to confirm an issue with the tubing. The tubing was pulled in July 2023 and the bad section was identified. The tubing is stacked for now and Solaris will file a TA sundry to secure the well while this C-108 is being reviewed and approval is received to reinstate the well for SWD.

Configure for Salt Water Disposal

Solaris recently pulled the tubing and identified a bad joint. They have filed a sundry to temporarily abandon the well while this C-108 is being processed – a current wellbore diagram is included to reflect the TA status of the well with 2 retrievable bridge plugs set above the casing shoe.

Prior to commencing any additional work to run the tubing back in or otherwise reconfigure the SWD, NOI sundry(ies) will be submitted and will detail the completion workover including all work otherwise described above, any change to the procedure noted herein and to perform mechanical integrity pressure test per OCD test procedures. (Notify NMOCD 24 hours prior.) The casing/tubing annulus will be monitored for communication with injection fluid or loss of casing integrity.

Operational Summary

The well and injection equipment will be a closed system and equipped with pressure limiting devices and volume meters. The annulus, loaded with an inert, anti-corrosion packer fluid, will be monitored for pressure.

The tanks will be equipped with telemetry devices and visual alarms to alert the operator and customers of full tanks or an overflow situation.

Anticipated daily maximum volume is 25,000 bpd and an average of 20,000 bpd at a maximum surface injection pressure of 2791 psi (.2 psi/ft gradient – maximum pressure will be adjusted If the top of interval is modified after well logs are run).

Potential releases will be contained and cleaned up immediately. The operator shall repair or otherwise correct the situation within 48 hours before resuming operations. OCD will be notified within 24 hours of any release greater than 5 bbls. If required, remediation will start as soon as practicable. The operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as necessary and appropriate.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 263494

CONDITIONS

Operator: SOLARIS WATER MIDSTREAM, LLC 907 Tradewinds Blvd, Suite B Midland, TX 79706	OGRID: 371643
	Action Number: 263494
	Action Type: [IM-SD] Admin Order Support Doc (ENG) (IM-AAO)

CONDITIONS

Created By	Condition	Condition Date
mgebremichael	None	9/9/2023