

RECEIVED: <b>3/29/2018</b>	REVIEWER:	TYPE: <b>SWD</b>	APP NO: <b>PMAM1808857961</b>
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

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



**ADMINISTRATIVE APPLICATION CHECKLIST**

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

**Applicant:** Delaware Energy, LLC **OGRID Number:** 371195  
**Well Name:** Ruehle SWD #1 **API:**  
**Pool:** SWD; Devonian **Pool Code:** 96101

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

**SWD**

MAR 29 2018 PM03:19

**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

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

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

**FOR OCD ONLY**

- ☐ Notice Complete  
☐ Application  
 Content  
 Complete

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

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

Sarah Presley

Print or Type Name

*Sarah Presley*  
 Signature

3/26/2018

Date

432-685-7005

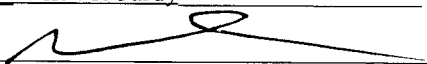
Phone Number

s.presley@delawareenergy.com

e-mail Address

**APPLICATION FOR AUTHORIZATION TO INJECT**

MAR 29 2018 PM 03:19

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance \_\_\_\_\_ XXX \_\_\_\_\_ Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval? \_\_\_\_\_ XX \_\_\_\_\_ Yes \_\_\_\_\_ No
- II. OPERATOR: \_\_\_\_\_ Delaware Energy, LLC \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ 405 North Marienfeld, Suite 250, Midland TX 79701 \_\_\_\_\_  
CONTACT PARTY: \_\_\_\_\_ Mike McCurdy \_\_\_\_\_ PHONE: \_\_\_\_\_ 432-685-7005 \_\_\_\_\_
- 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 \_\_\_\_\_ XXXX \_\_\_\_\_ 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: \_\_\_\_\_ Mike McCurdy \_\_\_\_\_ TITLE: \_\_\_\_\_ Vice-President \_\_\_\_\_  
SIGNATURE: \_\_\_\_\_  \_\_\_\_\_ DATE: \_\_\_\_\_ 03/15/2018 \_\_\_\_\_  
E-MAIL ADDRESS: \_\_\_\_\_ m.mccurdy@delawareenergy.com \_\_\_\_\_
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

### III. WELL DATA

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

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

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

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

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

### XIV. PROOF OF NOTICE

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

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

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

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

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

Additional Questions on C-108

**VII.**

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

Average 15,000-20,000 BWPD, Max 25,000 BWPD

**2. Whether the system is open or closed;**

Open System, Commercial SWD

**3. Proposed average and maximum injection pressure;**

Average 1,500-1,800 PSI, Max 2,580 PSI

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

Bone Spring, Delaware, and Wolfcamp produced water. No known incompatibility exists with these produced water types and the Devonian. Devonian formation is used as a disposal interval throughout the Delaware Basin for Wolfcamp, Bone Springs, and Delaware produced water. See attached water analysis from Bone Spring, Wolfcamp, and Delaware produced water.

**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.).**

Disposal interval tested Sulphur water by Mewbourne in nearby Top Gunn #1 SWD.

**\*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.**

The proposed disposal interval is in the Devonian formations 12,900'-13,900'. Devonian is an impermeable organic Shale at the very top (12,800ft, Woodford Shale) 100ft thick followed by permeable lime, dolomite, and small amount of shale 1000ft thick. There are no fresh water zones underlying the proposed injection zone. Usable water depth is from surface to 300', the water source is older alluvium (Quaternary). All of the fresh water wells in the area have an average depth to water of 172ft – 175ft. The Devonian was tested in the offset Top Gunn and produced Sulphur water.

**IX. Describe the proposed stimulation program, if any.**

60,000 gallons 20% HCL acid job with packer

**X. Attach appropriate logging and test data on the well**

Mud log will be filed after the well has been drilled. All cased hole and open hole Logs will be filed following drilling operations.

**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 wells were found within a 1 mile radius.

**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.**

Delaware Energy, L.L.C. has reviewed and examined available geologic and engineering data in the area of interest for the Ruehle SWD #1 and have found no evidence of faults or other hydrologic connections between Devonian disposal zone and the underground sources of drinking water. Furthermore, there exist many impermeable intervals between the injection interval and the fresh ground water from the top of the Devonian Carbonate and the base of the ground water.

Mike McCurdy Vice President 03/15/2018  
 Title Date

### III. WELL DATA

**(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.**

Ruehle SWD #1, Sec. 28-T23S-R27E, 660' FSL & 660' FEL, UL P, Eddy County, New Mexico

**(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.**

Casing Size	Setting Depth	Sacks of Cement	Hole Size	Top of Cement	Determined
13-3/8"	500'	450	17-1/2"	Surface	CIRC
9-5/8"	9,000'	2500	12-1/4"	Surface	CIRC
7-5/8"	8,800'-12,900'	650	8-1/2"	Surface	CIRC

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

5-1/2" X 5" OD, Internally Fiber Glass Coated Tubing set 50 to 100ft above open hole

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

Weatherford Arrow Set 1X injection packer with on/off tool

**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.**

Devonian Formation

Pool Name: SWD (Devonian)

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

12,900' to 13,900' (OH)

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

Well is a planned new drill for SWD

**(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.**

None, well is a planned new drill

**(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.**

Next Higher: Morrow 11,320'-12,000', Atoka 10,660'-11,320', Strawn 10,430'-10,660', Wolfcamp 8,620'-10,430', Bone Springs 5,130'-8,620'.

Next Lower: None

INJECTION WELL DATA SHEET

OPERATOR: Delaware Energy, LLC

WELL NAME & NUMBER: Ruehle SWD #1

WELL LOCATION: 660' FSL & 660' FEL  
FOOTAGE LOCATION

UNIT LETTER P SECTION 28 TOWNSHIP 23S RANGE 27E

WELLBORE SCHEMATIC see attached wellbore sketch

WELL CONSTRUCTION DATA  
Surface Casing

Hole Size: 17.5" Casing Size: 13-3/8", 54.5#

Cemented with: 450 sx. or ft<sup>3</sup>

Top of Cement: surface Method Determined: Plan to Circulate

Intermediate Casing

Hole Size: 12-1/4" Casing Size: 9-5/8", 47#, L-80

Cemented with: 2,500' sx. or ft<sup>3</sup>

Top of Cement: surface Method Determined: Plan to Circulate

Production Casing

Hole Size: 8-1/2" Casing Size: 7-5/8", 39#, P-110

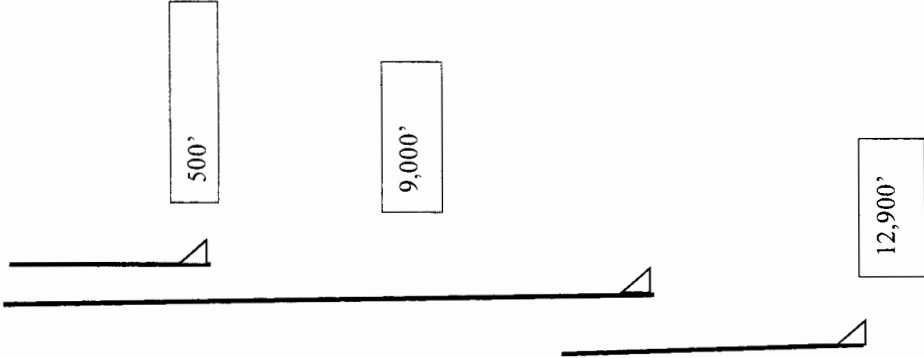
Cemented with: 650 sx. or ft<sup>3</sup>

Top of Cement: Surface Method Determined: Plan to Circulate to liner top

Total Depth: 12,900'

Injection Interval

12,900' feet to 13,900'  
(OPEN HOLE)



**INJECTION WELL DATA SHEET**

Tubing Size: 5.5"x 5.0" tapered string Lining Material: Fiber Glass

Type of Packer: Weatherford Arrow Set IX

Packer Setting Depth: 12,850'

Other Type of Tubing/Casing Seal (if applicable): none

Additional Data

1. Is this a new well drilled for injection? XXXXXX Yes      No       
 If no, for what purpose was the well originally drilled? N/A

2. Name of the Injection Formation: Devonian

3. Name of Field or Pool (if applicable): SWD; Devonian

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. N/A

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

Below: none

Next Higher: Morrow 11,320'-12,000', Atoka 10,660'-11,320', Strawn 10,430'-10,660', Wolfcamp 8,620'-10,430', Bone Springs 5,130'-8,620'.



# DE DELAWARE ENERGY SERVICES

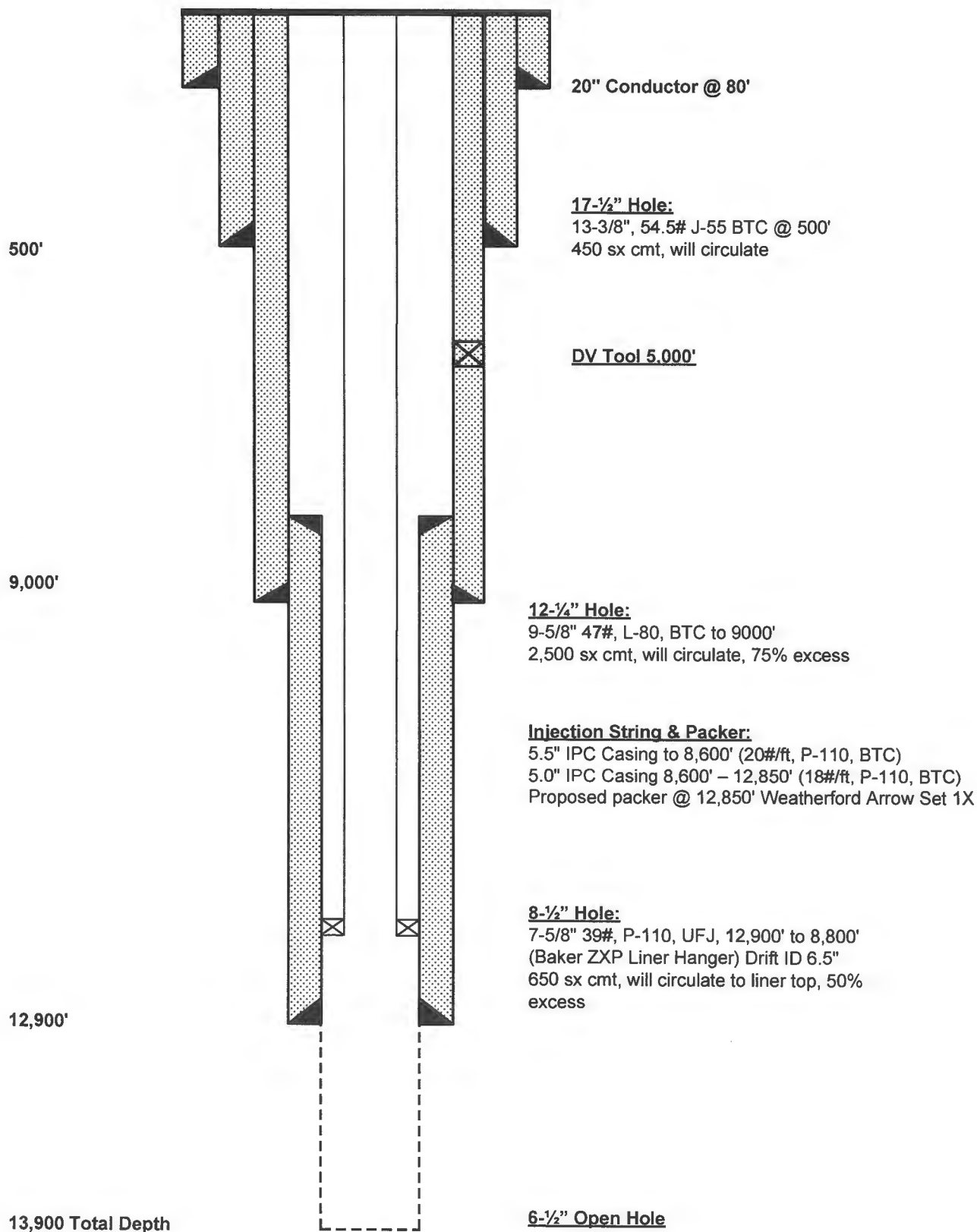
## Ruehle SWD #1

API # 30-015-~~44~~853  
600' FSL & 660' FEL, 28, T23S, R27E  
EDDY COUNTY, NEW MEXICO

### ELEVATION:

GL: 3,184

### PROPOSED WELLBORE



DISTRICT I  
1825 N. French Dr., Hobbs, NM 88240  
Phone (575) 393-8181 Fax: (575) 393-0720

DISTRICT II  
811 S. First St., Artesia, NM 88210  
Phone (505) 748-1283 Fax: (505) 748-9720

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone (505) 334-8178 Fax: (505) 334-8170

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name RUEHLE SWD	Well Number 1
OGRID No. 371195	Operator Name DELAWARE ENERGY	Elevation 3184'

Surface Location

UL or lot No. P	Section 28	Township 23 S	Range 27 E	Lot Idn	Feet from the 660	North/South line SOUTH	Feet from the 660	East/West line EAST	County EDDY
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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

N:466710.5 E:581463.2 (NAD 83)			N:466556.8 E:586705.7 (NAD 83)
<div>3184.2' 3182.2' O S.L. 3185.3' 3183.8'</div>			
<div>SURFACE LOCATION Lat - N 32.270189° Long - W 104.188516° NMSPCE- N 462058.0 E 586097.1 (NAD-83)</div>			
N:461396.6 E:581479.4 (NAD 83)	N:461397.4 E:584122.3 (NAD 83)		N:461398.3 E:586764.7 (NAD 83)

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.

*Sarah Presley* 3.15.18  
Signature Date

Sarah Presley  
Printed Name

s.presley@delawareenergy.com  
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 supervision, and that the same is true and correct to the best of my belief.

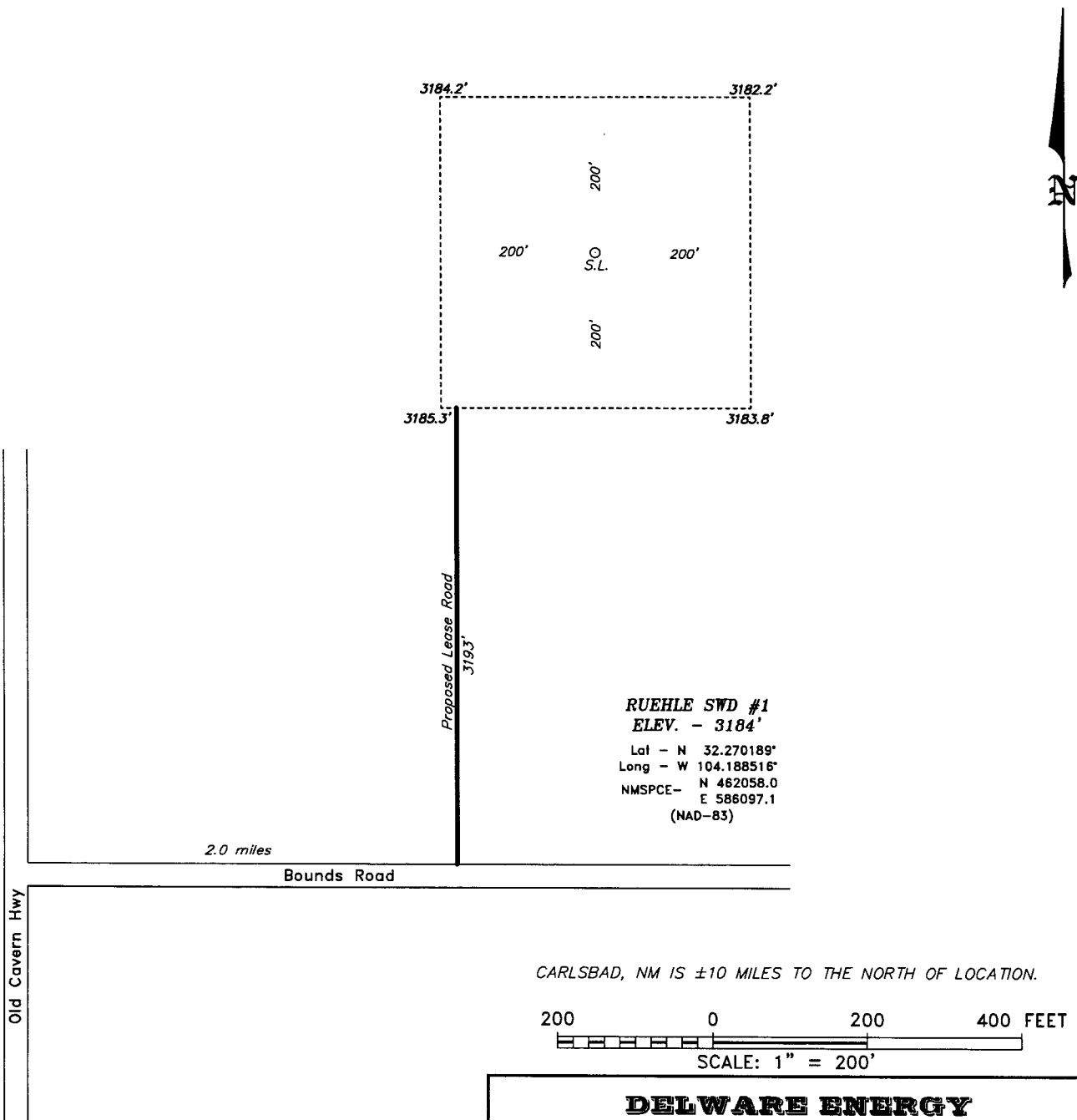
MARCH 06, 2018  
Date Surveyed

*[Signature]*  
Signature of Professional Surveyor

7977  
Certificate No. GUY L. JONES 7977  
BASIC SURVEYOR

0' 500' 1000' 1500' 2000'  
SCALE: 1" = 1000'  
WO Num.: 33603

**SECTION 28, TOWNSHIP 23 SOUTH, RANGE 27 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.**



**DELAWARE ENERGY**

REF: RUEHLE SWD #1 / WELL PAD TOPO

THE RUEHLE SWD #1 LOCATED 660' FROM  
THE SOUTH LINE AND 660' FROM THE EAST LINE OF  
SECTION 28, TOWNSHIP 23 SOUTH, RANGE 27 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.



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: 33603

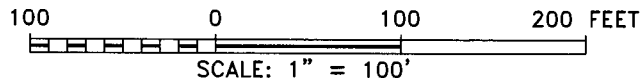
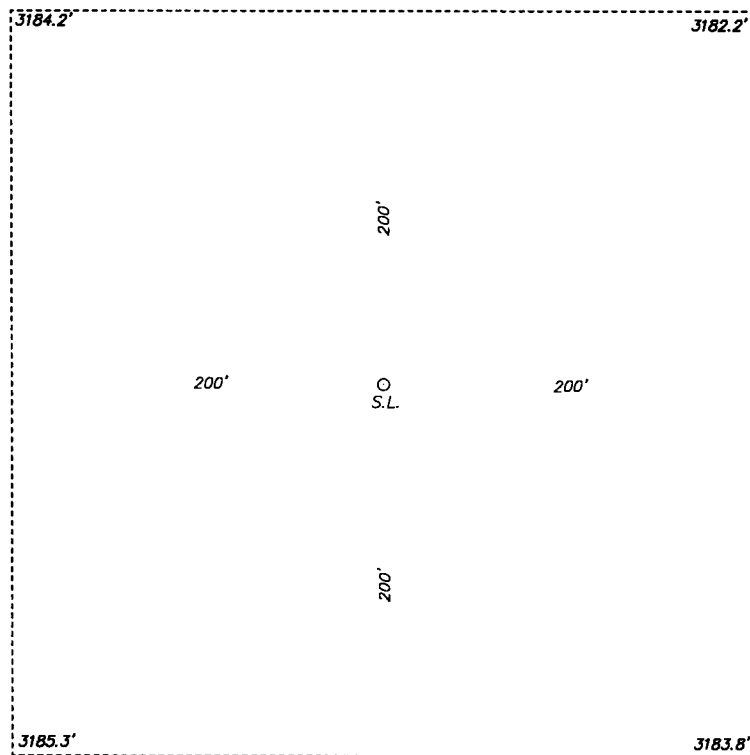
Drawn By: K. GOAD

Date: 03-09-2018

Survey Date: 03-06-2018

Sheet 1 of 1 Sheets

**SECTION 28, TOWNSHIP 23 SOUTH, RANGE 27 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.**



**DELAWARE ENERGY**

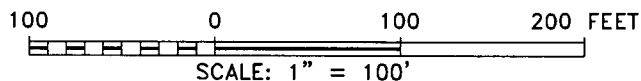
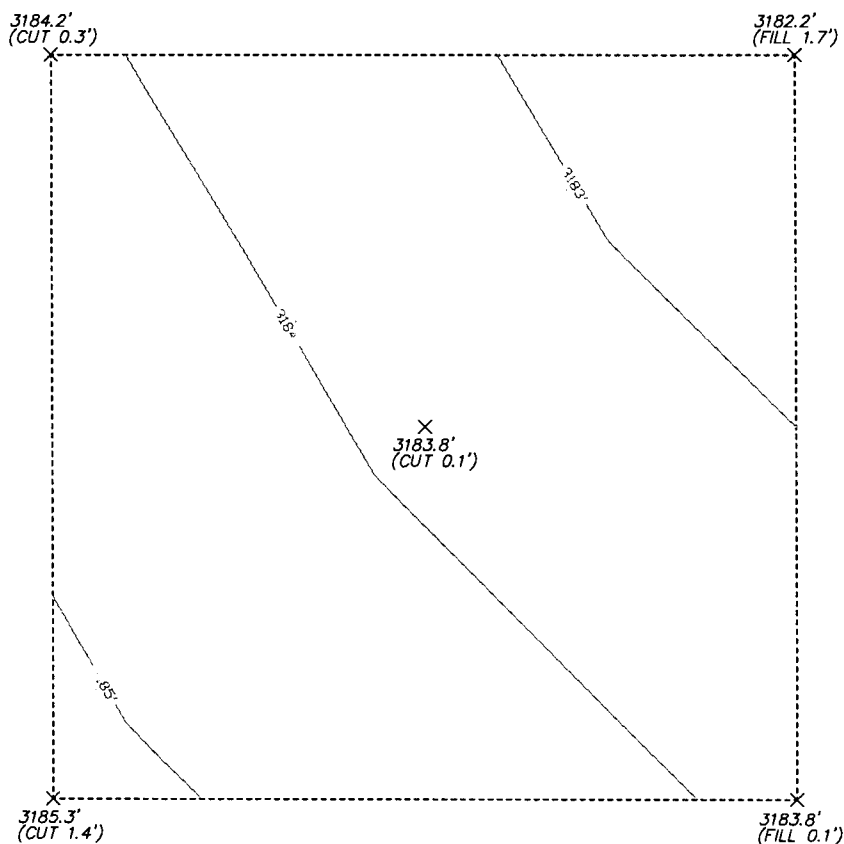
REF: RUEHLE SWD #1 / WELL PAD TOPO

THE RUEHLE SWD #1 LOCATED 660' FROM  
THE SOUTH LINE AND 660' FROM THE EAST LINE OF  
SECTION 28, TOWNSHIP 23 SOUTH, RANGE 27 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.



P.O. Box 1786 (575) 393-7316 - Office  
1120 N. West County Rd. (575) 392-2206 - Fax  
Hobbs, New Mexico 88241 basinsurveys.com

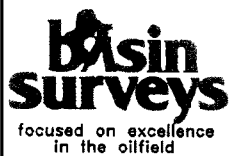
**SECTION 28, TOWNSHIP 23 SOUTH, RANGE 27 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.**



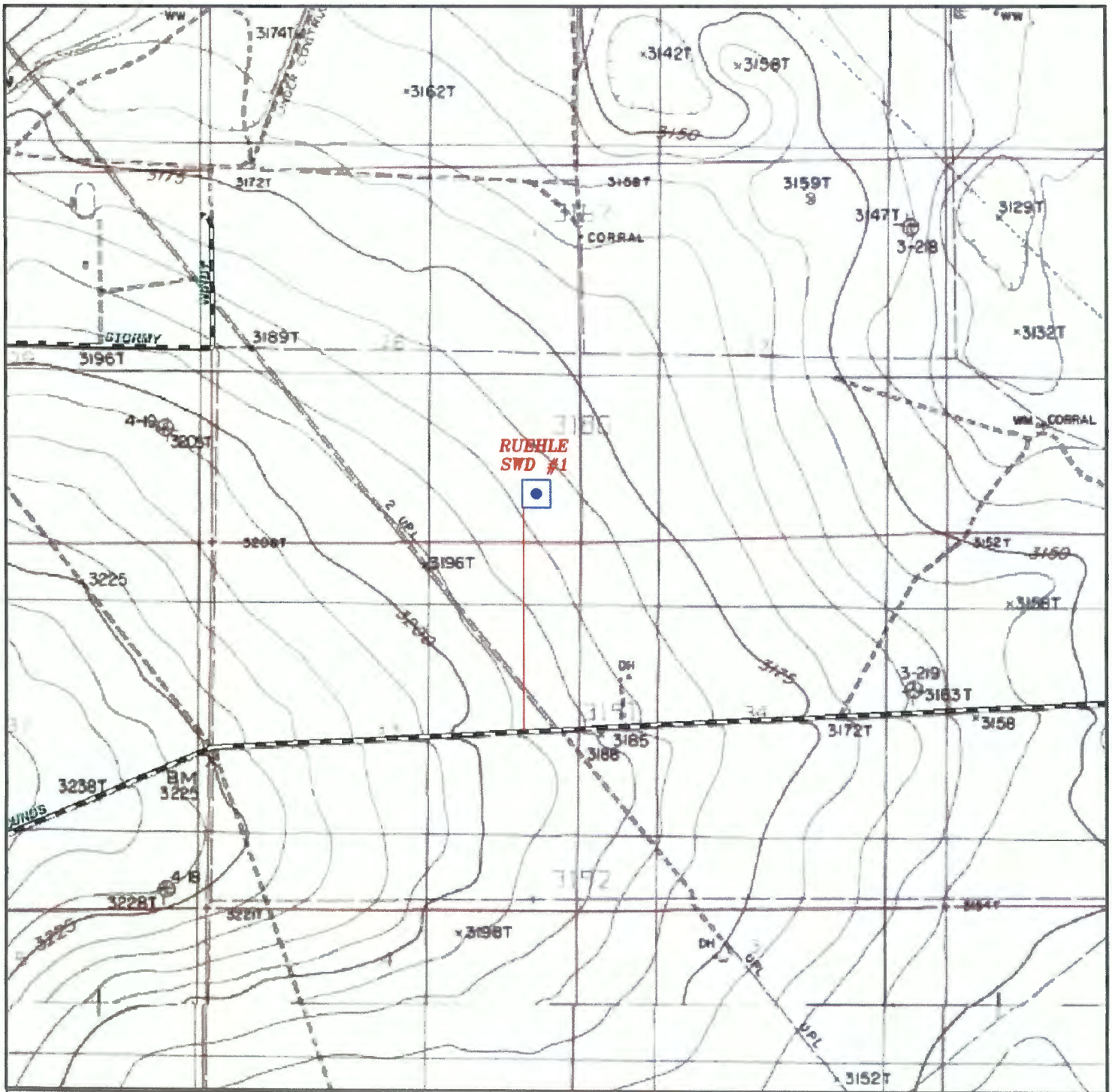
**DELMARE ENERGY**

REF: RUEHLE SWD #1 / CUT & FILL

THE RUEHLE SWD #1 LOCATED 660' FROM  
THE SOUTH LINE AND 660' FROM THE EAST LINE OF  
SECTION 28, TOWNSHIP 23 SOUTH, RANGE 27 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.



P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(575) 393-7316 - Office  
(575) 392-2206 - Fax  
basinsurveys.com



### RUEHLE SWD #1

Located 660' FSL & 660' FEL  
 Section 28, Township 23 South, Range 27 East,  
 N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
 1120 N. West County Rd.  
 Hobbs, New Mexico 88241  
 (575) 393-7316 - Office  
 (575) 392-2206 - Fax  
 basinsurveys.com

0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

W.O. Number: KJG - 33603

Survey Date: 03-06-2018

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



**DELAWARE  
 ENERGY**





### RUEHLE SWD #1

Located 660' FSL & 660' FEL  
 Section 28, Township 23 South, Range 27 East,  
 N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
 1120 N. West County Rd.  
 Hobbs, New Mexico 88241  
 (575) 393-7316 - Office  
 (575) 392-2206 - Fax  
 basinsurveys.com

0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

W.O. Number: KJG - 33603

Survey Date: 03-06-2018

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



**DELAWARE  
 ENERGY**



# DELAWARE ENERGY



Sec 22, T25S, R28E

North Permian Basin Region

P.O. Box 740

Sundown, TX 79372-0740

(806) 228-8121

Lab Team Leader - Sheila Hernandez

(432) 495-7240

Bone Spring

## Water Analysis Report by Baker Petrolite

Company:		Sales RDT:	33514.1
Region:	PERMIAN BASIN	Account Manager:	TONY HERNANDEZ (575) 910-7135
Area:	ARTESIA, NM	Sample #:	534665
Lease/Platform:	PINOCHLE 'BPN' STATE COM	Analysis ID #:	106795
Entity (or well #):	2 H	Analysis Cost:	\$90.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary		Analysis of Sample 534665 @ 75 F					
Sampling Date:	03/10/11	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	03/18/11	Chloride:	109618.0	3091.92	Sodium:	70275.7	3058.82
Analyst:	SANDRA GOMEZ	Bicarbonate:	2135.0	34.99	Magnesium:	195.0	18.04
TDS (mg/l or g/m3):	184911.1	Carbonate:	0.0	0.	Calcium:	844.0	42.12
Density (g/cm3, tonne/m3):	1.113	Sulfate:	747.0	15.55	Strontium:	220.0	5.02
Anion/Cation Ratio:	1	Phosphate:			Barium:	0.8	0.01
		Borate:			Iron:	6.5	0.23
		Silicate:			Potassium:	889.0	22.22
Carbon Dioxide:	0.50 PPM	Hydrogen Sulfide:		0 PPM	Aluminum:		
Oxygen:		pH at time of sampling:		7	Chromium:		
Comments:		pH at time of analysis:			Copper:		
		pH used in Calculation:		7	Lead:		
					Manganese:	0.100	0.
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite CaCO <sub>3</sub>		Gypsum CaSO <sub>4</sub> ·2H <sub>2</sub> O		Anhydrite CaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Barite BaSO <sub>4</sub>		CO <sub>2</sub> Press
		Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	1.08	188.52	-1.20	0.00	-1.18	0.00	-0.11	0.00	0.56	0.29	1.72
100	0	1.10	206.05	-1.28	0.00	-1.20	0.00	-0.15	0.00	0.35	0.29	2.35
120	0	1.12	224.17	-1.36	0.00	-1.19	0.00	-0.17	0.00	0.16	0.00	3.17
140	0	1.13	243.17	-1.42	0.00	-1.18	0.00	-0.18	0.00	0.00	0.00	4.21

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

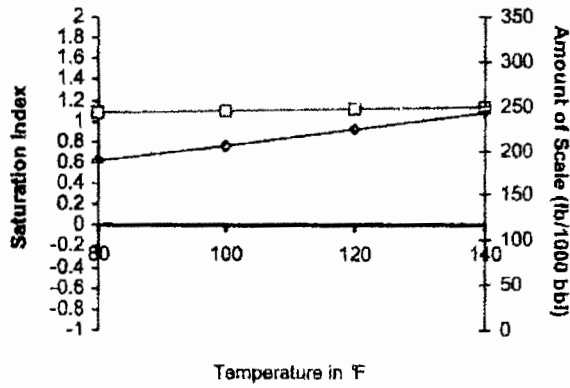
Note 3: The reported CO<sub>2</sub> pressure is actually the calculated CO<sub>2</sub> fugacity. It is usually nearly the same as the CO<sub>2</sub> partial pressure.

# Scale Predictions from Baker Petrolite

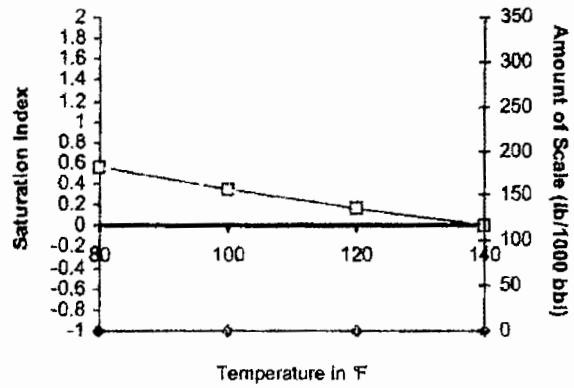
Analysis of Sample 534665 @ 75 °F for

03/18/11

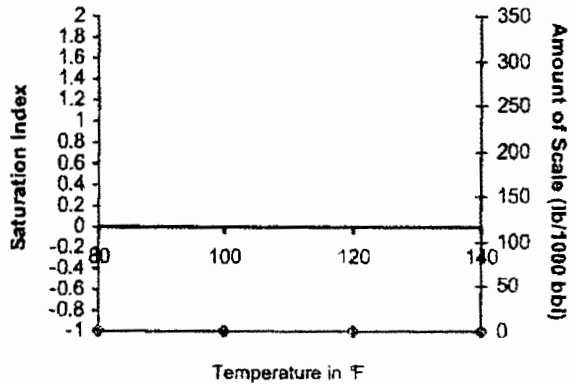
Calcite -  $\text{CaCO}_3$



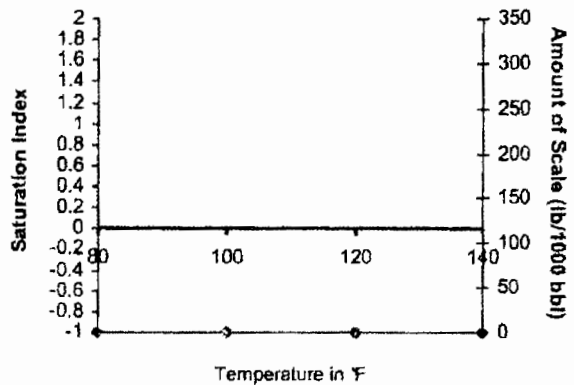
Barite -  $\text{BaSO}_4$



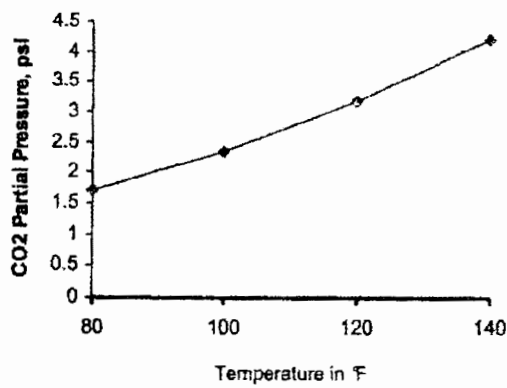
Gypsum -  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$



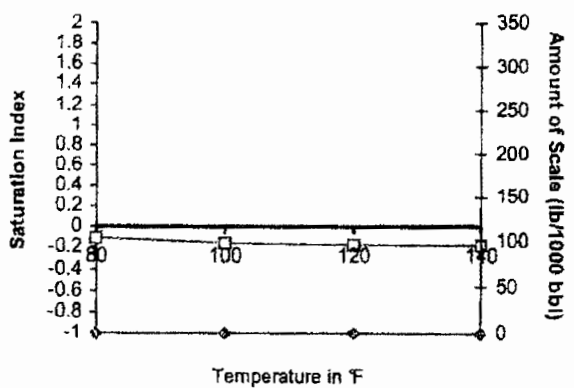
Anhydrite -  $\text{CaSO}_4$



Carbon Dioxide Partial Pressure



Celestite -  $\text{SrSO}_4$



Wolfcamp



# Water Analysis

Date: 23-Aug-11

2708 West County Road, Hobbs NM 88240

Phone (575) 392-5556 Fax (575) 392-7307

Analyzed For

Brushy Draw 1#1

Company	Well Name	County	State
	BD	Lea	New Mexico

Sample Source

Swab Sample

Sample #

1

Formation

Depth

Specific Gravity	1.170	SG @ 60 °F	1.172
pH	6.30	Sulfides	Absent
Temperature (°F)	70	Reducing Agents	

## Cations

Sodium (Calc)	in Mg/L	77,962	in PPM	66,520
Calcium	in Mg/L	4,000	in PPM	3,413
Magnesium	in Mg/L	1,200	in PPM	1,024
Soluble Iron (FE2)	in Mg/L	10.0	in PPM	9

## Anions

Chlorides	in Mg/L	130,000	in PPM	110,922
Sulfates	in Mg/L	250	in PPM	213
Bicarbonates	in Mg/L	127	in PPM	108
Total Hardness (as CaCO3)	in Mg/L	15,000	in PPM	12,799
Total Dissolved Solids (Calc)	in Mg/L	213,549	in PPM	182,209
Equivalent NaCl Concentration	in Mg/L	182,868	in PPM	156,031

## Scaling Tendencies

\*Calcium Carbonate Index 507,520

Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable

\*Calcium Sulfate (Gyp) Index 1,000,000

Below 500,000 Remote / 500,000 - 10,000,000 Possible / Above 10,000,000 Probable

\*\*This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.

Remarks RW=.048@70F

Report # 3188

Sec 16, T23S R 28E



PRODUCTION DEPARTMENT

MILLER CHEMICALS, INC.

Post Office Box 298  
Artesia, N.M. 88211-0298  
(505) 746-1919 Artesia Office  
(505) 392-2893 Hobbs Office  
(505) 746-1918 Fax  
mci@platesautel.net

Delaware Brushy Canyon

WATER ANALYSIS REPORT

Company : Date : MARCH 17, 2008  
Address : Date Sampled : MARCH 17, 2008  
Lease : LOVING "AIB" Analysis No. :  
Well : #15  
Sample Pt. : WELLHEAD

ANALYSIS	mg/L	* meq/L
1. pH	6.0	
2. H2S	0	
3. Specific Gravity	1.070	
4. Total Dissolved Solids	304684.9	
5. Suspended Solids	NR	
6. Dissolved Oxygen	NR	
7. Dissolved CO2	NR	
8. Oil In Water	NR	
9. Phenolphthalein Alkalinity (CaCO3)		
10. Methyl Orange Alkalinity (CaCO3)		
11. Bicarbonate	HCO3 927.0	HCO3 15.2
12. Chloride	Cl 187440.0	Cl 5287.4
13. Sulfate	SO4 500.0	SO4 10.4
14. Calcium	Ca 37200.0	Ca 1856.3
15. Magnesium	Mg 996.3	Mg 82.0
16. Sodium (calculated)	Na 77586.6	Na 3374.8
17. Iron	Fe 35.0	
18. Barium	Ba NR	
19. Strontium	Sr NR	
20. Total Hardness (CaCO3)	97000.0	

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
+-----+			
1856  *Ca <----- *HCO3   15	Ca(HCO3)2	81.0 15.2	1231
-----  /----->  -----	CaSO4	68.1 10.4	709
82  *Mg -----> *SO4   10	CaCl2	55.5 1830.7	101584
-----  <-----/  -----	Mg(HCO3)2	73.2	
3375  *Na -----> *Cl   5287	MgSO4	60.2	
+-----+	MgCl2	47.6 82.0	3902
Saturation Values Dist. Water 20 C	NaHCO3	84.0	
CaCO3 13 mg/L	Na2SO4	71.0	
CaSO4 * 2H2O 2090 mg/L	NaCl	58.4 3374.8	197223
BaSO4 2.4 mg/L			

REMARKS:

April 13, 2018

Oil Conservation Division  
Attn: Mr. Phillip Goetze  
1220 South St. Francis Drive  
Santa Fe, NM 87505

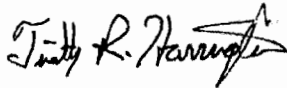
RE: Application of Delaware Energy, LLC for a Disposal Well Permit  
Ruehle SWD #1  
660' FSL, 660' FEL, Unit Letter P  
Section 28, Township 23S, Range 27E  
Eddy County, TX

Dear Mr. Goetze:

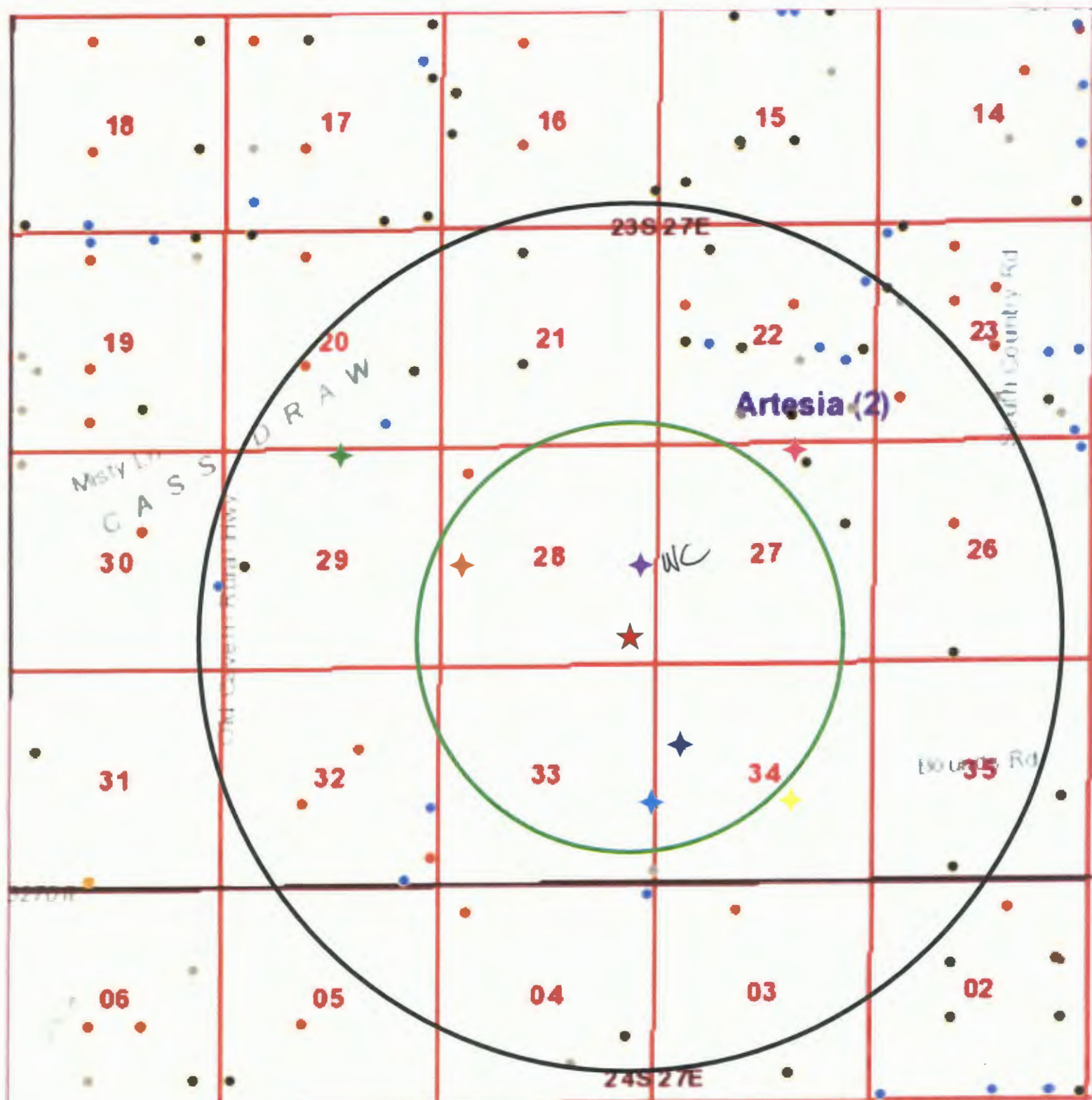
Mewbourne Oil Company has negotiated terms, with Delaware Energy, LLC, that will minimize the impact of the Ruehle SWD #1 on our future development and production operations. We therefore drop our protest to this SWD application.

Please contact me if you have any questions.

Very truly yours,

A handwritten signature in black ink, appearing to read "Tim R. Harrington", with a stylized flourish at the end.

Tim Harrington  
903-561-2900  
tharrington@mewbourne.com



### WELLS - ONE MILE RADIUS

#### SECTION 27-T23S-R27E

- ◆ Forehand Ranch 27 State Com #1H  
(Producing Well)  
Caza Operating, LLC (Operator) *BS*  
200 N. Loraine, Suite 1550  
Midland, TX 79701

#### SECTION 29-T23S-R27E

- ◆ Goose 29 28 W2BA State Com #1H  
(Producing Well)  
Mewbourne Oil Co. (OPERATOR)  
P.O. Box 7698  
Tyler, Texas 75711

#### SECTION 28-T23S-R27E

- ★ Ruehle SWD #1 (Proposed SWD Location)  
Delaware Energy, LLC

- ◆ Hollywood 28 33 W2IP Federal Com #1H  
(Producing Well)  
Mewbourne Oil Co. (OPERATOR) *WC*  
P.O. Box 7698  
Tyler, Texas 75711

#### SECTION 33-T23S-R27E

- ◆ Lone Ranger 33 State #2H  
(Producing Well)  
Devon Production Company, LP (OPERATOR)  
333 West Sheridan Avenue  
Oklahoma City, OK 73102

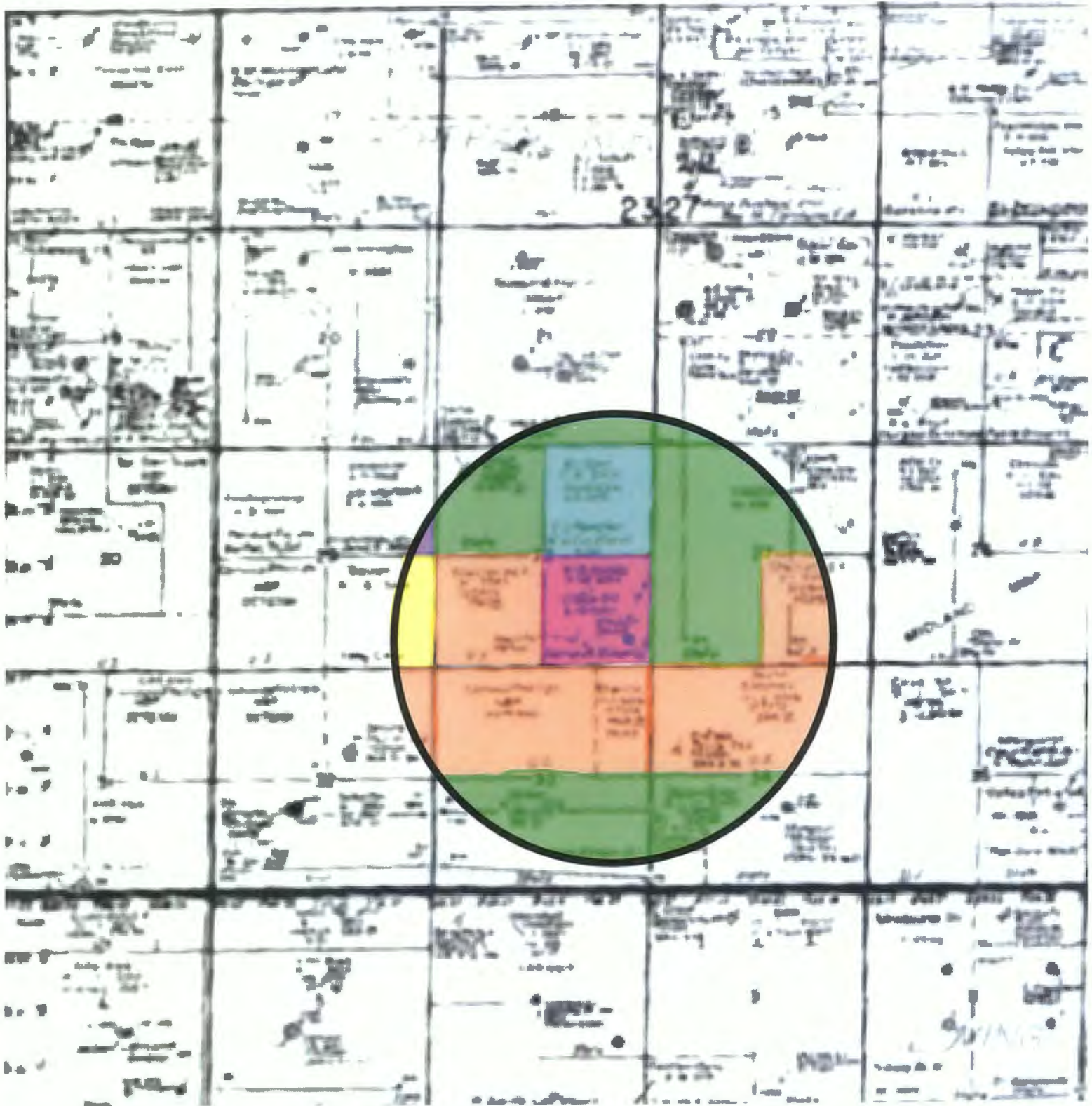
#### SECTION 34-T23S-R27E

- ◆ Terra Federal #1  
(PLUGGED AND ABANDONED)

- ◆ Hollywood 28 33 W2LM Federal Com #1H  
(Active Permit)  
Mewbourne Oil Co. (OPERATOR)  
P.O. Box 7698  
Tyler, Texas 75711

- ◆ Pure Grace State #1  
(Producing Well)  
Devon Production Company, LP (OPERATOR)  
333 West Sheridan Avenue  
Oklahoma City, OK 73102





### SURFACE OWNERS – ONE MILE RADIUS

#### SECTION 27,33 & 34 -T23S-R27E

- **State of New Mexico**  
310 Old Santa Fe Trail  
Santa Fe, New Mexico 87504
- **Bureau of Land Management**  
301 Dinosaur Trail  
Santa Fe, New Mexico 87508

#### SECTION 28-T23S-R27E

- **State of New Mexico**  
310 Old Santa Fe Trail  
Santa Fe, New Mexico 87504
- **Bureau of Land Management**  
301 Dinosaur Trail  
Santa Fe, New Mexico 87508
- **Ogden Farms & Cattle**  
159 W. Ogden Road  
Loving, NM 88256
- **Leah Lewis Ruehle**  
303 HillCrest Dr.  
Smithville, MO 64089

#### SECTION 29-T23S-R27E

- **David & Kristi Squires**  
96 Stormy Lane  
Carlsbad, NM 88220
- **New Mexico Oil Corporation**  
P.O. BOX 1714  
Roswell, NM 8820

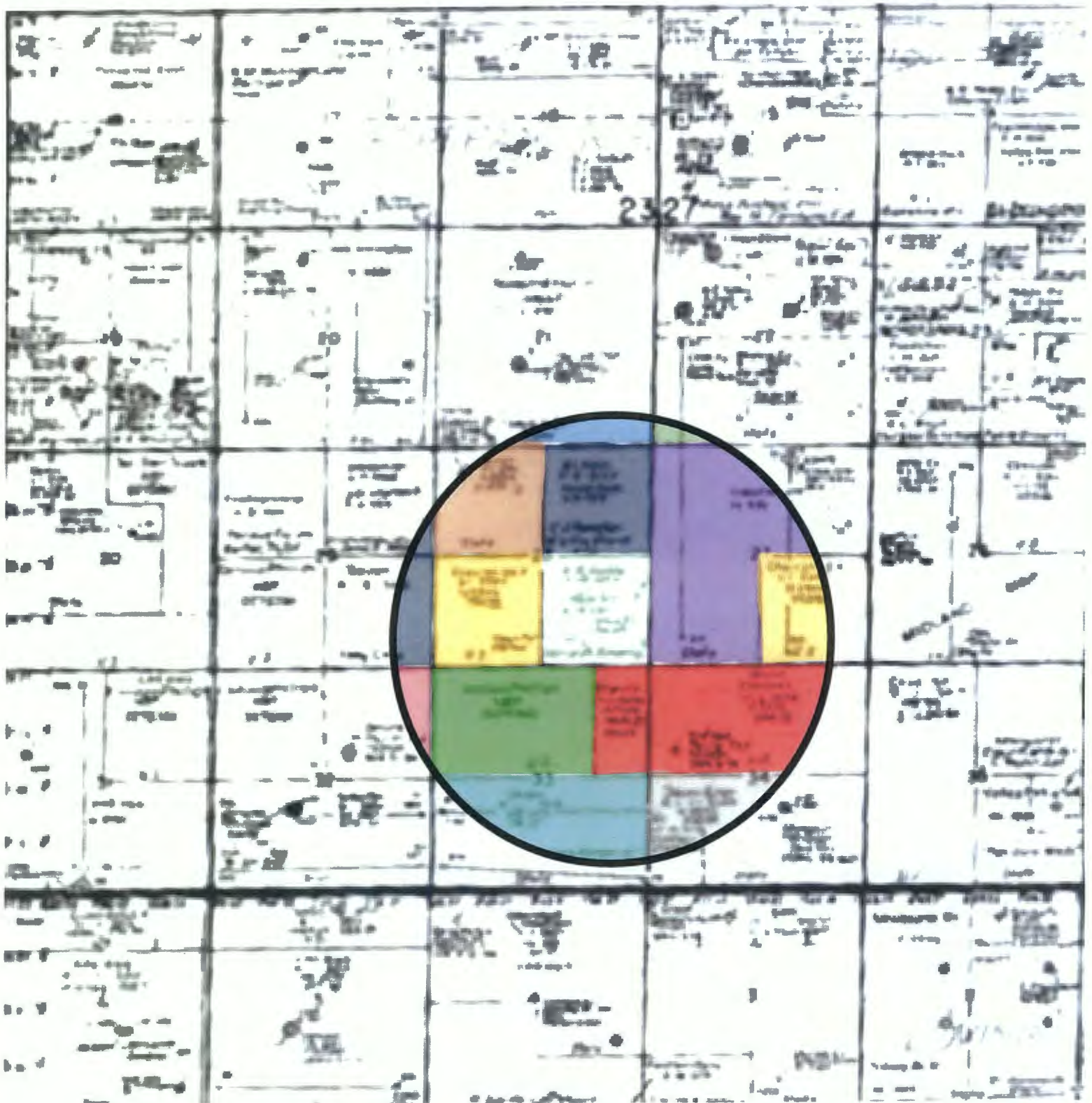
#### SECTION 32-T23S-R27E

- **Bureau of Land Management**  
301 Dinosaur Trail  
Santa Fe, New Mexico 87508

#### SECTION 21 & 22-T23S-R27E

- **State of New Mexico**  
310 Old Santa Fe Trail  
Santa Fe, New Mexico 87504





### LEASES – ONE MILE RADIUS

#### SECTION 21-T23S-R27E

- **LO-0490**  
Mobil Producing Texas & NM Inc.  
(Lessee)  
P.O. Box 2305  
Houston, TX 77252

#### SECTION 22-T23S-R27E

- **VB-1659**  
Caza Petroleum, Inc (Lessee)  
10077 Grogans Mill Road, Suite 200  
The Wodlands, TX 77380

#### SECTION 27-T23S-R27E

- **VB-1139**  
Caza Petroleum, Inc (Lessee)  
10077 Grogans Mill Road, Suite 200  
The Wodlands, TX 77380
- **NMNM 112915**  
Chevron USA, Inc. (Lessee)  
6301 Deauville Blvd  
Midland, TX 79706

#### SECTION 29-T23S-R27E

- **FEE**  
Devon Energy Production Company  
(Lessee)  
333 W. Sheridan Avenue  
Oklahoma City, OK 73102

#### SECTION 32-T23S-R27E

- **NMNM 137020**  
Conoco Phillips Co. (Lessee)  
P.O. Box 2197  
Houston, TX 77252

#### SECTION 33-T23S-R27E

- **NMNM 0275360**  
Conoco Phillips Co. (Lessee)  
P.O. Box 2197  
Houston, TX 77252
- **VB-1475**  
Devon Energy Production Company  
(Lessee)  
333 W. Sheridan Avenue  
Oklahoma City, OK 73102



SECTION 28-T23S-R27E

- **VO-8988**  
Devon Energy Production Company  
(Lessee)  
333 W. Sheridan Avenue  
Oklahoma City, OK 73102
- **NMNM 112915**  
Chevron USA, Inc. (Lessee)  
6301 Deauville Blvd  
Midland, TX 79706
- **FEE**  
Devon Energy Production Company  
(Lessee)  
333 W. Sheridan Avenue  
Oklahoma City, OK 73102
- **FEE**  
Chisholm Energy Holdings, LLC  
(Lessee)  
801 Cherry Street, Suite 1200  
Fort Worth, TX 76102

- **NMNM 117115**  
Chevron USA, Inc.  
6301 Deauville Blvd.  
Midland, TX 77380

SECTION 34-T23S-R27E

- **NMNM 117115**  
Chevron USA, Inc.  
6301 Deauville Blvd.  
Midland, TX 77380
- **VO-6959**  
Devon Energy Production Company  
(Lessee)  
333 W. Sheridan Avenue  
Oklahoma City, OK 73102

**Delaware Energy, L.L.C.**  
405 N. Marienfeld, Suite 250  
Midland, TX 79701  
Office: (432) 685-7005

March 15, 2018

**Surface Owner / Offset Operators**

Re: Notification of Application for Authorization to Inject  
Ruehle SWD #1 Well

Ladies and Gentlemen:

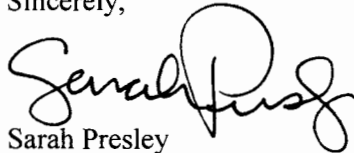
Delaware Energy, LLC is seeking administrative approval to utilize the proposed Ruehle SWD #1 as a Salt Water Disposal well. As required by the New Mexico Oil Conservation Division Rules, we are notifying you of the following proposed salt water disposal well. This letter is a notice only. No action is required unless you have questions or objections.

<u>Well:</u>	Ruehle SWD #1
<u>Proposed Disposal Zone:</u>	Devonian Formations (from 12,900' - 13,900')
<u>Location:</u>	660' FSL & 660' FEL, UL P, Sec. 28-T23S-R27E, Eddy Co., NM
<u>Applicants Name:</u>	Delaware Energy, L.L.C.
<u>Applicants Address:</u>	405 N. Marienfeld, Suite 250, Midland, TX 79701

This application for water disposal well will be filed with the New Mexico Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. And their phone number is 505-476-3460.

Please call Mike McCurdy with Delaware Energy, LLC if you have any questions at 432-312-5251.

Sincerely,

  
Sarah Presley

## DISTRIBUTION LIST

Leah Lewis Ruehle  
303 Hillcrest Dr.  
Smithville, MO 64089

Ogden Farms & Cattle  
159 W. Ogden Road  
Loving, NM 88256

David & Kristi Squires  
96 Stormy Lane  
Carlsbad, NM 88220

New Mexico Oil Corporation  
P.O. Box 1714  
Roswell, NM 88202

Bureau of Land Management  
301 Dinosaur Trail  
Santa Fe, New Mexico 87508

State of New Mexico  
310 Old Santa Fe Trail  
Santa Fe, New Mexico 87504

Caza Operating, LLC  
10077 Grogans Mill Road, Suite 200  
The Woodlands, TX 77380

Mewbourne Oil Co.  
P.O. Box 7698  
Tyler, Texas 75711

Devon Production Company, LP  
333 West Sheridan Avenue  
Oklahoma City, OK 73102

Mobil Producing Texas & NM Inc.  
P.O. Box 2305  
Houston, TX 77252

Chevron USA, Inc  
6301 Deauville Blvd.  
Midland, TX 79706

Conoco Phillips Co.  
P.O. Box 2197  
Houston, TX 77252

Chisholm Energy Holdings, LLC  
801 Cherry Street, Suite 1200 – Unit 20  
Fort Worth, TX 76102

State of New Mexico Oil Conservation Division  
District II  
811 S. First St.  
Artesia, NM 88210

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

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 City, State, ZIP+4® **Houston, TX 77252**

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 Street and Apt. No., or PO Box No. **6301 Deaville Blvd.**  
 City, State, ZIP+4® **Midland, TX 79706**

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**Mobil Producing Texas & NM**  
 Street and Apt. No., or PO Box No. **P.O. Box 2305**  
 City, State, ZIP+4® **Houston, TX 77252**

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Total Postage and Fees  
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Sent To **Puehle SWD**  
**Devon Production Company**  
 Street and Apt. No., or PO Box No. **323 W. Shendan Ave.**  
 City, State, ZIP+4® **Oklahoma City, OK 73102**

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**Mentbourne oil CO.**  
 Street and Apt. No., or PO Box No. **P.O. Box 7698**  
 City, State, ZIP+4® **Tulsa, TX 75711**

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☐ Return Receipt (electronic) \$  
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 Street and Apt. No., or PO Box No.  
 10077 Grogans Mill Road, Suite 200  
 City, State, ZIP+4  
 The Woodlands, TX 77380

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☐ Return Receipt (electronic) \$  
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☐ Adult Signature Restricted Delivery \$

Postage \$

Total Postage and Fees \$

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Leah Ruehle  
 Street and Apt. No., or PO Box No.  
 303 Hillcrest Dr.  
 City, State, ZIP+4  
 Smithville, MD 24089

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Sent To

New Mexico Oil Corporation  
 Street and Apt. No., or PO Box No.  
 P.O. Box 1714  
 City, State, ZIP+4  
 Roswell, NM 88202

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

Ruehle SWD

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Sent To

Bureau of Land Management  
 Street and Apt. No., or PO Box No.  
 301 Dinosaur Trail  
 City, State, ZIP+4  
 Santa Fe, NM 87508

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

Ruehle SWD

Postmark  
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7017 3040 0000 1266 8487

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☐ Adult Signature Restricted Delivery \$

Postage \$

Total Postage and Fees \$

Sent To

Ogden Farms & Cattle  
 Street and Apt. No., or PO Box No.  
 159 W. Ogden Road  
 City, State, ZIP+4  
 Loving, NM 88256

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

Ruehle SWD

Postmark  
Here

7017 3040 0000 1266 8474

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☐ Adult Signature Required \$  
☐ Adult Signature Restricted Delivery \$

Postage \$

Total Postage and Fees \$

Sent To

David & Kristi Squires  
 Street and Apt. No., or PO Box No.  
 96 Stormy Lane  
 City, State, ZIP+4  
 Carlsbad, NM 88220

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions

Ruehle SWD

Postmark  
Here

# CURRENT-ARGUS

## AFFIDAVIT OF PUBLICATION

Ad No.  
0001238814

DELAWARE ENERGY, L.L.C.  
405 N. MARIENFELD  
SUITE 250  
MIDLAND TX 79701


I, a legal clerk of the **Carlsbad Current-Argus**, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

03/16/18

  
Legal Clerk

Subscribed and sworn before me this  
16th of March 2018.

  
State of WI County of Brown  
NOTARY PUBLIC

  
My Commission Expires

Delaware Energy, L.L.C., 405 N. Marienfeld St. Suite 250, Midland, TX 79701, has filed a form C-108 (Application for Authorization to Inject) with the Oil Conservation Division seeking administrative approval to drill Ruehle SWD #1 as a Salt Water Disposal well.

The Ruehle #1 is located at 660' FSL and 660' FEL, Unit Letter P, Section 28, Township 23 South, Range 27 East, Eddy County, New Mexico. The well will dispose of water produced from oil and gas wells into the Devonian Formation from 12,900' to 13,900' at a maximum rate of 25,000 barrels of water per day at a maximum pressure of 2,580 psi.

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.

Additional information can be obtained by contacting Delaware Energy, L.L.C., at (432) 685-7005.



**Ruehle SWD #1**

**API#: 30-015-**

**Location: Sec. 28, T-23-S, R-27-E, UL P**

**Estimated Pre-Drill Formation Tops**

Lamar	2,000'
Delaware Sand	2,100'
Bone Springs	5,130'
Wolfcamp	8,620'
Strawn	10,430'
Atoka	10,660'
Morrow	11,320'
Barnett/Upper Miss	12,000'
Mississippian Lime	12,300'
Woodford Shale	12,800'
Devonian	12,900'



**MEMORANDUM OF SALT WATER DISPOSAL LEASE  
AND  
EASEMENT AGREEMENT**

KNOW ALL MEN BY THESE PRESENTS:

This Memorandum of Salt Water Disposal Lease and Easement Agreement is made and entered into this 7<sup>th</sup> day of March, 2018, between **Leah Lewis Ruehle, Trustee of the Leah Lewis Ruehle Trust under Trust Agreement dated September 13, 2000**, whose address is 303 Hillcrest Drive, Smithville, Missouri 64089-9531, hereinafter called "Lessor", and **Delaware Energy, LLC**, a New Mexico limited liability company, whose address is 405 North Marienfeld, Suite 250, Midland, Texas, hereinafter called "Lessee":

WITNESSETH:

Lessor and Lessee have this day entered into a Salt Water Disposal Lease and Easement Agreement (hereinafter called the "Lease"), dated effective as of the date first-written above, covering the following described lands in Eddy County, New Mexico, to-wit:

**Township 23 South, Range 27 East, N.M.P.M.**  
**Section 28: SE/4**

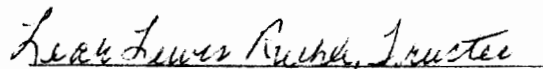
Said Lease and, subject to certain termination provisions, contains a primary term of two (2) years and shall remain in force as long thereafter, subject to the further conditions and limitations stated in the terms and provisions of said Lease.

Lessor and Lessee are executing this Memorandum of Salt Water Disposal Lease and Easement Agreement for the purpose of placing the same of record in Eddy County, New Mexico, and in order to constitute constructive notice of said Lease in lieu of recording of said Lease in its entirety. A full and complete copy of said Lease will be maintained in the office of both Lessor and Lessee at the address shown above.

IN WITNESS WHEREOF, this Memorandum of Salt Water Disposal Lease and Easement Agreement is executed as of the day, month and year first hereinabove written.

**Lessor:**

LEAH LEWIS RUEHLE TRUST

  
Leah Lewis Ruehle, Trustee

Reception: 1804022 Book: 1105 Page: 0220 Pages: 2

Recorded: 03/12/2018 08:57 AM Fee: \$25.00

Eddy County, New Mexico - Robin Van Natta, County Clerk



TW

**Lessee:**

DELAWARE ENERGY, LLC

Vice President Operations  
By: \_\_\_\_\_  
(Name and Title)

STATE OF MISSOURI     )  
                                  ) ss.  
COUNTY OF CLAY     )

This instrument was acknowledged before me this 7 day of March, 2018, by Leah Lewis Ruehle, Trustee of the Leah Lewis Ruehle Trust under Trust Agreement dated September 13, 2000.

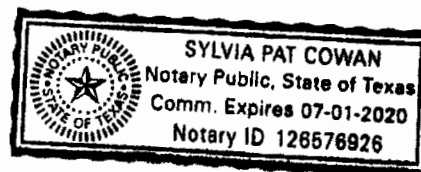
My commission expires: 05-23-2020  
\_\_\_\_\_  
Notary Public

JODI MCCORKENDALE  
Notary Public - Notary Seal  
STATE OF MISSOURI  
Clay County  
My Commission Expires: May 23, 2020  
Commission # 12346450

STATE OF TEXAS     )  
                                  ) ss.  
COUNTY OF MIDLAND     )

This instrument was acknowledged before me this 8<sup>th</sup> day of March, 2018, by Mike McCurdy, VP of Operations of Delaware Energy, LLC, a New Mexico limited liability company, on behalf of said company.

\_\_\_\_\_  
Notary Public  
My commission expires: July 1, 2020



**Delaware Energy, LLC**  
**Application for Injection/SWD**  
**Ruehle SWD #1**

UL P, Sec. 28, T-23-S, R-27-E, 660' FSL & 660' FEL, Eddy Co., NM

March 15, 2018

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**Contents:**

1. Administrative Application Checklist
2. Form C-108: Application for Authority to Inject MAR 29 2018 PM03:19
3. Form C-108 Additional Questions Answered
4. Form C-102
5. Chemical Analysis of Bone Springs Formation Water Sample from T25S, R28E, Eddy Co., NM
6. Chemical Analysis of Wolfcamp Formation Water Sample from T26S, R29E, Eddy Co., NM
7. Chemical Analysis of Delaware Formation Water Sample from T23S, R28E, Eddy Co., NM
8. Planned wellbore diagram for the Ruehle SWD #1
9. ~~Tabular Data on All Wells of Public Record within the Area of Review which Penetrate the Proposed Injection Zone~~ (No applicable wells)
10. No FW Sample - No Fresh Water wells within 1 mile of the Ruehle SWD #1
11. Map Identifying all Wells and Leases within Two Miles of Any Proposed Injection Well with a One Mile Radius Circle Drawn Around Each Proposed Injection Well
12. Sample of Letter Sent with This Application Packet to Owner of Surface of the Land on Which the Well is to be Located and to each Leasehold Operator within One Mile of the Well Location
13. Affidavit of Publication of Legal Notice that was run as required in the Carlsbad Current-Argus
14. Formation Tops
15. Memorandum of Salt Water Disposal Agreement

## McMillan, Michael, EMNRD

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**From:** McMillan, Michael, EMNRD  
**Sent:** Thursday, March 29, 2018 4:17 PM  
**To:** Mike McCurdy  
**Cc:** 'Tim Harrington'; Jones, William V, EMNRD; Lowe, Leonard, EMNRD; Goetze, Phillip, EMNRD  
**Subject:** Notification of Protest for Application to Inject - Ruehle SWD No. 1

RE: Ruehle SWD Well No. 1 (API 30-015-Pending; Admin. Appl. No. pMAM1808857961) Unit P; Sec 28, T23S, R27E, NMPM, Eddy County

Mr. McCurdy:

OCD was notified by the Mewbourne Oil Company that they are protesting this application. This party is identified as an affected person for the location being considered for the application. You are being notified that if Delaware Energy, LLC wishes for this application to be considered, they must either go to hearing or may be reviewed administratively if the protest is withdrawn as a result of a negotiated resolution with this party. The application will be retained pending resolution of the protest. Please continue to provide OCD with information regarding the standing of this application. Please me call with any questions on this matter.

Contact Information:

Mr. Tim Harrington  
Mewbourne Oil Company  
P. O. Box 7698  
Tyler, Texas 75711  
903-561-2900 (phone)  
e-mail: Tim Harrington [tharrington@mewbourne.com](mailto:tharrington@mewbourne.com)

Michael McMillan  
1220 South St. Francis  
Santa Fe, New Mexico  
505-476-3448  
[Michael.mcmillan@state.nm.us](mailto:Michael.mcmillan@state.nm.us)

March 16, 2018

Oil Conservation Division  
Attn: Mr. Phillip Goetz  
1220 South St. Francis Drive  
Santa Fe, NM 87505


RE: Application of Delaware Energy, LLC for a Disposal Well Permit  
Ruehle #1  
660' FSL, 660' FEL, Unit Letter P  
Section 28, Township 23S, Range 27E  
Eddy County, TX

Dear Mr. Goetz:

Mewbourne Oil Company hereby protests the above referenced application of Delaware Energy, LLC for a commercial salt water disposal permit. Mewbourne is the producing leasehold operator of this section and the drilling and operation of this disposal well could have a negative impact on our future development.

Please contact me if you have any questions.

Very truly yours,

A handwritten signature in black ink, appearing to read "Tim R. Harrington", with a stylized flourish at the end.

Tim Harrington  
903-561-2900  
tharrington@mewbourne.com

**Goetze, Phillip, EMNRD**

---

**From:** Tim Harrington <tharrington@mewbourne.com>  
**Sent:** Friday, March 16, 2018 1:01 PM  
**To:** Goetze, Phillip, EMNRD  
**Subject:** DELAWARE ENERGY LLC SWD APPLICATION PROTESTS  
**Attachments:** Ruehle #1 Protest Letter.pdf; Hood #1 Protest Letter.pdf

Phillip:

Attached are protest letters regarding Delaware Energy's Ruehle #1 and Hood #1 salt water disposal well applications. Mewbourne is an impacted party since we operate oil and gas wells and have development plans in both of these sections.

Please get back with me if you have any questions. Thanks.

**Tim Harrington**

Reservoir Engineer  
Mewbourne Oil Company  
3620 Old Bullard Road  
PO Box 7698  
Tyler, TX 75701

W- 903-561-2900 (Ext 7647)  
C – 832-217-6852  
tharrington@mewbourne.com



# FORM C-108 Technical Review Summary [Prepared by reviewer and included with application; V16.2]

DATE RECORD: First Rec: 03/29/18 Admin Complete: 03/29/18 or Suspended: 03/29/18 Add. Request/Reply: \_\_\_\_\_

ORDER TYPE: WFX / PMX / SWD Number: 1744 Order Date: 08/28/18 Legacy Permits/Orders: \_\_\_\_\_

Well No. 1 Well Name(s): Ruehle SWD Protested by Mawbarne / protest WD 04/13/18

API: 30-0 15-44853 Spud Date: TBD New or Old (EPA): New (UIC Class II Primacy 03/07/1982)

Footages 660' FSL / 660' FEL Lot - or Unit P Sec 28 Tsp 23S Rge 27E County Eddy

General Location: 5.2 miles west of Loring; N of Bands Head Pool: SWD; Devonian Pool No.: \_\_\_\_\_

BLM 100K Map: Carlsbad Operator: Delaware Energy OGRID: (only) 371195 Contact: Sarah Presley

COMPLIANCE RULE 5.9: Total Wells: 10 Inactive: 0 Fincl Assur: Yes Compl. Order? No IS 5.9 OK? Yes Date: 08/28/18

WELL FILE REVIEWED ☒ Current Status: APD filed;

WELL DIAGRAMS: NEW: Proposed ☒ or RE-ENTER: Before Conv. ☐ After Conv. ☐ Logs in Imaging: \_\_\_\_\_

Planned Rehab Work to Well: \*[Increased Notice and AOR to one-mile; 20" conductor]

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sx or Cf	Cement Top and Determination Method
Planned <input checked="" type="checkbox"/> or Existing <u>Surface</u>	<u>17 1/2 / 13</u>	<u>0 to 500</u>	<u>450</u>	<u>Cir. to surface</u>
Planned <input checked="" type="checkbox"/> or Existing <u>Interm/Prod</u>	<u>12 1/4 / 9 5/8</u>	<u>0 to 9000</u>	<u>2500</u>	<u>Cir to surface</u>
Planned <input type="checkbox"/> or Existing <u>Interm/Prod</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Planned <input checked="" type="checkbox"/> or Existing <u>Prod/Liner</u>	<u>8 1/2 / 7 5/8</u>	<u>12900 to 8800</u>	<u>-</u>	<u>TOL-no CBL</u>
Planned <input type="checkbox"/> or Existing <u>Liner</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Planned <input checked="" type="checkbox"/> or Existing <u>OH/ PERF</u>	<u>6 1/2</u>	<u>12900-13900</u>	<u>Inj Length 100'</u>	

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.		<u>Mississippian</u>	<u>12300</u>
Confining Unit: <u>Litho</u> Struc. <u>Por</u>	<u>12900</u>	<u>Woodford</u>	<u>12800</u>
Proposed Inj Interval TOP:	<u>12900</u>	<u>Devonian</u>	<u>12900</u>
Proposed Inj Interval BOTTOM:	<u>13900</u>		
Confining Unit: Litho. Struc. Por.	<u>13900</u>	<u>Silurian</u>	<u>13900</u>
Adjacent Unit: Litho. Struc. Por.		<u>Marathon</u>	<u>7</u>

**Completion/Operation Details:**

Drilled TD - PBTD -

NEW TD 13900 NEW PBTD -

NEW Open Hole ☒ or NEW Perfs ☐

Tubing Size 5.5 x 5 in. Inter Coated? Yes

Proposed Packer Depth 12850 ft

Min. Packer Depth 12800 (100-ft limit)

Proposed Max. Surface Press. 2580 psi

Admin. Inj. Press. 2580 (0.2 psi per ft)

## AOR: Hydrologic and Geologic Information

POTASH: R-111-P NA Noticed? NA BLM Sec Ord No WIPP No Noticed? - Salt/Salado T: - B: - NW: Cliff House fm

FRESH WATER: Aquifer Alluvial/Recharge (check) (GWS) Max Depth < 400 HYDRO AFFIRM STATEMENT By Qualified Person ☒

NMOSE Basin: Carlsbad CAPITAN REEF: thru - adj - NA ☒ No. GW Wells in 1-Mile Radius? 0 FW Analysis? NA

Disposal Fluid: Formation Source(s) BS / Wolfcamp / DMG Analysis? Yes On Lease ☐ Operator Only ☐ or Commercial ☒

Disposal Interval: Inject Rate (Avg/Max BWPD): 20,000/25,000 Protectable Waters? No Source: Historical System: Closed ☐ or Open ☒

HC Potential: Producing Interval? No Formerly Producing? No Method: Logs/DST/P&A/Other Mudlog 2-Mi Radius Pool Map ☐

\*AOR Wells: 1/2-M Radius Map and Well List NONE No. Penetrating Wells: 0 [AOR Horizontals: 0 AOR SWDs: 0]

Penetrating Wells: No. Active Wells 0 Num Repairs? - on which well(s)? - Diagrams? -

Penetrating Wells: No. P&A Wells 0 Num Repairs? - on which well(s)? - Diagrams? -

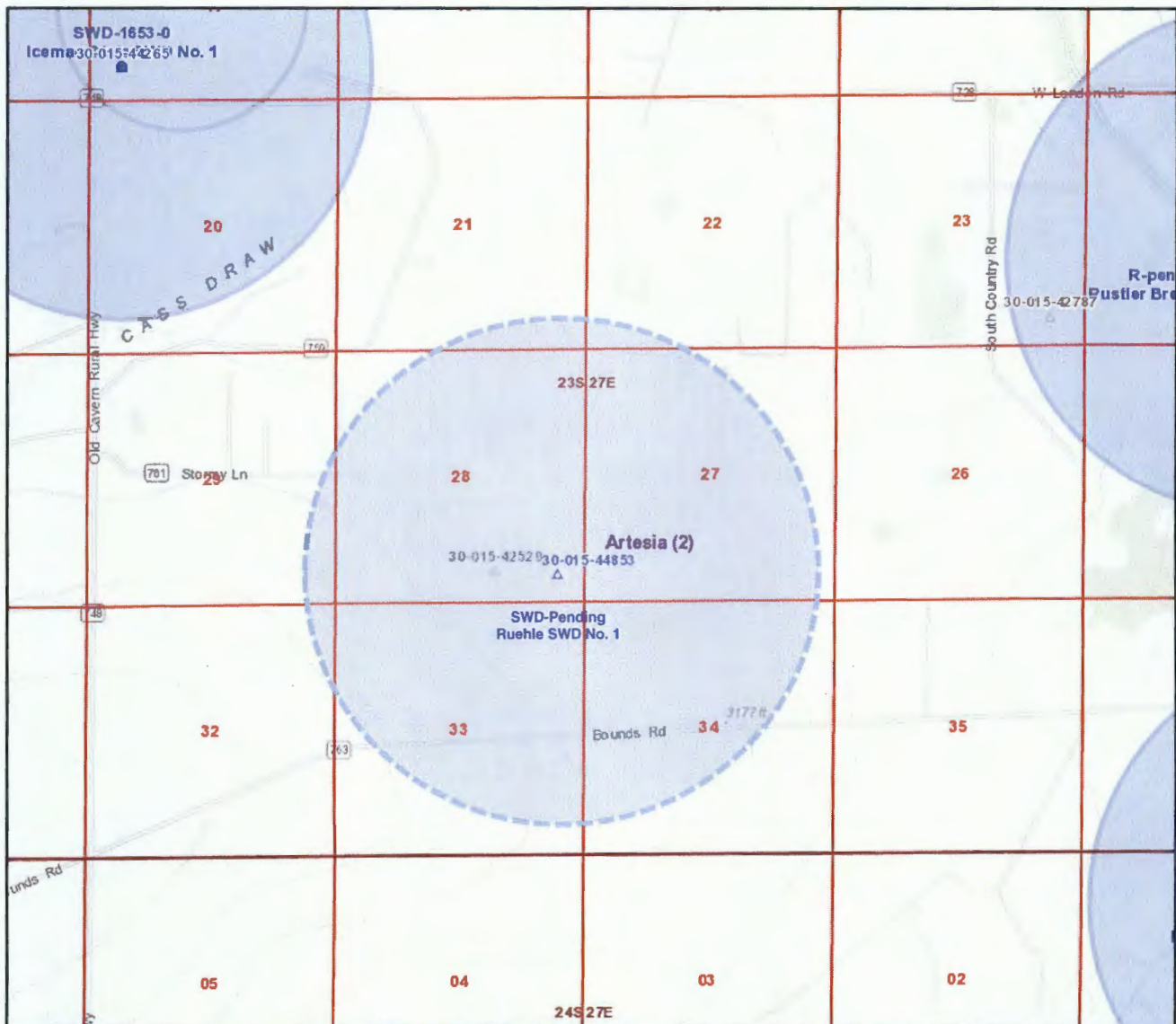
NOTICE: Newspaper Date 03/16/18 Mineral Owner Fee Surface Owner Fee N. Date 3/16/18

RULE 26.7(A): Identified Tracts? Yes Affected Persons: Chisholm / ConocoPhillips / Mobil / Chevron / Devon N. Date 3/16/18

Order Conditions: Issues: HC potential; Conductor with no cement; liner toe calculated; poor strat control

Additional COAs: Cmt Conductor; CBL for liner; no returns - CBL & District notice; mudlog w/formation

**Pending Application for High-Volume Devonian Disposal Well  
C-108 Application for Ruehle SWD No. 1 – Delaware Energy LLC**



**Ruehle SWD No. 1; Delaware Energy LLC**

API 30-015-44853; Application No. pMAM1808857961; Rcvd 03.29.2018

Proposed interval: 12,900' to 13,900'

Proposed construction: processing application with current design; tapered tubing 5.5-inch to 5-inch.

Protested by Mewbourne; suspn: 03.29.2018; protest retracted April 13, 2018.

**Closest Devonian Wells with Large-Volume Potential:** Iceman State SWD No. 1 (30-015-44265) spud 2.11.2018; approved current tubing: 4.5-in only; no pending application for tubing size modification.