



MEWBOURNE
OIL COMPANY

August 5, 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
Chicharron 12 Fed SWD #1
780' FEL & 500' FNL, Unit A
Section 12, Township 21 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 Chicharron 12 Fed SWD #1 that will be located in Sec 12 Twp 21S, 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. The public notice of this application was published in the Carlsbad Current-Argus on July 30th 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: _____ OGRID Number: _____
 Well Name: _____ API: _____
 Pool: _____ Pool Code: _____

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

Notice Complete

Application Content Complete

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

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

 Print or Type Name

 Date

 Phone Number

 Signature

 e-mail Address

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: _____

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: **Chicharron 12 Fed SWD #1**

| | | | | | |
|----------------|--------------------------------|-------------|-----------|------------|------------|
| WELL LOCATION: | 500' FNL & 780' FEL | A | 12 | 21S | 27E |
| | FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE |

WELLBORE SCHEMATIC (See Attached)WELL CONSTRUCTION DATASurface CasingHole Size: **32"** Casing Size: **26" (202.3#) @ 320'**Cement with: **650 sx (100% excess)** Top of Cement: **Surface**1st Intermediate CasingHole Size: **24"** Casing Size: **20" (94 & 133#) @ 975'**Stage 1: **730 sx (25% excess)** Top of Cement: **Surface (Calculated)**2nd Intermediate CasingHole Size: **17 1/2"** Casing Size: **13 3/8" (61 & 68#) @ 2,825'**Stage 1: **1800 sx (25% excess)** Top of Cement: **Surface (Calculated)**Production CasingHole Size: **12 1/4"** Casing Size: **9 5/8" (40#) @ 9,075'**Stage 1: **1265 sx** Top of Cement: **DV Tool @ 3,800'**Stage 2: **1115 sx** Top of Cement: **1,010' (Calculated)**Production Liner

Hole Size: **8 3/4"**

Casing Size: **7 5/8" (33.7#)**

Top @ 8,875'

Bottom @ 12,750'

Cement with: **320 sx (25% excess)**

Top of Cement: **8,875'**

(Proposed: circulated to liner top)

TD @ 13,425'

Permitted Injection Interval 12,750'-13,425'

Side 2

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 12,670'

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

Packer Setting Depth: **+/- 12,670'**

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 (2,900')**, **Bone Spring (5,450')**, **Wolfcamp (9,050')**, & **Morrow (11,180')**

Underlying producing zone – **N/A**

Chicharron 12 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 2,550 psi (0.2 psi/ft x 12,750 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 | 1.086 | 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 12,750' to 13,425'. It is estimated that the base of the injection interval should be approximately 400' above the top of the Ellenburger.

Other Projected Formation Tops:

| | |
|------------------------|----------------|
| Mississippian | 12,190' |
| Woodford | 12,670' |
| Devonian | 12,750' |
| EST TOTAL DEPTH | 13,425' |
| Montoya | 13,425' |
| Simpson | 13,700' |
| Ellenburger | 13,825' |

2. The underground fresh water aquifers (unnamed) are present at shallow depths (per review 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 186', the shallowest water at a depth of 8' and the average water depth at 63'. 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 32 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 21S, Rge 27E, 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: Chicharron 12 Fed SWD #1
Spud: 2021

26" 202.3# J-55 BTC
Set @ 320'
Cmt w/ 650 sx

20" 94 & 133# J-55 BTC
Set @ 975'
Cmt w/ 730 sx

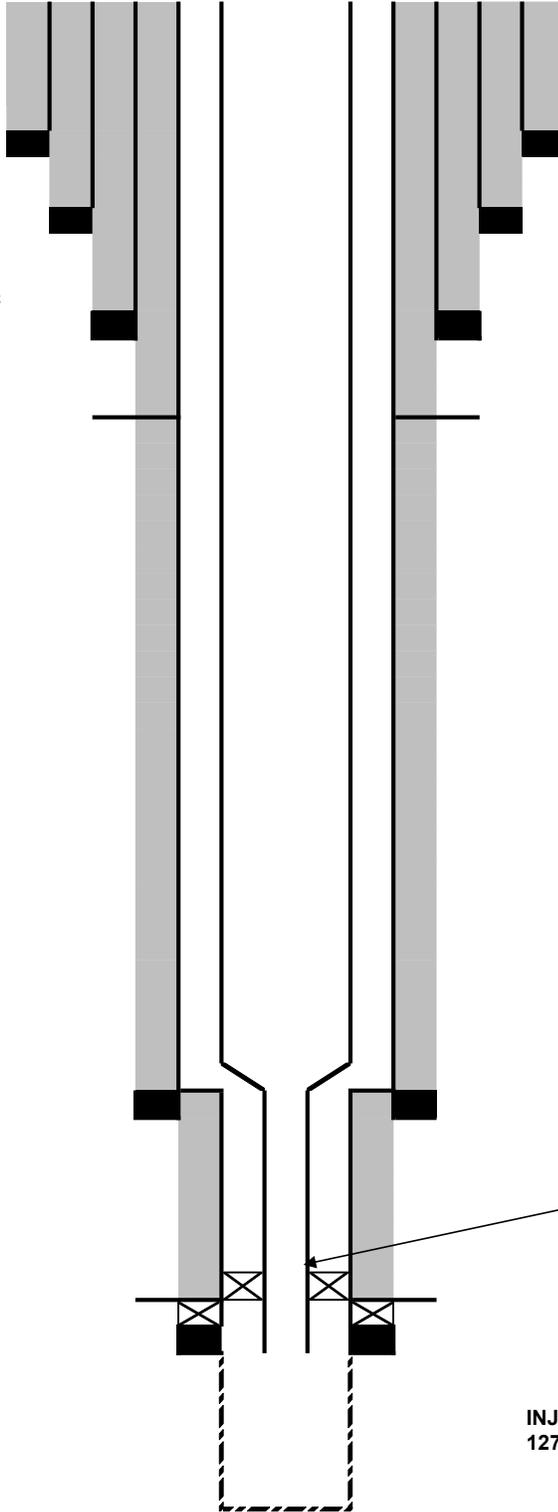
13 3/8" 61 & 68# J55 & HCL80 STC
Set @ 2825'
Cmt w/ 1800 sx

ECP/DV Tool @ 3800'
Cmt 2nd stg w/ 1115 sx

9 5/8" 40# HCL80 LTC
Set @ 9075'
Cmt 1st stg w/ 1265 sx

7 5/8" 33.7# P-110 UFJ Liner
Set from 8875'-12,750'
Cmt w/ 320 sx

6 1/8" Open Hole
TD @ 13,425'



Injection String
7" P110 UFJ GB & 5 1/2" P110 UFJ GB
Nickel-Plated Pkr Set @ 12,670'

DV Tool @ 12,690'
External Csg Pkr Set @ 12,730'

INJECTION ZONE: DEVONIAN
12750' - 13425'

t

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 CHICHARRON 12 FED SWD | | | 6 Well Number 1 |
| 7 OGRID NO. | | 8 Operator Name MEWBOURNE OIL COMPANY | | | 9 Elevation 3194' |

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 |
|---------------|-----------|------------|------------|---------|---------------|------------------|---------------|----------------|-------------|
| A | 12 | 21S | 27E | | 500 | NORTH | 780 | 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.

S 89°48'05" W 2664.22' S 89°48'25" W 2667.24'

500'
S.L. 780'

12

S 89°39'34" W 2683.49' S 89°38'15" W 2685.33'

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 _____

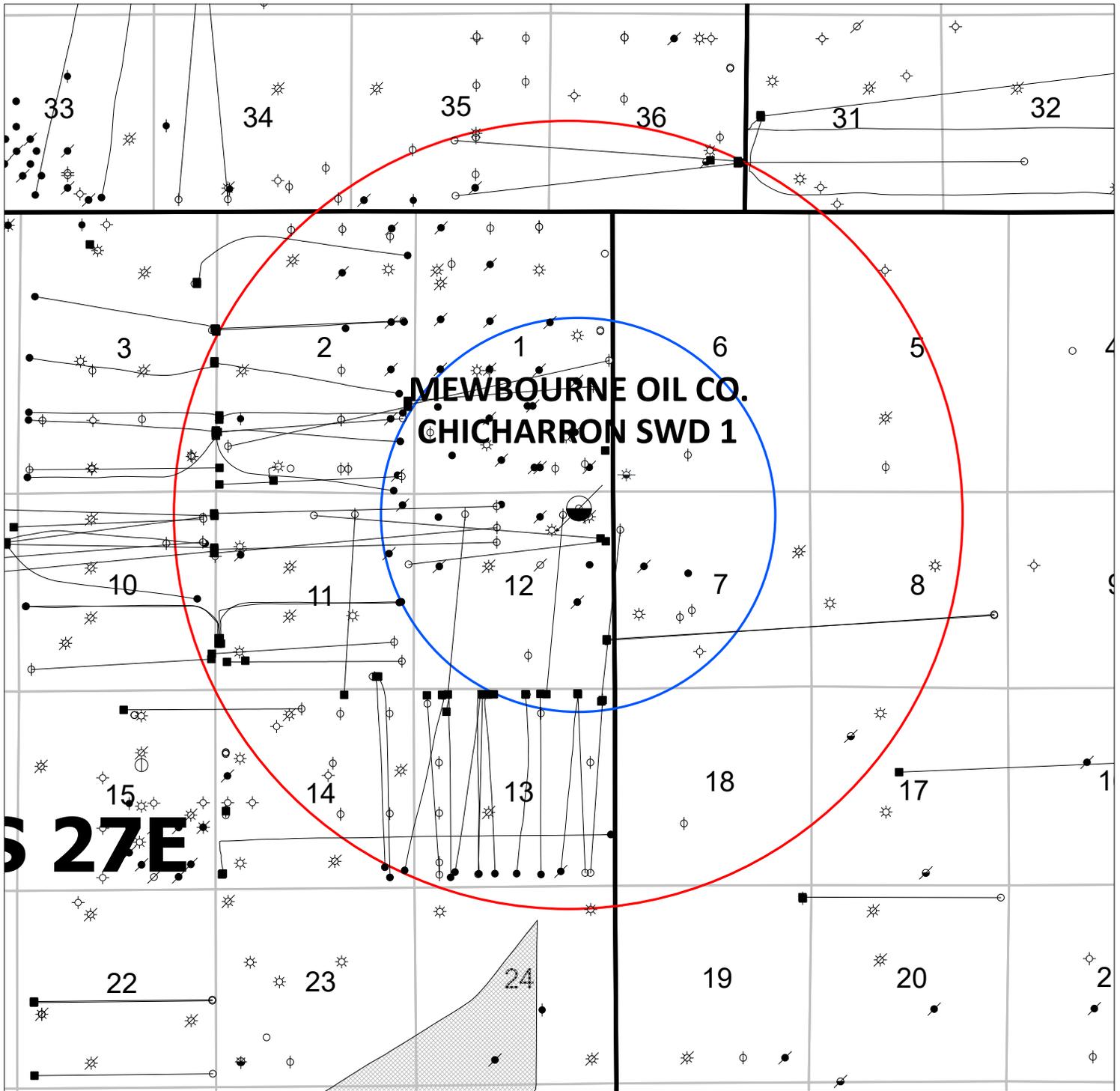
18 SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

06-03-2021
Date of Survey

Signature and Seal of Professional Surveyor _____

19680
Certificate Number

Job No.: **LS21060597**



**MEWBOURNE OIL CO.
CHICHARRON SWD 1**



1 MILE AREA OF REVIEW



2 MILE AREA OF REVIEW

| | | |
|---|--|-----------------------|
|  Mewbourne Oil Company | | |
| CHICHARRON 12 SWD #1 500 FNL & 780 FEL 12-21S-27E EDDY CO., NEW MEXICO | | |
| Author: sd | | Date: 9 July, 2021 |

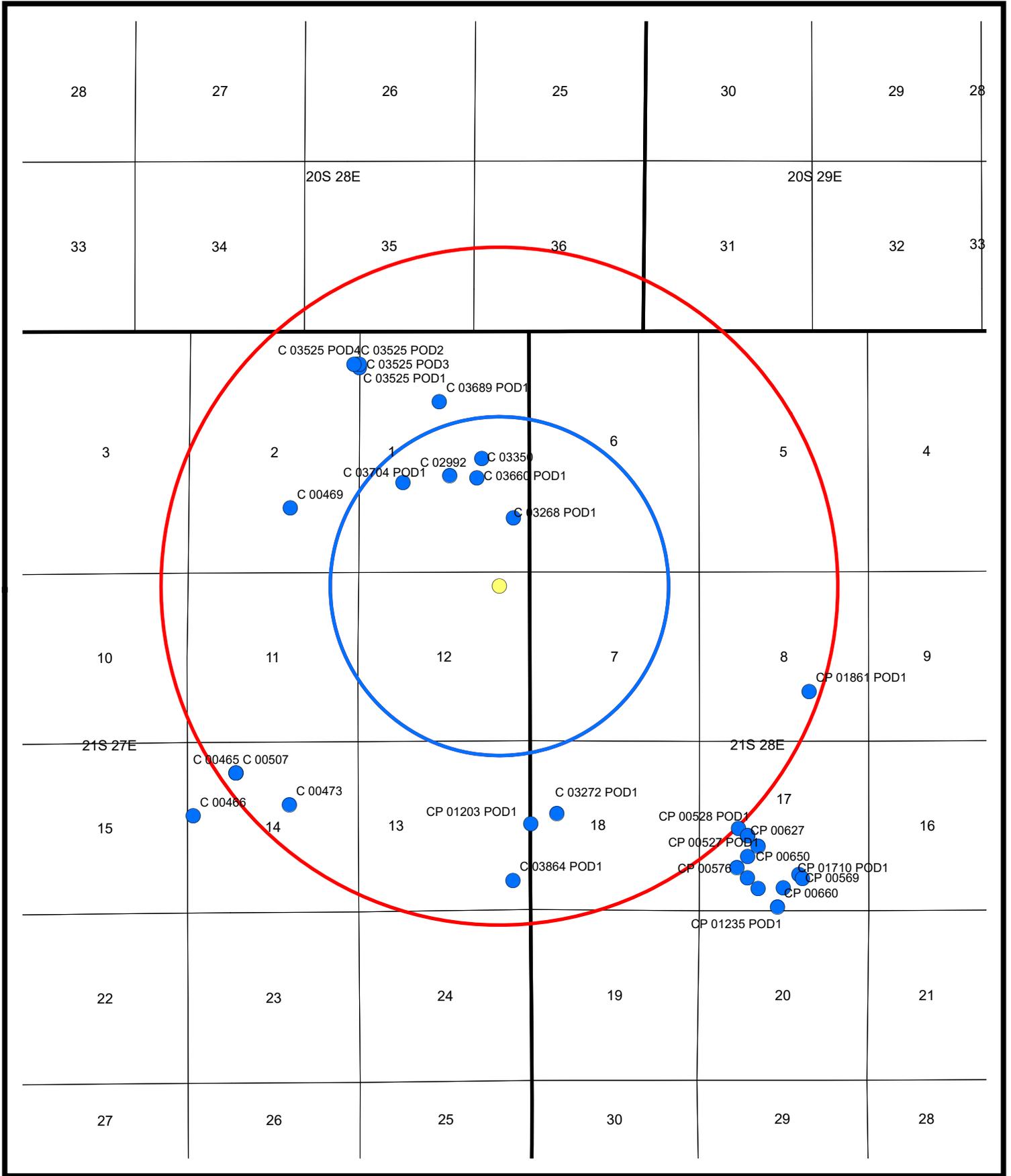
Mewboure Oil Company
Chicharron 12 Fed SWD #1 C-108 Application

1 MILE AOR WELLS

ESTIMATED TOP OF DEVONIAN = 12,750'

| 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 |
|----------------|-----------------------------|----------|-------------------------------|-------------------------------|---------------------|------------------------------------|------------------|-------|--------|---------------------------|--------------|--------------------|------------|-----------------|--------------------------|------------|-------------|---------------------|------------|------------|------------------|-------------|--------------|
| 30015247070000 | BIG EDDY | 98 | AMMEX PETROLEUM CORP | DAKOTA RESOURCES INC | 21S 28E 7 | 2180 FNL 1980 FWL CONGRESS SECTION | FENTON NORTHWEST | NM | EDDY | DELAWARE | OIL PRODUCER | 2021-05-28 | 9050 | WOLFCAMP | DELAWARE | 9050 | DELAWARE | 1984-01-08 | 1984-01-18 | 1984-04-06 | 1984-02-11 | 32.49590847 | -104.1274968 |
| 30015250060000 | TRIGG FEDERAL | 001 | EXXON CORP | DAKOTA RESOURCES INC | 21S 28E 7 NW SW | 1980 FSL 660 FWL CONGRESS SECTION | FENTON NORTHWEST | NM | EDDY | DELAWARE | OIL PRODUCER | 2019-06-10 | 3366 | DELAWARE | DELAWARE | 3300 | DELAWARE | 1984-08-31 | 1984-09-15 | 1984-10-20 | 1984-09-26 | 32.49289596 | -104.1317761 |
| 30015250060001 | TRIGG FEDERAL | 001 | DAKOTA RESOURCES INC | DAKOTA RESOURCES INC | 21S 28E 7 NW SW | 1980 FSL 660 FWL CONGRESS SECTION | FENTON NORTHWEST | NM | EDDY | N/A - SALT WATER DISPOSAL | SWDCOM-WO | 2017-11-21 | 3366 | DELAWARE | DELAWARE | | DELAWARE | 2002-01-30 | 2002-02-01 | 2002-02-20 | | 32.49289596 | -104.1317761 |
| 30015250510000 | WILDERSPIN FEDERAL | 2 | GAS LIFT SALES & SERVICE INC | SOUTHWEST ROYALTIES INC | 21S 27E 11 | 330 FNL 330 FEL CONGRESS SECTION | FENTON NORTHWEST | NM | EDDY | DELAWARE | OIL PRODUCER | 2021-07-30 | 5579 | BONE SPRING | DELAWARE | 5600 | DELAWARE | 1984-10-05 | 1984-10-15 | 1984-11-16 | | 32.50098375 | -104.1522882 |
| 30015250630000 | BURTON FLAT 'E' FEDERAL | 2 | EXXON CORP | RANGER 40 PETROLEUM LLC | 21S 27E 1 | 990 FSL 990 FWL CONGRESS SECTION | FENTON NORTHWEST | NM | EDDY | DELAWARE | OIL PRODUCER | 2021-06-14 | 5668 | BONE SPRING | DELAWARE | 5800 | DELAWARE | 1985-02-10 | 1985-02-20 | 1985-04-12 | 1985-03-12 | 32.50461927 | -104.1479762 |
| 30015250640000 | BURTON FLAT 'E' FEDERAL | 1 | EXXON CORP | RANGER 40 PETROLEUM LLC | 21S 27E 1 | 2290 FSL 600 FWL CONGRESS SECTION | AVALON EAST | NM | EDDY | BONE SPRING | OIL PRODUCER | 2021-05-20 | 5597 | BONE SPRING | BONE SPRING | 5800 | BONE SPRING | 1984-11-01 | 1984-11-11 | 1984-12-14 | | 32.50819183 | -104.1492124 |
| 30015253020000 | GOVERNMENT 'D' | 5 | SUPERIOR OIL CO THE | MATADOR PRODUCTION CO | 21S 27E 1 NW NW SE | 2310 FSL 2310 FEL CONGRESS SECTION | AVALON EAST | NM | EDDY | BONE SPRING | OIL PRODUCER | 2021-06-14 | 5700 | BONE SPRING | BONE SPRING | 5800 | BONE SPRING | 1985-08-01 | 1985-08-11 | 1985-10-21 | 1985-08-26 | 32.50825719 | -104.141429 |
| 30015253150000 | GOVERNMENT 'D' | 6 | SUPERIOR OIL CO THE | MATADOR PRODUCTION CO | 21S 27E 12 N2 SE NE | 1950 FNL 660 FEL CONGRESS SECTION | FENTON NORTHWEST | NM | EDDY | DELAWARE | OIL PRODUCER | 2021-06-14 | 5735 | BONE SPRING | DELAWARE | 5800 | DELAWARE | 1985-09-17 | 1985-09-27 | 1985-11-03 | 1985-10-10 | 32.49655158 | -104.1360623 |
| 30015253450000 | GOVERNMENT 'D' | 9 | SUPERIOR OIL CO THE | MATADOR PRODUCTION CO | 21S 27E 12 NE NE NW | 330 FNL 2310 FWL CONGRESS SECTION | FENTON NORTHWEST | NM | EDDY | DELAWARE | OIL PRODUCER | 2021-06-14 | 3200 | DELAWARE | DELAWARE | 5800 | DELAWARE | 1985-09-27 | 1985-10-07 | 1985-11-20 | 1985-10-15 | 32.50099573 | -104.1437226 |
| 30015253620000 | GOVERNMENT 'D' | 3 | SUPERIOR OIL CO THE | MATADOR PRODUCTION CO | 21S 27E 12 W2 NW NW | 660 FNL 630 FWL CONGRESS SECTION | FENTON NORTHWEST | NM | EDDY | DELAWARE | OIL PRODUCER | 2021-06-14 | 3200 | DELAWARE | DELAWARE | 3150 | DELAWARE | 1985-08-21 | 1985-08-31 | 1985-11-03 | 1985-09-11 | 32.50008109 | -104.1491802 |
| 30015253620001 | GOVERNMENT D | 3 | MERIT ENERGY CO | MATADOR PRODUCTION CO | 21S 27E 12 W2 NW NW | 660 FNL 630 FWL CONGRESS SECTION | FENTON NORTHWEST | NM | EDDY | MISC PERMIAN BASIN | OIL-WO | 2019-07-01 | 3200 | DELAWARE | | | | 1993-05-07 | 1993-05-17 | 1993-06-13 | | 32.50008109 | -104.1491802 |
| 30015329350000 | ESPERANZA 12 FEDERAL COM | 1 | MEWBOURNE OIL CO | MEWBOURNE OIL CO | 21S 27E 12 SE NW NE | 990 FNL 1650 FEL CONGRESS SECTION | BURTON FLAT | NM | EDDY | PERMIAN CONVENTIONAL | GAS PRODUCER | 2021-05-20 | 11970 | BARNETT /SH/ | MORROW LOWER | 11900 | MORROW | 2003-08-01 | 2003-09-19 | 2003-11-11 | 2003-10-16 | 32.49911173 | -104.1393357 |
| 30015329850000 | ESPERANZA 1 FEDERAL COM | 2 | MEWBOURNE OIL CO | MEWBOURNE OIL CO | 21S 27E 1 NW SE SW | 1310 FSL 1920 FWL CONGRESS SECTION | BURTON FLAT | NM | EDDY | PERMIAN CONVENTIONAL | GAS PRODUCER | 2018-09-26 | 11830 | BARNETT /SH/ | MORROW | 11850 | MORROW | 2003-09-04 | 2004-04-13 | 2004-06-13 | 2004-05-25 | 32.50540272 | -104.1449838 |
| 30015331690000 | ESPERANZA 1 FEDERAL COM | 1 | MEWBOURNE OIL CO | MEWBOURNE OIL CO | 21S 27E 1 SE | 1500 FSL 1260 FEL CONGRESS SECTION | BURTON FLAT | NM | EDDY | PERMIAN CONVENTIONAL | GAS PRODUCER | 2021-05-20 | 11910 | BARNETT /SH/ | MORROW | 11900 | MORROW | 2004-01-07 | 2004-01-19 | 2004-03-15 | 2004-03-02 | 32.50596333 | -104.1380805 |
| 30015333820000 | JUSTICE FEDERAL COM | 2 | MEWBOURNE OIL CO | MEWBOURNE OIL CO | 21S 27E 1 NE SW | 3300 FSL 1650 FWL CONGRESS SECTION | BURTON FLAT | NM | EDDY | PERMIAN CONVENTIONAL | GAS PRODUCER | 2021-05-20 | 11780 | BARNETT /SH/ | MORROW | 11800 | MORROW | 2004-04-09 | 2004-10-28 | 2004-12-29 | 2004-11-30 | 32.51086898 | -104.1458067 |
| 30015335000000 | JUSTICE FEDERAL COM | 1 | MEWBOURNE OIL CO | MEWBOURNE OIL CO | 21S 27E 1 NE | 4220 FSL 960 FEL CONGRESS SECTION | BURTON FLAT | NM | EDDY | PERMIAN CONVENTIONAL | GAS PRODUCER | 2021-05-20 | 11870 | MISSISSIPPIAN | MORROW | 11850 | MORROW | 2004-06-01 | 2004-07-07 | 2004-09-09 | 2004-08-04 | 32.51344471 | -104.1370911 |
| 30015405220000 | LONE TREE DRAW 13 STATE COM | 4H | DEVON ENERGY PRODUCTION CO LP | DEVON ENERGY PRODUCTION CO LP | 21S 27E 13 NE | 150 FNL 2390 FEL CONGRESS SECTION | CARLSBAD | NM | EDDY | DELAWARE | OIL PRODUCER | 2020-03-03 | 9572 | DELAWARE | DELAWARE | 9568 | DELAWARE | 2012-07-25 | 2012-12-25 | 2013-03-07 | 2012-12-31 | 32.48703001 | -104.1416464 |
| 30015405227000 | LONE TREE DRAW 13 STATE COM | 4H | DEVON ENERGY PRODUCTION CO LP | DEVON ENERGY PRODUCTION CO LP | 21S 27E 13 NE | 150 FNL 2390 FEL CONGRESS SECTION | CARLSBAD | NM | EDDY | PERMIAN CONVENTIONAL | PILOT HOLE | 2021-05-20 | 7950 | BONE SPRING | | | | 2012-12-07 | 2012-12-13 | 2012-12-24 | 2012-12-23 | 32.48703001 | -104.1416464 |
| 30015411350000 | LONETREE DRAW 13 STATE COM | 5H | DEVON ENERGY PRODUCTION CO LP | DEVON ENERGY PRODUCTION CO LP | 21S 27E 13 | 150 FNL 990 FEL CONGRESS SECTION | FENTON NORTHWEST | NM | EDDY | DELAWARE | OIL PRODUCER | 2021-05-20 | 9585 | DELAWARE | DELAWARE | 9542 | DELAWARE | 2013-02-20 | 2013-07-31 | 2013-10-23 | 2013-08-14 | 32.48707741 | -104.1371443 |
| 30015417380000 | LONE TREE DRAW 13 STATE COM | 8H | DEVON ENERGY PRODUCTION CO LP | DEVON ENERGY PRODUCTION CO LP | 21S 27E 13 | 150 FNL 1980 FEL CONGRESS SECTION | CARLSBAD EAST | NM | EDDY | BONE SPRING | OIL PRODUCER | 2021-05-20 | 12397 | BONE SPRING | BONE SPRING | 12300 | BONE SPRING | 2013-10-17 | 2015-02-18 | 2015-05-25 | 2015-03-07 | 32.48706496 | -104.140354 |
| 30015482930000 | CHOLULA 12-11 WOPM FED COM | 001H | MEWBOURNE OIL CO | MEWBOURNE OIL CO | 21S 27E 12 SE | 1270 FSL 205 FEL CONGRESS SECTION | ALACRAN HILLS | NM | EDDY | WOLFCAMP DELAWARE | WELL PERMIT | 2021-06-03 | 19651 | WOLFCAMP | | | | 2021-05-03 | | | | 32.49098961 | -104.1346045 |
| 30015483330000 | CHOLULA 12-11 WOIL FED COM | 002H | MEWBOURNE OIL CO | MEWBOURNE OIL CO | 21S 27E 12 SE | 1300 FSL 205 FEL CONGRESS SECTION | ALACRAN HILLS | NM | EDDY | WOLFCAMP DELAWARE | WELL PERMIT | 2021-06-03 | 19638 | WOLFCAMP | | | | 2021-05-03 | | | | 32.49107211 | -104.1346045 |
| 30015487430000 | CHOLULA 12-11 WOAD FED COM | 001H | MEWBOURNE OIL CO | MEWBOURNE OIL CO | 21S 27E 12 NE | 1300 FNL 205 FEL CONGRESS SECTION | WILDCAT | NM | EDDY | MISC PERMIAN BASIN | WELL PERMIT | 2021-07-23 | 19573 | WOLFCAMP | | | | 2021-07-19 | | | | 32.49838536 | -104.1346136 |

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



 WATER WELLS

 CHICHARRON 12 SWD

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

| | |
|--|--------------------|
|  Mewbourne Oil Company | |
| CHICHARRON 12 SWD #1 500 FNL & 780 FEL 12-21S-27E EDDY CO., NEW MEXICO | |
| Author: sd | Date: 9 July, 2021 |

MEWBOURNE OIL COMPANY

CHICHARRON 12 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 |
|---------------|--------------|--------|----------|-----|-----|----|-----|-----|-----|--------|---------|-----------|-------------|------------|-------------|---------------|------------|-------------|---------------------|
| C 02992 | C | EDDY | Shallow | SW | SW | NE | 1 | 21S | 27E | 580594 | 3597311 | 32.510172 | -104.141979 | 09/01/2003 | 11/11/2003 | 11/17/2003 | 250 | 186 | BALLARD, THURMAN F. |
| C 03350 | C | EDDY | Shallow | NW | SW | NE | 1 | 21S | 27E | 580896 | 3597476 | 32.511642 | -104.138748 | 11/01/2007 | 11/08/2007 | 02/17/2009 | 76 | 8 | TAYLOR, CLINTON E. |
| C 03525 POD1 | CUB | EDDY | Shallow | NW | NW | NW | 1 | 21S | 27E | 579702 | 3598362 | 32.519723 | -104.151388 | 11/30/2011 | 11/30/2011 | 12/12/2011 | 31 | 20 | BRYAN, EDWARD O. |
| C 03525 POD3 | CUB | EDDY | Shallow | NW | NW | NW | 1 | 21S | 27E | 579728 | 3598332 | 32.519445 | -104.151111 | 12/01/2011 | 12/01/2011 | 12/12/2011 | 30 | | BRYAN, EDWARD O. |
| C 03525 POD4 | CUB | EDDY | Shallow | NW | NW | NW | 1 | 21S | 27E | 579728 | 3598362 | 32.519722 | -104.151111 | 12/02/2011 | 12/02/2011 | 12/12/2011 | 29 | | BRYAN, EDWARD O. |
| C 03689 POD1 | C | EDDY | Shallow | NW | NW | NE | 1 | 21S | 27E | 580490 | 3598014 | 32.516528 | -104.143028 | 10/31/2013 | 11/01/2013 | 11/08/2013 | 95 | 10 | CLINTON E. TAYLOR |
| C 03268 POD1 | CUB | EDDY | | SE | NE | SE | 1 | 21S | 27E | 581201 | 3596915 | 32.506555 | -104.135553 | | | | | | |
| C 03660 POD1 | C | EDDY | | SE | SW | NE | 1 | 21S | 27E | 580850 | 3597291 | 32.509997 | -104.13925 | | | | | | |
| C 03704 POD1 | C | EDDY | | SW | SE | NW | 1 | 21S | 27E | 580147 | 3597242 | 32.509589 | -104.146739 | | | | | | |
| C 00469 | CUB | EDDY | | | NW | SE | 2 | 21S | 27E | 579078 | 3596994 | 32.507421 | -104.158144 | 08/06/1953 | 09/07/1953 | 08/11/1958 | 767 | | |
| C 03525 POD2 | CUB | EDDY | Shallow | NE | NE | NE | 2 | 21S | 27E | 579676 | 3598362 | 32.519723 | -104.151666 | 11/30/2011 | 11/30/2011 | 12/12/2011 | 29 | 20 | BRYAN, EDWARD O. |
| CP 01861 POD1 | CP | EDDY | | SE | NW | SE | 8 | 21S | 28E | 584023 | 3595285 | 32.491647 | -104.105655 | | | | | | |
| C 03864 POD1 | CUB | EDDY | Shallow | NE | SE | SE | 13 | 21S | 27E | 581218 | 3593472 | 32.4755 | -104.135666 | 01/14/2016 | 01/17/2016 | 01/17/2016 | 160 | 45 | JOHN SIRMAN |
| C 00465 | CUB | EDDY | | SW | NE | NW | 14 | 21S | 27E | 578576 | 3594475 | 32.484735 | -104.163698 | 08/26/1953 | 09/15/1953 | 03/29/1957 | | | BEADLE-YATES |
| C 00466 | CUB | EDDY | | SW | SW | NW | 14 | 21S | 27E | 578173 | 3594066 | 32.481074 | -104.16802 | 07/27/1953 | 08/02/1953 | 07/08/1958 | 538 | | ROBERT W. ATHA |
| C 00473 | CUB | EDDY | | | SW | NE | 14 | 21S | 27E | 579087 | 3594177 | 32.482011 | -104.158285 | 11/23/1953 | 12/21/1953 | 07/03/1958 | 562 | | A.M. BRINGINSTOOL |
| C 00507 | C | EDDY | Artesian | SW | NE | NW | 14 | 21S | 27E | 578576 | 3594475 | 32.484735 | -104.163698 | | | 09/15/1953 | | | BEADLE & YATES |
| CP 00529 POD1 | CP | EDDY | Shallow | NW | NE | SW | 17 | 21S | 28E | 583446 | 3593915 | 32.479329 | -104.11192 | | | | | | |
| CP 00627 POD2 | CP | EDDY | | NW | NE | SW | 17 | 21S | 28E | 583360 | 3593982 | 32.479944 | -104.112833 | | | | | | |
| CP 00660 | CP | EDDY | | SE | SE | SW | 17 | 21S | 28E | 583734 | 3593237 | 32.473194 | -104.108917 | | | | | | |
| CP 01235 POD1 | CP | EDDY | | SW | SW | SE | 17 | 21S | 28E | 583787 | 3593419 | 32.474833 | -104.108333 | | | | | | |
| CP 00527 POD1 | CP | EDDY | Shallow | SW | NE | SW | 17 | 21S | 28E | 583446 | 3593715 | 32.477525 | -104.111938 | | | 01/13/2006 | 100 | | ELMER SUMRULD |
| CP 00528 POD1 | CP | EDDY | Shallow | NW | NE | SW | 17 | 21S | 28E | 583446 | 3593915 | 32.479329 | -104.11192 | | | 01/13/2006 | | | |
| CP 00569 | CP | EDDY | Shallow | | SE | SW | 17 | 21S | 28E | 583549 | 3593414 | 32.474802 | -104.110868 | 02/10/1978 | 02/17/1978 | 02/23/1978 | 71 | 50 | TAYLOR, W.H. SR. |
| CP 00576 | CP | EDDY | Shallow | NW | SE | SW | 17 | 21S | 28E | 583448 | 3593513 | 32.475703 | -104.111934 | 01/07/1987 | 01/29/1987 | 02/09/1987 | 295 | 32 | WEST, BILLY GEORGE |
| CP 00627 | CP | EDDY | Shallow | | NE | SW | 17 | 21S | 28E | 583547 | 3593816 | 32.478428 | -104.110854 | 05/12/1982 | 05/15/1982 | 05/24/1982 | 154 | 30 | WEST, BILLY GEORGE |
| CP 00650 | CP | EDDY | Shallow | | | SE | 17 | 21S | 28E | 583347 | 3593612 | 32.476603 | -104.113 | 05/16/1982 | 05/19/1982 | 05/24/1982 | 155 | 35 | WEST, BILLY GEORGE |
| CP 01710 POD1 | CP | EDDY | Shallow | NW | SW | SE | 17 | 21S | 28E | 583936 | 3593547 | 32.475978 | -104.106738 | 09/19/2018 | 09/22/2018 | 01/23/2019 | 160 | 151 | AINSWORTH, RYAN |
| CP 01710 POD2 | CP | EDDY | Shallow | NW | SW | SE | 17 | 21S | 28E | 583971 | 3593509 | 32.475633 | -104.106366 | 09/18/2018 | 09/19/2018 | 01/23/2019 | 160 | 149 | AINSWORTH, RYAN |
| CP 01744 POD1 | CP | EDDY | Shallow | SW | NE | SW | 17 | 21S | 28E | 583476 | 3593764 | 32.477966 | -103.111616 | 09/19/2018 | 09/20/2018 | 01/23/2019 | 90 | 82 | AINSWORTH, RYAN |
| C 03272 POD1 | CUB | EDDY | | SE | SW | NW | 18 | 21S | 28E | 581632 | 3594114 | 32.481259 | -104.131206 | | | | | | |
| CP 01203 POD1 | CP | EDDY | | NW | NW | SW | 18 | 21S | 28E | 581383 | 3594015 | 32.480389 | -104.133862 | | | | | | |

AVG

197

63

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: | Chicharran 12 Fed SWD#1 |
| Analysis Performed by: | EPD | API Well Number: | |
| Client: | Mewbourne Oil Company | Well Name: | Fresh Water |
| Reader Number: | | Test Number: | C-03350 |
| Water Lens Batch Number: | B41 | | |

| Metals | | | |
|------------------------------|-----------------|----------------|------------------|
| | Dilution Factor | mg/L | meq/L |
| Barium | 1 | Less than 2 | Less than 0.029 |
| Calcium | Calc | 1970 | 98.4 |
| 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 | 1,000 | 262.00 | 21.60 |
| Sodium | Calc | Less than 410 | Less than 0.02 |
| Strontium | n/a | Test Not Run | - |
| Manganese | n/a | Test Not Run | - |
| Boron | | Test Not Run | - |
| Potassium | 10 | 27 | 0.7 |

| Anions | | | |
|---|-----------------|---------------|---------------|
| | Dilution Factor | mg/L | meq/L |
| Chloride | 1 | 203 | 6 |
| Sulfate | 10 | Less than 200 | Less than 4.2 |
| Nitrate | n/a | Test Not Run | - |
| Phosphate | 10 | 5.08 | 0.16 |
| 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 | 55 | 0.9 |
| Acetates/Formates (as Acetate) | Calc | 23 | 0.4 |
| Hydroxide (as OH ⁻) | Calc | 0 | 0 |
| Sulfide (Total) | n/a | Test not run | Test not run |

| Other | | | |
|-------------------------------------|-----------------|-------------------|------------------------|
| | Dilution Factor | | |
| Hydrogen Sulfide (H ₂ S) | Calc | 1.0 | mg/L |
| Turbidity | 1 | Less than 7 | NTU's |
| Total Hardness | 1,000.0 | 6,000.00 | mg/L CaCO ₃ |
| Oxidation/Reduction Potential (ORP) | | -6 | millivolts |
| Temperature | | 77 | Fahrenheit |
| Stiff & Davis Scaling Index (S&DSI) | | 0.11 | |
| Langelier Scaling Index (LSI) | | 0.79 | |
| Larson-Skold Index | | 53.09 | |
| Skillman Index | | 1.251 | |
| Barite Saturation Index | | 1.98 | |
| Gypsum Saturation Index | | 0.88 | |
| ATP (picograms/mL) | Calc | Test not run | |
| Dissolved CO ₂ (ppm) | Calc | 5 | |
| pH | n/a | 7.49 | |
| Total Alkalinity | 1 | 65 | mg/L CaCO ₃ |
| Total Dissolved Solids (TDS) | Calc | 4,100 | mg/L |
| Electrical Conductivity | Calc | Greater than 9800 | uS/cm |
| Electrical Resistivity | Calc | Less than 102.3 | Ohm*cm |
| Manganese/Iron Ratio | | Test Not Run | |
| Specific Gravity | | 1.0030 | |

| Comments |
|-------------|
| Fresh Water |



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: | Chicharran 12 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 WOLI 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 ₂ S) | 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 | |
| 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 |



Powered by: Water Lens™

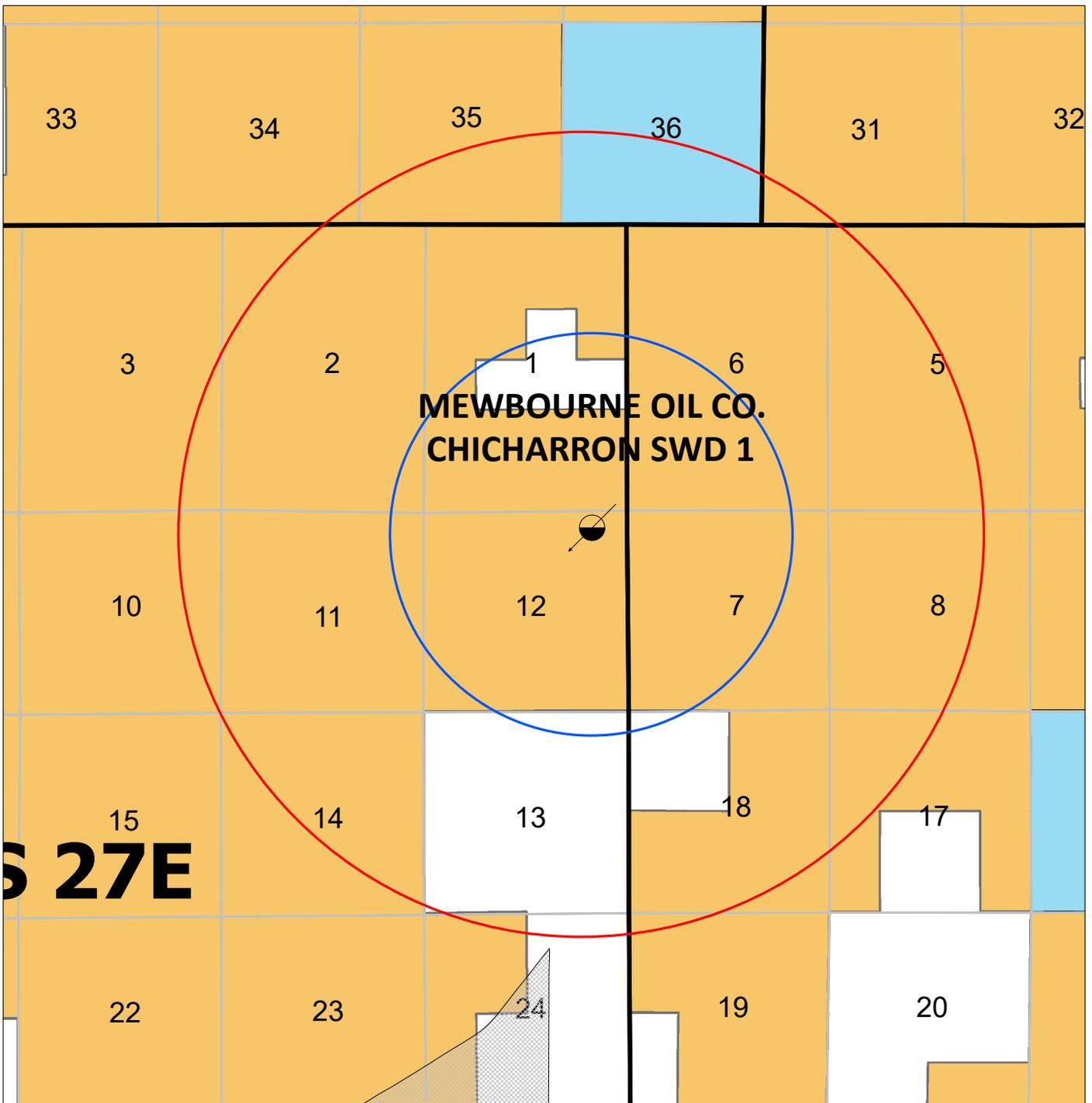
| Sample Information | | | |
|--------------------------|-----------------------|------------------|-----------------------|
| Date of Sample Analysis: | 2021/07/06 | Technician Name: | vfuentes |
| Date Sample was Taken: | 07/01/2021 | Sample Name: | Double Barrel 31 Fed |
| Analysis Performed by: | EPD | API Well Number: | |
| Client: | Mewbourne Oil Company | Well Name: | Produced Water |
| Reader Number: | | Test Number: | Ruger 31 B3EH Fed #2H |
| 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 ₂ S) | 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 | |
| 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 |



FEDERAL LANDS



STATE LANDS



PUBLIC LANDS

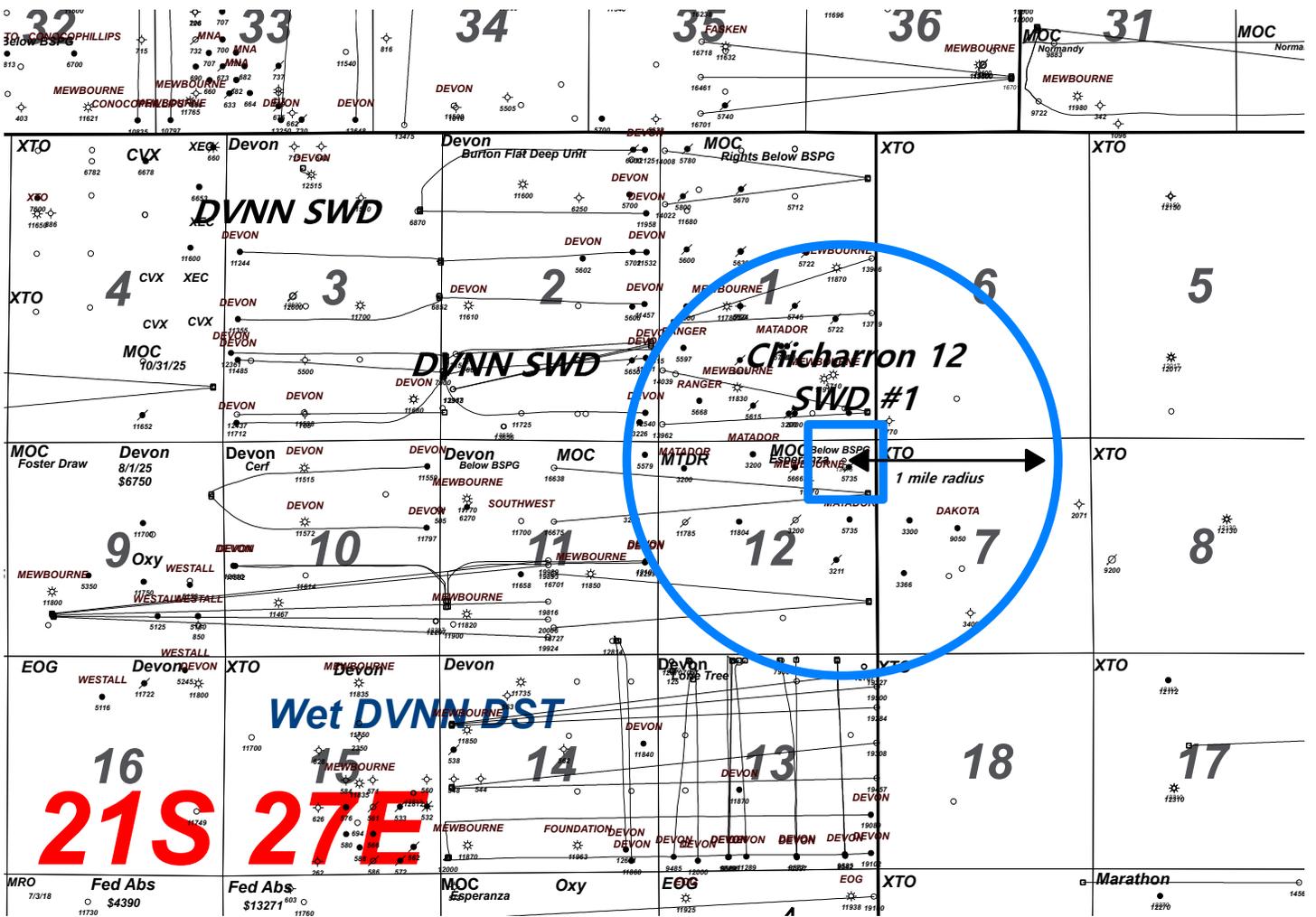


1 MILE AREA OF REVIEW



2 MILE AREA OF REVIEW

| | |
|---|-----------------------|
|  Mewbourne Oil Company | |
| CHICHARRON 12 SWD #1 500 FNL & 780 FEL 12-21S-27E EDDY CO., NEW MEXICO | |
| Author: sd | Date: 9 July, 2021 |



| | | |
|--|-------------|------------|
|  Mewbourne Oil Company | | |
| Chicharron SWD Offset Operators 12/21S/27E | | |
| 6/29/2021 | Eddy County | New Mexico |
| | | N.Cless |

Listing of Notified Persons

**Chicharron 12 Fed SWD #1 Application
500' FNL, 780' FEL
Section 12, 21S, 27E, Eddy County, NM**

Surface Owner

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

Offsetting Operators Within 1 Mile AOR

Section 1-T21-R27:

Mewbourne Oil Company

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

Ranger 40 Petroleum, LLC
244 FM 306 STE 120/363
New Braunfels, TX 78130

Section 11-T21-R27:

Southwest Royalties, Inc.
200 N Loraine St. Ste. 400
Midland, TX 79701

Section 12-T21-R27:

Mewbourne Oil Company

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

Section 13-T21-R27:

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

Section 7-T21-R28:

Dakota Resources Inc (I)
4914 N Midkiff Rd
Midland, TX 79705

XTO Holdings LLC
22777 Springwoods Village Pkwy
Spring, TX 77389-1425

Section 6-T21-R28:

XTO Holdings LLC
22777 Springwoods Village Pkwy
Spring, TX 77389-1425

Affidavit of Publication

Ad # 0004847087

This is not an invoice

MEWBOURNE OIL COMPANY

3901 S BROADWAY AVE

TYLER, TX 75701-8716

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:

07/30/2021

[Handwritten signature of Amy Koliott]

Legal Clerk

Subscribed and sworn before me this July 30, 2021:

[Handwritten signature of Kathleen Allen]

State of WI, County of Brown
NOTARY PUBLIC

1-7-25

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 Chicharron 12 Fed SWD #1 as a salt water disposal well. The Chicharron 12 Fed SWD #1 is located 500' FNL and 780' FEL, Unit Letter A, Section 12, Township 21 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 12,750 feet to 13,425 feet. Expected maximum injection rates are 25,000 BWPD at a maximum injection pressure of 2,550 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 8 miles Northeast of Carlsbad, New Mexico. #04847087, Current Argus, Jul. 30, 2021

KATHLEEN ALLEN
Notary Public
State of Wisconsin

Ad # 0004847087
PO #: 04847087
of Affidavits 1

This is not an invoice



MEWBOURNE
OIL COMPANY

July 29, 2021

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

Re: Chicharron 12 Fed SWD #1
Sec 12, Twp 21S, 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 zanderson@mewbourne.com or call me at (575) 393-5905.

Sincerely,

MEWBOURNE OIL COMPANY

Zane Anderson
Engineer
zanderson@mewbourne.com

STATEMENTS REGARDING SEISMICITY AND WELL SPACING

Historically, the area nearby our proposed Chicharron 12 Fed 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 13 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 15.4 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.

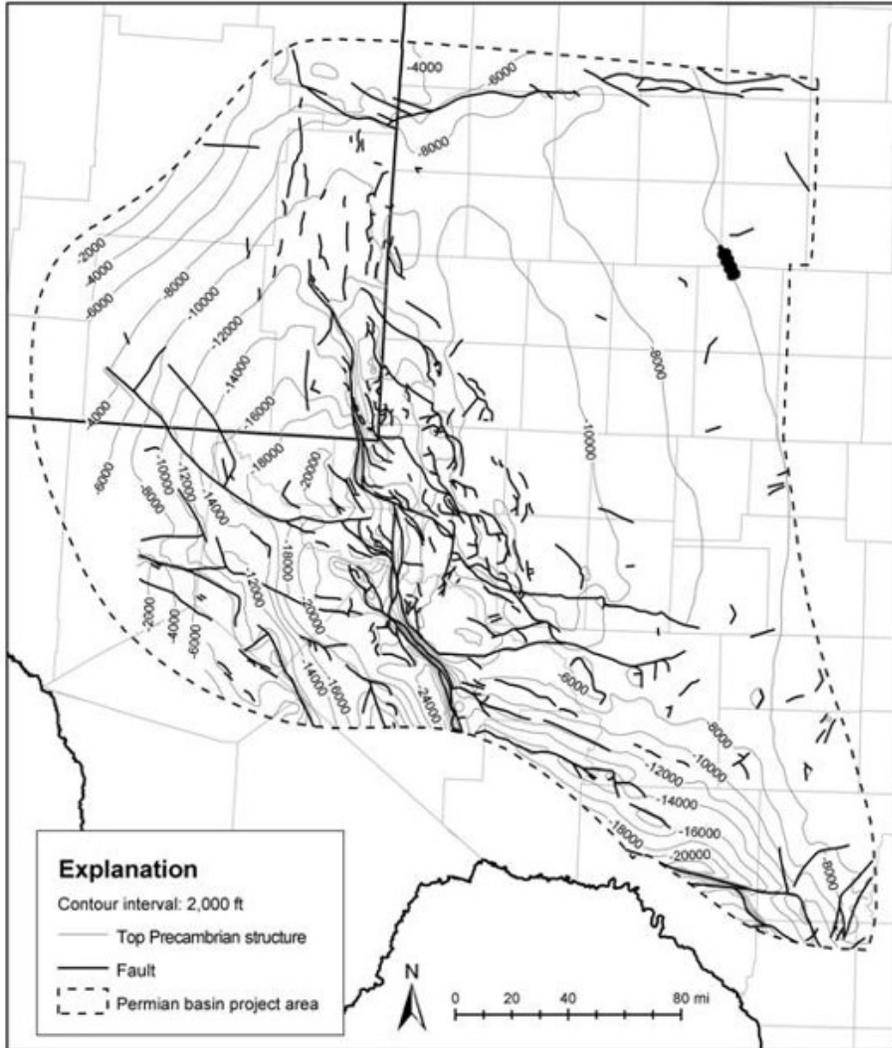
Figure 3 from the Snee and Zoback paper highlights additional faults in this area that trend more in a NE/SW direction. There is a high probability that these mapped faults are actually surface faults as the apparent source of these fault traces is from a Geological Map of New Mexico (see Figure 4).

The Chicharron 12 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 Chicharron (miles) |
|---|---------------------------|-----------|----------------------------------|
| Devon Energy Production Company, LP | Burton Flat Deep SWD #001 | Active | 1.54 |
| Mewbourne Oil Company | Freedom 36 St. SWD #1 | Permitted | 1.83 |
| San Mateo Stebins Water Management, LLC | Jim Pat SWD #004 | Pending | 2.62 |

Zane Anderson

Engineer
zanderson@mewbourne.com
575-393-5905



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

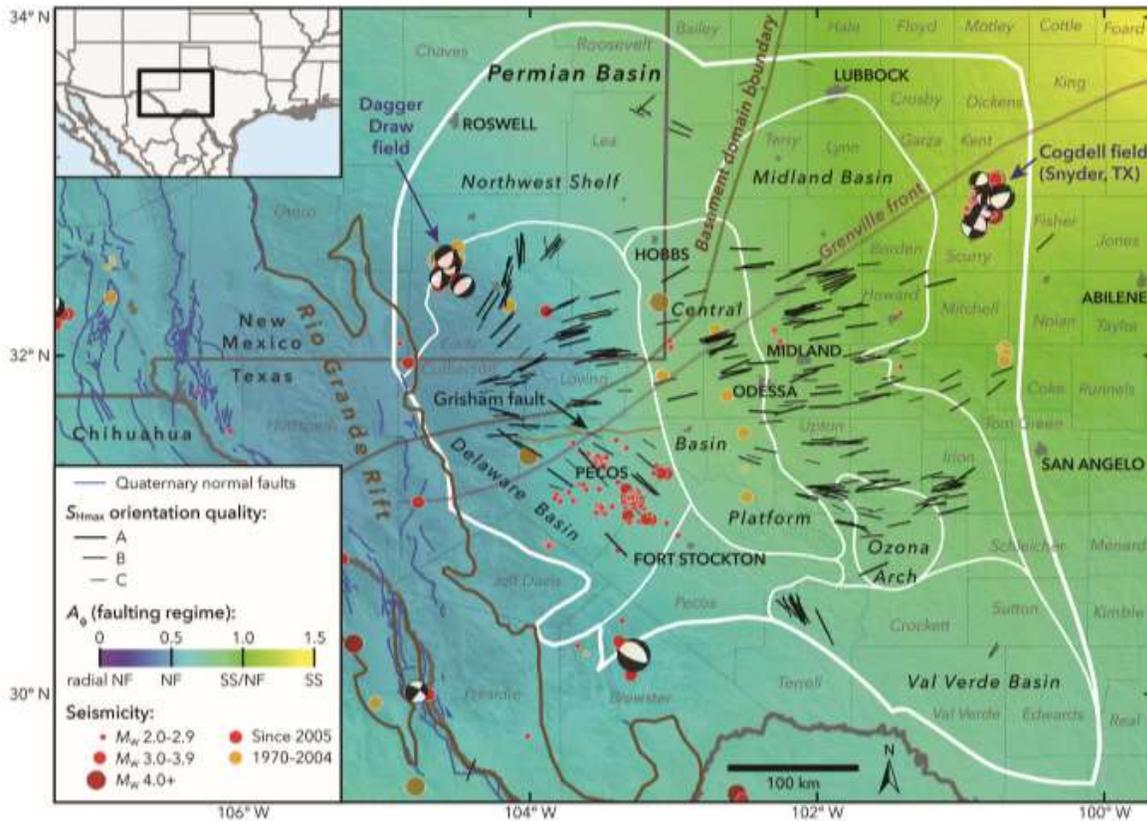


Figure 1. State of stress in the Permian Basin, Texas and New Mexico. Black lines are the measured orientations of S_{max} , with line length scaled by data quality. The colored background is an interpolation of measured relative principal stress magnitudes (faulting regime) expressed using the A_g parameter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

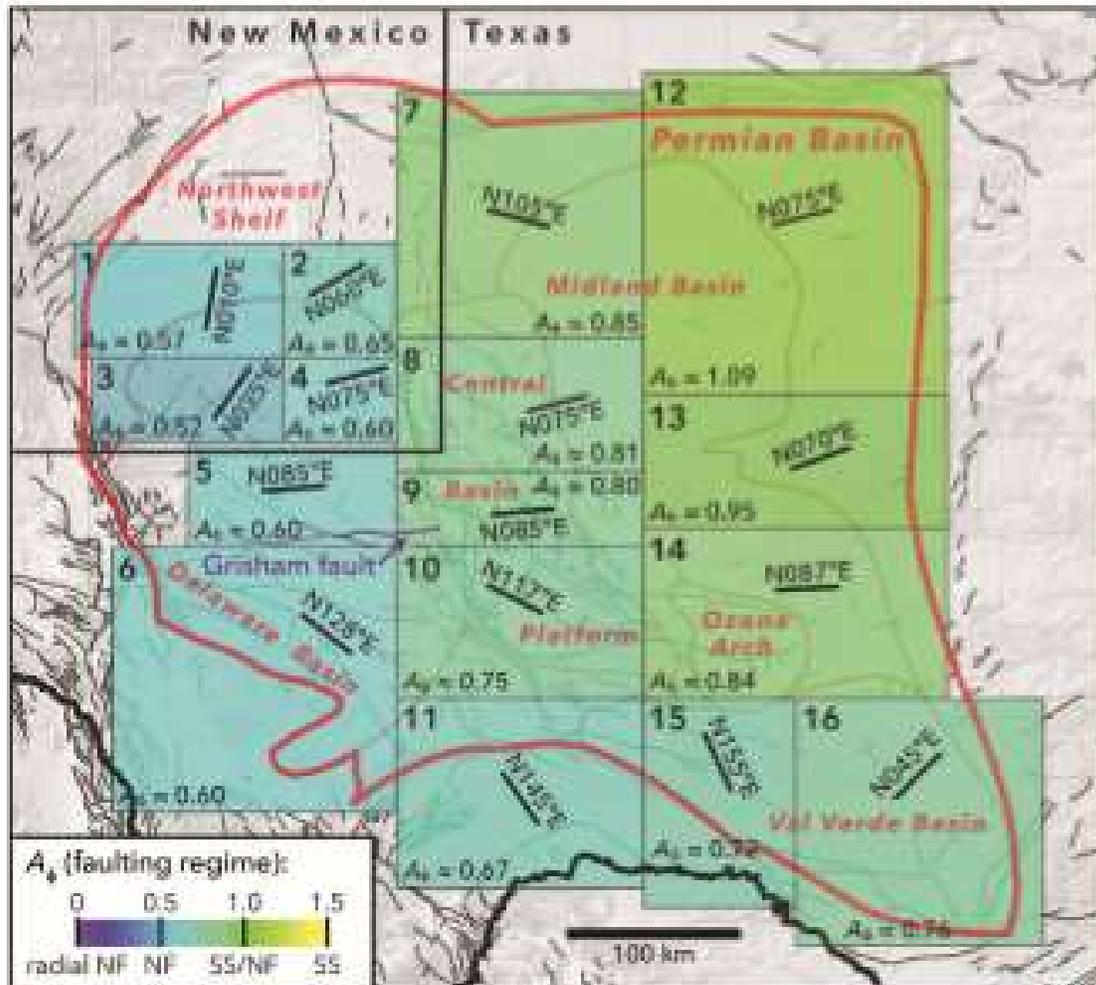


Figure 2. Map of study areas chosen for FSP analysis on the basis of broadly similar stress conditions. Text annotations indicate representative S_{max} orientation and relative principal stress magnitudes (A_p parameter) for each study area based on the data presented in Figure 1. Gray lines in the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

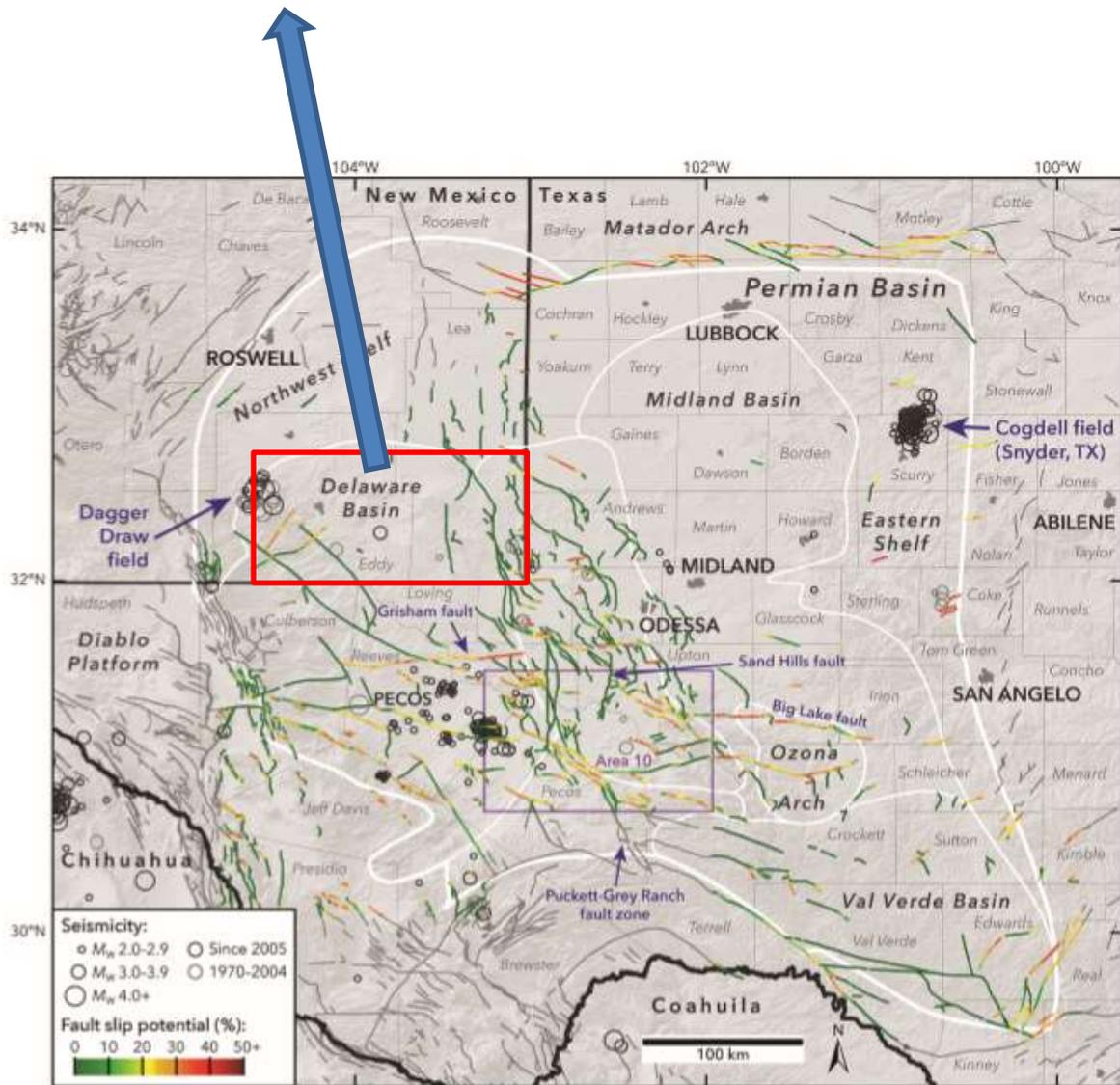
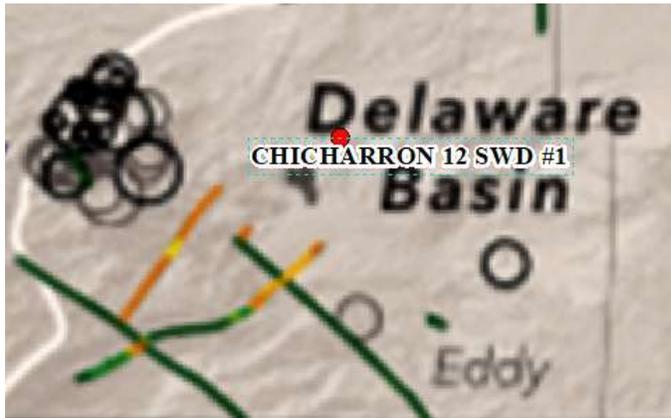


Figure 3. Results of our probabilistic FSP analysis across the Permian Basin. Data sources are as in Figures 1 and 2.

Mewbourne Oil Company
Chicharron 12 FED SWD 1
C-108 Attachment
July 2021

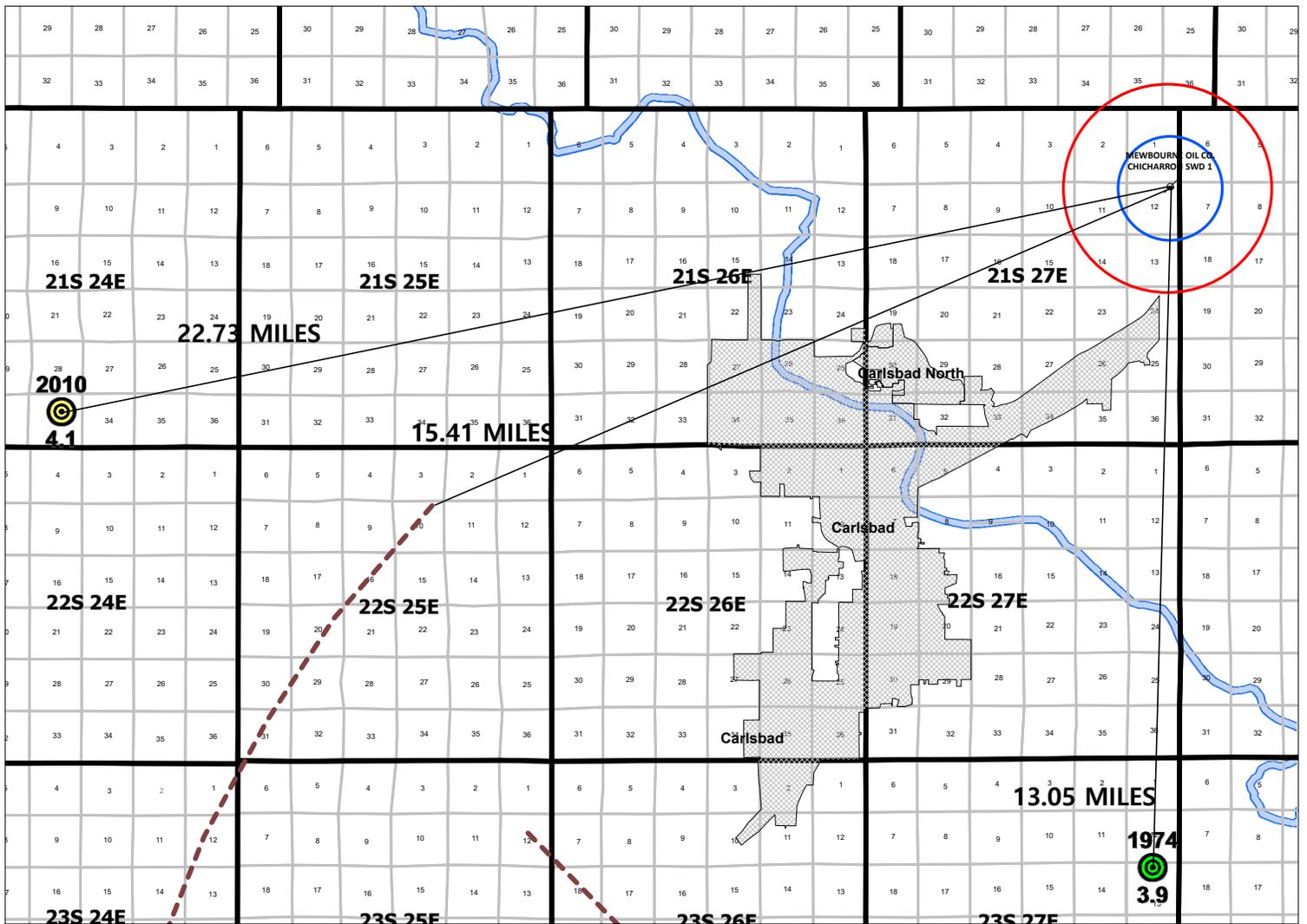
References

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.

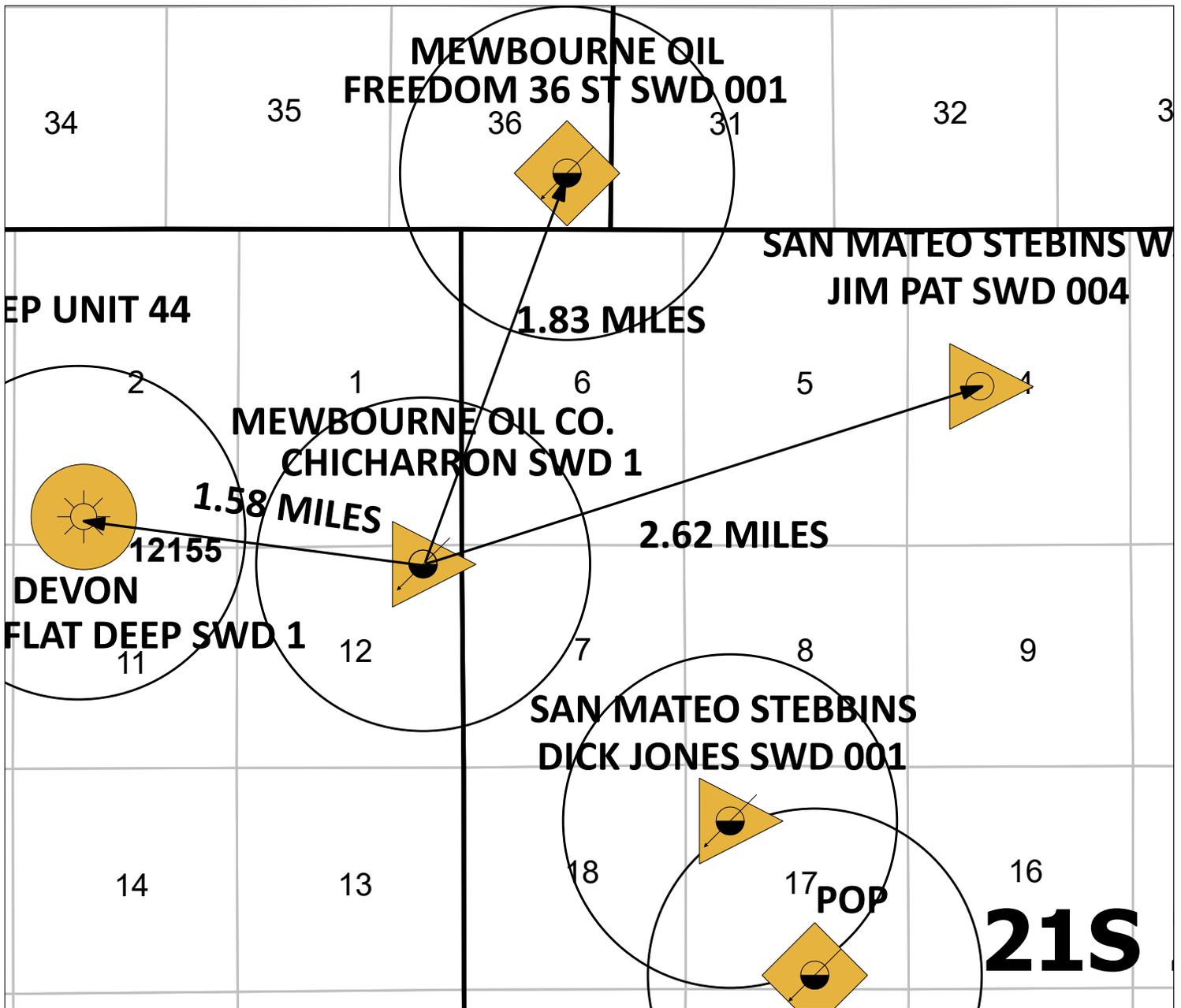


1974

 3.9
 EARTHQUAKE LOCATIONS
 PROVIDED BY USGS

 FAULT LOCATIONS SOURCED FROM
 THE UNIVERSITY OF TEXAS BUREAU OF
 ECONOMIC GEOLOGY

| | |
|---|-----------------------|
|  Mewbourne Oil Company | |
| CHICHARRON 12 SWD #1 500 FNL & 780 FEL 12-21S-27E EDDY CO., NEW MEXICO | |
| Author: sd | Date: 9 July, 2021 |



ACTIVE SWD WELL

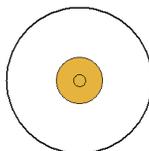


SWD WELL APPLICATION PENDING



PERMITTED LOCATIONS

THREE QUARTER MILE RADIUS



MOC Mewbourne Oil Company

CHICHARRON 12 SWD #1
 500 FNL & 780 FEL 12-21S-27E
 EDDY CO., NEW MEXICO

Author: sd

Date:
 9 July, 2021

C

C'

300152884100 2.5 miles 300153082800 1.6 miles 300151079400 3.5 miles CHICHARRON 12 SWD 1 1.6 miles 300154098700 1.2 miles 300153227400

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

YATES HARVEY CO INC
STEBBINS FEDERAL DE 1
Reference=KB
Datum=3255.00
1980 FNL/990 FEL
TWP: 20 S - Range: 29 E - Sec. 30

MOC
CHICHARRON 12 SWD 1
Datum=3222.00
500 FN 780 FE
TWP: 21 S - Range: 27 E - Sec. 0

DEVON ENERGY PROD
BURTON FLAT DEEP SW 1
Reference=GR
Datum=3230.00
330 FSL/1550 FWL
TWP: 21 S - Range: 27 E - Sec. 2

DEVON ENERGY PROD
BURTON FLAT DEEP UN 44
Reference=KB
Datum=3220.00
W2
TWP: 21 S - Range: 27 E - Sec. 3

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

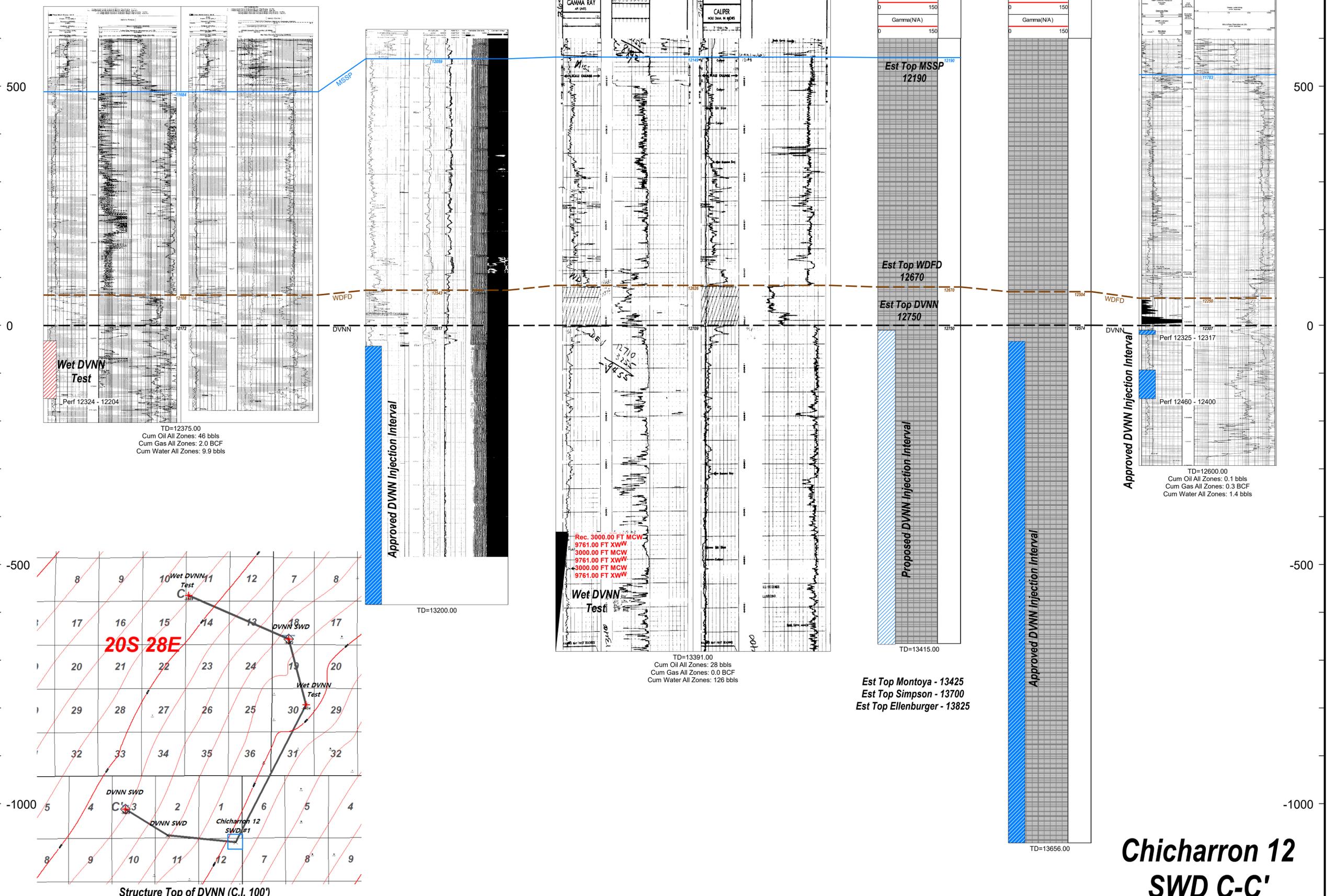
18N/20S/29E
4/9/14 DVNN SWD Completion
Open Hole: 12660-13200
SWD Inj Cum: 14 MMBW
Still Active

30H/20S/29E
Wet DVNN DST
Complete Uphole

12A/21S/27E
Proposed Chicharron
12 SWD #1

2V/21S/27E
No Log Available
7/21/13 DVNN SWD
Completion
Open Hole 12607-13656
SWD Inj Cum: 13 MMBW
Still Active

3L/21S/27E
10/31/13 DVNN SWD
Completion
SWD PF: 12317-12325,
12400-12460
SWD Inj Cum: 3 MMBW
Still Active



Chicharron 12
SWD C-C'

**MEWBOURNE OIL COMPANY
Chicharron 12 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 4¼” to 5½” Inclusive

| Maximum Catch Size (Spiral) | | 4¼ | 4½ | 4¾ | 5 | 5 | 5½ |
|-----------------------------|----------|------|------|--------|--------|--------|--------|
| Maximum Catch Size (Basket) | | 3¾ | 4 | 4 | 4 | 4 | 4 |
| Overshot O.D. | | 5¾ | 5¾ | 5¾ | 5¾ | 6¾ | 6¾ |
| Type | | F.S. | S.H. | S.H. | S.F.S. | S.H. | F.S. |
| Complete Assembly | Part No. | 5898 | 5898 | C-5188 | 8975 | C-5171 | C-4825 |
| (Dressed Spiral Parts) | Weight | 130 | 130 | 133 | 138 | 140 | 182 |

Replacement Parts

| | | | | | | | | |
|------------------------|----------|------|------|--------|------|--------|--------|------|
| Top Sub | Part No. | 5897 | 5899 | A-5189 | 8976 | A-5172 | B-4826 | 8826 |
| Bowl | Part No. | 5898 | 5700 | B-5170 | 8977 | B-5173 | B-4827 | 8817 |
| Packer | Part No. | 189 | 1140 | B-2189 | 8114 | L-5850 | L-4505 | 8818 |
| Spiral Grapple | Part No. | 185 | 1135 | B-2201 | 8112 | B-4389 | M-1071 | 8819 |
| Spiral Grapple Control | Part No. | 188 | 1137 | B-2202 | 8113 | B-4370 | M-1072 | 8820 |
| Standard Guide | Part No. | 187 | 1143 | B-2203 | 8121 | B-4371 | L-1074 | 8821 |

Basket Parts

| | | | | | | | | |
|------------------------|----------|-------|--------|----------|--------|----------|--------|----------|
| Basket Grapple | Part No. | 185 | 1135 | B-2201 | 8112 | B-4389 | M-1071 | 8819 |
| Basket Grapple Control | Part No. | 188 | 1137 | B-2202 | 8113 | B-4370 | M-1072 | 8820 |
| Mill Control Packer | Part No. | 189-R | 1140-R | B-2189-R | 8114-R | L-5850-R | M-4505 | L-8818-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 5/8" to 7 1/4" Inclusive

| Maximum Catch Size (Spiral) | | 6 5/8" | 6 1/2" | 7 | 7 1/4" |
|------------------------------------|-----------------|--------|--------|--------|--------|
| Maximum Catch Size (Basket) | | 5 7/8" | 6 1/8" | 6 5/8" | 6 5/8" |
| Overshot O.D. | | 8 1/4" | 7 3/4" | 8 1/4" | 8 3/4" |
| 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.