Revised March 23, 2017

SWD-2096

APR 25 2019 AM10:49

RECEIVED: 4/25/19	REVIEWER:	TYPE: SWD	APP NO: PKEL 1912754294

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: Ironside SWD #1 **API:** 30-025-Pending

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.

Randall Hicks (agent)

Print or Type Name

Randall Hicks

Signature

Digitally signed by Randall Hicks
DN: cn=Randall Hicks, o=RT Hicks Consultants, ou, email=r@rthicksconsult.com, c=US
Date: 2019.04.24 08:06:19 -08'00'

April 15, 2019

Date

505 238 9515

Phone Number

r@rthicksconsult.com

e-mail Address

APR 25 2019 AM10:49

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Since 1996
Artesia ▲ Carlsbad ▲ Durango ▲ Midland

April 23, 2019

Mr. Phillip Goetze, P.G.
New Mecico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Solaris Water Midstream Ironside State SWD #1
UL P Section 32 T25S R32E, Lea County

Dear Mr. Goetze:

On behalf of Solaris Water Midstream LLC, R.T. Hicks Consultants is providing data and an opinion regarding the probability that injection of wastewater in the above referenced well at the proposed rates will cause seismic events of sufficient magnitude to create damage. It is our understanding that OCD is interested in such an opinion as part of the SWD approval process. We elected to provide this opinion as a separate submission as the C-108 does not specifically require such an opinion.

We relied upon the following data to develop our opinion

- State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity, Jens-Erik Lund Snee and Mark D. Zoback, The Leading Edge, February 2018[1]
- Plate 4, which is reproduced from the Snee and Zoback publication, which uses the following references
    - Crone, A. J., and R. L. Wheeler, 2000, Data for Quaternary faults, liquefaction features, and possible tectonic features in the Cen- tral and Eastern United States, east of the Rocky Mountain front; U.S. Geological Survey Open-File Report.
    - Ewing, T. E., R. T. Budnik, J. T. Ames, and D. M. Ridner, 1990, Tectonic map of Texas: Bureau of Economic Geology, Univer- sity of Texas at Austin.
    - Green, G. N., and G. E. Jones, 1997, e digital geologic map of New Mexico in ARC/INFO format: U.S. Geological Survey Open-File Report.
    - Ruppel, S. C., R. H. Jones, C. L. Breton, and J. A. Kane, 2005, Prep- aration of maps depicting geothermal gradient and Precambrian structure in the Permian Basin: USGS Order no. 04CRSA0834 and Requisition no. 04CRPR01474.
    - NMOCD database of oil and gas wells

Plate 4 reproduces Figure 3 of the 2018 publication of Snee and Zoback and shows

1. Fault traces based upon the references provided above for which Dr. Snee and Dr. Zoback provide a value of the fault slip potential (FSP)

[1] https://scits.stanford.edu/sites/default/files/3702_tss_lundsnee_v2.pdf

2. Areas of documented seismic activity, such as the Dagger Draw area and a magnitude 2.0-2.9 earthquake that occurred between 1970-2004 about 8-miles northeast of the proposed Ironside State SWD #1.
3. Although Plate 4 does not show faults that may be identified in confidential seismic data owned by oil and gas operators, the mapped fault that is closest to the Ironside State SWD #1 (about 11 miles to the east) exhibits a low FSP (less than 5%) based upon the modeling and analysis of Snee and Zoback referenced above
4. Other mapped faults in southern Lea County shown on Plate 4 also show a low FSP, except for part of southwest-northeast trending fault about 35 miles north-northwest of the Ironside State SWD #1 well that has a FSP of about 25 – 33% at the northeast end.

Plate 5 reproduces the major elements of Plate 4 in the inset map and also shows that within an 11-mile radius around the proposed Ironside State SWD #1, the OCD database shows 12 active or new Devonian SWDs, which translates into an average density of one SWD for every 10 square miles.

We contend that the data permit conclusion that unmapped faults (which may be located by confidential seismic data that Solaris does not posess) near the Ironside State SWD #1 would be dominantly north-south normal faults, as is common in Lea County. The data on Plate 4 permit a conclusion that faults near the Ironside State SWD #1 are also most likely to exhibit a low FSP, like the mapped faults shown on Plate 4.

Given the density of Devonian SWDs (planned/new and active) near the proposed Ironside State SWD #1 well and the high likelihood that any unmapped faults in the area would exhibit a low FSP, the probability that injection into the Ironside State SWD #1 would cause an increase in pore pressure to trigger a seismic event of sufficient magnitude to cause damage is very low.

The users of this letter should recognize the uncertainties of using seismic maps of the Permian Basin to determine probability that injection of wastewater into a single SWD well could cause seismic events of sufficient magnitude to cause damage.

Sincerely,
R.T. Hicks Consultants

Randall T. Hicks
Principal

Copy: Solaris Water Midstream LLC

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

APR 25 2019 AM10:49

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance ___X____Disposal _____Storage
Application qualifies for administrative approval? _____Yes _____No

II. OPERATOR: _Solaris Water Midstream, LLC_____

ADDRESS: __907 Tradewinds Blvd, Suite B, Midland, TX 79706_____

CONTACT PARTY: __Randall Hicks (Agent)_____PHONE: __505 238 9515_____

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____Yes ____X____No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

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

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: _ _Randall Hicks TITLE: _Agent_____

SIGNATURE: ___ Randall Hicks _____DATE: __4/23/2019_____

E-MAIL ADDRESS: ____R@rthicksconsult.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: _____

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

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.

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.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: __Solaris Water Midstream, LLC_____ _____

WELL NAME & NUMBER: _Ironside SWD #1_____

WELL LOCATION: ____1270 FSL 175 FEL___ ____P____ ____32____ ____25S____ ____32E____

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: ___See Attachments_____ Casing Size:_____

Cemented with: _____ sx. ***or*** _____ ft^3

Top of Cement: _____ Method Determined: _____

Intermediate Casing

Hole Size: _____ Casing Size:_____

Cemented with: _____ sx. ***or*** _____ ft^3

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: _____ Casing Size:_____

Cemented with: _____ sx. ***or*** _____ ft^3

Top of Cement: _____ Method Determined: _____

Total Depth: _____

Injection Interval

_____feet to_____

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: ___See Attachments_____Lining Material: _____

Type of Packer: _____

Packer Setting Depth: _____

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

Additional Data

1. Is this a new well drilled for injection? ___X___Yes _____No

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

   _____

2. Name of the Injection Formation: __Proposed: SWD, Devonian-Silurian_____

3. Name of Field or Pool (if applicable): _____

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: _See Attachments_____

   _____

   _____

   _____

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) 476-3460 Fax: (505) 476-3462

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-102
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name

Property Code	Property Name	Well Number
	IRONSIDE STATE SWD	1
OGRID No.	**Operator Name**	**Elevation**
	SOLARIS WATER MIDSTREAM	3317'

Surface Location

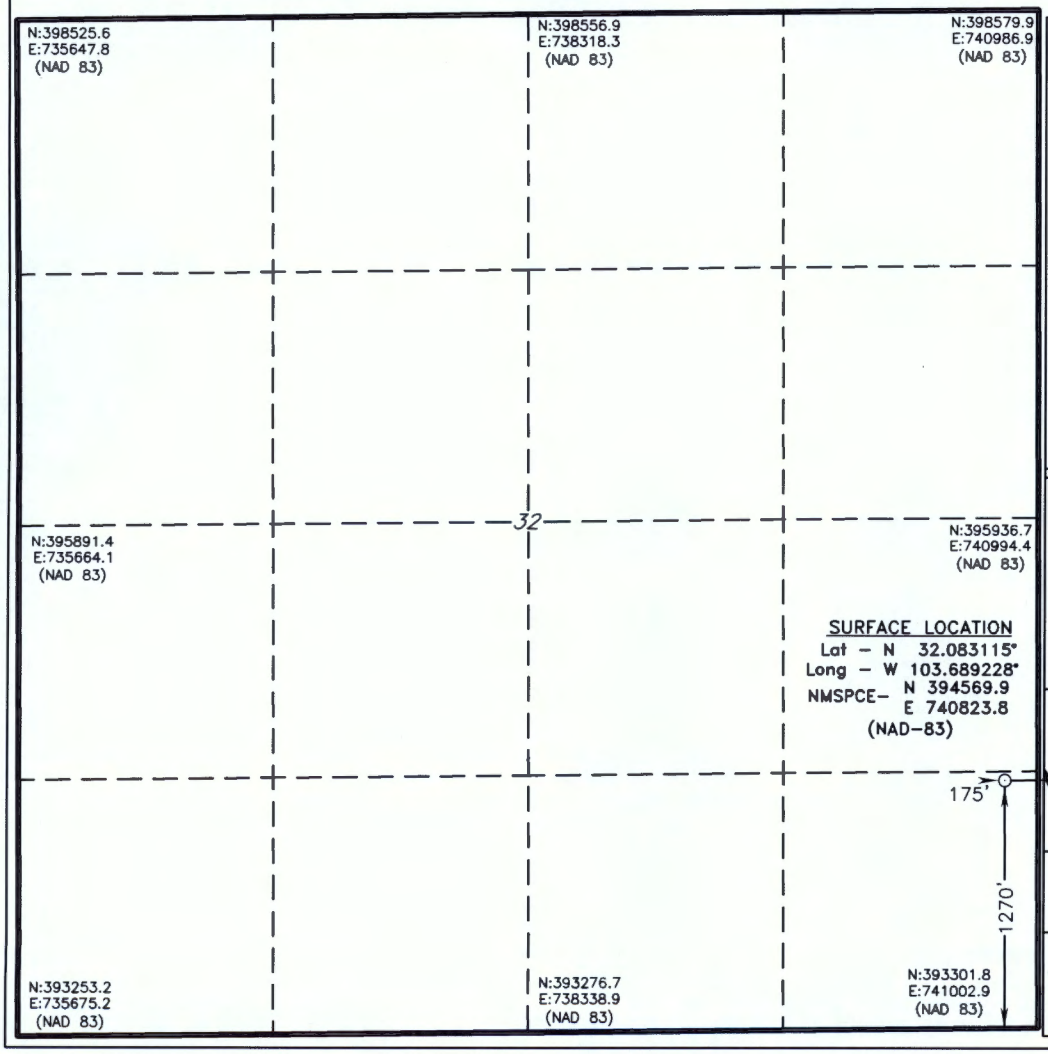
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	32	25 S	32 E		1270	SOUTH	175	EAST	LEA

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

Dedicated Acres	Joint or Infill	Consolidation Code	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



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

Printed Name

Email Address

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 supervison, and that the same is true and correct to the best of my belief.

MARCH 19, 2019
Date Surveyed

Signature & Seal of Professional Surveyor

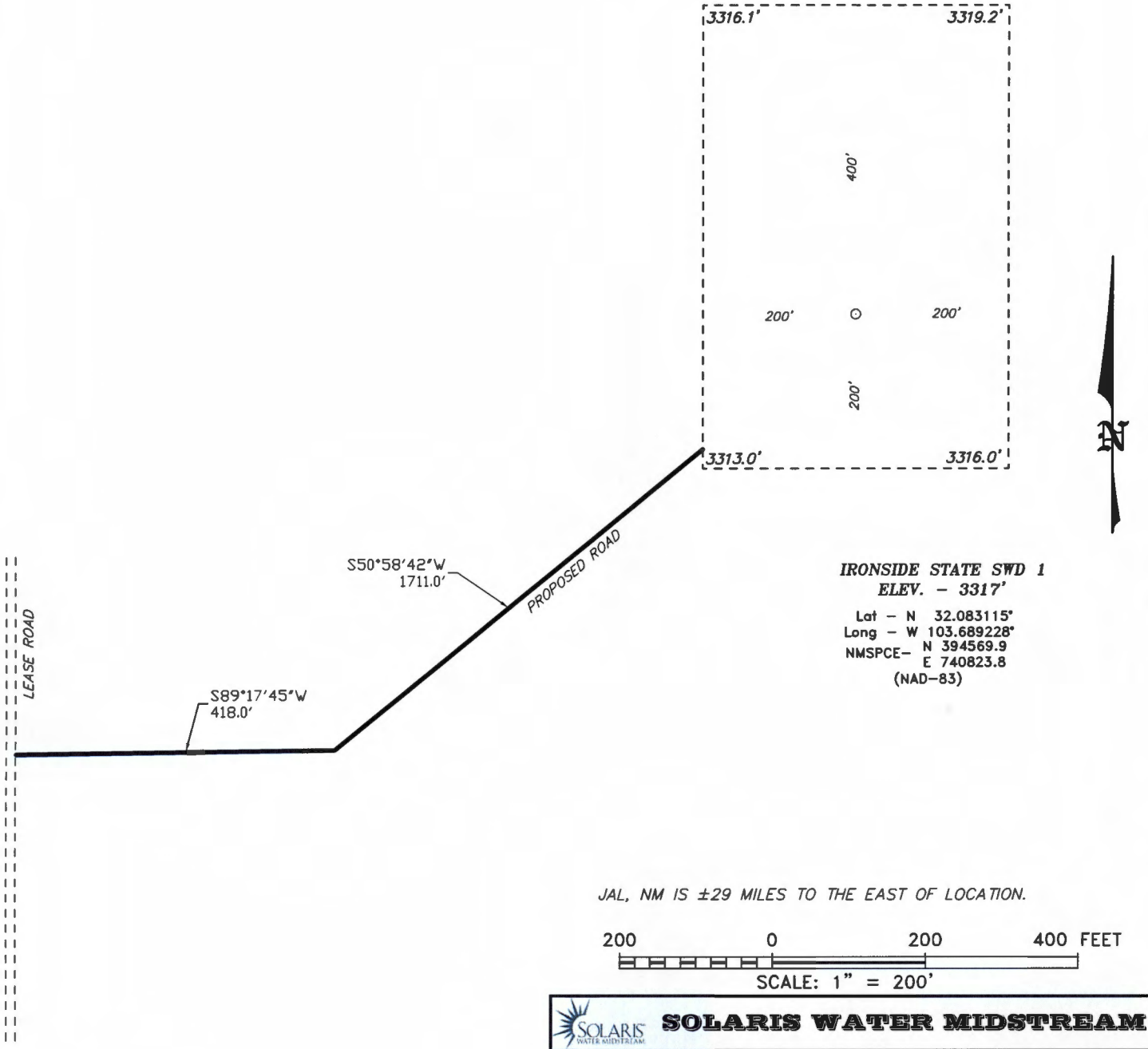
GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate No. Gary L. Jones 7977
BASIN SURVEYS

0' 500' 1000' 1500' 2000'
SCALE: 1" = 1000'
WO Num.: 34390

SECTION 32 TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO.



IRONSIDE STATE SWD 1
ELEV. - 3317'

Lat - N 32.083115°
Long - W 103.689228°
NMSPCE- N 394569.9
E 740823.8
(NAD-83)

JAL, NM IS ±29 MILES TO THE EAST OF LOCATION.

200 0 200 400 FEET

SCALE: 1" = 200'

SOLARIS WATER MIDSTREAM

REF: IRONSIDE STATE SWD 1 / WELL PAD TOPO

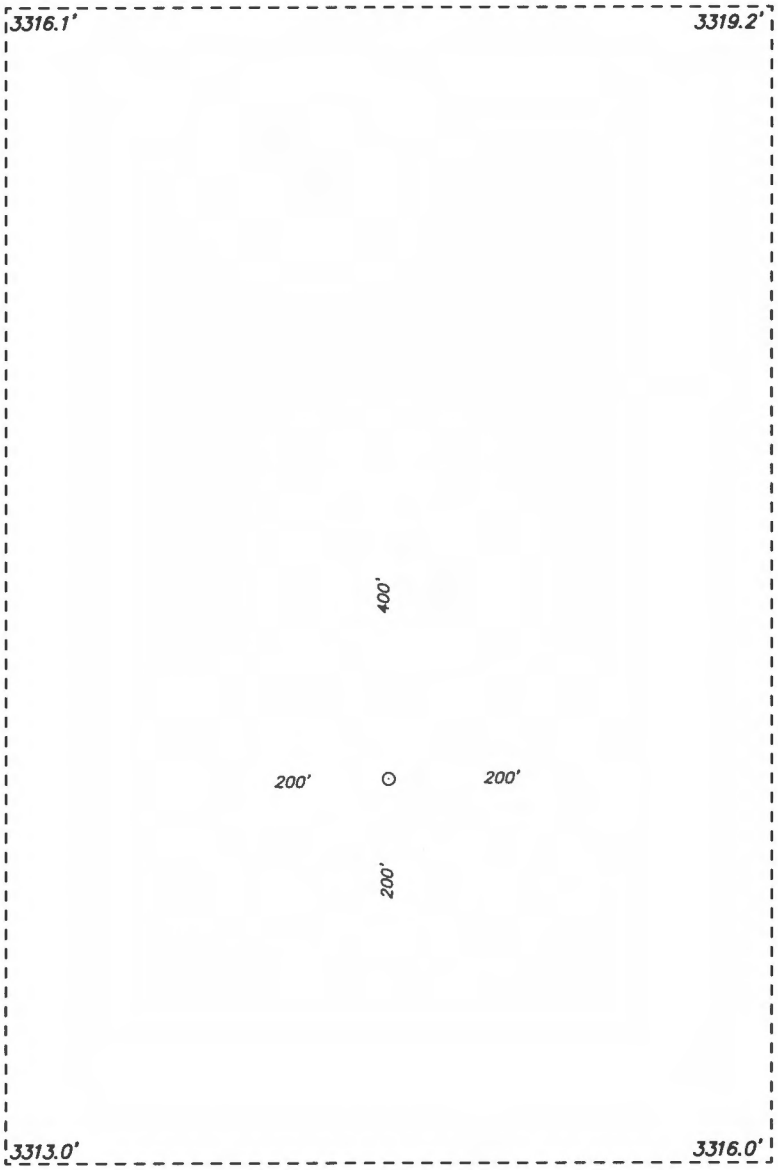
THE IRONSIDE STATE SWD 1 LOCATED 1270' FROM THE SOUTH LINE AND 175' FROM THE EAST LINE OF SECTION 32, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

basin surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: 34390	Drawn By: J GOAD	Date: 3-21-2019	Survey Date: 3-19-2019	Sheet 1 of 1 Sheets

SECTION 32 TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO.



100 0 100 200 FEET

SCALE: 1" = 100'

SOLARIS WATER MIDSTREAM

REF: IRONSIDE STATE SWD 1 / WELL PAD TOPO

THE IRONSIDE STATE SWD 1 LOCATED 1270' FROM THE SOUTH LINE AND 175' FROM THE EAST LINE OF SECTION 32, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

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W.O. Number: 34390	Drawn By: J GOAD	Date: 3-21-2019	Survey Date: 3-19-2019	Sheet 1 of 1 Sheets

IRONSIDE STATE SWD 1

Located 1270' FSL & 175' FEL
Section 32, Township 25 South, Range 32 East,
N.M.P.M., Lea County, New Mexico.

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(575) 392-2206 - Fax
basinsurveys.com

0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

W.O. Number: JG - 34390

Survey Date: 3-19-2019

YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND

N

SOLARIS WATER MIDSTREAM

IRONSIDE STATE SWD 1

Located 1270' FSL & 175' FEL
Section 32, Township 25 South, Range 32 East,
N.M.P.M., Lea County, New Mexico.

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basinsurveys.com

0' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'

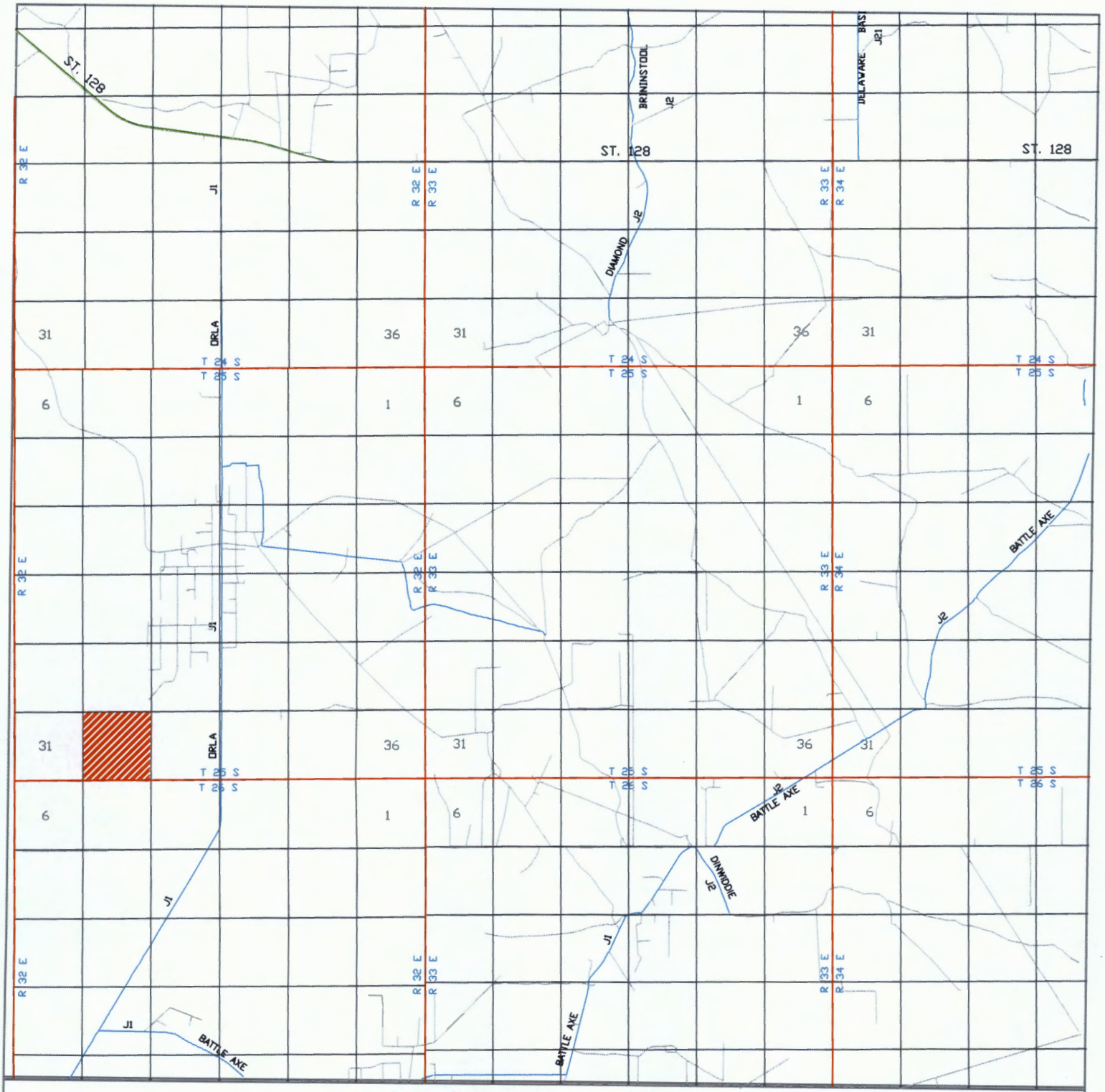
W.O. Number: JG – 34390

Survey Date: 3-19-2019

YELLOW TINT – USA LAND
BLUE TINT – STATE LAND
NATURAL COLOR – FEE LAND

N

SOLARIS WATER MIDSTREAM



IRONSIDE STATE SWD 1

Located 1270' FSL & 175' FEL
Section 32, Township 25 South, Range 32 East,
N.M.P.M., Lea County, New Mexico.

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(575) 393-7316 – Office
(575) 392-2206 – Fax
basinsurveys.com

0 1 MI 2 MI 3 MI 4 MI
SCALE: 1" = 2 MILES

W.O. Number: JG – 34390

Survey Date: 3-19-2019

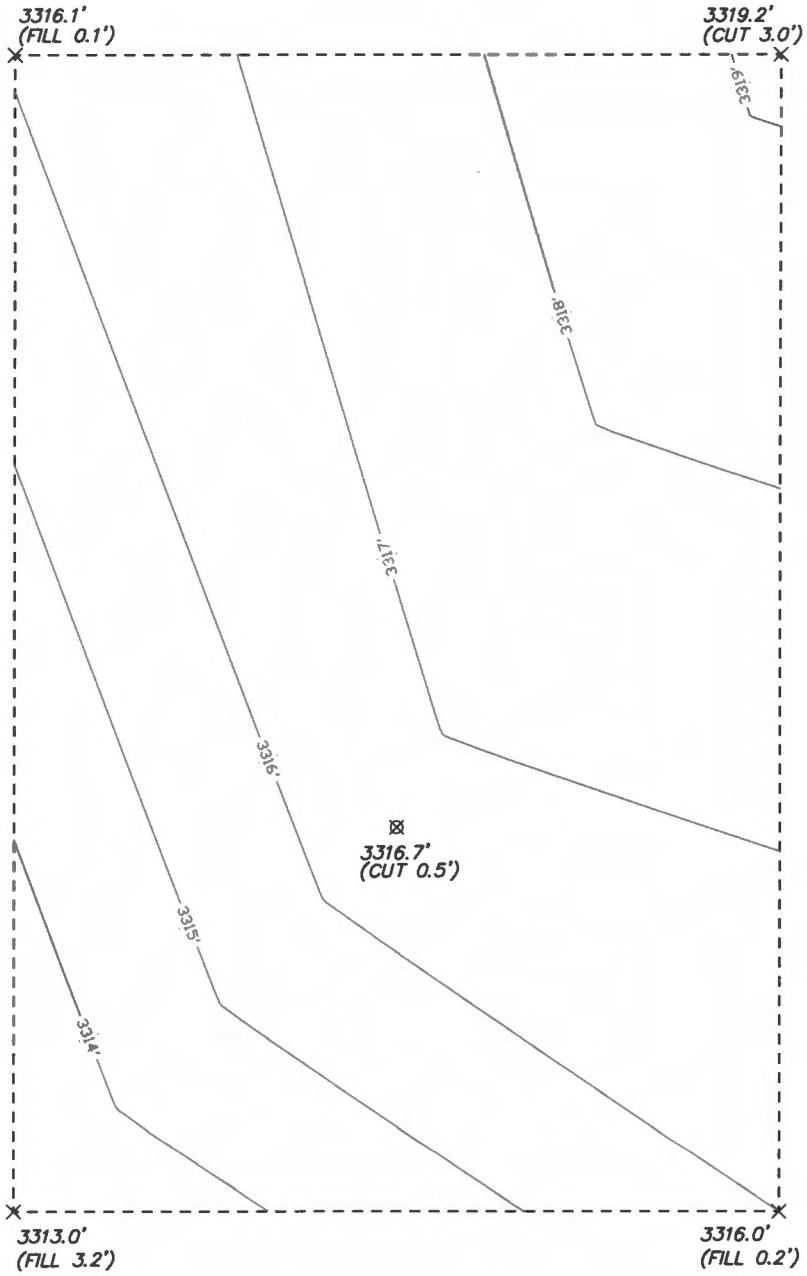
YELLOW TINT – USA LAND
BLUE TINT – STATE LAND
NATURAL COLOR – FEE LAND

N

SOLARIS WATER MIDSTREAM

SECTION 32 TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO.



100 0 100 200 FEET

SCALE: 1" = 100'

SOLARIS WATER MIDSTREAM

REF: IRONSIDE STATE SWD 1 / CUT & FILL

THE IRONSIDE STATE SWD 1 LOCATED 1270' FROM THE SOUTH LINE AND 175' FROM THE EAST LINE OF SECTION 32, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

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W.O. Number: 34390	Drawn By: J GOAD	Date: 3-21-2019	Survey Date: 3-19-2019	Sheet 1 of 1 Sheets

Attachments to C-108

Copy of well bore diagram
Section III-XII Written descriptions to supplement C-108
Plates referenced in written descriptions
Tables referenced in written descriptions
OSE well logs referenced in written descriptions

Section XIII Proof of Notice

SOLARIS WATER MIDSTREAM - WELLBORE DATA SHEET

Ironside State SWD #1

AREA/SYSTEM:	Pecos Star System
WELL NAME:	Ironside State SWD #1
OBJECTIVE:	Devonion
SHL:	1270' FSL & 175' FEL
BHL:	Same as SHL
SURFACE ELEV.:	3317
TOTAL DEPTH:	18,550'
WELL DESIGN BY	CHRIS GIESE
REVIEWED BY	JIM BRANNIGAN AND ED MARTIN

MUD LOGGING E LOGGING/ DIRECTIONAL	CASING SIZE (IN.)	RKB DRILL DEPTH MD	RKB DRILL DEPTH TVD	BOPE	FORMATION	HOLE SIZE (IN.)	MUD WT.	FRAC GRAD
	RKB	30						
Grnd Level								
GL ELEV.								
						Set and grouted		
	30"	0	/ 0	Open			8.8	
						18.125"	8.4	
		1,125			Rustler			
	16"	1,450	/ 1,450	21-1/4"-5M Annular/Diverter			8.4	
	84 lb/ft J55, BTC						9.5	
		1,500			T/Salt			
Mud Logging to begin @ 2,500'								
		4,300			B/Salt			
							9.5	
						14.75"	to	
							10	
		4,500			T/Lamar			
	13.375"	4,550	/ 4,550	13-5/8"-5M Annular			10.0	
	68 lb/ft L-80, EZ-GO FJ3			13-5/8"-5M BOP's			9.4	FIT
		5,550			Cherry Canyon			
		7,125			Brushy Canyon			
		8,600			Bone Spring			
		9,500			1st BS Sand			
		10,200			2nd BS Sand			
		11,325			3rd BS Sand		9.4	
						12.25"	to	
							10.0	
		11,750			Wolfcamp			
	TOL	11,650	/ 11,650					
	9.625"	11,850	/ 11,850	13-5/8"-5M Annular			10.0	
	53.50 lb/ft HCP-110, BTC			13-5/8"-10M BOP's			12.5	15.6
		13,525			Canyon			
		13,725			Strawn			
		14,000			Atoka			
		14,550			Morrow			
		14,850			Morrow Clastics		12.5	
		15,475			Morrow Lower	8.5"	to	
		15,975			Barnett		13.5	
		17,125			Devonian			
	Liner Wedge 513 7.625"	17,125	/ 17,125	13-5/8"-5M Annular			13.5	
	39 lb/ft P-110			13-5/8"-10M BOP's				
Run #1						6.5"	9.0	
GR/NEUTRON 18,550 - 0								
USIT/CBL 17,125 - 0								
Dual 0"		18,550		13-5/8"-5M Annular	Base of Fusselman			
		TD 18,550	/ 18,550	13-5/8"-10M BOP's				

Casing Set Depths/ Cement

Conductor = 120'	Hole Size	Casing Size	Casing Grade	Casing Weight	Setting Depth TOP	Setting Depth Bottom	Sacks of Cement	TOC
Surface	18.125"	16"	J55, BTC	84 lb/ft	0 -	1450	3,343	Surface
1st Intermediate	14.75"	13.375"	L-80, EZ-GO FJ3	68 lb/ft	0 -	4550	2,742	Surface
2nd Intermediate	12.25"	9.625"	HCP-110, BTC	53.50 lb/ft	0 -	11850	2,829	Surface
Liner Wedge 513	8.5"	7.625"	P-110	39 lb/ft	11650	17125	223	Liner Top
Openhole	6.5"				17125	18550		

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

Lease Name: Ironside SWD #1

Property Code	Property Name	Well Number
	IRONSIDE STATE SWD	1
OGRID No.	Operator Name	Elevation
	SOLARIS WATER MIDSTREAM	3317'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	32	25 S	32 E		1270	SOUTH	175	EAST	LEA

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

The attached Wellbore Data Sheet provides all of the design specifics required and a tabulation of these data are shown on the diagram...

The formation tops were established by Jim Brannigan, R.G. CPG. Tops below the 2nd Bone Spring Sand were picked using intervals from wells with e-logs or the NMOCD Form C-105. The upper section was picked by using the Yates Petroleum Corp. #1H Jefe BSJ Fed. Com. In Section 32-T25S-R32E. The result of the evaluation of Mr. Brannigan is presented to the right.

Formation	GL	3317
Tops	KB	3347
	SS	TVD
Rustler	2222	1125
T/Salt	1847	1500
B/Salt	-953	4300
T/Lamar	-1153	4500
Bell Canyon	-1178	4525
Cherry Canyon	-2203	5550
Brushy Canyon	-3778	7125
Bone Spring	-5253	8600
1st BS Sand	-6153	9500
2nd BS Sand	-6853	10200
3rd BS Sand	-7978	11325
Wolfcamp	-8403	11750
Penn		
Cisco		
Canyon	-10178	13525
Strawn	-10378	13725
Atoka	-10653	14000
Morrow	-11203	14550
Morrow Clastics	-11503	14850
Morrow Lower	-12128	15475
Barnett	-12628	15975
Miss LS	-12828	16175
Woodford		
Devonian	-13778	17125
Fusselman		
T/Montoya	-15403	18750
Simpson		
Ellenburger		
Injection Interval	**17125**	**18550**
TD	**18550**	

3. A description of the tubing to be used including its size, lining material, and setting depth

5-1/2" (20#) internal plastic coated tubing swaged down to 5" (18#) with setting depth of 17,025'

4. The name, model, and setting depth of the packer used or a description of any other seal system or assembly used

Halliburton BWS or equivalent packer set at 17,025'.

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

The proposed injection intervals include both the Devonian and Fusselman and the top 100' of The Montoya in an open-hole interval.

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

The depth interval of the open-hole injection interval is 17,125-18,550 (1,425 feet).

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

The well will be drilled for disposal.

(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

There are no perforated intervals, only the open-hole completion described above.

(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.

Overlying Oil and Gas Zones:

Delaware (4,500')
Bone Spring (8,575')
Wolfcamp (11,725')
Canyon (13,500')
Strawn (13,700')
Atoka (13,975')
Morrow (14,825')

Underlying Oil and Gas Zones:

No underlying oil and gas zones exist.

IV. Is this an expansion of an existing project

No.

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

Plate 1 identifies all OCD listed wells and API numbers. Note that where numerous wells are closely-spaced, the API number may not be labeled for clarity. Table 1 lists all of these wells within the 2-mile area of review.

Plate 2 shows all of the leases and the leaseholder name within the 2-mile area of review. Tabular listing of all mapped leases are presented in

Table 2a BLM leases
Table 2b State of NM leases

Note that Plate 1 shows one apparent BLM lease on private land. This single parcel is the only private land within the area of review. Information on this parcel is presented below.

UPC	TWP	RNG	SECTION_	Parcel Code	Number	Name	Address	City	State	Zip Code	Zip Ext
4186151686338	26	32	06	4950302104125	203021	BAKER, JESSE T	PO BOX 24	SILVER CITY	NM	88062	0024

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

One well is either several hundred feet inside or a similar distance outside the area of review, based upon examination of several maps. This well is:

Operator Name and Address		OGRID Number	
MESQUITE SWD INC PO BOX 1479 CARLSBAD NM, 88221	✓	161968	
		API Number 30-025-43379	✓
Property Code 316377	✓	Property Name PADUCA 6 SWD	✓
		Well No. 001Y	✓

Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
E2	6	26S	32E		2650	S	1175	W	LEA ✓

All information on this well can be downloaded from http://ocdimage.emnrd.state.nm.us/imaging/WellFileView.aspx?RefType=WF&RefID=30025433790000 .

Data on this well are highlighted in Table 1 and form C-105 follows this text.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected

Proposed Maximum Injection Rate: 40,000 bbl/day
Proposed Average Injection Rate: 30,000 bbl/day

2. Whether the system is open or closed

This is will be an open system. All Solaris SWDs may receive produced water from recycling storage facilities, such as in-ground containments or above-ground steel-walled containments, which are registered or permitted under Rule 34.

3. Proposed average and maximum injection pressure

Proposed Maximum Injection Pressure: 4,081 psi
Proposed Average Injection Rate: 2,800 psi

4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water

The attached Table 3 "Produced Water Chemistry of Nearby Wells" provides the requisite analyses. The Bone Springs and Avalon Formations are the subjects of most of the analyses. These formations, in addition to the Wolfcamp, will provide most of the produced water to the proposed SWD. At the time of writing, we are unaware of any problems associated with disposal of produced water derived from the Bone Springs, Avalon and Wolfcamp into the Devonian injection zone.

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.).

Table 4 presents formational water quality data from the Go-Tech site for Devonian-producing wells. The closest wells represented in Table 4 are more than 30 miles to the east. The value of these data for the purpose of evaluating potential problems relating to the injections of produced water into the proposed injection interval is probably poor. As stated above, we are unaware of any problems associated with disposal of produced water derived from the Bone Springs, Avalon and Wolfcamp into the Devonian injection zone.

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth.

The proposed injection intervals include both the Devonian and Fusselman and the top 100' of The Montoya in an open-hole interval. The highly cemented carbonate nature of the Devonian and Fusselman indicate that favorable open-hole integrity will exist, allowing for the saltwater to be injected without concern of collapse in the open-hole injection interval.

As indicated in Section III.A.2, the approximate depth to the top of the Devonian and Montoya are 17,125 and 18,750 respectively. The depth interval of the injection interval is 17,125-18,550 (1,425 feet).

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.

The Rustler Formation and the Chinle Formation yield water to supply wells in southeastern Eddy County and southwestern Lea County. In the area of the Ironside SWD, the Chinle yields water to wells from 100-200 feet below the ground surface to a depth of about 600 feet. The upper portion of the Rustler Formation yields fresh water to wells in Eddy County and in the area of the Ironside SWD, the depth interval of this potential source of fresh water is about 1125-1400.

The locations of all water supply wells listed in public databases are shown in Plate 3. The USGS database identified two wells about 1 mile southeast of the proposed SWD. Our examination of Google Earth images found no evidence of water supply wells at these locations. We conducted a ground survey of the area was April 17, 2019 and found several water troughs and evidence of water pipelines, but there is no evidence of the USGS wells shown on Plate 3. These wells are mis-located on the USGS database.

Two water well driller's logs are attached to this response and show the following relationships that will also exist in the area of the proposed Ironside SWD.

- Well C-4209 shows
    - groundwater was first encountered at a depth of 155 feet
    - red clay that did not yield water was penetrated at a depth of 350 feet
    - the nearly 200-foot water-bearing zone can produce at a rate of about 25 GPM
- Well C-4256 shows
    - Groundwater was first encountered at a depth of 340 feet
    - The red and tan sand logged from the depth interval 85-290 feet is probably the same unit that yielded water to well C-4209

- The red and blue clay logged from 290-330 feet below ground is probably the red clay observed in well C-4209
- The red and blue siltstone, sandstone and gravel logged from a depth of 330 to 610 are probably a mix of sandstones and siltstones that characterize the Chinle. Alternatively, the lower sandstones could be considered the Santa Rosa Sandstone horizon of the Chinle, which is the basal unit
- The variegated clay encountered from 610-690 may be the underlying Quartermaster Formation (AKA Dewey Lake)

In the area of the Ironside SWD, the depth interval of the Rustler is 1125-1500, according to the BLM and OCD and, we agree with this assessment. Thus, no water supply wells in the arear of the Ironside SWD penetrate the Rustler. The bottom of the Rustler Formation is characterized by evaporates (anhydrite) and is not considered an underground source of drinking water. Thus, in this area, surface casing required by OCD to prevent impairment of fresh water runs from ground surface to a depth of 1450 feet at the proposed Ironside SWD.

IX. Describe the proposed stimulation program, if any

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

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

Logs will be submitted to OCD upon completion of the well.

*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

No active water supply wells were identified within one mile of the proposed SWD. Data from various sources permit a conclusion that groundwater within the Chinle Formation is potable.

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

Randall T. Hicks, a Professional Geologist with decades of experience in hydrogeology, affirms, on behalf of Solaris Water Midstream, that

- The USGS has mapped quaternary faults in New Mexico and no such faults are mapped in the area of the proposed Ironside State SWD 1[1]
- The Texas Bureau of Economic Geology has mapped older faults (e.g. basement and Woodford) in New Mexico and the closest mapped fault is more than 11 miles to the east[2]
- With respect to migration of produced water from the injection zone to underground sources of drinking water via faults or other natural conduits, the following conditions were considered
    - The lowest underground source of drinking water is the middle and upper Rustler Formation. Within the area shown in Plate 3, several wells are thought to draw water from the Rustler (e.g. USGS-9141)
    - Wells in the USGS database are sometimes mis-located and examination of Google Earth images did not identify any evidence of wells in the area where the two USGS wells are shown southwest of the Ironside SWD location. A ground survey of the area identified water trough and water pipelines near the area of the USGS wells was conducted on April 17, 2019 and did not identify any evidence of the mapped USGS wells shown on Plate 3.
    - More than 15,000 feet of sedimentary rock separates the bottom of the Rustler Formation and the top of the injection zone. Many of the formations that lie between the injection zone and the lowermost aquifer are permeable and contain oil, gas or water at various pressures. Any excursion of injected fluids from the Devonian disposal zone would undoubtedly enter these permeable formations prior to moving through the 2800-foot low-permeability salt zone that underlies the Rustler Formation.
    - There is no evidence that the pressure regime in the oil and gas reservoirs is sufficient to cause the upward migration of formation water through the bedded salt and into the Rustler or Chinle aquifers.
- There is no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water

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[1] https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf

[2] Bureau of Economic Geology (Accessed April 2019). University of Texas at Austin. Basement Faults (Ewing 1990, Tectonic Map of Texas); Precambrian Faults (Frenzel et al. 1988, Figure 6); Woodord Faults (Comer 1991, plate 1). Http://www.beg.utexas.edu/resprog/permianbasin/gis.htm

Submit To Appropriate District Office
Two Copies
District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

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

Form C-105
Revised August 1, 2011

1. WELL API NO. **30-025-43379**
2. Type of Lease ☐ STATE ☒ FEE ☐ FED/INDIAN
3. State Oil & Gas Lease No.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

4. Reason for filing:

☒ **COMPLETION REPORT** (Fill in boxes #1 through #31 for State and Fee wells only)

☐ **C-144 CLOSURE ATTACHMENT** (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)

5. Lease Name or Unit Agreement Name: **PADUCA 6 SWD**
6. Well Number: **1Y**

7. Type of Completion: ☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER

8. Name of Operator: **MESQUITE SWD, INC.**
9. OGRID: **161968**
10. Address of Operator: **PO BOX 1479, CARLSBAD NM 88221**
11. Pool name or Wildcat: **[96101] SWD;DEVONIAN**

12.Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:	E	6	26S	32E	2	2650	S	1175	W	LEA
BH:										

13. Date Spudded	14. Date T.D. Reached	15. Date Rig Released	16. Date Completed (Ready to Produce)	17. Elevations (DF and RKB, RT, GR, etc.)
08/01/2016	03/04/2017	04/11/2017	04/09/2017	3285' GR

18. Total Measured Depth of Well	19. Plug Back Measured Depth	20. Was Directional Survey Made?	21. Type Electric and Other Logs Run
18881'	18881'	No	Comp GR/Borehole Profile/CBL

22. Producing Interval(s), of this completion - Top, Bottom, Name
17310' – 18881' (OH) Devonian

23. **CASING RECORD** (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
20"	94#	950'	26"	1730 sx	0
13 3/8"	68#	4329'	17 1/2"	2570 sx	0
*9 5/8"	53.5#	11930'	12 1/4"	2860 sx	0

***Cmt retainer set @ 11668' w/50 sx cmt on top. Milled window 11605-11627', Drld out w/ 8 ½" bit to 17310'. Drld 6 ½" hole to 18881'. TD.**

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN
7 5/8"	10365'	17310'	2120 sx	

25. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
4 1/2"	17329'	17284'
5 1/2"	9926'	

26. Perforation record (interval, size, and number)
17310' – 18881' Open Hole

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED

28. **PRODUCTION**

Date First Production	Production Method *(Flowing, gas lift, pumping - Size and type pump)*	Well Status *(Prod. or Shut-in)*

Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF	Water - Bbl.	Gas - Oil Ratio

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - *(Corr.)*

29. Disposition of Gas *(Sold, used for fuel, vented, etc.)*
30. Test Witnessed By

31. List Attachments

32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.

33. If an on-site burial was used at the well, report the exact location of the on-site burial:
Latitude Longitude NAD 1927 1983

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature Melanie J Wilson Printed Name Melanie J. Wilson Title Regulatory Analyst Date 05/15/2017

E-mail Address mjp1692@gmail.com

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico				Northwestern New Mexico	
T. Anhy		T. Canyon		T. Ojo Alamo	T. Penn A"
T. Salt		T. Strawn	14056'	T. Kirtland	T. Penn. "B"
B. Salt	4195'	T. Atoka	14191'	T. Fruitland	T. Penn. "C"
T. Yates		T. Miss	16860'	T. Pictured Cliffs	T. Penn. "D"
T. 7 Rivers		T. Devonian	17302'	T. Cliff House	T. Leadville
T. Queen		T. Silurian		T. Menefee	T. Madison
T. Grayburg		T. Montoya	18854'	T. Point Lookout	T. Elbert
T. San Andres		T. Simpson		T. Mancos	T. McCracken
T. Glorieta		T. McKee		T. Gallup	T. Ignacio Otzte
T. Paddock		T. Ellenburger		Base Greenhorn	T.Granite
T. Blinebry		T. Gr. Wash		T. Dakota	
T.Tubb		T. Delaware Sand		T. Morrison	
T. Drinkard		T. Bone Springs	9416'	T.Todilto	
T. Abo		T. Morrow	14956'	T. Entrada	
T. Wolfcamp	11852'	T. Barnett	16342'	T. Wingate	
T. Penn				T. Chinle	
T. Cisco (Bough C)				T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from.....to..... No. 3, from.....to.....

No. 2, from.....to..... No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....

No. 2, from.....to.....feet.....

No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology		From	To	Thickness In Feet	Lithology

Plates

Plate 1	OCD wells within the area of review
Plate 2	Mineral leases within the area of review
Plate 3	Water supply wells within the area of review

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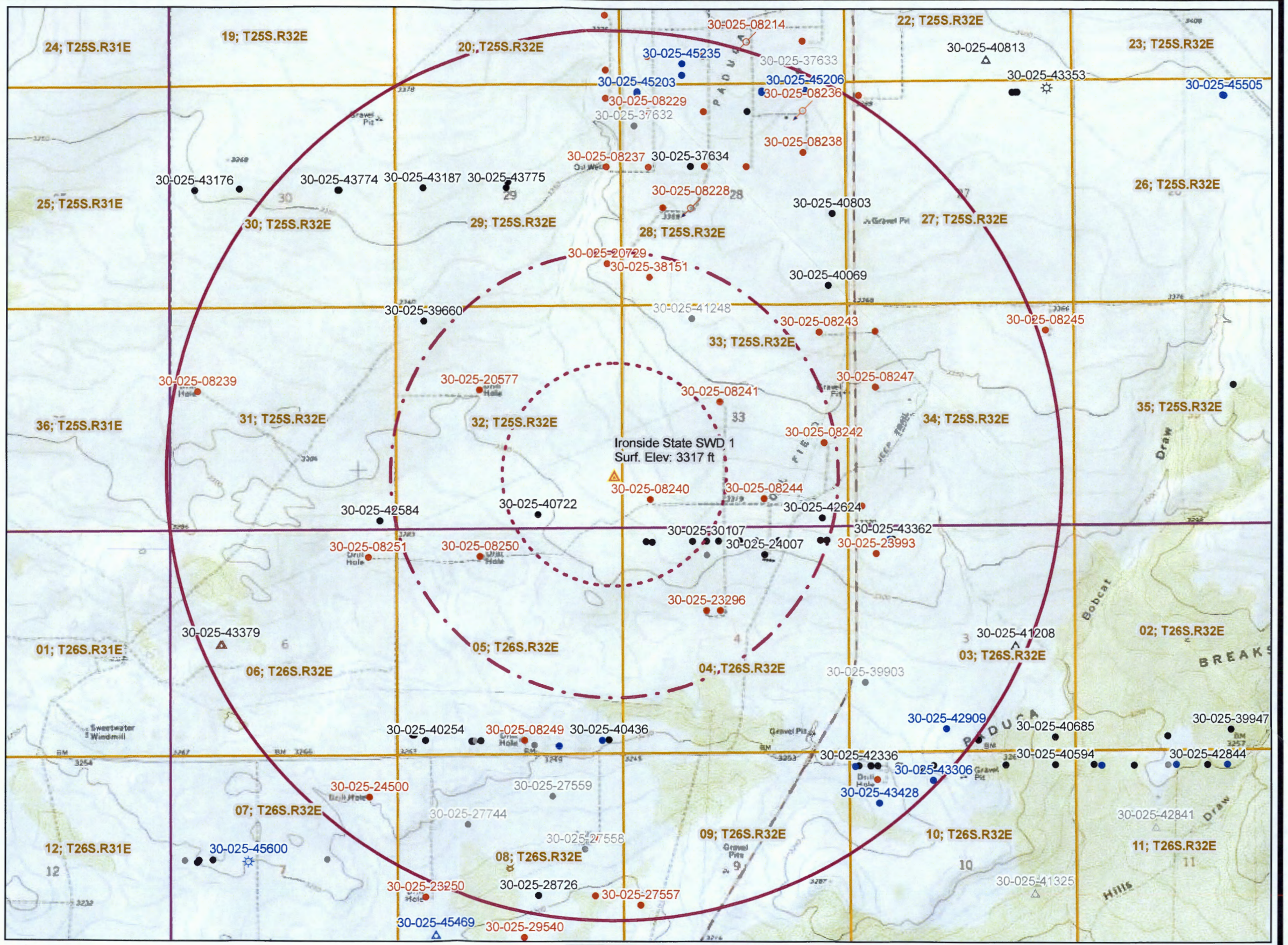

SWD

Distance (miles)

0.5

1

2

NMOCD Wells - District 1

Symbology

Gas, Active

Gas, New

Injection, Plugged

Oil, Active

Oil, Cancelled

Oil, New

Oil, Plugged

Salt Water Injection, Active

Salt Water Injection, Cancelled

Salt Water Injection, New

Salt Water Injection, Plugged

N W E S

0 0.25 0.5 Miles

R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

New Mexico OCD Wells

Solaris Water Midstream
Ironside SWD

Plate 1

April 2019

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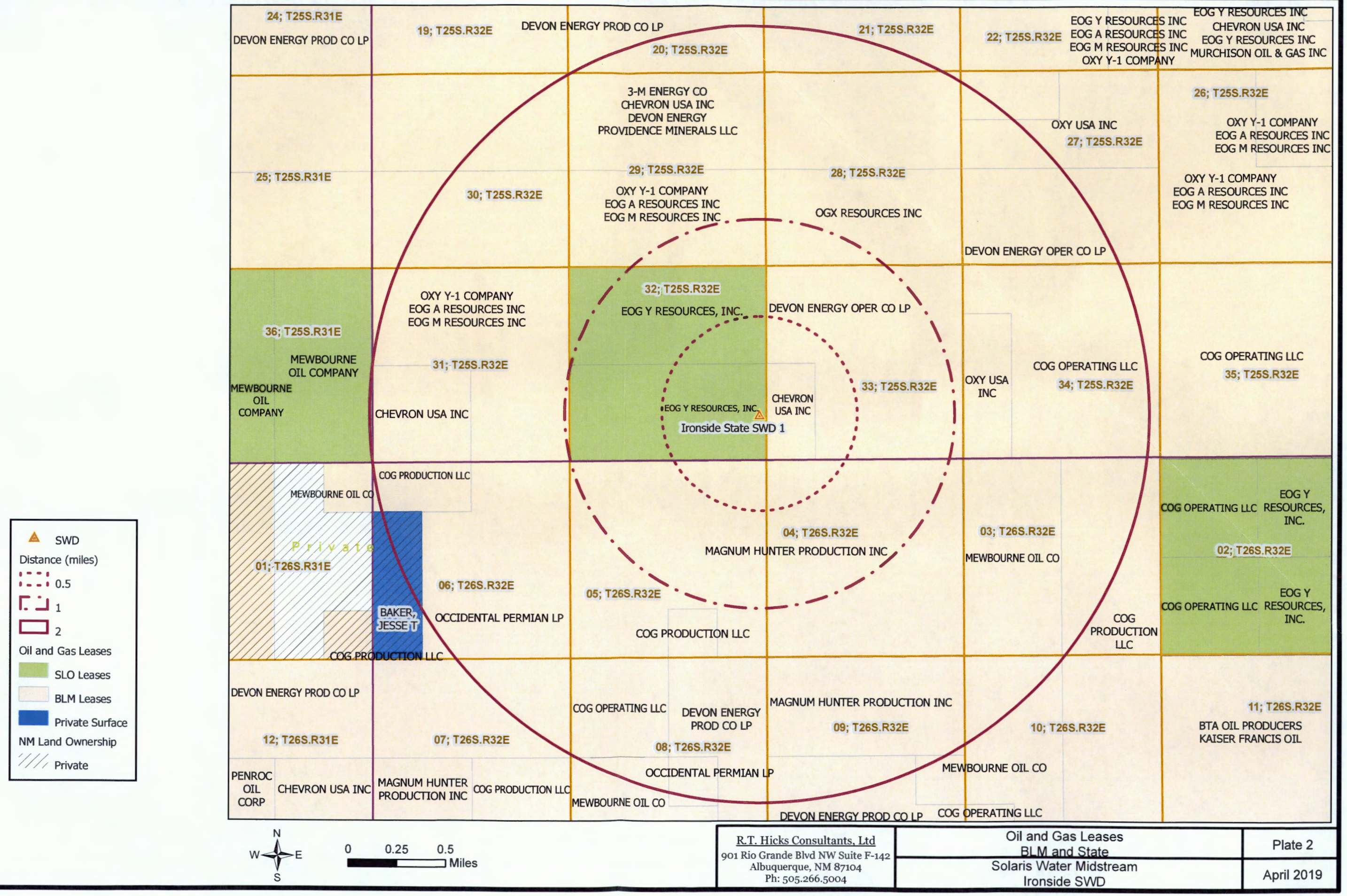

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Oil and Gas Leases BLM and State Solaris Water Midstream Ironside SWD	Plate 2 April 2019

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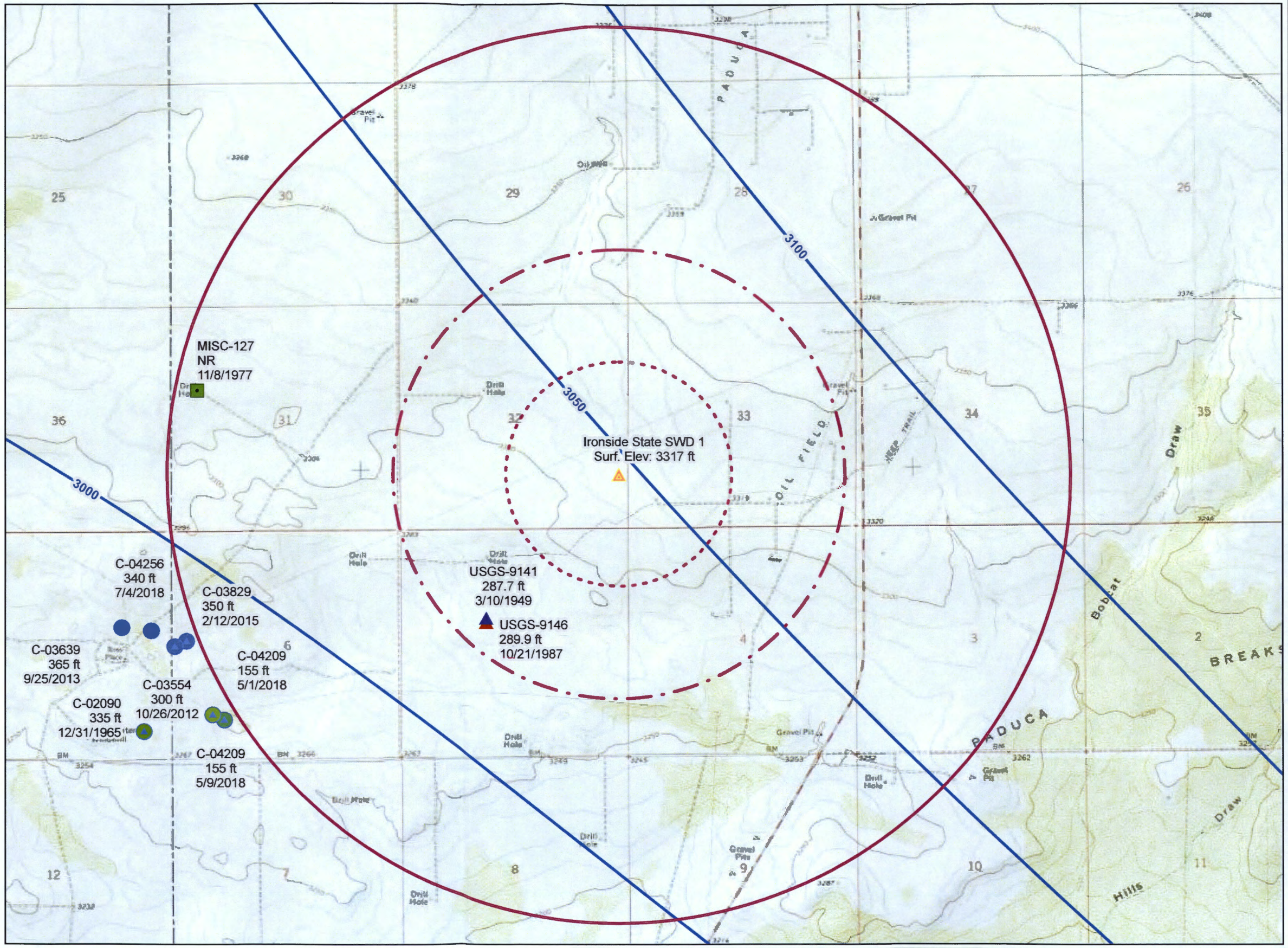


SWD

Distance (miles)

0.5

1

2

USGS Gauging Station (DTW, Date)

Aquifer Code, Well Status

Santa Rosa

Rustler

Misc. Water Wells (Well ID, DTW)

Well Depth (ft)

151 - 350

OSE Water Wells (DTW, Date)

Well Depth (ft)

151 - 350

351 - 500

501 - 1000

Potentiometric Surface (ft msl)

Isocontours

Isocontour

N W E S

0 0.25 0.5 Miles

R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

Depth to water and Potentiometric Surface	Plate 3
Solaris Water Midstream Ironside SWD	April 2019

Tables

Table 1	OCD wells within the area of review
Table 2a	BLM leases within the area of review
Table 2b	State leases within the area of review
Table 3	Produced Water Chemistry of Nearby Wells
Table 4	Available Devonian formational water quality data

API	Well Name	Well Type	ULSTR	OGRID	OGRID Name	Status	DIR Status	Elevation	Measured Depth	Total Depth	Spud Date	Plug Date
30-025-08232	COTTON DRAW UNIT #051	O	B-28-25S-32E	20077	SAHARA OPERATING CO	A	V	99999	4744	4744	6/17/1961	12/31/9999
30-025-24007	UNION FEDERAL #002	O	B-04-26S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	A	V	0	0	4620	12/31/9999	12/31/9999
30-025-28726	AMOCO FEDERAL #001	O	J-08-26S-32E	20077	SAHARA OPERATING CO	A	V	3200	4425	4425	6/29/1984	12/31/9999
30-025-30107	UNION B FEDERAL #001	O	C-04-26S-32E	37636	ROBINSON OIL INC	A	V	99999	4578	4578	12/31/9999	12/31/9999
30-025-37634	COTTON DRAW UNIT #101	O	F-28-25S-32E	20077	SAHARA OPERATING CO	A	V	3375	5000	5000	2/7/2006	12/31/9999
30-025-39660	PRESIDENTE BPD STATE COM #001H	O	D-32-25S-32E	7377	EOG RESOURCES INC	A	H	3335	13132	8843	9/30/2010	12/31/9999
30-025-39911	RED HILLS WEST UNIT #002H	O	C-10-26S-32E	14744	MEWBOURNE OIL CO	A	H	3275	13678	9486	6/2/2011	12/31/9999
30-025-40069	SOL 28 FEDERAL #001H	O	P-28-25S-32E	217955	COG PRODUCTION, LLC	A	H	3373	13795	9344	7/5/2012	12/31/9999
30-025-40254	HALLERTAU 5 FEDERAL #004H	O	M-05-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3271	13840	9233	2/3/2012	12/31/9999
30-025-40436	HALLERTAU 5 FEDERAL #001H	O	P-05-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3253	15091	10542	2/24/2013	12/31/9999
30-025-40455	HALLERTAU 5 FEDERAL #003H	O	N-05-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3272	16552	12044	1/8/2015	12/31/9999
30-025-40474	HALLERTAU 4 FEDERAL #003H	O	B-04-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3306	13948	9463	9/10/2013	12/31/9999
30-025-40475	HALLERTAU 4 FEDERAL #004H	O	A-04-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3312	13484	9110	5/29/2012	12/31/9999
30-025-40476	HALLERTAU 4 FEDERAL #007H	O	B-04-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3308	15169	10713	10/28/2013	12/31/9999
30-025-40477	HALLERTAU 4 FEDERAL #008H	O	A-04-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3312	15202	10720	3/25/2012	12/31/9999
30-025-40687	RED HILLS WEST UNIT #004H	O	C-10-26S-32E	14744	MEWBOURNE OIL CO	A	H	3275	14761	9469	12/1/2012	12/31/9999
30-025-40722	JEFE BSJ FEDERAL COM #001H	O	O-32-25S-32E	7377	EOG RESOURCES INC	A	H	3297	17319	10526	9/18/2012	12/31/9999
30-025-40803	SOL 28 FEDERAL #002H	O	I-28-25S-32E	217955	COG PRODUCTION, LLC	A	H	3384	13840	9336	10/25/2012	12/31/9999
30-025-41062	HALLERTAU 4 FEDERAL #005H	O	D-04-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3310	13804	9400	5/21/2014	12/31/9999
30-025-41069	HALLERTAU 4 FEDERAL #001H	O	D-04-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3310	13558	9034	3/31/2013	12/31/9999
30-025-41119	HALLERTAU 4 FEDERAL #002H	O	C-04-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3314	13794	9408	6/13/2014	12/31/9999
30-025-41136	RED HILLS WEST UNIT #005H	O	D-10-26S-32E	14744	MEWBOURNE OIL CO	A	H	3251	15650	10648	6/1/2013	12/31/9999
30-025-41208	PINTAIL 3 FEDERAL SWD #001	S	J-03-26S-32E	229137	COG OPERATING LLC	A	V	3273	6613	6613	7/16/2013	12/31/9999
30-025-41628	HALLERTAU 4 FEDERAL #006H	O	C-04-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3307	13739	9456	8/6/2014	12/31/9999
30-025-41849	RED HILLS WEST UNIT #007H	O	D-10-26S-32E	14744	MEWBOURNE OIL CO	A	H	3254	13403	9124	5/26/2014	12/31/9999
30-025-41878	HALLERTAU 4 FEDERAL #009H	O	B-04-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3304	13863	9440	7/12/2014	12/31/9999
30-025-42336	RED HILLS WEST UNIT #011H	O	D-10-26S-32E	14744	MEWBOURNE OIL CO	A	H	3250	13450	9087	12/13/2014	12/31/9999
30-025-42417	RED HILLS WEST UNIT #012H	O	D-10-26S-32E	14744	MEWBOURNE OIL CO	A	H	3251	13685	9422	12/13/2014	12/31/9999
30-025-42584	ALMOST EDDY 31 FEDERAL #001H	O	P-31-25S-32E	7377	EOG RESOURCES INC	A	H	3281	16126	8732	9/14/2015	12/31/9999
30-025-42624	VAN DOO DAH 33 FEDERAL #003H	O	P-33-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	A	H	3317	14011	9495	6/30/2015	12/31/9999
30-025-42666	HALLERTAU 5 FEDERAL #008H	O	M-05-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3271	16124	11843	9/27/2017	12/31/9999
30-025-43187	MORAB 29 20 FEDERAL COM #001H	O	E-29-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	A	H	3367	17692	10359	11/26/2016	12/31/9999
30-025-43303	HALLERTAU 5 FEDERAL #009H	O	N-05-26S-32E	215099	CIMAREX ENERGY CO.	A	H	3273	16590	11875	9/27/2017	12/31/9999
30-025-43304	HALLERTAU 5 FEDERAL #010H	O	N-05-26S-32E	215099	CIMAREX ENERGY CO.	A	H	3273	16394	11903	10/16/2017	12/31/9999
30-025-43362	JENNINGS 34 W1MD FEDERAL COM #001H	O	D-03-26S-32E	14744	MEWBOURNE OIL CO	A	H	3317	17200	12083	11/7/2016	12/31/9999
30-025-43379	PADUCA 6 SWD #001Y	S	2-06-26S-32E	161968	MESQUITE SWD, INC	A	V	3285	18881	18881	8/1/2016	12/31/9999
30-025-43774	ARABIAN 30 19 FEDERAL COM #003H	O	G-30-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	A	H	3362	17940	10436	8/2/2017	12/31/9999
30-025-43775	MORAB 29 20 FEDERAL COM #002H	O	F-29-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	A	H	3361	17807	10227	7/10/2018	12/31/9999
30-025-43776	MORAB 29 20 FEDERAL COM #003H	O	G-29-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	A	H	3361	18045	10366	8/1/2018	12/31/9999
30-025-43788	ARABIAN 30 19 FEDERAL COM #004H	O	H-30-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	A	H	3362	17950	10213	8/4/2017	12/31/9999
30-025-43886	HALLERTAU 5 FEDERAL #011H	O	M-05-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3272	16579	11891	12/2/2017	12/31/9999
30-025-43887	HALLERTAU 5 FEDERAL #016H	O	M-05-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3272	16529	12048	11/3/2017	12/31/9999
30-025-43911	HALLERTAU 5 FEDERAL #007H	O	N-05-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	A	H	3272	16532	11885	11/4/2017	12/31/9999
30-025-24158	PRE-ONGARD WELL #003	O	C-04-26S-32E	214263	PRE-ONGARD WELL OPERATOR	C	0	0	0	0	12/31/9999	12/31/9999
30-025-27558	PRE-ONGARD WELL #002	O	H-08-26S-32E	214263	PRE-ONGARD WELL OPERATOR	C	0	0	0	0	12/31/9999	12/31/9999
30-025-27559	PRE-ONGARD WELL #003	O	B-08-26S-32E	214263	PRE-ONGARD WELL OPERATOR	C	0	0	0	0	12/31/9999	12/31/9999
30-025-27744	PRE-ONGARD WELL #001	O	F-08-26S-32E	214263	PRE-ONGARD WELL OPERATOR	C	0	0	0	0	12/31/9999	12/31/9999
30-025-37632	COTTON DRAW UNIT #099	O	D-28-25S-32E	256999	POGO PRODUCING COMPANY LLC	C	0	3365	0	0	12/31/9999	12/31/9999
30-025-37633	COTTON DRAW UNIT #100	O	P-21-25S-32E	256999	POGO PRODUCING COMPANY LLC	C	0	3387	0	0	12/31/9999	12/31/9999
30-025-39903	RED HILLS WEST 3 FEDERAL COM #001	O	L-03-26S-32E	14744	MEWBOURNE OIL CO	C	0	3271	0	0	12/31/9999	12/31/9999
30-025-40454	HALLERTAU 5 FEDERAL COM #002C	O	O-05-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	C	H	3257	0	0	12/31/9999	12/31/9999

API	Well Name	Effictive Date	APR Date	Latitude	Longitude	District	Pool ID
30-025-08232	COTTON DRAW UNIT #051	6/3/2015	1/1/1900	32.1068764	-103.6789322	1	[49460] PADUCA, DELAWARE
30-025-24007	UNION FEDERAL #002	10/25/2012	1/1/1900	32.0778885	-103.6778183	1	[34010] JENNINGS, DELAWARE
30-025-28726	AMOCO FEDERAL #001	4/1/2004	10/1/1984	32.0557785	-103.695076	1	[44859] MASON, DELAWARE, NORTH
30-025-30107	UNION B FEDERAL #001	3/1/1997	1/1/1988	32.0787811	-103.682251	1	[34010] JENNINGS, DELAWARE
30-025-37634	COTTON DRAW UNIT #101	6/3/2015	1/5/2006	32.1032295	-103.6833191	1	[49460] PADUCA, DELAWARE
30-025-39660	PRESIDENTE BPD STATE COM #001H	1/16/2019	2/4/2010	32.0931969	-103.7037125	1	[96403] WILDCAT, BONE SPRING; [97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-39911	RED HILLS WEST UNIT #002H	12/1/2012	9/14/2010	32.0641365	-103.6650009	1	[96403] WILDCAT, BONE SPRING; [97838] JENNINGS, UPPER BONE SPRING SHALE; [97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-40069	SOL 28 FEDERAL #001H	12/1/2011	2/16/2011	32.0954285	-103.6728516	1	[96403] WILDCAT, BONE SPRING; [97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-40254	HALLERTAU 5 FEDERAL #004H	8/23/2011	8/23/2011	32.0658951	-103.7036896	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-40436	HALLERTAU 5 FEDERAL #001H	12/14/2011	12/14/2011	32.0658798	-103.6896973	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-40455	HALLERTAU 5 FEDERAL #003H	2/21/2012	2/21/2012	32.0658531	-103.6994324	1	[97838] JENNINGS, UPPER BONE SPRING SHALE; [98065] WC-025 G-08 S263205N, UPPER WOLFCAMP
30-025-40474	HALLERTAU 4 FEDERAL #003H	2/28/2012	2/28/2012	32.0787964	-103.6784668	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-40475	HALLERTAU 4 FEDERAL #004H	2/28/2012	2/28/2012	32.0788116	-103.6735611	1	[97838] JENNINGS, UPPER BONE SPRING SHALE; [97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-40476	HALLERTAU 4 FEDERAL #007H	2/28/2012	2/28/2012	32.0788002	-103.6767578	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-40477	HALLERTAU 4 FEDERAL #008H	2/28/2012	2/28/2012	32.0788116	-103.6730728	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-40687	RED HILLS WEST UNIT #004H	12/1/2012	7/12/2012	32.0638313	-103.6657257	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-40722	JEFE BSJ FEDERAL COM #001H	1/16/2019	8/10/2012	32.080555	-103.6950378	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-40803	SOL 28 FEDERAL #002H	9/28/2012	9/28/2012	32.1001587	-103.6725082	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-41062	HALLERTAU 4 FEDERAL #005H	3/15/2013	3/15/2013	32.0787241	-103.686385	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-41069	HALLERTAU 4 FEDERAL #001H	3/15/2013	3/15/2013	32.0787659	-103.6868362	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-41119	HALLERTAU 4 FEDERAL #002H	3/15/2013	3/15/2013	32.0787773	-103.6833115	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-41136	RED HILLS WEST UNIT #005H	4/19/2013	4/19/2013	32.0641212	-103.6697845	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-41208	PINTAIL 3 FEDERAL SWD #001	7/16/2013	6/5/2013	32.0719337	-103.6587219	1	[97003] SWD, CHERRY CANYON
30-025-41628	HALLERTAU 4 FEDERAL #006H	1/21/2014	1/21/2014	32.0787849	-103.6813431	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-41849	RED HILLS WEST UNIT #007H	5/16/2014	5/14/2014	32.0641289	-103.6676865	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-41878	HALLERTAU 4 FEDERAL #009H	5/28/2014	5/6/2014	32.0787888	-103.6797256	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-42336	RED HILLS WEST UNIT #011H	12/12/2014	12/12/2014	32.0641196	-103.6706947	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-42417	RED HILLS WEST UNIT #012H	2/2/2015	1/27/2015	32.06412355	-103.6692546	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-42584	ALMOST EDDY 31 FEDERAL #001H	5/26/2015	5/18/2015	32.08018608	-103.7071072	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-42624	VAN DOO DAH 33 FEDERAL #003H	6/10/2015	6/6/2015	32.08026571	-103.6734083	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-42666	HALLERTAU 5 FEDERAL #008H	7/6/2015	6/26/2015	32.06625	-103.704675	1	[97838] JENNINGS, UPPER BONE SPRING SHALE; [98065] WC-025 G-08 S263205N, UPPER WOLFCAMP
30-025-43187	MORAB 29 20 FEDERAL COM #001H	4/25/2016	4/19/2016	32.1018807	-103.7037373	1	[96641] PADUCA, BONE SPRING (O); [97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-43303	HALLERTAU 5 FEDERAL #009H	6/17/2016	6/14/2016	32.065817	-103.700072	1	[98065] WC-025 G-08 S263205N, UPPER WOLFCAMP
30-025-43304	HALLERTAU 5 FEDERAL #010H	6/17/2016	6/14/2016	32.0658182	-103.700139	1	[98065] WC-025 G-08 S263205N, UPPER WOLFCAMP
30-025-43362	JENNINGS 34 W1MD FEDERAL COM #001H	3/30/2017	7/11/2016	32.07884799	-103.668033	1	[97838] JENNINGS, UPPER BONE SPRING SHALE; [98065] WC-025 G-08 S263205N, UPPER WOLFCAMP
30-025-43379	PADUCA 6 SWD #001Y	8/1/2016	8/1/2016	32.07216184	-103.7192409	1	[96101] SWD, DEVONIAN
30-025-43774	ARABIAN 30 19 FEDERAL COM #003H	5/1/2017	4/25/2017	32.1017508	-103.7101203	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-43775	MORAB 29 20 FEDERAL COM #002H	4/25/2017	4/25/2017	32.1018629	-103.6973335	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-43776	MORAB 29 20 FEDERAL COM #003H	5/1/2017	4/25/2017	32.102242	-103.697207	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-43788	ARABIAN 30 19 FEDERAL COM #004H	5/8/2017	4/26/2017	32.101751	-103.7102171	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-43886	HALLERTAU 5 FEDERAL #011H	7/3/2017	6/27/2017	32.06625	-103.704544	1	[98065] WC-025 G-08 S263205N, UPPER WOLFCAMP
30-025-43887	HALLERTAU 5 FEDERAL #016H	7/3/2017	6/27/2017	32.06625	-103.704608	1	[98065] WC-025 G-08 S263205N, UPPER WOLFCAMP
30-025-43911	HALLERTAU 5 FEDERAL #007H	8/1/2017	7/21/2017	32.065817	-103.700008	1	[98065] WC-025 G-08 S263205N, UPPER WOLFCAMP
30-025-24158	PRE-ONGARD WELL #003	1/1/1900	1/1/1900	32.07787304	-103.6822183	1	
30-025-27558	PRE-ONGARD WELL #002	1/1/1900	1/1/1900	32.05878082	-103.6915358	1	
30-025-27559	PRE-ONGARD WELL #003	1/1/1900	1/1/1900	32.06223734	-103.6939764	1	
30-025-27744	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.06040397	-103.7004444	1	
30-025-37632	COTTON DRAW UNIT #099	2/14/2008	1/5/2006	32.10592691	-103.687588	1	
30-025-37633	COTTON DRAW UNIT #100	2/14/2008	1/5/2006	32.10947651	-103.6749689	1	
30-025-39903	RED HILLS WEST 3 FEDERAL COM #001	3/15/2012	9/14/2010	32.06956396	-103.6701765	1	[96403] WILDCAT, BONE SPRING
30-025-40454	HALLERTAU 5 FEDERAL COM #002C	2/21/2012	2/21/2012	32.0655632	-103.695343	1	[97838] JENNINGS, UPPER BONE SPRING SHALE

API	Well Name	Well Type	ULSTR	OGRID	OGRID Name	Status	DIR Status	Elevation	Measured Depth	Total Depth	Spud Date	Plug Date
30-025-41063	HALLERTAU 5 FEDERAL #007C	O	N-05-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	C	H	3273	0	0	12/31/9999	12/31/9999
30-025-41248	VAN DOO DAH 33 FEDERAL #001C	O	C-33-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	C	H	3362	0	0	12/31/9999	12/31/9999
30-025-42438	RED HILLS WEST UNIT #010C	O	D-10-26S-32E	14744	MEWBOURNE OIL CO	C	H	3255	0	0	12/31/9999	12/31/9999
30-025-42665	HALLERTAU 5 FEDERAL #005H	O	P-05-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	N	H	3255	0	0	12/31/9999	12/31/9999
30-025-42673	HALLERTAU 5 FEDERAL #006H	O	O-05-26S-32E	162683	CIMAREX ENERGY CO. OF COLORADO	N	H	3260	0	0	12/31/9999	12/31/9999
30-025-42908	RED HILLS WEST UNIT #013H	O	D-10-26S-32E	14744	MEWBOURNE OIL CO	N	H	3248	0	0	12/31/9999	12/31/9999
30-025-42909	RED HILLS WEST UNIT #016H	O	N-03-26S-32E	14744	MEWBOURNE OIL CO	N	H	3199	0	0	12/31/9999	12/31/9999
30-025-43306	RED HILLS WEST UNIT #015H	O	C-10-26S-32E	14744	MEWBOURNE OIL CO	N	H	3267	0	0	12/31/9999	12/31/9999
30-025-43374	JENNINGS 34 A3MD FEDERAL COM #002H	O	D-03-26S-32E	14744	MEWBOURNE OIL CO	N	H	3317	0	0	12/31/9999	12/31/9999
30-025-43428	RED HILLS WEST UNIT #017C	O	D-10-26S-32E	14744	MEWBOURNE OIL CO	N	H	3245	0	0	12/31/9999	12/31/9999
30-025-45202	VAN DOO DAH 28 33 FEDERAL COM #231H	O	D-28-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	N	H	3377	0	0	10/19/2018	12/31/9999
30-025-45203	MARWARI 28 16 STATE FEDERAL COM #232H	O	D-28-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	N	H	3377	0	0	11/22/2018	12/31/9999
30-025-45204	MARWARI 28 16 STATE FEDERAL COM #234H	O	N-21-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	N	H	3390	0	0	12/31/9999	12/31/9999
30-025-45205	MARWARI 28 16 STATE FEDERAL COM #236H	O	B-28-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	N	H	3389	0	0	12/1/2018	12/31/9999
30-025-45206	MARWARI 28 16 STATE FEDERAL COM #238H	O	A-28-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	N	H	3384	0	0	12/31/9999	12/31/9999
30-025-45235	VAN DOO DAH 21 33 FEDERAL COM #233H	O	N-21-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	N	H	3390	0	0	12/31/9999	12/31/9999
30-025-45236	VAN DOO DAH 28 33 FEDERAL COM #235H	O	B-28-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	N	H	3389	0	0	11/7/2018	12/31/9999
30-025-45237	VAN DOO DAH 28 33 FEDERAL COM #237H	O	A-28-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	N	H	3384	0	0	12/31/9999	12/31/9999
30-025-08202	COTTON DRAW UNIT #043	O	P-20-25S-32E	22351	TEXACO EXPLORATION & PRODUCTION INC	P	V	3369	4700	4700	3/25/1961	8/5/1995
30-025-08211	COTTON DRAW UNIT #037	O	M-21-25S-32E	16696	OXY USA INC	P	V	99999	4784	4784	3/31/1961	11/7/2013
30-025-08212	COTTON DRAW UNIT #038	O	N-21-25S-32E	22351	TEXACO EXPLORATION & PRODUCTION INC	P	V	3404	4750	4750	2/21/1986	2/21/1986
30-025-08227	PRE-ONGARD WELL #002	O	L-28-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4704	1/1/1900	1/1/1900
30-025-08228	PRE-ONGARD WELL #001	I	K-28-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4755	1/1/1900	1/1/1900
30-025-08229	COTTON DRAW UNIT #045	O	D-28-25S-32E	22351	TEXACO EXPLORATION & PRODUCTION INC	P	0	0	0	4744	1/1/1900	1/1/1900
30-025-08230	COTTON DRAW UNIT #500	O	F-28-25S-32E	22351	TEXACO EXPLORATION & PRODUCTION INC	P	V	3392	4770	4770	4/29/1985	4/29/1985
30-025-08231	COTTON DRAW UNIT #047	O	C-28-25S-32E	16696	OXY USA INC	P	V	99999	4750	4750	4/23/1961	11/11/2013
30-025-08233	PRE-ONGARD WELL #015	O	E-28-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4738	1/1/1900	1/1/1900
30-025-08234	PRE-ONGARD WELL #016	O	G-28-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4770	1/1/1900	1/1/1900
30-025-08235	COTTON DRAW UNIT #055	O	A-29-25S-32E	22351	TEXACO EXPLORATION & PRODUCTION INC	P	V	3376	4727	4727	11/29/1989	11/29/1989
30-025-08236	COTTON DRAW UNIT #056	I	A-28-25S-32E	22351	TEXACO EXPLORATION & PRODUCTION INC	P	V	3387	4760	4760	8/30/1961	8/14/1995
30-025-08237	G E JORDAN NCT-1 #019	O	H-29-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	P	V	3350	4622	4622	10/6/1961	7/29/1997
30-025-08238	G E JORDAN NCT-1 #020	O	H-28-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	P	V	3385	10553	10553	10/4/1964	7/25/1997
30-025-08239	PRE-ONGARD WELL #001	O	2-31-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4614	1/1/1900	1/1/1900
30-025-08240	PRE-ONGARD WELL #001	O	M-33-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4633	1/1/1900	1/1/1900
30-025-08241	PRE-ONGARD WELL #001	O	F-33-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4664	1/1/1900	1/1/1900
30-025-08242	PRE-ONGARD WELL #001	O	I-33-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4625	1/1/1900	1/1/1900
30-025-08243	PRE-ONGARD WELL #002	O	A-33-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4658	1/1/1900	1/1/1900
30-025-08244	JENNINGS FEDERAL #001	O	O-33-25S-32E	6137	DEVON ENERGY PRODUCTION COMPANY, LP	P	V	0	0	4632	12/31/9999	9/1/2017
30-025-08246	PRE-ONGARD WELL #001	O	D-34-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4833	1/1/1900	1/1/1900
30-025-08247	PRE-ONGARD WELL #001	O	E-34-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4646	1/1/1900	1/1/1900
30-025-08249	PRE-ONGARD WELL #001	O	O-05-26S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4703	1/1/1900	1/1/1900
30-025-08250	PRE-ONGARD WELL #001	O	C-05-26S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4572	1/1/1900	1/1/1900
30-025-08251	PRE-ONGARD WELL #001	O	A-06-26S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4545	1/1/1900	1/1/1900
30-025-08253	PRE-ONGARD WELL #001	O	H-08-26S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4523	1/1/1900	1/1/1900
30-025-08254	PRE-ONGARD WELL #001	O	D-10-26S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4575	1/1/1900	1/1/1900
30-025-20417	PRE-ONGARD WELL #001	O	F-04-26S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4622	1/1/1900	1/1/1900
30-025-20577	COTTON TREE STATE SWD #001	O	F-32-25S-32E	245872	JUDAH OIL LLC	P	V	3297	5795	5795	6/3/1963	4/4/2016
30-025-20729	PRE-ONGARD WELL #001	O	P-29-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4720	1/1/1900	1/1/1900
30-025-23296	PRE-ONGARD WELL #001	O	F-04-26S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4542	1/1/1900	1/1/1900
30-025-23993	PRE-ONGARD WELL #001	O	D-03-26S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4690	1/1/1900	1/1/1900
30-025-24500	PRE-ONGARD WELL #002	O	A-07-26S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4535	1/1/1900	1/1/1900

API	Well Name	Effictive Date	APR Date	Latitude	Longitude	District	Pool ID
30-025-41063	HALLERTAU 5 FEDERAL #007C	3/15/2013	3/15/2013	32.0658493	-103.699913	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-41248	VAN DOO DAH 33 FEDERAL #001C	6/24/2013	6/24/2013	32.0932693	-103.6832809	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-42438	RED HILLS WEST UNIT #010C	2/12/2015	2/9/2015	32.06412849	-103.6674544	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-42665	HALLERTAU 5 FEDERAL #005H	7/6/2015	6/26/2015	32.06583889	-103.6901944	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-42673	HALLERTAU 5 FEDERAL #006H	7/7/2015	6/29/2015	32.06548611	-103.6934694	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-42908	RED HILLS WEST UNIT #013H	10/30/2015	10/27/2015	32.06406944	-103.6709417	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-42909	RED HILLS WEST UNIT #016H	10/30/2015	10/27/2015	32.06650036	-103.6639846	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-43306	RED HILLS WEST UNIT #015H	6/17/2016	6/14/2016	32.06315929	-103.665017	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-43374	JENNINGS 34 A3MD FEDERAL COM #002H	7/20/2016	7/11/2016	32.0788473	-103.6682911	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-43428	RED HILLS WEST UNIT #017C	9/21/2016	9/8/2016	32.0616815	-103.6691228	1	[97838] JENNINGS, UPPER BONE SPRING SHALE
30-025-45202	VAN DOO DAH 28 33 FEDERAL COM #231H	9/18/2018	9/13/2018	32.1080191	-103.6873562	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-45203	MARWARI 28 16 STATE FEDERAL COM #232H	9/18/2018	9/13/2018	32.1081014	-103.6873567	1	[96715] WC-025 G-06 S253206M, BONE SPRING; [97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-45204	MARWARI 28 16 STATE FEDERAL COM #234H	9/18/2018	9/13/2018	32.1092557	-103.6839049	1	[96715] WC-025 G-06 S253206M, BONE SPRING
30-025-45205	MARWARI 28 16 STATE FEDERAL COM #236H	9/18/2018	9/13/2018	32.1081974	-103.6777937	1	[96715] WC-025 G-06 S253206M, BONE SPRING; [97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-45206	MARWARI 28 16 STATE FEDERAL COM #238H	9/18/2018	9/13/2018	32.1082121	-103.6744838	1	[96715] WC-025 G-06 S253206M, BONE SPRING
30-025-45235	VAN DOO DAH 21 33 FEDERAL COM #233H	9/27/2018	9/26/2018	32.1099971	-103.6839051	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-45236	VAN DOO DAH 28 33 FEDERAL COM #235H	9/27/2018	9/26/2018	32.1081149	-103.677793	1	[97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-45237	VAN DOO DAH 28 33 FEDERAL COM #237H	9/27/2018	9/26/2018	32.1081298	-103.6744837	1	[96715] WC-025 G-06 S253206M, BONE SPRING; [97903] WC-025 G-08 S253235G, LWR BONE SPRIN
30-025-08202	COTTON DRAW UNIT #043	8/5/1995	1/1/1900	32.1095505	-103.6897354	1	[49460] PADUCA, DELAWARE
30-025-08211	COTTON DRAW UNIT #037	3/1/2008	1/1/1900	32.1104736	-103.6865463	1	[49460] PADUCA, DELAWARE
30-025-08212	COTTON DRAW UNIT #038	2/21/1986	2/21/1986	32.1104927	-103.6822815	1	[49460] PADUCA, DELAWARE
30-025-08227	PRE-ONGARD WELL #002	1/1/1900	1/1/1900	32.1005211	-103.6854401	1	[49460] PADUCA, DELAWARE
30-025-08228	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.1005287	-103.6833038	1	[49460] PADUCA, DELAWARE
30-025-08229	COTTON DRAW UNIT #045	1/1/1900	1/1/1900	32.106842	-103.6865311	1	[49460] PADUCA, DELAWARE
30-025-08230	COTTON DRAW UNIT #500	4/29/1985	4/29/1985	32.1032333	-103.682251	1	[49460] PADUCA, DELAWARE
30-025-08231	COTTON DRAW UNIT #047	3/1/2008	1/1/1900	32.1068611	-103.6822662	1	[49460] PADUCA, DELAWARE
30-025-08233	PRE-ONGARD WELL #015	1/1/1900	1/1/1900	32.1032143	-103.6865158	1	[49460] PADUCA, DELAWARE
30-025-08234	PRE-ONGARD WELL #016	1/1/1900	1/1/1900	32.1032486	-103.6790161	1	[49460] PADUCA, DELAWARE
30-025-08235	COTTON DRAW UNIT #055	11/29/1989	11/29/1989	32.1077347	-103.6897354	1	[49460] PADUCA, DELAWARE
30-025-08236	COTTON DRAW UNIT #056	8/14/1995	1/1/1900	32.1068993	-103.6746674	1	[49460] PADUCA, DELAWARE
30-025-08237	G E JORDAN NCT-1 #019	7/29/1997	10/3/1961	32.103199	-103.6897125	1	[49460] PADUCA, DELAWARE
30-025-08238	G E JORDAN NCT-1 #020	7/25/1997	1/1/1900	32.1041756	-103.6746597	1	[49460] PADUCA, DELAWARE
30-025-08239	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0886154	-103.720932	1	
30-025-08240	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0814896	-103.6865082	1	
30-025-08241	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0878372	-103.68116	1	
30-025-08242	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0851631	-103.673233	1	[34010] JENNINGS, DELAWARE
30-025-08243	PRE-ONGARD WELL #002	1/1/1900	1/1/1900	32.0924034	-103.6735535	1	
30-025-08244	JENNINGS FEDERAL #001	10/25/2012	1/1/1900	32.0815201	-103.6778259	1	[34010] JENNINGS, DELAWARE
30-025-08246	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0924187	-103.6692886	1	
30-025-08247	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0887871	-103.6692963	1	
30-025-08249	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0658607	-103.6960907	1	
30-025-08250	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0778198	-103.6994553	1	
30-025-08251	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0777931	-103.7079849	1	
30-025-08253	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0595245	-103.6907501	1	
30-025-08254	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0632172	-103.6692581	1	
30-025-20417	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0742493	-103.6811829	1	
30-025-20577	COTTON TREE STATE SWD #001	1/29/2015	5/27/1963	32.0886765	-103.6994553	1	[96838] DRY AND ABANDONED
30-025-20729	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0968742	-103.689682	1	
30-025-23296	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0742455	-103.6822433	1	
30-025-23993	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0779152	-103.6692963	1	
30-025-24500	PRE-ONGARD WELL #002	1/1/1900	1/1/1900	32.0622025	-103.7079544	1	

API	Well Name	Well Type	ULSTR	OGRID	OGRID Name	Status	DIR Status	Elevation	Measured Depth	Total Depth	Spud Date	Plug Date
30-025-27079	PRE-ONGARD WELL #001	O	M-34-25S-32E	214263	PRE-ONGARD WELL OPERATOR	P	0	0	0	4650	1/1/1900	1/1/1900
30-025-27557	EXXON FEDERAL #001	O	L-09-26S-32E	22223	TEMPO ENERGY INC	P	V	3198	4452	4452	9/4/1991	9/4/1991
30-025-28483	EXXON FEDERAL #001	O	I-08-26S-32E	10461	QUAY VALLEY INC.	P	V	3195	4445	4445	4/27/1984	3/1/2004
30-025-38151	IKE FEDERAL #001	O	M-28-25S-32E	160825	BC OPERATING, INC.	P	V	3357	4771	4771	10/26/2006	3/10/2010
30-025-43277	PADUCA 6 SWD #001	S	3-06-26S-32E	161968	MESQUITE SWD, INC	P	V	3285	960	960	7/20/2016	7/29/2016

API	Well Name	Effictive Date	APR Date	Latitude	Longitude	District	Pool ID
30-025-27079	PRE-ONGARD WELL #001	1/1/1900	1/1/1900	32.0810127	-103.6703644	1	
30-025-27557	EXXON FEDERAL #001	9/4/1991	9/4/1991	32.0550995	-103.6873169	1	[44859] MASON, DELAWARE, NORTH
30-025-28483	EXXON FEDERAL #001	6/1/1984	6/1/1984	32.0557251	-103.6907425	1	[44859] MASON, DELAWARE, NORTH
30-025-38151	IKE FEDERAL #001	9/12/2006	9/12/2006	32.0959816	-103.6864853	1	[49480] PADUCA, DELAWARE, EAST
30-025-43277	PADUCA 6 SWD #001	6/28/2016	5/25/2016	32.07216062	-103.7190976	1	[96101] SWD, DEVONIAN; [96838] DRY AND ABANDONED

SerialNumb	Name 1	Name 2	Name 3	Name 4
NMLC 0062300	3-M ENERGY CO	CHEVRON USA INC	DEVON ENERGY	PROVIDENCE MINERALS LLC
NMLC 0061869	DEVON ENERGY PROD CO LP			
NMNM 027467	OCCIDENTAL PERMIAN LP			
NMNM 105560	MEWBOURNE OIL CO			
NMNM 108972	COG OPERATING LLC			
NMNM 105559	MEWBOURNE OIL CO			
NMNM 108971	OXY Y-1 COMPANY	EOG A RESOURCES INC	EOG M RESOURCES INC	
NMNM 105561	MEWBOURNE OIL CO			
NMNM 115421	OXY USA INC			
NMNM 128927	COG OPERATING LLC			
NMNM 120910	COG PRODUCTION LLC			
NMNM 115422	OGX RESOURCES INC			
NMNM 128928	MAGNUM HUNTER PRODUCTION INC			
NMNM 113968	DEVON ENERGY PROD CO LP			
NMNM 113967	DEVON ENERGY PROD CO LP			
NMNM 112935	OXY Y-1 COMPANY	EOG A RESOURCES INC	EOG M RESOURCES INC	
NMNM 115423	OXY USA INC			
NMNM 120909	CHEVRON USA INC			
NMNM 128929	OCCIDENTAL PERMIAN LP			
NMNM 0359295A	DEVON ENERGY OPER CO LP			
NMNM 0392082A	MAGNUM HUNTER PRODUCTION INC			

Unique Key	Lease Prefix	Lease Number	Lease Suffix	OGRID Number	OGRID Name
V076790001	V0	7679	1	90712	MEWBOURNE OIL COMPANY
VB07770001	VB	777	1	25575	EOG Y RESOURCES, INC.
VB07870001	VB	787	1	25575	EOG Y RESOURCES, INC.

Table 3 - Produced Water Chemistry of Nearby Wells

api	S	TWO	RNG	CTY	formation	sampledate	ph	tds_mgL	resistivity_ohm_cm	sodium_mgL	calcium_mgL	iron_mgL	magnesium_mgL	manganese_mgL	chloride_mgL	bicarbonate_mgL	sulfate_mgL	co2_mgL
3001542426	1	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	10/7/2015 0:00	6.3	245565.5	0.05108	71987.8	15105.6	76.4	2475.6		153168.3		545.1	400
3001542515	1	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	10/7/2015 0:00	6.5	240893.6	0.05116	69999.9	13540.5	54	2248.5		152475.6		600.8	300
3001529252	1	25S	31E	EDDY		2/12/2014 0:00	6.7	128946.5		41405	6715	16	588	1	78100	317	481	30
3001542513	1	25S	31E	EDDY	BONE SPRING 2ND SAND	4/22/2015 0:00	7.1	145420.8		45961.8	7771.4	35	973.4	1.29	88433.1	144	0	200
3001542514	1	25S	31E	EDDY	BONE SPRING 2ND SAND	4/22/2015 0:00	7.1	145160.9		44866.9	7892.4	36	972.6	1.25	89011.8	244	0	200
3001529252	1	25S	31E	EDDY		8/24/2005 0:00	7	135335.2		45072.8	6045	2	480		82003	248.9	477	
3001529252	1	25S	31E	EDDY		3/9/2011 0:00	7	133147.6		44488.8	5627	3.5	511	0.2	80547	341.6	468	0.2
3001541364	2	25S	31E	EDDY	BONE SPRING 2ND SAND	6/30/2014 0:00	6.5	164473.4		53511.8	9168.8	44.7	1111.4	1.41	98461	244	0	200
3001541363	2	25S	31E	EDDY	BONE SPRING 2ND SAND	1/27/2015 0:00	6.3	151759.9		46840.4	7768.3	47	933	1.22	93955.3	122	0	200
3001541364	2	25S	31E	EDDY	BONE SPRING 2ND SAND	1/27/2015 0:00	6.3	151611		47257.6	7748.1	48.7	954	1.3	93154.3	122	875.3	200
3001541364	2	25S	31E	EDDY	BONE SPRING 2ND SAND	1/27/2015 0:00	6.3	151433.6		47257.6	7748.1	48.7	954	1.31	93154.3	122	0	200
3001538433	2	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	10/7/2015 0:00	6.5	257515.5	0.04973	74122.9	16699.4	79.5	2736.1		160663.2		359.4	400
3001538533	2	25S	31E	EDDY	AVALON MIDDLE	2/1/2013 0:00	7.1	204607.1		68549.6	7663	25	1369	1.5	123033	976	1434	60
3001538534	2	25S	31E	EDDY	AVALON LOWER	2/1/2013 0:00	7.1	176370.9		63443.9	3351	36	615	0.8	104946	1537.2	1188	40
3001538556	2	25S	31E	EDDY	AVALON MIDDLE	2/1/2013 0:00	7.3	230564.8		73317.3	11591	44	1987	2.5	140233	610	781	40
3001529345	2	25S	31E	EDDY		5/15/2013 0:00	7.2	212182.4		62900.7	13704	29	2349	3.5	130100	134.2	331	
3001538533	2	25S	31E	EDDY	AVALON MIDDLE	6/25/2013 0:00	6.5	221504.1		71676	11845	49	2039	2.5	131876	707.6	1106	50
3001541363	2	25S	31E	EDDY	BONE SPRING 2ND SAND	10/17/2013 0:00	6.5	99209		33720	3384	38	912	3	56135	122	3635	150
3001538293	2	25S	31E	EDDY	AVALON LOWER	1/27/2014 0:00	6.66	173840.4		59159	4411	73	912	1.5	105084	1403	0	350
3001538533	2	25S	31E	EDDY	AVALON MIDDLE	1/27/2014 0:00	6.6	193809		59779	8398	95	1562	2.5	120738	549	0	400
3001538534	2	25S	31E	EDDY	AVALON LOWER	1/27/2014 0:00	6.7	154676.5		55033	1169	47	261	0.8	94550	1220	0	300
3001538556	2	25S	31E	EDDY	AVALON MIDDLE	1/27/2014 0:00	6.4	201266.5		60669	9699	64	1785	2.5	125944	488	300	0
3001510843	2	25S	31E	EDDY		2/10/2014 0:00	6.12	251232.5		73846	15965	56	2572	3.5	155756	122	0	350
3001529728	2	25S	31E	EDDY		2/12/2014 0:00	6.59	131449.7		42344	6992	6	601	0.2	79220	353	542	40
3001529728	2	25S	31E	EDDY		2/12/2014 0:00	4.74	85798.5		28036	3873	887	362	9	51300	59	389	50
3001510843	2	25S	31E	EDDY		2/20/2014 0:00	7.47	246826		74769	16401	65	2689	3.5	149839	158	410	410
3001538556	2	25S	31E	EDDY	AVALON MIDDLE	2/20/2014 0:00	6.3	194713		58546	10372	70	1733	3	120869	634	656	570
3001541363	2	25S	31E	EDDY	BONE SPRING 2ND SAND	11/18/2014 0:00	6.4	155083		46690.1	7728.7	132	945.5	1.8	97130.8	183	876.9	200
3001541363	2	25S	31E	EDDY	BONE SPRING 2ND SAND	11/18/2014 0:00	6.4	154900.7		46690.1	7728.7	132	945.5	1.78	97130.8	183	0	200
3001541364	2	25S	31E	EDDY	BONE SPRING 2ND SAND	11/18/2014 0:00	6.2	151545		47168.6	7450	48.1	989.6	1.15	93392.1	122	0	200
3001541364	2	25S	31E	EDDY	BONE SPRING 2ND SAND	11/18/2014 0:00	6.2	151722		47168.6	7450	48.1	989.6	1.1	93392.1	122	1116.7	200
3001541437	2	25S	31E	EDDY	BONE SPRING 2ND SAND	11/18/2014 0:00	6.2	160017		48268.6	7948.4	38.3	1005.5	1.1	100334.1	122	834.5	100
3001541437	2	25S	31E	EDDY	BONE SPRING 2ND SAND	11/18/2014 0:00	6.2	159829		48268.6	7948.4	38.3	1005.5	1.06	100334.1	122	0	100
3001541437	2	25S	31E	EDDY	BONE SPRING 2ND SAND	4/7/2015 0:00	6.9	149970.4	0.06035	47221.1	7739.3	48.6	945.9	1.39	91736.6	188	0	200
3001529345	2	25S	31E	EDDY		7/21/2005 0:00	6	251350.9		72408	18324	168	2885		154636	124.4	253	
3001529728	2	25S	31E	EDDY		7/21/2005 0:00	7	122561		40610.6	5512	2	495		74201	290.4	456	
3001529345	2	25S	31E	EDDY		8/24/2005 0:00	5	264347.8		81366.6	15276	146	2599		162178	62.2	249	
3001529728	2	25S	31E	EDDY		8/24/2005 0:00	7	136044.4		45442.1	5998	0.7	450		82374	311.1	468	
3001529728	2	25S	31E	EDDY		8/24/2005 0:00	6.2	136576.4		45028.5	6334	280	485		82850	122.4	499	
3001538432	2	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	6/17/2014 0:00	6	202329		64882.1	13144.3	55.3	2199.6	3.77	119000	244	0	70
3001541363	2	25S	31E	EDDY	BONE SPRING 2ND SAND	6/30/2014 0:00	6.7	126424.8		40645.2	6514.4	11.4	810.1	0	75892	244	0	200
3001541364	2	25S	31E	EDDY	BONE SPRING 2ND SAND	1/7/2015 0:00	6	155357.9		48378.6	7952.2	44.4	957.3	1.18	95566.7	244	0	200
3001541499	2	25S	31E	EDDY	BONE SPRING 2ND SAND	1/7/2015 0:00	6.2	152518		48678.5	7968.1	37.6	993.3	1.1	92365.3	122	846.7	150
3001541499	2	25S	31E	EDDY	BONE SPRING 2ND SAND	1/7/2015 0:00	6.2	152325.4		48678.5	7968	37.6	993.3	1.14	92365.3	122	0	150
3001538293	2	25S	31E	EDDY	AVALON LOWER	3/29/2011 0:00	6.6	85262.9		31498.1	815	15	116	0.2	48116	2867	1368	200
3001510843	2	25S	31E	EDDY		9/21/2011 0:00	6	222994.1		73657.1	10000	42	1944		136320	500	531	
3001542317	3	25S	31E	EDDY	BONE SPRING 2ND SAND	1/27/2015 0:00	6.3	143226.8		42636.7	6947.7	35.4	881.4	1.06	90482.2	244	0	300
3001542318	3	25S	31E	EDDY	BONE SPRING 2ND SAND	1/27/2015 0:00	6.4	143721.9		43196.3	7185.3	47.3	911.9	1.17	90263.4	122	0	200
3001538535	3	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	6/25/2013 0:00	6.7	271580.1		82640	18493	103	3404	5	163110	219.6	286	30
3001531381	3	25S	31E	EDDY		2/10/2014 0:00	6.2	240716		69047	14901	68	2407	3	151403	122	0	300
3001531381	3	25S	31E	EDDY		2/20/2014 0:00	7.4	255030.4		71818	14933	58	2445	3	162812	146.4	495	390
3001531381	3	25S	31E	EDDY		2/20/2014 0:00	7.4	242428.7		69222	14322	51	2315	2.5	153661	134.2	443	380
3001531381	3	25S	31E	EDDY		2/20/2014 0:00	7.67	250022.2		68772	14093	55	2298	2.5	161917	134.2	506	420
3001542317	3	25S	31E	EDDY	BONE SPRING 2ND SAND	4/7/2015 0:00	6.5	151149.4	0.05979	46958.4	7753.9	38.7	968.6	0	93214.4	122	0	200
3001542318	3	25S	31E	EDDY	BONE SPRING 2ND SAND	4/7/2015 0:00	6.5	150344.4	0.05986	46535.7	7533.5	36	943.7	0	93134.6	122	0	200

Table 3 - Produced Water Chemistry of Nearby Wells

api	S	TWO	RNG	CTY	formation	sampledate	ph	tds_mgL	resistivity_ohm_cm	sodium_mgL	calcium_mgL	iron_mgL	magnesium_mgL	manganese_mgL	chloride_mgL	bicarbonate_mgL	sulfate_mgL	co2_mgL
3001538535	3	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	12/1/2014 0:00	6	259462.7		73189.3	17155.5	59.3	2948.2	3.44	163095.6	122	0	400
3001538952	3	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	12/13/2014 0:00	6	237973.7		68394.1	15453.2	43.6	2523.9	3.49	148589.6	188	0	400
3001531381	3	25S	31E	EDDY		8/11/2015 0:00	6.4	193507	0.05816	56637.5	10651.6	36.3	1522.3		122006.1		846.7	200
3001538535	3	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	9/21/2011 0:00	6.2	194556.7		67591.7	5200	84	1944		117860	220	1657	
3001539230	10	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	2/1/2013 0:00	7.4	254959.9		79764.6	13961	35	2265	2.5	156140	48.8	351	20
3001539229	10	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	11/4/2014 0:00	6	259922		71811.8	15698.5	62	2546	3.91	166925.1	305	0	300
3001539230	10	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	11/4/2014 0:00	6	248787.7		69168.6	15101.9	85.5	2497.6	3.39	159331.7	122	0	350
3001542126	10	25S	31E	EDDY	BONE SPRING 2ND SAND	11/18/2014 0:00	6.2	166762.2		50511.3	8741.5	34.9	1113.3	1.09	104123.2	122	0	150
3001542126	10	25S	31E	EDDY	BONE SPRING 2ND SAND	11/18/2014 0:00	6.2	166972		50511.3	8741.5	34.9	1113.3	1.1	104123.2	122	698.3	150
3001542127	10	25S	31E	EDDY	BONE SPRING 2ND SAND	11/18/2014 0:00	6	157230.6		48594.2	8080.1	33.4	1039.4	1.05	97266	122	0	150
3001542127	10	25S	31E	EDDY	BONE SPRING 2ND SAND	11/18/2014 0:00	6	157444		48594.2	8080.1	33.4	1039.4	1	97266	122	767.5	150
3001542126	10	25S	31E	EDDY	BONE SPRING 2ND SAND	4/7/2015 0:00	6.8	156876.4	0.05826	47995.3	8167.1	46.9	1037.2	1.26	97409	152	0	200
3001542127	10	25S	31E	EDDY	BONE SPRING 2ND SAND	4/7/2015 0:00	6.5	158125.7	0.05806	48703.1	8121.1	37.1	1022.8	1.06	98100	122	0	200
3001542414	11	25S	31E	EDDY	BONE SPRING 2ND SAND	1/25/2015 0:00	6.2	126269.1		40446.7	6580.5	43.2	894	1.63	76140.7	122	0	200
3001542415	11	25S	31E	EDDY	BONE SPRING 2ND SAND	1/25/2015 0:00	6.1	135102.7		42665.9	7042.6	54.3	944	2.19	82210.5	122	0	250
3001539375	11	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	1/27/2014 0:00	6.3	249141.5		73945	14492	45	2514	2.5	155100	122	0	250
3001539376	11	25S	31E	EDDY	BONE SPRING 2ND SAND	1/27/2014 0:00	6.6	154710.4		46995	6817	39	940	1.5	97481	183	0	200
3001539730	11	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	1/27/2014 0:00	6.2	247108.5		74025	13425	76	2423	4.5	154200	122	0	300
3001539375	11	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	2/20/2014 0:00	6.2	245188.5		72215	15714	45	2559	3	151636	98	332	380
3001539730	11	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	2/20/2014 0:00	6.2	257350		74080	14866	54	2518	3	162870	110	376	400
3001539376	11	25S	31E	EDDY	BONE SPRING 2ND SAND	10/29/2014 0:00	6.3	157604.8		45851.5	7916	78.4	914	1.81	100557	244	0	250
3001520272	12	25S	31E	EDDY		2/12/2014 0:00	4.42	23445		7289	1376	424	167	24	13755	0	19	
3001529850	12	25S	31E	EDDY		2/12/2014 0:00	6.59	131449.7		42344	6992	6	601	0.2	79220	353	542	
3001540385	13	25S	31E	EDDY	DELAWARE-BRUSHY CANYON	10/7/2015 0:00	6.7	239818.3	0.05047	72792.6	12750.4	110.8	2141.6		149091.1		595.6	400
3001542091	14	25S	31E	EDDY	BONE SPRING 2ND SAND	4/7/2015 0:00	6.4	155557.8	0.05827	47632.8	7833.6	31.4	950.8	0	96870.5	122	0	200
3001542092	14	25S	31E	EDDY	BONE SPRING 2ND SAND	4/7/2015 0:00	6.2	154868.7	0.05887	48183	8015.7	36	979.9	1.07	95447.5	122	0	200
3001542504	14	25S	31E	EDDY	BONE SPRING 2ND SAND	4/22/2015 0:00	6.8	149342.5		46864.9	7735.5	34.3	953.9	1.08	91392.5	244	0	200
3001542505	14	25S	31E	EDDY	BONE SPRING 2ND SAND	4/22/2015 0:00	6.8	148867.1		46832	7781.8	31.8	940.8	1.03	91091.9	144	0	200
3001542091	14	25S	31E	EDDY	BONE SPRING 2ND SAND	1/6/2015 0:00	6.9	147434.3		45458.9	7994.4	37.3	982.6	1.17	90722.4	61	0	180
3001542092	14	25S	31E	EDDY	BONE SPRING 2ND SAND	1/6/2015 0:00	7	145369.9		45077.6	7846.9	36.1	956.5	1.13	89272.7	61	0	220
3001540748	15	25S	31E	EDDY	BONE SPRING 2ND SAND	4/7/2015 0:00	6.9	158206.7	0.05806	48491.4	7898.9	47.9	982.5	1.19	98665.6	122	0	200
3001539727	22	25S	31E	EDDY	AVALON UPPER	9/5/2013 0:00	6.8	160733		52106	1481	68	289	0.9	102300	2342.4	1012	60
3001541548	25	25S	31E	EDDY	BONE SPRING 2ND SAND	6/11/2014 0:00	6.5	137946		45552	7086	26	850	1	81903	244	683	25
3001541548	25	25S	31E	EDDY	BONE SPRING 2ND SAND	6/11/2014 0:00	6.5	137735		45552	7086	26	850	1	81903	244	0	25
3001541940	25	25S	31E	EDDY	BONE SPRING 2ND SAND	5/21/2015 0:00	6.12	200406.5		59653.7	10821.5	24.3	1679.7	1.93	125567.1		715	
3002508166	3	25S	32E	LEA				247372							153000	102	760	
3002541829	4	25S	32E	Lea	BONE SPRING 2ND SAND	1/27/2015 0:00	6.3	140235.4		42818.4	6441.7	40.5	785.3	0	87998.1	244	0	200
3002541829	4	25S	32E	Lea	BONE SPRING 2ND SAND	11/11/2014 0:00	6.5	139733.4		42191.3	7002.9	78.4	913.2	1.66	87280.6	244	0	150
3002541829	4	25S	32E	Lea	BONE SPRING 2ND SAND	4/7/2015 0:00	7.2	141809.9	0.06181	43932.5	6382.4	63.2	789.5	1.2	88463.4	244	0	100
3002539948	6	25S	32E	Lea	AVALON LOWER	1/15/2015 0:00	6.2	122		0	0	0	0	0	0	122	0	200
3002540044	6	25S	32E	Lea	DELAWARE-BRUSHY CANYON	1/15/2015 0:00	6.3	239818.3		74875.7	14394.1	58.6	2437.4	2.53	145508.4	122	0	300
3002540105	6	25S	32E	Lea	AVALON LOWER	1/15/2015 0:00	6.5	144738.6		53757.9	718.2	44.8	135.8	0	86689.6	1098	0	400
3002542312	6	25S	32E	Lea	DELAWARE-BRUSHY CANYON	10/7/2015 0:00	6.5	239860	0.05146	74029.5	13590.6	48.6	2237.5		147359.6		639.6	300
3002540048	6	25S	32E	Lea	BONE SPRING 2ND SAND	12/18/2012 0:00	7.65	179697.7		56825.9	9232	23	1459	2	108593	48.8	1692	230
3002539948	6	25S	32E	Lea	AVALON LOWER	2/1/2013 0:00	7.4	165243.8		62859.4	567	17	107	0.2	97097	2281.4	1177	40
3002539949	6	25S	32E	Lea	AVALON MIDDLE	2/1/2013 0:00	7.2	191604.1		65433.6	6298	128	1120	2	114866	793	1710	50
3002540105	6	25S	32E	Lea	AVALON LOWER	2/1/2013 0:00	7.1	164202.4		62428.1	501	25	96	0.5	96323	2305.8	1264	30
3002540048	6	25S	32E	Lea	BONE SPRING 2ND SAND	1/23/2014 0:00	6.8	132327		40473	6252	23	836	1	82438	244	0	200
3002539949	6	25S	32E	Lea	AVALON MIDDLE	1/27/2014 0:00	6.3	197184.5		62422	6809	218	1344	3.5	123168	549	0	500
3002540045	6	25S	32E	Lea	BONE SPRING 2ND SAND	1/29/2014 0:00	6.7	139871.5		40364	6643	41	750	1.5	89675	183	0	200
3002540046	6	25S	32E	Lea	DELAWARE-BRUSHY CANYON	1/29/2014 0:00	6.2	225114.5		60110	12606	50	1970	3	147814	122	0	250
3002540047	6	25S	32E	Lea	DELAWARE-BRUSHY CANYON	3/20/2015 0:00	6.7	252093.3	0.04616	78472.1	17591.8	34.8	2984	2.98	150156.7	148.8	0	300
3002540047	6	25S	32E	Lea	DELAWARE-BRUSHY CANYON	4/7/2015 0:00	6.7	248632	0.04819	71715	15831.6	43.8	2760.6	2.61	155536.8	122	0	400
3002542475	6	25S	32E	Lea	BONE SPRING 2ND SAND	8/31/2015 0:00	6.2	162064.6	0.06346	49783.6	7951.8	36.1	987.1		100900.9		949.5	100
3002542476	6	25S	32E	Lea	BONE SPRING 2ND SAND	8/31/2015 0:00	6.58	151458.9	0.06586	46370.7	7184.6	35.5	876		94430.6		1111.8	200

Table 3 - Produced Water Chemistry of Nearby Wells

api	S	TWO	RNG	CTY	formation	sampledate	ph	tds_mgL	resistivity_ohm_cm	sodium_mgL	calcium_mgL	iron_mgL	magnesium_mgL	manganese_mgL	chloride_mgL	bicarbonate_mgL	sulfate_mgL	co2_mgL
3002539948	6	25S	32E	Lea	AVALON LOWER	12/8/2011 0:00	7	144951		54645.4	665	22	113	0.3	84541	2708.4	1047	60
3002539949	6	25S	32E	Lea	AVALON MIDDLE	12/8/2011 0:00	7	145592.5		55404.5	440	25	71	0.3	84840	2806	1092	60
3002540105	6	25S	32E	Lea	AVALON LOWER	12/8/2011 0:00	7	145530.9		55235.9	493	27	80	0.5	84856	2720.6	1090	60
3002541996	10	25S	32E	Lea	BONE SPRING 2ND SAND	4/7/2015 0:00	6.5	207154.8	0.05017	68477	4041.6	41.3	1744.6	1.53	126763.4	122	0	200
3002508176	10	25S	32E	LEA	DELAWARE			246555							152600	112	939	
3002508182	15	25S	32E	LEA	DELAWARE			308600										
3002508182	15	25S	32E	LEA	DELAWARE			309990										
3002508196	16	25S	32E	LEA	DELAWARE			224016							138600	139	462	
IRONSIDE SWD	16	25S	32E															
3002508221	22	25S	32E	LEA	DELAWARE			276839							170500	198	552	
3002508226	27	25S	32E	LEA	DELAWARE			239464							147800	64	908	
CALTROPS SWD	32	25S	32E															
3002508242	33	25S	32E	Lea		10/8/2015 0:00	6.1	226822	0.05289	57077.4	20081.9	19.4	2953.6		144325.8		528.7	300
3001542113	2	26S	31E	EDDY	BONE SPRING 3RD SAND	1/27/2015 0:00	6.5	94965.6		31352.7	3678.6	31.7	483.6	0.83	57489.5	244	0	200
3001542113	2	26S	31E	EDDY	BONE SPRING 3RD SAND	9/30/2015 0:00	7	94518.2	0.08933	30031.5	3402.8	19.9	438.9		58782.2		355.2	200
3001542113	2	26S	31E	EDDY	BONE SPRING 3RD SAND	10/7/2015 0:00	7.2	94863.9	0.08894	30224.8	3424	14.8	444		59015.2		365	200
3001542688	2	26S	31E	EDDY	WOLFCAMP	10/7/2015 0:00	7.3	81366.4	0.1004	26319.4	2687.4	26.1	326.7		50281.2		399.7	100
3001542113	2	26S	31E	EDDY	BONE SPRING 3RD SAND	12/14/2015 0:00	6.8	91289.1	0.08914	28721.3	3440.7	16.3	437.4		56957.4		327.9	150
3001539036	2	26S	31E	EDDY	AVALON UPPER	6/26/2014 0:00	6.1	223019		76001.7	10437.8	209.9	1922.4	4.5	131072	366	632	1100
3001539162	2	26S	31E	EDDY	AVALON UPPER	6/26/2014 0:00	6.5	179788.5		71575.7	617.4	21.8	109.6	0	101374	3660	0	500
3001539162	2	26S	31E	EDDY	AVALON UPPER	6/26/2014 0:00	6.5	179938		71575.7	617.4	21.8	109.6	0	101374	3660	844	500
3001539104	2	26S	31E	EDDY	AVALON UPPER	8/31/2011 0:00	7	162560.1		57137	3886	42	776	0.6	97161	1403	756	70
3001529605	10	26S	31E	EDDY		3/20/2015 0:00	6.3	111430.5	0.07008	38922.4	3647.3	76.8	487.9	1.05	66173.2	366	0	300
3001529605	10	26S	31E	EDDY		4/14/2015 0:00	7	54116.9		46100	5224	349.6	719.3	3.73	0	73.2	0	570
3001540994	10	26S	31E	EDDY	BONE SPRING 2ND SAND	6/5/2014 0:00	6.6	138161.9		44458.5	6280.8	29.7	781.3	0	84470	122	0	20
3001540994	10	26S	31E	EDDY	BONE SPRING 2ND SAND	6/5/2014 0:00	6.6	138376		44458.5	6280.8	29.7	781.3	0	84470	122	618	20
3001537899	10	26S	31E	EDDY	AVALON UPPER	6/26/2014 0:00	6.5	199638.8		68948.2	7560.4	111.2	1522.8	2.19	118195	732	0	500
3001539866	10	26S	31E	EDDY	BONE SPRING 2ND SAND	6/26/2014 0:00	6.5	152439.2		48495.7	6731.3	29.1	801.4	1.06	94055	244	0	100
3001537899	10	26S	31E	EDDY	AVALON UPPER	7/19/2011 0:00	7.1	209352.4		70089.5	7327	203	1557	2.5	127230	146.4	600	600
3001538193	11	26S	31E	EDDY	AVALON UPPER	6/26/2014 0:00	6.1	225189.8		77010.7	8743.8	636.1	1649.2	6.75	134075	366	0	300
3001538193	11	26S	31E	EDDY	AVALON UPPER	7/19/2011 0:00	7	196576.7		68797.3	5059	12	1066	0.9	118943	122	872	380
3001538193	11	26S	31E	EDDY	AVALON UPPER	8/31/2011 0:00	7	203078.9		72261.4	4407	112	904	1.5	122172	1098	658	80
3001505886	26	26S	31E	EDDY	DELAWARE			212112							132100	195	425	
3002508253	8	26S	32E	LEA				216350							134500	198	998	
3002508278	25	26S	32E	LEA	DELAWARE			244815							153500	88	220	
3002508291	26	26S	32E	LEA	DELAWARE			254895										
3002508296	26	26S	32E	LEA	DELAWARE			249479							156000	976	373	
3002508308	35	26S	32E	LEA	DELAWARE			255115							160000	85	310	

Table 4 - Chemistry of Produced Water from Devonian Formations

wellname	api	section	township	range	county	state	field	formation	depth	samplesou	sampledate	ph	specificgr	specificgr	tds_mgL	resistivity	resistivity	conductiv	conductiv	sodium_n	calcium_n	magnesiu	chloride_	bicarbona	sulfate_mgL
CROSSROADS DEVONIAN UNIT #001		3002520735	16	10S	36E	LEA	NM	CROSSROA	DEVONIAN		DST				11788								4872	631	2111
CROSSROADS DEVONIAN UNIT #001		3002520735	16	10S	36E	LEA	NM	CROSSROA	DEVONIAN		DST				150646								88710	2811	2394
DEVONIAN STATE #005		3002504728	20	21S	38E	LEA	NM	EUMONT	ARTESIA		UNKNOWN				82730								48060	1349	1455
WEST DOLLARHIDE DEVONIAN UNIT #104		3002512297	32	24S	38E	Lea	NM		ELLENBURGER		FLOW LINE	4/1/1965 0:00	5.8	1.039	77		0.155	65	64340	64	16300	3000	195	30200	183	980
WEST DOLLARHIDE DEVONIAN UNIT #104		3002512297	32	24S	38E	LEA	NM	DOLLARHID	DEVONIAN		WELLHEAD				50858								30200	183	980
WEST DOLLARHIDE DEVONIAN UNIT #110		3002512386	5	25S	38E	LEA	NM	DOLLARHID	DEVONIAN		UNKNOWN				56776										
CROSSROADS SILURO DEVONIAN UNIT #104		3002503632	34	09S	36E	LEA	NM	SWD	DEVONIAN		UNKNOWN				298844								184000	244	200
CROSSROADS SILURO DEVONIAN UNIT #304		3002503610	27	09S	36E	LEA	NM	CROSSROA	PENNSYLVANIAN		SEPARATOI	5/27/1971 0:00	7.5		57475								33700	375	1470
CROSSROADS SILURO DEVONIAN UNIT #202		3002503612	27	09S	36E	LEA	NM	CROSSROA	SILURO-DEVONIAN		HEATER TR	5/27/1971 0:00	7.3		83197								50100	287	1400

OSE Well Logs

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

2018 JUL 13 AM 11:03

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
C-4256-POD1		

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Baker Ranch	480-365-8463

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
P.O. Box 24	Silver City	NM	88062

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	4	23.4	N
	LONGITUDE	103	43	28.3	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD1706	Bryce Wallace	Elite Drillers Corporation

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
06/28/18	07/04/18	666	680	340

COMPLETED WELL IS: ☑ ARTESIAN ☐ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 330

DRILLING FLUID: ☐ AIR ☑ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	100	17.5	ASTM53 Grade B	Welded	12.57	.188	
0	326	12.25	ASTM53 Grade B	Welded	6.065	.288	
326	666	12.25	SDR 17 PVC	Spline	5.8	SDR 17	.032

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	100	17.5	Portland I/II Cement	80	Tremie
0	315	12.25	Portland I/II Cement	187	Tremie
315	666	12.25	Silica Sand 8/16	210	Pour

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. C-4256	POD NO. 1	TRN NO. 626507	
LOCATION 26S.31E.1.2.4.4 EXPL		WELL TAG ID NO. N/A	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	4	4	Red Sand	Y ✓N	
4	19	15	Tan Caliche	Y ✓N	
19	85	66	Red Sand w/ Caliche	Y ✓N	
85	290	205	Red & Tan Sand	Y ✓N	
290	330	40	Red & Blue Clay	Y ✓N	
330	390	60	Red & Blue Siltstone w/ Gravel Stringers	✓Y N	10.00
390	430	40	Red Sandstone w/ Siltstone & Gravel	✓Y N	10.00
430	480	50	Red & Blue Siltstone w/ Gravel	✓Y N	10.00
480	610	130	Red Siltstone & Gray Clay w/ Gravel	✓Y N	10.00
610	680	70	Red, Blue & Gray Clay	Y ✓N	
680	690	10	Red Clay	Y ✓N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☑ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 40.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

Bryce Wallace — 07/16/18

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO. C-4256	POD NO. 1	TRN NO. 626507	
LOCATION 26S.31E.1.2.4.4 EXPL		WELL TAG ID NO. N/A	PAGE 2 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

2018 MAY 21 AM 10: 46

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
C-4209-POD1		

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Baker Ranch	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
P.O. Box 24	Silver City	NM	88062

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	04	02.5	N
	LONGITUDE	103	43	08.8	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD1706	Bryce Wallace	Elite Drillers Corporation

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
4/28/18	5/1/18	360	360	155

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 155

DRILLING FLUID: ☐ AIR ☑ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
+2	200	11	PVC	Spline	6	SDR 21	
200	360	11	PVC	Spline	6	SDR 21	.032

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	25	11	Portland I/II	25	Slurry/Pour
25	360	11	8/16 Silica Sand	145	Pour

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	C-4209	POD NO.	1	TRN NO.	621334
LOCATION	20S.32E.6.3.3.2	EXPL		WELL TAG ID NO.	N/A

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	8	8	Brown Sand	Y ✓N	
8	15	7	Tan Caliche	Y ✓N	
15	350	335	Red Sand	✓Y N	25.00
350	360	10	Red Clay	Y ✓N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☑ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 25.00

STATE ENGINEER OFFICE ROSWELL, NEW MEXICO 2018 MAY 21 AM 9:16

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

Digitally signed by Bryce Wallace Date: 2018.05.17 10:28:50 -05'00'

Bryce Wallace — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

5/17/18 — DATE

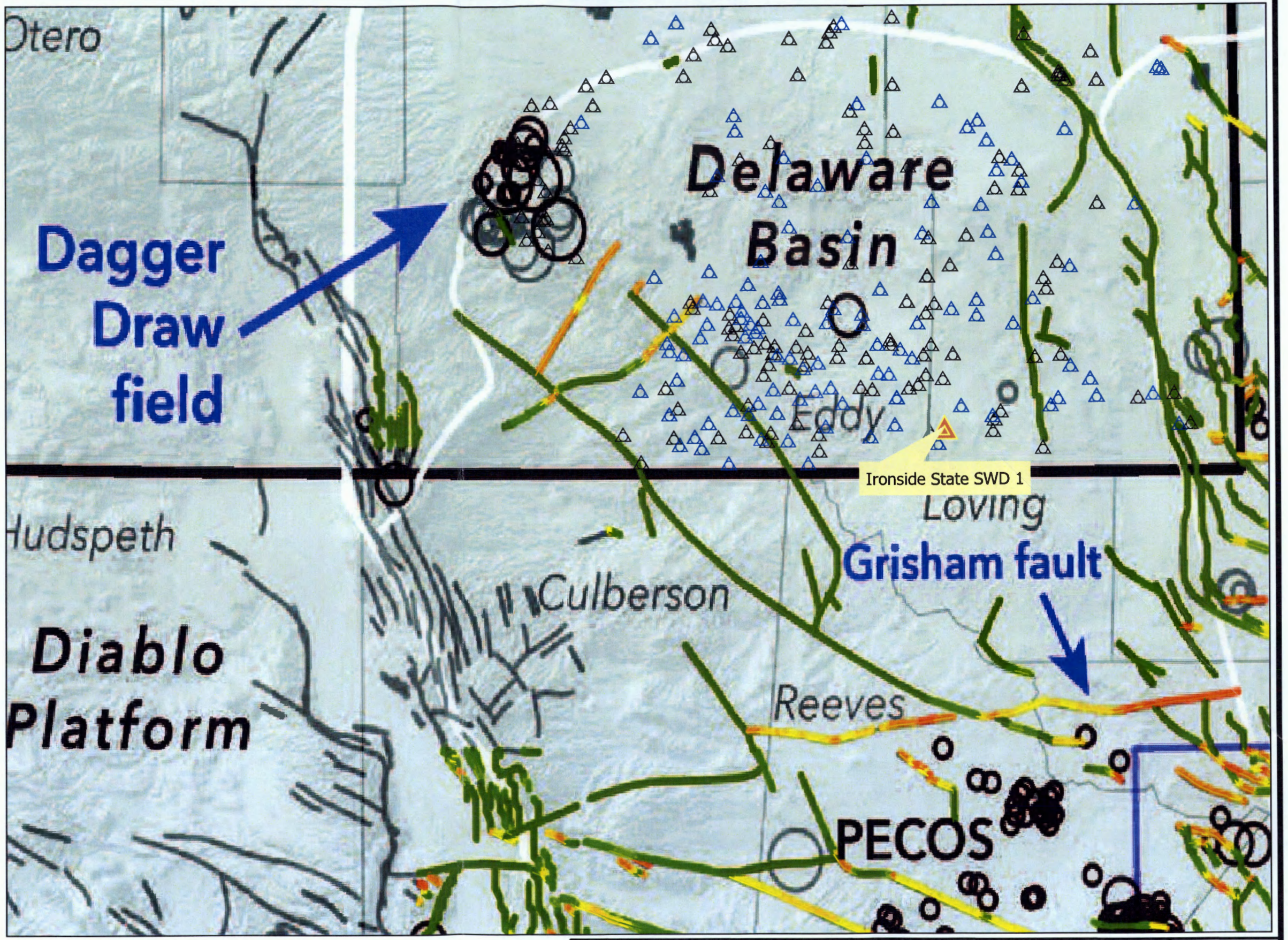
FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO.	C-4209	POD NO.	1	TRN NO.	621334	
LOCATION	26S 32E.16.3.3.2	EXPL		WELL TAG ID NO.	N/A	PAGE 2 OF 2

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

M:\Solaris\SWD\Ironside\arcGISpro\arcGISpro.aprx



Seismicity:

- M_W 2.0-2.9
- M_W 3.0-3.9
- M_W 4.0+
- Since 2005
- 1970-2004

Fault slip potential (%):

0 10 20 30 40 50+

SWD

SWD Devonian Wells (NMOCD)

Symbology

- Salt Water Injection, Active
- Salt Water Injection, New

Seismic and Fault Slip source:
State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity (Jens-Erik Lund Snee and Mark D. Zoback)

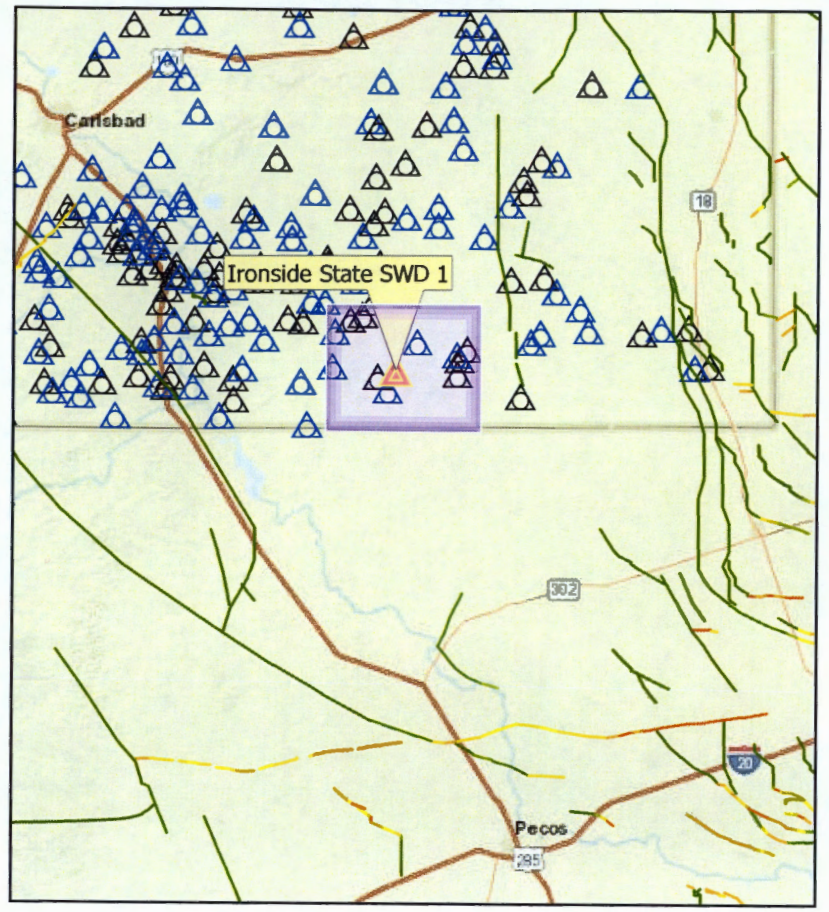
N W E S

0 6 12 Miles

R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

Seismicity and Fault Slip Potential	Plate 4
Solaris Water Midstream Ironside State SWD #1	April 2019

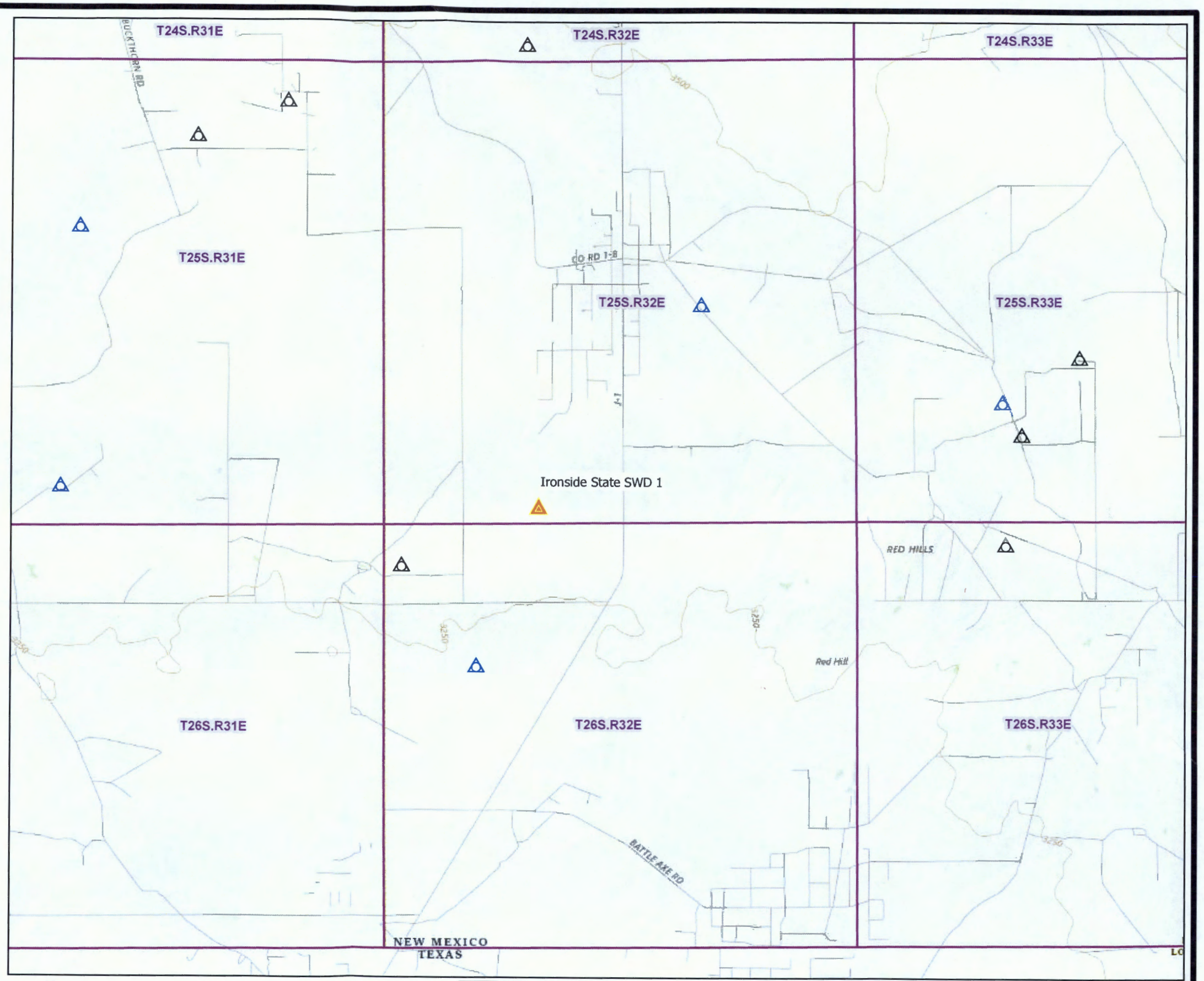
M:\Solaris\SWD\Ironside\arcGISpro\arcGISpro.aprx



Fault Slip Potential (%)

<5	10 -15	25 - 30
5 - 10	15 - 20	30 - 35
	20 - 25	35 - 40

Source: State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity (Jens-Erik Lund Snee and Mark D. Zoback)



SWD

SWD Devonian Wells (NMOCD)

Symbology

Salt Water Injection, Active

Salt Water Injection, New

Township Range

N W E S

0 1 2 Miles

R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

Fault Slip Potential

Solaris Water Midstream
Ironside SWD

Plate 5

April 2019

LEGAL NOTICE
April 23, 2019

Solaris Water Midstream, LLC, 907 Tradewinds Blvd Suite B, Midland, TX 79706 is filing Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for a salt water disposal well. The proposed well, the Ironside SWD No. 1, will be located 1,270 feet from the South line and 175 feet from the East line, Section 32, Township 25 South, Range 32 East, Lea County, New Mexico. Produced water from area production will be commercially disposed into the Devonian, Silurian and Fusselman formations at a depth of 17,125 feet to 18,150 feet at a maximum surface pressure of 4,081 psi and an average injection rate of 30,000 barrels per day. The proposed SWD well is located approximately 27 miles southeast of Loving, New Mexico.

Interested parties wishing to object to the proposed application must file with the New Mexico Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, NM 87505 (505) 476-3460 within 15 days of the date of this notice.

Additional information can be obtained by contacting Mr. Randall Hicks, agent for Solaris Water Midstream, at 505-238-9515.
#34044

7018 1130 0001 8740 9622

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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	$0.55
$	
Total Postage and Fees	$6.85
$	

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City, State, ZIP+4®: MIDLAND, TX 79704

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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☐ Adult Signature Required	$ $0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.55
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Total Postage and Fees	$6.85
$	

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04/22/2019

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Street and Apt. No., or PO Box No.: 333 W. SHERIDAN
City, State, ZIP+4®: OKLAHOMA CITY, OK 73102

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EUNICE, NM 88231

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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	$0.55
$	
Total Postage and Fees	$6.85
$	

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04/22/2019

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Street and Apt. No., or PO Box No.: P.O. Box 364
City, State, ZIP+4®: EUNICE, NM 88231

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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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	$0.55
$	
Total Postage and Fees	$6.85
$	

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04/22/2019

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Street and Apt. No., or PO Box No.: P.O. Box 2267
City, State, ZIP+4®: MIDLAND, TX 79702

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7018 1130 0001 8740 9660

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HOBBS, NM 88241

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$	$2.80
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☐ 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	$0.55
$	
Total Postage and Fees	$6.85
$	

0501 02
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APR 22 2019
04/22/2019

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Street and Apt. No., or PO Box No.: P.O. Box 5270
City, State, ZIP+4®: HOBBS, NM 88241

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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$	$2.80
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	$0.55
$	
Total Postage and Fees	$6.85
$	

0501 02
Postmark Here
APR 22 2019
04/22/2019

Sent To: COG PRODUCTION, LLC
Street and Apt. No., or PO Box No.: P.O. Box 2064
City, State, ZIP+4®: MIDLAND, TX 79702

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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For delivery information, visit our website at *www.usps.com®*.
MIDLAND, TX 79701

Certified Mail Fee	$3.50
Extra Services & Fees (check box, add fee as appropriate)	$2.80
☐ 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	$0.55
Total Postage and Fees	$6.85

0501 02
Postmark Here
APR 22 2019
04/22/2019

Sent To: CIMAREX ENERGY CO. OF COLO.
Street and Apt. No., or PO Box No.: 600 N. MARIENFELD, STE. 600
City, State, ZIP+4®: MIDLAND, TX 79701

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☐ Return Receipt (hardcopy)	$0.00
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☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
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Sent To: MESQUITE SWD, INC.
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SAN ANGELO, TX 76903

Certified Mail Fee	$3.50
Extra Services & Fees (check box, add fee as appropriate)	$2.80
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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	$0.55
Total Postage and Fees	$6.85

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Sent To: 3-M ENERGY CO.
Street and Apt. No., or PO Box No.: 502 KOENIGHEIM ST. #2B
City, State, ZIP+4®: SAN ANGELO, TX 76903

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Extra Services & Fees (check box, add fee as appropriate)	$2.80
☐ 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	$0.55
Total Postage and Fees	$6.85

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Sent To: OGX RESOURCES
Street and Apt. No., or PO Box No.: P.O. BOX 2064
City, State, ZIP+4®: MIDLAND, TX 79702

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IRVING, TX 75039

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Extra Services & Fees (check box, add fee as appropriate)	$2.80
☐ 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	$0.55
Total Postage and Fees	$6.85

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Sent To: MAGNUM HUNTER PROD. INC.
Street and Apt. No., or PO Box No.: 600 EAST LAS COLINAS BLVD, #1100
City, State, ZIP+4®: IRVING, TX 75039

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MIDLAND, TX 79706

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Extra Services & Fees (check box, add fee as appropriate)	$2.80
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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	$0.55
Total Postage and Fees	$6.85

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Sent To: CHEVRON USA, INC.
Street and Apt. No., or PO Box No.: 6301 DEAUVILLE BLVD.
City, State, ZIP+4®: MIDLAND, TX 79706

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ARTESIA, NM 88210

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$	$2.80
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	$0.55
$	
Total Postage and Fees	$6.85
$	

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EOG-Y RESOURCES, INC.
Street and Apt. No., or PO Box No.
104 S. 4TH ST.
City, State, ZIP+4®
ARTESIA, NM 88210

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SANTA FE, NM 87501

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$	$2.80
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	$0.55
$	
Total Postage and Fees	$6.85
$	

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NEW MEXICO STATE LAND OFFICE
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310 OLD SANTA FE TRAIL
City, State, ZIP+4®
SANTA FE, NM 87504

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Certified Mail Fee	$3.50
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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	$0.55
$	
Total Postage and Fees	$6.85
$	

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Sent To
BUREAU OF LAND MANAGEMENT
Street and Apt. No., or PO Box No.
620 E. GREENE ST.
City, State, ZIP+4®
CARLSBAD, NM 88220

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Subject **Ironside**
From Drew Dixon <drew.dixon@solarismidstream.com>,
To ed@rthicksconsult.com <ed@rthicksconsult.com>,
Date Apr 24 2019 6:48 PM

LEGAL NOTICE APRIL 24, 2019 Newspaper Publication Notice Permian Oilfield Partners, LLC, PO Box 1220, Stephenville, TX 76401, phone (817)606-7630, attention Gary Fisher, has filed form C-108 (Application for Authorization for Injection) with the New Mexico Oil Conservation Division seeking approval to drill a commercial salt water disposal well in Lea County, New Mexico. The well name is the Monsoon Federal SWD #1, and is located 1659' FSL & 1225' FEL, Unit Letter I, Section 33, Township 25 South, Range 32 East, NMPM. The well will dispose of water produced from nearby oil and gas wells into the Devonian formation from a depth of 17,235 feet to 18,627 feet. The maximum expected injection rate is 50,000 BWPD at a maximum surface injection pressure of 3,447 psi. Interested parties must file objections or requests for hearing with the New Mexico Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico, 87505 within 15 days. #34071

Drew Dixon
Vice President Land, Permitting & Regulatory
Solaris Water Midstream, LLC
O: 832.304.7028 | M: 501.278.1923
www.solarismidstream.com