DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
1/15/2014		PRG	1/17/2014	SWD 1475	PMAM1401744818

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- 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

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

SWD
MACK Energy

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

OTIS SWD #1
30-015-21145

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **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	Deana Weaver	Production Clerk	1.10.14
Print or Type Name	Signature	Title	Date

dweaver@mec.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
1220 South St. Francis Drive
SANTA FE, NEW MEXICO 87505

FORM C- 108
Revised 4-1-98

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 freshwater from two or more freshwater 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: 1.10.14

* **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 I

INJECTION WELL DATA SHEET

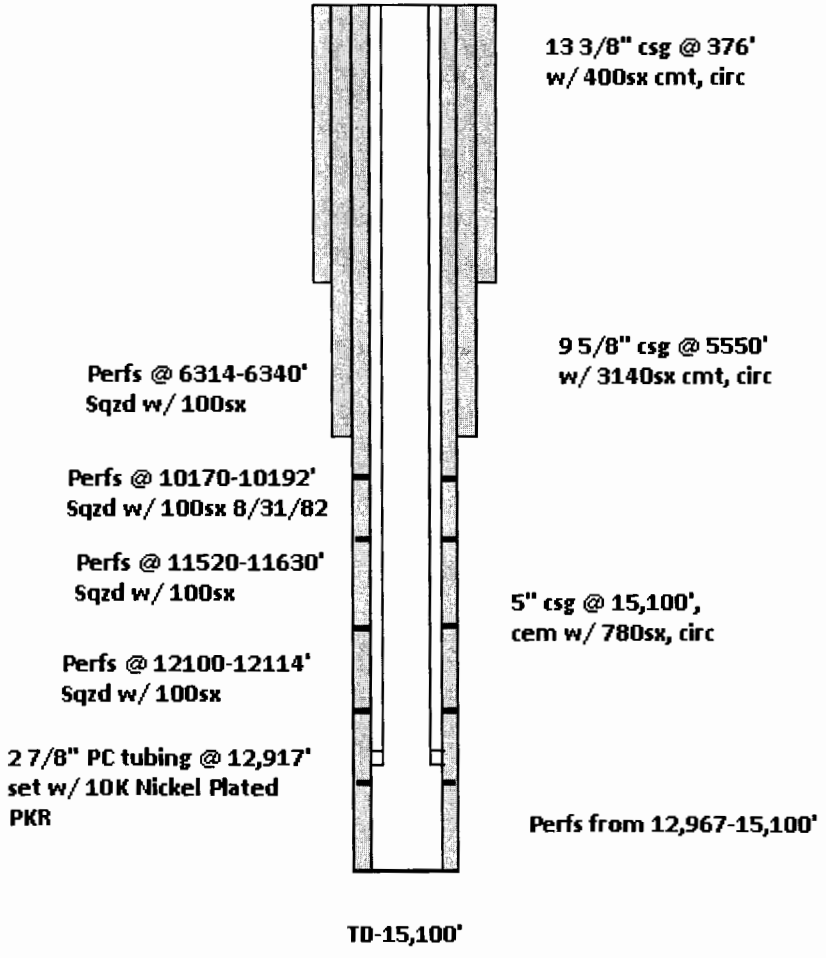
OPERATOR: **Mack Energy Corporation**

WELL NAME & NUMBER: **Otis SWD #1**

WELL LOCATION: **1947 FSL & 1971 FEL** | **J** | **4** | **23S** | **27E**

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: **17 1/2"** Casing Size: **13 3/8", H-40 (Existing)**

Cemented with: **400sx** sx. or _____ ft

Top of Cement: **Surface** Method Determined: **Circulated**

Intermediate Casing

Hole Size: **12 1/4"** Casing Size: **9 5/8", J-55 (Existing)**

Cemented with: **3140sx** sx. or _____ ft

Top of Cement: **Surface** Method Determined: **Circulated**

Production Casing

Hole Size: **6 1/8"** Casing Size: **5", P-110 (New)**

Cemented with: **855sx** sx. or _____ ft

Top of Cement: **Surface** Method Determined: **Circulated**

Total Depth: **15,100'**

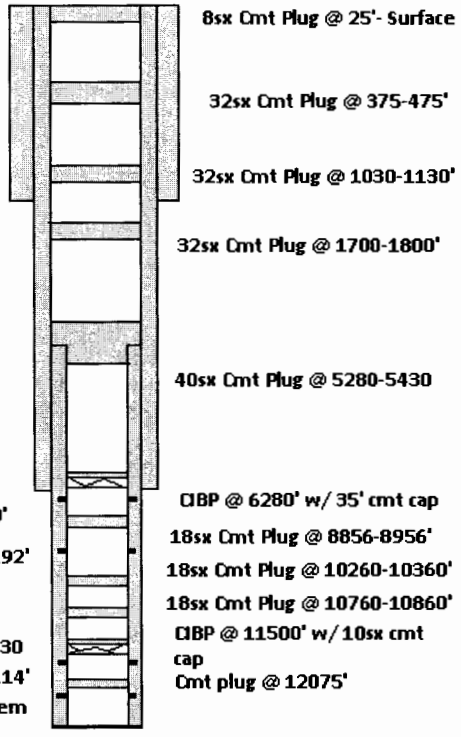
Injection Interval

Perforated 12,967' feet to **15,100'**

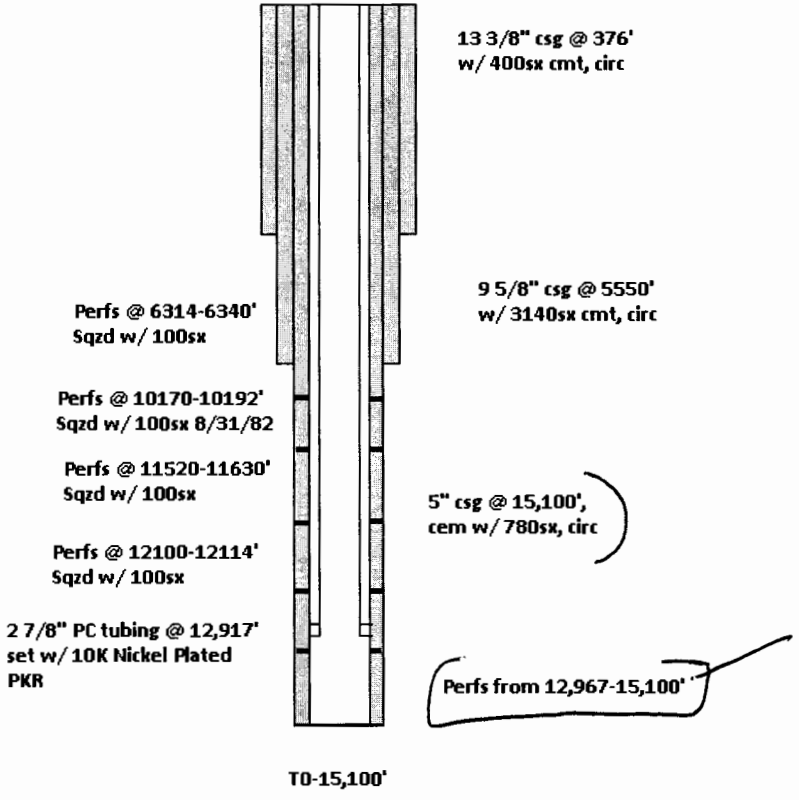
(Perforated or Open Hole; indicate which)

Otis SWD #1
Sec. 4 T23S R27E
1947 FSL 1971 FEL

Before



After



INJECTION WELL DATA SHEET

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

Type of Packer: **Halliburton Trump Packer**

Packer Setting Depth: **12,917'**

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

Additional Data

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

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

2. Name of the Injection Formation: **Devonian, Montoya, Simpson, Ellenburger**

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

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. **6314-6340' sqzd w/100sx cmt, 10,170-10192' sqzd w/ 100sx cmt, 11,517-11,627' sqzd w/ 100sx cmt, 12,100-12,114' sqzd w/ 100sx cmt**

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: **Overlying- Woodford, Underlying- Granite**

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;
   0-1940#

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; **Limestone, Dolomite, Sandstone**
2. Geological Name; **Devonian, Montoya, Simpson, Ellenburger**
3. Thickness; **2133'**
4. Depth; **12,967-15,100'**

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. Will be forwarded, when complete

Additional Information
Waters Injected: Delaware and Bone Spring ✓

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-21145		SWD-Devonian, Montoya, Simpson, Ellenburger

[4] Property Code	[5] Property Name	[6] Well Number
	OTIS SWD	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
13837	MACK ENERGY CORPORATION	3131.0

[10] Surface Location

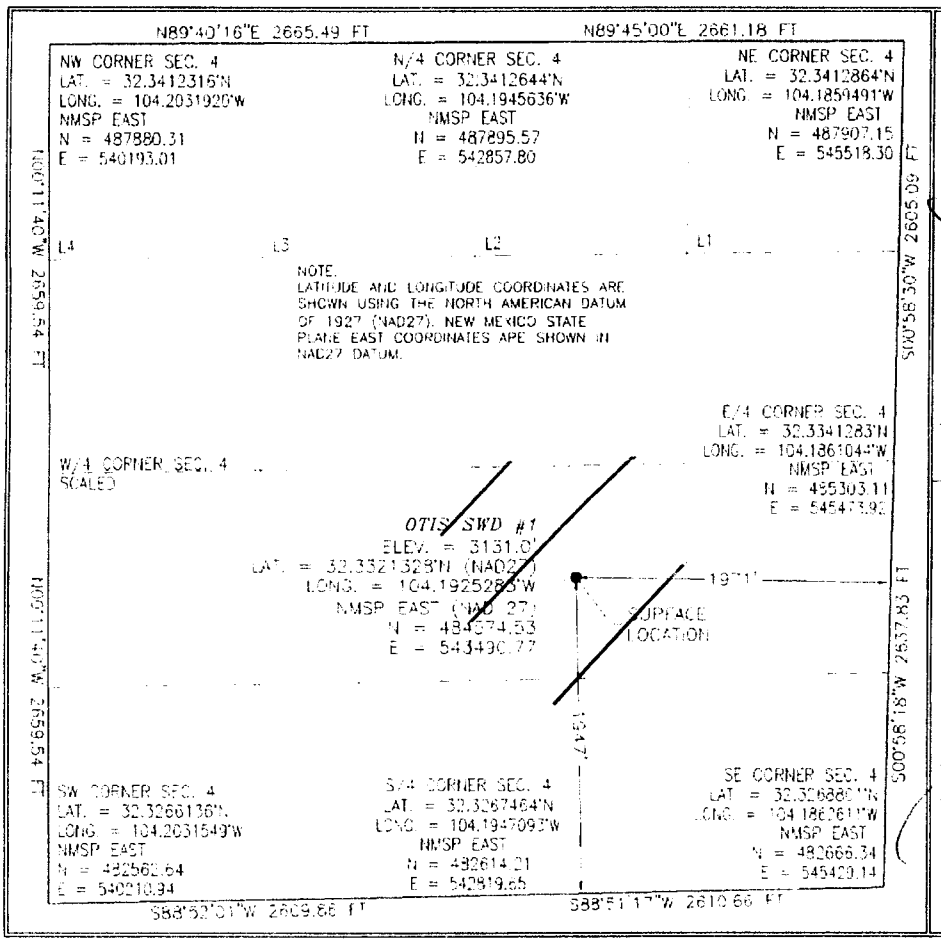
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	4	23 S	27 E		1947	SOUTH	1971	EAST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

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



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Deana Weaver
Signature

1.10.14
Date

Deana Weaver
Printed Name

dweaver@mec.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

NOVEMBER 25, 2013
Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number FILIMONT JARAMILLO, PLS 12797

SURVEY NO. 2466

XII. AFFIRMATIVE STATEMENT

RE: Otis SWD #1

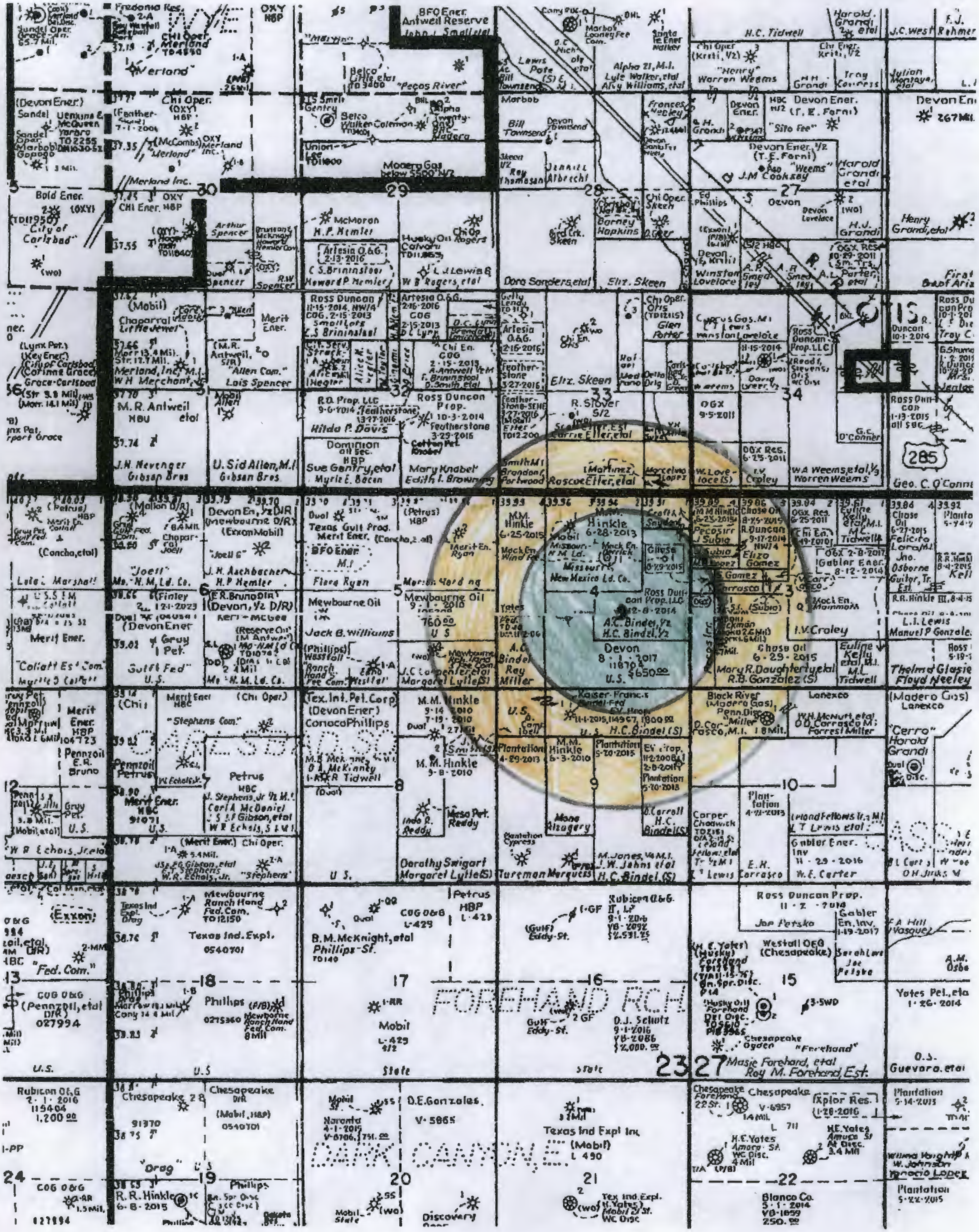
We have examined the available geologic and engineering data and find no evidence of open faults or any other hydraulic connection between the disposal zone and any underground source of drinking water.

Mack Energy Corporation

Date: 1/10/14

Cari Moreno

Cari Moreno, Geologist



BFO Ener.
Antweil Reserve
Merland
Chi Oper.
Devon Ener.
City of Carlsbad
30
29
28
27
Bold Ener.
Arthur Spencer
Dora Sanders, etal
Elz. Skeen
Ross Duncan
Artesia O.&G.
Merit Ener.
Chaparral
32
33
34
Ross Duncan Prop.
M.R. Antweil
Hilda P. Davis
Dominion
Sue Gentry, etal
Mary Knabel
R. Slover
Roscoe Eller, etal
OGX
285
U. Sid Allen, M.I.
Gibson Bros.
J.H. Nevenger
Devon En.
Texas Gvlt Prod.
Mewbourne Oil
Jack B. Williams
Flora Ryan
M.M. Hinkle
Hinkle
6-28-2013
Mobil
Missouri
New Mexico Ld. Co.
A.C. Bindel, 1/2
H.C. Bindel, 1/2
Devon
U.S.
4
5
6
3
Chase Oil
I.V. Croley
Mary R. Daughterty, etal
R.B. Gonzalez (S)
L.I. Lewis
Manuel P. Gonzalez
Tex. Int. Pet. Corp.
ConocoPhillips
Merit Ener.
Petrus
Chi Oper.
M.M. Hinkle
8
9
10
Plantation
Lanexco
Harold Grandi
Black River
Dorothy Swigart
Margaret Lytle (S)
H.C. Bindel (S)
Gabler Ener.
Texas Ind. Expl.
Mewbourne
Ranch Hand
Fed. Com.
B.M. McKnight, etal
Phillips-St.
Ross Duncan Prop.
Joe Fetsko
Westall O&G
(Chesapeake)
13
18
17
16
15
FOREHAND RCH
Phillips
Mobil
D.J. Schultz
Yates Pet., etal
Masie Forehand, etal
Roy M. Forehand, Est.
Rubicon O&G
Chesapeake
D.E. Gonzales
Texas Ind Expl Inc
DARK CANYON
24
19
20
21
22
R.R. Hinkle
Blanco Co.
Plantation

AREA OF REVIEW WELL DATA

LEASE/API	WELL#	LOCATION	TD (PBTD)	TYPE & DATE DRILLED	HOLE SIZE	CASING SIZE & WEIGHT	SETTING DEPTH	SX CMT	TOC	PERFS
Otis SWD 30-015-21145	1	1947' FSL 1971' FEL 4-23S-27E	15,100' PBTD- 15,050'	SWD 1/25/1983	1/2 12 1/4 6 1/8	13 3/8, 48 9 5/8, 43.5 5,15	376 5550 15,100	400 3140 855	Circ Circ Circ	12,967-15100'
										10760-10860 11445-11500
Derrick Fee 30-015-40817	1	1675' FNL 700' FEL 4-23S-27E	10,520' PBTD- 10,477'	Oil 2/27/2013	17 1/2 12 1/4 7 7/8	13 3/8, 48 8 5/8, 32 5 1/2, 17	398 2005 10520	475 1025 1310	Circ Circ Circ	6533-6740 7160-7298
										8424-8821 8886-9066
Maude Rickman Com 30-015-21064	1	2203' FSL 839' FWL 3-23S-27E	12,300' PBTD- 12,150'	Gas 2/1/1974 P&A 6/28/2010	17 1/2 12 1/4	13 3/8, 48 9 5/8, 40	355 5700	400 3200	Circ Circ	9798-10028 10172-10196 11243-11424
										11658-11952 12030-12040
Bindel Federal Com 30-015-22290	1	660' FNL 1980' FWL 9-23S-27E	12,205' PBTD- 11,596'	Gas 7/10/1986 P&A 6/27/2003	17 1/2 11 7 7/8	13 3/8, 72 8 5/8, 24 4 1/2, 11.6	364 5566 12205	475 2875 1350	Circ Circ Circ	10910-10916' 11531-11544 11716-11990
Miller Com 30-015-22552	1	760' FNL 2080' FWL 10-23S-27E	12350' PBTD- 11160'	Gas 5/22/1978	17 1/2 12 1/4	13 3/8, 48 10 3/4, 40.5	349 5635	400 1850	Circ Circ	9896-9932' 11923-11966
Ryan 30-015-32582	2	990' FNL 990' FEL 5-23S-27E	12,100' PBTD- 12,024'	Gas 1/28/2003	17 1/2 12 1/4 7 7/8	13 3/8, 54.4 9 5/8, 40 5 1/2, 17	352 5478 12100	400 1050 800	Circ Circ Circ	11,824-11,828' 11,852-11,855' 11,933-11,941'
Ranch Hand 5 Fee Com 30-015-34013	2	1167' FSL 1650' FEL 5-23S-27E	12,145' PBTD- 12,050'	Gas 3/30/2005	17 1/2 12 1/4 8 3/4	13 3/8, 48 9 5/8, 40 5 1/2, 17	335 5523 12145	550 2100 1800	Circ Circ TOC @ 3470	11732-12042'

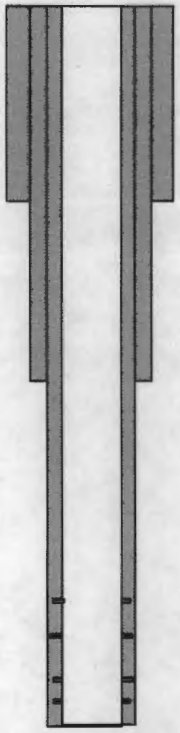
Six wells - 2 P&A / 4 active

Derrick Fee #1
Sec. 4 T23S R27E
1675 FNL 700 FEL
30-015-40817

13 3/8" csg @ 398'
w/ 475sx, circ

8 5/8" csg @ 2005'
w/ 1025sx cmt, circ

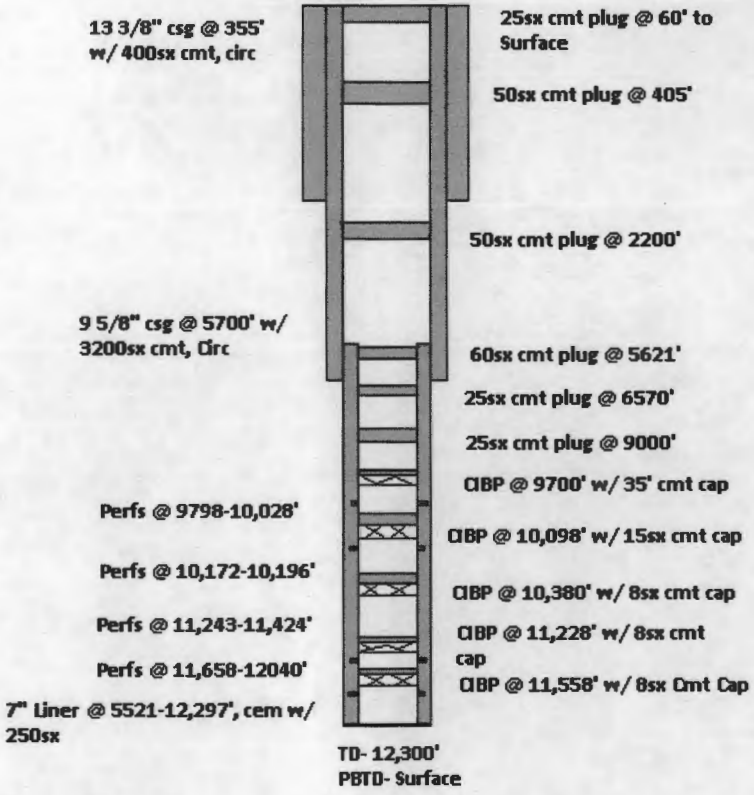
5 1/2" csg @ 10520'
w/ 1310sx cmt, circ



Perfs @ 6533-6740'
Perfs @ 7160-7298'
Perfs @ 8424-8821
Perfs @ 8886-9066'

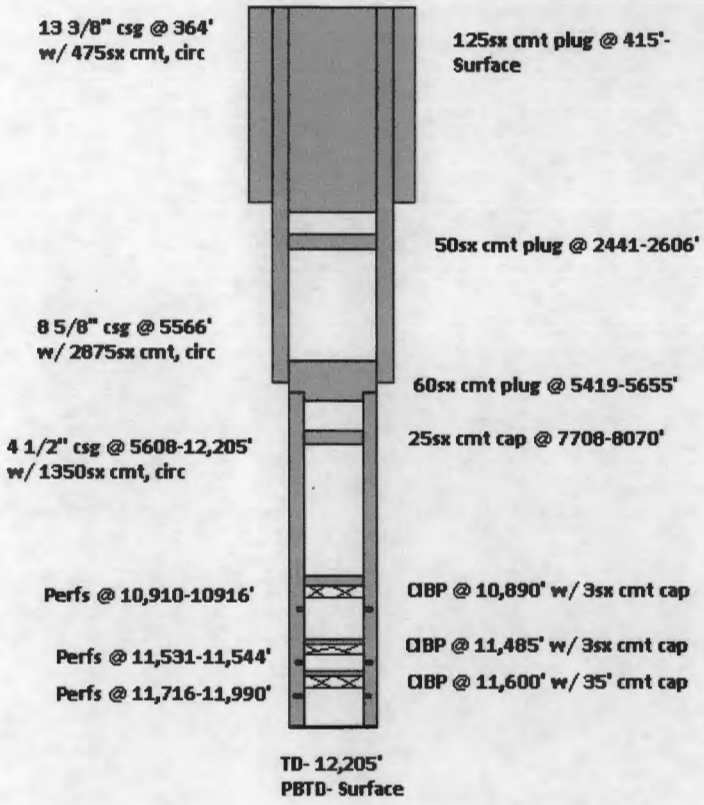
TD- 10,520'
PBTD- 10,477'

Maude Rickman #1
Sec. 3 T23S R27E
2203 FSL 839 FWL
30-015-21064



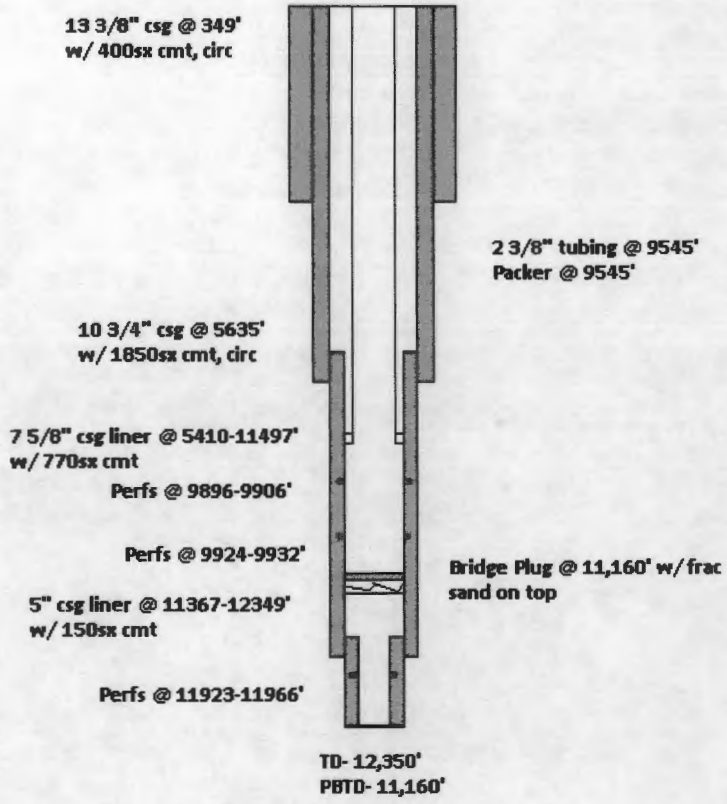
Bindell Federal Com #1
Sec. 9 T23S R27E
660 FNL 1980 FWL
30-015-22290

(3)



Miller Com #1
Sec. 10 T23S R27E
760 FNL 2080 FWL
30-015-22552

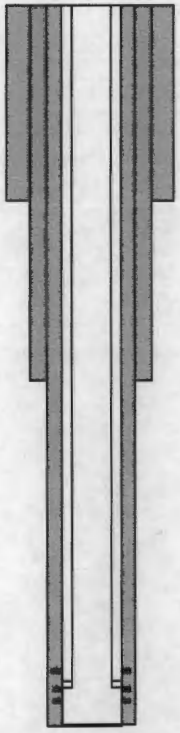
(4)



Ryan #2
Sec. 5 T23S R27E
990 FNL 990 FEL
30-015-32582

5

13 3/8" csg @ 352'
w/400sx cmt, circ



2 3/8" tubing @ 11,853'
Packer @ 11,853'

9 5/8" csg @ 5478'
w/ 1050sx cmt, circ

5 1/2" csg @ 12,100'
w/ 800sx cmt, circ

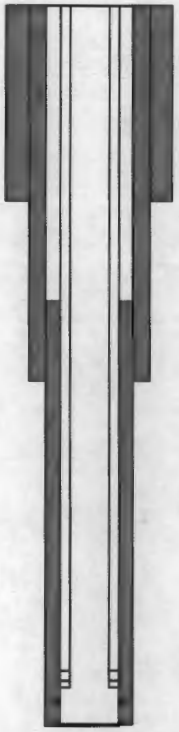
Perfs @ 11824-11828'
Perfs @ 11852-11855'
Perfs @ 11933-11941'

TD- 12,100'
PBTD- 12,024'

Ranch Hand 5 Fee Com #2
Sec. 5 T23S R27E
1167 FSL 1650 FEL
30-015-34013

6

13 3/8" csg @ 335'
w/ 550sx cmt, circ



2 7/8" tubing @ 11,327'
Packer @ 11,294'

9 5/8" csg @ 5523'
w/ 2100sx cmt, circ

5 1/2" csg @ 12,145'
w/ 1800sx cmt, TOC @ 3470'

Perfs @ 11732-12042'

TD- 12,145'
PBTD- 12,050'

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

CATALYST
Oilfield Services

Water Analysis Report

Customer:	Mack Energy Corporation	Sample #:	16259
Area:	Artesia	Analysis ID #:	17342
Lease:	Otis		
Location:	FW #1 0		
Sample Point:	Water Line		

		Anions	mg/l	meq/l	Cations	mg/l	meq/l
Sampling Date:	12/10/2013	**Chloride:**	**592.8**	**16.72**	**Sodium:**	**80.3**	**3.49**
Analysis Date:	12/13/2013	**Bicarbonate:**	**87.8**	**1.44**	**Magnesium:**	**75.5**	**6.21**
Analyst:	Catalyst	**Carbonate:**			**Calcium:**	**316.1**	**15.77**
TDS (mg/l or g/m3):	1704.3	**Sulfate:**	**460.0**	**9.58**	**Potassium:**	**59.7**	**1.53**
Density (g/cm3):	1.004				**Strontium:**	**32.1**	**0.73**
					Barium:	**0.0**	**0.**
					Iron:	**0.0**	**0.**
Hydrogen Sulfide:	0				**Manganese:**	**0.000**	**0.**
Carbon Dioxide:	0						
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):**		**1740**
					Resistivity (ohm meter):		**5.7471**

	Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl									
Temp	Calcite $CaCO_3$		Gypsum $CaSO_4 * 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-0.27	0.00	-0.67	0.00	-0.75	0.00	0.03	1.40	0.00	0.00
100	-0.14	0.00	-0.68	0.00	-0.68	0.00	0.04	2.10	0.00	0.00
120	0.00	0.00	-0.67	0.00	-0.59	0.00	0.07	3.50	0.00	0.00
140	0.15	2.10	-0.65	0.00	-0.48	0.00	0.11	4.90	0.00	0.00
160	0.30	4.20	-0.62	0.00	-0.35	0.00	0.15	6.65	0.00	0.00
180	0.46	6.30	-0.58	0.00	-0.20	0.00	0.20	8.40	0.00	0.00
200	0.62	8.75	-0.55	0.00	-0.04	0.00	0.25	10.15	0.00	0.00
220	0.79	10.85	-0.51	0.00	0.13	47.24	0.31	11.90	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 #:	16260
Area:	Artesia	Analysis ID #:	17343
Lease:	Otis		
Location:	FW #2 0		
Sample Point:	Water line		

Sampling Date:	12/10/2013
Analysis Date:	12/13/2013
Analyst:	Catalyst
TDS (mg/l or g/m3):	1633
Density (g/cm3):	1.004
Hydrogen Sulfide:	0
Carbon Dioxide:	0
Comments	

Anions	mg/l	meq/l
Chloride:	**583.8**	**16.47**
Bicarbonate:	**65.9**	**1.08**
Carbonate:		
Sulfate:	**440.0**	**9.16**

pH at time of sampling:	7
pH at time of analysis:	
pH used in Calculation:	7
Temperature @ lab conditions (F):	**75**

Cations	mg/l	meq/l
Sodium:	**75.7**	**3.29**
Magnesium:	**74.2**	**6.1**
Calcium:	**301.8**	**15.06**
Potassium:	**59.7**	**1.53**
Strontium:	**31.9**	**0.73**
Barium:	**0.0**	**0.**
Iron:	**0.0**	**0.**
Manganese:	**0.000**	**0.**

Conductivity (micro-ohms/cm):	**1715**
Resistivity (ohm meter):	**5.8309**

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

Temp	Calcite $CaCO_3$		Gypsum $CaSO_4*2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-0.41	0.00	-0.70	0.00	-0.77	0.00	0.02	1.05	0.00	0.00
100	-0.28	0.00	-0.70	0.00	-0.71	0.00	0.04	1.75	0.00	0.00
120	-0.14	0.00	-0.69	0.00	-0.62	0.00	0.06	3.15	0.00	0.00
140	0.01	0.00	-0.67	0.00	-0.51	0.00	0.10	4.55	0.00	0.00
160	0.17	1.75	-0.64	0.00	-0.37	0.00	0.14	6.30	0.00	0.00
180	0.32	3.50	-0.61	0.00	-0.23	0.00	0.19	8.05	0.00	0.00
200	0.49	5.25	-0.57	0.00	-0.07	0.00	0.24	9.80	0.00	0.00
220	0.65	7.00	-0.53	0.00	0.10	36.74	0.30	11.55	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 #:	16261
Area:	Artesia	Analysis ID #:	17344
Lease:	Otis		
Location:	FW #3 0		
Sample Point:	Water Line		

		Anions	mg/l	meq/l	Cations	mg/l	meq/l
Sampling Date:	12/10/2013	**Chloride:**	**642.0**	**18.11**	**Sodium:**	**76.3**	**3.32**
Analysis Date:	12/13/2013	**Bicarbonate:**	**87.8**	**1.44**	**Magnesium:**	**74.9**	**6.16**
Analyst:	Catalyst	**Carbonate:**			**Calcium:**	**306.9**	**15.31**
TDS (mg/l or g/m3):	1639.3	**Sulfate:**	**360.0**	**7.5**	**Potassium:**	**59.5**	**1.52**
Density (g/cm3):	1.004				**Strontium:**	**31.9**	**0.73**
					Barium:	**0.0**	**0.**
					Iron:	**0.0**	**0.**
Hydrogen Sulfide:	0				**Manganese:**	**0.000**	**0.**
Carbon Dioxide:	0						
		pH at time of sampling:		7			
Comments		pH at time of analysis:					
		pH used in Calculation:		7			
		Temperature @ lab conditions (F):		**75**	**Conductivity (micro-ohms/cm):**		**1745**
					Resistivity (ohm meter):		**5.7307**

	Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	**Calcite $CaCO_3$**		**Gypsum $CaSO_4*2H_2O$**		**Anhydrite $CaSO_4$**		**Celestite $SrSO_4$**		**Barite $BaSO_4$**		
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	
80	-0.26	0.00	-0.78	0.00	-0.85	0.00	-0.06	0.00	0.00	0.00	
100	-0.13	0.00	-0.78	0.00	-0.78	0.00	-0.04	0.00	0.00	0.00	
120	0.00	0.00	-0.77	0.00	-0.69	0.00	-0.01	0.00	0.00	0.00	
140	0.15	2.10	-0.75	0.00	-0.58	0.00	0.02	1.05	0.00	0.00	
160	0.31	4.20	-0.72	0.00	-0.45	0.00	0.07	3.15	0.00	0.00	
180	0.47	6.30	-0.69	0.00	-0.31	0.00	0.12	5.25	0.00	0.00	
200	0.63	8.75	-0.65	0.00	-0.15	0.00	0.17	7.35	0.00	0.00	
220	0.79	10.85	-0.61	0.00	0.02	7.35	0.23	9.10	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 #:	16262
Area:	Artesia	Analysis ID #:	17345
Lease:	Otis		
Location:	FW #4 0		
Sample Point:	Water Line		

		Anions	mg/l	meq/l	Cations	mg/l	meq/l
Sampling Date:	12/10/2013	**Chloride:**	**605.2**	**17.07**	**Sodium:**	**75.8**	**3.3**
Analysis Date:	12/13/2013	**Bicarbonate:**	**87.8**	**1.44**	**Magnesium:**	**74.3**	**6.11**
Analyst:	Catalyst	**Carbonate:**			**Calcium:**	**312.5**	**15.59**
TDS (mg/l or g/m3):	1667	**Sulfate:**	**420.0**	**8.74**	**Potassium:**	**59.5**	**1.52**
Density (g/cm3):	1.004				**Strontium:**	**31.9**	**0.73**
					Barium:	**0.0**	**0.**
Hydrogen Sulfide:	0				**Iron:**	**0.0**	**0.**
Carbon Dioxide:	0				**Manganese:**	**0.000**	**0.**
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):**		**1728**
					Resistivity (ohm meter):		**5.7870**

	Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl									
Temp	Calcite $CaCO_3$		Gypsum $CaSO_4*2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-0.27	0.00	-0.71	0.00	-0.78	0.00	0.00	0.00	0.00	0.00
100	-0.14	0.00	-0.71	0.00	-0.72	0.00	0.01	0.70	0.00	0.00
120	0.00	0.00	-0.70	0.00	-0.63	0.00	0.04	2.10	0.00	0.00
140	0.15	2.10	-0.68	0.00	-0.52	0.00	0.08	3.50	0.00	0.00
160	0.30	4.20	-0.66	0.00	-0.38	0.00	0.12	5.60	0.00	0.00
180	0.46	6.30	-0.62	0.00	-0.24	0.00	0.17	7.35	0.00	0.00
200	0.63	8.75	-0.58	0.00	-0.08	0.00	0.22	9.10	0.00	0.00
220	0.79	10.85	-0.54	0.00	0.09	32.19	0.28	10.85	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 #:	16263
Area:	Artesia	Analysis ID #:	17346
Lease:	Otis		
Location:	FW #5 0		
Sample Point:	Water Line		

		Anions	mg/l	meq/l	Cations	mg/l	meq/l
Sampling Date:	12/10/2013	**Chloride:**	**635.1**	**17.91**	**Sodium:**	**89.5**	**3.89**
Analysis Date:	12/10/2013	**Bicarbonate:**	**65.8**	**1.08**	**Magnesium:**	**74.5**	**6.13**
Analyst:	Catalyst	**Carbonate:**			**Calcium:**	**309.7**	**15.45**
TDS (mg/l or g/m3):	1686.7	**Sulfate:**	**420.0**	**8.74**	**Potassium:**	**60.0**	**1.53**
Density (g/cm3):	1.004				**Strontium:**	**32.1**	**0.73**
					Barium:	**0.0**	**0.**
					Iron:	**0.0**	**0.**
Hydrogen Sulfide:	0				**Manganese:**	**0.000**	**0.**
Carbon Dioxide:	0						
		pH at time of sampling:		7			
Comments		pH at time of analysis:					
		pH used in Calculation:		**7**	**Conductivity (micro-ohms/cm):**		**1731**
		Temperature @ lab conditions (F):		**75**	**Resistivity (ohm meter):**		**5.7770**

	Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl									
Temp	**Calcite $CaCO_3$**		**Gypsum $CaSO_4 * 2H_2O$**		**Anhydrite $CaSO_4$**		**Celestite $SrSO_4$**		**Barite $BaSO_4$**	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-0.40	0.00	-0.72	0.00	-0.79	0.00	0.00	0.00	0.00	0.00
100	-0.27	0.00	-0.72	0.00	-0.72	0.00	0.02	0.70	0.00	0.00
120	-0.13	0.00	-0.71	0.00	-0.63	0.00	0.04	2.10	0.00	0.00
140	0.02	0.35	-0.69	0.00	-0.52	0.00	0.08	3.85	0.00	0.00
160	0.17	1.75	-0.66	0.00	-0.39	0.00	0.12	5.60	0.00	0.00
180	0.33	3.50	-0.63	0.00	-0.24	0.00	0.17	7.35	0.00	0.00
200	0.49	5.25	-0.59	0.00	-0.08	0.00	0.22	9.10	0.00	0.00
220	0.66	7.00	-0.55	0.00	0.09	30.79	0.28	10.85	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 #:	16264
Area:	Artesia	Analysis ID #:	17347
Lease:	Otis		
Location:	FW #6 0		
Sample Point:	Water Line		

Sampling Date:	12/10/2013
Analysis Date:	12/10/2013
Analyst:	Catalyst
TDS (mg/l or g/m3):	1649.2
Density (g/cm3):	1.004
Hydrogen Sulfide:	0
Carbon Dioxide:	0
Comments	

Anions	mg/l	meq/l
Chloride:	**611.9**	**17.26**
Bicarbonate:	**87.8**	**1.44**
Carbonate:		
Sulfate:	**400.0**	**8.33**

Cations	mg/l	meq/l
Sodium:	**76.3**	**3.32**
Magnesium:	**74.7**	**6.14**
Calcium:	**307.0**	**15.32**
Potassium:	**59.6**	**1.52**
Strontium:	**31.9**	**0.73**
Barium:	**0.0**	**0.**
Iron:	**0.0**	**0.**
Manganese:	**0.000**	**0.**

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):	**1740**
Resistivity (ohm meter):	**5.7471**

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

Temp	Calcite $CaCO_3$		Gypsum $CaSO_4*2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$	
°F	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount
80	-0.27	0.00	-0.74	0.00	-0.81	0.00	-0.02	0.00	0.00	0.00
100	-0.14	0.00	-0.74	0.00	-0.74	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	-0.73	0.00	-0.65	0.00	0.02	1.40	0.00	0.00
140	0.15	2.10	-0.71	0.00	-0.54	0.00	0.06	2.80	0.00	0.00
160	0.30	4.20	-0.68	0.00	-0.41	0.00	0.11	4.90	0.00	0.00
180	0.46	6.30	-0.65	0.00	-0.26	0.00	0.15	6.65	0.00	0.00
200	0.62	8.75	-0.61	0.00	-0.10	0.00	0.21	8.75	0.00	0.00
220	0.79	10.85	-0.57	0.00	0.06	22.75	0.27	10.50	0.00	0.00

MACK Energy Corporation

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

January 13, 2014

VIA CERTIFIED MAIL 7013 0600 0001 7892 3559
RETURN RECEIPT REQUESTED

Merit Management Partners, I LP
13727 Noel Rd., Ste. 500
Dallas, TX 75240-7312

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Devonian-Montoya-Simpson- Ellenburger SWD well. Produced water will be injected at a proposed depth of 12,967-15,100'. The Otis SWD #1 located 1947 FSL & 1971 FEL, Sec. 4 T23S R27E, 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

Deana Weaver
Production Clerk

DW\

Attachments

MACK Energy Corporation

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

January 13, 2014

VIA CERTIFIED MAIL 7013 0600 0001 7892 3566
RETURN RECEIPT REQUESTED

Commissioner of Public Lands
PO Box 1148
Santa Fe, NM 87504-1148

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Devonian-Montoya-Simpson- Ellenburger SWD well. Produced water will be injected at a proposed depth of 12,967-15,100'. The Otis SWD #1 located 1947 FSL & 1971 FEL, Sec. 4 T23S R27E, Eddy County.

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Sincerely,

MACK ENERGY CORPORATION

Deana Weaver
Deana Weaver
Production Clerk

DW\

Attachments

MACK Energy Corporation

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

January 13, 2014

VIA CERTIFIED MAIL 7013 0600 0001 7892 3542
RETURN RECEIPT REQUESTED

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

Gentlemen:

Enclosed for your review, is a copy of Mack Energy Corporation's application for a Devonian-Montoya-Simpson- Ellenburger SWD well. Produced water will be injected at a proposed depth of 12,967-15,100'. The Otis SWD #1 located 1947 FSL & 1971 FEL, Sec. 4 T23S R27E, 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

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 Otis SWD #1 1947 FSL & 1971 FEL of Section 4, T23S R27E, NMPM, Eddy County, New Mexico. The water will be injected into the Devonian-Montoya-Simpson-Ellenburger formations at a disposal depth of 12,967-15,100'. Water will be injected at a maximum surface pressure of 1940 pounds and a maximum injection rate of 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.

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 Otis SWD #1 1947 FSL & 1971 FEL of Section 4, T23S R27E, NMPM, Eddy County, New Mexico. The water will be injected into the Devonian-Montoya-Simpson-Ellenburger formations at a disposal depth of 12,967-15,100'. Water will be injected at a maximum surface pressure of 1940 pounds and a maximum injection rate of 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., Jan. 9, 2014 Legal No 22825.

Deana Weaver

Enclosed are the Affidavit of Publication for the following Mack Energy Corporation SWD applications:

Otis SDW #1 mailed 1/10/2014
Airplane SDW #1 mailed 1/3/2014

Thank You

Deana Weaver
Mack Energy Corporation
P.O. Box 960
Artesia, NM 88210
(575) 748-1288

Affidavit of Publication

NO. 22825

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 Notice

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/days on the same day as follows:

First Publication	January 9, 2014
Second Publication	
Third Publication	
Fourth Publication	
Fifth Publication	

Subscribed and sworn to before me this

9th day of January 2014

OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 5/12/2015

Latisha Romine

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 Otis SWD #1 1947 FSL & 1971 FEL of Section 4, T23S R27E, NMPM, Eddy County, New Mexico. The water will be injected into the Devonian-Montoya-Simpson-Ellenburger formations at a disposal depth of 12,967-15,100'. Water will be injected at a maximum surface pressure of 1940 pounds and a maximum injection rate of 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., Jan. 9, 2014 Legal No 22825.

C-108 Review Checklist: Received 01/17/14 Add. Request: 03/13/14 Reply Date: — Suspended: — [Ver 13]

PERMIT TYPE: WFX / PMX / SWD Number: 1475 Permit Date: 04/11/14 Legacy Permits/Orders: NA

Well No. 1 Well Name(s): Otis SWD (proposed by Mack) Well RBDMS Listing: Bindel Com. No. 1

API : 30-0 15-21145 Spud Date: 04/01/1974 New or Old: Old (UIC Class II Primacy 03/07/1982)

Footages 1947 FSL / 1971 FEL Lot — or Unit J Sec 4 Tsp 23S Rge 27E County Eddy

General Location: 3 miles East of Carlsbad City Airport Reservoyed 11/25/13 Pool: Morrow; South Carlsbad SWD; Dev-Ellenburger Pool No.: 97775

BLM 100K Map: Carlsbad Operator: Mack Energy Corp OGRID: 13837 Contact: Deana Weaver

COMPLIANCE RULE 5.9: Total Wells: 454 Inactive: 1 Fincl Assur: Yes Compl. Order? No **IS 5.9 OK?** Yes **Date:** 04/14/2014

WELL FILE REVIEWED ✓ Current Status: P&A; former Morrow & BS test well; wc perfs squeezed (1982);

WELL DIAGRAMS: NEW: Proposed ○ or **RE-ENTER:** Before Conv. ✓ After Conv. ✓ Logs in Imaging: Comp. Neutron & Form. Density

Planned Rehab Work to Well: Squeeze perfs & liner installation – circulate to surface – new perfs

Well Construction Details:	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Stage Tool	Cement (Sx) or Cf	Cement Top and Determination Method
Planned __ or Existing ✓ Surface	17 1/2 / 13 3/8	0 to 376	Stage Tool	400	Surface / Circ. to.
Planned __ or Existing ✓ Interm/Prod	12 1/4 / 9 5/8	0 to 5550	None	3140	Circ. to surface
Planned __ or Existing ✓ Interm/Prod	8 3/4 / 7	0 to 12234	None	1350	Circ. to surface
Planned __ or Existing __ Prod/Liner	—	—	—	—	—
Planned __ or Existing __ Liner	6 1/8 / 5	0 to 14706*	None	855	Circulate to surface
Planned __ or Existing __ OH / PERF	6 1/8 / 5	12967 to 14706*	Inj Length 1739		

Injection Stratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.		Atoka / Barnett	—
Confining Unit: Litho. Struc. Por.	0	Missi. Lime / Woodford	12818
Proposed Inj Interval TOP:	12967	Devonian	12967
Proposed Inj Interval BOTTOM:	14706	Ellenburger	Yes
Confining Unit: Litho. Struc. Por.	15000	Ellenburger	
Adjacent Unit: Litho. Struc. Por.		PE / pe wash	15000

Completion/Operation Details:

* new liner to be installed

Drilled TD 12235 PBTD 12235

NEW TD 14906 NEW PBTD —

NEW Open Hole ○ or NEW Perfs ✓

Tubing Size 2 7/8 in. Inter Coated? Yes

Proposed Packer Depth 12917 ft

Min. Packer Depth 12867 (100-ft limit)

Proposed Max. Surface Press. 1940 psi

Admin. Inj. Press. 2593 (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

POTASH: R-111-P ○ Noticed? NA **BLM Sec Ord** ○ **WIPP** ○ Noticed? NA **SALT/SALADO** T: 1415 B: 1743 **CLIFF HOUSE** NA

FRESH WATER: Aquifer Shallow Alluvial / Carg & Gravels Max Depth ~200 **HYDRO AFFIRM STATEMENT By Qualified Person** ✓

NMOSE Basin: Carlsbad **CAPITAN REEF:** thru ○ adj ✓ NA ○ **No. Wells within 1-Mile Radius?** Yes (+20) FW Analysis ○

Disposal Fluid: Formation Source(s) Delaware / Bone Spring Analysis? Yes On Lease ✓ Operator Only ○ or Commercial ○

Disposal Int: Inject Rate (Avg/Max BWPD): 2000 / 4000 Protectable Waters? Unknown source: — low probability System: Closed ✓ or Open ○

HC Potential: Producing Interval? No Formerly Producing? No Method: Logs/DST/P&A/Other Unknown 2-Mile Radius Pool Map NA

AOR Wells: 1/2-M Radius Map? Yes Well List? Yes Total No. Wells Penetrating Interval: 6 Horizontals? 0

Penetrating Wells: No. Active Wells 4 Num Repairs? 0 on which well(s)? — Diagrams? Yes

Penetrating Wells: No. P&A Wells 2 Num Repairs? 0 on which well(s)? — Diagrams? Yes

NOTICE: Newspaper Date 01/09/14 Mineral Owner Fee Surface Owner Fee / Merit Management N. Date 01/13/14

RULE 26.7(A): Identified Tracts? Yes Affected Persons: Devon / SLO N. Date 01/13/14

Permit Conditions: Issues: Unknown HC resources; salinity value; injection survey-distr.

Add Permit Cond: Mudlog / salinity calc. – injection survey within 2 years

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, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code Grant	Source	q q q 64 16 4	Sec	Twn	Rng	X	Y
C 00025		IRR	0	WILLIAMS JACK D	ED	C 00025			1 1 3	05	23S	27E	573439	3577608*
C 00057		IRR	213	IRA STOCKWELL	ED	C 00057				03	23S	27E	577370	3577750*
C 00071		IRR	422.34	HENRY R. OR DELORES WALTERSCHIED	ED	C 00071		Shallow	2 1 3	03	23S	27E	576865	3577649*
C 00098		IRR	405.39	JAMES B KENNEY	ED	C 00098	) Declaration	Shallow	1 3 3	04	23S	27E	575051	3577226*
					ED	C 00109	)	Shallow	1 3 3	04	23S	27E	575051	3577226*
C 00098 A		IRR	12	BINDEL HERBERT C	ED	C 00098 A			3 3 4	04	23S	27E	575859	3577036
					ED	C 00098 A-S			3 3 4	04	23S	27E	575859	3577036*
					ED	C 00098 A-S-2		Shallow	4 4 2	04	23S	27E	576459	3577846*
C 00109		IRR	405.39	MONTIE BUNCH	ED	C 00098	} WR admin/declaration	Shallow	1 3 3	04	23S	27E	575051	3577226*
					ED	C 00109	}	Shallow	1 3 3	04	23S	27E	575051	3577226*
C 00109 ENL		IRR		KENNEY THELMA SUE BARRETT	ED	C 00098		Shallow	1 3 3	04	23S	27E	575051	3577226*
					ED	C 00109		Shallow	1 3 3	04	23S	27E	575051	3577226*
C 00176		IRR	0	LOPEZ ANGELA	ED	C 00176	- Expired		1 1 4	05	23S	27E	574244	3577618*
C 00281	C	DOM	0	HERBERT C. BINDEL	ED	C 00281			4 4 2	04	23S	27E	576459	3577846*
C 00283	C	DOM	3	M.L. TIDWELL	ED	C 00283		Shallow	2 2	03	23S	27E	577973	3578373*
C 00296	C	DOM	0	ANGEL LOPEZ	ED	C 00296			1 4	05	23S	27E	574345	3577519*
C 00310		IRR	372	NEW MEXICO INTERSTATE STREAM COMMISSION	ED	C 00098	water rights admin Consol.	Shallow	1 3 3	04	23S	27E	575051	3577226*
					ED	C 00098 A-S-2		Shallow	4 4 2	04	23S	27E	576459	3577846*

***UTM location was derived from PLSS - see Help**

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code Grant	Source	q q q 64 16 4	Sec	Tws	Rng	X	Y
C 00323	C	DOL	0	U.L. WILLIS	ED	C 00323			4 4	05	23S	27E	574750	3577122*
C 00400	C	DOL	3	HERBERT C. BINDEL	ED	C 00400		Shallow	4 4 2	04	23S	27E	576459	3577846*
C 00546	C	DOM	3	JOSE SUBIA	ED	C 00546		Shallow	1 3 1	03	23S	27E	576663	3578051*
C 00743	C	DOL	3	I.V. CROLEY	ED	C 00743		Shallow		03	23S	27E	577370	3577750*
C 01203	C	DOM	3	VINCENTE CARRASCO	ED	C 01203		Shallow	4 1	03	23S	27E	577168	3577958*
C 01670	C	DOM	3	CHARLES AUGUSTUS	ED	C 01670			4 4 2	05	23S	27E	574842	3577826*
C 01671	C	DOL	3	PASCUAL M. LOPEZ	ED	C 01671			3 3 1	05	23S	27E	573434	3577811*
C 01971	C	DOM	3	O J MCCARTY	ED	C 01971		Shallow	1 1	03	23S	27E	576762	3578354*
C 01973	C	DOM	3	DAVID MALEY	ED	C 01973		Shallow	1 1 1	03	23S	27E	576661	3578453*
C 01976	C	DOM	3	EFREN B COLLINS	ED	C 01976			3 1 2	05	23S	27E	574236	3578224*
C 01989	C	DOL	3	WINSTON BALLARD	ED	C 01989		Shallow	1 1	03	23S	27E	576762	3578354*
C 02146	C	DOM	3	ROCKY JIMENEZ	ED	C 02146		Shallow	1 1	03	23S	27E	576762	3578354*
C 02148	C	DOM	3	DON CHESTER	ED	C 02148		Shallow	1 1	03	23S	27E	576762	3578354*
C 02150	C	DOM	3	CHARLES THOMPSON JR.	ED	C 02150		Shallow	1 1	03	23S	27E	576762	3578354*
C 02154	C	DOM	3	MELISSA HELLON	ED	C 02154		Shallow	1 1	03	23S	27E	576762	3578354*
C 02166	C	DOM	3	HENRY WALTERSCHEID JR.	ED	C 02166		Shallow	1 1	03	23S	27E	576762	3578354*
C 02226	C	DOM	3	RANDY GARRETT	ED	C 02226		Shallow	2 2	03	23S	27E	577973	3578373*
C 02324	C	DOM	3	BILLY R MESSER	ED	C 02324		Shallow	1 2	03	23S	27E	577571	3578367*
C 02494	C	DOL	0	BEVERLY S WATSON	ED	C 02494			4 3 3	03	23S	27E	576866	3577046*
C 02710	C	DOL	3	TREY GREENWOOD	ED	C 02710		Shallow	4	05	23S	27E	574550	3577318*
C 02711	C	DOL	3	ROSS KIRKES	ED	C 02711		Shallow	4 4	05	23S	27E	574750	3577122*
C 02977	C	DOM	3	GARY FLETCHER	ED	C 02977		Shallow	1 1 2	03	23S	27E	577470	3578466*

Water
65'-80' gravel
85' to 100' "Conglomerate rock" TD 100'

Water
62'-115' S&G TD in gravel at 115'

Water
70'-110' Cong gravels
(90' to 168' Clays / TD 168')

Water
70-72' Sand
93-122 S&G
122'-125' Clay
TD 125'

Water
110-130 S&G
155-180 S&G
180'-200' clay / TD 200'

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(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q q q 64 16 4	Sec	Twn	Rng	X	Y
C 03000	C	DOM	3	PHILLIP WALTERSCHEID	ED	C 03000		R	Shallow	2 3 3	03	23S	27E	576866	3577246*
					ED	C 03000 POD2			Shallow	2 3 3	03	23S	27E	576866	3577246
C 03020	C	DOM	3	O R DAKAN	ED	C 03020			Shallow	4 4	05	23S	27E	574750	3577122*
C 03056	C	DOL	3	BRANTLEY BROTHERS	ED	C 03056			Shallow	1 3 3	04	23S	27E	575051	3577226*
C 03072	C	DOL	3	JOHN LANDOLT	ED	C 03072			Shallow	3 4 2	03	23S	27E	577873	3577869*
C 03093	C	DOM	0	MITCHELL D WILLIAMS	ED	C 03093				3 1 2	05	23S	27E	574236	3578224*
C 03098	C	DOL	0	KENNETH D MCCOLLAUM	ED	C 03098				3 4 2	05	23S	27E	574642	3577826*
C 03115	C	DOM	0	JERRY B HENLEY	ED	C 03115				1 2 2	03	23S	27E	577872	3578472*
C 03190	C	DOL	3	RUDY LOPEZ	ED	C 03190				2 2 4	05	23S	27E	574846	3577624*
C 03273	C	DOL	0	BILLY KIRKES	ED	C 03273				1 4 4	05	23S	27E	574649	3577221*
C 03476	C	DOM	1	JEROME GOLDEN	ED	C 03476 POD1				2 2 2	04	23S	27E	576487	3578407
C 03646	C	PRO	0	MACK ENERGY CORP	ED	C 00098 A				3 3 4	04	23S	27E	575859	3577036
C 03647	C	PRO	0	MACK ENERGY CORP	ED	C 00098 A				3 3 4	04	23S	27E	575859	3577036
C 03653	C	DOL	3	FRANK H. LOPEZ	ED	C 03653 POD1				4 2 4	05	23S	27E	574881	3577505
C 03680	C	PRO	0	MACK ENERGY CORP	ED	C 00098 A				3 3 4	04	23S	27E	575859	3577036
C 03718	C	PRO	0	MACK ENERGY CORP	ED	C 00098 AS				3 3 4	04	23S	27E	576499	3577893
C 03719	C	PRO	0	MACK ENERGY CORP	ED	C 00098 AS				3 3 4	04	23S	27E	576499	3577893

water 162'-176' Cong. well TD at 180'

water 30'-36' Cong. / 74 to 86' Cong / 99' to 119' cong / 121 to 132 Clay TD 132

Exploratory

Exploratory

***UTM location was derived from PLSS - see Help**

Record Count: 57

POD Search:

POD Basin: Carlsbad

PLSS Search:

Section(s): 3-5 **Township:** 23S **Range:** 27E

Sorted by: File Number

Goetze, Phillip, EMNRD

From: Deana Weaver <dweaver@mec.com>
Sent: Thursday, March 13, 2014 8:43 AM
To: Goetze, Phillip, EMNRD
Cc: Jerry Sherrell; Cari Moreno; Charles Sadler; Matt Brewer; Chris Moreno
Subject: RE: Request for Additional Information - Otis SWD No. 1

Phillip

The revised injection interval will be 12967 ft. to 14706 ft. and original TD @ 15,100'. Please let me know if I need to correct any paper work.

Thank you

Deana Weaver
Mack Energy Corporation

From: Goetze, Phillip, EMNRD [mailto:Phillip.Goetze@state.nm.us]
Sent: Wednesday, March 12, 2014 4:11 PM
To: Deana Weaver; Cari Moreno
Subject: RE: Request for Additional Information - Otis SWD No. 1

Deana and Cari (hopefully I got the e-mail address correct):

Thank you for the response. Two items that I need to explain about the application and the info you have provided.

1. If you wish to change the proposed injection by expanding the length, this is considered a major modification under the SDWA. This means a resubmittal of the C-108 including re-notification to all affected persons and the legal notice in the newspaper. Contraction of the proposed injection interval is not a major modification and can be done without notification.
2. The Director has approved the restriction of injection intervals for deep SWD wells to the top 100 feet of the Ellenburger. This is due to the growing evidence of induced seismicity that suggests injection at the Cambrian/granite wash/granite basement contact as a potential source for events. Thus, to minimize this potential, OCD has decided to stay out of granite with the Class II wells.

With these two items, the question becomes is Mack amiable (based on its economic model for this well) to an interval from 12967 ft to ~14706 ft? This is 1739 feet of injection interval compared to the 2133 feet originally proposed while providing the top of Ellenburger with its potential for karst-modified reservoir. Please review with your team and provide a response. I am available by phone or e-mail for any questions about the content of this e-mail. PRG

Phillip R. Goetze, P.G.
Engineering and Geological Services Bureau, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
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phillip.goetze@state.nm.us

From: Deana Weaver [mailto:dweaver@mec.com]
Sent: Wednesday, March 12, 2014 2:45 PM

To: Goetze, Phillip, EMNRD
Subject: RE: Request for Additional Information - Otis SWD No. 1

All of the formation tops within the injection interval are highlighted below, including the Ellenburger and Granite tops that he mentions specifically.

Also, TD will now be 15,700' instead of 15,100' (highlighted below). This changes the injection depth and thickness, also highlighted below.

Lithologic Detail: Limestone, dolomite, and sandstone
Geological Name: Devonian, Montoya, Simpson, Ellenburger
Thickness: 2633'
Depth: 12967'-15600'
Waters injected: Delaware and Bone Spring

Formation tops:

Top Salt: 1415'
Base Salt: 1743'
Delaware: 2130'
Bone Spring: 5520'
Wolfcamp: 9041'
Canyon: 10316'
Strawn: 10648'
Atoka: 10897'
Morrow: 11388'
Barnett: 12128'
Woodford: 12878'
Devonian: 12967'
Montoya: 13998'
Simpson: 14348'
Ellenburger: 14606'
Granite: 15606'

TD: 15700'

Thanks,

Cari Moreno
Geologist
Mack Energy Corporation
575-748-1288 Office
575-703-6241 Cell

From: Goetze, Phillip, EMNRD [mailto:Phillip.Goetze@state.nm.us]
Sent: Tuesday, March 11, 2014 11:10 AM
To: Deana Weaver
Subject: Request for Additional Information - Otis SWD No. 1

RE: Otis SWD #1 (API 30-015-21145)

Deana:
The application for the proposed re-entry and conversion of the well includes a portion (or all) of the Ellenburger as part of the injection interval. Does your geologist have any projected depths for the tops of formations (specifically Ellenburger and granite) in the injection interval? This is important since the Director will limit injection to the top of Ellenburger (within 100 feet of the top contact based on thickness). Please call with any questions. PRG

Phillip R. Goetze, P.G.
Engineering and Geological Services Bureau, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
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phillip.goetze@state.nm.us

Goetze, Phillip, EMNRD

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Waters injected: Delaware and Bone Spring

Formation tops:

Top Salt: 1415'
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Morrow: 11388'
Barnett: 12128'
Woodford: 12878'
Devonian: 12967'
Montoya: 13998'
Simpson: 14348'
Ellenburger: 14606'
Granite: 15606'

TD: 15700'

Thanks,

Cari Moreno
Geologist
Mack Energy Corporation
575-748-1288 Office
575-703-6241 Cell

From: Goetze, Phillip, EMNRD [mailto:Phillip.Goetze@state.nm.us]
Sent: Tuesday, March 11, 2014 11:10 AM
To: Deana Weaver
Subject: Request for Additional Information - Otis SWD No. 1

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