

AE Order Number Banner

Application Number: pMSG2411639134

SWD-2617

MACK ENERGY CORP [13837]

Revised March 23, 2017

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

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



ADMINISTRATIVE APPLICATION CHECKLIST

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

Applicant: _____ 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

 Signature

 Date

 Phone Number

 e-mail Address

Deana Weaver

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 ☒ Disposal _____ Storage
Application qualifies for administrative approval? ☒ Yes _____ No
- II. OPERATOR: Mack Energy Corporation
ADDRESS: P.O. Box 960 Artesia, NM 88210
CONTACT PARTY: Deana Weaver PHONE: 575-748-1288
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? _____ Yes ☒ No
If yes, give the Division order number authorizing the project: _____
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- *X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- *XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Deana Weaver TITLE: Regulatory Tech II
SIGNATURE: Deana Weaver DATE: 1/30/2023
E-MAIL ADDRESS: dweaver@mec.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

Side 2

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.

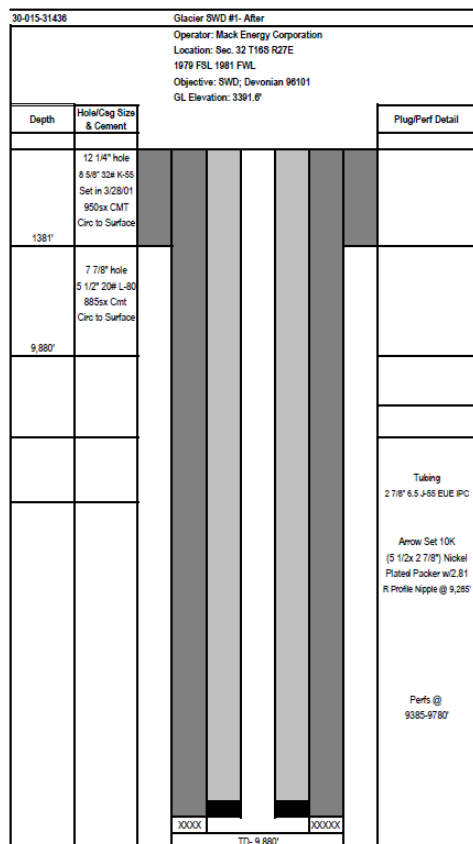
Side 1

INJECTION WELL DATA SHEET

OPERATOR: Mack Energy Corporation

WELL NAME & NUMBER: Glacier SWD #1

WELL LOCATION: 1979 FSL 1981 FWL K 36 16S 27E
 FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: 12 1/4" Casing Size: 8 5/8" (existing 3/28/01)

Cemented with: 950 sx. **or** ft³

Top of Cement: 0 Method Determined: Circ

Intermediate Casing

Hole Size: Casing Size:

Cemented with: sx. **or** ft³

Top of Cement: Method Determined:

Production Casing

Hole Size: 7 7/8" Casing Size: 5 1/2"

Cemented with: 885 sx. **or** ft³

Top of Cement: 0 Method Determined: Circ

Total Depth: 9,880'

Injection Interval

9385' feet to 9780' Perforated

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEETTubing Size: 2 7/8" Lining Material: IPC

Type of Packer: Arrow Set 10K (5 1/2" x 2 7/8") Nickel Plated Packer with a 2.81 R Profile Nipple set @ 9285'

Packer Setting Depth: 9285'

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

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

If no, for what purpose was the well originally drilled? Gas Well

2. Name of the Injection Formation: Devonian

3. Name of Field or Pool (if applicable): SWD; Devonian

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. _____

Nothing Listed on OCD Website

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: U. Miss 8805', L. Miss 9002', Devonian 9685', Montoya 9780', Simpson 10,074'

VII. DATA SHEET: PROPOSED OPERATIONS

1. Proposed average and maximum daily rate and volume of fluids to be injected;
Respectively, 15,000 BWPD and 20,000 BWPD
2. The system is closed or open;
Closed
3. Proposed average and maximum injection pressure;
0-4,489#
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than re-injected produced water;
We will be re-injecting produced water
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water;
N/A

VIII. GEOLOGICAL DATA

1. Lithologic Detail; **Dolomite**
2. Geological Name; **Devonian**
3. Thickness; **395'**
4. Depth; **9880'TD (9385-9780' Perforated)**

IX. PROPOSED STIMULATION PROGRAM

1. To be treated with 10000 gallons 15% acid

X. LOGS AND TEST DATA

1. Well data will be filed with the OCD.

XI. ANALYSIS OF FRESHWATER WELLS

See attached
Additional Information

Waters Injected:

San Andres

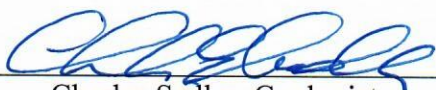
XII. AFFIRMATIVE STATEMENT

RE: Glacier SWD #1

We have examined the available geologic and engineering data and find no evidence of open faults or any other hydraulic connection between the disposal zone and any underground source of drinking water.

Mack Energy Corporation

Date: 10/3/22


Charles Sadler, Geologist

Glacier SWD #1
1980 FSL 1980 FWL
Sec. 32 T16S R27E
Formation Tops

Quaternary	Surface
Seven Rivers	30'
Queen	520'
Grayburg	850'
San Andres	1220'
Glorieta	2650'
Tubb	3931'
Abo	4645'
Wolfcamp	5900'
Cisco	7014'
Strawn	7920'
Atoka	8299'
Morrow	8519'
U. Miss	8805'
L. Miss	9002'
Devonian	9385'
Montoya	9780'
Simpson	10,074'

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 30-015-31436	² Pool Code 96101	³ Pool Name SWD; Devonian
⁴ Property Code	⁵ Property Name GLACIER SWD	⁶ Well Number 1
⁷ OGRID No. 13837	⁸ Operator Name MACK ENERGY CORPORATION	⁹ Elevation 3391.6

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
K	32	16 S	27 E		1979	SOUTH	1981	WEST	EDDY

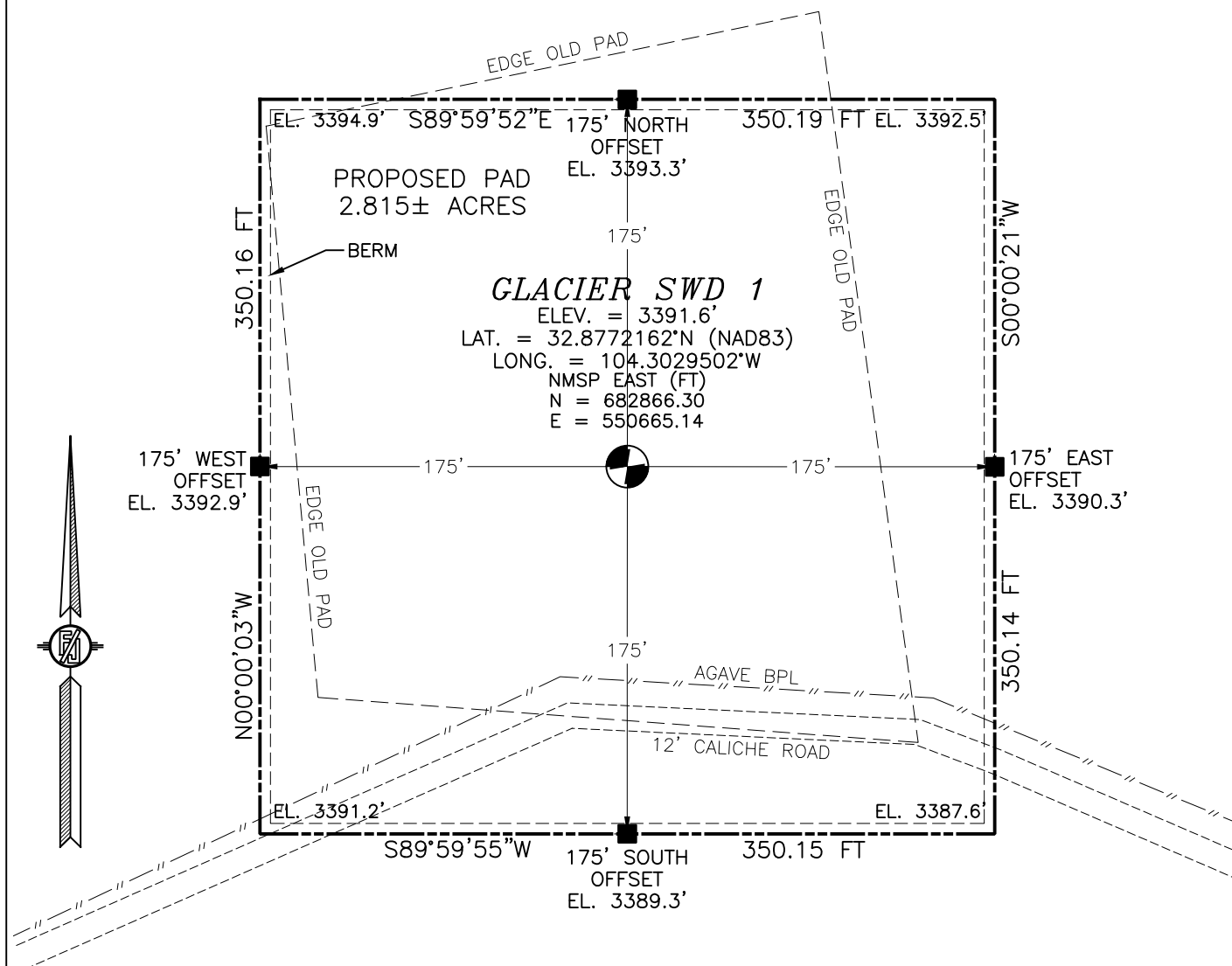
¹¹ Bottom Hole Location If Different From Surface

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 40	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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

<p>S89°58'32"E 2616.26 FT</p> <p>NW CORNER SEC. 32 LAT. = 32.8864004°N LONG. = 104.3094090°W NMSP EAST (FT) N = 686207.20 E = 548681.53</p> <p>N/4 CORNER SEC. 32 LAT. = 32.8863954°N LONG. = 104.3008882°W NMSP EAST (FT) N = 686206.08 E = 551297.14</p> <p>NE CORNER SEC. 32 LAT. = 32.8863879°N LONG. = 104.2923646°W NMSP EAST (FT) N = 686204.27 E = 553913.64</p> <p>W/4 CORNER SEC. 32 LAT. = 32.8790930°N LONG. = 104.3094024°W NMSP EAST (FT) N = 683548.64 E = 548684.15</p> <p>GLACIER SWD 1 ELEV. = 3391.6' LAT. = 32.8772162°N (NAD83) LONG. = 104.3029502°W NMSP EAST (FT) N = 682866.30 E = 550665.14</p> <p>E/4 CORNER SEC. 32 LAT. = 32.8790733°N LONG. = 104.2919687°W NMSP EAST (FT) N = 683543.10 E = 554036.21</p> <p>SW CORNER SEC. 32 LAT. = 32.8717819°N LONG. = 104.3093960°W NMSP EAST (FT) N = 680888.72 E = 548686.72</p> <p>S/4 CORNER SEC. 32 LAT. = 32.8717758°N LONG. = 104.3006380°W NMSP EAST (FT) N = 680887.19 E = 551375.59</p> <p>SE CORNER SEC. 32 LAT. = 32.8717604°N LONG. = 104.2915705°W NMSP EAST (FT) N = 680882.58 E = 554159.51</p> <p>1981'</p> <p>1979'</p> <p>SURFACE LOCATION</p> <p>00°03'23"W 2659.23 FT</p> <p>00°03'19"W 2660.58 FT</p> <p>02°38'14"E 2664.65 FT</p> <p>02°39'12"E 2664.03 FT</p> <p>N89°58'03"W 2689.54 FT</p> <p>N89°54'18"W 2784.61 FT</p>		<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or 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.</p> <p><i>Deana Weaver</i> 12/16/2022 Signature Date</p> <p>Deana Weaver Printed Name</p> <p>dweaver@mec.com E-mail Address</p> <p>¹⁸ SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>NOVEMBER 7, 2022 Date of Survey</p> <p><i>ALIMON F. JARAMILLO</i> Signature and Seal of Professional Surveyor: (Professional Seal: ALIMON F. JARAMILLO, LS 12797, PROFESSIONAL SURVEYOR, NO. 9578)</p> <p>Certificate Number: 12797</p>
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SECTION 32, TOWNSHIP 16 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SITE MAP



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF STATE HIGHWAY 82 & CO. RD. 200 (KARR RANCH), GO NORTHWEST ON CO. RD. 200 APPROX. 1.8 MILES, TURN RIGHT (NORTHEAST) ON 20' CALICHE ROAD (DOG CANYON RD.) AND GO APPROX. 1.2 MILES, TURN LEFT (NORTHWEST) ON 15' CALICHE ROAD AND GO APPROX. 0.35 MILES, CONTINUE NORTHWEST ON 12' CALICHE ROAD APPROX. 450', BEND LEFT AND CONTINUE WEST APPROX. 0.5 MILES TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

I, FILIMON F. JARAMILLO, A NEW MEXICO LICENSED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND I AM NOT PROVIDING ANY MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

FILIMON F. JARAMILLO, LICENSE NO. 2084

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3327

MACK ENERGY CORPORATION
GLACIER SWD 1

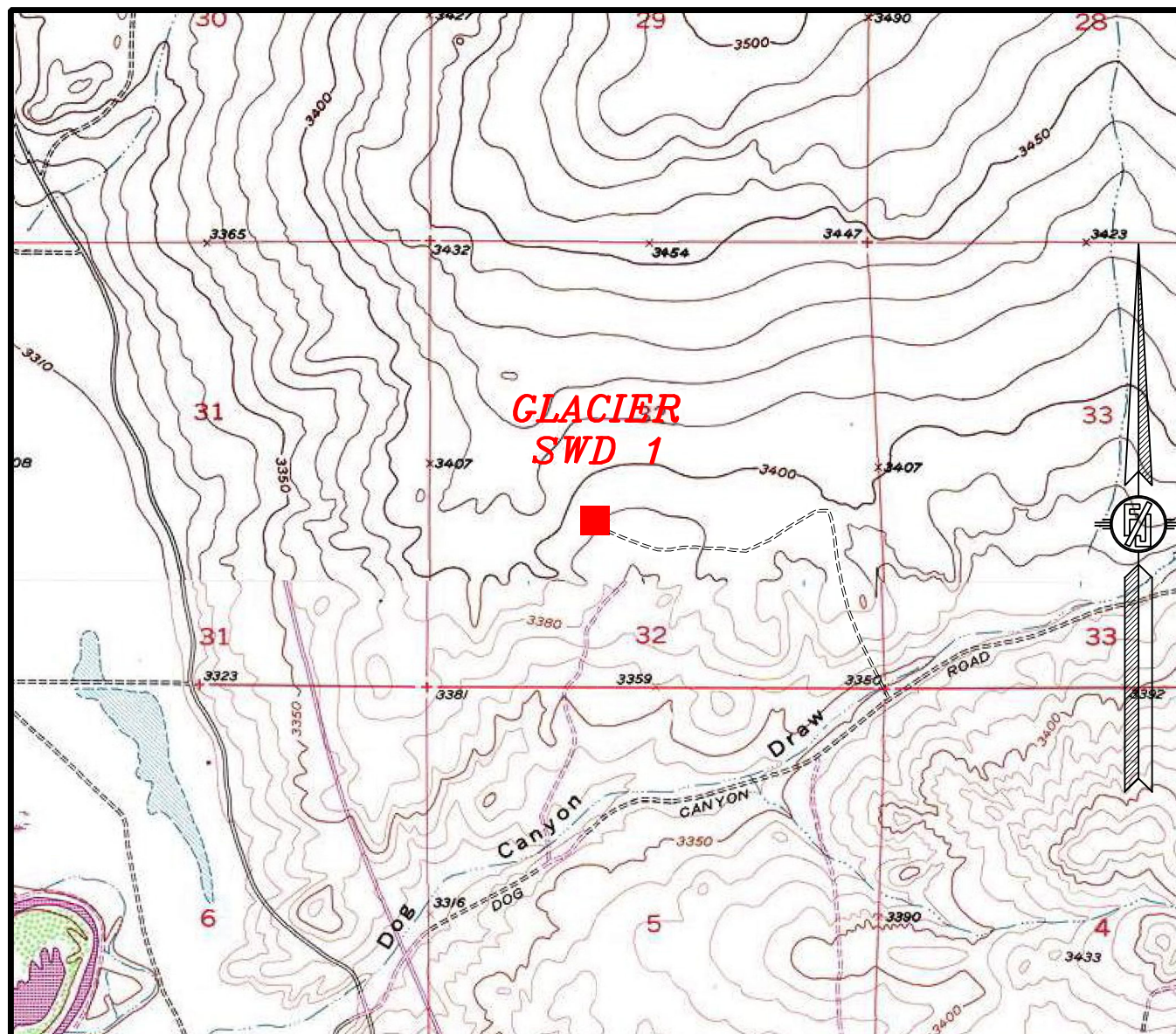
LOCATED 1979 FT. FROM THE SOUTH LINE
AND 1981 FT. FROM THE WEST LINE OF
SECTION 32, TOWNSHIP 16 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 7, 2022

SURVEY NO. 9578

CARLSBAD, NEW MEXICO

SECTION 32, TOWNSHIP 16 SOUTH, RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 LOCATION VERIFICATION MAP



USGS QUAD MAP:
 ARTESA NE

NOT TO SCALE

MACK ENERGY CORPORATION
GLACIER SWD 1
 LOCATED 1979 FT. FROM THE SOUTH LINE
 AND 1981 FT. FROM THE WEST LINE OF
 SECTION 32, TOWNSHIP 16 SOUTH,
 RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

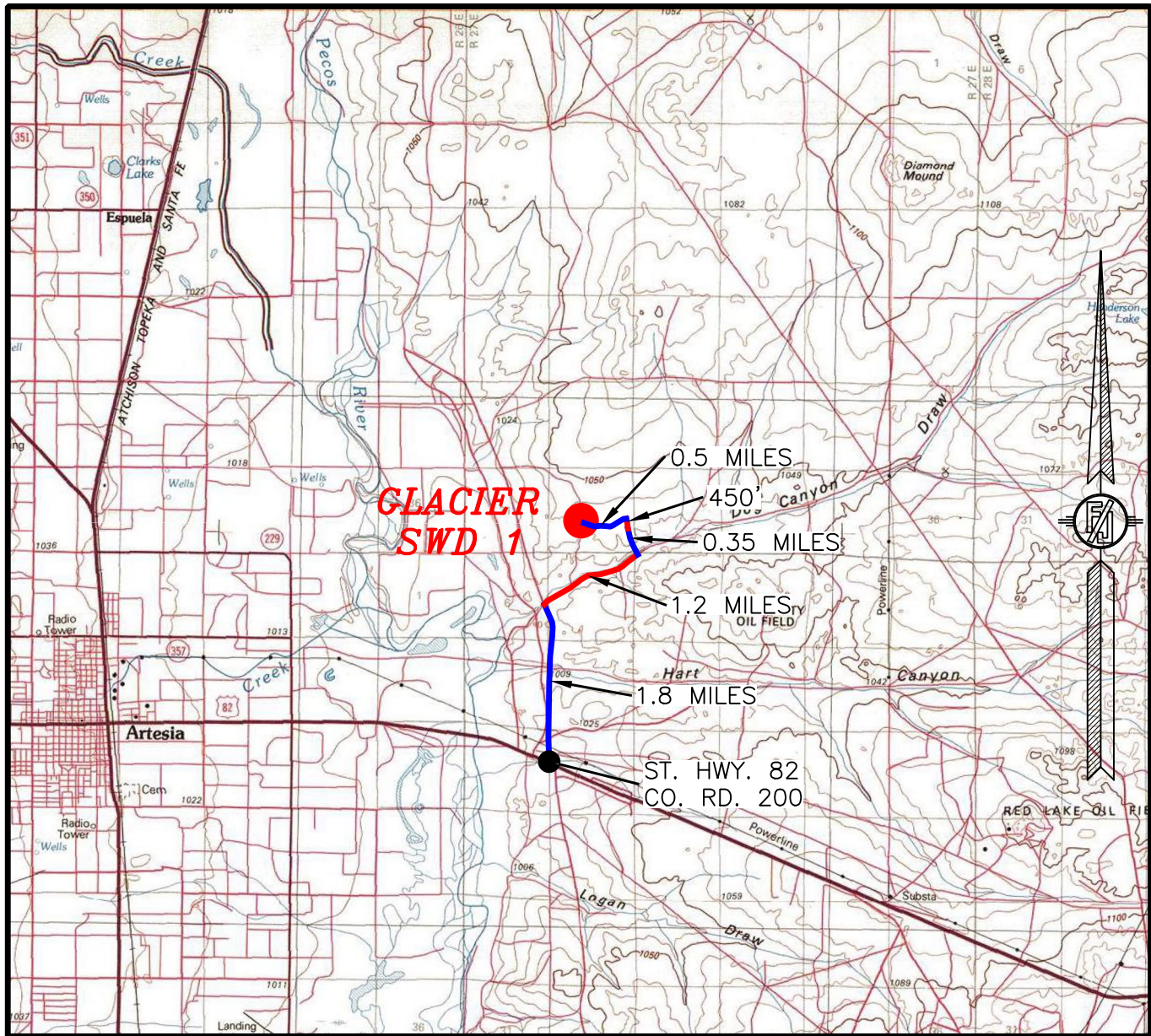
NOVEMBER 7, 2022

MADRON SURVEYING, INC.

301 SOUTH CANAL
 (575) 234-3327

SURVEY NO. 9578
 CARLSBAD, NEW MEXICO

SECTION 32, TOWNSHIP 16 SOUTH, RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF STATE HIGHWAY 82 & CO. RD. 200 (KARR RANCH), GO NORTHWEST ON CO. RD. 200 APPROX. 1.8 MILES, TURN RIGHT (NORTHEAST) ON 20' CALICHE ROAD (DOG CANYON RD.) AND GO APPROX. 1.2 MILES, TURN LEFT (NORTHWEST) ON 15' CALICHE ROAD AND GO APPROX. 0.35 MILES, CONTINUE NORTHWEST ON 12' CALICHE ROAD APPROX. 450', BEND LEFT AND CONTINUE WEST APPROX. 0.5 MILES TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

MACK ENERGY CORPORATION
GLACIER SWD 1
 LOCATED 1979 FT. FROM THE SOUTH LINE
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 SECTION 32, TOWNSHIP 16 SOUTH,
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 EDDY COUNTY, STATE OF NEW MEXICO

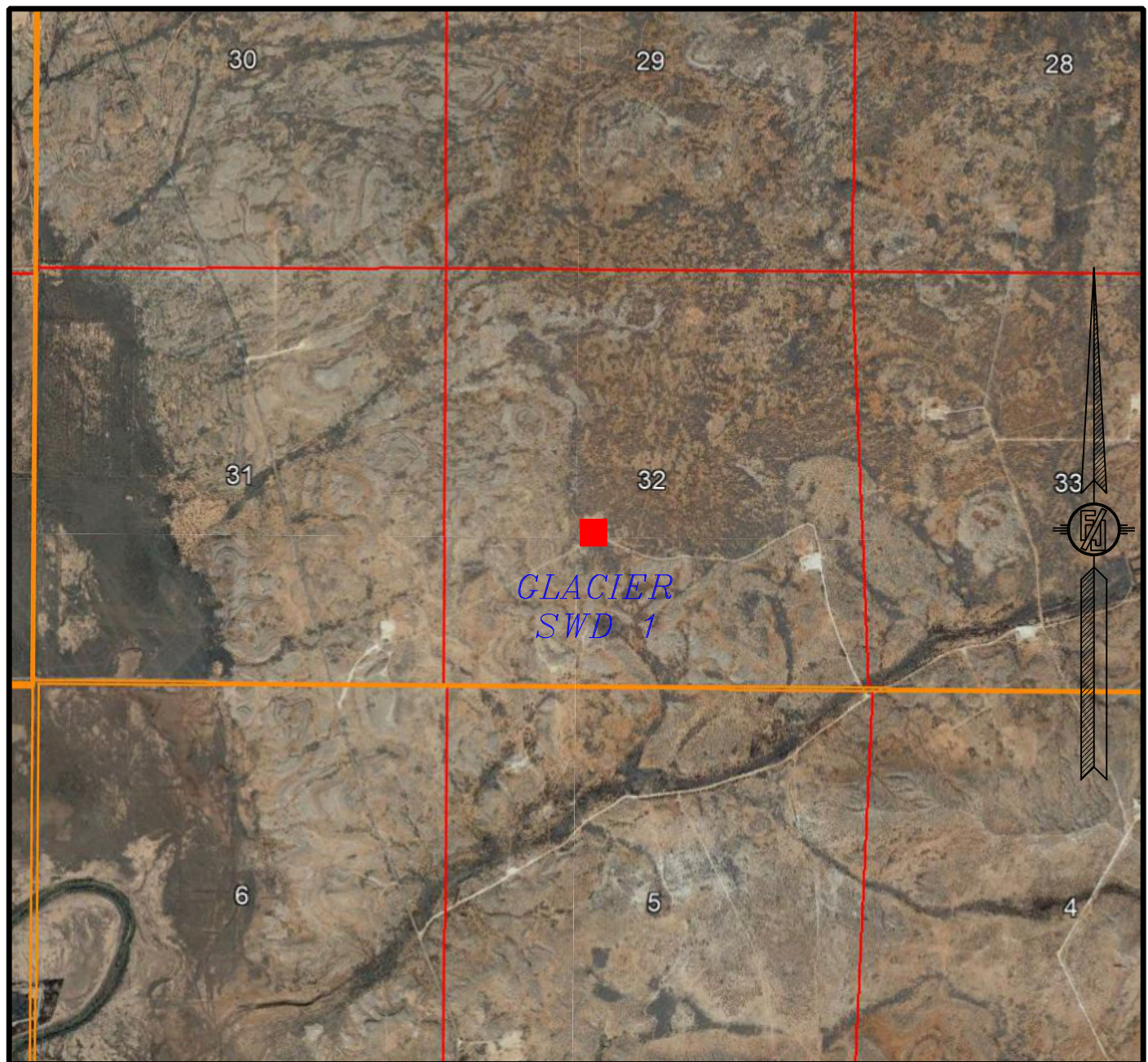
NOVEMBER 7, 2022

MADRON SURVEYING, INC. 301 SOUTH CANAL

(575) 234-3327

SURVEY NO. 9578
 CARLSBAD, NEW MEXICO

SECTION 32, TOWNSHIP 16 SOUTH, RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 AERIAL PHOTO



NOT TO SCALE
 AERIAL PHOTO:
 GOOGLE EARTH
 DEC. 2019

MACK ENERGY CORPORATION
GLACIER SWD 1
 LOCATED 1979 FT. FROM THE SOUTH LINE
 AND 1981 FT. FROM THE WEST LINE OF
 SECTION 32, TOWNSHIP 16 SOUTH,
 RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

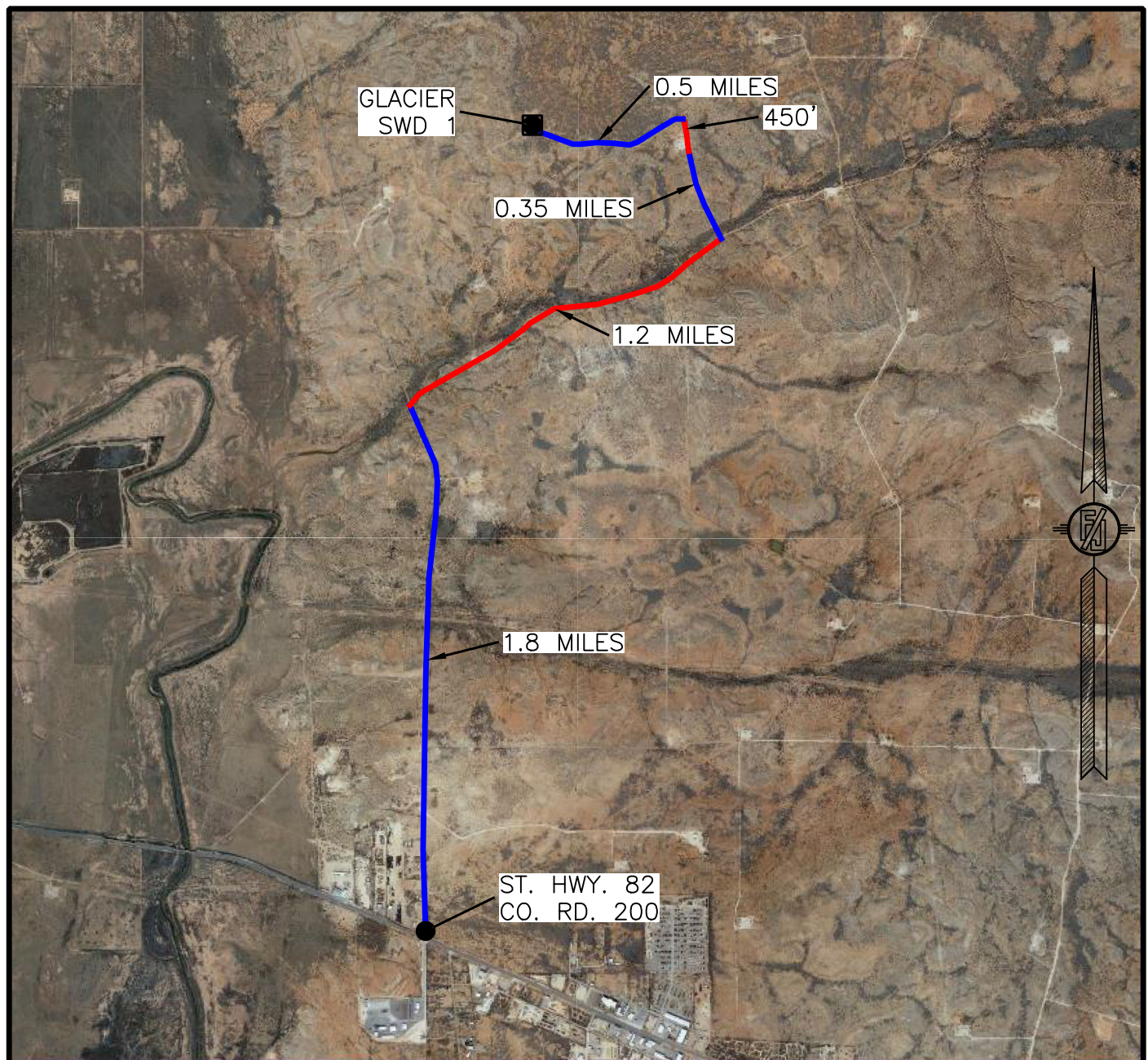
NOVEMBER 7, 2022

SURVEY NO. 9578

MADRON SURVEYING, INC. 301 SOUTH CANAL
 (575) 234-3327

CARLSBAD, NEW MEXICO

SECTION 32, TOWNSHIP 16 SOUTH, RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 AERIAL ACCESS ROUTE MAP



NOT TO SCALE
 AERIAL PHOTO:
 GOOGLE EARTH
 DEC. 2019

MACK ENERGY CORPORATION
GLACIER SWD 1
 LOCATED 1979 FT. FROM THE SOUTH LINE
 AND 1981 FT. FROM THE WEST LINE OF
 SECTION 32, TOWNSHIP 16 SOUTH,
 RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 7, 2022

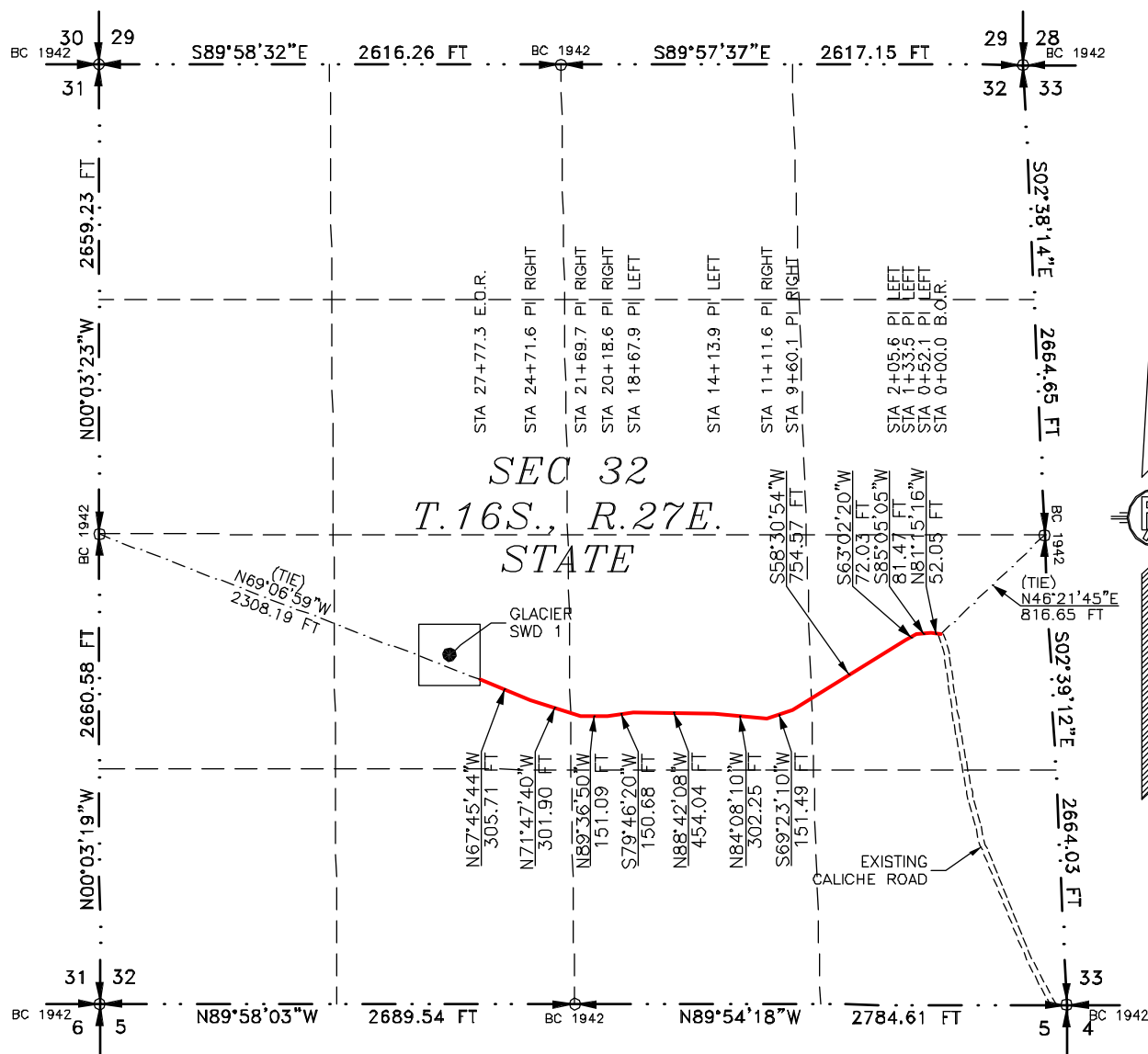
SURVEY NO. 9578

MADRON SURVEYING, INC. 301 SOUTH CANAL
 (575) 234-3327

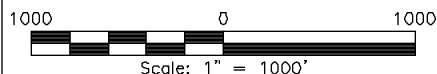
CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT
EXISTING ROAD FOR ACCESS TO GLACIER SWD 1

MACK ENERGY CORPORATION
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 32, TOWNSHIP 16 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
NOVEMBER 7, 2022



SEE NEXT SHEET (2-2) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 1-2

MADRON SURVEYING, INC.

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 6 DAY OF DECEMBER 2022

FILMON F. JARAMILLO
NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
(575) 234-3327

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3327

SURVEY NO. 9578

ACCESS ROAD PLAT
EXISTING ROAD FOR ACCESS TO GLACIER SWD 1

MACK ENERGY CORPORATION
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 32, TOWNSHIP 16 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
NOVEMBER 7, 2022

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING STATE OF NEW MEXICO LAND IN SECTION 32, TOWNSHIP 16 SOUTH, RANGE 27 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE NE/4 SE/4 OF SAID SECTION 32, TOWNSHIP 16 SOUTH, RANGE 27 EAST, N.M.P.M., WHENCE THE EAST QUARTER CORNER OF SAID SECTION 32, TOWNSHIP 16 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS N46°21'45"E, A DISTANCE OF 816.65 FEET;
THENCE N81°15'16"W A DISTANCE OF 52.05 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S85°05'05"W A DISTANCE OF 81.47 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S63°02'20"W A DISTANCE OF 72.03 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S58°30'54"W A DISTANCE OF 754.57 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S69°23'10"W A DISTANCE OF 151.49 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N84°08'10"W A DISTANCE OF 302.25 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N88°42'08"W A DISTANCE OF 454.04 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S79°46'20"W A DISTANCE OF 150.68 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N89°36'50"W A DISTANCE OF 151.09 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N71°47'40"W A DISTANCE OF 301.90 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N67°45'44"W A DISTANCE OF 305.71 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE WEST QUARTER CORNER OF SAID SECTION 32, TOWNSHIP 16 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS N69°06'58"W, A DISTANCE OF 2308.19 FEET;

SAID STRIP OF LAND BEING 2777.28 FEET OR 168.32 RODS IN LENGTH, CONTAINING 1.913 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 SE/4	831.81 L.F.	50.41 RODS	0.573 ACRES
NW/4 SE/4	1399.46 L.F.	84.82 RODS	0.964 ACRES
NE/4 SE/4	546.01 L.F.	33.09 RODS	0.376 ACRES

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 6 DAY OF DECEMBER 2022

FILIMON F. JARAMILLO, PLS. 12797
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3327

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 2-2

MADRON SURVEYING, INC. 301 SOUTH CANAL
(575) 234-3327 CARLSBAD, NEW MEXICO

SURVEY NO. 9578

[illegible]

30-015-31436		Glacier SWD #1- After						
Operator: Mack Energy Corporation Location: Sec. 32 T16S R27E 1979 FSL 1981 FWL Objective: SWD; Devonian 96101 GL Elevation: 3391.6'								
Depth	Hole/Csg Size & Cement							Plug/Perf Detail
1381'	12 1/4" hole 8 5/8" 32# K-55 Set in 3/28/01 950sx CMT Circ to Surface							
9,880'	7 7/8" hole 5 1/2" 20# L-80 885sx Cmt Circ to Surface							
								Tubing 2 7/8" 6.5 J-55 EUE IPC
								Arrow Set 10K (5 1/2x 2 7/8") Nickel Plated Packer w/2.81 R Profile Nipple @ 9,285
								Perfs @ 9385-9780'
		XXXX					XXXXX	
TD- 9,880'								

Affidavit of Publication

No. 26400

State of New Mexico

County of Eddy:

Danny Scott

being duly sworn says that he is the

Publisher

of the Artesia Daily Press, a daily newspaper of General
circulation, published in English at Artesia, said county
and state, and that the hereto attached

Legal Ad

was published in a regular and entire issue of the said
Artesia Daily Press, a daily newspaper duly qualified
for that purpose within the meaning of Chapter 167 of
the 1937 Session Laws of the state of New Mexico for
1 Consecutive weeks/day on the same

day as follows:

First Publication December 22, 2022

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Sixth Publication

Seventh Publication

Subscribed and sworn before me this

22nd day of December 2022

STATE OF NEW MEXICO
NOTARY PUBLIC
Latisha Romine
Commission Number 1076338
My Commission Expires May 12, 2023

Latisha Romine

Notary Public, Eddy County, New Mexico

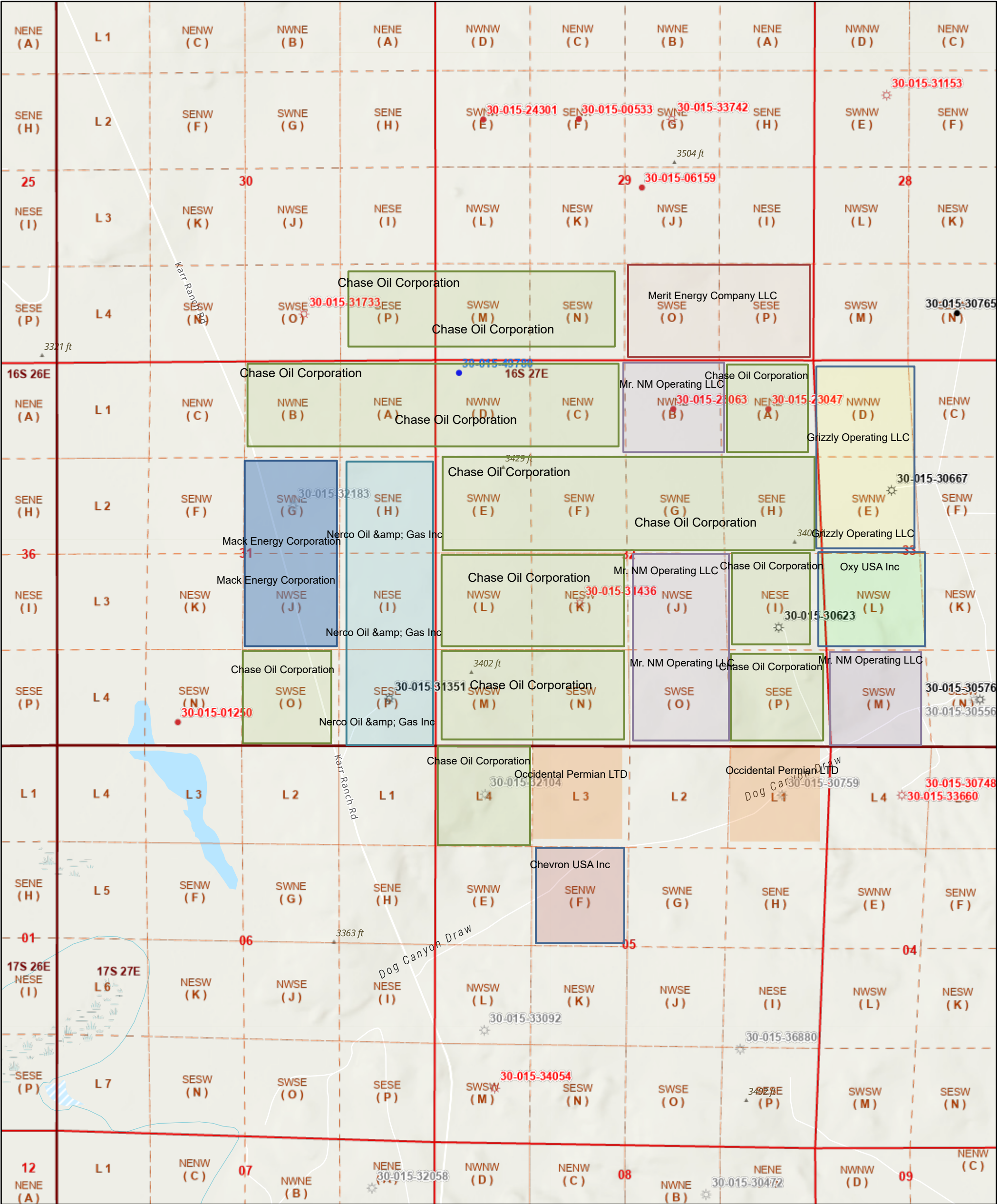
Copy of Publication:**Legal Notice**

Mack Energy Corporation, Post Office Box 960, Artesia, NM 88211-0960, has filed an Application with the New Mexico Oil Conservation Division seeking authorization to inject produced water into the Glacier SWD #1 1979 FSL 1981 FWL of Section 32, T16S, R27E, NMPM, Eddy County, New Mexico. The water will be injected into the Devonian at a disposal depth of 9,385-9,780'. Water will be injected at a maximum surface pressure of 4,489# and a maximum injection rate of 15,000-20,000 BWPD. Any interest party with questions or comments may contact Deana Weaver at Mack Energy Corporation, Post Office Box 960, Artesia, NM 88211-0960 or call 575-748-1288. Objections to this application or requests for hearing must be filed with the Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505, within fifteen days of the date of publication of this notice.

Published in the Artesia Daily Press, Artesia, N.M.,
Dec. 22, 2022 Legal No. 26400.

Name	Address	City	State	Zip	Certified Mail Id
Chase Oil Corporation	11352 Lovington HWY	Artesia	NM	88210	
Mack Energy Corportion	P.O. Box 960	Artesia	NM	88210	
Merit Energy Company LLC	13727 Noel Rd Ste 1200	Dallas	TX	75240-7362	7021 1970 0000 5914 6178
Mr. NM Operating LLC	5950 Berkshire Lane Suite 1000	Dallas	TX	75225	7021 1970 0000 5914 6161
Grizzly Operating LLC	5847 San Felipe St Ste 3000	Houston	TX	77098	7021 1970 0000 5914 6154
Nerco Oil & Gas Inc	P.O. Box 9931	Vancouver	WA	98668	7021 1970 0000 5914 6147
Oxy USA Inc	6 Desta Dr.	Midland	TX	79705-5520	7021 1970 0000 5914 6130
Occidental Permian LTD	P.O. Box 4294	Houston	TX	77210-4294	7021 1970 0000 5914 6123
Chevron USA Inc	6301 Deauville Blvd	Midland	TX	79706	7021 1970 0000 5914 6116
Commissioner of Public Lands					
New Mexico State Land Office	P.O. Box 1148	Santa Fe	NM	87504-1148	7018 1130 0002 2208 6771
Bureau of Land Management	620 E. Greene St	Carlsbad	NM	88220-6292	7021 1970 0000 5914 6185

OCD Well Locations



11/9/2022, 10:20:59 AM

Areas

Override 1

Override 2

Override 3

Override 4

Override 5

Wells - Large Scale

Gas, Active

Gas, Cancelled

Gas, Plugged

Oil, Active

Oil, New

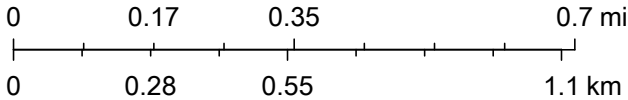
Oil, Plugged

PLSS Second Division

PLSS First Division

PLSS Townships

1:18,056



Esri Community Maps Contributors, New Mexico State University, Texas Parks & Wildlife, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Esri, NASA, NGA,



P.O. Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 748-7374

March 23, 2022

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

RE: Mack Energy Corporation & Chase Affiliates

Dear Mr. McClure:

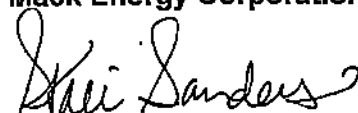
Mack Energy Corporation is a Chase Family owned entity. The following Chase individuals or companies are all affiliates of Mack Energy Corporation and usually own an interest in wells drilled and/or operated by Mack Energy Corporation.

- Mack C. Chase Trust
- Robert C. Chase or RDC Minerals LLC
- Richard L. Chase or Ventana Minerals LLC
- Gerene Dianne Chase Ferguson or DiaKan Minerals LLC
- Broken Arrow Royalties LLC
- Chase Oil Corporation
- Sendero Energy LLC
- Katz Resources LLC
- M Squared Energy LLC

All of these family members and companies all office in the same building so notifications can be hand delivered; therefore we request that the certified mail process be waived when these parties are involved.

If you have any questions or need additional information please do not hesitate to contact me. Your assistance is greatly appreciated.

Sincerely,
Mack Energy Corporation


Staci Sanders
Land Manager

/ss

Re: Application of Mack Energy Corporation for administrative approval for Central Tank Battery and Off Lease Measurement of oil and gas production at a CTB Facility located in Section 28, Township 15S Range 29E, NMPM, Chaves County, New Mexico.

List of Affected Parties

Sendero Energy LLC

Katz Resources LLC

M Squared Energy LLC

Chase Oil Corp

Robert C Chase

Broken Arrow Royalties LLC

Ventana Minerals LLC

DiaKan Minerals LLC

Bureau of Land Management



Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

January 30, 2023

Via Certified Mail 7018 1130 0002 2208 6771
Return Receipt Requested

Commissioner of Public Lands
New Mexico State Land Office
P.O. Box 1148
Santa Fe, NM 87504-1148

To all Interest Owners:

Enclosed for you review is a copy of Mack Energy Corporation's application for a Devonian SWD well. Produced water will be injected at a proposed depth of 9,385-9,780'. The Glacier SWD #1 located 1979 FSL & 1981 FWL, Sec. 32 T16S R27E, Eddy County.

The letter will serve as a notice that Mack Energy Corporation has requested administrative approval from the NMOCD to drill this well as a water disposal. If you have any objections, you must notify the Oil Conservation Division in Santa Fe in writing at 1220 South St. Francis Drive, Santa Fe, NM 87505 within fifteen (15) days of receiving this letter.

Sincerely,

Mack Energy Corporation

A handwritten signature in blue ink that reads "Deana Weaver".

Deana Weaver
Regulatory Technician II

DW/

Attachments



Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

January 30, 2023

Via Certified Mail 7021 1920 0000 5914 6116

Return Receipt Requested

Chevron USA Inc
6301 Deauville Blvd
Midland, TX 79706

To all Interest Owners:

Enclosed for you review is a copy of Mack Energy Corporation's application for a Devonian SWD well. Produced water will be injected at a proposed depth of 9,385-9,780'. The Glacier SWD #1 located 1979 FSL & 1981 FWL, Sec. 32 T16S R27E, Eddy County.

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Mack Energy Corporation

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Deana Weaver
Regulatory Technician II

DW/

Attachments



Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

January 30, 2023

Via Certified Mail 7021 1970 0000 5914 6123

Return Receipt Requested

Occidental Permian LTD
P.O. Box 4294
Houston, TX 77210-4294

To all Interest Owners:

Enclosed for you review is a copy of Mack Energy Corporation's application for a Devonian SWD well. Produced water will be injected at a proposed depth of 9,385-9,780'. The Glacier SWD #1 located 1979 FSL & 1981 FWL, Sec. 32 T16S R27E, Eddy County.

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Deana Weaver
Regulatory Technician II

DW/

Attachments



Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

January 30, 2023

Via Certified Mail 7021 1970 0000 5914 6130

Return Receipt Requested

Oxy USA Inc.
6 Desta Dr.
Midland, TX 79705-5520

To all Interest Owners:

Enclosed for you review is a copy of Mack Energy Corporation's application for a Devonian SWD well. Produced water will be injected at a proposed depth of 9,385-9,780'. The Glacier SWD #1 located 1979 FSL & 1981 FWL, Sec. 32 T16S R27E, Eddy County.

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Deana Weaver
Regulatory Technician II

DW/

Attachments



Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

Via Certified Mail 7021 1970 0000 5914 6147
Return Receipt Requested

Nerco Oil & Gas Inc.
P.O. Box 9931
Vancouver, WA 98668

To all Interest Owners:

Enclosed for you review is a copy of Mack Energy Corporation's application for a Devonian SWD well. Produced water will be injected at a proposed depth of 9,385-9,780'. The Glacier SWD #1 located 1979 FSL & 1981 FWL, Sec. 32 T16S R27E, Eddy County.

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Sincerely,

Mack Energy Corporation

Deana Weaver
Regulatory Technician II

DW/

Attachments



Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

January 30, 2023

Via Certified Mail 7021 1970 0000 5914 6154
Return Receipt Requested

Grizzly Operating LLC
5847 San Felipe St. Ste 3000
Houston, TX 77098

To all Interest Owners:

Enclosed for you review is a copy of Mack Energy Corporation's application for a Devonian SWD well. Produced water will be injected at a proposed depth of 9,385-9,780'. The Glacier SWD #1 located 1979 FSL & 1981 FWL, Sec. 32 T16S R27E, Eddy County.

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Sincerely,

Mack Energy Corporation

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Deana Weaver
Regulatory Technician II

DW/

Attachments



Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

January 30, 2023

Via Certified Mail 7021 1970 0000 5914 6161

Return Receipt Requested

Mr. NM Operating LLC
5950 Berkshire Lane Suite 1000
Dallas, TX 75225

To all Interest Owners:

Enclosed for your review is a copy of Mack Energy Corporation's application for a Devonian SWD well. Produced water will be injected at a proposed depth of 9,385-9,780'. The Glacier SWD #1 located 1979 FSL & 1981 FWL, Sec. 32 T16S R27E, Eddy County.

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Sincerely,

Mack Energy Corporation

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Deana Weaver
Regulatory Technician II

DW/

Attachments



Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

January 30, 2023

Via Certified Mail 7021 1970 0000 5914 6178

Return Receipt Requested

Merit Energy Company LLC
13727 Noel Rd Ste 1200
Dallas, TX 75240-7362

To all Interest Owners:

Enclosed for your review is a copy of Mack Energy Corporation's application for a Devonian SWD well. Produced water will be injected at a proposed depth of 9385-9780'. The Glacier SWD #1 located 1979 FSL & 1981 FWL, Sec. 32 T16S R27E, Eddy County.

The letter will serve as a notice that Mack Energy Corporation has requested administrative approval from the NMOCD to drill this well as a water disposal. If you have any objections, you must notify the Oil Conservation Division in Santa Fe in writing at 1220 South St. Francis Drive, Santa Fe, NM 87505 within fifteen (15) days of receiving this letter.

Sincerely,

Mack Energy Corporation

A handwritten signature in blue ink that reads "Deana Weaver".

Deana Weaver
Regulatory Technician II

DW/

Attachments



Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

January 30, 2023

Via Certified Mail 7021 1970 0000 5914 6185
Return Receipt Requested

Bureau of Land Management
620 E. Greene St.
Carlsbad, NM 88220-6292

To all Interest Owners:

Enclosed for you review is a copy of Mack Energy Corporation's application for a Devonian SWD well. Produced water will be injected at a proposed depth of 9385-9780'. The Glacier SWD #1 located 1979 FSL & 1981 FWL, Sec. 32 T16S R27E, Eddy County.

The letter will serve as a notice that Mack Energy Corporation has requested administrative approval from the NMOCD to drill this well as a water disposal. If you have any objections, you must notify the Oil Conservation Division in Santa Fe in writing at 1220 South St. Francis Drive, Santa Fe, NM 87505 within fifteen (15) days of receiving this letter.

Sincerely,

Mack Energy Corporation

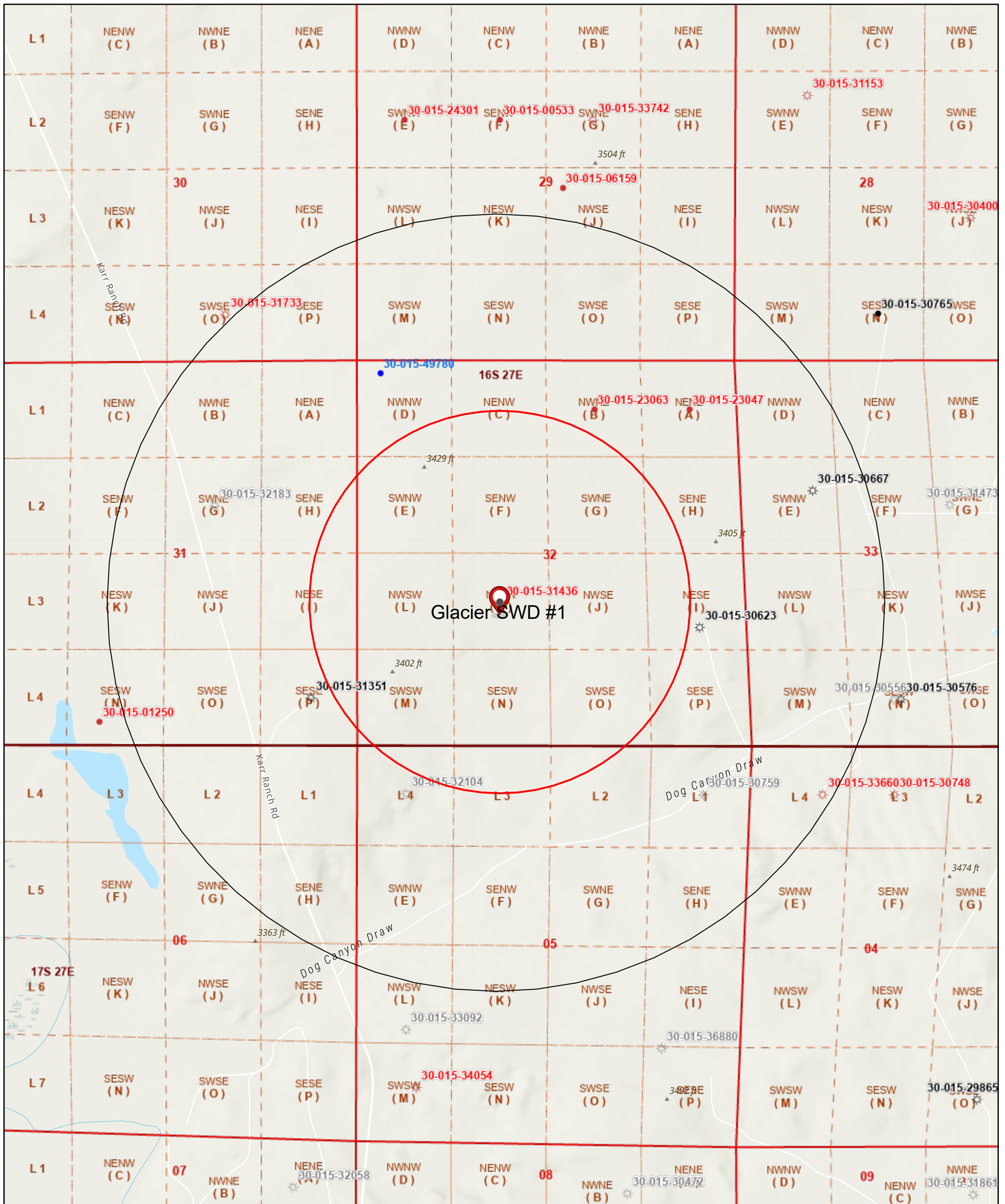
A handwritten signature in blue ink that reads "Deana Weaver".

Deana Weaver
Regulatory Technician II





DW/

Attachments

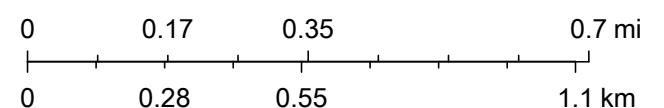
OCD Well Locations



12/12/2022, 9:34:52 AM

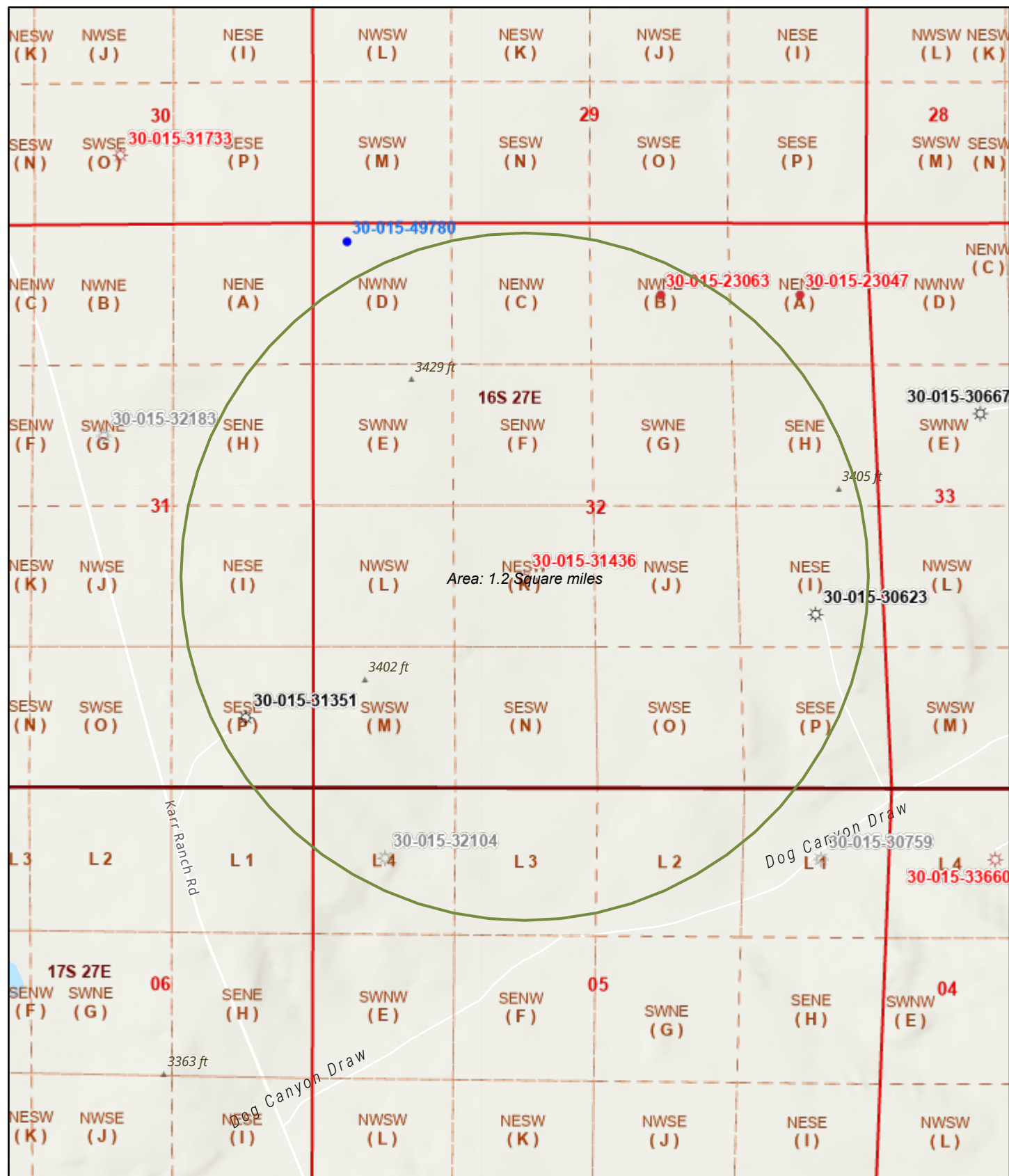
	Override 1		Gas, Plugged		PLSS Second Division
Wells - Large Scale			Oil, Active		PLSS First Division
	Gas, Active		Oil, New		PLSS Townships
	Gas, Cancelled		Oil, Plugged		

1:18,056



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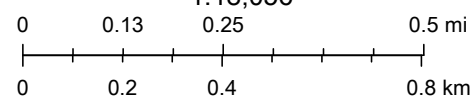
OCD Well Locations



10/3/2022, 11:46:59 AM

1:18,056

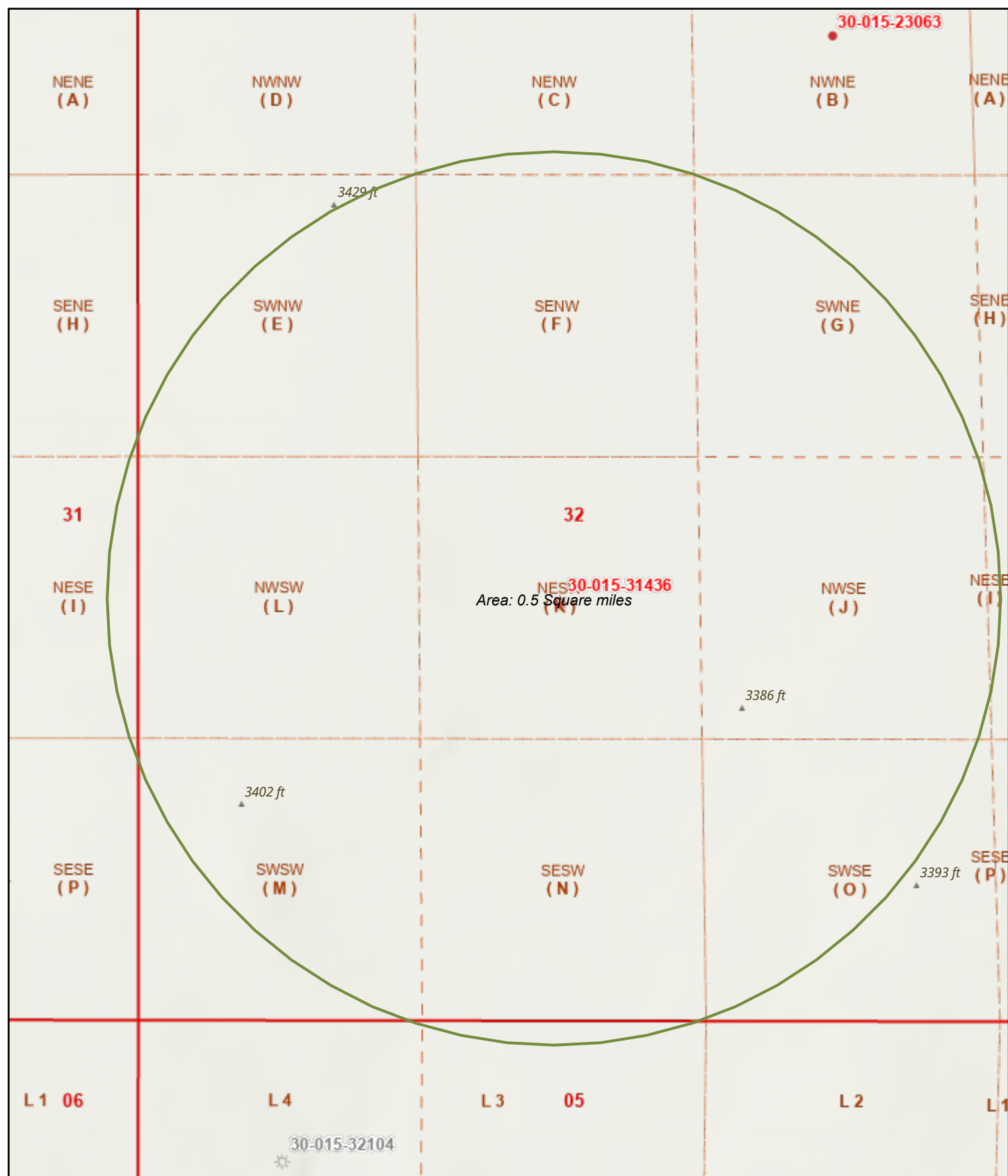
- Override 1
 ● Oil, New
 ● Oil, Plugged
- ☆ Gas, Active
 PLSS Second Division
 PLSS First Division
 PLSS Townships
- ☆ Gas, Cancelled
 ☆ Gas, Plugged



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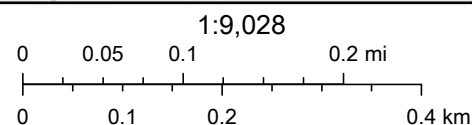
New Mexico Oil Conservation Division

OCD Well Locations



10/3/2022, 11:40:58 AM

- Override 1
⚙️ Gas, Plugged
- Wells - Large Scale
- ⚙️ Gas, Active
- ⚙️ Gas, Cancelled
- PLSS Second Division
- PLSS First Division



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New Mexico Oil Conservation Division

Glacier SWD #1
C-108
Well Tabulation Penetrating Injection Zone in Review Area
Mack Energy Corporation
Proposed Disposal Well

Operator	Well Name	API #	County	Footage	Sec	TWN	RNG	Type	Status	Spud Date	Comp Date	TD	PBTD	Comp Zone	Comp Interval	Casing Prog	Cement
Mack Energy Corporation	Glacier SWD #1	30-015-31436	Eddy	1979 FSL 1981 FWL	32	16S	27E	Gas	P&A (per OCD Online)	3/25/2001	N/A (no paperwork found on OCD)	9880'	9780'	Devonian	9385-9780'	8 5/8" @ 1381' 5 1/2" @ 9880'	950sx, Circ 885sx, Circ
Texas Oil & Gas Co.	Duffield State Com #1	30-015-23063	Eddy	660 FNL 1980 FEL	32	16S	27E	Gas	P&A	11/13/1979	1/14/1980	8825'		Morrow (CIBP @ 8550')	8619-8623'	13 3/8" @ 350'	375sx, Circ
									7/8/1982					Atoka	8171-8178'	8 5/8" @ 1800'	920sx, Circ
															4 1/2" @ 8825'	600sx, TOC @ 6910'	
Garrett Energy Corp	Leon State #1	30-015-23047	Eddy	660 FNL & 660 FEL	32	16S	27E	Oil	P&A	11/2/1979	1/9/1980	1950'	1869'	Wildcat San Andres	1774-1855'	10 3/4" @ 102'	50sx, Circ
									8/8/1991							7" @ 1150'	200sx, Circ
															4 1/2" @ 1950'	135sx, TOC @ 450'	
Mack Energy Corp	Riverside 31 Federal Com #1	30-015-31351	Eddy	660 FSL 660 FEL	31	16S	27E	Gas	Producing	4/23/2001	6/21/2001	8740'	8618'	Morrow	8355-8408'	8 5/8" @ 1310'	685sx, Circ
																5 1/2" @ 8732'	870sx, TOC @ 5480'
MR NM Operating LLC	Lucky Wolf ATB State Com #1	30-015-30623	Eddy	1650 FSL 660 FEL	32	16S	27E	Gas	Producing	9/26/2000	2/6/2001	8900'	8750'	Morrow	8712-8720'	16" @ 40'	Circ
														Atoka	8384-8392'	8 5/8" @ 1314'	620sx, Circ
																4 1/2" @ 8900'	775sx

Duffield State Com #1		API# 30-015-23063	
Operator: Texas Oil & Gas Co Location: Sec. 32 T16S R27E 660 FNL 1980 FEL Plugged 7/8/1982 GL Elevation: 3437.9'			
Depth	Hole/Csg Size & Cement	Plug/Perf Detail	
350"	17 1/2" hole 13 3/8" Set in 12/3/79 375sx Circ to Surface		Plug @ 400' w/ 35sx CMT
1800'	12 1/4" hole 8 5/8" Set in 12/11/79 920sx CMT Circ to Surface		
			Plug @ 1850' w/ 35sx Cmt
8825'	8 3/4" hole 4 1/2" Set in 1/16/80 600sx CMT TOC 6910'		Plug @ 2700' w/ 35sx Cmt
			Plug @ 5980' w/ 35sx Cmt
			Plug @ 6756' w/ 35sx Cmt
			Perf 8171-8178
			CIBP @ 8550' Perf 8619-8623 Morrow
			XXXXXXXXXXXX
			TD- 8825'

Leon State #1		API# 30-015-23047	
Operator: Garrett Energy Corp Location: Sec. 32 T16S R27E 660 FNL 660 FEL Plugged: 8/8/1991 GL Elevation: 3430.9'			
Depth	Hole/Csg Size & Cement	Plug/Perf Detail	
350"	12" hole 10 3/4" Set in 11/9/79 50sx Circ to Surface	Plug @ 400 to Surface'	
1150'	10" hole 7" Set in 12/22/79 200sx CMT Circ to Surface		
1950'	6 3/4" hole 4 1/2" Set in 1/16/80 135sx TOC 450'		
		Plug @ 1200' w/ 25sx Cmt CIBP @ 1720' Cap w/ 30'cmt Perf 1774-1855' Bridge Plug @ 1869'	
		XXXXXX XXXXX XXXXXXXXXXXXXX	
		TD- 1950"	

[illegible]

Released to Imaging: 4/25/2024 10:54:27 AM



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion










(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced
and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE)

C=the file is closed)

(quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub				County	POD Number	Well			q q q							X	Y	
	basin	Use	Diversion	Owner			Tag	Code	Grant	Source	6416	4	Sec	Tws	Rng				
LWD 02483	RA	PLS	5.05	BOGLE FARMS	CH	LWD 02483 POD1							09	16S	27E	566975	3644582*		
RA 00399	RA	DOM	0	LOS GENTRY	ED	RA 00399				Shallow	2	3	31	16S	27E	563583	3637879*		
RA 02550	RA	DOM	3	R.C. HORNER	ED	RA 02550				Shallow	3	3	1	27	16S	27E	567884	3639835*	
RA 03227	RA	STK	0	BILL LANGENEGGER	CH	RA 03227					2	2	2	06	16S	27E	564470	3646894*	
RA 04176	RA	OBS	0	J.E. JONES DRILLING CO.	XX	RA 04176					3	4	1	23	16S	27E	569885	3641470*	
RA 07930	RA	STK	1.54	BOGLE FARMS	ED	RA 07930					2	2	04	16S	27E	567583	3646830*		
RA 07931	RA	STK	1.88	BOGLE FARMS	ED	RA 07931					4	2	36	16S	27E	572405	3638231*		
RA 07933	RA	STK	1.88	BOGLE FARMS	ED	RA 07933							05	16S	27E	565366	3646189*		
RA 12455	RA	STK	3	KEY LIVESTOCK LLC	ED	RA 12455 POD1				Shallow	2	1	2	36	16S	27E	571998	3638766	

Record Count: 9

PLSS Search:

Township: 16S Range: 27E

Sorted by: File Number

*UTM location was derived from PLSS - see Help

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11/9/22 9:36 AM

Page 1 of 1

ACTIVE & INACTIVE POINTS OF DIVERSION



New Mexico Office of the State Engineer Water Right Summary



WR File Number: LWD 02483 **Subbasin:** RA **Cross Reference:** LWD-RA-57
Primary Purpose: PLS NON 72-12-1 LIVESTOCK WATERING
Primary Status: DCL DECLARATION
Total Acres: 1.01 **Subfile:** - **Header:** -
Total Diversion: 5.05 **Cause/Case:** -
Owner: BOGLE FARMS
Contact: SCOTT BOGLE

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/To		Acres	Diversion	Consumptive
			1	2						
672012	DCL	1991-07-10	DCL	PRC	LWD-RA-57	T		1.01	5.05	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q	64Q16Q4Sec	Tws Rng	X	Y	Other Location Desc
LWD 02483 POD1				09	16S 27E	566975	3644582*	LWD-P-110

An () after northing value indicates UTM location was derived from PLSS - see Help

Priority Summary

Priority	Status	Acres	Diversion	Pod Number
12/31/1947	DCL	1.01	5.05	LWD 02483 POD1

Place of Use

Q	Q	256	64	Q16	Q4Sec	Tws Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
		09	16S	27E			1.01	5.05		PLS	12/31/1947	DCL	

Source

Acres	Diversion	CU	Use	Priority	Source Description
1.01	5.05		PLS	12/31/1947	SW

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11/9/22 9:39 AM

WATER RIGHT
SUMMARY



New Mexico Office of the State Engineer

Water Right Summary

WR File Number: RA 00399 **Subbasin:** RA **Cross Reference:** -
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: DCL DECLARATION
Total Acres: 50 **Subfile:** - **Header:** -
Total Diversion: 0 **Cause/Case:** -
Owner: LOS GENTRY

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/ To	Acres	Diversion	Consumptive
			1	2					
200703	DCL	1927-08-04	DCL	PRC	RA 00399	T	50	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q	Q16	Q4Sec	Tws	Rng	X	Y	Other Location Desc
RA 00399		Shallow	64	2	3	31	16S 27E	563583	3637879*	NE CORNER NE SW

An () after northing value indicates UTM location was derived from PLSS - see Help

Place of Use

Q	Q	Q16	Q4Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
256	64	3	31	16S	27E	50			IRR		DCL	

Source

Acres	Diversion	CU	Use	Priority	Source Description
50	0		IRR		GW

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11/9/22 9:39 AM

WATER RIGHT
SUMMARY



New Mexico Office of the State Engineer

Water Right Summary

WR File Number: RA 02550 Subbasin: RA Cross Reference: -
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT PERMIT
Total Acres: Subfile: - Header: -
Total Diversion: 3 Cause/Case: -
Owner: R.C. HORNER

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/ To	Acres	Diversion	Consumptive
			1	2					
203383	72121	1963-04-12	PMT	APR	RA 02550	T		3	
203377	72121	1949-12-14	PMT	LOG	RA 02550	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q					X	Y	Other Location Desc	
			64	Q	16	Q	4				
RA 02550		Shallow	3	3	1	27	16S	27E	567884	3639835*	

An () after northing value indicates UTM location was derived from PLSS - see Help

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11/9/22 9:40 AM

WATER RIGHT SUMMARY



New Mexico Office of the State Engineer Water Right Summary

WR File Number: RA 03227 Subbasin: RA Cross Reference: -
Primary Purpose: STK 72-12-1 LIVESTOCK WATERING
Primary Status: WDP
Total Acres: Subfile: - Header: -
Total Diversion: 0 Cause/Case: -
Owner: BILL LANGENEGGER

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/ To	Acres	Diversion	Consumptive
			1	2					
261628	72121	1954-04-27	WDP	WDR	RA 03227	T		3	

Current Points of Diversion

POD Number	Well Tag	Source	Q				(NAD83 UTM in meters)		Other Location Desc		
			64	Q16	Q4	Sec	Tws	Rng		X	Y
RA 03227			2	2	2	06	16S	27E	564470	3646894*	

An () after northing value indicates UTM location was derived from PLSS - see Help

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11/9/22 9:41 AM

WATER RIGHT SUMMARY



New Mexico Office of the State Engineer Water Right Summary

WR File Number: RA 04176 Subbasin: RA Cross Reference: -
Primary Purpose: OBS OBSERVATION
Primary Status: PMT PERMIT
Total Acres: Subfile: - Header: -
Total Diversion: 0 Cause/Case: -
Owner: J.E. JONES DRILLING CO.

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/ To	Acres	Diversion	Consumptive
			1	2					
255217	72121	1960-03-16	PMT	LOG	RA 04176	T		3	

Current Points of Diversion

POD Number	Well Tag	Source	Q (NAD83 UTM in meters)										Other Location Desc
			64	Q	16	Q	4	Sec	Tws	Rng	X	Y	
RA 04176			3	4	1	23	16S	27E	569885	3641470*			

An () after northing value indicates UTM location was derived from PLSS - see Help

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11/9/22 9:41 AM

WATER RIGHT SUMMARY



New Mexico Office of the State Engineer

Water Right Summary

WR File Number: RA 07930 **Subbasin:** RA **Cross Reference:** -
Primary Purpose: STK 72-12-1 LIVESTOCK WATERING
Primary Status: DCL DECLARATION
Total Acres: 0 **Subfile:** - **Header:** -
Total Diversion: 1.54 **Cause/Case:** -
Owner: BOGLE FARMS
Contact: STUART BOGLE

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/ To	Acres	Diversion	Consumptive
			1	2					
246671	DCL	1991-07-10	DCL	PRC	RA 07930	T	0	1.54	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q	64 Q16 Q4Sec	Tws	Rng	X	Y	Other Location Desc
RA 07930			2	2	04	16S 27E	567583	3646830*	

An () after northing value indicates UTM location was derived from PLSS - see Help

Priority Summary

Priority	Status	Acres	Diversion	Pod Number
12/31/1951	DCL	0	1.54	RA 07930

Place of Use

Q	Q	256	64 Q16 Q4Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
2	2	04	16S 27E			0	1.54		STK	12/31/1951	DCL	

Source

Acres	Diversion	CU	Use	Priority	Source Description
0	1.54		STK	12/31/1951	GW SHALLOW

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11/9/22 9:42 AM

WATER RIGHT
SUMMARY



New Mexico Office of the State Engineer

Water Right Summary

WR File Number: RA 07931 Subbasin: RA Cross Reference: -
 Primary Purpose: STK 72-12-1 LIVESTOCK WATERING
 Primary Status: DCL DECLARATION
 Total Acres: 0 Subfile: - Header: -
 Total Diversion: 1.88 Cause/Case: -
 Owner: BOGLE FARMS
 Contact: STUART BOGLE

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/ To	Acres	Diversion	Consumptive
			1	2					
246672	DCL	1991-07-10	DCL	PRC	RA 07931	T	0	1.88	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q	Q16	Q4Sec	Tws	Rng	X	Y	Other Location Desc
RA 07931			64	4	2	36	16S	27E	572405	3638231*

An () after northing value indicates UTM location was derived from PLSS - see Help

Priority Summary

Priority	Status	Acres	Diversion	Pod Number
12/31/1914	DCL	0	1.88	RA 07931

Place of Use

Q	Q16	Q4Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
256	64	4	2	36	16S	27E	0	1.88	STK 12/31/1914	DCL	

Source

Acres	Diversion	CU	Use	Priority	Source Description
0	1.88	STK	12/31/1914	GW	SHALLOW

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11/9/22 9:42 AM

WATER RIGHT
SUMMARY



New Mexico Office of the State Engineer

Water Right Summary

WR File Number: RA 07933 **Subbasin:** RA **Cross Reference:** -
Primary Purpose: STK 72-12-1 LIVESTOCK WATERING
Primary Status: DCL DECLARATION
Total Acres: 0 **Subfile:** - **Header:** -
Total Diversion: 1.88 **Cause/Case:** -
Owner: BOGLE FARMS
Contact: STUART BOGLE

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/ To	Acres	Diversion	Consumptive
			1	2					
246679	DCL	1991-07-10	DCL	PRC	RA 07933	T	0	1.88	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q	64 Q16 Q4Sec	Tws Rng	X	Y	Other Location Desc
RA 07933				05 16S 27E		565366	3646189*	100'FWL, 200'FSL

An () after northing value indicates UTM location was derived from PLSS - see Help

Priority Summary

Priority	Status	Acres	Diversion	Pod Number
12/31/1914	DCL	0	1.88	RA 07933

Place of Use

Q	Q	256 64 Q16 Q4Sec	Tws Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
		05 16S 27E		0	1.88		STK	12/31/1914	DCL	

Source

Acres	Diversion	CU	Use	Priority	Source Description
0	1.88		STK	12/31/1914	GW SHALLOW

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11/9/22 9:43 AM

WATER RIGHT
SUMMARY



New Mexico Office of the State Engineer

Water Right Summary



WR File Number: RA 12455 Subbasin: RA Cross Reference: -
Primary Purpose: STK 72-12-1 LIVESTOCK WATERING
Primary Status: PMT PERMIT
Total Acres: Subfile: - Header: -
Total Diversion: 3 Cause/Case: -
Owner: KEY LIVESTOCK LLC
Contact: GARY KEY

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/ To	Acres	Diversion	Consumptive
			1	2					
	592288	72121	2016-09-06	PMT	LOG	RA 12455 POD1	T		3

Current Points of Diversion

POD Number	Well Tag	Source	Q				(NAD83 UTM in meters)		Other Location Desc
			64	Q	16	Q	4	Sec	
RA 12455 POD1		Shallow	2	1	2	36	16S	27E	

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11/9/22 9:43 AM

WATER RIGHT SUMMARY



Catalyst Oilfield Services
11999 E Hwy 158
Gardendale, TX 79758
(432) 563-0727
Fax: (432) 224-1038

Water Analysis Report

Customer:	Mack Energy Corporation	Sample #:	228768
Area:	Artesia	Analysis ID #:	177464
Lease:	Glacier	BOPD:	
Location:	SWD #1	BWPD:	
Sample Point:	Wellhead		

		Anions	mg/l	meq/l	Cations	mg/l	meq/l
Sampling date:	1/11/2023	Chloride:	2292.6	64.65	Sodium:	1099.0	47.80
Analysis date:	1/19/2023	Bicarbonate:	195.2	3.20	Magnesium:	194.9	16.03
Analysis:	Catalyst	Carbonate:		0.00	Calcium:	578.4	28.86
TDS (mg/l or g/m3):	5570	Sulfate:	1200.0	24.96	Potassium:	6.6	0.17
Density (g/cm3):	1.006	Borate:	2.6	0.02	Strontium:	0.4	0.01
Hydrogen Sulfide:	7.14	Phosphorus:		0.00	Barium:	0.2	0.00
Carbon Dioxide:	115				Iron:	0.1	0.00
Comments:		pH at time of sampling:		7.55	Manganese:	0.1	0.00
		pH at time of analysis:					
		pH used in Calculation:		7.55	Conductivity (micro-ohms/cm):		8171
		Temperature @ lab conditions(F):		75	Resistivity (ohm meter):		1.2238

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl											
Temp	Calcite CaCO3		Gypsum CaSO4*2H2O		Anhydrite CaSO4		Celestite SrSO4		Barite BaSO4		
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	
80	0.66	11.15	-0.30	0.00	-0.37	0.00	-1.76	0.00	1.07	0.00	
100	0.76	13.94	-0.31	0.00	-0.31	0.00	-1.75	0.00	0.92	0.00	
120	0.86	17.08	-0.30	0.00	-0.22	0.00	-1.72	0.00	0.80	0.00	
140	0.97	20.57	-0.28	0.00	-0.12	0.00	-1.69	0.00	0.70	0.00	
160	1.08	24.05	-0.26	0.00	0.01	8.71	-1.65	0.00	0.63	0.00	
180	1.20	27.89	-0.23	0.00	0.15	125.48	-1.61	0.00	0.57	0.00	
200	1.32	31.72	-0.20	0.00	0.30	225.52	-1.56	0.00	0.53	0.00	
220	1.45	35.21	-0.17	0.00	0.47	308.48	-1.51	0.00	0.51	0.00	



Catalyst Oilfield Services
11999 E Hwy 158
Gardendale, TX 79758
(432) 563-0727
Fax: (432) 224-1038

Water Analysis Report

Customer:	Mack Energy Corporation	Sample #:	81463
Area:	Artesia	Analysis ID #:	80383
Lease:	Prince Rupert		
Location:	Fed #4H		0
Sample Point:	Wellhead		

Sampling Date:	1/10/2019	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	1/22/2019	Chloride:	89383.7	2521.19	Sodium:	53970.0	2347.56
Analyst:	Catalyst	Bicarbonate:	175.7	2.88	Magnesium:	1013.0	83.33
TDS (mg/l or g/m3):	150968.6	Carbonate:			Calcium:	2725.0	135.98
		Sulfate:	2800.0	58.3	Potassium:	644.4	16.48
Density (g/cm3):	1.102	Borate*:	190.4	1.2	Strontium:	55.6	1.27
		Phosphate*			Barium:	0.9	0.01
Hydrogen Sulfide:	5	*Calculated based on measured elemental boron and phosphorus.			Iron:	9.0	0.32
Carbon Dioxide:	97				Manganese:	0.857	0.03
Comments:		pH at time of sampling:		6.65			
		pH at time of analysis:					
		pH used in Calculation:		6.65			
		Temperature @ lab conditions (F):		75	Conductivity (micro-ohms/cm):		200079
					Resistivity (ohm meter):		.0500

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	0.05	0.91	-0.13	0.00	-0.13	0.00	-0.11	0.00	1.22	0.60
100	0.13	2.72	-0.20	0.00	-0.13	0.00	-0.13	0.00	1.02	0.30
120	0.22	4.84	-0.26	0.00	-0.11	0.00	-0.15	0.00	0.84	0.30
140	0.30	7.26	-0.30	0.00	-0.06	0.00	-0.15	0.00	0.69	0.30
160	0.37	9.68	-0.34	0.00	0.00	6.96	-0.15	0.00	0.56	0.30
180	0.45	12.70	-0.37	0.00	0.08	166.07	-0.14	0.00	0.45	0.30
200	0.52	15.73	-0.40	0.00	0.18	328.81	-0.13	0.00	0.36	0.30
220	0.60	18.75	-0.42	0.00	0.28	485.19	-0.11	0.00	0.28	0.30



Catalyst Oilfield Services
11999 E Hwy 158
Gardendale, TX 79758
(432) 563-0727
Fax: (432) 224-1038

Water Analysis Report

Customer:	Mack Energy Corporation	Sample #:	78595
Area:	Artesia	Analysis ID #:	76096
Lease:	Chilliwick		
Location:	Fed Com 1H		0
Sample Point:	Wellhead		

		mg/l		meq/l	mg/l		meq/l
Sampling Date:	11/28/2018	Anions			Cations		
Analysis Date:	12/3/2018	Chloride:		2941.72	Sodium:		2764.27
Analyst:	Catalyst	Bicarbonate:		2.16	Magnesium:		84.49
TDS (mg/l or g/m3):	175963.5	Carbonate:			Calcium:		143.81
Density (g/cm3):	1.118	Sulfate:		66.62	Potassium:		18.08
		Borate*:		0.68	Strontium:		1.45
		Phosphate*			Barium:		0.01
Hydrogen Sulfide:	4	*Calculated based on measured elemental boron and phosphorus.			Iron:		0.
Carbon Dioxide:	108				Manganese:		0.01
Comments:				pH at time of sampling:			
				pH at time of analysis:			
				pH used in Calculation:	6.95		
				Temperature @ lab conditions (F):	75		
					Conductivity (micro-ohms/cm):		200381
					Resistivity (ohm meter):		.0499

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Calcite CaCO ₃		Gypsum CaSO ₄ *2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	0.28	2.95	-0.07	0.00	-0.05	0.00	-0.04	0.00	1.17	0.30
100	0.32	3.84	-0.14	0.00	-0.06	0.00	-0.07	0.00	0.97	0.30
120	0.36	5.02	-0.21	0.00	-0.05	0.00	-0.09	0.00	0.79	0.30
140	0.39	6.20	-0.26	0.00	-0.01	0.00	-0.10	0.00	0.63	0.30
160	0.43	7.38	-0.31	0.00	0.05	111.64	-0.10	0.00	0.50	0.30
180	0.46	9.16	-0.34	0.00	0.12	261.08	-0.09	0.00	0.38	0.30
200	0.50	10.93	-0.38	0.00	0.21	418.50	-0.08	0.00	0.29	0.30
220	0.55	12.99	-0.41	0.00	0.31	573.26	-0.07	0.00	0.21	0.30



Catalyst Oilfield Services
11999 E Hwy 158
Gardendale, TX 79758
(432) 563-0727
Fax: (432) 224-1038

Water Analysis Report

Customer:	Mack Energy Corporation	Sample #:	81533
Area:	Artesia	Analysis ID #:	80615
Lease:	Saskatoon		
Location:	Fed Com 1H		0
Sample Point:	Wellhead		

		mg/l		meq/l	mg/l		meq/l
Sampling Date:	1/10/2019	Anions			Cations		
Analysis Date:	1/23/2019	Chloride:		91681.1	Sodium:		54050.0
Analyst:	Catalyst	Bicarbonate:		153.7	Magnesium:		1173.0
TDS (mg/l or g/m3):	151377.2	Carbonate:			Calcium:		2767.0
Density (g/cm3):	1.105	Sulfate:		700.0	Potassium:		647.0
		Borate*:		144.3	Strontium:		60.1
		Phosphate*			Barium:		0.6
Hydrogen Sulfide:	4	*Calculated based on measured elemental boron and phosphorus.			Iron:		0.0
Carbon Dioxide:	90				Manganese:		0.416
Comments:				pH at time of sampling:			7.23
				pH at time of analysis:			
				pH used in Calculation:			7.23
		Temperature @ lab conditions (F):		75	Conductivity (micro-ohms/cm):		197210
					Resistivity (ohm meter):		.0507

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl

Temp	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	0.57	6.35	-0.72	0.00	-0.71	0.00	-0.66	0.00	0.45	0.30
100	0.57	7.26	-0.79	0.00	-0.72	0.00	-0.69	0.00	0.25	0.00
120	0.58	8.77	-0.84	0.00	-0.69	0.00	-0.70	0.00	0.07	0.00
140	0.59	10.28	-0.89	0.00	-0.65	0.00	-0.71	0.00	-0.08	0.00
160	0.60	12.10	-0.93	0.00	-0.59	0.00	-0.70	0.00	-0.21	0.00
180	0.63	13.91	-0.96	0.00	-0.51	0.00	-0.70	0.00	-0.32	0.00
200	0.66	16.03	-0.99	0.00	-0.41	0.00	-0.69	0.00	-0.42	0.00
220	0.71	18.45	-1.01	0.00	-0.31	0.00	-0.67	0.00	-0.49	0.00



Catalyst Oilfield Services
11999 E Hwy 158
Gardendale, TX 79758
(432) 563-0727
Fax: (432) 224-1038

Water Analysis Report

Customer:	Mack Energy Corporation	Sample #:	118208
Area:	Artesia	Analysis ID #:	107555
Lease:	Montreal		
Location:	1H		0
Sample Point:	Wellhead		

Sampling Date:	2/13/2020	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	3/4/2020	Chloride:	101615.8	2866.21	Sodium:	62440.0	2715.99
Analyst:	Catalyst	Bicarbonate:	197.6	3.24	Magnesium:	965.3	79.41
		Carbonate:			Calcium:	2569.0	128.19
TDS (mg/l or g/m3):	172020.9	Sulfate:	3400.0	70.79	Potassium:	660.8	16.9
Density (g/cm3):	1.116	Borate*:	110.4	0.7	Strontium:	57.8	1.32
		Phosphate*			Barium:	3.4	0.05
Hydrogen Sulfide:	7.4	*Calculated based on measured elemental boron and phosphorus.			Iron:	0.2	0.01
Carbon Dioxide:	102				Manganese:	0.550	0.02
Comments:		pH at time of sampling:	7.14				
		pH at time of analysis:					
		pH used in Calculation:	7.14				
		Temperature @ lab conditions (F):	75		Conductivity (micro-mhos/cm):	199270	
					Resistivity (ohm meter):	.0502	

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl

Temp	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
°F										
80	0.58	8.60	-0.09	0.00	-0.08	0.00	-0.05	0.00	1.83	1.78
100	0.59	10.08	-0.16	0.00	-0.08	0.00	-0.08	0.00	1.63	1.78
120	0.60	11.86	-0.23	0.00	-0.07	0.00	-0.10	0.00	1.45	1.78
140	0.61	13.93	-0.28	0.00	-0.03	0.00	-0.10	0.00	1.30	1.78
160	0.63	16.01	-0.32	0.00	0.03	69.97	-0.10	0.00	1.16	1.78
180	0.65	18.38	-0.36	0.00	0.11	226.51	-0.10	0.00	1.05	1.78
200	0.68	21.05	-0.39	0.00	0.19	391.65	-0.09	0.00	0.95	1.48
220	0.73	24.01	-0.42	0.00	0.29	555.31	-0.08	0.00	0.87	1.48



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Water Analysis Report

Customer:	Mack Energy Corporation	Sample #:	100487
Area:	Drilling	Analysis ID #:	94751
Lease:	Maple Ridge		
Location:	Fed #1		0
Sample Point:	Wellhead		

		Anions		Cations	
		mg/l	meq/l	mg/l	meq/l
Sampling Date:	7/29/2019	Chloride:	84902.3	Sodium:	51250.0
Analysis Date:	8/8/2019	Bicarbonate:	241.6	Magnesium:	1177.0
Analyst:	Catalyst	Carbonate:		Calcium:	2566.0
TDS (mg/l or g/m3):	144232	Sulfate:	3300.0	Potassium:	564.2
Density (g/cm3):	1.097	Borate*:	173.9	Strontium:	53.5
		Phosphate*		Barium:	1.5
Hydrogen Sulfide:	14	*Calculated based on measured elemental boron and phosphorus.		Iron:	1.5
Carbon Dioxide:	162.8			Manganese:	0.460
Comments:		pH at time of sampling:	6.41		
		pH at time of analysis:			
		pH used in Calculation:	6.41		
		Temperature @ lab conditions (F):	75	Conductivity (micro-mhos/cm):	194536
				Resistivity (ohm meter):	.0514

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl

Temp	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-0.09	0.00	-0.09	0.00	-0.09	0.00	-0.04	0.00	1.52	0.91
100	0.01	0.30	-0.15	0.00	-0.08	0.00	-0.06	0.00	1.33	0.91
120	0.10	3.96	-0.20	0.00	-0.06	0.00	-0.08	0.00	1.15	0.61
140	0.21	8.22	-0.25	0.00	-0.01	0.00	-0.08	0.00	1.00	0.61
160	0.31	12.48	-0.28	0.00	0.06	131.82	-0.08	0.00	0.87	0.61
180	0.41	17.35	-0.31	0.00	0.14	299.86	-0.07	0.00	0.76	0.61
200	0.51	21.92	-0.33	0.00	0.24	471.86	-0.06	0.00	0.67	0.61
220	0.61	26.79	-0.35	0.00	0.35	637.46	-0.04	0.00	0.60	0.61



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Water Analysis Report

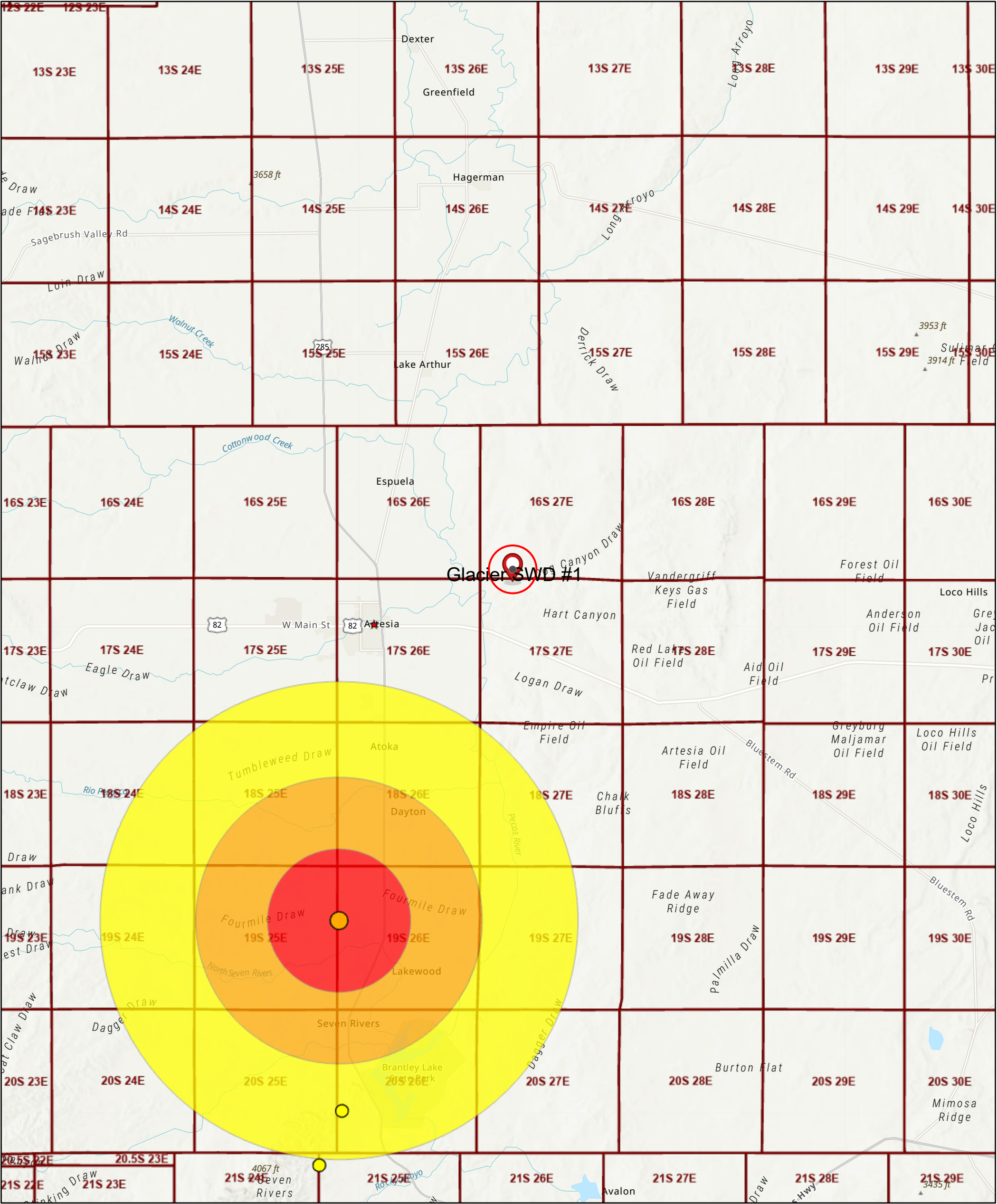
Customer:	Mack Energy Corporation	Sample #:	55880
Area:	Artesia	Analysis ID #:	53988
Lease:	White Rock		
Location:	Federal #1H		0
Sample Point:	Wellhead		

		Anions		mg/l	meq/l	Cations		mg/l	meq/l
Sampling Date:	12/21/2017	Chloride:		93901.4	2648.62	Sodium:		58100.0	2527.21
Analysis Date:	1/6/2018	Bicarbonate:		241.6	3.96	Magnesium:		969.6	79.76
Analyst:	Catalyst	Carbonate:				Calcium:		2737.0	136.58
TDS (mg/l or g/m3):	161820.5	Sulfate:		5000.0	104.1	Potassium:		571.6	14.62
Density (g/cm3):	1.107	Borate*:		229.5	1.45	Strontium:		66.0	1.51
		Phosphate*				Barium:		0.0	0.
Hydrogen Sulfide:	11	*Calculated based on measured elemental boron and phosphorus.				Iron:		3.8	0.14
Carbon Dioxide:	242					Manganese:		0.000	0.
Comments:					pH at time of sampling:				
					pH at time of analysis:				
					pH used in Calculation:				
					Temperature @ lab conditions (F):			Conductivity (micro-ohms/cm):	176042
								Resistivity (ohm meter):	.0568

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl

Temp	Calcite CaCO ₃		Gypsum CaSO ₄ ·2H ₂ O		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄	
	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
°F										
80	0.43	9.88	0.10	359.72	0.11	305.55	0.18	14.96	0.00	0.00
100	0.49	12.27	0.03	111.03	0.10	296.88	0.16	13.17	0.00	0.00
120	0.55	14.96	-0.03	0.00	0.13	355.53	0.14	11.97	0.00	0.00
140	0.60	17.96	-0.08	0.00	0.17	467.16	0.13	11.67	0.00	0.00
160	0.64	20.95	-0.12	0.00	0.23	615.30	0.14	11.67	0.00	0.00
180	0.69	24.54	-0.15	0.00	0.31	784.69	0.14	12.27	0.00	0.00
200	0.75	28.13	-0.18	0.00	0.40	962.15	0.15	12.87	0.00	0.00
220	0.80	31.72	-0.20	0.00	0.51	1137.23	0.17	13.77	0.00	0.00

Seismicity Map



12/16/2022, 2:11:41 PM

★
OCD District Offices

●
M2.5+ Earthquakes (2021+)

■
Seismic Response 3.0 to 3.4

■
2.5 - 2.9

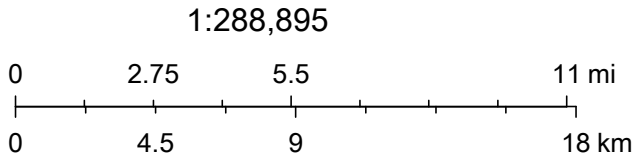
■
3 mi.

■
3.0 - 3.4

■
6 mi.

■
10 mi.

□
PLSS Townships



Oil Conservation Division (OCD), Energy, Minerals and Natural Resources Department (EMNRD), Esri, NASA, NGA, USGS, New Mexico State University, Texas Parks & Wildlife, Esri, HERE, Garmin, SafeGraph, METI/NASA,

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 Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

COMMENTS

Action 173002

COMMENTS

Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID: 13837
	Action Number: 173002
	Action Type: [C-108] Fluid Injection Well (C-108)

COMMENTS

Created By	Comment	Comment Date
dmcclure	APD submitted under action ID: 172569	6/21/2023

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CONDITIONS

Action 173002

CONDITIONS

Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID: 13837
	Action Number: 173002
	Action Type: [C-108] Fluid Injection Well (C-108)

CONDITIONS

Created By	Condition	Condition Date
mgebremichael	None	4/25/2024