

# Initial Application Part I

Received: 08/02/2019

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

Revised March 23, 2017

RECEIVED: 08/02/2019	REVIEWER:	TYPE: SWD	APP NO: pMAM1921741214
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

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



**ADMINISTRATIVE APPLICATION CHECKLIST**

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

**Applicant:** Permian Water Solutions, LLC **OGRID Number:** 373626  
**Well Name:** Red Devil SWD I **API:** 30-015-  
**Pool:** SWD; Devonian **Pool Code:** 96101

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

**1) TYPE OF APPLICATION:** Check those which apply for [A]

**SWD-2228**

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

**2) NOTIFICATION REQUIRED TO:** Check those which apply.

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

**FOR OCD ONLY**

- ☐ Notice Complete  
☐ Application Content Complete

- 3) CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note: Statement must be completed by an individual with managerial and/or supervisory capacity.**

Brian Wood

Print or Type Name

Signature

7-24-19

Date

505-466-8120


Phone Number

brian@permitswest.com

e-mail Address



**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance \_\_\_\_\_ XXX Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval? \_\_\_\_\_ XXX Yes \_\_\_\_\_ No
- II. OPERATOR: PERMIAN WATER SOLUTIONS, LLC  
ADDRESS: 600 TRAVIS ST., SUITE 4700, HOUSTON TX 77002  
CONTACT PARTY: BRIAN WOOD (PERMITS WEST, INC.) PHONE: 505 466-8120
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? \_\_\_\_\_ Yes XXX No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.  
**Red Devil SWD 1**  
**Devonian (96101)**
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: BRIAN WOOD  TITLE: CONSULTANT  
SIGNATURE: \_\_\_\_\_ DATE: JULY 22, 2019  
E-MAIL ADDRESS: brian@permitswest.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

### III. WELL DATA

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

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

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

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

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

### XIV. PROOF OF NOTICE

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

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

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

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

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

## INJECTION WELL DATA SHEET

OPERATOR: PERMIAN WATER SOLUTIONS, LLCWELL NAME & NUMBER: RED DEVIL SWD 1WELL LOCATION: 1980' FNL & 1980' FEL

FOOTAGE LOCATION

G

UNIT LETTER

23

SECTION

22 S

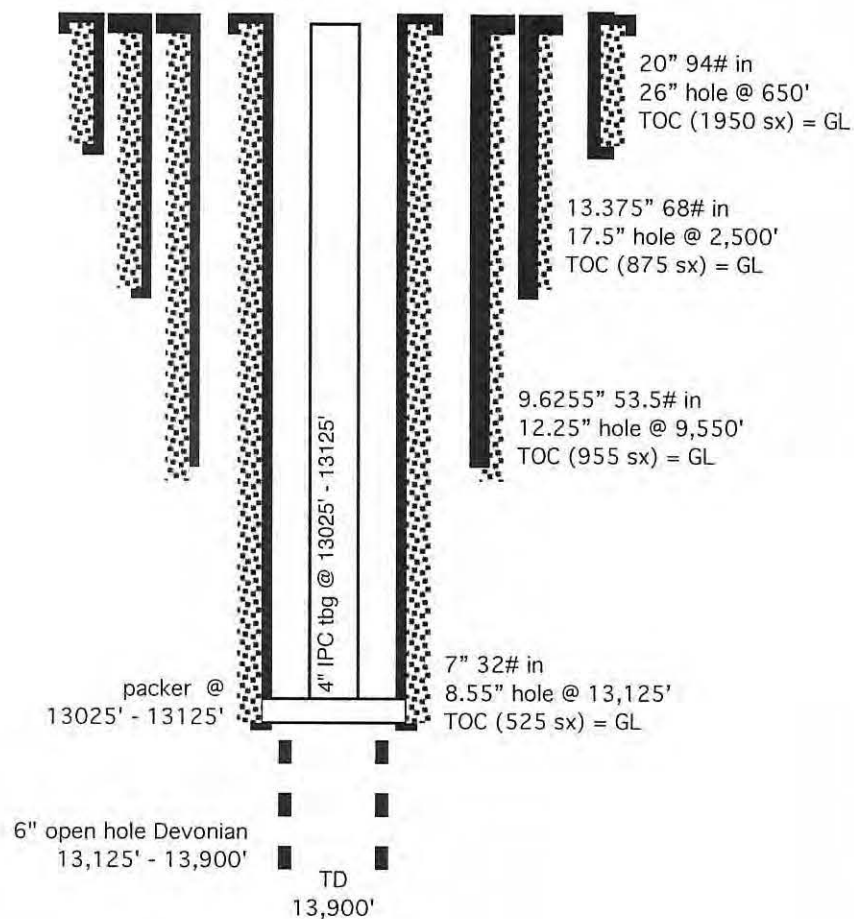
TOWNSHIP

27 E

RANGE

WELLBORE SCHEMATIC

(not to scale)

WELL CONSTRUCTION DATASurface CasingHole Size: 26" Casing Size: 20"Cemented with: 1950 sx. *or*  ft<sup>3</sup>Top of Cement: GL Method Determined: CIRC.Intermediate CasingHole Size: 17.5" Casing Size: 13.375"  
12.25" 875Cemented with: 955 sx. *or*  ft<sup>3</sup>Top of Cement: GL Method Determined: CIRC. & CBLProduction CasingHole Size: 8.5" Casing Size: 7" @ 13,125'Cemented with: 525 sx. *or*  ft<sup>3</sup>Top of Cement: GL Method Determined: CBLTotal Depth: CSG @ 13,125' & TD @ 13,900'Injection Interval6.0" OPEN HOLE 13,125 feet to 13,900'

(Perforated or Open Hole; indicate which)

■■■■■■■■■■



INJECTION WELL DATA SHEETTubing Size: 4" Lining Material: IPCType of Packer: 4" x 7" STAINLESS STEEL OR NICKELPacker Setting Depth: ≈13,025'

Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

Additional Data

1. Is this a new well drilled for injection? XXX Yes \_\_\_\_\_ No

If no, for what purpose was the well originally drilled? \_\_\_\_\_

2. Name of the Injection Formation: DEVONIAN

3. Name of Field or Pool (if applicable): SWD; DEVONIAN (POOL CODE 96101)

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. \_\_\_\_\_

NO

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: \_\_\_\_\_

OVER: BRUSHY CANYON (4300'), BONE SPRING (5500'), WOLFCAMP (9100'),  
STRAWN (10550'), ATOKA (10850'), & MORROW (11500')

UNDER: NONE

I. Goal is to drill a 13,900' deep commercial saltwater disposal well. Proposed disposal interval will be 13,125' – 13,900' in the SWD; Devonian (96101). See Exhibit A for C-102 and map. Well is on fee surface and fee minerals. APD was received by Artesia OCD on March 14, 2019.

II. Operator: Permian Water Solutions, LLC [OGRID 373626]  
Operator phone number: (432) 305-4124  
Operator address: 600 Travis St., Suite 4700  
Houston, TX 77002  
Contact for Application: Brian Wood (Permits West, Inc.)  
Phone: (505) 466-8120

III. A. (1) Lease name: Red Devil SWD (fee)  
Well name and number: Red Devil SWD 1  
Location: 1980' FNL & 1980' FEL Section 23, T. 22 S., R. 27 E.

A. (2) Surface casing (20", 94#) will be set at 650' in a 26" hole and cemented to GL with 1950 sacks.

Intermediate casing 1 (13.375", 68#) will be set at 2500' in a 17.5" hole and cemented to GL with 875 sacks.

Intermediate casing 2 (9.625", 53.5#) will be set at 9,550' in a 12.25" hole and cemented to GL with 955 sacks.

Intermediate casing 3 (7", 32#) will be set at 13,125' in an 8.5" hole and cemented to GL with 525 sacks.

A 6" open hole will be drilled to 13,900'.

A. (3) Tubing will be IPC, 4", P-110 set at  $\approx$ 13,025'. (Disposal interval will be 13,125' to 13,900'.)

- A. (4) A stainless-steel or nickel 4" x 7" packer will be set at  $\approx 13,025'$  (or  $\leq 100'$  above the top of the open hole which will be at 13,125').
- B. (1) Disposal zone will be the Devonian (SWD; Devonian (96101) pool). Estimated fracture gradient is  $\approx 0.65$  psi per foot.
- B. (2) Disposal interval will be open hole from 13,125' to 13,090'.
- B. (3) Well has not been drilled. It will be drilled as a saltwater disposal well.
- B. (4) No perforated intervals are in the well.
- B. (5) Productive zones in the area of review and above the Devonian (13,125') are the Brushy Canyon (4,300'), Bone Spring (5,500'), Wolfcamp (9,100'), Strawn (10,550'), Atoka (10,850') and Morrow (11,500'). No oil or gas zone is below the Devonian in the area of review.

IV. This is not an expansion of an existing injection project. It is disposal only.

V. Exhibit B shows and tabulates the 16 existing wells and 1 planned well within a one mile radius. None of the 17 wells has been P&A. Deepest of the 17 wells is 12,387' TVD. Exhibit C shows all 142 existing wells (68 water + 45 oil or gas + 25 P&A + 2 injectors + 2 brine) within a two-mile radius.

All leases within a one-mile radius are fee or BLM. Exhibit D shows and tabulates all leases within a one-mile radius. Two-mile radius leases are BLM, fee, or NMSLO (Exhibit E).

VI. No Devonian penetrator is within a mile. Deepest (12,387' TVD) well (30-015-33921) within a mile bottomed in the Barnett, 738' above the Devonian.



- VII. 1. Average injection rate will be  $\approx 25,000$  bwpd.  
Maximum injection rate will be 30,000 bwpd.
2. System will be open and closed. Water will both be trucked and piped.
3. Average injection pressure will be  $\approx 2,500$  psi.  
Maximum injection pressure will be 2,625 psi ( $= 0.2$  psi/foot  $\times 13,125'$  (top of open hole)).
4. Disposal water will be produced water, mainly Bone Spring and Wolfcamp. There are 135 approved Bone Spring wells and 357 approved Wolfcamp wells in T. 22 & 23 S., R. 27 & 28 E. The well will take other Permian Basin waters (e. g., Atoka, Delaware, Morrow) too. A table of TDS range from nearby wells is below. Abstracts from the NM Produced Water Quality Database v.2 for nearby wells are in Exhibit F.

Formation	TDS range (mg/l)
Artesia	10050 - 11800
Atoka	31911 - 50026
Avalon	154164 - 154965
Bone Spring	129394 - 271010
Brushy Canyon	108093 - 303550
Capitan	27400 - 29392
Delaware	116788 - 164679
Devonian	16223 - 64582
Morrow	53480 - 62523
Wolfcamp	13711 - 13711

No compatibility problems have been reported from the closest ( $>6$  miles south) active Devonian; SWD wells. At least 4,512,124 barrels of water have been disposed in 10 months in 30-015-44265. At least 7,316,441 barrels have been disposed in 15 months in 30-015-44303. (Closest Devonian; SWD APD, 30-015-45719, is 1.76 miles southwest. C-108 review is underway by OCD.)

5. Closest Devonian producer (30-015-05614) is  $>25$  miles northeast.

VIII. The Devonian (estimated 775' thick) consists of limestone and dolomite. Closest possible underground source of drinking water above the proposed disposal interval are the Quaternary red beds at the surface. According to State Engineer records (Exhibit G), deepest water well within 2 miles is 250' deep and closest water well is 1636' north. No underground source of drinking water is below the proposed disposal interval.

Formation tops are:

Quaternary = 0'  
Salado = 675'  
Delaware = 2125'  
Brushy Canyon = 4300'  
Bone Spring = 5500'  
Wolfcamp = 9100'  
Strawn = 10550'  
Atoka = 10850'  
Morrow = 11500'  
Barnett = 12175'  
Devonian = 13125'  
*disposal interval = 13125' - 13900'*  
TD = 13900'

According to State Engineer records (Exhibit G), closest water well is 1636' north. Its depth is 175'. There will be  $\approx 12,875'$  of vertical separation including shale, salt, and anhydrite intervals between the bottom of the only likely underground water source (Quaternary red beds) and the top of the Devonian.

IX. Well will be stimulated with acid as needed.

X. Deviation surveys and CBL, CNL, GR, and DLL logs will be run.

XI. Two water wells were sampled during a June 16, 2019 field inspection. One sample point is a half mile west and the other is 1.9 miles southwest of the Red

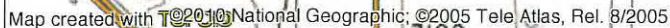
Devil SWD 1. Development of the Otis Municipal Domestic Water Consumers and Sewage Works Association has led many water well owners to abandon their wells.

XII. Permian Water Solutions, LLC (Exhibit I) is not aware of any geologic or engineering data that may indicate the Devonian is in hydrologic connection with any underground sources of water. Deepest water well within a 2-mile radius is 250'. There are 256 approved Devonian SWD APDs in New Mexico, of which 154 are active. Closest Quaternary fault is  $\approx$ 56 miles southwest.

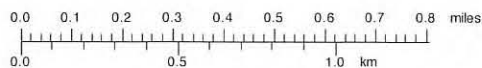
XIII. A legal ad (Exhibit J) was published on March 12, 2019. Notice (Exhibit K) and this application has been sent to the surface owner (Llano Natural Resources LLC), all well operators regardless of depth, government lessors, lessees, and operating right holders within a mile.



WGS84 104.15000° W



WGS84 104.15000° W



07/16/19



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

**EXHIBIT A**

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-015-</b>	<sup>2</sup> Pool Code <b>96101</b>	<sup>3</sup> Pool Name <b>SWD; Devonian</b>
<sup>4</sup> Property Code	<sup>5</sup> Property Name RED DEVIL SWD	<sup>6</sup> Well Number 1
<sup>7</sup> OGRID No. <b>373626</b>	<sup>8</sup> Operator Name PERMIAN WATER SOLUTIONS, LLC	<sup>9</sup> Elevation 3087'±

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	23	22 S	27 E	N/A	1980'	NORTH	1980'	EAST	EDDY

<sup>11</sup> Bottom Hole Location If Different From Surface

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

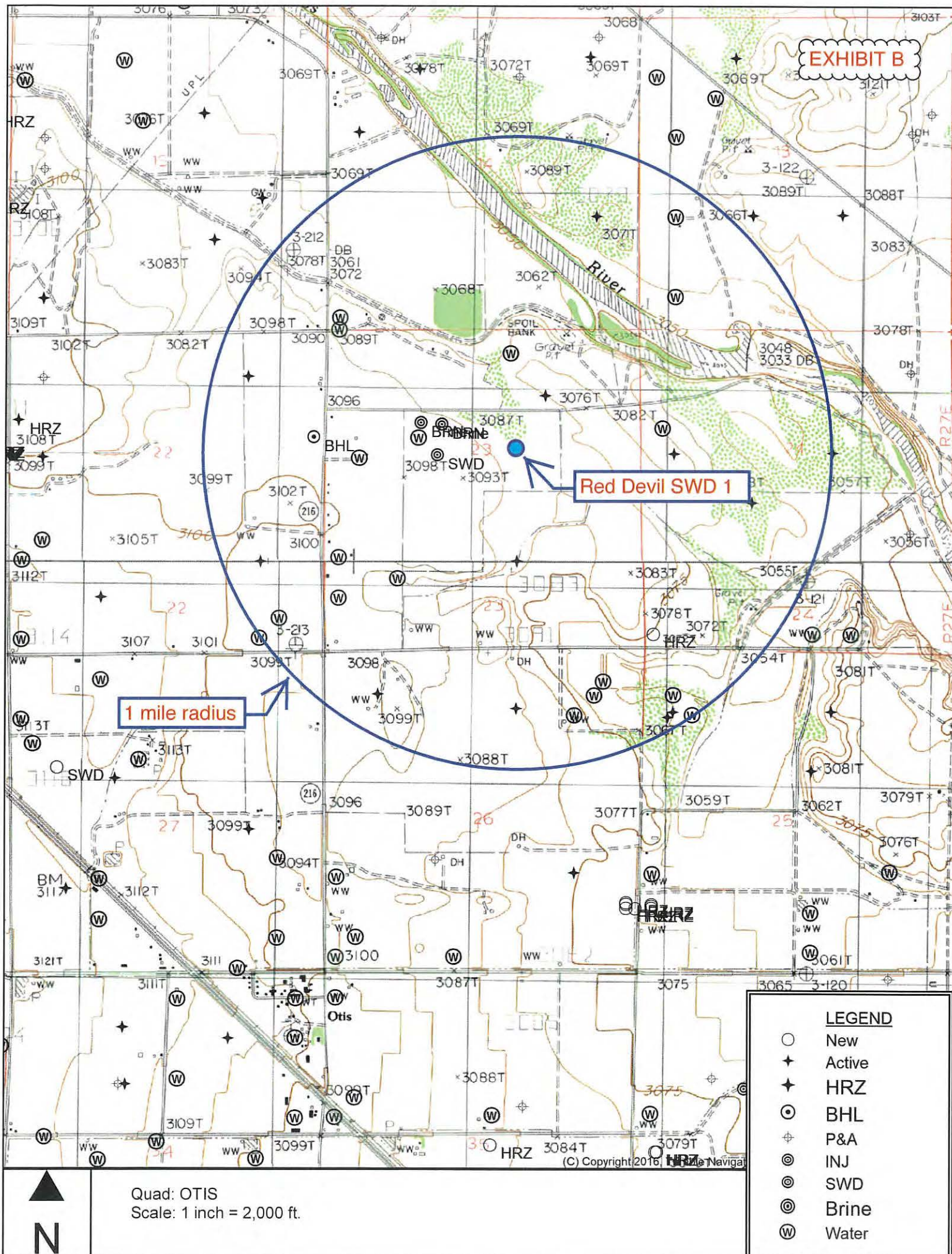
<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.

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

<sup>16</sup> 	<sup>17</sup> <b>OPERATOR CERTIFICATION</b> <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i>  <b>3-9-19</b> Signature _____ Date _____ Printed Name <b>BRIAN WOOD</b> E-mail Address <b>brian@permitswest.com</b> <b>(505) 466-8120</b>
	<sup>18</sup> <b>SURVEYOR CERTIFICATION</b> <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i> 02/19/2019 Date of Survey _____ Signature and Seal of Professional Surveyor  25114 Certificate Number _____



# EXHIBIT B



1 mile radius

Red Devil SWD 1

## LEGEND

- New
- ✦ Active
- ✦ HRZ
- ⊙ BHL
- ⊕ P&A
- ⊙ INJ
- ⊙ SWD
- ⊙ Brine
- ⊙ Water

Quad: OTIS  
Scale: 1 inch = 2,000 ft.

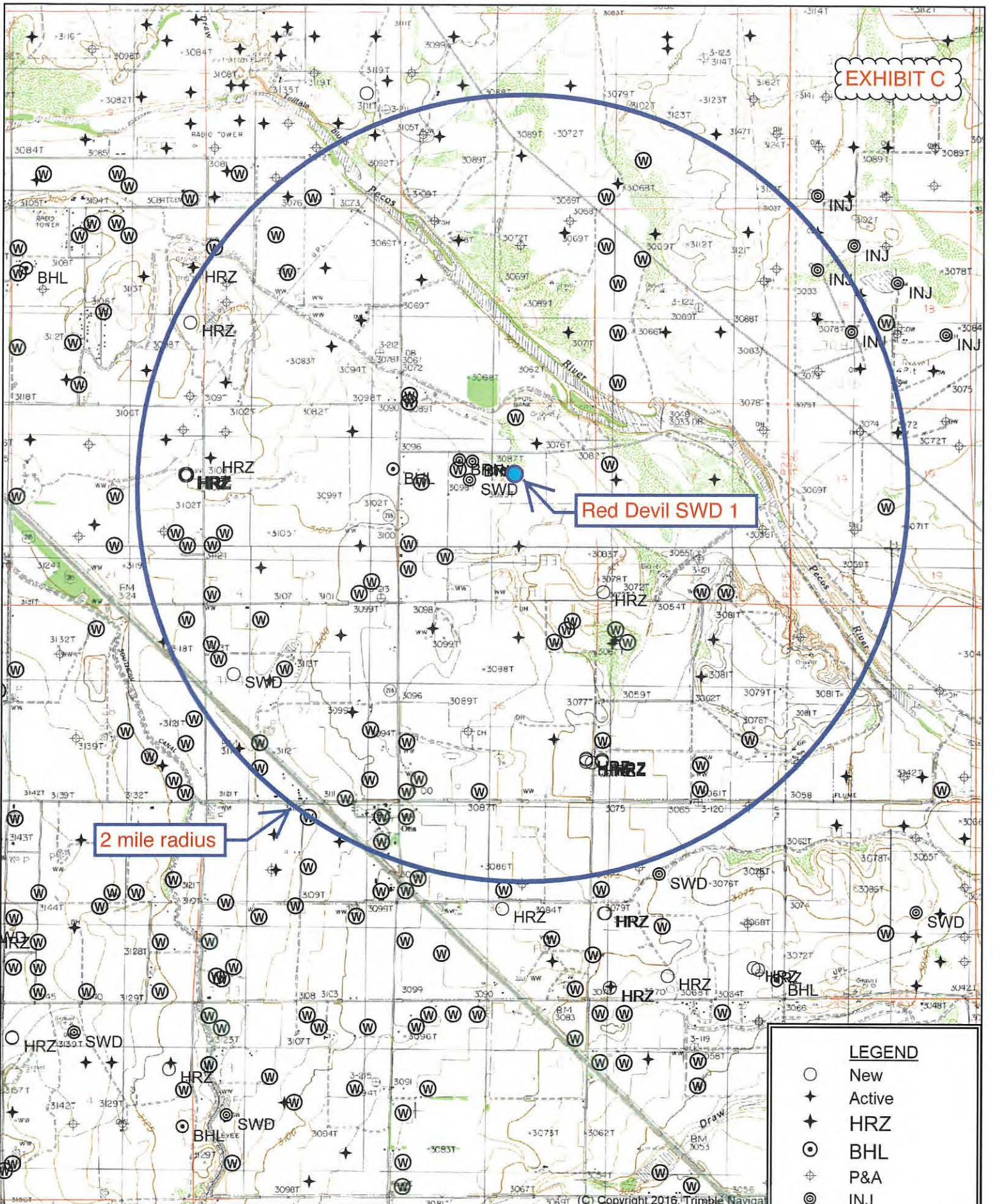


SORTED BY DISTANCE FROM RED DEVIL SWD 1

API	OPERATOR	WELL	STATUS	UNIT- SECTION- T22S-R27E	TVD	ZONE @ TD	FEET FROM RED DEVIL SWD 1
3001534545	Devon	Dunaway 23 001	Gas	B-23	12336	Barnett	1208
3001525722	Permian Water Solutions	Rohmer 001	SWD	F-23	12300	Barnett	1346
3001528083	Permian Water Solutions	Dunaway 001	BSW	F-23	1300	Salado	1367
3001528084	Permian Water Solutions	Dunaway 002	BSW	F-23	1246	Salado	1713
3001525300	Devon	Ferguson 001	Gas	J-23	12180	Barnett	1781
3001525623	Devon	Johnson 001	Gas	E-24	12250	Barnett	2643
3001542821	Devon	Grandi 22 002H	Oil	H-22	7416	Bone Spring	3515
3001534255	Devon	Riverbend 24 001Y	Gas	K-24	12250	Barnett	4152
3001532607	Mewbourne	Otis 14 001	Gas	I-14	12190	Barnett	4182
3001533921	Devon	Henry 26 002	Gas	B-26	12387	Barnett	4241
3001546003	Mewbourne	Mighty Ducks 16 15 WOMP State	Gas	P-15	plan 9500	Wolfcamp	4488
3001525033	Devon	Henry 001	Gas	D-26	12221	Barnett	4609
3001525253	Wildcat	Henry 002	Gas	I-22	12290	Barnett	4687
3001533922	Devon	Grandi 22 003	Gas	A-22	12130	Barnett	4731
3001525254	Mewbourne	Dunn 001	Gas	D-25	12255	Barnett	5046
3001529369	Mewbourne	Dunn 002	Oil	D-25	4575	Delaware	5078
3001525688	Kaiser-Francis	Hargis 001	Gas	G-24	12296	Barnett	5280



EXHIBIT C



Red Devil SWD 1

2 mile radius

LEGEND

- New
- ✦ Active
- ✦ HRZ
- ⊙ BHL
- ⊕ P&A
- ⊙ INJ
- ⊙ SWD
- ⊙ Brine
- ⊙ Water

Quad: CARLSBAD  
Scale: 1 inch = 3,333 ft.





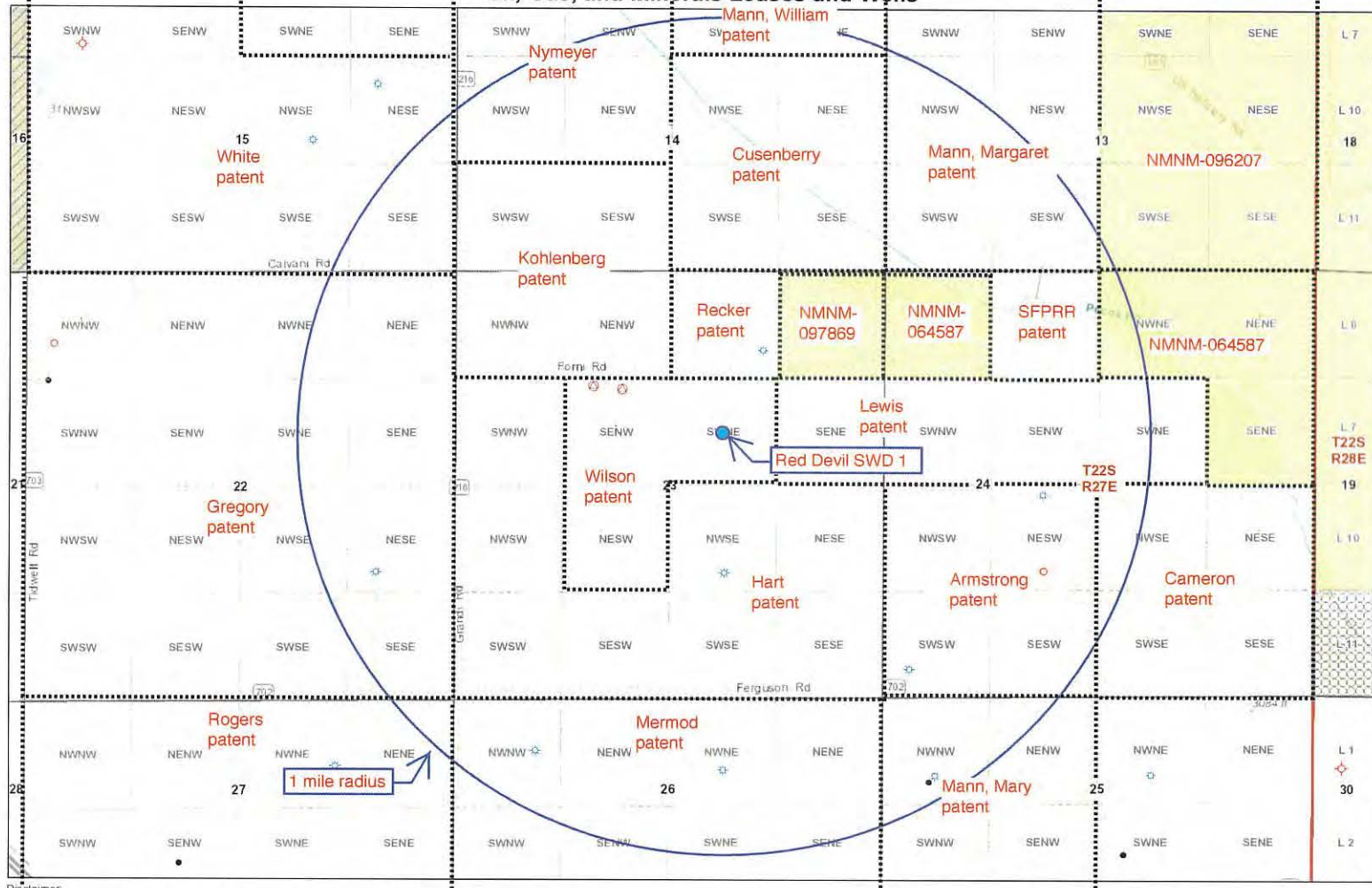
New Mexico State Land Office

## Oil, Gas, and Minerals Leases and Wells

EXHIBIT D

### Legend

- State Boundary
- County Boundaries
- Townships
- Sections
- Subdivisions
- Active Wells**
  - Water Storage
  - Miscellaneous
  - Salt Water Disposal
  - Injection
  - Carbon Dioxide
  - Gas
  - Oil
- Inactive Wells**
  - Plugged / Dry / Abandoned
  - Cancelled / Not Drilled
- Federal Minerals Ownership**
  - All Minerals
  - Coal Only
  - Oil and Gas Only
  - Oil, Gas and Coal Only
  - Other Minerals
- New Mexico State Trust Lands**
  - Subsurface Estate
  - Surface Estate
  - Both Estates



Disclaimer:  
The New Mexico State Land Office assumes no responsibility or liability for, or in connection with the accuracy, reliability or use of the information provided herein with respect to State Land Office data or data from other sources.

Data pertaining to New Mexico State Trust Lands are provisional and subject to revision, and do not constitute an official record of title. Official records may be reviewed at the New Mexico State Land Office in Santa Fe, New Mexico.

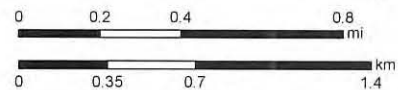


EXHIBIT D

Map Created: 7/20/2019



RED DEVIL SWD 1 AREA OF REVIEW LEASES

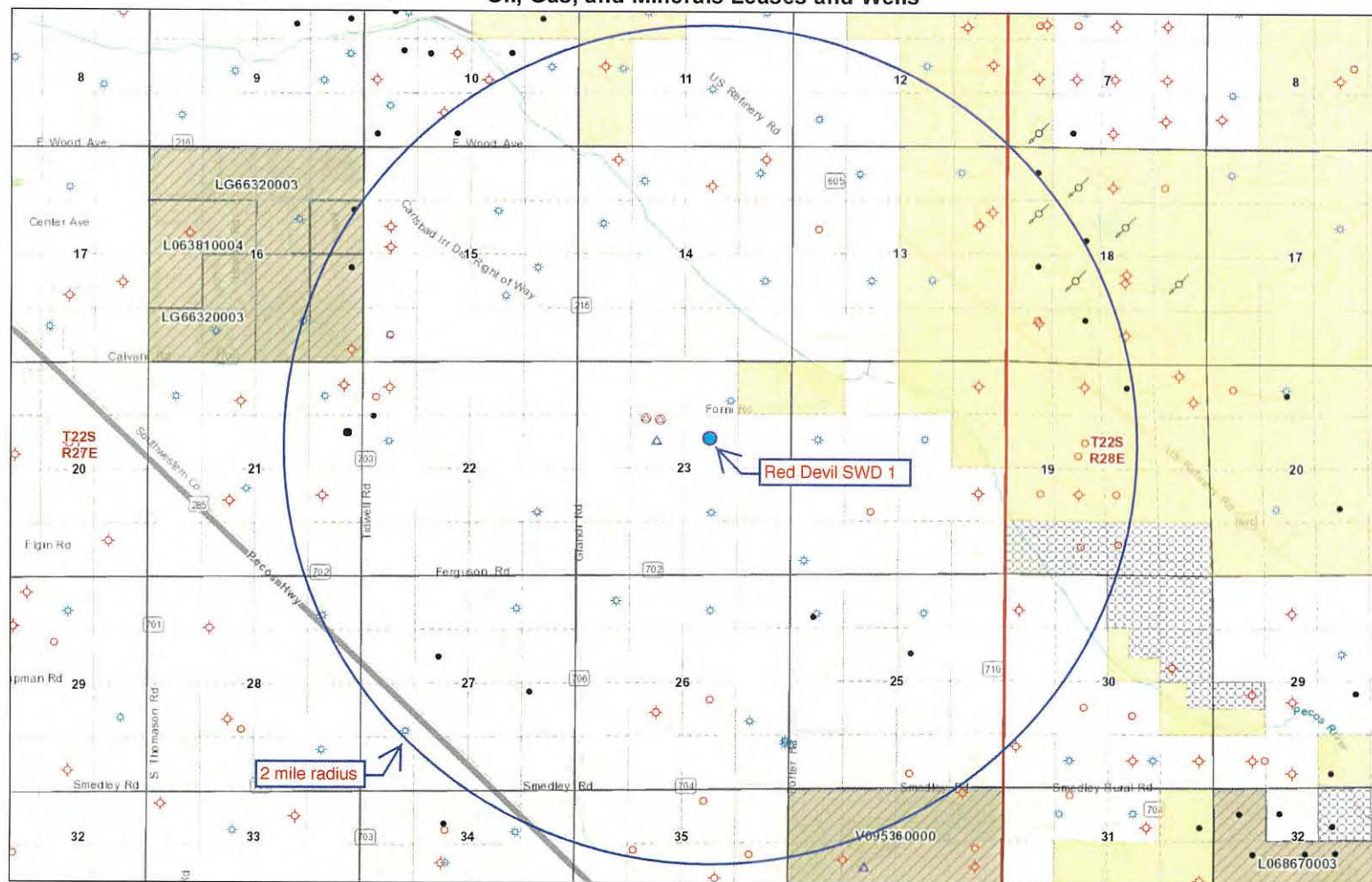
Aliquot Parts in Area of Review (T. 22 S., R. 27 E.)	Patent (or BLM lease #)	Dedication(s)	Well Operators (all shallower than Devonian)
SWNW & SW4 Sec. 13	Mann, Margaret	Indian Draw 13	Devon
SWSE Sec. 13	NMNM-096207	Indian Draw 13	Devon
S2NE4 Sec. 14	Mann, William	Otis 14	Mewbourne
S2NW4 & N2SW4 Sec. 14	Nymeyer	Pecos River 14 & Waltersheid	Mewbourne
SE4 Sec. 14	Cusenberry	Otis 14	Mewbourne
S2SW4 Sec. 14	Kohlenberg	Pecos River 14 & Waltersheid	Mewbourne
E2SE4 & SWSE Sec. 15	White	Forni & Mighty Ducks	Cimarex Energy of Colo. & Mewbourne
E2 Sec. 22	Gregory	Grandi 22 & Henry	Devon & Wildcat
NENE Sec. 23	BLM	Dunaway 23	Devon
NWNE Sec. 23	Recker	Dunaway 23	Devon
N2NW4 Sec. 23	Kohlenberg	Dunaway 23	Devon
SWNW, W2SW4, SESW, & SE4 Sec. 23	Hart	Dunaway 23 & Ferguson	Devon
SENW, SWNE, & NESW Sec. 23	Wilson	Dunaway 23 & Ferguson	Devon
SENE Sec. 23	Lewis	Dunaway 23	Devon
NWNE Sec. 24	NMNM-064587	Hargis	Kaiser-Francis
NENW Sec. 24	Santa Fe Pacific Railroad	Johnson & Riverbend	Devon
NWNW Sec. 24	NMNM-064587	Johnson & Riverbend	Devon
S2NW4 & SWNE Sec. 24	Lewis	Johnson, Riverbend, & Hargis	Devon & Kaiser- Francis
W2SE4 Sec. 24	Cameron	Hargis	Kaiser-Francis
SW4 Sec. 24	Armstrong	Johnson & Riverbend	Devon
NENW & W2NW4 Sec. 25	Mann, Mary	Dunn	Mewbourne
N2 Sec. 26	Mermod	Henry	Devon
NENE Sec. 27	Rogers	Sito 27 Fee	Devon



New Mexico State Land Office

EXHIBIT E

# Oil, Gas, and Minerals Leases and Wells



## Legend

- State Boundary
- County Boundaries
- Townships
- Sections
- Subdivisions
- Active Wells**
  - Water Storage
  - Miscellaneous
  - Salt Water Disposal
  - Injection
  - Carbon Dioxide
  - Gas
  - Oil
- Inactive Wells**
  - Plugged / Dry / Abandoned
  - Cancelled / Not Drilled
- Federal Minerals Ownership**
  - All Minerals
  - Coal Only
  - Oil and Gas Only
  - Oil, Gas and Coal Only
  - Other Minerals
- New Mexico State Trust Lands**
  - Subsurface Estate
  - Surface Estate
  - Both Estates

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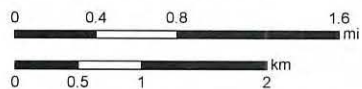


EXHIBIT E

Map Created: 7/20/2019

