

State of New Mexico  
Energy, Minerals and Natural Resources Department

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**Susana Martinez**  
Governor

**Ken McQueen**  
Cabinet Secretary

**Matthias Sayer**  
Deputy Cabinet Secretary

**Heather Riley, Division Director**  
Oil Conservation Division



Administrative Order SWD-1737  
June 12, 2018

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of Division Rule 19.15.26.8(B) NMAC, Mack Energy Corporation (the "operator") seeks an administrative order for its Frogwater SWD Well No. 1 (the "subject well") with a location of 1980 feet from the North line and 1980 feet from the West line, Unit letter F of Section 8, Township 16 South, Range 33 East, NMPM, Lea County, New Mexico, for the purpose of disposal of produced water.

**THE DIVISION DIRECTOR FINDS THAT:**

The application has been duly filed under the provisions of Division Rule 19.15.26.8 (B) NMAC and satisfactory information has been provided that affected parties have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in Division Rule 19.15.26.8 NMAC have been met and the operator is in compliance with Division Rule 19.15.5.9 NMAC.

**IT IS THEREFORE ORDERED THAT:**

The applicant, Mack Energy Corporation (OGRID 13837), is hereby authorized to utilize its Frogwater SWD Well No. 1 (API 30-025-35594) with a location of 1980 feet from the North line and 1980 feet from the West line, Unit letter F of Section 8, Township 16 South, Range 33 East, NMPM, Lea County, for disposal of oil field produced water (UIC Class II only) through a perforated interval consisting of the Devonian formation and Silurian formation from approximately 14380 feet to approximately 15420 feet. Injection will occur through internally-coated, 2<sup>-7/8</sup>-inch or smaller tubing with a packer set within 100 feet of the top of the disposal interval.

*This permit does not allow disposal into formations below the Silurian formations including the Montoya formation and the Ellenburger formation (lower Ordovician) or lost circulation intervals directly on top and obviously connected to these formations.*

*Sources of the UIC Class II fluids for disposal in the subject well shall be limited to the production from wells operated by Mack Energy Corporation. Sources of UIC Class II fluids from other operators not operated by Mack Energy Corporation shall not be permitted for disposal in the subject well.*

*Prior to commencing disposal, the operator shall submit mudlog and geophysical logs information, to the Division's District geologist and Santa Fe Bureau Engineering office, showing evidence agreeable that only the permitted formation is open for disposal including a summary of depths (picks) for contacts of the formations which the Division shall use to amend this order for a final description of the depth for the injection interval. If significant hydrocarbon shows occur while drilling, the operator shall notify the Division's District I and the operator shall be required to receive written permission prior to commencing disposal.*

*If cement does not circulate on backside of the 5<sup>1/2</sup>-inch casing, the operator shall run a cement bond log (CBL) or other log to determine top of cement and shall notify the Hobbs District with the top of cement on the emergency phone number prior to continuing with any further cement activity with the proposed well. If cement did not circulate, the operator shall perform remedial cement job to bring cement to 200 feet above the next higher casing shoe.*

**IT IS FURTHER ORDERED THAT:**

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface. This includes the completion and construction of the well as described in the application and, if necessary, as modified by the District Supervisor.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT procedures and schedules shall follow the requirements in Division Rule 19.15.26.11(A) NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

The wellhead injection pressure on the well shall be limited to **no more than 2876 psi**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formations. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable step-rate test.

The operator shall notify the supervisor of the Division's District I office of the date and time of the installation of disposal equipment and of any MIT so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's District II office. The operator shall submit monthly reports of the disposal

operations that includes number of days of operation, injection volume, and injection pressure on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

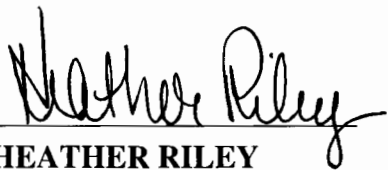
The injection authority granted under this order is not transferable except upon Division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

The Division may revoke this injection order after notice and hearing if the operator is in violation of Rule 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate one year after the effective date of this Order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this Order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.



**HEATHER RILEY**  
Director

HR/mam

cc: Oil Conservation Division – Hobbs District Office  
New Mexico State Land Office Oil, Gas, and Minerals  
Well file 30-025-35594

Before

Frogwater SWD #1  
Sec. 8 T16S R33E  
1980 FNL 1984 FWI

After

13 3/8" csg @ 453'  
w/ 495sx, circ

9 5/8" csg @ 4245'  
w/ 1725sx, circ

Formation Tops  
San Andres: 4378  
Glorieta: 5885  
Paddock: 6461  
Tubb: 7077  
Abo: 7749  
Wolfcamp: 9949  
Penn: 10995  
Canyon: 11737  
Strawn: 12246  
Atoka: 12433  
Miss: 13561

10sx cmt to surface  
35sx cmt 403-603'  
35sx cmt 1500-1600'  
50sx cmt 4195-4295'  
40sx cmt 7100-7200'

Plug @ 9200-9300', 11,550-11,650',  
13,550-13,650

TD- 13,650'  
PBTD- Surface

13 3/8" csg @ 453'  
w/ 495sx, circ

9 5/8" csg @ 4245'  
w/ 1725sx, circ

5 1/2" csg @ 15,500'  
w/ 2065sx, circ

2 7/8" PC tubing @  
14,330' set w/ 10K Nickel  
Plated PRK

Perfs 14,380-15,420'

TD- 15,520