

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY

**ORDER OF THE SUPERVISOR OF WELLS**

IN THE MATTER OF:

THE PETITION OF SAVOY ENERGY, L.P., FOR AN )  
ORDER FROM THE SUPERVISOR OF WELLS )  
APPROVING INCREASED ALLOWABLES SET BY ORDER ) ORDER NO. 13-2014  
NO. 18-2007 FOR THREE WELLS IN THE COLUMBIA 14 )  
TRENTON-BLACK RIVER FIELD LOCATED IN COLUMBIA )  
TOWNSHIP, JACKSON COUNTY, MICHIGAN. )

**OPINION AND ORDER**

This case involves the Petition of Savoy Energy, L.P. (Petitioner) requesting an exception to the production allowables established in Order No. 18-2007, authorizing the Savoy Moore 1-14, Savoy Kimball 2-14, and Savoy Bauer 1-13 wells, comprising the Columbia 14 Trenton-Black River Field, to produce up to 300 barrels of oil per day (BOPD) and/or 400 thousand cubic feet of gas per day (MCFGPD) from the Trenton-Black River Formation. The drilling units are as follows:

Savoy Moore 1-14 well: E 1/2 of NE 1/4 of SW 1/4 and W 1/2 of NW 1/4 of SE 1/4 of Section 14, T4S, R1E, Columbia Township, Jackson County, Michigan (40 acres).

Savoy Kimball 2-14 well: E 1/2 of W 1/2 of SE 1/4 and W 1/2 of E 1/2 of SE 1/4 of Section 14, T4S, R1E, Columbia Township, Jackson County, Michigan (80 acres).

Savoy Bauer 1-13 well: W 1/2 of SW 1/4 of SW 1/4 of Section 13 and E 1/2 of SE 1/4 of SE 1/4 of Section 14, T4S, R1E, Columbia Township, Jackson County, Michigan (40 acres).

**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 (NREPA). 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, with a view to the ultimate recovery of the maximum production of these natural resources. MCL 324.61502. To the end of maximizing recovery, the

Supervisor of Wells (Supervisor) regulates the establishment of drilling units and regulates the daily quantities of oil and natural gas that may be produced.

MCL 324.61513(1) and (2). The evidentiary hearing in this matter 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 held on July 31, 2014.

### **FINDINGS OF FACT**

By Petition received June 4, 2014, the Petitioner requests approval from the Supervisor to increase production above the 200 BOPD and 200 MCFGPD allowables established by Order No. 18-2007 to 300 BOPD and 400 MCFGPD at the three wells identified above, comprising the Columbia 14 Trenton-Black River Field.

The Administrative Law Judge determined the Notice of Hearing was properly served and published. No answers or objections to the Petition were filed with the Supervisor. 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 substantive testimony and evidence be presented in the form of verified statements.

In support of its case, the Petitioner offered the verified statements of Mr. Matthew W. Stachnik, petroleum geologist and geophysicist for the Petitioner; and Mr. Timothy Brock, Brock Engineering, L.L.C., petroleum-engineering consultant.

Mr. Stachnik testified the three wells and their respective producing units comprise the Columbia 14 Trenton-Black River Field, which is located in Columbia Township, Jackson County. Based on his interpretation of certain technical data, Mr. Stachnik testified that he believes the targeted reservoir consists of porous, fractured dolomite within the Trenton-Black River Formations; that the Columbia 14 Reservoir is bounded by near vertical faulting, beyond which the lithology is nearly impermeable regional limestone; that the surrounding limestone creates a lateral seal to the reservoir; and that he interprets the Columbia 14 Field to be comprised of one common and continuous reservoir (Exhibit 2).

Mr. Stachnik testified that he reviewed and analyzed a 3D seismic survey of the acreage comprising the units and the surrounding area in the process of outlining the extent of the Trenton-Black River reservoir comprising the Columbia 14 Field. (Exhibits 1-A, 1-B, 1-C, and 2 to Mr. Stachnik's verified statement) It is Mr. Stachnik's opinion that at least three separate 40 acre tracts located outside of and adjacent to the original drilling units (but within the expanded producing units) for the wells are underlain by producible Trenton-Black River reservoir at a drillable location, and that each of those separate 40 acre tracts are being drained by, and are contributing oil and/or gas production to, the currently producing wells and units.

Mr. Stachnik also testified that there are no offset wells located within 1,320 feet of the producing units for the wells that could be adversely affected by the granting of the relief requested by the Petitioner in this case, and that neither the gas/oil ratio (GOR) nor the reservoir energy will be adversely affected or wasted by producing the wells at the higher rate of production requested by Petitioner (300 BOPD and/or 400 MCFGPD).

With his analysis of a computer processed log cross section of the three wells, Mr. Brock offered testimony regarding the increased porosity and dolomitization of the limestone host rock in the reservoir. He noted that the perforation intervals for each of the wells confirm a completion of each well as low in the depth column as is practicable, a fact, which will maximize oil recovery as a secondary gas cap later develops in the productive life of the reservoir. He further noted that the dolomitization is prevalent in the Black River Formation, which is also where the majority of the reserves in the reservoir are situated. (Exhibit 3)

Mr. Brock testified that his examination and review of a plot showing bottom hole pressure measured in the three wells versus time shows that all three wells are completed in and producing from a common reservoir, a finding that corroborates Mr. Stachnik's evaluation (Exhibit 4). Mr. Brock also testified that his analysis of the bottom hole pressures shown on Exhibit 4 plotted against cumulative oil production from the three wells over time demonstrates that the reservoir contains a significant oil accumulation that is likely to have sufficient reserves to produce for an extended period

of time. (Exhibit 5).

Mr. Brock's testimony included a description of the production test that was authorized by the Department of Environmental Quality's Office of Oil, Gas, and Minerals, and conducted between March 1, 2014 and April 30, 2014. (Exhibit 6). Mr. Brock testified that the test results, as to each of the three wells, at increased production rates approaching 300 BOPD showed that the GOR was reasonably stable at each of the increased production rates throughout the test, and that they thus do not exhibit a sensitivity to a changing GOR at the elevated oil producing rates seen during the test. Mr. Brock concluded that each of the wells can be produced at a rate of 300 BOPD without harm to the reservoir and that the proposed increase in the gas allowable production rate of 400 MCFGPD will enhance the efficient and economic depletion of the reservoir without harm.

Mr. Brock further testified that the increased allowable production rates requested by the Petitioner would protect the correlative rights of the owners of underlain but undrilled acreage within the existing Units; that there are no offset wells or units in the area that could be affected by such increased rates; and that, accordingly, there are no correlative rights of any other owners that could be adversely affected by the increased allowable production rates for the Wells requested by the Petitioner.

Mr. Brock agrees with Mr. Stachnik that there are at least three separate 40 acre tracts containing additional drillable locations outside of the original drilling units (but within the area comprising the expanded producing Units). However, Mr. Brock indicated that the reservoir is being efficiently and economically drained by the three existing wells, and that their demonstrated capacity to produce at the higher rates requested by the Petitioner here led him to conclude that the maximum recovery from the reservoir can be achieved with those higher production rates and without the drilling of any additional and unnecessary wells. In fact, given the data now available, Mr. Brock concluded that the drilling of any additional wells in the Columbia 14 Field is not warranted at this time and that, in fact, waste would occur if such wells were to be drilled.

In his testimony, Mr. Stachnik observed that, inasmuch as there are at least three separate 40 acre tracts within the existing Units that are underlain by producible reservoir and contain drillable locations, the Petitioner and the other owners of interests within those Units would be penalized in the absence of an order of the Supervisor granting the increased allowable production rates requested by the Petitioner here. Mr. Stachnik testified that the correlative rights of the Petitioner and such other owners would not be protected, and avoidable waste in the form of unnecessary wells would ensue, in the absence of such an order. Mr. Stachnik further testified that the Petitioner would be entitled to a full allowable production rate for each new well if it were to drill additional (and unnecessary) wells on each of the three separate 40 acre drillable tracts described in Mr. Stachnik's Verified Statement and shown on Exhibits 1-A, 1-B, and 1-C.

I find, as a Matter of Fact, that the increased allowable production rates for the Savoy Moore 1-14, Savoy Kimball 2-14, and Savoy Bauer 1-13 wells will protect the correlative rights of owners within the producing units and not adversely affect the correlative rights of owners in offsetting units. I find that, based on the testimony and exhibits presented, an increased allowable rate of 300 BOPD and 400 MCFGPD for each of the three wells is reasonable and appropriate.

### **CONCLUSIONS OF LAW**

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

1. Exceptions to Order No. 18-2007 may be granted by the Supervisor after notice and hearing.
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 increasing the gas and/or oil production allowable for the Savoy Moore 1-14, Savoy Kimball 2-14, and Savoy Bauer 1-13 wells will not result in waste.

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

1. The Petitioner is authorized to produce the Savoy Moore 1-14, Savoy Kimball 2-14, and Savoy Bauer 1-13 wells at a rate of 300 BOPD and 400 MCFGPD as an exception to Order No. 18-2007.
2. All other provisions of Order No. 18-2007 shall remain in effect.
3. The Supervisor retains jurisdiction in this matter.
4. This Order shall be effective immediately.

DATED: Oct. 2, 2014

  
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