

Initial Application Part I

This application is placed in file for record. It MAY or MAY NOT have been reviewed to be determined Administratively Complete

RECEIVED: 04/09/2019	REVIEWER:	TYPE:	APP NO: DMA 19100 37234
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

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



ADMINISTRATIVE APPLICATION CHECKLIST

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

Applicant: Delaware Energy, LLC

OGRID Number: 371195

Well Name: Zoom SWD #1

API: Pending

Pool: SWD: Devonian

Pool Code: 96101

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

APR 09 2019 AM 11:48

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☐ PPR2) **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.

Sarah Presley

4/3/2019

Date

Print or Type Name

432-685-7005

Phone Number

Signature

s.presley@delawareenergy.com

e-mail Address

Delaware Energy, L.L.C.
405 N. Marienfeld, Suite 200
Midland, TX 79701
Office: (432) 685-7005

APR 09 2019 AM 11:48

April 3, 2019

Surface Owner / Offset Operators

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

Ladies and Gentlemen:

Delaware Energy, LLC is seeking administrative approval to utilize the proposed Zoom 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>	Zoom SWD #1
<u>Proposed Disposal Zone:</u>	Devonian Formation (from 8,537' - 9,537')
<u>Location:</u>	230' FSL & 2,280' FEL, UL O, Sec. 32, T23S, R37E, Lea Co., NM
<u>Applicants Name:</u>	Delaware Energy, L.L.C.
<u>Applicants Address:</u>	405 N. Marienfeld, Suite 200, 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 Sarah Presley with Delaware Energy, LLC if you have any questions at 432-685-7005.

Sincerely,



Sarah Presley

Application for Injection/SWD

Zoom SWD #1

UL O, Sec. 32, T-23-S, R-37-E, 230' FSL & 2,280' FEL, Lea Co., NM

April 3, 2019

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 Devonian Formation Water Sample
6. Chemical Analysis of Bone Spring Formation Water Sample
7. Chemical Analysis of Delaware Formation Water Sample
8. Planned wellbore diagram for the Zoom 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. Formation Tops
13. Certified Mailers
14. Seismicity Assessment
15. Carlsbad Current-ARGUS Affidavit of publication

DISTRIBUTION LIST

Surface Owner:

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

Offset Operators/Leasehold Owners:

Chevron USA, Inc
6001 Bollinger Canyon Rd
San Ramon, Ca

Oxy USA WTP Limited Partnership
PO BOX 4294
Houston, TX 77210

Prize Operating Co
20 E 5TH St, Suite 1400
Tulsa, OK 74103

Shell Western E&P, Inc
500 Bankhead Ave
Odessa, TX 79763

Special Energy Corp
4815 S Perkins Rd
Stillwater, OK 74074

Oxy USA, Inc
PO BOX 50250
Midland, TX 79710

Enervest Operating, LLC
1001 Fannin St. Suite 800
Houston, TX 77002

Chevron USA, Inc
6301 Deauville
Midland, TX 79706-2964

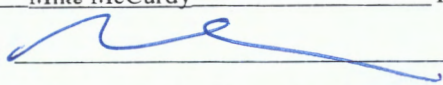
Chevron USA Holdings, Inc
11111 S Wilcrest
Houston, TX 77099

XTO Energy, Inc
22777 Springwoods Village Pkwy.
Spring, TX 77389

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

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: 4/3/2019
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: Zoom SWD # 1WELL LOCATION: 230' FSL & 2,280' FEL O 32 SECTION 23S TOWNSHIP 37E RANGEWELLBORE SCHEMATIC see attached wellbore sketchWELL CONSTRUCTION DATA
Surface Casing

Hole Size: 17-1/2" 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

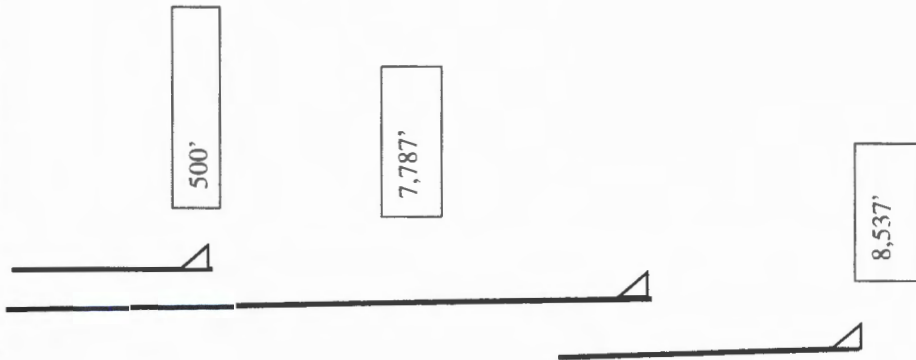
Cemented with: 650 sx. or ft³

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

Total Depth: 8,537'Injection Interval

8,537' feet to 9,537'

(OPEN HOLE)



INJECTION WELL DATA SHEETTubing Size: 5.5" BTC x 5.5" Flush Joint Lining Material: Fiber GlassType of Packer: Weatherford Arrow Set IXPacker Setting Depth: 8,487'Other Type of Tubing/Casing Seal (if applicable): noneAdditional Data

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

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

Below: none

Next Higher: Delaware 3,528' - 7,468'; Bone Springs 7,468' - 10,208'; Wolfcamp 10,208' - 13,453'; Strawn 13,435' - 13,728';
 Atoka 13,728' - 14,318'; Morrow 14,318' - 15,508'

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 1,707 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.).

See attached Lea County Devonian water samples

***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 8,537'-9,537'. Devonian is an impermeable organic Shale at the very top 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 +/- 110', the water source is older alluvium (Quaternary). All the fresh water wells in the area have an average depth to water of 110ft 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.

Attached is a water sample taken from 32.25931, -103.17072

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 Zoom 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

4/3/2019

Title

Date

III. WELL DATA

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

Zoom SWD #1, Sec. 32-T23S-R37E, 230' FSL & 2,280' FEL, UL O, Lea 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"	7,787'	2500	12-1/4"	Surface	CIRC
7-5/8"	7,587'-8,537'	650	8-1/2"	Liner Top	CIRC & CBL

(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.

8,537' to 9,537' (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 3,528' – 7,468'; Bone Springs 7,468' – 10,208'; Wolfcamp 10,208' – 13,453';

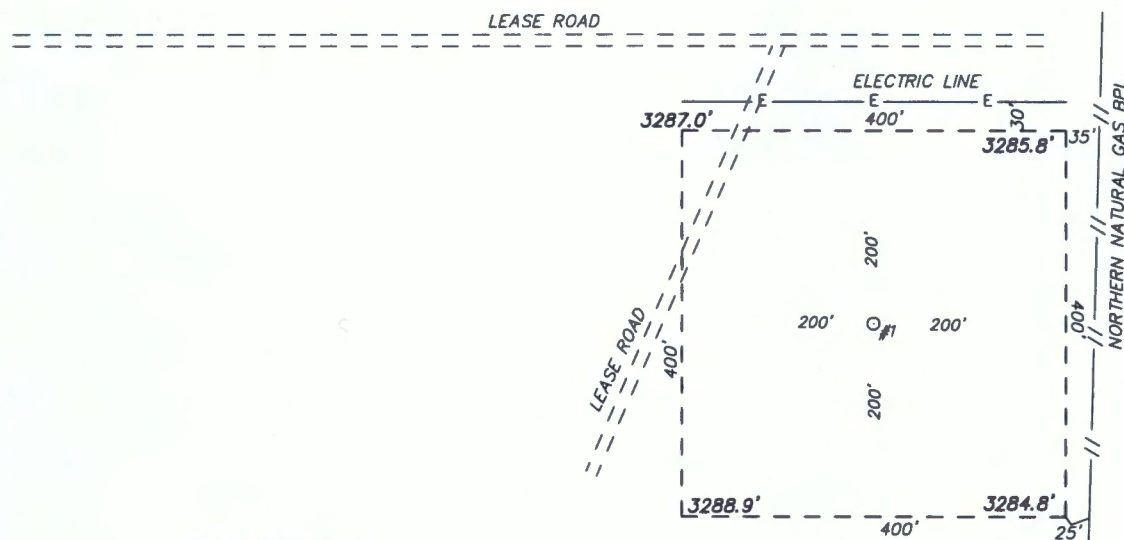
Strawn 13,435' – 13,728'; Atoka 13,728' – 14,318'; Morrow 14,318' – 15,508'

Next Lower: None

SURFACE LOCATION Lat - N 32.254329° Long - W 103.183769° NMSPCE- N 458161.0 E 896711.7 (NAD-83) N: 460589.8 E: 898961.7 (NAD83) N: 457928.2 E: 896364.8 (NAD83)	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature 4.3.19 Date Sarah Presley Printed Name s.presley@delawareenergy.com Email Address SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. NOVEMBER 2018 Date Surveyed Signature & Seal of Professional Surveyor Gary Lopes 7977 Certificate No. 0' 1000' 2000' 3000' 4000' SCALE: 1" = 2000' WO Num.: 34170
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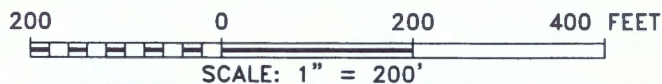
**SECTION 32, TOWNSHIP 23 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.**

N



ZOOM SWD #1
ELEV. - 3287'
Lat - N 32.254329°
Long - W 103.183769°
NMSPCE- N 458161.0
E 896711.7
(NAD-83)

JAL, NM IS ±10 MILES TO THE SOUTH OF LOCATION.

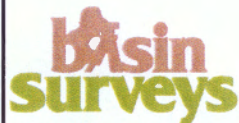


DELAWARE ENERGY

REF: ZOOM SWD #1 / WELL PAD TOPO

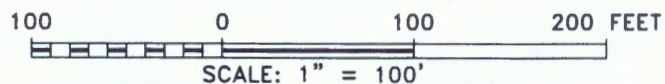
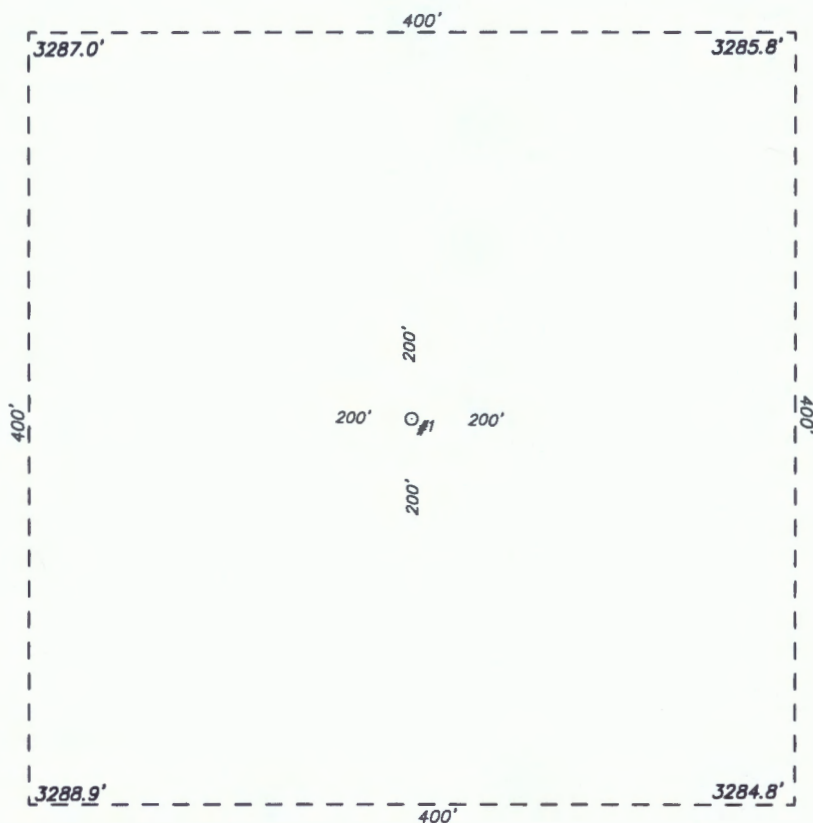
THE ZOOM SWD #1 LOCATED 230' FROM
THE SOUTH LINE AND 2280' FROM THE EAST LINE OF
SECTION 32, TOWNSHIP 23 SOUTH, RANGE 37 EAST.

N.M.P.M., LEA COUNTY, NEW MEXICO.



focused on excellence in the oilfield
P.O. Box 1788
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2208 - Fax
basinsurveys.com

**SECTION 32, TOWNSHIP 23 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.**



DELAWARE ENERGY

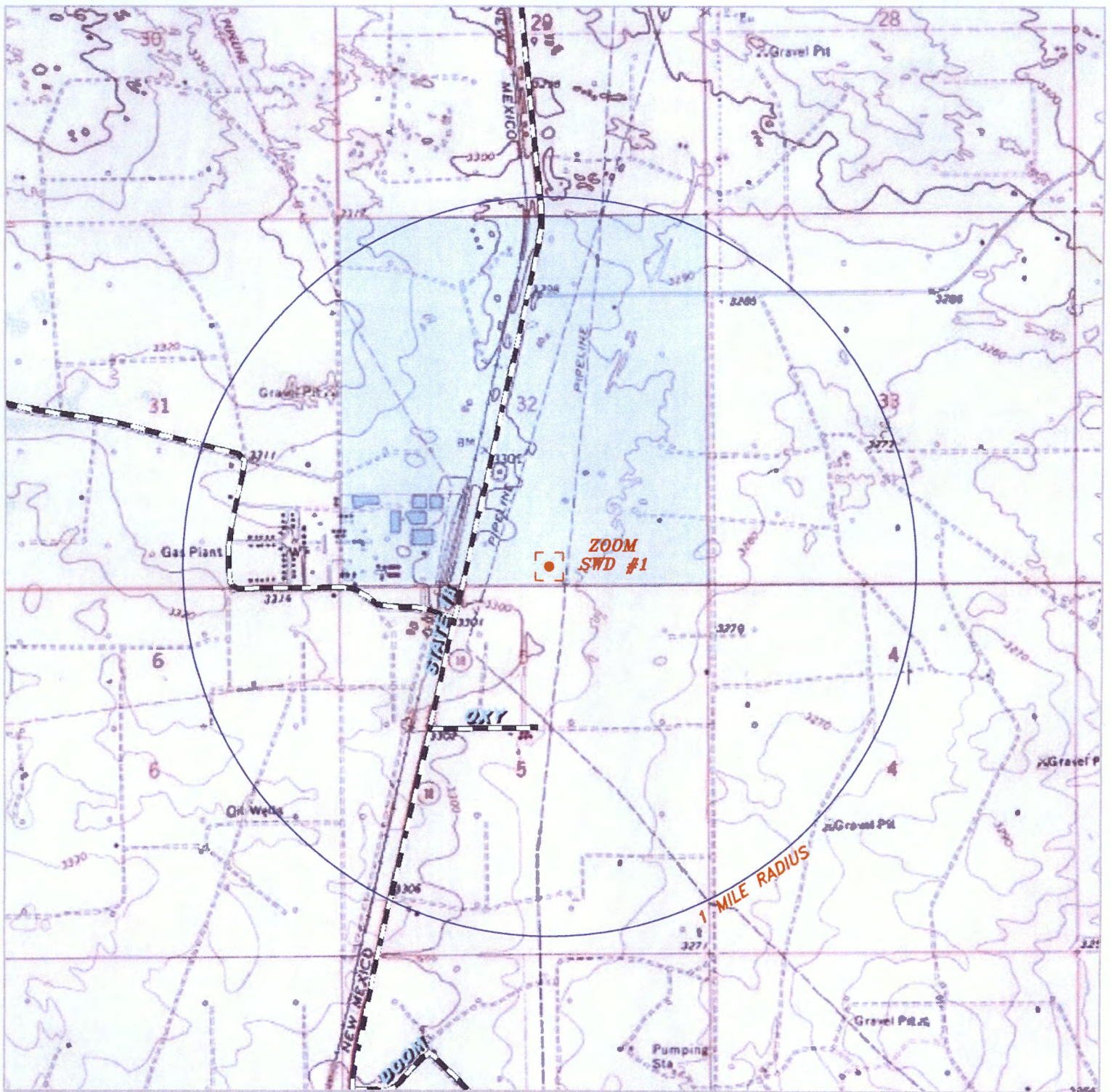
REF: ZOOM SWD #1 / WELL PAD TOPO

THE ZOOM SWD #1 LOCATED 230' FROM
THE SOUTH LINE AND 2280' FROM THE EAST LINE OF
SECTION 32, TOWNSHIP 23 SOUTH, RANGE 37 EAST.

N.M.P.M., LEA COUNTY, NEW MEXICO.

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Hobbs, New Mexico 88241
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(575) 392-2206 - Fax
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ZOOM SWD #1

Located 230' FSL and 2280' FEL
 Section 32, Township 23 South, Range 37 East,
 N.M.P.M., Lea County, New Mexico.

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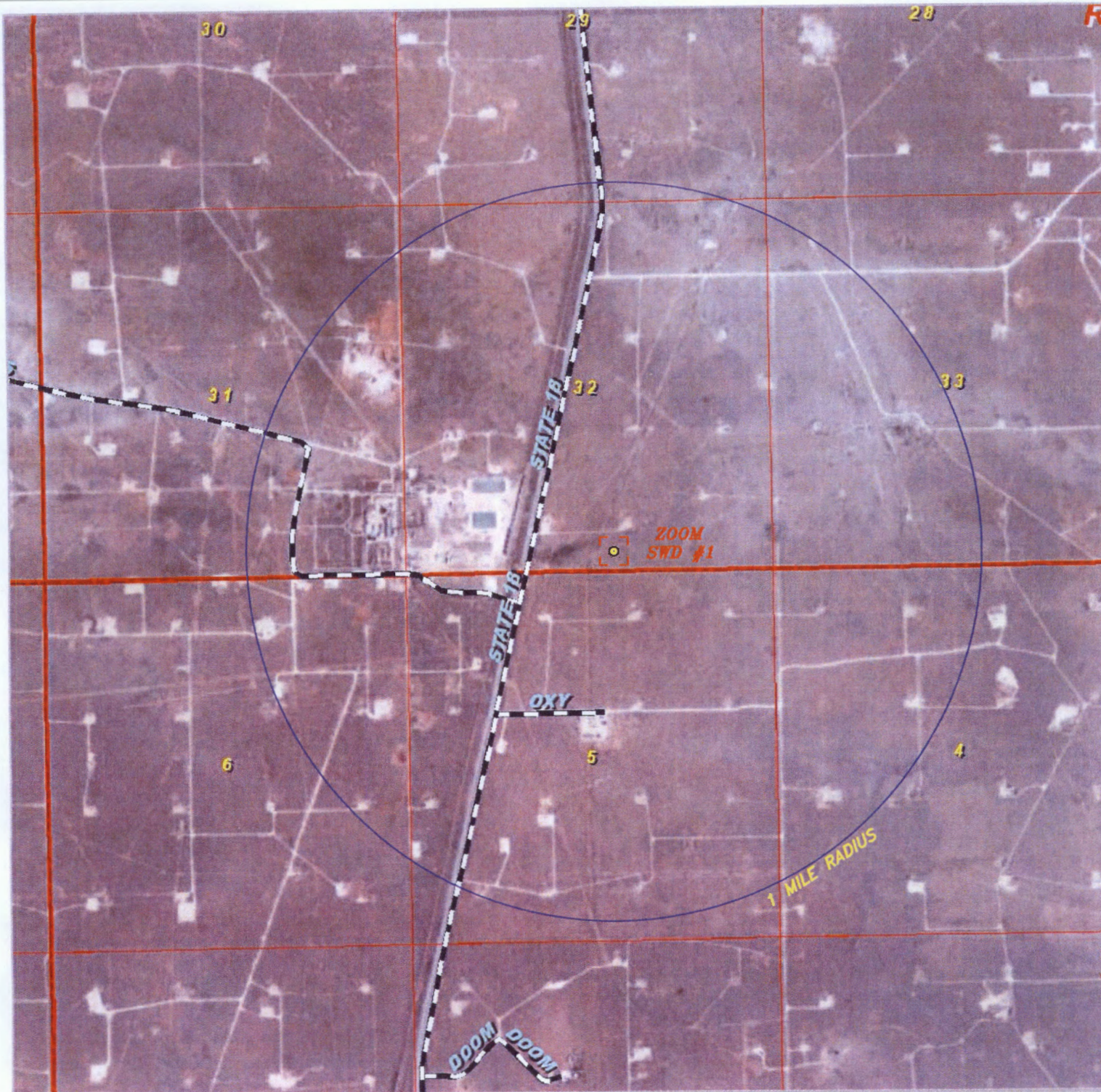
0' 1000' 2000' 3000' 4000'
 SCALE: 1" = 2000'

W.O. Number: JG 34170
 Survey Date: 11-2-2018

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



DELAWARE
ENERGY



ZOOM SWD #1

Located 230' FSL and 2280' FEL
 Section 32, Township 23 South, Range 37 East,
 N.M.P.M., Lea County, New Mexico.

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 Hobbs, New Mexico 88241
 (575) 393-7316 - Office
 (575) 392-2206 - Fax
 basin-surveys.com

0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

W.O. Number: JG 34170

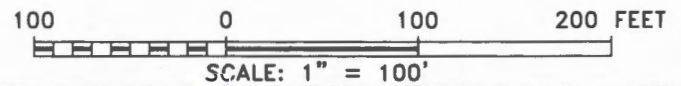
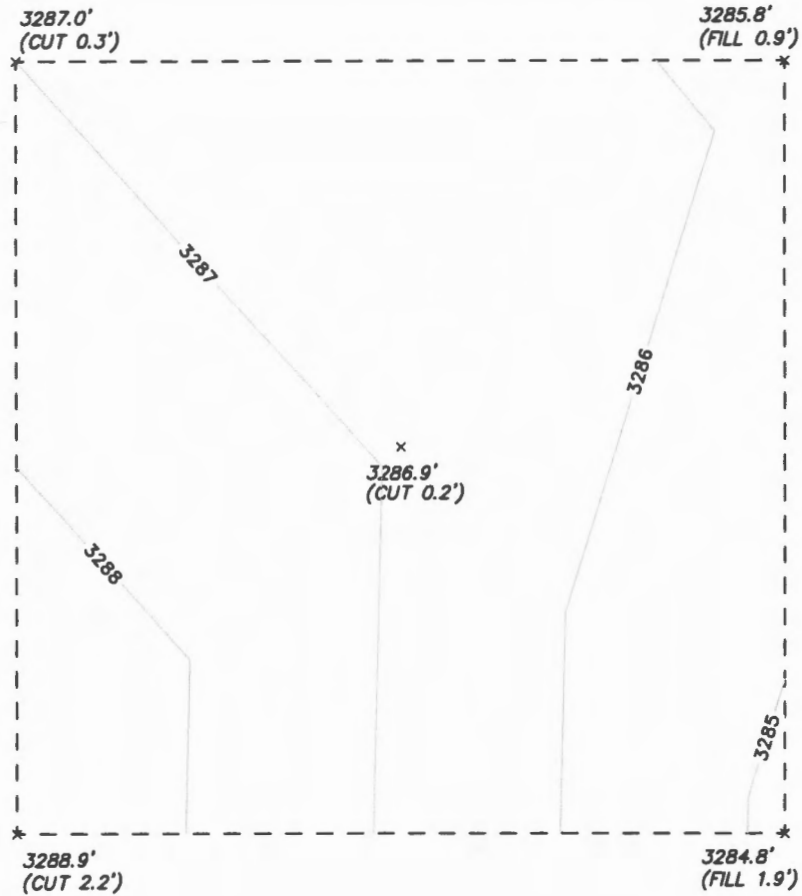
Survey Date: 11-2-2018

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



DELAWARE
ENERGY

**SECTION 32, TOWNSHIP 23 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.**



DELAWARE ENERGY

REF: ZOOM SWD #1 / CUT & FILL

THE ZOOM SWD #1 LOCATED 230' FROM
THE SOUTH LINE AND 2280' FROM THE EAST LINE OF
SECTION 32, TOWNSHIP 23 SOUTH, RANGE 37 EAST.

N.M.P.M., LEA COUNTY, NEW MEXICO.



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

Water Analysis - Disposal Zone - DEVONIAN

NM WAIDS DATA				
S-T-R	FIELD	FORMATION	TDS	CHLRD
24-23S-29E	REMUDA	DEVONIAN	64582	37500
24-23S-29E	REMUDA	DEVONIAN	56922	29000
06-23S-34E	BELL LAKE NORTH	DEVONIAN	71078	42200
34-23S-34E	ANTELOPE RIDGE	DEVONIAN	80187	47900

Water Analysis - Source Zone - BONE SPRING

BioTech
Requested by: I. Ratliff

Laboratory Analysis
Endurance
Jazzmaster 17 State #4H

Sample Date: 1/31/2016
Lea Co. NM

		Water Analysis Measurements		Cations (+)		Anions (-)	
Oxygen (mg/L)	1.00	On in Water (ppm)	ND	Sodium (Na)	0	Carbonate (CO ₃)	0
Carbon Dioxide (mg/L)	800.16	Specific Gravity	1.150	Calcium (Ca)	16.440	Bicarbonate (HCO ₃)	14.60
Hydrogen Sulfide (mg/L)	0.8	Total Dissolved Solids (TDS)	180.460	Magnesium (Mg)	3.80	Chloride (mg/L)	118.520
pH	5.7	(mg/L) Ca	18.000	Sulfate (SO ₄)	34.770	Sulfate (SO ₄)	310
Temperature °F	73	Total Hardness (mg/L)	18.000	Iron (Fe)	100		
				Manganese (Mn)	0.07		

Water Analysis - Source Zone - DELAWARE

PO BOX 148
MORGANTHAU, TEXAS 75770
Tel: 817-524-5000 Fax: 817-524-5001

Martin Water Laboratories, Inc.

PO BOX 148
MORGANTHAU, TEXAS 75770
Tel: 817-524-5000 Fax: 817-524-5001

RESULT OF WATER ANALYSES

TO: Mr. Joe Coall LABORATORY NO: 89293
P.O. Box 31810, Midland, TX 79710 SAMPLE RECEIVED: 9-16-97
 RESULTS REPORTED: 9-18-97

COMPANY: Meridian Oil Company LEASE: Bigger, Lake #1
 FIELD OR POOL: Midland
 SECTION: BLOCK SURVEY: County TOWN: STATE NM
 SOURCE OF SAMPLE AND DATE TAKEN:
 NO 1: Recharged water - taken from Bigger Lake #1. 9-9-97
 NO 2: _____
 NO 3: _____
 NO 4: _____

REMARKS: Delaware

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Apparent Gravity at 60°F	1.1562			
Net wt. in Sample				
Net wt. in Sample	6.26			
Net wt. in Sample	1.16			
Net wt. in Sample				
Net wt. in Sample	50.500			
Net wt. in Sample	18.000			
Net wt. in Sample	1.335			
Net wt. in Sample	68.881			
Net wt. in Sample	24.7			
Net wt. in Sample	140.618			
Net wt. in Sample	90.0			
Net wt. in Sample				
Net wt. in Sample				
Net wt. in Sample	229.531			
Net wt. in Sample				
Net wt. in Sample				
Net wt. in Sample				
Net wt. in Sample	0.0			
Net wt. in Sample	0.033			
Net wt. in Sample				
Net wt. in Sample				
Net wt. in Sample				
Net wt. in Sample				
Net wt. in Sample	184.361			



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

Water Analysis

Code 213700	
Client Information	Sample Information
Delaware Energy County:	Lease/Well: Zoom/SWD #1
Rep: Derrick Boutwell	Sample Point: Date Sampled: 02/28/2019 Date Reported: 02/28/2019

Results

Cations

Ion	Concentration(mg/L)
Barium (as Ba)	0
Calcium (as Ca)	106
Iron (as Fe)	0
Sodium (as Na)	67
Magnesium (as Mg)	7

Other Measurements

Measurement	Value
pH	8.28
SG	1.000
Turbidity	3
CO ₂	
Total Dissolved Solids	600.000

Anions

Ion	Concentration(mg/L)
Chlorides (as Cl)	100
Sulfate (as SO ₄)	100
Carbonate (as CO ₃)	0
Bicarbonates (as HCO ₃)	220
Sulfide (as S ²⁻)	0

Scaling Indices

Temp(F)	CaCO ₃	CaSO ₄ *2H ₂ O	CaSO ₄	BaSO ₄
80	1.2565	0.0000	0.0000	-27.5637
120	1.5615	0.0000	0.0000	-27.7695
160	1.8907	0.0000	0.0000	-27.8763
200	2.1893	0.0000	0.0000	-27.9193
250	2.4695	0.0000	0.0000	-27.9306

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

Comments

N 32.25931
W 103.17072

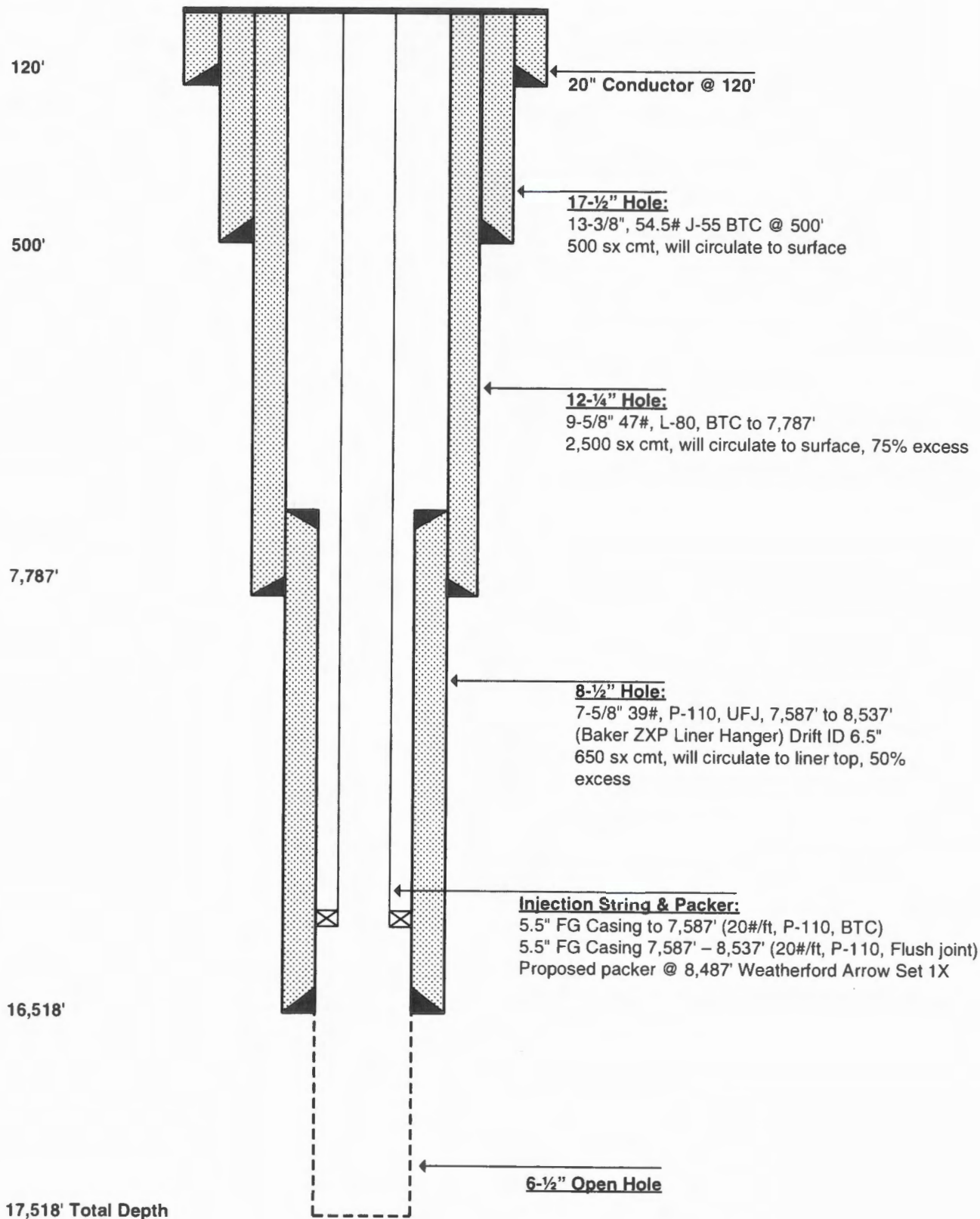
Zoom SWD # 1

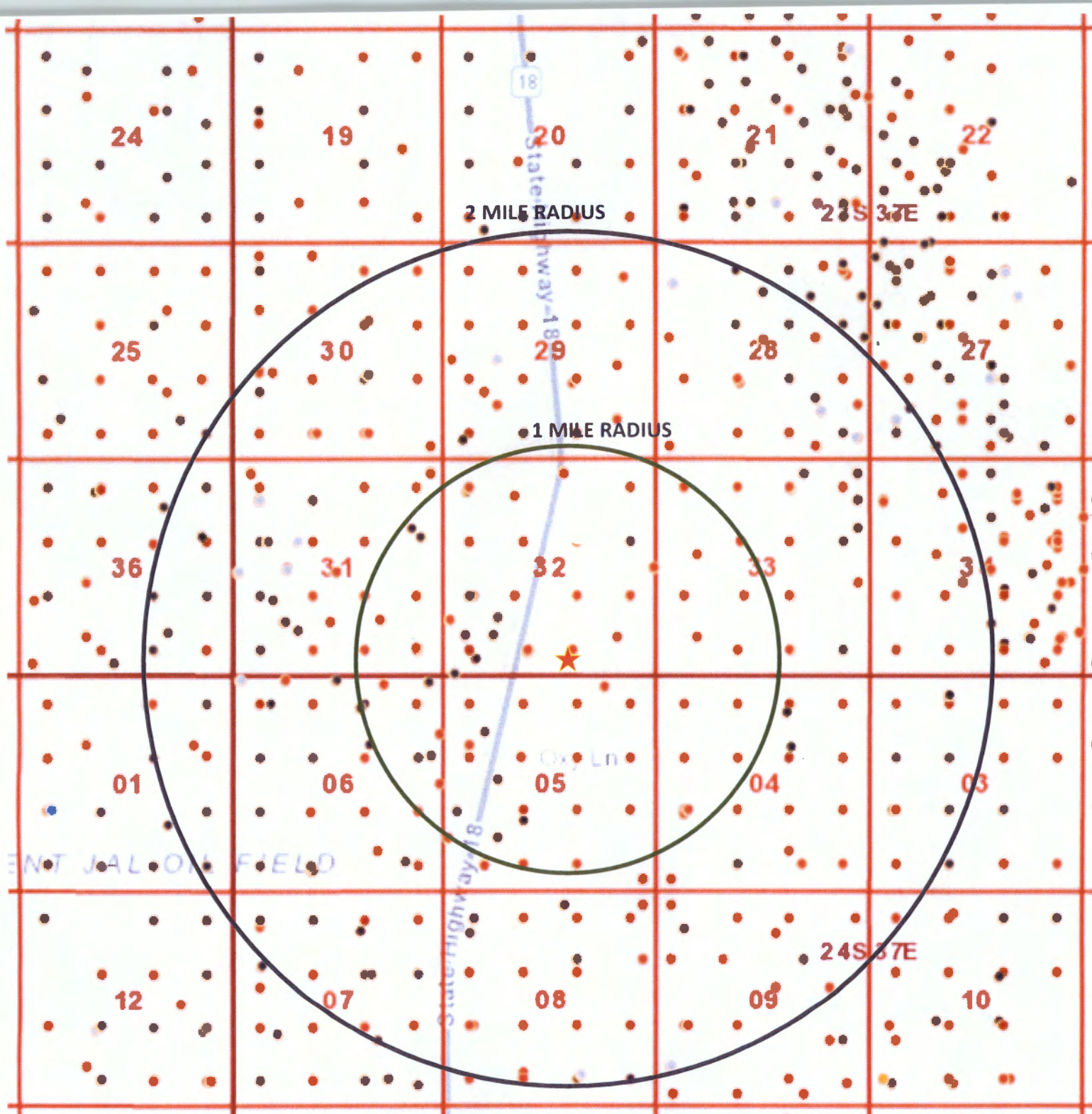
API # PENDING
230' FSL & 2,280' FEL, Sec. 32, T23S, R37E, UL "O"
LEA COUNTY, NEW MEXICO

ELEVATION:

GL: 3,287'

PROPOSED WELLBORE





WELLS – ONE MILE RADIUS

NO WELLS PENETRATE THE DEVONIAN FORMATION IN THE AOR

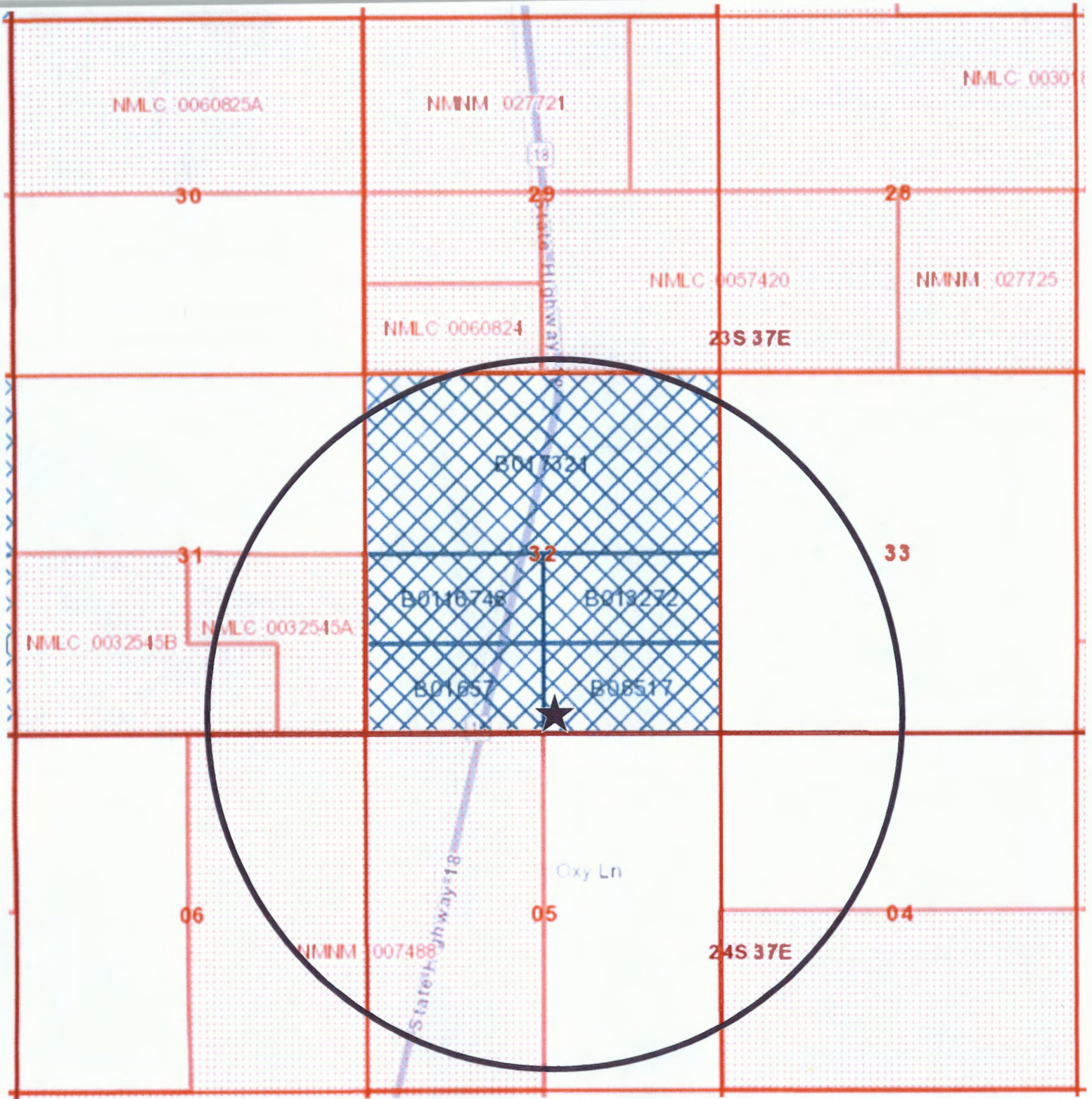
SECTION 32-T23S-R37E



Zoom SWD #1

(Proposed Location)

Delaware Energy, LLC



★ Zoom SWD #1
 Sec. 32-T23S-R37E
 Lea Co. NM

Zoom SWD #1

LEASES – ONE MILE RADIUS

Section 32, T23S-R37E

State Leases (BO13272, BO17321, BO10657)

- **Chevron USA, Inc (Lessee)**
6001 Bollinger Canyon Rd
San Ramon, Ca

State Leases (BO8517)

- **Prize Operating Co (Lessee)**
20 E 5TH St, Suite 1400
Tulsa, OK 74103

State Lease
Operator

- **Oxy USA WTP Limited Partnership**
PO BOX 4294
Houston, Tx 77210

State Lease (BO116748)

- **Shell Western E&P, Inc (Lessee)**
500 Bankhead Ave
Odessa, TX 79763

Section 4, T24S-R37E

Federal Lease (NMNM 007488)

- **Oxy USA, Inc (Op Rights)**
PO BOX 50250
Midland, TX 79710

Section 5, T24S-R37E

Federal Lease (Operator)

- **Oxy USA WTP Limited Partnership**
PO BOX 4294
Houston, TX 77210

Federal Lease (Operator)

- **Special Energy Corp**
4815 S Perkins Rd
Stillwater, OK 74074
- **Oxy USA, Inc (Op Rights)**
PO BOX 50250
Midland, TX 79710

Section 6, T24S-R37E

Federal Lease (Operator)

- **Oxy USA WTP Limited Partnership**
PO BOX 4294
Houston, TX 77210

Federal Lease (Operator)

- **Enervest Operating, LLC**
1001 Fannin St. Suite 800
Houston, TX 77002
- **Oxy USA, Inc (Op Rights)**
PO BOX 50250
Midland, TX 79710

Section 29, T23S-R37E

Federal Lease

Operator

- **Oxy USA WTP Limited Partnership**
PO BOX 4294
Houston, Tx 77210
- **Oxy USA, Inc (Op Rights)**
PO BOX 50250
Midland, TX 79710
- **Chevron USA, Inc (Lessee)**
6301 Deauville
Midland, TX 79706-2964

Section 31, T23S-R37E

Operator (Fee)

- **Oxy USA WTP Limited Partnership**
PO BOX 4294
Houston, TX 77210

Federal Lease (NMLC 0032545B)

- **Chevron USA Holdings, Inc (Lessee)**
11111 S Wilcrest
Houston, TX 77099

- **Oxy USA, Inc (Op Rights)**
PO BOX 50250
Midland, TX 79710

- **XTO Energy, Inc (Op Rights)**
22777 Springwoods Village Pkwy.
Spring, TX 77389-1425

Federal Lease (NMLC 0032545A)

- **Chevron USA Holdings, Inc (Lessee)**
11111 S Wilcrest
Houston, TX 77099

Section 33, T23S-R37E

Zoom SWD #1

Location: 230' FSL & 2,280' FEL

Sec. 32, T-23-S, R-37-E

Estimated Pre-Drill Formation Tops

Top of Salt	1,287'
Base Salt	2,487'
Tansill	2,587'
Yates	2,662'
Yeso	5,037'
Bone Spring/Abo	6,537'
Wolfcamp	7,787'
Devonian	8,537'

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

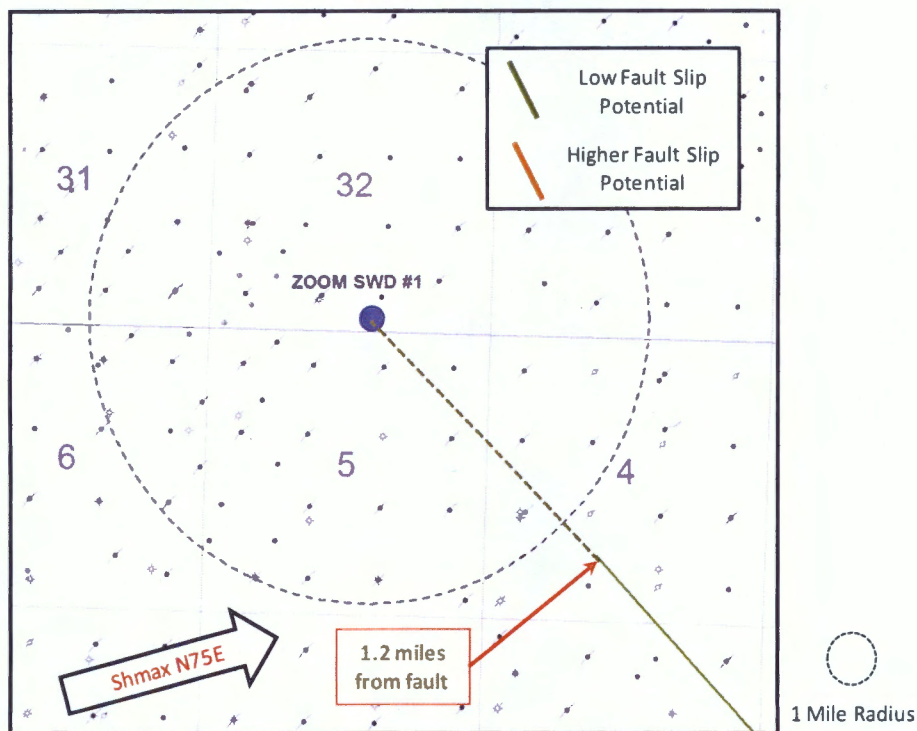
Historically, the area near the proposed Zoom SWD #1 has seen only minor seismic activity. There have been two seismic events (as per public data available on the USGS database) in the area. All events are over 6.0 miles from the proposed SWD location. The most recent event was 15.3 miles southeast on May 3, 2017 and measured 2.6, the closest was 6.2 miles to the NNE and measured 3.3 on June 2, 2001

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 fault would be approximately 1.2 miles SE 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 SE of the location (green) should have a very low probability of being critically stressed resulting in an induced seismicity event. This is due to the relationship of the strike of the fault and the regional S_{hmax} orientation (approx. N 75 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 (1.2 miles). There has been no nearby seismicity associated or documented with this fault found in the public domain.

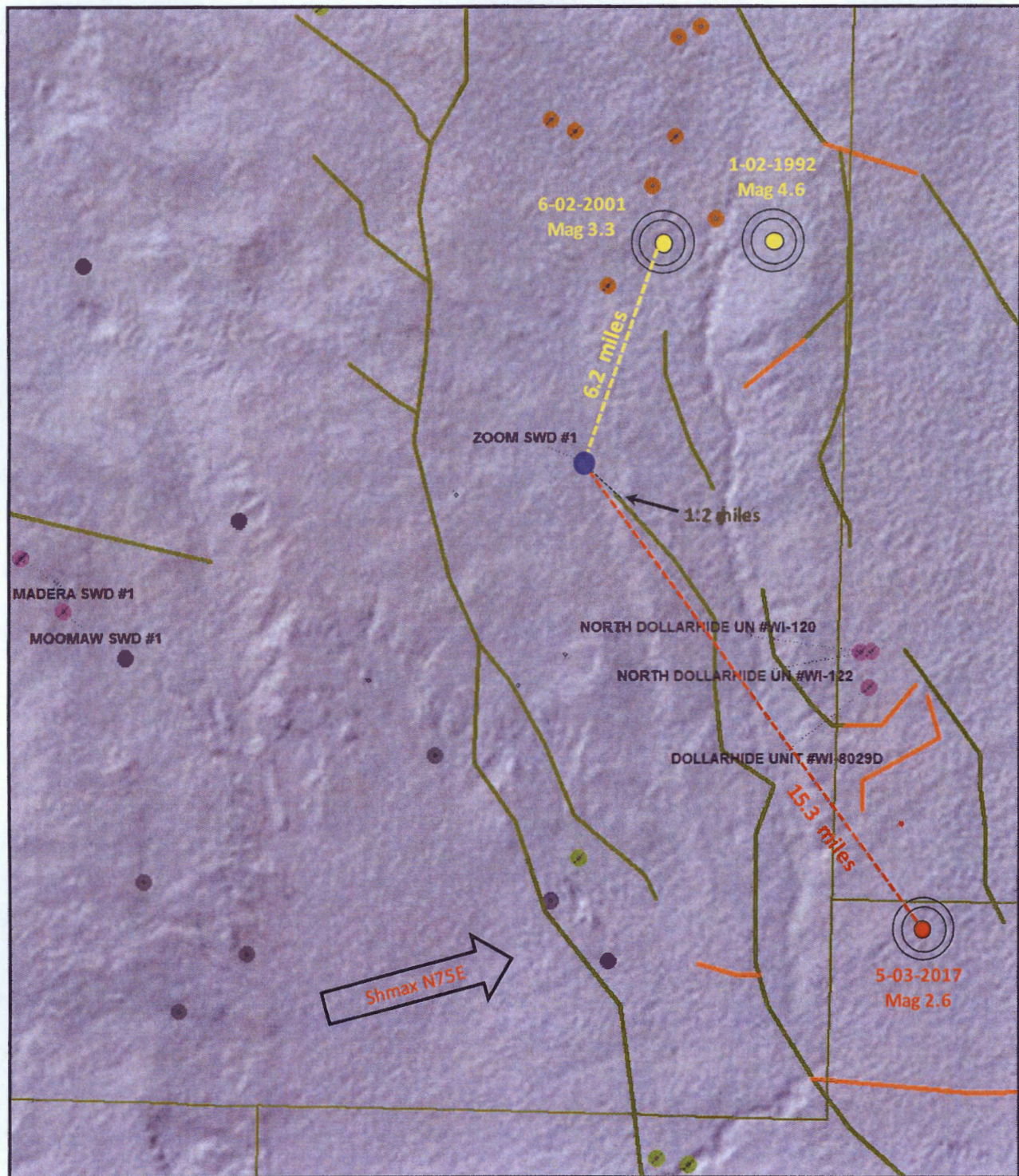
The proposed Zoom SWD #1 is located well away from the nearest active Devonian SWD or other SWD wells (see map below). The well should meet current OCD and Industry recommended practices.

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

Well Activity and Closest SWD



Proximity to Historic Earthquake Activity and Faults



Modeled After Snee and Zoback (February 2018)



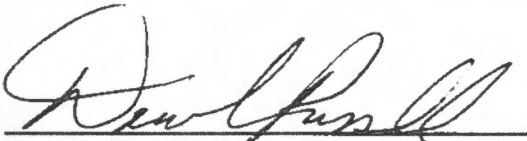
Data and Interpretation Disclosure - Although care has been taken to ensure that these data are up to date and accurate, this information and data is being providing as is. The data are what is believed to be the best public data available based on published documents, reports, and information available 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.

Affidavit of Publication

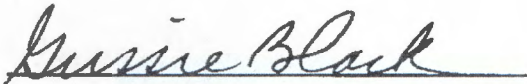
STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

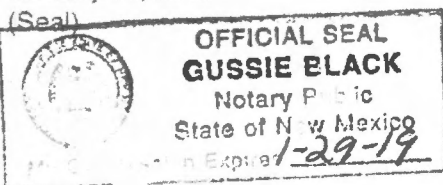
Beginning with the issue dated
January 18, 2019
and ending with the issue dated
January 18, 2019.


Publisher

Sworn and subscribed to before me this
18th day of January 2019.


Business Manager

My commission expires
January 29, 2019



This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL NOTICE JANUARY 18, 2019

Delaware Energy, L.L.C., 405 N. Marienfeld St. Suite 200, 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 Zoom SWD #1 as a Commercial Salt Water Disposal well.

The Zoom SWD #1 is located at 230' FSL and 2,280' FEL, Unit Letter O Section 32, Township 23 South, Range 37 East, Lea County, New Mexico. The well will dispose of water produced from oil and gas wells into the Devonian Formation from 8,537' to 9,537' at a maximum rate of 25,000 barrels of water per day at a maximum pressure of 1,707 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. #33638

67114908

00223462

MIKE MCCURDY
DELAWARE ENERGY
405 N. MARIENFELD, STE 250
MIDLAND, TX 79701

7018 0680 0000 0582 5425

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☐ Adult Signature Restricted Delivery	\$0.00	
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Postage	\$1.75	
Total Postage and Fees	\$8.05	
Sent To Chevron USA, Inc. Street and Apt. No., or PO Box No. 6001 Bolinger Canyon Rd. City, State, ZIP+4® San Ramon, Ca 94583		
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☐ Adult Signature Required	\$0.00	
☐ Adult Signature Restricted Delivery	\$0.00	
Postage	\$1.75	
Total Postage and Fees	\$8.05	
Sent To Price Operating Co. Street and Apt. No., or PO Box No. 20 E. 5th Street, Ste 1400 City, State, ZIP+4® Tulsa, OK 74103		
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☐ Adult Signature Restricted Delivery	\$0.00	
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Total Postage and Fees	\$8.05	
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Postage \$1.75

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 City, State, ZIP+4®
Midland, Tx 79706

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Postage \$1.75

Total Postage and Fees \$8.05

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1001 Fannin St. Ste 800
 City, State, ZIP+4®
Houston, Tx 77002

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Postage \$1.75

Total Postage and Fees \$8.05

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 City, State, ZIP+4®
Spring, Tx 77389

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Postage \$1.75

Total Postage and Fees \$8.05

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1111 S. Wilcrest
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Santa Fe, NM 87501

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☐ Adult Signature Restricted Delivery	\$0.00

Postage \$1.75

Total Postage and Fees \$8.05

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Artesia, NM 88210

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