

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT

ORDER OF THE SUPERVISOR OF WELLS

IN THE MATTER OF:

THE PETITION OF O.I.L. ENERGY CORP. FOR AN ORDER)
FROM THE SUPERVISOR OF WELLS ESTABLISHING A)
UNIFORM SPACING PLAN CONSISTENT WITH ORDER) ORDER NO. 15-2010
NO. (A) 14-9-94 AND COMPULSORY POOLING ALL INTERESTS)
INTO THE UNIT LOCATED IN CUSTER AND KEARNEY)
TOWNSHIPS, ANTRIM COUNTY, MICHIGAN.)

OPINION AND ORDER

This case involves the Petition of O.I.L. Energy Corp. (Petitioner). The Petitioner proposes to establish a Uniform Spacing Plan (USP) in the stratigraphic interval known as the Antrim Shale Formation and to drill additional wells within the USP. Order No. (A) 14-9-94, as amended, provides for the establishment of USPs for greater flexibility in locating Antrim Shale Formation wells. Since not all of the mineral owners within the proposed USP have agreed to voluntarily pool their interests, the Petitioner seeks an Order of the Supervisor of Wells (Supervisor) designating the Petitioner as operator of the USP and requiring compulsory 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 (MCL) 324.61501 *et seq.* The purpose of Part 615 is to ensure the orderly development and production of the oil and gas resources in this State. MCL 324.61502. To that end, the Supervisor may establish drilling units or USPs and compulsorily pool mineral interests within said units. MCL 324.61513(2) and (4). However, the compulsory pooling of interests can only be effectuated after an evidentiary hearing. MCL 324.61516(1). 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 *Michigan Register* 9, R 324.1203. The evidentiary hearing in this matter was held on November 10, 2010.

FINDINGS OF FACT

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

1. Establishes the Custer 4 USP of approximately 1,160 acres consisting of the following tracts of land in Antrim County, Michigan:
T29N, R7W, Custer Township
Section 4: NW 1/4; N 1/2 of S 1/2; SW 1/4 of SW 1/4.
Section 5: NE 1/4.
T30N, R7W, Kearney Township
Section 32: SE 1/4.
Section 33: S 1/2 and S 1/2 of N 1/2.
2. Names the Petitioner as operator of the proposed USP.
3. Pools all tracts and mineral interests within the proposed USP that have not agreed to voluntary pooling.
4. Authorizes the Petitioner to recover certain costs and other additional compensation from the parties subject to the compulsory pooling order.
5. Authorizes the Petitioner to drill through unleased tracts in the subsurface, subject to obtaining a drilling permit. (The Petitioner does not propose conducting any surface operations on unleased tracts.)

The Administrative Law Judge 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 evidentiary hearing pursuant to R 324.1205(1)(b) and directed evidence be presented in the form of oral testimony.

In support of its case, the Petitioner offered the oral testimony of Mr. Brandon McDowell, Landman, and Mr. Timothy Brock, petroleum engineering consultant. Mr. Brock was recognized as an expert in petroleum engineering.

I. Formation of USP

The spacing of wells targeting the Antrim Shale Formation is governed by Order No. (A) 14-9-94, as amended. This Order allows for wells to be developed on a project basis through USPs formed by combining blocks of governmental surveyed quarter-quarter sections of land with one common boundary of approximately 1,320 feet, with allowances being made for the differences in the size and shape of sections as indicated by official governmental survey plats. In addition, a USP shall have a well density within the USP of no less than 80 acres per well, the distance between bottom hole locations of wells shall be no less than 1,320 feet, and

the bottom hole locations of wells no closer than 330 feet from the USP boundary. Under Order No. (A) 14-9-94, as amended, it is presumed that one well will efficiently and economically drain an 80-acre area. The Petitioner's proposed USP is described as set forth in Findings of Fact No. 1, above (Exhibit 7).

Mr. McDowell testified the proposed USP is comprised of quarter-quarter sections of land with one common boundary of 1,320 feet. Mr. Brock testified that all lands are underlain by productive Antrim Shale Formation and will be drained by the wells the Petitioner has drilled and proposes to drill. Mr. Brock also testified that no well bottom hole location will be closer than 330 feet from the USP boundary.

Mr. Brock testified that four wells have, to date, been drilled, completed, and produced; and the Petitioner proposes to drill additional wells within the proposed USP to the extent reasonably necessary to recover the gas, to the extent surface locations, pipeline locations, and access roads can be secured. At present, the Petitioner proposes to drill one additional well. Under no circumstances will well density in the proposed 1,160-acre USP be less than 80 acres per well.

Both Mr. McDowell and Mr. Brock testified as to the presence of unleased acreage scattered randomly throughout the USP Area. They observed that the scattered unleased acreage makes it difficult to locate well sites, access roads, and gathering pipelines. Both Mr. McDowell and Mr. Brock testified that the combination of scattered unleased acreage, together with leased acreage unsuitable for surface operations due to residences, golf and recreational use, further complicates Antrim Shale gas development. These conditions are illustrated on Exhibits 1 and 7.

In order to optimally place surface locations, or when the surface is incompatible with surface operations, resulting in the only available surface location being some distance from the geographic area sought to be developed, the Petitioner proposes to drill horizontal wells through the subsurface of unleased tracts within the USP Area. The Petitioner asserts such wells are necessary so as to access and produce gas from beneath leased, but inaccessible, tracts of land. Large blocks of leased lands are, in some cases, nearly completely surrounded by unleased tracts (Exhibit 7). Mr. Brock testified that without horizontal well drilling through unleased tracts, the gas beneath such leased tracts may be difficult or impossible to recover.

To explain the conservation and avoidance of waste advantages of drilling through unleased tracts within the USP Area, Mr. Brock compared the benefits of a long horizontal well as compared to a short horizontal well (Exhibit 9). These benefits include the prevention or

minimization of surface waste by fewer surface locations, the prevention of underground waste by greater recoveries of gas, and the recovery of gas that might otherwise not be producible due to the absence of drillable surface locations. Consequently, the ultimate recovery of natural gas can be increased and drilling through unleased tracts will assist in avoiding the drilling of unnecessary wells.

I find that the Petitioner's plan to develop the Custer 4 USP will not cause waste and will help assure that all owners within the USP Area receive their just and reasonable share of the gas. I find that a fair and reasonable Order should not unduly or unnecessarily hamper or defeat the opportunity of those owners who have leased their land to have their natural gas resources developed for their benefit and the benefit of others, including Michigan's energy need for natural gas. The rights of unleased owners are fully respected and protected by the provisions of this Order directing that they will receive the benefits of gas production, by receiving their just and reasonable share of gas production. This Order does not address drilling on the surface or subsurface through formations other than the Antrim Formation of unleased tracts since these issues are not pertinent to the facts in this case.

MCL 324.61513(4) authorizes pooling in the context of "a uniform spacing plan or proration or drilling unit." It also authorizes the pooling of "properties or parts of properties." Administrative Rule R 324.304 refers to the pooling of "tracts or mineral interests." The statute, rules, and Order No. (A) 14-9-94, as amended, do not contain any discussion or analysis expressly limiting the Supervisor's authority to permit operations beneath tracts compulsory pooled into the USP. The Supervisor's regulation of oil and gas drilling and production operations must necessarily take into consideration new and innovative operational techniques. Indeed, MCL 324.61502 directs that the Supervisor's regulation under Part 615 shall ". . . foster the development of the industry along the most favorable conditions and with a view to the ultimate recovery of the maximum production of these natural products." MCL 324.61505 is a broad delegation of jurisdiction and authority to the Supervisor over all "persons and things" necessary to prevent waste and promote the conservation of oil and gas in Michigan. Over time, drilling, completing, and operating techniques change, evolve, and become more sophisticated. The prevention of waste, maximizing production and recoveries, and the protection of correlative rights must be continuously evaluated in view of changes in techniques.

Order No. (A) 14-9-94, as amended, recognizes the benefit of combining multiple 40-acre quarter-quarter sections into large units for the development of Antrim gas projects to allow for drilling location flexibility, reduction of the number of surface facilities, and greater

flexibility in locating surface locations so as to minimize surface disturbance. I find that the proposed USP and the Petitioner's proposal for development are consistent with Part 615 and Order No. (A) 14-9-94, as amended; and, as such, Custer 4 is a proper USP.

II. USP Operator

Mr. McDowell's testimony indicates that the Petitioner owns or controls all of the oil and gas interests in the proposed 1,160-acre USP except for approximately 107.824 acres of unleased mineral interests. Given this, the Petitioner seeks to be designated as the operator of the proposed USP. I find, as a Matter of Fact, the Petitioner is eligible to be designated operator of the proposed USP.

III. Compulsory Pooling

As found, the Petitioner has proposed a proper USP for the Antrim Shale Formation but was unable to obtain the agreement of all owners to gain its full control. The Petitioner may not produce a well within a USP without first obtaining the control of all the oil and gas interests. In cases like this, it is necessary for the Petitioner to request compulsory pooling from the Supervisor. As discussed, an owner who does not agree to voluntarily pool his or her interest in a drilling unit may be subject to compulsory pooling. MCL 324.61513(4). The compulsory pooling of an interest must be effectuated in a manner that "will afford to the owner of each tract . . . the opportunity to recover or receive his or her just and equitable share of the oil or gas and gas energy in the pool" *Id.* In addition to protecting correlative rights, the compulsory 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 compulsory pooling through an Order of the Supervisor.

The owners of the 107.824 acres not subject to oil and gas leases owned or controlled by the Petitioner are as follows:

<u>Name of Owner/Mortgagee/Lien Holder</u>	<u>Tract No.</u>	<u>Gross Unleased Acres</u>	<u>Net Unleased Acres</u>
Younce, Gerald F. & Lynn D. Panny/Michigan Dept. of Treasury/IRS/Alden State Bank	12.3	20.000	20.000
Ellison, John W.	19.4	1.000	0.333
Ellison, Andrew G.	19.4	1.000	0.333
Moglovkin, Thomas C./Anthony Verebes	19.5	8.850	8.850
Boutselis, John G. & Jennifer Z.	20.6	0.252	0.126

<u>Name of Owner/Mortgagee/Lien Holder</u>	<u>Tract No.</u>	<u>Gross Unleased Acres</u>	<u>Net Unleased Acres</u>
Janette, Daniel A. & Linda S.	20.C-WH5	2.600	2.600
Spence, William S.	20.EP3	0.540	0.540
Nesbitt, George J. & Velma J.	20.EP4	0.540	0.540
Hausbeck, Tim & Lori	20.EP7	0.540	0.540
Rubio Revocable Living Trust	20.EP104	0.540	0.540
Reynolds, Joseph E. & Nancy L.	20.EP105	0.540	0.540
Hicks Trust	20.EP108	0.540	0.540
Rosenau, Richard G. & Paulette A.	20.EP110	0.540	0.540
Klick, Thomas J. & Nancy C.	20.EP113	0.540	0.540
Lovett, Steven D. & Kathy K.	11.7	1.410	0.088
Cattaneo, Michael & Debra	11.7	1.410	0.088
Okress, Thomas & Jane	25.1	0.640	0.160
Smith, Robert T. & Jeannine	25.1	0.640	0.160
Gleeson, Clarence M. & Jane	25.1	0.640	0.160
Gleeson, Craig J.	25.1	0.640	0.160
Burns, Judith K. & Andrew M.	25.17	0.330	0.330
Tabor, Amanda K.	25.19	0.480	0.480
Stewart, Paul W. & Judith P.	25.23	0.980	0.980
Williamson, Blair G. & Darlene S./Alden State Bank	8.69	0.463	0.463
The Legend Association	17.12	15.636	15.636
The Legend Association	25.13	4.447	4.447
Timber Ridge Condo Association	25.33	1.850	1.850
Trappers Lodge Condo Association	25.34	1.460	1.460

<u>Name of Owner/Mortgagee/Lien Holder</u>	<u>Tract No.</u>	<u>Gross Unleased Acres</u>	<u>Net Unleased Acres</u>
Fraser Trust, C/O Carol F. Fraser TRACT COMPULSORY POOLED THROUGH CAUSE NO. 19-2008*	8.26	9.33	.0915*
Wardle, William & Valerie/Flagstar Bank	8.71	0.590	0.590
Cedar IV & V Condo Association	15.12 Tracts	18.80	18.80
Kambach, Jason & Cissielya	17.98	0.890	0.890
Sazy, Mark & Susan	17.97	0.810	0.6075
Duff, Andrea	17.97	0.810	0.2025
Shepard, Nancy K.	17.96, 17.94	1.502	1.502
Henry Noir Investments	17.95	0.700	0.700
Antrim County Treasurer	17.57	0.540	0.540
Hanchett, Kyle & Denise	17.23	1.75	1.75
O'Neill, Jeffrey & Carrie	17.18	2.050	2.050
Baron, Dolores	17.82	0.630	0.630
Eehalt, James	17.77	1.160	1.160
Martin, Patrick J. & Michelle	17.63	0.7698	0.2566
Martin, Richard A. & Jennifer	17.63	0.7698	0.2566
Lukasiewicz, Kevin & Laura	17.63	0.7698	0.2566
Thayer, Darlene M.	17.67	0.520	0.520
Richter, Mathew S.	17.50	0.490	0.490
Ford, Anthony S.	17.47	1.060	1.060
Carrothers, Steven & Patricia	17.46	1.140	1.140
Myers, Curtis & Wendy	17.45	0.980	0.980
Matynowski, David & Karen	17.44	1.660	1.660
Ireland, James & Janet	17.111, 17.108	2.800	2.800

* This unleased interest was compulsory pooled into an 80-acre drilling unit by Order No. 19-2008, dated September 15, 2008. It remains unleased. Order No 19-2008 shall remain in effect as to this unleased interest.

<u>Name of Owner/Mortgagee/Lien Holder</u>	<u>Tract No.</u>	<u>Gross Unleased Acres</u>	<u>Net Unleased Acres</u>
Wiersema, Marjike	17.109, 17.112	4.297	4.297
Cary, William & Dawn	17.33	0.570	0.570
Herrmann, Fred & Melinda	17.123	<u>1.000</u>	<u>1.000</u>
			107.8243
	Less Fraser Trust compulsory pooled in Order 19-2008		<u>- 0.0915</u>
	Unleased acres subject to this proceeding:		107.7328

The Petitioner requests that the unleased interest of the Fraser Trust in Tract No. 8.26 remain subject to Order No. 19-2008 and that the interest of the Fraser Trust be subject to the 80-acre drilling unit established in that Order.

The following banks or lien holders own interests in the leased tracts. They have failed or refused to execute subordination agreements, subordinating their interests to the operative lease, or have refused to ratify the operative lease:

<u>Name of Unratified Mortgagee/Lien Holder</u>	<u>Tract No.</u>	<u>Gross Unratified Acres</u>	<u>Net Unratified Acres</u>
LaSalle Bank Midwest	9.5 C10	10.19	10.19
Alden State Bank/Wells Fargo Bank, N.A.	9.20 C25	3.72	3.72
Chase Manhattan Mortgage Corporation/USAA Federal Savings Bank	10.5 C-46	1.94	1.94
Northwestern Bank	10.6 C-47	0.52	0.52
CitiMortgage, Inc. (as successor to ABN AMRO Mortgage Group, Inc.)	11.5 C55	1.59	1.59
Northwestern Bank	11.9 C50	10.11	10.11
GMAC Mortgage Corporation	25.9	0.68	0.68
Electronic Registration Systems, Inc.	25.12	2.20	2.20
Republic Bank/Flagstar Bank	24.24-25	.940	.940

The Petitioner intends to recognize the operative oil and gas lease covering the tracts subject to the above bank mortgages and liens. The Petitioner requests that if a mortgage or lien is foreclosed, the bank or lien holder's interest in that tract will be subject to this compulsory pooling order.

Mr. McDowell testified regarding the Petitioner's efforts to negotiate oil and gas leases or ratifications for those tracts identified above (Exhibit 5). His Affidavit of Pooling Efforts indicates that after several verbal and written contacts with the owners, the Petitioner has been unable to negotiate oil and gas leases or obtain ratifications. With respect to unleased tracts, the Petitioner has offered terms equal to or better than the offers made to other mineral owners in the USP.

In order to invoke the Supervisor's compulsory pooling authority, the Petitioner must show that there were efforts made to voluntarily obtain agreement and those efforts failed. Based on the record, I find the Petitioner made reasonable, albeit unsuccessful, efforts to obtain agreement.

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

1. The Petitioner was able to voluntarily pool all but approximately 107.733 net mineral acres in the 1,160-acre proposed USP.
2. The Petitioner was unable to obtain subordinations or ratifications from the holders of mortgages or liens identified above.
3. Compulsory pooling is necessary to form a USP, to protect correlative rights, and to prevent waste by preventing the drilling of unnecessary wells.

Now that it has been determined compulsory pooling is necessary and proper in this case, the terms of such pooling must be addressed. When pooling is ordered, the owner (or lessee if subject to a lease) of the compulsorily pooled lands (Pooled Owner) is provided an election on how he or she wishes to share in the costs of the project. 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. 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 of any costs already incurred for existing wells and the estimated costs for drilling, completing, and equipping future wells in the project.

With respect to the known, already expended costs, Mr. Brock testified that prior to entry of this Order, 8.5 percent of the total recoverable gas from the USP area will have been produced from the four wells already drilled (Exhibit 11, pages 1 and 2). In Exhibit 11, pages 3 and 4, Mr. McDowell has proposed a calculation for determining the compulsory pooled interests' share of the capital cost of the original four wells. Mr. McDowell's approach takes into account the fact that the compulsory pooled interests did not share in the revenues from gas produced prior to their being pooled by this Order. I find that it is just and equitable that each interest pooled into the Proposed USP by Order of the Supervisor bear its proportionate share of the actual costs of drilling, completing, and equipping the Antrim wells drilled prior to the formation of the USP. However, no additional compensation for the risk of the project is applicable to the original four wells previously drilled on the proposed USP. I further find that the calculation for determining the compulsory pooled interests' share of the capital cost of the previously drilled four wells, as submitted by the Petitioner, is fair and reasonable. Pooled Owners shall be responsible for their proportionate share of 91.5 percent of the actual cost to drill, complete, and equip the four wells previously drilled (Exhibit 11). The nonparticipating owners shall bear no portion of the operating costs for the original four wells that were incurred prior to the effective date of this Order.

Mr. Brock submitted an Authorization for Expenditure (AFE) that itemizes the costs to be incurred in the future drilling, completing, equipping, and plugging of a proposed well (Exhibit 10). Mr. Brock's testimony indicates that the costs were based on the Petitioner's experience in drilling, completing and equipping other Antrim wells. The AFE provides that the estimated costs for one well are: \$293,000 for drilling, \$277,000 for completion, and \$222,000 for equipping, for a total cost of \$792,000.

There is no evidence on this record refuting these estimated costs. I find, as a Matter of Fact, the reduced actual and future estimated costs 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 to be just and equitable. MCL 324.61513(4). The Petitioner requests the actual well costs and production from the well to be allocated based upon the ratio of the number of net mineral acres in the tracts of the various Pooled Owners to the total number of mineral acres in the USP.

Mr. Brock's testimony and Exhibit 13 indicate the USP is underlain by the inferred Antrim Shale Reservoir; and, therefore, allocation on a net mineral acreage basis is fair and equitable. It is the Petitioner's intent that the Pooled Owners share in the allocation of costs and production from all wells in the USP.

I find, as a Matter of Fact, a Pooled Owner's share in production and costs should be in proportion to their net mineral acreage in the USP. I further find the Pooled Owners have not and will not share in the production from the wells drilled in the USP prior to the effective date of this Order. I find that Pooled Owners shall be responsible for 91.5 percent of the total cost of wells and facilities in place as of the effective date of this Order. I find that Pooled Owners shall share in the future production from all wells already drilled in the proposed USP and in the production from all wells subsequently drilled within the proposed USP.

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 AACRS, R 324.1206(4)(b). The Petitioner requests additional compensation of 200 percent for drilling, 200 percent for completing, and 200 percent for equipping costs for the proposed wells for costs incurred after the effective date of this Order.

Mr. Brock's testimony indicates the presence of a producible Antrim interval can only be proven by the long-term productivity of wells and that the existing and proposed wells have a fair amount of risk. In addition, due to variations in both the intensity of the local fracture network in the Antrim Shale, which cannot be predicted prior to drilling and completion, and the efficiency of the completion process, a well may not be economical and may not recover the costs of completion and equipping.

Mr. Brock testified that he evaluated the risks associated with drilling, completing, and equipping of Antrim wells in the proposed USP. Exhibit 13 summarizes the variability of Antrim project production levels. Mr. Brock testified that the locations of high, medium, and low

production projects are random. There is no specific geographic "trend" of projects with similar production levels. Based on his review of wells drilled on and in the vicinity of the proposed USP, his personal evaluation of the project, and his study of the nature of the Antrim in the proposed USP and vicinity, it was his opinion that the likelihood of successful drilling of future Antrim wells in the proposed USP is relatively high. However, the likelihood of these wells being economically successful depends upon the volume of gas the wells produce. Economic success may not be known for many years. The production of gas from the Antrim is dependent upon the presence of natural fractures that connect to the well bore. Not all Antrim projects, or wells within a project, produce at the same rate because each may not encounter sufficient fracturing. Additionally, some wells in the Antrim project may not produce a sufficient amount of gas to be economical on their own. Mr. Brock testified that the typical risk associated with Antrim operations is that there will be insufficient fracturing necessary to make Antrim wells successful.

Based on the testimony and exhibits submitted in this matter, I find, as a Matter of Fact, the risk of drilling wells in the proposed USP supports compensation from the Pooled Owners of 200 percent of the actual drilling costs incurred. The mechanical and engineering risks associated with the proposed wells support additional compensation of 200 percent of the actual completing and 200 percent of the actual equipping costs incurred. The additional compensation shall apply to such drilling, completing, and equipping costs as are incurred after the effective date of this Order.

CONCLUSIONS OF LAW

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

1. The Petitioner was unable to voluntarily pool the interests of various mineral owners. The Supervisor may compulsorily pool all properties when pooling cannot be agreed upon. Compulsory pooling is necessary to prevent waste and protect the correlative rights of the owners in the proposed USP. MCL 324.61513(4).
2. This Order is necessary to provide for conditions under which each mineral owner who had not voluntarily agreed to pool all their interest in the pooled unit may share in the working interest share of production. 1996 AACS, R 324.1206(4).
3. The Petitioner is an owner within the USP and, therefore, eligible to drill and operate wells within the USP. 1996 AACS, R 324.1206(4).

4. The Supervisor may authorize the Petitioner to take from each nonparticipating interest's share of production the cost of drilling, completing, equipping, and operating the wells, 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 wells. 1996 AACRS, R 324.1206(4).

5. The applicable spacing for the proposed USP is a well density of no less than 80 acres per well, as established by Order No. (A) 14-9-94, as amended. The basis for determining well density is 1,160 acres.

6. MCL 324.61502 provides in part:

It is accordingly the declared policy of the state to protect the interests of its citizens and landowners from unwarranted waste of gas and oil and to foster the development of the industry along the most favorable conditions and with a view to the ultimate recovery of the maximum production of these natural products. To that end, this part is to be construed liberally to give effect to sound policies of conservation and the prevention of waste and exploitation.

7. MCL 324.61505 provides:

The supervisor has jurisdiction and authority over the administration and enforcement of this part and all matters relating to the prevention of waste and to the conservation of oil and gas in this state. The supervisor also has jurisdiction and control of and over all persons and things necessary or proper to enforce effectively this part and all matters relating to the prevention of waste and the conservation of oil and gas.

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

9. 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 AACRS, R 324.1204.

DETERMINATION AND ORDER

Based on the Findings of Fact and the Conclusions of Law, the Supervisor determines that compulsory pooling to form a 1,160-acre Antrim Shale Formation USP is necessary to protect correlative rights and prevent waste caused by the drilling of unnecessary wells.

NOW, THEREFORE, IT IS ORDERED:

1. A 1,160-acre Antrim Shale Formation USP, referred to as the Custer 4 USP, is established for the following area:

T29N, R7W, Custer Township, Antrim County

Section 4: NW 1/4; N 1/2 of S 1/2; SW 1/4 of SW 1/4.

Section 5: NE 1/4.

T30N, R7W, Kearney Township, Antrim County

Section 32: SE 1/4.

Section 33: S 1/2 and S 1/2 of N 1/2.

All properties, parts of properties, and interests in this area are pooled into the USP. This pooling is for the purpose of forming a USP only.

2. The owner of the Fraser Trust unleased interest (Tract No. 8.26) is not a Pooled Owner within the Custer 4 USP for the purposes of this Order and shall remain subject to Order No. 19-2008. The leased owners within the 80-acre drilling unit created by Order No. 19-2008 will be subject to this Order, on and after the effective date of this Order.

3. Each Pooled Owner shall share in all future production and costs in the proportion that their net mineral acreage in the USP bears to the total mineral acreage in the USP. Each Pooled Owner shall be responsible for 91.5 percent of the total cost of wells and facilities in place as of the effective date of this Order. Each Pooled Owner shall share in all future production and costs for those wells and in all production from and costs of all wells subsequently drilled within the USP.

4. The Petitioner is named Operator of the USP. Within two years from the effective date of this Order, if the Custer 4 USP is not developed substantially in accordance with the project plan as submitted, the Supervisor may require the Petitioner

to submit technical data that supports a conclusion that the USP can be adequately drained by the existing development.

5. A Pooled Owner shall be treated as a working interest owner to the extent of 100 percent of their interest owned in the USP. The Pooled Owner is considered to hold a 1/8 royalty interest on their interest owned in the USP, which shall be free of any charge for the costs of drilling, completing, equipping, or operating the proposed wells, or for compensation for the risks of the wells.

6. A Pooled Owner shall have ten 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 days of making the election, pay to the Operator the Pooled Owner's share of 91.5 percent of the actual costs for drilling, completing, and equipping the four wells already drilled, plus the estimated costs for drilling, completing, and equipping the proposed well or give bond for the payment of the Pooled Owner's share of such costs promptly upon receipt of an invoice for each proposed well, and authorize the Operator to take from 7/8 of the Pooled Owner's share of production, the Pooled Owner's share of the actual costs of operating all the wells. The Operator shall invoice the Pooled Owner for its share of the estimated drilling, completing, and equipping costs for each proposed well on or before 30 calendar days prior to the estimated commencement of drilling of each well. The Pooled Owner shall pay the invoice or give bond on or before five calendar days before the estimated drilling commencement date of each well; or
- b. To be carried, then authorize the Operator to take from 7/8 of the Pooled Owner's share of production:
 - (i) The Pooled Owner's share of 91.5 percent of the actual cost of drilling, completing, and equipping the four wells already drilled and 100 percent of the Pooled Owner's

- share of the actual cost of drilling, completing, and equipping all future wells;
- (ii) An additional 200 percent of the actual drilling costs, 200 percent of the actual completion costs, and 200 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, and the mechanical and engineering risks associated with the completion and equipping of all future wells; and
 - (iii) The Pooled Owner's share of the actual cost of operating the wells.

7. In the event the Pooled Owner does not notify the Supervisor and the Petitioner, in writing, of the decision within ten days from the effective date of this Order, the Pooled Owner will be deemed to have elected the alternative described in Paragraph 6.b. If a Pooled Owner who elects the alternative in Paragraph 6.a. does not 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 6.b.; and the Operator may proceed to withhold and allocate proceeds for costs from 7/8 of the Pooled Owners' share of production as described in 6.b.(i), (ii), and (iii).

8. In the event a Pooled Owner elects the alternative in Paragraph 6.a. and pays the Operator its share of actual costs and the well is not drilled within 90 days of such payment, the Operator shall refund the payment to the Pooled Owner, unless otherwise agreed to by the Operator and Pooled Owner.

9. For purposes of the Pooled Owners electing alternatives with respect to the nine proposed wells, the amounts of \$293,000 for estimated drilling costs; \$277,000 for estimated completion costs; and \$222,000 for estimated equipping costs are fixed as average well costs for the proposed well. Actual costs shall be used in determining the Pooled Owner's final share of project costs and in determining additional compensation for the risk of the project. If a Pooled Owner has elected the alternative in Paragraph 6.a. and the actual cost exceeds the estimated cost, the Operator may

recover the additional cost from 7/8 of the Pooled Owners' share of production. Within 60 days after commencing drilling of the wells, and every 30 days thereafter until all cost of drilling, completing, and equipping the wells and additional compensation 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.

10. All Pooled Owners shall receive the following information from the Operator by no later than the effective date of the Order:

- a. The Order;
- b. The AFE for the single presently proposed well and the total actual costs to date for drilling, completing, equipping, and operating the four wells already drilled; and
- c. Each Pooled Owner's 91.5 percent share of total costs for drilling, completing, equipping, and operating the four existing wells if the Pooled Owner were to choose option "a" in Paragraph 5 above (operating costs for the four existing wells, prior to the effective date of this Order, shall not be assessed against the Pooled Owner); and
- d. The Pooled Owner's share of actual production to date for the four existing wells.

11. The Supervisor retains jurisdiction in this matter. Any amendments to the USP boundary shall be by Order of the Supervisor after notice to all interested parties.

12. The effective date of this Order is Mar. 4, 2011.

DATED: Feb. 22, 2011


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