

State of New Mexico  
Energy, Minerals and Natural Resources Department

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**Susana Martinez**  
Governor

**Ken McQueen**  
Cabinet Secretary

**Matthias Sayer**  
Deputy Cabinet Secretary

**Heather Riley, Division Director**  
Oil Conservation Division



May 8, 2018

Ms. Sarah Presley  
Delaware Energy, LLC  
405 N. Marienfeld, Suite 250  
Midland, TX 79701

**RE: Administrative Order SWD-1625; First Extension of Deadline to Commence Injection**

Pardue 31 Com Well No. 1 (API 30-015-10842)  
Unit N, Sec 31, T23S, R28E, NMPM, Eddy County, New Mexico  
Order Date: May 3, 2016  
Injection into the Devonian formation; permitted interval: 13650 feet to 14500 feet

Dear Ms. Presley:

Reference is made to your request on behalf of Delaware Energy, LLC (the "operator") to extend the deadline stipulated in order SWD-1625 based upon the approval date of May 3, 2016, to commence injection for the above referenced well for an additional one year for reasons outlined in the attached correspondence.


It is the Division's understanding from your request that there have been no significant changes in the information provided in the application submitted for review and approval of this order except for notification of affected person. A review for the completion of new wells within the Area of Review that penetrated the approved injection interval did not reveal any changes. One change in ownership required the notification of EOG Resources, Inc. with a copy of the application.

The Division finds that granting this request to extend this administrative order is in the interest of conservation, will prevent waste, and will protect the environment.

The deadline to commence injection for the existing order is hereby extended until May 3, 2019. All requirements of the above referenced administrative order and agreements in the application

remain in full force and effect.

Sincerely,

  
\_\_\_\_\_  
HEATHER RILEY  
Director

HR/prg

cc: Oil Conservation Division – Artesia District Office  
SWD-1625  
Well file 30-015-10842

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

APR 03 2018 PM02:44

March 29, 2018

State of New Mexico Oil Conservation Division  
Attn: Phillip Goetze  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Re: Extension of Administrative Order SWD 1625  
Pardue 31 Com #1 Well

Mr. Goetze:

Delaware Energy, LLC is seeking administrative approval to extend Administrative Order SWD 1625 for one year. As required by the New Mexico Oil Conservation Division Rules, we are notifying EOG Resources as successor operator to Yates Petroleum Corporation in Section 36-T23S-R27E, Eddy Co., NM.

<u>Well:</u>	Pardue 31 Com #1
<u>Disposal Zone:</u>	Devonian Formations (from 13,650' - 14,500')
<u>Location:</u>	990' FSL & 1,980' FWL, UL N, Sec. 31-T23S-R28E, Eddy Co., NM
<u>Applicants Name:</u>	Delaware Energy, L.L.C.
<u>Applicants Address:</u>	405 N. Marienfeld, Suite 250, Midland, TX 79701

Please call Delaware Energy, LLC if you have any questions at 432-685-7005.

Sincerely,



Sarah Presley

**Delaware Energy, LLC**  
**Extension Request for SWD 1625**  
**Pardue 31 Com #1**

UL N, Sec. 31, T-23-S, R-28-E, 990' FSL & 1,980' FWL, Eddy Co., NM

March 29, 2018

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**Contents:**

1. Request for Extension C-103
2. Copy of Packet and Letter sent to EOG

Submit 1 Copy To Appropriate District  
Office  
District I – (575) 393-6161  
1625 N. French Dr., Hobbs, NM 88240  
District II – (575) 748-1283  
811 S. First St., Artesia, NM 88210  
District III – (505) 334-6178  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV – (505) 476-3460  
1220 S. St. Francis Dr., Santa Fe, NM  
87505

State of New Mexico  
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-103  
Revised July 18, 2013

WELL API NO. 30-015-10842
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name PARDUE 31 COM
8. Well Number 1
9. OGRID Number 371195
10. Pool name or Wildcat SWD; DEVONIAN

SUNDRY NOTICES AND REPORTS ON WELLS  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A  
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH  
PROPOSALS.)

1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other
2. Name of Operator DELAWARE ENERGY, LLC
3. Address of Operator 405 N. MARIENFELD, SUITE 250, MIDLAND, TX 79701
4. Well Location Unit Letter <u>N</u> : <u>990</u> feet from the <u>SOUTH</u> line and <u>1980</u> feet from the <u>WEST</u> line Section <u>31</u> Township <u>23S</u> Range <u>28E</u> NMPM County <u>EDDY</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.)

12. 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"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: <input type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

DELAWARE ENERGY, LLC RESPECTFULLY REQUEST TO EXTEND SWD-1625 FOR ONE YEAR.  
CURRENT EXPIRATION DATE: MAY 3, 2018  
ANTICIPATED RE-ENTRY DATE: APRIL 1, 2018  
ANTICIPATED INJECTION DATE: JULY 1, 2018

Spud Date:

Rig Release Date:

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

SIGNATURE Sarah Presley TITLE OPERATIONS MANAGER DATE 3.23.2018

Type or print name SARAH PRESLEY E-mail address: s.presley@delawareenergy.com PHONE: 432-685-7005

**For State Use Only**

APPROVED BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

Conditions of Approval (if any):

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

NPR 03 2018 PM02:44

March 29, 2018

EOG Resources  
5509 Champions Drive  
Midland, TX 79706

Re: Notification of Extension of Administrative Order SWD 1625  
Pardue 31 Com #1 Well

Ladies and Gentlemen:

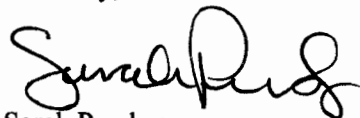
Delaware Energy, LLC is seeking administrative approval to extend Administrative Order SWD 1625 for one year. As required by the New Mexico Oil Conservation Division Rules, we are notifying you as successor operator to Yates Petroleum Corporation in Section 36-T23S-R27E, Eddy Co., NM. This letter is a notice only. No action is required unless you have questions or objections.

<u>Well:</u>	Pardue 31 Com #1
<u>Proposed Disposal Zone:</u>	Devonian Formations (from 13,650' - 14,500')
<u>Location:</u>	990' FSL & 1,980' FWL, UL N, Sec. 31-T23S-R28E, Eddy Co., NM
<u>Applicants Name:</u>	Delaware Energy, L.L.C.
<u>Applicants Address:</u>	405 N. Marienfeld, Suite 250, Midland, TX 79701

The New Mexico Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. And their phone number is 505-476-3460.

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

Sincerely,



Sarah Presley

**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) 748-8720**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) 476-3470 Fax:(505) 476-3482

**State of New Mexico**  
**Energy, Minerals and Natural**  
**Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

Form C-148  
August 1, 2011

Permit 228791

**Change of Operator Name**

OGRID: 25575Effective Date: 11/1/2016**Previous Operator Name and Information**Name: YATES PETROLEUM CORPORATIONAddress: 105 S 4TH ST

Address: \_\_\_\_\_

City, State, Zip: ARTESIA, NM 88210**New Operator Name and Information**Name: EOG Y Resources, Inc.Address: 105 South Fourth Street

Address: \_\_\_\_\_

City, State, Zip: Artesia, NM 88210

I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given on this form and the certified list of wells is true to the best of my knowledge and belief.

Signature: Printed Name: Reese LantripTitle: Vice President & General ManagerDate: 11/16/16 Phone: 817-374-3289

**NMOCD Approval**  
Date: November 17, 2016

State of New Mexico  
Energy, Minerals and Natural Resources Department

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Susana Martinez  
Governor

David Martin  
Cabinet Secretary

Tony Delfin  
Deputy Cabinet Secretary

David R. Catanach, Division Director  
Oil Conservation Division



Administrative Order SWD-1625  
May 3, 2016

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of Division Rule 19.15.26.8B, NMAC, Delaware Energy, LLC (the "operator") seeks an administrative order for its proposed Pardue 31 Com. Well No. 1 with a location 990 feet from the South line and 1980 feet from the West line, Unit N of Section 31, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, for commercial disposal of produced water.

**THE DIVISION DIRECTOR FINDS THAT:**

The application has been duly filed under the provisions of Division Rule 19.15.26.8B. NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in Division Rule 19.15.26.8 NMAC have been met and the operator is in compliance with Division Rule 19.15.5.9 NMAC.

**IT IS THEREFORE ORDERED THAT:**

Delaware Energy, LLC (OGRID 371195), is hereby authorized to utilize its Pardue 31 Com. Well No. 1 (API 30-025-10842) with a location 990 feet from the South line and 1980 feet from the West line, Unit N of Section 31, Township 23 South, Range 28 East, NMPM, Eddy County, for disposal of oil field produced water (UIC Class II only) through a perforated interval within the Devonian formation from 13650 feet to 14500 feet. Injection will occur through internally-coated, 3½-inch or smaller tubing and a packer set within 100 feet of the uppermost perforation.

*Prior to commencing disposal, the operator shall submit mudlog and geophysical logs information to the Division's District geologist and Santa Fe Bureau Engineering office, showing evidence agreeable that only the permitted formations are open for disposal including a summary of depths (picks) for contacts of the formations which the Division shall use to amend this order for a final description of the depth for the injection interval.*

*This permit does not permit disposal into the Ellenburger formation (lower Ordovician) or lost circulation intervals directly on top and obviously connected to this formation.*

*The operator shall supply the Division with a copy of a mudlog over the permitted disposal*



*interval and an estimated insitu water salinity based on open-hole logs. If significant hydrocarbon shows occur while drilling, the operator shall notify the Division's District II office and the operator shall be required to receive written permission prior to commencing disposal.*

*The operator shall execute the following procedures prior to deepening to the Devonian formation and running the 5-inch liner.*

- Rig up work over unit, drill out surface plug from 0-188'. Test Casing to 500 psi. Drill out cement plugs at 2676' AND 2930' and clean out to PBTD OF 10,622'. Test casing 500 psi and hold for 30 minutes, record test.*
- Rig up wire line and run Cement Bond Log (CBL) from 10,622' TO 1,600' and determine top of cement in the 7-inch casing.*
- Dress Off 7-inch stub in preparation for 7-inch casing patch.*
- If cement top is determined to be within 50 feet of stub, plan to utilize DV tool above casing patch. If Cement top is greater than 50 feet from the 7-inch chasing stub, shoot squeeze holes at cement top prior to running casing patch.*
- Run casing patch and cement 7-inch casing to surface. Test casing to 500 psi and hold for 30 minutes, record test.*
- These procedures maybe altered with both the Santa Fe Engineering Bureau and Artesia District Office approval.*

*Operator shall ensure adequate cement across the Delaware, Bone Spring, and Wolfcamp formations.*

*After the work over and deepening, the operator shall run a CBL across the 5-inch liner to 10,000 feet to demonstrate a good cement bond between the liner and 7-inch casing.*

*Within one year after commencing disposal, the operator shall submit to the Division copies of an injection survey run on this well consisting of a temperature log, or equivalent, run under representative disposal rates.*

**IT IS FURTHER ORDERED THAT:**

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface. This includes the well construction proposed and described in the application.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC.

The well shall pass an MIT every two years.

*shows occur while drilling, the operator shall notify the Division's District II office and the operator shall be required to receive written permission prior to commencing disposal.*

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- Run casing patch and cement 7-inch casing to surface. Test casing to 500 psi and hold for 30 minutes, record test.*
- These procedures maybe altered with both the Santa Fe Engineering Bureau and Artesia District Office approval.*

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The well shall pass an MIT every two years.

The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

*Operator shall submit required sundry notices (C-103) to the Artesia District Office.*

The wellhead injection pressure on the well shall be limited to **no more than 2730 psi**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate Test.

The operator shall notify the supervisor of the Division's District II office of the date and time of the installation of disposal equipment and of any MIT so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's District office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's District II office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

The injection authority granted under this order is not transferable except upon division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

The Division may revoke this injection permit after notice and hearing if the operator is in violation of 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate two (2) years after the effective date of this order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.



**DAVID R. CATANACH**  
**Director**

DRC/mam

cc: Oil Conservation Division – Artesia District Office

DATE IN 04/05/16	SUBPENSE	ENGINEER PRG	LOGGED IN 04/14/16	TYPE SWD	APP NO. PPRG 161138501
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No coversheet

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]

[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 \_\_\_\_\_

SWD-1625  
Delaware Energy LLC  
371195  
Pardue 31 Com. No.1  
30-015-10842  
Devonion

### [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

2016 APR 14 2:02 PM

### [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.

Preston Stern  
Print or Type Name

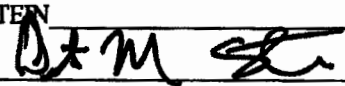
*Preston Stern*  
Signature

Vice-President  
Title

3/29/16  
Date

prestonms@gmail.com  
e-mail Address

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance xxx Disposal Storage  
Application qualifies for administrative approval? xxx Yes No
- II. OPERATOR: DELAWARE ENERGY, LLC  
ADDRESS: 3001 W. LOOP 250 N. SUITE C-105-318 MIDLAND TX 79705  
CONTACT PARTY: PRESTON STEIN PHONE: 214-558-1371
- 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: PRESTON STEIN TITLE: VICE-PRESIDENT  
SIGNATURE:  DATE: 3/30/2016  
E-MAIL ADDRESS: PRESTONMS@GMAIL.COM
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

### III. WELL DATA

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

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

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

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

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

### XIV. PROOF OF NOTICE

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

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

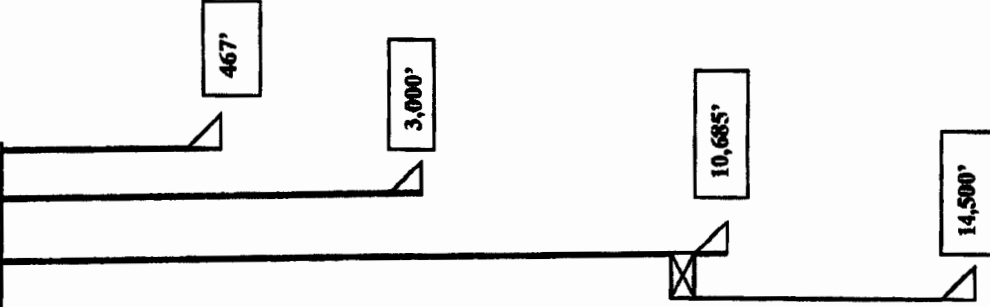
- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates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

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

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

## INJECTION WELL DATA SHEET

OPERATOR: DELAWARE ENERGY, LLCWELL NAME & NUMBER: 990' FSL, 1980' FWL PARDUE 31 COM #1 API 30-015-10842WELL LOCATION: 990' FSL, 1980' FWL N 31 23S 28E  
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGEWELLBORE SCHEMATICWELL CONSTRUCTION DATASurface CasingHole Size: 17.5" Casing Size: 13-3/8"  
Cemented with: 400 sx. or ft<sup>3</sup>  
Top of Cement: SURFACE Method Determined: CIRCULATEDIntermediate CasingHole Size: 12.25 Casing Size: 9-5/8"  
Cemented with: 1900 sx. or ft<sup>3</sup>  
Top of Cement: SURFACE Method Determined: CIRCULATEProduction CasingHole Size: 8-3/4" Casing Size: 7"  
Cemented with: 1150 sx. or ft<sup>3</sup>  
Top of Cement: 1600' Method Determined:         
Total Depth: SURFACEInjection Interval13,650 feet to 14,500**PERFORATED****\*\* PROPOSED**

5" 15# L80 liner flush joint, 6.15" hole, cement to top of liner w/ 175 sacks, Top of liner is 10,600'



INJECTION WELL DATA SHEETTubing Size: 3.5" 9.3# J-55 Lining Material: Internally plastic coatedType of Packer: Weatherford Arrow Set 1X Injection PackerPacker Setting Depth: 50ft above top perfOther Type of Tubing/Casing Seal (if applicable): NONEAdditional Data

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

If no, for what purpose was the well originally drilled? MORROW GAS TEST

TD 12,770 VERTICAL WELL

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.

NO PERFORATIONS OR CIBP.

CEMENT PLUGS: 12,551 -12,420; 10,753 - 10,622, 3,050 - 2,930; 2,795 - 2,676'; 188-69'

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

ABOVE: DELAWARE 5600' , BONE SPRING 8000, WOLFCAMP 9,100 -10,970, ATOKA 11,100; MORROW 12,200

BELOW: NONE

Additional Questions on C-108

**VII.**

- 1. Proposed average and maximum daily rate and volume of fluids to be injected;**  
Average 5,000-8,000 BWPD, Max 15,000 BWPD
- 2. Whether the system is open or closed;**  
Open System
- 3. Proposed average and maximum injection pressure;**  
Average 4000-100 PSIG, Max 2,730 PSIG
- 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,**  
Bone Spring, Wolfcamp, and Delaware produced water. Water is compatible; Devonian is used as disposal interval throughout the Delaware Basin for Wolfcamp and Bone Springs produced water. No incompatibility exists.
- 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 is barren and does not produce.

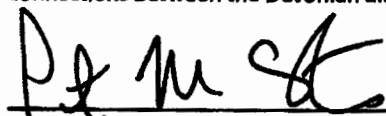
**\*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations 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 the Devonian formation. Injection interval consists of dolomite. The top of the Devonian formation is at a depth of 13,650' TVD at the base of the Woodford Shale. There are no fresh water zones underlying the proposed injection zone. Usable water depth is from surface to the top of the Rustler at 193', the water source is older alluvium (quaternary).

**IX. Describe the proposed stimulation program, if any.**  
20,000 gallons 15% HCL acid job with packer

**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, LLC has reviewed and examined available geologic and engineering data in the area of interest for the Pardue 31 Com #1 SWD and have found no evidence of faults or other hydrologic connections between the Devonian disposal zone and the underground sources of drinking water.

  
\_\_\_\_\_  
Preston Stein

### III. WELL DATA

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

Pardue 31 Corn #1, UL N Sec. 31-T23S-R27E, 990' FSL & 1980' FWL, Eddy County, New Mexico

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

Casing Size	Setting Depth	Sacks of Cement	Hole Size	Top of Cement	Determined
13-3/8"	467'	400	17-1/2"	Surface	Circulated
9-5/8"	3,000'	1,900	12-1/4"	Surface	Circulated
7"	10,700'	1,050	8-3/4"	1,600	
*5"	10,600-14,500	175	6.125"	10,600	circulate

\*proposed

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

3-1/2" or 2-7/8" OD, Internally Plastic Coated Tubing set @ 13,600'

(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

Set within 50-100 feet above top Devonian perforations

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

Pool Name: SWD (Devonian)

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

13,650' to 14,500' (Perforated)

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

The well was originally drilled as a vertical Morrow Test.

(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.

No perforated intervals. Cement plugs at 12,420'-12,551'; 10,622'-10,753'; 2,930'-3,050', 69'-188'

(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 +/-12,200 / Next Lower: None



# Martin Water Laboratories, Inc.

*Analysts & Consultants since 1953*  
Bacterial & Chemical Analysis

TO: Preston Stein  
ADDRESS: 3001 W. Loop 250 N. Suite C-105-318 Midland TX  
COMPANY: Delaware Energy, LLC  
LEASE: Vicky  
FORMATION:   
LABORATORY NO. 16-03-76  
SAMPLE RECEIVED: 3/4/16  
RESULTS REPORTED: 3/7/16  
COUNTY, STATE:   
FIELD OR POOL:

DESCRIPTION OF SAMPLES	
No. 1	Submitted water sample - taken 03/03/16 from Vicky
Chemical and Physical Properties (milligrams per liter)	
Specific Gravity @ 60°F.	No. 1 1.0055
pH When Received	7.80
Bicarbonate as HCO <sub>3</sub>	134
Total Hardness, as CaCO <sub>3</sub>	2,150
Calcium, as Ca	700
Magnesium, as Mg	97
Sodium and/or Potassium	119
Sulfate, as SO <sub>4</sub>	1,497
Chloride, as Cl	525
Iron, as Fe	16
Barium, as Ba	0
Total Dissolved Solids, Calculated	3,072
Hydrogen Sulfide	0.00
Resistivity, ohms/m @ 77°F.	2.420
REMARKS: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.	

By: Greg Ogden, B.S.

(432) 683-4521 \* 709 W. Indiana, Midland, Texas 79701 \* (fax) 682-8819

Remit to Address: P.O. Box 98, Midland, Texas 79702

# MITCHELL ANALYTICAL LABORATORY

2638 Faudree  
Odessa, Texas 79765-8538  
561-5579

Company: **Impact Chemical**

Lab Ref #: 15-apr-w68267  
Formation: Bone Springs  
Location:  
Date Run: 4/21/2015

Sample Temp: 70  
Date Sampled: 4/10/2015  
Sampled by: Sherry Hogue  
Analyzed by: GR

## Dissolved Gases

		Mg/L	Eq. Wt.	MEq/L
Hydrogen Sulfide	(H <sub>2</sub> S)	3.40	16.00	.21
Carbon Dioxide	(CO <sub>2</sub> )	230.00	22.00	10.45
Dissolved Oxygen	(O <sub>2</sub> )	NOT ANALYZED		

## Cations

Calcium	(Ca++)	10,886.16	20.10	541.60
Magnesium	(Mg++)	1,742.16	12.20	142.80
Sodium	(Na+)	56,575.73	23.00	2,459.81
Barium	(Ba++)	NOT ANALYZED		
Manganese	(Mn+)	1.53	27.50	.06
Strontium	(Sr++)	NOT ANALYZED		

## Anions

Hydroxyl	(OH-)	.00	17.00	.00
Carbonate	(CO <sub>3</sub> =)	.00	30.00	.00
BiCarbonate	(HCO <sub>3</sub> -)	146.64	61.10	2.40
Sulfate	(SO <sub>4</sub> =)	320.00	48.80	6.56
Chloride	(Cl-)	111,021.99	35.50	3,127.38

Total Iron	(Fe)	46.91	18.60	2.52
Total Dissolved Solids		180,974.52		
Total Hardness as CaCO <sub>3</sub>		34,358.26		
Conductivity MICROMHOS/CM		209,000		

pH	5.200	Specific Gravity 60/60 F.	1.126
----	-------	---------------------------	-------

CaSO<sub>4</sub> Solubility @ 80 F. 21.88MEq/L, CaSO<sub>4</sub> scale is unlikely

## CaCO<sub>3</sub> Scale Index

70.0	-.704	100.0	-.304	130.0	.446
80.0	-.604	110.0	.016	140.0	.446
90.0	-.304	120.0	.016	150.0	.876

Impact Chemical

Formation: Delaware

# Impact Water Analysis Analytical Report



Company:  
Source : WH  
Number : 43546  
County:

Location: Mosaic 34 Federal 1  
Date Sampled: May 7, 2015  
Account Manager: David Garcia  
Foreman:

ANALYSIS	mg/L	EQ. WT.	MEQL
1. pH	5.74		
2. Specific Gravity 60/60 F	1.212		
3. Hydrogen Sulfide	3.4 PPM		
4. Carbon Dioxide	720.0 PPM		
5. Dissolved Oxygen	ND		
6. Hydroxyl (OH <sup>-</sup> )	0 /	17.0 =	0.00
7. Carbonate (CO <sub>3</sub> <sup>2-</sup> )	0 /	30.0 =	0.00
8. Bicarbonate (HCO <sub>3</sub> <sup>-</sup> )	49 /	61.1 =	0.80
9. Chloride (Cl <sup>-</sup> )	179,069 /	36.5 =	5,069.27
10. Sulfate (SO <sub>4</sub> <sup>2-</sup> )	140 /	48.8 =	2.87
11. Calcium (Ca <sup>2+</sup> )	28,720 /	20.1 =	1,428.86
12. Magnesium (Mg <sup>2+</sup> )	4,529 /	12.2 =	371.23
13. Sodium (Na <sup>+</sup> )	75,276 /	23.0 =	3,272.85
14. Barium (Ba <sup>2+</sup> )	1.75		
15. Total Iron (Fe)	18.61		
16. Manganese	9.55		
17. Strontium	1,105.00		
18. Total Dissolved Solids	289,808		
19. Resistivity @ 75 °F (calculated)	0.027 Ω-cm		

## 20. CaCO<sub>3</sub> Saturation Index

③ 80 °F	-0.9460
③ 100 °F	-0.6390
③ 120 °F	-0.3790
③ 140 °F	-0.0190
③ 160 °F	0.3310

## 21. CaSO<sub>4</sub> Supersaturation Ratio

③ 70 °F	0.4092
③ 90 °F	0.5418
③ 110 °F	0.3990
③ 130 °F	0.3896
③ 150 °F	0.3893

## PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X	MEQL	= mg/L
Ca(HCO <sub>3</sub> ) <sub>2</sub>	81.04		0.80	65
CaSO <sub>4</sub>	68.07		2.87	195
CaCl <sub>2</sub>	55.50		1,428.19	79,098
Mg(HCO <sub>3</sub> ) <sub>2</sub>	73.17		0.00	0
MgSO <sub>4</sub>	60.19		0.00	0
MgCl <sub>2</sub>	47.62		371.23	17,678
NaHCO <sub>3</sub>	84.00		0.00	0
NaSO <sub>4</sub>	71.03		0.00	0
NaCl	58.46		3,272.85	191,331

Analyst: Tamara Davault

Date: May 8, 2015

Formation: Wolfcamp

# Impact Water Analysis Analytical Report



Company:  
Source : Wellhead  
Number : 45813  
County:

Location:  
Date Sampled: July 15, 2015  
Account Manager David Garcia  
Foreman:

ANALYSIS	mg/L	EQ. WT	MEQ/L
1. pH	6.70		
2. Specific Gravity 60/60 F	1.087		
3. Hydrogen Sulfide	10.2 PPM		
4. Carbon Dioxide	120.0 PPM		
5. Dissolved Oxygen	ND		
6. Hydroxyl (OH <sup>-</sup> )	0 /	17.0 =	0.00
7. Carbonate (CO <sub>3</sub> <sup>-2</sup> )	0 /	30.0 =	0.00
8. Bicarbonate (HCO <sub>3</sub> <sup>-</sup> )	244 /	61.1 =	3.99
9. Chloride (Cl <sup>-</sup> )	67,887 /	35.5 =	1,633.44
10. Sulfate (SO <sub>4</sub> <sup>-2</sup> )	864 /	48.8 =	13.61
11. Calcium (Ca <sup>+2</sup> )	2,792 /	20.1 =	138.91
12. Magnesium (Mg <sup>+2</sup> )	389 /	12.2 =	31.92
13. Sodium (Na <sup>+</sup> )	34,045 /	23.0 =	1,480.21
14. Barium (Ba <sup>+2</sup> )	2.71		
15. Total Iron (Fe)	7.92		
16. Manganese	0.51		
17. Strontium	594.40		

18. Total Dissolved Solids

96.727

19. Resistivity @ 75 °F (calculated)

0.062 D-m

20. CaCO<sub>3</sub> Saturation Index

@ 80 °F	-0.3041
@ 100 °F	0.0059
@ 120 °F	0.2859
@ 140 °F	0.6259
@ 160 °F	0.9759

## PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X	MEQ/L	= mg/L
Ca(HCO <sub>3</sub> ) <sub>2</sub>	81.04		3.99	323
CaSO <sub>4</sub>	68.07		13.61	926
CaCl <sub>2</sub>	55.50		121.31	6,733
Mg(HCO <sub>3</sub> ) <sub>2</sub>	73.17		0.00	0
MgSO <sub>4</sub>	60.19		0.00	0
MgCl <sub>2</sub>	47.62		31.92	1,520
NaHCO <sub>3</sub>	84.00		0.00	0
NaSO <sub>4</sub>	71.03		0.00	0
NaCl	58.46		1,480.21	86,533

21. CaSO<sub>4</sub> Supersaturation Ratio

@ 70 °F	0.2391
@ 90 °F	0.2384
@ 110 °F	0.2406
@ 130 °F	0.2438
@ 150 °F	0.2469

Analyst: Sylvia Garcia

Date: July 17, 2015

# Delaware Energy LLC.

Pardue 31 Com #1  
990' FSL & 1980' FWL, UL N, SEC. 31, T23S R2BE, Eddy County, NM  
API # 30-015-10842

Drilled 04/07/1974

13-3/8", 488' Cag @ 467'  
400 sx cmt, TOC @ surface (Calculated)

Cmt plug spotted from 180' - 69' w/ 50 sx

9 5/8", 368' Cag @ 3,000'  
1900 sx cmt, TOC @ surface (Calculated)

Cmt plug spotted from 2,975' - 2,676' w/ 50 sx cmt

Cmt plug spotted from 3,050' - 2,950' w/ 50 sx cmt

Side track window ~6,500'

Cmt plug from 6,694' - 6,515'

Cag cut and pulled @ 6,720'

Cmt plug from 6,700' - 6,566' (50 sx)

Cmt plug spotted from 11,170' - 10,910' (50 sx)

4-1/2" TOL @ 11,080'

7", 228' & 238' Cag @ 11,166'  
400 sx cmt, TOC @ 7,862' (Calculated)

## Perforations

Strawn: 11,220' - 11,235'  
Morrow: 12,420' - 12,430'

4-1/2", 13,58' Cag @ 13,675'  
175 sx cmt, TOC @ 11,423' (Calculated)

Cmt plug spotted 10,753' - 10,622' w/ 25 sx

7", 238' Cag @ 10,700'  
1000 sx cmt TOC Circulated

Cmt plug spotted 12,551' - 12,420' w/ 25 sx

PBTD 12,394'  
TD 13,935'

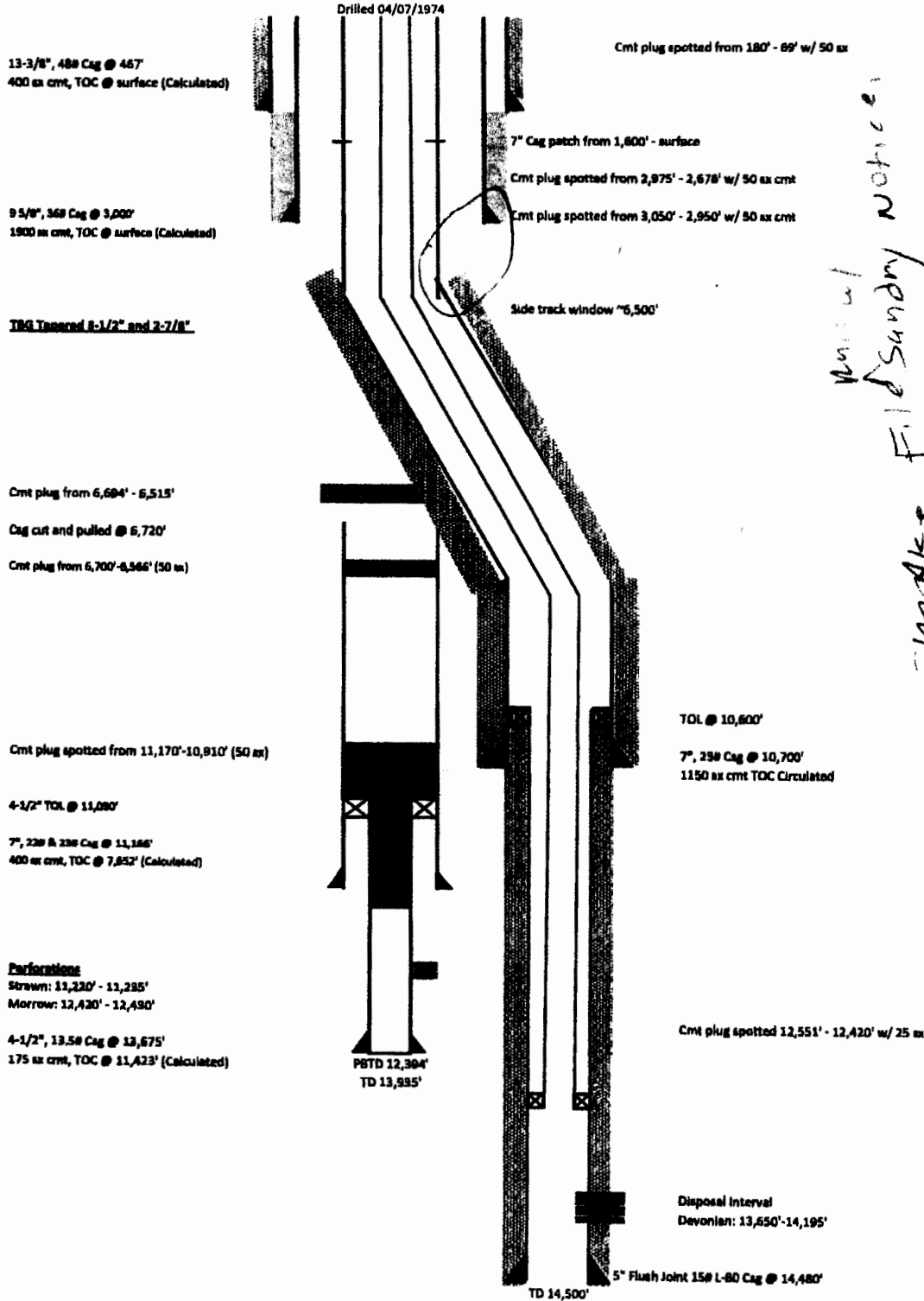
TD 12,770'

*PULLED 1600' of 7"*  
*Run CBL after New 7" installed*  
*if 6500-5000' is*  
*perforated - when 5000*  
*is open.*



# Delaware Energy LLC.

Pardue 31 Corn #1  
990' FSL & 1980' FWL, UL N, SEC. 31, T23S R28E, Eddy County, NM  
API # 20-015-10842



Unit  
Make Field Sandry Notice  
- 7" / C13L 61F drill 11 04h

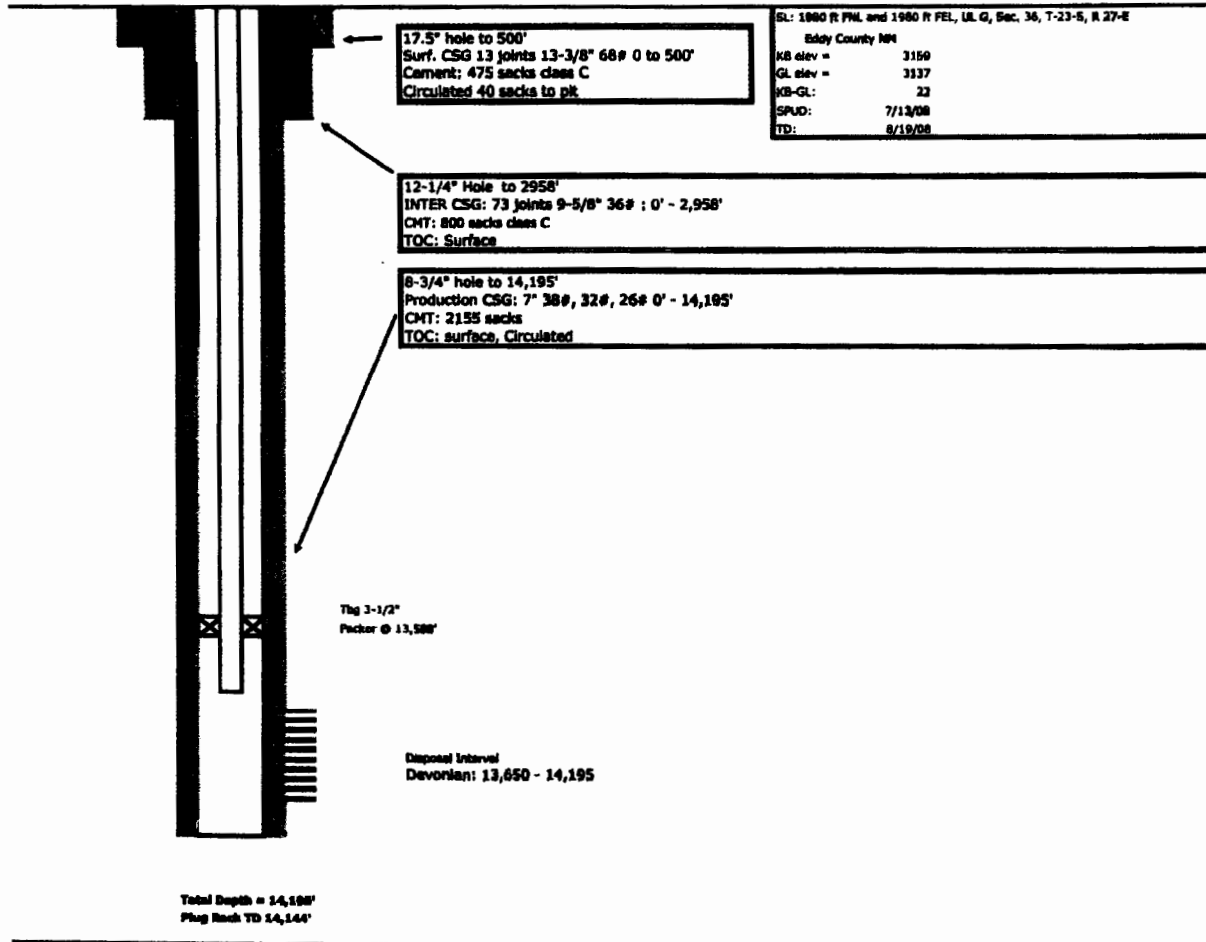
# WELLS INSIDE AREA REVIEW OF Pardue 31 Com #1

•• no wells exist inside 1/2 mile radius, one well inside 2 mile radius penetrates the Devonian Formation

Well	Type	Date drill	Location	Depth	Completion	Status
Cigarillo SWD #1	Vertical SWD	7/13/2008	T-23-S, R-27-E, Sec 36 1980' FNL, 1980' FEL UL G, Eddy Co. NM	14,195' MD/TVD	Devonian 13,650-14,130'	Active SWD see diagram  Yates Petroleum

**Cigarillo SWD #1**  
**Wellbore Diagram**  
 Devonian  
 Eddy County NM  
 API # 30-015-21643

**As Drilled 08/19/2008**





## **Pardue 31 Com #1**

### **Formation Tops**

<b>Rustler</b>	<b>375</b>
<b>Base Salt, T/ Lamar lime</b>	<b>2,300'</b>
<b>Delaware Mountain Group / Bell Canyon</b>	<b>2,350'</b>
<b>Bone Spring Lime</b>	<b>5,900'</b>
<b>Wolfcamp</b>	<b>9,200'</b>
<b>Atoka</b>	<b>11,400'</b>
<b>Morrow</b>	<b>11,900</b>
<b>Mississippi</b>	<b>13,225</b>
<b>Woodford Shale</b>	<b>13,550</b>
<b>Devonian</b>	<b>13,650</b>



Delaware Energy, LLC  
405 N. Mariefeld, Suite 250  
Midland, TX 79701



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| <input type="checkbox"/> Adult Signature Required            | \$ |  |
| <input type="checkbox"/> Adult Signature Restricted Delivery | \$ |  |

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Street and Apt. No. or PO Box No.  
**5509 Champions Drive**  
City, State, ZIP+4®  
**Midland, TX 79706**

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

See Reverse for Instructions

**Pardue  
Extension**

Postmark  
Here