MEWBOURNE
OIL COMPANY

August 6, 2021

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
Double Barrel 31 Fed SWD #1
300' FWL & 2400' FSL, Unit L
Section 31, Township 19 South, Range 29 East
Eddy County, New Mexico

Dear Mr. Goetze:

Attached is a C-108 Application for administrative approval of Mewbourne Oil's proposed Double Barrel 31 Fed SWD #1 that will be located in Sec 31 Twp 19S, Rge 29E, 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. The public notice of this application was published in the Carlsbad Current-Argus on July 17th and an Affidavit of Publication is enclosed.

Should you have any questions, please contact us at (575) 393-5905.

Sincerely yours,

MEWBOURNE OIL COMPANY

Zane Anderson
Engineer
zanderson@mewbourne.com

RECEIVED:	REVIEWER:	TYPE:	APP NO:

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: Mewboure Oil Company **OGRID Number:** 14744
Well Name: Double Barrel 31 Fed SWD #1 **API:** 30-015-pending
Pool: SWD; DEVONIAN **Pool Code:** 96101

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

1) **TYPE OF APPLICATION:** Check those which apply for [A]
A. Location – Spacing Unit – Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD

B. Check one only for [I] or [II]
[I] Commingling – Storage – Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
[II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

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

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.

August 6, 2021
Date

Zane Anderson
Print or Type Name

575-393-5905
Phone Number

Zane Anderson
Digitally signed by Zane Anderson
Date: 2021.08.06 09:57:16 -06'00'
Signature

zanderson@mewbourne.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance ___X___Disposal _____Storage
Application qualifies for administrative approval? ___X___Yes _____No

II. OPERATOR: **Mewbourne Oil Company**

ADDRESS: **4801 Business Park Blvd**
Hobbs, NM 88240
CONTACT PARTY: **Zane Anderson** PHONE: **575-393-5905**

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 _____X_____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: **Zane Anderson** TITLE: **Engineer**

SIGNATURE: _____ DATE: 8/5/21

E-MAIL ADDRESS: **zanderson@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: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

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: **Double Barrel 31 Fed SWD #1**

WELL LOCATION:	**2,400' FSL & 300' FWL**	**L**	**31**	**19S**	**29E**
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC *(See Attached)*

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: **26"**

Casing Size: **20" (94 & 106.5 #) @ 365'**

Cement with: **595 sx (100% excess)**

Top of Cement: **Surface**

Intermediate Casing

Hole Size: **17 1/2"**

Casing Size: **13 3/8" (54.5 & 61#) @ 2,650'**

Stage 1: **1275 sx (25% excess)**

Top of Cement: **Surface (Calculated)**

Production Casing

Hole Size: **12 1/4"**

Casing Size: **9 5/8" (40#) @ 9,035'**

Stage 1: **1165 sx (25% excess)**

Top of Cement: **DV Tool @ 3,700'**

Stage 2: **860 sx (25% excess)**

Top of Cement: **Surface (Calculated)**

Production Liner

Hole Size: **8 1/2"**

Casing Size: 7 5/8**" (33.7#)**
Top @ 8,835'
Bottom @ 12,250'

Cement with: **260 sx (25% excess)**

Top of Cement: **8,835'**
(Proposed: circulated to liner top)

TD @ 13,200'

Permitted Injection Interval 12,250'-13,200'

Side 2

INJECTION WELL DATA SHEET

Tubing Size: **7”** x **5 ½”** Lining Material: **Duoline**
7”, P110 UFJ GB to approximately 8,700’
5 1/2”, P110 UFJ GB to 12,170’

Type of Packer: **3 ½” x 7 5/8” Model R Packer (Inconel)**

Packer Setting Depth: **+/- 12,170’**

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 (2,725’), Bone Spring (4,800’), Wolfcamp (9,010’), & Morrow (10,950’)**

   Underlying producing zone – **N/A**

Double Barrel 31 Fed 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 25,000 bwpd.

2. Non-commercial SWD (closed system).

3. Proposed average injection pressure is unknown and the maximum injection pressure is approximately 2,450 psi (0.2 psi/ft x 12,250 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

DATESAMPLE	METHOD	FORMATION	DEPTHUPPER	DEPTHLOWER	SG	SPGRAV	RESIS	RESIST	PH	TDSUSGS	TDS
1967-04-06	Separator	Devonian	16578	16660	1.086	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 12,250' to 13,200'. It is estimated that the base of the injection interval should be approximately 425' above the top of the Ellenburger.

Other Projected Formation Tops:

Mississippian	11,690'
Woodford	12,160'
Devonian	12,225'
EST TOTAL DEPTH	**13,200'**
Montoya	13,225'
Simpson	13,500'
Ellenburger	13,625'

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 75', that is the only known depth of water in the area. 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.

X. A gamma-ray / neutron log will be run from TD to surface upon the drilling and completion of proposed well.

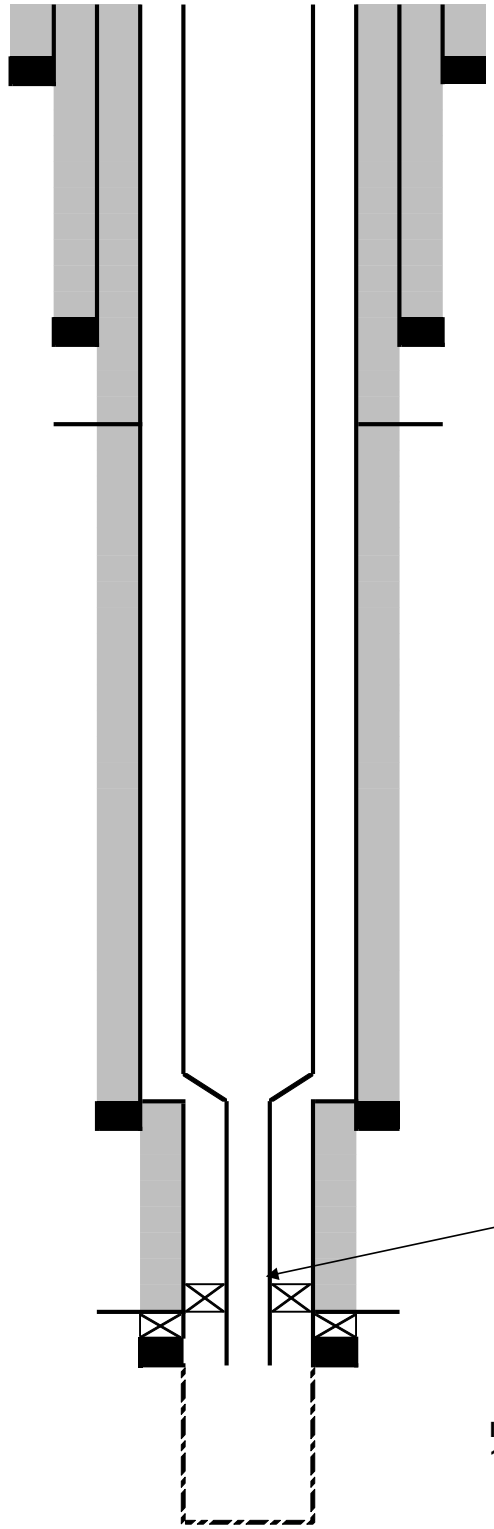
XI. There were 4 wells on record with the NM State Engineers Office within 2 miles of the proposed SWD. Many of these wells could not be located or were inaccessible. A fresh water sample taken from a well located in Section 1, Twp 20S, Rge 28E, and the analysis is attached.

XII. 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.

XIII. See attached Proof of Notice

Mewbourne Oil Company

Well Name: Double Barrel 31 Fed SWD #1
Spud: 2021



20" 94 & 106.5# J-55 BTC
Set @ 365'
Cmt w/ 595 sx

13 3/8" 54.5 & 61# J55 & HCL80 STC
Set @ 2650'
Cmt w/ 1275 sx

ECP/DV Tool @ 3700'
Cmt 2nd stg w/ 860 sx

9 5/8" 40# HCL80 LTC
Set @ 9035'
Cmt 1st stg w/ 1165 sx

Injection String
7" P110 UFJ GB & 5 1/2" P110 UFJ GB
Nickel-Plated Pkr Set @ 12,170'

DV Tool @ 12,180'
External Csg Pkr Set @ 12,220'

7 5/8" 33.7# P-110 UFJ Liner
Set from 8835'-12,250'
Cmt w/ 260 sx

INJECTION ZONE: DEVONIAN
12250' - 13200'

6 1/8" Open Hole
TD @ 13,200'

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	6 Well Number
	DOUBLE BARREL 31 FED SWD	1

7 OGRID NO.	8 Operator Name	9 Elevation
	MEWBOURNE OIL COMPANY	3298'

10 Surface Location

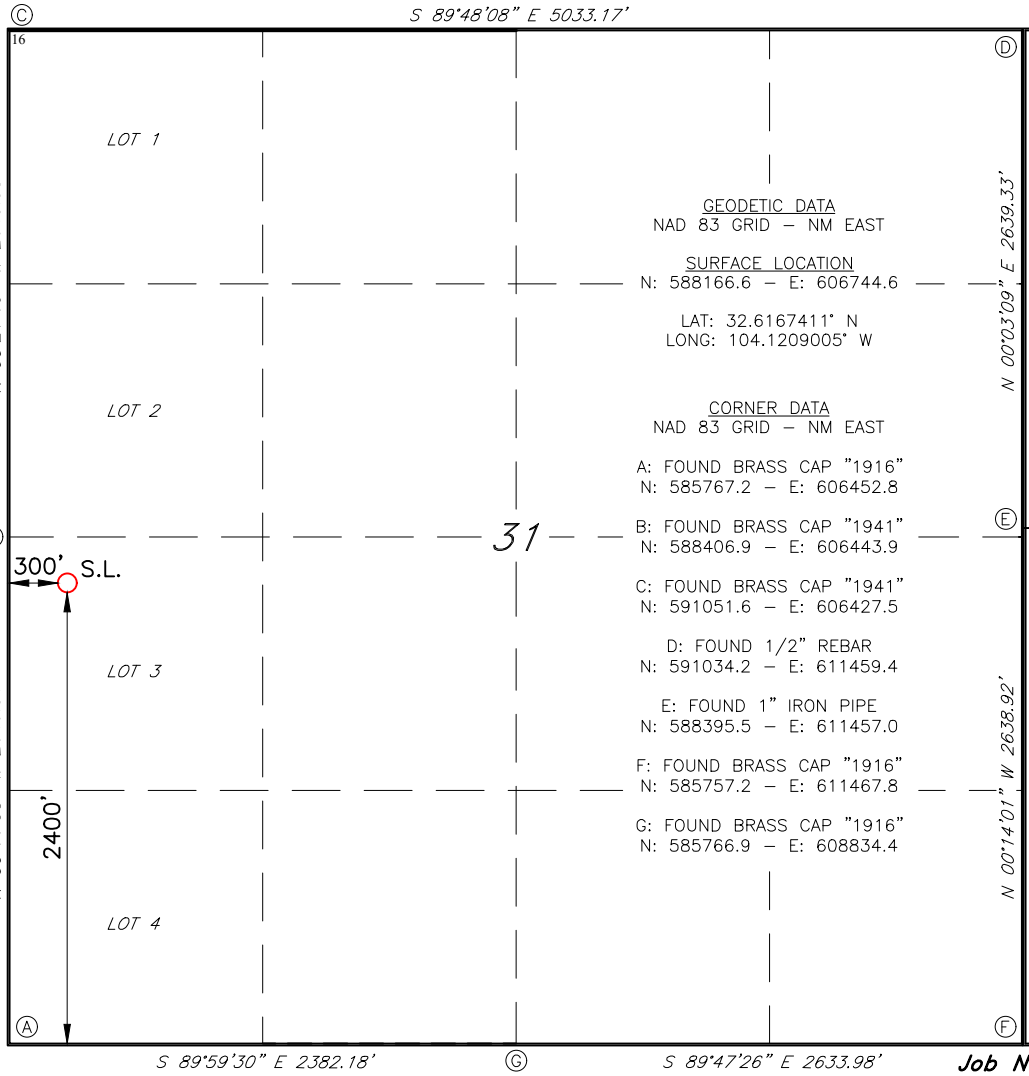
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
3	31	19S	29E		2400	SOUTH	300	WEST	EDDY

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.



17 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 Date

Printed Name

E-mail Address

18 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.

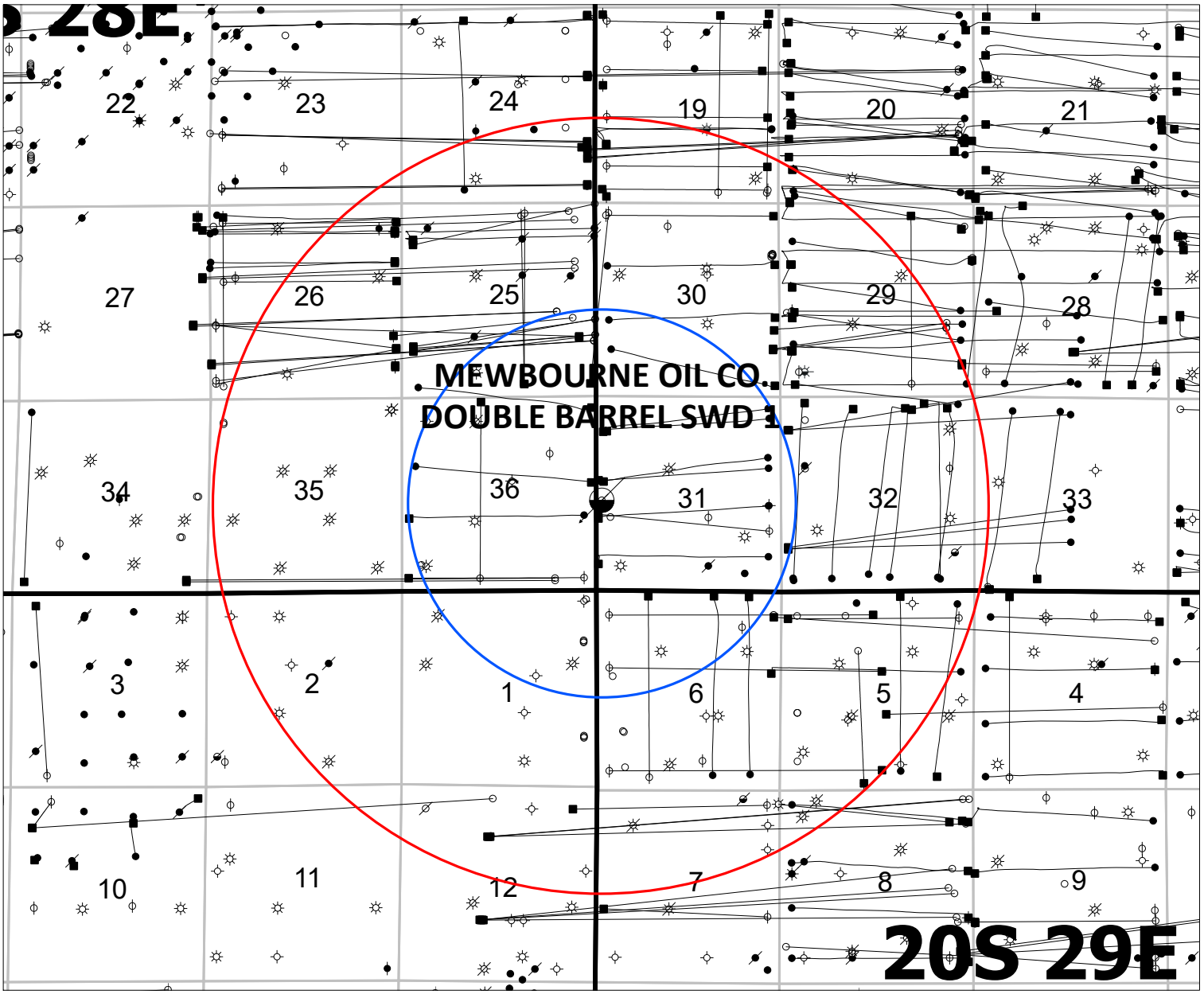
06-02-2021
Date of Survey

Signature and Seal of Professional Surveyor

ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

Job No.: LS21060598



1 MILE AREA OF REVIEW

2 MILE AREA OF REVIEW

Mewbourne Oil Company

DOUBLE BARREL 31 SWD #1
2400 FSL & 300 FWL 31-19S-29E
EDDY CO., NEW MEXICO

Author: sd		Date: 15 July, 2021

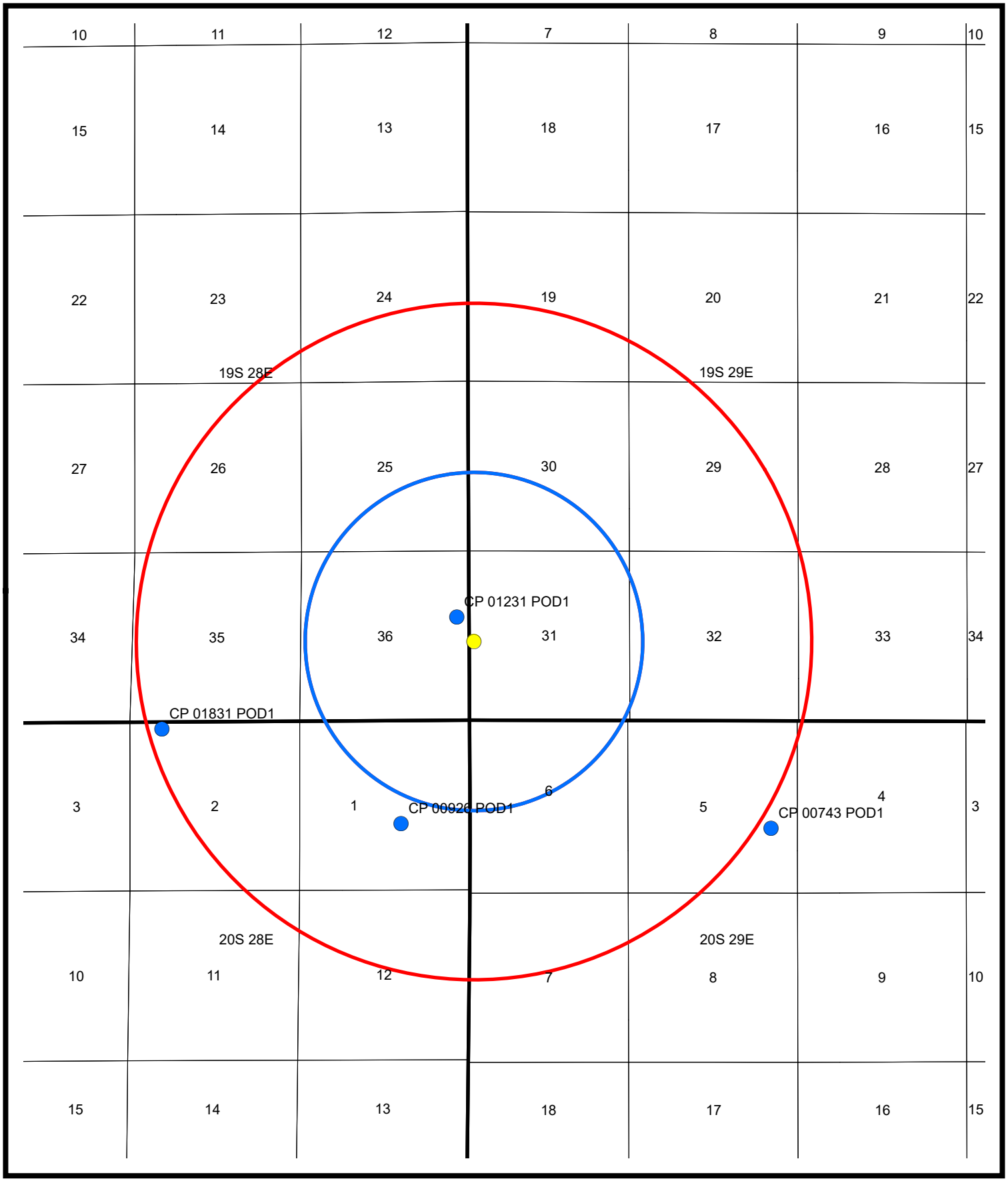
Mewboure Oil Company
Double Barrel 31 Fed SWD #1 C-108 Application

1 MILE AOR WELLS

ESTIMATED TOP OF DEVONIAN = 12,225'

API	Lease Name	Well Num	Operator Name	Current Operator	Location	Footage	Field Name	State	County	Play Name	Final Status	Last Activity Date	Driller Td	Form at TD Name	Formation Producing Name	Proj Depth	Proj Form	Permit License Date	Spud Date	Comp Date	Final Drill Date	Latitude	Longitude
30015215850000	EXXON STATE	1	BENNETT-RYAN	COLGATE OPERATING LLC	19S 28E 25	660 FSL 1980 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	WOLFCAMP DELAWARE	GAS PRODUCER	2021-05-20	11360	MISSISSIPPIAN	PENNSYLVANIAN UPPER	11400	MORROW	1975-08-10	1975-08-20	1975-10-14		32.62629176	-104.1319635
30015231950000	MARTINEZ FEDERL`31`	1	MARATHON OIL CO	EXTEX OPERATING CO	19S 29E 31 SE NW	1980 FNL 1980 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-06-10	11450	MORROW	LEONARD LOWER	12000	MORROW	1980-03-31	1980-04-10	1980-07-21		32.61905352	-104.1149647
30015231950001	MARTINEZ FEDERL`31`	1	MARATHON OIL CO	EXTEX OPERATING CO	19S 29E 31 SE NW	1980 FNL 1980 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	PERMIAN CONVENTIONAL	GAS-WO	2021-07-16	11450	MORROW	MORROW	11381	MORROW	1981-04-21	1981-05-01	1981-05-12		32.61905352	-104.1149647
30015231950002	MARTINEZ `31` FEDERAL	1	MARATHON OIL CO	EXTEX OPERATING CO	19S 29E 31 SE NW	1980 FNL 1980 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	PERMIAN CONVENTIONAL	OIL-WO	2021-06-07	11450	MORROW	BONE SPRING	7300		1991-12-20	1991-12-30	1992-01-13		32.61905352	-104.1149647
30015328450000	WINCHESTER 36 STATE	1	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 28E 36 S2 NE SW	1880 FSL 1980 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	PERMIAN CONVENTIONAL	GAS PRODUCER	2021-05-20	11530	BARNETT /SH/	MORROW	11600	MORROW	2003-06-26	2003-07-01	2003-08-19	2003-08-02	32.61518835	-104.1321294
30015335540000	RUGER 31 FEDERAL	1	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 29E 31 C SW SW	660 FSL 660 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	PERMIAN CONVENTIONAL	GAS PRODUCER	2021-05-20	11560	BARNETT /SH/	MORROW	11500	MORROW	2004-08-09	2004-11-24	2005-01-22	2005-01-02	32.61183536	-104.1192441
30015339040000	RUGER 31 FEDERAL	2	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 29E 31 SW NE SE	1460 FSL 990 FEL CONGRESS SECTION	WINCHESTER	NM	EDDY	PERMIAN CONVENTIONAL	GAS PRODUCER	2021-05-20	11510	BARNETT /SH/	MORROW	11700	MORROW	2005-01-14	2005-06-25	2005-08-21	2005-08-04	32.61399498	-104.1082719
30015339040001	RUGER 31 FEDERAL	2	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 29E 31 SW NE SE	1460 FSL 990 FEL CONGRESS SECTION	BURTON FLAT EAST	NM	EDDY	PERMIAN CONVENTIONAL	GAS-WO	2021-07-27	11510	BARNETT /SH/	ATOKA	11516	ATOKA	2005-12-05	2005-12-15	2006-01-01	2005-12-15	32.61399498	-104.1082719
30015342080000	RUGER 6 FEDERAL	2	MEWBOURNE OIL CO	MEWBOURNE OIL CO	20S 29E 6 NW SE NW	1650 FNL 1750 FWL CONGRESS SECTION	BURTON FLAT EAST	NM	EDDY	PERMIAN CONVENTIONAL	GAS PRODUCER	2021-04-13	11500	BARNETT /SH/	MORROW	11750	MORROW	2005-07-08	2005-09-27	2005-11-19	2005-11-02	32.60543945	-104.1156787
30015350670000	RUGER 31 FEDERAL	3	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 29E 31 SE	460 FSL 990 FEL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-05-20	9170	WOLFCAMP	BONE SPRING	9300	BONE SPRING	2006-07-31	2006-08-21	2006-10-17	2006-09-25	32.61124651	-104.1082718
30015350670001	RUGER 31 FEDERAL	3	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 29E 31 SE	460 FSL 990 FEL CONGRESS SECTION	OUTPOST	NM	EDDY	DELAWARE	OIL-WO	2018-09-26	9170	WOLFCAMP	DELAWARE	5465	DELAWARE	2006-12-11	2006-12-11	2006-12-19		32.61124651	-104.1082718
30015371980000	RUGER 6 FEDERAL COM	3H	MEWBOURNE OIL CO	MEWBOURNE OIL CO	20S 29E 6	150 FNL 1755 FEL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	GAS PRODUCER	2021-01-11	13575	BONE SPRING	BONE SPRING	12471	BONE SPRING	2009-07-29	2011-04-15	2011-07-14	2011-05-26	32.60954618	-104.1110044
30015396860000	RUGER `6` FEDERAL COM	4H	MEWBOURNE OIL CO	MEWBOURNE OIL CO	20S 29E 6 NE NE	200 FNL 750 FEL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2020-11-30	13601	BONE SPRING	BONE SPRING	13532	BONE SPRING	2011-11-15	2012-01-24	2012-03-25	2012-03-04	32.6095	-104.1079
30015402420000	RUGER `31` MP FEDERAL	1H	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 29E 31	715 FSL 50 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-01-11	13365	BONE SPRING	BONE SPRING	13334	BONE SPRING	2012-05-01	2013-02-28	2013-05-10	2013-04-02	32.61199389	-104.1212006
30015413540000	WINCHESTER 36 AD STATE	1H	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 28E 36	330 FNL 150 FEL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-05-20	12250	BONE SPRING	BONE SPRING	12400	BONE SPRING	2013-05-15	2013-07-13	2013-09-09	2013-07-31	32.62369255	-104.1217858
30015416790000	RUGER `31` LI FEDERAL	1H	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 29E 31 SW	1950 FSL 50 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-01-11	13180	BONE SPRING	BONE SPRING	13310	BONE SPRING	2013-09-13	2014-06-27	2014-08-24	2014-07-21	32.61539001	-104.1211973
30015417470000	WINCHESTER 36 HE STATE	1H	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 28E 36	2370 FNL 150 FEL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-05-20	12170	BONE SPRING	BONE SPRING	12400	BONE SPRING	2013-10-22	2014-03-07	2014-04-26	2014-03-25	32.61808557	-104.1218269
30015419520000	RUGER 31 DA FEDERAL COM	1H	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 29E 31 NW	990 FNL 170 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-05-20	11970	BONE SPRING	BONE SPRING	11978	BONE SPRING	2014-01-16	2014-02-13	2014-04-09	2014-03-11	32.6218794	-104.1207599
30015424740000	RUGER 31 B2EH FEDERAL	1H	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 29E 31 NW	2310 FNL 50 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-05-20	12165	BONE SPRING	BONE SPRING	12097	BONE SPRING	2014-06-25	2014-09-01	2014-12-20	2014-09-29	32.61825316	-104.1211762
30015425950000	RUGER 31 B3EH FEDERAL	2H	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 29E 31 NW	2345 FNL 185 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-01-11	13120	BONE SPRING	BONE SPRING	13224	BONE SPRING	2014-08-13	2014-10-06	2014-12-13	2014-11-04	32.61815493	-104.1207386
30015430630000	RUGER 31 B3DA FEDERAL	2H	MEWBOURNE OIL CO	MEWBOURNE OIL CO	19S 29E 31 NW	960 FNL 290 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-05-20	13080	BONE SPRING	BONE SPRING	13111	BONE SPRING	2015-04-16	2015-05-05	2015-07-30	2015-06-01	32.62191194	-104.1204489
30015454430000	BEAR CUB SWD	001	3BEAR FIELD SERVICES LLC	3BEAR FIELD SERVICES LLC	19S 28E 36	1561 FNL 1276 FEL CONGRESS SECTION	SWD	NM	EDDY	PERMIAN CONVENTIONAL	ABANDON LOCATION	2020-12-23				14000	SILURIAN	2018-11-15				32.62024138	-104.1254933
30015468190000	URANINITE 32-33 STATE FED COM	334H	DEVON ENERGY PRODUCTION CO LP	DEVON ENERGY PRODUCTION CO LP	19S 29E 32 SW SW	1176 FSL 200 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-04-01	16720	BONE SPRING	BONE SPRING	16700	BONE SPRING	2020-03-10	2020-03-21	2020-10-22	2020-04-27	32.61320309	-104.104429
30015468200000	URANINITE 32-33 STATE FEDERAL COM	335H	DEVON ENERGY PRODUCTION CO LP	DEVON ENERGY PRODUCTION CO LP	19S 29E 32 SW SW	1146 FSL 200 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-04-01	16502	BONE SPRING		16509	BONE SPRING	2020-03-10	2020-03-27	2020-10-01	2020-05-12	32.61312109	-104.104429
30015468210000	URANINITE 32-33 STATE FEDERAL COM	336H	DEVON ENERGY PRODUCTION CO LP	DEVON ENERGY PRODUCTION CO LP	19S 29E 32 SW SW	1116 FSL 200 FWL CONGRESS SECTION	WINCHESTER	NM	EDDY	BONE SPRING	OIL PRODUCER	2021-06-07	16620	BONE SPRING	BONE SPRING	16671	BONE SPRING	2020-03-10	2020-03-21	2020-10-25	2020-05-25	32.61303809	-104.104429

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



WATER WELLS

DOUBLE BARREL SWD

INFORMATION COURTESY OF
THE NEW MEXICO STATE ENGINEER
NM WATER RIGHTS REPORTING SYSTEM

Mewbourne Oil Company

DOUBLE BARREL 31 SWD #1
2400 FSL & 300 FWL 31-19S-29E
EDDY CO., NEW MEXICO

Author: sd		Date: 15 July, 2021

MEWBOURNE OIL COMPANY

DOUBLE BARREL 31 FED SWD #1 APPLICATION

LIST OF NEARBY WATER WELLS (2 MILE AOR)

POD Number	POD Subbasin	County	Source	q64	q16	q4	Sec	Tws	Rng	X	Y		LAT	LONG	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller
CP 01231 POD1	CP	ED	Shallow	SE	SE	NE	36	19S	28E	582311	3609372		32.618836	-104.122642	10/21/2013	10/21/2013	10/29/2013	300	75	JOHN SIRMAN
CP 00926 POD1	CP	EDDY	Shallow	NE	NW	SE	1	20S	28E	581793	3607405		32.601136	-104.128339						
CP 01831 POD1	CP	EDDY		NE	NW	NW	2	20S	28E	579509	3608292		32.6093	-104.152599						
CP 00743 POD1	CP	EDDY	Shallow		NE	SE	5	20S	29E	585319	3607382		32.600658	-104.090765						
																	AVG	300	75	

Water Lens

Powered by: Water Lens™

Sample Information

Date of Sample Analysis:	2021/06	**Technician Name:**	vfuentes
Date Sample was Taken:	07/01/2021	**Sample Name:**	Double Barrel 31 Fed SWD#1
Analysis Performed by:	EPD	**API Well Number:**	
Client:	Mewbourne Oil Company	**Well Name:**	Fresh Water
Reader Number:		**Test Number:**	CP 00926-POD1
Water Lens Batch Number:	B41		

Metals

	Dilution Factor	mg/L	meq/L
Barium	1	**2**	**0**
Calcium	Calc	**433**	**21.6**
Iron II (Fe^{2+})	1	**Less than 0.03**	**Less than 0.0016**
Iron III (Fe^{3+})	Calc	**Less than 0.03**	**Less than 0.0016**
Total Dissolved Iron	1	**Less than 0.03**	**Less than 0.0016**
Magnesium	100	**113.20**	**9.32**
Sodium	Calc	**570**	**25**
Strontium	n/a	*Test Not Run*	-
Manganese	n/a	*Test Not Run*	-
Boron		*Test Not Run*	-
Potassium	10	**Less than 10**	**0.2**

Anions

	Dilution Factor	mg/L	meq/L
Chloride	1	**865**	**24**
Sulfate	10	**1,410**	**29**
Nitrate	n/a	*Test Not Run*	-
Phosphate	10	**6.39**	**0.20**
Unfiltered Phosphate	n/a	*Test not run*	*Test not run*
Filtered Phosphate	n/a	*Test not run*	*Test not run*
Delta Phosphate		*Test Not Run*	-
Carbonate (as CO_3^{2-})	Calc	-	-
Bicarbonate (as HCO_3^-)	Calc	**97**	**1.6**
Acetates/Formates (as Acetate)	Calc	**25**	**0.4**
Hydroxide (as OH^-)	Calc	**0**	**0**
Sulfide (Total)	n/a	*Test not run*	**Test not run**

Other

	Dilution Factor				Dilution Factor		
Hydrogen Sulfide (H_2S)	Calc	**1.0**	mg/L	**ATP (picograms/mL)**	Calc	*Test not run*	
Turbidity	1	**Less than 7**	NTU's	**Dissolved CO_2 (ppm)**	Calc	*Test not run*	
Total Hardness	100.0	**1,549.00**	mg/L $CaCO_3$	**pH**	n/a	**7.42**	
Oxidation/Reduction Potential (ORP)		**12**	millivolts	**Total Alkalinity**	1	**100**	mg/L $CaCO_3$
Temperature		**77**	Fahrenheit				
Stiff & Davis Scaling Index (S&DSI)		**-0.14**					
Langelier Scaling Index (LSI)		**0.31**		**Total Dissolved Solids (TDS)**	Calc	**3,500**	mg/L
Larson-Skold Index		**41.22**		**Electrical Conductivity**	Calc	**5,560**	uS/cm
Skillman Index		**1.251**		**Electrical Resistivity**	Calc	**179.9**	Ohm*cm
Barite Saturation Index		**2.48**		**Manganese/Iron Ratio**		*Test Not Run*	
Gypsum Saturation Index		**0.41**		**Specific Gravity**		**1.0024**	

Comments

Fresh water

Water Lens

Powered by: Water Lens™

Sample Information

Date of Sample Analysis:	2021/07/06	Technician Name:	vfuentes
Date Sample was Taken:	07/01/2021	Sample Name:	Double Barrel 31 Fed
Analysis Performed by:	EPD	API Well Number:	
Client:	Mewbourne Oil Company	Well Name:	Produced Water
Reader Number:		Test Number:	Ruger 31 B2EH Fed #1H
Water Lens Batch Number:	B41		

Metals

	Dilution Factor	mg/L	meq/L
Barium	10	Less than 20	Less than 0.29
Calcium	Calc	6260	312.4
Iron II (Fe^{2+})	100	23.03	0.82
Iron III (Fe^{3+})	Calc	Less than 3	Less than 0.16
Total Dissolved Iron	100	24.10	1.29
Magnesium	1,000	1,032.00	85.00
Sodium	Calc	49000	2130
Strontium	n/a	*Test Not Run*	-
Manganese	n/a	*Test Not Run*	-
Boron		*Test Not Run*	-
Potassium	100	931	23.8

Anions

	Dilution Factor	mg/L	meq/L
Chloride	100	90,090	2,541
Sulfate	10	670	14
Nitrate	n/a	*Test Not Run*	-
Phosphate	100	48.57	1.53
Unfiltered Phosphate	n/a	*Test not run*	*Test not run*
Filtered Phosphate	n/a	*Test not run*	*Test not run*
Delta Phosphate		*Test Not Run*	-
Carbonate (as CO_3^{2-})	Calc	-	-
Bicarbonate (as HCO_3^-)	Calc	86	1.4
Acetates/Formates (as Acetate)	Calc	91	1.5
Hydroxide (as OH^-)	Calc	0	0
Sulfide (Total)	n/a	*Test not run*	Test not run

Other

	Dilution Factor		
Hydrogen Sulfide (H_2S)	Calc	0.5	mg/L
Turbidity	1	38	NTU's
Total Hardness	1,000.0	19,890.00	mg/L $CaCO_3$
Oxidation/Reduction Potential (ORP)		-18	millivolts
Temperature		77	Fahrenheit
Stiff & Davis Scaling Index (S&DSI)		-1.38	
Langelier Scaling Index (LSI)		-0.23	
Larson-Skold Index		2210.31	
Skillman Index		1.251	
Barite Saturation Index		1.65	
Gypsum Saturation Index		0.13	

	Dilution Factor		
ATP (picograms/mL)	Calc	*Test not run*	
Dissolved CO_2 (ppm)	Calc	210	
pH	n/a	5.93	
Total Alkalinity	1	148	mg/L $CaCO_3$
Total Dissolved Solids (TDS)	Calc	148,200	mg/L
Electrical Conductivity	Calc	193,400	uS/cm
Electrical Resistivity	Calc	5.2	Ohm*cm
Manganese/Iron Ratio		*Test Not Run*	
Specific Gravity		1.1030	

Comments

Bone Springs

Water Lens

Powered by: Water Lens™

Sample Information

Date of Sample Analysis:	2021/07/06	**Technician Name:**	vfuentes
Date Sample was Taken:	07/01/2021	**Sample Name:**	Double Barrel 31 Fed SWD #1
Analysis Performed by:	EPD	**API Well Number:**	
Client:	Mewbourne Oil Company	**Well Name:**	Produced Water
Reader Number:		**Test Number:**	Normandy 31/32 W0LI Fed Com #1H
Water Lens Batch Number:	B41		

Metals

	Dilution Factor	mg/L	meq/L
Barium	1	**11**	**0**
Calcium	Calc	**5440**	**271.4**
Iron II (Fe^{2+})	100	**53.10**	**1.90**
Iron III (Fe^{3+})	Calc	**Less than 3**	**Less than 0.16**
Total Dissolved Iron	100	**53.10**	**2.85**
Magnesium	1,000	**861.00**	**70.80**
Sodium	Calc	**47000**	**2040**
Strontium	n/a	*Test Not Run*	-
Manganese	n/a	*Test Not Run*	-
Boron		*Test Not Run*	-
Potassium	100	**909**	**23.2**

Anions

	Dilution Factor	mg/L	meq/L
Chloride	100	**84,530**	**2,384**
Sulfate	10	**810**	**17**
Nitrate	n/a	*Test Not Run*	-
Phosphate	100	**36.97**	**1.17**
Unfiltered Phosphate	n/a	*Test not run*	*Test not run*
Filtered Phosphate	n/a	*Test not run*	*Test not run*
Delta Phosphate		*Test Not Run*	-
Carbonate (as CO_3^{2-})	Calc	-	-
Bicarbonate (as HCO_3^-)	Calc	**39**	**0.6**
Acetates/Formates (as Acetate)	Calc	**32**	**0.5**
Hydroxide (as OH^-)	Calc	**0**	**0**
Sulfide (Total)	n/a	*Test not run*	**Test not run**

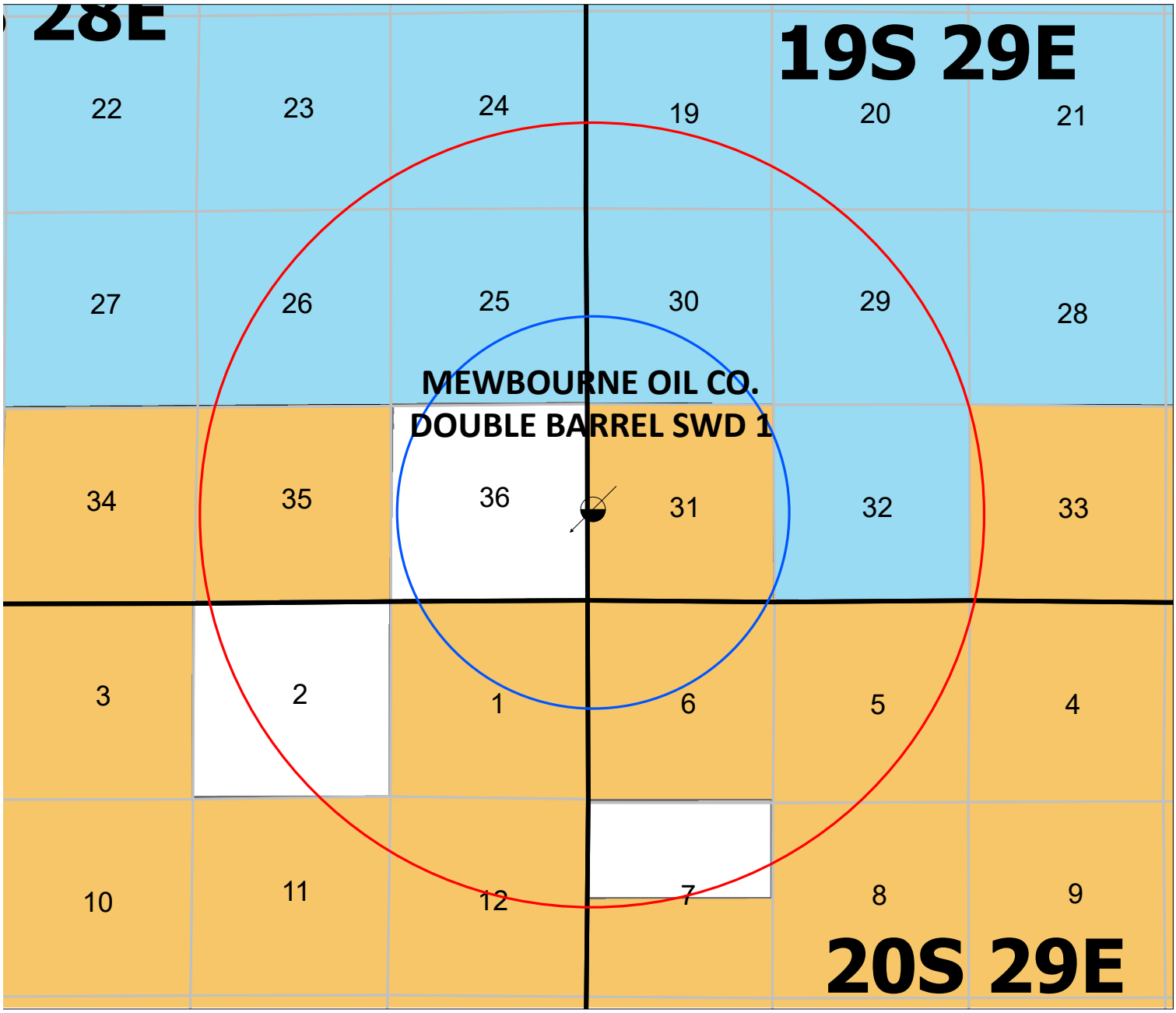
Other

	Dilution Factor		
Hydrogen Sulfide (H_2S)	Calc	**0.5**	mg/L
Turbidity	1	**104**	NTU's
Total Hardness	1,000.0	**17,140.00**	mg/L $CaCO_3$
Oxidation/Reduction Potential (ORP)		**-8**	millivolts
Temperature		**77**	Fahrenheit
Stiff & Davis Scaling Index (S&DSI)		**-1.72**	
Langelier Scaling Index (LSI)		**-0.54**	
Larson-Skold Index		**4579.95**	
Skillman Index		**1.251**	
Barite Saturation Index		**1.80**	
Gypsum Saturation Index		**0.18**	

	Dilution Factor		
ATP (picograms/mL)	Calc	*Test not run*	
Dissolved CO_2 (ppm)	Calc	**160**	
pH	n/a	**6.02**	
Total Alkalinity	1	**59**	mg/L $CaCO_3$
Total Dissolved Solids (TDS)	Calc	**139,700**	mg/L
Electrical Conductivity	Calc	**182,800**	uS/cm
Electrical Resistivity	Calc	**5.5**	Ohm*cm
Manganese/Iron Ratio		*Test Not Run*	
Specific Gravity		**1.0970**	

Comments

Wolfcamp



FEDERAL LANDS

STATE LANDS

PUBLIC LANDS

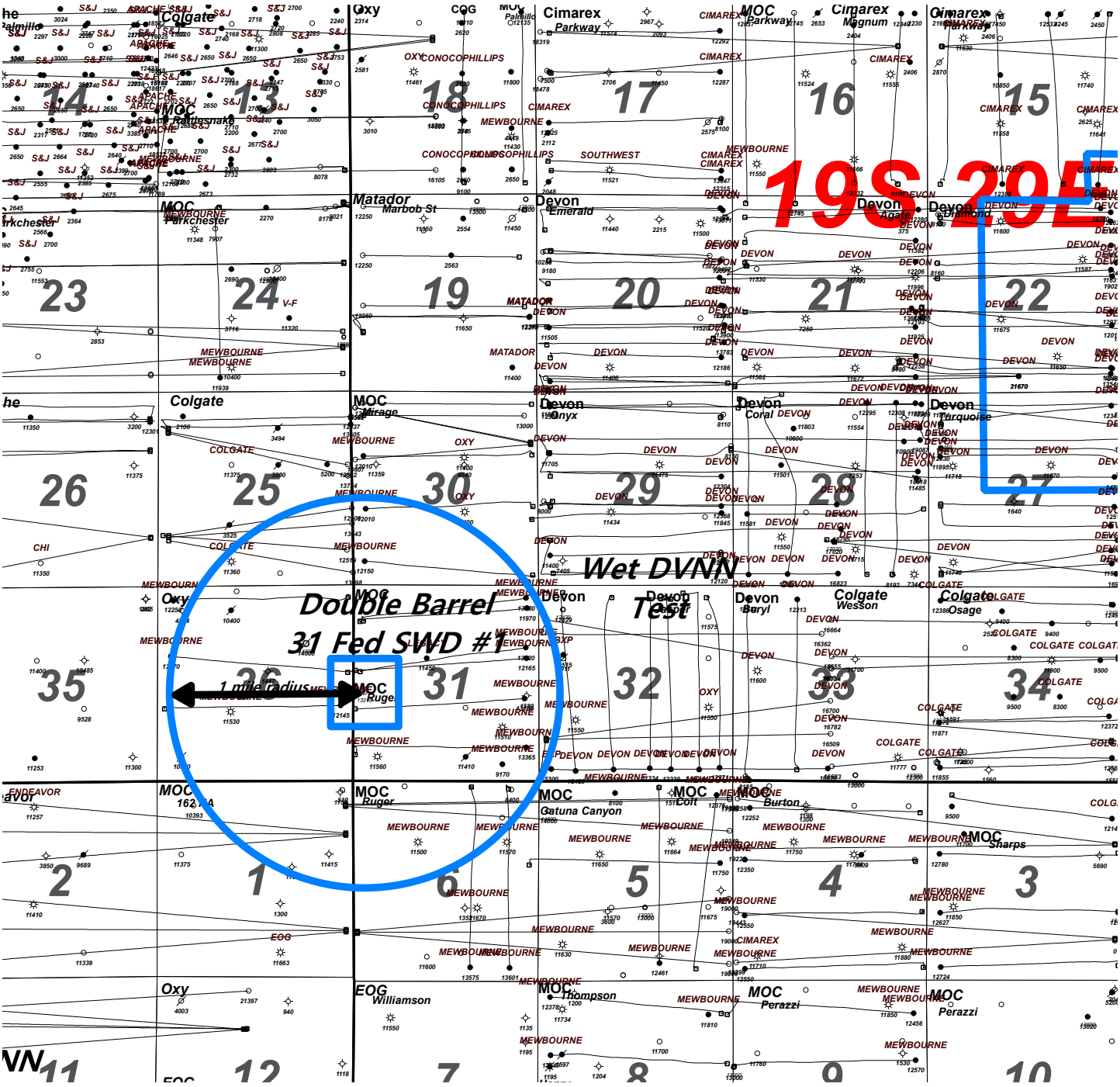
1 MILE AREA OF REVIEW

2 MILE AREA OF REVIEW

Mewbourne Oil Company

DOUBLE BARREL 31 SWD #1
2400 FSL & 300 FWL 31-19S-29E
EDDY CO., NEW MEXICO

Author: sd		Date: 15 July, 2021



Mewbourne Oil Company

Double Barrel SWD
Offset Operators
31/19S/29E

6/29/2021	*Eddy County*	*New Mexico*
		N.Cless

Listing of Notified Persons

Double Barrel 31 Fed SWD #1 Application
2400' FSL, 300' FWL
Section 31, 19S, 29E, Eddy County, NM

Surface Owner

Bureau of Land Management
620 E. Greene St.
Carlsbad, NM 88220

New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe, NM 87504-1148

Offsetting Operators Within 1 Mile AOR

Section 31, 19S, 29E

Mewbourne Oil Company

Extex Operating Company
6702 Broadway
Galveston, TX 77554

Section 36, 19S, 28E

Mewbourne Oil Company

3Bear Field Services, LLC
1512 Larimer Street, Suite 540
Denver, CO 80202

Section 25, 19S, 28E

Colgate Operating, LLC
300 North Marienfeld Street, Suite 1000
Midland, Texas 79701

Section 32, 19S, 29E

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

BXP Operating LLC
3890 W. Northwest Highway, Suite 670
Dallas, Texas 75220

Carlsbad Current Argus.
PART OF THE USA TODAY NETWORK

Affidavit of Publication

Ad # 0004826303

This is not an invoice

MEWBOURNE OIL COMPAN Y
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:

07/17/2021

Legal Clerk

Subscribed and sworn before me this July 17, 2021:

State of WI, County of Brown
NOTARY PUBLIC

1-7-25
My commission expires

KATHLEEN ALLEN
Notary Public
State of Wisconsin

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 Double Barrel 31 Fed SWD #1 as a salt water disposal well.

The Double Barrel 31 Fed SWD #1 is located 2,400' FSL and 300' FWL, Unit Letter L, Section 31, Township 19 South, Range 29 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 12,250 feet to 13,200 feet. Expected maximum injection rates are 25,000 BWPD at a maximum injection pressure of 2,450 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 Zane Anderson, Mewbourne Oil Company, 4801 Business Park Blvd, Hobbs, New Mexico 88240, (575)-393-5905. The well is located approximately 14 miles Northeast of Carlsbad, New Mexico.

#4826303, Current Argus, July 17, 2021

Ad # 0004826303
PO #:
# of Affidavits 1

This is not an invoice

MEWBOURNE
OIL COMPANY

July 28, 2021

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

Re: Double Barrel 31 Fed SWD #1
Sec 31, Twp 19S, Rge 29E
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 zanderson@mewbourne.com or call me at (575) 393-5905.

Sincerely,

MEWBOURNE OIL COMPANY

Zane Anderson
Engineer
zanderson@mewbourne.com

Mewbourne Oil Company
DOUBLE BARREL 31 FED SWD 1
C-108 Attachment
July 2021

STATEMENTS REGARDING SEISMICITY AND WELL SPACING

Historically, the area nearby our proposed Double Barrel 31 Federal 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 21.2 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 etal. (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 17.7 miles east 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.

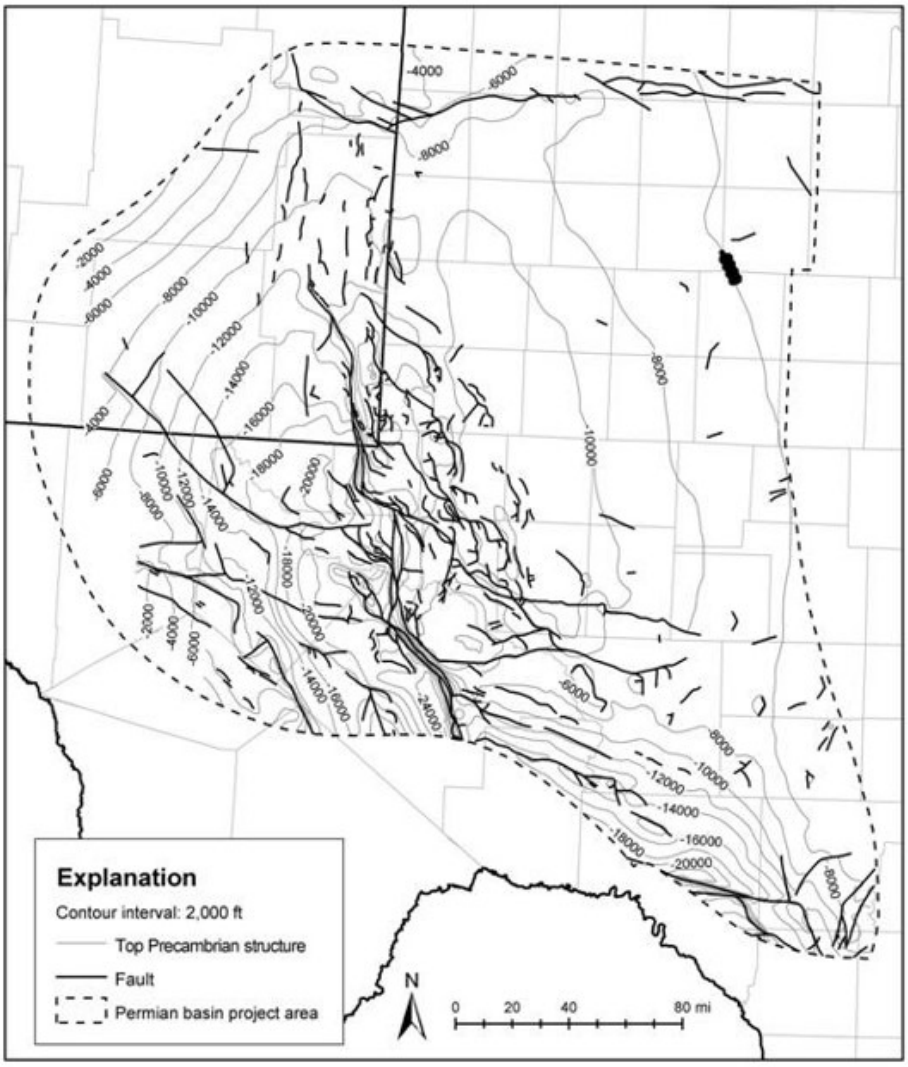
Figure 3 from the Snee and Zoback paper highlights additional faults in this area that trend more in a NE/SW direction. There is a high probability that these mapped faults are actually surface faults as the apparent source of these fault traces is from a Geological Map of New Mexico (see Figure 4).

The Double Barrel 31 Fed 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 Double Barrel (miles)
Solaris Water Midstream	Clara Allen SWD #001	Permitted	1.71
Solaris Water Midstream	Blue Duck St. SWD #001	Permitted	1.72
V-F Petro	Northcott 24 SWD #001	Active	2.19

Zane Anderson

Engineer
zanderson@mewbourne.com
575-393-5905



Precambrian Structure Map In the Permian Basin (Ruppel etal.)

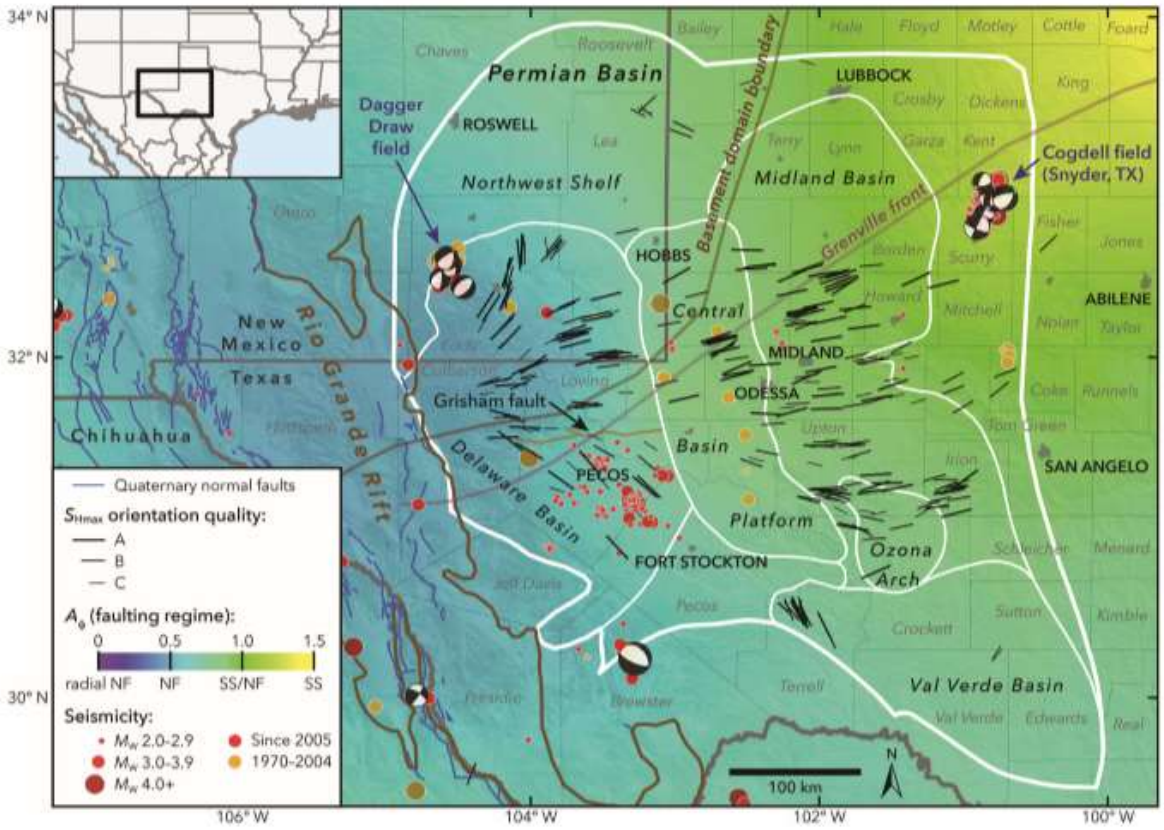


Figure 1. State of stress in the Permian Basin, Texas and New Mexico. Black lines are the measured orientations of S_{Hmax}, with line length scaled by data quality. The colored background is an interpolation of measured relative principal stress magnitudes (faulting regime) expressed using the A_ϕ parameter (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).

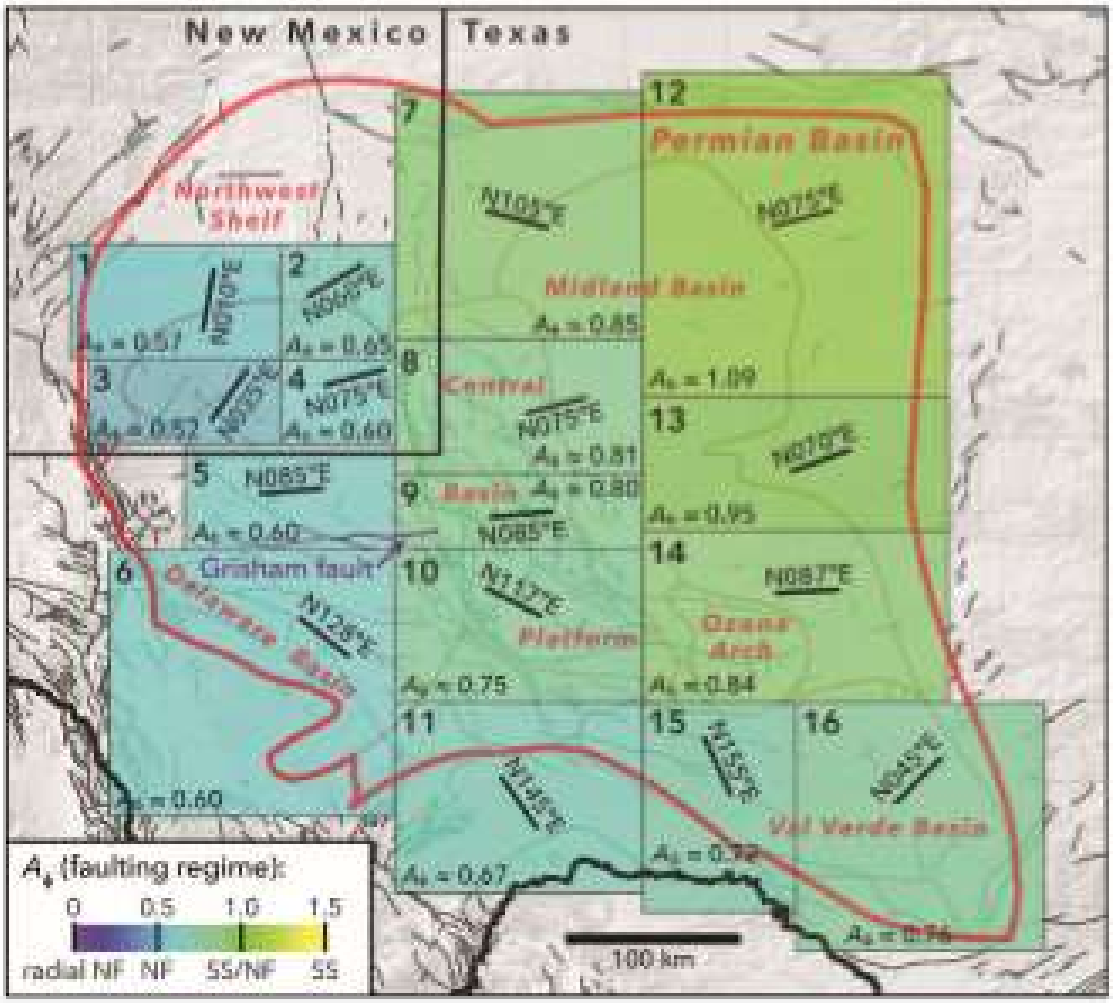


Figure 2. Map of study areas chosen for FSP analysis on the basis of broadly similar stress conditions. Text annotations indicate representative S_{Hmax} orientation and relative principal stress magnitudes (A_ϕ parameter) for each study area based on the data presented in Figure 1. Gray lines in the 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.

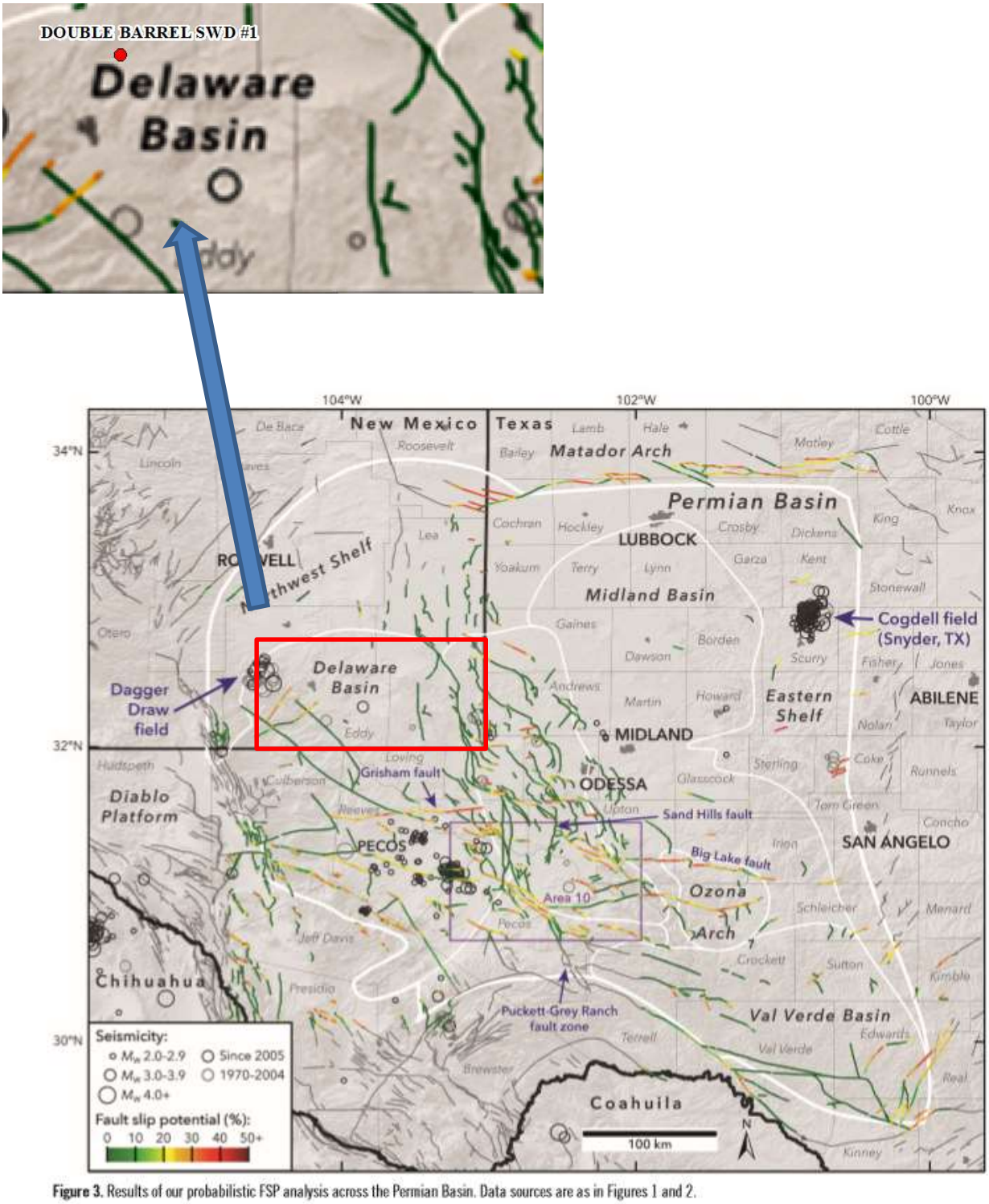


Figure 3. Results of our probabilistic FSP analysis across the Permian Basin. Data sources are as in Figures 1 and 2.

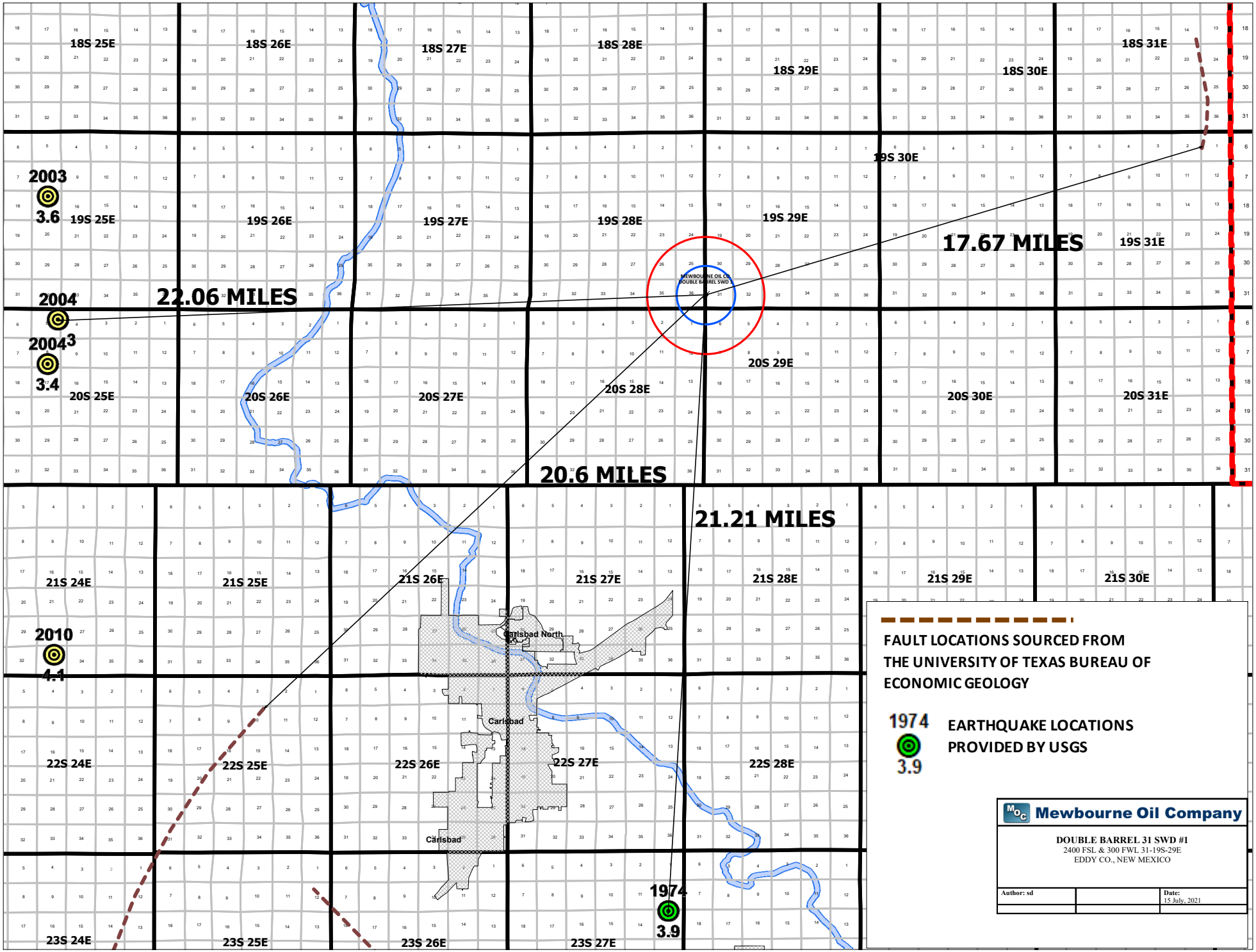
References

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.


18S 25E
18S 26E
18S 27E
18S 28E
18S 29E
18S 30E
18S 31E
19S 25E
19S 26E
19S 27E
19S 28E
19S 29E
19S 30E
19S 31E
20S 25E
20S 26E
20S 27E
20S 28E
20S 29E
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20S 31E
21S 24E
21S 25E
21S 26E
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21S 28E
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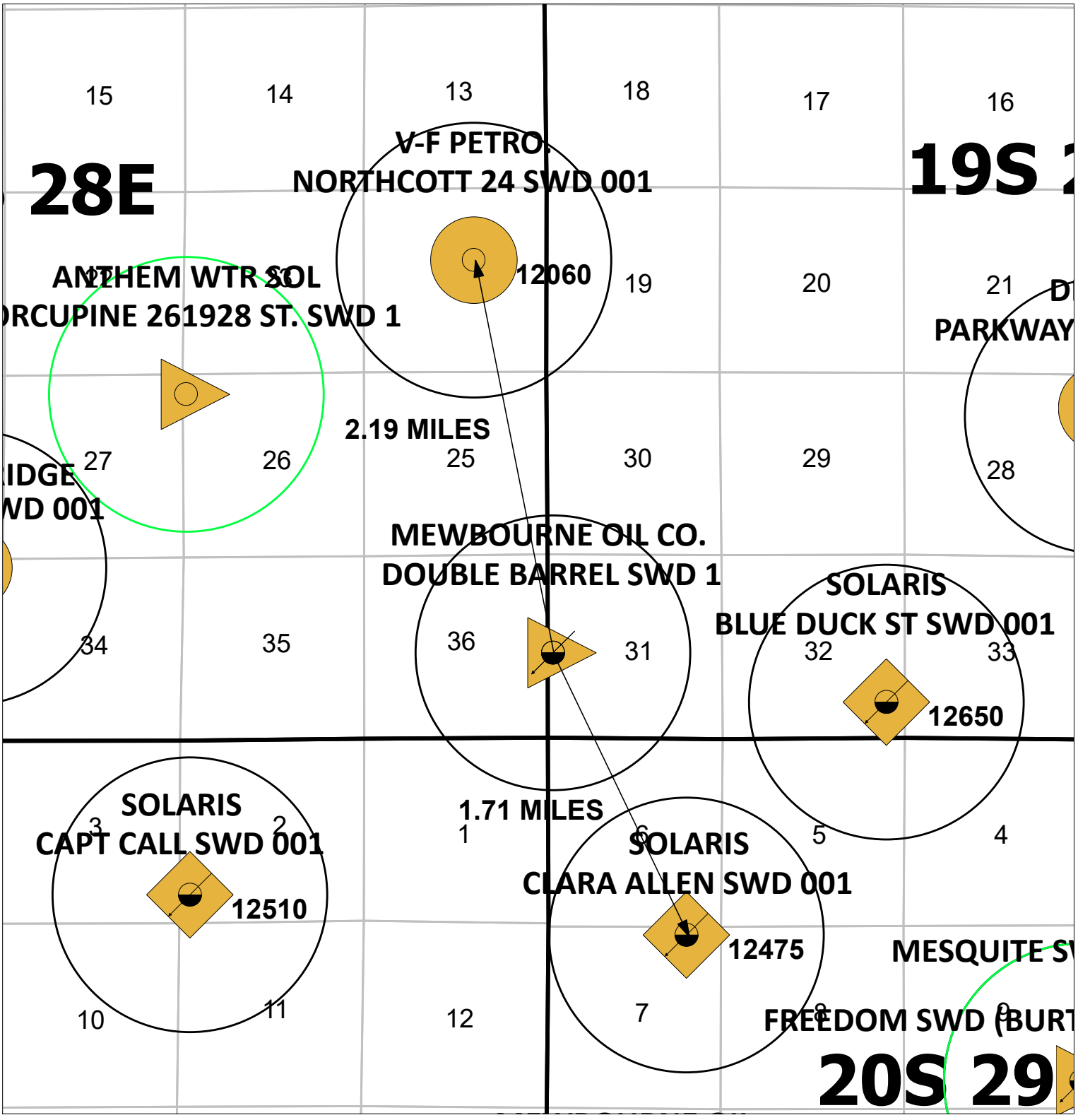
21S 30E
22S 24E
22S 25E
22S 26E
22S 27E
22S 28E
23S 24E
23S 25E
23S 26E
23S 27E
2003
3.6
2004
3.4
2010
4.1
1974
3.9
22.06 MILES
20.6 MILES
21.21 MILES
17.67 MILES
MEWBOURNE OIL CO
DOUBLE BARREL SWD 1
Carlsbad North
Carlsbad
Carlsbad
FAULT LOCATIONS SOURCED FROM
THE UNIVERSITY OF TEXAS BUREAU OF
ECONOMIC GEOLOGY
1974
3.9
EARTHQUAKE LOCATIONS
PROVIDED BY USGS
Mewbourne Oil Company
DOUBLE BARREL 31 SWD #1
2400 FSL & 300 FWL 31-19S-29E
EDDY CO., NEW MEXICO
Author: sd
Date:
15 July, 2021



ACTIVE SWD WELL

SWD WELL APPLICATION PENDING

PERMITTED LOCATIONS

THREE QUARTER
MILE RADIUS

Mewbourne Oil Company

DOUBLE BARREL 31 SWD #1
2400 FSL & 300 FWL 31-19S-29E
EDDY CO., NEW MEXICO

Author: sd		Date: 15 July, 2021

D — **D'**

300154574300	2.3 miles	300150361200	1.1 miles	DOUBLE BARREL 31 SWD 1	3.1 miles	300152884100	2.5 miles	300153082800
V-F NORTHCOTT 24 SWD 001 Reference=KB Datum=3390.00 TWP: - Range: - Sec.		STRATA PRODUCTION CO CHAPARRAL STATE 2 Reference=KB Datum=3325.00 660 FNL 660 FWL TWP: 19 S - Range: 29 E - Sec. 32		MOC DOUBLE BARREL 31 FED SWD 1 Reference=KB Datum=3326.00 2400 FS 300 FW TWP: 19 S - Range: 29 E - Sec. 0		OXY U S A INC GOVERNMENT NBFD 1 Reference=KB Datum=3283.00 660 FSL/330 FWL TWP: 20 S - Range: 28 E - Sec. 11		MEWBOURNE OIL CO DERRINGER FEDERAL S 1 Reference=KB Datum=3265.00 SW TWP: 20 S - Range: 29 E - Sec. 18

24G/19S/28E
7/31/19 DVNN SWD Completion
Open Hole: 12135-12900
SWD Inj Cum: 3.4 MMBW
Still Active

32M/19S/29E
DVNN DST: Recover Salt Water

31L/19S/29E
Proposed Double Barrel
31 Fed SWD #1

11M/20S/28E
5/1/96 Test DVNN
Pf: 12204-12324. Swb 18 BW
No Show Oil or Gas

18N/20S/29E
4/9/14 DVNN SWD Completion
Open Hole: 12660-13200
SWD Inj Cum: 14 MMBW
Still Active

500

0

-500

MSSP

WDFD

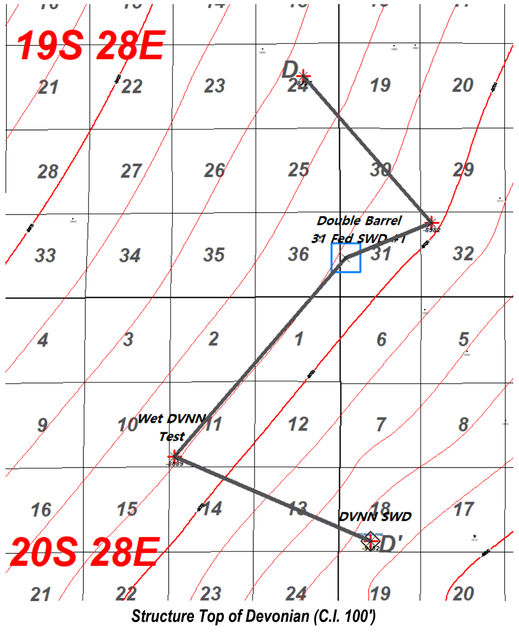
DVNN

Approved DVNN Injection Interval

TD=12900.00

Wet DVNN DST

TD=12429.00
Cum Oil All Zones: 1.4 bbls
Cum Gas All Zones: 0.1 BCF



Structure Top of Devonian (C.I. 100')

Est Top MSSP
11690

Est Top WDFD
12160

Est Top DVNN
12225

RGR(N/A)
0 150
MWD-GR(N/A)
0 150
GR_AP(N/A)
0 150
Gamma(N/A)
0 150

Proposed DVNN Injection Interval

TD=13215.00

Wet DVNN Test

Perf 12324 - 12204

TD=12375.00
Cum Oil All Zones: 46 bbls
Cum Gas All Zones: 2.0 BCF
Cum Water All Zones: 9.9 bbls

Approved DVNN Injection Interval

TD=13200.00

Est Top Montoya - 13225
Est Top Simpson - 13500
Est Top Ellenburger - 13625

Double Barrel 31 Fed SWD #1

MEWBOURNE OIL COMPANY
Double Barrel 31 Fed SWD #1

PLUGGING RISK ASSESSMENT

5 ½" Flush Joint Injection Tubing Inside of 7 ⅝" Casing

Specs

5 ½" 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 ⅝" 39# P110 Casing	**OD (in)**	**ID (in)**	**Drift (in)**	**Wall Thickness (in)**	**5 ½" 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 Dowhole Bowen® overshots.

NOTE: Nitralloy Grapples are available upon request.

Bowen Series 150 Releasing and Circulation Overshots
Maximum Catch Size 4¾" to 5½" Inclusive

Maximum Catch Size (Spiral)		4¾	4⅝	4¾	4¾	5	5	5½
Maximum Catch Size (Basket)		3⅞	4⅛	4¼	4¼	4¼	4¼	4⅞
Overshot O.D.		5⅝	5⅝	5⅝	5¾	5⅞	6⅝	6⅝
Type		F.S.	S.H.	S.H.	S.F.S.	S.H.	F.S.	S.H.
Complete Assembly	Part No.	5896	5698	C-5168	8975	C-5171	C-4825	8625
(Dressed Spiral Parts)	Weight	130	130	133	138	140	192	165
Replacement Parts								
Top Sub	Part No.	5897	5699	A-5169	8976	A-5172	B-4826	8626
Bowl	Part No.	5898	5700	B-5170	8977	B-5173	B-4827	8617
Packer	Part No.	169	1140	B-2199	6114	L-5950	L-4505	8618
Spiral Grapple	Part No.	165	1135	B-2201	6112	B-4389	M-1071	8619
Spiral Grapple Control	Part No.	186	1137	B-2202	6113	B-4370	M-1072	8620
Standard Guide	Part No.	187	1143	B-2203	6121	B-4371	L-1074	8621
Basket Parts								
Basket Grapple	Part No.	165	1135	B-2201	6112	B-4389	M-1071	8619
Basket Grapple Control	Part No.	186	1137	B-2202	6113	B-4370	M-1072	8620
Mill Control Packer	Part No.	169-R	1140-R	B-2199-R	6114-R	L-5950-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 ⅝” 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 ⅝” 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 6⅝" to 7¼" Inclusive

Maximum Catch Size (Spiral)		6⅝	6¾	7	7¼
Maximum Catch Size (Basket)		5⅞	6⅛	6⅜	6⅝
Overshot O.D.		8¼	7⅞	8⅛	8⅜
Type		F.S.	S.H.	S.H.	S.H.
Complete Assembly	Part No.	C-3032	C-5222	9217	C-5354
(Dressed Spiral Parts)	Weight	280	243	251	260
Replacement Parts					
Top Sub	Part No.	A-3033	A-5223	9218	A-5355
Bowl	Part No.	B-3034	B-5224	9219	B-5356
Packer	Part No.	A-1814	B-5225	9224	B-5357
Spiral Grapple	Part No.	N-84	B-5227	9222	B-5359
Spiral Grapple Control	Part No.	M-89	A-5228	9223	B-5360
Standard Guide	Part No.	A-1818	A-5229	9226	A-5361
Basket Parts					
Basket Grapple	Part No.	N-84	B-5227	9222	B-5359
Basket Grapple Control	Part No.	M-89	A-5228	9223	B-5360
Mill Control Packer	Part No.	A-1814-R	B-5225-R	9224-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.