

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Engineering Bureau -
 220 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]**

- [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 _____

Delaware Energy, LLC
371195
Pardue 21 Farms #1
30-015-23809
SWD; Devonian
96101

[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

Print or Type Name

[Signature]
 Signature

Operations Engineer

Title

07/25/2017

Date

mmcurdy@delawareenergyllc.com
 e-mail Address

Delaware Energy, LLC

Application for Injection/SWD

Pardue Farms 21 #1, API # 30-015-23809

UL B, Sec. 21, T-24-S, R-28-E, 990' FNL & 1980' FEL, Eddy Co., NM

July 2017

Contents:

1. Administrative Application Checklist
2. Form C-108: Application for Authority to Inject
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. Wellbore diagram as Plugged
9. Wellbore diagram as Planned
10. ~~Tabular Data on All Wells of Public Record within the Area of Review which Penetrate the Proposed Injection Zone~~ (No applicable wells)
11. Map Identifying 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
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-half Mile of the Well Location
13. Ground water information and water sample from Efren Collins (closest active water well ~1.1 miles from Pardue Farms 21 #1)
14. Legal Notice that will be run as required in the Hobbs News-Sun
15. Formation Tops
16. Old Regulatory Documents

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: Secondary Recovery Pressure Maintenance xxx Disposal Storage
Application qualifies for administrative approval? xxx Yes No

II. OPERATOR: DELAWARE ENERGY, LLC

ADDRESS: 3001 W. LOOP 250 N. SUITE C-105-318 MIDLAND TX 79705

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 XXX No
If yes, give the Division order number authorizing the project: _____

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

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

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).

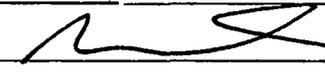
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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: Operations Engineer

SIGNATURE:  DATE: 07/25/2017

E-MAIL ADDRESS: mmccurdy@Delawareenergyllc.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.

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

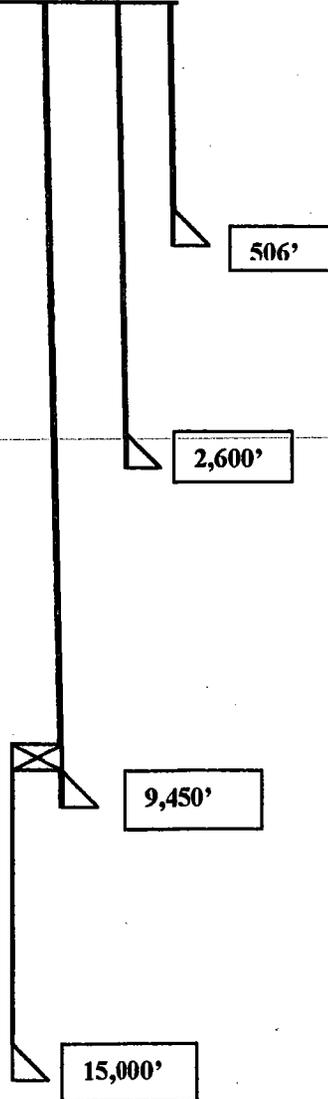
INJECTION WELL DATA SHEET

OPERATOR: DELAWARE ENERGY, LLC

WELL NAME & NUMBER: PARDUE 21 FARMS #1 API 30-015-23809

WELL LOCATION: 990' FNL, 1980' FEL B 21 24S 28E
 FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 26" Casing Size: 20"
 Cemented with: 1,100 sx. or _____ ft³
 Top of Cement: SURFACE Method Determined: CIRCULATED

Intermediate Casing

Hole Size: 17.5" Casing Size: 9-5/8"
 Cemented with: 3550 sx. or _____ ft³
 Top of Cement: SURFACE Method Determined: CIRCULATE

Production Casing

Hole Size: 12-1/4" Casing Size: 9-5/8"
 Cemented with: 3100 sx. or _____ ft³
 Top of Cement: 1000' Method Determined: CBL/temp
 Total Depth: 9,450'

Injection Interval

14,000 feet to 15,000

PERFORATED

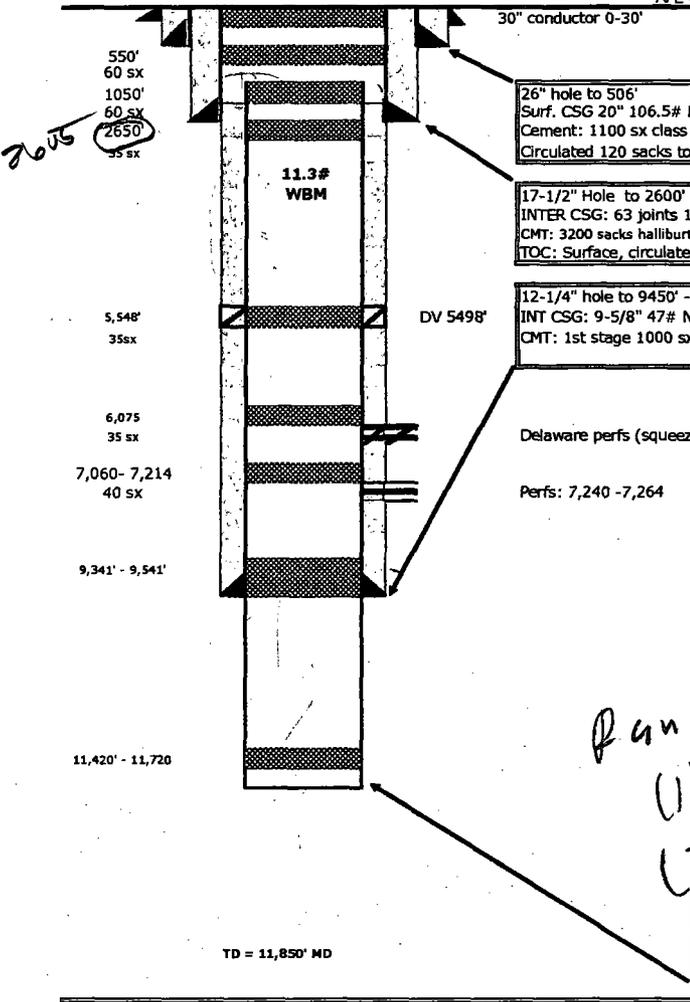
**** PROPOSED**
 7" 26# P110 liner 9,200' - 15,000',
~~600"~~ hole, cement to top of liner w/
 600 H sacks, Top of liner is 9,200'
 2.5

**Pardue Farms 21 #1 SWD
Wellbore Diagram**

Devonian
Eddy County NM
API # 30-015-23809
AFE #

SL: 1650 ft FSL and 1980 ft FEL, UL B, Sec. 21, T-24-S, R 28-E
Eddy County NM

KB elev = 3038
GL elev = 3023
KB-GL: 15
SPUD: 6/4/81
TD: 7/23/81



30" conductor 0-30' plug 0-50'

26" hole to 506'
Surf. CSG 20" 106.5# K-55 BTC 0-505'
Cement: 1100 sx class C, 14.8 PPG, 1.32 yield
Circulated 120 sacks to surface

17-1/2" Hole to 2600'
INTER CSG: 63 joints 13-3/8" 61# K-55 STC : 0' - 2600'
CMT: 3200 sacks halliburton lite, and 300 sacks class C neat
TOC: Surface, circulated 260 sacks to surface

12-1/4" hole to 9450' - Casing cut at approx. 1000ft May 2006
INT CSG: 9-5/8" 47# N95 LTC 0 - 9,9450' DV tool at 5498'
CMT: 1st stage 1000 sx lite and 300 sacks class H, circ. 2nd stage 1400 sx lite with 600 sacks class H

Delaware perms (squeezed) 6,125 - 6,478

Perfs: 7,240 - 7,264

*Pan 2 C-B-L
(1) After clean-out from submer to
(2) C-B-L line
(3) lock @ 2600' paper seal-off*

8 1/2" Hole to 11,850
PROD CSG: None

TD = 11,850' MD

*BB 11/11/81
11/11/81*

INJECTION WELL DATA SHEETTubing Size: 4.5", 12.75# L-80 Lining Material: Internally plastic coatedType of Packer: Weatherford Arrow Set 1X Injection PackerPacker Setting Depth: 50ft to 100ft above top perfOther Type of Tubing/Casing Seal (if applicable): NONEAdditional Data1. Is this a new well drilled for injection? Yes XXX NoIf no, for what purpose was the well originally drilled? ATOKA/STRAWN GAS TESTTD 11,850 VERTICAL WELL2. Name of the Injection Formation: DEVONIAN3. 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.

Delaware 6,125 – 6,478 (squeezed)

Bone Spring 7,240 – 7,264

CEMENT PLUGS: 100 sacks 11,720'; 85 sacks 9,541'; 50 sacks 7,214'; 45 sacks 6,069'; 50 sacks 5,561'; 50 sacks 2,669'; 75 sacks 1,048'; 80 sacks 572'; 40 sacks 0-60'

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

ABOVE: DELAWARE 4200' -6,400; BONE SPRING 7,100 -8500; WOLFCAMP 9,100 -10,970; ATOKA 11,100; MORROW 12,200BELOW: NONE

Additional Questions on C-108

VII.

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

Average 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 1,000-2,000 PSI, Max 2,800 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 in offset Townships 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 normally produces salt water. No Devonian receiving formation water samples directly offset, but a water analysis from a nearby well is included in the application.

***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 located in the Devonian formation, estimated top 14,000' to 15,000'. Devonian is an impermeable Shale at the very top (13,900', Woodford Shale) followed by permeable lime and dolomite. There are no fresh water zones underlying the proposed injection zone. Usable water depth is from surface to +/-240', the water source is older alluvium (Quaternary). All of the fresh water wells in the area have an average depth to water of 50' - 200' (Based on State Engineers Office).

IX. Describe the proposed stimulation program, if any.

20,000 gallons 15% HCL acid job with packer

X. Attach appropriate logging and test data on the well

Logs will be filed following re-entry operations. Cased hole CBL, Neutron, Gamma/CCL. Open hole Resistivity, neutron and gamma.

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.

The Efren Collins is the closest active fresh water well near the Pardue Farms 21 #1 (Pardue to Efren Collins: ~1.1 miles), attached is the Efren Collins water analysis. Average depth to water is 45ft, average well depth is 200ft. Did not find any active wells within one mile.

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 Pardue Farms 21 No 1 and have found no evidence of faults or other hydrologic connections between the 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 in the 14,000' feet of lithology between the top of the Devonian and the base of the ground water.

Mike McCurdy **Operations Engineer** **7/25/2017**
 _____ Title _____ Date _____

III. WELL DATA

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

Pardue Farms 21 No 1, Sec. 21-T24S-R28E, 990' FNL & 1908' FEL, UL B, 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
20"	506'	1100	26"	Surface	Circ June-1981
13-3/8"	2,600'	3550	17-1/2"	Surface	CIRC June-1981
9-5/8"	9,450'	3100	12-1/4"	1,000'	CBL or Temp
7" *	9,200-15,000'*	600*	8-1/2"*	Top of liner*	CIRC*

* proposed

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

4-1/2" OD, Internally Plastic Coated Tubing set 50 to 100ft above perforations

(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.

14,000' to 15,000' (perforated)

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

Well was drilled to 11,850, deepest test was the Atoka, well produced from the Brushy Canyon and 1st Bone Spring Sand but was not in economic volumes.

(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.

Delaware 6,125 – 6,478 (squeezed)

Bone Spring 7,240 – 7,264 (will squeeze)

CEMENT PLUGS:

100 sacks 11,720'; 85 sacks 9,541'; 50 sacks 7,214'; 45 sacks 6,069'; 50 sacks 5,561'; 50 sacks 2,669'; 75 sacks 1,048'; 80 sacks 572'; 40 sacks 0-60'

(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: DELAWARE 4200'-6,400; BONE SPRING 7,100 -8500; WOLFCAMP 9,100 -10,970; ATOKA 11,100; MORROW +/- 12,200

Next Lower: None

**N MEXICO OIL CONSERVATION COMMISS
WELL LOCATION AND ACREAGE DEDICATION PLAT**

Form C-122
Supersedes C-128
Effective 1-1-81

All distances must be from the outer boundaries of the Section.

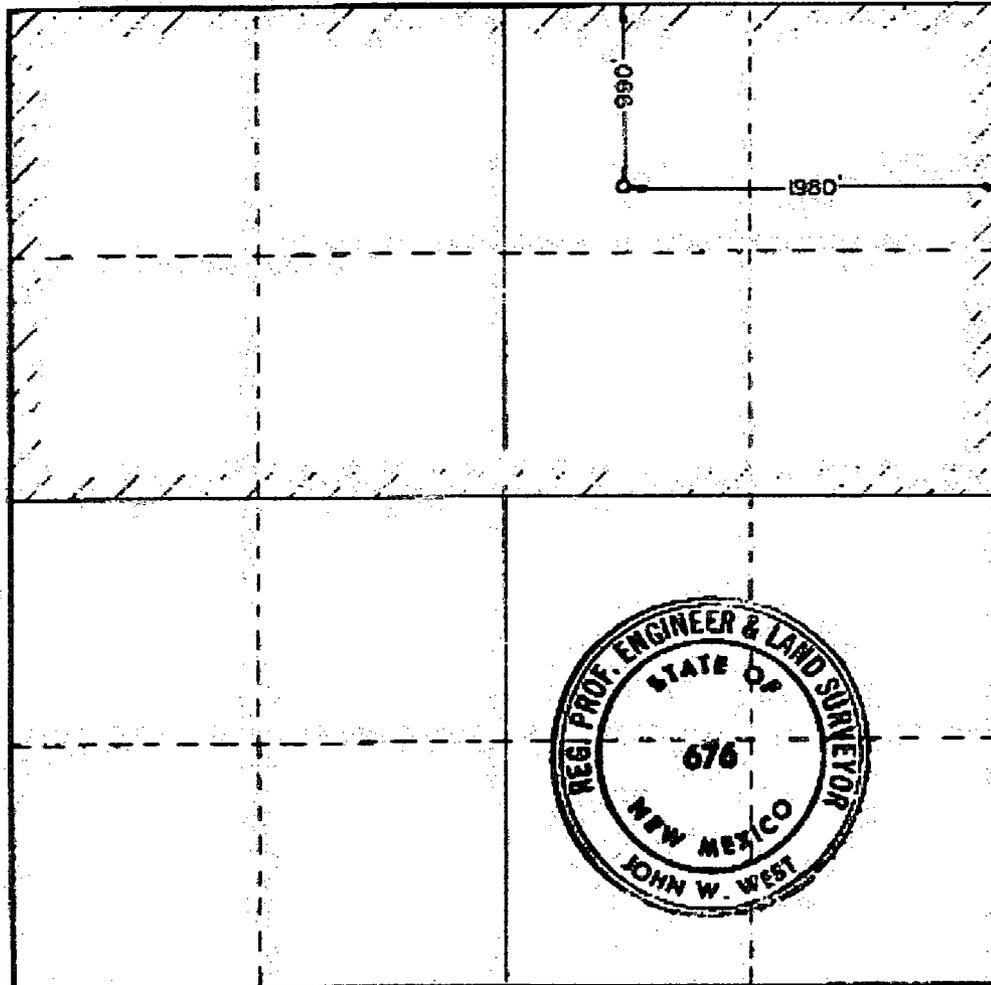
Operator Maddox Energy Corporation			Lease Pardue Farms 21		Well No. 1
Tract Letter B	Section 21	Township 24 South	Range 28 East	County Eddy	
Actual Fracture Location of Well: 990 feet from the north line and 1980 feet from the east line					
Ground Level Elev. 3022.0	Producing Formation Morrow		Pool <i>see 2</i> Malaga (Aboka-Morrow)	Dedicated Acreage: 320	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

Yes No If answer is "yes" type of consolidation _____

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name: *Quinn B. Cady*
 Position: **Operations Manager**
 Company: **Maddox Energy Corp.**
 Date: **May 27, 1981**

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 knowledge and belief.

Date Surveyed: **May 18, 1981**
 Registered Professional Engineer and/or Land Surveyor:

John West
 Certificate No. **JOHN W. WEST 676**
PATRICK A. ROMERO 6883
Ronald J. Eitzen 3239



Sec 22, T25S, R28E

North Permian Basin Region
 P.O. Box 740
 Sundown, TX 79372-0740
 (806) 228-8121
 Lab Team Leader - Shella 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	3056.82
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
Carbon Dioxide:	0.50 PPM	Silicate:			Potassium:	869.0	22.22
Oxygen:		Hydrogen Sulfide:		0 PPM	Aluminum:		
Comments:		pH at time of sampling:		7	Chromium:		
		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 ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄		CO ₂ Press
		Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	
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	208.05	-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

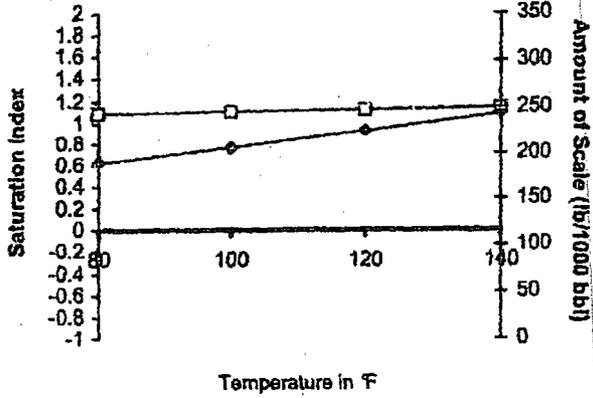
Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.
 Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.
 Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

Scale Predictions from Baker Petrolite

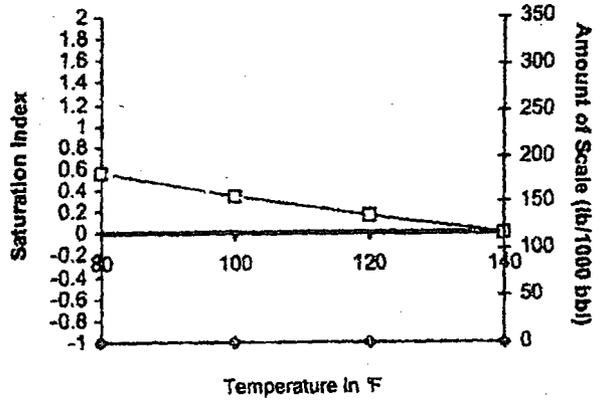
Analysis of Sample 534665 @ 75 °F for

03/18/11

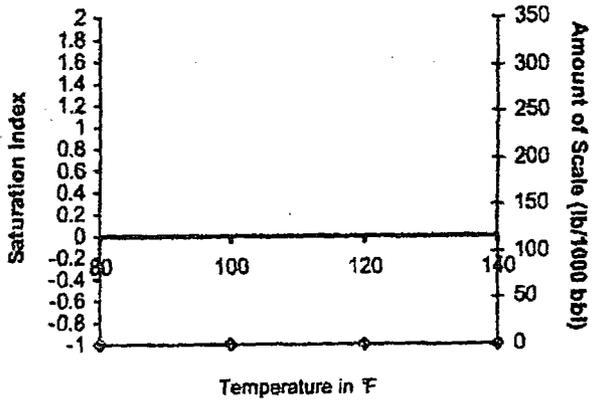
Calcite - CaCO₃



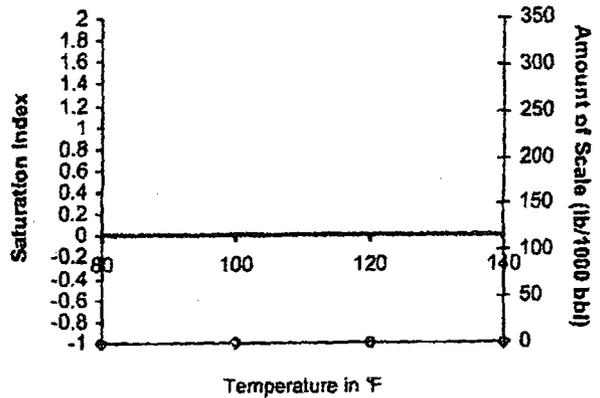
Barite - BaSO₄



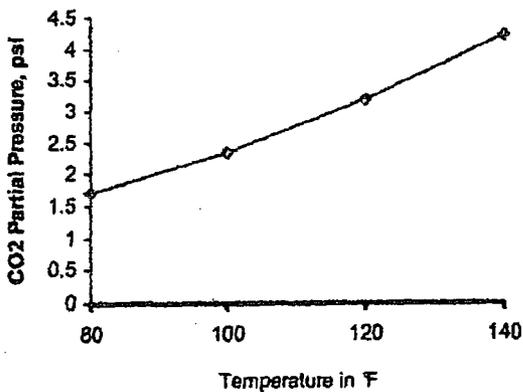
Gypsum - CaSO₄·2H₂O



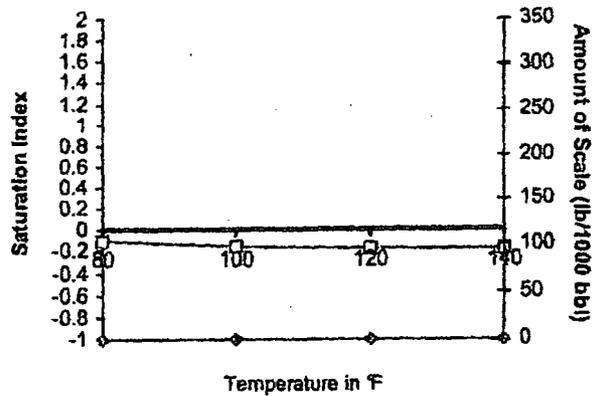
Anhydrite - CaSO₄



Carbon Dioxide Partial Pressure



Celestite - SrSO₄



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 #	
		<i>Eddy</i>	<i>1-265-29E</i>
			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

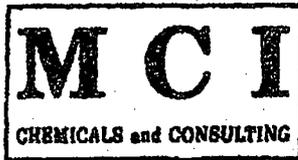
*Calcium Carbonate Index	507,520
<i>Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable</i>	
*Calcium Sulfate (Gyp) Index	1,000,000
<i>Below 500,000 Remote / 500,000 - 10,000,000 Possible / Above 10,000,000 Probable</i>	

*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

See 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@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	

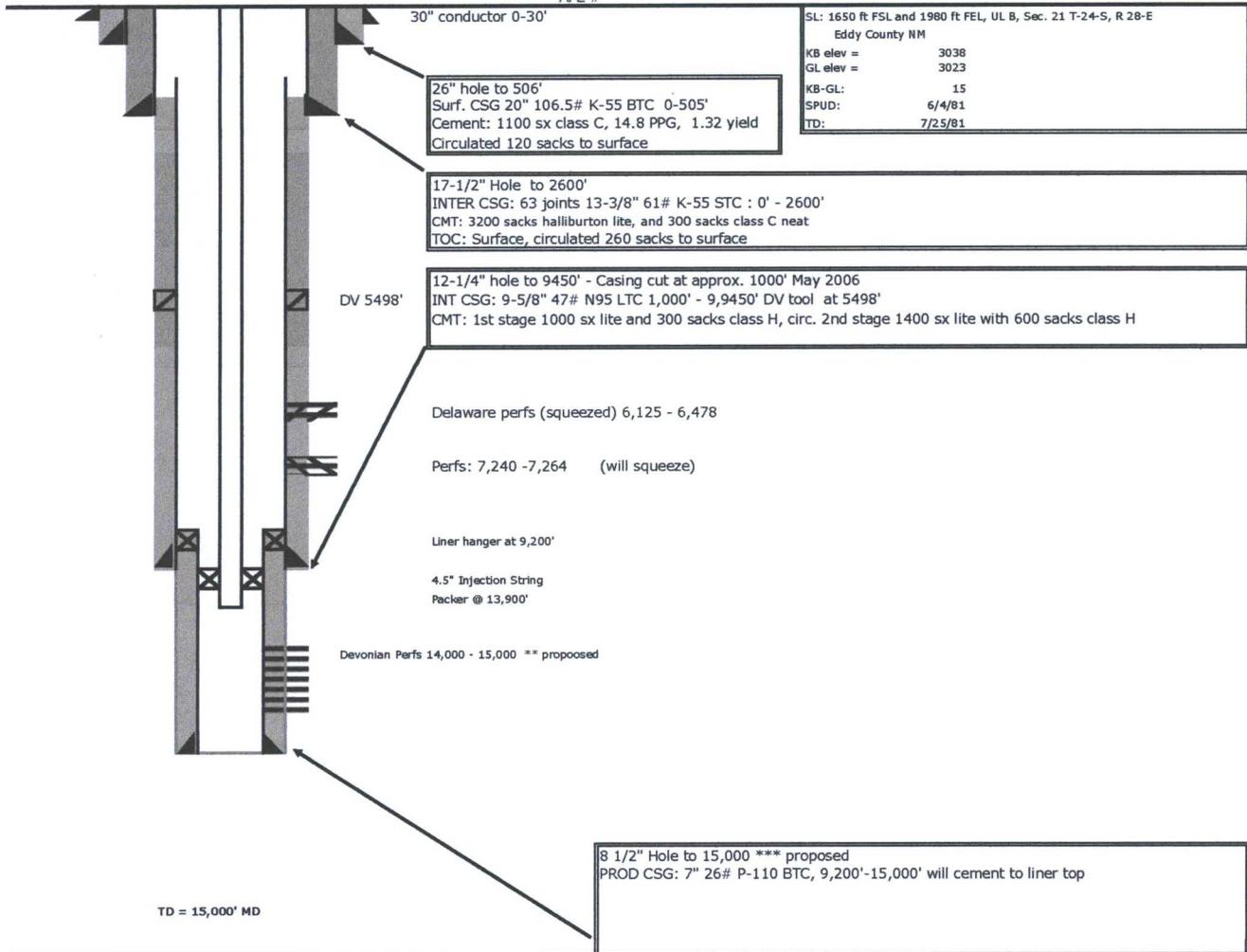
PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	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				

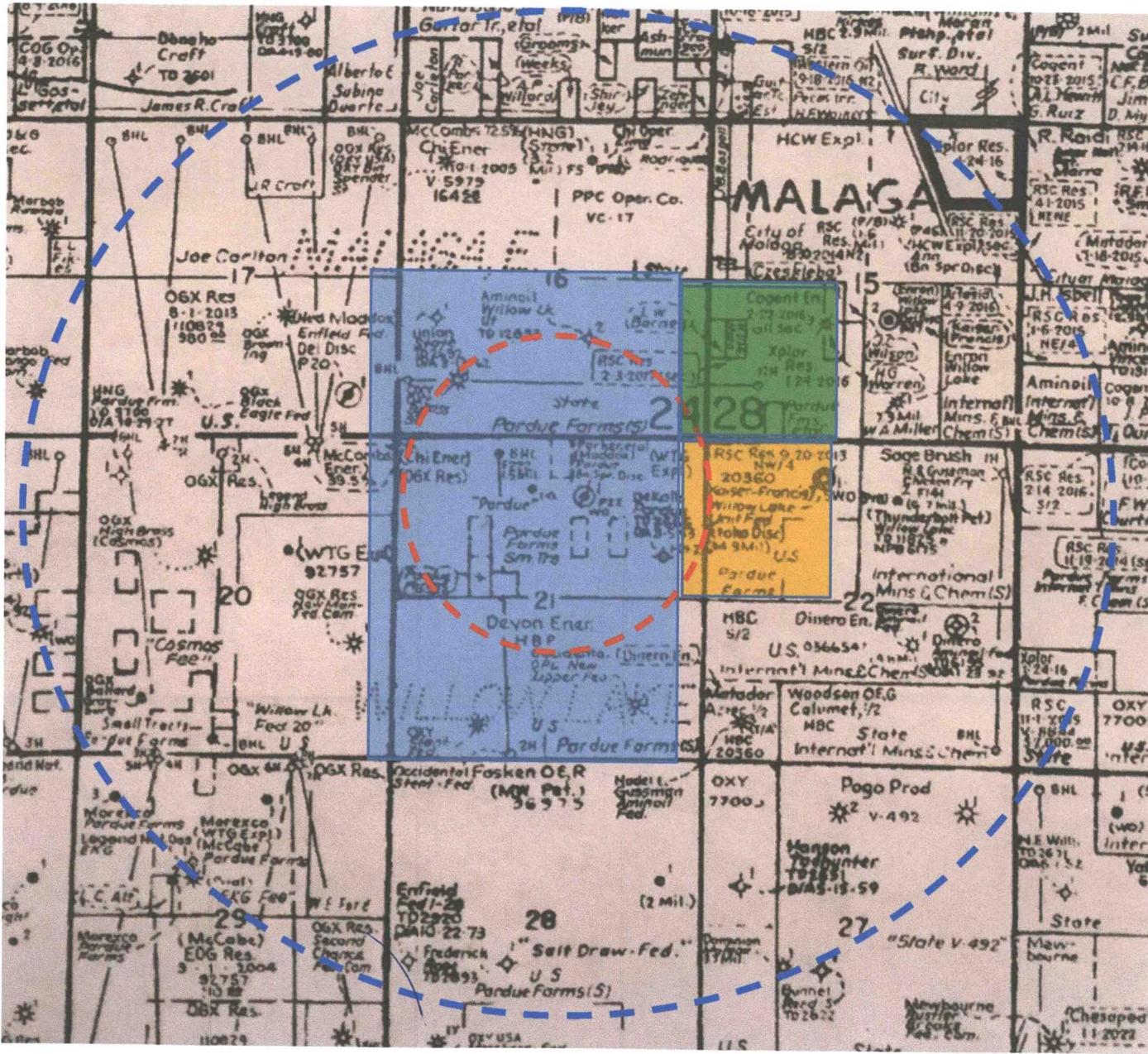
REMARKS:

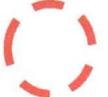
**Pardue Farms 21 #1 SWD
Wellbore Diagram**

Devonian
Eddy County NM
API # 30-015-23809
AFE #



SL: 1650 Ft FSL and 1980 Ft FEL, UL B, Sec. 21 T-24-S, R 28-E Eddy County NM	
KB elev =	3038
GL elev =	3023
KB-GL:	15
SPUD:	6/4/81
TD:	7/25/81



-  Kaiser-Francis
-  Oxy
-  Marathon Oil
-  2 Mile Radius
-  0.5 Mile Radius

Delaware Energy, L.L.C.
3001 W. Loop 250 N., Suite C-105-318
Midland, TX 79705
Office: (432) 312-5251

July 25, 2017

Surface Owner / Offset Operators

Re: Notification of Application for Authorization to Inject into the
Pardue Farms 21 #1 Well

Ladies and Gentlemen:

Delaware Energy, LLC is seeking administrative approval to utilize the Pardue Farms 21 #1 (API – 30-015-23809) 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>	Pardue Farms 21 #1 SWD
<u>Proposed Disposal Zone:</u>	Devonian Formation (from 14,000'-15,000')
<u>Location:</u>	990' FSL & 1980' FEL, Sec. 21, UL B, T24S, R28E, Eddy Co., NM
<u>Applicants Name:</u>	Delaware Energy, L.L.C.
<u>Applicants Address:</u>	3001 W. Loop 250 N., Suite C-105-318, Midland, TX 79705

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:

Affected Lease Operators:

Occidental Permian LTD
6001 Deauville Blvd
Midland, TX 79706

Kaiser-Francis Oil Company
6733 South Yale Avenue
Tulsa, OK 74136

Marathon Oil Corporation.
5555 San Felipe St.,
Houston, TX 77056

New Mexico OCD:

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

New Mexico Oil Conservation Division - District 2 Artesia
811 S. First St.
Artesia, NM 88210

Surface Owner:

Pecos Valley Artesian Conservancy District
2303 E. 2nd St.
Roswell, NM 88201

Impact Water Analysis Report



SYSTEM IDENTIFICATION

Company: Delaware Energy
 Location: Eflen Collins
 Sample Source: Wellhead
 Salesman: David Garcia

Sample ID#: 81684

Sample Date: 07-06-2017
 Report Date: 07-11-2017

WATER CHEMISTRY

CATIONS

Calcium(as Ca)	738.60
Magnesium(as Mg)	266.40
Barium(as Ba)	0.00
Strontium(as Sr)	12.76
Iron(as Fe)	0.00
Manganese(as Mn)	0.00

ANIONS

Chloride(as Cl)	200
Sulfate(as SO ₄)	177
Dissolved CO ₂ (as CO ₂)	ND
Bicarbonate(as HCO ₃)	232.03
H ₂ S (as H ₂ S)	ND
Boron(as B)	6.35

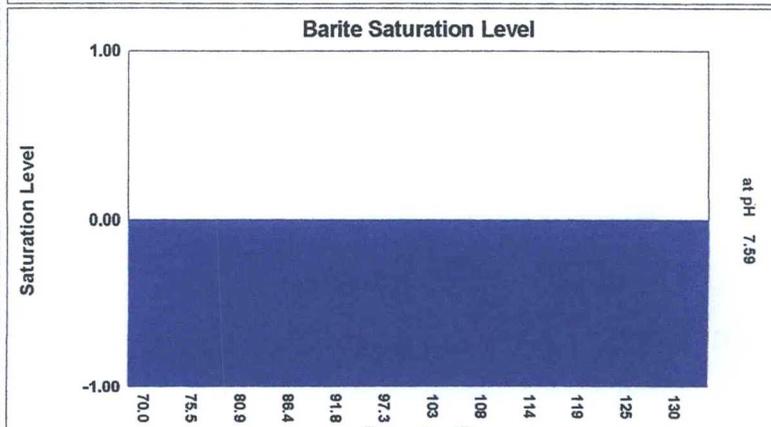
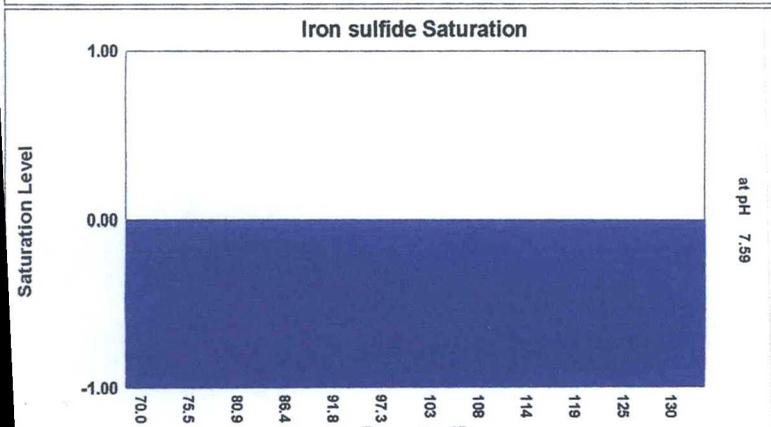
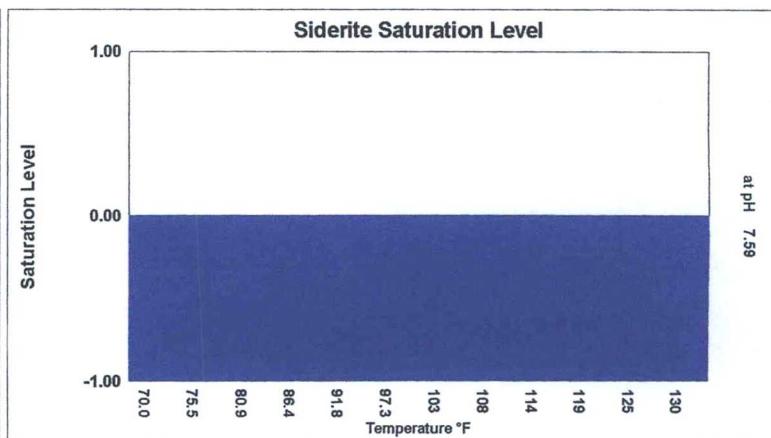
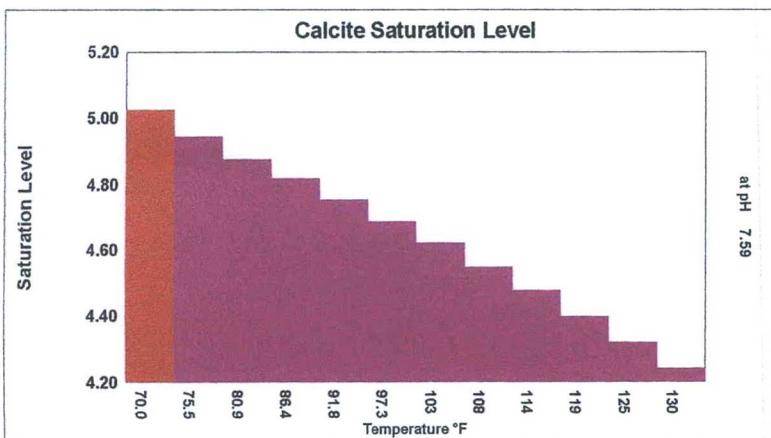
PARAMETERS

Temperature(°F)	77.00	Sample pH	7.53
Conductivity	6465	Sp.Gr.(g/mL)	1.00
Resistivity	154.69		
T.D.S.	5952		

SCALE AND CORROSION POTENTIAL

Temp. (°F)	Press. (atm)	Calcite CaCO ₃	Anhydrite CaSO ₄	Gypsum CaSO ₄ *2H ₂ O	Barite BaSO ₄	Celestite SrSO ₄	Siderite FeCO ₃	Mackawenite FeS	CO ₂ (mpy)	pCO ₂ (atm)			
70.00	1.00	5.02	0.956	0.485 -757.17	0.827 -195.57	0.00 -0.0144	0.933 -1.90	0.00 -0.128	0.00	-0.291	0.0262	0.0114	
75.45	10.00	4.94	0.916	0.474 -776.15	0.792 -240.77	0.00 -0.0168	0.909 -2.65	0.00 -0.123	0.00	-0.308	0.0439	0.0629	
80.91	19.00	4.87	0.879	0.467 -786.07	0.760 -282.64	0.00 -0.0195	0.890 -3.26	0.00 -0.118	0.00	-0.324	0.0421	0.114	
86.36	28.00	4.82	0.848	0.463 -787.19	0.732 -321.00	0.00 -0.0224	0.876 -3.74	0.00 -0.114	0.00	-0.340	0.0388	0.166	
91.82	37.00	4.75	0.816	0.462 -780.33	0.706 -356.26	0.00 -0.0256	0.865 -4.13	0.00 -0.110	0.00	-0.356	0.0361	0.217	
97.27	46.00	4.68	0.785	0.465 -766.03	0.684 -388.45	0.00 -0.0290	0.856 -4.44	0.00 -0.106	0.00	-0.373	0.0342	0.269	
102.73	55.00	4.62	0.756	0.469 -745.06	0.663 -417.83	0.00 -0.0327	0.849 -4.69	0.00 -0.102	0.00	-0.389	0.0330	0.320	
108.18	64.00	4.55	0.726	0.477 -717.87	0.673 -397.43	0.00 -0.0366	0.843 -4.90	0.00 -0.0991	0.00	-0.405	0.0296	0.372	
113.64	73.00	4.47	0.699	0.487 -685.24	0.686 -372.08	0.00 -0.0410	0.837 -5.14	0.00 -0.0960	0.00	-0.422	0.0262	0.423	
119.09	82.00	4.40	0.671	0.501 -647.84	0.698 -348.57	0.00 -0.0459	0.830 -5.39	0.00 -0.0933	0.00	-0.440	0.0234	0.475	
124.55	91.00	4.32	0.645	0.517 -606.32	0.711 -326.82	0.00 -0.0512	0.823 -5.67	0.00 -0.0907	0.00	-0.458	0.0209	0.526	
130.00	100.00	4.24	0.621	0.536 -561.33	0.722 -306.78	0.00 -0.0571	0.815 -5.96	0.00 -0.0882	0.00	-0.476	0.0187	0.578	
		xSAT mg/L	xSAT mg/L	xSAT mg/L	xSAT mg/L	xSAT mg/L	xSAT mg/L	xSAT mg/L	xSAT mg/L				

Saturation Levels (xSAT) are the ratio of ion activity to solubility, e.g. {Ca}{CO₃}/K_{sp}. pCO₂ (atm) is the partial pressure of CO₂ in the gas phase. mg/L scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.





New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Ring	X	Y	Depth Well	Depth Water	Water Column
C 00513 S	C	ED	1 3 3	16	24S	28E	584802	3564432		161	42	119		
C 00709	C	ED	3 3 3	16	24S	28E	584802	3564232*						
C 02836	C	ED	2 2 2	16	24S	28E	586203	3565676*				15		
C 03824 POD1	CUB	ED	4 1 2	16	24S	28E	585770	3565578		290	60	230		

Average Depth to Water: 39 feet

Minimum Depth: 15 feet

Maximum Depth: 60 feet

Record Count: 4

PLSS Search:

Section(s): 16

Township: 24S

Range: 28E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer

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(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Range	X	Y	Depth Well	Depth Water	Water Column
<u>C 00346</u>	C	ED		2	2	15	24S	28E		587715	3565591*	90	32	58
<u>C 00488</u>	C	ED		2	1	2	15	24S	28E	587412	3565688*	64	8	56
<u>C 02524</u> POD2	C	ED		2	2	2	15	24S	28E	587814	3565690*	90	11	79
<u>C 03132</u>	C	ED		1	2	4	15	24S	28E	587616	3564877*	90	19	71

Average Depth to Water: 17 feet
Minimum Depth: 8 feet
Maximum Depth: 32 feet

Record Count: 4

PLSS Search:

Section(s): 15

Township: 24S

Range: 28E

*UTM location was derived from PLSS - see Help

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New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters) (In feet)

POD Number	POD Sub-Code	basin	County	Q	Q	Q	Sec	Tws	Range	X	Y	Depth Well	Depth Water	Water Column
C 02244	C	LE	3	1	2	22	24S	28E	587224	3563865*	260			

Average Depth to Water: -
 Minimum Depth: -
 Maximum Depth: -

Record Count: 1

PLSS Search:

Section(s): 22 Township: 24S Range: 28E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

LEGAL NOTICE

Delaware Energy, L.L.C., 3001 W. Loop 250N, Suite C-105-318, Midland, TX 79705, has filed a form C-108 (Application for Authorization to Inject) with the Oil Conservation Division seeking administrative approval to utilize the Pardue Farms 21 #1 (API – 30-015-23809) as a Salt Water Disposal well.

The Pardue Farms 21 #1 is located at 990' FNL and 1980' FEL, Unit Letter B, Section 21, Township 24 South, Range 28 East, Eddy County, New Mexico. The well will dispose of water produced from oil and gas wells into the Devonian Formations from 14,000' to 15,000' at a maximum rate of 25,000 barrels of water per day at a maximum pressure of 2,800 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.

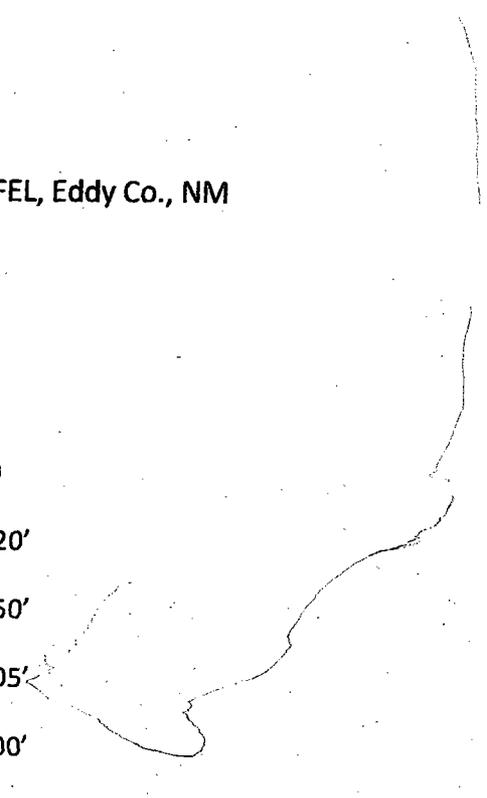
Additional information can be obtained by contacting Delaware Energy, L.L.C., at (432) 312-5251.

Pardue Farms 21 #1

API# 30-015-23089

UL B, Sec. 21, T-24-S, R-28-E, 990' FNL & 1980' FEL, Eddy Co., NM

Formation Tops



Rustler	400
T/Salado	1,020'
Base Salt, T/ Lamar lime	2,550'
Delaware Mountain Group / Bell Canyon	2,605'
Bone Spring Lime	6,500'
Wolfcamp	9,250'
Atoka	11,700'
Morrow	12,300
Mississippi	13,600
Woodford Shale	13,900
Devonian	14,000

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

NO. OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

30. Indicate Type of Lease
State Fee

31. State Oil & Gas Lease No.

7. Unit Agreement Name

8. Form or Lease Name

Pardue Farms 21

9. Well No.

10. Field and Pool, or Wildcat
Wildcat Bone Springs

12. County

Eddy

1. TYPE OF WELL

OIL WELL GAS WELL DRY OTHER

2. TYPE OF COMPLETION

NEW WELL WORK OVER DEEPEN PLUG BACK DIFF. RECV. OTHER

3. Name of Operator

Madcox Energy Corporation

4. Address of Operator

P. O. Box 217, Loving, New Mexico 88256

5. Location of Well

UNIT LETTER B LOCATED 1980 FEET FROM THE East LINE AND 990 FEET FROM

THE North LINE OF SEC. 21 TWP. 24-S REC. 28-E

13. Date Spudded

6-4-81

14. Date T.D. Reached

8-5-81

17. Date Compl. (Ready to Prod.)

12-11-81

18. Elevations (DF, RKB, RT, GR, etc.)

3022' GL

19. Elev. Casinghead

20. Total Depth

11,850'

21. Plug Back T.D.

6510'

22. If Multiple Compl., How Many

Many

23. Intervals Drilled By

Rotary Tools
Cable Tools
0-11,850'

24. Producing Interval(s), of this completion - Top, Bottom, Name

6125-6478' Bone Springs

25. Was Directional Survey Made

No

26. Type Electric and Other Logs Run

Cement Evaluation Log,
Gamma Ray, Compensated Neutron-Formation Density, Dual Laterolog-Micro SFL

27. Was Well Cased

No

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	MOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
20"	106.50#	500'	26"	1100 sx Cls C w/2% KCl & 1/4 Flocele	
13-3/8"	63#	2600'	17-1/2"	3250 sx Hal Lite & 300sx Cls C Neat	
9-5/8"	47# & 43.50#	9450'	12-1/4"	1st stage: 1000 sx Trinity Lite & 300 sx Cls H; 2nd stage: 1400 sx Trinity Lite & 400 sx Hal Lite & 200 sx Cls H	

LINER RECORD				TUBING RECORD			
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
					2-7/8"	6377.87	
					6 70# N-80		

28. Perforation Record (Interval, size and number) 4" - 49 shots
6125, 28, 31, 33, 35, 45, 46, 50, 54, 58, 60,
75, 93, 97, 6203, 07, 11, 16, 41, 46, 60, 63,
70, 72, 78, 82, 84, 86, 88, 6318, 23, 28, 34,
40, 55, 61, 67, 70, 77, 6417, 21, 26, 35, 43,
48, 58, 62, 69 & 78'.

ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
6125-6288	2000 gal 15% NE acid
6318-6478	2000 gal 15% NE acid
6125-6478	fracture - 134,400 gal gelled water & 2725 sx 20-40 sand

PRODUCTION							
Date First Production	Production Method (Flowing, gas lift, pumping - Size and type pump)	Well Status (Prod. or Shut-in)					
12-16-81	Pumping - 1-1/2" X 2" X 18' RHBC single valve pump	Prod.					
Date of Test	Hours Tested	Choke Size	Prod'n. Per Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
1-2-82	24	open		22	17	160	773
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	OH - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Conn.)	
			22	17	160	46	

34. Disposition of Gas (Sold, used for fuel, vented, etc.)
vented

35. List of Attachments
Deviation Record & Logs

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

SIGNED

Wayne Laufer

TITLE

Production Supervisor

DATE 1-7-92

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or completed well. It shall be accompanied by one copy of all electrical and sonic-velocity logs run on the well and a summary of all special tests conducted, including well stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 30 through 34 shall be reported for each zone. The form is to be filed in triplicate except on state land, where six copies are required. See Rule 1103.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico

Northwestern New Mexico

T. Anhy <u>600'</u>	T. Canyon _____	T. Ojo Alamo _____	T. Penn. "B" _____
T. Salt <u>1020'</u>	T. Strawn <u>11,470'</u>	T. Kirtland-Fruitland _____	T. Penn. "C" _____
T. Salt <u>2605'</u>	T. Alaka <u>11,720'</u>	T. Pictured Cliffs _____	T. Penn. "D" _____
T. Yates _____	T. Miss _____	T. Cliff House _____	T. Leadville _____
T. 7 Rivers _____	T. Devonian _____	T. Menefee _____	T. Madison _____
T. Queen _____	T. Silurian _____	T. Point Lookout _____	T. Elbert _____
T. Grayburg _____	T. Montoya _____	T. Mancos _____	T. McCracken _____
T. San Andres _____	T. Simpson _____	T. Gallup _____	T. Ignacio Qtz# _____
T. Glorieta _____	T. McKee _____	Base Greenhorn _____	T. Granite _____
T. Paddock _____	T. Ellenburger _____	T. Dakota _____	T. _____
T. Blinberry _____	T. Gr. Wash _____	T. Morrison _____	T. _____
T. Tubb _____	T. Granite _____	T. Todilto _____	T. _____
T. Drinkard _____	T. Delaware Sand <u>2605'</u>	T. Entrada _____	T. _____
T. Abo _____	T. Bone Springs <u>6145'</u>	T. Wingate _____	T. _____
T. Wolfcamp <u>9250'</u>	T. _____	T. Chiale _____	T. _____
T. Penn. _____	T. _____	T. Permian _____	T. _____
T. Cisco (Bough C) _____	T. _____	T. Penn. "A" _____	T. _____

OIL OR GAS SANDS OR ZONES

No. 1, from <u>6145'</u> to <u>7220'</u>	No. 4, from _____ to _____
No. 2, from _____ to _____	No. 5, from _____ to _____
No. 3, from _____ to _____	No. 6, from _____ to _____

IMPORTANT WATER SANDS

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

No. 1, from <u>none</u> to _____ feet
No. 2, from _____ to _____ feet
No. 3, from _____ to _____ feet
No. 4, from _____ to _____ feet

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	600	600	Caliche, lime & red shale				
600	1020	420	mostly anhydrite				
1020	2605	1585	salt & anhydrite				
2605	2638	33	black limestone				
2638	6145	3507	massive sand & thin shale				
6145	9250	3105	shale & lime				
9250	11470	2220	dolomite, shale & lime				
11470	11720	250	limestone				
11720	TD	126	shale, lime & sand				

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

NO. OF COPIES DESIRED	
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LAND OFFICE	
OPERATOR	

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-101
Revised 10-1-78

30. Indicate Type of Lease
State Fee

31. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO OPERATE OR PLUG WELLS TO A DIFFERENT RESERVOIR.
USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.

1. <input checked="" type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER	7. Unit Agreement Name
2. Name of Operator Parker & Parsley Petroleum Company	8. Farm or Lease Name Pardue Farms
3. Address of Operator P.O. Box 3178, Midland, TX 79702	9. Well No. #1
4. Location of Well UNIT LETTER <u>B</u> 1980 FEET FROM THE <u>E</u> LINE AND 990 FEET FROM THE <u>N</u> LINE. SECTION <u>21</u> TOWNSHIP <u>T24S</u> RANGE <u>R28E</u> RANGE	10. Field and Type of Well <u>Washita</u> <u>Washita</u>
15. Elevation (Show whether DP, RT, GR, etc.) <u>3025' GR</u>	12. County Eddy

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK
TEMPORARILY ABANDON
FULL OR ALTER CASING
OTHER

PLUG AND ABANDON
CHANGE PLUG
OTHER

SUBSEQUENT REPORT OF:

REMEDIAL WORK
COMMENCE DRILLING OPER.
CASING TEST AND CEMENT JOB
OTHER
ALTERING CASING
PLUG AND ABANDONMENT

17. Describe Proposed or Completed Operations (Clearly state oil pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

- 1). Set CIBP at 6100' and cap with 35' of cement.
- 2). Mix mud using 25# of salt gel per bbl of 10# brine. Circ hole with mud.
- 3). Spot a 50 sack plug at 5550' - 5450'.
- 4). Spot a 50 sack plug at 2650' - 2550'.
- 5). Spot a 50 sack plug at 550' - 450'.
- 6). Cut off wellhead and spot a 15 sack plug at the surface.
- 7). Install dry hole marker.

Plugging

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED H.C. Boudreau TITLE Agent DATE 1-15-87

APPROVED BY Maisha Walker TITLE OIL AND GAS INSPECTOR DATE JAN 20 1987

OIL CONSERVATION DIVISION

P O BOX 2088

SANTA FE, NEW MEXICO 87501

Form O-103
Revised 10

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OPERATOR	

20. Indicate Type of Lease
State Fee

21. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

RECEIVED

DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO OPERATE OR PLUG SALS TO A DIFFERENT RESERVOIR.
USE "APPLICATION FOR PERMIT TO DRILL" FORM O-1011 FOR SUCH PROPOSALS.

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER	2. Date of Notice AUG 11 1981	7. Unit Agreement Name
3. Name of Operator Maddox Energy Corporation /	4. Name of Lessee C. C. D.	8. Farm or Lease Name Pardue Farms 21
5. Address of Operator Suite 906 Blanks Building, Midland, Texas 79701	6. Name of Operator ARTER, ...	9. Well No. 1
10. Location of Well UNIT LETTER B 1980 FEET FROM THE East SIDE AND 990 FEET FROM north LINE, SECTION 21 TOWNSHIP 24S RANGE 28E	11. Field and Pool, or Well Unit Und. Malaga MOTTOM	12. County Eddy
13. Elevation (Show whether DT, RT, CR, etc.) 3022' GL		

14. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIATION WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPER. <input type="checkbox"/>	PLUG AND RECOMPLETION <input type="checkbox"/>
FULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>	
		IN OTHER PB, Perf & Test Bone Spring	

15. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULES 1103.

8/6/81 Reached TD 11,850', Ran open hole logs.
8/7/81 Spotted cement plugs at 11,720-11,420' (100 sacks), 9,541-9,341' (85 sacks), and 7,900-7,800' (35 sacks). WOC 24 hours.
8/8/81 Waiting on completion unit.

16. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED Quentin B. Carg TITLE Operations Manager DATE 8/10/81

APPROVED BY Mike Williams TITLE OIL AND GAS INSPECTOR DATE AUG 14 1981

CONDITIONS OF APPROVAL, IF ANY:

Ph.1

Affidavit of Publication

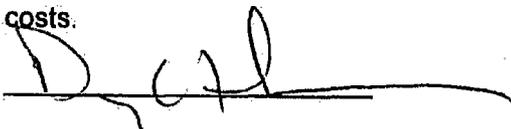
State of New Mexico,
County of Eddy, ss.

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:

July 26 2017

That the cost of publication is
\$62.15 and that payment
thereof has been made and
will be assessed as court
costs.



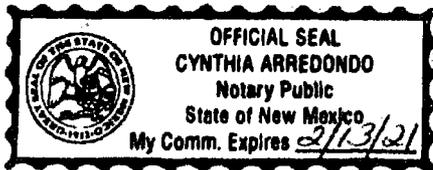
Subscribed and sworn to before me
this 28 day of July, 2017



My commission Expires on 2/13/21

Notary Public

LEGAL NOTICE
Delaware Energy,
L.L.C., 3001 W. Loop
250N, Suite C-105-
318, Midland, TX
79705, has filed a
form C-108 (Applica-
tion for Authorization
to Inject) with the Oil
Conservation Division
seeking administra-
tive approval to utilize
the Pardue Farms 21
#1 (API 30-015-
23809) as a Salt Wa-
ter Disposal well.
The Pardue Farms 21
#1 is located at 990'
FNL and 1980' FEL
Unit Letter B, Section
21, Township 24
South, Range 28 East,
Eddy County, New
Mexico. The well will
dispose of water pro-
duced from oil and
gas wells into the
Devonian Formations
from 14,000' to
15,000' at a maximum
rate of 25,000 barrels
of water per day at a
maximum pressure of
2,800 psi. Interested
parties must file ob-
jections or requests
for hearing with the
Oil Conservations Di-
vision, 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) 312-5251.



7037 1450 0000 5855 8635

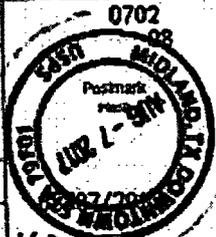
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HOUSTON TX 77056

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Postage	\$2.03
Total Postage and Fees	\$8.13

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 City, State, ZIP+4®
Houston TX 77056

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<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$2.03	
Total Postage and Fees	\$8.13	

Sent To Concho Pardue Farm 21
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Extra Services & Fees (check box, add fee as appropriate)	\$2.75	06
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<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$2.03	
Total Postage and Fees	\$8.13	

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<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$2.03	
Total Postage and Fees	\$8.13	

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<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$2.03	
Total Postage and Fees	\$8.13	

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 07/25/2017
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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

LEGAL NOTICE

Delaware Energy, L.L.C., 3001 W. Loop 250N, Suite C-105-318, Midland, TX 79705 has filed a form C-108 (Application for Authorization to Inject) with the Oil Conservation Division seeking administrative approval to utilize the Pardue Farms 21 #1 (API - 30-015-23809) as a Salt Water Disposal well. The Pardue Farms 21 #1 is located at 990' FNL and 1980' FEL, Unit Letter B, Section 21, Township 24 South, Range 28 East, Eddy County, New Mexico. The well will dispose of water produced from oil and gas wells into the Devonian Formations from 14,000' to 15,000' at a maximum rate of 25,000 barrels of water per day at a maximum pressure of 2,800 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) 312-5251.

McMillan, Michael, EMNRD

From: McMillan, Michael, EMNRD
Sent: Friday, August 4, 2017 3:23 PM
To: 'Mike McCurdy'
Cc: Goetze, Phillip, EMNRD; Lowe, Leonard, EMNRD; Jones, William V, EMNRD
Subject: Delaware Energy Pardue 21 Farms SWD Well No. 1

Tracking:	Recipient	Delivery
	'Mike McCurdy'	
	Goetze, Phillip, EMNRD	Delivered: 8/4/2017 3:23 PM
	Lowe, Leonard, EMNRD	Delivered: 8/4/2017 3:23 PM
	Jones, William V, EMNRD	Delivered: 8/4/2017 3:23 PM

Mike:
In your proposed Pardue 21 Farms SWD Well No. 1, your affected lease operators are Oxy, Kaiser Francis, and Marathon Oil. Your ½ mile AOR map shows the same thing.
However, your proof of mailing has Oxy, Kaiser Francis, and **Concho**. I do not see that **Marathon Oil** was notified. The OCD will suspend your application until you provide proof of notice to Marathon Oil, or redo the affected parties list if the proof of notice, or updated ½ mile AOR and corresponding list is not received by the OCD on Friday August 11, 2017 your application will be cancelled.

Thank You

Michael McMillan
1220 South St. Francis
Santa Fe, New Mexico
505-476-3448
Michael.mcmillan@state.nm.us

McMillan, Michael, EMNRD

From: Mike McCurdy <mmccurdy@delawareenergyllc.com>
Sent: Friday, August 4, 2017 3:34 PM
To: McMillan, Michael, EMNRD
Subject: Re: Delaware Energy Pardue 21 Farms SWD Well No. 1

Thank you Mike. I'll look into it.

Thanks, MM

From: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Sent: Friday, August 4, 2017 4:22:54 PM
To: Mike McCurdy
Cc: Goetze, Phillip, EMNRD; Lowe, Leonard, EMNRD; Jones, William V, EMNRD
Subject: Delaware Energy Pardue 21 Farms SWD Well No. 1

Mike:
In your proposed Pardue 21 Farms SWD Well No. 1, your affected lease operators are Oxy, Kaiser Francis, and Marathon Oil. Your ½ mile AOR map shows the same thing.
However, your proof of mailing has Oxy, Kaiser Francis, and **Concho**. I do not see that **Marathon Oil** was notified. The OCD will suspend your application until you provide proof of notice to Marathon Oil, or redo the affected parties list. If the proof of notice, or updated ½ mile AOR and corresponding list is not received by the OCD on Friday August 11, 2017 your application will be cancelled.
Thank You

Michael McMillan
1220 South St. Francis
Santa Fe, New Mexico
505-476-3448
Michael.mcmillan@state.nm.us

New mail

<<

Favorites

- Inbox 1
- Sent Items
- Deleted Items

McMillan, Michael, EMNRD

- Inbox 1
- Drafts
- Sent Items
- Deleted Items
- Archive
- Junk E-Mail
- Notes
- RSS Feeds

Search mail and people

SENT ITEMS CONVERSATIONS BY DATE All Unread To me Flagged

Mike McCurdy; Jones, Wi 8:13a

Delaware Energy Pardue 21 Farms SWD Well No. 1 Mike: The 15-day clock will start 08-07-2017 Mike ...

Mike McCurdy	Inbox	
McMillan, Michael, EMNRD	8:13a	X P
Mike McCurdy	Inbox	← U
Goetze, Phillip, EMNRD	Inbox	☑=
McMillan, Michael, EMNRD	Fri 8/4	
Mike McCurdy	Inbox	→
Mike McCurdy	Inbox	☑=
Microsoft Outlook	Inbox	U
Microsoft Outlook	Inbox	☑= U
Microsoft Outlook	Inbox	☑= U
Microsoft Outlook	Inbox	☑= U
McMillan, Michael, EMNRD	Fri 8/4	

LAST WEEK

McMurry, Linda (LindaMcMurry); RE: MNA Resources Russell SWD Well No. 1 Fri 8/4 Thanks for the contact information update. Chevron ...

Jones, William V, EMNRD Quay county wells Fri 8/4 Here are the Quay County wells, with comments Mik...

Kay Havenor P-4 Thu 8/3 I received it Mike From: Kay Havenor [mailto:kay.hav...]

Kautz, Paul, EMNRD OXY USA WTP LIMITED PARTNERSHIP MJ Riley Thu 8/3 Paul: can you check on the MJ Riley well No. 3 produ...

Sandra_Musallam@oxy.com PLC-480 Oxy USA WTP Limited Partnership Fre Thu 8/3 The following permit has been issued and will soon ...

Stan Wagner (Stan_Wagner@eog PC-1309 EOG Resources, Inc. Streetcar 15 Well Thu 8/3 The following permit has been issued and will soon ...

Kay Havenor Red Hills & Deep Purple Thu 8/3 Kay: Look at wellbore diagram for the Deep Purple S...

Gary Bond; Kautz, Paul, EMNRD Wildcat pool code (Jenna #1-H) Thu 8/3 It is not crucial to get a pool designation. It is Hobbs...

Loren Diede Santo SWD Thu 8/3 Once the OCD received the EOG letter that states it ...

Jones, William V, EMNRD Water Disposal Workgroup Technical Meeting Thu 8/3 No preview is available.

EMNRD ITO Help Desk, EMNRD; EMNRD ITO-New Service Request #18495 Tue 8/1 I got back on Thanks for the help Mike From: EMNR...

Delaware Energy Pardue 21 Farms SWD Well No. 1



Mike McCurdy <mmccurdy@delawa Mon 8/7/2017 8:15 AM Thank you, sir! From: "McMillan, Michael, EMNRD"...

REPLY REPLY ALL FORWARD



McMillan, Michael, EMN Mark as unrea Mon 8/7/2017 8:13 AM

To: Mike McCurdy <mmccurdy@delawareenergyllc.com>;

Mike: The 15-day clock will start 08-07-2017

Mike

From: Mike McCurdy <mmccurdy@delawareenergyllc.com> Sent: Monday, August 7, 2017 8:07 AM To: McMillan, Michael, EMNRD Subject: Re: Delaware Energy Pardue 21 Farms SWD Well No. 1

Michael,

Please see the attached proof of notice for the Pardue 21 Farms SWD to Marathon.

Best Regards,

Mike McCurdy Delaware Energy, LLC 405 N. Marienfeld, Suite 250 Midland, TX 79701 432-312-5251



Mike McCurdy <mmccurdy@delawa Mon 8/7/2017 8:07 AM Michael, Please see the attached proof of notice f...



Goetze, Phillip, EMNRD Mon 8/7/2017 8:03 AM Your message To: Goetze, Phillip, EMNRD Subject: ...



McMillan, Michael, EMNRD Fri 8/4/2017 3:36 PM FYI Mike From: Mike McCurdy [mailto:mmccurdy...]



Mike McCurdy <mmccurdy@delawa Fri 8/4/2017 3:34 PM Thank you Mike. I'll look into it. Thanks, MM From:...



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	DepthWell	DepthWater	Water Column
<u>C 00346</u>		C	ED	2	2	15	24S	28E		587715	3565591*	90	32	58
<u>C 00365</u>			ED	2	4	1	17	24S	28E	583791	3565226*	238	26	212
<u>C 00488</u>		C	ED	2	1	2	15	24S	28E	587412	3565688*	64	8	56
<u>C 00513 S</u>		C	ED	1	3	3	16	24S	28E	584802	3564432	161	42	119
<u>C 00648</u>		C	ED	2	2	2	17	24S	28E	584593	3565644*	96	58	38
<u>C 00709</u>		C	ED	3	3	3	16	24S	28E	584802	3564232*			
<u>C 02244</u>		C	LE	3	1	2	22	24S	28E	587224	3563865*	260		
<u>C 02524 POD2</u>		C	ED	2	2	2	15	24S	28E	587814	3565690*	90	11	79
<u>C 02836</u>		C	ED	2	2	2	16	24S	28E	586203	3565676*		15	
<u>C 03132</u>		C	ED	1	2	4	15	24S	28E	587616	3564877*	90	19	71
<u>C 03824 POD1</u>		CUB	ED	4	1	2	16	24S	28E	585770	3565578	290	60	230

Average Depth to Water: **30 feet**
 Minimum Depth: **8 feet**
 Maximum Depth: **60 feet**

Record Count: 11

PLSS Search:

Section(s): 15-17, 21-23 Township: 24S Range: 28E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

8/22/17 4:39 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



7/28/2017 8/04/2017

C-108 Review Checklist: Received _____ Add Request: _____ Reply Date: _____ Suspended: _____ [Ver 15]

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

Well No. 1 Well Name(s): Pondue Farms 2

API: 30-0 15-23809 Spud Date: 0-6-4/1981 New or Old: 0 (SURFACE STRIP) NOLINER (UIC Class II Primacy 03/07/1982)

Footages 1980 FEEL Lot or Unit B Sec 21 Tsp 245 Rge 28E County Ed

General Location: 2 miles SW MALAGA Pool: _____ Pool No.: _____

BLM 100K Map: CARLSBAD Operator: DELWANCE ENERGY LLC OGRID: 371195 Contact: MIKE M. CHADYJEVICH

COMPLIANCE RULE 5.9: Total Wells: 2 Inactive: 0 Fincl Assur: OK Compl. Order? NA IS 5.9 OK? Y Date: 8-29-2017

WELL FILE REVIEWED Current Status: PGA

WELL DIAGRAMS: NEW: Proposed or RE-ENTER: Before Conv. After Conv. Logs in Imaging: _____

Planned Rehab Work to Well: _____

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sx or Cf	Cement Top and Determination Method
Planned ___ or Existing ___ Surface	26" / 20"	506'	1100	SURFACE / VISUAL
Planned ___ or Existing ___ Interm/Prod	17 1/2" / 13 3/4"	2600	3550	SURFACE / VISUAL
Planned ___ or Existing ___ Interm/Prod	12 1/4" / 9 5/8"	9450	3300	1210 / CALC (P) (E)
Planned ___ or Existing ___ Prod Line	8.5" / 7"		600	9200 / C-B-L* (B)
Planned ___ or Existing ___ Liner				
Planned ___ or Existing ___ OH / PER	14000 / 1500			

Injection Lithostratigraphic Units	Depths (ft)	Injection or Confining Units	Tops	Inj Length	Completion/Operation Details:
Adjacent Unit: Litho. Struc. Por.				1000	Drilled TD <u>11450</u> PBDT <u>9341</u>
Confining Unit: Litho. Struc. Por.					NEW TD <u>15000</u> NEW PBDT _____
Proposed Inj Interval TOP:					NEW Open Hole <input type="radio"/> or NEW Perfs <input type="radio"/>
Proposed Inj Interval BOTTOM:					Tubing Size _____ in. Inter Coated? _____
Confining Unit: Litho. Struc. Por.					Proposed Packer Depth _____ ft
Adjacent Unit: Litho. Struc. Por.					Min. Packer Depth _____ (100-ft limit)
					Proposed Max. Surface Press. _____ psi
					Admin. Inj. Press. _____ (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

POTASH: R-111-P _____ Noticed? _____ BLM Sec Ord WIPP Noticed? _____ Salt/Salado T: 1000 B: 2605 NW: Cliff House fm _____

FRESH WATER: Aquifer Quaternary Max Depth 60 HYDRO AFFIRM STATEMENT By Qualified Person

NMOSE Basin: CARLSBAD CAPITAN REEF: thru adj NA No. Wells within 1-Mile Radius? _____ FW Analysis _____

Disposal Fluid: Formation Source(s) Bone Springs Analysis? Y On Lease Operator Only or Commercial

Disposal Int: Inject Rate (Avg/Max BWPD): 200/250 Protectable Waters? _____ Source: _____ System: Closed or Open

HC Potential: Producing Interval? NA Formerly Producing? _____ Method: Logs/DST/P&A/Other ACSI 2-Mile Radius Pool Map

AOR Wells: 1/2-M Radius Map? Y Well List? _____ Total No. Wells Penetrating Interval: _____ Horizontals? _____

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 7-26-2017 Mineral Owner _____ Surface Owner Delwance Energy LLC N. Date July 25, 2017

RULE 26.7(A): Identified Tracts? _____ Affected Persons: MAATHON, CONCHU, KRISER-FRANCK N. Date July 25, 2017

Order Conditions: Issues: Run C-13-L from 500' - top liner to bottom liner

Order Cond: Run 9-9" Patch & Circulate cement behind casing - surface

Proposed well