

**STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
SUPERVISOR OF WELLS**

IN THE MATTER OF

THE PETITION OF LAMBDA ENERGY RESOURCES,)
LLC, FOR AN ORDER FROM THE SUPERVISOR OF)
WELLS AUTHORIZING AN INCREASED UNIT)
ALLOWABLE AS AN EXCEPTION TO SPECIAL) ORDER NO. 02-2021
ORDER 1-73, FOR THE FRED 16A UNIT IN SECTIONS)
16 AND 17, FREDERIC TOWNSHIP, CRAWFORD)
COUNTY, MICHIGAN.)

ORDER OF DETERMINATION

This case involves the Petition of Lambda Energy Resources, LLC (Petitioner) for an Order from the Supervisor of Wells (Supervisor) to increase the amount of oil and gas it may produce each day from the existing State Frederic 3-16 well (PN 61483) and the proposed State Frederic 4-16 HD1 well to 900 barrels of oil per day (BOPD) and/or 1,350 thousand cubic feet of gas per day (MCFD) cumulatively. The State Frederic 3-16 well was drilled in May 2021, on a 160-acre voluntary pooled R 324.303 unit. The Petitioner has formed a larger 240-acre voluntary unit pursuant to R 324.303 and has applied for a permit to drill the proposed State Frederic 4-16 HD1 well on the expanded unit. Under Special Order No. 1-73 (S.O. 1-73), the Petitioner would be limited to producing not more than 300 BOPD and 450 MCFD of gas from each of the unit wells. The new 240-acre unit consists of the Northwest quarter (NW ¼) of Section 16, and the East half of the Northeast quarter (E ½ NE ¼) of Section 17, T28N, R4W, Frederic Township, Crawford County, Michigan.

JURISDICTION

The development of oil and gas in this state is regulated under Part 615, Supervisor of Wells, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, MCL 324.61501 *et seq.* The purpose of Part 615 is to ensure the orderly development and production of the oil and gas resources of this State. MCL 324.61502. To that end, the Supervisor

may fix the total allowable production for any oil or gas field or pool in the State, and establish the allowable production for each well in the field or pool in order to prevent premature abandonment of the wells in the field or pool. MCL 324.61512. However, a permittee of a well who believes the existing proration allowable will not aid in the prevention of waste may petition the Supervisor for a change in a unit or field allowable and the Supervisor shall schedule a meeting to consider the petition. 1996 AACRS, R 324.611. A meeting on this matter was held on October 13, 2021.

FINDINGS OF FACT

The Petitioner seeks an increase in the oil and gas allowable for the 240-acre Fred 16A Unit. This unit will consist of two wells: the State Frederic 3-16 well and the proposed State Frederic 4-16 HD1 well. The Petitioner requests that the standard well allowable of 300 BOPD and/or 450 MCFD of gas pursuant to S.O. 1-73 be increased to a Unit allowable of 900 BOPD and 1,350 MCFD of gas.

The Supervisor determined that the Notice of Meeting was properly served and published. No answers contesting the Petition were filed, and the Supervisor determined an Order would be issued administratively following review and evaluation of the data presented. In support of its case, the Petitioner was represented at the meeting by Joseph Durio, Vice President of Land, Jason Ewing, Chief Development Officer, and Jacob Dunston, Senior Geologist for Petitioner.

Mr. Ewing stated that the State Frederic 3-16 well (PN 61483) was drilled as the discovery well for the Fred 16A Unit, completed in the Brown Niagaran formation in May 2021, and had initial production of 400 BOPD and has averaged approximately 225 BOPD in the last month. It is Petitioner's opinion that the Fred 16A Unit can be effectively and efficiently developed with the two wells described herein, Petitioner proposes drilling a horizontal well, the State Frederic 4-16 HD1 well. This well will penetrate approximately 1,500 feet of reef along the lateral segment of the wellbore resulting in six times more exposure to the producing formation and correspondingly higher production than a vertical well like the State Frederic 3-16 well. Mr. Ewing presented

evidence that drilling a horizontal well early in the production of the reef will allow more oil to be produced while delaying a drawdown of the gas pressure in the reef.

The surface hole location of the 4-16 HD1 well will be about 100 feet West of the surface hole location of the existing State Frederic & Fisher 2-16 well (PN 33421), which is completed in the adjacent Fred 16 reef to the Southeast. The 4-16 HD1 well is designed to penetrate the East and Northwest flank of the Fred 16A reef. Petitioner established that the 4-16 HD1 well will not impact the Fred 16 reef as it will be directionally drilled away from the Fred 16 reef with the well-defined three-dimensional seismic indicating the A1 Carbonate (Ruff Formation) penetration in the Fred 16A reef being about 1,150 feet away from the surface projection of the Fred 16 reef. Further, Petitioner established based on pressure readings that there is no communication between the Fred 16 reef and the Fred 16A reef, and Petitioner's recent seismic studies also confirm that the Fred 16 reef and Fred 16A reef are two separate and distinct reefs.

Mr. Ewing's presentation detailed Lambda's drilling plan for the 4-16 HD1 well as a highly directional well that will intersect the Brown Niagaran formation near the bottom of the oil column above the oil-water contact to allow the gas to oil ratio (GOR) to remain as low as possible for as long as possible. It is Mr. Ewing's opinion that an oil and gas production limit of 300 BOPD and/or 450 MCFD of gas from each well within the 240-acre unit would result in waste, and that an increase in the total unit allowable is needed to justify the economic expense of additional drilling and to protect the reservoir energy in this reef. It is Petitioner's opinion that its drilling and development plan and a higher unit allowable for the Fred 16A Unit will increase the ultimate recovery of oil and gas from the reservoir.

Based on the foregoing, I find, as a Matter of Fact, that a standard oil and gas well allowable under S.O. 1-73 for the two wells in the Fred 16A Unit would permit waste to occur. I find that an increase of the oil and gas allowable for the State Frederic 3-16 well and the State Frederic 4-16 HD1 wells to 900 BOPD and 1,350 MCFD of gas (cumulatively) as a Unit allowable is reasonable.

CONCLUSIONS OF LAW

Based on the Findings of Fact, I conclude, as a matter of law:

1. The Supervisor may limit the amount of oil or gas produced to prevent waste and prevent the premature abandonment of the wells. MCL 324.61512 and S.O.1-73.
2. This order is necessary to make a change in the field allowable established in S.O. 1-73. 1996 AACCS, R 324.611 and S.O. 1-73.
3. The Supervisor has jurisdiction over the subject matter and the persons interested therein.
4. Due notice of the time, place and purpose of the meeting was given as requested by law and all interested persons were afforded an opportunity to be heard. 1996 AACCS. R 324.611 and 324.1204.

DETERMINATION AND ORDER

Based on the Findings of Fact and the Conclusions of Law, the Supervisor of Wells determines that increasing the oil and gas allowable for the State Frederic 3-16 and the State Frederic 4-16 HD1 wells (the Fred 16A Unit) will prevent waste.

NOW, THEREFORE, IT IS ORDERED:

1. The proration provisions of S.O. 1-73, as they apply to oil and gas production in the State Frederic 3-16 and the State Frederic 4-16 HD1 wells (the Fred 16A Unit), are hereby abrogated and changed to 900 BOPD and 1,350 MCFD of gas as a unit allowable and in accordance with the provision stated in 2. below.
2. The State Frederic 3-16 well shall remain limited to the 300 BOPD and 450 MCFD of gas allowable, pursuant to S.O. 1-73.

3. Gas to Oil Ratio results from the Fred 16A Unit production shall be provided to Supervisor's authorized representative on a semi-annual basis.
4. The Supervisor of Wells retains jurisdiction in this matter.
5. This Order shall be effective immediately.



November 17, 2021
Dated: _____

ADAM W. WYGANT
ASSISTANT SUPERVISOR OF WELLS
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