

**BEFORE THE OIL CONSERVATION COMMISSION
EXAMINER HEARING NOVEMBER 13, 2018**

CASE No. 16258

BEAR TRAP SWD #1 WELL

EDDY COUNTY, NEW MEXICO



October 22, 2018

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

Re: Bear Trap SWD #1
Updated Location

Mr. Goetze:

Delaware Energy, LLC has amended the location for the Bear Trap SWD #1. The enclosed packet has been re-sent to all affected persons. We have found that there are no new wells within the AOR and there were 4 new affected parties (Chevron, Devon, Conoco Phillips & Caza Petroleum)

<u>Well:</u>	Bear Trap SWD #1
<u>API:</u>	Pending
<u>Disposal Zone:</u>	Devonian Formations (from 13,280' - 14,280')
<u>Location:</u>	205' FSL & 765' FEL, UL O, Sec. 34-T23S-R27E, Eddy Co., NM
<u>Applicants Name:</u>	Delaware Energy, L.L.C.
<u>Applicants Address:</u>	405 N. Marienfeld, Suite 200, Midland, TX 79701

Please contact me if you have any questions at 432-685-7005 or 432-269-3789.

Sincerely,


Sarah Presley
Operations Manager
s.presley@delawareenergy.com

Delaware Energy, LLC
Application for Injection/SWD
Bear Trap SWD #1

UL O, Sec. 34, T-23-S, R-27-E, 326' FSL & 2,564' FEL, Eddy Co., NM

October 22, 2018

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 Spring Formation Water Sample
6. Chemical Analysis of Wolfcamp Formation Water Sample
7. Chemical Analysis of Delaware Formation Water Sample
8. Planned wellbore diagram for the Bear Trap SWD #1
9. ~~Tabular Data on All Wells of Public Record within the Area of Review which Penetrate the Proposed Injection Zone~~ (No applicable wells)
10. Map Identifying all Wells and Leases within Two Miles of Any Proposed Injection Well with a One Mile Radius Circle Drawn Around the Proposed Injection Well
11. Sample of Letter Sent with This Application Packet to Owner of Surface of the Land on Which the Well is to be Located and to each Leasehold Operator within One Mile of the Well Location
12. Legal Notice that was run as required in the Carlsbad Current-ARGUS
13. Formation Tops
14. Certified Mailers
15. Seismicity Assessment

RECEIVED:	REVIEWER:	TYPE:	APP NO:
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

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

**ADMINISTRATIVE APPLICATION CHECKLIST**

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

Applicant: Delaware Energy, LLC **OGRID Number:** 371495
Well Name: Bear Trap SWD #1 **API:** Pending
Pool: SWD; Devonian **Pool Code:** 96101

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

1) TYPE OF APPLICATION: Check those which apply for [A]

A. Location - Spacing Unit - Simultaneous Dedication

☐ NSL☐ NSP (PROJECT AREA)☐ NSP (PRORATION UNIT)☐ SD

B. Check one only for [I] or [II]

[I] Commingling - Storage - Measurement

☐ DHC☐ CTB☐ PLC☐ PC☐ OLS☐ OLM

[II] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX☐ PMX☒ SWD☐ IPI☐ EOR☐ PPR**2) NOTIFICATION REQUIRED TO:** Check those which apply.A. ☒ Offset operators or lease holdersB. ☐ Royalty, overriding royalty owners, revenue ownersC. ☒ Application requires published noticeD. ☒ Notification and/or concurrent approval by SLOE. ☐ Notification and/or concurrent approval by BLMF. ☒ Surface ownerG. ☒ For all of the above, proof of notification or publication is attached, and/or,H. ☐ No notice required**FOR OCD ONLY**☐ Notice Complete☐ Application
Content
Complete

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

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

Mike McCurdy

Print or Type Name

Signature

10/22/2018

Date


432-685-7005

Phone Number

m.mccurdy@delawareenergy.com

e-mail Address

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance XXX Disposal Storage
Application qualifies for administrative approval? XX Yes No
- II. OPERATOR: Delaware Energy, LLC
ADDRESS: 405 North Marienfeld, Suite 250, Midland TX 79701
CONTACT PARTY: Mike McCurdy PHONE: 432-312-5251
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? Yes XXXX No
If yes, give the Division order number authorizing the project: _____
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- *X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- *XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Mike McCurdy TITLE: Vice-President
SIGNATURE:  DATE: 10/17/2018
E-MAIL ADDRESS: m.mccurdy@delawareenergy.com
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

III. WELL DATA

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

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

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

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

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

XIV. PROOF OF NOTICE

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

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

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

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

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: Bear Trap SWD # 1WELL LOCATION: 326' FSL & 2,564' FEL O 34 SECTION 23S TOWNSHIP 27E RANGEWELLBORE SCHEMATIC see attached wellbore sketchWELL CONSTRUCTION DATASurface Casing

Hole Size: 17.5" Casing Size: 13-3/8", 54.5#
Cemented with: 500 sx. or ft³
Top of Cement: surface Method Determined: Plan to Circulate

Intermediate Casing

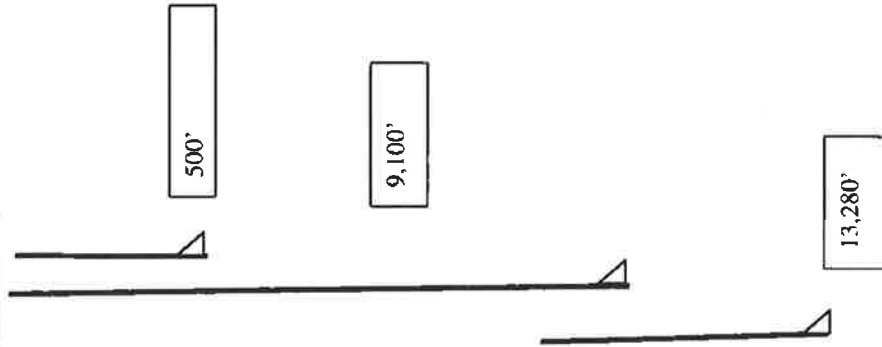
Hole Size: 12-1/4" Casing Size: 9-5/8", 47#, L-80
Cemented with: 2,500' sx. or ft³
Top of Cement: surface Method Determined: Plan to Circulate

Production Casing

Hole Size: 8-1/2" Casing Size: 7-5/8", 39#, P-110
Cemented with: 650 sx. or ft³
Top of Cement: Top of Liner Method Determined: Plan to Circulate to liner top

Total Depth: 13,280'Injection Interval

13,280' feet to 14,280'
(OPEN HOLE)



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

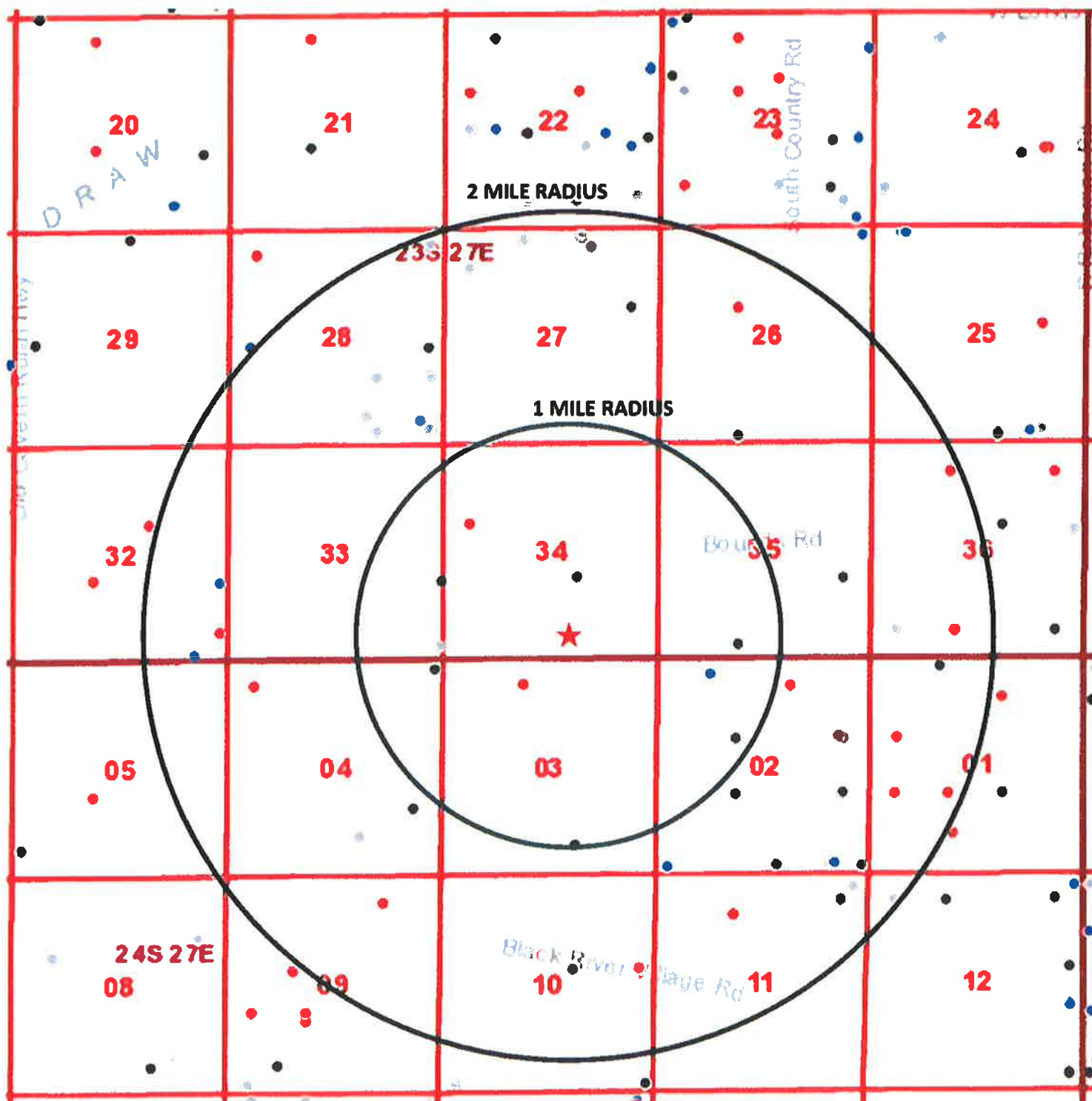
1. Is this a new well drilled for injection? _____ XXXXX _____ Yes _____ No

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

2. Name of the Injection Formation: Devonian
3. Name of Field or Pool (if applicable): SWD; Devonian
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. N/A
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: _____

Below: none

Next Higher: Delaware 4,200' - 5,605'; Bone Springs 5,605' - 8,980'; Wolfcamp 8,980' - 10,805'; Strawn 10,805' - 10,965'; Atoka 10,965' - 11,665'; Morrow 11,665' - 12,830'



WELLS – ONE MILE RADIUS

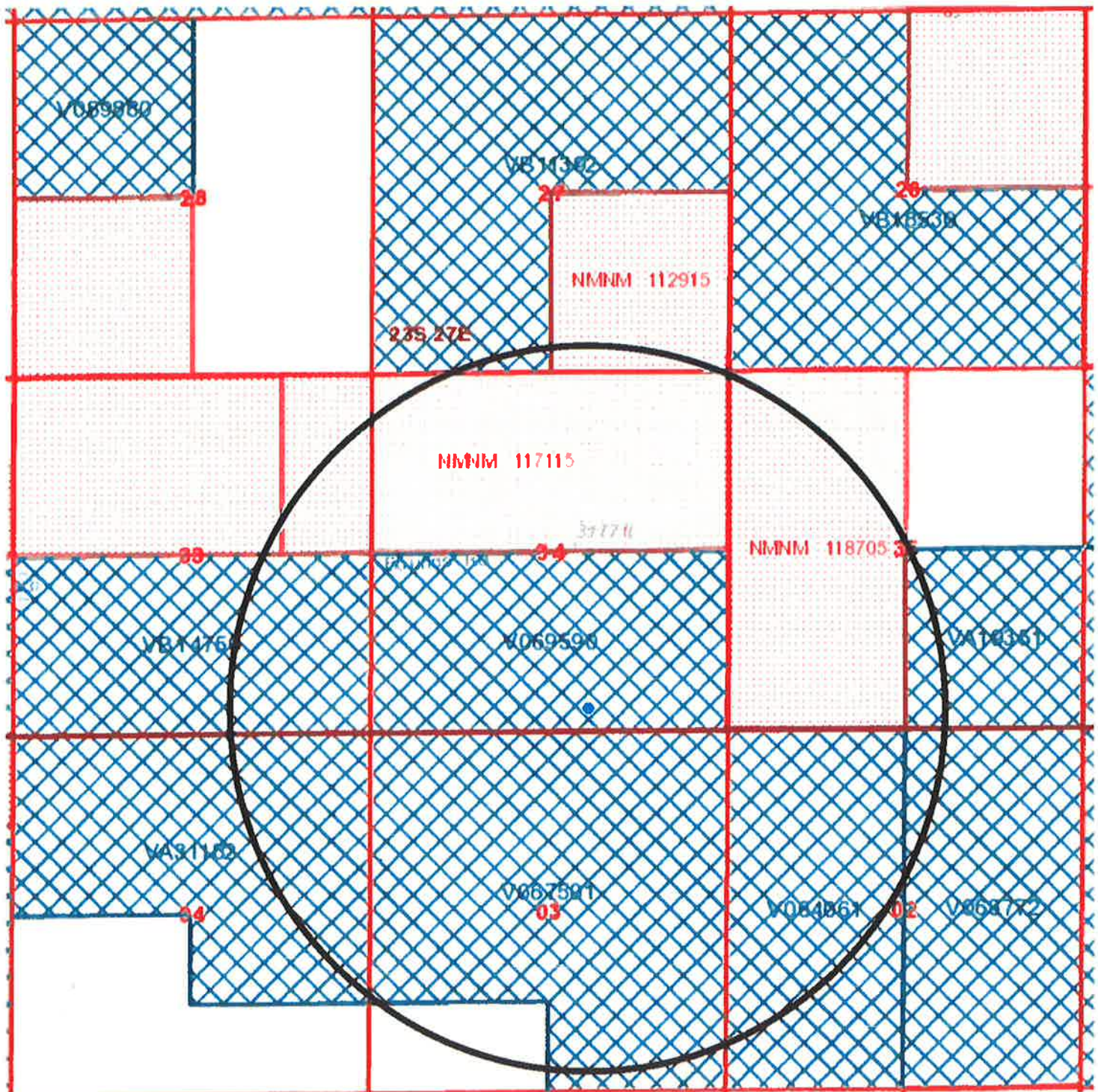
NO WELLS PENETRATE THE DEVONIAN FORMATION IN THE AOR

SECTION 34-T23S-R27E



**Bear Trap SWD #1
(Proposed Location)
Delaware Energy, LLC**

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 1A
Submitted by: Delaware Energy
Hearing Date: November 13, 2018
Case # 16258



LEASES – ONE MILE RADIUS

SECTION 27-T23S-R27E

- STATE & FEDERAL

SECTION 33-T23S-R27E

- STATE & FEDERAL

SECTION 34-T23S-R2E

- STATE & FEDERAL

SECTION 35-T23S-R27E

- FEDERAL & STATE

SECTION 2 & 4-T24S-R27E

- STATE

SECTION 3-T24S-R27E

- FEE & STATE

SECTION 2-T24S-R27E

- Mewbourne Oil Co.
P.O. Box 7698
Tyler, TX 75711

SECTION 3-T24S-R27E

- Concho Resources
600 W. Illinois Ave
Midland, TX 79701
- Featherstone Development Corp.
601 N. Marienfeld, Suite 202
Midland, TX 79701

SECTION 4-T24S-R27E

- Concho Resources
600 W. Illinois Ave
Midland, TX 79701

SECTION 27-T23S-R27E

- Chevron Midcontinent
6301 Deauville Blvd.
Midland, TX 79706
- Caza Petroleum
200 N. Loraine, Suite 1550
Midland, TX 79701

SECTION 33-T23S-R27E

- Chevron Midcontinent
6301 Deauville Blvd.
Midland, TX 79706
- Devon Energy
333 W. Sheridan Ave.
Oklahoma City, OK 73102
- Conoco Phillips
3300 N A St # 6-100
Midland, TX 79705

SECTION 34-T23S-R27E

- Chevron Midcontinent
6301 Deauville Blvd.
Midland, TX 79706
- Devon Energy
333 W. Sheridan Ave.
Oklahoma City, OK 73102

CARLSBAD
CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

**Ad No.
0001265809**


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

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

10/20/18


Legal Clerk

Subscribed and sworn before me this
23th of October 2018.


State of WI, County of Brown
NOTARY PUBLIC

9-19-21
My Commission Expires

Ad#:0001265809
P O : The Bear Trap
of Affidavits :0.00

LEGAL NOTICE

Delaware Energy, L.L.C., 405 N. Marienfeld St. Suite 250, Midland, TX 79701, has filed a form C-108 (Application for Authorization to Inject) with the Oil Conservation Division seeking administrative approval to drill the Bear Trap SWD #1 as a Commercial Salt Water Disposal well. The Bear Trap SWD #1's **UPDATED LOCATION** is located at 326' FSL and 2564' FEL, Unit Letter O, Section 34, Township 23 South, Range 27 East, Eddy County, New Mexico. The well will dispose of water produced from oil and gas wells into the Devonian Formation from 13,280' to 14,280' at a maximum rate of 25,000 barrels of water per day at a maximum pressure of 2,656 psi. Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days. Additional information can be obtained by contacting Delaware Energy, L.L.C., at (432) 685-7005.
October 20



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

October 17, 2018

Surface Owner / Offset Operators

Re: Notification of **UPDATED LOCATION** Application for Authorization to Inject
Bear Trap SWD #1 Well. Originally sent 5/9/18

Ladies and Gentlemen:

Delaware Energy, LLC is seeking administrative approval to utilize the proposed Bear Trap SWD #1 as a commercial 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>	Bear Trap SWD #1
<u>Proposed Disposal Zone:</u>	Devonian Formation (from 13,280' - 14,280')
<u>Location:</u>	<u>326' FSL & 2,564' FEL, UL O, Sec. 34, T23S, R27E,</u> Eddy Co., NM
<u>Applicants Name:</u>	Delaware Energy, L.L.C.
<u>Applicants Address:</u>	405 N. Marienfeld, Suite 250, Midland, TX 79701

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

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

Sincerely,



Sarah Presley

DISTRIBUTION LIST

Surface Owner:

State of New Mexico
310 Old Santa Fe Trail
Santa Fe NM 87501

Offset Operators/Leasehold Owners:

COG Operating, LLC
600 W. Illinois
Midland, TX 79701

Marathon Oil Permian
5555 San Felipe Street
Houston, TX 77056-2723

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

Featherstone Development Corp.
601 N. Marienfeld, Suite 202
Midland, TX 79701

EOG Resources, Inc
5509 Champions Dr.
Midland, TX 79706

Falconer Resources 1999 – NO LONGER AFFECTED
P.O. Box 7995
Tyler, TX 75701

Read & Stevens Inc. – NO LONGER AFFECTED
400 N. Pennsylvania Ave.
Roswell, NM 88201

Chevron Midcontinent
6301 Deauville Blvd.
Midland, TX 79706

Devon Energy
333 W. Sheridan Ave.
Oklahoma City, OK 73102

Conoco Phillips
3300 N A St # 6-100
Midland, TX 79705

Caza Petroleum
200 N. Loraine, Suite 1550
Midland, TX 79701

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

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

Bear Trap SWD #1**Location: Sec. 34, T-23S, R-27E, UL O****Estimated Pre-Drill Formation Tops**

Top of Salt	605'
Base Salt	1,905'
Delaware – Bell Canyon	2,185'
Bone Spring	5,605'
Wolfcamp	8,980'
Strawn	10,805'
Atoka	10,965'
Morrow	11,665'
Mississippian	12,830'
Woodford	13,180'
Devonian	13,280'

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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 \$1.84

Total Postage and Fees \$8.04

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OCT 18 2018

Send To
Marathon Oil Permian
Street and Apt. No., or PO Box No.
5555 San Felipe Street
City, State, ZIP+4®
Houston, TX 77056-2723

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

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<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

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Send To
Conoco Phillips
Street and Apt. No., or PO Box No.
3300 N. A St. #10-100
City, State, ZIP+4®
Midland, TX 79705

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

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Postage \$1.84

Total Postage and Fees \$8.04

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Devon Energy
Street and Apt. No., or PO Box No.
833 W. Sheridan Ave.
City, State, ZIP+4®
Oklahoma City, OK 73102

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Send To
Featherstone Development Corp.
Street and Apt. No., or PO Box No.
10 Delta Drive 181-W
City, State, ZIP+4®
Midland, TX 79705

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

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<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
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<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage \$1.84

Total Postage and Fees \$8.04

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OCT 18 2018

Send To
COG Operating, LLC
Street and Apt. No., or PO Box No.
600 W. Illinois
City, State, ZIP+4®
Midland, TX 79701

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

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☐ Adult Signature Restricted Delivery \$0.00

Postage \$1.84

Total Postage and Fees \$8.04

Postmark Here 10/18/2018

Sent To: **Read + Stevens, Inc.**
 Street and Apt. No., or PO Box No.: **400 N. Pennsylvania Ave.**
 City, State, ZIP+4®: **Roswell, NM 88201**

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

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☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$1.84

Total Postage and Fees \$8.04

Postmark Here 10/18/2018

Sent To: **Caza Petroleum**
 Street and Apt. No., or PO Box No.: **200 N. Laraine, Suite 1550**
 City, State, ZIP+4®: **Midland, TX 79701**

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

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 City, State, ZIP+4®: **Tyler, TX 75701**

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

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 Street and Apt. No., or PO Box No.: **P.O. Box 7995**
 City, State, ZIP+4®: **Tyler, TX 75701**

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Postage \$1.84

Total Postage and Fees \$8.04

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Sent To: **New Mexico State Land Office**
 Street and Apt. No., or PO Box No.: **310 Old Santa Fe Trail**
 City, State, ZIP+4®: **Santa Fe, NM 87501**

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

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ARTESIA, NM 88210

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☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$1.84

Total Postage and Fees \$8.04

Postmark Here 10/18/2018

Sent To: **Oil Conservation Division District II**
 Street and Apt. No., or PO Box No.: **811 S. First Street**
 City, State, ZIP+4®: **Artesia, NM 88210**

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

U.S. Postal Service
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MIDLAND, TX 79708

Certified Mail Fee \$3.45

Extra Services & Fees (check box, add fee to total postage)
☐ Return Receipt (hardcopy) \$2.75
☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$1.84

Total Postage and Fees \$8.04

Bear Trap Swp #1
OCT 18 2018

Postmark
Here

10/18/2018

Send To
Chevron Midcontinent
6301 Deauville Blvd.
Midland, TX 79706

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

See Reverse for Instructions

7017 2620 0000 8001 1119

Additional Questions on C-108

VII.

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

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

2. Whether the system is open or closed;

Open System, Commercial SWD

3. Proposed average and maximum injection pressure;

Average 1,500-2,500 PSI, Max 2,656 PSI

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

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

5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

Disposal zone produces water and no hydrocarbons, nearby Devonian test wells have only tested water in DST's. Nearby Top Gun SWD tested Sulphur water.

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

The proposed disposal interval is in the Devonian formation 13,280'-14,280'. Devonian is an impermeable organic Shale at the very top (13,180 ft, Woodford Shale) 100ft thick followed by permeable lime, dolomite, and small amount of shale 1000ft thick. There are no fresh water zones underlying the proposed injection zone. Usable water depth is from surface to +/- 150', the water source is older alluvium (Quaternary). All the fresh water wells in the area have an average depth to water of 150ft per State Engineer.

IX. Describe the proposed stimulation program, if any.

60,000 gallons 20% HCL acid job with packer

X. Attach appropriate logging and test data on the well

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

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

Included in the application is a water well sample from Section 34 of T23S R27E

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 Bear Trap SWD #1 and have found no evidence of faults or other hydrologic connections between Devonian disposal zone and the underground sources of drinking water. Furthermore, there exist many impermeable intervals between the injection interval and the fresh ground water from the top of the Devonian Carbonate and the base of the ground water.

Mike McCurdy

Vice President

10/17/2018

Title

Date

III. WELL DATA

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

Bear Trap SWD #1, Sec. 3-T24S-R27E, 660' FWL & 1470' FSL, UL L, Eddy County, New Mexico

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

Casing Size	Setting Depth	Sacks of Cement	Hole Size	Top of Cement	Determined
13-3/8"	500'	500	17-1/2"	Surface	CIRC
9-5/8"	9,100'	2500	12-1/4"	Surface	CIRC
7-5/8"	8,900'-13,280'	650	8-1/2"	Surface	CIRC

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

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

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

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

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

(1) The name of the injection formation and, if applicable, the field or pool name.

Devonian Formation

Pool Name: SWD (Devonian)

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

13,280' to 14,280' (Open hole)

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

Well is a planned new drill for SWD

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

None, well is a planned new drill

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

Next Higher: Delaware 4,200' – 5,605'; Bone Springs 5,605'-8,980'; Wolfcamp 8,980' - 10,805'; Strawn 10,805-10,965', Atoka 10,965'-11,665'; Morrow 11,665' – 12,830'.

Next Lower: None

DISTRICT I

1625 N. French Dr., Hobbs, NM 88240
Phone (505) 888-8161 Fax: (505) 888-0750

DISTRICT II

811 S. First St., Artesia, NM 88210
Phone (505) 748-1853 Fax: (505) 748-9720

DISTRICT III

1000 Rio Bragos Rd., Aztec, NM 87410
Phone (505) 834-8175 Fax: (505) 834-8170

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-8460 Fax: (505) 476-8468State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 96101	Pool Name SWD; DEVONIAN
Property Code	Property Name BEAR TRAP SWD	Well Number 1
GRID No. 371195	Operator Name DELAWARE ENERGY	Elevation 3172'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	34	23 S	27 E		326	SOUTH	2564	EAST	EDDY

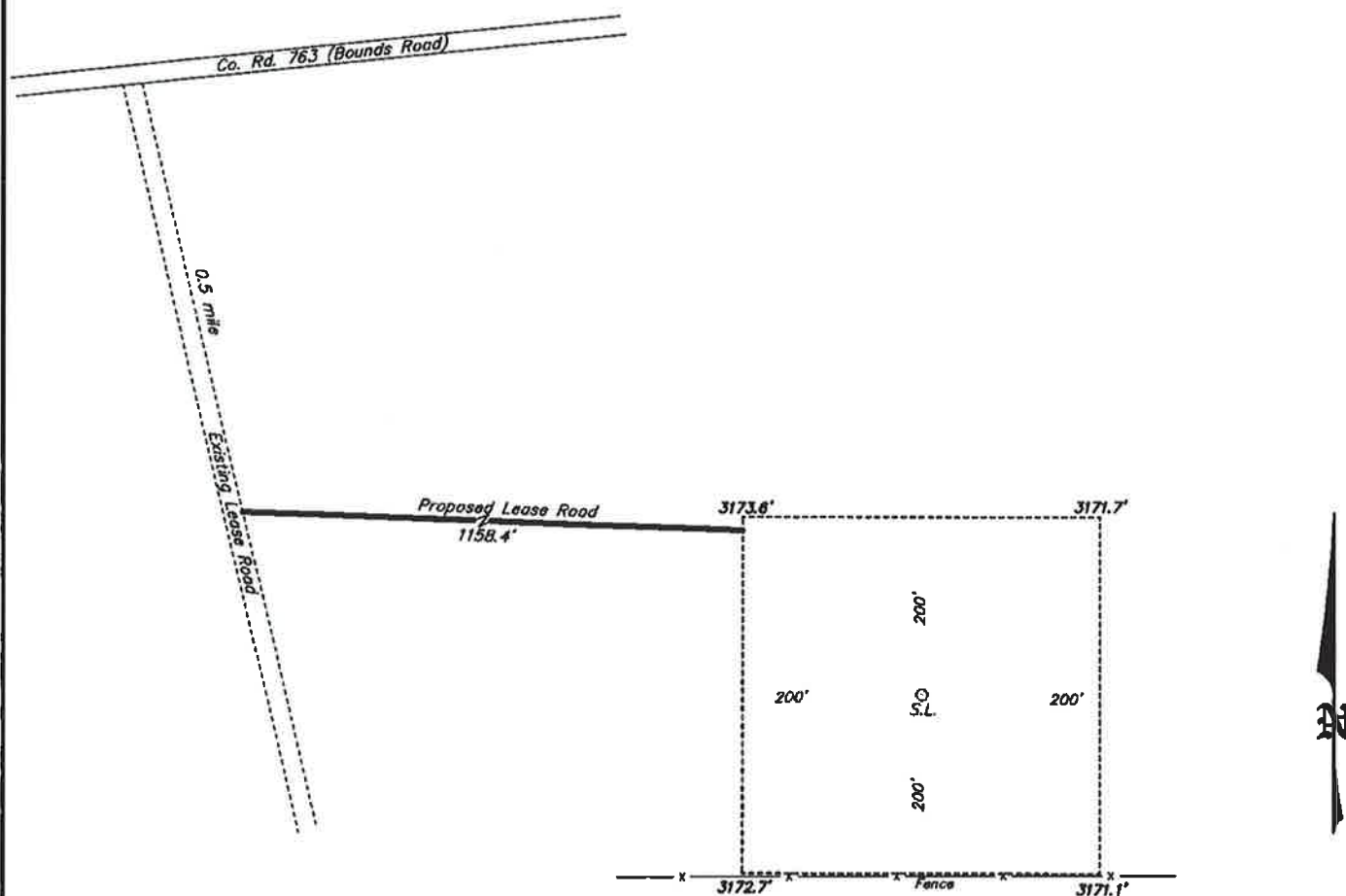
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>N:451406.7 E:591805.1 (NAD 83)</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Sarah Presley</i> 10/17/18 Signature Date</p> <p>SARAH PRESLEY Printed Name</p> <p>s.presley@delawareenergy.com Email Address</p>	
	<p>SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>OCTOBER 16 2018 Date Surveyed</p> <p><i>[Signature]</i> Signature of Professional Surveyor</p> <p>Certified by Gary L. Woods 7977 Date</p>	
	<p>SURFACE LOCATION</p> <p>Lat - N 32.25494356° Long - W 104.17789265° NMSPCE - N 458516.5 E 589388.5 (NAD-83)</p>	
	<p>N:456174.4 E:588662.0 (NAD 83)</p> <p>326'</p> <p>2564'</p> <p>N:458205.5 E:591956.0 (NAD 83)</p> <p>0' 500' 1000' 1500' 2000'</p> <p>SCALE: 1" = 1000'</p> <p>WO Num.: 34149</p>	

**SECTION 34, TOWNSHIP 23 SOUTH, RANGE 27 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.**



**BEAR TRAP SWD #1
ELEV. - 3172'**

Lat - N 32.25494356°
Long - W 104.17789265°
NMSPCE- N 458518.5
E 589388.5
(NAD-83)

CARLSBAD, NM IS ±10 MILES TO THE NORTH OF LOCATION.



DELAWARE ENERGY

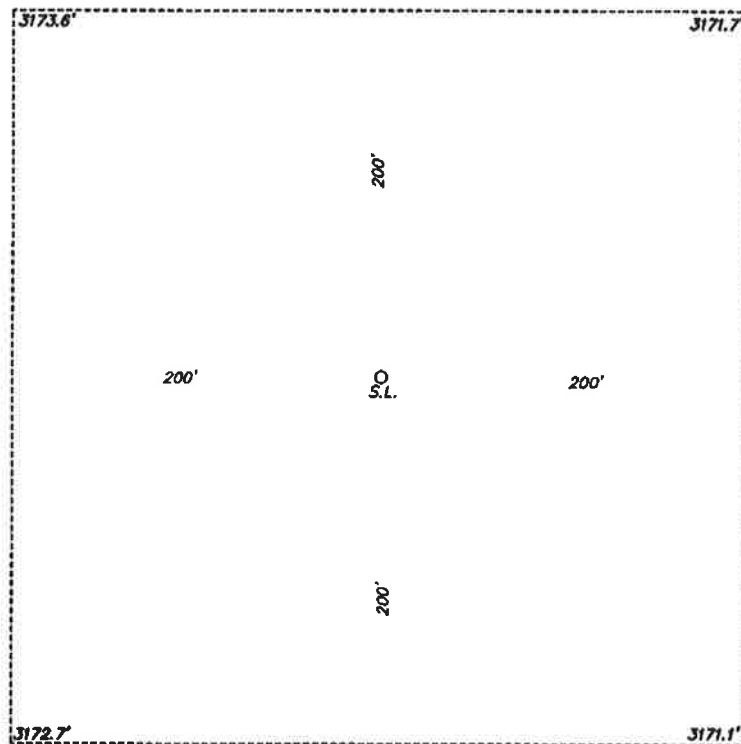
REF: BEAR TRAP SWD #1 / WELL PAD TOPO

THE BEAR TRAP SWD #1 LOCATED 326' FROM
THE SOUTH LINE AND 2564' FROM THE EAST LINE OF
SECTION 34, TOWNSHIP 23 SOUTH, RANGE 27 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.



P.O. Box 1756 (575) 393-7316 - Office
1120 N. West County Rd. (575) 392-2206 - Fax
Hobbs, New Mexico 88241 basin-surveys.com

**SECTION 34, TOWNSHIP 23 SOUTH, RANGE 27 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.**



DELAWARE ENERGY

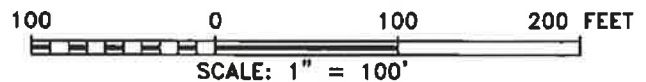
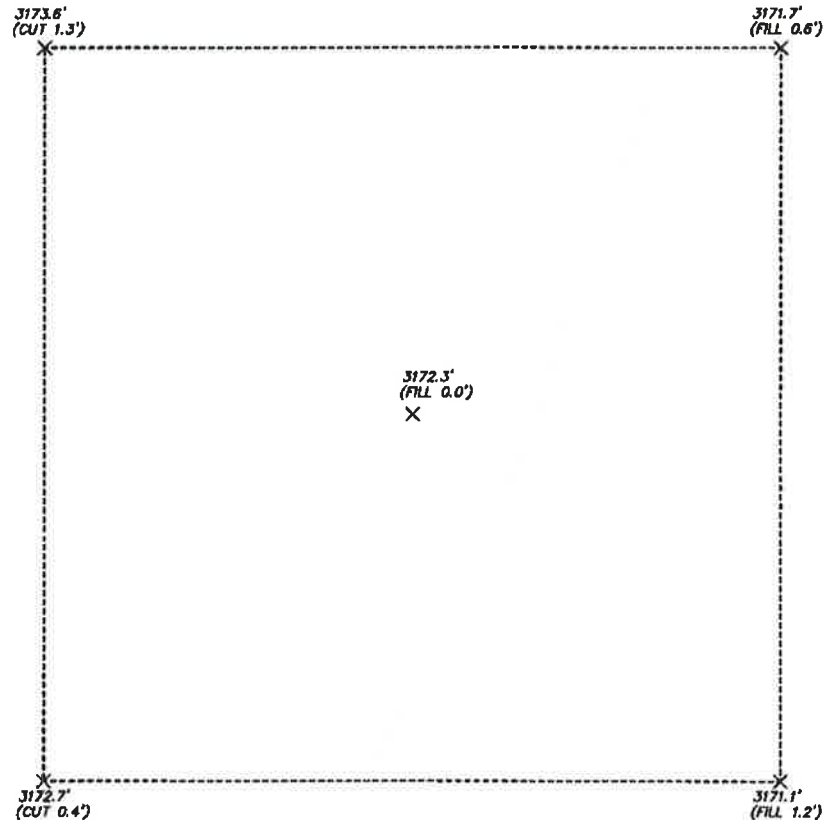
REF: BEAR TRAP SWD #1 / WELL PAD TOPO

THE BEAR TRAP SWD #1 LOCATED 326' FROM
THE SOUTH LINE AND 2564' FROM THE EAST LINE OF
SECTION 34, TOWNSHIP 23 SOUTH, RANGE 27 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.



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**SECTION 34, TOWNSHIP 23 SOUTH, RANGE 27 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.**



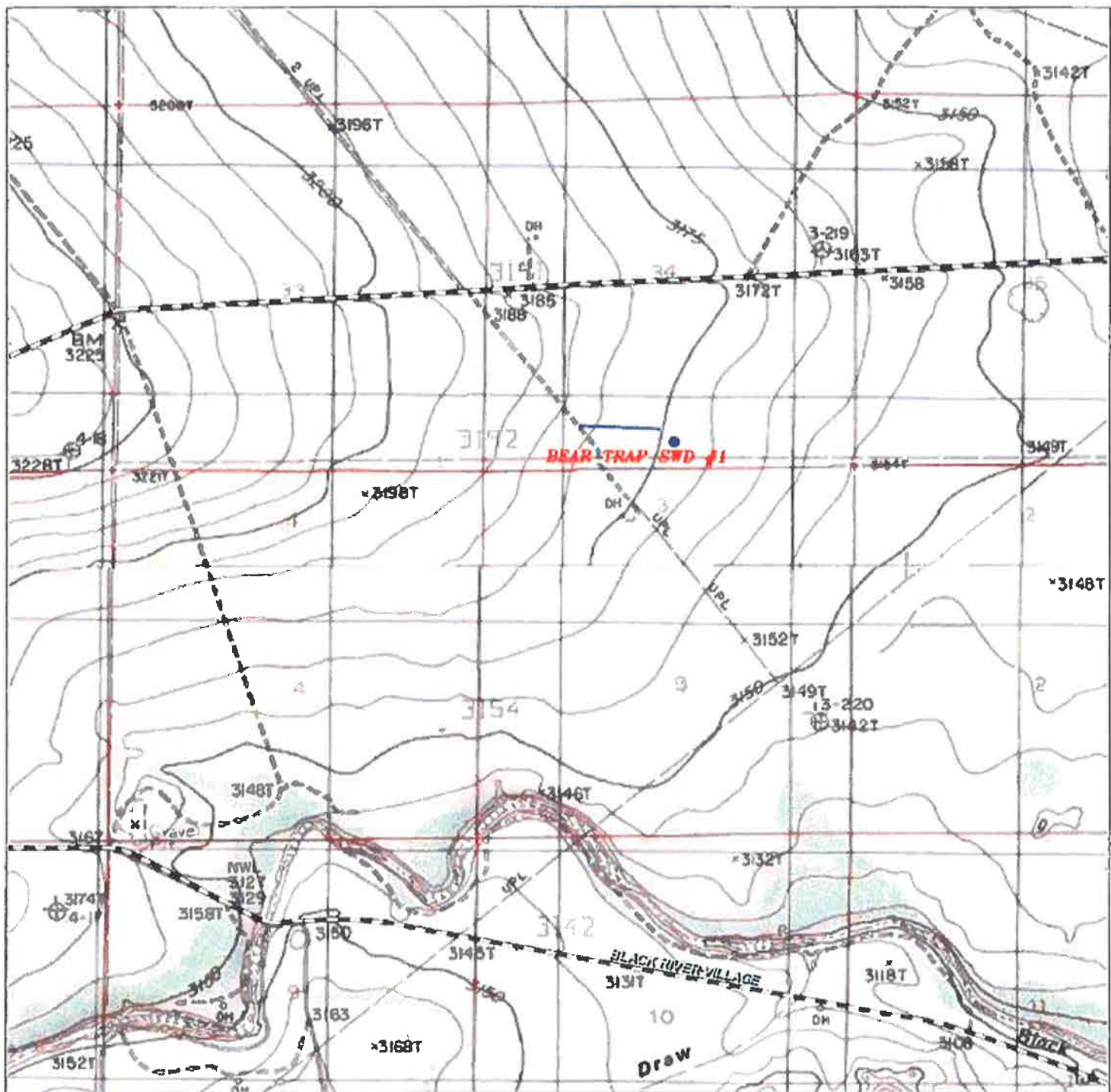
DELAWARE ENERGY

REF: BEAR TRAP SWD #1 / CUT & FILL

THE BEAR TRAP SWD #1 LOCATED 326' FROM
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N.M.P.M., EDDY COUNTY, NEW MEXICO.



Included an excellence
in the field
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1120 N. West County Rd. (575) 392-2206 - Fax
Hobbs, New Mexico 88241 basin-surveys.com



BEAR TRAP SWD #1

Located 326' FSL & 2564' FEL
 Section 34, Township 23 South, Range 27 East,
 N.M.P.M., Eddy County, New Mexico.

basin
surveys

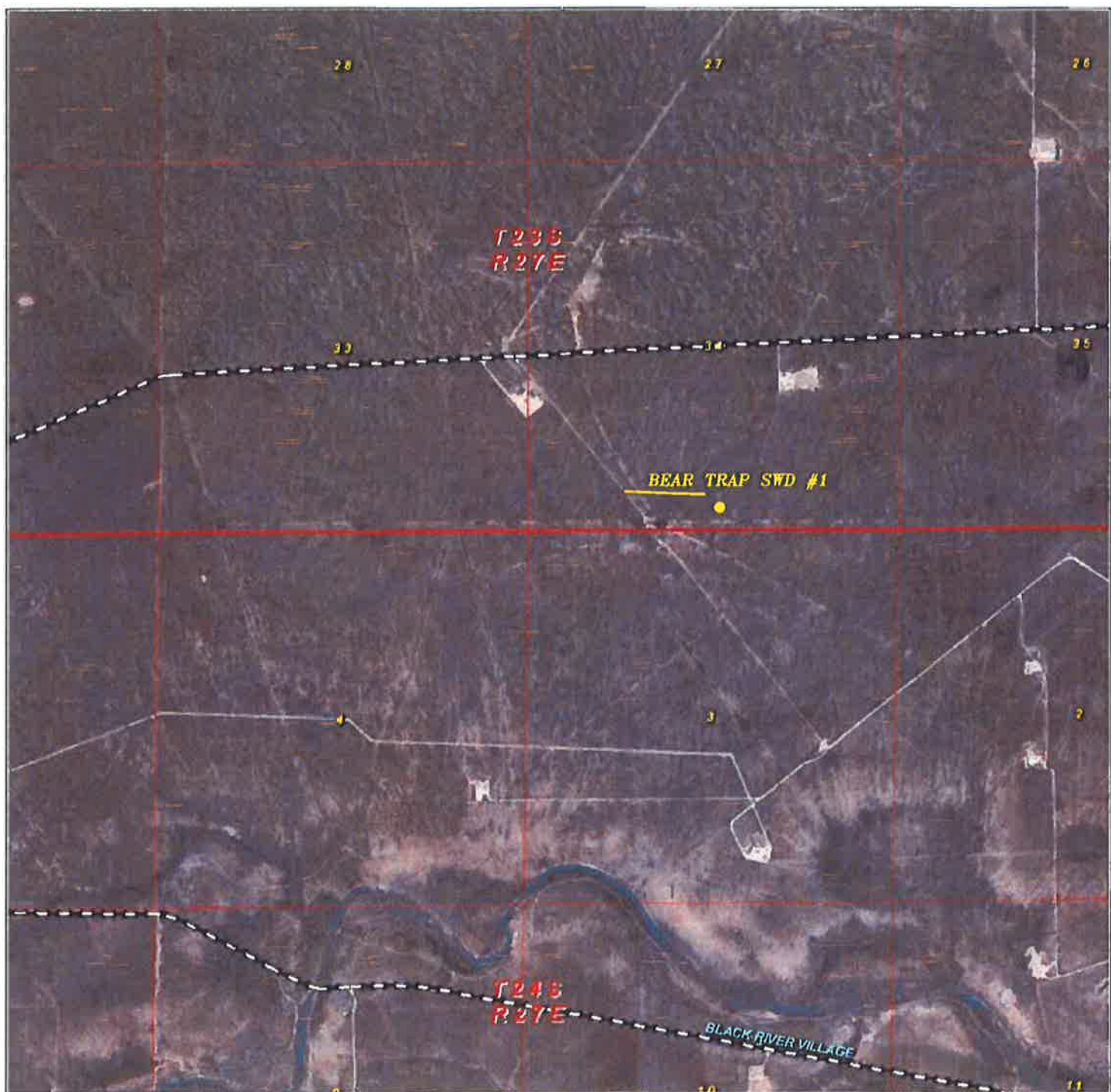
located on excellence
 (505) 836-1111

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 Hobbs, New Mexico 88241
 (505) 553-7316 - Office
 (505) 592-2206 - Fax
 basin-surveys.com

0	1000'	2000'	3000'	4000'
SCALE: 1" = 2000'				
W.S. 1/4 - Sec. 10, 15, 20, 25, 30, 35, 40				
Survey Data 10 15 20 25 30 35 40				
YELLOW TINT - USA LAND				
BLUE TINT - STATE LAND				
NATURAL COLOR - FEL LAND				



DELAWARE
ENERGY



BEAR TRAP SWD #1

Located 326' FSL & 2564' FEL
 Section 34, Township 23 South, Range 27 East,
 N.M.P.M., Eddy County, New Mexico.

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 Hobbs, New Mexico 88241
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 (575) 392-2208 - Fax
basinsurveys.com

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

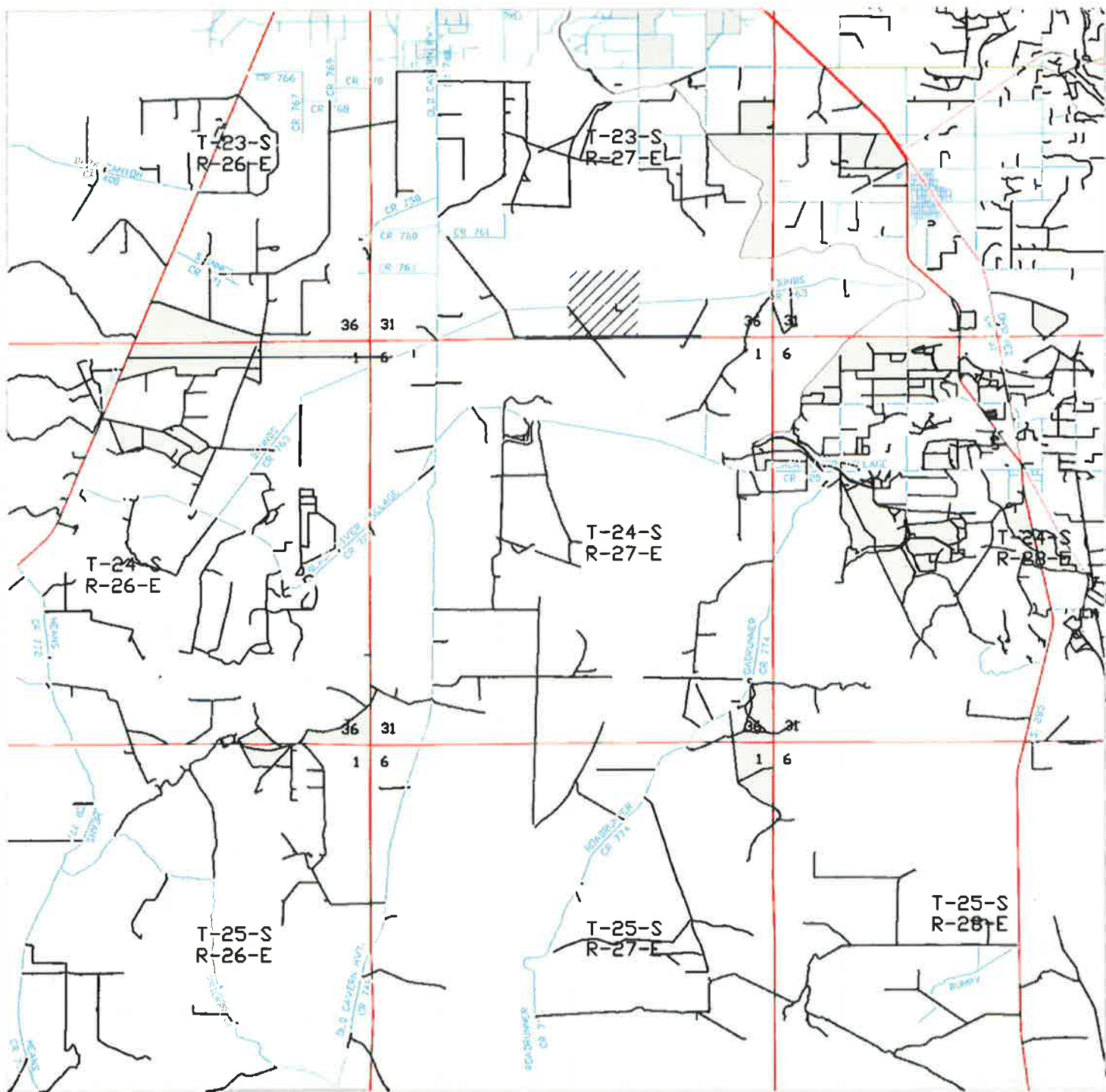
W.O. Number: KJC - 34149

Survey Date: 10-16-2018

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



DELAWARE
ENERGY



BEAR TRAP SWD #1



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

Water Analysis

Code 210501

Client Information

Delaware Energy
County: Eddy

Rep: Derrick Boutwell

Sample Information

Lease/Well: Bear Trap/SWD

Sample Point: SWD

Date Sampled: 10/19/2018

Date Reported: 10/24/2018

Results

Cations

Ion	Concentration(mg/L)
Barium (as Ba)	0
Calcium (as Ca)	296
Iron (as Fe)	0
Sodium (as Na)	4
Magnesium (as Mg)	36

Other Measurements

Measurement	Value
pH	7.19
SG	0.995
Turbidity	16
CO ₂	
Total Dissolved Solids	1307.000

Anions

Ion	Concentration(mg/L)
Chlorides (as Cl)	40
Sulfate (as SO ₄)	736
Carbonate (as CO ₃)	0
Bicarbonates (as HCO ₃)	195
Sulfide (as S ²⁻)	0

Scaling Indices

Temp(F)	CaCO ₃	CaSO ₄ *2H ₂ O	CaSO ₄	BaSO ₄
80	0.4816	0.0000	0.0000	-27.8638
120	0.8025	0.0000	0.0000	-28.0727
160	1.1616	0.0000	0.0000	-28.1894
200	1.4872	0.0000	0.0000	-28.2355
250	1.7884	0.0000	0.0000	-28.2096

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

Comments

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 1C
Submitted by: Delaware Energy
Hearing Date: November 13, 2018
Case # 16258

Sec 22, T25S, R28E

North Permian Basin Region

P.O. Box 740

Sundown, TX 79372-0740

(806) 228-8121

Lab Team Leader - Sheila Hernandez

(432) 495-7240

Bone Spring

Water Analysis Report by Baker Petrolite

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

Summary		Analysis of Sample 534665 @ 75 F					
Sampling Date:	03/10/11	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	03/18/11	Chloride:	109618.0	3091.92	Sodium:	70275.7	3056.82
Analyst:	SANDRA GOMEZ	Bicarbonate:	2135.0	34.99	Magnesium:	195.0	16.04
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	15.53	Strontium:	220.0	5.02
Anion/Cation Ratio:	1	Phosphate:			Barium:	0.8	0.01
		Borate:			Iron:	6.3	0.23
		Silicate:			Potassium:	889.0	22.22
Carbon Dioxide:	0.50 PPM	Hydrogen Sulfide:		0 PPM	Aluminum:		
Oxygen:		pH at time of sampling:		7	Chromium:		
Comments:		pH at time of analysis:			Copper:		
		pH used in Calculation:		7	Lead:		
					Manganese:	0.100	0.
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄		CO ₂ Press
F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	1.08	188.52	-1.20	0.00	-1.18	0.00	-0.11	0.00	0.58	0.29	1.72
100	0	1.10	206.05	-1.29	0.00	-1.20	0.00	-0.15	0.00	0.35	0.29	2.35
120	0	1.12	224.17	-1.36	0.00	-1.19	0.00	-0.17	0.00	0.16	0.00	3.17
140	0	1.13	243.17	-1.42	0.00	-1.18	0.00	-0.18	0.00	0.00	0.00	4.21

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

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

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

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. 1D

Submitted by: Delaware Energy

Hearing Date: November 13, 2018

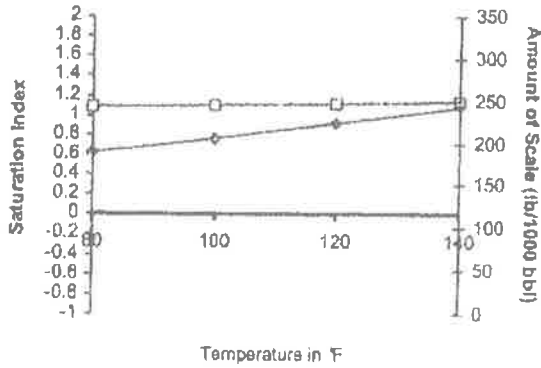
Case # 16258

Scale Predictions from Baker Petrolite

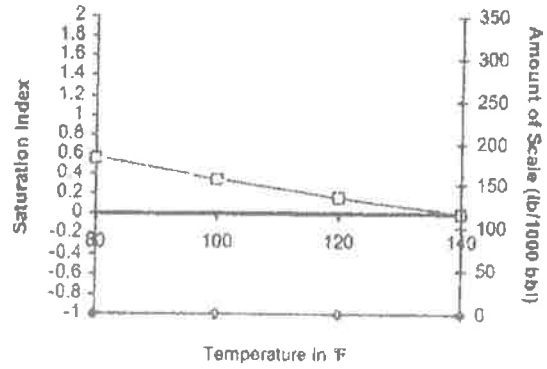
Analysis of Sample 534665 @ 75 °F for

03/18/11

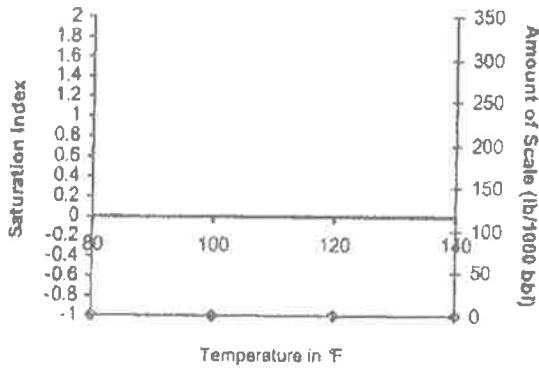
Calcite - CaCO_3



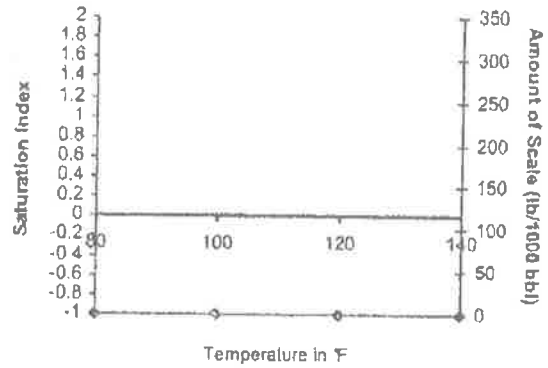
Barite - BaSO_4



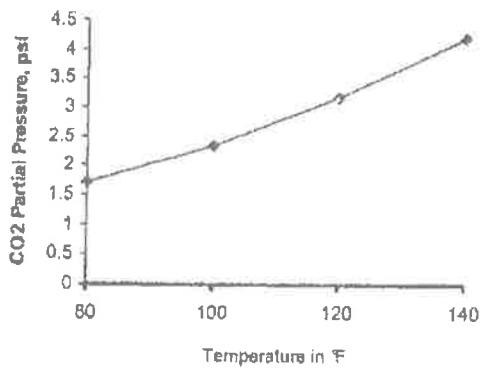
Gypsum - $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$



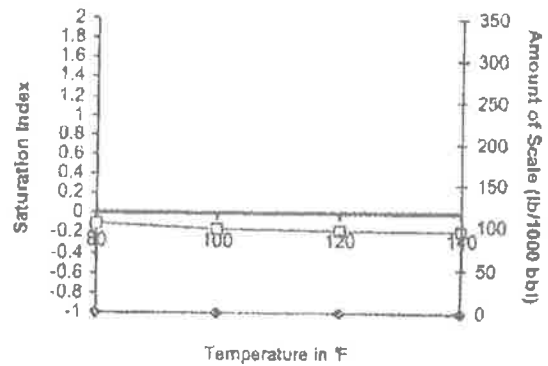
Anhydrite - CaSO_4



Carbon Dioxide Partial Pressure



Celestite - SrSO_4



Wolfcamp



Water Analysis

Date: 23-Aug-11

2708 West County Road, Hobbs NM 88240

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

Analyzed For

Brushy Draw 1#1

Company	Well Name	County	State
	BD	<i>Lea</i>	New Mexico

Sample Source

Swab Sample

Sample #

Eddy
1-265-295
1

Formation

Depth

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

Cations

Sodium (Calc)	in Mg/L	77,982	in PPM	66,520
Calcium	in Mg/L	4,000	in PPM	3,413
Magnesium	in Mg/L	1,200	in PPM	1,024
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	158,031

Scaling Tendencies

*Calcium Carbonate Index 507,520

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

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

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

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

Remarks RW=.048@70F

Report # 3188

Sec 16, T23S R 28E



PRODUCTION DEPARTMENT

MILLER CHEMICALS, INC.

Post Office Box 298
Artesia, N.M. 88211-0298
(505) 748-1919 Artesia Office
(505) 392-2893 Hobbs Office
(505) 748-1918 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	Ca(HCO3)2	81.0 15.2	1231
82 *Mg <-----> *SO4	CaSO4	68.1 10.4	709
3375 *Na <-----> *Cl	CaCl2	55.5 1830.7	101584
	Mg(HCO3)2	73.2	
	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:

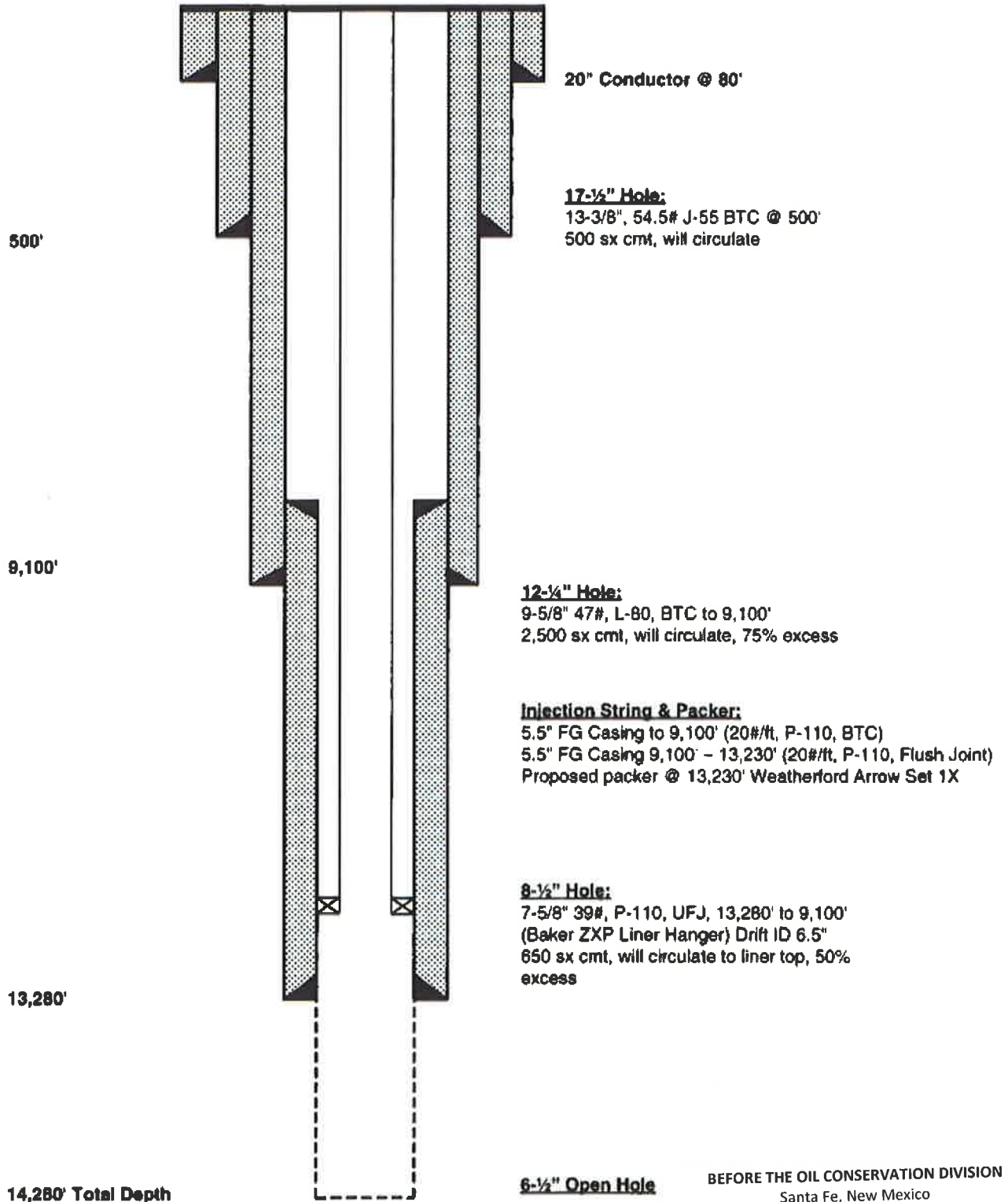


Bear Trap SWD # 1

API # PENDING
326' FSL & 2,564' FEL, Sec. 34, T23S, R27E
EDDY COUNTY, NEW MEXICO

ELEVATION:
GL: 3,172'

PROPOSED WELLBORE



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 1E
Submitted by: Delaware Energy
Hearing Date: November 13, 2018
Case # 16258

Statement Regarding Seismicity and Well Location (Bear Trap SWD #1)

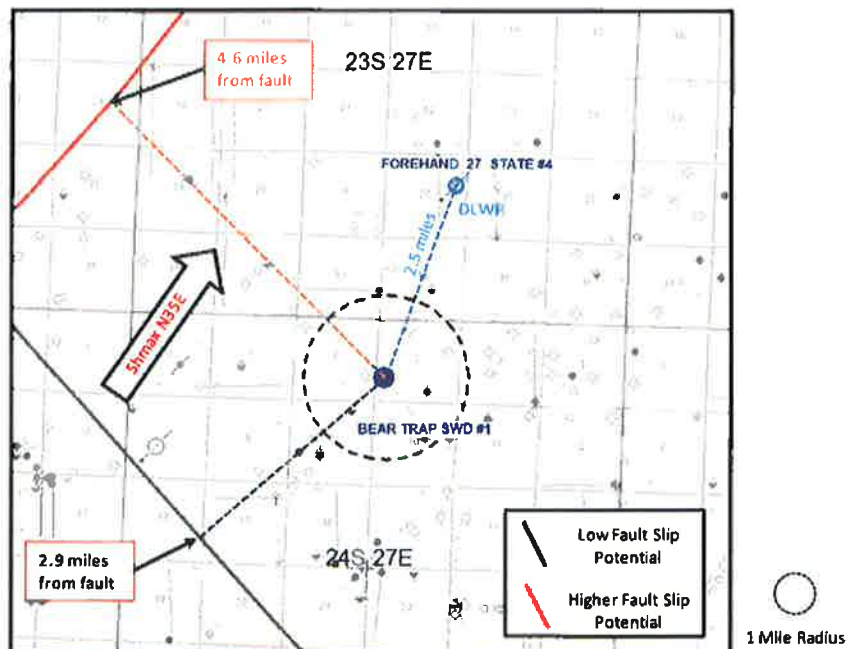
Historically, the area near the proposed Bear Trap SWD #1 has seen some nearby seismic activity. There have been two seismic events (as per public data available on the USGS database) in the area. All events are over 4.0 miles from the proposed SWD location. The most recent event is 17.2 miles east, measuring 3.1, and the closest is 4.2 miles to the NNE which measured 3.9 on November 24, 1978

Delaware Energy does not own 2D or 3D seismic data near the proposed SWD location therefore the fault interpretations are based on data obtained from the USGS New Mexico Faults Database (2005) and other published data. Based on these sources the closest faults would be approximately 4.6 miles northwest of the location and 2.9 miles southwest of the location. A recent technical paper written by Snee and Zoback, "State of Stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity", was published in the February 2018 edition of The Leading Edge. The study evaluates the strike-slip probability of known faults using FSP analysis. The study predicts that the NW-SE trending fault NE of the location (green) should have a very low probability of being critically stressed resulting in an induced seismicity event. The SW-NE trending fault NW and closest to the location (orange) would have a higher probability of being critically stressed, resulting in potential slip, due to the relationship of the strike of the fault and the regional Shmax orientation (approx. N 35 deg E) in the area. The exact position of this fault relative to the proposed location, and depth of the target formation, is unknown. Risk of contact with this fault should be reduced due to the distance of the proposed SWD well from the fault (4.6 miles).

The proposed Bear Trap SWD #1 location is located 2.5 miles away from the nearest active injector which is in the Delaware (see map below). The well should meet current OCD and Industry recommended practices.

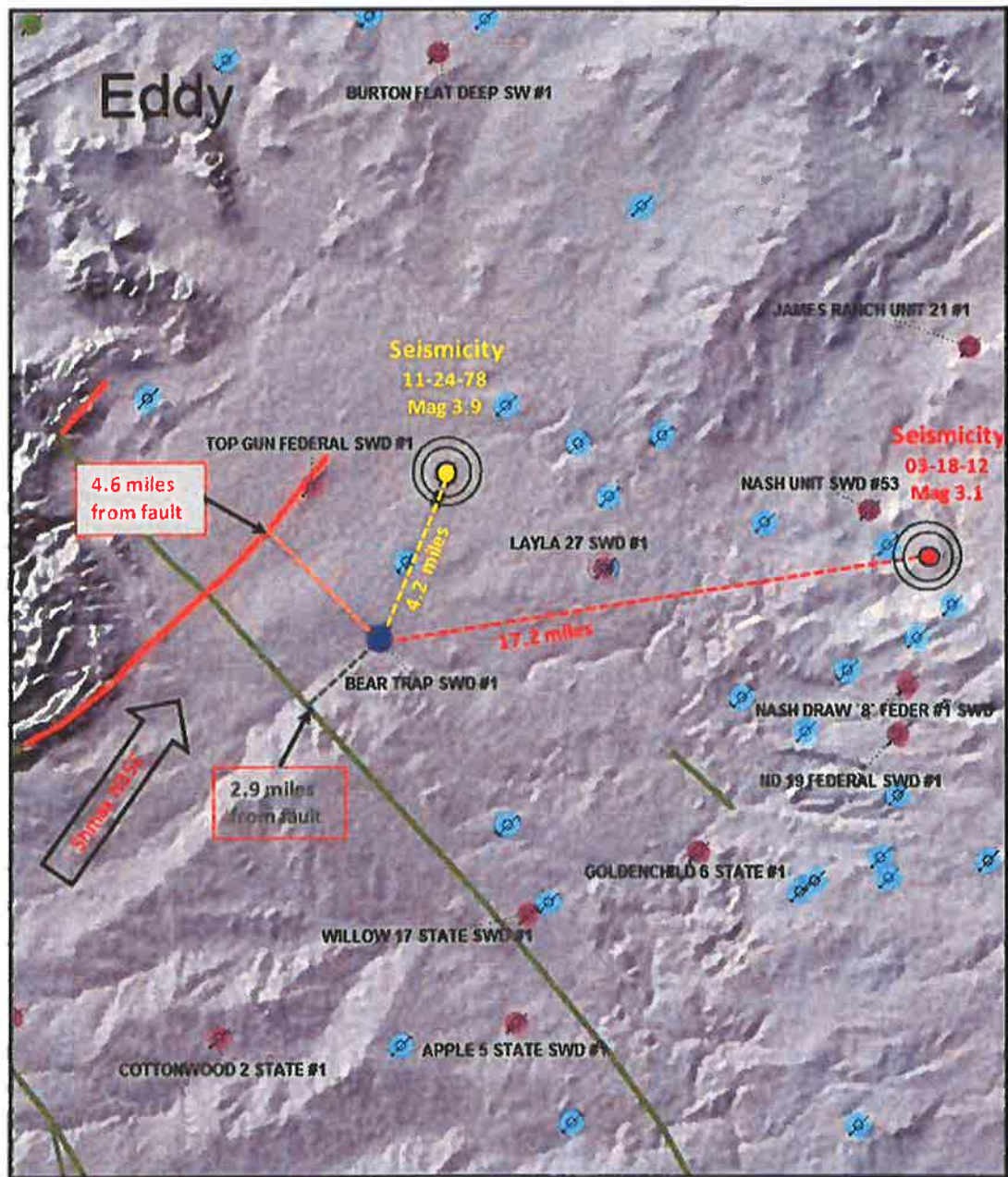
Kevin J. Schepel
Petrophysical Advisor
kevin.schepel@att.net
214-212-6540

Well Activity, Faulting, and Closest SWD



Modeled After Snee and Zoback (February 2018)

Proximity to Historic Earthquake Activity and Faults



Modeled After Snee and Zoback (February 2018)



Data and Interpretation Disclosure: Although care has been taken to ensure that these data are up to date and accurate, this information and data is being provided as is. The data are what is believed to be the best public data available based on published documents, reports, and information available through the USGS. The user assumes all responsibility and risk for use of the data and interpretations. Users of the data agree not to misuse, add to without permission, or misrepresent the data provided in any way. In no event will the provider of this document be liable to any party for any direct, indirect, incidental, consequential, special or exemplary damages, or lost profit resulting from any use or misuse of this data. Additionally, provider is not liable for any inaccurate data. No person, entity, or user shall use the information in a manner that is in violation of any federal, state, or local law or regulation.

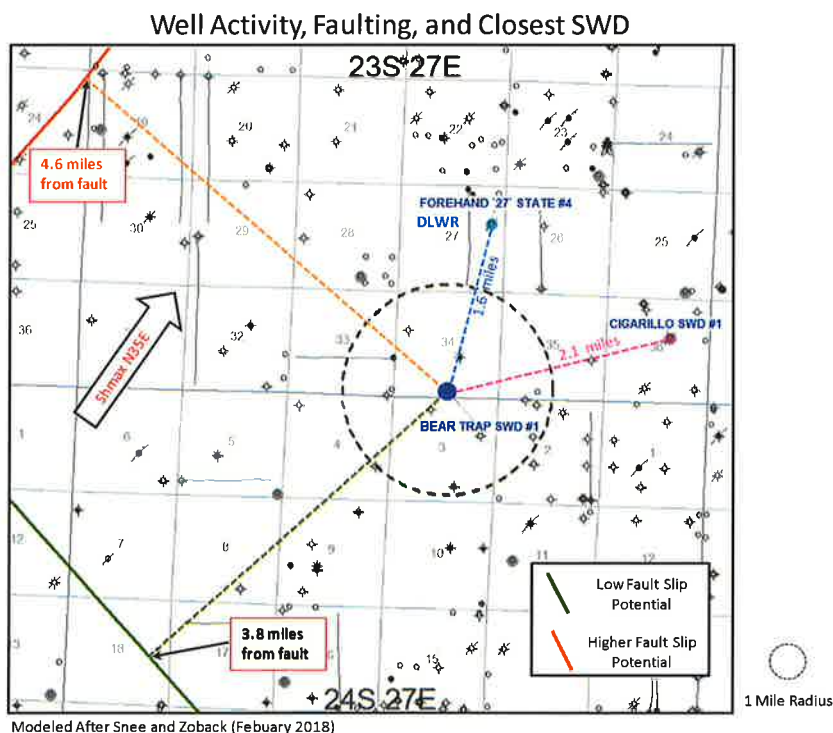
Statement Regarding Seismicity and Well Location (Bear Trap SWD #1)

Historically, the area near the proposed Bear Trap SWD #1 has seen some nearby seismic activity. There have been two seismic events (as per public data available on the USGS database) in the area. All events are over 4.0 miles from the proposed SWD location. The most recent event is 16.2 miles east, measuring 3.1, and the closest is 4.6 miles to the NNE which measured 3.9 on November 24, 1978

Delaware Energy does not own 2D or 3D seismic data near the proposed SWD location therefore the fault interpretations are based on data obtained from the USGS New Mexico Faults Database (2005) and other published data. Based on these sources the closest faults would be approximately 4.6 miles northwest of the location and 3.8 miles southwest of the location. A recent technical paper written by Snee and Zoback, "State of Stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity", was published in the February 2018 edition of The Leading Edge. The study evaluates the strike-slip probability of known faults using FSP analysis. The study predicts that the NW-SE trending fault SW of the location (green) should have a very low probability of being critically stressed resulting in an induced seismicity event. The SW-NE trending fault NW of the location (orange) would have a higher probability of being critically stressed, resulting in potential slip, due to the relationship of the strike of the fault and the regional Shmax orientation (approx. N 35 deg E) in the area. The exact position of this fault relative to the proposed location, and depth of the target formation, is unknown. Risk of contact with this fault should be reduced due to the distance of the proposed SWD well from the fault (4.6 miles).

The proposed Bear Trap SWD #1 is located 1.6 miles away from the nearest active Delaware SWD well and 2.1 miles from the nearest active Devonian SWD well (see map below). The well should meet current OCD and Industry recommended practices.

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



This map illustrates the Shinarump Fault System, highlighting seismic activity and the locations of various oil and gas wells. The fault system is depicted by a prominent green line running diagonally from the bottom left towards the top right. A red line, representing a secondary fault or a specific segment, branches off to the northwest. An arrow in the lower-left quadrant points towards the northeast, labeled 'Shinarump N55E'.

Key seismic events are marked with concentric circles and labeled with their dates and magnitudes:

- Seismicity 11-24-78 Mag 3.9:** Located near the center of the map, close to the intersection of the main fault and a dashed yellow line.
- Seismicity 03-18-12 Mag 3.1:** Located on the right side of the map, near the intersection of the main fault and a dashed red line.

Well locations are indicated by pink circular symbols with a crosshair, each labeled with its name and number:

- BURTON FLAT DEEP SW #1 (top center)
- JAMES RANCH UNIT 21 #1 (top right)
- TOP GUN FEDERAL SWD #1 (left of center)
- LAYLA 27 SWD #1 (center)
- CIGARILLO SWD #1 (center)
- BEAR TRAP SWD #1 (center)
- NASH UNIT SWD #1 (right of center)
- NASH DRAW 'B' FEDER #1 SWD (bottom right)
- ND 19 FEDERAL SWD #1 (bottom right)
- GOLDENCHILD 6 STATE #1 (bottom right)
- WILLOW 17 STATE SWD #1 (bottom center)
- APPLE 5 STATE SWD #1 (bottom center)
- COTTONWOOD 2 STATE #1 (bottom left)

Distances from faults are highlighted in red boxes:

- 4.6 miles from fault:** Indicated for TOP GUN FEDERAL SWD #1 and CIGARILLO SWD #1.
- 3.8 miles from fault:** Indicated for BEAR TRAP SWD #1.
- 16.2 miles:** Indicated for LAYLA 27 SWD #1.

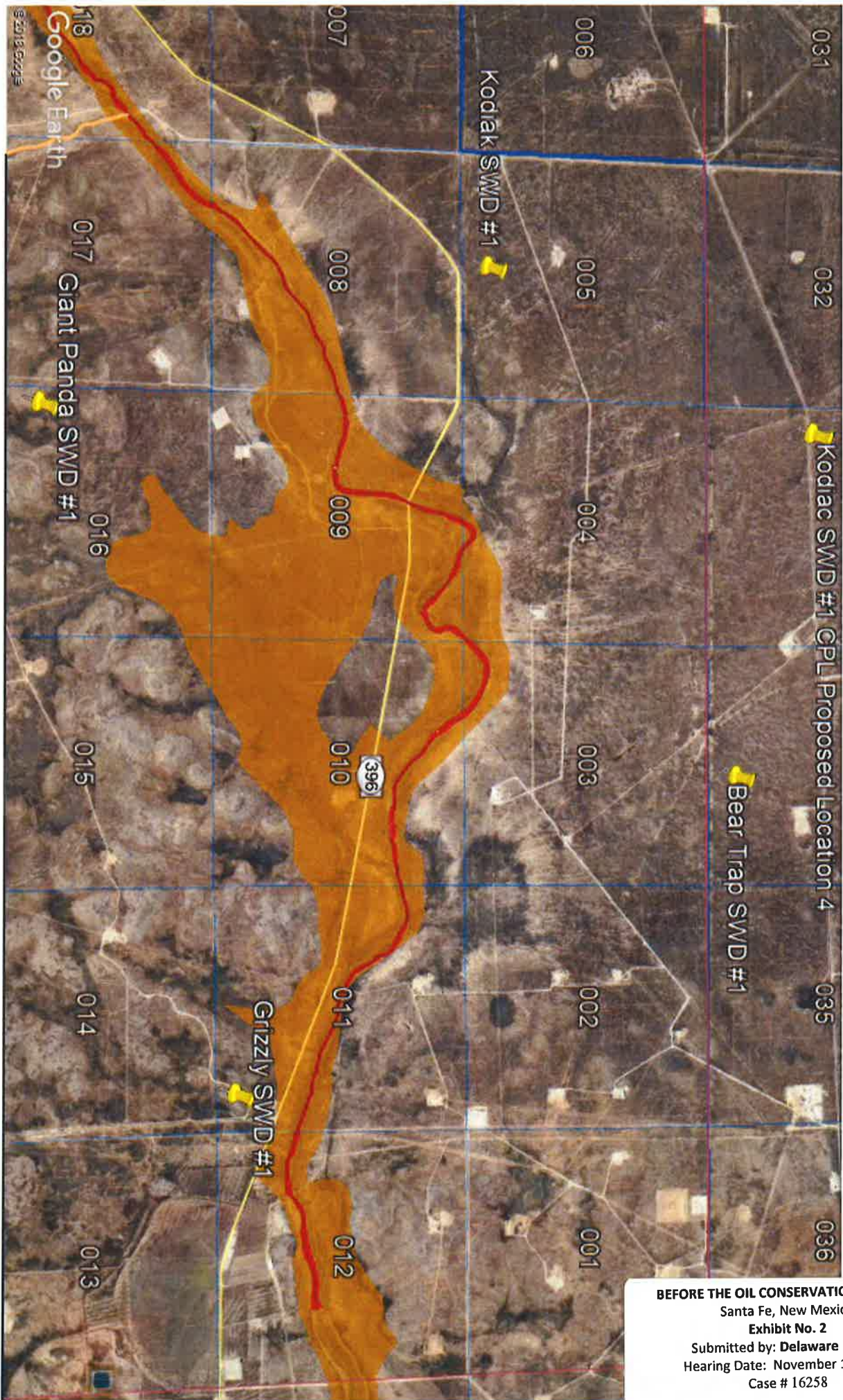
Other features include a dashed yellow line connecting the 11-24-78 seismic event to CIGARILLO SWD #1, and a dashed red line connecting the 03-18-12 seismic event to LAYLA 27 SWD #1. Numerous blue circular symbols with crosshairs are scattered across the map, likely representing other wells or monitoring points.

 Devonian SWD
  Delaware SWD
  Proposed Location

 USGS Earthquake

 Low Fault Slip Potential
  Higher Fault Slip Potential

Data and Interpretation Disclosure - Although care has been taken to ensure that these data are up to date and accurate, this information and data is being providing as is. The data are what is believed to be the best public data available based on published documents, reports, and information available through the USGS. The user assumes all responsibility and risk for use of the data and interpretations. Users of the data agree not to misuse, add to without permission, or misrepresent the data provided in any way. In no event will the provider of this document be liable to any party for any direct, indirect, incidental, consequential, special or exemplary damages, or lost profit resulting from any use or misuse of this data. Additionally, provider is not liable for any inaccurate data. No person, entity, or user shall use the information in a manner that is in violation of any federal, state, or local law or regulation.



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 2
Submitted by: Delaware Energy
Hearing Date: November 13, 2018
Case # 16258

STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

**AMENDED: APPLICATION OF DELAWARE ENERGY, LLC FOR
AUTHORIZATION TO INJECT SALT WATER FOR PURPOSES OF DISPOSAL
THROUGH ITS PROPOSED BEAR TRAP SWD #1 WELL, EDDY COUNTY,
NEW MEXICO.**

CASE NO. 16258

AFFIDAVIT

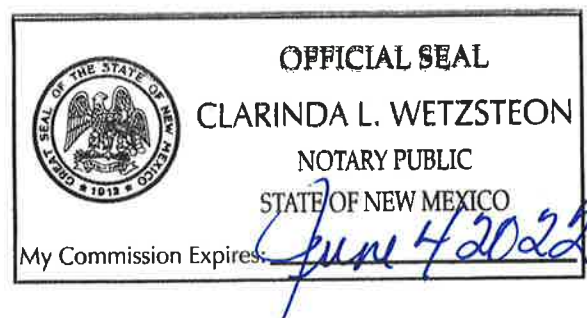
STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

Adam G. Rankin, attorney in fact and authorized representative of **Delaware Energy LLC** the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Applications have been provided under the notice letters and proof of receipts attached hereto.



Adam G. Rankin

SUBSCRIBED AND SWORN to before me this 16th day of November 2018 by Adam G. Rankin.


Notary Public

BEFORE THE OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Exhibit No. 3
Submitted by: **Chisholm Energy Operating LLC**
Hearing Date: November 13, 2018
Case No. 16258



Adam G. Rankin
Associate
Phone (505) 988-4421
Fax (505) 983-6043
agrarkin@hollandhart.com

October 24, 2018

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

TO: AFFECTED PARTIES

Re: Case No. 16258: Amended Application of Delaware Energy, LLC for Authorization to Inject Salt Water for Purposes of Disposal Through Its Proposed Bear Trap SWD #1 Well, Eddy County, New Mexico. Bear Trap SWD #1

This letter is to advise you that Delaware Energy, LLC has filed the above-styled application with the New Mexico Oil Conservation Division. Applicant seeks an order authorizing injection of produced water for disposal purposes through its proposed **Bear Trap SWD #1**, with an amended surface location 326 feet from the South line and 2564 feet from the East line Unit O of Section 34, Township 23 South, Range 27 East, NMPM, Eddy County, New Mexico. The maximum proposed daily injection rate will be approximately 25,000 barrels per day. The proposed injection will occur within the Devonian formation at a depth of approximately 13,280 feet to 14,280 feet deep. The maximum injection pressure will be 2,656 psi. The location of the proposed injection is approximately 6 miles northwest of Malaga, New Mexico. As an affected party, you are entitled to notice of this application.

This application has been set for hearing before a Division Examiner at 9:00 AM on November 13, 2018. The hearing will be held in Porter Hall in the Oil Conservation Division's Santa Fe Offices located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date.

Parties appearing in cases are required by Division Rule 19.15.4.13.B to file a Pre-Hearing Statement with the Oil Conservation Division's Santa Fe office, four days in advance of a scheduled hearing, but at least on the Thursday preceding the hearing. This statement must include: the names of the parties and their attorneys; a concise statement of the case; the names of all witnesses the party will call to testify at the hearing; the approximate time the party will need to present its case; and identification of any procedural matters that are to be resolved prior to the hearing.

If you have any questions about this matter or for a copy of the C-108, please contact Mike McCurdy at (432) 685-7005.

Sincerely,

Adam G. Rankin

ATTORNEY FOR DELAWARE ENERGY, LLC



Shipment Confirmation Acceptance Notice

A. Mailer Action

Note to Mailer: The labels and volume associated to this form online, **must** match the labeled packages being presented to the USPS® employee with this form.

Delaware Energy - Bear Trap
CM # 100520.0001 20181113
Notice for Special Hearing

Shipment Date: 10/23/2018

Shipped From:

Name: HOLLAND & HART LLP

Address: 110 N GUADALUPE ST # 1

City: SANTA FE

State: NM ZIP+4® 87501

Type of Mail	Volume
Priority Mail Express®	
Priority Mail®	0
First-Class Package Service®	
Returns	
International*	
Other	10
Total	10

*Start time for products with service guarantees will begin when mail arrives at the local Post Office™ and items receive individual processing and acceptance scans.

B. USPS Action

Note to RSS Clerk:

1. Home screen > Mailing/Shipping > More
2. Select Shipment Confirm
3. Scan or enter the barcode/label number from PS Form 5630
4. Confirm the volume count message by selecting Yes or No
5. Select Pay and End Visit to complete transaction

USPS EMPLOYEE: Please scan upon pickup or receipt of mail.
Leave form with customer or in customer's mail receptacle.

USPS SCAN AT ACCEPTANCE



9275 0901 1935 6200 0010 9395 11



Firm Mailing Book For Accountable Mail

Name and Address of Sender Holland & Hart LLP 110 N Guadalupe St # 1 Santa Fe NM 87501		Check type of mail or service <input type="checkbox"/> Adult Signature Required <input type="checkbox"/> Adult Signature Restricted Delivery <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery (COD) <input type="checkbox"/> Insured Mail <input type="checkbox"/> Priority Mail <input type="checkbox"/> Priority Mail Express <input type="checkbox"/> Registered Mail <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Signature Confirmation Restricted Delivery										Affix Stamp Here (if issued as an international certificate of mailing or for additional copies of this receipt). Postmark with Date of Receipt.													
USPS Tracking/Article Number		Addressee (Name, Street, City, State, & ZIP Code™)										Postage	(Extra Service) Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	RD Fee	RR Fee	SC Fee	SCRD Fee	SH Fee	
1. 9214 8901 9403 8374 2528 92		State of New Mexico 310 Old Santa Fe Trail Santa Fe NM 87501										0.49	3.45								1.50				
2. 9214 8901 9403 8374 2529 08		COG Operating LLC 600 W Illinois Midland TX 79701										0.49	3.45								1.50				
3. 9214 8901 9403 8374 2529 15		Marathon Oil Permian 5555 San Felipe Street Houston TX 77056										0.49	3.45								1.50				
4. 9214 8901 9403 8374 2529 22		Mewbourne Oil Co PO BOX 7698 Tyler TX 75711										0.49	3.45								1.50				
5. 9214 8901 9403 8374 2529 39		Featherstone Development Corp 601 N Marfield Suite 202 Midland TX 79701										0.49	3.45								1.50				
6. 9214 8901 9403 8374 2529 46		EOG Resources 5509 Champions Drive Midland TX 79701										0.49	3.45								1.50				
7. 9214 8901 9403 8374 2529 53		Chevron Midcontinent 6301 Deauville Blvd Midland TX 79706										0.49	3.45								1.50				
8. 9214 8901 9403 8374 2529 60		Devon Energy 333 W Sheridan Ave Oklahoma City OK 73102										0.49	3.45								1.50				



Firm Mailing Book For Accountable Mail

[illegible]



⚠ You are using an old version of e-Certify. [Click here](#) to update to the new version.

Welcome Clary Weltzstein, (Not [Clary Weltzstein?](#))

Company:

Holland & Hart LLP

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Filter:

< No Filter >

Barcode	Recipient	Status	DL	Custom
9214 8901 9403 83742529 84	Caza Petroleum 200 N Iordane Suite 1550 Midland TX 79701	Delivered Signature Received	No	
9214 8901 9403 83742529 77	ConocoPhillips 3300 N A St #6-100 Midland TX 79705	Delivered Signature Received	No	
9214 8901 9403 83742529 60	Devon Energy 333 W Sheridan Ave Oklahoma City OK 73102	Delivered Signature Received	No	
9214 8901 9403 83742529 53	Chevron Midcontinent 6301 Deauville Blvd Midland TX 79706	Delivered Signature Received	No	
9214 8901 9403 83742529 46	EOG Resources 5509 Champions Drive Midland TX 79701	Delivered Signature Received	No	
9214 8901 9403 83742529 39	Featherstone Development Corp 601 N Marienfeld Suite 202 Midland TX 79701	Delivered Signature Received	No	
9214 8901 9403 83742529 22	Mewbourne Oil Co PO BOX 7698 Tyler TX 75711	Delivered Signature Received	No	
9214 8901 9403 83742529 15	Marathon Oil Permian 5555 San Felipe Street Houston TX 77056	Delivered Signature Received	No	
9214 8901 9403 83742529 08	COG Operating LLC 600 W Illinois Midland TX 79701	Delivered Signature Received	No	
9214 8901 9403 83742528 92	State of New Mexico 310 Old Santa Fe Trail Santa Fe NM 87501	Delivered Signature Received	No	



50

Items per page

CARLSBAD
CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

Ad No.
0001266249

DAVID WASHINGTON
110 NORTH GUADALUPE, SUITE 1 PO BOX 2208

SANTA FE NM 87504

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

10/25/18


Legal Clerk

Subscribed and sworn before me this
25th of October 2018.


State of WI, County of Brown
NOTARY PUBLIC


My Commission Expires

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES
PARTMENT
OIL CONSERVATION DIVISION
SANTA FE, NEW MEXICO

The State of New Mexico through its Oil Conservation Division hereby gives notice pursuant to law and the Rules and Regulations of the Division of the following public hearing to be held at 9:00 A.M. on **November 13, 2018**, in the Oil Conservation Division Hearing Room at 1220 South St. Francis, Santa Fe, New Mexico, before an examiner duly appoint for the hearing. If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing, please contact: Florene Davidson at 505-476-3458 or through the New Mexico Relay Network, 1-800-659-1779 by **November 2, 2018**. Public documents, including the agenda and minutes, can be provided in various accessible forms. Please contact Florene Davidson if a summary or other type of accessible form is needed.

STATE OF NEW MEXICO TO:
All named parties and persons
having any right, title, interest
or claim in the following case
and notice to the public.

(NOTE: All land descriptions herein refer to the New Mexico Principal Meridian whether or not so stated.)

To: All offset owners and pooled parties, including State of New Mexico; COG Operating, LLC; Marathon Oil Permian, LLC; Mewbourne Oil Co.; Featherstone Development Corp.; EOG Resources, Inc.; Chevron Midcontinent; Devon Energy Production Company; ConocoPhillips Company; Caza Petroleum, Inc.

Case No. 16258: Amended: Application of Delaware Energy, LLC for Authorization to Inject Salt Water for Purposes of Disposal Through Its Proposed Bear Trap SWD #1 Well, Eddy County, New Mexico. Applicant in the above-styled cause seeks an order authorizing injection of produced water for disposal purposes through its proposed **Bear Trap SWD #1**, with a surface location 326 feet from the South line and 2564 feet from the East line Unit O of Section 34, Township 23 South, Range 27 East, NMPM, Eddy County, New Mexico. The maximum proposed daily injection rate will be approximately 25,000 barrels per day. The proposed injection will occur within the Devonian formation at a depth of approximately 13,280 feet to 14,280 feet deep. The maximum injection pressure will be 2,656 psi. The location of the proposed injection is approximately 6 miles northwest of Malaga, New Mexico. Pub: October 25, 2018 #1266249



September 17, 2018

Susan Lorraine Smith Patterson Trust
P.O. Box 311836
New Braunfels, TX 78131

Re: Staking Notification
Section 34, Township 23 South, Range 27 East
Eddy County, New Mexico

To Whom it May Concern,

Delaware Energy LLC will be staking a well on New Mexico State Trust Lands where you are a grazing lessee. The staking will occur the week of September 24, 2018. No dirt work of any kind will be conducted at that time.

- Bear Trap SWD #1
South West Quarter (SW/4) of the South East Quarter (SE/4)
Sec. 34-T23S-R27E
Eddy Co., NM

Also enclosed for your records, is the permission to stake these wells granted by the New Mexico State Land Office on September 10, 2018.

Please do not hesitate to contact me with any questions or concerns regarding this matter. Thank you.

Sincerely,



Sarah Presley
Operations Manager
s.presley@delawareenergy.com
432-269-3789



Aubrey Dunn
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE

Phone (505) 827-5760
Fax (505) 827-5766
www.nmstatelands.org

September 10, 2018

Delaware Energy LLC
405 N. Marienfeld, Suite 260
Midland, Texas 79701

Attn: Ms. Sarah Presley

Re: Notice of Intent to Conduct Land Survey

Dear Ms. Presley:

We are in receipt of your written request for permission to enter state trust lands to complete a cadastral survey for a potential right of way.

It has been determined that the area you have applied for contains state trust land; therefore, you are hereby granted permission to enter said trust lands only for the purpose of conducting a cadastral survey. Entry onto State Trust Lands for any other purposes including but not limited to Archeological or Biological assessments (surveys) require separate permissions. If the survey is not completed within 6 months of the date of this letter, another request for permission to conduct a land survey must be submitted to our office.

The New Mexico State Land Office requires you to notify any surface lessees prior to entering the subject portion of state trust land.

THE GRANTING OF THIS AUTHORIZATION DOES NOT ALLOW ACCESS ON PRIVATE LAND. PERMISSION TO CONDUCT A CADASTRAL SURVEY HAS BEEN GRANTED ONLY FOR STATE TRUST LAND IN THE FOLLOWING LEGAL DESCRIPTION(S):

Section 16, Township 25 South, Range 27 East, SE ¼ NE ¼
Section 34, Township 23 South, Range 27 East, SW ¼ SE ¼
Section 16, Township 24 South, Range 27 East, NW ¼ SW ¼

If you have any questions, or if we may be of further assistance, please do not hesitate to contact Ms. Anthony Vigil of my staff at (505) 827-5710.

Sincerely,

Clyde A. Ward
Assistant Commissioner
Commercial Resources Division

CAW/av