

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

ORDER OF THE SUPERVISOR OF WELLS

IN THE MATTER OF:

THE PETITION OF TRENDWELL ENERGY CORPORATION,)
FOR AN ORDER FROM THE SUPERVISOR OF WELLS)
DISSOLVING A 160-ACRE DRILLING UNIT AND FORMING)
A 80-ACRE TRENTON BLACK RIVER FORMATION) CAUSE NO. 04-2015
DRILLING UNIT BY STATUTORILY POOLING ALL)
INTERESTS INTO THE DRILLING UNIT IN SUMMERFIELD)
TOWNSHIP, MONROE COUNTY, MICHIGAN.)

OPINION AND ORDER

This case involves the Petition of Trendwell Energy Corporation (Petitioner), to drill and complete a well for oil and gas exploration (the Secor D4-18A HD2) within a drilling unit in the stratigraphic interval known as the Trenton-Black River Formations. The Petitioner is requesting dissolution of an existing 160-acre drilling unit and creation of an 80-acre drilling unit for the Secor D4-18A HD2 well as an exception to the 40-acre drilling unit size established by Supervisor's Order No. 18-2007. The proposed unit consists of the S 1/2 of SE 1/4 of Section 18, T7S, R6E, Summerfield Township, Monroe County, Michigan. Since not all of the mineral owners within the proposed drilling unit have agreed to voluntarily pool their interests, the Petitioner also seeks an Order of the Supervisor of Wells (Supervisor) designating the Petitioner as Operator of the proposed 80-acre drilling unit and requiring statutory pooling of all tracts and interests within that geographic area for which the owners have not agreed to voluntary pooling.

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, Michigan Compiled Laws 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 establish drilling units and statutorily pool mineral interests within said units. MCL 324.61513(2) and (4). However, the formation of drilling units by statutory pooling of interests can only be effectuated after an evidentiary hearing. 1996 AACCS, R 324.302, and R 324.304. 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 AACCS, R 324.1203. The evidentiary hearing in this matter was held on October 2, 2015.

FINDINGS OF FACT

The Petitioner specifically requests that the Supervisor issue an Order that:

1. Dissolves the 160-acre Secor D4-18A HD1 drilling unit approved under R 324.303(2) and consisting of the E 1/2 of SE 1/4, NW 1/4 of SE 1/4, N 1/2 of SW 1/4 of SE 1/4, and S 1/2 of SW 1/4 of NE 1/4, Section 18, T7S, R6E, Summerfield Township, Monroe County.
2. Grants an exception to the drilling unit size established by Supervisor's Order No. 18-2007 by establishing an 80-acre drilling unit for the proposed Secor D4-18A HD2 well consisting of the S 1/2 of SE 1/4 of Section 18, T7S, R6E, Summerfield Township, Monroe County, Michigan.
3. Requires statutory pooling of all tracts and mineral interests within the proposed drilling unit that have not agreed to voluntary pooling.
4. Names the Petitioner as Operator of the Secor D4-18A HD2 well.
5. Authorizes the Petitioner to recover certain costs and other additional compensation from the parties subject to the statutory pooling order.

The Administrative Law Judge determined that the Notice of Hearing was properly served and published. No answers to the Petition were filed, therefore 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. Kevin Hackert, Independent Petroleum

Landman; Mr. David R. Heinz, Vice President Exploration, Trendwell Energy Corporation (petroleum geology); and Mr. Richard Sandtveit, Vice President Engineering, Trendwell Energy Corporation (petroleum engineering). Upon the Supervisor's request, Mr. Sandtveit also submitted a supplemental verified statement.

I. Drilling Unit

The spacing of wells in Monroe County targeting the Trenton-Black River Formation is governed by Supervisor's Order No. 18-2007. This Order establishes 40-acre drilling units, more or less, in the form of a square, assembled by combining two 20-acre parcels, each of which consist of the north and south, or east and west halves of a quarter-quarter section or of adjacent quarter-quarter sections. Under Order No. 18-2007, it is presumed that one well will efficiently and economically drain the 40-acre drilling unit of hydrocarbons. The Petitioner proposes to drill the Secor D4-18A HD2 as a lateral well in the 80-acre drilling unit described as the S 1/2 of SE 1/4 Section 18, T7S, R6E, Summerfield Township, Monroe County, Michigan.

Petitioner drilled the Secor D4-18A HD1 well within a 160-acre drilling unit approved by the Supervisor under R 324.303(2). The drilling unit consists of the E 1/2 of SE 1/4, NW 1/4 of SE 1/4, N 1/2 of SW 1/4 of SE 1/4, and S 1/2 of SW 1/4 of NE 1/4, Section 18, T7S, R6E, Summerfield Township, Monroe County, Michigan. Mr. Sandtveit's verified statement indicates the productive portion of the wellbore of the Secor D4-18A HD1 well lies entirely within the proposed 80-acre drilling unit. Due to the decline in production and the low bottomhole pressure in that well, the Petitioner has stopped production from that well and requests dissolution of the 160-acre drilling unit.

Based on seismic analysis, it is Mr. Sandtveit's opinion that a potential Trenton reservoir separate from the reservoir penetrated by the Secor D4-18A HD1 well has been identified within the proposed 80-acre drilling unit. Petitioner plans to install a bridge plug in the Secor D4-18A HD1 wellbore, and then will reenter that well to drill a new horizontal well to test the newly inferred reservoir.

Mr. Heinz examined a Trenton time structure map (Exhibit B) and Trenton

lithology diagram (Exhibit C), based on 3D seismic, combined with well control, historic production data, and reservoir pressure data, to determine the best reservoir quality dolomite is found on the flanks of Trenton Formation graben or “sags” within the bounding faults. It is Mr. Heinz’s opinion that there are anomalous conditions in the Trenton Formation within the proposed drilling unit that are indicative of a Trenton reservoir and that the proposed 80-acre unit is substantially underlain by the inferred Trenton reservoir.

It is the Petitioner’s opinion that the proposed exception to Order No. 18-2007 will minimize surface impacts by minimizing the number of wells drilled.

I find that the 160-acre drilling unit for the Secor D4-18A HD1 well shall be dissolved and formation of the proposed 80-acre drilling unit, as an exception to Order No. 18-2007, will prevent waste and protect correlative rights and, as such, is approved for the proposed Secor D4-18A HD2 well.

II. Drilling Unit Operator

Mr. Hackert’s verified statement indicates that the Petitioner owns oil and gas leases covering all but approximately 1.51 net acres in the proposed 80-acre drilling unit. Given this, the Petitioner seeks to be designated as the Operator of the Secor D4-18A HD2 well. I find, as a Matter of Fact, the Petitioner is eligible to be designated Operator of the Secor D4-18A HD2 well.

III. Statutory Pooling

The Petitioner was unable to obtain the agreement of all mineral owners to gain full control of the proposed unit. The Petitioner may not produce a well on the drilling unit without first obtaining control of all the oil and gas interests. In cases like this, it is necessary for the Petitioner to request statutory pooling from the Supervisor. As discussed, a mineral owner who does not agree to voluntarily pool his or her interest in a drilling unit may be subject to statutory pooling. 1996 MR 9, R 324.304. The statutory pooling of an interest must be effectuated in a manner that ensures “each owner ... is afforded the opportunity to receive his or her just and equitable share of the

production of the unit.” *Id.* In addition to protecting correlative rights, the statutory pooling must prevent waste. MCL 324.61502. An Operator must first seek voluntary pooling of mineral interests within a proposed drilling unit prior to obtaining statutory pooling through an Order of the Supervisor.

Mr. Hackert states the Petitioner controls all but 1.51 net acres of oil and gas interests within the proposed 80-acre drilling unit. His verified statement outlines his numerous attempts to obtain an oil and gas lease from the unleased owners. The owners of oil and gas interests that are not leased are:

<u>Name</u>	<u>Net Mineral Acres</u>
Diane Hudzinski (inchoate dower interest) U.S. Department of Housing and Urban Development (mortgage interest) Bank of America NA (mortgage interest)	0.51
Delbert and Shirley Bame (fee interest)	1.00

Based on the foregoing, I find, as a Matter of Fact:

1. The Petitioner was able to voluntarily pool all of the mineral interests in the proposed 80-acre Trenton and Black River Formation drilling unit except for the acreage described above.
2. Statutory pooling is necessary to form a full drilling unit, to protect correlative rights of unpooled lease owners, and to prevent waste by preventing the drilling of unnecessary wells.

Now that it has been determined statutory pooling is necessary and proper in this case, the terms of such pooling must be addressed. When pooling is ordered, the owner of the statutorily pooled lands (Pooled Owner) is provided an election on how he or she wishes to share in the costs of the project. 1996 MR 9, R 324.1206(4). A Pooled Owner may participate in the project or, in the alternative, be “carried” by the Operator. If the Pooled Owner elects to participate, he or she assumes the economic risks of the project, specifically, by paying his or her proportionate share of the costs or giving bond for the payment. Whether the well drilled is ultimately a producer or dry

hole is immaterial to this obligation. Conversely, if a Pooled Owner elects not to participate, the Pooled Owner is, from an economic perspective, "carried" by the Operator. Under this option, if the well is a dry hole, the Pooled Owner has no financial obligation because they did not assume any risk. If the well is a producer, the Supervisor considers the risks associated with the proposal and awards the Operator compensation, out of production, for assuming all of the economic risks.

In order for a Pooled Owner to decide whether he or she will "participate" in the well or be "carried" by the Operator, it is necessary to provide reliable cost estimates. In this regard, the Petitioner must present proofs on the estimated and actual costs involved in drilling, completing, and equipping the proposed well. The Petitioner's Authorization for Expenditure (AFE) form for the Secor D4-18A HD2 well (Exhibit A to Mr. Sandtveit's supplemental verified statement) itemizes the estimated costs to be incurred (and actual costs already incurred for the Secor D4-18A HD1) in the drilling, completing, equipping, and plugging of the well. The Petitioner's estimated costs are \$582,800.00 for drilling; \$185,500.00 for completion; and \$595,800.00 for equipping. There is no evidence on this record refuting these estimated costs; however, I find that dry hole plugging costs shall not be included with drilling costs. Therefore drilling costs for which the Pooled Owner may participate in are \$552,800.00 and the total estimated and actual producing well cost for the Secor D4-18A HD2 well is \$1,334,100.00.

With the exception of dry hole plugging costs, I find, as a Matter of Fact, the estimated costs in Exhibit A to Mr. Sandtveit's supplemental verified statement are reasonable for the purpose of providing the pooled owners a basis on which to elect to participate or be carried. However, I find actual costs shall be used in determining the final share of costs and additional compensation assessed against a Pooled Owner.

The next issue is the allocation of these costs. Part 615 requires the allocation be just and equitable. MCL 324.61513(4). It is Mr. Sandtveit's opinion the inferred reservoir substantially underlies the drilling unit. The Petitioner requests the actual well costs and production from the well be allocated based upon the ratio of the number of net mineral acres in the tracts of various owners to the total number of net mineral acres in the drilling unit. Established practices and industry standards suggest this to

be a fair and equitable method of allocation of production and costs. Therefore, I find, as a Matter of Fact, utilizing acreage is a fair and equitable method to allocate to the various tracts in the proposed drilling unit each tract's just and equitable share of unit production and costs. I find that an owner's share in production and costs should be in proportion to their net mineral acreage.

The final issue is the additional compensation for risk to be assessed against a Pooled Owner who elects to be carried. The administrative rules under Part 615 provide for the Supervisor to assess appropriate compensation for the risks associated with drilling a dry hole and the mechanical and engineering risks associated with the completion and equipping of wells. 1996 MR 9, R 324.1206(4)(b). Mr. Sandtveit's supplemental verified statement indicates Petitioner does not seek additional compensation for actual costs listed in the AFE. As to costs not yet incurred, the Petitioner requests additional compensation of 300 percent for the costs of drilling, 200 percent of completing, and 100 percent of equipping the Secor D4-18A HD2 well.

The Petitioner's experience with Trenton Black River Formation wells indicates the results of initial drilling are not necessarily a reliable indicator of whether there will be a full recovery of costs. Production from such wells may not allow completing and equipping costs to be fully recovered from productive reservoirs.

Mr. Sandtveit's verified statements indicate there are risks involved in drilling, completing, and equipping the Secor D4-18A HD2 well that justify the requested additional compensation. This includes components of seismic and reservoir quality risk as well as a risk the target formation may not be sufficiently dolomitized leading to limited porosity and poor reservoir rock quality.

Mr. Sandtveit indicates the drilling of directional wells has a degree of risk in the form of increased wear and potential loss of downhole tools. With regard to the risks associated with completion, due to the geometry of a directional well, specialized tools must be employed to provide offset of the casing from the wellbore when cementing. If the cement job is not fully successful, the well can produce water from penetrated water producing intervals. Water production remediation is cost intensive, sometimes requiring a cement squeeze and new completion.

In addition, Mr. Sandtveit states there are significant costs to equip a well with the necessary surface facilities that are required to bring oil and gas production to market. A large portion of surface equipping costs are labor and service costs that are unrecoverable if commercial production is not established. In the event commercial production is not established, the equipment must be deconstructed and removed and the location restored to its original condition.

The Petitioner did present substantial evidence to show that the risks associated with drilling the Secor D4-18A HD2 well justify a 300 percent penalty. Moreover, past experience shows that drilling results are not always a reliable indicator of whether completing and equipping costs can be fully recovered from eventual production revenues.

I find, as a Matter of Fact, the risk of the proposed Secor D4-18A HD2 well, being a dry hole supports additional compensation from the Pooled Owners of 300 percent of the actual drilling costs incurred after the effective date of this Order. I find the mechanical and engineering risks associated with the well support additional compensation of 200 percent of the actual completing and 100 percent of the actual equipping costs incurred after the effective date of this Order. Operating costs and costs incurred prior to the effective date of this Order are not subject to additional compensation for risk.

CONCLUSIONS OF LAW

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

1. The Petitioner was unable to voluntarily pool all mineral interests within the proposed drilling unit. The Supervisor may statutorily pool properties when pooling cannot be agreed upon. Statutory pooling is necessary to prevent waste and protect the correlative rights of the Pooled Owners in the proposed drilling unit. MCL 324.61513(4).
2. This Order is necessary to provide for conditions under which each mineral owner who has not voluntarily agreed to pool all of their interest in the pooled

unit may share in the working interest share of production. 1996 MR 9, R 324.1206(4).

3. The Petitioner is an owner within the drilling unit and, therefore, is eligible to drill and operate the Secor D4-18A HD2 well. 1996 MR 9, R 324.1206(4).
4. The Petitioner is authorized to take from each nonparticipating interest's share of production the cost of drilling, completing, equipping, and operating the well, plus an additional percentage of the costs as identified in the Determination and Order section of this Order for the risks associated with drilling a dry hole, and the mechanical and engineering risks associated with the completion and equipping of the well. 1996 MR 9, R 324.1206(4).
5. Spacing for wells drilled in Monroe County to the Trenton-Black River Formation is 40 acres as set by Order No. 18-2007. Exceptions to Order No. 18-2007 may be granted by the Supervisor after a hearing.
6. The Supervisor has jurisdiction over the subject matter and the persons interested therein.
7. 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 statutory pooling to form an 80-acre Trenton-Black River Formations drilling unit is necessary to protect correlative rights and prevent waste by the drilling of unnecessary wells.

NOW, THEREFORE, IT IS ORDERED:

1. The existing 160-acre Secor D4-18A HD1 drilling unit is hereby dissolved and an 80-acre Trenton-Black River Formations drilling unit is established, as an exception to Order No. 18-2007, for the Secor D4-18A HD2 well comprising

- the following area: the S 1/2 of SE 1/4 of Section 18, T7S, R6E, Summerfield Township, Monroe County, Michigan. All properties, parts of properties, and interests in this area are pooled into the drilling unit. This pooling is for the purpose of forming a drilling unit only.
2. Each Pooled Owner shall share in production and costs in the proportion that their net mineral acreage in the drilling unit bears to the total acreage in the drilling unit.
 3. The Petitioner is named Operator of the Secor D4-18A HD2 well. The Operator shall commence the drilling of the Secor D4-18A HD2 well within ninety (90) days of the effective date of this Order, or the statutory pooling authorized in this Order shall be null and void as to all parties and interests. This pooling Order applies to the drilling of the Secor D4-18A HD2 well only.
 4. A Pooled Owner shall be treated as a working interest owner to the extent of 100 percent of the interest owned in the drilling unit. The Pooled Owner is considered to hold a 1/8 royalty interest, which shall be free of any charge for costs of drilling, completing, or equipping the well, or for compensation for the risks of the well or operating the proposed well including post-production costs.
 5. A Pooled Owner shall have ten (10) days from the effective date of this Order to select one of the following alternatives and advise the Supervisor and the Petitioner, in writing, accordingly:
 - a. To participate, then within ten (10) days of making the election (or within a later date as approved by the Supervisor), pay to the Operator the Pooled Owner's share of the estimated costs for drilling, completing, and equipping the well, or give bond to the Operator for the payment of the Pooled Owner's share of such cost promptly upon completion; and authorize the Operator to take from the Pooled Owner's remaining 7/8 share of production, the Pooled Owner's share of the actual costs of operating the well; or

- b. To be carried, then if the well is put on production, authorize the Operator to take from the Pooled Owner's remaining 7/8 share of production:
 - (i) The Pooled Owner's share of the actual cost of drilling, completing, and equipping the well.
 - (ii) For costs not incurred as of the effective date of this Order, an additional 300 percent of the actual drilling costs, 200 percent of the actual completion costs, and 100 percent of the actual equipping costs attributable to the Pooled Owner's share of production, as compensation to the Operator for the risk of a dry hole.
 - (iii) The Pooled Owner's share of the actual cost of operating the well.
6. In the event the Pooled Owner does not notify the Supervisor, in writing, of the decision within ten (10) days from the effective date of this Order, the Pooled Owner will be deemed to have elected the alternative described in Paragraph 5(b). If a Pooled Owner who elects the alternative in Paragraph 5(a) does not, within ten (10) days of making their election (or within any alternate date approved by the Supervisor), pay their proportionate share of costs or give bond for the payment of such share of such costs, the Pooled Owner shall be deemed to have elected the alternative described in Paragraph 5(b), and the Operator may proceed to withhold and allocate proceeds for costs from the Pooled Owner's 7/8 share of production as described in Paragraph 5(b)(i),(ii), and (iii).
7. For purposes of the Pooled Owners electing alternatives, the amounts of \$552,800.00 for estimated drilling costs; \$185,500.00 for estimated completion costs; and \$595,800.00 for estimated equipping costs are fixed as well costs. Actual costs shall be used in determining the Pooled Owner's final share of well costs and in determining additional compensation for the risk of a dry hole. If a Pooled Owner has elected the alternative in Paragraph 5(a) and the actual cost exceeds the estimated cost, the Operator may recover the additional cost from the Pooled Owner's 7/8 share of production. Within sixty (60) days after commencing drilling of the well, and

- every thirty (30) days thereafter until all costs of drilling, completing, and equipping the well are accounted for, the Operator shall provide to the Pooled Owner a detailed statement of actual costs incurred as of the date of the statement and all costs and production proceeds allocated to that Pooled Owner.
8. The Operator shall certify to the Supervisor that the following information was supplied to each Pooled Owner no later than the effective date of the Order:
 - a. The Order.
 - b. The AFE.
 - c. Each Pooled Owner's percent of charges from the AFE if the Pooled Owner were to choose option "a" in Paragraph 5, above.
 9. A Pooled Owner shall remain a Pooled Owner only until such time as a lease or operating agreement is entered into with the Operator. At that time, terms of the lease or operating agreement shall prevail over terms of this Order.
 10. The Supervisor retains jurisdiction in this matter.
 11. The effective date of this Order is December 4, 2015.

DATED: Nov. 24, 2015



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