

# Additional Information

Mack Energy  
Manitoba SWD-2610  
9-30-2024

(Response to E-mail for  
clarification on Depth to USDW  
and BLM Conditions of Approval)

**From:** [Jerry Sherrell](#)  
**To:** [Harris, Anthony, EMNRD](#); [Deana Weaver](#)  
**Cc:** [Goetze, Phillip, EMNRD](#); [Gebremichael, Million, EMNRD](#); [Sandoval, Stacy, EMNRD](#); [Chavez, Carl, EMNRD](#)  
**Subject:** RE: [EXTERNAL] RE: Mack Energy - Manitoba SWD#1: Additional Information required  
**Date:** Monday, September 30, 2024 10:24:41 AM  
**Attachments:** [image001.jpg](#)  
[image002.jpg](#)  
[15S28E\\_15S33E CONDUCTIVITY AND TDS.pdf](#)  
[Manitoba SWD #1 BLM Conditions of Approval.pdf](#)

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Good Morning,

I am attaching some information requested about the Fresh Water in this area. According to the OSE the depth of fresh water in this area is 85', formation is Qoa - Older alluvial deposits.

Mack Energy proposed to set surface casing at 450'. BLM recommended setting at 380' or 25' into the Rustler formation. This should protect all USDW. There is no USDW below our proposed injection interval.

Jerry W. Sherrell  
Regulatory Supervisor  
Mack Energy Corporation  
Bulldog Operating Company  
PO Box 960  
Artesia, NM 88210  
Office 575-748-1288  
Cell 575-703-7382  
[jerrys@mec.com](mailto:jerrys@mec.com)

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**From:** Harris, Anthony, EMNRD <[Anthony.Harris@emnrd.nm.gov](mailto:Anthony.Harris@emnrd.nm.gov)>  
**Sent:** Thursday, September 26, 2024 2:24 PM  
**To:** Jerry Sherrell <[jerrys@mec.com](mailto:jerrys@mec.com)>; Deana Weaver <[dweaver@mec.com](mailto:dweaver@mec.com)>  
**Cc:** Goetze, Phillip, EMNRD <[phillip.goetze@emnrd.nm.gov](mailto:phillip.goetze@emnrd.nm.gov)>; Gebremichael, Million, EMNRD <[Million.Gebremichael@emnrd.nm.gov](mailto:Million.Gebremichael@emnrd.nm.gov)>; Sandoval, Stacy, EMNRD <[Stacy.Sandoval@emnrd.nm.gov](mailto:Stacy.Sandoval@emnrd.nm.gov)>; Chavez, Carl, EMNRD <[Carlj.Chavez@emnrd.nm.gov](mailto:Carlj.Chavez@emnrd.nm.gov)>  
**Subject:** RE: [EXTERNAL] RE: Mack Energy - Manitoba SWD#1: Additional Information required

**EXTERNAL EMAIL - Verify the sender and use caution before opening attachments or clicking links**

Good Afternoon

You can include everyone in the email.

Regards

Tony

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**From:** Jerry Sherrell <[jerrys@mec.com](mailto:jerrys@mec.com)>  
**Sent:** Thursday, September 26, 2024 2:14 PM  
**To:** Harris, Anthony, EMNRD <[Anthony.Harris@emnrd.nm.gov](mailto:Anthony.Harris@emnrd.nm.gov)>; Deana Weaver <[dweaver@mec.com](mailto:dweaver@mec.com)>  
**Cc:** Goetze, Phillip, EMNRD <[phillip.goetze@emnrd.nm.gov](mailto:phillip.goetze@emnrd.nm.gov)>; Gebremichael, Million, EMNRD <[Million.Gebremichael@emnrd.nm.gov](mailto:Million.Gebremichael@emnrd.nm.gov)>; Sandoval, Stacy, EMNRD <[Stacy.Sandoval@emnrd.nm.gov](mailto:Stacy.Sandoval@emnrd.nm.gov)>; Chavez, Carl, EMNRD <[Carlj.Chavez@emnrd.nm.gov](mailto:Carlj.Chavez@emnrd.nm.gov)>  
**Subject:** RE: [EXTERNAL] RE: Mack Energy - Manitoba SWD#1: Additional Information required

Anthony,

I have received the letters from ALL Consulting for the Seismicity Reports. Do I forward them to everyone on this email or somewhere else? Please advise.

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**From:** Harris, Anthony, EMNRD <[Anthony.Harris@emnrd.nm.gov](mailto:Anthony.Harris@emnrd.nm.gov)>  
**Sent:** Wednesday, September 18, 2024 3:21 PM  
**To:** Jerry Sherrell <[jerrys@mec.com](mailto:jerrys@mec.com)>; Deana Weaver <[dweaver@mec.com](mailto:dweaver@mec.com)>  
**Cc:** Goetze, Phillip, EMNRD <[phillip.goetze@emnrd.nm.gov](mailto:phillip.goetze@emnrd.nm.gov)>; Gebremichael, Million, EMNRD <[Million.Gebremichael@emnrd.nm.gov](mailto:Million.Gebremichael@emnrd.nm.gov)>; Sandoval, Stacy, EMNRD <[Stacy.Sandoval@emnrd.nm.gov](mailto:Stacy.Sandoval@emnrd.nm.gov)>; Chavez, Carl, EMNRD <[Carlj.Chavez@emnrd.nm.gov](mailto:Carlj.Chavez@emnrd.nm.gov)>  
**Subject:** RE: [EXTERNAL] RE: Mack Energy - Manitoba SWD#1: Additional Information required

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Great, thanks for the update

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**From:** Jerry Sherrell <[jerrys@mec.com](mailto:jerrys@mec.com)>  
**Sent:** Wednesday, September 18, 2024 3:19 PM  
**To:** Harris, Anthony, EMNRD <[Anthony.Harris@emnrd.nm.gov](mailto:Anthony.Harris@emnrd.nm.gov)>; Deana Weaver <[dweaver@mec.com](mailto:dweaver@mec.com)>  
**Cc:** Goetze, Phillip, EMNRD <[phillip.goetze@emnrd.nm.gov](mailto:phillip.goetze@emnrd.nm.gov)>; Gebremichael, Million, EMNRD <[Million.Gebremichael@emnrd.nm.gov](mailto:Million.Gebremichael@emnrd.nm.gov)>; Sandoval, Stacy, EMNRD <[Stacy.Sandoval@emnrd.nm.gov](mailto:Stacy.Sandoval@emnrd.nm.gov)>; Chavez, Carl, EMNRD <[Carlj.Chavez@emnrd.nm.gov](mailto:Carlj.Chavez@emnrd.nm.gov)>  
**Subject:** [EXTERNAL] RE: Mack Energy - Manitoba SWD#1: Additional Information required

**CAUTION:** This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Anthony,

I just got off the phone with the Hydrologist in the Roswell BLM office. He is going to help us with the information. We will get that to you soon.

**From:** Harris, Anthony, EMNRD <[Anthony.Harris@emnrd.nm.gov](mailto:Anthony.Harris@emnrd.nm.gov)>  
**Sent:** Wednesday, September 18, 2024 2:48 PM  
**To:** Deana Weaver <[dweaver@mec.com](mailto:dweaver@mec.com)>; Jerry Sherrell <[jerrys@mec.com](mailto:jerrys@mec.com)>  
**Cc:** Goetze, Phillip, EMNRD <[phillip.goetze@emnrd.nm.gov](mailto:phillip.goetze@emnrd.nm.gov)>; Gebremichael, Million, EMNRD <[Million.Gebremichael@emnrd.nm.gov](mailto:Million.Gebremichael@emnrd.nm.gov)>; Sandoval, Stacy, EMNRD <[Stacy.Sandoval@emnrd.nm.gov](mailto:Stacy.Sandoval@emnrd.nm.gov)>; Chavez, Carl, EMNRD <[Carlj.Chavez@emnrd.nm.gov](mailto:Carlj.Chavez@emnrd.nm.gov)>  
**Subject:** RE: Mack Energy - Manitoba SWD#1: Additional Information required

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Good Afternoon, Deana & Jerry

After reviewing the information provided on Sept 17, 2024, the following is noted:

**C-108 Section VIII** - No information was provided for the geologic name and depth to bottom for USDW overlying / underlying the proposed injection interval. Information was provided for a POD, but that does not include any details with respect to depth of USDW. Page 18 of your submission highlights “Roswell Artesian” as a Groundwater basin (see snapshot below). Is Mack referring to this “basin” as the geologic name of the USDW for this area? If so, at what depth does it occur ?

At this time, and based upon the information provided, it is not possible to assess whether your drilling and casing program will adequately protect USDW. Your application cannot be processed further until the requested information is provided. If you require a meeting with OCD representatives to clarify the above items please advise and we will accommodate accordingly.

Snapshot from Page 18 of Sept 17, 2024 submission

cid:image001.jpg@01DB131F.B7D27AA0

Regards

Tony Harris

Petroleum Specialist

[Anthony.harris@emnrd.nm.gov](mailto:Anthony.harris@emnrd.nm.gov)

505 549 8131.



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**From:** Deana Weaver <[dweaver@mec.com](mailto:dweaver@mec.com)>

**Sent:** Tuesday, September 17, 2024 9:38 AM

**To:** Harris, Anthony, EMNRD <[Anthony.Harris@emnrd.nm.gov](mailto:Anthony.Harris@emnrd.nm.gov)>; Jerry Sherrell <[jerrys@mec.com](mailto:jerrys@mec.com)>

**Cc:** Goetze, Phillip, EMNRD <[phillip.goetze@emnrd.nm.gov](mailto:phillip.goetze@emnrd.nm.gov)>; Gebremichael, Million, EMNRD <[Million.Gebremichael@emnrd.nm.gov](mailto:Million.Gebremichael@emnrd.nm.gov)>; Sandoval, Stacy, EMNRD

<[Stacy.Sandoval@emnrd.nm.gov](mailto:Stacy.Sandoval@emnrd.nm.gov)>; Chavez, Carl, EMNRD <[Carlj.Chavez@emnrd.nm.gov](mailto:Carlj.Chavez@emnrd.nm.gov)>

**Subject:** [EXTERNAL] RE: Mack Energy - Manitoba SWD#1: Additional Information required

**CAUTION:** This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Anthony- Attached is the additional information requested below.

Thank you

Deana Weaver  
Regulatory Technician II  
Mack Energy Corporation  
575-748-1288



[illegible]



**PECOS DISTRICT  
DRILLING OPERATIONS  
CONDITIONS OF APPROVAL**

<b>OPERATOR'S NAME:</b>	<b>Mack Energy Corporation</b>
<b>LEASE NO.:</b>	<b>NMNM-138832</b>
<b>WELL NAME &amp; NO.:</b>	<b>Manitoba SWD 1</b>
<b>SURFACE HOLE FOOTAGE:</b>	<b>1668' FSL &amp; 1980' FEL</b>
<b>LOCATION:</b>	<b>Section 23, T. 15 S., R 29 E., NMPM</b>
<b>COUNTY:</b>	<b>Chaves County, New Mexico</b>

The Gamma Ray and Neutron well logs must be run from total depth to surface and e-mailed to Chris Bolen at [aknapowski@blm.gov](mailto:aknapowski@blm.gov) or hard copy mailed to 2909 West Second Street Roswell, NM 88201 to his attention.

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ **Chaves and Roosevelt Counties**

Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.

During office hours call (575) 627-0272.

After hours call (575) 627-0205.

**A. Hydrogen Sulfide**

1. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet 43 CFR part 3170 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.



4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

## **B. CASING**

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

### **Wait on cement (WOC) for Water Basin:**

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

### **High Cave/Karst**

Possibility of water flows in the Rustler, Queen, Salado, and Artesia Group.

Possibility of lost circulation in the Rustler, Artesia Group, and San Andres.

1. The **13-3/8 inch** surface casing shall be set at approximately **380 feet** (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8 inch** intermediate casing is:  
☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.  
**Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.**
3. The minimum required fill of cement behind the **7 inch** production casing is:  
☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.
4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

## C. PRESSURE CONTROL

1. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi. 5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**
2. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer.**
  - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
  - d. The results of the test shall be reported to the appropriate BLM office.
  - e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
  - f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

#### **D. WELL COMPLETION**

**A NOI sundry with the completion procedure for this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion proposal will allow the operator to:**

- 1. Properly evaluate the injection zone utilizing open hole logs, swab testing and/or any other method to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation shall be reviewed by the BLM prior to injection commencing.**
- 2. Restrict the injection fluid to the approved formation.**

**If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval .**

#### **E. WASTE MATERIAL AND FLUIDS**

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

**JAM 03262024**

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 395037

CONDITIONS

Operator:  MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID:  13837
	Action Number:  395037
	Action Type: [IM-SD] Admin Order Support Doc (ENG) (IM-AAO)

CONDITIONS

Created By	Condition	Condition Date
anthony.harris	None	10/23/2024