

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

IN THE MATTER OF

THE PETITION OF WOLVERINE GAS AND OIL	)	
COMPANY OF MICHIGAN, LLC, FOR AN	)	
EXCEPTION FROM THE SUPERVISOR OF WELLS	)	
TO THE WELL SPACING PATTERN SET BY ORDER	)	
NO. 18-2007, AS AMENDED, ALLOWING A	)	ORDER NO. 12-2022
COMPLETION INTERVAL ON THE BAILEY 17-1 HD1	)	
WELL LESS THAN 330' FROM A DRILLING UNIT	)	
LINE IN CLIMAX TOWNSHIP, KALAMAZOO	)	
COUNTY, MICHIGAN.	)	

**OPINION AND ORDER**

This case involves the Petition of Wolverine Gas and Oil Company of Michigan LLC (“Petitioner”) to complete, test and produce the Bailey 17-1 HD1 well from an interval between 278 feet and 300 feet from the existing east drilling unit boundary in the stratigraphic interval known as the Trenton-Black River Formation, as an exception to the spacing pattern set by Order No. 18-2007, as amended. The 80-acre drilling unit for the Bailey 17-1 HD1 well, formed pursuant Order 04-2021, consists of the W/2 of SW/4 of Section 17, Township 3 South, Range 9 West, Climax Township, Kalamazoo 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. The spacing and location of Trenton-Black River Formation wells in Kalamazoo County is governed by Order 18-2007, as amended. According to Order No. 18-2007, the producing interval is required to be not less than 330 feet from the drilling unit boundaries. Administrative Rule 324.301(4)(a) provides that the Supervisor may grant an exception to the location and spacing of wells if the Supervisor considers that all owners are afforded

the opportunity to produce their just and equitable share of the oil and gas from the reservoir, and waste is prevented, after an evidentiary hearing pursuant to Part 12 of the administrative rules. The evidentiary hearing process is governed by the applicable provisions of the Administrative Procedures Act, 1969 PA 306, as amended, MCL 24.201 *et seq.* See 1996 AACCS, R 324.1203. The evidentiary hearing in this matter was set for December 21, 2022.

### **FINDINGS OF FACT**

The Petitioner requests that the Supervisor grant an exception to the Order No. 18-2007, as amended, authorizing the Petitioner to be complete, test, and produce the Bailey 17-1 HD1 from an interval between 278 feet and (300 feet) from the East drilling unit line, as an exception to the spacing pattern for wells set by the order. Under Order No. 18-2007, the drilling unit setback line for a Trenton well in Section 17 of Climax Township would normally be 330 feet.

The Supervisor determined that the Notice of Hearing was properly served and published. No answers to the Petition were filed, therefore the Petitioner is the only party to this case. The Supervisor designated the hearing to be an uncontested evidentiary hearing pursuant to R 324.1205(1)(c) and directed evidence be presented in the form of verified statements pursuant to R 324.1205(2). In support of its case, the Petitioner offered the verified statements of Justin Reuter, Geophysicist for the Petitioner, and Richard Moritz, Vice President of Land for the Petitioner.

Mr. Moritz testified that the Petitioner is the operator of the Bailey 17-1 HD1 and owns or controls the lessee's interest in all the oil and gas leases covering 77.2 net mineral acres of the oil and gas interest within the 80-acre drilling unit of the Bailey 17-1 HD1. The remaining 2.8 acres were statutorily pooled pursuant to Order No. 04-2021. The Bailey 17-1 HD1 well was successfully completed as a commercial well in the Trenton-Black River Formation.

Mr. Moritz further testified that the surface location of the Bailey 17-1 HD1 well is located to the East of the Bailey 17-1 HD1 drilling unit, in the SW/4 of the SE/4 of the SW/4 of Section 17, Township 3 South, Range 9 West, Climax Township, Kalamazoo County, Michigan, which is part of the Myers 20-1 HD1 200-acre R303 drilling unit. The

Petitioner is also the operator of the Myers 20 -1 HD1 well and owns or controls the lessee's interest in all the oil and gas leases within the 200-acre R303 drilling unit of the Myers 20-1 HD1 well. The Myers 20-1 HD1 well was also successfully completed as a commercial well in the Trenton-Black River Formation. Mr. Moritz sponsored Exhibit A as maps showing both the 80-acre drilling unit for the Bailey 17-1 HD1 well and the 200-acre R 303 drilling unit for the Myers 20-1 HD1 well.

Mr. Moritz testified that the Bailey lease granted to the Petitioner covers not just the area outside the East hardline of the Bailey 17-1 HD1 well drilling unit in which the Petitioner proposes to complete, test, and produce the additional interval, but also the 40 adjacent acres to the East of the Bailey 17-1 HD1 drilling unit line in the Myers 20-1 HD1 well drilling unit. He sponsored Exhibit C, a copy of the Bailey lease.

Mr. Reuter testified that the bottom hole location of the Bailey 17-1 HD1 well is located 318 feet from the North line and 498 feet from the East line in the Bailey 17-1 HD1 well 80-acre drilling unit. All current completion intervals of the Bailey 17-1 HD1 well are within the hardlines, with the base of the last perforation of the lower completion interval located 336 feet from the North line. Mr. Reuter testified that during drilling operations for the lateral borehole of the Bailey 17-1 HD1 well, the Petitioner encountered oil shows in an apparent pay zone within the drilling unit line for the Bailey 17-1 HD1 well, but outside the 330 feet East hardline. Due to the location of the oil shows outside the East hardline, the Petitioner did not complete or test the apparent pay interval outside the 330 feet East hardline.

Mr. Reuter testified that although the Bailey 17-1 HD1 well was successfully completed as a commercial well at several intervals within the hardlines of the Bailey 17-1 HD1 well, that due to the nature of the producing trends and permeability barriers within the Trenton-Black River Formation, the well is not currently capable of producing the interval between the drilling unit line and the East hardline of the drilling unit. He further testified that the Myers 20-1 HD1 well is also not capable of producing the interval between the drilling unit line and the East hardline of the Bailey 17-1 HD1 well drilling unit.

In Mr. Reuter's testimony, he provided the following statement:

The Trenton-Black River formation was deposited as a limestone. This limestone, in its unaltered state, acts as a fluid barrier or seal as it lacks the requisite porosity and permeability to serve as a reservoir or fluid transfer medium. Faulting and hot fluids stemming from deeper in the subsurface can alter the host limestone rock to create dolomite proximal to faulting. Faulting serves as the pathway for the dolomitizing fluids to come in contact with the host limestone rock. Dolomite has a greater capacity to serve as reservoir rock. It is the formation of porous and permeable dolomite within the host limestone that creates the trap and reservoir. The host limestone serves as the lateral fluid seal and the overlying impermeable Utica Shale serves as the top fluid seal. Since reservoir quality dolomite formation in the Trenton-Black River only occurs proximal to fault trends, we can predict dolomite (potential producing trends) and limestone (permeability barriers) by using 3D seismic data to identify these fault trends.

Mr. Reuter testified that the Petitioner does not observe faulting (producing trend) on 3D seismic data that would connect the oil shows outside the East hardline of the Bailey 17-1 drilling unit with the Myers 20-1 HD1 well, and that he believes that there is no communication between this portion of the Bailey 17-1 HD1 well and the Myers 20-1 HD1 well. Consequently, Mr. Reuter further testified that the proposed completion interval is necessary to capture hydrocarbons that will not otherwise be drained by any existing well, and the operation proposed is feasible, will prevent waste, and will protect correlative rights. Mr. Reuter sponsored Exhibit E showing the Bailey 17-1 HD1 well production and testing history and noted that the drilling unit is currently producing an average of 136 BOPD from the production intervals within the unit hardlines.

Based on the testimony, I find that the proposed completion operation is feasible, will prevent waste, and will not likely cause interference with the Myers 20-1 HD1 well. Any hydrocarbons within the proposed sub-330 feet completion interval will not otherwise be drained unless the proposed operation is approved due to the nature of the producing trends and permeability barriers in the Trenton-Black River Formation previously discussed.

Supervisor of Wells Order No. 18-2007 established proration allowables for a standard 40-acre drilling unit in the Trenton-Black River Formation at 200 barrels of oil per day (BOPD) and/or 200 thousand cubic feet gas per day (MCFGPD). The proration

allowables for the Bailey 17-1 HD1 80-acre drilling unit are also established at 200 BOPD and/or 200 MCFGPD.

The purpose of proration allowables and proration penalties is to protect correlative rights and assure that all who own minerals are allowed to recover their fair share if it can be done without waste or uncompensated drainage. I find that those issues are not present here because the proposed additional completion interval is not in a common pool with existing completion intervals within the Bailey 17-1 HD1 80-acre drilling unit, nor with the completion intervals within Myers 20-1 HD1 200-acre R303 drilling unit. Further, I find that the correlative rights of mineral owners under the fair share principle are fully protected because the Petitioner is the operator of both the Bailey 17-1 HD1 well drilling unit and the Myers 20-1 HD1 well drilling unit, and the Bailey lease, which the Petitioner owns, covers the interval outside the East hardline and the 40 acres to the East of the Bailey 17-1 HD1 well drilling unit East unit line.

#### **CONCLUSIONS OF LAW**

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

1. Spacing and setback requirements for wells drilled in Kalamazoo County to the Trenton/Black River Formation is set by Order No. 18-2007, as amended. Exceptions to Order No. 18-2007 may be granted by the Supervisor after a hearing.

2. The completed Bailey 17-1 HD1 well discovered an interval deemed to be producible, being between 278 feet and 300 feet from the East drilling unit line, which does not comply with Order No. 18-2007; that the producing interval shall be not less than 330 feet from the drilling unit boundary.

3. In order to grant an exception to the location and spacing of wells, the Supervisor must determine that the well's location will ensure that the owners shall be afforded the opportunity to produce their just and equitable share of the oil and gas from the reservoir and to prevent waste. 2015 AACS R 324.301(4)(a).

4. The Petitioner has established that they own the leasehold of the Bailey 17-1 HD1 80-acre drilling unit, and the east-adjacent 200-acre R303 drilling unit for the Myers 20-1 HD1 well. The Bailey lease granted to the Petitioner covers not just the area outside the East hardline of the Bailey 17-1 HD1 drilling unit in which the Petitioner proposes to

complete, test, and produce the sub-330-foot interval, but also the 40-acres adjacent to the East of the Bailey 17-1 HD1 drilling unit, within the Myers 20-1 HD1 200-acre drilling unit.

5. The Supervisor has jurisdiction over the subject matter and the persons interested therein.

6. Due notice of the time, place, and purpose of the hearing was given as required by law and all interested persons were afforded an opportunity to be heard. 2015 AACS, R 324.1204.

### **DETERMINATION AND ORDER**

Based on the Findings of Fact and the Conclusions of Law, the Supervisor determines that an exception to the requirement that the producing interval be not less than 330 feet from the drilling unit boundary established under Part 615 and Order No. 18-2007, as amended, is appropriate for the Bailey 17-1 HD1 well, is protective of correlative rights, and will prevent waste.

#### **NOW, THEREFORE, IT IS ORDERED:**

1. An exception to Order No. 18-2007, as amended, is granted authorizing completion, testing and production of the Bailey 17-1 HD1 well at a producing well interval between 278 feet and 300 feet from the East unit line of the Bailey 17-1 HD1 drilling unit.

2. The proration allowables for the Bailey 17-1 HD1 80-acre drilling unit shall remain set, as permitted, at 200 BOPD and 200 MCFGPD.

3. The Supervisor retains jurisdiction in this matter.

4. This Order shall be effective immediately.



Dated: 2/1/2023

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