Initial Application Part I

Received 8/14/18

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

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: Probity SWD, LLC **OGRID Number:** 296278
Well Name: Henry McDonald SWD No.1 **API:** 30-015-xxxxx
Pool: Proposed: SWD; Devonian-Silurian **Pool Code:** 97869

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

1) **TYPE OF APPLICATION:** Check those which apply for [A]
A. Location – Spacing Unit – Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD

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.

8/13/2018
Date

Ben Stone
Print or Type Name

903-488-9850
Phone Number

Signature

ben@sosconsulting.us
e-mail Address

August 13, 2018

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

Attn: Ms. Heather Riley, Director

Re: Application of Probity SWD, LLC to permit for salt water disposal the Henry McDonald SWD Well No.1, to be located in Section 24, Township 25 South, Range 28 East, NMPM, Eddy County, New Mexico.

Dear Ms. Riley,

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

Probity SWD seeks to optimize efficiency, both economically and operationally, of its operations in south-east 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.

I would point out that this application for a proposed Devonian SWD interval includes the currently man-dated increased One-Mile Area of Review including pertinent and available seismic information for the area and region. Published legal notice ran June 17, 2018 in the Artesia Daily Press and all offset operators and other interested parties have been notified individually. The legal notice affidavit is included herein. This application also includes a wellbore schematic, area of review maps, affected party plat and other required information for a complete Form C-108. The well is located on private land and minerals. There are state and federal lands & minerals and private minerals within the one-mile radius notice area and the State Land Office and offset operators have been notified of this application.

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 Probity SWD, 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: ***Probity SWD, LLC***
ADDRESS: ***P.O. Box 7307, Midland, TX 79708***

CONTACT PARTY: ***Agent: SOS Consulting, LLC – Ben Stone (903) 488-9850***

III. WELL DATA: ***All well data and applicable wellbore diagrams 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-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 (0) 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 Wells penetrate.***

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 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 will be filed with OCD.***

*XI. ***There are 2 water wells/ PODs within one mile of the proposed salt water disposal well. Representative analyses are ATTACHED.***

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 15 offset lessees and/or mineral owners within ½ mile and state, federal & private minerals - all have been noticed. Well location is Private.***

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 Probity SWD, LLC***

SIGNATURE: _____ DATE: ***8/13/2018***

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 which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

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

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE ***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.

C-108 - Items III, IV, V

Item III - Subject Well Data

Wellbore Diagram - PROPOSED

Item IV – Tabulation of AOR Wells

NO 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-Half Mile AOR Map

All Above Exhibits follow this page.

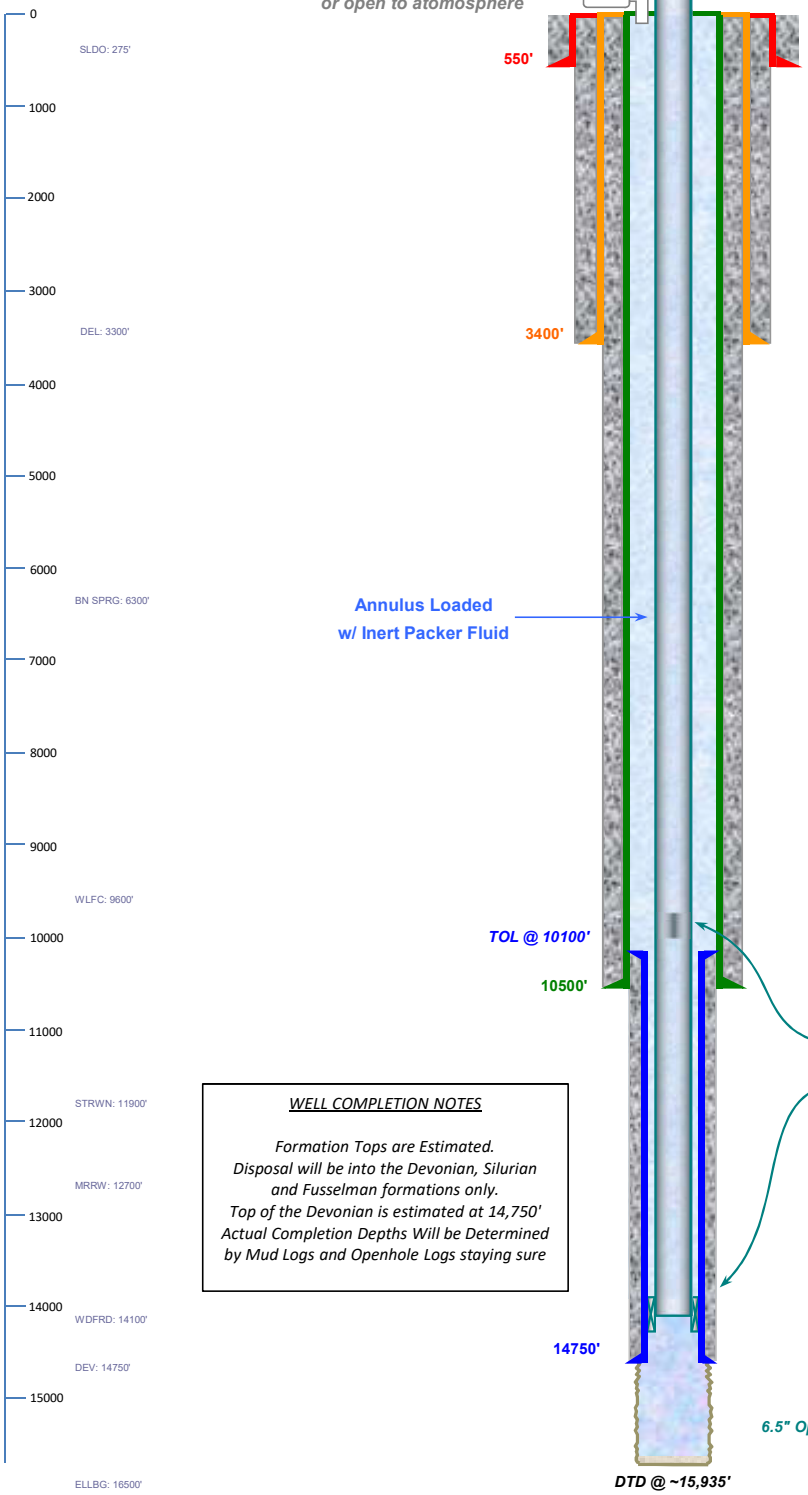
WELL SCHEMATIC - PROPOSED
Henry McDonald SWD Well No.1

API 30-015-xxxxx
300' FSL & 2640' FWL, SEC. 24-T25S-R28E
EDDY COUNTY, NEW MEXICO

Proposed: SWD; Devonian-Silurian-Fusselman
Spud Date: 11/01/2018
SWD Config Dt: 12/15/2018

Annulus Monitored or open to atomosphere

Injection Pressure Regulated and Volumes Reported
2950 psi Max. Surface (0.2 psi per foot)



Surface Casing
20.0", 94.0# J-55 Csg. (26.0" Hole) @ 550'
1600 sx - Circulated to Surface

Intermediate Casing
13.375", 68.0# Csg. (17.5" Hole) @ 3400'
1650 sx - Circulated to Surface

Drill and set casing as designed w/ all strings cemented to surface. Install 7.625" liner @ ~14,750 w/ 400 sx to TOL. Drill 6.5" openhole to approx. 15,935' TD w/ mudlog for interval/ formation verification. Acidize formation; run 5.5" (5.0" FJ inside liner) injection TBG on PKR set at 14,650'.+ Conduct OCD witnessed MIT. Well ready for injection upon completion of surface facilities.

Production Casing
9.625", 53.5# P-110 Csg. (12.25" Hole) @ 10500'
1900 sx - Staged; Circulate to Surface
(DV @5600')

Split String Tubing Transition ~10,040'
5.5" to liner w/ 5.0" Flush Joint inside liner
IPC Tubing set in PKR ~14,650'
(Within 100' of Uppermost Disposal Interval)

Liner Casing
7.625", 39.0# P-110 Csg (8.5" Hole) 10,100' to 14,750'
400 sx Cls H - TOC @ Top of LNR

6.5" Openhole Interval: 14,750' to 15,935' (Maximum)

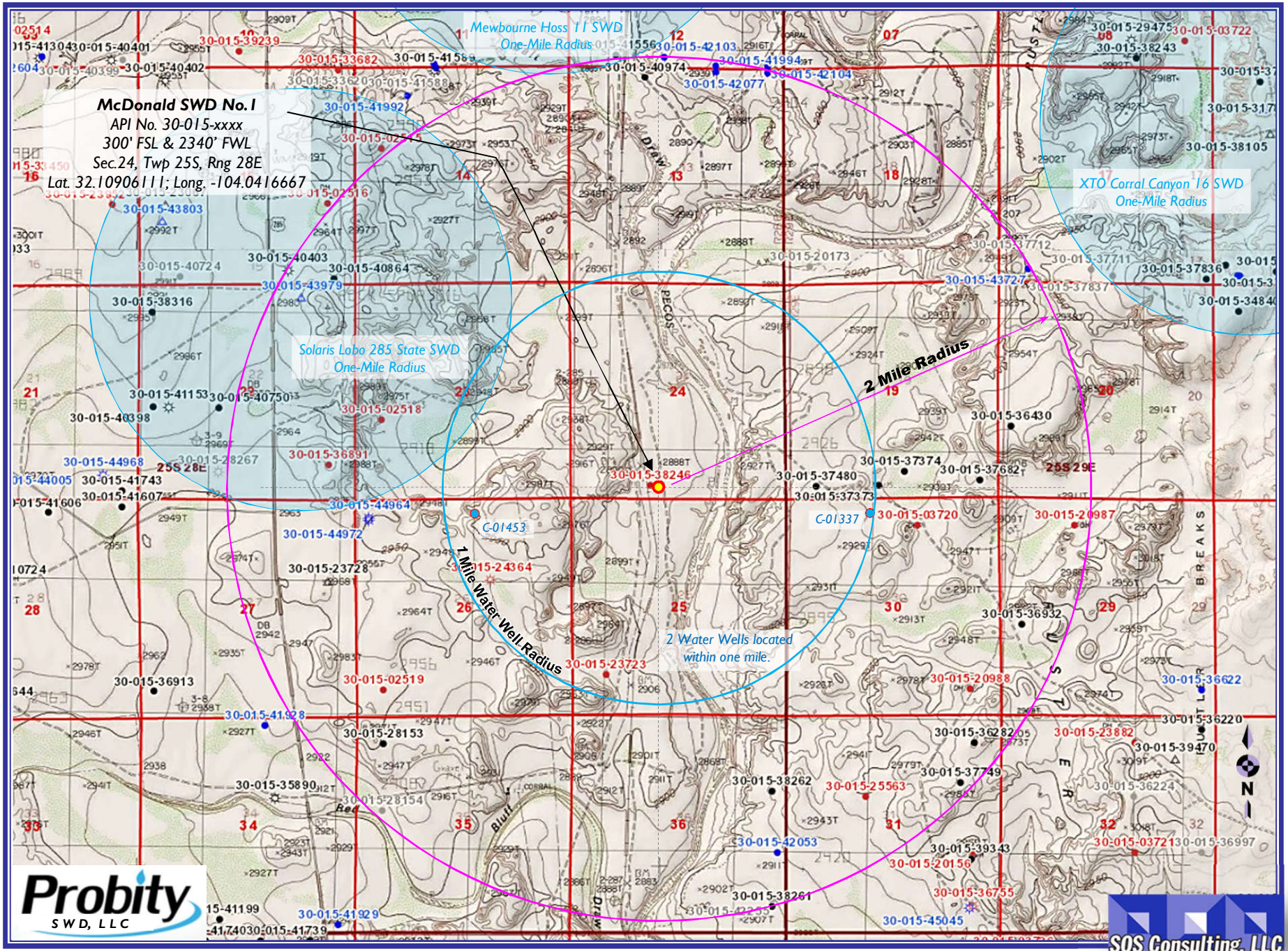
WELL COMPLETION NOTES

Formation Tops are Estimated.
Disposal will be into the Devonian, Silurian and Fusselman formations only.
Top of the Devonian is estimated at 14,750'
Actual Completion Depths Will be Determined by Mud Logs and Openhole Logs staying sure

Drawn by: Ben Stone, 8/09/2018

McDonald SWD No.1 - Area of Review / 2 Miles

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

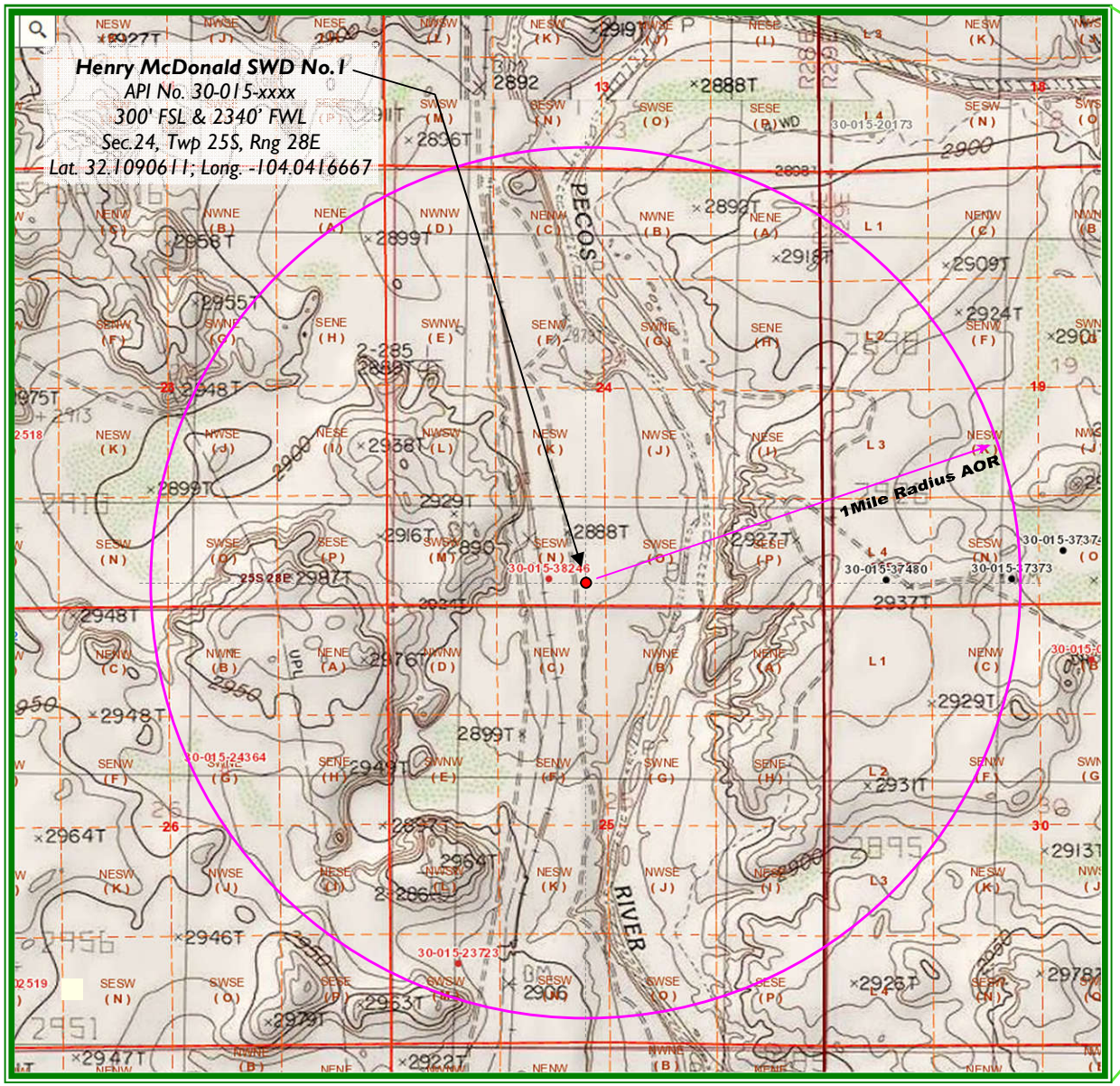


Probity SWD, LLC

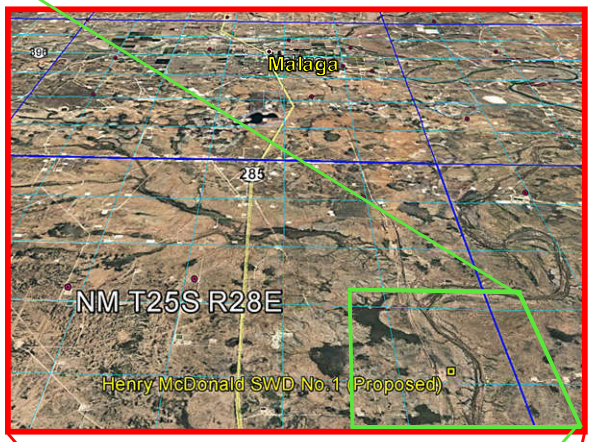
SOS Consulting, LLC

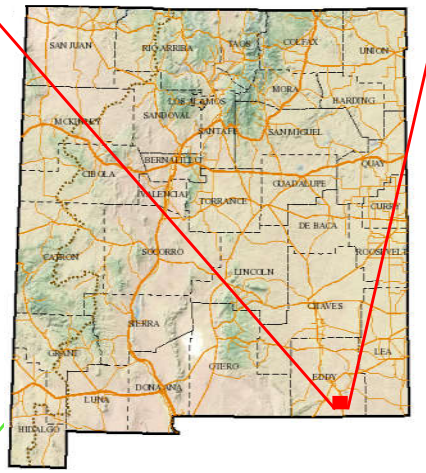
Henry McDonald SWD Well No.1 – One Mile Area of Review / Overview Map

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



8.1 miles S/SE of Malaga, NM





Eddy County, New Mexico

Probity SWD, LLC

SOS Consulting, LLC

C-108 ITEM X

LOGS and AVAILABLE TEST DATA

Some Cross-Sections of Wells in the Area are included
in the Geological Information Section of this application.

A Standard Suite of Logs will be run after
drilling the well and submitted to the Division.

C-108 ITEM VII – PRODUCED WATER ANAYLSES

Item VII.4 – Water Analysis of Source Zone Water

Glorieta/ Yeso
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

Probity SWD, LLC - Henry McDonald SWD Project

SOURCE ZONE

GLO/YESO

Lab ID

Sample ID 1146

API No 3001524754

Sample No

Well Name PLATT PA 009

Location ULSTR 26 18 S 26 E **Lat / Long** 32.71216 -104.35742

330 S 990 W **County** Eddy

Operator (when sampled) Yates Petroleum Corp.

Field ATOKA Unit M

Sample Date 8/4/1984 Analysis Date

Sample Source Wellhead Depth (if known)

Water Typ Produced Water

ph	7.5	alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	1800
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	120382	resistivity_ohm_cm_temp	
tds_mgL_180C		conductivity	
chloride_mgL	113000	conductivity_temp_F	
sodium_mgL	71415	carbonate_mgL	0
calcium_mgL	2560	bicarbonate_mgL	476
iron_mgL	0	sulfate_mgL	2001
barium_mgL		hydroxide_mgL	
magnesium_mgL	0	h2s_mgL	0
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

Probity SWD, LLC - Henry McDonald SWD Project

SOURCE ZONE

GLO/YESO

Lab ID

Sample ID 1207

API No 3001524619

Sample No

Well Name PLATT PA 008

Location ULSTR 26 18 S 26 E **Lat / Long** 32.71245 -104.35329

430 S 2260 W **County** Eddy

Operator (when sampled) Yates Petroleum Corporation

Field ATOKA Unit N

Sample Date 1/19/1985 Analysis Date

Sample Source well head Depth (if known)

Water Typ Produced Water

ph	6	alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	11500
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	136324	resistivity_ohm_cm_temp	
tds_mgL_180C		conductivity	
chloride_mgL	121000	conductivity_temp_F	
sodium_mgL	61571	carbonate_mgL	
calcium_mgL	4160	bicarbonate_mgL	104
iron_mgL	0	sulfate_mgL	3720
barium_mgL		hydroxide_mgL	
magnesium_mgL	7340	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

Probity SWD, LLC - Henry McDonald SWD Project

SOURCE ZONE

BONE SPRING

Lab ID

Sample ID 5847

API No 3001520225

Sample No

Well Name BIG EDDY UNIT 012

Location ULSTR 21 20 S 31 E **Lat / Long** 32.56399 -103.87994

660 N 660 W **County** Eddy

Operator (when sampled) MALLON OIL COMPANY

Field BIG EDDY Unit D

Sample Date 8/27/1999 Analysis Date 8/31/1999

Sample Source

Water Typ

Depth (if known)

ph	5.2	alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity	1.125	hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	181697	resistivity_ohm_cm_temp	
tds_mgL_180C		conductivity	
chloride_mgL	123750	conductivity_temp_F	
sodium_mgL	73895.6	carbonate_mgL	
calcium_mgL	5625	bicarbonate_mgL	13.725
iron_mgL	337.5	sulfate_mgL	787.5
barium_mgL		hydroxide_mgL	
magnesium_mgL		h2s_mgL	0
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

Probity SWD, LLC - Henry McDonald SWD Project

SOURCE ZONE

WOLFCAMP

Lab ID

Sample ID 5688

Sample No

API No 3001520138

Well Name MAHUN STATE 001

Location ULSTR 16 22 S 22 E **Lat / Long** 32.39340 -104.70979

1800 N 1980 W **County** Eddy

Operator (when sampled)

Field ROCKY ARROYO Unit F

Sample Date 5/17/1968 Analysis Date

Sample Sourc DST Depth (if known)

Water Typ

ph	8.6	alkalinity_as_caco3_mgL	
ph_temp_F		hardness_as_caco3_mgL	
specificgravity		hardness_mgL	
specificgravity_temp_F		resistivity_ohm_cm	
tds_mgL	35495	resistivity_ohm_cm_temp_	
tds_mgL_180C		conductivity	
chloride_mgL	19000	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	830
iron_mgL		sulfate_mgL	2500
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
Probity SWD, LLC - Henry McDonald SWD Project

DISPOSAL ZONE

DEVONIAN

Lab ID

Sample ID 6170

Sample No

API No. 3001510280

Well Name JURNEGAN POINT 001

Location ULSTR 05 24 S 25 E **Lat / Long** 32.24037 -104.42375

660 S 660 W **County** Eddy

Operator (when sampled)

Field WILDCAT Unit M

Sample Date 12/14/1964 Analysis Date

Sample Source DST 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	229706	resistivity_ohm_cm_temp_	
tds_mgL_180C		conductivity	
chloride_mgL	136964	conductivity_temp_F	
sodium_mgL		carbonate_mgL	
calcium_mgL		bicarbonate_mgL	198
iron_mgL		sulfate_mgL	2511
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 VIII

Geological Data

Geological Evaluation of a Devonian Salt Water Disposal site for Probity SWD, LLC

Introduction

The location of the proposed injection site is Section 13-25S-28E in Eddy County New Mexico. Approximately 28 nearby Silurian/Devonian deep SWD wells were used for this evaluation. These wells are all within a ***radius of 20 miles*** from the proposed section that the well be drilled.

Geological Setting

During most of the Paleozoic Era, sandstone, limestone, and carbonaceous shales were deposited in sedimentary basins throughout much of Texas and Southern New Mexico. These basins received sediments until the latter part of the Pennsylvanian era, when the Llano Uplift and the Ouachita Fold Belt caused regional tilting of the land surface to the west and east off the flanks of the uplifted zones.

The Sliurian/Devonian section overlays the Montoya Group, which comprises a moderately thick (100 to 600 ft) Upper Ordovician carbonate ramp succession present in both outcrop and the subsurface of West Texas and southeastern New Mexico.

The Montoya Group was largely deposited on the Middle-Upper Ordovician Simpson Group but locally overlies on the Lower Ordovician Ellenburger or equivalent. The Sylvan Shale, where present, and the Fusselman Formation generally overlie the Montoya.

Available information shows that the upper Fusselman in the Midland Basin was deposited in a spectrum of shallow-water, high-energy open marine environments. The top of the upper Fusselman in a number of wells is characterized by diagenetic textures indicative of karstification and soil formation, both of which suggest a prolonged period of subaerial erosion prior to deposition of the overlying Wristen Formation.

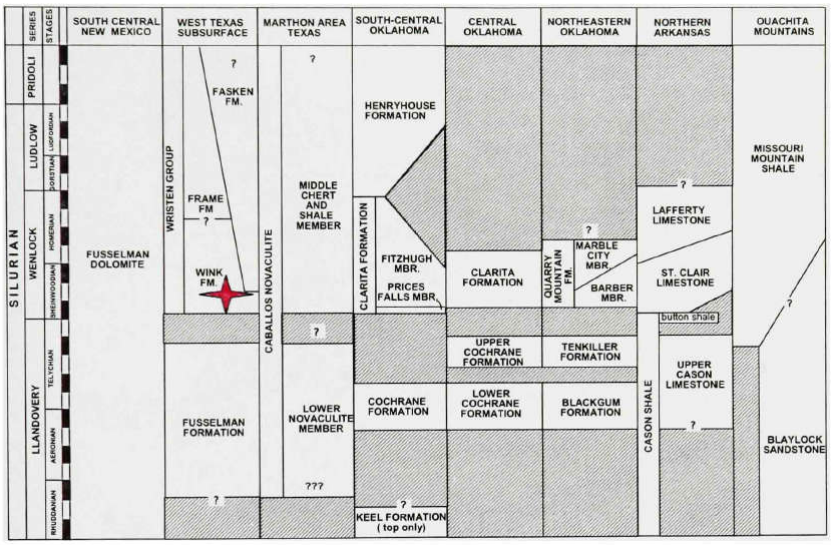
The Fusselman Formation comprises a complex series of carbonate facies, including light-colored ooid grainstones, green glauconitic and pink pelmatozoan grainstones and packstones, and sparse skeletal wackestones with minor shaly intercalations. Geesaman and Scott (1989) and Garfield and Longman (1989) divided the Fusselman into two informal units in the subsurface of the central Midland Basin, a lower Fusselman and an upper Fusselman, each of which represents a separate depositional sequence.

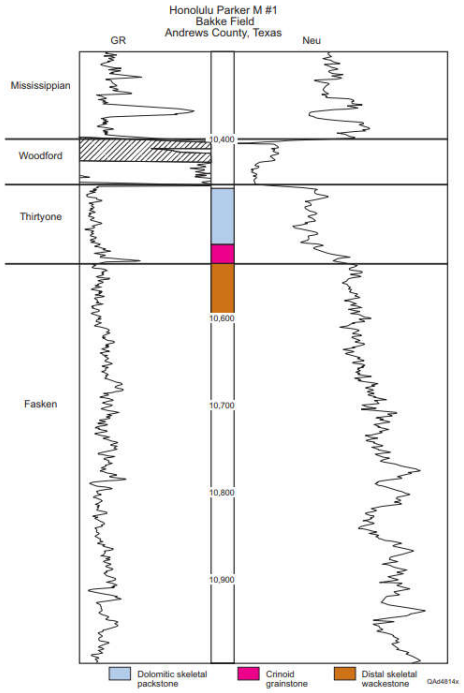
The age of the subsurface Fusselman is poorly known due to a lack of fossil material from only limited core studies. The upper Fusselman is dominated by widespread thick, crinoidal grainstones, and lesser amounts of dolomitic wackestone to skeletal packstone. These three lithofacies are interbedded such that they reflect minor differences in paleotopographic setting and degree of relative subsidence during deposition.

C-108 - Item VIII

Geological Data (cont.)

In the area being proposed for this disposal well, the Devonian Woodford Shale overlays massive deposits of undifferentiated carbonates of Silurian/Devonian age, predominately Fusselman dolostones that are the primary deep disposal zone in this area of Southern New Mexico. Immediately beneath the Woodford the Thirtyone and Fasken formations develop porosity within skeletal packstones.





Typical type section for the area of interest.

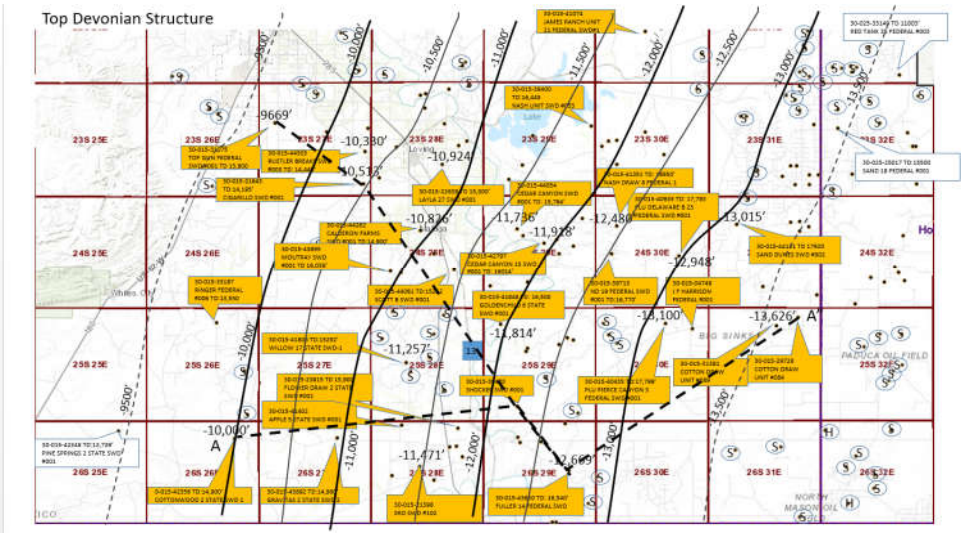
C-108 - Item VIII

Geological Data (cont.)

Detailed Analysis of the location

The subsurface structure of the Pre-Woodford carbonates displays a sequence of carbonates becoming shallower to the North-west. The depth of the top carbonate section beneath section 13 25S-28E is approximately 11,750 feet subsea or approximately 14,750' true vertical depth from surface. The average injection interval of all the wells is 1185'. Most of the wells reached total depth before penetrating the base of the carbonates, making an isopach map difficult to create.

There are no deep Silurian or Devonian wells in the area that produce hydrocarbons.



Twenty-eight deep salt water disposal wells were used to create this map and numerous other wells were evaluated that penetrate the deeper sections. The vast majority of the wells in the immediate area are shallower than the Devonian.

API #	Well Name	location	Total depth	operator	Top inj	Base inj	Max PSI	Fm	GL
30-015-39713	19 FEDERAL SWD #001	A-19-24S-30E	16770	BOPCO, L.P.	15611	16770	3122	Dev	3184
30-015-41351	NASH DRAW 8 FEDERAL #001	L-08-24S-30E	16950	BOPCO, L.P.	15750	17225	3150	Dev	3200
30-015-40935	PLU DELAWARE B 23 FEDERAL SWD	C-23-24S-30E	17783	BOPCO, L.P.	16300	17785	3260	Dev	3435
30-015-41846	GOLDENCHILD 6 STATE SWD #001	P-06-25S-29E			14745	16240	2949	Dev	2931
30-015-43895	MOUTRAY SWD	A-28-24S-29E	16036	MESQUITE SWD	15100	15900	3020	Dev	2929
30-015-31075	TOP GUN FEDERAL SWD	A-18-23S-27E	13800	MEWBOURNE OIL CO	12900	14000	2580	Dev	3230
30-015-33187	RINGER FEDERAL #006	P-03-25S-26E	13550	MURCHISON OIL & GAS INC	12850	13700	2570	Dev	3340
30-015-44303	RUSTLER BREAKS SWD 3	J-24-23S-27E	14499	BLACK RIVER WATER	13650	14494	2730	Dev	3115
30-015-21643	CIGARILLO SWD 1	G-36-23S-27E	14195	EOG	13650	14130	1730	Dev	3137
30-015-22638	LAYLA 27 SWD #001	H-27-23S-28E	15000	MEWBOURNE OIL CO	14000	15000	2800	Dev	3035
30-015-39400	NASH UNIT SWD #053	H-13-23S-29E	16445	XTO ENERGY, INC	14906	16445	2981	Dev	2999
30-015-44054	CEDAR CANYON SWD #001	P-08-24S-29E	15764	MESQUITE SWD	14800	16000	2960	Dev	2929
30-015-44262	CALDERON FARMS SWD	O-09-24S-28E	14900		13650	14650	2730	Dev	3024
30-015-42797	CEDAR CANYON 15 SWD	K-15-24S-29E	16014	OXY USA INC	14887	15937	2977	Dev	2928
30-015-44061	SCOTT B SWD -1	N-23-24S-28E	15212	MESQUITE SWD	15000	16200	3000	Dev	2954
30-015-41806	WILLOW 17 STATE SWD-1	P-17-25S-28E	15292	COG OPERATING	14000	15300	2800	Dev	3016
30-015-40435	PLU PIERCE CANYON 3 FEDERAL SWD	O-03-25S-30E	17799	BOPCO, L.P.	16471	18275	3294	Dev	3321
30-015-39470	SHOCKER SWD #001	A-32-25S-29E	15700		15200	15700	3040	Dev	2990
30-015-42356	COTTONWOOD 2 STATE SWD #001	O-02-26S-26E	14500	COG OPERATING LLC	13100	14600	2620	Dev	3229
30-015-43892	GRAVITAS 2 STATE SWD #002	M-02-26S-27E	14960	CHEVRON U S A INC	13900	15100	2780	Dev	3211
30-015-41402	APPLE 5 STATE SWD #001	B-05-26S-28E	15400	COG OPERATING LLC	14100	15400	2820	Dev	3017
30-015-23615	FLOWER DRAW 2 STATE SWD #001	G-02-26S-28E	15900	MEWBOURNE OIL CO	14700	16100	2940	Dev	2961
30-015-21398	SRO SWD #102	G-16-26S-28E	15400	COG OPERATING LLC	14525	15400	2905	Dev	3023
30-015-29728	COTTON DRAW UNIT #084	I-02-25S-31E	16585	DEVON ENERGY	16295	16585	3259	Dev	3455
30-015-31381	COTTON DRAW UNIT #089	O-03-25S-31E	17400	DEVON ENERGY	17100	17400	3420	Dev	3419
30-015-04749	J F HARRISON FEDERAL #001	D-12-25S-30E	17205	BOPCO, L.P.	16626	17205	3325	Dev	3362
30-015-41074	JAMES RANCH UNIT 21 FEDERAL SWD #0	G-21-22S-30E	16525	BOPCO, L.P.	12252	16525	2450	Dev	3165
30-015-44131	SAND DUNES SWD #002	K-08-24S-31E	17920	MESQUITE SWD, INC	16620	18010	3324	Dev	3515
30-015-43630	FULLER 14 FEDERAL SWD	J-14-26S-29E	16540	MEWBOURNE OIL CO	15540	16540	3108	Dev	2935

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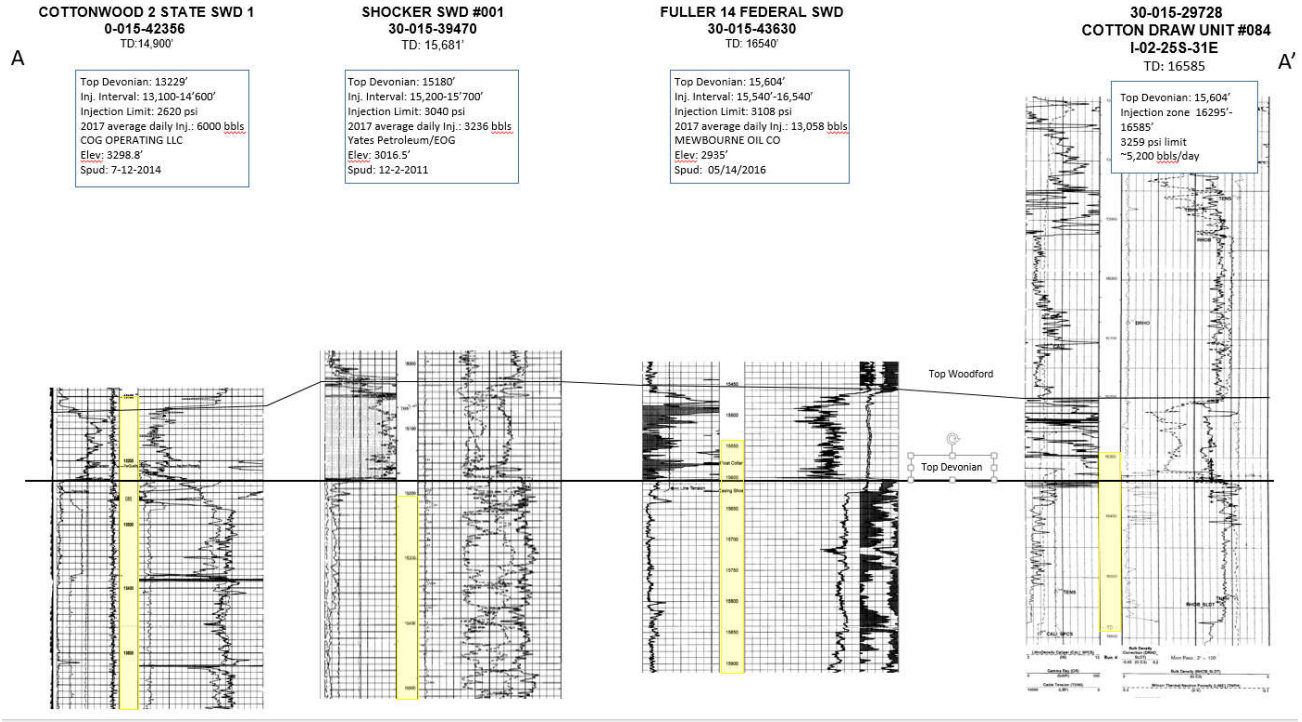
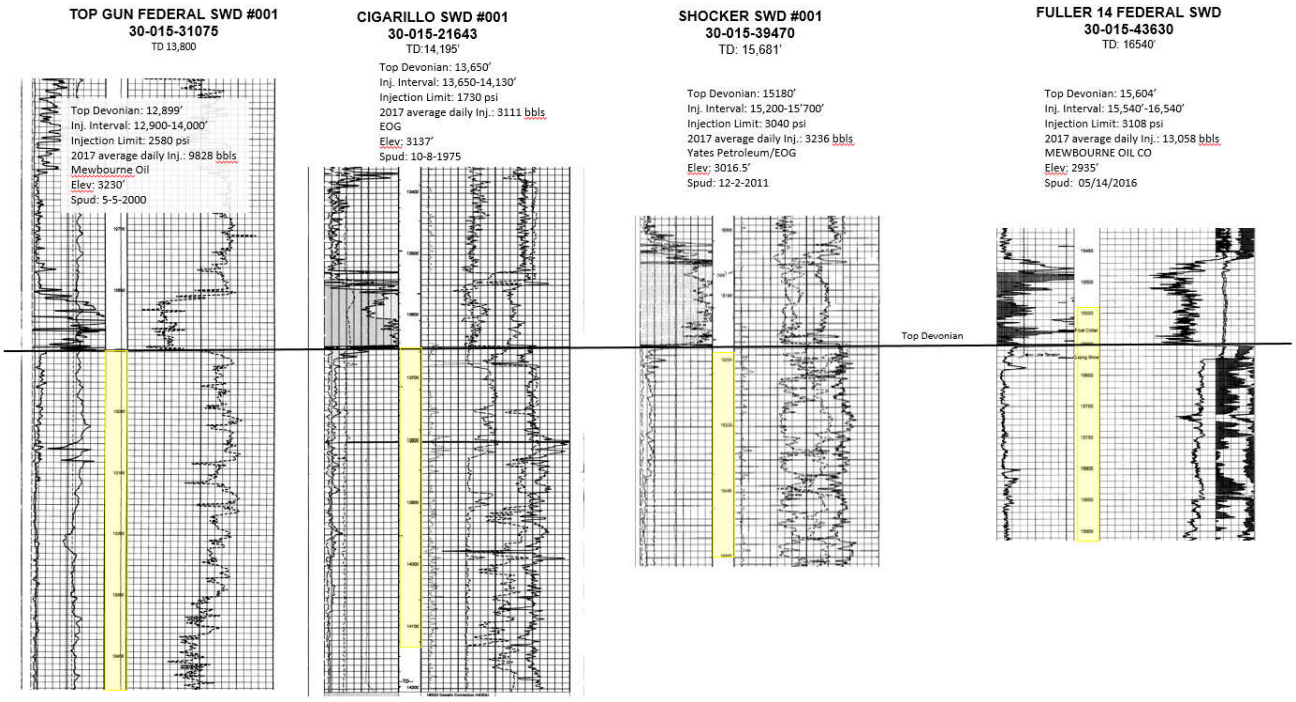
Geological Data (cont.)

East-West X-section



North-South x-section



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Geological Data (cont.)

Prepared by: Howard McLaughlin – Geologist, April 2018

Appendix/Database

API #	Well Name	location	Total depth	operator	Top inj	Base inj	Max PSI	Fm	GL	Rustler	Delaware	bone Springs	Wolf	Strawn	Atoka	Morrow	Dev	Fusselman	Montoya
30-015-39713	19 FEDERAL SWD #001	A-19-24S-30E	16770	BOPCO, L.P.	15611	16770	3122	Dev	3184	254	3500	7286							
30-015-41351	NASH DRAW 8 FEDERAL #001	L-08-24S-30E	16950	BOPCO, L.P.	15750	17225	3150	Dev	3200	852	3279	7297	10610				15680	16520	16865
30-015-40935	PLU DELAWARE B 23 FEDERAL SWD	C-23-24S-30E	17783	BOPCO, L.P.	16300	17785	3260	Dev	3435	465	4108	7902		13310			16383		
30-015-41846	GOLDENCHILD 6 STATE SWD #001	P-06-25S-29E			14745	16240	2949	Dev	2931			6480	9737				14745		
30-015-43895	MOUTRAY SWD	A-28-24S-29E	16036	MESQUITE SWD	15100	15900	3020	Dev	2929		2970	6684	10041	12175	12348	12966	14901	15360	15970
30-015-31075	TOP GUN FEDERAL SWD	A-18-23S-27E	13800	MEWBOURNE OIL CO	12900	14000	2580	Dev	3230		2100	5327	8855	10698	10999	11482	12899		
30-015-33187	RINGER FEDERAL #006	P-03-25S-26E	13550	MURCHISON OIL & GAS INC	12850	13700	2570	Dev	3340		1958	5377	8600	10137	10383	10937			
30-015-44303	RUSTLER BREAKS SWD 3	J-24-23S-27E	14499	BLACK RIVER WATER	13650	14494	2730	Dev	3115		2390	5782		11068	11299		13445		
30-015-21643	CIGARILLO SWD 1	G-36-23S-27E	14195	EOG	13650	14130	1730	Dev	3137		2350	5915	9270	10950	11235	11955	13650		
30-015-22638	LAYLA 27 SWD #001	H-27-23S-28E	15000	MEWBOURNE OIL CO	14000	15000	2800	Dev	3035		2612	6272	9523	11383	11630	12040	13959		
30-015-39400	NASH UNIT SWD #053	H-13-23S-29E	16445	XTO ENERGY, INC	14906	16445	2981	Dev	2999										
30-015-44054	CEDAR CANYON SWD #001	P-08-24S-29E	15764	MESQUITE SWD	14800	16000	2960	Dev	2929			6570	9880	11860		12712	14665		15720
30-015-44262	CALDERON FARMS SWD	O-09-24S-28E	14900		13650	14650	2730	Dev	3024		2543	6236	9372	11105	11278	12021	13850		
30-015-42797	CEDAR CANYON 15 SWD	K-15-24S-29E	16014	OXY USA INC	14887	15937	2977	Dev	2928	407	2949	6689	9938	11945	12174	12815	14846		
30-015-44061	SCOTT B SWD -1	N-23-24S-28E	15212	MESQUITE SWD	15000	16200	3000	Dev	2954			6342	9750	11706	11922		14152		15132
30-015-41806	WILLOW 17 STATE SWD-1	P-17-25S-28E	15292	COG OPERATING	14000	15300	2800	Dev	3016	112		6090	9259	11688	11930	12542	14273		
30-015-40435	PLU PIERCE CANYON 3 FEDERAL SWD	O-03-25S-30E	17799	BOPCO, L.P.	16471	18275	3294	Dev	3321	962		7737	11039	13308	13479		16421		
30-015-39470	SHOCKER SWD #001	A-32-25S-29E	15700		15200	15700	3040	Dev	2990										
30-015-42356	COTTONWOOD 2 STATE SWD #001	O-02-26S-26E	14500	COG OPERATING LLC	13100	14600	2620	Dev	3229	140	1941	5458	8611	10977	11185	11900	13229		
30-015-43892	GRAVITAS 2 STATE SWD #002	M-02-26S-27E	14960	CHEVRON U S A INC	13900	15100	2780	Dev	3211		844	2763	5806	8211	8433	8690		11143	
30-015-41402	APPLE 5 STATE SWD #001	B-05-26S-28E	15400	COG OPERATING LLC	14100	15400	2820	Dev	3017	608		6079	9120	11705	12020	12601	14339		
30-015-23615	FLOWER DRAW 2 STATE SWD #001	G-02-26S-28E	15900	MEWBOURNE OIL CO	14700	16100	2940	Dev	2961										
30-015-21398	SRO SWD #102	G-16-26S-28E	15400	COG OPERATING LLC	14525	15400	2905	Dev	3023		2511	6267	9217	11854	12158		14494		
30-015-29728	COTTON DRAW UNIT #084	I-02-25S-31E	16585	DEVON ENERGY	16295	16585	3259	Dev	3455	664	4315	8231	11576	13625	13747		16342		
30-015-31381	COTTON DRAW UNIT #089	O-03-25S-31E	17400	DEVON ENERGY	17100	17400	3420	Dev	3419		4400	8310	12850	13819	13957		17045		
30-015-04749	J F HARRISON FEDERAL #001	D-12-25S-30E	17205	BOPCO, L.P.	16626	17205	3325	Dev	3362	1162	4088	7904	11239	13622	13680	14322	16623		
30-015-41074	JAMES RANCH UNIT 21 FEDERAL SWD #0	G-21-22S-30E	16525	BOPCO, L.P.	12252	16525	2450	Dev	3165	194	3571		10697		12587	13241	15258		
30-015-44131	SAND DUNES SWD #002	K-08-24S-31E	17920	MESQUITE SWD, INC	16620	18010	3324	Dev	3515				11650	13550	13640	14440	16530		17722
30-015-43630	FULLER 14 FEDERAL SWD	J-14-26S-29E	16540	MEWBOURNE OIL CO	15540	16540	3108	Dev	2935	552	3052	6780	10004		13421	13565	15604		

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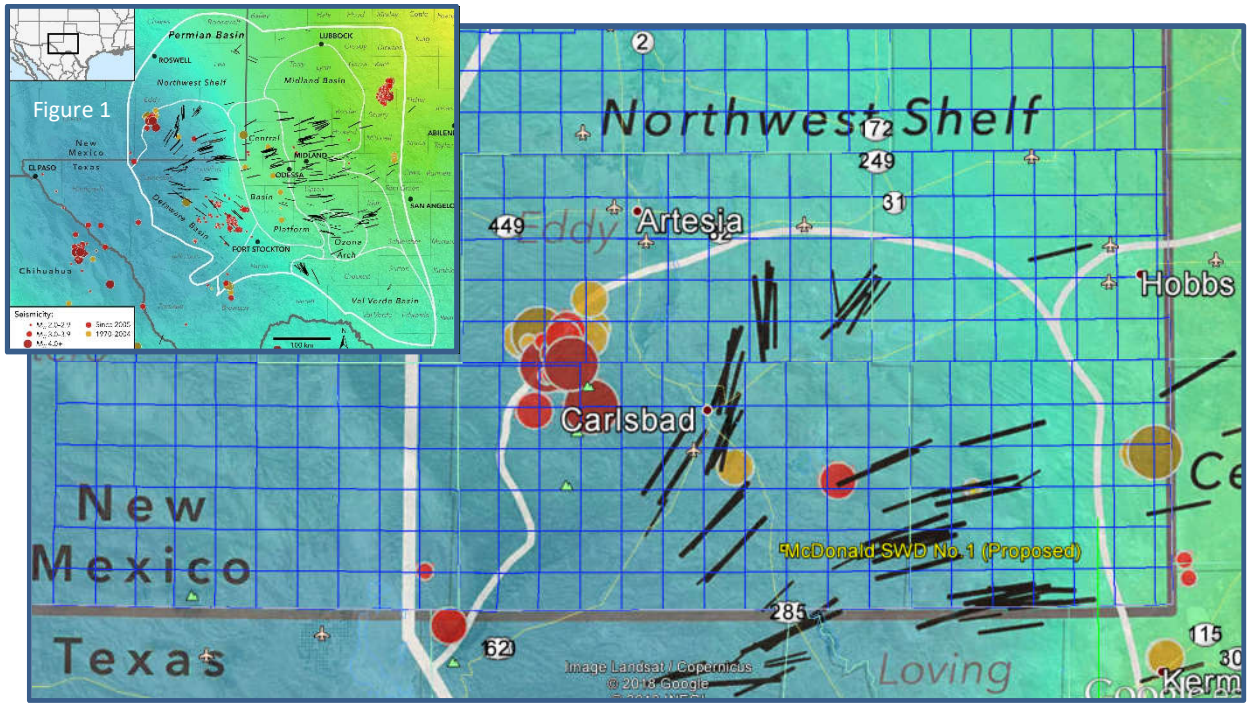
Geological Data

EARTHQUAKE / SEISMIC INFORMATION SUPPLEMENT

Map Source: State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity (Figure 1); Jens-Erik Lund Snee/ Mark Zoback, February 2018



PROJECT VICINITY

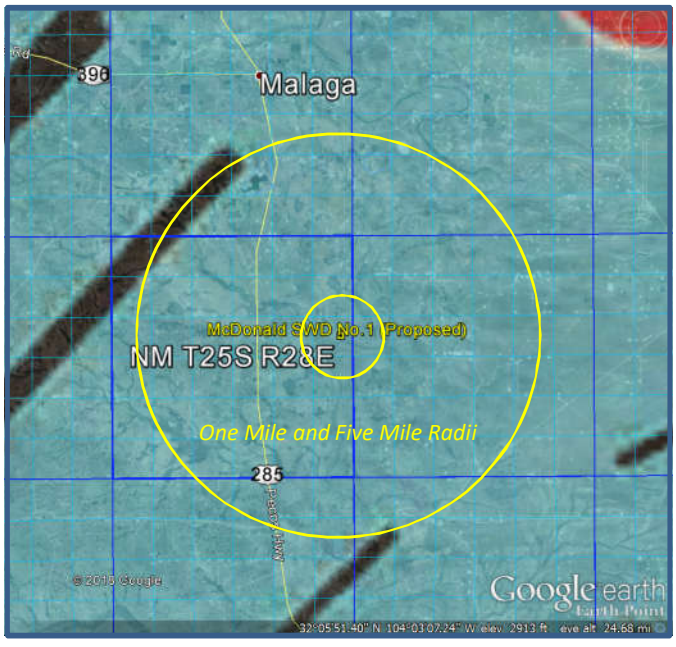


Figure 1. State of stress in the Permian Basin, Texas and New Mexico. Black lines are the measured orientations of the maximum horizontal stress (SHmax), with line length scaled by data quality. The colored background is an interpolation of measured relative principal stress magnitudes (faulting regime) 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).

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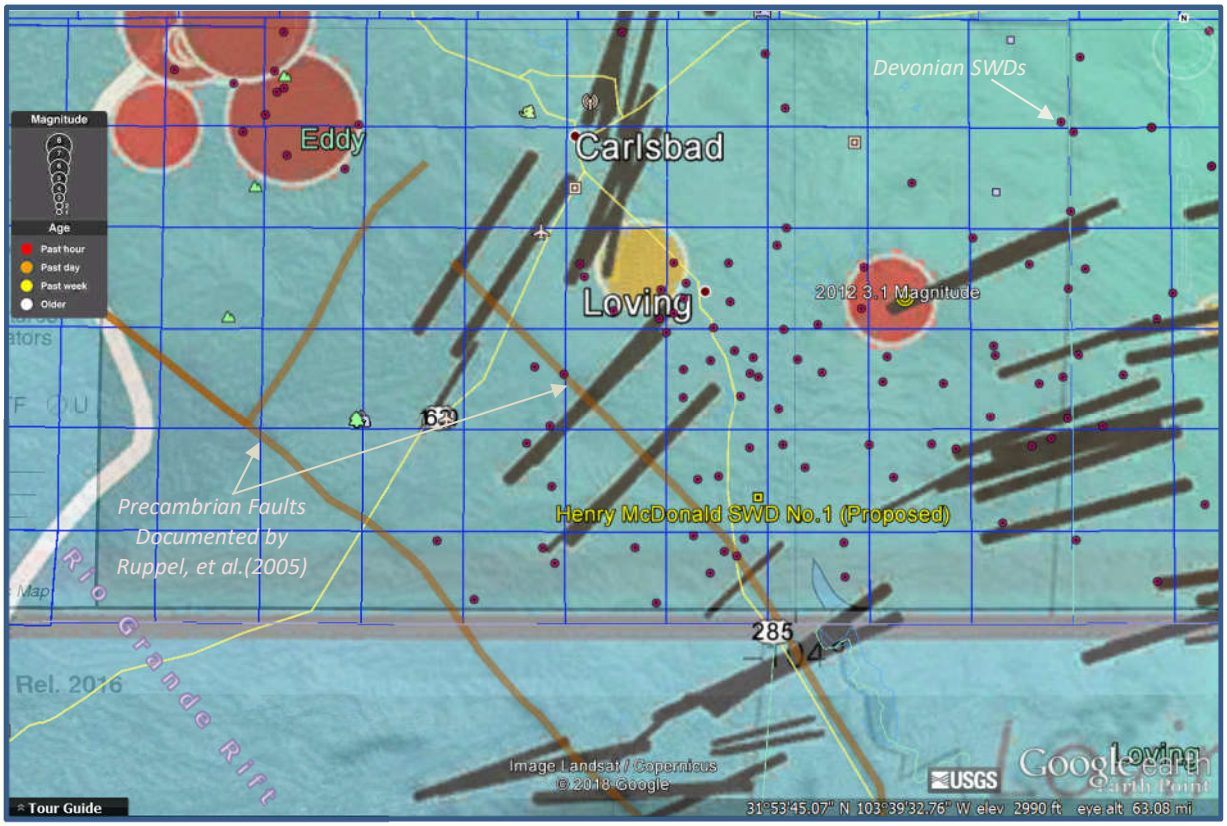
Geological Data

EARTHQUAKE / SEISMIC INFORMATION SUPPLEMENT (cont.)

In the following map, a layer with USGS historical earthquake data is overlaid and, a layer showing lines to represent Precambrian faults as documented by Ruppel, et al. (2005). Finally, a layer showing all currently permitted SWDs completed or proposed to be completed in the Devonian (Silurian) formation.

The USGS earthquakes shown are well know to the area. The cluster to the NW represents the seismic events in and around the Dagger Draw area (43.4 miles) in 2002. The 2012 quake located approximately 13 miles due east of Loving is also shown (14.3 miles). This was perhaps the most significant of the area in recent years but was determined to not be related to oil and gas activity.

The Precambrian faults and existing Devonian SWDs are discussed in more detail on the next page.



REGIONAL VIEW - DEVONIAN SWD LOCATIONS, PRECAMBRIAN FAULTS, $S_{Hmax,}$ USGS MAGNITUDE

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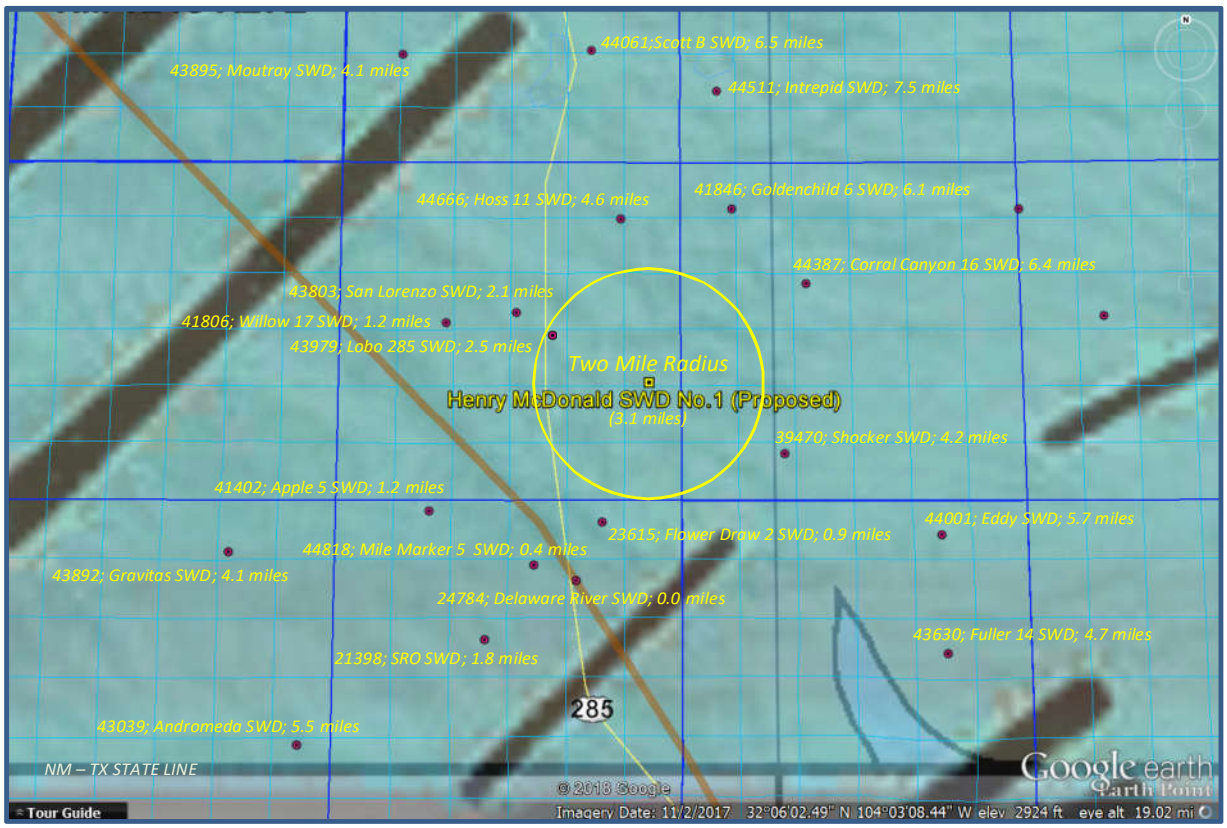
Geological Data

EARTHQUAKE / SEISMIC INFORMATION SUPPLEMENT (cont.)

The primary Precambrian fault in the area as documented by Ruppel, et al. (2005) is represented on this map by the tan colored line; the fault is running southeast to northwest. The proposed Henry McDonald SWD is located 3.1 miles from the fault. Other Devonian SWDs in the area are also shown by small purple dots. (5-digit API well no., well name and distance for each is shown.) completed or proposed to be completed in the Devonian (Silurian) formation.

The previously referenced study by Snee and Zoback evaluated the strike-slip probability using probabilistic FSP (Fault Slip Potential) analysis of known faults in the Permian Basin. The study predicts that the Precambrian fault shown here has less than a 10% probability of being critically stressed to the point of creating an induced seismicity event. The main reason for the low probability is due to the relationship of the strike of the fault to the regional S_{Hmax} orientation in this area.



VICINITY - PERMITTED DEVONIAN SWDS, PRECAMBRIAN FAULT, S_{Hmax}

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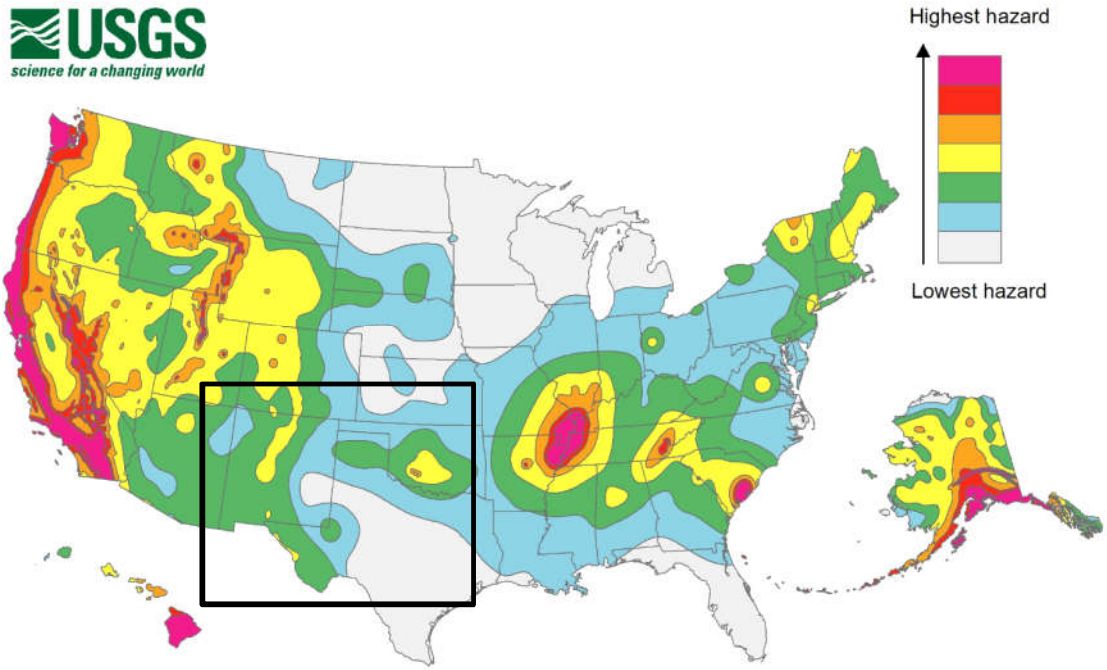
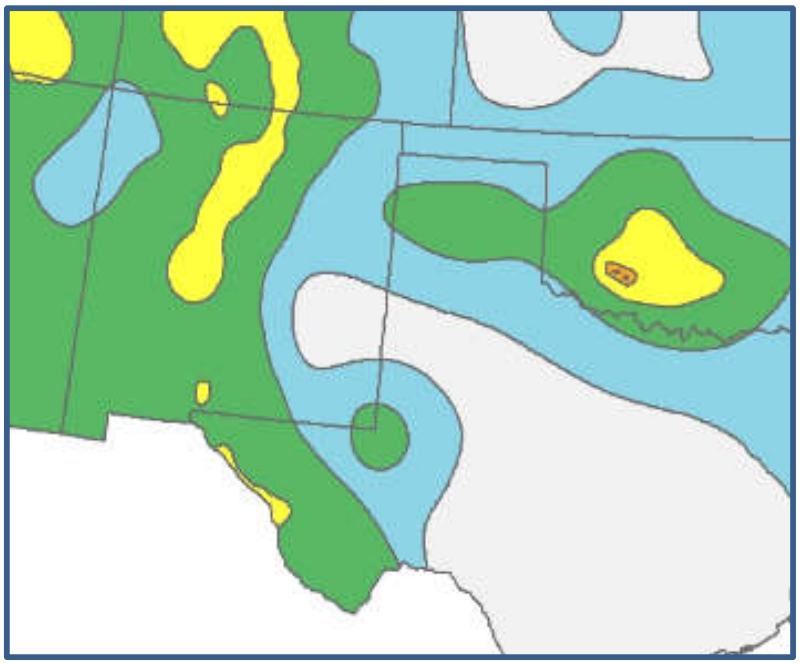
Geological Data

EARTHQUAKE / SEISMIC INFORMATION SUPPLEMENT (cont.)



2014 map data: The USGS notes in its report that fracking may be to blame for a sizeable uptick in earthquakes in places like Oklahoma. "Some states have experienced increased seismicity in the past few years that may be associated with human activities such as the disposal of wastewater in deep wells," the report says. USGS hopes to use that data in future maps but it isn't included in this one. "Injection-induced earthquakes are challenging to incorporate into hazard models because they may not behave like natural earthquakes and their rates change based on man-made activities," the report says.



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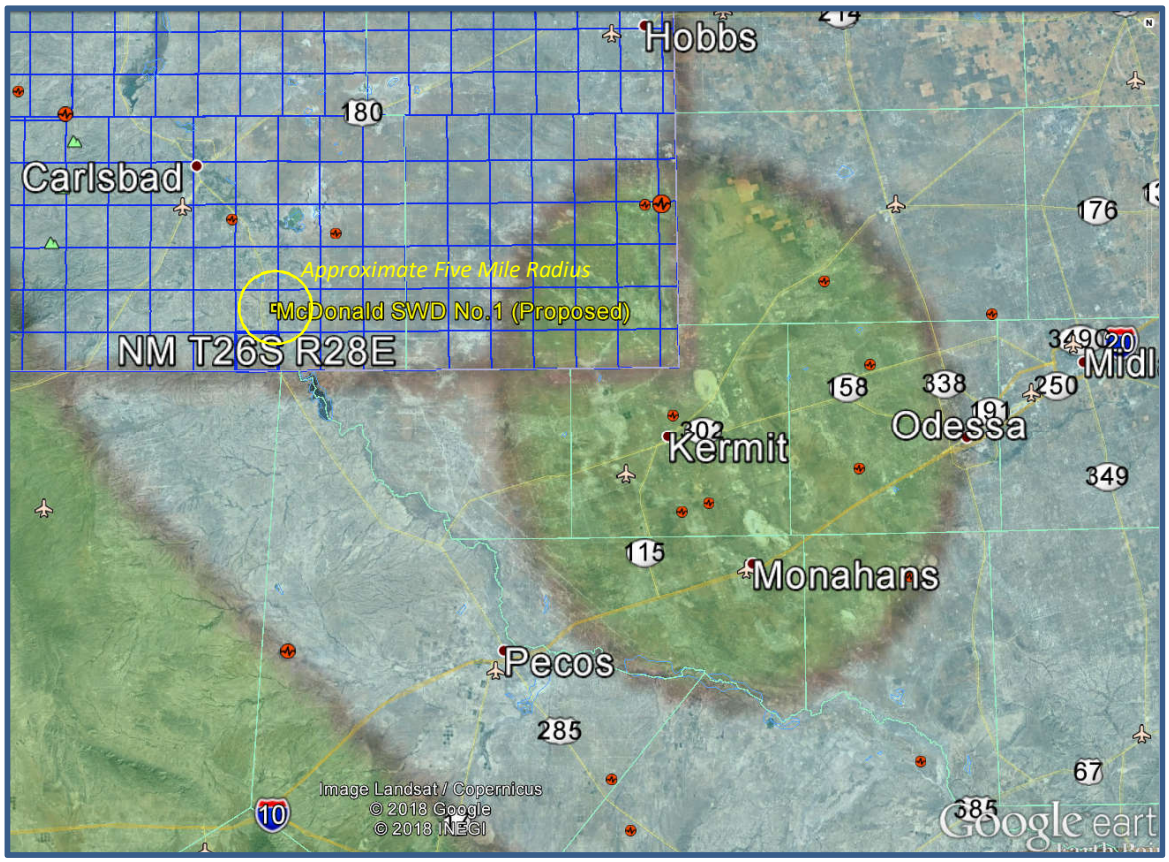
Geological Data

EARTHQUAKE / SEISMIC INFORMATION SUPPLEMENT (cont.)

USGS 2014 MAP DATA OVERLAY IN GOOGLE EARTH



An updated USGS map for 2018 is on the next page. *(Made available after the start of this investigation.)* While methodology remained essentially the same according to USGS, the interpreted results and color-coding did have changes. However, the subject area in southeast New Mexico on both maps remains very low and on the 2018 map, the area is assigned a value of <1% of "potentially minor-damage ground shaking".

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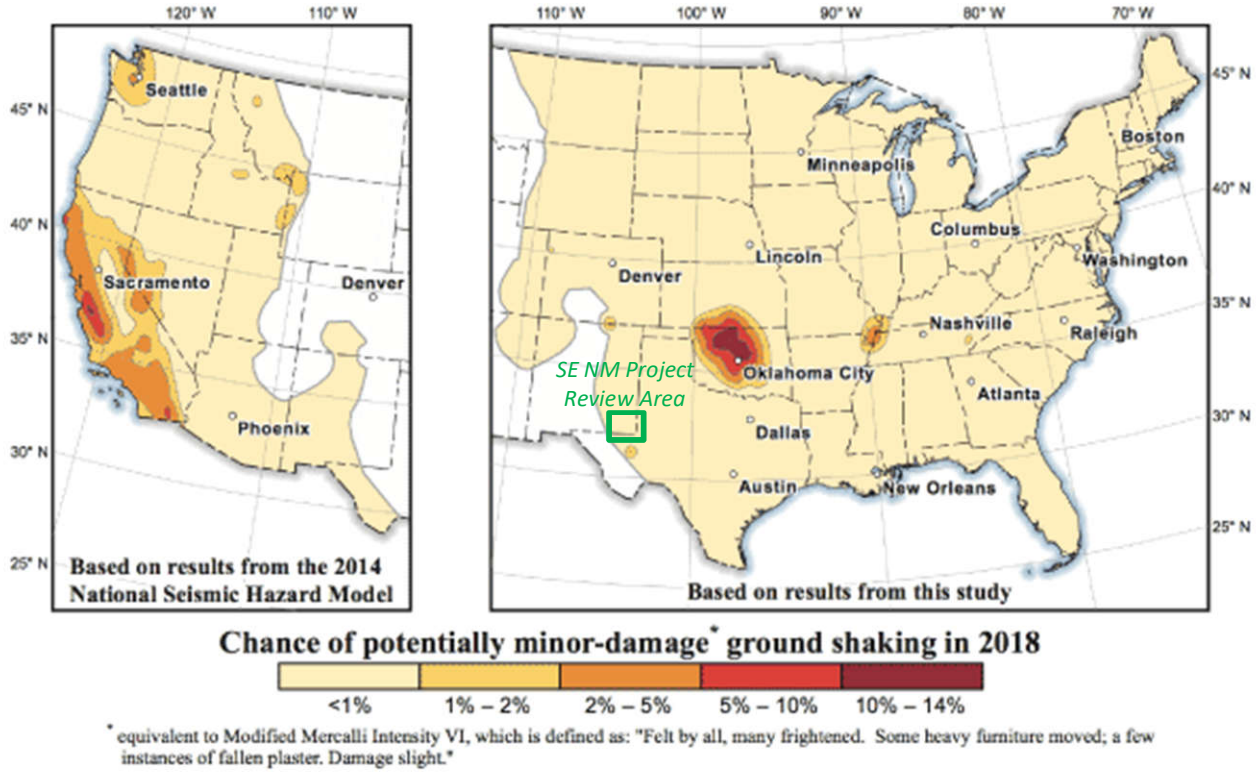
Geological Data

EARTHQUAKE / SEISMIC INFORMATION SUPPLEMENT (cont.)

USGS 2018 ONE-YEAR MODEL



Map showing chance of damage from an earthquake in the Central and Eastern United States during 2018. Percent chances are represented as follows: pale yellow, less than 1 percent; dark yellow, 1 to 2 percent; orange, 2 to 5 percent; red, 5 to 10 percent; dark red, 10 to 12 percent. See Hazard from the western United States from the 2014 National Seismic Hazard Maps (Petersen et al., 2014) for comparison.

The USGS has produced the 2018 one-year probabilistic seismic hazard forecast for the central and eastern United States from induced and natural earthquakes. For consistency, the updated 2018 forecast is developed using the same probabilistic seismicity-based methodology as applied in the two previous forecasts.

Based on publicly available data for the subject area, it is reasonable to believe the risk of induced seismic activity due to disposal injection into this well is extremely low.

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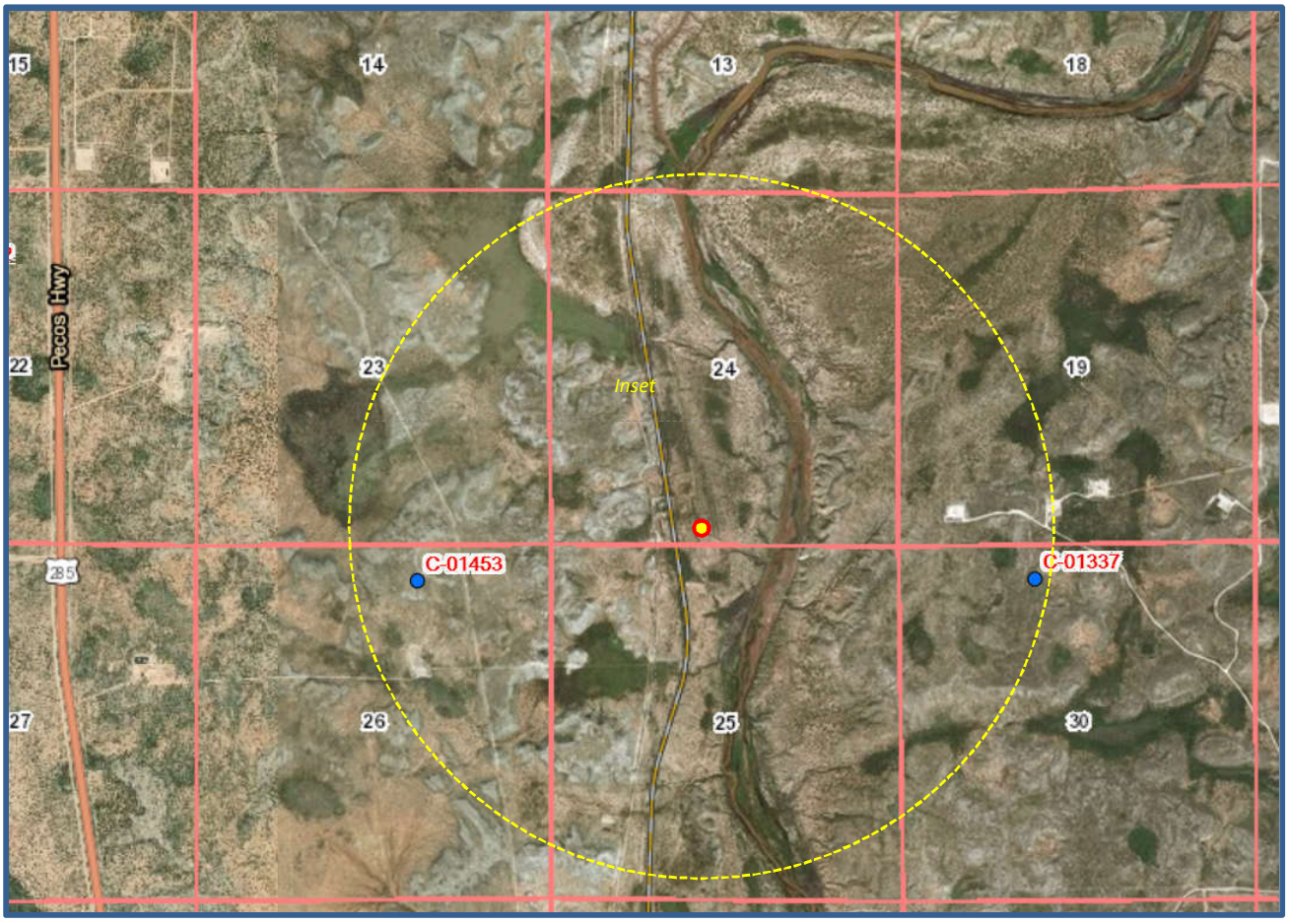
Water Wells Within One Mile

Henry McDonald SWD No.1 - Water Well Locator Map

There are 2 water wells/ PODs within a one-mile radius of the proposed SWD.

Representative Water Analyses are included.



Data from NM Office of the State Engineer displayed in OSE-GIS System.

SOS Consulting, LLC

DownHole SAT™ Water Analysis Report

PERFORMANCE
Chemical Company

SYSTEM IDENTIFICATION

Mewbourne
Fresh Water Tank

Fresh Water Well
POD 01411

Sample ID#: 0
ID:

Sample Date: 01-30-2018 at 1626
Report Date: 01-31-2018

WATER CHEMISTRY

CATIONS

Calcium(as Ca)	656.36
Magnesium(as Mg)	70.02
Barium(as Ba)	0.00
Strontium(as Sr)	8.42
Sodium(as Na)	38.52
Potassium(as K)	12.72
Iron(as Fe)	0.0440
Manganese(as Mn)	0.00

ANIONS

Chloride(as Cl)	400.44
Sulfate(as SO_4)	1261
Dissolved CO_2(as CO_2)	0.00
Bicarbonate(as HCO_3)	170.80
H_2S (as H_2S)	0.00

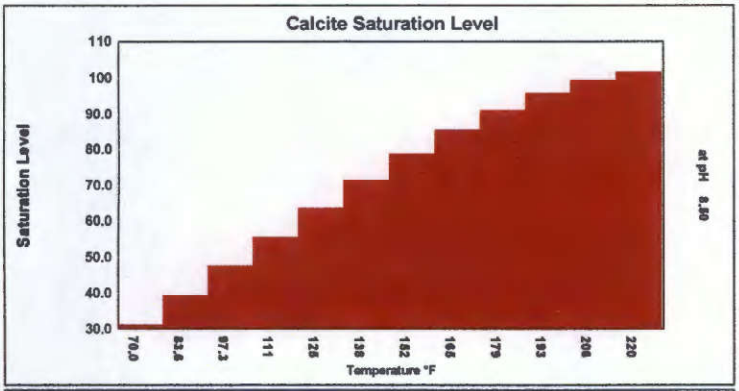
PARAMETERS

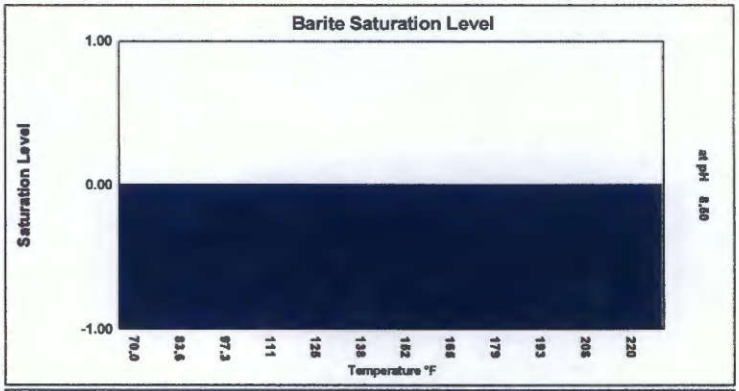
Temperature(°F)	61.00
Sample pH	8.50
Conductivity	2270
T.D.S.	2618
Resistivity	440.57
Sp.Gr.(g/mL)	1.01

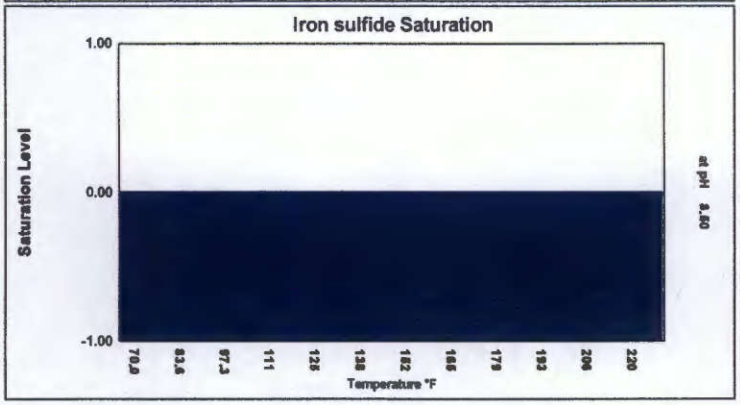
SCALE AND CORROSION POTENTIAL

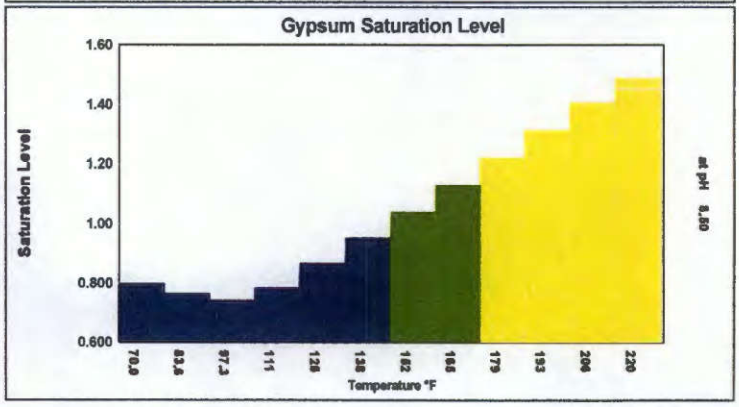
Temp. (°F)	Press. (psig)	Calcite $CaCO_3$		Anhydrite $CaSO_4$		Gypsum $CaSO_4*2H_2O$		Barite $BaSO_4$		Celestite $SrSO_4$		Siderite $FeCO_3$		Mackawenite FeS		CO_2 (mpy)	pCO_2 (atm)
70.00	0.00	31.02	5.39	0.464	-628.11	0.794	-185.50	0.00	-0.0125	0.703	-7.34	0.313	-0.0133	0.00	-0.0878	0.00374	< 0.001
83.64	0.00	39.15	6.12	0.476	-590.91	0.761	-217.37	0.00	-0.0170	0.712	-7.04	0.454	-0.00754	0.00	-0.0880	0.00505	< 0.001
97.27	0.00	47.45	6.70	0.508	-519.62	0.741	-236.12	0.00	-0.0221	0.737	-6.19	0.621	-0.00390	0.00	-0.0882	0.00636	< 0.001
110.91	0.00	55.48	7.12	0.562	-422.71	0.780	-189.68	0.00	-0.0277	0.773	-5.10	0.818	-0.00145	0.00	-0.0885	0.00663	< 0.001
124.55	0.00	63.49	7.45	0.642	-308.59	0.863	-107.68	0.00	-0.0343	0.809	-4.11	1.05	< 0.001	0.00	-0.0887	0.00556	< 0.001
138.18	0.00	71.30	7.70	0.754	-184.84	0.948	-37.24	0.00	-0.0421	0.844	-3.23	1.31	0.00158	0.00	-0.0891	0.00376	< 0.001
151.82	0.00	78.62	7.86	0.910	-57.91	1.04	23.55	0.00	-0.0514	0.877	-2.45	1.58	0.00247	0.00	-0.0895	0.00300	< 0.001
165.45	0.00	85.20	7.93	1.12	66.97	1.13	76.20	0.00	-0.0622	0.909	-1.75	1.83	0.00301	0.00	-0.0899	0.00238	< 0.001
179.09	0.00	90.90	7.91	1.42	186.14	1.22	122.21	0.00	-0.0747	0.939	-1.13	2.02	0.00319	0.00	-0.0904	0.00163	< 0.001
192.73	0.00	95.60	7.83	1.83	296.88	1.31	162.62	0.00	-0.0892	0.968	-0.577	2.08	0.00296	0.00	-0.0910	< 0.001	< 0.001
206.36	0.00	99.22	7.68	2.41	397.55	1.40	198.30	0.00	-0.106	0.995	-0.0927	1.93	0.00230	0.00	-0.0918	< 0.001	< 0.001
220.00	2.51	101.50	7.56	3.19	487.69	1.49	227.33	0.00	-0.127	1.01	0.142	1.70	0.00157	0.00	-0.0931	0.00161	< 0.001
		xSAT	mg/L	xSAT	mg/L	xSAT	mg/L	xSAT	mg/L	xSAT	mg/L	xSAT	mg/L	xSAT	mg/L		

Saturation Levels (xSAT) are the ratio of ion activity to solubility, e.g. $\{Ca\}\{CO_3\}/K_{sp}$. pCO_2 (atm) is the partial pressure of CO_2 in the gas phase.
mg/L scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.









Analytical Report
Lab Order **1609364**
Date Reported: **9/20/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Permits West
Project: Solaris US 285 SWD
Lab ID: 1609364-001 **Matrix:** AQUEOUS

Client Sample ID: US 285 SWD #1
Collection Date: 9/1/2016 1:35:00 PM
Received Date: 9/7/2016 1:55:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 1664A						Analyst: **tnc**	
N-Hexane Extractable Material	ND	10		mg/L	1	9/12/2016 10:45:00 AM	27440
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	350	10	*	mg/L	20	9/9/2016 4:38:51 AM	A37081
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SRM**	
Total Dissolved Solids	2620	20.0	*	mg/L	1	9/9/2016 5:12:00 PM	27408

EXHIBIT H

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

C-108 ITEM XI – WATER WELLS IN AOR

Depth to Ground Water

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

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 01278		C	ED		4	3	28	25S	28E	585470	3551338*	205	90	115
C 01411		C	ED	4	4	2	04	25S	28E	586289	3558522*	69	35	34
C 01453		C	ED		1	2	26	25S	28E	589096	3552612*	70	40	30
C 01522		C	ED			1	22	25S	28E	586843	3554004*	150		
C 01573 POD1		C	ED	3	1	4	20	25S	28E	584144	3553361	176	96	80
C 02668		C	ED	2	1	2	09	25S	28E	585890	3557525*	150		
C 03263 POD1		CUB	ED	1	1	1	07	25S	28E	581628	3557501*	133		
C 03836 POD1		C	ED	2	2	4	29	25S	28E	584682	3551934	300	30	270
C 03861 POD1		C	ED	4	2	3	18	25S	28E	582266	3554864	91	63	28

Average Depth to Water: **59 feet**
Minimum Depth: **30 feet**
Maximum Depth: **96 feet**

Record Count: 9

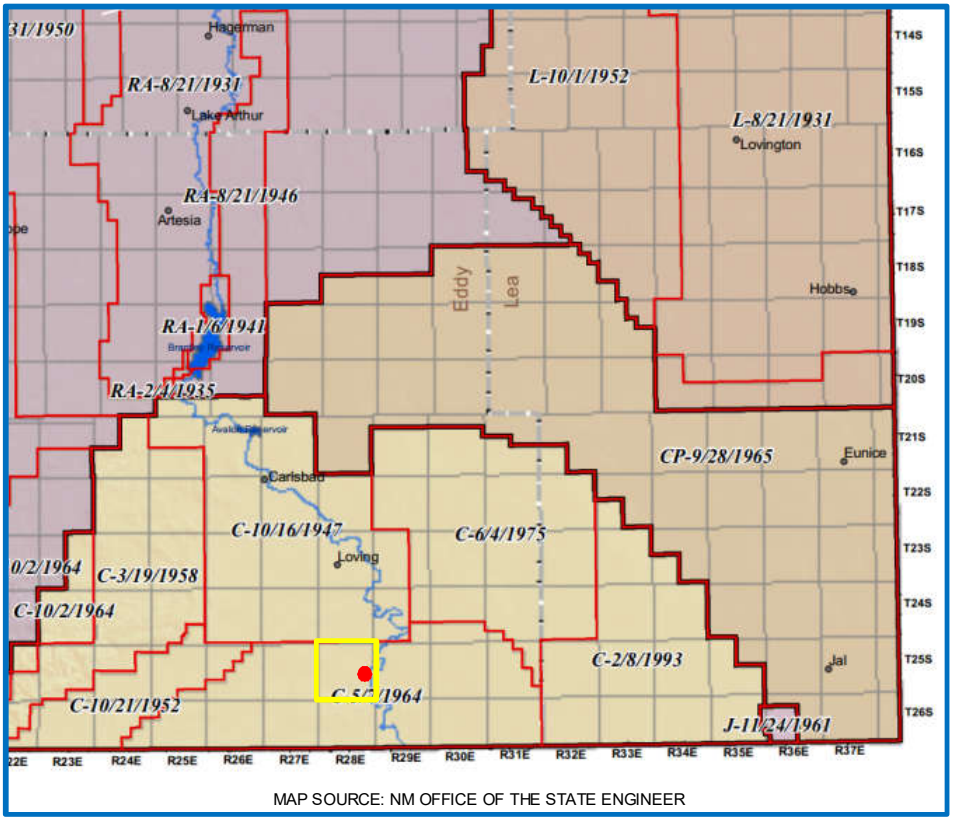
PLSS Search:

Township: 25S **Range:** 28E

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

C-108 - Item XI

Groundwater Basins - Water Column / Depth to Groundwater



MAP SOURCE: NM OFFICE OF THE STATE ENGINEER

The subject well is located within the Carlsbad Basin.

Fresh water in the area is generally available from valley and basin fill of the Carlsbad-Pecos segment of the lower Pecos Valley complex of Quaternary alluvial sand and gravel deposits. State Engineer's records show water wells in 25S-28E with an average depth to water at 59 feet.

There are two water wells (domestic, abandoned, monitor) located within one mile of the proposed SWD. Two representative analyses are included with this application. They are from offsetting applications but are closely matched and represent the shallow fresh water available in the area.

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: Probity SWD, LLC
Henry McDonald SWD No.1
Reviewed 6/02/2018

C-108 ITEM XIII – PROOF OF NOTIFICATION

IDENTIFICATION AND NOTIFICATION OF INTERESTED PARTIES

Exhibits for Section

Affected Parties Map

List of Interested Parties

Notification Letter to Interested Parties

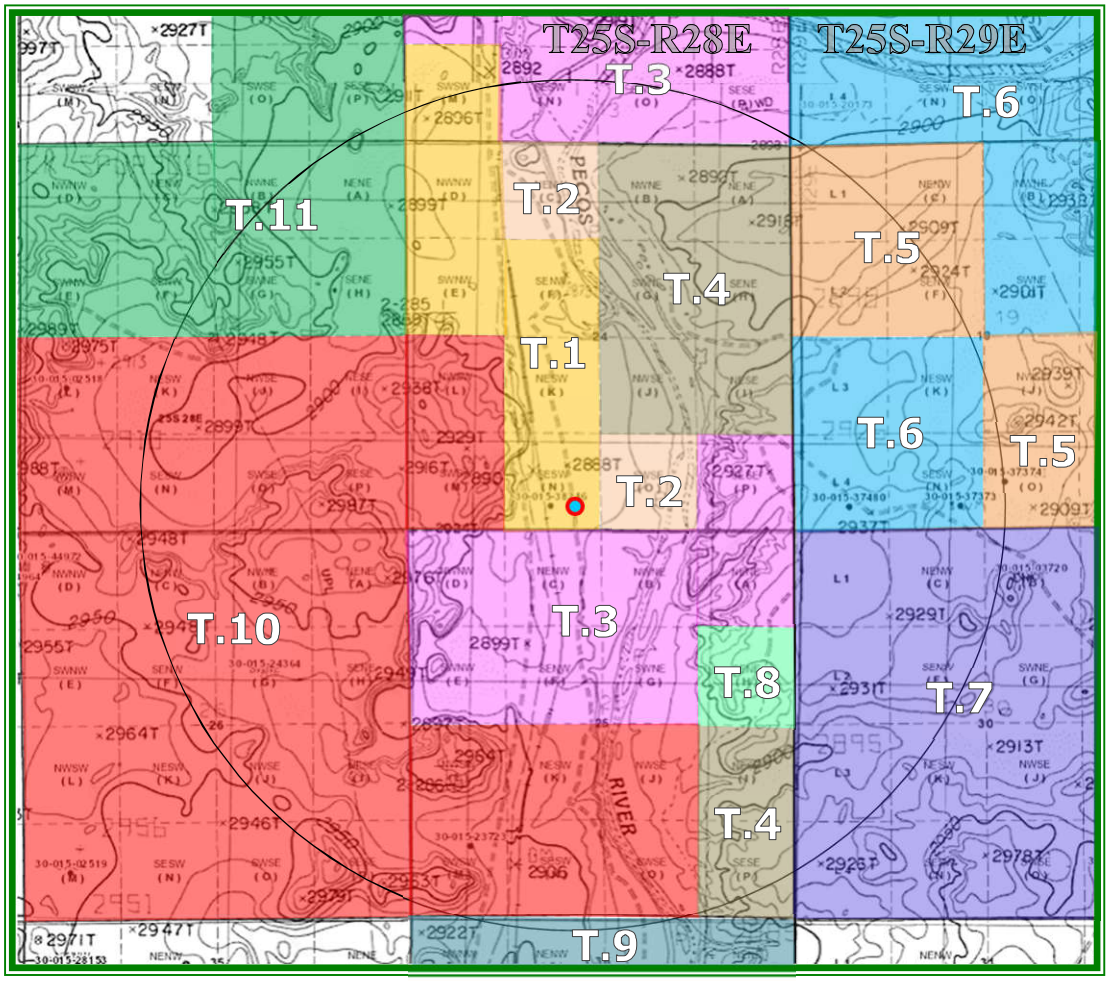
Proof of Certified Mailing

Published Legal Notice

Henry McDonald SWD Well No.1 – Affected Parties Plat

~ ONE MILE EXTENDED AREA of REVIEW ~

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



Probity SWD, LLC

LEGEND

T.1 – MRC Permian, Featherstone, others…

T.2 – Big Tree Energy, Prospector, others…

T.3 – NMNM-016104 – EOG Resources LLC

T.4 – NMNM-088128 – Endeavor Energy Rscs

T.5 – NMNM-055929 – XTO Holdings, LLC

T.6 – NMNM-117121 – Chevron USA, Inc.

T.7 – NMNM-115416 – XTO Holdings, LLC

T.8 – NMNM-120889 – Khody Land & Minerals

T.9 – VB-0807-0001 – EOG Y Resources

T.10 – NMNM-013413A – Oxy USA, Inc.

T.11 – NMNM-013413 – Chevron USA, Inc.

SOS Consulting, LLC

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

SOS Consulting is providing electronic delivery of C-108 applications.
ALL APPLICABLE AFFECTED PARTIES ARE PROVIDED A LINK IN THE NOTICE LETTER TO A SECURE SOS/ CITRIX SHAREFILE® SITE TO VIEW AND DOWNLOAD A FULL COPY OF THE SUBJECT C-108 APPLICATION IN PDF FORMAT.

SURFACE & MINERAL OWNER

1 HENRY MCDONALD
P.O. Box 597
Loving, NM 88256-0597
Certified: 7017 2400 0000 5297 5652

OFFSET MINERALS LESSEES and OPERATORS (All Notified via USPS Certified Mail)

Private Leases (T.1 and T.2 on Affected Parties Map)
Lessses

2 MRC PERMIAN COMPANY
5400 LBJ Freeway, Suite 1500
Dallas, Texas 75240
Certified: 7017 2400 0000 5297 5669

3 FEATHERSTONE DEVELOPMENT CORPORATION
PO Box 429
Roswell, New Mexico 88202
Certified: 7017 2400 0000 5297 5676

4 BIG TREE ENERGY GROUP, LLC
PO Box 429
Roswell, New Mexico 88202
Certified: 7017 2400 0000 5297 5683

5 PROSPECTOR, LLC
PO Box 429
Roswell, New Mexico 88202
Certified: 7017 2400 0000 5297 5690

6 CAMARIE OIL AND GAS, LLC
2502 Camarie
Midland, Texas 79705
Certified: 7017 2400 0000 5297 5706

7 ROSS DUNCAN PROPERTIES, LLC
PO Box 647
Artesia, New Mexico 88220
Certified: 7017 2400 0000 5297 5713

8 XPLOR RESOURCES, LLC
1104 N. Shore
Carlsbad, New Mexico 88220
Certified: 7017 2400 0000 5297 5720

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

Private Leases (T.1 and T.2 on Affected Parties Map)
Lessses (cont.)

9 CARLSBAD NATIONAL BANK TRUST DEPARTMENT,
Testamentary Trustee under the Last Will and Testament of Bradley T. Light
PO Box 1359, Carlsbad, New Mexico 88221
Certified: 7017 2400 0000 5297 5737

10 STANLEY W. LIGHT, Trustee of the Stanley W. Light Revocable Trust
3818 Turtle Creek Drive
Dallas, Texas 75219
Certified: 7017 2400 0000 5297 5744

BLM Lease NMNM-088128 (T.3 on Affected Parties Map)
Lessee

11 ENDEAVOR ENERGY RESOURCES, LP
110 N. Marienfeld Street, Ste.200
Midland, TX 79701
Certified: 7017 2400 0000 5297 5751

BLM Lease NMNM-055929; NMNM-115416 (T.4 and T.7 on Affected Parties Map)
Lessee & Operator

12 XTO HOLDINGS, LLC
810 Houston Street
Fort Worth, TX 76012-6203
Certified: 7017 2400 0000 5297 5768

BLM Lease NMNM-117121; NMNM-013413 (T.6 and T.11 on Affected Parties Map)
Lessee & Operator

13 CHEVRON USA, INC.
Attn: Linda McMurray, Permitting Team
6301 Deauville Blvd.
Midland, TX 79706
Certified: 7017 2400 0000 5297 5775

OFFSET MINERALS OWNERS (Notified via USPS Certified Mail)

14 U.S. DEPARTMENT OF INTERIOR
Bureau of Land Management
Oil & Gas Division
620 E. Greene St.
Carlsbad, NM 88220
Certified: 7017 2400 0000 5297 5782

15 STATE OF NEW MEXICO
Oil, Gas and Minerals Division
310 Old Santa Fe Trail
Santa Fe, NM 87504
Certified: 7017 2400 0000 5297 5799

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

REGULATORY

NEW MEXICO OIL CONSERVATION DIVISION (FedEx'ed original and copy)
1220 S. St. Francis Dr.
Santa Fe, NM 87505

NEW MEXICO OIL CONSERVATION DIVISION (FedEx'ed copy)
811 S. First St.
Artesia, NM 88210

August 10, 2018

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

To Whom It May Concern:

Probity SWD, LLC, Midland, Texas, has made application to the New Mexico Oil Conservation Division to drill and complete for salt water disposal the Henry McDonald SWD Well No.1. The proposed commercial operation will be for produced water disposal from area operators. As indicated in the notice below, the well is located in Section 24, Township 25 South, Range 28 East in Eddy County, New Mexico.

The published notice states that the interval will be from 14,750 feet to 15,935 feet into the Devonian (Silurian) and Fusselman formations.

Following is the notice published in the Artesia Daily Press, Artesia, New Mexico on or about June 17, 2018.

LEGAL NOTICE

Probity SWD, LLC, P.O. Box 7307, Midland, TX 79708, 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 proposed well, the Henry McDonald SWD No.1, will be located 300' FSL and 2340' FWL, Section 24, Township 25 South, Range 28 East, Eddy County, New Mexico. Produced water from area production will be commercially disposed into the Devonian (Silurian) and Fusselman formations at a depth of 14,750' to 15,935' at a maximum surface pressure of 2950 psi and a rate limited only by such pressure. The proposed SWD well is located approximately 8.1 miles south/ southeast of Malaga, NM.

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, (903)488-9850 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. A full copy in PDF format is posted on the SOS Consulting ***ShareFile*** site and is available for immediate download.

Use the URL link: **https://sosconsulting.sharefile.com/d-sbf8c363e2ff42a3a**

(Please Note: The ShareFile service is powered by Citrix Systems and is completely secure.*)

The link to this file will be active for 30 days from the date of this letter. Your company can access and download the file a maximum of five (5) times. (One copy may be downloaded and shared as needed amongst your company.)

Alternatively, you may call SOS Consulting, LLC at 903-488-9850, or email info@sosconsulting.us, and the same PDF file copy will be expedited to you via email.

Please use a subject like, "**McDonald SWD Aug2018 PDF Copy Request**".

Thank you for your attention in this matter.

Best regards,

Ben Stone, SOS Consulting, LLC
Agent for Probity SWD, LLC

Cc: Application File

SOS Consulting is committed to providing superior quality work using technology to assist clients and interested parties in obtaining the documentation required. SOS will continue to utilize methods for reducing papers copies and are less energy and resource intensive.

We hope you'll partner with us and appreciate these efforts.

* You will be asked for your name and email. This will not be used for anything except to track the file downloads. You will not be solicited by SOS or anyone else. Data is stored on Citrix Systems servers only.

C-108 - Item XIV

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P.O. Box 597
Loving, NM 88256-0597

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Dallas, Texas 75240

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PROSPECTOR, LLC
PO Box 429
Roswell, New Mexico 88202

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C-108 - Item XIV

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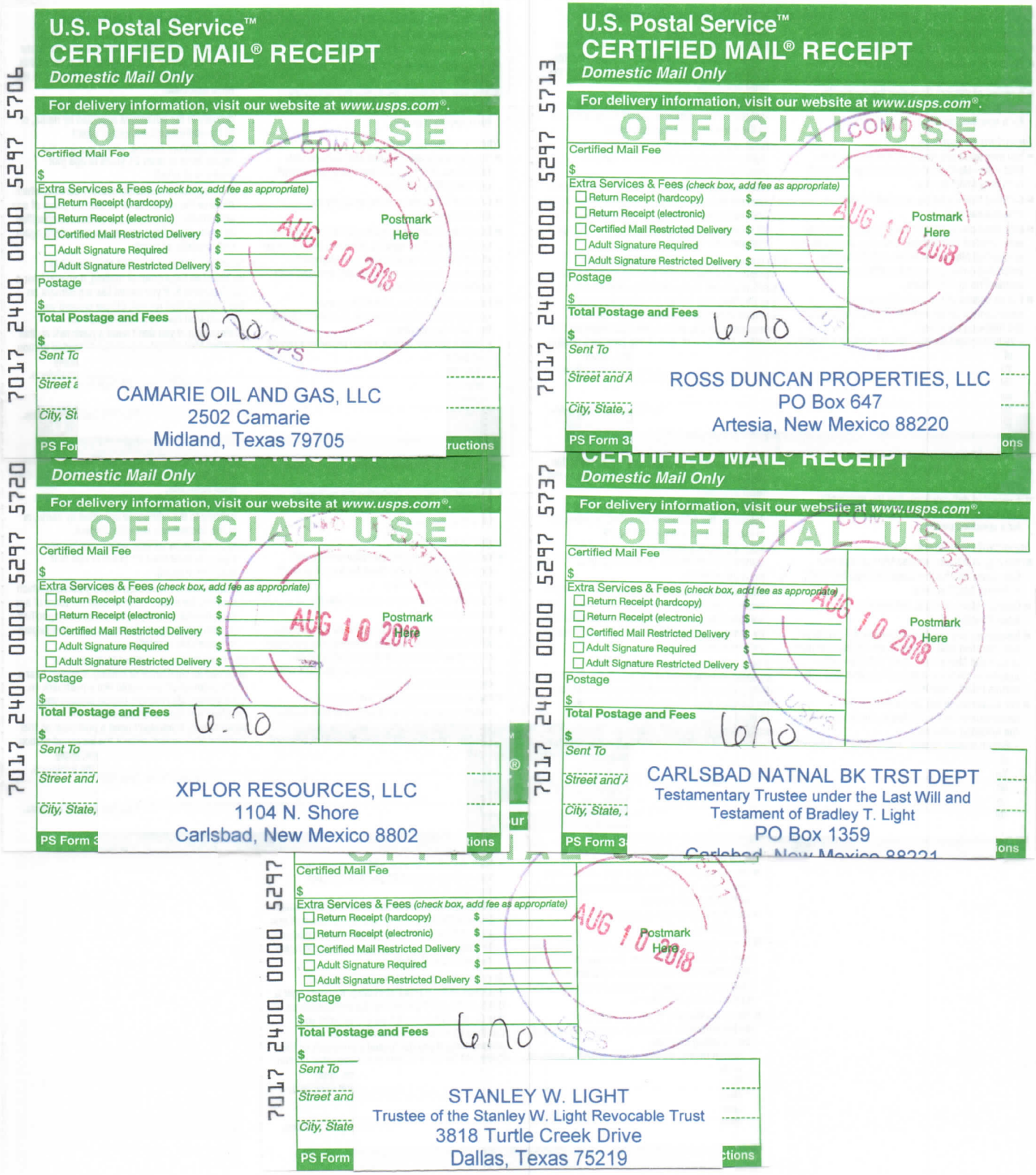

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2502 Camarie
Midland, Texas 79705

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Artesia, New Mexico 88220

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XPLOR RESOURCES, LLC
1104 N. Shore
Carlsbad, New Mexico 8802

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CARLSBAD NATNAL BK TRST DEPT
Testamentary Trustee under the Last Will and
Testament of Bradley T. Light
PO Box 1359
Carlsbad, New Mexico 88221

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Return Receipt (electronic)
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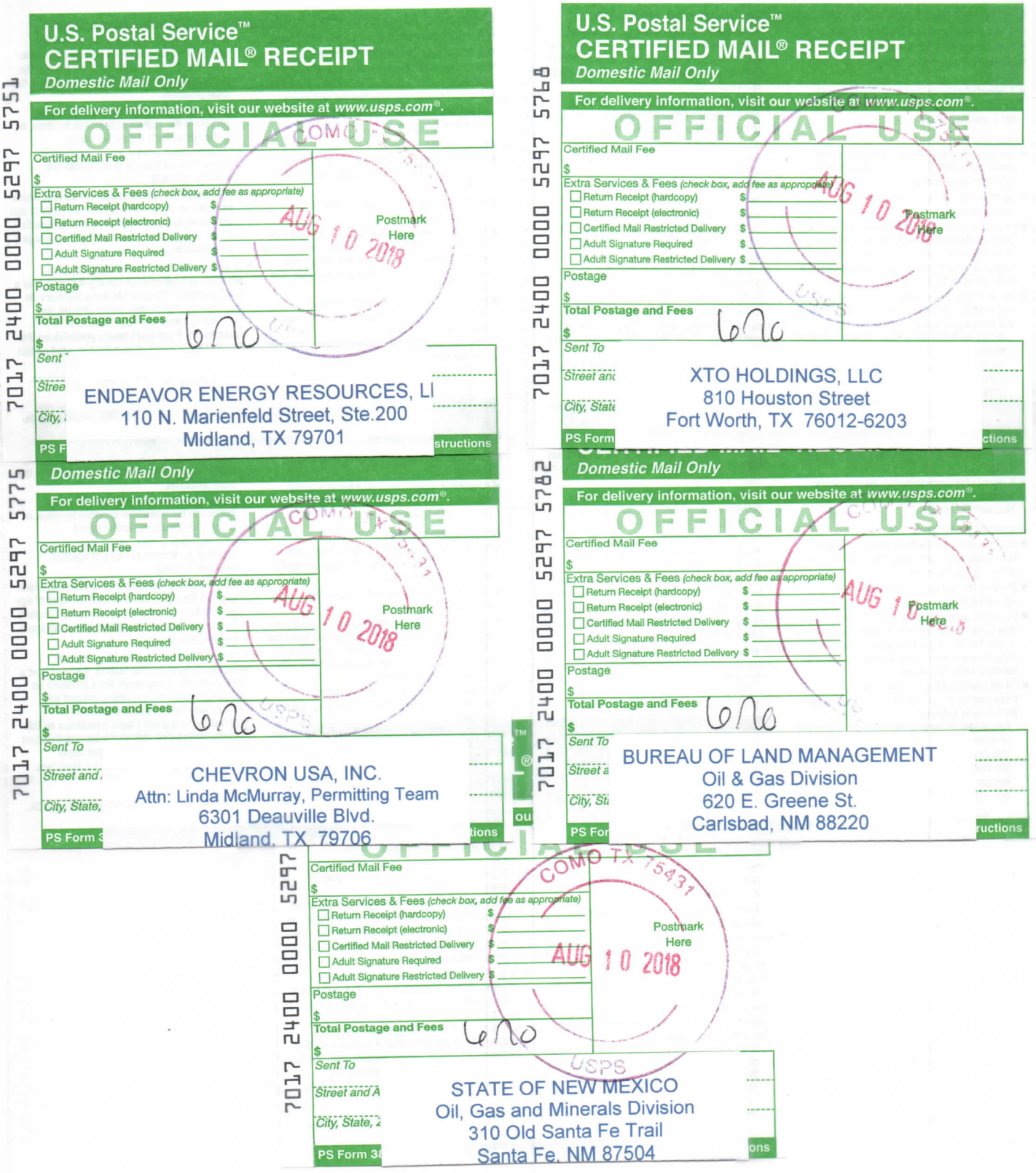
STANLEY W. LIGHT
Trustee of the Stanley W. Light Revocable Trust
3818 Turtle Creek Drive
Dallas, Texas 75219

C-108 - Item XIV

Proof of Notice (Certified Mail Receipts – cont.)



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Adult Signature Restricted Delivery
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110 N. Marienfeld Street, Ste.200
Midland, TX 79701

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Adult Signature Restricted Delivery
Postage
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Postmark Here
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XTO HOLDINGS, LLC
810 Houston Street
Fort Worth, TX 76012-6203

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Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Postmark Here
AUG 10 2018
7017 2400 0000 5297 5775
Sent To
CHEVRON USA, INC.
Attn: Linda McMurray, Permitting Team
6301 Deauville Blvd.
Midland, TX 79706

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Adult Signature Restricted Delivery
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BUREAU OF LAND MANAGEMENT
Oil & Gas Division
620 E. Greene St.
Carlsbad, NM 88220

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

Affidavit of Publication

No. 24723

State of New Mexico

County of Eddy:

Danny Scott

being duly sworn says that she is the

of the Artesia Daily Press, a daily newspaper of General circulation, published in English at Artesia, said county and state, and that the hereto attached

Legal Ad

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for

1 Consecutive weeks/day on the same day as follows:

First Publication June 17, 2018

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Sixth Publication

Seventh Publication

Subscribed and sworn before me this

18th day of June 2018

OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 5/12/2019

Latisha Romine

Latisha Romine

Notary Public, Eddy County, New Mexico

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Legal Notice

Probity SWD, LLC, P.O. Box 7307, Midland, TX 79708, 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 proposed well, the Henry McDonald SWD No.1, will be located 300' FSL and 2340' FWL, Section 24, Township 25 South, Range 28 East, Eddy County, New Mexico. Produced water from area production will be commercially disposed into the Devonian (Silurian) and Fusselman formations at a depth of 14,750' to 15,935' at a maximum surface pressure of 2950 psi and a rate limited only by such pressure. The proposed SWD well is located approximately 8.1 miles south/ southeast of Malaga, NM.

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, (903)488-9850 or, email info@sosconsulting.us.

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