

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

ORDER OF THE SUPERVISOR OF WELLS

IN THE MATTER OF:

THE PETITION OF JORDAN DEVELOPMENT)
COMPANY, L.L.C. FOR AN ORDER FROM THE)
SUPERVISOR OF WELLS FOR AN EXCEPTION TO) ORDER NO. 05-2017
THE NO FLARE ORDER PROVISIONS OF SPECIAL)
ORDER NO. 3-71 IN SPRINGDALE TOWNSHIP,)
MANISTEE COUNTY, MICHIGAN.)

OPINION AND ORDER

This case involves the Petition of Jordan Development Company, L.L.C. (Petitioner) for an exception to the no flare provisions of Special Order No. 3-71, as amended. The Petitioner is the operator of an oil and gas well (State Springdale & Miller 3-14 HD1, Permit Number 57589) completed in the Guelph Dolomite (also known as Brown Niagaran) Formation. The Petitioner represents that the State Springdale & Miller 3-14 HD1 well produces limited volumes of oil, that it does not have an economic gas market connection, and therefore, it would constitute waste to install a pipeline to the nearest gas market connection since the cost would exceed the value of the gas.

Under Special Order No. 3-71, as amended, any Guelph Dolomite well in Manistee County not having a gas market connection shall be closed in until a market connection is achieved or an exception is granted. The Petitioner seeks an Order from the Supervisor of Wells (Supervisor) authorizing it to flare up to 250 thousand cubic feet (MCF) of gas per day, not to exceed 6,000 MCF of gas per month at the State Springdale & Miller 3-14 HD1 well as an exception to Special Order No. 3-71, as amended. The drilling unit for the State Springdale & Miller 3-14 HD1 well consists of the E 1/2 of the NW 1/4 and NW 1/4 of NE 1/4 of Section 14, T24N, R14W, Springdale Township, Manistee 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 foster the orderly development and production of the oil and gas resources of this state while preventing waste. MCL 324.61502. To that end, the Supervisor may issue orders necessary to enforce rules promulgated under Part 615. MCL 324.61506(a). Part 615 provides that a person shall not commit waste in the production of oil or gas. MCL 324.61504. Waste includes the unnecessary or excessive loss of gas. MCL 324.61501. Special Order No. 3-71, as amended, provides for a public hearing upon filing of a petition to resolve factors of exception. The evidentiary hearing is governed by the applicable provisions of the Administrative Procedures Act, 1969 PA 306, as amended, MCL 24.201 *et seq.* See 1996 MR 9, R 324.1203. The evidentiary hearing in this matter was scheduled on November 2, 2017.

FINDINGS OF FACT

The Administrative Law Judge determined the Notice of Hearing was properly served and published. No Answers to the Petition were filed; therefore, the Petitioner is the only party in this matter. 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 written verified statements.

In support of its case, the Petitioner offered the verified statements of Mr. William Quinlan, Professional Engineer, and Mr. Benjamin S. Brower, Chief Operating Officer.

The Petitioner specifically requests that the Supervisor issue an Order that authorizes an exception to the no flare provisions of Special Order No. 3-71, as amended, allowing it to flare up to 250 MCF of gas per day (any 24-hour period) and up to 6,000 MCF per month (any 30-day period) at the State Springdale & Miller 3-14 HD1 well. The Petitioner is the operator of the State Springdale & Miller 3-14 HD1 well, which was completed as an oil and gas well in the Guelph Dolomite Formation.

Mr. Brower testified that the nearest gas market connection to the State Springdale

& Miller 3-14 HD1 well is approximately 3,960 feet away. With the requested exception to the no flare order, the Petitioner believes it can produce oil in commercial quantities and avoid waste. If the Petitioner's request is denied and they are required to establish a gas market connection to the State Springdale & Miller 3-14 HD1 well, it is the opinion of Mr. Brower and Mr. Quinlan that the well cannot be operated economically, requiring the well to be plugged and leaving behind recoverable oil.

In his verified statement and exhibits, Mr. Quinlan stated the State Springdale & Miller 3-14 HD1 well has produced nearly all of its economically recoverable primary reserves, and will not produce sufficient natural gas to pay for the cost of establishing a gas pipeline connection. Mr. Quinlan testified that the costs of a pipeline will exceed the value of the gas likely to be produced.

Mr. Quinlan further testified that in order for the well to be efficiently produced to recover remaining oil reserves, the casing pressure must be reduced to in turn reduce back pressure on the producing formation. In support of this, production testing was conducted on the State Springdale & Miller 3-14 HD1 well, which demonstrated an elevated oil production rate associated with the lowering of the casing pressure, and an increase in the daily volume of produced gas. Testing revealed that reducing the casing back pressure also resulted in a decreased produced gas to oil ratio (GOR), indicating an improved reservoir efficiency in relation to the recovery of oil. In contrast, restricting the flow to maintain a gas rate of 40 MCF per day during the testing resulted in a dramatic drop in oil production associated with a greatly elevated GOR. As such, restricting gas production to 40 MCF per day resulted in very poor reservoir efficiency with respect to the recovery of oil.

Mr. Quinlan stated that flow testing further demonstrated that reducing the casing pressure during production will result in an initially elevated casing gas rate. As such, a flare allowable must be set to provide for the incineration of the initially elevated produced gas associated with the efficient production of oil reserves. Therefore, it is his opinion that a request to flare up to 250 MCF of gas per day (during any 24-hour period) and up to 6,000 MCF of gas per month (during any 30-day period) is warranted. It is forecast that the average daily gas rate produced with this approach will decline with time to an

average rate below the requested daily allowable of 250 MCF per day.

Mr. Brower and Mr. Quinlan testify that the Petitioner will take operational steps to reduce light from its flare facility for the State Springdale & Miller 3-14 HD1 well. If the Petition is granted, the Petitioner will install a flare configuration that will incinerate the gas while concealing the flame within the flare stack.

I find that the Petitioner plans to take adequate measures to reduce light related to flaring of gas at the State Springdale & Miller 3-14 HD1 well. Measures to be taken include installation of a shrouded flare stack of a height sufficient to fully shield light coming from the flare. I further find that flaring of up to 250 MCF per day (any 24-hour period) and up to 6,000 MCF per month (any 30-day period) of gas from the State Springdale & Miller 3-14 HD1 well will not cause waste.

CONCLUSIONS OF LAW

Based on the findings of fact, I conclude, as a matter of law:

1. Exceptions to the no flare provisions of Special Order No. 3-71, as amended, may be granted by the Supervisor after a hearing upon his option or by petition in a contested case.
2. The Supervisor has jurisdiction over the subject matter and the persons interested therein.
3. 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.
1996 MR 9, R 324.1204.

DETERMINATION AND ORDER

Based on the Findings of Fact and Conclusions of Law, the Supervisor determines that the Petitioner's request for an exception to the no flare provisions of Special Order No. 3-71, as amended, is granted for the State Springdale & Miller 3-14 HD1 well.

NOW, THEREFORE, IT IS ORDERED:

1. The Petitioner is granted an exception to the no flare provisions of Special Order No. 3-71, as amended, and is authorized to produce and flare up to 250 MCF per day (any 24-hour period) and up to 6,000 MCF per month (any 30-day period) of gas from the State Springdale & Miller 3-14 HD1 well.

2. The Petitioner shall submit to the Supervisor on a monthly basis, a report of the volume of flared gas, oil and water production, and changes in operation of the waterflood or well status.

3. The Petitioner shall install and maintain a shrouded flare stack for as long as the State Springdale & Miller 3-14 HD1 well continues to produce.

4. The Petitioner shall maintain an automatic shut-off device at the State Springdale & Miller 3-14 HD1 well flare for the purpose of shutting off the gas stream in the event of a flare outage.

5. The Petitioner shall submit the proposed flare location, construction design, and containment system plans to the Cadillac District Office for approval prior to the flaring of any gas. The Supervisor reserves the right to place further restrictions on the flare, including relocation of the flare if noise or light complaints are received.

6. The Supervisor retains jurisdiction in this matter.

7. This Order shall be effective immediately.

DATED: Nov. 21, 2017



HAROLD R. FITCH
ASSISTANT SUPERVISOR OF WELLS
Oil, Gas, and Minerals Division
P.O. Box 30256
Lansing, Michigan 48909-7756