

Initial Application Part I

Received: 03/25/2019

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

RECEIVED: 3/25/2019	REVIEWER:	TYPE: SWD	APP NO: PMAM19085 46116
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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: <u>Mewbourne Oil Company</u>	OGRID Number: <u>14744</u>
Well Name: <u>Pecos River 11 SWD #1</u>	API: <u>30-015-pending</u>
Pool: <u>SWD; DEVONIAN</u>	Pool Code: <u>96101</u>

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 holders
 B. Royalty, overriding royalty owners, revenue owners
 C. Application requires published notice
 D. Notification and/or concurrent approval by SLO
 E. Notification and/or concurrent approval by BLM
 F. Surface owner
 G. For all of the above, proof of notification or publication is attached, and/or,
 H. No notice required

FOR OCD ONLY	
<input type="checkbox"/>	Notice Complete
<input type="checkbox"/>	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.

Timothy R. Harrington

Print or Type Name

Timothy R. Harrington
 Signature

March 25, 2019
 Date

903-534-7647
 Phone Number

tharrington@mewbourne.com
 e-mail Address



March 25, 2019

New Mexico Oil Conservation Division
Engineering Bureau
Attn: Mr. Phillip Goetze
1220 South St. Francis Dr.
Santa Fe, NM 87505

Re: C-108 Application for SWD Well
Pecos River 11 SWD #1
1590' FSL & 2415' FEL, Unit J
Section 11, Township 22 South, Range 27 East
Eddy County, New Mexico

Dear Mr. Goetze:

Attached is a C-108 Application for administrative approval of Mewbourne Oil's proposed Pecos River 11 SWD #1 that will be located in Sec 11 Twp 22S, Rge 27E, N.M.P.M., Eddy County, New Mexico. This well will be completed open hole in the Devonian formation and will be operated as a private salt water disposal well.

Similar application exhibits were sent to offset operators and offsetting lessees, and confirmations of receipt will be e-mailed to you later this week. Please note that my company is the surface owner where the proposed well is located. The public notice of this application was published in the Carlsbad Current-Argus on March 6th and an Affidavit of Publication is enclosed.

Should you have any questions, please contact us at (903) 534-7647.

Sincerely yours,

MEWBOURNE OIL COMPANY

A handwritten signature in black ink, appearing to read 'Tim R. Harrington', is written over a light green rectangular background.

Tim Harrington
Reservoir Engineer
tharrington@mewbourne.com

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance Disposal _____ Storage
Application qualifies for administrative approval? Yes _____ No
- II. OPERATOR: **Mewbourne Oil Company**
ADDRESS: **3620 Old Bullard Road**
Tyler, TX 79701
CONTACT PARTY: **Tim Harrington** PHONE: **903-534-7647**
- 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 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: **Tim Harrington**

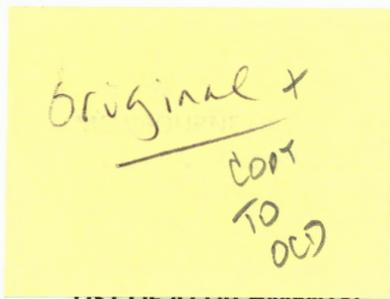
TITLE: **Reservoir Engineer**

SIGNATURE: _____

DATE: 3/25/2019

E-MAIL ADDRESS: **tharrington@mewbourne.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: _____



LIST OF ATTACHMENTS:

Administrative Checklist

Form C-108

Pecos River 11 SWD #1 well schematic

Pecos River 11 SWD #1 survey plat

Well Plat

Tabulation of wells within 1 mile radius (NOTE: no wells currently penetrate the Devonian)

Fresh Water well map

Tabulation of nearby fresh water wells – (Source: NM Office of the State Engineer)

Fresh Water Well Water Analysis

Producing Well Water Analysis – Wolfcamp, & Bone Spring

Surface Ownership Map – (Source Eddy County Appraisal District)

Offset Operator Map

Listing of Notified Persons

Affidavit of Publication – Carlsbad Current-Argus

Hydrologic Affirmation

Seismicity Statement

Historical Seismicity, Fault Map and Devonian SWD Offset Map

Distance to Offsetting Devonian SWD Wells

Geological Cross Section

Plugging Assessment

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: **Mewbourne Oil Company**WELL NAME & NUMBER: **Pecos River 11 SWD #1**

WELL LOCATION:	1590' FSL & 2415' FEL	J	11	22S	27E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC (See Attached)WELL CONSTRUCTION DATASurface Casing

Hole Size: 26"	Casing Size: 20" (94 & 106.5 #) @ 550'
Cement with: 1055 sx (100% excess)	Top of Cement: Surface

Intermediate Casing

Hole Size: 17 1/2"	Casing Size: 13 3/8" (61 & 68#) @ 2,100'
Stage 1: 1045 sx (25% excess)	Top of Cement: Surface (Calculated)

Production Casing

Hole Size: 12 1/4"	Casing Size: 9 5/8" (40 & 43.5#) @ 9,000'
Stage 1: 1450 sx	Top of Cement: Surface (Calculated)
Stage 2: 520 sx	DV Tool @2,150' Top of Cement: Surface (Calculated)

Production Liner

Hole Size: 8 1/2"	Casing Size: 7 5/8" (39#) Top @ 8,800' Bottom @ 12,850'
Cement with: 285 sx (25% excess)	Top of Cement: 8,800' (Proposed: circulated to liner top)

TD @ 13,850'Permitted Injection Interval 12,850'-13850'

INJECTION WELL DATA SHEET

Tubing Size: **7" x 5 1/2"** Lining Material: **Duoline**
7", P110 UFJ GB to approximately 8,700'
5 1/2", P110 UFJ GB to 12,770'

Type of Packer: **3 1/2" x 7 5/8" Model R Packer (Inconel)**

Packer Setting Depth: **+/- 12,770'**

Other Type of Tubing/Casing Seal (if applicable): **N/A**

Additional Data

1. Is this a new well drilled for injection? **Yes**

If no, for what purpose was the well originally drilled? **NA**

2. Name of the Injection Formation: **Devonian - Open Hole Completion**

3. Name of Field or Pool (if applicable): **96101 SWD, Devonian**

4. Has the well ever been perforated in any other zone(s)? **No.**

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

Overlying potentially productive zone tops – **Delaware (2,175'), Bone Spring (5,450'), Wolfcamp (8,950'), & Morrow (10,100')**

Underlying producing zone – **N/A**

PECOS RIVER 11 SWD #1
Additional Details

- VI.** There are no wells penetrating the disposal formation within the area of review.
- VII.**
1. Proposed average rate of 20,000 bwpd and maximum rate of 35,000 bwpd.
 2. Non-commercial SWD (closed system).
 3. Proposed average injection pressure is unknown and the maximum injection pressure is approximately 2,770 psi (0.2 psi/ft x 13,850 ft).
 4. This well is being permitted as a private SWD, therefore all the injected fluid will be formation water from Mewbourne Oil Company operated wells currently producing or planned in the area. Representative water samples from the Wolfcamp and Bone Spring formations are attached.
 5. We will be injecting into the Devonian formation. Devonian formation water is known to be compatible with the formation water of the Bone Spring and Wolfcamp. No Devonian water analysis are available within the immediate area. The following data is the closest produced water analysis that is available on the USGS

IDUSGS	IDORIG	IDDB	SOURCE	LATITUDE	LONGITUDE	API	COUNTY	FIELD	WELLNAME	TOWNRANGE	
35292	30000310	USGSBREIT	Pan American Petroleum Corporation	32.183	-103.7766	30015108590000	Eddy	Poker Lake South	Poker Lake Unit #36	S 24 E 31 28	
DATE SAMPLE	METHOD	FORMATION	DEPTH UPPER	DEPTH LOWER	SG	SPGRAV	RESIS	RESIST	PH	TDS USGS	TDS
1967-04-06	Separator	Devonian	16578	16660	1.085	1.086	0.067	77	6.6	120326	120326

- VIII.** 1. The proposed injection interval is within the Devonian formation which is a porous dolomitic limestone from 12,850' to 13,850'. It is estimated that the base of the injection interval should be approximately 650' above the top of the Ellenburger.

Other Projected Formation Tops:

Mississippian	12,375'
Woodford	12,800'
Devonian	12,850'
EST TOTAL DEPTH	13,850'
Montoya	13,900'
Simpson	14,200'
Ellenburger	14,500'

2. The underground fresh water aquifers (unnamed) are present at shallow depths (per revue of well records, within 2 miles of the proposed SWD, on the NM Office of the State Engineers website) with the deepest water being encountered at a depth of 195', the shallowest water at a depth of 18' and the average water depth at 60'. There are no known fresh water intervals underlying the injecting formation.

- IX.** The proposed stimulation is an open-hole acid treatment of 30,000 gallons of 15% HCL.

- IX.** A gamma-ray / neutron log will be run from TD to surface upon the drilling and completion of proposed well.
- X.** There were 46 wells on record with the NM State Engineers Office within 2 miles of the proposed SWD. Many of these wells could not be located or were inaccessible. A fresh water sample taken from a well located in Section 4, Twp 22S, Rge 27E, and the analysis is attached.
- XI.** Mewbourne Oil Company has examined geologic and engineering data and has found that there is no evidence of faulting between the proposed disposal zone and any underground sources of drinking water. A signed affidavit is attached.
- XII.** See attached Proof of Notice

Mewbourne Oil Company

Well Name: Pecos River 11 SWD #1
Spud: 2019

Last Updated by A. Taylor: 3/5/2019

20" 94 & 106.5# J-55 BTC
Set @ 550'
Cmt w/ 1055 sx

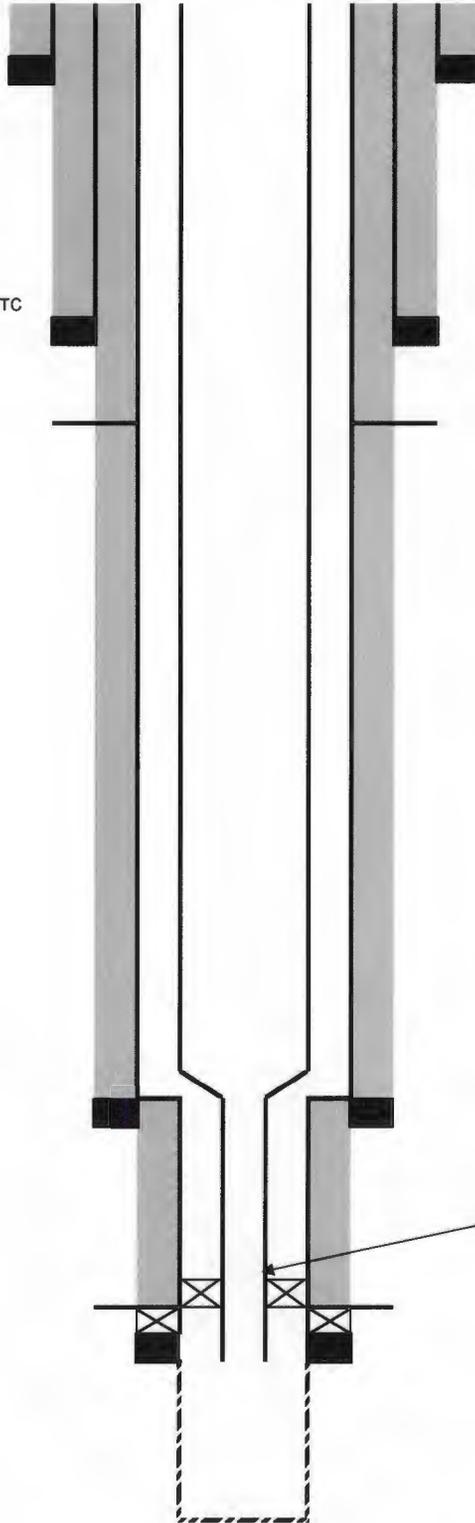
13 3/8" 54.5#, 61# & 68# J55 & HCL80 STC
Set @ 2100'
Cmt w/ 1045 sx

ECP/DV Tool @ 2150'
Cmt 2nd stg w/ 520 sx

9 5/8" 40# & 43.5 HCL80 LTC
Set @ 9000'
Cmt 1st stg w/ 1450 sx

7 5/8" 39# P-110 UFJ Liner
Set from 8800'-12,850'
Cmt w/ 285 sx

6 1/8" Open Hole
TD @ 13,850'



Injection String
7" P110 UFJ GB & 5 1/2" P110 UFJ GB
Nickel-Plated Pkr Set @ 12,770'

DV Tool @ 12,780'
External Csg Pkr Set @ 12,820'

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code		³ Pool Name	
⁴ Property Code		⁵ Property Name PECOS RIVER 11 SWD			⁶ Well Number 1
⁷ GRID NO.		⁸ Operator Name MEWBOURNE OIL COMPANY			⁹ Elevation 3084'

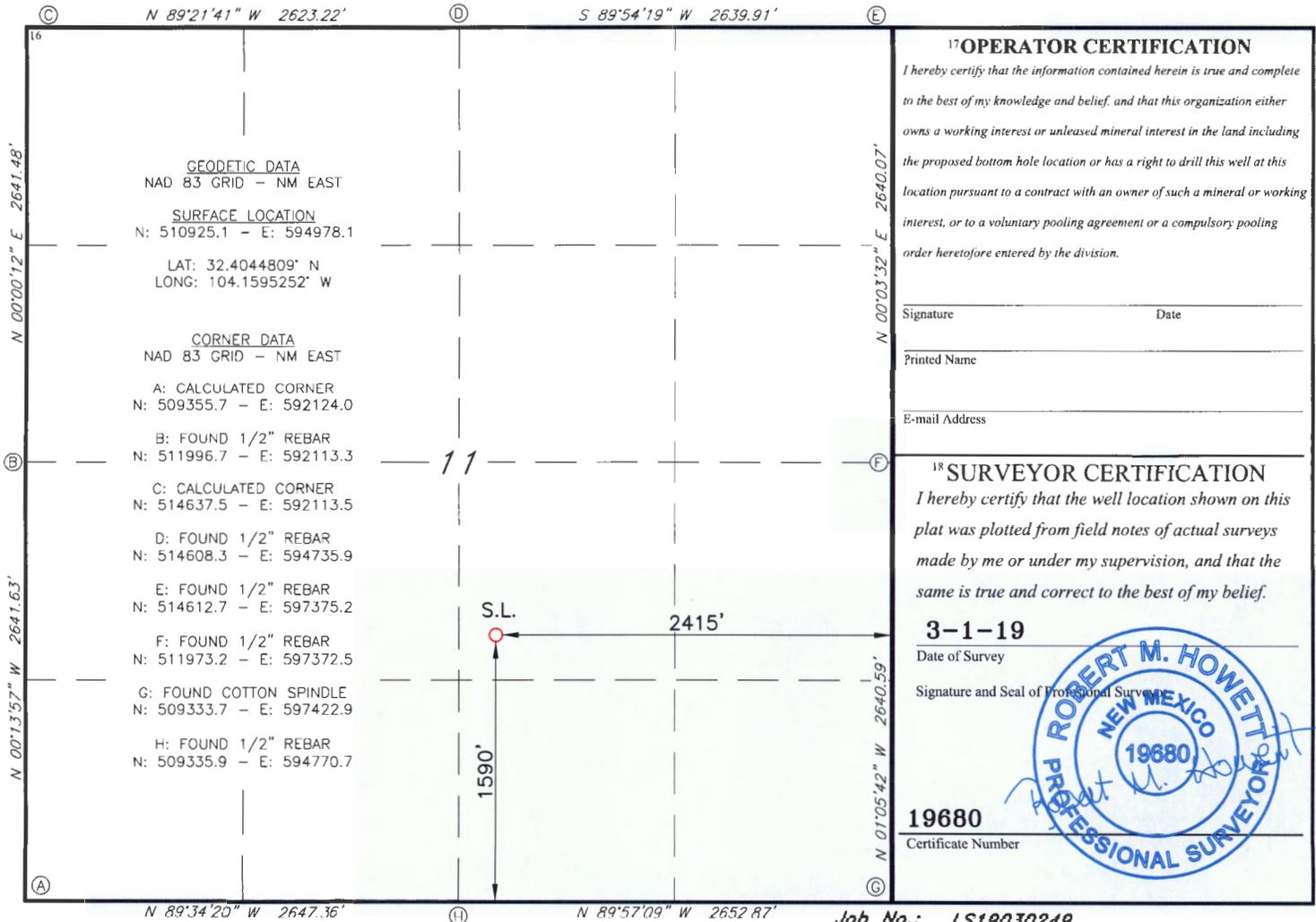
¹⁰ Surface Location

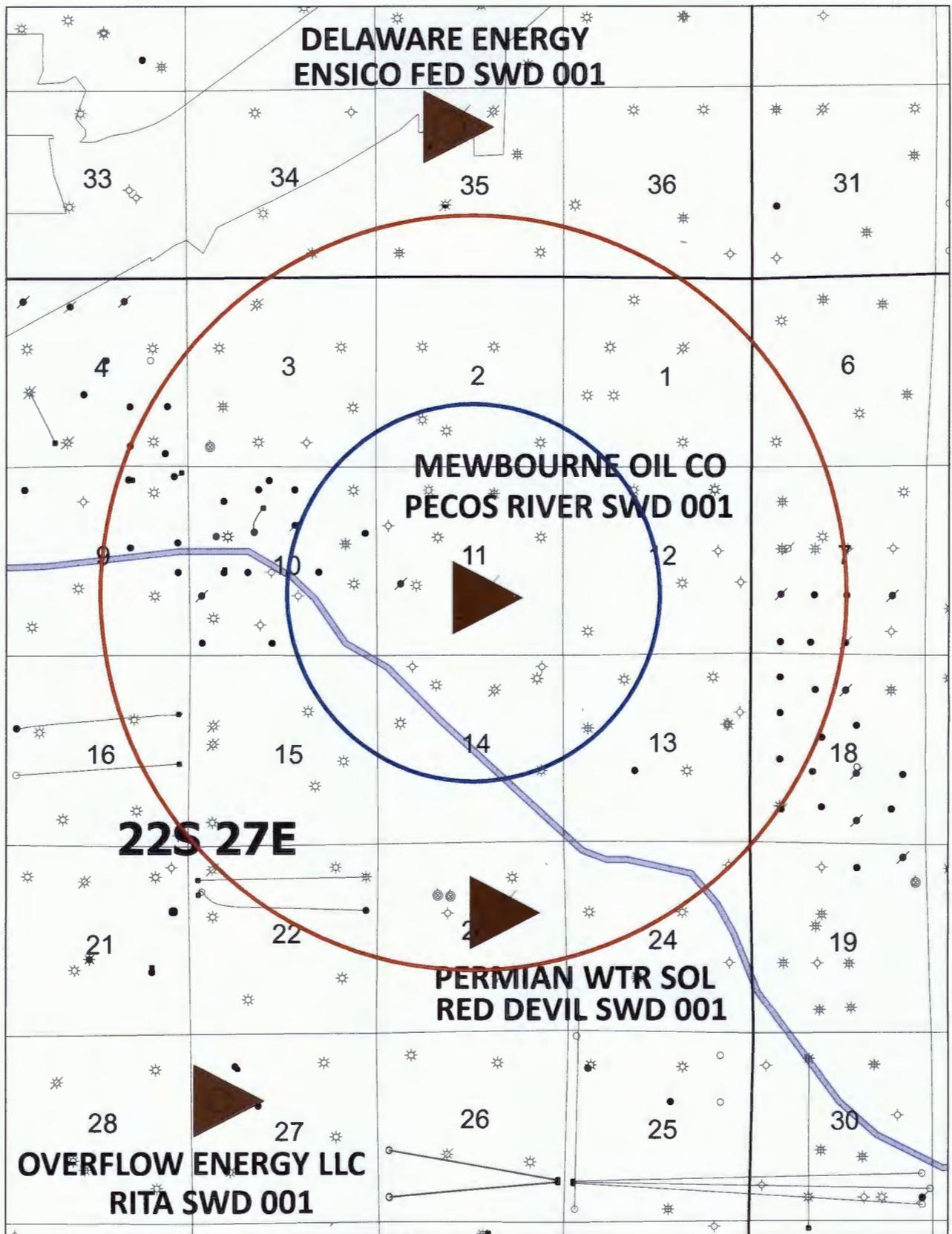
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
J	11	22S	27E		1590	SOUTH	2415	EAST	EDDY

¹¹ 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
¹² Dedicated Acres		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.





 Mewbourne Oil Company	
PECOS RIVER 11 SWD #1 1590 FSL & 2415 FEL EDDY, NEW MEXICO	
Date: 22 March, 2019	
Tech: sd	Scale: 1" = 4000'

ONE MILE AOR

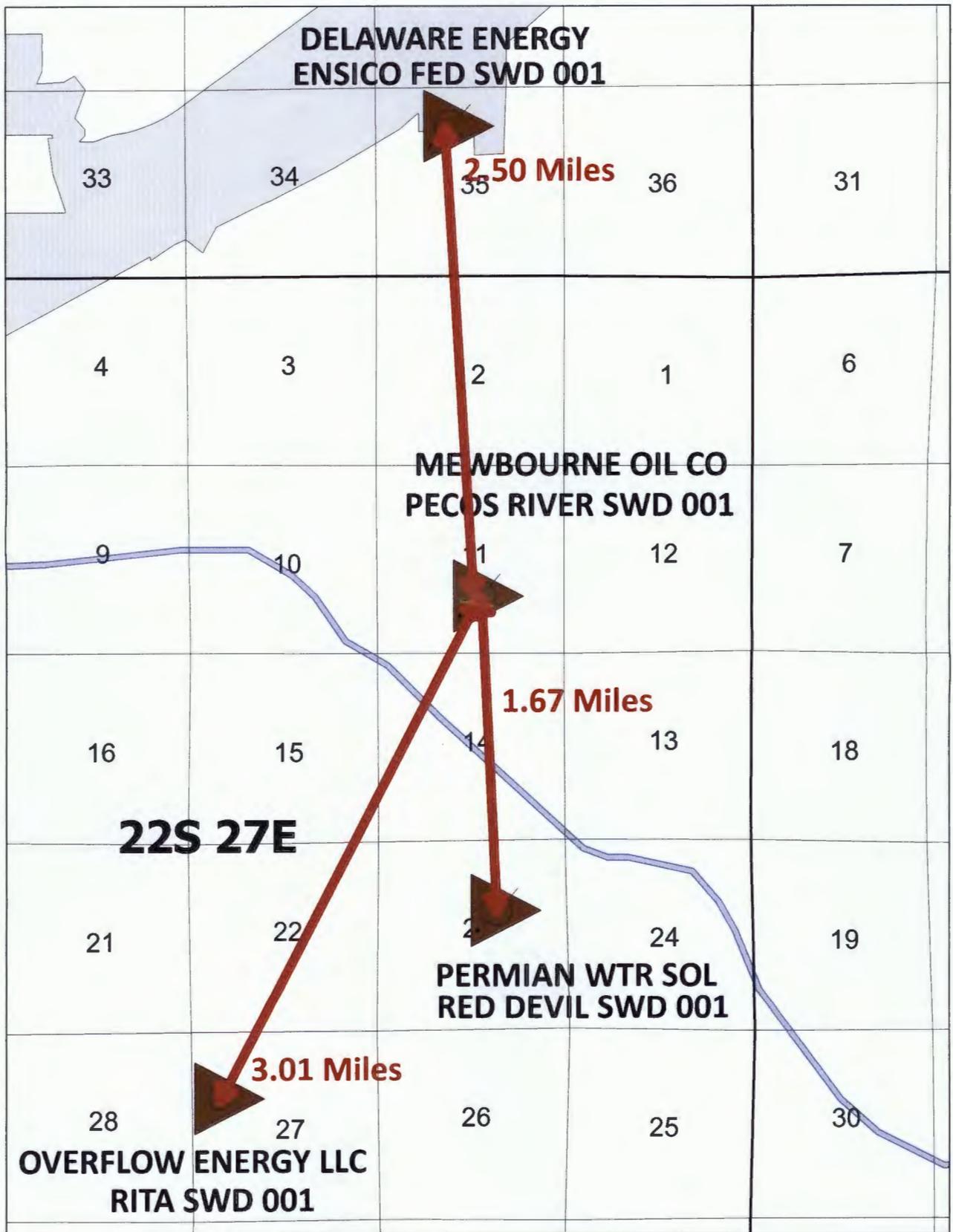
TWO MILE AOR

VIEW

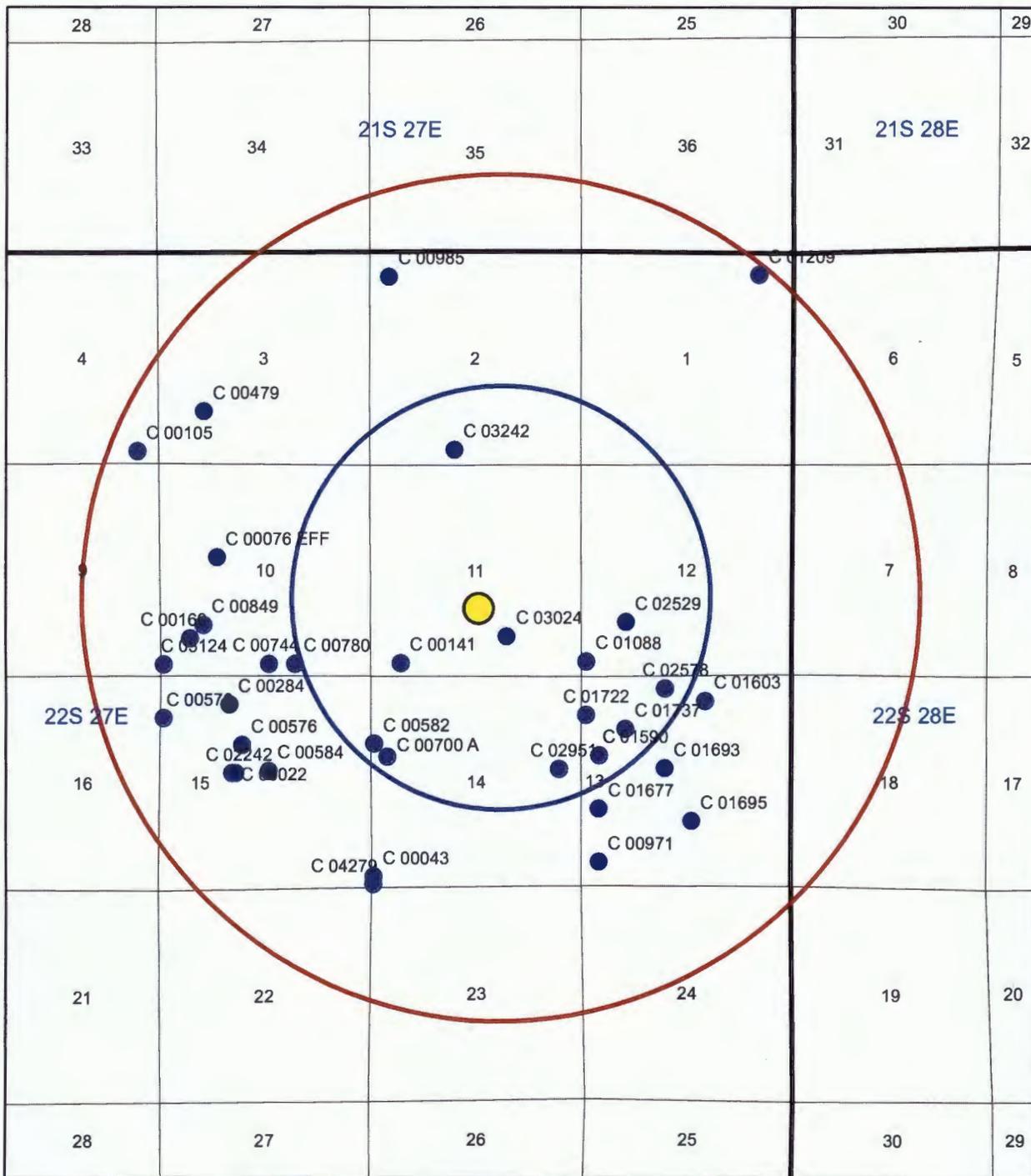
ESTIMATED TOP OF DEVONIAN = 12,850'

Well Name	Current Operator	Sec	Twp	Range	Footage	Field Name	Status	IP Formation	Driller TD	TVD (ft)	Form at TD Name	Producing Form	Permit	Spud	Completed	Final Drill	Aban Date
DUCTION CORPORATION	LEGACY RESERVES OPERATING LP	2	22S	27E	660 FSL 660 FEL CONGRESS SECTION	CARLSBAD EAST	Active	WOLFCAMP	11,915	11,915	MORROW	WOLFCAMP	1985-12-12	1985-12-22	1986-07-09	1986-02-01	
ENERGY COMPANY	DEVON ENERGY PRODUCTION CO	2	22S	27E	990 FSL 1980 FWL CONGRESS SECTION	CARLSBAD EAST	Active	WOLFCAMP	10,705	10,705	WOLFCAMP	WOLFCAMP	1986-12-07	1986-12-17	1987-03-09	1987-01-21	
ENERGY PRODUCTION CO	DEVON ENERGY PRODUCTION CO	2	22S	27E	1310 FSL 1310 FWL CONGRESS SECTION	CARLSBAD EAST	SI	MORROW	12,000	12,000	CHESTER	MORROW	2003-05-21	2004-05-22	2004-07-22	2004-06-17	
ENERGY OPERATING CO	DEVON ENERGY PRODUCTION CO	2	22S	27E	1310 FSL 1310 FWL CONGRESS SECTION	CARLSBAD EAST	Active	STRAWN	12,000	12,000	BARNETT /SH/	STRAWN	2003-03-22	2010-04-21	2010-04-27		
MENDENHALL R A ASSOC LIMITED	MENDENHALL R A ASSOC LIMITED	10	22S	27E	1650 FSL 2240 FEL CONGRESS SECTION	ESPERANZA	P&A		4,500	450	DELAWARE		1981-12-12	1981-12-22	1982-01-02		1/2/1982
ENERGY CORPORATION	COG OPERATING LLC	10	22S	27E	660 FNL 660 FEL CONGRESS SECTION	CARLSBAD SOUTH	Active	MORROW	12,060	12,060	MORROW	MORROW	2003-05-27	2003-06-06	2003-09-21	2003-07-08	
ENERGY CORPORATION	COG OPERATING LLC	10	22S	27E	1980 FSL 660 FEL CONGRESS SECTION	CARLSBAD SOUTH	P&A	MORROW	12,090	12,090	MORROW	MORROW	2004-01-12	2004-02-07	2004-05-08	2004-03-08	
ENERGY CORPORATION	COG OPERATING LLC	10	22S	27E	1980 FSL 660 FEL CONGRESS SECTION	TANSILL DAM	P&A	ATOKA	12,090	12,090	MORROW	ATOKA	2009-03-06	2010-02-16	2010-02-28		
ENERGY CORPORATION	COG OPERATING LLC	10	22S	27E	1980 FSL 660 FEL CONGRESS SECTION	CARLSBAD	P&A	STRAWN	12,090	12,090	MORROW	STRAWN	2010-04-28	2010-03-05	2010-03-18		
ENERGY CORPORATION	COG OPERATING LLC	10	22S	27E	1980 FSL 660 FEL CONGRESS SECTION	CARLSBAD SOUTH	Active	Upper Penn	12,090	12,090	MORROW	Upper Penn	2010-07-02	2010-07-06	2010-08-06		
ENERGY CORPORATION	COG OPERATING LLC	10	22S	27E	2310 FSL 1650 FEL CONGRESS SECTION	ESPERANZA	Active	DELAWARE	5,470	5,470	BONE SPRING	DELAWARE	2005-12-30	2007-06-10	2007-07-21	2007-06-18	
ENERGY CORPORATION	COG OPERATING LIMITED LLC	10	22S	27E	1850 FNL 330 FEL CONGRESS SECTION	ESPERANZA	SI	DELAWARE	5,470	5,470	BONE SPRING	DELAWARE	2008-07-28	2008-09-13	2008-10-28	2008-09-24	
ID OIL COMPANY THE	MARBOB ENERGY CORPORATION	11	22S	27E	1980 FSL 660 FWL CONGRESS SECTION	ESPERANZA	P&A	DELAWARE	3,600	3,600	DELAWARE	DELAWARE	1976-08-20	1976-08-30	1976-10-13		1/20/1984
ENERGY CORPORATION	MARBOB ENERGY CORPORATION	11	22S	27E	1650 FNL 330 FWL CONGRESS SECTION	ESPERANZA	P&A	DELAWARE	4,725	4,725	DELAWARE	DELAWARE	1982-12-05	1982-12-15	1982-12-26		Dec-82
N OIL LIMITED	COG OPERATING LLLC	11	22S	27E	1980 FNL 660 FEL CONGRESS SECTION	CARLSBAD EAST	Active	WOLFCAMP	12,045	12,045	MORROW	WOLFCAMP	1977-06-29	1977-07-09	1977-09-09		
ENERGY COMPANY	DEVON ENERGY PRODUCTION CO	11	22S	27E	1980 FNL 1730 FWL CONGRESS SECTION	CARLSBAD EAST	Active	WOLFCAMP L	10,045	10,045	WOLFCAMP L	WOLFCAMP L	1988-11-24	1988-12-04	1989-02-03	1988-12-28	
ENERGY PRODUCTION CO	DEVON ENERGY PRODUCTION CO	11	22S	27E	660 FNL 1480 FWL CONGRESS SECTION	CARLSBAD EAST	Active	MORROW	12,003	12,003	BARNETT /SH/	MORROW	2003-08-28	2004-08-17	2004-11-11	2004-09-12	
ENERGY PRODUCTION CO	DEVON ENERGY PRODUCTION CO	11	22S	27E	1940 FSL 1110 FWL CONGRESS SECTION	CARLSBAD EAST	Active	MORROW	12,060	12,060	MISSISSIPPIAN	MORROW	2005-02-14	2005-04-20	2005-07-20	2005-05-22	
URNE OIL COMPANY	MEWBOURNE OIL COMPANY	11	22S	27E	1415 FSL 1980 FEL CONGRESS SECTION	CARLSBAD EAST	Active	MORROW	12,175	12,175	BARNETT /SH/	MORROW	2005-09-21	2005-11-05	2005-12-31	2005-12-11	
DUCTION CORPORATION	LEGACY RESERVES OPERATING LP	12	22S	27E	990 FNL 1980 FWL CONGRESS SECTION	CARLSBAD EAST	Active	WOLFCAMP	10,070	10,070	PENNSYLVANIAN	WOLFCAMP	1986-12-26	1987-01-05	1987-01-06	1986-11-06	
ENERGY PRODUCTION CO	DEVON ENERGY PRODUCTION CO	12	22S	27E	660 FSL 660 FWL CONGRESS SECTION	OTIS	Active	ATOKA	12,183	12,183	MISSISSIPPIAN	ATOKA	2005-02-11	2005-05-27	2005-09-25	2005-07-08	
ENERGY PRODUCTION CO	DEVON ENERGY PRODUCTION CO	12	22S	27E	660 FSL 660 FWL CONGRESS SECTION	OTIS	Active	MORROW	12,183	12,183	MISSISSIPPIAN	MORROW	2006-06-22	2006-07-22	2006-08-01		
ENERGY PRODUCTION CO	DEVON ENERGY PRODUCTION CO	12	22S	27E	670 FNL 1970 FWL CONGRESS SECTION	CARLSBAD EAST	Active	MORROW L	12,252	12,252	MISSISSIPPIAN	MORROW L	2008-04-23	2008-05-23	2008-08-27	2008-07-08	
ENERGY PRODUCTION CO	DEVON ENERGY PRODUCTION CO	13	22S	27E	700 FNL 1680 FWL CONGRESS SECTION	OTIS	Active	MORROW	12,200	12,200	MISSISSIPPIAN	MORROW	2005-04-24	2005-10-22	2006-01-15	2005-12-03	
D OIL COMPANY THE	EASTLAND OIL COMPANY THE	14	22S	27E	330 FNL 990 FWL CONGRESS SECTION	ESPERANZA	P&A		3,400	3,400	DELAWARE		1976-09-20	1976-09-30	1976-10-09		10/8/1976
DUCTION CORPORATION	MEWBOURNE OIL COMPANY	14	22S	27E	1907 FNL 635 FWL CONGRESS SECTION	CARLSBAD EAST	Active	WOLFCAMP	10,004	10,004	WOLFCAMP	WOLFCAMP	1984-11-29	1984-12-09	1985-02-07		
DUCTION CORPORATION	MARATHON OIL COMPANY	14	22S	27E	990 FNL 1980 FEL CONGRESS SECTION	CARLSBAD EAST	P&A	WOLFCAMP	10,700	10,700	STRAWN	WOLFCAMP	1985-04-13	1985-04-23	1985-06-24	1985-06-17	12/30/1993
R RESOURCES	ENERSTAR RESOURCES	14	22S	27E	330 FNL 640 FEL CONGRESS SECTION	WILDCAT	P&A		7,708	7,708	BONE SPRING		1996-05-14	1996-05-24	1996-06-08		6/21/1996
JRNE OIL COMPANY	MEWBOURNE OIL COMPANY	14	22S	27E	1980 FSL 660 FEL CONGRESS SECTION	CARLSBAD EAST	P&A	MORROW	12,190	12,190	BARNETT /SH/	MORROW	2003-01-31	2003-02-14	2003-05-17		
JRNE OIL COMPANY	MEWBOURNE OIL COMPANY	14	22S	27E	1980 FSL 660 FEL CONGRESS SECTION	CARLSBAD EAST	Active	WOLFCAMP	12,190	12,190	BARNETT /SH/	WOLFCAMP	2003-10-02	2003-10-05	2003-10-31		
JRNE OIL COMPANY	MEWBOURNE OIL COMPANY	14	22S	27E	1980 FSL 660 FEL CONGRESS SECTION	CARLSBAD EAST	Active	ATOKA	12,190	12,190	BARNETT /SH/	ATOKA	2005-02-26	2005-03-08	2005-04-08		
JRNE OIL COMPANY	MEWBOURNE OIL COMPANY	14	22S	27E	850 FNL 1650 FWL CONGRESS SECTION	OTIS	Active	MORROW	12,180	12,180	BARNETT /SH/	MORROW	2004-07-18	2004-10-18	2004-12-18	2004-11-27	
JRNE OIL COMPANY	MEWBOURNE OIL COMPANY	14	22S	27E	660 FNL 780 FEL CONGRESS SECTION	OTIS	Active	MORROW	12,220	12,220	BARNETT /SH/	MORROW	2005-11-16	2006-04-07	2006-05-31	2006-05-07	

CONCLUSION: THERE ARE NO WELLS WITHIN THE 1 MILE RADIUS AREA OF REVIEW (AOR) THAT PENETRATE THE DEVONIAN FORMATION



 Mewbourne Oil Company	
DEVONIAN WELLS CLOSEST TO PECOS RIVER 11 SWD #1 1590 FSL & 2415 FEL EDDY, NEW MEXICO	
Date: 12 March, 2019	
Tech: sd	Scale: 1" = 4000'



PECOS RIVER 11 SWD # 001



1 MILE AOR



2 MILE AOR

Water Well information provided by
the N.M. Office of the State Engineer

 Mewbourne Oil Company	
PECOS RIVER 11 SWD # 1 APPLICATION AREA WATER WELL MAP EDDY, NEW MEXICO	
Author: sd	Date: 4 March, 2019

MEWBOURNE OIL COMPANY
 PECOS RIVER 11 SWD #1 APPLICATION
 LIST OF NEARBY WATER WELLS

	POD Number	POD Subbasin	County	Source	q64	q16	q4	Sec	Twp	Rng	X	Y	Start Date	Finish Date	Log File Date	Total Depth	Depth Water	Driller
1	C 01209	C	ED	Shallow		NE	NE	01	22S	27E	581173	3588142						
2	C 02127	C	ED	Shallow	SE	SE	SW	02	22S	27E	578846	3586802	12/19/1985	12/19/1985	12/27/1985	160	30	CORKY GLENN
3	C 00985	C	ED			NW	NW	02	22S	27E	578332	3588113						
4	C 02947	C	ED		SE	SE	SW	02	22S	27E	578846	3586802						
5	C 03242	C	ED		SE	SE	SW	02	22S	27E	578846	3586802						
6	C 03549 POD1	C	ED	Artesian	SW	SE	SW	03	22S	27E	567352	3586612	06/11/2012	06/12/2012	06/15/2012	200	195	JASON MALEY (LD)
7	C 00479	C	ED				SW	03	22S	27E	576919	3587082						
8	C 00105	CUB	ED	Shallow	SE	SE	SE	04	22S	27E	576412	3586774		*	03/04/1949			HOWARD HEMLER
9	C 00160	C	ED	Shallow	NE	SW	SW	10	22S	27E	576826	3585355	05/07/1948	05/10/1948	08/14/1949	85	40	BRININSTOOL, A.N.
10	C 00160 CLW198701	C	ED		NE	SW	SW	10	22S	27E	576826	3585355	05/07/1948	05/10/1948	06/06/1948			A.N. BRININSTOOL
11	C 00744	CUB	ED	Shallow	SW	SW	SE	10	22S	27E	577437	3585166	05/17/1957	05/22/1957	01/15/1958	175		JOE DONOWHO
12	C 00022	CUB	ED	Shallow	SW	SW	SW	10	22S	27E	577160	3584336						
13	C 00076 EFF	CUB	ED	Artesian	SW	SE	NW	10	22S	27E	577027	3585973						
14	C 00780	C	ED		SE	SW	SE	10	22S	27E	577637	3585166						
15	C 00849	C	ED				SW	10	22S	27E	576928	3585457						
16	C 03124	C	ED		SW	SW	SW	10	22S	27E	576626	3585155						
17	C 03166	C	ED	Shallow	SW	SW	SW	10	22S	27E	576626	3585155						
18	C 00141	C	ED		SE	SW	SW	11	22S	27E	578448	3585178						
19	C 03024	C	ED		NE	SW	SE	11	22S	27E	579260	3585388						
20	C 01088	C	ED	Shallow	SW	SW	SW	12	22S	27E	579872	3585199	08/08/1962	08/13/1962	09/07/1962	64	36	MORELAND, A.J.
21	C 02529	C	ED	Shallow			SW	12	22S	27E	580174	3585501	01/10/1998	09/05/1998	09/14/1998	113	51	JOHNSTON, RONNIE L.
22	C 00627	C	ED				NW	13	22S	27E	580178	3584690	07/01/1955	07/01/1955	04/02/1956	100		HOWARD HELMER
23	C 00836	C	ED	Shallow	SW	NW	NW	13	22S	27E	579874	3584794	07/02/1968	07/20/1968	10/21/1968	175	52	A.J. MORELAND
24	C 00971	C	ED	Shallow		SW	SW	13	22S	27E	579981	3583679	10/11/1960	10/13/1960	10/24/1960	60	18	BARRON, EMMETT
25	C 01590	C	ED	Shallow		SW	NW	13	22S	27E	579977	3584489	06/02/1975	06/30/1975	08/20/1975	100	40	TAYLOR, W.H. SR.
26	C 01603	C	ED			NW	NE	13	22S	27E	580788	3584906						
27	C 01677	C	ED	Shallow		NW	SW	13	22S	27E	579979	3584084	05/17/1976	05/19/1976	05/26/1976	56	20	RANDALL JENKINS
28	C 01693	C	ED		SE	SE	NW	13	22S	27E	580482	3584394						
29	C 01694	C	ED		SE	SE	NW	13	22S	27E	580482	3584394						
30	C 01695	C	ED		SW	NW	SE	13	22S	27E	580691	3583995						
31	C 01722	C	ED	Shallow	SW	NW	NW	13	22S	27E	579874	3584794	11/23/1976	09/10/1977	09/21/1977	180	64	INGRAM, JACK L.
32	C 01737	CUB	ED				NW	13	22S	27E	580178	3584690						
33	C 02578	C	ED		NE	NE	NW	13	22S	27E	580480	3584999						
34	C 02579	C	ED		SE	SE	NW	13	22S	27E	580482	3584394						
35	C 00043	C	ED	Shallow	SW	SW	SW	14	22S	27E	578256	3583557		07/31/1948	03/04/1949	120		HOWARD HEMLER
36	C 00582	CUB	ED		NW	SW	NW	14	22S	27E	578252	3584567						
37	C 00700 A	CUB	ED			SW	NW	14	22S	27E	578353	3584468						
38	C 02951	C	ED	Shallow	SE	SE	NE	14	22S	27E	579670	3584383						
39	C 04279	C	ED	Shallow	SW	SW	SW	14	22S	27E	578253	3583498	10/22/2018	10/23/2018	11/05/2018	200	35	MANN, TRAVIS
40	C 04308 POD1	CUB	ED		NW	SE	NE	14	22S	27E	579517	3584530						
41	C 00284	C	ED	Shallow		NE	NW	15	22S	27E	577134	3584856	03/14/1952	03/16/1952	03/19/1952	130	20	HOWARD HEMLER
42	C 00576	CUB	ED	Shallow	SW	NW	NW	15	22S	27E	576628	3584749	08/15/1972	07/01/1947	08/26/1972	119	184	
43	C 00576 S	CUB	ED	Shallow	NE	SE	NW	15	22S	27E	577235	3584550	05/01/1974	05/12/1974	06/02/1975	172	48	BRININSTOOL
44	C 00584	CUB	ED		SW	SW	NE	15	22S	27E	577441	3584355						
45	C 00700	CUB	ED	Shallow	SW	SW	NE	15	22S	27E	577441	3584355						
46	C 02242	CUB	ED	Shallow	NW	NW	SE	15	22S	27E	577186	3584336						

AVG 59.5
 MAX 195
 SHALLOW 18

MEWBOURNE OIL COMPANY
 PECOS RIVER 11 SWD #1 PERMIT APPLICATION

Fresh Water Analysis

Fresh Water Sample

Formation:	C00105
Section	4
Township	22S
Range	27E

Sample #	W-6368
Date Caught	3/14/2019
Process Date	3/15/2019

Analysis

pH	5.8
Temp	77.0
Specific Gravity	1.0
CO2	700.0
Calcium	884.4
Magnesium	313.1
Sodium	1,488.0
Barium	-
Manganese	0.0
Strontium	14.3
Potassium	40.3
Bicarbonate	-
Sulfate	1,805.0
Chlorides	3,500.0
Iron	-
TDS	8,084.0

MEWBOURNE OIL COMPANY

PECOS RIVER 11 SWD #1 PERMIT APPLICATION

TABULATION OF PRODUCED WATER ANALYSIS

3rd Bone Spring Formation

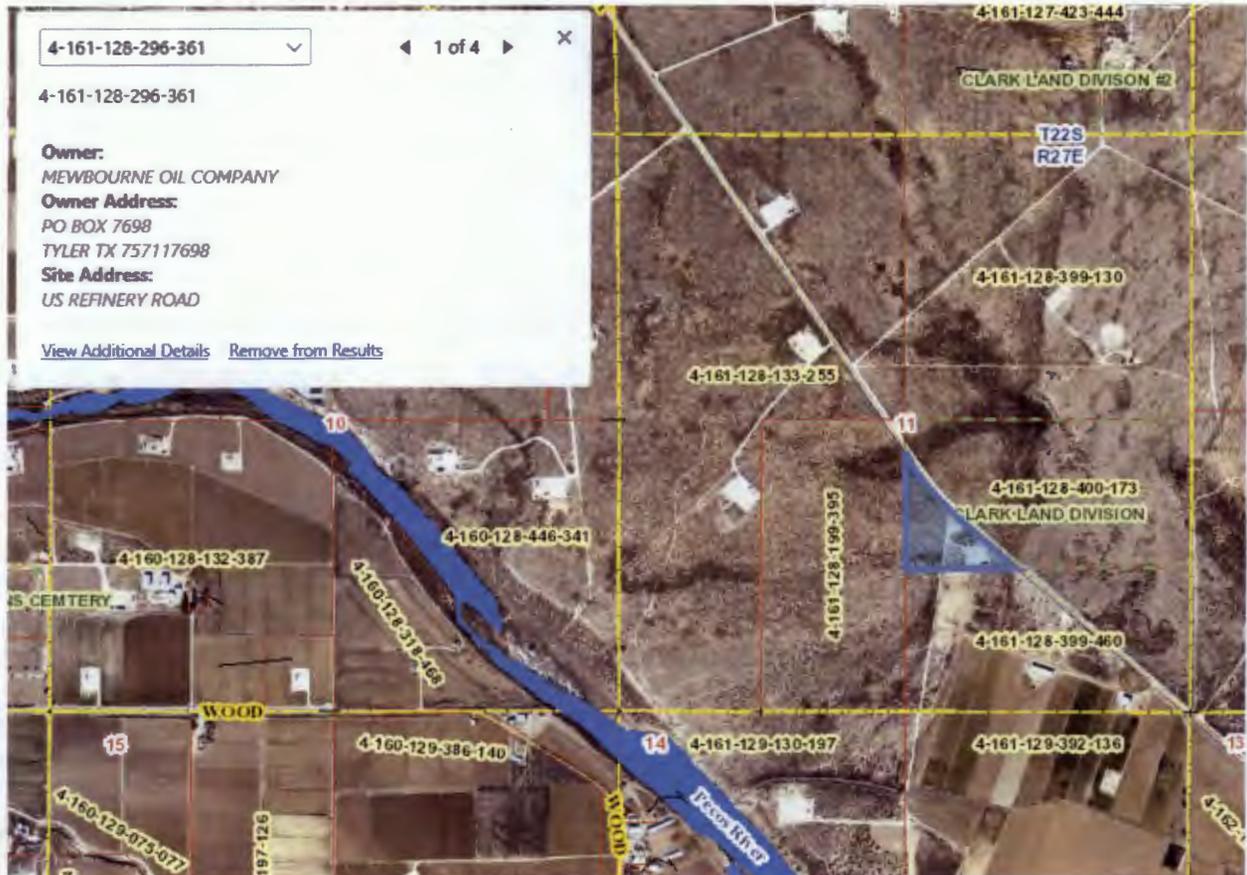
	Roscoe 6 B3AD Fed Com #1H
Formation:	Bone Spring
Section	6
Township	21S
Range	27E
Sample #	W-6358
Date Caught	3/14/2019
Process Date	3/15/2019
Analysis	
pH	5.8
Temp	118.1
Specific Gravity	1.1
CO2	700.0
Calcium	4,909.0
Magnesium	799.1
Sodium	47,178.0
Barium	1.69
Manganese	0.78
Strontium	536.6
Potassium	1,401
Bicarbonate	61
Sulfate	259
Chlorides	86,000
Iron	22.6
TDS	138,049

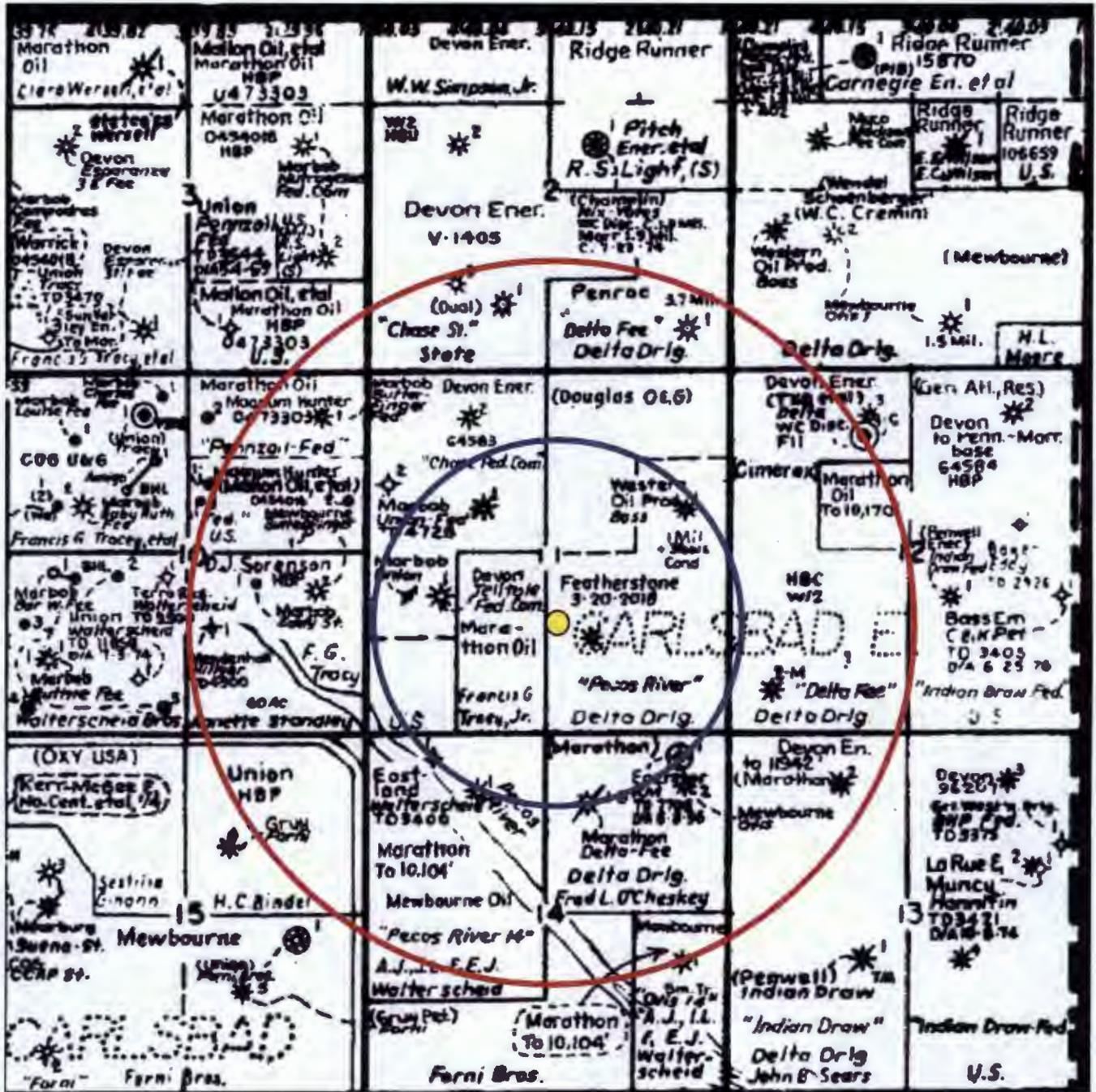
Wolfcamp Formation

Data	Company	Lease	Well #	Frac Date	Sample Date	Days Since	pH	H2S	Lab Chloride	Lab Total Iron	Lab TDS	Lab pH	Lab Specific Gravity 60F
W-1472	Mewbourne Oil NM	Styx 17 W2PA Fee Com	1H	3/31/2017	4/11/2018	376	6.01	8	62,669	25.29	104,530	6.01	1.073
W-3755	Mewbourne Oil NM	Styx 17 W2PA Fee Com	1H	3/31/2017	9/7/2018	525	5.16	17.1	61,267	247.46	101,474	5.16	1.071
W-3786	Mewbourne Oil NM	Loving Townsite 21 W0PA Fee	2H	5/15/2017	9/7/2018	480	7.16	17.1	68,675	11.22	112,445	7.16	1.078
W-3787	Mewbourne Oil NM	Slider 18 W0DM Fed Com	1H	7/6/2017	9/7/2018	428	6.59	8.55	67,574	2.71	110,832	6.59	1.077
W-4599	Mewbourne Oil NM	Viper 29 32 W0LM Fed Com	1H	2/20/2016	11/9/2018	993	6.58	0.34	80,000	25.61	128,781	6.58	1.09
W-4600	Mewbourne Oil NM	White Snake 20/21 W0BC Fee	2H	6/13/2018	11/9/2018	149	6.59	0.34	81,000	12.25	130,470	6.59	1.09
W-4601	Mewbourne Oil NM	White Snake 20/21 W2BC Fee	1H	6/13/2018	11/9/2018	149	6.34	0.34	69,000	57.84	111,964	6.34	1.08
W-4618	Mewbourne Oil NM	Speedwagon 27 W2DM	1H	3/11/2016	11/12/2018	976	6.13	1.71	70,000	13.94	113,697	6.13	1.08
W-4619	Mewbourne Oil NM	Loving Townsite 21 W2PA Fee	1H	5/15/2017	11/12/2018	546	6.69	3.42	69,000	72.99	111,798	6.69	1.08
W-4621	Mewbourne Oil NM	Speedwagon 27 W2PA	1h	1/24/2018	11/12/2018	292	6.45	1.71	71,000	101.5	115,051	6.13	1.08
W-4622	Mewbourne Oil NM	Speedwagon 27 W0PA	2H	1/24/2018	11/12/2018	292	6.78	1.71	77,000	39.9	124,062	5.57	1.09

ALL SAMPLES FROM MEWBOURNE OPERATED WELLS IN TOWNSHIP 23S, RANGE 27E & 2S, RANGE 28E

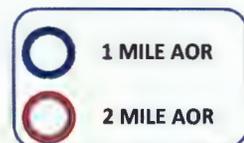
Mewbourne Oil Company
Pecos River 11 SWD #1 Application
Surface Ownership Map
Section 11, 22S, 27E





PECOS RIVER 11 SWD #1

 Mewbourne Oil Company	
PECOS RIVER 11 SWD #1 APPLICATION SEC. 11-22S-27E EDDY, NEW MEXICO	
Author: sd	Date: 8 March, 2019



Listing of Notified Persons

Pecos River 11 SWD #1 Application
1590' FSL & 2415' FEL
Section 11, T22S, R27E, Eddy County, NM

Surface Owner (Same as Applicant – no notification sent)

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

Offsetting Operators Or Leasehold Owners Within 1 Mile

S/2, Section 1, 22S, 27E

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

COG Operating LLC
600 W. Illinois Ave
Midland, TX 79710

S/2, Section 2, 22S, 27E

Devon Energy Production Company, LP
20 N. Broadway
Oklahoma City, OK 73102

Legacy Reserves Operating, LP
303 W. Wall, Suite 1600
Midland, TX 79701

SE/4, Section 3, 22S, 27E

COG Operating LLC
600 W. Illinois Ave
Midland, TX 79710

E/2, Section 10, 22S, 27E

COG Operating LLC
600 W. Illinois Ave
Midland, TX 79710

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

Matador Production Company
5400 LBJ Freeway, Suite 1500
One Lincoln Center
Dallas, TX 75240

Section 11, 22S, 27E

COG Production, LLC
600 W. Illinois Ave
Midland, TX 79701

Devon Energy Production Company, LP
20 N. Broadway
Oklahoma City, OK 73102

Mewbourne Oil Company
P.O. 7698
Tyler, TX 75711

XTO Holdings, LLC
22777 Springwood Village Pkwy.
Spring, TX 77389

Section 12, 22S, 27E

Legacy Reserves Operating, LP
303 W. Wall, Suite 1600
Midland, TX 79701

Devon Energy Production Company, LP
20 N. Broadway
Oklahoma City, OK 73102

NW/4, Section 13, 22S, 27E

Devon Energy Production Company, LP
20 N. Broadway
Oklahoma City, OK 73102

Section 14, 22S, 27E

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

NE/4, Section 15, 22S, 27E

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

CARLSBAD
CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

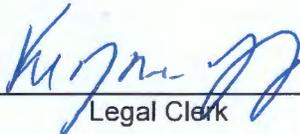
Ad No.
0001279261

MEWBOURNE OIL COMPANY
3901 S BROADWAY AVE

TYLER TX 75701

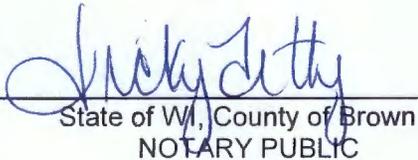
I, a legal clerk of the **Carlsbad Current-Argus**, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements 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:

03/06/19



Legal Clerk

Subscribed and sworn before me this
6th of March 2019.



State of WI, County of Brown
NOTARY PUBLIC

9-19-21

My Commission Expires

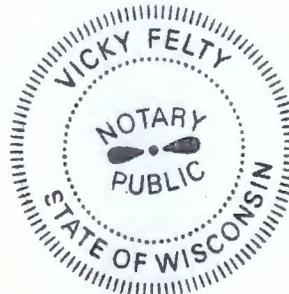
NOTICE

Mewbourne Oil Company has filed a form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval to drill and complete the Pecos River 11 SWD #1 as a salt water disposal well.

The Pecos River 11 SWD #1 is located 1590' FSL and 2415' FEL, Unit Letter J, Section 11, Township 22 South, Range 27 East, NMPM, Eddy County, New Mexico. The well will dispose of water produced from nearby operated oil and gas wells into the Devonian formation into an open-hole interval from a depth of 12,850 feet to 13,850 feet. Expected maximum injection rates are 35,000 BWPD at a maximum injection pressure of 2,570 psi.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, within 15 days. The name and address of the contact party for the applicant is Tim Harrington, Mewbourne Oil Company, 3620 Old Bullard Road, Tyler, Texas 75701, (903)-534-7647. The well is located approximately 4 miles East of Carlsbad, New Mexico.

Pub: March 6, 2019 #1279261





March 25, 2019

Engineering and Geological Services Bureau, Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505
Attn: Mr. Phillip Goetze

Re: Pecos River 11 SWD #1
Sec 11, Twp 22S, Rge 27E
Eddy County, NM

Mr. Goetze,

In accordance with item XII on Mewbourne Oil Company's C-108 filed for the captioned salt water disposal well, Mewbourne Oil Company has examined geologic and engineering data and has found that there is no evidence of faulting or any other hydrologic connection between the proposed disposal zone and any underground sources of drinking water.

Should you have any questions, please email me at tharrington@mewbourne.com or call me at (903) 534-7647.

Sincerely yours,

MEWBOURNE OIL COMPANY

A handwritten signature in blue ink that reads 'Tim R. Harrington' with a long horizontal line extending to the right.

Tim Harrington
Reservoir Engineer
tharrington@mewbourne.com

Mewbourne Oil Company
Pecos River 11 SWD #1
C-108 Attachment
March 25, 2019

STATEMENTS REGARDING SEISMICITY AND WELL SPACING

Historically, the area nearby our proposed Pecos River 11 SWD #1 has not seen a significant amount of seismic activity. There has been one seismic event (per USGS database) in this area in 1974 (magnitude 3.9) that was located 6.5 miles south of our proposed SWD.

Mewbourne Oil Company does not own 2D or 3D seismic data near our proposed SWD therefore our fault interpretation is based on subsurface mapping and data obtained from public technical sources. Our publicly sourced faults data is from a 2005 paper by Ruppel et al. (map attached). Based off our subsurface mapping of the deep formations, Mewbourne has not interpreted any faults in the immediate area. The closest known mapped “deep” fault, that is documented in public data, is approximately 11.8 miles southwest of our proposed SWD.

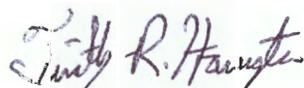
A very recent technical paper written by Snee and Zoback, “State of Stress in the Permian, Basin, Texas and New Mexico: Implications for induced seismicity”, that was published in the February 2018 edition of The Leading Edge, evaluates the strike-slip probability, using probabilistic FSP analysis, of known Permian Basin faults. This study predicts that the Precambrian fault located on our map has less than a 10% probability of being critically stressed so as to create an induced seismicity event. The main reason for this low probability is due to the relationship of the strike of this fault to the regional Shmax orientation in study area 3 (see Figure #2) is approximately N 35 deg in this area.

Figure 3 from the Snee and Zoback paper highlights additional faults in this area that trend more in a NE/SW direction. There is a high probability that these mapped faults are actually surface faults as the apparent source of these fault traces is from a Geological Map of New Mexico (see Figure 4).

The Pecos River 11 SWD #1 is located over 1.5 miles away from any active, permitted or pending Devonian SWD application (see map), to meet current OCD and industry recommended practices.

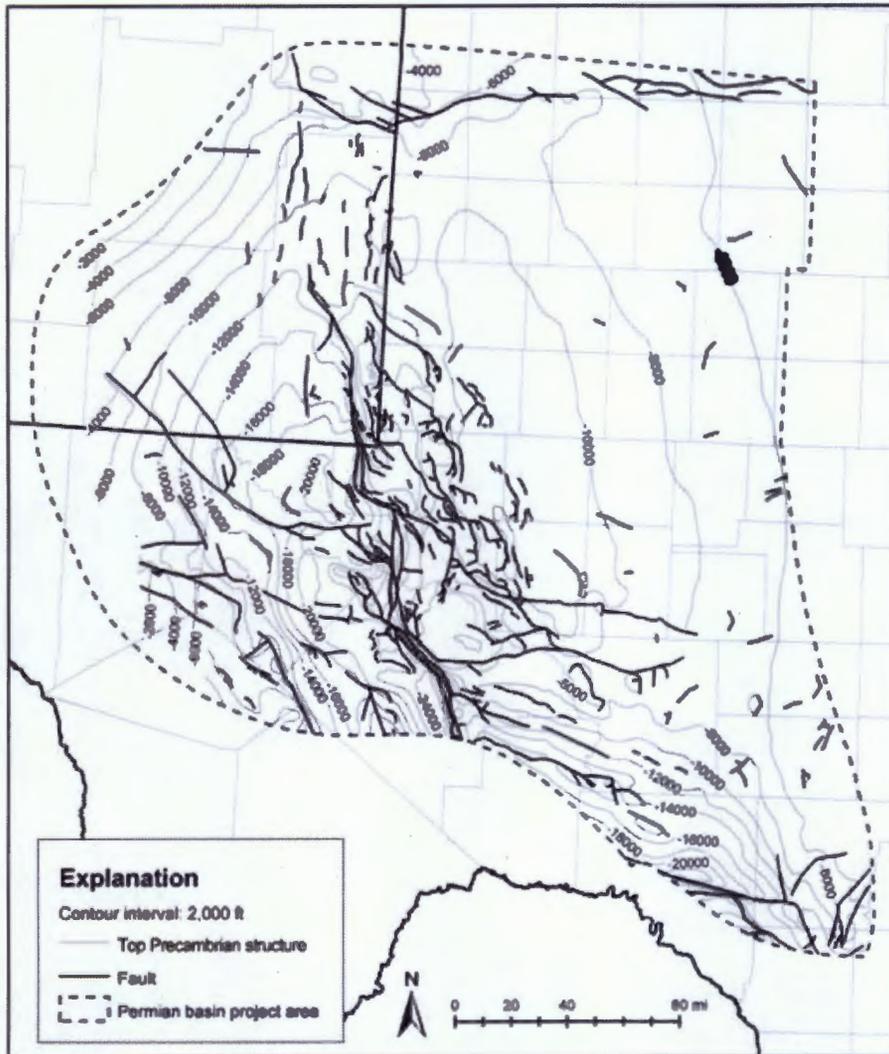
Operator	Well Name	Status	Distance from Silver Bullet (miles)
Delaware Energy	Ensico Federal SWD #1	Pending Application	2.5
Overflow Energy	Rita SWD #1	Public Notice	3.0
Permian Water Solutions	Red Devil SWD #1	Public Notice	1.7

Timothy R. Harrington



Reservoir Engineer
tharrington@mewbourne.com
903-534-7647

Mewbourne Oil Company
Pecos River 11 SWD #1
C-108 Attachment
March 25, 2019



Precambrian Structure Map In the Permian Basin (Ruppel et al.)

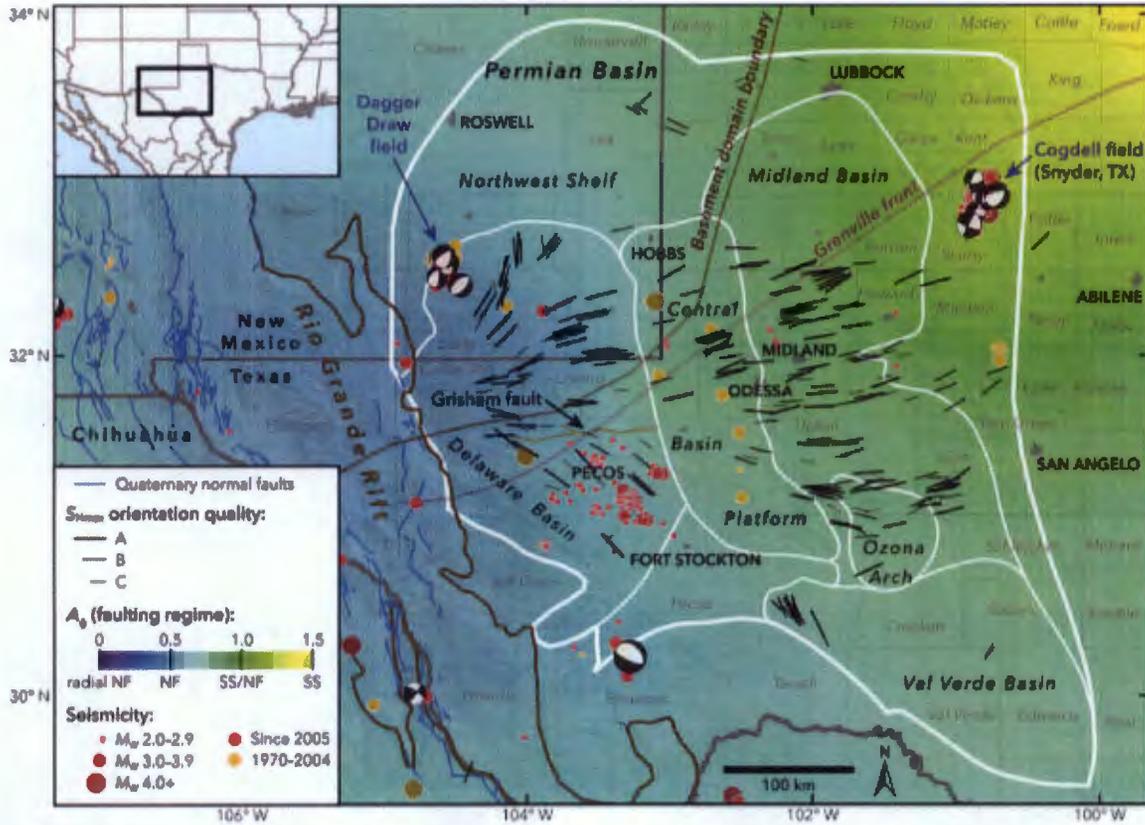


Figure 1. State of stress in the Permian Basin, Texas and New Mexico. Black lines are the measured orientations of S_{max} , with line length scaled by data quality. The colored background is an interpolation of measured relative principal stress magnitudes (faulting regime) expressed using the A_0 parameter (see text for details) of Simpson (1997). Blue lines are fault traces known to have experienced normal-sense offset within the past 1.6 Ma, from the USGS Quaternary Faults and Folds Database (Crone and Wheeler, 2000). The boundary between the Shawnee and Mazatzal basement domains is from Lund et al. (2015), and the Precambrian Grenville Front is from Thomas (2006). The Permian Basin boundary is from the U.S. Energy Information Administration, and the subbasin boundaries are from the Texas Bureau of Economic Geology Permian Basin Geological Synthesis Project. Earthquakes are from the USGS National Earthquake Information Center, the TeXNet Seismic Monitoring Program, and Gan and Frohlich (2013). Focal mechanisms are from Saint Louis University (Herrmann et al., 2011).

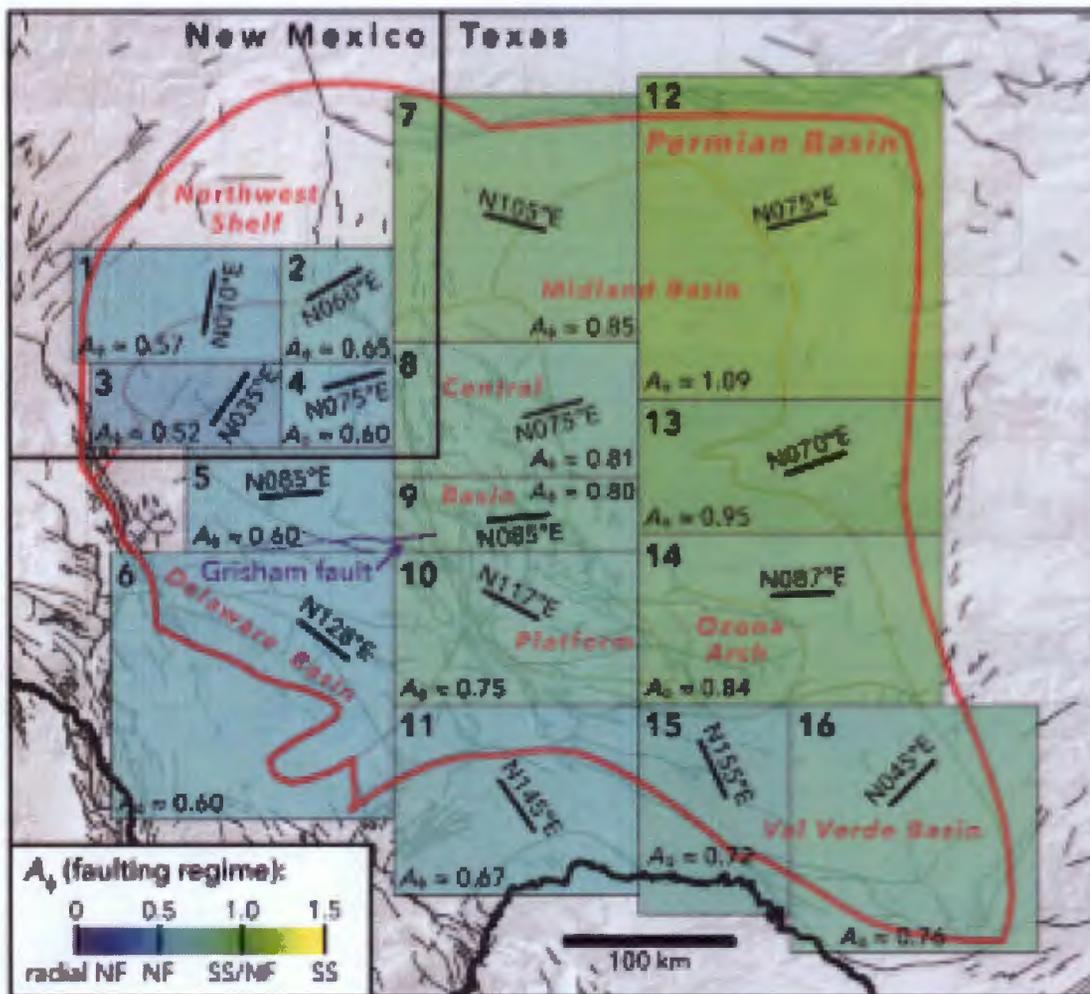


Figure 2. Map of study areas chosen for FSP analysis on the basis of broadly similar stress conditions. Text annotations indicate representative S_{1max} orientation and relative principal stress magnitudes (A_1 parameter) for each study area based on the data presented in Figure 1. Gray lines in the background indicate fault traces compiled from Ewing et al. (1990), Green and Jones (1997), Ruppel et al. (2005), and the USGS Quaternary Faults and Folds Database (Crone and Wheeler, 2000), to which we apply FSP analysis.

Mewbourne Oil Company
 Pecos River 11 SWD #1
 C-108 Attachment
 March 25, 2019

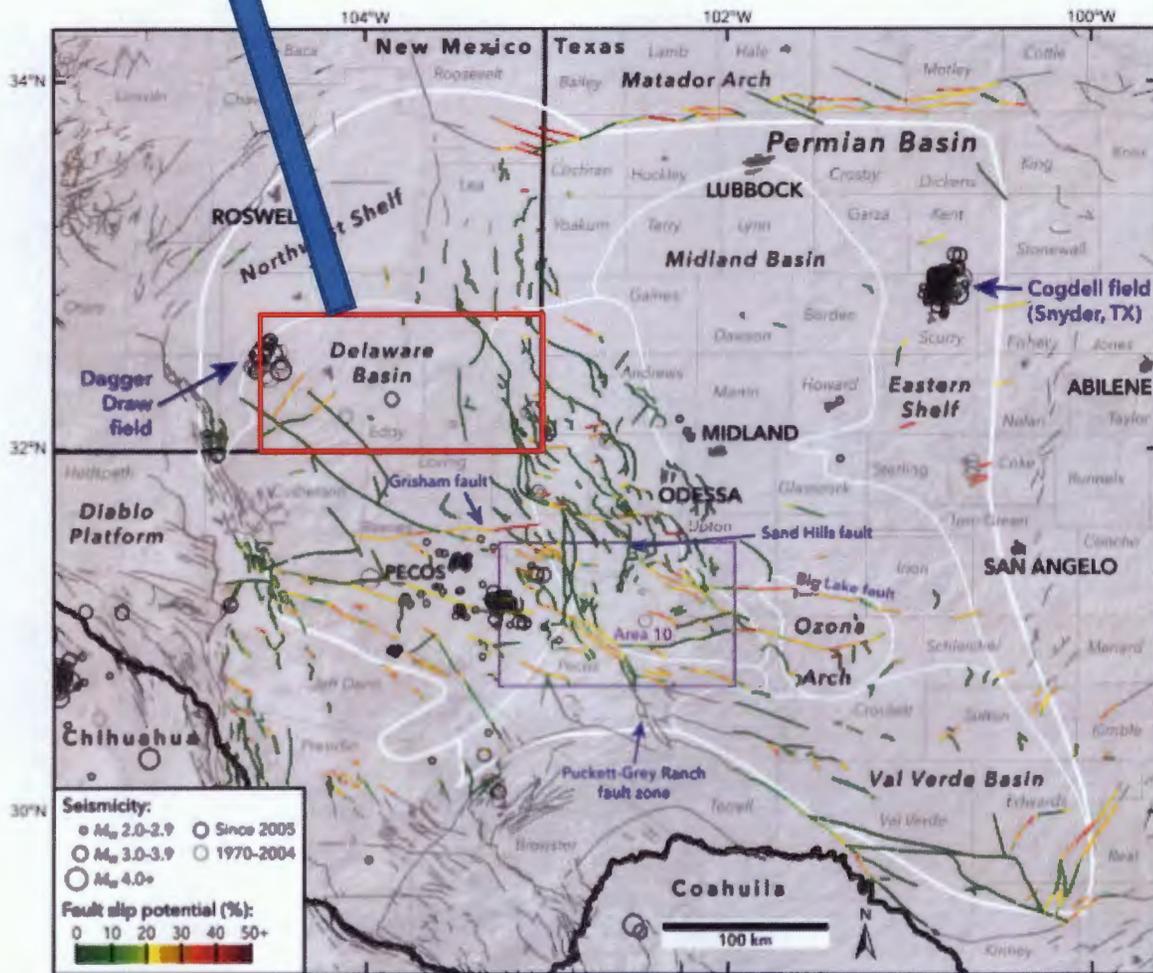
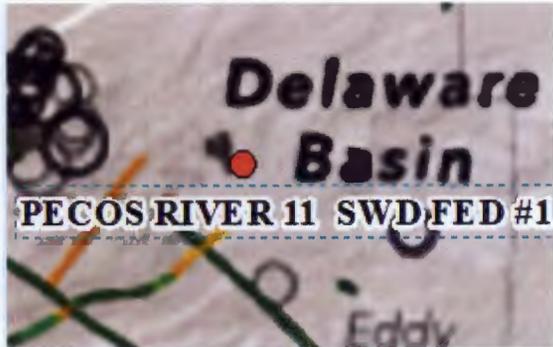
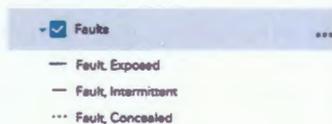
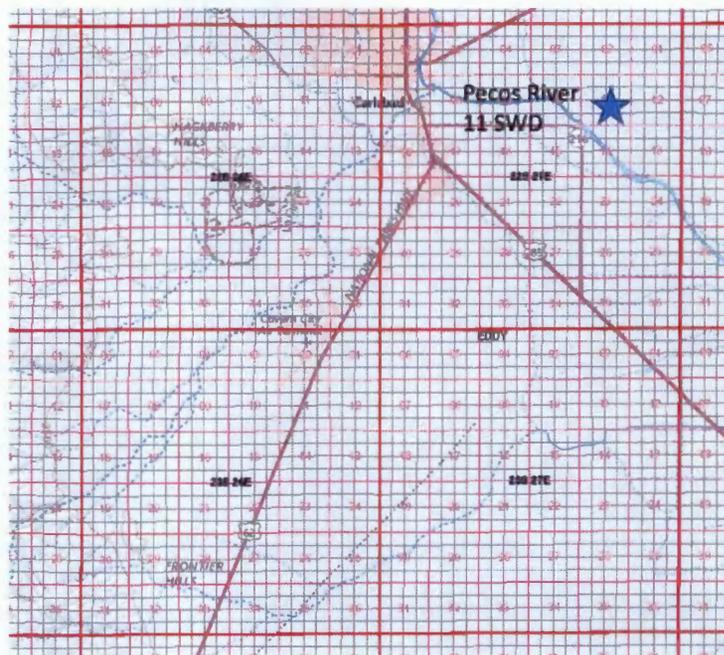


Figure 3. Results of our probabilistic FSP analysis across the Permian Basin. Data sources are as in Figures 1 and 2.

Figure 4



Source: Interactive Geological Map of New Mexico



References

Ewing, T.E., R.T. Budnik, J.T. Ames, and D.M. Ridner, 1990, Tectonic Map of Texas: Bureau of Economic Geology, University of Texas at Austin.

Green, G.N., and G.E. Jones, 1997, The digital geologic map of New Mexico in ARC/INFO format: U.S. Geological Survey Open-File Report.

Jens-Erik Lund Snee and Mark D. Zoback, 2018, State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity: The Leading Edge, February 2018.

Ruppel, S.C., R.H. Jones, C.L. Breton, and J.A. Kane, 2005 Preparation of maps depicting geothermal gradient and Precambrian structure in the Permian Basin: Bureau of Economic Geology, Jackson School of Geosciences, The University of Texas at Austin, Austin, TX.

MEWBOURNE OIL COMPANY
Pecos River 11 SWD #1

PLUGGING RISK ASSESSMENT

5 1/2" Flush Joint Injection Tubing Inside of 7 5/8" Casing

Specs

5 1/2" 17# P110 Flush Joint Tubing	OD (in)	ID (in)	Drift (in)	LINED ID (in)	FLARE DRIFT (in)
Coupling	N/A	N/A	N/A	N/A	N/A
Body	5.500	4.892	4.767	4.520	4.275
7 5/8" 39# P110 Casing	OD (in)	ID (in)	Drift (in)	Wall Thickness (in)	5 1/2" Flush Jt. Clearance (in)
	7.625	6.625	6.500	0.500	0.562

*All fishing procedures are subject to well conditions. Determinations are made onsite on a case by case scenario.

Overshot Fishing Procedure

A 6.625" O.D. Bowen Series 150 overshot (Assembly 8625) with a spiral grapple will be utilized to perform this overshot operation. ***NOTE: (The 6.625" O.D. will be turned down to 6.500" O.D. prior to commencing operation).** Details on the overshot are noted below.

Series 150 Overshots

Tools are listed in order of maximum catch size.

The following table shows only a partial listing of available NOV Downhole Bowen® overshots.

NOTE: Nitralloy Grapples are available upon request.

Bowen Series 150 Releasing and Circulation Overshots

Maximum Catch Size 4 1/2" to 5 1/2" Inclusive

Maximum Catch Size (Spiral)		4 1/2"	4 3/4"	4 1/2"	4 3/4"	5"	5 1/2"	5 1/2"
Maximum Catch Size (Basket)		3 3/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"
Overshot O.D.		5 3/4"	5 3/4"	5 3/4"	5 3/4"	5 3/4"	5 3/4"	5 3/4"
Type		F.S.	S.H.	S.H.	S.F.S.	S.H.	F.S.	S.H.
Complete Assembly	Part No.	5886	5888	C-5108	8875	C-5171	C-4825	8625
(Dressed Spiral Parts)	Weight	130	130	133	138	140	182	185
Replacement Parts								
Top Rib	Part No.	5887	5888	A-5180	8876	A-5172	B-4826	8626
Bevel	Part No.	5888	5700	B-5170	8877	B-5173	B-4827	8617
Packer	Part No.	188	1140	B-2190	0114	L-5050	L-4305	8618
Spiral Grapple	Part No.	105	1135	B-2201	0112	B-4360	M-1071	8619
Spiral Grapple Control	Part No.	188	1137	B-2202	0113	B-4370	M-1072	8620
Standard Guide	Part No.	187	1140	B-2203	0121	B-4371	L-1074	8621
Beaked Parts								
Beaked Grapple	Part No.	105	1135	B-2201	0112	B-4360	M-1071	8619
Beaked Grapple Control	Part No.	188	1137	B-2202	0113	B-4370	M-1072	8620
Mill Control Packer	Part No.	100-R	1140-R	B-2190-R	0114-R	L-5050-R	M-4505	L-8618-R

In the Event of a Connection Break

1. If dressing is needed, trip in hole with a mill and mill connection to allow for (above listed) turned-down overshot to be latched onto the body of the tubing. If no milling is required, trip in hole with (above listed) turned-down overshot and latch onto fish.
2. Once latched onto fish, pick up string weight and straight pull to release Model R packer.
3. Once packer is released, trip out of hole with fish.

In the Event of a Body Break

1. If dressing is needed, trip in hole with a mill and mill tubing to allow for (above listed) turned-down overshot to be latched onto the body of the tubing. If no milling is required, trip in hole with (above listed) turned-down overshot and latch onto fish.
2. Once latched onto fish, pick up string weight and straight pull to release Model R packer.
3. Once packer is released, trip out of hole with fish.

*NOTE: (Wash pipe with a mill may be substituted for dressing off a break instead of a standard mill to ensure pipe stabilization and to ensure that the casing is not damaged due to milling.)

In the Event a Mill Cannot be Used

If an inadequate fishing neck is looking up and a mill cannot be used to dress the fish, a cutting tool may be utilized to cut off the damaged portion of tubing and a spear used to retrieve the cut-off piece. Once the cut-off piece is retrieved, the (above listed) turned-down overshot may be utilized to retrieve the fish and release the packer.

Spear Fishing Procedure

In the event the (above listed) turned-down overshot cannot be used or the fishing neck is inadequate, a spear may be used to spear into the fish. In the case of insert lined pipe, a smaller spear will be utilized to go inside the insert liner and pull out the lining. Once the lining has been removed, trip out of hole with insert liner. Pick up the proper sized spear for the pipe ID. Trip in hole with tubing spear, spear the fish, pick up string weight and straight pull to release the packer. Trip out of hole with fish and packer assembly.

7" Flush Joint Injection Tubing Inside of 9 5/8" Casing

Specs

7" 26# HCP110 Flush Joint Tubing	OD (in)	ID (in)	Drift (in)	LINED ID (in)	FLARE DRIFT (in)
Coupling	N/A	N/A	N/A	N/A	N/A
Body	7.000	6.276	6.151	6.080	5.815
9 5/8" 43.5# HCL80 Casing	OD (in)	ID (in)	Drift (in)	Wall Thickness (in)	7" Flush Jt. Clearance (in)
	9.625	8.755	8.599	0.435	0.877

*All fishing procedures are subject to well conditions. Determinations are made onsite on a case by case scenario.

Overshot Fishing Procedure

A Bowen Series 150 overshot (Assembly 9217) with a spiral grapple will be utilized to perform this overshot operation. Details on the overshot are noted below.

Bowen Series 150 Releasing and Circulation Overshots

Maximum Catch Size 6 3/4" to 7 3/4" Inclusive

Maximum Catch Size (Spiral)		5 3/4"	6"	7"	7 3/4"
Maximum Catch Size (Basket)		5 3/4"	6"	6 3/4"	6 3/4"
Overshot O.D.		8"	7 3/4"	8"	8 3/4"
Type		F.S.	S.H.	S.H.	S.H.
Complete Assembly	Part No.	C-3032	C-5222	0217	C-5354
(Dressed Spiral Parts)	Weight	280	243	251	260

Replacement Parts

Top Sub	Part No.	A-3033	A-5223	0218	A-5355
Bowl	Part No.	B-3034	B-5224	0210	B-5356
Packer	Part No.	A-1814	B-5225	0224	B-5357
Spiral Grapple	Part No.	N-84	B-5227	0222	B-5359
Spiral Grapple Control	Part No.	M-80	A-5228	0223	B-5360
Standard Guide	Part No.	A-1818	A-5220	0226	A-5361

Basket Parts

Basket Grapple	Part No.	N-84	B-5227	0222	B-5359
Basket Grapple Control	Part No.	M-80	A-5228	0223	B-5360
Mill Control Packer	Part No.	A-1814-R	B-5225-R	0224-R	B-5357-R

In the Event of a Connection Break

1. If dressing is needed, trip in hole with a mill and mill connection to allow for (above listed) overshot to be latched onto the body of the tubing. If no milling is required, trip in hole with (above listed) overshot and latch onto fish.
2. Once latched onto fish, pick up string weight and straight pull to release Model R packer.
3. Once packer is released, trip out of hole with fish.

In the Event of a Body Break

1. If dressing is needed, trip in hole with a mill and mill tubing to allow for (above listed) overshot to be latched onto the body of the tubing. If no milling is required, trip in hole with (above listed) overshot and latch onto fish.
2. Once latched onto fish, pick up string weight and straight pull to release Model R packer.
3. Once packer is released, trip out of hole with fish.

*NOTE: (Wash pipe with a mill may be substituted for dressing off a break instead of a standard mill to ensure pipe stabilization and to ensure that the casing is not damaged due to milling.)

In the Event a Mill Cannot be Used

If an inadequate fishing neck is looking up and a mill cannot be used to dress the fish, a cutting tool may be utilized to cut off the damaged portion of tubing and a spear used to retrieve the cut-off piece. Once the cut-off piece is retrieved, the (above listed) overshot may be utilized to retrieve the fish and release the packer.

Spear Fishing Procedure

In the event the (above listed) overshot cannot be used or the fishing neck is inadequate, a spear may be used to spear into the fish. In the case of insert lined pipe, a smaller spear will be utilized to go inside the insert liner and pull out the lining. Once the lining has been removed, trip out of hole with insert liner. Pick up the proper sized spear for the pipe ID. Trip in hole with tubing spear, spear the fish, pick up string weight and straight pull to release the packer. Trip out of hole with fish and packer assembly.

Abandonment Procedure in-the-Event that Injection Tubing Cannot be Fished

The operator will need to ensure that geological formations are properly isolated to prevent future fluid communication. The operator will first insure that the injection tubing I.D. is open and clear. Once injection tubing I.D. is confirmed to be open and clear, run in hole with a wireline set profile plug and set plug inside of the packer assembly. This plug would allow for cement to fill both the I.D. of the injection tubing and the tubing-to-casing annulus to provide isolation between the different geological formations. Next, run in hole with wireline conveyed perforating guns and shoot perforations at the deepest depth that the injection tubing is still in the wellbore. Trip in hole with a workstring and latch onto the injection tubing with an overshot, spear, cement retainer or any other tool that would ensure a work string-to-injection tubing seal and allow the operator to pump cement down the remaining injection tubing. Rig up cement truck and cement the annulus between the injection tubing and casing to surface.

Shipment Receipt

Transaction Date: 25 Mar 2019

Tracking Number:

1ZF698E80195590626

① ADDRESS INFORMATION

Ship To:

Desta Energy Products
Company, LP
20 W. Broadway
OKLAHOMA
CITY OK 731029213

Ship From:

Newbourn Oil Company
Kin Ripke
3901 South Broadway
TYLER TX 75701
Telephone: 903-561-2900
email: rrc@newbourn.com

Return Address:

Newbourn Oil Company
Kin Ripke
3901 South Broadway
TYLER TX 75701
Telephone: 903-561-2900
email: rrc@newbourn.com

② PACKAGE INFORMATION

WEIGHT	DIMENSIONS / PACKAGING	DECLARED VALUE	REFERENCE NUMBERS
1. Letter (Letter billable)	UPS Letter		

③ UPS SHIPPING SERVICE AND SHIPPING OPTIONS

Service:	UPS Next Day Air
Guaranteed By:	10:30 AM Tuesday, Mar 26, 2019
Shipping Fees Subtotal	31.55 USD
Transportation	29.35 USD
Fuel Surcharge	2.20 USD

④ PAYMENT INFORMATION

Bill Shipping Charges to: Shipper's Account F09888

Shipping Charges:

31.55 USD

A discount has been applied to the Daily rates for this shipment
Negotiated Charges:

20.51 USD

Subtotal Shipping Charges:

10.51 USD

Total Charges:

10.51 USD

Note: This document is not an invoice. Your final invoice may vary from the displayed reference rates.

oof o e

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1ZF698E80195590626

Weight

0.00 LBS

Service

UPS Next Day Air®

Shipped / Billed On

03/25/2019

Delivered On

03/26/2019 10:16 A.M.

Delivered To

OKLAHOMA CITY, OK, US

Received By

WELLS

Left At

Dock

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 03/26/2019 12:34 P.M. EST

Shipment Receipt

Transaction Date: 25 Mar 2019

Tracking Number:

1ZF698E80199455015

① ADDRESS INFORMATION

Ship To:

Legacy Reserve Control Co, LP
303 W. Wall, Suite 1600
MIDLAND TX 79701-3134
Telephone: 214-209-9414

Ship From:

Menbournie Oil Company
Ken Ingle
3801 South Broadway
TYLER TX 75701
Telephone: 937-561-2900
email: mrc@menbournie.com

Return Address:

Menbournie Oil Company
Ken Ingle
3801 South Broadway
TYLER TX 75701
Telephone: 937-561-2900
email: mrc@menbournie.com

② PACKAGE INFORMATION

WEIGHT	DIMENSIONS / PACKAGING	DECLARED VALUE	REFERENCE NUMBERS
1 Letter (Letter billable)	UPS Letter		

③ UPS SHIPPING SERVICE AND SHIPPING OPTIONS

Service:	UPS Next Day Air
Guaranteed By:	10:30 AM Tuesday, Mar 26, 2019
Shipping Fees Subtotal:	40.24 USD
Transportation	37.45 USD
Fuel Surcharge	2.83 USD

④ PAYMENT INFORMATION

Bill Shipping Charges to: Shipper's Account #60858

Shipping Charges: 48.28 USD

A discount has been applied to the Daily rates for this shipment
Negotiated Charges: 26.17 USD

Subtotal Shipping Charges: 26.17 USD

Total Charges: 26.17 USD

Note: This document is not an invoice. Your final invoice may vary from the displayed reference rates.

oof o e

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1ZF698E80199455015

Weight

0.00 LBS

Service

UPS Next Day Air®

Shipped / Billed On

03/25/2019

Delivered On

03/26/2019 10:37 A.M.

Delivered To

MIDLAND, TX, US

Received By

INGLE

Left At

Front Desk

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 03/26/2019 12:34 P.M. EST

Shipment Receipt

Transaction Date: 25 Mar 2019

Tracking Number: 1ZF698E80198961603

① ADDRESS INFORMATION

Ship To:	Ship From:	Return Address:
COG Operating, LLC One Casco Center 800 W. Ilaco Ave MIDLAND TX 79701-1882	Marbourne Oil Company Kin Ripka 3903 South Broadway TYLER TX 75703 Telephone:903-561-2900 email:cmclerk@marbourne.com	Marbourne Oil Company Kin Ripka 3903 South Broadway TYLER TX 75703 Telephone:903-561-2900 email:cmclerk@marbourne.com

② PACKAGE INFORMATION

WEIGHT	DIMENSIONS / PACKAGING	DECLARED VALUE	REFERENCE NUMBERS
1. Letter (Letter billable)	UPS Letter		

③ UPS SHIPPING SERVICE AND SHIPPING OPTIONS

Service:	UPS Next Day Air
Guaranteed By:	10:30 AM Tuesday, Mar 26, 2019
Shipping Fees Subtotal:	46.28 USD
Transportation	37.49 USD
Fuel Surcharge	2.81 USD

④ PAYMENT INFORMATION

Bill Shipping Charges to: Shipper's Account #49856

Shipping Charges:	46.28 USD
A discount has been applied to the Daily rates for this shipment	
Negotiated Charges:	26.17 USD
Subtotal Shipping Charges:	26.17 USD
Total Charges:	26.17 USD

Note: This document is not an invoice. Your final invoice may vary from the displayed reference rates.

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Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number
1ZF698E80198961603

Weight
0.00 LBS

Service
UPS Next Day Air®

Shipped / Billed On
03/25/2019

Delivered On
03/26/2019 10:11 A.M.

Delivered To
MIDLAND, TX, US

Received By
ARADA

Left At
Office

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,
UPS

Tracking results provided by UPS: 03/26/2019 12:33 P.M. EST

Shipment Receipt

Transaction Date: 25 Mar 2019

Tracking Number:

1ZF698E80197666390

① ADDRESS INFORMATION

Ship To:

Chesapeake Energy Co.
600 N Parkwood Dr
Suite 600
MIDLAND TX 79701-4405

Ship From:

Manitoulin Oil Company
Etn Field
3901 South Broadway
TYLER TX 75701
Telephone: 936-561-2900
email: mco@manitoulin.com

Return Address:

Manitoulin Oil Company
Etn Field
3901 South Broadway
TYLER TX 75701
Telephone: 936-561-2900
email: mco@manitoulin.com

② PACKAGE INFORMATION

WEIGHT	DIMENSIONS / PACKAGING	DECLARED VALUE	REFERENCE NUMBERS
1. Letter (Letter billable)	UPS Letter		

③ UPS SHIPPING SERVICE AND SHIPPING OPTIONS

Service:	UPS Next Day Air
Guaranteed By:	10:30 AM Tuesday, Mar 26, 2019
Shipping Fees Subtotal	40.26 USD
Transportation	37.45 USD
Fuel Surcharge	2.81 USD

④ PAYMENT INFORMATION

Bill Shipping Charges to: Shipper's Account #9999

Shipping Charges: 46.26 USD

A discount has been applied to the Daily rates for this shipment
Negotiated Charges: 16.17 USD

Subtotal Shipping Charges: 16.17 USD

Total Charges: 16.17 USD

Note: This document is not an invoice. Your final invoice may vary from the displayed reference rates.

roo of e

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1ZF698E80197666390

Weight

0.00 LBS

Service

UPS Next Day Air®

Shipped / Billed On

03/25/2019

Delivered On

03/26/2019 10:17 A.M.

Delivered To

MIDLAND, TX, US

Received By

WALDON

Left At

Office

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 03/26/2019 12:32 P.M. EST

Shipment Receipt

Transaction Date: 25 Mar 2019

Tracking Number: 1ZF698E80195005384

① ADDRESS INFORMATION

Ship To:

XTO Holdings, LLC
22777 Springwood Village
Plexy
SPRING TX 77389-425

Ship From

Mewbourne Oil Company
100 Alpha
3001 South Broadway
TYLER TX 75703
Telephone:936-363-2900
email:mcolinb@mewbourne
.com

Return Address:

Mewbourne Oil Company
100 Alpha
3001 South Broadway
TYLER TX 75703
Telephone:936-363-2900
email:mcolinb@mewbourne
.com

② PACKAGE INFORMATION

WEIGHT	DIMENSIONS / PACKAGING	DECLARED VALUE	REFERENCE NUMBERS
Letter (Letter billable)	UPS Letter		

③ UPS SHIPPING SERVICE AND SHIPPING OPTIONS

Service:	UPS Next Day Air
Guaranteed By:	10:30 AM Tuesday, Mar 26, 2019
Shipping Fees Subtotal:	26.49 USD
Transportation	24.94 USD
Fuel Surcharge	1.85 USD

④ PAYMENT INFORMATION

Bill Shipping Charges to: Shipper's Account #9882

Shipping Charges:

26.49 USD

A discount has been applied to the Daily rates for this shipment
Negotiated Charges:

17.22 USD

Subtotal Shipping Charges:

17.22 USD

Total Charges:

17.22 USD

Note: This document is not an invoice. Your final invoice may vary from the displayed reference rates.

oof of e ry

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1ZF698E80195005384

Weight

0.00 LBS

Service

UPS Next Day Air®

Shipped / Billed On

03/25/2019

Delivered On

03/26/2019 9:59 A.M.

Delivered To

SPRING, TX, US

Received By

GARCIA

Left At

Receiver

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 03/26/2019 12:31 P.M. EST

Shipment Receipt

Transaction Date: 25 Mar 2019

Tracking Number: 1ZF698E80198694572

① ADDRESS INFORMATION

Ship To:	Ship From:	Return Address:
Metzler Resource One Lincoln Center 5400 LBJ Freeway, Suite 1500 DALLAS TX 75240017	Hawbourn Oil Company Box 8416 3901 South Broadway TYLER TX 75701 Telephone:937-561-2900 email:metzler@hawbourn.com	Hawbourn Oil Company Box 8416 3901 South Broadway TYLER TX 75701 Telephone:937-561-2900 email:metzler@hawbourn.com

② PACKAGE INFORMATION

WEIGHT	DIMENSIONS / PACKAGING	DECLARED VALUE	REFERENCE NUMBERS
1. Letter (Letter billable)	UPS Letter		

③ UPS SHIPPING SERVICE AND SHIPPING OPTIONS

Service:	UPS Next Day Air
Guaranteed By:	10:30 AM Tuesday, Mar 26, 2019
Shipping Fees Subtotal:	26.49 USD
Transportation	24.64 USD
Fuel Surcharge	1.85 USD

④ PAYMENT INFORMATION

Bill Shipping Charges to: Shipper's Account P6988

Shipping Charges:	26.49 USD
A discount has been applied to the Daily rates for this shipment	
Negotiated Charges:	17.22 USD
Subtotal Shipping Charges:	17.22 USD
Total Charges:	17.22 USD

Note: This document is not an invoice. Your final invoice may vary from the displayed reference rates.

roof of e ry

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number
1ZF698E80198694572

Weight
0.00 LBS

Service
UPS Next Day Air®

Shipped / Billed On
03/25/2019

Delivered On
03/26/2019 10:25 A.M.

Delivered To
DALLAS, TX, US

Received By
BROWN

Left At
Front Desk

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,
UPS

Tracking results provided by UPS: 03/26/2019 12:30 P.M. EST



DEVONIAN SWD WELLS



**2018 AVG RATE
TOP INTERVAL**



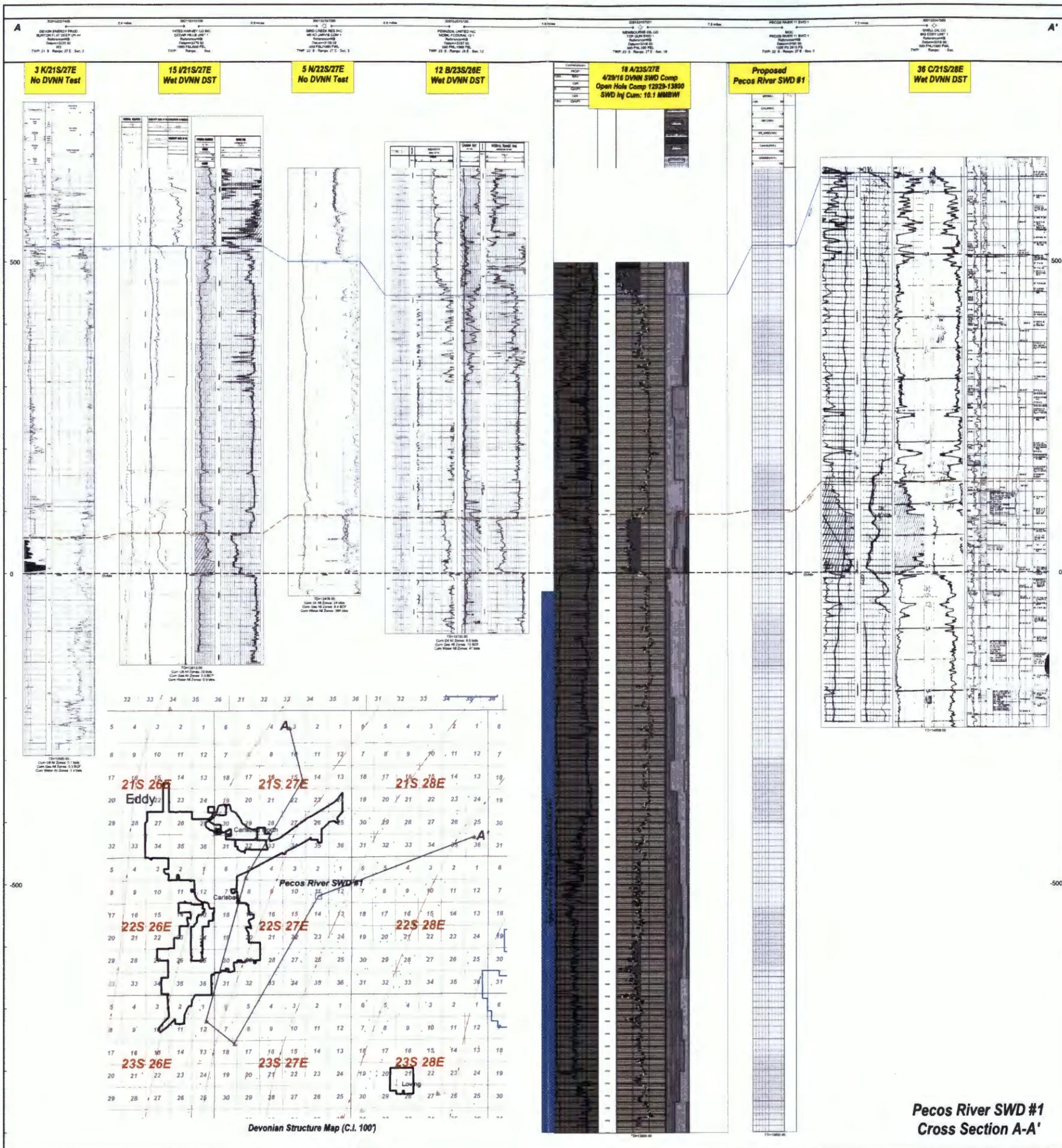
**THREE QUARTER
MILE RADIUS**



SIX MILE CIRCLE

	PERMITTED DISPOSAL WELL
	ACTIVE DISPOSAL WELL
	PLUGGED DISPOSAL WELLS
	TEMPORARILY ABANDON
	SHUT - IN
	SWD WELLS IN APPLICATION PROCESS

Mewbourne Oil Company	
PECOS RIVER 11 SWD #1 Sec. 11-22S-27E 1590' FSL & 2415' FEL EDDY, NEW MEXICO	
Tech: sd	Date: 13 March, 2019 Pecos River 11 SWD Seismic Events & Faults
Scale: 1" = 9700'	



**Pecos River SWD #1
Cross Section A-A'**