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# POOLING FOR HORIZONTAL WELLS: CAN THEY TEACH AN OLD DOG NEW TRICKS?

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## § XX.01 The Historical Antecedents and Basic Definitions

This paper will explore the issues arising from the pooling of mineral, leasehold and royalty interests for the purpose of accommodating the drilling of a horizontal well.<sup>1</sup> It will analyze the history of state well spacing and compulsory pooling statutes and then provide an update of legislative and regulatory changes that have occurred in the past 25 years to deal with the problems that horizontal wells create under the traditional paradigm of pooling. The paper will also cover the issues that arise from the voluntary pooling of mineral, leasehold and royalty interests including trespass, surface use and the need for a re-writing of leasehold pooling clauses to better deal with horizontal wells.

“Pooling” or a “pooled unit” will refer to the joining together of small tracts or portions of tracts for the purpose of having sufficient acreage to receive a well drilling permit under the

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<sup>1</sup> There is a substantial amount of literature governing horizontal drilling. I have provided a list of them in Section ??07 *infra*.

relevant state or local spacing or drilling laws and regulations.<sup>2</sup> The term communitization refers to the pooling of interests where one of those interests is owned by either the federal government or a federal oil and gas lessee.<sup>3</sup> Compulsory pooling refers to the use of the state police power to combine separately owned interests within a designated spacing and/or drilling unit. Compulsory pooling arose largely in the context of the development of state spacing and/or drilling regulation

[A] Horizontal Drilling for Dummies

Normally a horizontal well can be broken down into three operational segments: the vertical section, the build section and the lateral section.<sup>4</sup> The vertical section is drilled as any vertical well would be depending on the depth and the type of rock that will be encountered. Prior to drilling the engineers will have determined the depth at which the "Kick-Off Point" is reached. The kick-off point is the depth at which the vertical drilling rig will be replaced by a horizontal drilling rig. Reaching the kick-off point leads to the build section of a horizontal well. The build section entails the building of the angle from zero degrees to around ninety degrees at the end of the build section. The subsurface tools needed to conduct the build operation segment include the drill bit, the mud motor, bent subs and the "MWD" or measurement while drilling devices. In drilling the build section, bit rotation is not provided by the drill string as in the vertical section but by a mud motor through a series of impellers that are displaced as drilling fluid is pumped down the drill string. Bent subs are then used to provide angle and are usually applied just above the mud motor. During the build section operations a MWD or measurement while drilling device will be used to provide the directional measurements necessary to steer the mud motor and bit along the proper azimuth. The build section

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<sup>2</sup> Bruce M. Kramer & Patrick H. Martin, *The Law of Pooling and Unitization* § 1.02 (3d ed. 2008)[hereinafter Kramer & Martin]. See also 8 Patrick H. Martin & Bruce M. Kramer, *Williams & Meyers Oil and Gas Law* 820-21 (2008)[hereinafter Williams & Meyers].

<sup>3</sup> 2 *Law of Federal Oil and Gas Leases* § 18.01[2].

<sup>4</sup> See Taylor Reid & John W. Morrison, "Doing the Lateral Lambada: Negotiating the Technical and Legal Challenges of Horizontal Drilling," 43 *Rocky Mt. Min. L. Inst.* ch. 16 (1997). See also Patricia Moore, "Horizontal Drilling—New Technology Bringing New Legal and Regulatory Challenges," 36 *Rocky Mt. Min. L. Inst.* ch. 15 (1990).

operations are continued until the inclination of the bit is at or near 90 degrees or the intended production formation is reached. The last operational segment is the lateral section. The same equipment used in the build section is used in the lateral section although the bent subs employed are bent less severely. A MWD is employed to continuously monitor the angle and length of the horizontal well bore. The length will be determined by the formation being drilled, whether or not the horizontal well bore has to make “doglegs,” and appropriate spacing rules. It is not uncommon for laterals to be 3000-5000 feet in length.

[B] A Condensed History of Compulsory Pooling Statutes

The domestic oil and gas industry has been in existence for around 150 years.<sup>5</sup> Government regulation of the oil and gas industry, including the enactment of compulsory pooling and unitization statutes has been in existence for only a slightly shorter period of time.<sup>6</sup> The need for well spacing and pooling regulation was a direct result of the early and widespread adoption of the rule of capture as the basic ownership principle for oil and gas.<sup>7</sup> Because the only protection a mineral owner had under a rule of capture property regime is to drill a well to prevent drainage from a well located on a neighboring tract there is a built-in incentive for such owners to drill as many wells as quickly and as close to the property line as one could.<sup>8</sup>

Two Kansas municipalities, in response to the threat of over-drilling in urban areas, enacted the earliest well spacing and pooling ordinances in 1927.<sup>9</sup> The City of Oxford

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<sup>5</sup> The drilling of the Drake well near Titusville, Pennsylvania in 1859 is considered the “birth” of the modern oil and gas industry, although there are published reports of an oil spring existing in Alleghany County, New York as early as 1833 and a productive oil well in Washington County, Ohio that may have been drilled as early as 1814. See 1 Kramer & Martin, § 1.01; Eugene Kuntz, *A Treatise on the Law of Oil and Gas* §§ 1.4-1.6 (2008).

<sup>6</sup> See 1 Kramer & Martin, § 1.01. See generally, A.B.A. Legal History of Conservation of Oil and Gas (1938). Professor Summers identifies Pennsylvania as adopting conservation statutes in 1878, New York in 1879, Ohio in 1883 and West Virginia in 1891. *Id.* at 1 (n.1).

<sup>7</sup> Bruce M. Kramer & Owen L. Anderson, “The Rule of Capture—An Oil and Gas Perspective,” 35 *Env’tl L.* 899 (2005).

<sup>8</sup> Kramer & Martin, § 2.01.

<sup>9</sup> *Id.* at § 3.02[1]. See also 1938 ABA Legal History, note 6 *supra* at 55-56. The City of Winfield ordinance set a minimum spacing or drilling unit of either 90,000 or 300,000 square feet and then required the drilling permit applicant to prove that she owned or controlled that minimum area because it would issue a permit. The Winfield ordinance also provided for a pooling of interests within such drilling permit areas in order to qualify for a permit.

ordinance resolved the problem of who would get the one drilling permit allocated per drilling unit or "block:" by using a first-in-time procedure but then requiring the permit owner to make pro rata royalty payments to all mineral owners within the "block" based on a surface acreage formula.<sup>10</sup> The other leasehold interest owners in the "block" would receive their pro rata share of production if they tendered to the permit owner their pro rata share of the costs of drilling and operating the well.<sup>11</sup> Other municipalities in Oklahoma and Texas followed suit with their own compulsory pooling ordinances.<sup>12</sup>

In 1935, two states enacted compulsory pooling legislation, New Mexico<sup>13</sup> and Oklahoma.<sup>14</sup> The New Mexico provision used the proration unit system as the primary inducement for voluntary pooling but also authorized the state to force-pool separate interests within the proration unit. The Oklahoma provision used the drilling unit system to both space wells and declared that if there were two or more owners located within a designated drilling unit, their interests would be pooled on a surface acreage basis.<sup>15</sup> The constitutionality of compulsory pooling was upheld in *Patterson v. Stanolind Oil & Gas Co.*<sup>16</sup> The court's analysis of the inverse condemnation/regulatory taking claim is superficial at best, merely denoting that all property interests are held subject to the valid exercise of the police power.<sup>17</sup> The drillsite royalty owner's claim that its interests had been taken by its dilution to accommodate the other royalty interest owners within the drilling unit was dismissed.

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The City of Oxford ordinance, on the other hand, combined spacing and pooling into one process, proportionately reducing the royalty to be paid mineral owners within the drilling "block" based on surface acreage. *Id.*

<sup>10</sup> *Id.* See generally, R.M. Williams, "Compulsory Pooling and Unitization of Oil and Gas Rights," 15 *Oil & Gas Inst.* 223, 241-42 (Sw. L. Fdn. 1964).

<sup>11</sup> Kramer & Martin, § 3.02[1].

<sup>12</sup> Kramer & Martin, § 3.02[1].

<sup>13</sup> 1935 N.M. Laws, Ch. 72. See 1938 ABA History, note 6 *supra* at 106-07; 289-302.

<sup>14</sup> 1935 Okla.Sess. Laws, Ch. 59 analyzed in 1938 ABA History, note 6 *supra* at 209-210.

<sup>15</sup> Kramer & Martin, § 3.02[1]; 10.02.

<sup>16</sup> 1938 OK 138, 182 Okla. 155, 77 P.2d 83, *app. dism'd*, 305 U.S. 576 (1939). Constitutional attacks on compulsory pooling statutes are reasonably rare and uniformly unsuccessful. See *Waller Brothers, Inc. v. Exxon Corp.*, 836 F.Supp. 363, 126 O.&G.R. 265 (S.D.Miss.), *aff'd*, 20 F.3d 469 (5<sup>th</sup> Cir. 1994); *In re SAM Oil*, 817 P.2d 299, 116 O.&G.R. 417 (Utah 1991); *Bennion v. ANR Production Co.*, 819 P.2d 343, 116 O.&G.R. 401 (Utah 1991); *but cf.*, *Burtner-Morgan-Stephens Co. v. Wilson*, 63 Ohio St.3d 257, 586 N.E.2d 1062, 118 O.&G.R. 484 (1992).

<sup>17</sup> 77 P.2d at 89.

The interplay between spacing regulation and pooling regulation was recognized in a series of California cases and legislative amendments that replaced a well spacing system with a well spacing and compulsory pooling system in order to deal with the inverse condemnation claims of parties who were unable to receive a well drilling permit.<sup>18</sup> The Texas response to the regulatory takings issue was to allow Rule 37 exception well permits so that small tract owners could get a drilling permit even though they owned substantially smaller tracts than would otherwise support the issuance of a Rule 37 well permit.<sup>19</sup> After enactment of the Mineral Interest Pooling Act in 1965, Kansas became the only major producing state that did not have a compulsory pooling statute. In an article written in 1997, the author concluded that only 4 states had any active regulation of horizontal wells under their well spacing, proration and/or pooling statutes or regulations.<sup>20</sup> Those states included North Dakota, Oklahoma, Texas and Wyoming. To the extent to which horizontal wells were regulated in other jurisdictions those regulations would typically fall under the deviated or slant hole regulation.<sup>21</sup> At the end of this paper I will provide a short synopsis of state regulation that shows that state conservation agencies are responding to the increase in the use of horizontal drilling operations.

#### [C] The Pooling Power

Voluntary pooling has been greatly increased because of the widespread inclusion of pooling clauses in oil and gas leases.<sup>22</sup> Without a pooling clause the lessee could pool the leasehold interest but would be powerless to pool the royalty interest or the possibility of reverter. As the Texas Supreme Court noted: "Absent express authority, a lessee has no

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<sup>18</sup> Compare *Bernstein v. Bush*, 29 Cal.2d 773, 177 P.2d 913, 918 (1947) with *Hunter v. Justice's Court*, 36 Cal.2d 315, 223 P.2d 465 (1950). The California experience is described in more detail at R.M. Williams, "Compulsory Pooling and Unitization," 15 *Oil & Gas Inst.* 223 (Sw. L. Fdn. 1964).

<sup>19</sup> Kramer & Martin, §§ 5.01[4][g]; 5.02[2][a].

<sup>20</sup> Robert Buettner, "The Compleat Angler: A Survey of Horizontal Drilling Regulation in the Producing States," 48 *Oil & Gas Inst.* 8-1, 8-20-8-30 (Sw. L. Fdn. 1997).

<sup>21</sup> *Id.*

<sup>22</sup> For several examples of pooling clauses see Kramer & Martin, § 8.02 and Williams & Meyers, § 668.

power to pool interests in the estate retained by the lessor with those of other lessors.”<sup>23</sup> While pooling clauses vary in length and detail, most pooling clauses contain provisions that may hinder pooling for a horizontal well development. There is some disagreement as to how courts should interpret pooling clauses. One Texas Court of Appeals took the following approach:

Anticipatory provisions in leases for the commitment by the lessee of such lease to unitization, of necessity, must be in general terms. Neither the lessor nor the lessee has any way of knowing at the time the lease is taken the facts with respect to which it will be necessary for the lessee to apply his power. It is not practicable for the lessee to await the ascertainment of such facts. He knows from experience that because of the possibility of many changes in ownership of the lessor’s interest as time goes on, it may be difficult to effect an agreement if the right to unitize is not included in the lease itself.<sup>24</sup>

But on the other hand there are decisions that interpret pooling clauses narrowly or strictly hewing closely to the language used by the parties.<sup>25</sup> I have taken the position that while the courts could require strict compliance with any conditions precedent to the exercise of the pooling power, the interpretation of the pooling clause should not be construed in light of the purpose of the clause which is to encourage the pooling of interests.<sup>26</sup>

In addition to any express conditions or limitations placed on the lessee pursuant to the leasehold pooling clause, courts have imposed upon lessees a duty of good faith fair dealing in the exercise of the pooling power.<sup>27</sup> While the cases tend to poorly define this particular duty, sometimes referring to the subjective standard of good faith while at other times referring to an objective standard akin to the reasonable and prudent operator test, courts regularly review the pooling decision and on occasion will overturn such decisions. Inquiries into why a particular

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<sup>23</sup> Jones v. Killingsworth, 403 S.W.2d 325, 328, 24 O.&G.R. 508 (Tex. 1966), citing Brown v. Smith, 141 Tex. 425, 174 S.W.2d 43 (1943).

<sup>24</sup> Expando Production Co. v. Marshall, 407 S.W.2d 254, 260, 25 O.&G.R. 954 (Tex.Civ.App.—Ft. Worth 1966, writ ref’d n.r.e.). *In accord*; Young v. Amoco Production Co., 610 F.Supp. 1479, 85 O.&G.R. 376 (E.D.Tex. 1985); Sabre Oil & Gas Corp. v. Gibson, 72 S.W.3d 812, 157 O.&G.R. 134 (Tex.App.—Eastland 2002, rev. denied); Tiller v. Fields, 301 S.W.2d 185, 187-88, 7 O.&G.R. 1513 (Tex.Civ.App.—Texarkana 1957, no writ).

<sup>25</sup> See e.g., Mallett v. Union Oil Co., 232 La. 157, 94 So.2d 16, 7 O.&G.R. 434 (1957); Southeastern Pipe Line Co. v. Ticachek, 997 S.W.2d 166, 170, 143 O.&G.R. 179 (Tex. 1999); Jones v. Killingsworth, 403 S.W.2d 325, 24 O.&G.R. 508 (Tex. 1965)..

<sup>26</sup> 4 Williams & Meyers, § 670.

<sup>27</sup> Kramer & Martin, § 8.06; 4 Williams & Meyers, § 670.2.

lessee pooled leasehold acreage suggest that a good faith standard is being applied and that pooling of acreage merely to hold a lease into the secondary term may constitute bad faith.<sup>28</sup>

Where a pooling causes financial injury to the lessor and financial benefits to the lessee there may be a finding of bad faith pooling.<sup>29</sup>

#### § XX.02 Horizontal Pooling and Trespass Issues

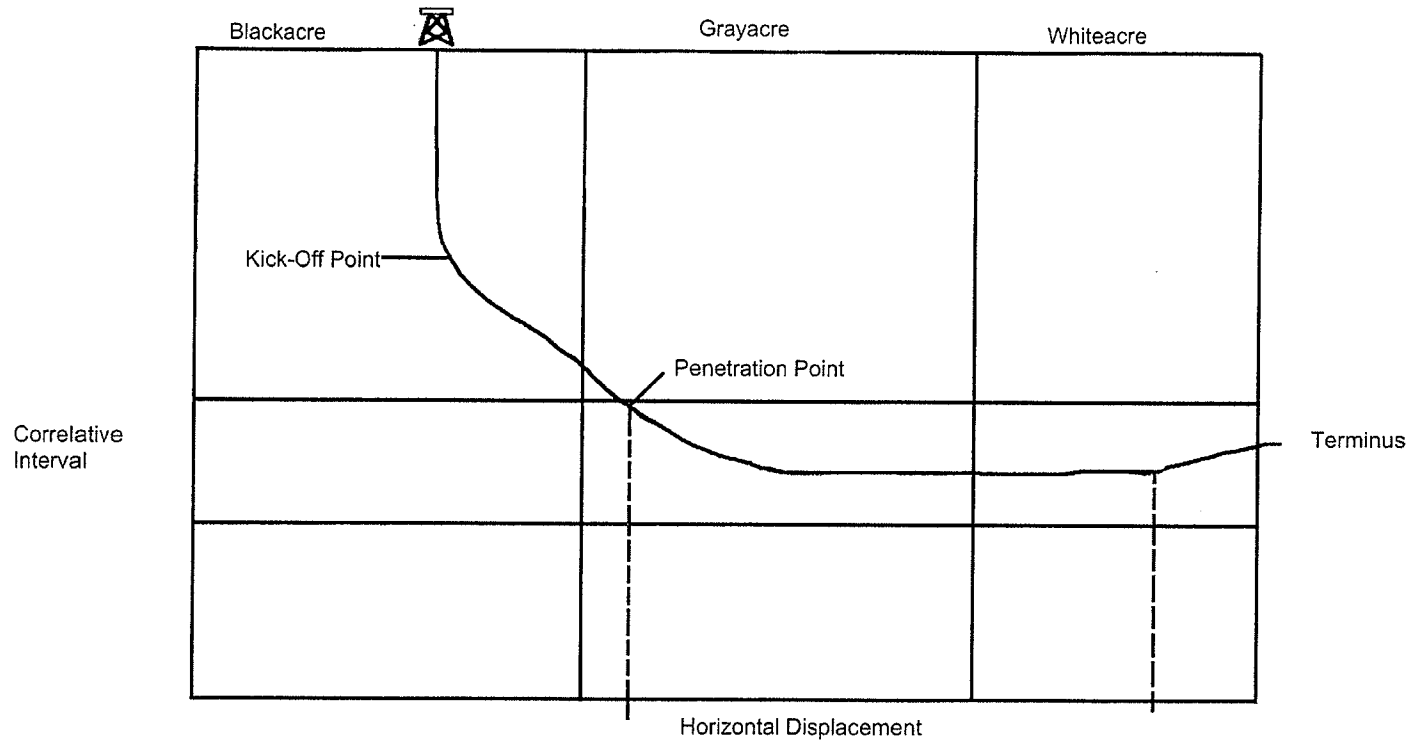
One of the reasons why horizontal drilling creates problems necessitating pooling is because of the potential trespass and surface use issues. The diagram below shows what may be a typical situation with a horizontal well.

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<sup>28</sup> See e.g., *Circle Dot Ranch, Inc. v. Sidwell Oil & Gas, Inc.*, 891 S.W.2d 342, 132 O.&G.R. 417 (Tex.App.—Amarillo 1995, writ denied); *Amoco Production Co. v. Underwood*, 558 S.W.2d 509, 58 O.&G.R. 578 (Tex.Civ.App. 1977, writ ref'd n.r.e.).

<sup>29</sup> *Coastal Oil & Gas Corp. v. Garza Energy Trust*, 268 S.W.3d 1 (Tex. 2008), *rev'g on other grounds*, *Mission Resources, Inc. v. Garza Energy Trust*, 166 S.W.3d 301 (Tex.App.—Corpus Christi 2005).





The surface location of the well is located on Blackacre. Vertical drilling occurs until the kick-off point is reached at which time the build section operations begin where the well bore is deviated from the vertical. The engineers have determined that the penetration point, or the point at which the well bore enters the correlative interval is to be located under Grayacre. At that point the well bore will within a degree or two of being parallel to the surface and will extend until a terminus is reached. The terminus of the well is located under Whiteacre. This last section of the well is sometimes referred to as the lateral section.

Under this hypothetical there are three tracts of land involved.<sup>30</sup> If all tracts are under lease to the same operator no problems will arise. But if there are severed surface estate and separate leasehold estates numerous problems may arise. Let us presume that Whiteacre and Grayacre are separately leased to Alpha Oil by different lessors. In order to locate the lateral section under both Whiteacre and Grayacre, Alpha Oil will have to pool the respective estates. Depending on the size of each and the inclusion of a pooling clause in the respective leases that may be easier said than done. Furthermore, the leases may contain anti-dilution provisions that do not allow for pooling unless the pooled interest is entirely included or remains a majority interest after the pooling.<sup>31</sup> Blackacre, on the other hand, is leased to Beta Oil. The lessor of Blackacre is also the surface owner.

Presuming further that Beta Oil does not want to pool Blackacre with Grayacre and Whiteacre where does Alpha Oil go to seek permission to have the surface location on Blackacre. It is an axiomatic rule of oil and gas law that: "the use of the surface by a mineral owner or lessee in connection with operations on other premises constitutes an excessive user

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<sup>30</sup> This hypothetical is drawn from an unpublished paper written by H. Phillip Whitworth, Jr. and Richard P. Marshall, Jr. of Scott, Douglass & McConnico of Austin, Texas and called, "Land and Legal Problems Related to Horizontal Drilling, Including, Pooling, Trespass and Retained Acreage." I am indebted to them for their insights and understanding of the issues.

<sup>31</sup> The issues relating to anti-dilution clauses will be discussed *infra* at § XX.03.

of his surface easements.”<sup>32</sup> Thus even if Alpha Oil was the lessor of the minerals under Blackacre it would not have an implied easement of surface use that would allow it to produce oil and gas from under Grayacre and Whiteacre.<sup>33</sup> In our hypothetical, however, it is clear that Alpha Oil cannot enter onto the surface of Blackacre without the permission of the surface owner of Blackacre.<sup>34</sup> That permission may be denied and thus Alpha Oil will not be able to place its surface location on Blackacre.

Does Beta Oil have any veto power over the surface location since it has been granted the exclusive right to drill for and produce oil and gas from underneath Blackacre. Note that under our hypothetical the well bore does not reach the correlative interval or common source of supply until it is on Grayacre. The case authority on this issue is divided. In *Humble Oil & Refining Co. v. L & G Oil Co.*,<sup>35</sup> the court specifically allowed the lessee of Grayacre to purchase the surface estate of Blackacre and drill a well that would be bottomed on Grayacre over the opposition of the mineral owner of Blackacre. So long as the surface use of Blackacre does not unreasonably interfere with the mineral owner of Blackacre’s ability to produce the minerals under Blackacre, the surface owner is free drill a directional well.<sup>36</sup> But where the mineral owner of Blackacre can show that the proposed surface use would preclude the development of the

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<sup>32</sup> 1 Williams & Meyers, § 218.6. See e.g., *Russell v. Texas Co.*, 238 F.2d 636, 8 O.&G.R. 221 (9<sup>th</sup> Cir. 1956), cert. denied, 354 U.S. 938 (1957); *Robinson v. Robbins Petroleum Co.*, 501 S.W.2d 865, 46 O.&G.R. 438 (Tex. 1973).

<sup>33</sup> Many of the cases involving use of the surface estate for the benefit of other interests involve the injection of brine, salt water and/or produced water from wells not located on the surface estate. See e.g., *Corbello v. Iowa Production Co.*, 850 So.2d 686, 157 O.&G.R. 1120 (La. 2003); *Farragut v. Massey*, 612 So.2d 325 (Miss. 1992); *Grimes v. State*, 2005 Tex.App. LEXIS 6963 (Tex.App.—Austin 2005).

<sup>34</sup> See e.g., *Roberts Ranch Co. v. Exxon Corp.*, 43 F.Supp.2d 1252, 144 O.&G.R. 133 (W.D.Okla. 1997); *Bordieu v. Seaboard Oil Corp.*, 48 Cal.App.2d 429, 119 P.2d 973 (1941); *Wise v. Tabor*, 1949 OK 113, 201 Okla. 428, 206 P.2d 970. There are some cases that suggest a contrary result but those cases are probably wrongly decided. *Mountain Fuel Supply Co. v. Smith*, 471 F.2d 594, 45 O.&G.R. 321 (10<sup>th</sup> Cir. 1973); *Mobil Pipe Line Co. v. Smith*, 860 S.W.2d 157, 123 O.&G.R. 130 (Tex.App.—El Paso 1993, no writ).

<sup>35</sup> 259 S.W.2d 933, 2 O.&G.R. 1429 (Tex.Civ.App.—Austin 1953, writ ref’d n.r.e.).

<sup>36</sup> See also *Atlantic Refining Co. v. Bright & Schiff*, 321 S.W.2d 167, 10 O.&G.R. 566 (Tex.Civ.App.—San Antonio 1959, writ ref’d n.r.e.); *Grubstake Investment Association v. Coyle*, 269 S.W.854 (Tex.Civ.App.—San Antonio 1925, writ dism’d). The basic concept being applied in these cases is that the surface owner while subject to the implied easement of surface use has free use of the surface so long as it does not interfere with the implied easement. *Parker v. Texas Co.*, 326 S.W.2d 579, 582 (Tex.Civ.App.—El Paso 1959, writ ref’d n.r.e.).

Blackacre mineral estate than the surface use may be enjoined.<sup>37</sup> But as is usually the case in Texas there is a contrary holding. In *Chevron Oil Co. v. Howell*,<sup>38</sup> the court enjoined a drilling operation on the surface estate of a third party because it concluded that there would be inevitable damage to the mineral estate where the vertical, non-producing portion of the horizontal well is located. The court apparently relies on a presumption of injury to the mineral estate that appears to be conclusive and is probably not based in fact. If followed, *Howell* would require that permission be sought not only from the surface owner of Blackacre but from the mineral owner as well. In our hypothetical where the common source of supply is not even penetrated underneath Blackacre, the mineral owner of Blackacre should bear the burden of proof to show that there has been damage done to the common source of supply.

A contrary view to *L & G Oil* is taken by the California courts. In *Hancock Oil Co. v. Meeker-Garner Oil Co.*,<sup>39</sup> the surface owner of Blackacre which is under lease to the plaintiff grants an easement to the lessee of Grayacre to make a surface location on Blackacre for the purpose of drilling a directional well bottomed on Grayacre. The surface location is stipulated by the parties to not interfere with the existing or contemplated activities of the plaintiff in producing oil and gas from under Blackacre. Nonetheless the court concludes that while there might not be any direct injury, there would be injury caused by the drainage of oil from Blackacre to Grayacre. While the rule of capture should govern that issue along with the implied covenant to prevent drainage doctrine, the court finds somewhat incredulously that the well bore constitutes a trespass on the mineral estate. That finding is incredulous because in California the mineral

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<sup>37</sup> *Mid-Texas Petroleum Co. v. Colcord*, 235 S.W. 710 (Tex.Civ.App.—Ft. Worth 1921). See also *DuLaney v. Oklahoma State Dep't of Health*, 1993 OK 113, 868 P.2d 676, 127 O.&G.R. 86 (use of surface for landfill would necessarily preclude mineral development); *Phillips v. Frances*, 267 Ky. 203, 101 S.W.2d 924 (1937) (use of land for cemetery purposes would preclude use of land for oil and gas development).

<sup>38</sup> *Chevron Oil Co. v. Howell*, 407 S.W.2d 525, 25 O.&G.R. 342 (Tex.Civ.App.—Dallas 1966, writ ref'd n.r.e.).

<sup>39</sup> 118 Cal.App.2d 379, 257 P.2d 988, 2 O.&G.R. 1051 (1953).

and leasehold estates are non-possessory in nature so that a trespass action is probably not the proper way to characterize the injury.<sup>40</sup>

The Williams and Meyers treatise provides the following recommendations to deal with this issue:

- (a) The consent of the surface owner should be required for operations on Whiteacre for the purpose of exploring for and developing minerals in Blackacre, whether such operations are a geophysical survey or a surface location of a well. . .
- (b) Where drainage of oil and gas from Whiteacre or the prevention of drainage of gas to Whiteacre will not be the consequence of the particular operation involved, consent of the surface owner alone should be sufficient, and joinder by owners or operating or nonoperating interests in minerals should not be required. . .
- (c) Where drainage of oil and gas from Whiteacre or the prevention of drainage from Blackacre to Whiteacre will be the consequence of the particular operation involved, the problem is much more difficult. It may be argued that severance of minerals by deed or lease debars the surface owner by implication from such conduct on the premises as will cause drainage from the premises or will impair the mineral owner's right to capture oil by drainage.<sup>41</sup>

Even though these recommendations were made in an era before the widespread use of horizontal drilling techniques they are still valid. The issue of drainage that concerned the authors should be minimized because horizontal wells must still comply with the appropriate spacing regulation so that the penetration point in the target depth or correlative interval will be far enough away from a property line so that it is unlikely that there will be any drainage.

If the mineral estate owner of the tract being crossed by a non-producing portion of the well must consent to the drilling of the well, it is not likely that the owner is going to be willing to give its consent. Voluntary pooling would offer a potential solution to the problem but that would require a re-configuration of the well so that the penetration point is now on Blackacre. Without participation in the well it appears to me to be unlikely that the Blackacre mineral owner would consent to allowing a well to be located beneath the surface of Blackacre. If the parties are unable to come to an agreement regarding the use of the Blackacre subsurface to access the

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<sup>40</sup> See also *New v. New*, 148 Cal.App.2d 372, 306 P.2d 987, 7 O.&G.R. 213 (1957).

<sup>41</sup> 1 Williams & Meyers, § 230.

minerals under Grayacre and Whiteacre and the jurisdiction should follow the California or *Howell* approach then the compulsory pooling process would have to be utilized. Only Kansas, among the major producing states, does not have a compulsory pooling statute. But in order to pool Blackacre into a pooled unit, the operator will have to show that the common source of supply underlies Blackacre because state oil and gas conservation agencies are loathe to pool areas which might be non-productive.

#### § XX.03 Horizontal Pooling in Light of Vertical Pooling Clauses

As noted above, most pooling clauses contained in oil and gas leases were drafted with vertical well drilling in mind. In addition, a number of widely-used pooling clause forms make reference to governmental regulations to govern the maximum size of the area that may be pooled. Recent leases also may contain anti-dilution provisions that further restrict the power of the lessee to pool the lessor's interests. Anti-dilution provisions may require that the pooled acreage not constitute less than a specified percentage of the pooled unit or if that cannot be accomplished then all of the leasehold acreage must be included in the proposed pool. All of these provisions may have ramifications for a lessee seeking to create a horizontal well pooled unit.

Some of these issues and the problem of how to deal with an improperly pooled lease in a horizontal pooled unit were analyzed in *Browning Oil Co. v. Luecke*.<sup>42</sup> The lease contained a pooling clause that had been amended several times after the execution of the lease. One of the amendments to the pooling clause added the following anti-dilution provision:

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<sup>42</sup> 38 S.W.3d 625, 149 O.&G.R. 127 (Tex.App.—Austin 2000, rev. denied).

Notwithstanding paragraph number four (4) hereof, if any pooled unit is created with respect to any well drilled on the land covered hereby, at least sixty percent (60%) of such pooled unit shall consist of the land covered hereby.<sup>43</sup>

Another provision allows the lessor's lands to be pooled even if the lands constitute less than 60% of the pooled unit where all of the lessor's lands are included in the unit or such non-lessor lands are needed to comply with established field rules. After unsuccessfully seeking to amend the pooling clause again, the lessee drills two horizontal wells. One horizontal well crosses through 7 tracts of land and 1 of the 3 tracts that were subject to the lease. The vertical portion of the horizontal wellbore and a portion of the lateral on located on the lessor's tract.<sup>44</sup> A second horizontal well crosses the other two lessor tracts although the vertical portion of the well is not located on the lessor tracts.<sup>45</sup> It is all but conceded by the lessee that it did not comply with the anti-dilution provisions of the lease.

In Texas, a lessee purporting to act pursuant to the pooling power must strictly comply with any conditions precedent to the exercise of that power.<sup>46</sup> Having conceded that the horizontal pooled units violated the anti-dilution provision, the lessee tried to argue that a reasonable and prudent operator would not have pooled the acreage for a horizontal well using the 80 acre spacing patterns that the Railroad Commission had adopted. The court rejected the notion that a lessee may ignore express limitations on the pooling power. The parties' intentions as expressed in the written instrument will govern their relationship. The fact that the lessee feels constrained by the limitations does not excuse its compliance with the anti-dilution provision.

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<sup>43</sup> *Id.* at 637.

<sup>44</sup> *Id.* at 638.

<sup>45</sup> *Id.* at 638-39.

<sup>46</sup> *Id.* at 640 relying on *Southeastern Pipe Line Co. v. Tichacek*, 997 S.W.2d 166, 143 O.&G.R. 179 (Tex. 1999); *Jones v. Killingsworth*, 403 S.W.2d 325, 24 O.&G.R. 508 (Tex. 1966); *Pampell Interests, Inc. v. Wolle*, 797 S.W.2d 392, 394, 112 O.&G.R. 145 (Tex.App.—Austin 1990, no writ).

The trial court measured damages based on the traditional rules for the owner of a drillsite tract whose interests have been improperly pooled. That measure of damages would be an undiluted royalty on all production coming through the well bore that is located on the leased tract.<sup>47</sup> Because the second horizontal well crossed two of the tracts under lease, in theory, the lessor would have received a “double royalty” based on the illegal pooling. In rejecting this recovery the court articulated the reasons why a different rule should apply to wrongful pooling of royalty interests in vertical and horizontal wells. It stated:

Horizontal wells can extend across several tracts of land in a linear configuration to accommodate the length of the horizontal drainhole. Consequently, all the tracts are not contiguous. Several tracts of land may separate the penetration point of the drainhole from the terminus point. And each of the tracts traversed by the horizontal drainhole is considered a drillsite tract, which likely includes underlying fractures that are being drained by the wellbore. Thus, each point along the drainhole is contributing to production from isolated fractures, and no one drillsite is naturally draining minerals from all of the penetrated tracts. Even though the rule of capture and other principles of oil and gas law would afford the Lueckes royalties on all production if a vertical well were drilled on their land without valid pooling, these principles have no application in the case of horizontal wells that contain multiple drillsites on tracts owned by multiple owners. Absent the ability to naturally drain neighboring tracts, the Lueckes are not entitled to production from other lessors’ tracts unless there has been a cross-conveyance of property interests. Because the purported units were invalid, there has been no cross-conveyance of interests, and the Lueckes are not entitled to royalties on production from lands they do not own.<sup>48</sup>

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<sup>47</sup> *Browning*, 38 S.W.3d at 645. The wrongfully-pooled tract is treated as having never been pooled so that it is entitled under the rule of capture to 100% of the production, or in this case 100% of the leasehold royalty.

<sup>48</sup> *Id.* at 646.



The court did not specify exactly what royalties they Lueckes would be entitled to but limited it to the royalties on production that could be attributed to their tracts.

In *Manzano Oil Corp. v. Chesapeake Operating, Inc.*,<sup>49</sup> a top lessee sought to take advantage of the fact that a horizontal well was commenced off of the leasehold acreage to claim that a well had not been commenced prior to the end of the primary term. Chesapeake entered into a 3-year primary term lease with Howay. Because of municipal regulations, Chesapeake would need a variance in order to drill a well on a surface location within the boundaries of the lease.<sup>50</sup> Instead of seeking a variance they purchased an adjacent three-acre parcel from which they begin to drill a deviated well. The well is spudded on the adjacent tract prior to the end of the primary term but the wellbore does not enter the leasehold estate until after the end of the primary term. The lateral section of the proposed horizontal well will be entirely within the boundaries of the leasehold estate. The court rejected the claim by the top lessees that since there was no activity on the surface of, or beneath the surface of, the described leasehold estate that the savings provision allowing the lessee to complete a well that has been commenced, but not completed, in the primary term, was not triggered. Even though there was no formal pooling of the three-acre tract with the leasehold estate either by voluntary or compulsory action the court found that the spudding of the well on the three-acre tract is to be treated as if it was on a "pooled" or "combined" tract which under the express terms of the lease would amount to constructive operations. I don't necessarily agree with the court that the purchase of the adjacent tract amounts to a pooling or combination so as to trigger the pooling clause, but I would nonetheless have upheld the validity of the lease because the permit to drill clearly called for a horizontal well that would be located the leasehold estate. The fact that the

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<sup>49</sup> 178 F.Supp.2d 1217, 151 O.&G.R. 42 (D.N.M. 2001).

<sup>50</sup> For a discussion of local regulation of oil and gas operations see Bruce M. Kramer, "Local Regulation of Oil and Gas Operations: Don't All Homeowners Want a Pumpjack in Their Backyard," 41 Rocky Mt. Min. L. J. 213 (2004); Bruce M. Kramer, "The Pit and the Pendulum: Local Government Regulation of Oil and Gas Activities Returns From the Grave", 50 *Oil & Gas Inst.* 4-1 (Ctr. For Am. & Int'l L. 1999).

spudding and drilling prior to the end of the primary term had not occurred on the leasehold estate should not prevent the savings clause of the lease from being triggered.

Many pooling clauses have areal limits. Obviously to the extent to which a horizontal pooled unit exceeds those areal limits the lessee will have to seek an amendment to the lease or have the lessor ratify the expanded unit. Most of the areal restrictions will differentiate between the maximum size allowed for oil units, typically 40 acres, and the maximum size allowed for gas units, typically 640 acres. Many of these provisions contain references to state spacing regulations or “governmental authority” provisions that may allow for the expansion of the size of the pooled unit if the state conservation agency adopts a larger unit size as part of either special field rules or changes in statewide spacing rules.<sup>51</sup> One specific type of pooling clause language has been narrowly interpreted by the Texas courts so as to limit the authority of the lessee to pool.

In *Pioneer Natural Resources USA, Inc. v. W.L. Ranch, Inc.*,<sup>52</sup> the original leasehold pooling clause limited the maximum size of the pooled or proration unit to 320 acres. Desirous of creating a horizontal pooled unit of nearly 380 acres, the lessee negotiated an amendment to the lease authorizing such pooling. As with *Manzano*, the vertical portion of the well was spudded in 9 days prior to the end of the primary term but the horizontal wellbore did not enter the lessor’s lands until after the end of the primary term. The well produced sporadically for about 5 years and was then plugged and abandoned, never having achieved payout.<sup>53</sup> The court applied the traditional rule that operations commenced on lands pooled with the leasehold acreage operate to maintain the lease into the secondary term.<sup>54</sup> It did not discuss the fact that the wellbore did not cross the lessor’s property line because, unlike *Manzano*, the surface where the vertical portion of the well was being drilled was pooled with the lessor’s acreage.

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<sup>51</sup> See generally Kramer & Martin, § 8.05.

<sup>52</sup> 127 S.W.3d 900, 167 O.&G.R. 56 (Tex.App.—Corpus Christi 2004, rev. denied).

<sup>53</sup> *Id.* at 904.

<sup>54</sup> Kramer & Martin, ch. 20 (2008).

In *Jones v. Killingsworth*,<sup>55</sup> the court was interpreting a pooling provision that limited pooled unit sizes to 40 acres for oil and 640 acres for gas but further stated:

[P]rovided that should governmental authority having jurisdiction prescribe or permit the creation of units larger than those specified, units thereafter created may conform substantially in size with those prescribed by governmental regulations.<sup>56</sup>

The Railroad Commission had adopted 80 acre proration units for the Fairway (James Lime) Field but also allowed a tolerance allowable credit for an additional 80 acres. The lessee creates a pooled unit for oil of 160 acres. The Texas Supreme Court, however, finds that since the additional 80 acres allowed by the Railroad Commission was optional and therefore not prescribed, the pooling clause would be interpreted so as to restrict the lessee's pooling power to the 80 acres otherwise prescribed by the Commission. This narrow interpretation has been followed in several other Texas cases.<sup>57</sup> Fortunately this type of language does not appear to have been included in leases outside of Texas, although pooling clauses oftentimes do refer to state conservation agency regulation.<sup>58</sup>

#### § XX.04 Horizontal Pooled Units

##### A The Caselaw

There have been few cases dealing with pooled units for horizontal wells. In *Continental Resources, Inc. v. Farrar Oil Co.*,<sup>59</sup> the court applied traditional compulsory pooling principles in dealing with a pooling order issued by the North Dakota Industrial Commission that created a pooled unit for a horizontal well. After the Commission adopted a temporary rule allowing two horizontal wells in a 640-acre tract, Continental which owned the northwest and southeast quarter-sections sought and received a Commission order force pooling Farrar which owned the

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<sup>55</sup> 403 S.W.2d 325, 24 O.&G.R. 508 (Tex. 1966).

<sup>56</sup> *Id.* at 327.

<sup>57</sup> See *e.g.*, *Hunt Oil Co. v. Moore*, 656 S.W.2d 634, 79 O.&G.R. 576 (Tex.Civ.App.—Tyler 1983, writ ref'd n.r.e.); *Atlantic Richfield Co. v. Hilston*, 437 S.W.2d 347, 32 O.&G.R. 688 (Tex.Civ.App.—Tyler 1969, writ ref'd n.r.e.), *cert. denied*, 396 U.S. 905 (1969).

<sup>58</sup> See *Debetaz v. Chevron U.S.A., Inc.*, 891 F.2d 562 (5<sup>th</sup> Cir. 1990).

<sup>59</sup> 1997 ND 31, 559 N.W.2d 841, 136 O.&G.R. 83.

other two quarter-sections.<sup>60</sup> Even after the Commission entered its force pooling order, Farrar argued that when the lateral sections crossed through its acreage that Continental was committing a trespass. Continental filed this declaratory judgment action seeking to determine that it had the right to drill its horizontal well in the Farrar leasehold estate.

While the penetration of a lateral line underlying the mineral estate of another would clearly be a common law trespass and not protected by the rule of capture, the adoption of state conservation legislation effectively changes the common law rule of trespass.<sup>61</sup> The issuance of the compulsory pooling order was a proper exercise of the state's police power to prevent waste, protect correlative rights and conserve natural resources. Continental was authorized by the Commission to place its lateral drainhole underneath lands owned by Farrar. As such the horizontal well, even though it crosses through, and produces from, Farrar's leasehold estate is not a trespass because all private property is held subject to the exercise of the police power. If Farrar is allowed to claim a trespass it would frustrate the compulsory pooling statute, the spacing statute and regulations and effectively make the Commission order "ineffectual."<sup>62</sup> Thus Continental is free to act consistent with the Commission's compulsory pooling order without the threat of a trespass claim.<sup>63</sup>

As with *Farrar Oil, Egeland v. Continental Resources, Inc.*,<sup>64</sup> applies traditional compulsory pooling principles to a case involving a horizontal pooled unit. The parties to two leases had deleted the printed form pooling clause and substituted a clause requiring the lessee

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<sup>60</sup> Continental had initially sought to voluntarily pool in order to drill the proposed horizontal well but Farrar refused to participate. 559 N.W.2d at 843.

<sup>61</sup> *Id.* at 844-45 citing both *Kramer & Martin* and *Williams and Meyers*.

<sup>62</sup> *Id.* at 846.

<sup>63</sup> In *Egeland v. Continental Resources, Inc.*, 2000 ND 169, 616 S.W.2d 861, 145 O.&G.R. 469, the court was dealing with another compulsory pooling order involving horizontal wells but the fact that horizontal wells were being drilled did not affect the outcome of the litigation. Essentially the court found that a lessee could avoid the restrictions contained in a Pugh clause by seeking a compulsory pooling order since the Pugh clause only dealt with voluntary pooling by the lessor. See *Kramer & Martin*, at § 9.06

<sup>64</sup> 2000 ND 169, 616 N.W.2d 861.

to get the lessor's consent prior to any pooling.<sup>65</sup> Furthermore the leases contained a Pugh clause saying that a well or wells will only maintain the lease beyond the primary term to the extent the leasehold acreage is within a producing or spacing unit. The lease is in area where the Industrial Commission has created field rules for horizontal wells limiting such well to two per 640 acres, just as in *Farrar Oil*. Both of the leases were in excess of 320 acres in size. The Commission spacing order designated 5 separate spacing units for the two leases. Instead of seeking consent from the lessor to create 5 pooled units, the lessee applies for compulsory pooling orders from the Commission for the 5 units. The Commission issues the 5 orders force pooling the interests committed to the 5 units.

Plaintiff claimed that the lease expired because no well was drilled on her lease and that the compulsory pooling order was ineffective as to her interests because she never consented. While it is clear that Continental could not voluntarily pool Egeland's interest, there was nothing in the lease to prevent Continental from seeking a compulsory pooling order from the Industrial Commission. To allow a private party to veto the exercise of the police power by the Commission would inhibit the Commission's ability to achieve the strong public policy objective of fostering the efficient development of the state's oil and gas resources. Continental's actions in initiating the compulsory pooling process did not breach the pooling clause of the lease.<sup>66</sup>

In *Samson Resources Co. v. Corporation Commission*,<sup>67</sup> you have a direct challenge to the promulgation of Oklahoma Corporation Commission Rule 8-2(H)<sup>68</sup> that deals with horizontal pooled units. Under Rule 8-2(H) the Commission may not create a Horizontal Well Unit that includes any existing well producing from the same common source of supply unless fifty percent (50%) of the ownership having the right to drill in the spacing unit consent. Samson

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<sup>65</sup> 616 N.W.2d at 863.

<sup>66</sup> *Id.* at 865-66. The court also found that the Pugh clause did not apply so as to terminate the lease as to those portions of the lease that were either not committed to a drilling unit or under active operations relying in part on Kramer & Martin, at § 9.06.

<sup>67</sup> 1992 OK CIV APP 62, 831 P.2d 663, 119 O.&G.R. 520.

<sup>68</sup> OCCRP Rule 8-2(H).

argued that the Rule was both ultra vires and unconstitutional as an improper delegation of legislative power to private entities.

The ultra vires argument is easily dismissed because the enabling statute,<sup>69</sup> clearly gave the Corporation Commission the power “to promulgate rules necessary for the proper administration of this subsection.” The Commission’s adoption of this Rule clearly is part of its authority to regulate oil and gas operations through the creation of spacing units. On the issue of whether or not the consent provision amount to an unconstitutional delegation of legislative authority, the court relies on the approval of the Oklahoma compulsory unitization statute,<sup>70</sup> which like most other state compulsory unitization statutes, requires a minimum level of consent from working interest and/or royalty interest owners before the state conservation agency will enter such an order.<sup>71</sup> While there are some circumstances where regulatory decisions may not be subject to either approval or veto by private entities, in general having a consent requirement prior to the exercise of the police power is usually found to be constitutional.<sup>72</sup>

#### B Compulsory Pooling Statutes

Compulsory pooling statutes come in all sizes and shapes. Since the 1930s they have served the tri-partite public policy objectives of preventing waste, conserving natural resources and protecting correlative rights.<sup>73</sup> Horizontal drilling operations, to date, have been incorporated into the extant compulsory pooling regimes with few complications.<sup>74</sup> As noted at last year’s Annual Institute, horizontal drilling operations create more headaches for spacing

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<sup>69</sup> Okla.Rev.Stat. tit. 52, § 87.1(f).

<sup>70</sup> Okla.Rev.Stat. tit. 52 §§ 287.1 et seq.

<sup>71</sup> *Palmer Oil Corp. v. Phillips Petroleum Co.*, 1951 OK 78, 204 Okla. 543, 231 P.2d 997, *app. dismiss’d*, 343 U.S. 390 (1952).

<sup>72</sup> Kramer & Martin, § 24.02[1].

<sup>73</sup> Kramer & Martin, ch. 10. See Gee, “Comparative Study of Compulsory Pooling—Enforcement Against Owners of Divided Interests in the Spaced Tract,” 3 *Rocky Mt. Min. L. Inst.* 241, 242-46 (1956).

<sup>74</sup> The Oklahoma Corporation Commission has scheduled a special meeting to discuss the “emerging spacing and unitization issues related to the application of horizontal drilling technology,” for June 30, 2009. See Randy Ellis, *Horizontal Drilling Raises Questions About Changes to State Regulations*, *The Oklahoman* (May 29, 2009).

regulation than they do for pooling regulation.<sup>75</sup> The nature of horizontal drilling operations, when combined with spacing and/or density rules designed for vertical wells, will probably “encourage” operators to use the compulsory pooling process more frequently than in the past. Therefore one needs to know the types of compulsory pooling statutes that a horizontal well operator may

One of the major issues in dealing with a compulsory pooling regulatory regime is how to afford the working interest owners who have not consented a fair opportunity to participate in the drilling of the pooled unit well.<sup>76</sup> There are three general approaches to resolving this issue and some states may utilize more than one approach. They are: 1. Surrender of working interest; 2. Risk penalty, and 3. Free ride. In some states, such as Oklahoma, the non-consenting working interest owners are given an election to choose among a number of different options.<sup>77</sup> Such is also the case with a recent amendment to the Virginia compulsory pooling statute.<sup>78</sup> The surrender of working interest approach whereby the state conservation agency requires the non-operator to assign her working interest to the consenting owners in exchange for compensation in the form of a bonus payment or royalty or a combination of the two. Among the states using the surrender of working interest approach are Arkansas,<sup>79</sup> Idaho,<sup>80</sup> Illinois,<sup>81</sup> Oklahoma,<sup>82</sup> South Dakota,<sup>83</sup> and West Virginia.<sup>84</sup> The risk penalty approach is similar to that used in the various model form joint operating agreements for working interest owners who go non-consent, namely that their interest is carried until such time as their pro rata

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<sup>75</sup> H. Michael Keller & Thomas W. Clawson, “Know the Chessboard Before You Make Your Move—A Landman’s Guide to Well Location and Spacing Regulation,” 54 *Rocky Mt. Min. L. Inst.* 6-1 (2008).

<sup>76</sup> These issues are discussed in greater detail in Kramer & Martin, § 12.01-12.03. See generally Bruce M. Kramer, “Compulsory Pooling and Unitization: State Options in Dealing with Uncooperative Owners,” 7 *J. of Energy L. & Policy* 255 (1986).

<sup>77</sup> Kramer & Martin, § 12.03[1][a].

<sup>78</sup> Va. Code § 45.1-361.21.

<sup>79</sup> Ark. Code Ann. § 15-72-304(b)(4).

<sup>80</sup> Idaho Code § 47-322.

<sup>81</sup> 225 Ill. Comp. Stat. 725/22.2.

<sup>82</sup> Okla.Stat. Ann. tit. 52, § 87.1(e).

<sup>83</sup> S.D. Codified Laws Ann. § 45-9-33.

<sup>84</sup> W.Va. Code § 22-8-7(b) dealing with deep wells only.

share of revenue equal their pro rata share of expenses plus an additional sum as set forth in the compulsory pooling order.<sup>85</sup> States that use this approach include: Colorado,<sup>86</sup> Louisiana,<sup>87</sup> Michigan,<sup>88</sup> Mississippi,<sup>89</sup> Montana,<sup>90</sup> Nebraska,<sup>91</sup> New Mexico,<sup>92</sup> New York,<sup>93</sup> North Dakota,<sup>94</sup> Ohio,<sup>95</sup> Texas,<sup>96</sup> Utah,<sup>97</sup> Washington,<sup>98</sup> and Wyoming.<sup>99</sup> The Colorado and Wyoming compulsory pooling provisions are nearly identical in that the risk penalty is set at 100% of the non-consenting owner's share of certain costs such as surface equipment and operating costs and either 200% or 300% of the costs of staking, drilling, reworking, deepening or plugging back and completion. Even without an express statutory mandate, some state compulsory pooling statutes such as Michigan merely provide that the order shall be on terms that are "just and fair" or "just and equitable" giving the state conservation agency the discretion to impose risk penalties.<sup>100</sup>

A number of states provide for a free ride, namely that the non-consenting owner's share is carried and that owner's pro rata share of expenses are to be recouped from that owner's pro rata share of revenues. There is no additional payment over the actual and reasonable costs that should have been, but have not been, paid up front by the non-consenting owner. In these

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<sup>85</sup> Kramer & Martin, § 12.03[2].

<sup>86</sup> Colo.Rev.Stat. § 34-60-116(7).

<sup>87</sup> La.Rev.Stat. Ann. § 30.10(A)(2).

<sup>88</sup> Mich.Comp.L. § 319.13 does not specifically authorize the use of the risk penalty approach but the Natural Resources Commission has interpreted its powers to impose a risk penalty on non-consenting owners. Kramer & Martin, § 12.03[2][c].

<sup>89</sup> Miss.Code Ann. § 53-3-7.

<sup>90</sup> Mont. Code Ann. § 82-11-202(2).

<sup>91</sup> Neb. Code § 57-909(2).

<sup>92</sup> N.M.Stat. Ann. § 70-2-17(C).

<sup>93</sup> N.Y. Env'tl. Conserv. Law. § 23-0901(3).

<sup>94</sup> N.D. Cent. Code § 38-08-08. Prior to 2004, North Dakota was a free ride state.

<sup>95</sup> Ohio Rev. Code § 1509.27.

<sup>96</sup> Tex.Nat.Res. Code § 102.052.

<sup>97</sup> Utah Code Ann. § 40-6-6.

<sup>98</sup> Rev.Code Wash. § 78.52.250(2).

<sup>99</sup> Wyo.Stat. 30-5-109(g).

<sup>100</sup> See e.g., Mich.Comp.L. § 319.13; Ore.Rev.Stat. § 520.220.



states voluntary pooling is discouraged because parties who become subject to a compulsory pooling order bear none of the risk of a dry hole or a marginally producing well while sharing in the full benefits of a “gusher.” States that incorporate the free ride option include Alabama,<sup>101</sup> Alaska,<sup>102</sup> and Arizona,<sup>103</sup>

Where agencies have discretion, either in terms of the election or in setting the amount of risk penalty, courts usually take a “soft glance” scope of judicial review.<sup>104</sup> In Oklahoma which has the most cases dealing with the election process, the courts review the election options under a very deferential reasonableness standard.<sup>105</sup> Likewise in South Dakota where a non-consenting owner was given the option of participation or being carried with a 100% risk penalty, the South Dakota Supreme Court both found the imposition of the risk penalty authorized by statute, but that it was reasonable and therefore valid.<sup>106</sup> In general the courts have been receptive to state conservation agencies’ exercise of the power to impose risk penalties on non-consenting owners.<sup>107</sup>

Another common problem with compulsory pooling orders relates to the effective date of the order. Where the pooling order precedes drilling and production there is usually no difficulty with its effective date. Where the pooling order, however, follows production from the well than the effective date can be very important.<sup>108</sup> The possible effective dates for a pooled unit order can range from the date of first drilling operations to the actual date the state conservation agency issues the order. In *Ward v. Corporation Commission*,<sup>109</sup> the court upheld a commission pooling order allowing the non-operator to share in production from the date of the spacing

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<sup>101</sup> Ala.Code 9-17-13(c).

<sup>102</sup> Alaska Stat. § 31.05.100(c).

<sup>103</sup> Ariz.Rev.Stat. § 27-505.

<sup>104</sup> See e.g., *Waller Brothers, Inc. v. Exxon Corp.*, 836 F.Supp. 363, 126 O.&G.R. 265 (S.D.Miss. 1993); *Viking Petroleum, Inc. v. Oil Conservation Commission*, 100 N.M. 451, 672 P.2d 280, 79 O.&G.R. 57 (1983).

<sup>105</sup> See e.g., *Wakefield v. State*, 1957 OK 10, 306 P.2d 305, 7 O.&G.R. 291.

<sup>106</sup> *Application of Kohlman*, 263 N.W.2d 674, 60 O.&G.R. 402 (S.D. 1978).

<sup>107</sup> See e.g., *Bennion v. ANR Production Co.*, 819 P.2d 343 (Utah 1991); *In the Matter of SAM Oil, Inc.*, 817 P.2d 299, 116 O.&G.R. 417 (Utah 1991).

<sup>108</sup> These issues are discussed in more depth at *Kramer & Martin*, §13.03.

<sup>109</sup> 501 P.2d 503, 42 O.&G.R. 473 (Okla. 1972).

order, not the date of the pooling order. In Oklahoma there are statewide spacing rules which ipso facto pool the interests within the spacing unit. Pooling orders are issued to resolve issues between working interest owners who cannot agree to a joint operating agreement. Since the non-operator was prohibited from drilling a well on the spacing unit after the spacing order was entered, the court reasoned that making the pooling order retroactive to the date of the spacing order was required to avoid a regulatory takings issue. A similar type of retroactive order was upheld in North Dakota against an attack by the operator who asserted that it was a regulatory taking of its property interest by giving the non-consenting owner retroactive rights in the well.<sup>110</sup> In Utah a series of cases has held that the effective date of the spacing/pooling order cannot be made any earlier than the date that the spacing order is entered even if production is achieved prior to the entry of the order.<sup>111</sup>

Because of the potentially larger areas that may need to be pooled for horizontal wells the likelihood that one may encounter an unleased mineral owner increases. There are several different approaches taken in dealing with such owners. A number of states treat the unleased mineral owner as a royalty owner and a working interest owner and then apply whatever approaches the state follows as to the working interest share.<sup>112</sup> In Louisiana the unleased mineral owner is treated as an 8/8ths working interest owner and given a free ride.<sup>113</sup> Colorado, Montana and Utah treat the unleased mineral owner as a royalty owner until payout and then convert the royalty interest into a working interest.<sup>114</sup> This approach is very favorable since not only does the unleased owner get a free ride with the potential of sharing in the profits from the well after payout without a risk penalty but receives payments from the date of first production.

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<sup>110</sup> *Texaco, Inc. v. North Dakota Industrial Commission*, 448 N.W.2d 621, 109 O.&G.R. 25 (N.D. 1989). *In accord: Murphy v. Amoco Production Co.*, 590 F.Supp. 455, 83 O.&G.R. 108 (D.N.D. 1984).

<sup>111</sup> See *Cowling v. Board of Oil, Gas and Mining*, 830 P.2d 220, 118 O.&G.R. 582 (Utah 1991); *Hegarty v. Board of Oil, Gas, & Mining*, 2002 UT 82, 57 P.3d 1042.

<sup>112</sup> Oklahoma treats the royalty interest as a 1/8<sup>th</sup> royalty while North Dakota and Utah will average the royalty in the leases that are committed to the pooled unit. *Kramer & Martin*, § 12.02.

<sup>113</sup> *Kramer & Martin*, § 12.02.

<sup>114</sup> Colo. Rev. Stat. § 34-60-116(7); Mont Code Ann. § 82-11-202(2)(c); Utah Code Ann. § 40-6-6(7)(b).

§ XX.05 Horizontal Pooled Unit Orders<sup>115</sup>

[A] Colorado

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<sup>115</sup> I would like to thank Mary Viviano of Encana Corp., George Mueller of Burns, Wall, Smith and Mueller, Tim George, my colleague at McGinnis, Lochridge & Kilgore and Mark Christensen and Jim George of Crowe and Dunleavy for providing me with the attached orders.

BEFORE THE OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF COLORADO

IN THE MATTER OF THE PROMULGATION AND ) CAUSE NO. 369  
ESTABLISHMENT OF FIELD RULES TO GOVERN )  
OPERATIONS IN THE SOLO LOBO FIELD, ) ORDER NO. 369-5  
DOLORES AND MONTEZUMA COUNTIES, COLORADO ) CORRECTED

REPORT OF THE COMMISSION

This cause came on for hearing before the Commission at 9:00 a.m. on January 13, 2009, in Suite 801, The Chancery Building, 1120 Lincoln Street, Denver, Colorado, for an order to establish approximate 1280-acre drilling and spacing units for certain lands in Townships 39 and 40 North, Ranges 17 and 18 West, N.M.P.M., and allow up to 8 horizontal wells in each unit, with the permitted well to be located no closer than 460 feet to the outside boundary, for the production of gas and associated hydrocarbons from the Gothic Shale Formation.

FINDINGS

The Commission finds as follows:

1. Bill Barrett Corporation ("BBC"), as applicant herein, is an interested party in the subject matter of the above-referenced hearing.
2. Due notice of the time, place and purpose of the hearing has been given in all respects as required by law.
3. The Commission has jurisdiction over the subject matter embraced in said Notice, and of the parties interested therein, and jurisdiction to promulgate the hereinafter prescribed order pursuant to the Oil and Gas Conservation Act.
4. Rule 318.a. of the Rules and Regulations of the Oil and Gas Conservation Commission requires that wells drilled in excess of 2,500 feet in depth be located not less than 800 feet from any lease line, and located not less than 1,200 feet from any other producible or drilling oil or gas well when drilling to the same common source of supply. Certain lands in Townships 39 and 40 North, Ranges 17 and 18 West, N.M.P.M. are subject to this Rule for the Gothic Shale Formation.
5. On November 19, 2008, amended December 2, 2008, BBC, by its attorney, filed with the Commission a verified application for an order to establish approximate 1,280-acre drilling and spacing units for the below-listed lands, allowing up to eight (8) horizontal wells to be drilled on each of the proposed units, for production from the Gothic Shale Formation:

Township 39 North, Range 17 West, N.M.P.M.

Spacing Unit No. #1

Section 6: Lots 8 (16.44 acres), 9 (16.25), 10 (16.07), 11 (14.52),  
12 (36.70), 13 (40.00), 14 (40.00), 15 (40.00),  
16 (40.00), 17 (40.00), 18 (40.00), 19 (36.90),  
20 (37.10), and 21(37.30), E½ SW¼ and SE¼

Section 7: Lots 5 (37.41 acres), 6 (37.43), 7 (37.45), 8 (37.47), E½ W½ and E½

Spacing Unit No. #2

Section 17: All

Section 20: All

Spacing Unit No. #3

Section 18: Lots 5 (37.51 acres), 6 (37.57), 7 (37.63), and 8 (37.69), E½ W½ and  
E½

Section 19: Lots 5 (37.75 acres), 6 (37.82), 7 (37.88), and 8 (37.95), E½ W½ and  
E½

Township 39 North, Range 18 West, N.M.P.M.

Spacing Unit No. #4

Section 1: Lots 5 (15.73 acres), 6 (15.61), 7 (17.31), 8 (22.71), 9 (40.00),  
10 (40.00), 11 (40.00), 12 (40.00), 13 (40.00), 14 (40.00),  
15 (40.00), and 16 (40.00), S½

Section 12: All

Spacing Unit No. #5

Section 2: Lots 5 (27.43 acres), 6 (32.23), 7 (37.01), 8 (41.81), 9 (40.00), 10 (40.00), 11 (40.00), 12 (40.00), 13 (40.00), 14 (40.00), 15 (40.00), and 16 (40.00), S½  
Section 11: All

Spacing Unit No. #6

Section 3: Lots 5 (6.61 acres), 6 (11.45), 7 (16.27), 8 (21.11), 9 (40.00), 10 (40.00), 11 (40.00), 12 (40.00), 13 (40.00), 14 (40.00), 15 (40.00), 16 (40.00), 17 (40.00), 18 (40.00), 19 (40.00), and 20 (40.00), S½  
Section 10: All

Spacing Unit No. #7

Section 13: Lots 1(31.13 acres), 3 (3.07), and 9 (27.82), N½, NW¼ SE¼, and E½ SE¼  
Section 24: Lots 1(26.47 acres), 2 (a/k/a Tract 42: Lot 2) (14.99), 3 (a/k/a Tract 42: Lot 3) (44.31), 4 (a/k/a Tract 42: Lot 4) (29.26), 5 (a/k/a Tract 41: Lot 5) (13.80), 6 (26.34), 7 (29.10), 8(35.08), 9 (35.33), and 10 (38.48), E½ E½  
Tract 37: a/k/a Section 13: Lots 2(13.01 acres) and 4(39.46)  
Tract 41: a/k/a Section 13: Lot 5 (12.27 acres) and Section 24: Lot 5 (13.80 acres)  
Tract 42: a/k/a Section 13: Lots 6 (23.42 acres), 7 (36.08), and 8 (12.29) and Section 24: Lots 3 (44.31 acres) and 4 (29.26)  
Tract 45: insofar as it lies within the original survey of Section 24  
Tract 46

Spacing Unit No. #8

Section 14: Lots 1 (45.49 acres), 2 (45.56), 3 (16.68), 8 (32.52), and 15 (14.67), NW¼ NW¼, NE¼ NE¼  
Section 23: Lots 11 (22.17 acres), 12 (34.44), and 13 (34.65)  
Tract 37: a/k/a Section 14: Lots 7 (23.89 acres), 9 (11.14), 10 (41.16), and 11 (30.48)  
Tract 38: a/k/a Section 14: Lots 4 (23.43 acres), 5 (34.68), 6 (11.06), 12 (14.33), 13 (45.18), and 14 (30.90)  
Tract 39: insofar as it lies within the original survey of Sections 14 and 23  
Tract 40  
Tract 41: a/k/a Section 14: Lots 16 (23.88 acres) and 17 (35.47) and Section 23: Lots 1 (45.01 acres) and 2 (30.17)  
Tract 43: insofar as it lies within the original survey of Section 23  
Tract 44: a/k/a Section 23: Lots 3 (22.51 acres), 4 (34.52), 5 (11.83), 6 (15.85), 7 (45.78), and 8 (30.02)  
Tract 45: insofar as it lies within the original survey of Section 23  
Tract 47: N½ a/k/a Section 23: Lots 9 (34.10 acres) and 10 (12.10)

Spacing Unit No. #9

Section 15: Lots 1 (45.77 acres) and 2 (16.22), N½, SW¼, and NW¼ SE¼  
Section 22: Lots 1 (12.26 acres), 2 (12.70), 3 (13.07), 4 (35.64), and 5 (11.28), W½  
Tract 38: insofar as it lies within the original survey of Sections 15 and 22  
Tract 43: insofar as it lies within the original survey of Sections 15 and 22  
Tract 47: a portion of the N½ a/k/a Section 22: Lot 6 (22.51 acres)

Township 40 North, Range 17 West, N.M.P.M.

Spacing Unit No. #10

Section 30: Lots 5 (40.00 acres), 6 (40.00), 7 (40.00), 8 (20.85), 9 (22.98), 10 (40.00), 11 (40.00), 12 (40.00), 13 (40.00), 14 (40.00), 15 (40.00), 16 (25.12), 17 (27.25), 18 (40.00), 19 (40.00), and 20 (40.00), E½  
Section 31: Lots 5 (40.00 acres), 6 (40.00), 7 (40.00), 8 (29.48), 9 (31.67), 10 (40.00), 11 (40.00), 12 (40.00), 13 (40.00), 14 (40.00), 15 (40.00), 16 (33.85), 17 (36.04), 18 (40.00), 19 (40.00), 20 (40.00), E½

Township 40 North, Range 18 West, N.M.P.M.

Spacing Unit No. #11

Section 25: Lots 1 (17.87 acres), 2 (15.57), 3 (13.27), 4 (16.70), and 5 (2.79)  
W½ NW¼ and NW¼ SW¼

Section 36: Lots 1 (9.59 acres), 2 (22.06), 3 (25.50), 4 (43.18), 5 (35.60),  
6 (14.70), 7 (18.66), 8 (19.24), 9 (40.04), 10 (18.85), 11 (18.05), 12  
(18.58), and 13 (18.41)

Tract 96  
Tract 97  
Tract 98  
Tract 99  
Tract 100  
Tract 101  
Tract 107A and 107D  
The E½ of Tract 109A and 109B  
Tract 109C and 109D  
Tract 110A, 110B, and 110C  
Tract 111A, 111B, 111C, and 111D

Spacing Unit No. #12

Section 26: All

Section 35: Lots 1 (10.50 acres), 2 (4.01), 3 (36.91), 4 (40.00), 5 (40.00), 6 (18.48),  
7 (14.86), 8 (28.91), and 9 (24.10), E½ NW¼, W½ NE¼, NE¼ NE¼

Tract 107B and 107C

Tract 108: a/k/a Section 35: Lot 10 (40.02 acres)

Tract 108B

The W½ of Tract 109A and 109B

Tract 116A, 116D, 116E, and 116F

Spacing Unit No. #13

Section 27: All

Section 34: Lots 1 (40.00 acres), 2 (40.00), 3 (19.76), 4 (12.38), 5 (7.46),  
6 (1.25), W½ SW¼, SE¼ SW¼, and SW¼ SE¼

Tract 115A, 115B, 115C, 115D, 115E, 115F, 115G, and 115H

Tract 116B and 116C

That as to each horizontal well within a given approximate 1,280-acre drilling and spacing unit, the surface location for the well may be located anywhere upon the drilling unit (or adjoining lands to the unit) provided that the horizontal leg into the Gothic Shale Formation shall not be closer than 460 feet to the outside boundary of the drilling unit and the terminus of the horizontal leg shall not be any closer than 460 feet to the outside boundary of the drilling unit without exception being granted by the Director of the Oil and Gas Conservation Commission.

That as to the horizontal wells to be drilled into and produced from a given approximate 1,280 acre drilling and spacing unit, such wells will be drilled from no more than 8 pads located on the surface of such unit or adjoining lands to the unit. It is provided, however, that BBC, in circumstances where topographic and surface owner approval conditions permit, will undertake reasonable efforts to utilize even fewer pads by locating its pads near the center of a given drilling and spacing unit.

6. On or about December 29, 2008, Jeanne Babin filed a protest to the application alleging surface concerns regarding environmental and wildlife issues. Due to the lack of contact information set out in said protest, the Hearing Officers were unable to contact Ms. Babin to schedule a pre-hearing conference to address the protest. On December 31, 2008, a pre-hearing conference was held to address said protest, and the Hearing Officers found that said protest did not provide a factual or legal basis for the protest or satisfy the legal requirement giving the protestant standing under the Rules. Consequently, the protest filed by Ms. Babin was dismissed.

7. On or about December 30, 2008, Leslie Taylor filed a protest to the application. On December 31, 2008, a pre-hearing conference was convened to address said protest, however, Ms. Taylor did not attend the pre-hearing conference after having been notified of the date, time and place of said conference. Consequently, the protest filed by Ms. Taylor was dismissed in accordance with Rule 527.f.

8. On or about December 30, 2008, Karen P. Schlom filed a protest to the application. On December 31, 2008, a pre-hearing conference was convened to address said protest, however, Ms. Schlom did not attend the pre-hearing conference after having been notified of the date, time and place of said conference. Consequently, the protest filed by Ms. Schlom was dismissed in accordance with Rule 527.f.

9. On December 31, 2008, an administrative hearing was convened wherein sworn testimony and supporting exhibits were presented by BBC in support of the application.

10. Testimony and exhibits presented at the administrative hearing showed that BBC is the majority leasehold owner for the application lands. Additional testimony showed that, in most circumstances, county roads are located sections and that BBC will attempt to locate drilling pads close to those county roads which would have the effect of limiting surface usage to approximately 2% per section, and that a number of surface use agreements had already been entered into for the location of pads on the application lands.

11. Testimony and exhibits presented at the administrative hearing showed that the development of shale gas resources is an entirely new source of natural gas in the United States made feasible by new applications of horizontal drilling and completion technology. Additional testimony showed that typically shale gas accumulations are very large and continuous over extended areas, and that the reservoirs exhibit lower porosities and micro- to nano-darcy permeabilities with generally low water saturations and the gas storage occurring as either free gas in the rock pores and as adsorbed gas on the surface of organic matter. Further testimony indicated that the Gothic Shale Formation underlying the application lands is at its thickest and represents a large developable gas resource, and is bounded and sealed by the Lower Ismay Formation above, and the Desert Creek Formation below. Testimony showed that BBC has undertaken an exploratory program to determine the development potential of the Gothic Shale Formation by drilling six wells, three of which were tested and two of which were cored, of which two are now connected to sales.

12. Testimony and exhibits presented at the administrative hearing showed a simulation model, based on field and laboratory tests, production data, and the geological model, was prepared to predict performance of the typical Gothic Shale Formation well, which predicted an initial gas rate of 3 MMCF per day declining to 100 MCF per day at the economic limit after 52 years of production. Additional testimony, based on the simulation model, showed that there would be no pressure depletion beyond the boundaries of the 1,280 acre drilling and spacing unit with up to eight horizontal wells drilled thereon, which would result in no violation of correlative rights through the life expectancy of the well. Further testimony indicated that, based upon current drilling and completion costs, estimated operating expenses, expected pricing, and the simulated production forecast, the drilling and producing of horizontal Gothic Shale Formation wells would be a viable economic venture on the application lands. Testimony indicated that the Gothic Shale Formation well design and completion is a continually evolving process which includes protection of all known aquifers, some of which lie 1,500' below the surface of the earth, with two strings of steel casing, both of which are cemented from setting depth to surface, and that BBC would try to limit the number of drilling pads to less than four per section as surface usage agreements and topography allow.

13. Testimony and exhibits presented at the administrative hearing showed that numerous outreach activities had been undertaken by BBC in Delores and Montezuma Counties over the past three years and prior to any drilling activity by BBC.

14. The above-referenced testimony and exhibits show that the proposed spacing and proposed well density will allow more efficient reservoir drainage, will prevent waste, will assure a greater ultimate recovery of gas, and will not violate correlative rights.

15. Bill Barrett Corporation agreed to be bound by oral order of the Commission.

16. Based on the facts stated in the verified application, having received three protests which were dismissed at the pre-hearing conference, and based on the Hearing Officers having conducted an administrative hearing, the Commission should enter an order to establish approximate 1280-acre drilling and spacing units for certain lands in Townships 39 and 40 North, Ranges 17 and 18 West, N.M.P.M., and allow up to 8 horizontal wells in each unit, with the permitted well to be located no closer than 460 feet to the outside boundary, for the production of gas and associated hydrocarbons from the Gothic Shale Formation.

#### ORDER

NOW, THEREFORE IT IS ORDERED, that approximate 1,280-acre drilling and spacing units, are hereby established, for the below-listed lands, allowing up to eight (8) horizontal wells to be drilled on each of the proposed units, for production from the Gothic Shale Formation:

#### Township 39 North, Range 17 West, N.M.P.M.

##### Spacing Unit No. #1

Section 6: Lots 8 (16.44 acres), 9 (16.25), 10 (16.07), 11 (14.52),  
12 (36.70), 13 (40.00), 14 (40.00), 15 (40.00),  
16 (40.00), 17 (40.00), 18 (40.00), 19 (36.90),  
20 (37.10), and 21 (37.30), E $\frac{1}{2}$  SW $\frac{1}{4}$  and SE $\frac{1}{4}$

Section 7: Lots 5 (37.41 acres), 6 (37.43), 7 (37.45), 8 (37.47), E $\frac{1}{2}$  W $\frac{1}{2}$  and E $\frac{1}{2}$

##### Spacing Unit No. #2

Section 17: All

Section 20: All

Spacing Unit No. #3

Section 18: Lots 5 (37.51 acres), 6 (37.57), 7 (37.63), and 8 (37.69), E½ W½ and E½

Section 19: Lots 5 (37.75 acres), 6 (37.82), 7 (37.88), and 8 (37.95), E½ W½ and E½

Township 39 North, Range 18 West, N.M.P.M.

Spacing Unit No. #4

Section 1: Lots 5 (15.73 acres), 6 (15.61), 7 (17.31), 8 (22.71), 9 (40.00), 10 (40.00), 11 (40.00), 12 (40.00), 13 (40.00), 14 (40.00), 15 (40.00), and 16 (40.00), S½

Section 12: All

Spacing Unit No. #5

Section 2: Lots 5 (27.43 acres), 6 (32.23), 7 (37.01), 8 (41.81), 9 (40.00), 10 (40.00), 11 (40.00), 12 (40.00), 13 (40.00), 14 (40.00), 15 (40.00), and 16 (40.00), S½

Section 11: All

Spacing Unit No. #6

Section 3: Lots 5 (6.61 acres), 6 (11.45), 7 (16.27), 8 (21.11), 9 (40.00), 10 (40.00), 11 (40.00), 12 (40.00), 13 (40.00), 14 (40.00), 15 (40.00), 16 (40.00), 17 (40.00), 18 (40.00), 19 (40.00), and 20 (40.00), S½

Section 10: All

Spacing Unit No. #7

Section 13: Lots 1 (31.13 acres), 3 (3.07), and 9 (27.82), N½, NW¼ SE¼, and E½ SE¼

Section 24: Lots 1 (26.47 acres), 2 (a/k/a Tract 42: Lot 2) (14.99), 3 (a/k/a Tract 42: Lot 3) (44.31), 4 (a/k/a Tract 42: Lot 4) (29.26), 5 (a/k/a Tract 41: Lot 5) (13.80), 6 (26.34), 7 (29.10), 8 (35.08), 9 (35.33), and 10 (38.48), E½ E½

Tract 37: a/k/a Section 13: Lots 2 (13.01 acres) and 4 (39.46)

Tract 41: a/k/a Section 13: Lot 5 (12.27 acres) and Section 24: Lot 5 (13.80 acres)

Tract 42: a/k/a Section 13: Lots 6 (23.42 acres), 7 (36.08), and 8 (12.29) and Section 24: Lots 3 (44.31 acres) and 4 (29.26)

Tract 45: insofar as it lies within the original survey of Section 24

Tract 46

Spacing Unit No. #8

Section 14: Lots 1 (45.49 acres), 2 (45.56), 3 (16.68), 8 (32.52), and 15 (14.67), NW¼ NW¼, NE¼ NE¼

Section 23: Lots 11 (22.17 acres), 12 (34.44), and 13 (34.65)

Tract 37: a/k/a Section 14: Lots 7 (23.69 acres), 9 (11.14), 10 (41.16), and 11 (30.48)

Tract 38: a/k/a Section 14: Lots 4 (23.43 acres), 5 (34.66), 6 (11.06), 12 (14.33), 13 (45.18), and 14 (30.90)

Tract 39: insofar as it lies within the original survey of Sections 14 and 23

Tract 40

Tract 41: a/k/a Section 14: Lots 16 (23.88 acres) and 17 (35.47) and Section 23: Lots 1 (45.01 acres) and 2 (30.17)

Tract 43: insofar as it lies within the original survey of Section 23

Tract 44: a/k/a Section 23: Lots 3 (22.51 acres), 4 (34.52), 5 (11.83), 6 (15.85), 7 (45.78), and 8 (30.02)

Tract 45: insofar as it lies within the original survey of Section 23

Tract 47: N½ a/k/a Section 23: Lots 9 (34.10 acres) and 10 (12.10)



Spacing Unit No. #9

Section 15: Lots 1 (45.77 acres) and 2 (16.22), N $\frac{1}{2}$ , SW $\frac{1}{4}$ , and NW $\frac{1}{4}$  SE $\frac{1}{4}$   
Section 22: Lots 1 (12.26 acres), 2 (12.70), 3 (13.07), 4 (35.64), and  
5 (11.28), W $\frac{1}{2}$   
Tract 39: insofar as it lies within the original survey of Sections 15 and 22  
Tract 43: insofar as it lies within the original survey of Sections 15 and 22  
Tract 47: a portion of the N $\frac{1}{2}$  a/k/a Section 22: Lot 6 (22.51 acres)

Township 40 North, Range 17 West, N.M.P.M.

Spacing Unit No. #10

Section 30: Lots 5 (40.00 acres), 6 (40.00), 7 (40.00), 8 (20.85), 9 (22.98),  
10 (40.00), 11 (40.00), 12 (40.00), 13 (40.00), 14 (40.00),  
15 (40.00), 16 (25.12), 17 (27.25), 18 (40.00), 19 (40.00), and 20  
(40.00), E $\frac{1}{2}$   
Section 31: Lots 5 (40.00 acres), 6 (40.00), 7 (40.00), 8 (29.48), 9 (31.67),  
10 (40.00), 11 (40.00), 12 (40.00), 13 (40.00), 14 (40.00),  
15 (40.00), 16 (33.85), 17 (36.04), 18 (40.00), 19 (40.00),  
20 (40.00), E $\frac{1}{2}$

Township 40 North, Range 18 West, N.M.P.M.

Spacing Unit No. #11

Section 25: Lots 1 (17.87 acres), 2 (15.57), 3 (13.27), 4 (16.70), and 5 (2.79).  
W $\frac{1}{2}$  NW $\frac{1}{4}$  and NW $\frac{1}{4}$  SW $\frac{1}{4}$   
Section 36: Lots 1 (9.59 acres), 2 (22.06), 3 (25.50), 4 (43.18), 5 (35.60),  
6 (14.70), 7 (18.66), 8 (19.24), 9 (40.04), 10 (18.85), 11 (18.05), 12  
(18.58), and 13 (18.41)

Tract 96  
Tract 97  
Tract 98  
Tract 99  
Tract 100  
Tract 101  
Tract 107A and 107D  
The E $\frac{1}{2}$  of Tract 109A and 109B  
Tract 109C and 109D  
Tract 110A, 110B, and 110C  
Tract 111A, 111B, 111C, and 111D

Spacing Unit No. #12

Section 26: All  
Section 35: Lots 1 (10.50 acres), 2 (4.01), 3 (36.91), 4 (40.00), 5 (40.00), 6 (18.48),  
7 (14.86), 8 (28.91), and 9 (24.10), E $\frac{1}{2}$  NW $\frac{1}{4}$ , W $\frac{1}{2}$  NE $\frac{1}{4}$ , NE $\frac{1}{4}$  NE $\frac{1}{4}$   
Tract 107B and 107C  
Tract 109: a/k/a Section 35: Lot 10 (40.02 acres)  
Tract 109B  
The W $\frac{1}{2}$  of Tract 109A and 109B  
Tract 116A, 116D, 116E, and 116F

Spacing Unit No. #13

Section 27: All  
Section 34: Lots 1 (40.00 acres), 2 (40.00), 3 (19.76), 4 (12.38), 5 (7.46),  
6 (1.25), W $\frac{1}{2}$  SW $\frac{1}{4}$ , SE $\frac{1}{4}$  SW $\frac{1}{4}$ , and SW $\frac{1}{4}$  SE $\frac{1}{4}$   
Tract 115A, 115B, 115C, 115D, 115E, 115F, 115G, and 115H  
Tract 116B and 116C

IT IS FURTHER ORDERED, that as to each horizontal well within a given approximate 1,280-acre drilling and spacing unit, the surface location for the well shall be located anywhere upon the drilling unit (or adjoining lands to the unit) provided that the horizontal leg into the Gothic Shale Formation shall not be closer than 460 feet to the outside boundary of the drilling unit and the terminus of the horizontal leg shall not be any closer than 460 feet to the outside boundary of the drilling unit without exception being granted by the Director of the Oil and Gas Conservation Commission.

IT IS FURTHER ORDERED, that as to the horizontal wells to be drilled into and produced from a given approximate 1,280 acre drilling and spacing unit, such wells shall be drilled from no more than eight (8) pads located on the surface of such unit or adjoining lands to the unit. It is provided, however, that BBC, in circumstances where topographic and surface owner approval conditions permit, will undertake reasonable efforts to utilize even fewer pads by locating its pads near the center of a given drilling and spacing unit.

IT IS FURTHER ORDERED, that the provisions contained in the above order shall become effective forthwith.

IT IS FURTHER ORDERED, that the Commission expressly reserves its right, after notice and hearing, to alter, amend or repeal any and/or all of the above orders.

IT IS FURTHER ORDERED, that under the State Administrative Procedure Act the Commission considers this order to be final agency action for purposes of judicial review within thirty (30) days after the date this order is mailed by the Commission.

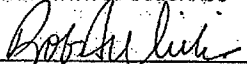
IT IS FURTHER ORDERED, that an application for reconsideration by the Commission of this order is not required prior to the filing for judicial review.

ENTERED this 26<sup>th</sup> day of January, 2009, as of January 13, 2009.

CORRECTED this ~~26<sup>th</sup>~~ <sup>18<sup>th</sup></sup> day of February, 2009, as of January 13, 2009.

OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF COLORADO

By

  
Robert A. Willis, Acting Secretary

Dated at Suite 801  
1120 Lincoln Street  
Denver, Colorado 80203  
February 18, 2009

[2]

BEFORE THE OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF COLORADO

IN THE MATTER OF THE PROMULGATION ) CAUSE NO. 166  
AND ESTABLISHMENT OF FIELD RULES TO )  
GOVERN OPERATIONS IN THE PLATEAU ) ORDER NO. 166-28  
FIELD, MESA COUNTY, COLORADO )

REPORT OF THE COMMISSION

This cause came on for hearing before the Commission at 8:00 a.m. on July 15, 2008, in Ballroom B of the Brown Palace Hotel, 321 Seventeenth Street, Denver, Colorado, for an order to establish a 640-acre drilling and spacing unit consisting of Section 1, Township 10 South, Range 96 West, 6th P.M., with the permitted well to be located no closer than 600 feet from any lease line absent an exception from the Director of the Commission, for the production of gas and associated hydrocarbons from the Niobrara Formation.

FINDINGS

The Commission finds as follows:

1. EnCana Oil & Gas (USA) Inc. ("EnCana"), as applicant herein, is an interested party in the subject matter of the above-referenced hearing.
2. Due notice of the time, place and purpose of the hearing has been given in all respects as required by law.
3. The Commission has jurisdiction over the subject matter embraced in said Notice, and of the parties interested therein, and jurisdiction to promulgate the hereinafter prescribed order pursuant to the Oil and Gas Conservation Act.
4. Rule 318.a. of the Rules and Regulations of the Oil and Gas Conservation Commission requires that wells drilled in excess of 2,500 feet in depth be located not less than 600 feet from any lease line, and located not less than 1,200 feet from any other producible or drilling oil or gas well when drilling to the same common source of supply. Section 1, Township 10 South, Range 96 West, 6<sup>th</sup> P.M. is subject to this Rule for the Niobrara Formation.
5. On May 23, 2008, EnCana, by its attorney, filed with the Commission a verified application for an order to establish a 640-acre drilling and spacing unit consisting of Section 1, Township 10 South, Range 96 West, 6th P.M., for production from the Niobrara Formation. EnCana plans to drill one horizontal well in the application lands from the existing Niobrara Formation and Dakota Formation well pad in the SE¼ of said Section 1, allowing the proposed horizontal well to penetrate the productive formation no closer than 600 feet from any lease line and with an interwell setback of not less than 250 feet from any producible well in the Niobrara Formation without exception being granted by the Director of the Commission.

6. On July 2, 2008, EnCana, by its attorney, filed with the Commission a written request to approve the application based on the merits of the verified application and the supporting exhibits. Sworn written testimony and exhibits were submitted in support of the application.

7. Testimony and exhibits submitted in support of the application showed that EnCana is the leaseholder for the Niobrara Formation in the application lands.

8. Testimony and exhibits submitted in support of the application showed that the Niobrara Formation is a common source of supply underlying the application lands. Additional testimony showed that original gas-in-place ("OGIP") for the Niobrara Formation in the application lands is approximately 50 BCF per section. Further testimony showed that core data for an area well indicated that the Niobrara Formation has an average porosity of 6.0% and average permeability of 0.008 millidarcies.

9. Testimony and exhibits submitted in support of the application showed that a horizontal well will have an estimated ultimate recovery ("EUR") of 2.0 to 3.0 BCF from an OGIP of 85 BCF per section. Additional testimony showed that future production data from the proposed horizontal well on application lands will be required to validate the EUR calculations for the requested 640-acre spacing.

10. The above-referenced testimony and exhibits show that the proposed drilling and spacing unit will allow more efficient reservoir drainage, will prevent waste, will assure a greater ultimate recovery of gas, and will not violate correlative rights.

11. EnCana Oil & Gas (USA) Inc. agreed to be bound by oral order of the Commission.

12. Based on the facts stated in the verified application, having received no protests, and based on the Hearing Officer review of the application under Rule 511.b., the Commission should enter an order to establish a 640-acre drilling and spacing unit consisting of Section 1, Township 10 South, Range 96 West, 6th P.M., for production from the Niobrara Formation, allowing a proposed horizontal well to penetrate the productive formation no closer than 600 feet from any lease line and with an interwell setback of not less than 250 feet from any producible well in the Niobrara Formation without exception being granted by the Director of the Commission.

#### ORDER

NOW, THEREFORE IT IS ORDERED, that a 640-acre drilling and spacing unit is hereby established consisting of Section 1, Township 10 South, Range 96 West, 6th P.M., for the production of gas and associated hydrocarbons from the Niobrara Formation.

IT IS FURTHER ORDERED, that one horizontal well shall be approved to be drilled in the application lands from the existing Niobrara Formation and Dakota Formation well pad in the SE $\frac{1}{4}$  of said Section 1, allowing the proposed horizontal well to penetrate the productive formation no closer than 600 feet from any lease line and with an interwell setback of not less than 250 feet from any producible well in the Niobrara Formation without exception being granted by the Director of the Commission.

IT IS FURTHER ORDERED, that the provisions contained in the above order shall become effective forthwith.

IT IS FURTHER ORDERED, that the Commission expressly reserves its right, after notice and hearing, to alter, amend or repeal any and/or all of the above orders.

IT IS FURTHER ORDERED, that under the State Administrative Procedure Act the Commission considers this order to be final agency action for purposes of judicial review within thirty (30) days after the date this order is mailed by the Commission.

IT IS FURTHER ORDERED, that an application for reconsideration by the Commission of this order is not required prior to the filing for judicial review.

ENTERED this \_\_\_\_\_ day of July, 2008, as of July 15, 2008.

OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF COLORADO

By \_\_\_\_\_

Patricia C. Beaver, Secretary

Dated at Suite 801  
1120 Lincoln Street  
Denver, Colorado 80203  
July 21, 2008

[B] Oklahoma

BEFORE THE CORPORATION COMMISSION OF OKLAHOMA

APPLICANT: MONEXCO, L.L.C. )  
 )  
 RELIEF SOUGHT: POOLING ) CAUSE CD NO.  
 200501965 )  
 )  
 LEGAL DESCRIPTION: S/2 OF SECTION 4 (HORIZONTAL )  
 WELL UNIT) AND SW/4 OF )  
 SECTION 4 (REGULAR UNIT), )  
 ALL IN TOWNSHIP 7 NORTH, ) ORDER NO.  
 RANGE 10 EAST, HUGHES )  
 COUNTY, OKLAHOMA )

ORDER OF THE COMMISSION

This cause came on for hearing before Anne George, Administrative Law Judge for the Corporation Commission of Oklahoma, on the 10th day of May, 2005, in a Commission Courtroom, 2101 N. Lincoln Blvd., Jim Thorpe Building, Oklahoma City, Oklahoma, for the purpose of taking testimony and reporting to the Commission.

James W. George, Attorney, appeared for the Applicant, and Michael L. Decker, Deputy General Counsel for Conservation, filed notice of appearance.

The Administrative Law Judge heard the cause and has filed her report recommending that the application be granted. The Commission concludes that the recommendation of the Administrative Law Judge should be adopted and, therefore, finds and orders as follows:

FINDINGS

1. This is an application of Monexco, L.L.C. for an order adjudicating the rights and equities and pooling all interests in various common sources of supply underlying the regular unit described in the caption and in the Hartshorne common source of supply underlying the horizontal well unit described in the caption, and designating the Applicant or some other party as operator.

2. The Commission has jurisdiction over the subject matter herein, and notice has been given in all respects as required by the law and the rules of the Commission. An adjudicative inquiry was conducted by the Commission into the sufficiency of the search to ascertain the whereabouts of parties served solely by publication. Upon an examination of the record and proofs of publication, the Commission finds the process to be proper and upon an adjudicative inquiry into the factual issue of due diligence, the Commission finds that Applicant conducted a meaningful search of all reasonably available sources at hand to ascertain the whereabouts of those entitled to notice but who were served solely by publication. In this connection, the Commission approves notice by publication only to the following respondents: The unknown heirs, devisees, executors, administrators, trustees, success and assigns, immediate and remote, of Roy Loftis, deceased, and Thomas E. Williams, if living, or if deceased, his unknown heirs, devisees, executors, administrators, trustees, successors and assigns, immediate and remote.

3. By Order No. 506087, issued in Cause CD No. 200502786, the Corporation Commission established the horizontal well unit described in the caption hereof ("the Horizontal Well Unit") for the Hartshorne common source of supply ("the Horizontal Well Spaced Formation").

4. By Order No. 506086, issued in Cause CD No. 200502785, the Corporation Commission established the regular unit described in the caption hereof as one 160-acre drilling and spacing unit ("the Regular Unit") for the Calvin, Thurman, and Bartlesville common sources of supply, and by Order No. 97070, the Corporation Commission established the Regular Unit for the Booch common source of supply, with the Calvin, Thurman, Bartlesville and Booch being referred to herein as "the Regular Unit Spaced Formations".

5. Applicant is the owner of an interest in the right to drill into and produce from the Regular Unit Spaced Formations underlying the Regular Unit and in the Horizontal Well Spaced Formation underlying the Horizontal Well Unit by virtue of oil and gas leasehold rights owned by Applicant covering various lands and interests within both units. Applicant has proposed to all other owners in both the Regular Unit and in the Horizontal Well Unit the drilling of a unit well, said unit well to be drilled to a total vertical depth of approximately 2626 feet and to a total measured depth of approximately 5,877 feet, with said unit well to be drilled first to test the Regular Unit Spaced Formations and, then, to be drilled into the Horizontal Well Spaced Formation for the purposes of then drilling a horizontal well in the Horizontal Well Unit. The owners of the remaining lands and interests in both units are either the respondents named in the application filed in this cause or owners with whom Applicant has heretofore reached private agreement.

6. Applicant, after proposing the drilling of the unit well, has been unable to reach agreement with the respondents so that all owners may pool their interests and develop their lands as a unit. Applicant exercised due diligence to locate each of the respondents and a bona fide effort was made to reach an agreement with each such respondent as to how both units should be developed.

7. All owners should be required to pool and develop their interests in both units and a just and reasonable method which will afford to each of the owners the opportunity to recover or receive, without unnecessary expense, its or his just and fair share of the oil and gas from both units is to permit each owner to participate in the drilling of the unit well by paying his or its proportionate share of the costs thereof and in the event any owner does not desire to participate in the drilling of the unit well, such owner may elect to relinquish to Applicant all of his or its interest in the Regular Unit, as to the Regular Unit Spaced Formations, and in the Horizontal Well Unit, as to the Horizontal Well Spaced Formation only, for the present fair market value thereof.

8. Ordering paragraph 3 below fixes the costs of the drilling of the proposed unit well. The Commission finds that said costs are reasonable estimates of the projected actual costs of the unit well and the Commission retains jurisdiction in this cause to resolve any disputes between the owners over such costs.

9. The present fair market value for an interest to be relinquished in both Units in lieu of participating therein is as set forth in ordering paragraph 4 below.

10. Ordering paragraphs 4 through 12 below set forth various time periods for requiring acts to be performed or accomplished. The Commission finds that such time periods are all fair and reasonable.

11. In the interest of encouraging development in the area, securing the greatest ultimate recovery from the pool and protecting correlative rights, this application should be granted.

#### ORDER

IT IS THEREFORE ORDERED by the Corporation Commission of Oklahoma as follows:

1. Pooling of Units. The lands and interests of Applicant and all owners named in Exhibit A to this order in the SW/4 of Section 4, Township 7 North, Range 10 East, Hughes County, Oklahoma ("the Regular Unit") are hereby pooled for the Calvin, Thurman, Bartlesville, and Booch separate common sources of supply ("the Regular Unit Spaced Formations"). The lands and interests of Applicant and all owners named in Exhibit A to this order in the S/2 of Section 4, Township 7 North, Range 10 East, Hughes County, Oklahoma ("the Horizontal Well Unit") are hereby pooled for the Hartshorne common source of supply ("the Horizontal Well Spaced Formation").

2. Unit Operator. Monexco, L.L.C. is hereby designated operator of both units and permitted and authorized to drill and operate the unit wells.

3. Estimated Well Costs. For the purposes of this order, the sum of \$530,475 is fixed as the cost of drilling the unit well to total depth, without a completion attempt. The sum of \$643,335 is fixed as the cost of drilling, completing and equipping the unit well from the Horizontal Well Spaced Formation. Said sums are intended to include a reasonable charge for supervision. In this connection, inasmuch as the ownership within the Regular Unit is not the same as the ownership in the Horizontal Well Unit, there must be a method for attributing the total costs of the well between the owners in the Regular Unit who elect to participate and the owners in the Horizontal Well Unit who elect to participate. To this end, the Commission finds that it will be a relatively simple procedure for the operator to maintain a running total of the costs of the well as they are incurred to the base of the Booch, it being the deeper of the Regular Unit Spaced Formations. Thus, of the total costs incurred in drilling the well to the base of the Booch, the Regular Unit owners shall pay 50% of those total costs and the Horizontal Well Unit owners shall pay 50% of those total costs incurred to the base of the Booch. All costs incurred in drilling the well from the point of time that it is drilled below the base of the Booch shall be paid, solely, by the owners in the Horizontal Well Unit. With respect to the completion costs, if the well is completed in a Regular Unit Spaced Formation, said completion costs shall be paid solely by the owners in the Regular Unit. If the well is completed in the Horizontal Well Spaced Formation, those complete costs shall be paid solely by the owners in the Horizontal Well Unit. In the event there is a dispute as to such costs after the unit well has been completed, the Commission retains jurisdiction of this cause for the purpose of re-determining such costs.

4. Options for Development of Units. To enable the unit well to be drilled, to avoid the drilling of unnecessary wells and to protect correlative rights, each owner named in Exhibit A hereof must elect the following methods of affecting the committing of his or its interest in the development of the units, it being understood that an owner may elect one method as to a portion of his or its interest and another method or methods as to the remaining portion or portions, to-wit:

4.1 Participate. To participate in the drilling of the unit well. Any owner who elects to participate in the drilling of the unit well shall be required to pay to the designated operator his or its pro rata share of actual costs of drilling, completing and equipping the unit well and, in the event of production, of all actual operating costs, plus a reasonable charge by the designated operator for supervision.

4.1.1 Paying or Securing Well Costs. Within 20 days from the date of this order, any owner who elects to participate must pay the designated operator such owner's pro rata share of the estimated completed well costs as set out in paragraph 3 above or, in lieu of such payment, furnish evidence, satisfactory to Applicant, of such owner's ability to pay such estimated cost. The "pro rata share" of the estimated completed well costs for those owners in the Regular Unit who elect to participate shall be 25% of the estimated completed well costs, or each such owner in the Regular Unit shall pay or secure their pro rata share of \$160,833.75. Moreover, the pro rata share of each owner in the Horizontal Well Unit who elects to participate shall be his or its pro rata share of the remaining 75% of the total completed well costs, or his proportionate share of \$482,501.25.

4.1.2 Failure to Pay or Secure Well Costs. In the event any owner who makes a timely election to participate fails, within said period of 20 days, to either pay such owner's pro rata share of the estimated completed well costs or furnish evidence satisfactory to the designated operator of such owner's ability to pay such costs, such owner's election to participate shall be considered void and such owner shall be treated as if he or it had made no election, as set forth in paragraph 5 below; OR



**4.2 Cash Bonus Plus Reserved Overriding Royalty.** To relinquish to Applicant his or its interest in the entire Regular Unit, as to the Regular Unit Spaced Formations, and in the entire Horizontal Well Unit, as to the Horizontal Well Spaced Formation, subject to the statutory 1/8th royalty, for a cash bonus of \$100 per mineral acre covered by the relinquished interest plus a proportionate, cost-free (except applicable taxes) overriding royalty equaling 1/16 of 8/8 of all production, said fractional overriding royalty to be reduced, however, to absorb any now existing non-operating interests in excess of the normal 1/8 royalty; provided, however, this option shall not be available to any owner whose interest is burdened with royalty, overriding royalty or other non-operating interests in excess of a proportionate 3/16 of all production. Provided, however, the Commission finds that the relative value between the Regular Unit Spaced Formations and the Horizontal Well Spaced Formation is equal. Accordingly, of the \$100 cash bonus, \$50 per mineral acre shall be attributable to each owner's interest in the Horizontal Well Spaced Formation underlying the Horizontal Well Unit and \$50 per mineral acre shall be attributable to each owner's interest in the Regular Unit Spaced Formations underlying the Regular Unit; OR

**4.3 Reserved Overriding Royalty.** To relinquish to Applicant his or its interest in the entire Regular Unit, as to the Regular Unit Spaced Formations, and in the entire Horizontal Well Unit, as to the Horizontal Well Spaced Formation, subject to the statutory 1/8th royalty, for a proportionate cost-free (except applicable taxes) overriding royalty equaling 1/8 of 8/8 of all production, said fractional overriding royalty to be reduced, however, to absorb any now existing non-operating interests in excess of the normal 1/8th lessor's royalty.

5. **Time for Election; Failure to Elect.** Each owner named in Exhibit A hereof is hereby required to elect within 15 days from the date of this order as to which of the three alternative methods set forth in paragraph 4 above he or it desires to pursue in the development of both units. Such election shall be in writing and shall be mailed or delivered to Applicant at:

Monexco, L.L.C.  
2701 State Street  
Dallas, TX 75204

A failure to make a timely election shall act as an election to take the Cash Bonus Plus Reserved Overriding Royalty described in paragraph 4.2 above; provided, however, as to any owner whose working interest is burdened with non-operating interests in excess of 3/16 of all oil and gas, such failure shall act as an election to take the Reserved Overriding Royalty described in paragraph 4.3 above.

6. **Payment of Cash Bonuses; Escrow Account.** Any owner who makes a timely election to accept the cash bonus or, by silence, has been deemed to have elected the cash bonus, shall be paid the amount due such owner within 30 days from the date of this order. If any payment of bonus due and owing under this order cannot be made because the person entitled thereto cannot be located or is unknown, then said bonus shall be paid into an escrow account within ninety (90) days after the date of this order and shall not be commingled with any funds of the Applicant or Operator. Any royalty payments or other payments due to such person shall be paid into an escrow account by the holder of such funds. Responsibility for filing reports with the Commission as required by law and Commission rule as to bonus, royalty or other payments deposited into escrow accounts shall be with the applicable holder. Such funds deposited in said escrow accounts shall be held for the exclusive use of, and sole benefit of, the person entitled thereto. It shall be the responsibility of the Operator to notify all other holders of this provision and of the Commission rules regarding unclaimed monies under pooling orders. Attached hereto as Exhibit A is a list of all parties or interests which are unknown or cannot be located, together with such parties' last known addresses, if available. Also included in Exhibit A is a list of all parties or interests whose present addresses are known, and the respective mailing address of each. If any payment of bonus due and owing under this order cannot be made due to a questionable title or for any other reason, then such bonus shall be paid into an escrow account and shall not be commingled with any funds of the Applicant or Operator. Any royalty payments or other payments due to such person shall be paid into an escrow account by the holder of such funds.

7. **Commencement of Well.** Applicant shall commence operations for the drilling of the unit well within 180 days from the date of this order and continue the drilling thereof with

due diligence to completion or the provisions hereof shall be inoperative and this order null and void except for the obligation to pay the cash bonuses as provided in paragraph 6.

8. Subsequent Operations.

8.1 Proposed Operations. This section 8 shall apply to any additional wells which are proposed to be drilled on the Regular Unit for the purposes of testing one or more of the Regular Unit Spaced Formations, and to any horizontal well on the Horizontal Well Unit for the purposes of testing the Horizontal Well Spaced Formation, as well as any well which an owner proposes to plug back, deepen, sidetrack or re-work in one or more of the Regular Unit Spaced Formations or in the Horizontal Well Spaced Formations. The term "sidetrack" as a subsequent operation shall not include or cover any sidetrack operation in a well when said sidetrack operation is conducted only to straighten the hole or to drill around junk in the hole or to overcome mechanical difficulties. Those types of sidetracking shall be conducted at the discretion of the operator and shall be binding upon all participating owners. This section shall provide for a manner and method for owners who had participated in the drilling of all previous wells, including the initial unit well which is the subject of this order, to participate in the subsequent operations. Once an owner has elected not to participate in the drilling of a well, including the non-participation in the initial unit well which is the subject of this order, that owner shall no longer be entitled to participate in any subsequent operations. Should a party who has participated in all previous wells drilled on either unit pursuant to the order desire to drill an additional well on either unit or to re-work, deepen, sidetrack or plug back an existing well on either unit, such party shall give written notice to all owners who have participated in all previous operations of the proposing party's desire to drill, re-work, deepen, sidetrack or plug back such a well, specifying the work to be performed, the location, the proposed depth, objective formation, and including a written estimated cost of the operation (A.F.E.). The parties receiving such notice shall have 30 days after receipt of same within which to notify the proposing party, in writing, whether the recipients elect to participate in the cost of the proposed operation. If a drilling rig is on location, notice of a proposal to re-work, deepen, sidetrack or plug back may be given by telephone or telecopy and the response period shall be limited to 48 hours, exclusive of Saturday, Sunday and legal holidays. Failure of a party receiving such notice to reply within the period above fixed, shall constitute an election by that party not to participate in the cost of the proposed operation. Provided, however, without the written consent of all then participants in the well, no well which is then producing in commercial quantities may be re-worked, plugged back, sidetracked or deepened. Provided, further, in the event a well is then producing on either unit from one or more of the pooled common sources, an additional well to be produced from the same producing common source may not be proposed until such time as the Corporation Commission has issued a final order authorizing such increased density well. Provided, further, no well may be proposed to be drilled at an off-pattern location for either unit until the Corporation Commission has issued a final order authorizing such location exception.

8.2 Payment or Securing of Well Costs by Consenting Parties. Any owner who timely elects to participate in any proposed operation, as referred to in the preceding paragraph, within 10 days after expiration of the notice period of 30 days shall pay the then designated unit operator such owner's pro rata share of the estimated costs, as set out in the A.F.E. which was included with the notice, or, in lieu of such payment, furnish security, satisfactory to the operator, for such owner's share of such estimated costs. In the event any owner who makes a timely election to participate fails, within said period of 10 days, to either pay such owner's pro rata share of the estimated costs or to furnish security satisfactory to the operator for such owner's share of such costs, such owner's election to participate shall be considered void and such owner shall be treated as if he or it had made no election, as set forth in paragraph 8.3 below. Provided, in the event the drilling rig is on location, any owner who timely elects to participate in the re-work, sidetrack, recompletion, plug back or deepening shall be firmly obligated to pay his or its share of the estimated costs as such costs are incurred and billed to such electing owner by operator.

8.3 Result of Non-Consent Elections. Any owner who elects, or is deemed to have elected, not to participate in any operation under the terms of this section 8, shall be deemed to have relinquished to the party who proposed the operation his or its interest in the entire unit, as to the pooled common sources covered thereby only, less and except, and reserving to said owner, all interest in the wellbore of any well in which said owner had previously participated, subject to the statutory 1/8th royalty, and reserving unto such owner the Reserved Overriding Royalty described in paragraph 4.3 above. Provided, however, if the

proposed operation is for the re-working, deepening, sidetracking or plugging back of an existing well, such relinquishment shall include, rather than reserve, the wellbore of such existing well.

8.4 Commencement of Subsequent Operations. The then designated operator must commence the proposed operation referred to in the preceding paragraph within 90 days after expiration of the notice period of 30 days. Following commencement of the proposed operation within the time required, the designated operator must complete same with due diligence at the risk and expense of the parties who elected to participate in the proposed operation. If the actual operation has not been commenced within the time provided and if a party still desires to conduct said operation, written notice proposing same must be re-submitted to the same parties in accordance with the provisions hereof as if no prior proposal had been made.

9. Continued Jurisdiction Over Well Costs. In the event of any dispute relative to the costs of any well drilled, re-worked, deepened, sidetracked or plugged back pursuant to the terms of this order, the Commission shall determine the proper costs after due notice to interested parties and a hearing thereon.

10. Lien of Operator. The designated operator, in addition to any other right provided by this order, shall have a lien on the mineral leasehold estate or rights owned by each of the respondents who participate in any well drilled, re-worked, deepened, sidetracked or plugged back pursuant to this order and upon their shares of production from both units to the extent that costs incurred in the development and operation upon said unit are a charge against such interest pursuant to this order or by operation of law. Such lien shall be separable as to each separate owner within the Unit and shall remain liens until the operator has been paid the amount due under the terms of this order. The designated operator shall be entitled to production from any such well attributable to any owner or owners, after payment of royalty, until such owner or owners have paid the operator the amount due under the terms of this order, or any order settling any dispute over costs.

11. Special Findings as to Pooling of Horizontal Well Unit. The Commission specifically finds that the Horizontal Well Unit being pooled by this order does not overlie existing production from the same common source of supply as the Horizontal Well Unit.

12. Mailing of Order. Applicant, or its attorney, shall file an affidavit with the Corporation Commission within 10 days from the date of this order stating that a true copy of this order was mailed within 3 days from the date of this order to each owner whose interest was pooled

by the order and who could be served. The name and address of each such owner shall be set out in the affidavit, if known.

OKLAHOMA CORPORATION COMMISSION OF

\_\_\_\_\_  
Bob Anthony, Chairman

\_\_\_\_\_  
Jeff Cloud, Vice Chairman

\_\_\_\_\_  
Denise A. Bode, Commissioner

DONE AND PERFORMED this \_\_\_\_\_ day of \_\_\_\_\_, 2005.

BY ORDER OF THE COMMISSION:

\_\_\_\_\_  
Peggy Mitchell, Commission Secretary

REPORT OF THE ADMINISTRATIVE LAW JUDGE

The foregoing findings and order are the report and recommendations of the Administrative Law Judge.

APPROVED:

\_\_\_\_\_  
Anne George,  
Administrative Law Judge

\_\_\_\_\_  
Date

\_\_\_\_\_  
Reviewer

\_\_\_\_\_  
Date

EXHIBIT A

The following is a list of all parties or interests whose present addresses are known and the respective mailing addresses of each:

Valery Ann Hendry, Trustee Under  
the John L. Warren Trust  
1508 Eden Blvd., N.E.  
St. Petersburg, FL 33704

Charlotte Ann Rhoads  
4159 E. 49th  
Tulsa, OK 74135

William H. Warren, Jr.  
2704 Cactus Drive  
Edmond, OK 73013

Kathryn LaVerne Carter  
Route 1, Box 253-W

Seminole, OK 74868

Bob L. Loftis  
112 E. Carl Albert Parkway  
McAlester, OK 74501

Billy Jack Norman  
Bill J. Norman Oil Company  
RR 1, Box 121A  
Sasakwa, OK 74867

Bobby Bunch  
1024 S. Oak  
Holdenville, OK 74848

The following is a list of all parties or interests which are unknown or cannot be located, together with each party's last known address, if available:

The unknown heirs, devisees, executors,  
administrators, trustees, successors and  
assigns, immediate and remote, of  
Roy Loftis, deceased  
c/o Bob L. Loftis  
112 E. Carl Albert Parkway  
McAlester, OK 74501

The unknown heirs, devisees, executors,  
administrators, trustees, successors and  
assigns, immediate and remote, of  
Roy Loftis, deceased  
Addresses Unknown

Thomas E. Williams, if living, or if deceased,  
his unknown heirs, devisees, executors,  
administrators, trustees, successors and  
assigns, immediate and remote  
Address Unknown

Respondents listed for curative purposes:

NONE

[C] Texas

MICHAEL L. WILLIAMS, CHAIRMAN  
VICTOR G. CARRILLO, COMMISSIONER  
ELIZABETH A. JONES, COMMISSIONER



LINDIL C. FOWLER, JR., GENERAL COUNSEL  
COLIN K. LINEBERRY, DIRECTOR  
HEARINGS SECTION

RAILROAD COMMISSION OF TEXAS  
OFFICE OF GENERAL COUNSEL

July 30, 2008

RECEIVED  
AUG 04 2008

Service List Attached:

Re: **Oil and Gas Docket No. 09-0253880**; THE APPLICATION OF CHESAPEAKE OIL AND GAS OPERATING, INC. TO AMEND THE FIELD RULES FOR THE NEWARK, EAST (BARNETT SHALE) FIELD, BOSQUE, COOKE, ELLIS, ERATH, DENTON, JOHNSON, HILL, HOOD, JACK, MONTAGUE, PALO PINTO, PARKER, SOMERVELL, TARRANT, YOUNG AND WISE COUNTIES, TEXAS; **FINAL ORDER**


To the Parties:

The Railroad Commission of Texas has acted upon the above-referenced case. Please refer to the attached Final Order for the terms and date of such action.

This order will not be final and effective until at least 23 days after the date of this letter. If a Motion for Rehearing is timely filed, this order will not be final and effective until such Motion is overruled. A Motion for Rehearing should state the reasons you believe a rehearing should be granted, including any errors that you believe exist in the Commission's order. If the Motion is granted, the order will be set aside and the case will be subject to further action by the Commission at that time or at a later date.

To be timely, a Motion for Rehearing must be received by the Commission's Docket Services (see letterhead address) no later than 5:00 p.m. on the 20th day after you are notified of the entry of this order. You will be presumed to have been notified of this order three days after the date of this letter. This deadline cannot be extended because it is set by law. Fax transmissions will not be accepted without prior approval from the hearings examiner. **ORIGINAL PLUS THIRTEEN** copies of the Motion for Rehearing shall be submitted to the hearings examiner. **PLEASE DO NOT STAPLE COPIES.** One copy must be sent to each party. In addition, if practicable, parties are requested to provide the examiners with a copy of the Motion for Rehearing on a diskette in Word or WordPerfect format. The diskette should be labeled with the docket number, the title of the document, and the format of the document.

Sincerely,

  
Donna K. Chandler,  
Technical Examiner

DKC/sck

Attachment

cc: Richard Varela - RRC, Austin  
Tommie Seitz - RRC, Austin  
Debbie LaHood - RRC, Austin  
Wichita Falls District Office - 09  
Compliance Analyst - 09

Service List:



**Service List:**

Glenn Johnson  
Kelly, Hart & Hallman  
Representing Chesapeake Operating, Inc.  
301 Congress Ave. Ste 2000  
Austin, Texas 78701

Brian Sullivan  
McElroy, Sullivan & Miller LLP  
Representing Devon Energy Production Co, L.P.  
P. O. Box 12127  
Austin, Texas 78711

Jamie Nielson  
Representing Burlington Resources O & G Co LP  
7000 North Mo-Pac Expressway  
Second Floor  
Austin, Texas 78731

Mary Patton  
Representing Range Production Company  
100 Throckmorton, Suite 1200  
Fort Worth, Texas 76102

Flip Whitworth  
Scott, Douglass & McConnico LLP  
Representing EOG Resources, Inc.  
One American Center  
600 Congress Ave., 15th Floor  
Austin, Texas 78701-3234

David Gross  
Representing XTO Energy Inc.  
12400 Hwy 71 West  
Ste 350-230  
Austin, Texas 78738

Tim George  
McGinnis, Lochridge & Kilgore  
One American Center  
600 Congress Avenue, Ste 2100  
Austin, Texas 78701

Cary McGregor  
Platt, Sparks & Associates  
925A Capitol of Texas Highway, Suite 200  
Austin, Texas 78746

**RAILROAD COMMISSION OF TEXAS  
OFFICE OF GENERAL COUNSEL  
HEARINGS SECTION**

**OIL AND GAS DOCKET  
NO. 09-0253880**

**IN THE NEWARK, EAST (BARNETT SHALE)  
FIELD, VARIOUS COUNTIES, TEXAS**

**FINAL ORDER  
AMENDING THE FIELD RULES FOR THE  
NEWARK, EAST (BARNETT SHALE) FIELD  
BOSQUE, COOKE, ELLIS, ERATH, DENTON, JOHNSON,  
HILL, HOOD, JACK, MONTAGUE, PALO PINTO, PARKER,  
SOMERVELL, TARRANT, YOUNG, AND WISE COUNTIES, TEXAS**

The Commission finds that after statutory notice in the above-numbered docket heard on January 9, 2008, the presiding examiners have made and filed a report and proposal for decision containing findings of fact and conclusions of law, which was served on all parties of record; that the proposed application is in compliance with all statutory requirements; and that this proceeding was duly submitted to the Railroad Commission of Texas at conference held in its offices in Austin, Texas.

The Commission, after review and due consideration of the examiners' report and proposal for decision, the findings of fact and conclusions of law contained therein, and any exceptions and replies thereto, hereby adopts as its own the findings of fact and conclusions of law contained therein, and incorporates said findings of fact and conclusions of law as if fully set out and separately stated herein except for Findings of Fact 7 and 9 and Conclusion of Law 6 for which the following amended findings and conclusion are adopted:

Finding of Fact 7: Amendment of the special field rules to allow off lease penetration points is appropriate where the operator can establish it provided notice by certified mail, return receipt requested, to the mineral owner of any offsite tract where the wellbore will penetrate the mineral formation or, after exercising due diligence, the operator was unable to locate the mineral owner and then published notice pursuant to the Commission's Rules of Practice and Procedure.

Finding of Fact 9: If a wellbore will penetrate the mineral formation on property where the operator has not secured a lease, or the property is not included within the unit identified for the proposed well on the drilling permit application, the permit for the well cannot be granted unless the operator can establish it provided notice by certified mail, return receipt requested, to the mineral owner or, after exercising due

diligence, the operator was unable to locate the mineral owner and then published notice pursuant to the Commission's Rules of Practice and Procedure.

Conclusion of Law 6: Pursuant to the decision of the Texas Supreme Court in *Magnolia Petroleum Co. v. Railroad Commission*, 170 S.W.2d 189, 191 (Tex. 1943) if a proposed wellbore will penetrate the mineral formation on property where the operator has not secured a lease or the property is not included within the unit identified for the proposed well on the drilling permit application, the permit for the well cannot be granted unless the operator can establish it provided notice by certified mail, return receipt requested, to the off lease mineral owner or, after exercising due diligence, the operator was unable to locate the mineral owner and then published notice pursuant to the Commission's Rules of Practice and Procedure.

Therefore, it is ordered by the Railroad Commission of Texas that Rules 2 and 3 of the field rules for the Newark, East (Barnett Shale) Field is amended. The field rules for the Newark, East (Barnett Shale) Field, Bosque, Cooke, Ellis, Erath, Denton, Johnson, Hill, Hood, Jack, Montague, Palo Pinto, Parker, Somervell, Tarrant, Young and Wise Counties, Texas are set out in their entirety as follows:

RULE 1: The entire correlative interval from 6,672 feet to 7,166 feet as shown on the log of the Mitchell Energy Corporation - W. C. Young Well No. 2, API No. 497-32613, W. Ritchey Survey, A-704, Wise County, Texas, shall be designated as a single reservoir for proration purposes and be designated as the Newark, East (Barnett Shale) Field.

RULE 2: No well shall hereafter be drilled nearer than THREE HUNDRED THIRTY (330) feet to any property line, lease line, or subdivision line. No minimum between well spacing requirement shall apply in this field. The aforementioned distance in the above rule is a minimum distance to allow an operator flexibility in locating a well, and the above spacing rule and the other rules to follow are for the purpose of permitting only one well to each drilling and proration unit. Provided however, that the Commission will grant exceptions to permit drilling within shorter distances and drilling more wells than herein prescribed whenever the Commission shall have determined that such exceptions are necessary either to prevent waste or to prevent the confiscation of property. When exception to these rules is desired, application therefore shall be filed and will be acted upon in accordance with the provisions of Commission Statewide Rules 37 and 38, which applicable provisions of said rules are incorporated herein by reference. Provided, however, that for purposes of the lease line spacing requirement for horizontal wells, the following shall apply:

1. Where the horizontal portion of the well is cased and cemented back above the top of the Barnett Shale formation, the distance to any property line, lease line or subdivision line will be calculated based on the distance to the nearest perforation in the well, and not based on the penetration point or terminus. Both the penetration point and the uppermost or first perforation point in the wellbore shall be identified on the drilling permit application and plat.
2. Where an external casing packer is placed in the well and cement is pumped above the external casing packer to a depth above the top of the correlative interval for the field, the distance to any property line, lease line or subdivision line will be calculated based on the location of the external casing packer or the closest open hole section in the Barnett Shale, and not on the penetration point. However, if perforations are added above the external casing packer, the perforations must comply with the spacing provisions, as described in paragraph number 1 of this Rule 2.
3. For any well permitted in this field configured as the above described wells, the penetration point need not be located on the same lease, pooled unit, unitized tract or production sharing agreement tract on which the well is permitted and may be located on an Offsite Tract. When the penetration point is located on such Offsite Tract, the applicant for such a drilling permit must give 21 days notice by certified mail, return receipt requested to the mineral owners of the Offsite Tract. For the purposes of this rule, the mineral owners of the Offsite Tract are (1) the designated operator; (2) all lessees of record for the Offsite Tract where there is no designated operator; and (3) all owners of unleased mineral interests where there is no designated operator or lessee. In providing such notice, applicant must provide the mineral owners of the Offsite Tract with a plat clearly depicting the projected path of the entire wellbore. In the event the applicant is unable, after due diligence, to locate the whereabouts of any person to whom notice is required by this rule, the applicant must publish notice of this application pursuant to the Commission's Rules of Practice and Procedure. If the mineral owners of the Offsite Tract object to the location of the penetration point, the applicant may request a hearing to demonstrate the necessity of the location of the penetration point of the well to prevent waste or to protect correlative rights. Notice of Offsite Tract penetration is not required if (a) written waivers of objection are received from all mineral owners of the Offsite Tract; or, (b) the applicant is the only mineral owner of the Offsite Tract. To mitigate the potential for well collisions, applicant shall promptly provide copies of any directional surveys to the parties entitled to notice under this section, upon request.

In applying this rule, the general order of the Commission with relation to the subdivision of property shall be observed.

**RULE 3:** The acreage assigned to the individual gas well for the purpose of allocating allowable gas production thereto shall be known as a proration unit. The standard drilling and proration units are established hereby to be THREE HUNDRED TWENTY (320) acres. No proration unit shall consist of more than THREE HUNDRED TWENTY (320) acres; provided that, tolerance acreage of ten (10) percent shall be allowed for each standard proration unit so that an amount not to exceed a maximum of THREE HUNDRED FIFTY-TWO (352) acres may be assigned. Each proration unit containing less than THREE HUNDRED TWENTY (320) acres shall be a fractional proration unit. All proration units shall consist of acreage which can be reasonably be considered to be productive of gas. No double assignment of acreage will be accepted.

An operator, at his option, shall be permitted to form optional drilling units of TWENTY (20) acres. A proportional acreage allowable credit will be given for a gas well on a fractional proration unit. No maximum diagonal requirement shall apply in this field.

The standard drilling unit for oil wells shall remain 40 acres.

For the determination of acreage credit in this field, operators shall file for each well in this field a Form P-15 Statement of Productivity of Acreage Assigned to Proration Units. On that form or an attachment thereto, the operator shall list the number of acres that are being assigned to each well on the lease or unit for proration purposes. When the allocation formula in this field is suspended, operators in this field shall not be required to file plats with the Form P-15. When the allocation formula is in effect in this field, operators shall be required to file, along with the Form P-15, a plat of the lease, unit or property; provided that such plat shall not be required to show individual proration units. Provided further, that if the acreage assigned to any well has been pooled, the operator shall furnish the Commission with such proof as it may require as evidence that interests in and under such proration unit have been so pooled. Operators in this field are exempt from the requirements of Rule 86(f)(3) entitled Proration Unit Plat; however operators must, for each horizontal drainhole, file a plat showing the as-drilled path, penetration point, terminus and, if applicable, perforations or external casing packer, for that horizontal drainhole and, for wells treated as stacked laterals, operators must file the plats required by paragraph number 6 of Rule 5. All plats referred to in this paragraph may be either a surveyor's plat or a certified plat, at the operator's option.

For the purpose of assigning additional acreage to a horizontal well pursuant to Rule 86, the distance from first perforation to last perforation in the horizontal drainhole shall be used in such determination, in lieu of the distance from penetration point to terminus.

**RULE 4:** The daily allowable production of gas from individual wells completed in a non-associated gas reservoir of the subject field shall be determined by allocating the allowable production, after deductions have been made for wells which are incapable of

producing their gas allowables, among the individual wells in the proportion that the acreage assigned such well for proration purposes bears to the summation of the acreage with respect to all proratable wells producing from the same reservoir.

The allocation formula for the field is currently suspended. The allocation formula may be reinstated administratively if the market demand for gas in the Newark, East (Barnett Shale) Field drops below 100% of deliverability.

**RULE 5:** For oil and gas wells, Stacked Lateral Wells within the correlative interval for the field that are drilled from different wellbores may be considered a single well for regulatory purposes, as provided below:

1. A horizontal drainhole well qualifies as a Stacked Lateral Well under the following conditions:
  - a) There are two or more horizontal drainhole wells on the same lease or pooled unit within the correlative interval for the field;
  - b) Each horizontal drainhole is drilled from a different surface location on the same lease or pooled unit;
  - c) There shall be no more than 200 feet between the surface locations of horizontal drainholes qualifying as a Stacked Lateral Well.
  - d) Each point of a Stacked Lateral Well's horizontal drainhole shall be no more than 200 feet in a horizontal direction from any point along any other horizontal drainhole of that same Stacked Lateral Well. This distance is measured perpendicular to the orientation of the horizontal drainhole and can be illustrated by the projection of each horizontal drainhole in the Stacked Lateral Well into a common horizontal plane as seen on a location plat; and
  - e) There shall be no maximum or minimum distance limitations between horizontal drainholes of a Stacked Lateral Well in a vertical direction.
2. Each horizontal drainhole drilled as a Stacked Lateral Well must be permitted separately and assigned an API number. A Stacked Lateral Well, including all horizontal drainholes comprising such Stacked Lateral Well, shall be considered as a single well for density and allowable purposes.
3. In permitting a proposed Stacked Lateral Well, the operator shall identify in the "Remarks" of the Form W-1 drilling permit application that the horizontal drainhole is to be a Stacked Lateral Well. The operator shall also identify on the plat any other existing, or applied for, horizontal drainholes comprising the Stacked Lateral Well being permitted.

4. To be a regular location, each horizontal drainhole of a Stacked Lateral Well must comply with (i) the field's minimum spacing distance as to any lease, pooled unit or property line, and (ii) the field's minimum between well spacing distance as to any different well, including all horizontal drainholes of any other Stacked Lateral Well, on the same lease or pooled unit in the field. Operators may seek exceptions to Rules 37 and 38 for Stacked Lateral Wells in accordance with the Commission's rules.
5. For each Stacked Lateral Well, the operator must file Form G-1 or Form W-2 for the Commission's Proration Department to build a fictitious "Record" well for the Stacked Lateral Well. This Record Well will be identified with the words "SL Record" included in the lease name. This Record Well will be assigned an API number and Gas Well ID or Oil lease number.
6. Operators shall file separate completion forms, including directional surveys, for each horizontal drainhole of the Stacked Lateral Well. Operators shall also file a certified plat for each horizontal drainhole of a Stacked Lateral Well confirming the well's qualification as a Stacked Lateral Well and showing the maximum distances in a horizontal direction between each horizontal drainhole of the Stacked Lateral Well.
7. Each horizontal drainhole of a Stacked Lateral Well will be listed on the proration schedule, but no allowable shall be shown for an individual horizontal drainhole. Each horizontal drainhole of a Stacked Lateral Well shall be required to have a separate G-10 or W-2 test and the sum of all horizontal drainhole test rates shall be reported as the test rate for the Record well.
8. Operators shall report all production from horizontal drainholes included as a Stacked Lateral Well on Form PR to the Stacked Lateral Record Well. Production reported for a Stacked Lateral Record Well is the total production from the horizontal drainholes comprising the Stacked Lateral Well.
9. If the field's 100% AOF status should be removed, the Commission's Proration Department shall assign a single gas allowable to each Stacked Lateral Record Well classified as gas well. The Commission's Proration Department shall also assign a single oil allowable to each Stacked Lateral Record Well classified as an oil well. The assigned allowable may be produced from any one or all of the horizontal drainholes comprising the Stacked Lateral Well.
10. Operators shall file an individual Form W-3A Notice of Intention to Plug and Abandon and Form W-3 Form Plugging Report for each horizontal drainhole comprising the Stacked Lateral Well as required by Commission rules.

11. An operator may not file Form P-4 to transfer an individual horizontal drainhole of a Stacked Lateral Well to another operator. P-4's filed to change the operator will only be accepted for the Record well if accompanied by a separate P-4 for each horizontal drainhole of the Stacked Lateral Well.

Each exception to the examiners' proposal for decision not expressly granted herein is overruled. All requested findings of fact and conclusions of law which are not expressly adopted herein are denied. All pending motions and requests for relief not previously granted or granted herein are denied.

This order will not be final and effective until 20 days after a party is notified of the Commission's order. A party is presumed to have been notified of the Commission's order three days after the date on which the notice is actually mailed. If a timely motion for rehearing is filed by any party at interest, this order shall not become final and effective until such motion is overruled, or if such motion is granted, this order shall be subject to further action by the Commission. Pursuant to TEX. GOV'T CODE §2001.146(e), the time allotted for Commission action on a motion for rehearing in this case prior to its being overruled by operation of law, is hereby extended until 90 days from the date the order is served on the parties.

Done this 29th day of July, 2008.

RAILROAD COMMISSION OF TEXAS

  
COMMISSIONER VICTOR G. CARRILLO

  
COMMISSIONER ELIZABETH A. JONES

ATTEST:

  
  
Secretary



[D] Wyoming

# FILE COPY

BEFORE THE OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF WYOMING

IN THE MATTER OF A HEARING BROUGHT ON )  
BY THE APPLICATION OF BLACK HILLS )  
EXPLORATION AND PRODUCTION, INC. FOR AN )  
ORDER FROM THE COMMISSION AUTHORIZING A )  
480-ACRE HORIZONTAL SPACING UNIT FOR THE )  
TURNER FORMATION CONSISTING OF SECTION )  
17: W1/2, W1/2E1/2, TOWNSHIP 42 NORTH, )  
RANGE 64 WEST, 6TH P.M., WESTON COUNTY, )  
WYOMING AND ALLOWING FOR THE DRILLING OF )  
ONE HORIZONTAL LATERAL TO BE DRILLED )  
FROM AN EXISTING VERTICAL WELL BORE ) CAUSE NO. 1  
CURRENTLY LOCATED IN SAID SECTION, WITH ) ORDER NO. 1  
THE LOCATION OF THE HORIZONTAL LATERAL ) DOCKET NO. 238-2003  
NO CLOSER THAN 540' TO THE LEASEHOLD )  
BOUNDARIES OF THE SPACING UNIT, AND NO )  
CLOSER THAN 540' TO ANY OTHER EXISTING )  
VERTICAL WELL BORES IN THE SPACING UNIT )  
IN THE FINN-SHURLEY FIELD, OR FOR SUCH )  
OTHER AND FURTHER RELIEF AS THE )  
COMMISSION DEEMS APPROPRIATE. THE )  
APPLICATION IS AN EXCEPTION TO CHAPTER )  
3, SECTION 2 OF THE RULES AND )  
REGULATIONS OF THE COMMISSION. )

APPEARANCE:

Mr. Bob Despain, Attorney for Black Hills Exploration and  
Production, Inc.

Others in attendance:

Black Hills Exploration and  
Production, Inc.

- Don Cardinal  
Bill Allen  
Allen A. Parrent

Bureau of Land Management

- Dave Chase

State of Wyoming

- Richard D. Marvel

REPORT OF THE EXAMINER

This cause came on regularly for hearing before Richard D. Marvel, duly appointed Hearing Examiner of the Wyoming Oil and Gas Conservation Commission at approximately 9:36 a.m. on the 10th day of June, 2003 in the Conference Room of the Office of the State Oil and Gas Supervisor, 777 West First Street, Casper, Wyoming, after due and legal notice was given as required by law and as required by the Rules and Regulations of the Commission, to consider the matter brought on by the application of Black Hills

Exploration and Production, Inc., (hereinafter "Black Hills"), for an order from the Commission authorizing a 480-acre horizontal spacing unit for the Turner Formation consisting of Section 17: W1/2, W1/2E1/2, Township 42 North, Range 64 West, 6th P.M., Weston County, Wyoming and allowing for the drilling of one horizontal lateral to be drilled from an existing vertical well bore currently located in said section, with the location of the horizontal lateral no closer than 540' to the leasehold boundaries of the spacing unit, and no closer than 540' to any other existing vertical well bores in the spacing unit in the Finn-Shurley Field, or for such other and further relief as the Commission deems appropriate. The application is an exception to Chapter 3, Section 2 of the Rules and Regulations of the Commission.

After hearing testimony from the witnesses and having considered the evidence presented, the Examiner makes the following Findings of Fact, Conclusions of Law, and recommended Order:

FINDINGS OF FACT

1. Black Hills is the owner of certain operating rights and working interests in the Turner Formation underlying the following described lands in the Finn-Shurley Field, Weston County, Wyoming, (hereinafter "subject lands"):

Township 42 North, Range 64 West, 6th P.M.  
Section 17: W1/2, W1/2E1/2.

2. Black Hills is making application to drill a proposed reentry horizontal lateral from an existing well bore currently located in the subject lands.

3. The existing prescribed location for the drilling of a horizontal lateral within the above-described tract is governed under Chapter 3, Section 2 of the Rules and Regulations of the Commission and provides for a temporary 640-acre spacing unit.

4. Pursuant to Chapter 3, Section 2(e)(iv) of the Commission Rules and Regulations, all existing vertical wells within the proposed horizontal well spacing unit shall be subject to the existing spacing units set by the Commission for said vertical wells.

5. A reentry horizontal lateral in the previously described location will not drain six hundred and forty acres and requests the Commission create a horizontal spacing unit for the Turner Formation to be comprised of 480-acres consisting of Section 17: W1/2 and W1/2E1/2, Township 42 North, Range 64 West, 6th P.M., Weston County, Wyoming, with the location of the proposed horizontal lateral not closer than 540' to the leasehold boundaries of the spacing unit, and not closer than 540' to any other existing vertical wellbore in the spacing unit.

6. That the Turner Formation underlies Subject Lands and that 480 acres is not smaller than the maximum area which can be efficiently drained by one (1) well producing oil, gas, and associated hydrocarbons in the spaced area. That in order for a prudent operator to properly develop the oil and gas underlying the lands described above, the drilling unit must be established as requested to prevent waste and protect correlative rights.

7. No one appeared in protest of Black Hills' application.

#### CONCLUSIONS OF LAW

1. Due and legal notice of time, place, and purpose of this hearing has been afforded to all interested parties in all respects as is required by law.

2. The Commission has jurisdiction over this matter and over all parties interested, and has jurisdiction to make and promulgate the order hereinafter set forth.

3. This hearing was conducted in accordance with Chapter 5, Sections 13 and 15 of the Wyoming Oil and Gas Conservation Commission and §30-5-105, Wyoming Statutes (2001), governing hearings conducted by examiners.

4. Section 30-5-104(d)(iv), Wyo. Stat. (LexisNexis 2003) specifically provides that the Commission has the authority:

When required, in order to protect correlative rights, to establish drilling units affording each owner an opportunity to drill for and produce as a prudent operator, and so far as it is reasonably practicable to do so without waste, his just and equitable share of the oil or gas or both in the pool . . . .

Section 30-5-109(b) Wyo. Stat. (LexisNexis 2003) states:

In establishing a drilling unit, the acreage to be embraced within each unit and the shape thereof shall be determined by the commission from the evidence introduced at the hearing but shall not be smaller than the maximum area that can be efficiently drained by one (1) well.

Four hundred and eighty (480) acres is not smaller than the maximum area that can be effectively drained by one well drilled to the Turner Formation underlying subject lands.

ORDER

IT IS THEREFORE HEREBY ORDERED BY THE COMMISSION that an approximate 480-acre Horizontal drilling and spacing unit be established for the Turner Formation underlying the following described lands, to-wit:

Township 42 North, Range 64 West, 6th P.M.  
Section 17: W1/2, W1/2E1/2.

IT IS FURTHER ORDERED that the permitted reentry horizontal lateral is to be from an existing vertical wellbore currently located in Section 17, Township 42 North, Range 64 West, 6th P.M., Weston County, Wyoming, with the location of the horizontal lateral being no closer than 540' to the exterior boundary of the drilling and spacing unit, provided that no part

of the lateral be closer than 540' from any other existing vertical well bores;

IT IS FURTHER ORDERED, that the Commission shall retain jurisdiction in this matter to take such additional action, if any, as the Commission deems necessary and appropriate.

DATED this 4th day of August, 2003.

WYOMING OIL AND GAS  
CONSERVATION COMMISSION

/s/ Lance W. Cook,  
Mr. Lance W. Cook,  
Acting Chairman-Commissioner

/s/ Richard D. Marvel  
Mr. Richard D. Marvel,  
Examiner

/s/ Lynne Boomgaarden  
Ms. Lynne Boomgaarden,  
Commissioner

/s/ Robert A. King  
Mr. Robert A. King,  
Commissioner

/s/ Donald Basko  
Mr. Donald Basko,  
Commissioner

§ XX.06 An Annotated List of State Statutes and Conservation Agency Regulations

The following list of statutory and regulatory provisions is designed to point out how particular states deal with horizontal or deviated wells from a spacing perspective since only a few states have dealt with the impact of horizontal wells on the compulsory pooling process. I commend you to review an article presented at last year's Annual Institute which provides a more detailed review of state spacing rules.<sup>116</sup>

[A] Arizona

Arizona has statewide spacing rules for oil and gas.<sup>117</sup> There are special rules for wells that have horizontal segments. Such segments shall be located at least 330 feet from the boundary of a spacing unit in the case of an oil well and at least 1660 feet from the boundary of a spacing unit in the case of a gas well.<sup>118</sup>

[B] Arkansas

Arkansas deals with horizontal wells with specific rules designed to deal with such operations.<sup>119</sup> Well location for a horizontal well is determined by the estimated productive portion of the lateral, projected to the surface. The well location is the entire perforated length of the lateral section as shown on a directional survey.<sup>120</sup> Spacing rules attach to the entire perforated section of the lateral line so that at no point in the lateral may the relevant spacing rules be violated.

[C] Colorado

The recently adopted Colorado Oil and Gas Conservation Commission rules do not define the term "horizontal well" but do deal with horizontal drilling in a number of ways. There

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<sup>116</sup> H. Michael Keller & Thomas W. Clawson, Know the Chessboard Before You Make Your Move—A Landman's Guide to Well Location and Spacing Regulation, 54 Rocky Mtn.Min.L.Inst. § 13.06 (2008).

<sup>117</sup> Ariz. Admin. Code R12-7-107.

<sup>118</sup> Ariz. Admin. Code R12-7-107(D).

<sup>119</sup> Ark. Oil & Gas Comm. Rule B-3.

<sup>120</sup> *Id.*

is a general requirement that unless authorized by the rule dealing with directional drilling all wells must not be deviated.<sup>121</sup> Rule 321 provides that if an operator intends to drill a horizontal or deviated wellbore, the permit to drill application must include additional information showing both surface and bottom hole locations.<sup>122</sup> In addition, within 30 days of completion the operator must submit the Drilling Completion Report with a copy of the directional survey coordinate listing and wellbore deviation plots. The Report must show the location of the wellbore from the base of the surface casing to the kick off point and from that point to total depth. The operator must ensure that the wellbore complies with the setback requirements contained in Rule 319 that requires all wells drilled to a depth of 2500 feet or greater to be setback at least 600 feet from any lease line and 1200 feet from any producible or drilling oil or gas well.

[D] Florida

Florida imposes an 1840 foot spacing rule from all other wells on all "productive sections" of a horizontal well.<sup>123</sup> All 10 acre blocks whose nearest boundary is within 920 feet from the productive section of a horizontal well must be included in the drilling unit. Likewise, horizontal wells within productive sections penetrating the 400 foot square in the center of a routine, vertical well, must include the entire 160 acre drilling unit. The regulations further provide that productive horizontal wells are to be "unitized" as soon as possible after testing is completed.<sup>124</sup> Horizontal well operators must also comply with the special requirements for non-routine drilling units including a showing why the horizontal well will prevent waste or protect correlative rights.

[E] Illinois

The Illinois regulations specifically deal with the drilling of horizontal wells and the appropriate spacing. A horizontal well is one where the lateral length is at least twice the

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<sup>121</sup> COGCC Rule 317(b).

<sup>122</sup> *Id.* Rule 321.

<sup>123</sup> Fla. Reg. 62C-26.004.

<sup>124</sup> *Id.*



thickness of the reservoir.<sup>125</sup> The regulations further allow for multiple horizontal drainholes from a single well. Depending upon whether the horizontal well is designed for primary or enhanced recovery purposes the spacing requirements will differ.<sup>126</sup> The operator must also provide additional information both prior to getting the permit to drill and upon the filing of the required well completion and well drilling reports.<sup>127</sup>

[F] Kansas

Under the regulations of the Kansas Corporation Commission, a horizontal well "may be permitted by the commission only after application to the conservation division and notice pursuant to K.A.R. 82-3-135a. The application may be set for hearing by the commission."<sup>128</sup> There is a statewide drilling unit size of 10 acres for both oil and gas wells and a spacing regulation that does not allow for wells to be drilled within 330 feet of any lease or unit boundary line.<sup>129</sup>

[G] Kentucky

Kentucky has two parallel rules relating to horizontal wells, one dealing with coalbed methane wells and the other dealing with all other wells.<sup>130</sup> Both rules apply to directional and horizontal wellbores. The horizontal wellbore must in either case must satisfy the spacing requirements for the well in terms of distance from the lease line and from other producing wells. There are special platting requirements imposed on the permit application to ensure compliance with the applicable spacing rules. The CBM rule imposes additional requirements relating to the coal seams that are to be intersected

[H] Louisiana

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<sup>125</sup> 62 IAC § 240.455.

<sup>126</sup> *Id.*

<sup>127</sup> 62 IAC § 240.245.

<sup>128</sup> K.A.R. 82-3-103a (b).

<sup>129</sup> K.A.R. §§ 82-3-207; 82-3-312. fs

<sup>130</sup> 805 KAR 1:140 (Non-CBM wells); 805 KAR 9:1070 (CBM wells).

In 1998, the Department of Natural Resources, Office of Conservation promulgated Statewide Order No. 29-S which regulates the drilling of horizontal wells in the "Austin Chalk Formation."<sup>131</sup> A horizontal well is defined as one where the lateral section is drilled at an angle of at least 80 degrees to the vertical with a horizontal displacement of at least 50 feet from the penetration point into the Austin Chalk Formation. The regulations exempt horizontal wells from the statewide well spacing rules. Where no special or field rules have been created for Austin Chalk Formation horizontal wells, spacing rules require that the lateral section shall not encroach into a "rectangle formed by drawing north-south lines 3,000 feet east of the most easterly point and 3,000 feet west of the most westerly point and east-west lines 100 feet north of the most northerly point and 100 feet south of the most southerly point of any horizontal well completed in, drilling to, or for which a permit shall have been granted. . . "<sup>132</sup> The otherwise applicable gas proration rules also do not apply to horizontal wells which are to be given an allowable based on the Maximum Efficient Rate (MER) of the well. The size and shape of horizontal spacing units are to be based on the proposed design of the well. The regulations further provide that the party who owns or controls a majority working interest in a drilling unit for a horizontal well shall have the right to be designated the operator of the unit.<sup>133</sup> The normal requirements for the running of a directional survey for all directional wells may be waived as to the requirement to run it for the entire length of the lateral section by the Office of Conservation.<sup>134</sup>

[I] Michigan

Michigan has no special rules for horizontal wells but does regulate directional drilling and re-drilling operations.<sup>135</sup>

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<sup>131</sup> La. Admin. Code tit. 43, subpart 18, ch. 43.

<sup>132</sup> *Id.*, § 4303(2).

<sup>133</sup> *Id.* § 4305(6).

<sup>134</sup> *Id.* § 4305(7). Statewide Order No. 29-B sets forth the requirements for surveys for intentionally deviated wells.

<sup>135</sup> Mich.Reg. 324.202; 324.421. In 1997, Michigan studied the issue of directional and horizontal drilling under Lake Michigan and conclude that the risk of contamination of the lake was de minimis although there were some

[J] Montana

Montana, in 1995, adopted a specific rule relating to how horizontal wells are to comply with the otherwise applicable spacing regulations. Initially, the “projected depth” of the well as used in the spacing regulation to determine the relevant restrictions is to be based on the “projected true vertical depth of the deepest horizontal drainhole.”<sup>136</sup> The minimum distance requirements must be met at the penetration point and along the entire lateral line until the terminus. A horizontal well operator is given the discretionary power to designate an optional drilling unit, containing between 2-4 contiguous drilling units of the size and shape otherwise applicable to a vertical well. The horizontal well operator has 30 days after completion of the well to file an accurate directional survey showing location, direction and length of each horizontal drainhole.

[K] Nebraska

Nebraska has no special rules for horizontal wells but does regulate directional drilling through the permitting process.<sup>137</sup> Compliance with the statewide spacing rules requiring 40 acre drilling units and requiring well locations for deeper wells to be no closer than 500 feet from a boundary line would otherwise be applicable.<sup>138</sup>

[L] Nevada

Nevada has no special rules for horizontal wells but does require wells that are intentionally deviated from the vertical to be approved by the Division of Minerals of the Commission on Mineral Resources prior to the commencement of operations.<sup>139</sup> After completion a directional survey of the well must be submitted to the Division.

[M] New Mexico

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cautionary recommendations relating to surface location and its impact on the lake environment and other uses of the surface.

<sup>136</sup> Mont. Admin. Reg. § 36.22.703. The general spacing regulations are set forth in § 36.22.703. Montana has a default statewide spacing rule and then individually set field rules.

<sup>137</sup> 267 Neb. Admin. Code ch. 3, 014.

<sup>138</sup> *Id.* ch. 3, 13.02.

<sup>139</sup> Nev. Admin. Code § 522.275. The spacing restrictions are located at Nev. Admin. Code § 522.235.

The Oil Conservation Division has in the past few years been engaged in substantial and substantive changes to its oil and gas regulations. The new compulsory pooling regulations authorize the OCD to impose a risk penalty relating to the cost of drilling or re-entering a well. Parties may contest what is a reasonable cost under a compulsory pooling order.<sup>140</sup> Well spacing is determined by either county-specific rules, field rules or by statewide rules.<sup>141</sup> The director of OCD may grant permits to drill at unorthodox locations after a notice and hearing.<sup>142</sup> The new regulations do not use the term horizontal well, but do define the term "directional well" as a "well bore that is intentionally deviated from vertical with an intentional azimuth."<sup>143</sup> The regulations also use the standard definitions for kick-off point, lateral, penetration point and producing interval.<sup>144</sup> For directional well bores, the approval process differs when the well bore is entirely within a producing area, as defined by the regulations, or outside of the producing area.<sup>145</sup> Typically a party will file a communitization order for approval from the Oil Conservation Division that is not specifically tied to a horizontal or directional well which will give the operator the permission to produce from the horizontal well. In addition, directional surveys are required for directional well bores. No allowable is to be assigned to a directional well bore until the survey has been submitted.<sup>146</sup>

[M] North Dakota

North Dakota has extensive rules relating to spacing for existing and wildcat wells.<sup>147</sup> They have a specific rule for horizontal wells which are drilled at an angle of at least 80 degrees within the productive formation and are at least 500 feet in length. Horizontal wells must be drilled upon a full governmental section or upon two adjacent quarter sections. The horizontal

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<sup>140</sup> NMAC 19.15.13.8, 19.15.13.13.

<sup>141</sup> *Id.* 19.15.15.8, 19.15.15.9, 19.15.15.10.

<sup>142</sup> *Id.* 19.15.15.13.

<sup>143</sup> *Id.*, 19.15.16.7.

<sup>144</sup> *Id.*

<sup>145</sup> *Id.*, 19.15.16.14(b).

<sup>146</sup> *Id.*, 19.15.16.14.

<sup>147</sup> N.D. Admin. Code § 43-02-03-18.

well must be no closer than 500 feet to the outside boundary of the tract and no more than 1 horizontal well may be drilled to the same pool on any such tract without the permission of the Industrial Commission.<sup>148</sup>

[N] Oklahoma

Oklahoma also has a specific rule dealing with horizontal wells.<sup>149</sup> Instead of the term penetration point as is used in Texas, Oklahoma uses the term “point of entry” to describe the point where the drainhole intersects the top of the common source of supply.<sup>150</sup> For a horizontal well that is not drilled within an established horizontal well unit, no allowable will be assigned until the operator submits a downhole survey showing the location of each lateral for purposes of compliance with the spacing rules applicable to that location.<sup>151</sup> Horizontal wells can be drilled on any drilling and spacing unit and a horizontal unit may be created after notice and hearing.<sup>152</sup> Because Oklahoma has statewide spacing, the regulations recognize that a horizontal well unit may be established for a common source of supply for which there may already exist a non-horizontal drilling and spacing unit. Horizontal well units may exist concurrently with producing non-horizontal drilling and spacing units. The regulations further provide that all laterals in the same common source of supply shall constitute a single wellbore as long as one of the laterals is greater than 150 feet in length.<sup>153</sup> As with Texas and most other states, compliance with the spacing requirements is determined at the point of entry to the terminus along any and all lateral lines that are drilled.<sup>154</sup> For wells drilled deeper than 2500 feet the laterals must be at least 600 feet from any other producible or drilling oil and gas well that will be bottomed in the same common source of supply. Likewise for horizontal wells, the

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<sup>148</sup> *Id.* Horizontal wells may qualify for certain tax incentives otherwise provided for by North Dakota. See N.D. Admin. Code §§ 43-02-11-01 et seq.

<sup>149</sup> Okla. Admin. Code § 165:10-3-28.

<sup>150</sup> *Id.*, § 165:10-3-28(b)(3).

<sup>151</sup> *Id.*, § 165:10-3-28(c).

<sup>152</sup> *Id.*, § 165-10-3-28(e).

<sup>153</sup> *Id.*, § 165-10-3-28(f).

<sup>154</sup> *Id.*, § 165-10-3-18(g).

spacing requirements from other horizontal well units depend on the size of those units. For example, a lateral may not be located less than 330 feet from the boundary of any 80 or 160 acre horizontal well unit. As with Texas, the regulations provide for “bonus” allowable for horizontal well unit production.

[O] Oregon

Oregon has no special rules for horizontal wells but does regulate directional drilling through the imposition of additional permit disclosure requirements and directional surveys upon completion of the directional well.<sup>155</sup>

[P] Pennsylvania

Pennsylvania has one of the most active shale plays in the United States called the Marcellus Shale Formation. The Pennsylvania Department of Environmental Protection regulates oil and gas operations in the state. While the Department acknowledges the existence of horizontal well operations in the Marcellus Shale there are no specific statutory or regulatory provisions that specifically relate to horizontal wells. Horizontal wells must be permitted under the Oil and Gas Act.<sup>156</sup> The regulation dealing with deviated wells merely requires a well drilling permit and an angular deviation and directional survey of the well.<sup>157</sup>

[Q] South Carolina

South Carolina has no special rules relating to horizontal wells but merely has a regulation relating to directional drilling with additional reporting requirements attached to such operations.<sup>158</sup>

[R] Texas

Texas had through the end of 2005 issued Rule 37 permits for nearly 12,000 wells. That number has clearly increased in the feverish activity that occurred in the Barnett Shale play in

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<sup>155</sup> Or.Adm.Rule § 632-010-0142.

<sup>156</sup> 58 Pa.Stat. §§ 601.101-.605; Pa. Reg. § 79.11.

<sup>157</sup> Pa. Reg. § 79.16

<sup>158</sup> S.C. Code of Reg. § 121-8.17.

the ensuing years. The Railroad Commission has adopted special field rules, including rules for the Barnett Shale or Newark, East Field as it is called, for about 40 different fields. Texas was one of the first states to adopt rules relating to horizontal drilling when it promulgated Rule 86 in 1990.<sup>159</sup> Rule 86 applies to all horizontal wells drilled in the state, except for those drilled in areas where special field rules are applicable. Many of the definitions contained in Rule 86 have become the standard definitions used to describe horizontal drilling. For example, Rule 86 defines the “penetration point” as “The point where the drainhole penetrates the top of the correlative interval.”<sup>160</sup> The penetration point will normally be uphole from the “kick-off point,” depending on the sharpness of the angle used to move from the build section to the lateral section. The term “terminus” is defined as “The farthest point required to be surveyed along the horizontal drainhole from the penetration point and within the correlative interval.”<sup>161</sup>

Horizontal wells must comply with the otherwise applicable spacing regulations dealing with distances from lease lines and other wells as to every point as measured from the lateral line in the correlative interval.<sup>162</sup> If there is any point where the spacing and/or distance rules are violated the operator must seek a Rule 37 exception well permit.<sup>163</sup> Because horizontal drainholes are expected to produce more than would be expected from a vertical drainhole, Rule 86 rewards horizontal well operators through the proration/allowable system. Rule 86 contains a chart which provides for additional acreage assignment for proration/allowable purposes based on the field’s density rule.<sup>164</sup> For example, in fields with a density rule of 40 acres or less and with a horizontal drainhole displacement (lateral section) of between 586 and 1170 feet, the operator is entitled to an additional 40 acres of allowable acreage. Essentially for each segment of horizontal drainhole displacement the operator gets an additional 20 acres.

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<sup>159</sup> Tex. Admin. Code § 3.86.

<sup>160</sup> *Id.*, § 3.86(a)(4). The correlative interval is the vertical interval between the top and base of the productive reservoir as defined by the Railroad Commission. *Id.*, § 3.86(a)(1).

<sup>161</sup> *Id.*, § 3.86(a)(6).

<sup>162</sup> *Id.*, § 3.86(b).

<sup>163</sup> *Id.*, § 3.86(b)(3).

<sup>164</sup> *Id.*, § 3.86(d).

Likewise, in fields with a density rule greater than 40 acres and with a horizontal displacement of between 828 and 1654 feet, the operator has earned an additional 80 acres towards his allowable. In these larger-spaced fields the increments go up by 40 acres for each of the designated segments. Finally, Rule 86 provides that multiple horizontal drainholes may be drilled from a single vertical wellbore.<sup>165</sup> Where this happens the multiple wellbores are treated as a single well and the acreage assigned for allowable purposes is determined by measuring the longest of the lateral sections.<sup>166</sup>

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<sup>165</sup> *Id.*, § 3.86(e).

<sup>166</sup> Rule 86 also imposes a directional survey requirement to insure compliance with Rules 11 and 12 that deal with directional wells. *Id.*, § 3.86(f).



[S] Utah

Utah has adopted special spacing rules for horizontal wells. A statewide rule creates a temporary 640-acre unit for all horizontal wells consisting of the governmental section upon which the well is drilled.<sup>167</sup> The surface location may be anywhere on the lease precluding the option of placing it off of the leasehold estate. Any portion of the lateral section may not be within 660 feet of any lease boundary or drilling unit boundary. No portion of the lateral section may be within 1320 feet of any vertical well producing in the same formation that is being targeted by the horizontal well. The Board of Oil, Gas and Mining may grant exceptions to any of the horizontal well spacing requirements. The directional, deviation or MWD surveys that are required during the drilling of a horizontal well must be filed with the Board within 30 days of completion of the horizontal well.<sup>168</sup>

[T] Wyoming

Wyoming is one of the few states to adopt extensive separate regulations for horizontal wells.<sup>169</sup> The regulations define a horizontal well where the wellbore is at an angle of at least 80 degrees to the vertical and with a lateral section of at least 100 feet as measured from the penetration point through the terminus.<sup>170</sup> The surface location can be anywhere on the leased premises. There is no mention of having a surface location off of the leased premises. There are additional disclosures required in the application for a permit to drill for a horizontal well.<sup>171</sup> In the absence of special spacing rules no portion of the lateral section of the horizontal well may be closer than 660 feet to a drilling or spacing unit boundary, a federal unit boundary, an uncommitted mineral interest or lease boundary line. As to certain formations in the Powder River Basin the spacing distance is increased to 1320 feet. No lateral section of a horizontal

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<sup>167</sup> Utah Admin. Code R649-3-2.

<sup>168</sup> *Id.* §§ R649-2-12; R649-3-21.

<sup>169</sup> 3 Wyo. Code Oil Gen. R. ch. 2, § 2(f).

<sup>170</sup> *Id.* ch. 1 § 2(x).

<sup>171</sup> *Id.*, ch. 2, § 8(f)(ii).

well can be within 1320 feet of an existing, producing vertical wellbore. There is also established a temporary 640 acre spacing unit consisting of the governmental section where the horizontal well is located. Horizontal wells located in federally supervised or API units are exempt from some of the spacing regulations.<sup>172</sup> Where parties entitled to notice of spacing unit orders object to a horizontal well spacing unit, the permit to drill and spacing unit may be created upon a finding that to do so will prevent waste or protect correlative rights. The horizontal well operator is also burdened by additional reporting requirements, including a MWD survey to be filed within 30 days of completion of the lateral section and different plugging requirements.<sup>173</sup>

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<sup>172</sup> *Id.* ch. 2, § 2(e)(vii).

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