STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

ORDER OF THE SUPERVISOR OF WELLS

IN THE MATTER OF

THE APPEAL OF CORE ENERGY LLC OF THE ASSISTANT SUPERVISOR OF WELLS ORDER IN ORDER NUMBER 09-2013 APPROVING A PLAN OF UNITIZATION FOR PRESSURE MAINTENANCE AND ENHANCED AND/OR SECONDARY RECOVERY OF OIL, GAS, AND RELATED HYDROCARBONS, AND ABROGATING EXISTING SPACING AND PRORATION ORDERS AND RULES IN PARTS OF CHESTER TOWNSHIP, OTSEGO COUNTY, MICHIGAN.	) ORDER NO. 09-2013 ON APPEAL

Core Energy LLC (Core) filed a Verified Petition (Petition) with the Department of Environmental Quality, Office of Oil, Gas, and Minerals, on June 25, 2013. Subsequently, MP Michigan, LLC, MEP III Michigan, LLC, and MEP D-III Michigan, LLC (Merit), filed a Notice of Protest on July 25, 2014. Williams Minerals, LLC, Gottloeb Investments, LLC, Dana Gottloeb, and Miles and Colleen Gottloeb (Williams) filed an Answer in support of the Petition on August 13, 2014. After seven days of hearing, the relief sought in the Petition was effectively provided in Order No. 09-2013 issued on May 16, 2014, by the Assistant Supervisor of Wells.

On June 13, 2014, Merit filed an Appeal to the Director of the Department of Environmental Quality. [1] R 324.1212. The parties filed Briefs, Reply Briefs, and participated in Oral Argument on August 28, 2014.

ORDER ON APPEAL

The Order under Appeal granted the Petition, and as of its May 26, 2014 effective date, created the Chester 16 EOR Unit (Unit), consisting of 320 acres of land located in Chester Township, Otsego County, Michigan; approved Core's Plan of Unitization; appointed Core operator of the Unit; authorized the operation of the Unit as an exception to Special Order No. 1-73; and abrogated Order No. (A) 16-6-83. [2] The

[1] Subsequently, the parties agreed that drilling and on-site activities preparatory to drilling, and injection of CO_2 into the Chester 16 EOR Unit, would not commence until this Appeal was decided.
[2] The proceedings giving rise to Order No. (A) 16-6-83 were filed by Shell Oil Company (Shell), and shall be referred to herein as the "Shell waterflood proceeding."

Order was issued under the authority of Part 615, Supervisor of Wells, and Part 617, Unitization, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. MCL 324.61501 *et seq.*, and MCL 324.61701, *et seq.*, respectively.

Standard of Review

Merit suggests this Appeal constitutes a de novo review of the Petition. During Oral Argument, Core agreed to that standard. Tr. p. 54. The standard of review in this Appeal is appropriately a de novo review. See, e.g., *In the Matter of the Appeal of Titan Energy, LLC*, Cause No. 18-2007.

Burden of Persuasion

Merit contends that the applicable evidentiary standard in this Appeal is the "preponderance of the evidence" standard. Citing *In the Matter of Koziaras v Sun Oil Co*, 1989 WL 82535 (Mich.Dept.Nat.Res.); *Blue Cross & Blue Shield of Mich v Milliken*, 422 Mich 1, 89; 367 NW2d 1 (1985). Core asserts that the appropriate evidentiary standard is set forth in §85 of the Administrative Procedures Act (APA), which provides that "[a] decision or order shall not be made except ... as supported and in accordance with the competent, material, and substantial evidence." MCL 24.285.

The Supreme Court has held that the preponderance of the evidence standard is used for the burden of persuasion in administrative proceedings. See *Bunce v Secretary of State*, 239 Mich App 204, 218; 607 NW2d 372 (1999); *Blue Cross & Blue Shield, supra*; *Aquilina v General Motors Corp*, 403 Mich 206, 210-211; 267 NW2d 923 (1978). The "substantial evidence" standard set forth in §85 of the APA is the standard of review for appellate courts when reviewing agency decisions. See, e.g., *Dignan v Michigan Public School Employees Retirement Bd*, 253 Mich App 571,

577; 659 NW2d 629 (2002). One commentator has noted that "[t]he agency's burden is to find facts based on the preponderance of the evidence presented; the court's responsibility in reviewing agency fact-finding is to determine if the factual conclusions are reasonable in light of the record and the facts presented—are the agency's factual conclusions supported by substantial evidence?" LeDuc, Michigan Administrative Law §6.46 (2014).

In employing this burden of persuasion, it should be noted that "preponderance of the evidence" is simply defined as "evidence which outweighs that which is offered to oppose it." *Martucci v Detroit Comm'r of Police*, 322 Mich 270, 274; 33 NW2d 789 (1948), quoting *Strand v Chicago & W M Ry Co*, 67 Mich 380; 34 NW 712 (1887). See also *Black's Law Dictionary* 1301 (9th Ed. 2009) (trier of fact must find for the party that, on the whole, has the stronger evidence, however slight the edge may be). Hence, in reviewing the Order on Appeal, the evidence supporting the Order must merely outweigh that which was offered to oppose it. Accordingly, the burden of persuasion is preponderance of the evidence.

I. Findings under MCL 324.61704(4)

Merit raises a number of challenges in its first assignment of error concerning the predicate findings of the Order under this statutory provision:

> (4) The supervisor shall issue an order providing for the unit operation of a unit area if he or she finds all of the following:
>
> (a) That the unitization requested is reasonably necessary to substantially increase the ultimate recovery of oil and gas from the unit area.
>
> (b) That the type of operations contemplated by the plan are feasible, will prevent waste, and will protect correlative rights.

> (c) That the estimated additional cost of conducting such operations will not exceed the value of the additional oil and gas so recovered.

MCL 324.61704(4). Each of Merit's challenges to the predicate findings will be addressed, *infra*.

A. Quantification of Ultimate Recovery

Merit contends that the Order adopted an improper definition of the phrase "substantially increase the ultimate recovery" by holding:

> Any oil recovered must be considered incremental oil, since the field has no existing production and has not produced any oil since mid-1990.... [Emphasis supplied.]

Order p. 8. Rather than objecting to the definition of "ultimate recovery," Merit objects to the Order's apparent definition of "incremental production." Hence, Merit's argument misses the mark, because it is attempting to equate the phrase "ultimate recovery" to the definition of "incremental production."

Technical words and phrases in a statute are to be given their "peculiar and appropriate" meaning. *Consumers Power Co v Public Service Comm*, 460 Mich 148, 163; 596 NW2d 126 (1999). Rather than limiting the phrase "ultimate recovery" to "incremental production," the phrase should be construed so as to receive the peculiar and appropriate meaning used in the industry. Core correctly contends that the phrase "ultimate recovery" has been defined to mean "[t]he total expected recovery of oil and/or gas from a producing well, leasehold, pool or field." Williams & Meyers, Manual of Oil and Gas Terms (15th Ed. 2012). Because Core's projected 711,000 barrels of additional oil production will substantially increase the "total expected recovery" of oil and gas from

the Unit, it is irrelevant whether such oil production is treated as primary production or incremental production.

Merit further contends that the Order purportedly fails to find a "substantial increase" in ultimate recovery in its finding that:

> [T]he proposed Unit Area contains accumulation of hydrocarbons that would not be recovered by further primary production of wells in the field, but may be recovered by CO2 pressure maintenance and secondary recovery operations conducted as a part of the unitized operation. [Emphasis supplied.]

Order p. 7. Merit's objection focuses on the word "may," suggesting that it is an equivocal term, meaning that the oil may or may not be recovered. However, in considering the Order in its entirety, as opposed to a single word, it is clear that the Order expressly finds that significant amounts of oil are remaining in the reservoir, which will be recovered by CO_2 pressure maintenance and secondary recovery operations. Moreover, from a review of the evidence adduced at the hearing, it is clear that the requested unitization will substantially increase the ultimate recovery of oil and gas from the unit area.

B. Alternative Recovery Methods

Merit contends the Order is defective because it failed to consider the targeted vertical well it proposes as an alternative to the project proposed in Core's Plan of Unitization. Merit's contention, however, misapprehends the requirements imposed by Part 617, which focuses on the "unitization requested," "the type of operations contemplated by the plan," and "the estimated additional cost of conducting such operations." MCL 324.61704(4)(a)(b) and (c). As Core noted in its Brief, none of these statutory provisions require a comparison to alternate recovery methods, or a

determination as to which of all possible unit operations is preferable. Rather, the statute requires only a determination that the requested unitization will meet the statutory predicates.

C. Feasibility

Merit argues the operations contemplated by Core's Plan of Unitization are not feasible and will fail, and in support relies upon the adage that "a good waterflood may make a good CO_2 flood, but a bad waterflood will make a terrible CO_2 flood." Tr. p. 669. In advancing this argument, Merit seeks great weight be afforded this adage, to the point that it trumps all other evidence in the case. The Order did not take that position, but rather addressed the evidence upon which the adage is based, *i.e.* potential problems with "premature breakthrough" and "sweep efficiency." Oral Argument, Tr. p. 24. The Order sufficiently addressed such contentions and supports a finding that Core's proposed operations are feasible. [3] Moreover, from a review of the evidence adduced at the hearing, the Order's finding as to feasibility of Core's proposal is supported by a preponderance of the evidence.

D. Waste

Merit contends Core's Plan of Unitization will not prevent waste, and thus cannot be approved. MCL 324.61704(4)(b). Waste is defined, in part, as "operating ... any oil and gas well or wells in a manner that results ... in reducing the quantity of oil and gas ultimately recoverable from any pool...." MCL 324.61701(i). In this case, Merit alleges

[3] While the Order does not specifically use the phrase "sweep efficiency," it addressed the concept when it referenced the "proposed pattern of injector and producers" and the "vertical displacement of oil by CO2 high in the reef...." Order p. 7.

that any failure of Core's proposed CO_2 flood will cause oil and gas in the field to become unrecoverable, thus resulting in waste. Such a contention, however, is not supported by the record. Rather, Bradley Bauer, a witness offered by Merit, testified to a concern over the "economic implementation of most other types of recovery" after a CO_2 flood, because "you're going to produce a lot of CO2 in those particular wells, and you're going to have to do something with it." Tr. p. 1403. However, on cross-examination Mr. Bauer admitted that he knew of no reason why the CO_2 could not be vented into the atmosphere, and that Merit actually vents CO_2 in the operation of its Michigan CO_2 flood. Tr. p. 1417. Based on the evidence adduced at the hearing, a preponderance of the evidence indicates that Core's Plan of Unitization will prevent waste.

E. Costs and Value

Merit maintains its position that the estimated additional costs of conducting the Unit operations will exceed the value of the oil and gas recovered, contrary to §61704(4)(c). Merit specifically contends that Core's drilling costs do not account for the heightened mechanical risks associated with lengthy horizontal sidetracks. Tr. p. 715. Core's projected costs for its injection well is $1.25 million, and the projected costs for each of its production wells is $1.105 million. Mr. Bauer projected such costs would be $2.6 million for the injection well, and $2.3 million for each of the producers. Tr. p. 715. Hence, Merit contends that the drilling costs will be $3.74 million over

budget. The Order noted that the anticipated profit for the entire project is $14 million.[4] Any under-estimate for drilling costs will certainly only impact the anticipated profit of $14 million for the project. Therefore, even if drilling costs are $3.74 million over budget, the entire project is still anticipated to recover $10.26 million of profit. Based on the evidence adduced at the hearing, a preponderance of the evidence indicates that the estimated additional cost of conducting such operations will not exceed the value of the additional oil and gas so recovered.

Based on the foregoing, Merit's first assignment of error concerning the predicate findings in §61704(4) is rejected.

II. Correlative Rights

Merit makes three arguments regarding correlative rights. Merit first contends that the Order fails to satisfy the predicate findings of §61704(4)(b), because the proposed unitization purportedly does not protect correlative rights. Merit also contends that the Order fails to protect correlative rights, because it adopts Core's tract allocation factors. Merit further contends that the Order fails to protect correlative rights by adopting Core's Plan of Unitization.

While the phrase "correlative rights" is not defined in either Part 615 or Part 617, the phrase is commonly understood to relate to ownership among several owners within a common pool or source of supply. See, e.g., *Transcontinental Gas Pipe Line Corp v State Oil & Gas Bd*, 474 US 409, 412; 106 S Ct 709; 88 L Ed 2d 732 (1986). As an "ownership-in-place" jurisdiction, Michigan law provides that "each owner of the surface is entitled only to his equitable and ratable share of the recoverable oil and gas energy

[4] Based on the adage addressed *supra*, Merit also contends that the project will not recover $14 million in profit. Because its argument regarding the adage was rejected, such adage does not provide a basis for reducing the projected profit of the project.

in the common pool in the proportion which the recoverable reserves underlying his land bears to the recoverable reserves in the pool." *Northern Michigan Exploration Co v Public Service Comm*, 153 Mich App 635, 638-639; 396 NW2d 487 (1986), quoting *Wronski v Sun Oil Co*, 89 Mich App 11, 22; 279 NW2d 564 (1979).

Williams contends that the proposed Plan of Unitization will protect their correlative rights, because the Plan will cause production to occur in a field which has been dormant for ten years under Merit's ownership. Core, on the other hand, contends that the phrase "correlative rights" is defined in §61705(c), which provides the statutory basis for determining "tract allocation factors." Specifically, §61705(c) requires the plan of unitization to provide for "[a]n allocation to the separately owned tracts in the unit area of all the oil and gas...." MCL 324.61705(c). Section 61705(c) further provides that "[a] separately owned tract's fair, reasonable, and equitable share of production shall be measured by the value of the tract for oil and gas purposes and its contributing value to the unit in relation to like values of all tracts in the unit." *Id.* While this statutory provision does not specifically define correlative rights, the statute most certainly provides a method for the protection of correlative rights.

Other than its targeted vertical well argument addressed above, Merit's arguments regarding correlative rights relate specifically to the adoption of the Plan of Unitization or the tract allocation factors contained therein. Merit first objects to the fact that the Order abandons the tract allocation factors adopted in the Shell waterflood proceeding. When the Shell waterflood was approved in 1983, Merit's predecessor was allocated a 40 percent interest [5] in the unit based on the fact that it owned leases in two out of the five 80-acre drilling units in the field. Hence, Shell's tract allocation factors did

[5] Merit's position is conflicting with its own witness, who testified at the hearing that Merit was entitled to a 44.41 percent tract allocation factor, which is an increase of 4.41 percent over the tract allocation factors established in the Shell waterflood proceeding.

not account for the actual amount of the reservoir in each tract, and were not based upon seismic data available in 1983. Conversely, Core's tract allocation factors are based upon hydrocarbon pore volume in light of the actual amount of the reservoir in each tract of the Unit. The Order correctly notes that "[v]arious methodologies can be used to determine tract factors" and that "Part 617 only provides that the allocation be fair, reasonable, and equitable." From a review of the evidence adduced at the hearing, it is clear that the tract allocation factors adopted in the Order are fair, reasonable, and equitable, based on a preponderance of the evidence.

Merit nevertheless contends that the tract allocation factors should not be changed, because the parties to the Shell waterflood proceeding agreed to such factors through "group effort and compromise," allowing waterflood operations to change the flow of oil in the reservoir, by sweeping oil from tracts with injector wells toward tracts with production wells. However, the parties to the Shell waterflood proceeding were Shell and Miller Brothers Oil Corporation, not Merit. Moreover, Williams points to the fact that the Unit had been plugged and abandoned for 10 years at the time Merit purchased its interest. Under such circumstances, Merit's plea for a continuation of such tract allocation factors due to the "group effort and compromise" bears very little weight.

Merit's next objection based on correlative rights is that various provisions of Core's Plan of Unitization should be amended. It is readily accepted that "an administrative agency may not ... abridge or enlarge its authority or exceed the power given to it by statute." *Sterling Secret Service, Inc v State Police*, 20 Mich App 502, 513; 174 NW2d 298 (1969). In this case, Part 617 authorizes the Supervisor of Wells to prescribe a plan for unit operations that includes certain statutory enunciated elements. MCL 324.61705. To satisfy the requirements of §61705, Core submitted a proposed

Plan of Unitization, which has been ratified by all royalty interest owners in the proposed Unit, except the 0.57 royalty acres owned by an individual who is currently incarcerated. Other than Merit, only one working interest owner – who owns a working interest in 3.9 of the 320 acres of the Unit – has not ratified the Plan of Unitization. While §61705 authorizes the Supervisor of Wells to prescribe a Plan of Unitization, it does not empower the amendment of private contracts. Therefore, the Supervisor of Wells may either approve the proposed Plan of Unitization as satisfying the statutory enunciated elements, or reject the proposed Plan as failing to satisfy such elements. In this case, the Order expressly found that Core's "Plan of Unitization (Exhibit 7) constitutes a plan of unit operations containing all of the required terms and conditions as set forth in subsections 61705(a)-(j) of Part 617...." Order pp. 4-5. Based upon the evidence adduced at the hearing, this finding is based upon a preponderance of the evidence. Therefore, for each of the foregoing reasons, Merit's objection – that the Order does not protect correlative rights – is rejected.

III. Depiction of the Reservoir

Merit contends that the Order is defective, because it adopted Core's depiction of the reservoir in the Unit rather than relying upon the structure of the reservoir previously adopted by the Supervisor of Wells in the Shell waterflood proceeding. The Shell waterflood proceeding was based on 1983-vintage two dimensional (2D) seismic data. John Clark testified that Core's three dimensional (3D) seismic data provides higher imaging capability than the 2D seismic data employed by Shell in 1983. He referred to the 2D data as "crude" in comparison. Moreover, the fold of several of the 1983 seismic lines dropped off and was almost non-existent, making such data less valuable for

usage in comparison to the modern 3D seismic data. Therefore, Merit's depiction of the reservoir was based on less-reliable, vintage 2D seismic data.

Moreover, the depiction of the reservoir in the Shell waterflood proceeding did not adequately identify the southern boundary of the reef. Question marks appear on the structure map, indicating that Shell was uncertain as to the location of the southern reef boundary. Exhibit 22 of Merit's Exhibit 4. Also, numerous question marks appear on Shell's map locating the reef boundary based on the location of the seismic lines. Exhibit 21 of Merit's Exhibit 4; Core Exhibit 36. The Order expressly found that "Mr. Clark supported the reliability of [Core's] assessment of the reef by comparing Core's 3D seismic exhibits to exhibits from the 1983 two dimensional (2D) Shell waterflood hearing." Order p. 5. In fact, Mr. Clark sponsored exhibits prepared by Shell which demonstrated that Shell's original guestimate regarding the southern reef boundary was incorrect. For these reasons, and based on the totality of the evidence adduced at the hearing, it is clear that the Order properly accepted the depiction of the reservoir which was based on Core's assessment of its 3D seismic data.

IV. Exclusion of 3D Seismic

Merit next contends that Core's 3D seismic evidence should have been excluded from evidence, because it was allegedly obtained through illegal means. Hence, Merit posits that the Order is defective, in that it is based on illegally obtained evidence.

The APA provides that "[i]n a contested case the rules of evidence as applied in a nonjury civil case in circuit court shall be followed as far as practicable...." MCL 24.275. The rules of evidence expressly provide that "[e]rror may not be predicated upon a ruling which admits ... evidence unless a substantial right of the party is affected, and ... a timely objection ... appears of record." MRE 103(a)(1); *Downie v*

Kent Products, Inc, 420 Mich 197, 204; 362 NW2d 605 (1984). "For an issue to be preserved for appellate review, it must be raised, addressed, and decided by the lower court." *People v Metamora Water Serv*, 276 Mich App 376, 382; 741 NW2d 61 (2007).

Core's 3D seismic evidence was contained in Core's Exhibit 27, and was the subject of extensive testimony. Merit made no objection to the admissibility of Core's Exhibit 27. Tr. p. 478. Because it failed to lodge any objection to Core's Exhibit 27 at the hearing, Merit cannot use the admission of such evidence as a basis for a reversal of the Order.

Merit also contends that the fruits of the 3D seismic evidence – the contour map of the Unit and the tract allocation factors which were derived, at least in part, from such 3D seismic – should have also been excluded from evidence. Extensive testimony was received regarding Core's Exhibit 29, which is the contour map generated from Core's 3D seismic. Merit made no objection to the admissibility of such evidence. Tr. p. 478. Similarly, extensive testimony was also received with respect to Core's Exhibit 19, which is a table setting forth Core's tract allocation factors. Merit made no objection to the admissibility of such evidence. Tr. p. 273. Because it failed to lodge any objection to Core's Exhibits 19 or 29 at the hearing, Merit cannot use the admission of such evidence as a basis for a reversal of the Order. This assignment of error is rejected.

V. Weight of the Evidence

Merit also contends that the Order erred by purportedly relying exclusively upon the testimony of Core's witnesses instead of considering the conflicting testimony of Merit's experts. It is axiomatic that the weight given to testimony is not dependent upon the number of witnesses. *Dewey v Perkins*, 295 Mich 611, 616; 295 NW 333 (1940). In

fact, "unduly repetitious evidence may be excluded." MCL 24.275. See also MRE 403. In cases tried without a jury, the trier of fact may give such weight to which the testimony, in his opinion, is entitled, and the reviewing court will not reverse unless the evidence clearly preponderates in the opposite direction. *Lather v Michigan Public Service Co*, 332 Mich 683, 690; 52 NW2d 551 (1952). Moreover, the resolution of conflicting expert testimony falls within the province of the trier of fact. See *Goodman v Stafford*, 20 Mich App 631, 637; 174 NW2d 593 (1969). Based on a review of the transcript of the hearing, the findings of fact contained in the Order are supported by a preponderance of the evidence.

The evidence adduced at the hearing indicates that Merit relied upon 30-year-old seismic profiles and geologic interpretations prepared in 1983 for the Shell waterflood proceeding, which failed to adequately identify the location of the southern reef boundary, which is where Merit's lands are located. Instead of calling a seasoned geophysicist to counter the testimony of Core's geophysicists as to such reef boundary based upon 3D seismic data, Merit relied upon the testimony of a geologist, whose credentials were not accepted as an expert in the field of geophysics. Tr. p. 960. Further, the record is devoid of any evidence that the adage relied on by Merit applies to Michigan Niagaran reefs. Despite all of the foregoing, the Order nevertheless addressed Merit's arguments, including Merit's arguments regarding "premature breakthrough" and "sweep efficiency." Therefore, based upon the record, the findings of fact are supported by a preponderance of the evidence. Merit's assignment of error is rejected.

NOW, THEREFORE, IT IS ORDERED:

1. Order No. 09-2013 is affirmed and adopted as modified in this Order on Appeal.

2. This Order on Appeal constitutes the final agency decision on the Petition Core filed on June 25, 2013.

Dated: 10/9/14

Dan Wyant
Supervisor of Wells