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Revised March 23, 2017

MM 4/03/2018  
mm 3/16/2018

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: Mack Energy Corporation

OGRID Number: 013837

Well Name: Denali SWD #1

API: 30-015-32444 97803

Pool: SWD; Devonian &amp; SWD; Montoya

Pool Code: 96101 &amp; 96112 (97803)

**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☐ PPR2) **NOTIFICATION REQUIRED TO:** Check those which apply.A. ☒ Offset operators or lease holdersB. ☐ Royalty, overriding royalty owners, revenue ownersC. ☒ Application requires published noticeD. ☒ Notification and/or concurrent approval by SLOE. ☒ Notification and/or concurrent approval by BLMF. ☒ Surface ownerG. ☒ For all of the above, proof of notification or publication is attached, and/or,H. ☐ No notice required**FOR OCD ONLY**☐ Notice Complete☐ Application  
Content  
Complete

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

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

Deana Weaver

Print or Type Name

Deana Weaver

Signature

Date

3.14.18

575-748-1288

Phone Number

dweaver@mecc.com

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: Mack Energy Corporation  
ADDRESS: P.O. Box 960 Artesia, NM 88211-0960  
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 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: Deana Weaver TITLE: Production Clerk  
SIGNATURE: Deana Weaver DATE: 3.14.18  
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: \_\_\_\_\_

### 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.

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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: Mack Energy CorporationWELL NAME & NUMBER: Denali SWD #1

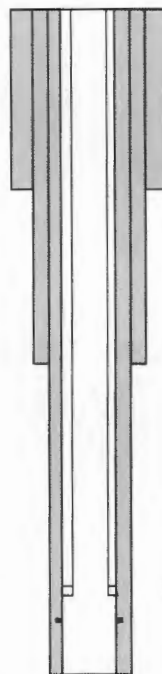
WELL LOCATION: 660 FSL & 1980 FEL      O      3      16S      28E  
 FOOTAGE LOCATION      UNIT LETTER      SECTION      TOWNSHIP      RANGE

WELLBORE SCHEMATIC

13 3/8" csg @ 352'  
w/600sx, circ

8 5/8" csg @ 2013'  
w/850sx, circ

5 1/2" csg @ 11,000'  
w/1710sx, circ



2 7/8" PC tubing @  
10,100' set w/ 10k  
Nickel Plated PRK

Perf- 10,150-10,900'

TD- 10,975'

WELL CONSTRUCTION DATASurface Casing

Hole Size: 17 1/2      Casing Size: 13 3/8  
 Cemented with: 600 sx.      or          ft<sup>3</sup>  
 Top of Cement: 0      Method Determined: Circ

Intermediate Casing

Hole Size: 12 1/4      Casing Size: 8 5/8  
 Cemented with: 850 sx.      or          ft<sup>3</sup>  
 Top of Cement: 0      Method Determined: Circ

Production Casing

Hole Size: 7 7/8      Casing Size: 5 1/2  
 Cemented with: 1190 sx.      or          ft<sup>3</sup>  
 Top of Cement: 0      Method Determined: Circ  
 Total Depth: 10,975

Injection Interval

10,150'      feet to 10,900'

(Perforated or Open Hole; indicate which)

### INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: Plastic Coated

Type of Packer: Halliburton Trump Packer

Packer Setting Depth: 10,100'

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 (Dry Well)

2. Name of the Injection Formation: Devonian & Montoya

3. Name of Field or Pool (if applicable): Diamond Mound

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. Not Perforated- plugged

w/ 150sx cmt @ 7480-7580, 5270-5370, 2900-3000, 2053-2063, 275-375, 50-surface

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Grayburg - Oil/Gas 1487-1850', Wolfcamp- Oil/Gas 6617-7271'

Atoka- Oil/Gas 9023-9150', Morrow- Oil/Gas 9150-9431'

\_\_\_\_\_  
\_\_\_\_\_

## **VII. DATA SHEET: PROPOSED OPERATIONS**

1. Proposed average and maximum daily rate and volume of fluids to be injected;  
**Respectively, 2000 BWPD and 4000 BWPD**
2. The system is closed or open;  
**Closed**
3. Proposed average and maximum injection pressure;  
**0-2,030#**
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; **SWD; Devonian & Montoya**
3. Thickness; **750'**
4. Depth; **10,150-10,900'**

## **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**

1. Windmill over 1 mile away from the Denali SWD #1, will forward analysis when complete.

Additional Information

### **Waters Injected:**

Grayburg – Oil/Gas 1487-1850'  
Wolfcamp- Oil/Gas 6617-7271'  
Atoka- Oil/Gas 9023-9150'  
Morrow- Oil/Gas 9150-9431'

## **XII. AFFIRMATIVE STATEMENT**

RE: Denali 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: \_\_\_\_\_

3/14/18



Charles Sadler, Geologist

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

<sup>1</sup> API Number	<sup>2</sup> Pool Code	<sup>3</sup> Pool Name
	96101	SWD; Devonian
<sup>4</sup> Property Code	<sup>5</sup> Property Name	<sup>6</sup> Well Number
	DENALI SWD	1
<sup>7</sup> OGRID No.	<sup>8</sup> Operator Name	<sup>9</sup> Elevation
13837	MACK ENERGY CORPORATION	3601.6

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	3	16 S	28 E		660	SOUTH	1980	EAST	EDDY

<sup>11</sup> 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
<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.						
40									

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><b>17 OPERATOR CERTIFICATION</b> 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> 32.18 Signature Date</p> <p>Deana Weaver Printed Name</p> <p>dweaver@mec.com E-mail Address</p>		<p><b>18 SURVEYOR CERTIFICATION</b> 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>FEBRUARY 9, 2018 Date of Survey</p> <p><i>[Signature]</i> Signature and Seal of Professional Surveyor</p> <p>Certificate Number FRIJON E. JARAMILLO, PLS 12797 SURVEY NO. 5985</p>	
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1000 Rio Brazos Road, Aztec, NM 87410  
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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

<sup>1</sup> API Number	<sup>2</sup> Pool Code 96112	<sup>3</sup> Pool Name SWD; Montoya
<sup>4</sup> Property Code	<sup>5</sup> Property Name DENALI SWD	<sup>6</sup> Well Number 1
<sup>7</sup> OGRID No. 13837	<sup>8</sup> Operator Name MACK ENERGY CORPORATION	<sup>9</sup> Elevation 3601.6

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	3	16 S	28 E		660	SOUTH	1980	EAST	EDDY

<sup>11</sup> 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

<sup>12</sup> Dedicated Acres 40	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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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>N89°41'36"E 2603.88 FT</p> <p>N89°41'36"E 2603.88 FT</p> <p>L4 L3</p> <p>NW CORNER SEC. 3 LAT. = 32.9652°83'N LONG. = 104.1722355°W NMSP EAST (FT) N = 714919.81 E = 590745.72</p> <p>L5 L6</p> <p>L7 L8</p> <p>NE CORNER SEC. 3 LAT. = 32.9652718°N LONG. = 104.1552599°W NMSP EAST (FT) N = 714947.67 E = 595952.05</p> <p>NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE, VERTICAL DATUM NAVD88.</p> <p>L12, L11</p> <p>L13, L14</p> <p>W/4 CORNER SEC. 3 LAT. = 32.9526569°N LONG. = 104.1722442°W NMSP EAST (FT) N = 710349.68 E = 590750.03</p> <p>E/4 CORNER SEC. 3 LAT. = 32.9529100°N LONG. = 104.1551948°W NMSP EAST (FT) N = 710450.18 E = 595979.63</p> <p>DENALI SWD 1 ELEV. = 3601.6' LAT. = 32.9472476°N (NAD83) LONG. = 104.1616214°W NMSP EAST (FT) N = 708386.77 E = 594011.70</p> <p>SE CORNER SEC. 3 LAT. = 32.9455694°N LONG. = 104.1551583°W NMSP EAST (FT) N = 707779.51 E = 595995.35</p> <p>SURFACE LOCATION</p> <p>SW CORNER SEC. 3 LAT. = 32.9452027°N LONG. = 104.1722494°W NMSP EAST (FT) N = 707637.64 E = 590752.58</p> <p>S/4 CORNER SEC. 3 LAT. = 32.9453886°N LONG. = 104.1637953°W NMSP EAST (FT) N = 707709.40 E = 593373.52</p> <p>1980'</p> <p>568°25'54"W 2622.60 FT</p> <p>S88°28'06"W 2623.45 FT</p> <p>N00°03'15"W 4571.31 FT</p> <p>N00°03'13"W 2712.74 FT</p> <p>S00°21'05"E 4498.73 FT</p> <p>S00°20'14"E 2671.41 FT</p>	<p><b><sup>17</sup> OPERATOR CERTIFICATION</b></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>Deana Weaver 3.2.18 Signature Date</p> <p>Deana Weaver Printed Name</p> <p>dweaver@mec.com E-mail Address</p> <p><b><sup>18</sup> SURVEYOR CERTIFICATION</b></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>FEBRUARY 9, 2018 Date of Survey</p> <p><i>[Signature]</i> Signature and Seal of Professional Surveyor</p> <p>Certificate Number FILMON F. JARAMILLO, PLS 12797</p> <p>SURVEY NO. 5985</p>
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## AREA OF REVIEW WELL DATA

LEASE/API	WELL#	LOCATION	TD (PBSD)	TYPE & DATE DRILLED	HOLE SIZE	CASING SIZE & WEIGHT	SETTING DEPTH	SX CMT	TOC	PERFS
Denali SWD	1	660 FSL 1980 FEL 3-16S-28E	10,975'	Dry Hole 10/29/02	17 1/2 12 1/4 7 7/8 (New)	13 3/8, 48 8 5/8, 32 5 1/2, 17 (New)	352 2013 11000 (New)	600 850 1710 (New)	Circ Circ Circ	10150-10900' (New)
Cave Lake Federal 30-015-24008	1	2160 FNL 660 FWL 3-16S-28E	9400'	DRY HOLE - 1/30/1982	17 1/2 11	13 3/8, 54.5 8 5/8, 24 & 28	551 1940	600 700	CIRC CIRC	
Crow Flats 3 Federal 30-015-30706	1	960 FSL 760 FWL 3-16S-28E	9550' PBSD- 9463'	GAS 10/09/1999	17 1/2 11 7 7/8	13 3/8, 48 8 5/8, 24 & 32 5 1/2, 17	350 2022 9552	350 650 250	CIRC CIRC TOC 8590	9127.5-9134 9322.5-9329
Purple Gosling BBD State 30-015-32469	1	710 FSL 1040 FWL 2-16S-28E	9630' PBSD- 9579'	GAS 4/27/2003	26 17 1/2 12 1/4 8 3/4	20 13 3/8, 48 9 5/8, 36 5 1/2, 15.5 & 17	40 430 1957 9625	445 1325 2005	CIRC CIRC CIRC	9098-9190 9246-9346
Coquina Federal 30-015-23744	1	2190 FNL 660 FEL 4-16S-28E	9450' PBSD- 9405'	GAS 7/26/1981 P&A 8/13/1996	17 1/2 11 7 7/8	13 3/8, 48 8 5/8, 24 & 32 4 1/2, 11.6	578 1950 9450	635 1325 1450	CIRC CIRC TOC 8100	9100-9191
Crow Flats 10 Federal 30-015-30168	1	2310 FNL 1310 FEL 10-16S-28E	9600 PBSD- 9523	GAS 9/23/1998	17 1/2 11 7 7/8	13 5/8, 68 8 5/8, 32 5 1/2, 17	320 1987 9600	650 500 300	CIRC CIRC TOC 7000	9383-9418
Diamond Vista 10 Federal Com 30-015-34393	1	1410' FSL 660' FWL 10-16S-28E	9615' PBSD- 9554'	GAS 9/13/2006	17 1/2 11 7 7/8	13 3/8, 54.5 8 5/8, 32 5 1/2, 17	415' 1800' 9605'	430 220 660	CIRC CIRC TOC 1438'	9134-9144

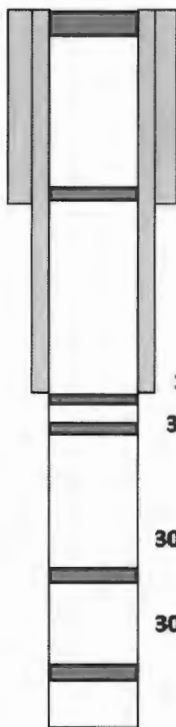
[illegible]

Before

13 3/8" csg @ 352'  
w/600sx, circ

8 5/8" csg @ 2013'  
w/850sx, circ

Formation Tops  
Yates: 370  
7Rivers: 510  
Queen: 1090  
Grayburg: 1490  
San Andres: 1850  
Glorieta: 3380  
Tubb: 4580  
Abo: 5370  
Wolfcamp: 6630  
Cisco: 7640  
Atoka: 9030  
Miss: 9430



cmt plug @ surface - 50'

30sx cmt plug @ 275-375'

30sx cmt plug @ 2053-2063'

30sx cmt plug @ 2900-3000'

30sx cmt plug @ 5270-5370'

30sx cmt plug @ 7480-7580'

TD-9575'  
PBTD- Surface

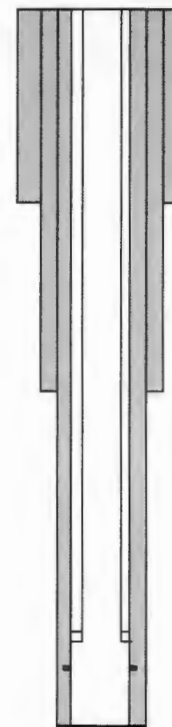
Denali SWD #1  
Sec. 3 T16S R28E  
660 FSL 1980 FEL

After

13 3/8" csg @ 352'  
w/600sx, circ

8 5/8" csg @ 2013'  
w/850sx, circ

5 1/2" csg @ 11,000'  
w/1710sx, circ

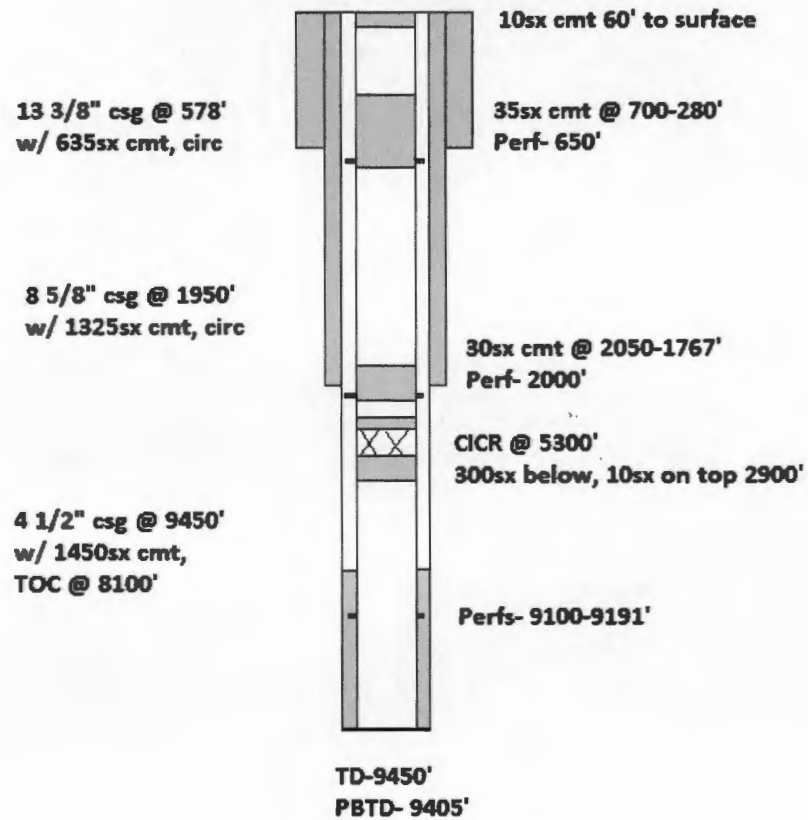


2 7/8" PC tubing @  
10,100' set w/ 10k  
Nickel Plated PRK

Perf- 10,150-10,900'

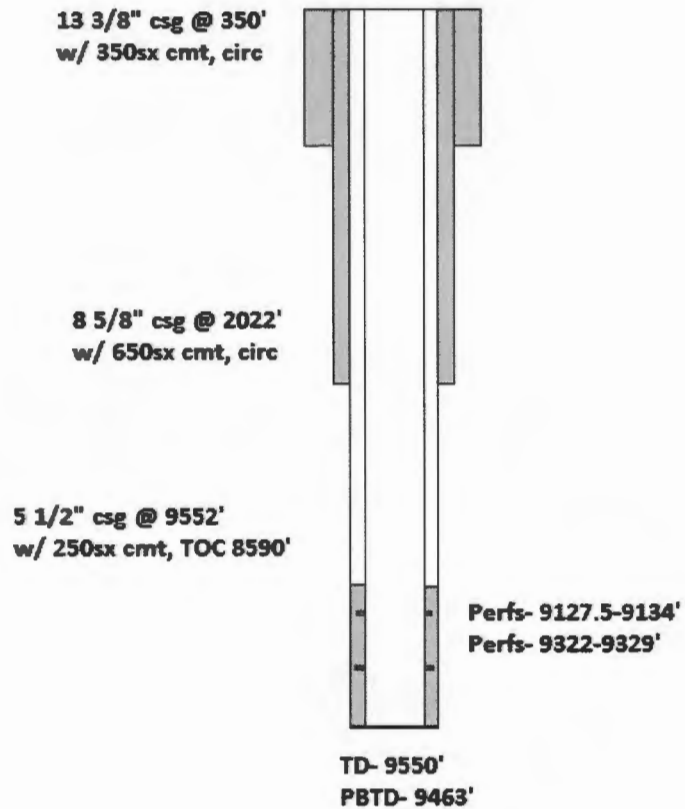
TD- 10,975'

Coquina Federal #1  
Sec. 4 T16S R28E  
2190 FNL 660 FEL  
30-015-23744  
Gas Well- 7/26/1981  
P&A- 8/13/1996



Gas Well  
10/9/1999

Crow Flats 3 Federal #1  
Sec. 3 T16S R28E  
960 FSL 760 FWL  
30-015-30706

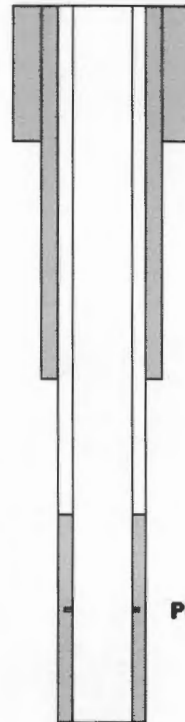


Crow Flats 10 Federal #1  
Sec. 10 T16S R28E  
2310 FNL 1310 FEL  
30-015-30168  
Gas Well - 9/23/1998

13 5/8" csg @ 320'  
w/ 650sx cmt, circ

8 5/8" csg @ 1987'  
w/ 500sx cmt, circ

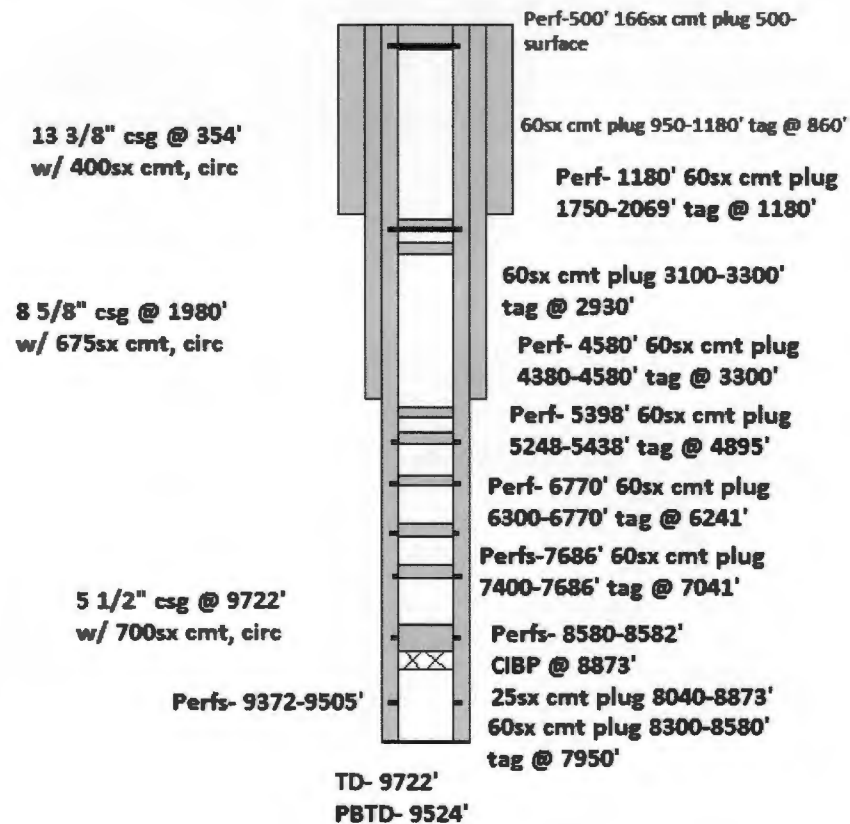
5 1/2" csg @ 9600'  
w/ 300sx cmt  
TOC @ 7000'



Perfs- 9383-9418'

TD- 9600'  
PBTD- 9523'

Crow Flats 11 Federal Com #1  
 Sec. 11 T16S R28E  
 1980 FSL 660 FWL  
 30-015-30592  
 Gas Well- 5/25/1999  
 P&A - 11/15/2015





Diamond Vista 10 Federal Com #1  
Sec. 10 T16S R28E  
1410 FSL 660 FWL  
30-015-34393  
Gas Well- 9/13/2006

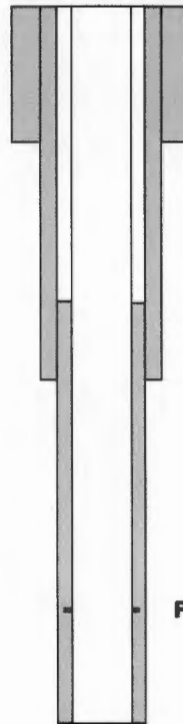
13 3/8" csg @ 415'  
w/ 415sx cmt, circ

8 5/8" csg @ 1800'  
w/ 220sx cmt, circ

5 1/2" csg @ 9605'  
w/ 660sx cmt  
TOC @ 1438'

Perfs- 9134-9144'

TD- 9615'  
PBTD- 9554'

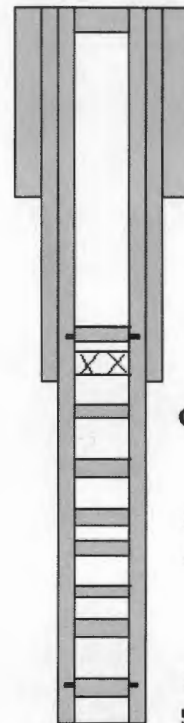


North Crow Flats Unit #1  
Sec. 11 T16S R28E  
1980 FNL 1980 FWL  
30-015-20186  
Dry Hole- 1/6/1969

13 3/8" csg @ 301'  
w/ 350sx cmt, circ

9 5/8" csg @ 1980'  
w/ 1300sx cmt, circ

5 1/2" csg @ 9670'  
w/ 550sx cmt, circ



10sx cmt plug @ surface

100sx cmt plug @ 1128-1136'

Perf- 1128-1136'

CIBP @ 1350'

50sx cmt plug @ 7350, 6860, 5400, 4600,  
3400, 2020'

Perf - 9266-9282'

50sx cmt plug @ 9266-9286'

TD-9670'

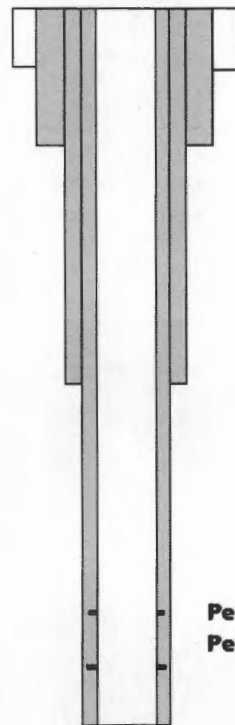
PBTD- Surface

Purple Gosling BBD State #1  
Sec. 2 T16S R28E  
710 FSL 1040 FWL  
30-015-32469  
Gas Well - 4/27/2003

20" csg @ 40'  
13 3/8" csg @ 430'  
w/ 445sx cmt, circ

9 5/8" csg @ 1957'  
1325sx cmt, circ

5 1/2" csg @ 9625'  
2005sx cmt, circ



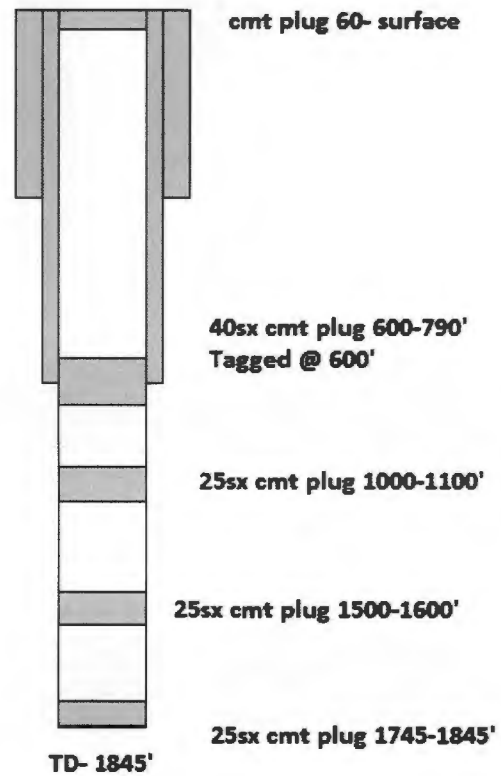
Perfs - 9098-9190'  
Perfs- 9246-9346'

TD- 9630'  
PBTD- 9579'

Sara Federal #1  
Sec. 10 T16S R28E  
1980 FSL 1980 FEL  
30-015-25415  
Dry Hole- 11/26/1985

10 3/4" csg @ 350'  
w/ 300sx cmt, circ

8 5/8" csg @ 732'  
w/ 200sx cmt, circ





---

*New Mexico Office of the State Engineer*  
**Active & Inactive Points of Diversion**  
(with Ownership Information)

---

No PODs found.

POD Search:

POD Basin: Roswell Artesian

PLSS Search:

Q4: SE      Section(s): 3      Township: 16S      Range: 28E



*New Mexico Office of the State Engineer*  
**Active & Inactive Points of Diversion**  
(with Ownership Information)

---

No PODs found.

**POD Search:**

POD Basin: Carlsbad

**PLSS Search:**

Q4: SE      Section(s): 3      Township: 16S      Range: 28E



---

*New Mexico Office of the State Engineer*  
**Active & Inactive Points of Diversion**  
(with Ownership Information)

---

No PODs found.

**POD Search:**

POD Basin: Carlsbad

**PLSS Search:**

Q4: SE      Section(s): 10      Township: 16S      Range: 28E



# *New Mexico Office of the State Engineer*

## **Active & Inactive Points of Diversion**

(with Ownership Information)

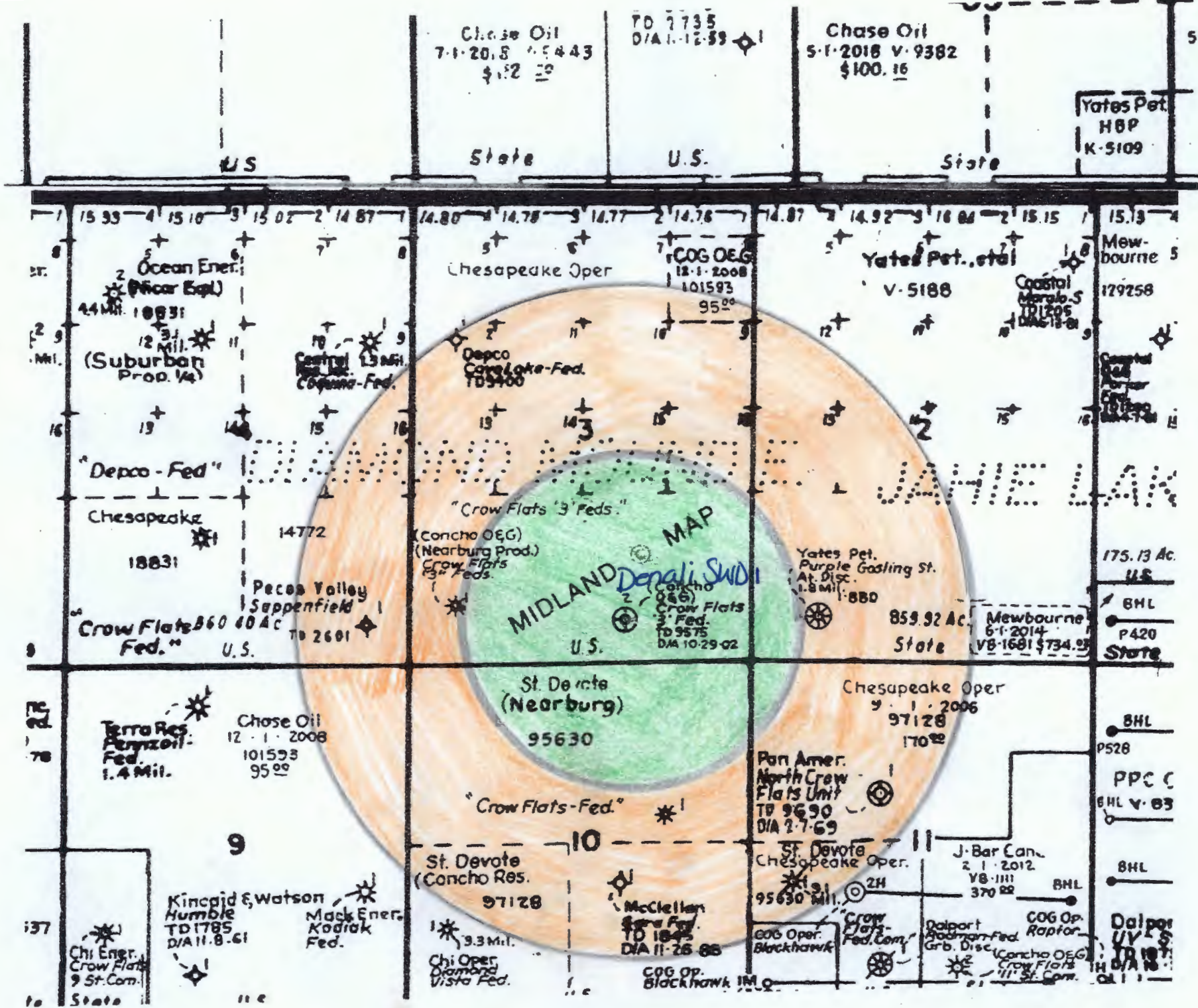
---

No PODs found.

**PLSS Search:**

Q4: SE      Section(s): 2      Township: 16S      Range: 28E

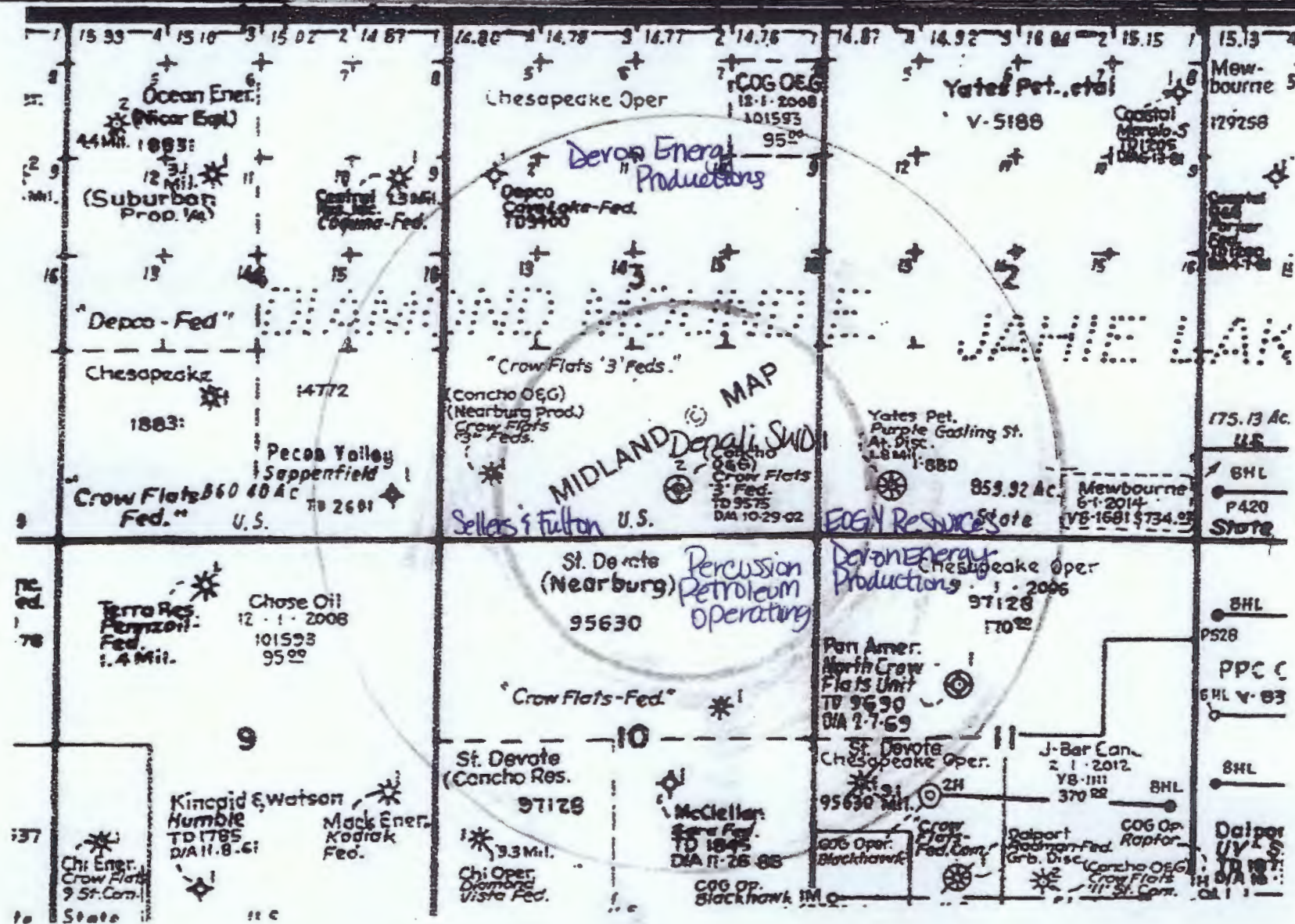






Yates Pet  
HBP  
K-5109

Sister



## **Denali SWD #1**

### **Offset Operators:**

- Percussion Petroleum Operating, LLC  
1010 Lamar St., Suite 1540  
Houston, TX 77002
- EOG Y Resources, Inc.  
105 S. Fourth Street  
Artesia, NM 88210
- Sellers & Fulton Oil LLC  
P.O. Box 1176  
Artesia, NM 88211
- Legacy Reserves Operating, LP  
P.O. Box 10848  
Midland, TX 79702

### **Surface Owner:**

- Federal Surface – Grazing Lessee is Bogle, Ltd.

## McMillan, Michael, EMNRD

---

**From:** Deana Weaver <dweaver@mec.com>  
**Sent:** Tuesday, April 3, 2018 3:26 PM  
**To:** McMillan, Michael, EMNRD  
**Subject:** RE: Mack Energy Denali SWD Well No. 1 Eddy County  
**Attachments:** denali swd affidavit.pdf

**From:** McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]  
**Sent:** Monday, March 19, 2018 8:46 AM  
**To:** Deana Weaver  
**Cc:** Jones, William V, EMNRD; Goetze, Phillip, EMNRD  
**Subject:** Mack Energy Denali SWD Well No. 1 Eddy County

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- Estimated log Top of Devonian
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- Clarify on the tract map which tract who is the operator or affected

Thanks

Mike

Michael McMillan  
1220 South St. Francis  
Santa Fe, New Mexico  
505-476-3448  
[Michael.mcmillan@state.nm.us](mailto:Michael.mcmillan@state.nm.us)

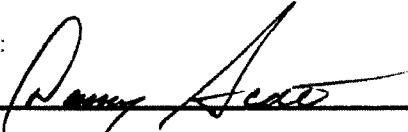
# Affidavit of Publication

No. 24599

State of New Mexico

County of Eddy:

**Danny Scott**



being duly sworn says that she 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 March 16, 2018

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Sixth Publication

Seventh Publication

Subscribed and sworn before me this

19th day of March 2018

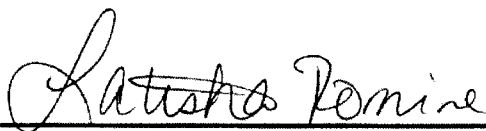


OFFICIAL SEAL

Latisha Romine

NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 5/12/2019



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 Denali SWD #1 660 FSL & 1980 FEL of Section 3, T16S R28E, NMPM, Eddy County, New Mexico. The water will be injected into the Devonian and Montoya formations at a disposal depth of 10,150-10,900'. Water will be injected at a maximum surface pressure of 2030# pounds and a maximum injection rate of 2000-4000 BWPD. Any interested party with questions or comments may contact Deana Weaver at Mack Energy Corporation, Post Office Box 960, Artesia, New Mexico 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 the publication of this notice.

Published in the Artesia Daily Press, Artesia, N.M., March 16, 2018 Legal No. 24599.

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Published in the Artesia Daily Press, Artesia, N.M., March 16, 2018 Legal No. 24599.



PO Box 4493  
Artesia, NM 88211-0493  
Office (505) 751-1188  
Fax (505) 751-1189

March 14, 2018

**VIA CERTIFIED MAIL 7015 0640 0006 7024 4493**  
**RETURN RECEIPT REQUESTED**

Percussion Petroleum Operating, LLC  
1010 Lamar St., Suite 1540  
Houston, TX 77002

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Devonian -Montoya SWD well. Produced water will be injected at a proposed depth of 10,150-10,900'. The Denali SWD #1 located 660 FSL & 1980 FEL, Sec. 3 T16S R28E, Eddy County.

This letter will serve as a notice that Mack Energy Corporation has requested administrative approval from the NMOCD to convert this well into a water disposal well. 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

Deana Weaver  
Production Clerk

DW

Attachments





P.O. Box 660  
Artesia, NM 88211-0066  
Office (575) 748-1188  
Fax (575) 748-9174

March 14, 2018

**VIA CERTIFIED MAIL 7015 0640 0006 7024 4509**  
**RETURN RECEIPT REQUESTED**

EOG Y Resources, Inc.  
105 S. Fourth Street  
Artesia, NM 88210

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Devonian -Montoya SWD well. Produced water will be injected at a proposed depth of 10,150-10,900'. The Denali SWD #1 located 660 FSL & 1980 FEL, Sec. 3 T16S R28E, Eddy County.

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Sincerely,

MACK ENERGY CORPORATION

Deana Weaver  
Production Clerk

DW

Attachments



P.O. Box 1176  
Artesia, NM 88211-0000  
Office (505) 748-1285  
Fax (505) 748-0352

March 14, 2018

**VIA CERTIFIED MAIL 7015 0640 0006 7024 4516**  
**RETURN RECEIPT REQUESTED**

Sellers & Fulton Oil LLC  
P.O. Box 1176  
Artesia, NM 88211

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Devonian -Montoya SWD well. Produced water will be injected at a proposed depth of 10,150-10,900'. The Denali SWD #1 located 660 FSL & 1980 FEL, Sec. 3 T16S R28E, Eddy County.

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Sincerely,

MACK ENERGY CORPORATION

Deana Weaver  
Production Clerk

DWM

Attachments



P.O. Box 9941  
Artesia, NM 88211-09941  
Office (505) 748-1288  
Fax (505) 746-9539

March 14, 2018

**VIA CERTIFIED MAIL 7015 0640 0006 7024 4523**  
**RETURN RECEIPT REQUESTED**

Legacy Reserves Operating, LP  
P.O. Box 10848  
Midland, TX 79702

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Devonian -Montoya SWD well. Produced water will be injected at a proposed depth of 10,150-10,900'. The Denali SWD #1 located 660 FSL & 1980 FEL, Sec. 3 T16S R28E, Eddy County.

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Sincerely,

MACK ENERGY CORPORATION

Deana Weaver  
Production Clerk

DW

Attachments



P.O. Box 960  
Artesia, NM 88211-0960  
Office (575) 748-1288  
Fax (575) 746-9530

March 19, 2018

**VIA CERTIFIED MAIL 7015 0640 0006 7024 4530**  
**RETURN RECEIPT REQUESTED**

BLM  
620 E. Green Street  
Carlsbad, NM 88220

Gentlemen:

*Enclosed for your review, is a copy of Mack Energy Corporation's application for a Devonian -Montoya SWD well. Produced water will be injected at a proposed depth of 10,150-10,900'. The Denali SWD #1 located 660 FSL & 1980 FEL, Sec. 3 T16S R28E, Eddy County.*

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Sincerely,

MACK ENERGY CORPORATION

Deana Weaver  
Production Clerk

DW

Attachments

## McMillan, Michael, EMNRD

---

**From:** McMillan, Michael, EMNRD  
**Sent:** Monday, March 19, 2018 8:46 AM  
**To:** Deana Weaver  
**Cc:** Jones, William V, EMNRD; Goetze, Phillip, EMNRD  
**Subject:** Mack Energy Denali SWD Well No. 1 Eddy County

Deana:

I need for the following information for the Denali SWD Well No. 1

- Affidavit of publication-your application will be suspended until the OCD receives a copy of that
- Notification of the surface owner-your application will be suspended until the OCD receives a copy of that
- Estimated Log tops for the top of Woodford
- Estimated log Top of Devonian
- Estimated log Top of Montoya
- Clarify on the tract map which tract who is the operator or affected

Thanks

Mike

Michael McMillan  
1220 South St. Francis  
Santa Fe, New Mexico  
505-476-3448  
Michael.mcmillan@state.nm.us

## McMillan, Michael, EMNRD

---

**From:** Deana Weaver <dweaver@mec.com>  
**Sent:** Monday, April 16, 2018 11:56 AM  
**To:** McMillan, Michael, EMNRD  
**Subject:** RE: Water Analysis  
**Attachments:** devon letter.pdf

Mike

I just sent notification to Devon, the letter is attached.

Thanks  
Deana

**From:** McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]  
**Sent:** Monday, April 16, 2018 9:30 AM  
**To:** Deana Weaver  
**Cc:** Matt Buckles  
**Subject:** RE: Water Analysis

Deana:  
I see that your tract map shows Devon as an affected party, but did not notify them?  
Did they sell to Legacy?

Thanks

Mike

**From:** Deana Weaver <dweaver@mec.com>  
**Sent:** Monday, April 16, 2018 8:48 AM  
**To:** McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>  
**Cc:** Matt Buckles <mattbuckles@mec.com>  
**Subject:** RE: Water Analysis

Yes to both questions.

Thanks

**From:** McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]  
**Sent:** Monday, April 16, 2018 8:47 AM  
**To:** Deana Weaver  
**Cc:** Matt Buckles  
**Subject:** RE: Water Analysis

Deana:  
Is this for Mack Energy production only?  
Is it for only San Andres produced water?

Thanks



P.O. Box 960  
Artesia, NM 88211-0960  
Office (575) 748-1288  
Fax (575) 746-9592

April 16, 2018

**VIA CERTIFIED MAIL 7015 0640 0006 4547**  
**RETURN RECEIPT REQUESTED**

Devon Energy Production Co. LP  
333 West Sheridan Ave.  
Oklahoma City, OK 73102-5010

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Devonian -Montoya SWD well. Produced water will be injected at a proposed depth of 10,150-10,900'. The Denali SWD #1 located 660 FSL & 1980 FEL, Sec. 3 T16S R28E, Eddy County.

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Sincerely,

MACK ENERGY CORPORATION

Deana Weaver  
Production Clerk

DWM

Attachments

## McMillan, Michael, EMNRD

---

**From:** McMillan, Michael, EMNRD  
**Sent:** Monday, March 19, 2018 11:02 AM  
**To:** 'Deana Weaver'  
**Subject:** RE: Mack Energy Denali SWD Well No. 1 Eddy County

Deana:

the OCD has permitted the upper 100' of the Montoya only, for rat-hole.

So if your permitted is approved it will have this stipulation that says that injection is approved for the Devonian and upper 100 feet of the Montoya.

The OCD is just making sure that the Ellenburger is not penetrated.

Mike

**From:** Deana Weaver [mailto:dweaver@mec.com]  
**Sent:** Monday, March 19, 2018 10:59 AM  
**To:** McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>  
**Subject:** RE: Mack Energy Denali SWD Well No. 1 Eddy County

Estimated Top of the Woodford: 10,093'

Estimated Top of the Devonian: 10,150'

Estimated Top of the Montoya: 10,750'

---

**From:** McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]  
**Sent:** Monday, March 19, 2018 8:46 AM  
**To:** Deana Weaver  
**Cc:** Jones, William V, EMNRD; Goetze, Phillip, EMNRD  
**Subject:** Mack Energy Denali SWD Well No. 1 Eddy County

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Michael McMillan  
1220 South St. Francis  
Santa Fe, New Mexico  
505-476-3448  
[Michael.mcmillan@state.nm.us](mailto:Michael.mcmillan@state.nm.us)



## **Denali SWD #1**

### **Offset Operators:**

- N/2 Sec. 10, T16S-R28E  
Percussion Petroleum Operating, LLC  
1010 Lamar St., Suite 1540  
Houston, TX 77002
- SW/4 Sec. 2, T16S-R28E  
EOG Y Resources, Inc.  
105 S. Fourth Street  
Artesia, NM 88210
- SW/4 Sec. 3, T16S-R28E  
Sellers & Fulton Oil LLC  
P.O. Box 1176  
Artesia, NM 88211
- N/2 Sec. 3 & NW/4 Sec. 11, T16S-R28E  
Devon Energy Production Co. LP  
333 West Sheridan Ave.  
Oklahoma City, OK 73102-5010

### **Surface Owner:**

- Federal Surface – Grazing Lessee is Bogle, Ltd.

## McMillan, Michael, EMNRD

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**From:** Deana Weaver <dweaver@mec.com>  
**Sent:** Tuesday, April 3, 2018 3:26 PM  
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**Subject:** RE: Mack Energy Denali SWD Well No. 1 Eddy County  
**Attachments:** denali swd affidavit.pdf

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505-476-3448  
[Michael.mcmillan@state.nm.us](mailto:Michael.mcmillan@state.nm.us)

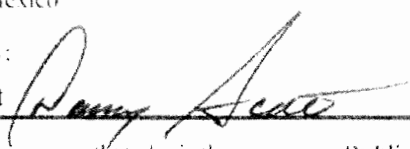
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No. 24599

State of New Mexico

County of Eddy:

Danny Scott



being duly sworn says that she 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

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1 Consecutive weeks day on the same day as follows:

First Publication March 16, 2018

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Sixth Publication

Seventh Publication

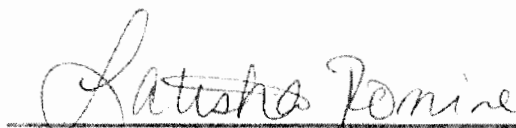
Subscribed and sworn before me this

19th day of March 2018



OFFICIAL SEAL  
Latisha Romine  
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires: 5/12/2019



Latisha Romine

Notary Public, Eddy County, New Mexico

# Copy of Publication:

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Published in the Artesia Daily Press, Artesia, N.M., March 16, 2018 Legal No. 24599.

# Untitled Map

Write a description for your map.

## Legend

-  32.9472476, -104.1551583
-  Circle Measure
-  EASEMENT PROPOSED CENTERLINE

N32°58'30"

N32°57'54"

N32°57'18"

32.9472476, -104.1551583

N32°56'42"

W104°00'

Janie Lake

Flat Lake

Google Earth

© 2018 Google

1 mi





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 #:	60177
Area:	Artesia	Analysis ID #:	58000
Lease:	Denali		
Location:	FW 1		0
Sample Point:	Water Tank		

		Anions		Cations	
		mg/l	meq/l	mg/l	meq/l
Sampling Date:	3/13/2018	Chloride:	5375.9	Sodium:	1961.0
Analysis Date:	4/3/2018	Bicarbonate:	131.8	Magnesium:	1418.0
Analyst:	Catalyst	Carbonate:		Calcium:	800.9
TDS (mg/l or g/m3):	14043	Sulfate:	4300.0	Potassium:	55.3
Density (g/cm3):	1.009	Borate*:	0.0	Strontium:	0.0
		Phosphate*		Barium:	0.0
Hydrogen Sulfide:	0	*Calculated based on measured elemental boron and phosphorus.		Iron:	0.1
Carbon Dioxide:	0			Manganese:	0.000
Comments:		pH at time of sampling:	7		
		pH at time of analysis:			
		pH used in Calculation:	7		
		Temperature @ lab conditions (F):	75	Conductivity (micro-ohms/cm):	17728
				Resistivity (ohm meter):	.5641

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Calcite CaCO <sub>3</sub>		Gypsum CaSO <sub>4</sub> ·2H <sub>2</sub> O		Anhydrite CaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Barite BaSO <sub>4</sub>	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-0.16	0.00	0.03	72.58	-0.03	0.00	0.00	0.00	0.00	0.00
100	-0.04	0.00	0.02	51.84	0.02	40.44	0.00	0.00	0.00	0.00
120	0.09	1.38	0.03	58.07	0.11	174.54	0.00	0.00	0.00	0.00
140	0.22	4.15	0.04	85.72	0.21	318.32	0.00	0.00	0.00	0.00
160	0.36	6.91	0.06	129.27	0.33	455.88	0.00	0.00	0.00	0.00
180	0.51	10.02	0.09	182.84	0.47	576.85	0.00	0.00	0.00	0.00
200	0.65	13.13	0.12	242.29	0.62	676.74	0.00	0.00	0.00	0.00
220	0.80	16.24	0.15	303.12	0.79	755.20	0.00	0.00	0.00	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 #: 54438  
 Area: Artesia Analysis ID #: 52580  
 Lease: Klondike  
 Location: 1H 0  
 Sample Point: Wellhead

		Anions		mg/l		meq/l	Cations		mg/l		meq/l
Sampling Date:	11/10/2017	Chloride:	95974.1	2707.08			Sodium:	59980.0	2608.98		
Analysis Date:	11/27/2017	Bicarbonate:	351.4	5.76			Magnesium:	845.8	69.58		
Analyst:	Catalyst	Carbonate:					Calcium:	2357.0	117.61		
TDS (mg/l or g/m3):	164693.2	Sulfate:	4500.0	93.69			Potassium:	467.4	11.95		
Density (g/cm3):	1.109	Borate*:	178.5	1.13			Strontium:	39.0	0.89		
		Phosphate*:					Barium:	0.0	0.		
Hydrogen Sulfide:	20	*Calculated based on measured elemental boron and phosphorus.					Iron:	0.0	0.		
Carbon Dioxide:	148.8						Manganese:	0.000	0.		
Comments:						pH at time of sampling:					
						pH at time of analysis:					
						pH used in Calculation:					
						Temperature @ lab conditions (F):	75				
								Conductivity (micro-ohms/cm):		189002	
								Resistivity (ohm meter):		.0529	

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

Temp	Calcite CaCO <sub>3</sub>		Gypsum CaSO <sub>4</sub> ·2H <sub>2</sub> O		Anhydrite CaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Barite BaSO <sub>4</sub>	
	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
°F										
80	0.78	22.38	-0.01	0.00	0.00	8.06	-0.09	0.00	0.00	0.00
100	0.80	25.67	-0.08	0.00	0.00	0.00	-0.12	0.00	0.00	0.00
120	0.81	29.55	-0.14	0.00	0.02	47.45	-0.13	0.00	0.00	0.00
140	0.83	33.43	-0.19	0.00	0.06	154.60	-0.14	0.00	0.00	0.00
160	0.85	37.90	-0.23	0.00	0.12	299.65	-0.14	0.00	0.00	0.00
180	0.87	42.68	-0.26	0.00	0.20	467.08	-0.14	0.00	0.00	0.00
200	0.91	47.45	-0.30	0.00	0.29	643.77	-0.13	0.00	0.00	0.00
220	0.95	52.23	-0.32	0.00	0.39	819.56	-0.11	0.00	0.00	0.00



## McMillan, Michael, EMNRD

---

**From:** Deana Weaver <dweaver@mec.com>  
**Sent:** Monday, April 16, 2018 8:48 AM  
**To:** McMillan, Michael, EMNRD  
**Cc:** Matt Buckles  
**Subject:** RE: Water Analysis

Yes to both questions.

Thanks

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**From:** McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]  
**Sent:** Monday, April 16, 2018 8:47 AM  
**To:** Deana Weaver  
**Cc:** Matt Buckles  
**Subject:** RE: Water Analysis

Deana:  
Is this for Mack Energy production only?  
Is it for only San Andres produced water?

Thanks

Mike

**From:** Deana Weaver <dweaver@mec.com>  
**Sent:** Tuesday, April 10, 2018 2:11 PM  
**To:** McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>  
**Cc:** Matt Buckles <mattbuckles@mec.com>  
**Subject:** FW: Water Analysis

Please see attached.

Thanks  
Deana Weaver

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**From:** Jerry Sherrell  
**Sent:** Tuesday, April 10, 2018 2:10 PM  
**To:** Deana Weaver  
**Subject:** Water Analysis

This is from our Klondike well, 3.5 miles northeast(same formation)

Jerry W. Sherrell  
Mack Energy Corporation  
PO Box 960  
Artesia, NM 88210  
Office 575-748-1288  
Cell 575-703-7382

## **McMillan, Michael, EMNRD**

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**From:** McMillan, Michael, EMNRD  
**Sent:** Monday, March 19, 2018 11:30 AM  
**To:** 'Deana Weaver'  
**Subject:** RE: Mack Energy Denali SWD Well No. 1 Eddy County

No-it has been done on numerous permits including Mesquite's recent permits

Mike

**From:** Deana Weaver [mailto:dweaver@mec.com]  
**Sent:** Monday, March 19, 2018 11:18 AM  
**To:** McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>  
**Subject:** RE: Mack Energy Denali SWD Well No. 1 Eddy County

Mike

Is this a new rule from OCD? Can you tell me where I can find and rule it?

**From:** McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]  
**Sent:** Monday, March 19, 2018 11:02 AM  
**To:** Deana Weaver  
**Subject:** RE: Mack Energy Denali SWD Well No. 1 Eddy County

Deana:

the OCD has permitted the upper 100' of the Montoya only, for rat-hole.

So if your permitted is approved it will have this stipulation that says that injection is approved for the Devonian and upper 100 feet of the Montoya.

The OCD is just making sure that the Ellenburger is not penetrated.

Mike

**From:** Deana Weaver [mailto:dweaver@mec.com]  
**Sent:** Monday, March 19, 2018 10:59 AM  
**To:** McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>  
**Subject:** RE: Mack Energy Denali SWD Well No. 1 Eddy County

Estimated Top of the Woodford: 10,093'  
Estimated Top of the Devonian: 10,150'  
Estimated Top of the Montoya: 10,750'

**From:** McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]  
**Sent:** Monday, March 19, 2018 8:46 AM  
**To:** Deana Weaver  
**Cc:** Jones, William V, EMNRD; Goetze, Phillip, EMNRD  
**Subject:** Mack Energy Denali SWD Well No. 1 Eddy County



Deana:

I need for the following information for the Denali SWD Well No. 1

- Affidavit of publication-your application will be suspended until the OCD receives a copy of that
- Notification of the surface owner-your application will be suspended until the OCD receives a copy of that
- Estimated Log tops for the top of Woodford
- Estimated log Top of Devonian
- Estimated log Top of Montoya
- Clarify on the tract map which tract who is the operator or affected

Thanks

Mike

Michael McMillan  
1220 South St. Francis  
Santa Fe, New Mexico  
505-476-3448  
[Michael.mcmillan@state.nm.us](mailto:Michael.mcmillan@state.nm.us)

## McMillan, Michael, EMNRD

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**From:** McMillan, Michael, EMNRD  
**Sent:** Monday, April 16, 2018 11:58 AM  
**To:** 'Deana Weaver'  
**Subject:** RE: Water Analysis

Because Devon was not notified, the Application will be suspended, and the 15-day clock will start today.  
Mike

**From:** Deana Weaver <dweaver@mec.com>  
**Sent:** Monday, April 16, 2018 11:56 AM  
**To:** McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>  
**Subject:** RE: Water Analysis

Mike

I just sent notification to Devon, the letter is attached.

Thanks  
Deana

**From:** McMillan, Michael, EMNRD [<mailto:Michael.McMillan@state.nm.us>]  
**Sent:** Monday, April 16, 2018 9:30 AM  
**To:** Deana Weaver  
**Cc:** Matt Buckles  
**Subject:** RE: Water Analysis

Deana:  
I see that your tract map shows Devon as an affected party, but did not notify them?  
Did they sell to Legacy?

Thanks

Mike

**From:** Deana Weaver <dweaver@mec.com>  
**Sent:** Monday, April 16, 2018 8:48 AM  
**To:** McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>  
**Cc:** Matt Buckles <mattbuckles@mec.com>  
**Subject:** RE: Water Analysis

Yes to both questions.

Thanks

**From:** McMillan, Michael, EMNRD [<mailto:Michael.McMillan@state.nm.us>]  
**Sent:** Monday, April 16, 2018 8:47 AM  
**To:** Deana Weaver



# FORM C-108 Technical Review Summary [Prepared by reviewer and included with application; V16.2]

DATE RECORD: First Rec: 3/14/2018 Admin Complete: 4/11/2018 or Suspended: 4/11/2018 Add. Request/Reply: \_\_\_\_\_

ORDER TYPE: WFX / PMX / SWD Number: SW 7 Order Date: \_\_\_\_\_ Legacy Permits/Orders: \_\_\_\_\_

Well No. 7 Well Name(s): Deerzi

API: 30-0 15-32 444 Spud Date: 10/03/02 (P&A) New or Old (EPA): NE (UIC Class II Primacy 03/07/1982)

Footages 660 FSL 190 FSL Lot \_\_\_\_\_ or Unit 3 Sec 3 Tsp 16S Rge 28E County Eddy

General Location: ~12 miles NE Antesi Pool: SW 7 Pool No.: Deerzi

BLM 100K Map: Antesi Operator: MAW Energy Corp OGRID: 13837 Contact: WEAVER'S REGULATORY

COMPLIANCE RULE 5.9: Total Wells: \_\_\_\_\_ Inactive: \_\_\_\_\_ Fincl Assur: \_\_\_\_\_ Compl. Order? \_\_\_\_\_ IS 5.9 OK? \_\_\_\_\_ Date: \_\_\_\_\_

WELL FILE REVIEWED ☐ Current Status: P & A

WELL DIAGRAMS: NEW: Proposed ☐ or RE-ENTER: Before Conv. ☒ After Conv. ☒ Logs in Imaging: Y (Old)

Planned Rehab Work to Well: deepen well from 9575 to 10900 circulate cement with casing to surface

Well Construction Details		Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sx or Cf	Cement Top and Determination Method
Planned ___ or Existing ___ Surface		<u>17 1/2" / 13 7/8"</u>	<u>BS2</u>	<u>60</u>	<u>Surface / Vis</u>
Planned ___ or Existing ___ Interm/Prod		<u>12 1/4" / 8 9/16"</u>	<u>2013'</u>	<u>850</u>	<u>Surface / Vis</u>
Planned ___ or Existing ___ Interm/Prod		<u>7 7/8" / 5 1/2"</u>	<u>10900'</u>	<u>1140</u>	<u>Surface / Vis</u>
Planned ___ or Existing ___ Prod/Liner					
Planned ___ or Existing ___ Liner					
Planned ___ or Existing ___ OH / PERF		<u>10150 / 11000</u>		<u>750</u>	

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.		<u>CH</u>	<u>9431</u>
Confining Unit: Litho. Struc. Por.		<u>MS</u>	
Proposed Inj Interval TOP:		<u>MT</u>	<u>10043</u>
Proposed Inj Interval BOTTOM:			<u>10150</u>
Confining Unit: Litho. Struc. Por.			<u>10750</u>
Adjacent Unit: Litho. Struc. Por.			

Completion/Operation Details:	
Drilled TD	<u>9575</u> PBDT
NEW TD	<u>10900</u> NEW PBDT
NEW Open Hole <input type="radio"/> or NEW Perfs <input checked="" type="radio"/>	
Tubing Size	<u>2 7/8</u> in. Inter Coated?
Proposed Packer Depth	<u>0100</u> ft
Min. Packer Depth	<u>10050</u> (100-ft limit)
Proposed Max. Surface Press.	<u>2030</u> psi
Admin. Inj. Press.	<u>2030</u> (0.2 psi per ft)

## AOR: Hydrologic and Geologic Information

POTASH: R-111-P NA Noticed? ☐ BLM Sec Ord ☐ WIPP ☐ Noticed? ☐ Salt/Salado T: B NW: Cliff House fm

FRESH WATER: Aquifer Roswell Antesi Max Depth 200' HYDRO AFFIRM STATEMENT By Qualified Person ☒

NMOSE Basin: CAPITAN REEF thru adj NA No. GW Wells in 1-Mile Radius? 0 FW Analysis? Y

Disposal Fluid: Formation Source(s) SAN Andres Analysis? Y On Lease ☐ Operator Only ☒ or Commercial ☐

Disposal Interval: Inject Rate (Avg/Max BWPD): 24/412 Protectable Waters? Y Source: San Andres System: Closed or Open

HC Potential: Producing Interval? Y Formerly Producing? Y Method: Logs/DST/P&A/Other regional 2-Mi Radius Pool Map ☐

AOR Wells: 1/2-M Radius Map and Well List? Y No. Penetrating Wells: 0 [AOR Horizontals: \_\_\_\_\_ AOR SWDs: \_\_\_\_\_]

Penetrating Wells: No. Active Wells 0 Num Repairs? \_\_\_\_\_ on which well(s)? \_\_\_\_\_ Diagrams? \_\_\_\_\_

Penetrating Wells: No. P&A Wells 0 Num Repairs? \_\_\_\_\_ on which well(s)? \_\_\_\_\_ Diagrams? \_\_\_\_\_

NOTICE: Newspaper Date 3-16-2018 Mineral Owner BLM Surface Owner BLM N. Date 3-19-2018

RULE 26.7(A): Identified Tracts? Y Affected Persons: EOG, Permissin, Legacy, Futura N. Date 3-19-2018

Order Conditions: Issues: \*Limit S.A. Produced H2O operator only

Additional COAs: \*Limit injection interval sil-Dev top on Montoya for 105 kpa min. sil. injection