MAR 08 2018 PM04:20

DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
3/08/2018	3/16/18		3/8/18	SWD	pMAM1807235234

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- 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.

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

SWD
-Delaware Energy, LLC
371195
well
-Hood SWD #1
30-015-~~Pending~~
Pool 44
SWD; Devonian
96101

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☒ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **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.

Mike McCurdy		Vice President	02/28/2018
Print or Type Name	Signature	Title	Date

m.mccurdy@delawareenergy.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

MAR 08 2018 PM04:20

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: __432-312-5251__

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: __02/28/2018____

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: _____

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

Side 2

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

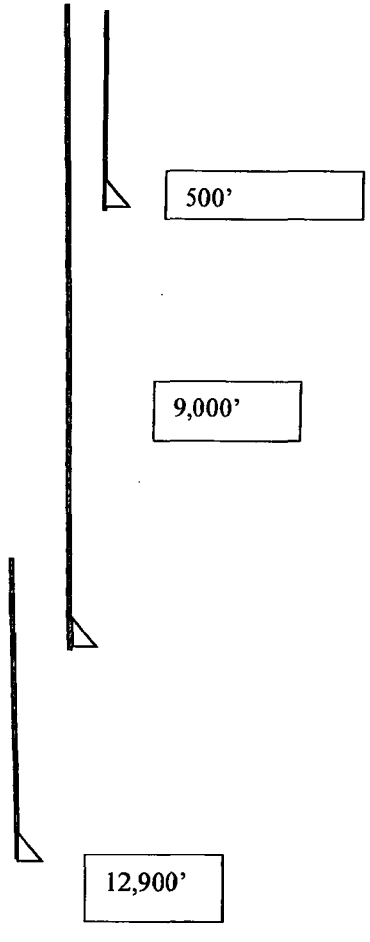
OPERATOR: Delaware Energy, LLC

WELL NAME & NUMBER: Hood SWD No 1

WELL LOCATION: 1980' FSL, 330'FEL | I | 13 | 24S | 26E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

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* _____ ft³

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* _____ ft³

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* _____ ft³

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 1X

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? XXXXX 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'.

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 12ft – 139ft. 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.

Included in the application is a water well sample from Section 13 of T24S R26E.

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 Johelen 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** **02/28/2018**

_____ Title _____ Date _____

III. WELL DATA

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

Hood SWD #1, Sec. 13-T24S-R26E, 1980' FSL & 330' FEL, UL I, 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.

Incorrect - see diagram

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, nickel plated 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

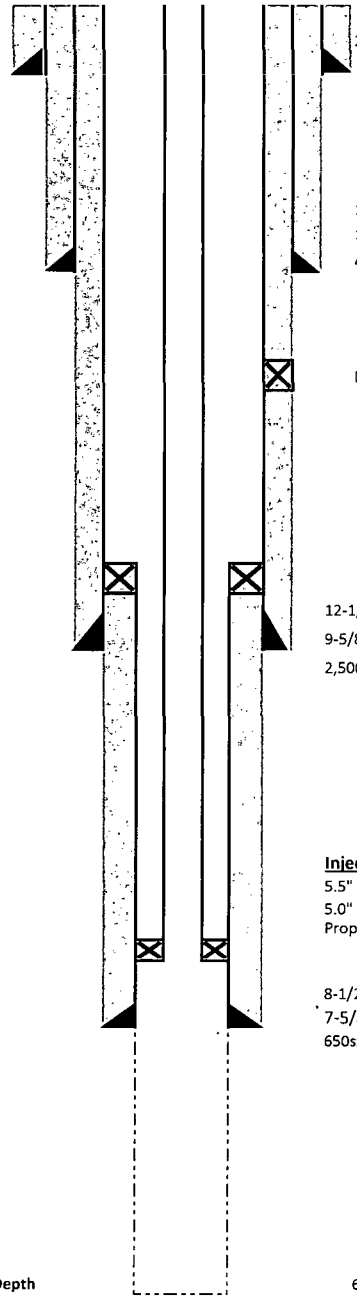
Delaware Energy LLC

Hood SWD No 1

1980' FSL & 330' FEL, UL I, SEC. 13, T-24S R-26E, Eddy County, NM GL 3216

API # 30-015- KB

KB+GL 3244



20" Conductor @ 80'

17-1/2" Hole

13-3/8", 54.5# J-55 BTC @ 500'

450 sx cmt, will circulate

500'

DV Tool 5,000ft

12-1/4" Hole

9,000'

9-5/8" 47#, L-80, BTC to 9,000 ft

2,500 sx plan to circulate, 75% excess

Injection String & Packer

5.5" IPC Casing to 8,600' (20#/ft, P-110, BTC)

5.0" IPC Casing: 8,600'-12,850' (18#/ft, P-110, BTC)

Proposed packer @ 12,850' Weatherford Arrow Set 1X

8-1/2" Hole

12,900'

7-5/8" 39# P-110 UFJ 12,900' to 8,800' (Baker ZXP Liner Hanger) Drift ID 6.5"

650sx plan to circulate to liner top, 50% excess

13,900' Total Depth

6.5" Hole Open Hole

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
	HOOD SWD	1
OGRID No.	**Operator Name**	**Elevation**
	DELAWARE ENERGY	3216'

Surface Location

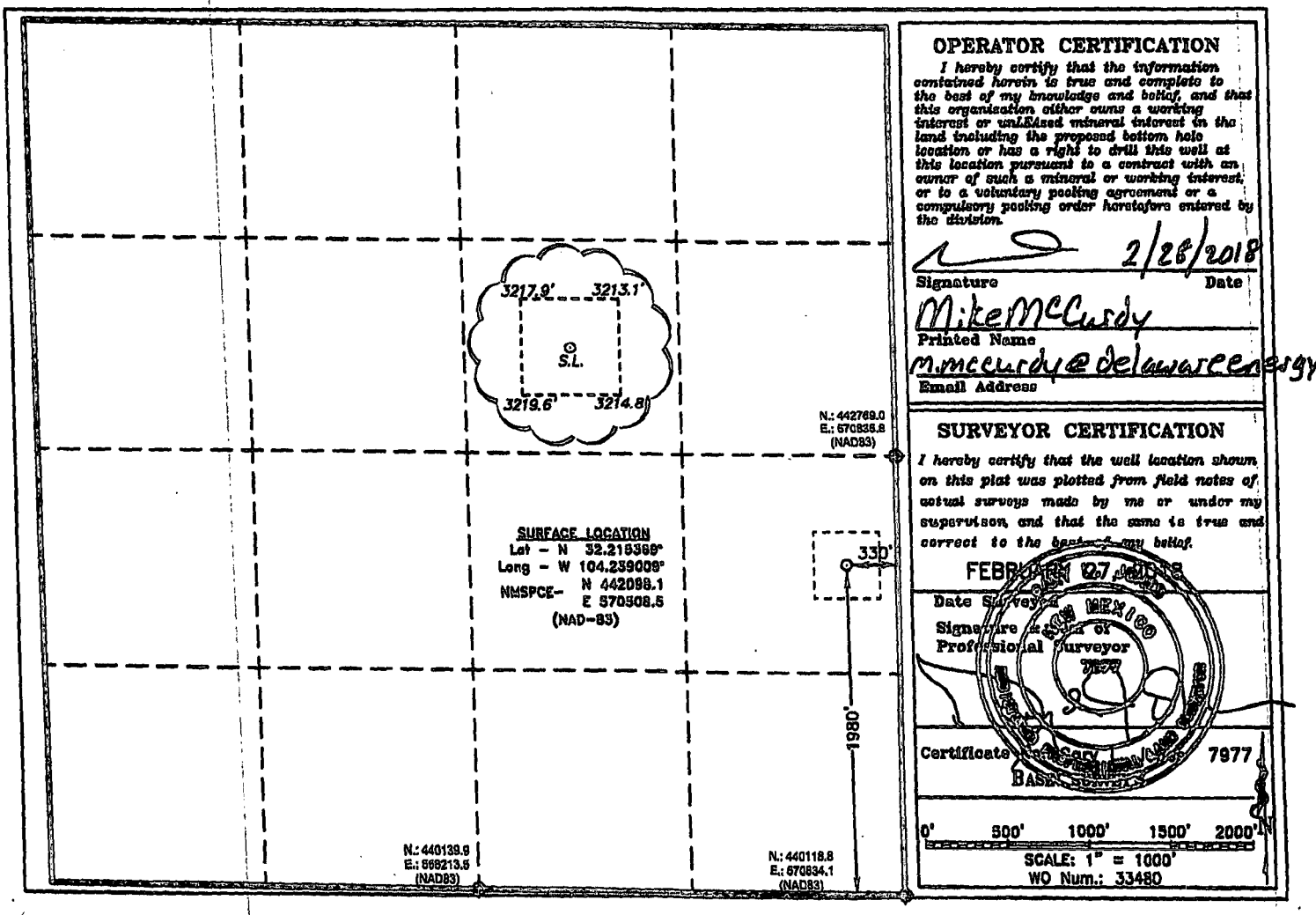
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	13	24 S	26 E		1980	SOUTH	330	EAST	EDDY

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.

2/26/2018

Signature Date

Mike McCurdy

Printed Name

m.mccurdy@delawareenergy.

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.

FEBRUARY 27, 2018

Date Surveyed

Signature & Seal of Professional Surveyor

NEW MEXICO

Certificate Number 7977

Sec 22, T25S, R28E

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
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	
Sampling Date:	03/10/11
Analysis Date:	03/18/11
Analyst:	SANDRA GOMEZ
TDS (mg/l or g/m3):	184911.1
Density (g/cm3, tonne/m3):	1.113
Anion/Cation Ratio:	1
Carbon Dioxide:	0 50 PPM
Oxygen:	
Comments:	

Analysis of Sample 534665 @ 75 °F

Anions	mg/l	meq/l	Cations	mg/l	meq/l
Chloride:	109619.0	3091.82	Sodium:	70275.7	3056.82
Bicarbonate:	2135.0	34.99	Magnesium:	199.0	16.04
Carbonate:	0.0	0.	Calcium:	844.0	42.12
Sulfate:	747.0	15.55	Strontium:	220.0	5.02
Phosphate:			Barium:	0.8	0.01
Borate:			Iron:	6.8	0.23
Silicate:			Potassium:	869.0	22.22
			Aluminum:		
Hydrogen Sulfide:		0 PPM	Chromium:		
pH at time of sampling:		7	Copper:		
pH at time of analysis:			Lead:		
pH used in Calculation:		7	Manganese:	0.100	0.
			Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		CO_2 Press
°F	psi	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	-1.29	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.

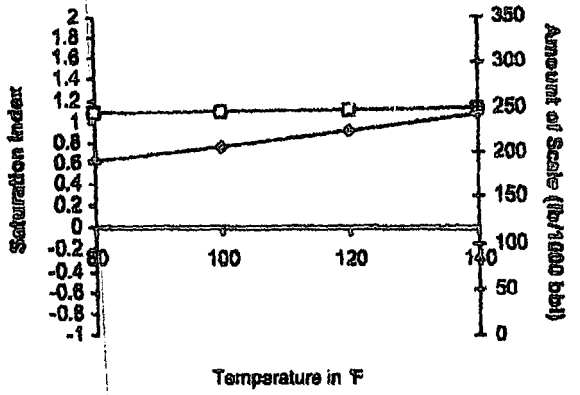
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

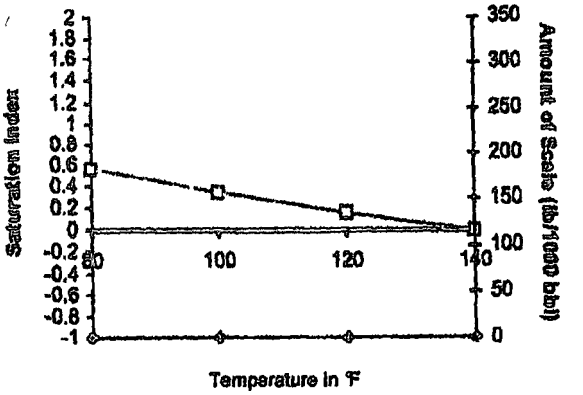
Scale Predictions from Baker Petrolite

Analysis of Sample 534865 @ 75 °F for 03/18/11

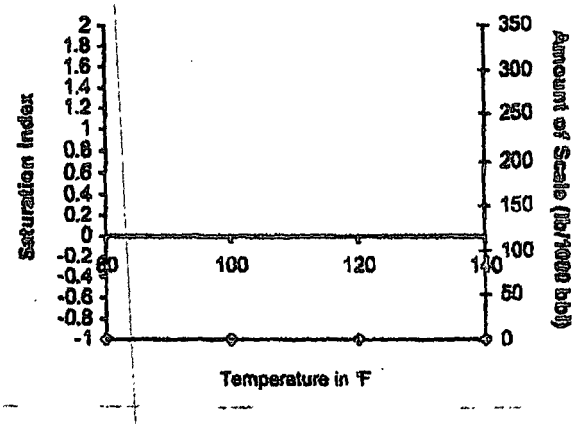
Calcite - CaCO3



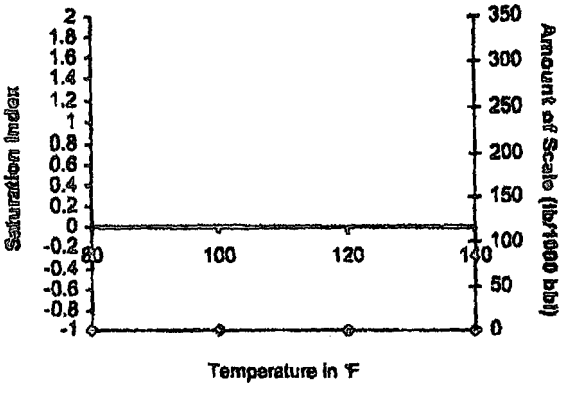
Barite - BaSO4



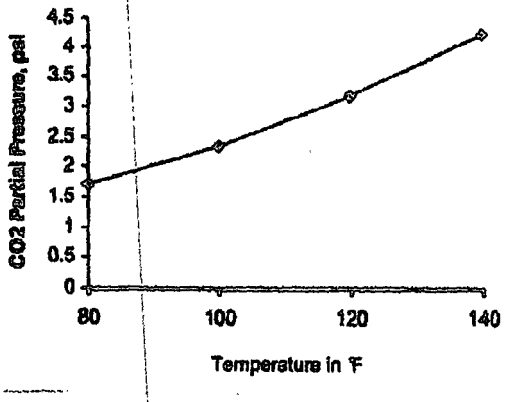
Gypsum - CaSO4*2H20



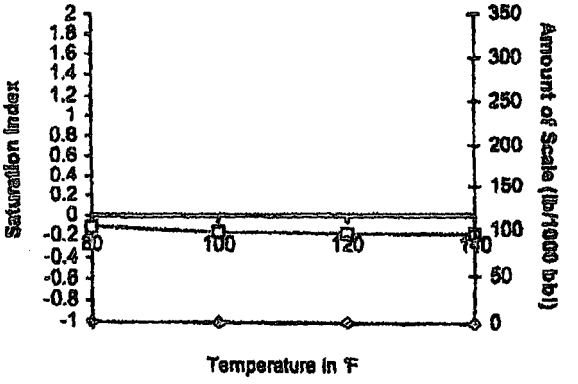
Anhydrite - CaSO4



Carbon Dioxide Partial Pressure



Celestite - SrSO4



Wolfcamp

BAKER HUGHES

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~~ Eddy	New Mexico 1-26S-27E

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	77,982	in PPM	66,520
Calcium	in Mg/L	4,000	in PPM	3,413
Magnesium	in Mg/L	1,200	in PPM	1,024
Soluable 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	12,789
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 597,520

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 - 10,000,00 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. R28E

MCI
CHEMICALS and CONSULTING

PRODUCTION DEPARTMENT

MILLER CHEMICALS, INC.
Post Office Box 298
Artesia, N.M. 88211-0298
(505) 746-1919 Artesia Office
(505) 392-2693 Hobbs Office
(505) 746-1918 Fax
mci@plateautel.net

Delaware Brushy Canyon

WATER ANALYSIS REPORT

Company :
Address :
Lease : LOVING "AIB"
Well : #15
Sample Pt. : WELLHEAD

Date : MARCH 17, 2008
Date Sampled : MARCH 17, 2008
Analysis No. :

	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

1856	°Ca <----- °HCO3	15
82	°Mg -----> °SO4	10
3375	°Na -----> °Cl	5287

Saturation Values Dist. Water 20 C
CaCO3 13 mg/L
CaSO4 * 2H2O 2090 mg/L
BaSO4 2.4 mg/L

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	15.2	1231
CaSO4	68.1	10.4	709
CaCl2	55.5	1830.7	101584
Mg(HCO3)2	73.2		
MgSO4	60.2		
MgCl2	47.6	82.0	3902
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4	3374.8	197223

REMARKS:

ENDURA PRODUCTS CORP.

P.O. Box 3394, Midland, Texas 79702
Phone (432) 684-4233 Fax (432) 684-4277

202250 **SAMPLE ANALYSIS FORM**

Company	Delaware Energy			Date	01/08/2018
State	County Eddy			Date in Lab	01/08/2018
Lease	Hood Fresh Water		Well Type	Well	
Sample Date	01/08/2018	Sample Pt	Well Head	Sales Rep	Derrick Boutwell
Number of Yrs Old			Top Perf		

Production

Fluids:	Oil(bpd)		Gravity API	Color of Oil	
	Water(bpd)		Estimated Chlorides	Water Produced	
	Gas(mcf)		Working Pressure(psi)	Shut in Pressure(psi)	

Well Class and Type Lift:		Iron Count(mg/l)	
Equipment:		Temperature(F)	

Chemicals in Use

Product	Amount	Unit	Treatment

Problem:	Location:
Water Quality	

Recommendations: Yes

Details:

Fresh water well using for frac. Any was possible they need it Wednesday morning. ASAP.

ENDURA PRODUCTS CORP.

P.O. Box 3394, Midland, Texas 79702
Phone (432) 684-4233 Fax (432) 684-4277

Water Analysis

Code 202250

Client Information		Sample Information	
Delaware Energy		**Lease/Well:**	Hood Fresh Water/
County:	Eddy		
		Sample Point:	Well Head
		Date Sampled:	01/08/2018
Rep:	Derrick Boutwell	**Date Reported:**	01/08/2018

Results

Cations

Ion	Concentration(mg/L)
Barium (as Ba)	0
Calcium (as Ca)	710
Iron (as Fe)	0
Sodium (as Na)	2
Magnesium (as Mg)	0

Anions

Ion	Concentration(mg/L)
Chlorides (as Cl)	56
Sulfate (as SO4)	1408
Carbonate (as CO3)	0
Bicarbonates (as HCO3)	390
Sulfide (as S2-)	0

Other Measurements

Measurement	Value
pH	6.97
SG	1.0024
Turbidity	19
CO_2	
Total Dissolved Solids	2566.000

Scaling Indices

Temp(F)	$CaCO_3$	$CaSO_4*2H_2O$	$CaSO_4$	$BaSO_4$
80	0.8356	0.0000	0.0000	-28.0671
120	1.1790	0.0000	0.0000	-28.2801
160	1.5792	0.0000	0.0000	-28.4082
200	1.9427	0.0000	0.0000	-28.4640
250	2.2736	0.0000	0.0000	-28.4245

Low = < 0.200, Moderate = 0.200-0.999, High = > 1.00

Comments

Fresh Water

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

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
C 00329		C	ED	2	1	2	13	24S	28E	590682	3565677*	95	30	65
C 00353	C	C	ED		3	4	13	24S	28E	590603	3564367*	2726		
C 00354	C	C	ED		4	4	13	24S	28E	591005	3564367*	2739		
C 00464			ED	2	2	1	13	24S	28E	590277	3565674*	111	28	83
C 00684			ED	2	1	2	13	24S	28E	590682	3565677*	95	40	55
C 00738			ED	3	1	1	13	24S	28E	589673	3565472*	125	12	113
C 00750			ED	1	2	4	13	24S	28E	590898	3564871*	110		
C 00903		C	ED		2	1	13	24S	28E	590178	3565575*	57	30	27
C 01154		C	ED	2	1	2	13	24S	28E	590682	3565677*	95	50	45

DMG

Average Depth to Water: 31 feet
Minimum Depth: 12 feet
Maximum Depth: 50 feet

Record Count: 9

PLSS Search:

Section(s): 13 **Township:** 24S **Range:** 28E

*UTM location was derived from PLSS - see Help

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

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
C 00574			ED	2	4	4	11	24S	28E	588452	3566081*	200	20	180
C 01082			ED	3	3	2	11	24S	28E	588832	3566693*	120		

Average Depth to Water: 20 feet
Minimum Depth: 20 feet
Maximum Depth: 20 feet

Record Count: 2

PLSS Search:

Section(s): 11 **Township:** 24S **Range:** 28E

*UTM location was derived from PLSS - see Help

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

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 00929		C	ED		3	3	18	24S	27E	572013	3564159*	54	33	21
C 01169		C	ED	1	4	3	18	24S	27E	572282	3564261*	55	35	20
C 03560 POD1		C	ED	2	3	3	18	24S	27E	572009	3564150	68	28	40

Average Depth to Water: 32 feet
Minimum Depth: 28 feet
Maximum Depth: 35 feet

Record Count: 3

PLSS Search:

Section(s): 18 **Township:** 24S **Range:** 27E

*UTM location was derived from PLSS - see Help

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

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 00618		C	ED	3	4	4	12	24S	28E	590880	3565885*	80	40	40
C 00983		C	ED	4	4	4	12	24S	28E	591080	3565885*	92	40	52
C 01747			ED				12	24S	28E	590367	3566577*	176	139	37

Average Depth to Water: 73 feet
Minimum Depth: 40 feet
Maximum Depth: 139 feet

Record Count: 3

PLSS Search:

Section(s): 12 **Township:** 24S **Range:** 28E

*UTM location was derived from PLSS - see Help

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

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
C 02057		C	ED	1	4		14	24S	28E	588956	3564774*	126	52	74

Average Depth to Water: **52 feet**

Minimum Depth: **52 feet**

Maximum Depth: **52 feet**

Record Count: 1

PLSS Search:

Section(s): 14 **Township:** 24S **Range:** 28E

*UTM location was derived from PLSS - see Help

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

February 28, 2018

Surface Owner / Offset Operators

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

Ladies and Gentlemen:

Delaware Energy, LLC is seeking administrative approval to utilize the proposed Hood 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.

Well:	Hood SWD #1
Proposed Disposal Zone:	Devonian Formations (from 12,900'- 13,900')
Location:	1980' FSL & 330' FEL, Sec. 13, UL I, T24S, R26E, Eddy Co., NM
Applicants Name:	Delaware Energy, L.L.C.
Applicants Address:	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,

Mike McCurdy

DISTRIBUTION LIST

Eugene and Alice Hood
1142 Black River Village Road,
Malaga, NM 88220

Cimarex Energy
600 N. Marienfeld St.
Suite 600
Midland, TX 79701

Mewbourne Oil Company
3620 Old Bullard Road
Tyler, TX 75701

Devon
333 West Sheridan Avenue
Oklahoma City, OK 73102-50515

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

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 the Hood SWD #1 as a Salt Water Disposal well.

The Hood SWD #1 is located at 1980' FSL and 330' FEL, Unit Letter I, Section 13, Township 24 South, Range 26 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 Conservations 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.

Affidavit of Publication

State of New Mexico,
County of Eddy, ss.

Danny Fletcher, being first duly sworn, on oath says:

That he is the Publisher 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:

March 1 2018

That the cost of publication is **$60.86** and that payment thereof has been made and will be assessed as court costs.

Subscribed and sworn to before me this 5 day of March 2018

Cynthia Arredondo

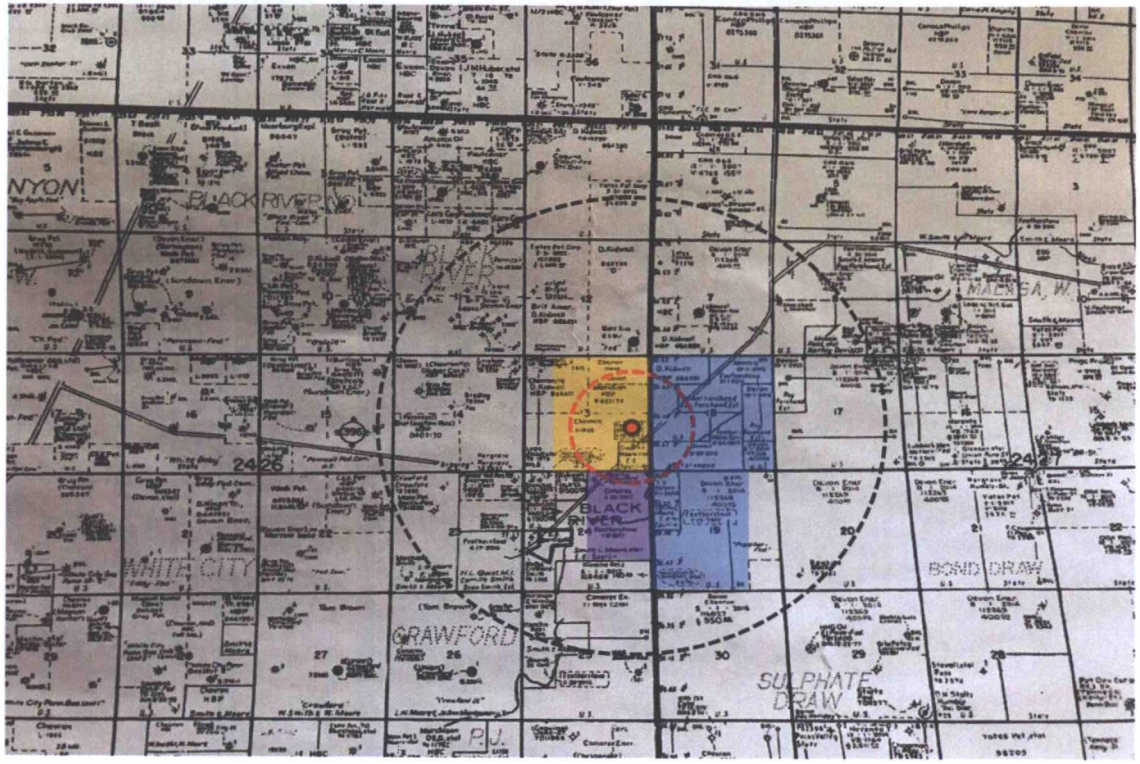
My commission Expires 9/12/21

Notary Public

OFFICIAL SEAL
CYNTHIA ARREDONDO
Notary Public
State of New Mexico
My Comm. Expires 9/12/21

March 1, 2018

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 the Hood SWD #1 as a Salt Water Disposal well.
The Hood SWD #1 is located at 1980' FSL and 330' FEL, Unit Letter I, Section 13, Township 24 South, Range 26 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 Conservations 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.



Operators

Mewbourne Oil Company

Devon Energy Production Company, LP

Cimarex Energy Company

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OF THE FOLLOWING INFORMATION FROM THIS INSTRUMENT BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

MEMORANDUM OF SALT WATER DISPOSAL AGREEMENT

THE STATE OF NEW MEXICO §
§ KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF EDDY §

This Memorandum of Salt Water Disposal Agreement is made and entered into this 5th day of January, 2018, between Eugene C. Hood and Alice K. Hood, whose address is 1142 Black River Village Road, Carlsbad, NM 88220 ("**Lessor**"), and **DELAWARE ENERGY, LLC**, whose address is 405 North Marienfeld, Suite 250, Midland, Texas 79701 ("Lessee"):

WITNESSETH:

Lessor and Lessee have this day entered into an exclusive Salt Water Disposal Agreement, dated effective as of the date first-written above, covering the following described lands in **Eddy** County, New Mexico, to-wit:

Section 13 of Township 24 South, Range 26 East

Said Salt Water Disposal Agreement, subject to certain termination provisions, contains a primary term of five (5) years and shall remain in force as long thereafter, subject to the further conditions and limitations stated in the terms and provisions of said Salt Water Disposal Agreement.

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

Hood SWD No 1
API#: 30-015-
Location: Sec. 13, T-24S, R-26E, UL I

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'

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

LESSOR:

Eugene C. Hood

Eugene C. Hood

Alice K. Hood

Alice K. Hood

ACKNOWLEDGMENTS

STATE OF NEW MEXICO §
§
COUNTY OF Eddy § _____ §

This instrument was acknowledged before me on the 5th of January, 2018 by Eugene C. Hood, in the capacity herein stated.

Exp 8-27-19

Donna Sellmer

Donna Sellmer

Notary Public, State of New Mexico

STATE OF NEW MEXICO §
§
COUNTY OF Eddy §

This instrument was acknowledged before me on the 5th of January, 2018 by Alice K. Hood, in the capacity herein stated.

Exp. 8-27-19

Donna Sellmer

Notary Public, State of New Mexico

AFTER RECORDING, RETURN TO:

DELAWARE ENERGY
405 N. Marienfeld, Suite 250
Midland, TX 79701

CERTIFIED MAIL® RECEIPT
Domestic Mail Only

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

OKLAHOMA CITY, OK 73102

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Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	$2.75
☐ 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	$2.05
Total Postage and Fees	$8.25

0702 07

Postmark Here
FEB 28 2018
02/28/2018

Sent To Devon Hood SWD#1

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

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

7017 3040 0000 1266 8418

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT
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MIDLAND, TX 79705

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Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	$2.75
☐ 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	$2.05
Total Postage and Fees	$8.25

0702 07

Postmark Here
FEB 28 2018
02/28/2018

Sent To Cimarex Hood SWD #1

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

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

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MIDLAND, TX 79705

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	$2.75
☐ 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	$2.05
Total Postage and Fees	$8.25

0702 07

Postmark Here
FEB 28 2018
02/28/2018

Sent To Chevron Hood SWD #1

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

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

7017 3040 0000 1264 8371

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

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

CARLSBAD, NM 88220

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	$2.75
☐ 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	$2.05
Total Postage and Fees	$8.25

0702 07

Postmark Here
FEB 28 2018
02/28/2018

Sent To Eugene & Alice Hood

Street and Apt. No., or PO Box No.

City, State, ZIP+4® Hood SWD #1

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

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

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

TYLER, TX 75701

OFFICIAL USE

Certified Mail Fee	$3.45
Extra Services & Fees (check box, add fee as appropriate)	$2.75
☐ 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	$2.05
Total Postage and Fees	$8.25

0702 08

Postmark Here
MAR - 1 2018
03/01/2018

Sent To Newbourne Hood SWD

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

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

Delaware Energy, LLC

Application for Injection/SWD

Hood SWD #1

UL I, Sec. 13, T-24-S, R-26-E, 1980' FSL & 330' FEL, Eddy Co., NM

February 28, 2018

Contents:

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

DATE RECORD: First Rec: 03/08/18 **Admin Complete:** 03/16/18 **or Suspended:** 03/16/18 Add. Request/Reply: IS study 03/16/18

ORDER TYPE: WFX / PMX (SWD) Number: 1732 Order Date: 05/16/18 Legacy Permits/Orders: _____

Well No. 1 Well Name(s): Hood SWD 05/23/18 Mewbourne protest; withdrawn 04/10/18

API : 30-0 15-44851 Spud Date: TBD New or Old (EPA): New (*UIC Class II Primacy 03/07/1982*)

Footages 1980 FSL / 330 FEL Lot - or Unit I Sec 13 Tsp 24S Rge 26E County Eddy

General Location: 9.7mi W of Malaga / N of Black River Village Rd Pool: SWD; Devonian Pool No.: 96101

BLM 100K Map: Carlsbad Operator: Delaware Energy LLC OGRID: 371195 Contact: McCurdy / Presely

COMPLIANCE RULE 5.9: Total Wells: 9 Inactive: 0 **Fincl Assur:** Yes Compl. Order? No **IS 5.9 OK?** Yes **Date:** 05/18/18 PRS

WELL FILE REVIEWED (✓) Current Status: APD approve; no sundries for modifications 05/23/18 PRS

WELL DIAGRAMS: NEW: Proposed (✓) or **RE-ENTER:** Before Conv. ◯ After Conv. ◯ Logs in Imaging: _____

Planned Rehab Work to Well: * uncemented conductor casing; 0 to 80 feet

Well Construction Details	Sizes (in) * Borehole / Pipe	Setting Depths (ft)	Stage Tool	Cement (Sx or Cf)	Cement Top and Determination Method
Planned (✓) or Existing Surface	17½ / 13⅜	0 to 500	Stage Tool	450	Circulate to surf.
Planned (✓) or Existing (Interm)/Prod	12¼ / 9⅝	0 to 9000	DV at 5000	2500	Circulate to surf.
Planned or Existing Interm/Prod	—	—	—	—	—
Planned (✓) or Existing Prod/(Liner)	8½ / 7⅝	8800 to 12900	None	650	Top of liner / no method
Planned or Existing Liner	—	—	—	—	—
Planned (✓) or Existing (OH) PERF	6½	12900 to 13900	Inj Length ~1000		

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.		Mississippian	12300
Confining Unit: (Litho.) Struc. (Por.)	12900	Woodford Shale	12800
Proposed Inj Interval TOP:	12900	Devonian	12900
Proposed Inj Interval BOTTOM:	13900		
Confining Unit: (Litho.) Struc. (Por.)		Silurian (?)	13900
Adjacent Unit: Litho. Struc. Por.		Ordovician	

Completion/Operation Details:

Drilled TD — PBTD —

NEW TD 13900 NEW PBTD —

NEW Open Hole ◯ or NEW Perfs ◯

Tubing Size tapered 5x5½ in. Inter Coated? Yes

Proposed Packer Depth _____ 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 No Noticed? NA BLM Sec Ord No **WIPP** No Noticed? NA **Salt/Salado** T: — B: 2000 **NW: Cliff House fm** —

FRESH WATER: Aquifer Shallow alluvial / <60' Max Depth <300 **HYDRO AFFIRM STATEMENT By Qualified Person** (✓)

NMOSE Basin: Carlsbad **CAPITAN REEF:** thru ___ adj ___ NA (✓) **No. GW Wells in 1-Mile Radius?** 11 FW Analysis? Yes

Rustler Formation

Disposal Fluid: Formation Source(s) BS / WC / DMG Analysis? Yes On Lease ◯ Operator Only ◯ or Commercial (✓)

Disposal Interval: Inject Rate (Avg/Max BWPD): 20000 / 25000 Protectable Waters? No Source: Historical System: Closed or (Open)

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

AOR Wells: 1/2-M Radius Map and Well List? Yes **No. Penetrating Wells:** 0 [AOR Horizontals: — AOR SWDs: —]

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

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

NOTICE: Newspaper Date 03/01/2018 Mineral Owner Federal (retained) Surface Owner Fee / Hood N. Date 2/28/18

RULE 26.7(A): Identified Tracts? Yes Affected Persons: Mewbourne / COG / Cimarex N. Date 2/28/18

Order Conditions: **Issues:** Conductor casing / method to determine TOC of liner / control of / HC potential

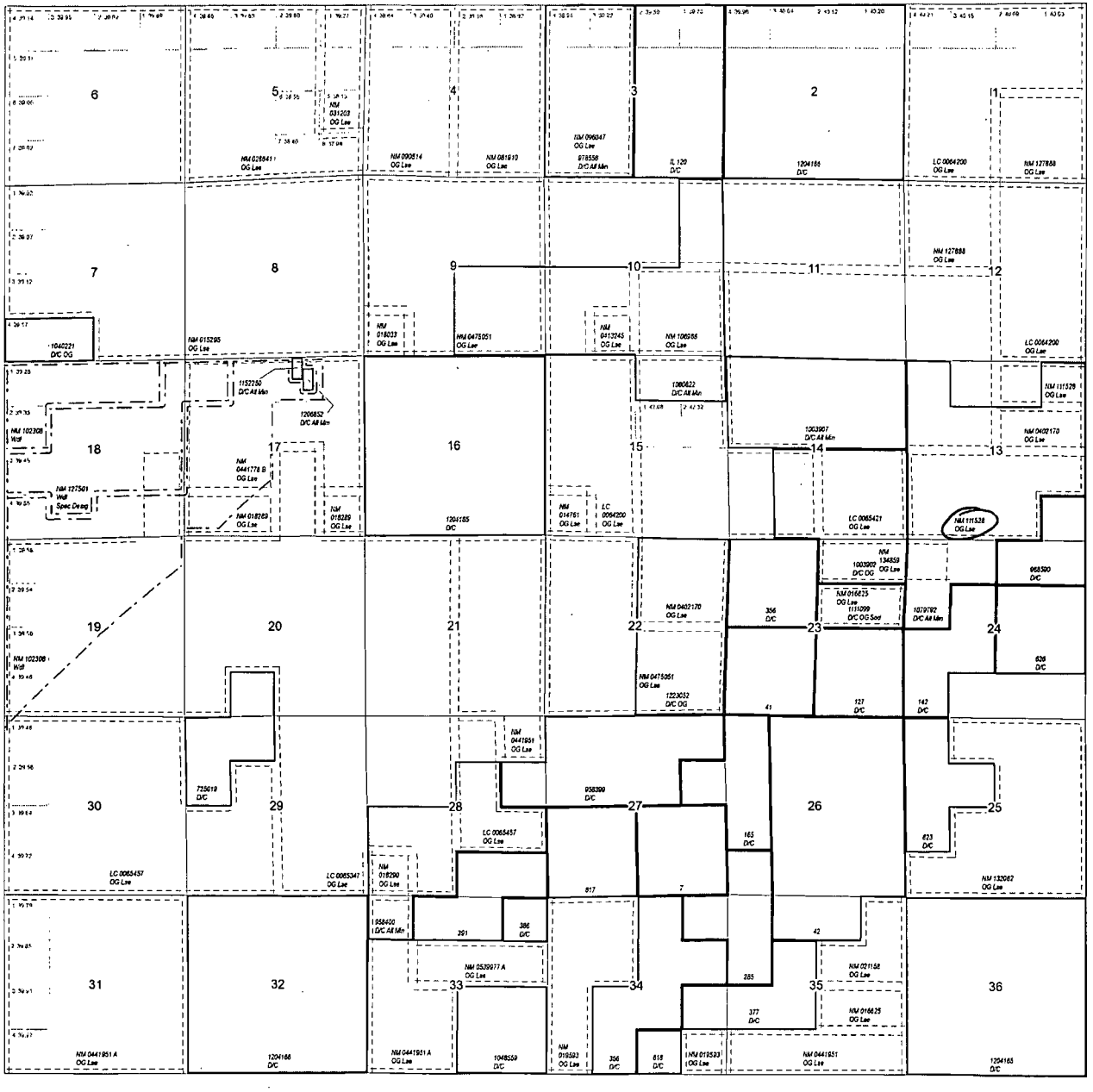
Additonal COAs: Mudlog / formation picks; CBL for liner or uncirculated casing; strat tops / Cement conductor casing

Township 24 South Range 26 East of the New Mexico Principal Meridian, New Mexico

County: Eddy - 015

BLM Field Office: Carlsbad

BUREAU OF LAND MANAGEMENT
STATUS OF PUBLIC DOMAIN
LAND AND MINERALS



OG Plat

T24S R26E

NM 929 MU CL
Sec 17: SWNW,E2SW
Sec 18: SENE,E2SE,SWNE,SENW,N2SW
Not Open to Mining Only

COMMUNITIZATION AGREEMENTS
NM 071128
NM 071129
NM 071827
NM 071834
NM 071851
NM 071937
NM 071961
NM 071963
NM 071967
NM 071970
NM 071989
NM 072006
NM 091062
NM 094519
NM 094531
NM 111029
NM 130614
NM 133122
NM 136894

NOTE: The Serial Numbers displayed are in the Bureau's LR2000 system format.
-If there is a zero in the 7th position (from the right), the serial number has a "prefix" zero; example NM 0012345.
-If there is not a zero in the 7th position (from the right) then the serial number does not have a "prefix" zero; example NM 012345.

For **Index to Segregated Tracts,** see survey plat.

0 0.25 0.5 1 Mile

1 inch = 30 chains
1:23,760

CAVEAT STATEMENT
This plat is the Bureau's Record of Title, and should be used only as a graphic display of the township survey data. Records hereon *do not* reflect title changes which may have been affected by lateral movements of rivers or other bodies of water. Refer to the cadastral surveys for official survey information.

T. 24 S
R. 26 E
NMPM

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum) (R=POD has been replaced and no longer serves this file; C=the file is closed) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q q q 64 16 4	Sec	Twn	Rng	X	Y	Distance
C 00929	C	DOM	3	J F FOREHAND	ED	C 00929			Shallow	3 3	18	24S	27E	572013	3564159*	
C 03560	C	DOM	1	DANIEL MAGBY	ED	C 03560 POD1			Shallow	2 3 3	18	24S	27E	572009	3564150	
C 01169	C	DOM	3	ALBERT E. WARREN	ED	C 01169			Shallow	1 4 3	18	24S	27E	572282	3564261*	
C 02325	C	DOM	0	BOBBY LEE MODRALL	ED	C 02325				2 2 2	24	24S	26E	571713	3563855*	
C 03777	C	DOM	1	BETTY GOEKE	ED	C 03777 POD1		NON	Shallow	3 1 2	24	24S	26E	571120	3563571	1
C 02043	C	DOM	3	PATSY KERN	ED	C 02043			Shallow	2 1	24	24S	26E	570805	3563758*	1
C 00261	CUB	IRR	735	HOOD EUGENE C	ED	C 00261 S-3				1 3	13	24S	26E	570409	3564567*	1
C 03192	C	STK	3	JENKINS FAMILY FARM AND RANCH	ED	C 03192				1 2 1	13	24S	26E	570697	3565474*	1
C 03982	C	MUL	2	BOUNDS FAMILY TRUST	ED	C 03982 POD1		NON		4 4 1	24	24S	26E	570970	3563311	1
C 00261	CUB	IRR	735	HOOD EUGENE C	ED	C 00261 S-4			Shallow	4 1 1	24	24S	26E	570498	3563658*	1
C 00100 COMBA	CUB	IRR	210.6	BOUNDS CECIL	ED	C 00100 COMB S				4 1	24	24S	26E	570796	3563354*	1
C 00261	CUB	IRR	735	HOOD EUGENE C	ED	C 00261 S			Shallow	1 1 1	24	24S	26E	570298	3563858*	1

Record Count: 12

POD Search:

POD Basin: Carlsbad

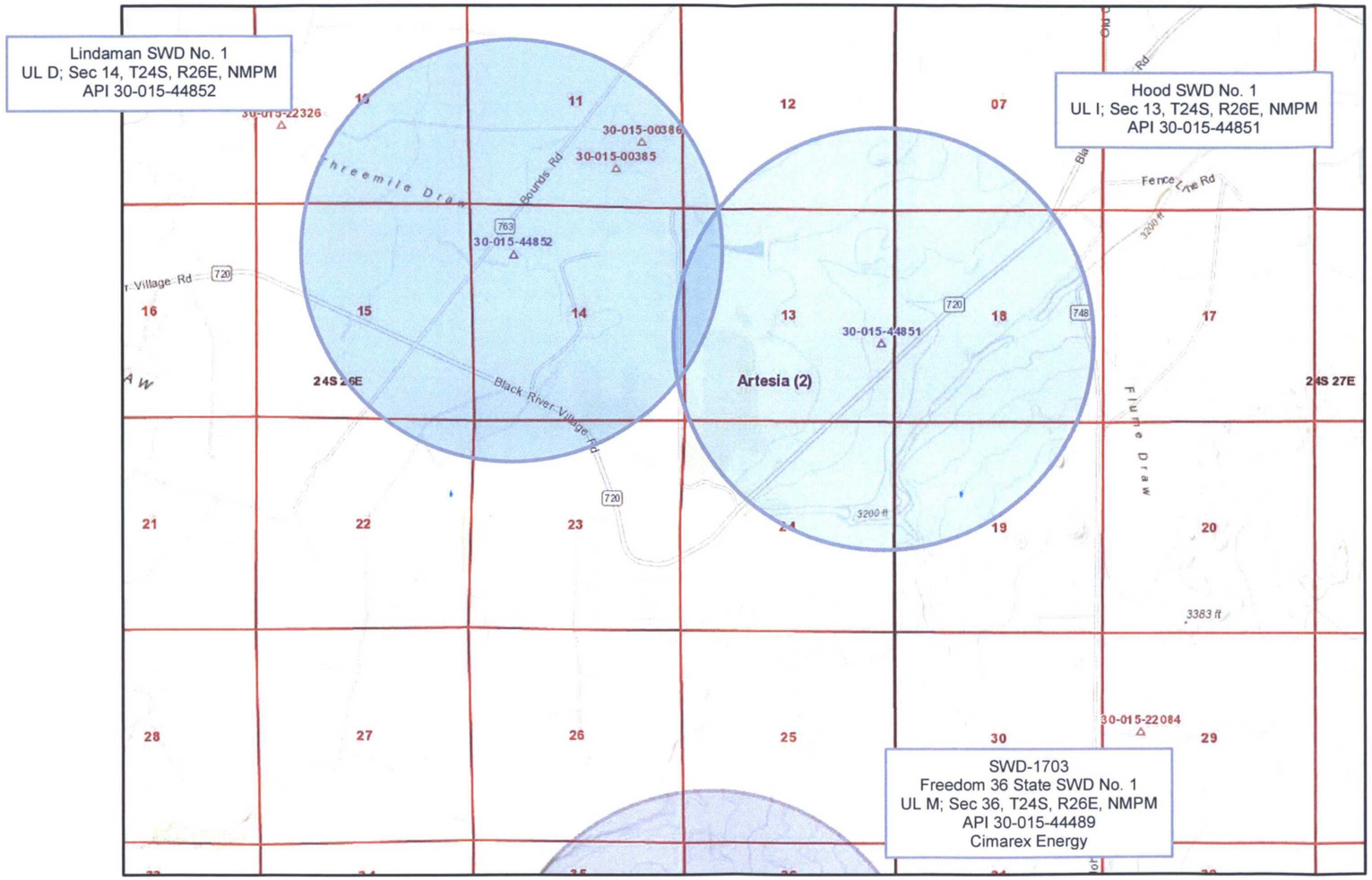
UTMNAD83 Radius Search (in meters):

Easting (X): 571712 **Northing (Y):** 3564562 **Radius:** 1609

Sorted by: Distance

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

Pending Applications for High-Volume Devonian Disposal Wells
C-108 Applications for Hood SWD No. 1 - Delaware Energy LLC and for Lindaman SWD No. 1 - Delaware Energy LLC



Hood SWD No. 1; Delaware Energy LLC
API 30-015-44851; Application No. pMAM1807235234; Rcvd 03.08.2018
Proposed interval: Devonian; 17,100' to 18,600'
Proposed construction: tapered tubing; 5-inch in liner and 5.5-inch above the liner
Protested by Mewbourne: suspended: 03.16.2018; protest withdrawn
Recommendation: administrative order drafted

Lindaman SWD No. 1; Delaware Energy LLC
API 30-015-44852; Application No. pMAM1809439272; Rcvd 04.03.2018
Proposed interval: Devonian-Silurian interval; 17,400' to 19,200'
Proposed Construction: tapered tubing; 5-inch in liner and 5.5-inch above the liner
Recommendation: administrative order recommended

Closet Devonian Well with Large-Volume Potential: Freedom 36 State SWD No. 1 (30-015-44489) not drilled; approved current tubing: 4.5-in; potential to increase tubing size to tapered system.

Oil Conservation Division
Energy, Minerals and Natural Resources Department
State of New Mexico

C-108 Application – Division Supplemental Documents

Application for Disposal in Devonian and Silurian Formations: Due to the potential for the projected injection volume of the proposed well to impact an area greater than the one-half mile radius applied in Division Form C-108 and Division rule, the applicant has provided the following supplementary information:

1. Notification following Division Rule 19.15.26.8(B) NMAC for a radius of one mile from the surface location of the proposed well;
2. An expanded Area of Review for wells penetrating the disposal interval for a radius of one mile from the surface location of the proposed well; and
3. A statement by a qualified person assessing the potential of induced-seismic events associated with the disposal activities for the predicted service life of the proposed well.

Applicant: Delaware Energy, LLC
Application: pMAM1807235234
Well: Hood SWD No. 1

Goetze, Phillip, EMNRD

From: Sarah Presley <s.presley@delawareenergy.com>
Sent: Friday, March 16, 2018 7:15 AM
To: Goetze, Phillip, EMNRD; McMillan, Michael, EMNRD
Cc: Mike McCurdy
Subject: Delaware Energy, LLC - Hood SWD #1 - Statement of Seismicity
Attachments: Hood SWD #1 (Revised).pdf

Mr. Goetz & Mr. McMillan,

Attached is Kevin Schepel's statements/findings regarding seismicity for the Hood SWD #1. Please let us know if we have the commission's approval for the Hood SWD #1

Mr. Schepel is widely regarded as one of the industry's leading experts in advanced geoscience, engineering and formation evaluation methodologies for oil and gas exploration, field development and improved reservoir management. Prior to joining Talon III, Mr. Schepel served as Chief Geoscience and Technology Officer for ZaZa Energy Corporation. He began his career in 1980 with Exxon Company U.S.A. in Midland, Texas, and later with Exxon Production Research Company in Houston, where he served as a Lead Technical Advisor focused on domestic and international research applications. After leaving Exxon, Mr. Schepel served as Vice President of Worldwide Exploitation for Pioneer Natural Resources from 1998-2008, where he lead a multidisciplinary reservoir characterization team that provided advanced technical support for evaluating, developing and managing Pioneer's petroleum assets in South Texas, East Texas and the Permian Basin.

Mr. Schepel has been involved in numerous industry forums and is an active member of the American Association of Petroleum Geologists and the Society of Petroleum Engineers, presenting and chairing several forums and annual meetings for each organization. He has served on the Board of Directors for the Louisiana Independent Oil & Gas Association and the Advisory Council for the Energy Forum Unconventional Resource Series. Mr. Schepel received a Bachelor of Science degree in geology from Michigan State University and is licensed by the Texas Board of Professional Geoscientists.

The paragraph above is copied from his bio of his last job. As you can see Mr. Schepel has decades of experience and is very highly regarded his field.

Thank you,

Sarah Presley
Delaware Energy
432-685-7005

Statement Regarding Seismicity and Well Location (Hood SWD #1)

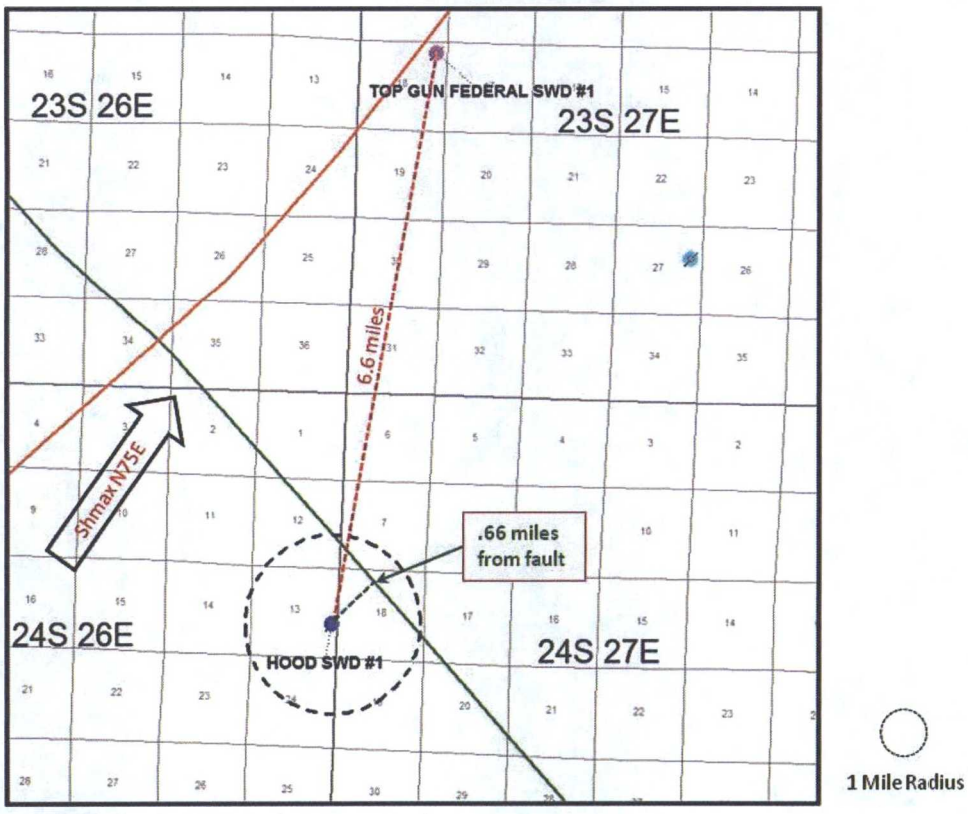
Historically, the area near the proposed Hood SWD #1 has not seen any major seismic activity. There have been two seismic events (as per public data available on the USGS database) in the area. All events are over 8 miles from the proposed SWD location. The closest activity (8.6 miles to the NNE) measured 3.9 on November 24, 1978

Delaware Energy does not own 2D or 3D seismic data near the proposed SWD location therefore the fault interpretations are based on data obtained from the USGS New Mexico Faults Database dated January 1, 2005 and other published data. Based on these sources the closest fault would be approximately .66 miles northeast of the location. A recent technical paper written by Snee and Zoback, "State of Stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity", was published in the February 2018 edition of The Leading Edge. The study evaluates the strike-slip probability of known faults using FSP analysis. The study predicts that the fault activity nearest this well should have a very low probability of being critically stressed resulting in an induced seismicity event. This is due to the relationship of the strike of the fault and the regional Shmax orientation (approx. N 35 deg E) in the area.

The proposed Hood SWD #1 location is located 6.6 miles away from the nearest active Devonian SWD well (see map below) and meets current OCD and Industry recommended practices.

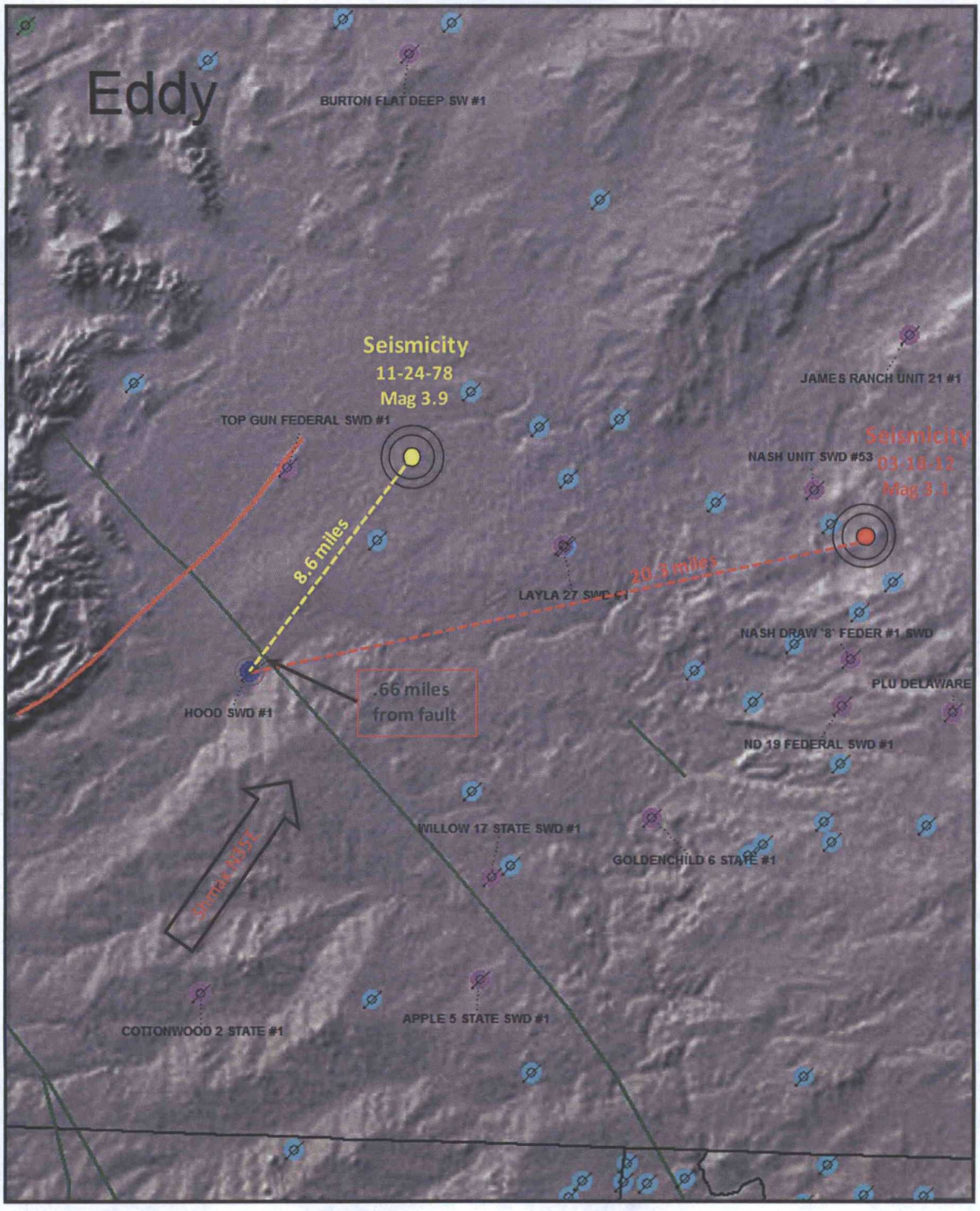
Kevin J. Schepel
Petrophysical Advisor
kevin.schepel@att.net
214-212-6540

Well Activity, Faulting, and Closest SWD



Modeled After Snee and Zoback (Febuary 2018)

Proximity to Historic Earthquake Activity and Faults



Modeled After Snee and Zoback (Febuary 2018)

Devonian SWD | Delaware SWD | Proposed Location

USGS Earthquake | Low Fault Slip Potential | Higher Fault Slip Potential

Oil Conservation Division
Energy, Minerals and Natural Resources Department
State of New Mexico

C-108 Application – Division Supplemental Documents

Protest Record

Applicant: Delaware Energy, LLC
Application: pMAM1807235234
Well: Hood SWD No. 1

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
Hood SWD #1
1980' FSL, 330' FEL, Unit Letter I
Section 13, Township 24S, Range 26E
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,

Tim R. Harrington

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

PMAM1807235234

Goetze, Phillip, EMNRD

From: Tim Harrington <tharrington@mewbourne.com>
Sent: Tuesday, April 10, 2018 7:32 AM
To: Goetze, Phillip, EMNRD
Cc: Scott Grifo
Subject: DELAWARE ENERGY - HOOD #1 SWD - DROP PROTEST
Attachments: Hood SWD Drop Protest Letter.pdf

Hi Phillip:

Attached is a letter notifying your agency that Mewbourne is dropping their protest to the Delaware Energy Hood #1 SWD permit application. 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

April 10, 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
Hood SWD #1
1980' FSL, 330' FEL, Unit Letter I
Section 13, Township 24S, Range 26E
Eddy County, TX

Dear Mr. Goetz:

Mewbourne Oil Company has negotiated terms, with Delaware Energy, LLC, that will minimize the impact of the Hood 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,

Timothy R. Harrington

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

MARION J. CRAIG III
ATTORNEY AT LAW, L.L.C.

POST OFFICE BOX 1436
ROSWELL, NM 88202-1436
TELEPHONE: (575) 622-1106
EMAIL: Jimmy@craiglawllc.com

MARION J. "JIMMY" CRAIG III
ATTORNEY AT LAW

601 W. SECOND STREET, SUITE 8
ROSWELL, NEW MEXICO 88201

May 16, 2018

Sent Via Certified Mail:
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, N.M. 87505

RE: Opposition to Application for Authorization to Inject
Hood SWD #1
Section 13, T-24-S, R-26-E NMPM
Eddy County, NM

Gentlemen:

This letter is written on behalf of Jim Davis and Barbara Davis as their Objection to the above-referenced Application for a salt-water disposal well.

The Davis' property is located in Section 8, T-24-S, R-27-E.

Mr. and Mrs. Davis own water rights and mineral rights at the above-referenced location, which is located along Black River.

The opposed salt water disposal well is in proximity to both the Protestants' dwelling, their water wells and Black River (which would include an endangered species habitat).

This salt water disposal well is also objected to on each of the following reasons:

A. The proposed well is within one mile of Black River. The Black River area is extremely porous, and any loss of fluid in the disposal well will immediately find its way to the River, which has been deemed a critical habitat for the Texas Hornshell Mollusk;

B. The distance from any house should be at least 1,000 feet since all of these houses have domestic wells, and any leakage will directly find its way into those wells;

C. These applications fail to address the issue of approvable access from the available roads;

D. In the event that pipelines are required to cross Black River to any of the disposal well, boring under the River is unacceptable as the water table alone is only within the first 25 to 30 feet, with a second zone between 50 and 60 feet. Any leakage will automatically contaminate

the River killing at least one endangered species, and a species which is being studied as being potentially endangered.

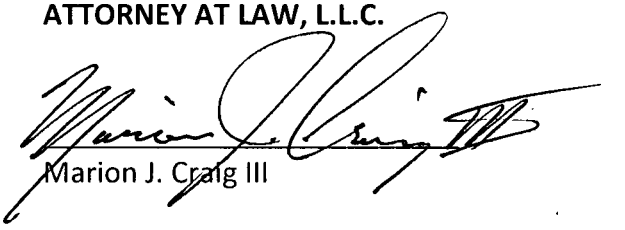
E. This salt water disposal well will pass through the ground water which flows directly into Section 8 and Black River, and additionally will pass through or be drilled through a zone which flows through the opponents' domestic well used for the Protestant's home.

Due to the sensitive nature of the area in which the salt water disposal wells are proposed, being a critical habitat, and Black River being a high porosity area, the salt water disposal wells proposed would pose a serious threat to the eco system and Black River. Black River also flows into the Pecos River, which is subject to the Texas – New Mexico Compact.

Jim and Barbara Davis request that this Application be denied.

Sincerely,

MARION J. CRAIG III
ATTORNEY AT LAW, L.L.C.



Marion J. Craig III

Goetze, Phillip, EMNRD

From: Goetze, Phillip, EMNRD
Sent: Wednesday, May 23, 2018 9:34 AM
To: 'Jimmy Craig'
Cc: Brooks, David K, EMNRD; Jones, William V, EMNRD; McMillan, Michael, EMNRD; Riley, Heather, EMNRD
Subject: Protest of the Hood SWD No. 1 Application to Inject

RE: Hood SWD No. 1; API No. 30-015-44851; Application pMAM1807235234; Applicant: Delaware Energy LLC; UL I, Sec 13, T24S, R26E, NMPM, Eddy County

Mr. Craig,

The Oil Conservation Division (the "Division") has received a protest of the C-108 application for the Hood SWD No. 1. This was filed by your firm on behalf of Jim and Barbara Davis and was logged into the Division's record on May 18, 2018. Following review of the NMAC covering protests of this type of application and consultation with the Secretary's Office of General Counsel, this protest for this application is being denied. The application was determined to be administratively complete on March 16, 2018, thus initiating the 15-day suspension period for protesting. Under 19.15.26.8(B) NMAC, the protest on behalf of your client was not received within the 15-day period following March 16, 2018, and therefore cannot be considered.

19.15.26.8 INJECTION OF FLUIDS INTO RESERVOIRS:

B. Method of making application.

(2) The division shall not approve an application for administrative approval until 15 days following the division's receipt of form C-108 complete with all attachments including evidence of mailing as required under Paragraph (2) of Subsection B of 19.15.26.8 NMAC and proof of publication as required by Paragraph (1) of Subsection C of 19.15.26.8 NMAC.

(3) If the division does not receive an objection within the 15-day period, and a hearing is not otherwise required, the division may approve the application administratively.

Please contact me at your convenience with any questions regarding the content of this communication. PRG

Phillip Goetze, PG
Engineering Bureau, Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive, Santa Fe, NM 87505
Direct: 505.476.3466
E-mail: phillip.goetze@state.nm.us