

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION DIVISION
FOR THE PURPOSE OF CONSIDERING:**

AUG 16 2019 PM 2:36

**CASE NO. 20313
Consolidated for purposes of hearing with**

**APPLICATION OF MESQUITE SWD INC. FOR APPROVAL OF A PRODUCED
WATER DISPOSAL WELL IN EDDY COUNTY, NEW MEXICO.**

**CASE NO. 20314
Consolidated for purposes of hearing with**

**APPLICATION OF MESQUITE SWD INC. FOR APPROVAL OF A PRODUCED
WATER DISPOSAL WELL IN EDDY COUNTY, NEW MEXICO.**

CASE NO. 20472

**APPLICATION OF MESQUITE SWD INC. FOR APPROVAL OF A PRODUCED
WATER DISPOSAL WELL IN EDDY COUNTY, NEW MEXICO.**

OIL CONSERVATION DIVISION'S FINDINGS OF FACT

The New Mexico Oil Conservation Division (Division) hereby submits its Finding of Facts in the three consolidated cases for approval of authority to inject in which Mesquite SWD Inc. is the sole Applicant.

1. In Case No. 20472, Applicant seeks authority for its Baker SWD Well No. 1 to inject up to 40,000 barrels of produced water per day (BWPD) into the Silurian-Devonian formations at a depth interval from approximately 17,300 feet to 18,500 feet below surface at a surface location 330 feet from the South line and 309 feet from the West line (Unit M) in Section 1, Township 26 South, Range 31 East, NMPM, in Eddy County, New Mexico.

2. In Case No. 20313, Applicant seeks authority for its Laguna Salada 13 SWD Well No. 1 to inject up to 40,000 BWPD into the Silurian-Devonian formations at a depth interval from approximately 14,500 feet to 15,700 feet below at a surface location 685 feet from the South line and 50 feet from the East line (Unit P) in Section 13, Township 23 South, Range 28 East, NMPM, in Eddy County, New Mexico.

3. In Case No. 20314, Applicant seeks authority for its Laguna Salada 19 SWD Well No. 1 to inject up to 40,000 BWPD into the Silurian-Devonian formations at a depth interval from approximately 14,500 feet to 15,700 feet below surface at a surface location 1752 feet from the South line and 1727 feet from the East line (Unit J) in Section 19, Township 23 South, Range 29 East, NMPM, in Eddy County, New Mexico.

4. Applicant proposes all three wells as commercial operations for disposal of produced water from multiple production sources.

5. The Division opposed the approval for the authority to inject for each proposed well due to the proximity within 1.5 miles of existing Devonian disposal wells with capacities potentially to be greater than 20,000 BWPD.

6. The Division offered through its expert evidence and testimony regarding the underground injection control program in New Mexico, the recent recognition of injection-induced seismicity, the current status of similar programs in adjacent states with induced-seismic events, and the record of seismic activity in New Mexico including the injection-induced events identified at the Dagger Draw Field.

7. The Division offered information contained in testimony and exhibits of earlier cases heard before Division concerning high-volume Devonian disposal wells that included site-

specific evaluations for induced-seismicity risk and the performance of the injection interval over the proposed life of the disposal well.

8. The Division stated in testimony that the practice of applying a minimum distance between high-volume Devonian disposal wells was derived from guidance put forward in the Environment Protection Agency's (EPA) *Minimizing and Managing Potential Impacts of Injection-Induced Seismicity from Class II Disposal Wells: Practical Approaches* (2015) and the information contained in Division cases.

9. The Division stated that the use of a 1.5-mile distance between high-volume Devonian disposal wells was a temporary guidance accepted by the Division's management in place at the time to address the substantial increase in administrative applications for these type of disposal wells.

10. Applicant offered expert testimony and evidence specific to each proposed well that described the geology, reservoir characteristics, and assessment of induced-seismicity risk. This evidence included the use of models accepted by industry and academia and interpretations of subsurface data in the vicinity of each proposed well.

11. Applicant's expert on stratigraphy presented testimony including an evaluation of the lower confining layer composed of Ordovician-aged rocks. This testimony characterized the potential for injected fluids to migrate deeper was low; however, this interpretation was based on the extrapolation of a limited set of subsurface data points located at distance from the proposed Devonian wells.

12. Applicant's expert on reservoir characteristics presented testimony that the injection interval could accept injected fluids with low potential of inference and an acceptable increase in the reservoir pressure when using the estimated volumes for the proposed Devonian

disposal wells along with available data for those existing Devonian disposal wells in proximity. However, this expert also noted that these models were based on reservoir parameters which included assumptions and that the models did not evaluate the impact of future Devonian disposal wells being added to the same area of the proposed wells.

13. The Division does not support the approval of the three proposed high-volume Devonian disposal wells at the locations found in the applications while concerns remain regarding the quality of the delineation and characteristics for the lower confining layer and the overall impacts on the capacity of the selected disposal interval, Devonian and Silurian formations, should additional disposal wells be drilled at even closer surface locations.

14. Therefore, the Division remains opposed, at this time, to the approval for the authority to inject for the three high-volume Devonian disposal wells at the proposed locations without limitations or monitoring to provide the Division the ability to satisfy its obligations for oversight as sanctioned through its primacy agreement with the EPA.

Respectfully submitted,



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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing pleading was served upon the following by email on August 16, 2019.

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