

SPLIT-ESTATE AND SITE REMEDIATION ISSUES ON TRIBAL LANDS

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I. INTRODUCTION

This paper examines various issues on tribal lands arising out of the conflict between surface owners and mineral rights owners concerning well site and surface remediation and the role of the courts, legislatures, and tribal agencies as referees. Experiences of the major producing states are discussed in hopes that tribal agencies can learn from the successes and mistakes of others. Suggestions are made for a “best practices” approach to developing tribal regulatory oversight designed to balance the competing concerns of providing efficient, responsible development of oil, gas, and mineral resources (including natural gas from coal) without damage to the surface or subsurface aquifers. A recommended process is provided for facilitating communication between surface owners and mineral rights owners, resolving valuation differences in an expedited, cost-efficient manner, and ensuring timely and successful reclamation.

The United States and Canada are two of the small number of countries in which the surface owner may own the mineral estate; in most countries the national government owns the minerals.¹ However, the mineral estate and the surface estate can be—and often are—split and conveyed to separate parties.² Over time, this practice often means that the mineral estate owner and the surface estate owner are completely unknown to one another. In Indian country, although the communally held reservation land may not experience separation of the mineral estate from the surface estate, split-estate issues are still important regarding al-

1. See EUGENE KUNTZ, KUNTZ, A TREATISE ON THE LAW OF OIL AND GAS § 2.1, at 59 (Anderson Publ'g Co. 1987) (noting that the concept of private ownership of oil and gas rights is not the case in civil law countries).

2. *Id.* at § 3.1.

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lotted lands and non-native fee lands, where the estates may be separated.

Of particular interest to tribes—with their communal landholdings and significant federal oversight by the Bureau of Indian Affairs (BIA)—is the limited spectrum of federal oil and gas production regulations. Whatever the tribes decide to do, these regulations will play a significant role in how oil, gas, and coalbed methane are ultimately developed on Indian lands and how it will affect the rural landowners and consumers of water that could be affected by run off from areas of production.

Until recently, the relatively modest oil and gas production on tribal lands (when compared to fee land), sparse population, federal meddling, and polymorphic tribal governments have conspired to make tribal and federal law and regulations meager in comparison to state law in Texas, Louisiana, and Oklahoma. However, a sense of urgency has replaced this complacency among tribes. One of the largest domestic production booms in this country's history is under way.³ Coalbed methane gas (CBM) development has been hailed as the “hottest natural gas play” in North America.⁴ Unfortunately, coalbed methane extraction can have significant detrimental consequences, making CBM development a great environmental challenge.⁵ The current rush to produce CBM will very likely pressure states to take action to address the tension between producers and landowners. Tribes, with their growing incidence of self-development and subsequent say in environmental regulations on reservations, should look to the lessons and experience of the state governments when formulating policy.

This paper addresses—and makes suggestions related to—some salient issues that tribes face with respect to oil, gas, and coalbed methane development. First, a brief history of tribal land ownership in general and mineral leasing and development is covered. Tribal land is unique in both its communal ownership (in non-allotted areas) and the patchwork of communal lands, allotted lands, non-Indian parcels in Indian country, and federal and states lands that are often in proximity to one another.

Next, the often rancorous relationship between the surface owner and the mineral owner and developer on private land is examined. Some states have passed surface damage acts (SDAs), and pressure is mounting

3. See Baker Hughes, Rig Count – U.S. Annual Averages by State (2005), http://www.bakerhughes.com/investor/rig/excel/1987_2005_anavbyst.xls (discussing that drilling activity as of December 2005 is currently near an all-time high in North America).

4. See Press Release, Dept. of Energy, DOE-funded R&D Seeks to Bolster Coalbed Gas, Water Resources in Western States (July 19, 2005), available at: http://www.netl.doe.gov/publications/press/2005/tl_coalbed_gas.html.

5. VITO NUCCIO, UNITED STATES GEOLOGICAL SURVEY, COALBED METHANE—AN UNTAPPED ENERGY RESOURCE AND AN ENVIRONMENTAL CONCERN, FACT SHEET FS-019-97 (1997), <http://energy.usgs.gov/factsheets/Coalbed/coalmeth.html>.

in others to enact such legislation to help alleviate friction between mineral and surface owners.⁶ Should tribes consider similar acts? The experience of states dealing with separate estate ownership disputes is very important in answering the question of whether tribes should consider enacting SDAs and what might be included in an SDA, if enacted.

The issue of site remediation is then taken up. The boom in drilling has raised concerns about water contamination and surface disruption.⁷ If tribes decide to take up the mantle of self-regulation of their environment, they will need a flexible canon of law and administration practice to encourage responsible oil, natural gas, and coalbed methane production.

Finally, regulatory vehicles to ensure well remediation are considered, with an eye towards what has demonstrably worked—and not worked—in states and provinces faced with the same problem. This section includes discussion of well bonding schemes, marginal well prevention, and orphaned wells.

II. MINERAL DEVELOPMENT ON INDIAN LANDS

Before the specifics of split-estate issues are addressed, it is necessary to discuss briefly some of the realities and unique challenges presented by development in Indian country. Tribal land is exceptional in that the equitable title is held—with the exception of allotted lands—by the whole tribe for the benefit of all the individuals in the tribe.⁸ Individual members have no inheritable title in tribal land.⁹ Most land held by tribes is by aboriginal title arising from governmental recognition of the Indians' right to quiet enjoyment of the lands even after the fee of such land became vested in the federal government.¹⁰

Beginning in 1790, Congress passed a series of acts, commonly known as the Indian Non-Intercourse Acts, to govern and regulate the sale of tribal lands.¹¹ Such acts commonly state that no sale of land by any tribe or individual is valid unless concluded in accordance with a treaty between the Federal government and the appropriate tribe.¹² These acts are important to mineral lessees because all leases and mineral agreements entered into by a tribe or an individual Indian must be examined and ap-

6. Andrew C. Mergen, *Surface Tension: The Problem of Federal/Private Split Estate Lands*, 33 LAND & WATER L. REV. 419, 419-20 (1998).

7. *Id.* at 421.

8. ROCKY MOUNTAIN MINERAL LAW FOUNDATION, LAW OF FEDERAL OIL AND GAS LEASES § 26.01[2], at 26-3 (Matthew Bender & Co. 2001) [hereinafter LAW OF FEDERAL OIL AND GAS LEASES].

9. *Id.*

10. *Id.* at § 26.01[2][a].

11. *Id.* at § 26.02[3].

12. *Id.*

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proved by the Secretary of the Interior.¹³ In addition, the Secretary must also approve all farmout agreements and modifications of previously approved leases or agreements.¹⁴

The Omnibus Indian Mineral Leasing Act (IMLA) of 1938 was an attempt to consolidate and simplify lease provisions and practices.¹⁵ The 1938 Act had three express aims.¹⁶ First, the IMLA attempted to establish one single set of leasing procedures.¹⁷ Second, the IMLA was passed to help achieve the goal of tribal revitalization—the primary goal of the Indian Reorganization Act of 1934.¹⁸ Third, the Act was to encourage economic development and to insure tribes “the greatest return on tribal minerals.”¹⁹

Specifically, the Act established minimum requirements for surety bonds, bonuses, rents, and royalties for mineral leases.²⁰ Unfortunately, the IMLA leasing system was fraught with implementation problems that led to corruption in the form of theft and fraud.²¹ The Act also gave tribes a limited right to sue for breach of trust.²² During the duration of a lease, the Secretary is required to watch over the lessee’s performance in order to guard the Indians’ mineral assets and economic potential—which includes overseeing actions mandated by both federal regulations and the terms of the lease.²³

Although flawed, particularly in its “one size fits all tribes” approach to development, the IMLA represented a major advance for mineral-owning tribes.²⁴ In *Jicarilla Apache Tribe v. Supron Energy*, after listing the extensive responsibilities of the government in representing tribes in leasing negotiations, the court noted, “the evident purpose of the statute is to ensure that Indian tribes receive the maximum benefit from mineral deposits on their lands through leasing.”²⁵

The IMLA makes all oil and gas lease activities on Indian lands subject to the regulations of the Secretary.²⁶ In addition, a 1909 Act authorizing the leasing of allotted lands also authorizes the Secretary to “make such

13. *Id.*

14. *Id.*

15. Judith V. Royster, *Mineral Development in Indian Country: The Evolution of Tribal Control over Mineral Resources*, 29 TULSA L.J. 541, 558 (1994).

16. *Id.*

17. *Id.*

18. See 25 U.S.C. §§ 396a–396g (2000).

19. Royster, *supra* note 16, at 558.

20. *Id.* at 566.

21. *Id.* at 567.

22. *Id.* at 569.

23. *Id.* at 570.

24. *Id.* at 560.

25. *Jicarilla Apache Tribe v. Supron Energy Corp.*, 728 F.2d 1555, 1565 (10th Cir. 1984) (Seymour, dissenting).

26. LAW OF FEDERAL OIL AND GAS LEASES, *supra* note 9, § 26.05[1][b].

rules and regulations as may be necessary.”²⁷ Section 8 of the IMLA mandates that the Secretary will execute regulations to assist achievement of the act’s purpose.²⁸ The chief purpose of the operating regulations for leases is to help assure that exploitation activities are performed so as to achieve the greatest recovery with minimum waste.²⁹ The regulations are generally the same for leases on both reservation lands and allotted lands and provide broadly that, with the exception of advance payments to the superintendent of the reservation after the first year of the lease, payments of rentals and royalties are controlled by statute.³⁰

III. ENVIRONMENTAL REGULATIONS ON TRIBAL LANDS—GENERALLY

Indian Country consists of a patchwork of land owned and controlled by a variety of authorities.³¹ In addition to the actual communally-owned reservation lands, there are plots owned by individual Indians both in trust with the federal government and by themselves in fee.³² In addition, non-Indians own land within the reservation boundaries.³³ It is these non-Indian landowners—and who can govern them—that provide the greatest source of consternation for state, tribal, and the federal governments. Generally, tribes may assert regulatory control over non-natives on reservation lands, whether the specific land in question is considered tribal or is held in fee by non-Indians.³⁴ State regulation, particularly if a strong state interest is not implicated, is considered to be preempted by tribal and federal authority,³⁵ especially if state regulatory control would disrupt a tribal regulatory scheme.³⁶ Likewise, the general rule is that a

27. 25 U.S.C. § 396 (2000).

28. LAW OF FEDERAL OIL AND GAS LEASES, *supra* note 9 at § 26.05[1][b].

29. *Id.* at § 26.06[3].

30. 30 C.F.R. § 218.51 (2006).

³¹ 18 U.S.C. § 1151 (2000). Although within the federal criminal code, it has been applied in civil cases. *See e.g.* Alaska v. Native Village of Venetie Tribal Gov’t, 522 U.S. 520, 526-27 (1998); Mustang Production Co. v. Harrison, 94 F.3d 1382 (10th Cir. 1996) *cert. denied*, 520 U.S. 1139 (1997). *Alaska* defines the term “Indian Country” as:

“(a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the border of the United States whether within the original or subsequently acquired territory thereof, and whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.”

Alaska, 522 U.S. at 526-27.

32. *See* Mathew Atkinson, *Red Tape: How American Laws Ensnare Native American Lands, Resources, and People*, 23 OKLA. CITY U.L. REV. 379, 398 (1998).

33. *Id.*

34. Judith V. Royster and Rory SnowArrow Fausett, *Control of the Reservation Environment: Tribal Primacy, Federal Delegation, and the Limits of State Intrusion*, 64 WASH. L. REV. 581, 597 (1989).

35. *New Mexico v. Mescalero Apache Tribe*, 462 U.S. 324, 344 (1983) (holding that native control over regulation of non-native fishing and hunting on tribal land was exclusive).

36. *Id.* at 338.

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tribe's inherent government authority does not allow the regulation of non-native activity on non-native land within "Indian country."³⁷ This rule is subject to two major exceptions. The first is that non-natives can enter into consensual dealings with tribes, thus subjecting themselves to tribal regulation and liability.³⁸ The second is that tribes can regulate non-native behavior in Indian Country where the non-native behavior significantly affects the health and welfare of a tribe.³⁹

Development of the mineral estate sometimes entails both exceptions. The first is often seen in modern oil and gas leases executed by tribes operating under the auspices of the 1982 Indian Mineral Development Act (IMDA),⁴⁰ which allows tribes to negotiate and lease more directly with developers than the IMLA of 1938—subject, of course, to the approval of the Secretary of the Interior.⁴¹ Tribes have often insisted on clauses within these leases that allow the non-Indian developer to acquiesce to jurisdiction in tribal court. The second exception would be entailed, at least in theory, when development activities led to surface damage or groundwater contamination that adversely affected a tribe.⁴²

Before 1986, federal environmental regulations did not provide any role for tribes. In that year, the Safe Drinking Water Act (SDWA)⁴³ was expanded to cover Indian Country, giving the Environmental Protection Agency (EPA) power to apply the Act to tribal lands.⁴⁴ Five years later, with the blessing of President Bush Sr., the EPA established a "government-to-government" relationship with tribes, recognizing the fact the tribes are sovereign entities.⁴⁵

The SDWA and the Clean Water Act (CWA)⁴⁶ are two of the overarching controlling statutes relevant to tribes when considering surface damages acts, well bonding, and site remediation. The SDWA controls injection of contaminated water—relevant to drilling and because production can result in water polluted with brine or sulfur—into aquifers.⁴⁷ Like the SDWA, the CWA was amended to give tribes the same standing as states with regard to allowing tribes to assume responsibility for water quality control in Indian Country.⁴⁸ Happily, the scope of tribal control granted reflected the complex landholding situation on many reserva-

37. *Montana v. United States*, 450 U.S. 544, 565 (1981).

38. *Id.*

39. *Id.* at 565-66.

40. 25 U.S.C. §§ 2101-08 (2006).

41. *Id.* § 2103.

42. This second Montana exception has proved an elusive protection for tribes to invoke.

43. 42 U.S.C. §§ 300f-300j (2000).

44. *Phillips Petroleum Co. v. EPA*, 803 F.2d 545, 562 (10th Cir. 1986).

45. U.S. ENVTL. PROTECTION AGENCY, FEDERAL, TRIBAL & STATE ROLES IN THE PROTECTION & REGULATION OF RESERVATION ENVIRONMENTS: A CONCEPT PAPER (1991).

46. 33 U.S.C. § 1251 (2000).

47. 42 U.S.C. § 300h-3.

48. Clean Water Act Amendments, 33 U.S.C. §§ 1361-77 (2000).

tions, allowing the tribe to regulate reservation, trust lands, allotted lands, and fee lands of both Indians and non-Indians.⁴⁹ The Act covers discharge of pollutants into navigable waterways and requires permits for point source discharge.⁵⁰

How does a tribe gain recognition as an entity that can invoke and enforce environmental regulations? The tribes-as-states (TAS) provisions in the SDWA and CWA require tribes to meet three criteria to be treated the same as states—i.e., given authority to implement programs allowed by the two acts.⁵¹ First, the tribe must be federally recognized.⁵² Second—and depending on the Act invoked—the tribe must show either that the power to be exercised is limited to lands held in fee by the tribe, held in trust by the federal government, held in fee by a tribal member, or are otherwise located in Indian Country or that the tribe exercises jurisdiction over the land in question.⁵³ Finally, the tribe must show that it is capable of carrying out the necessary legwork to enforce regulations, such as providing adequate and qualified oversight personnel and drafting workable regulations.⁵⁴ All of these fairly common sense limitations should be considered before a tribe turns to the details of the regulatory scheme it intends to pursue.

IV. SPLIT-ESTATE ISSUES

A. Introduction

If the tribes are given the same regulatory authority as states and thus can instigate environmental rules under the broad auspices of the EPA regulations, it pays to learn the history of surface/mineral owner relationships and the often costly lessons states have learned over recent decades. Although Indian Country presents ownership dynamics different from fee lands, such as communal ownership, trust lands, and the patchwork ownership pattern seen on many reservations, enough commonality exists to make appropriate examining the rule of capture, the accommodation doctrine, and modern surface-damage acts of the state and federal governments.

For over fifty years, courts in Oklahoma and Texas, in keeping with the pro-development image of these oil-producing states, upheld the right

49. *See id.* § 1377(e)(2).

50. *Id.* § 1371(b).

51. 42 U.S.C. § 300j-11(b)(1) (2000) (providing the criteria under the SDWA); 33 U.S.C. § 1377(e) (2000) (providing the criteria under the CWA).

52. 42 U.S.C. § 300j-11(b)(1)(a) (2000) (requiring recognition under the SDWA).

53. *Id.* § 300j-11(b)(2) (2000) (providing land limitations under the SDWA); 33 U.S.C. § 1377(e)(1) (2000) (providing land limitations under the CWA).

54. 42 U.S.C. § 300j-11(b)(1) (2000) (requiring that the tribe show its capability of enforcing its regulations under the SDWA).

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of the mineral owner to produce oil, often to the detriment of the surface owner.⁵⁵ Historically, the mineral owner completely dominated the surface owner when the two owners collided over issues relating to land use and mineral development.⁵⁶ Later, the dominance of the mineral owner was mitigated by the accommodation doctrine.⁵⁷ The accommodation doctrine—born of case law in Texas and later invoked in some form in a strong majority of states⁵⁸—introduced the idea that a disruption of the surface owner’s use of the land by subsequent mineral development might require or force the mineral owner to use an alternative “reasonable” method to develop the mineral estate.⁵⁹ It kept intact, however, the overall doctrine of the dominance of the mineral estate⁶⁰—therefore, if no other reasonable method existed for mineral development, then the mineral owner could go ahead with the disruptive development without the surface owner’s consent and without being liable for damages for the disruption.

In response to ranchers’ and farmers’ complaints—and in an effort to be viewed as pro-environment—politicians have stepped in to legislate in some places where the courts have upheld the dominance of the mineral estates.⁶¹ These efforts have led an increasing number of states to adopt SDAs.

In Texas and other accommodation doctrine states, it is quite common for informal, non-mandated meetings to be held between the developer and the surface owner.⁶² In these meetings, the producer typically outlines his plan for development, a timetable, and the parameters of the impending development. While often not required by any law or regulations, this practice is a common “good neighbor” policy of producers who would rather establish a measure of good faith with the surface owner than be seen as overbearing and inflexible. Other common topics in these informal discussions are pad size, the placement of roads, the disposal of water, and timetable for traffic to and from the drill site. Producers work

55. *Gulf Production Co. v. Continental Oil Co.*, 132 S.W.2d 553, 563 (Tex. 1942) (Under an oil and gas lease the surface estate “is servient to the mineral estate for the purpose of the mineral grant...”).

56. KUNTZ, *supra* note 2, § 3.2, at 2.

57. *Id.* at § 3.2(d).

58. The accommodation doctrine has been formulated in various similar forms in most states with oil and gas production. *See. e.g.* *Getty Oil v. Jones*, 470 S.W.2d 618, 621-22 (Tex.1971); *Diamond Shamrock Corp. v. Phillips*, 511 S.W.2d 160, 163 (Ark. 1974); *Amoco Prod. Co. v. Carter Farms Co.*, 703 P.2d 894, 896 (N.M. 1985); *Gerrity Oil & Gas Corp. v. Magness*, 946 P.2d 913, 926 (Colo. 1997) (“an aggrieved surface owner may bring a common law action in tort against an operator who has used the surface in an unreasonable manner.”).

59. *Getty Oil*, 470 S.W.2d at 622.

60. *Id.*

61. *See* N.D. CENT. CODE § 38-11.1-01 (discussing the legislative findings supporting North Dakota’s enactment of an SDA).

62. Interview with Urban F. “Obie” O’Brien, III, Director of Governmental and Regulatory Affairs, Apache Corporation, Houston, TX (June 16, 2004).

with farmers and ranchers concerning livestock security, road repair, and even hauling water and arranging irrigation during droughts. It is important to stress that while emphasis is necessarily placed on conflicts and the laws and regulations that attempt to solve them, a whole system of informal dialogue and agreement is constantly occurring between producers and surface owners.⁶³

B. Texas and the Accommodation Doctrine

The state that gave birth to the accommodation doctrine, and which today remains its largest proponent, is Texas. The accommodation doctrine, as set forth in the Texas case of *Getty Oil v. Jones*,⁶⁴ requires three basic things for the surface owner to prove that the mineral owner's use of the surface for his development was unreasonable. First, the surface owner/user has to prove that he had a use that predates the mineral development.⁶⁵ Second, the surface owner/user has to prove that the preexisting use has been partially or completely precluded by the mineral owner's development.⁶⁶ Finally, the surface owner must prove that a reasonable alternative exists to the mineral owner's use within the established practices of the industry.⁶⁷ If no reasonable alternatives exist, the surface owner must acquiesce to the mineral developer.⁶⁸

Later, in *Sun Oil Co. v. Whitaker*, the Texas Supreme Court ruled that the mineral owner cannot be compelled to go off the land to accommodate the surface owner/user.⁶⁹ Thus, the surface owner/user must show that reasonable alternatives exist on the lease premises in order to successfully invoke the accommodation doctrine.

Texas case law has extended the penumbra of the accommodation doctrine to cover government entities that are surface owner/users. In addition, the court in *Tarrant County Water Control & Improvement District No. One v. Haupt, Inc.* went on to say that economic feasibility of the alternatives is but one factor to consider in the third part of the *Getty* analysis.⁷⁰ Finally, the court reiterated that if there is only one way to de-

63. *Id.*

64. *Getty Oil v. Jones*, 470 S.W.2d 618 (Tex. 1971).

65. *Id.* at 622.

66. *Id.*

67. *Id.*

68. *See id.*

69. *Sun Oil Co. v. Whitaker*, 483 S.W.2d 808, 819 (Tex. 1972) (addressing a landowner's attempt to prevent a producer from using an isolated and finite aquifer for water with which to conduct secondary recovery processes because the landowner used the water for irrigation. The producer would then have to truck water in from off the lease).

70. *Tarrant County Water Control & Improvement District No. One v. Haupt, Inc.*, 854 S.W.2d 909, 911 (Tex. 1993), rev'g, 833 S.W.2d 697 (Tex. App. 1992), remanded to 870 S.W.2d 350 (Tex. App. 1994) (ruling that the water district had to prove that the surface reservoir they created did not preclude mineral development because the mineral owner, Haupt, could have used directional drilling to reach the reservoir).

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velop the mineral estate, then the mineral owner could pursue that course regardless of damage to the surface estate and without the necessity of compensatory damages.⁷¹ This potentially harsh result is the primary reason for the advent of SDAs.

Another dynamic to consider is when the surface owner is not the same as the present surface tenant. This arises when an absentee landowner has rented or given a limited deed of his surface interest to a third party. Whereas surface owners, however fractionalized the estate may be, often have an interest in seeing the mineral estate developed (whether because of a joint operating agreement, a reserved royalty interest, a carried interest, a co-tenant interest, or just the possibility of receiving a bonus), a third party—typically a farmer or rancher—probably will have no interest in seeing the mineral estate developed. After all, what does he stand to gain?⁷²

C. Other States

Nearly all other producing states have adopted the accommodation doctrine to some extent.⁷³ Utah had adopted Texas's *Getty* view of the accommodation doctrine, albeit somewhat more vaguely, in *Flying Diamond Corp. v. Rust*.⁷⁴ Similarly, the North Dakota Supreme Court accepted the accommodation doctrine in *Hunt Oil Co. v. Kerbaugh*,⁷⁵ citing both *Getty* and *Flying Diamond* numerous times.

Arkansas's adoption of the accommodation doctrine was eventually

71. *Id.*

72. Interview with Lucas J. Munson, Attorney, Hampton & Milligan, Oklahoma City, OK (Aug. 28, 2004). Munson, a title attorney operating in Wyoming and Oklahoma, has encountered this attitude several times in the course of solicitation of leases.

73. Christopher M. Alspach, *Surface Use by the Mineral Owner: How Much Accommodation is Required under Current Oil and Gas Law*, 55 OKLA. L. REV. 89, 97-106 (2002) (detailing the accommodation doctrine, in various permutations, within producing states.).

74. *Flying Diamond Corp. v. Rust*, 551 P.2d 509, 511 (Utah 1976). In *Flying Diamond*, the court held "that wherever there exists separate ownerships of interests in the same land, each should have the right to the use and enjoyment of his interest in the property to the highest degree possible, not inconsistent with the rights of others." The phrase "not inconsistent with the rights of others," was defined by the court to mean that the producer should use whatever reasonable alternative methods they can to keep damage to the surface to a minimum, but that the producer does *not* have to use *any* method available, but rather only those that are "reasonable and practical under the circumstance." What the decision does not say is that Utah had accepted the very same analysis as *Getty*, such leaving the burden of proof undefined.

75. *Hunt Oil Co. v. Kerbaugh*, 283 N.W.2d 131, 137 (N.D. 1979). Perhaps the most important portion of the opinion concerns the ultimate dominance of the mineral estate:

It is important to note...the accommodation doctrine is not a balancing type test weighing the harm or inconvenience to the owner of one type of interest against the benefit to the other. Rather...the test is the availability of alternative non-conflicting uses of the two types of owners. Inconvenience to the surface owner is not the controlling element where no reasonable alternatives are available to the mineral owner or lessee. The surface owner must show that under the circumstances the use of the surface under attack is not reasonably necessary.

North Dakota has gone on to adopt an SDA, detailed in Appendix A.

expanded to cover possible future uses by the surface owner/user. In *Diamond Shamrock Corp. v. Phillips*, the Arkansas Supreme Court held that, although the mineral owner had the right to occupy the surface beyond the immediate area around the well, the availability of another reasonable drill site—particularly one that, as in this case, the operator had originally said it would drill on—could tip the scales such that the accommodation doctrine would be triggered and the dominance of the mineral estate would be curtailed.⁷⁶

New Mexico adopted the accommodation doctrine with the ruling in *Amoco Prod. Co. v. Carter Farms Co.*⁷⁷ The New Mexico Supreme Court held that the mineral owner could use as much of the surface as was reasonably necessary to produce, provided he exercise due regard for the rights of the surface owner.⁷⁸

West Virginia's accommodation doctrine, as formulated in case law, does not recognize the difference between the rights of development of coal and oil and gas. In *Buffalo Mining Co. v. Martin*,⁷⁹ the Supreme Court of West Virginia held that use of the surface to realize benefit from a mineral estate must be exercised reasonably so as not to unduly burden the surface owner's use.⁸⁰ However, the court limited this by stating, "[A] right to surface use will not be implied where it is totally incompatible with the rights of the surface owner. . . . In order for such a claim to be successful, it must be demonstrated not only that the right is reasonably necessary for the extraction of the mineral, but also that the right can be exercised without any substantial burden to the surface owner."⁸¹ Since the use must be demonstrated to be "reasonable" before operations begin, this strongly suggests that the burden is placed upon the mineral owner to show reasonable use or the lack of "reasonable" alternatives.

76. *Diamond Shamrock Corp. v. Phillips*, 511 S.W.2d 160, 163-64 (Ark. 1974). The court in *Diamond Shamrock* did not explicitly adopt the "official" accommodation doctrine as cited in *Getty*, but, as noted by Christopher Alspach, the use of the language "reasonable use of the surface" from *Getty* effectively served to adopt the doctrine with the addition of the future use stipulation. The facts in this case suggest to the author that the surprising result—that future use by the surface owner could trip the accommodation doctrine—arose from the harmonic convergence of a seemingly domineering and capricious mineral owner, a sympathy-inducing proposed use by the surface occupant, and an activist court. The mineral owner had proposed to drill at another spot away from the place the surface owner was planning on building a home for the elderly, but then changed its plans so that the drilling was moved to a location that precluded the construction of the home. Bad facts make bad case law indeed.

77. *Amoco Prod. Co. v. Carter Farms Co.*, 703 P.2d 894 (N.M. 1985).

78. *Id.* at 897.

79. *Buffalo Mining Co. v. Martin*, 267 S.E.2d 721 (W. Va. 1980).

80. *Id.* at 725. In *Buffalo Mining*, the court held that an 1890 mineral severance also impliedly gave the mineral owner the right to construct a power line on the surface. In so holding, the court referred to previous West Virginia cases holding that any use of the surface by a mineral developer must be exercised reasonably so as not to unreasonably impinge on the surface owner's use but went on to say that "a right to surface use will not be implied where it is totally incompatible with the rights of the surface owner." *Id.*

81. *Id.*

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Like West Virginia, the controlling case in Colorado, *Gerrity Oil & Gas Corp. v. Magness*⁸² suggests that the burden of proof rests with the mineral owner to prove that his use of the surface is “reasonable” instead of having the surface owner/user prove that the use of the surface by the mineral owner is unreasonable.⁸³

D. Wyoming

Of all the states, Wyoming perhaps has the most in common with tribal lands with regard to hydrocarbon development. Tribes, the federal government, and the state itself own much of the land within the state’s boundaries.⁸⁴ Also, Wyoming—at least before the present boom—was relatively underdeveloped when compared to primary domestic producers such as Texas, Louisiana, and Oklahoma. Hitherto, Wyoming has been a minor producer compared to some other states, but now that prices are hitting new records and technologies and markets have developed for coalbed methane development, the eyes of the energy industry are fixed on Wyoming. It is currently undergoing a remarkable boom cycle, particularly with the advent of coalbed methane development.⁸⁵ Like many reservations, Wyoming has a sparse population and is now beginning to consider the results of surface damage, water contamination of both aquifers and surface supplies, and the tension between the surface and mineral owner that this rampant development is bringing.⁸⁶ It has relatively few laws—some of which are antiquated—on the books covering site remediation, water disposal from production, and well bonding.⁸⁷

Uncertainty exists over whether the accommodation doctrine exists in Wyoming and, if so, to what extent. One landmark case, *Mingo Oil Producers v. Kamp Cattle Co.*, examined the terms of the original lease between the parties, focusing on a liquidation damages clause the operator drafted covering damage caused by access to the development site.⁸⁸ Holding that the mineral estate was dominant, the court found that the surface owner could not require the execution of an agreement before access was permitted and that the lessee’s right of access was “primary and

82. *Gerrity Oil & Gas Corp. v. Magness*, 946 P.2d 913 (Colo. 1997). The Colorado Supreme Court noted that each owner must operate with due regard for the rights of the other estate owner when making use of his own estate. In the case where mineral development burdens the surface estate, the court shifted the burden to the mineral estate owner.

83. *Id.* at 920.

84. A. Wilson, United States Geological Survey, Wyoming Simplified Land Ownership (Dec. 12, 2001), http://pubs.usgs.gov/of/2001/ofr-01-0497/PartB/PDFs/WY_landown.pdf (showing ownership of land in Wyoming).

85. Samantha Bohrman, *Groundwater Conservation and Coalbed Methane Development in the Powder River Basin*, 24 LAW & INEQ. J. 181, 185-86.

86. *Id.* at 187-89.

87. *Id.* at 189-99.

88. *Mingo Oil Producer v. Kamp Cattle Co.*, 776 P.2d 736, 740 (Wyo. 1989).

fundamental.”⁸⁹ Thus, the court refused to extend a liquidating damages provision beyond its specified term of one year.⁹⁰ The lessee already had the right, being the dominant estate, to possession as provided by the oil and gas lease.⁹¹

E. Surface Damage Acts (SDAs)

SDAs have been legislated to soften what is perceived to be the harsh nature of the mineral estate’s dominance over the surface estate, and tribes may want to consider them if they intend to manage their own mineral development. Nine states⁹² have enacted surface damage statutes to help alleviate surface owners/users’ displeasure with the perceived imbalance of power that mineral owners have over surface owners/users. They are designed to compensate surface owner/users for damages caused by the mineral owner, provide a mechanism to promote better communication between surface and mineral owners, and provide a vehicle for negotiations and conflict resolution. Across the nine states that have passed SDAs, the laws vary little with regard to the major components, and case law related to them is, as yet, sparse. In Wyoming, the legislature is becoming attentive and an SDA might be in the cards for producers to consider in the near future.⁹³

Another common requirement in SDAs is the need for entry negotiations. In these, the surface owner and the producer must begin negotiations before entry to determine what surface damages will occur before the drilling begins. Oklahoma requires that negotiations begin within five days after providing notice to the surface owner.⁹⁴ Kentucky and Illinois mandate that talks begin at least five days before drilling.⁹⁵ The other six states require only that negotiations begin after drilling operations have begun.

Not surprisingly, these talks can lead to disagreement. If the landowner and the producer cannot agree, then typically the landowner can bring suit or require arbitration. To address this problem, some SDAs delineate

89. *Id.* at 740.

90. *Id.*

91. *Id.*

92. Illinois, Indiana, Kentucky, Montana, North Dakota, Oklahoma, South Dakota, Tennessee, and West Virginia.

93. The Joint Interim Judiciary Committee of the Wyoming Legislature was working on drafting some form of surface owner protection legislation for the 2004 session. Agitation in Wyoming for an SDA has recently increased. Groups like the “Powder River Basin Resource Council” have scheduled meetings with Governor Freudenthal of Wyoming, his energy advisor Steve Waddington, and the Department of Environmental Quality to express support for a “Surface Owner’s Protection Bill.” Their handbill from the June 13, 2004, meeting with Mr. Waddington and the DEQ representatives exhorts surface owners to show up to avoid letting “streamlining of permitting [to] take away your right to protect your property.”

94. OKLA. STAT. tit. 52, § 318.3 (2001 & Supp. 2005).

95. KY. REV. STAT. ANN. § 353.595(3)(d) (2000); 765 ILL. COMP. STAT. 530/4(5) (2006).

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assessment procedures in order to decide the amount of damages that are due the landowner.⁹⁶ Perhaps the most important departure from the accommodation doctrine is that SDAs, while paying at least lip service to the dominance of the mineral estate, now require payment for damages to the surface estate—even if the actions of the mineral owner were reasonably necessary for development and no other method was open to him.

What follows is a glimpse at the various SDAs currently enacted, with analysis split into SDAs in the western and eastern United States.

F. SDAs in the Western United States

Western states, because of their extensive production and the advent of CBM development, have some of the most commented-upon and extensive SDAs. Oklahoma, because of its extensive production and its production of the most case law, is often seen as having the flagship SDA;⁹⁷ thus, it is a popular “yardstick” for other states to measure themselves against. Oklahoma’s assessment scheme for a surface damage settlement changes the “reasonable use” doctrine found in Texas and other states without SDAs. Instead of the requirement that landowners show that the producer did something unreasonable and that other alternatives existed to avoid harming the landowner’s preexisting use—a fairly high bar to meet—Oklahoma’s SDA defines a compensable damage merely as something with “adverse affect on the price” of the land.⁹⁸ This arguably has the effect of making the mineral owner’s use comparable to a pipeline easement, thereby invoking condemnation law. Pipelines, however, are an easement, whereas the owners of a mineral estate are not trespassers—quite the contrary, they are the owners of the dominant estate. In addition, surface owners often benefit from mineral development through bonuses and/or royalties, whereas pipelines do not provide any benefits to the surface owner. Unlike Oklahoma, North Dakota’s SDA expressly lists what a surface owner can recover.⁹⁹ More specifics of the various SDAs in the Western states are detailed in Appendix A.

SDAs are not substitutes for standard civil actions brought on by tortious activities, such as negligent surface damage or pollution. Recently, the Oklahoma Civil Appellate Court ruled that a lessor must bring a separate cause of action in the event of nuisance or the negligent infliction of pollution.¹⁰⁰ The court agreed with the producer-defendant who argued that the Oklahoma SDA only allows damages to be granted based

96. See OKLA. STAT. tit. 52, § 318.5(c).

97. *Id.* §§ 318.2–318.9 (2001 & Supp. 2005).

98. *Vastar Res., Inc. v. Howard*, 38 P.3d 236, 239-40 (Okla. Civ. App. 2001).

99. N.D. CENT. CODE § 38-11.1-04 (2006).

100. *Vastar Res., Inc.*, 38 P.3d at 239.

on the operator's entrance and use of the leased premises.¹⁰¹ This is good news for producers who might otherwise not have a fair opportunity to defend tort claims but rather have to pay some administrative penalty based on the claims of assessors and without due process.

G. SDAs in the Eastern United States

Speaking generally, SDAs east of the Mississippi are more prone to expressly providing specific items for which surface owners can expect recovery and to more tightly stipulating notice, negotiations with the surface owner, and periods during which the mineral owner can proceed with development. What follows is a list of the high points and quirks of each of the SDAs in eastern states.

West Virginia's SDA¹⁰² does not require that the mineral developer give the landowner notice of entry.¹⁰³ Items that require compensation are enumerated in the law, as are the surface damages that may be recovered if an offer of settlement fails. The alternative to court action is an arbitration method carefully delineated in the statute.¹⁰⁴

101. *Id.* at 240-41.

102. W. VA. CODE §§ 22-7-1 to 22-7-8 (1998).

103. *See id.* § 22-7-5. The statute provides, in part:

Any surface owner, to receive compensation under section three of this article, shall notify the oil and gas developer of the damages sustained by the person within two years after the date that the oil and gas developer files notice that reclamation is commencing under section thirty, article six of this chapter. Such notice shall be given to surface owners by registered or certified mail, return receipt requested, and shall be complete upon mailing. If more than three tenants in common or other co-owners hold interests in such lands, the developer may give such notice to the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code or publish in the county in which the well is located or to be located a Class II legal advertisement as described in section two, article three, chapter fifty-nine of this code, containing such notice and information as the director shall prescribe by rule.

104. *Id.* § 22-7-7. The statute provides:

(a) Unless the oil and gas developer has paid the surface owner a negotiated settlement of compensation within sixty days after the date the notification of claim was mailed under section five of this article, the surface owner may, within eighty days after the notification mail date, either (i) bring an action for compensation in the circuit court of the county in which the well is located, or (ii) elect instead, by written notice delivered by personal service or by certified mail, return receipt requested, to the designated agent named by the oil and gas developer under the provisions of section six, article six of this chapter, to have his compensation finally determined by binding arbitration pursuant to article ten, chapter fifty-five of this code.

Settlement negotiations, offers and counter-offers between the surface owner and the oil and gas developer shall not be admissible as evidence in any arbitration or judicial proceeding authorized under this article, or in any proceeding resulting from the assertion of common law remedies.

(b) The compensation to be awarded to the surface owner shall be determined by a panel of three disinterested arbitrators. The first arbitrator shall be chosen by the surface owner in such party's notice of election under this section to the oil and gas developer; the second arbitrator shall be chosen by the oil and gas developer within ten days after receipt of the notice of arbitrators are hereby empowered to and shall forthwith submit the matter to the court under the provisions of section one, article

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Tennessee's SDA¹⁰⁵ is very similar. A list of items requiring compensation after notice is listed in the statute.¹⁰⁶ The developer must then respond, either offering a settlement or rejecting the claim. Upon either rejection of the demand for damages or the offer of an unacceptable settlement, the surface owner can choose to seek compensation in court or through arbitration.¹⁰⁷

ten, chapter fifty-five of this code, so that, among other things, the third arbitrator can be chosen by the judge of the circuit court of the county wherein the surface estate lies.

(c) The following persons shall be deemed interested and not be appointed as arbitrators: Any person who is personally interested in the land on which rotary drilling is being performed or has been performed, or in any interest or right therein, or in the compensation and any damages to be awarded therefor, or who is related by blood or marriage to any person having such personal interest, or who stands in the relation of guardian and ward, master and servant, principal and agent, or partner, real estate broker, or surety to any person having such personal interest, or who has enmity against or bias in favor of any person who has such personal interest or who is the owner of, or interested in, such land or the oil and gas development thereof. No person shall be deemed interested or incompetent to act as arbitrator by reason of being an inhabitant of the county, district or municipal corporation wherein the land is located, or holding an interest in any other land therein.

(d) The panel of arbitrators shall hold hearings and take such testimony and receive such exhibits as shall be necessary to determine the amount of compensation to be paid to the surface owner. However, no award of compensation shall be made to the surface owner unless the panel of arbitrators has first viewed the surface estate in question. A transcript of the evidence may be made but shall not be required.

(e) Each party shall pay the compensation of such party's arbitrator and one half of the compensation of the third arbitrator, or such party's own court costs as the case may be.

105. Tenn. Code Ann. §§ 60-1-601 to 60-1-608 (2002).

106. *Id.* § 60-1-604. The statute provides, in pertinent part:

The oil and gas developer must pay the surface owner for:

1. Lost income or expenses incurred as a result of being unable to use land actually occupied by the driller's operation or to which access is prevented by such drilling operation for the purposes it was used prior to commencement of the activity for which a permit was obtained, measured from the date the operator enters upon the land;
2. The market value of crops destroyed or damaged;
3. Any damage to a water supply in use prior to the commencement of the permitted activity;
4. The cost of repair of personal property up to the value of replacement by personal property of like age, wear and quality; and
5. The diminution in value, if any, of the surface lands and other property after completion of the surface disturbance done pursuant to the activity for which the permit was issued, determined according to the actual use made thereof by the surface owner immediately prior to the commencement of the permitted activity.

Any surface owners who want to receive compensation must notify the oil and gas developer by certified mail, return receipt requested, of the damages sustained by the person within three years after the injury occurs.

107. *Id.* § 60-1-607. The statute provides, in pertinent part:

- (a) If the person seeking compensation receives a written rejection, rejects any counter-offer of the oil and gas developer, or receives no reply, that person may bring an action for compensation in a court of proper jurisdiction or the parties may elect to proceed by arbitration as provided herein. If the amount of compensation awarded by arbitration or the court is greater than that which had been offered by the oil and gas developer, the person seeking compensation shall also be awarded reasonable attorney fees, costs of expert witnesses, any other costs which may be legally assessed, and interest on the amount of the final compensation awarded from the day drilling was

Illinois's SDA¹⁰⁸ contains two clever stipulations. First, the developer is required to give notice and offer to negotiate with the surface owner.¹⁰⁹ Second, the producer must obtain a certificate from the state assessor's office providing state clearance to drill.¹¹⁰ The surface owner is encouraged by the statute to meet with the producer¹¹¹—failure of the surface owner to contact the operator at least five days prior to the proposed commencement of drilling operations is conclusively deemed a waiver of the right to meet by the surface owner.¹¹² The surface owner is entitled to reasonable compensation from the mineral producer for damages caused by the drilling operations.¹¹³

Illinois's SDA also addresses surface restoration. In conjunction with the plugging and abandonment of any well, the operator is required to restore the surface to a condition as near as practicable to the condition of the surface prior to commencement of drilling operations.¹¹⁴ The surface owner and operator may waive this requirement in writing, subject to the approval of the Department of Natural Resources that the waiver is in

commenced.

(b) The person seeking compensation, in place of bringing an action in court, can request of the oil and gas developer in writing by certified mail, return receipt requested, that compensation be determined by binding arbitration. If the oil and gas developer agrees to binding arbitration, the developer shall notify the person seeking compensation of consent to arbitration in writing within fifteen (15) days of receiving the request.

(c)(1) In the event of binding arbitration, compensation to be awarded the surface owner shall be determined by a disinterested arbitrator chosen by the surface owner and the oil and gas developer from a list of arbitrators approved by the American Arbitration Association.

(2) Such hearings shall be conducted as provided in title 29, chapter 5, part 3.

(d) Each party shall pay one half (1/2) the compensation due the arbitrator.

108. 765 ILL. COMP. STAT. 530/1-530/6 (2001).

109. *Id.* § 530/4. The statute provides, in pertinent part:

The notice herein required shall be given to the surface owner by either:

(A) certified mail addressed to the surface owner at the address shown in the certification obtained from the assessor, which shall be postmarked at least 10 days prior to the commencement of drilling operations; or

(B) personal delivery to the surface owner at least 8 days prior to the commencement of drilling operations.

(C) Notice to the surface owner as defined in this Act shall be deemed conclusive notice to the record owners of all interest in the surface.

110. *Id.* § 530/4-b (This certificate identifies the surface owner(s) and, once approved, acts as conclusive evidence as to the identities of the surface owners—sort of like a division order—and acts as proof of producer's compliance with the SDA).

111. *Id.* § 530/5.

112. *Id.* § 530/4-c(5).

113. *Id.* § 530/6-b (In Illinois, compensation is required paid in a manner “mutually agreeable” to both the surface owner and the mineral developer. However, the failure to agree upon the amount *will not* prevent the mineral operator from beginning operations, although compensation will be made within ninety days of completing the well. If compensation is not made, or not made to the level requested, the surface owner's remedy is a lawsuit. In addition, the mineral developer can only use that portion of the surface reasonably necessary for mineral development).

114. *Id.* § 530/6-c

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accordance with its rules.¹¹⁵

Kentucky has an SDA¹¹⁶ that is remarkably similar to the SDA found in Illinois. A certificate of ownership is required, as is notice to the surface owner, the requirements of which are expressly listed in the statute.¹¹⁷ The surface owner can recover for damages to crops, structures, etc.¹¹⁸ The payment shall be made in accordance with whatever is agreeable to the parties, *but a failure to agree shall not prevent a mineral developer from entering the land*.¹¹⁹ The operator must pay the surface owner within ninety days of completion of the well.¹²⁰ If the payment is not made, or if no agreement is reached in the amount of the surface damages, then the surface owners can seek a judgment.¹²¹ Finally, as in the Illinois statute, surface restoration is also required.¹²²

H. Recommendations for Tribes

1. The Accommodation Doctrine vs. Surface Damage Acts

Reservation lands represent some of the largest unexplored parcels in the lower forty-eight states.¹²³ It is only a matter of time before industry interest turns even more heavily to these last pristine enclaves. Tribes had best be ready. Resolving the tension between the surface owner/user and the mineral developer is a matter of finding the right balance of power so that the minerals are produced with regard to, and concern for, accommodating the surface owner and/or tenant. From this, two assumptions arise. First, speaking broadly, the mineral estate remains dominant over the surface estate. If a disagreement arises and the lines of conflict are starkly drawn with the mineral owner dead-set on production and the surface owner equally adamant against production, the mineral estate owner should prevail. Once this truth is accepted, a couple of the particulars of

115. *Id.*

116. KY. REV. STAT. ANN. § 353.595(5) (West 2000).

117. *Id.* § 353.595(3) (Within ninety days prior to the giving of notice to the surface owner, the mineral developer must get from the Property Valuation Office a certification which identifies the correct surface owner for the land on which development is intended. This will act as conclusive evidence of surface ownership. The mineral producer must also provide notice of impending operations, including information such as drilling location and contact information).

118. *Id.* § 353.595(5).

119. *Id.* § 353.595(6).

120. *Id.*

121. *Id.*

122. KY. REV. STAT. ANN. § 353.595(7) (2000) (“In conjunction with the plugging and abandonment of any well or the reworking of any well, the operator shall restore the surface and any improvements thereon to a condition as near as practicable to their condition prior to commencement of the work. The surface owner and operator may waive this requirement in writing, subject to the approval of the department that the waiver is in accordance with its administrative regulations”).

123. See Royster, *supra* note 16, at 543 (discussing the abundance of energy resources on tribal lands).

the aforementioned SDAs are cast in doubt. For example, permitting a surface owner to curtail access to the mineral estate by declaring possible *future uses* creates serious obstacles for development of the mineral estate. If the surface owner/user is against any sort of development, his imagination is the only limit of the future uses he may declare.

Counterbalancing the dominance of the mineral estate are the interests of the surface owner and tenants. The accommodation doctrine is still championed in Texas and a host of the other states, but passed its zenith as the most widespread method of curtailing the dominance of the mineral estate has passed. States are beginning to take the next step—SDAs. However, the judicially created accommodation doctrine still has two major advantages over legislative efforts to address the split-estate issue. First, if the development is reasonable and no alternatives are available, then no damages are forthcoming. This is an advantage because it tempers the dominance of the mineral estate while still encouraging production and limiting litigation. Second, and related to the first point, the surface owner is not *automatically* entitled to damages if production is reasonable and damages happen to occur, or—as is the unfortunate case now in several states—even if no real damages occur, except that the land is entered and the surface owner is denied access to some crop or grazing land because it's under a pad. Mere entrance and production is not the threshold for damages; actual damage must occur.

The EPA and tribes should consider these strengths of the accommodation doctrine before they accept without any reservations an SDA that automatically provides compensation for any damage on the surface, as in Oklahoma and other states that have SDAs. Damages should be limited to those that occur if a surface land use, fixture, or improvement that predates the mineral development is damaged by an act of mineral development that could have been reasonably achieved another way. SDAs, however, currently stipulate that if the mineral developer does damage to the surface estate, they should pay for it, regardless of the fact that no other reasonable alternative method for mineral development existed.

The best thing about the various acts in the nine states is that all attempt to set up a fair method for calculating and providing for these damages. However, an SDA should not be a vehicle by which surface owners/users feel they are automatically entitled to “damages” without some sort of actual damage. Although the surface owner should be compensated for adverse impact of mineral development, “adverse impact” on the price should have some threshold so far as the mineral owner's reasonable use right. Furthermore, even if damages recoverable through SDAs are to be extended past surface damage caused by use unreasonable for mineral development, all SDAs should at least limit SDA recovery to damage caused by the lessee's exercise of his right to enter and use

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the land for development. Producers should still have the opportunity to litigate all tortuous claims in an Article III court.

2. Surface Damage Acts—Pre-development Phase

The single most important thing a tribe can do both to attract business and prevent widespread and Methuselah-like litigation is to have a stable and honest regulatory agency savvy about mineral development and a legal staff that can conduct development transactions. The relationship between a lessee and a lessor has been likened to a marriage—the parties involved are going to have to deal with each other in close quarters, potentially for decades.

The second most important thing a tribe can do to promote responsible development is to have a sensible, comprehensive, accessible and—most important of all—stable set of exploration and production rules and regulations. If a tribe chooses to enact an SDA, it should address all stages of development and recognize that uncertainty is the biggest fear of producers. Producers want to know exactly what they can and might be liable for in the future *before a development plan is reached*. Generally speaking, before production begins, the leaseholder should be required to notify the tribe and the surface tenant, if applicable. The notice should be required to arrive a number of days before land entry and should contain information necessary to allow the tribe to assess what effect the development might have on the surface estate. The parties should be required in some way to get together and discuss the plans for mineral development and address any concerns that the surface owner may have pertaining to the proposed development.

Tribal lands introduce complexities not seen elsewhere. Tribal lands are communally held.¹²⁴ This raises the interesting notion of intra-tribal friction between those that want the minerals developed and those Indians whose surface use is disrupted. These problems will likely need to be resolved at the tribal government level, as these forums will almost certainly be the best informed to resolve the conflict. Perhaps the tribes could arrange payouts to members able to prove prior use. It is crucial, however, that once a producer has negotiated an agreement with a tribe for development, the producer *not be liable to individual members* for possible disruptions of surface uses provided the development plan is followed. Experience has shown that similar post-agreement shakedowns in international exploration and development can elicit a stampede for the door by developers.

Tribal lands also contain sacred religious/cultural sites whose nature, number, and location may bewilder those not familiar with the particular

124. See LAW OF FEDERAL OIL AND GAS LEASES, *supra* note 8.

tribe.¹²⁵ Development companies have long experience in working around sensitive areas, but they must be given notice where these sensitive areas are during the lease-bidding phase (preferably) or at any pre-production meetings between tribal officials and company landmen (at the latest).

3. Surface Damage Acts—Development Phase

Once the pre-development phase is complete, the surface owner should not be able to halt entry and development during production, except for gross negligence and/or willful misconduct, particularly if the agreed-upon development plan is being followed. The bar for collectable damages should not be an “adverse affect on the price” as in Oklahoma. Despite the implied easement to the surface that courts have read into mineral leases, this statute makes the entrance and development rights seem much like an easement, which it is not. The bar should be that used in Texas: damage caused by unreasonable use of the land, plus any specific items that the tribe deems worthy of protecting in tribal regulations made available to the developer before leasing. These might include such items as actual farmsteads or other particular classes of fixtures. A nexus needs to exist between the three-part *Getty* analysis as used in Texas and other accommodation doctrine states and the modern SDA. If the mineral production upsets a use that predates development, and that development could have been accomplished another way (such as directional drilling) with a cost comparable to the cost actually used to develop, the surface owner should be able to go through the assessment process for the collection of damages. This analysis, combined with simple distance limitations that would prevent development within a certain distance from houses and other structures and inclusion of improperly plugged and abandoned holes and pollution and debris left at the drill site in the damage assessment, would seem to provide the correct balance between the mineral and surface estate.

4. Surface Damage Acts—Post-production Phase

Post-development estate relationships center on damages done during production. Here, it is important to see that actual, demonstrated or evidenced damages yield compensation, but also that the SDA does not come to be seen as an automatic payday when mineral developers appear at the gate. The key here is accurate assessment. The three-member panel of assessors used in Oklahoma is a well-known way to assess damages,

125. See Marcia Yablon, *Property Rights and Sacred Sites: Federal Regulatory Responses to American Indian Religious Claims on Public Land*, 113 YALE L.J. 1623, 1654-55 (2004) (discussing Anschutz Exploration Corp.’s experience trying to drill a test well in an area identified by many Indian tribes as having religious and cultural significance).

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with each side appointing an assessor and the third being appointed by the first two—or by a local court when the first two cannot agree.¹²⁶ The problems arise when the third member is partial to one side. Oklahoma, faced with the problem of the third member often being favorable to one side or another despite the merits of the case, has attempted to solve the problem by making certification of the assessors by the state mandatory.¹²⁷ Although this would help eliminate assessors without any experience and knowledge and, perhaps, obvious “sweetheart” appointments—such as a tribe picking a tribe member or the oil company picking an industry ringer, it may be better if the BIA has a cadre of professional assessors from which the first two assessors—or the court—can. These could be appointed by the appropriate federal agency, or picked at random. “Professional” status would mean being licensed after testing and accreditation.

It is also important that the values reached by the assessors have some relevance to the real world. In other words, the value of the land should be limited to tangible loss of value and not sentimental value or the dubious values associated with loss of a possible future use. Furthermore, a requirement that the money paid is actually used to remediate and improve the land should be included.

While some of these steps may seem ponderous and unnecessary in all cases, they recognize that SDAs are beneficial in one more respect—they serve to ease the public and legislative concerns that oil and gas producers are heavy-handed with regard to surface owners.

V. SITE REMEDIATION AND GROUNDWATER

A. Introduction

A common worry of producers and operators is liability for environmental damage.¹²⁸ Awards for damage to the surface—making companies liable for unreasonable damage to the surface estate—have made operators more conscientious about working with surface owners and acting with a lighter touch. This development is evidenced by the informal meetings commonly held with landowners to discuss future development, even when such meetings are not mandated.

Recently, courts and juries in other states have handed out startling damage awards, including astronomical punitive awards.¹²⁹ This could be prevented on reservations if operators and tribal and federal agencies

126. OKLA. STAT. tit. 52, § 318.5(c).

127. *Id.*

128. William R. Keffer, *Drilling for Damages: Common Law Relief in Oilfield Pollution Cases*, 47 SMU L. REV. 523, 523 (1994).

129. *Id.* at 526-27.

worked towards a regulatory environment where site remediation and groundwater concerns are addressed through rigorous yet flexible regulations that allow responsible operators to produce without the specter of outrageous judgments. In addition, the state could quickly identify and curtail production by “fly-by-nighters” and, in the meantime, soothe the worries of surface owners concerned about environmental damage caused by prolific development.

Coalbed methane production, currently booming in the Rockies, is especially challenging because the process produces considerable water.¹³⁰ Produced water can be reinjected, hauled away in disposal trucks, or piped for beneficial uses such as irrigation, stock ponds, or even drinking water.¹³¹ Before production, the methane is trapped within the coal and only becomes mobile once the reservoir pressure is decreased by pumping water out of the coal seams.¹³² Typically, this water is stored in wastewater impoundments.¹³³ The water then evaporates or infiltrates back into the ground. Water taken from deeper depths is much more likely to be briny (sodium-rich) than water found in shallow aquifers and to contain higher levels of other dissolved solids.¹³⁴ If this water is contaminated with brine or if a large volume of produced water leaches out constituents in the soil and introduces these elements into a shallow aquifer, water production becomes problematic because the impoundments can then cause the salty water from the deeper reservoir to migrate into the (generally) freshwater shallow reservoirs. Another problem is that the quality of the produced water is sometimes better than the local surface water and shallow aquifers.¹³⁵ In these areas—particularly in drought conditions—the local surface owners and users welcome the produced water and want to use it to irrigate crops and water cattle. This dichotomy of produced water quality—high quality in one place while being of low quality in another—makes regional classification difficult and potentially inaccurate.¹³⁶ Economic waste could result by having the same regulations that require expensive remediation efforts for low-quality water also gov-

130. VITO NUCCIO, COALBED METHANE—POTENTIAL AND CONCERNS, United States Geological Survey Fact Sheet FS-123-00 at 2 (2000), <http://pubs.usgs.gov/fs/fs123-00/fs123-00.pdf>.

131. *Id.*

132. *Id.* at 1.

133. *Id.* at 2.

134. C.A. RICE, M.S. ELLIE & J.H. BULLOCK, JR., WATER CO-PRODUCED WITH COALBED METHANE IN THE POWDER RIVER BASIN, WYOMING: PRELIMINARY COMPOSITIONAL DATA, United States Geological Survey Open File Report 00-372 at 4 (2000), <http://pubs.usgs.gov/of/2000/ofr-00-372/OF00-372.pdf>.

135. See Thomas F. Darin, *Waste or Wasted? Rethinking the Regulation of Coalbed Methane Byproduct Water in the Rocky Mountains: A Comparative Analysis of Approaches to Coalbed Methane Produced Water Quality Legal Issues in Utah, New Mexico, Colorado, Montana, & Wyoming*, 17 J. ENVTL. L. & LITIG. 281 (2002).

136. *Id.* at 340-41.

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ern high-quality produced water.¹³⁷

Perhaps the best places for tribes to acquire knowledge of the technical aspects of environmental regulations regarding drilling are recent state regulations enacted covering the same ground. Again, one excellent example is Wyoming. In 2004, the Wyoming Department of Environmental Quality (WDEQ)¹³⁸ enacted rules that attempted to address the issue of contamination caused by use of surface impoundments.¹³⁹ In the regulations, the WDEQ declared a moratorium on new CBM water discharge permits until the operator using the discharge impoundment demonstrates, through groundwater monitoring and geochemical sampling of the surrounding soils, that the produced water will not degrade shallow aquifers to a lower classification.¹⁴⁰ Monitoring is to continue through all phases of production.¹⁴¹ This mandated sampling will eventually delineate statewide areas with clean water that require less control and areas with polluted discharge that may require the prohibition of the use of impoundments. The WDEQ has divided the Powder River Basin into smaller drainage areas, making the policy flexible enough to deal with areas that have differing levels of contaminants.

If operators are required to remediate the surface after use, what level of remediation is required? The potential cost of site remediation is more variable and often depends on what the state mandates the level of remediation to be and the climate of the area, whether arid or humid. For example, restoring a pad site to the same contour and condition it had before development takes longer and requires more work in arid regions where the foliage can take decades to return to its original state. The vast majority of tribal lands in the West are either arid or semi-arid—foliage cannot be expected to grow back at the same rate as in a humid place like Louisiana. The close well spacing necessary for optimal development of CBM (without directional drilling) requires a thick network of roads to access each 10-acre site, crosshatching former wilderness with potentially unsightly and dusty roads and dotting it with impoundments. On the other hand, some ranchers like the roads because it gives them better access to their land, and impoundments filled with high-quality water may be welcome.

B. Surface Remediation and Bonding on Federal and Tribal Lands

The parallel between tribal lands—managed to various degrees by fed-

137. *Id.*

138. The website for the Wyoming Department of Environmental Quality is available at <http://www.deq.state.wy.us>.

139. RULES, Chapter 2, Appendix H (Wyoming Department of Environmental Quality 2004), <http://soswy.state.wy.us/RULES/5680.pdf>.

140. *Id.*

141. *Id.*

eral agencies—and federal lands in general are numerous. In order to protect non-tribal federal lands, laws have been enacted requiring developers to demonstrate that they have adequate financial resources to conduct reclamation of the drill site and to plug wells.¹⁴² Perhaps the three largest concerns for development on federal lands are remediation of the drill site, prevention of orphaned wells, and making sure such wells are properly plugged. The goals of any bonding scheme should be to encourage production by responsible operators, to provide the regulating agency with a sound mechanism for cleaning up messes and plugging orphaned wells, and to protect the taxpayers from footing the bill for irresponsible developers who create hazards and then skip out on their financial responsibilities. One major difference with federal lands when compared to state lands is the relative lack of surface owner legislative clout on federal lands when compared to surface owner influence on state lands; surface owner groups do not influence development on federal lands as much as state lands.

The Stock Raising Homestead Act (SRHA) of 1916 governs surface remediation on federal lands.¹⁴³ While most of the SRHA was repealed in 1976, an operator must still obtain a written consent or waiver from the landowner in addition to a surface damage agreement, or in its place, a bond to cover the damages that must be used to cover damage to crops, fixtures, and loss of use.¹⁴⁴

Private environmental groups have called for surface remediation bonds that cover not only each individual drill site but are measured by the “worst possible case” scenario as to the well’s eventual cost to completely remediate.¹⁴⁵ In other words, the bond for surface remediation should be set at a level covering all associated facilities, not just the drill rig, and all possible intrusion onto the surface estates, such as roads, power lines, impoundments, etc. This is a ridiculous stance, as it would make some bonding values so outrageously high no one would pay them.

Should bonding be required for remediation of possible surface damage in Indian country? No state currently requires bonding for surface remediation by developers, although a couple of states have some peripheral ways of raising money for surface remediation. For example, Texas sets aside a portion of the oil spill cleanup fund for site remediation.¹⁴⁶ The Oklahoma Energy Resource Board¹⁴⁷ (OERB) performs

142. 42 U.S.C. 13368(l) (2006).

143. 43 U.S.C. § 299 (2000).

144. *Id.*

145. WESTERN ORGANIZATION OF RESOURCE COUNCILS (WORC), THE NEED FOR STRONGER FEDERAL OIL AND GAS BONDING REQUIREMENTS (2004), <http://highplainsnews.org/pdfs/energy-fs-bonding.pdf>.

146. RRC, Oilfield Cleanup Dedicated Account Quarterly Report (July 18, 2006), <http://www.rrc.state.tx.us/divisions/og/finance/ofcu3rdqtr06.pdf>.

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some surface remediation along with its primary mission of plugging orphaned wells. The OERB is funded through a voluntary one-tenth of one percent assessment on the sale of oil and natural gas in Oklahoma.¹⁴⁸ Any producer or royalty owner who does not wish to participate in the program can apply for a refund, but historically, 95 percent of all contributions remain in the OERB's coffers.¹⁴⁹ However, in no state is surface remediation afforded anywhere near the priority of orphaned well plugging.

C. Enhanced Recovery and Coalbed Methane

Secondary development of gas can be achieved by enhanced stimulation techniques such as hydraulic fracturing. This technique involves high-pressure injection of fluid (generally water), and in some places sand, into a gas-bearing formation.¹⁵⁰ The high-pressure fluid fractures the reservoir and the sand enters the cracks, propping them open.¹⁵¹ The fluid is then drawn out, but the sand remains, keeping the cracks open to enhance production.¹⁵² Complaints occurred when diesel fuel used as a surfactant in the injection fluid caused bacteria blooms in nearby water wells. However, once use of diesel fuel was voluntarily curtailed as an injection fluid additive, the Environmental Protection Agency found that injection or "frac'ing" fluid presented no danger to groundwater in a study that looked at wells in eleven coal basins and compared the results of over 200 peer-reviewed studies.¹⁵³

D. Recommendations for Surface Remediation of Tribal Lands

Each well site is different, and many variables control the type of surface damage that might occur, thus predicting the amount necessary for such a bond is likely to be fraught with a great deal of speculation. Indian country is primarily in the West, where the land is arid and rocky. Unlike wetter regimes in the East, these landscapes remain unchanged and unmarked for long stretches because of the lack of water both flowing and falling as precipitation. It seems to be human nature to want things returned to the exact same look as before, but requiring developers to move dirt around after they disturb it so that the profile of the ground is

147. The website for the Oklahoma Energy Resource Board is available at <http://www.oreb.com>.

148. Further information is available at <http://www.oerb.com/about/funding.asp>.

149. *Id.*

150. See EPA, What is Hydraulic Fracturing? (Feb. 28, 2006), <http://www.epa.gov/safewater/uic/cbmstudy/hfracdef.html>.

151. *Id.*

152. *Id.*

153. See EPA, STUDY OF POTENTIAL IMPACTS OF HYDRAULIC FRACTURING OF COALBED METHANE WELLS ON UNDERGROUND SOURCES OF DRINKING WATER (2004), available at <http://www.epa.gov/safewater/uic/cbmstudy.html>.

exactly the same or requiring them to replant the area so that it has the exact same look immediately after development as it did before are temptations that should be avoided.

First, bonding for surface remediation should probably be considered only if other surface remediation remedies do not adequately solve the problem, and if adopted, should be required only in the amount necessary to remove obvious signs of development, such as removal of leftover equipment, the plowing up of service roads, the leveling of unwanted water impoundment and development leftovers of that nature.

Second, when the measure of potential damages is being considered for the establishment of bond values, the diminution of land value if remediation is not made should typically be the value used to set the bond, not the cost to remediate the land back to the exact same condition as it was before development. This paradigm recognizes several things. Foliage grows more slowly in the West, and while an area may require replanting, the replaced fauna shouldn't have to immediately mimic the original fauna. Also, land is often re-leased, and Lessee A should not necessarily have to remediate land back to pristine conditions just before the land is re-leased to Lessee B, who then develops the lease in much the same way Lessee A did. In other words, what is the sense in remediation of a roadway or canal that one lessee built just so that the next lessee can rebuild it?

Oil companies hate costly surprises. If part of the land being leased has special cultural value, as is often the case with archaeological sites or burial grounds, companies should be told exactly where these areas are at the time of the lease transaction so that they have knowledge of locations where disruption could lead to liability. They should not be held liable for areas deemed to have special cultural value if they weren't given notice beforehand.

Third—and related to the second point—surface owners should not be able to recover for surface damage that occurred before they purchased the property. As a Texas appellate court recently ruled, a cause of action for injury to real property accrues to the person who owns the property at the time of the injury, and in the absence of an express assignment of the cause of action to a subsequent owner, the current owner should be deemed to lack standing.¹⁵⁴

Fourth, water quality standards must be considered. The state solutions provide the place to start. The rules enacted by the WDEQ in 2004 controlling water quality standards for, and monitoring of, impound-

154. *Exxon Corp. v. Pluff*, 94 S.W.3d 22, 28 (Tex. App.—Tyler 2002, pet. denied) (noting that no express or implied duty for the oil company to remove oilfield materials from the property exists).

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ments, mean that Wyoming has taken a big step toward responsible hydrocarbon development. While a good start, these rules and the environmental challenges presented by energy development must be considered a work in progress. Also, once enacted, tribal authorities must vigorously follow up on the data garnered by the reporting mechanisms found in any substantial and meaningful environmental regulations, in order to see if the problems caused by disposal of contaminated water disposal are actually being alleviated. If this proves not to be the case, Indian governments may need to consider financial mechanisms for the tribe to ensure responsible drilling and water disposal. Any mandated remediation of drill sites should recognize the reality that arid regions do not have the dynamic vegetation growth of wetter climates and that the requirement to make a site “pristine” will likely be unrealistic.

Classification of the produced water must recognize that various levels of pollutants exist in different areas. Furthermore, the tribes might want to address whether localized degradation really matters. If no one will use the water in or near that location, expensive measures to maintain water quality may not be necessary or practical. Flexibility is the key—the quality of water production varies statewide, a fact recognized by the WDEQ in its recent regulations.

If responsible companies follow tribe-established procedures, their liabilities should be reduced, particularly with regard to punitive damages. It makes sense to limit awards to the value of the land or the price it takes to remediate it, whichever is less. Awards for surface damages ought to go for actual remediation—not into the pockets of plaintiff’s attorneys or tribal officials who can in turn re-lease the land to another developer. It is in no one’s interest to see surface damage claims turn into a lottery for plaintiffs and a payday for mercenary plaintiff’s attorneys, leaving the problems of surface damages unsolved. Finally, hydraulic fracturing fluids do not pose a threat to groundwater and so do not logically factor into any bonding scheme or any surface damage calculations.

Jurisprudence will hopefully develop such that tribes will follow the conservative models for surface restoration. In Louisiana, the state’s highest court recently overruled an appellate decision and denied the existence of an “implied covenant” to restore the surface to its pre-development condition if the lease makes no mention of restoration.¹⁵⁵ No implied covenant to remediate a leasehold back to its original condition—particularly on arid reservation lands—should exist, and surface damage awards should at least be tied to the fair market value of the land. Tribal courts should follow a course similar to that of the Louisiana Supreme Court and be extremely hesitant to find such “implied cove-

155. *Terrebonne Parish Sch. Bd. v. Castex Energy, Inc.*, 893 So.2d 789, 792 (La. 2005).

nants” and other duties, particularly if the lease is silent as to those terms.

VI. BONDING AND ORPHANED WELLS

A. Introduction

The authority for the bonding of oil and gas wells on Indian land currently lies with the Bureau of Indian Affairs (BIA).¹⁵⁶ Unlike other categories of federal land, tribal lands require bond coverage at the time an oil and gas lease is issued, and bonding is typically made by the lessee.¹⁵⁷ Upon receipt of a proposed record title assignment of an oil or gas lease by the BIA, the local Environmental Protection Agency (EPA) field office provides the BIA with an estimate of the plugging costs for all unplugged wells on the property covered by the lease.¹⁵⁸ The regulations of the BIA allow an operator to file a bond equal to \$75,000 for all wells on Indian land (both reservation and allotted land) within one state.¹⁵⁹ A \$150,000 blanket bond allows an operator to drill as many wells in Indian country nationwide as he wishes.¹⁶⁰ These bonds are meant to provide the funding the government will use if the operator cannot meet his responsibilities of proper plugging and abandonment of wells and remediation of the well site. When one considers that the cost of properly plugging and abandoning each typical oil well can vary from \$2,415 to \$75,000,¹⁶¹ and for each typical CBM well from \$2,500 to \$7,500,¹⁶² that site remediation cost can vary from \$200 to \$5,000 per well site,¹⁶³ and that one operator may have hundreds of wells in their nationwide portfolio, the inadequacy of these blanket bonds on Indian lands becomes obvious. Texas provides a good illustration of what happens when a similar scheme of bonding meets multiple insolvent operators.

B. Orphaned Well Problems—The Texas Experience

The recent increase in gas prices, combined with the relatively shallow depths required for a successful CBM well, has led to a dramatic increase in the number of wells drilled for gas in the West and the decrease of the average spacing between wells.¹⁶⁴ A vehicle for tribes to properly plug

156. See Leasing of Tribal Lands for Mineral Development, 25 C.F.R. §§ 211-13 (2005) (outlining the BIA Well Bonding Regulations).

157. *Id.* §211.20 (2005) (requiring the filing of all bonds within 30 days of a contract award).

158. Memorandum from Assistant Director, Minerals, Realty and Resources Protection, Bureau of Land Management to All State Directors, Instruction Memorandum 2005-182 (July 11, 2005) (available at <http://www.blm.gov/nhp/efoia/wo/fy05/im2005-182.htm>).

159. *Id.* § 211.24(b) (2005).

160. *Id.* § 211.24(c) (2005).

161. WORC, *supra* note 146, at 2.

162. *Id.*

163. *Id.*

164. *Texas Drilling Directed Toward Unconventional Natural Gas*, HOUSTON BUSINESS

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and abandon wells that are left as “orphaned wells” needs to exist. Orphaned wells present the problem of contamination when water migrates to shallow aquifers through leaks in casing or cement behind casing.¹⁶⁵ A properly plugged well has a cement barrier preventing the flow of saline-rich waters in contaminated aquifers into fresh water aquifers closer to the surface.¹⁶⁶ Improperly plugged or completely unplugged wells do not have the cement barrier and therefore present a contamination threat.¹⁶⁷ The cost of plugging wells varies widely, averaging around \$12,500 to \$15,000 for traditional oil and gas wells but occasionally costing much more. No technology exists at present to restore a regionally contaminated aquifer.

It is absolutely critical for an effective well bonding program to be in place before drilling is allowed on Indian lands. During periods of high oil prices and extensive drilling, credible producers should be able to provide adequate financial safeguards to ensure proper plugging and that abandonment procedures are conducted on unproductive wells. Waiting until production ceases, a phenomenon commonly associated with low oil prices and insolvent companies, before attempting to garner money necessary for proper plugging and abandonment of wells may find the financial well just as dry as the orphaned one. What happens when inadequate financial safeguards against well abandonment meet low oil prices and bankrupt producers is best illustrated by looking at Texas.

Texas has the greatest problem with orphaned wells, and it is one of the missions of the Texas Railroad Commission (RRC)¹⁶⁸ to prevent the orphaning of wells and to oversee the proper plugging and abandonment of orphaned wells. In order to produce in Texas, at least in theory, a prospective operator must prove to the state that it is financially capable of properly plugging and abandoning its wells.¹⁶⁹ As of August 29, 2003, Texas had about 110,968 inactive wells.¹⁷⁰ By the end of January, 2004, 24,202 wells were considered noncompliant and in violation of the Commission’s well-plugging rules.¹⁷¹ The RRC rules require operators to plug and abandon or shut-in wells, but industry insiders suggest this has not been rigorously enforced.¹⁷² Before September 1, 2004, when bonding re-

(Fed. Reserve Bank, Dallas, T.X.), June 2005, at 1.

165. J. Thomas Lane, *Fire in the Hole to Longwall Shears: Old Law Applied to New Technology and Other Longwall Mining Issues*, 96 W. VA L. REV. 577, 616-17 (1994).

166. *Id.*

167. *Id.*

168. The Texas Railroad Commission regulates oil and gas operators within Texas.

169. Tex. Nat. Res. Code § 91.108 (2006).

170. Press Release, RRC, RRC Sends Perry, Dewhurst, Legislature Annual Oil Field Cleanup Report (Feb. 26, 2004), available at: <http://www.rrc.state.tx.us/news/releases/2004/040226.html>.

171. *Id.*

172. O’Brien, *supra* note 63.

quirements were reformed (see *infra*), loopholes existed that could be used to circumvent this requirement. An operator was allowed to treat an entire lease as a single entity.¹⁷³ So, for example, if a lease has ten wells on a lease and only one is a producer, then the other nine holes need not be plugged until the one well stops producing; by the time that happens, the operating company may be bankrupt.¹⁷⁴ The likelihood of bankruptcy increases as the production decreases over time because wells with dwindling production typically get sold down the company “food chain” so that wells of marginal economic viability are common in the portfolio of financially unstable corporations.¹⁷⁵ These companies often go out of business, orphaning a large group of wells at once. In a few cases, unbonded operators would intentionally accumulate inactive wells and strip the wells of salvage before going out of business, orphaning many wells at once.¹⁷⁶

The current public plugging mechanism for plugging orphaned wells in Texas, the Oil Field Cleanup Fund, is perhaps underfunded or mismanaged—the state was able to plug only about 1,635 wells in 2003.¹⁷⁷ The pre-2004 bonding requirements often did not cover the cost of plugging an orphaned well; a problem made worse by the fact that many operators could not be made to pay because of subsequent bankruptcy. Unbonded operators managed to perpetually avoid plugging wells by paying a \$100-per-well licensing fee annually.¹⁷⁸

Legal and equitable remedies can be a challenge to landowners in Texas. If salt water from an unplugged oil well contaminates freshwater wells on an adjoining piece of land, that landowner can bring a trespass suit for damage to land.¹⁷⁹ This has a two-year statute of limitations, tolling from “first injury”—*not* from detection of the injury.¹⁸⁰ Two recent cases, *Walton v. Phillips* and *Exxon v. Pluff*, have limited a landowner’s recovery for damages to diminution of the land’s value, not cost of remediation.¹⁸¹ Furthermore, “trespass suit for damage to land” suits do not

173. Press Release, Michael Williams, Chairman, RRC, Williams Continues to Support RRC Bonding Program (Jan. 27, 2003), *available at*: <http://www.rrc.state.tx.us/news/releases/2003/030127.html>.

174. *Id.*

175. *Id.*

176. *See id.* (describing how unscrupulous operators have acquired inactive wells without the production capacity to pay for their subsequent plugging).

177. RRC, *supra* note 174.

178. Before reformation, the previous bonding requirements allowed for small annual fees for operators with no previous violations and fees instead of bonds based on a percentage of the bond amount. *See* <http://www.rrc.state.tx.us/commissioners/williams/environment/bondingfaq.html> (Last visited Oct. 29, 2006).

179. *See* *Walton v. Phillips Petroleum Co.*, 65 S.W.3d 262, 267-68 (Tex. App.—El Paso 2001, no pet.).

180. *Id.* at 271.

181. *Id.*; *Exxon Corp. v. Pluff* 94 S.W.3d 22, 30-31 (Tex. App.—Tyler 2002, pet. denied).

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include attorney's fees.¹⁸² Those fees are deducted from any award—a deduction that could discourage plaintiff's attorneys.

C. Universal Bonding

Universal well bonding is the best way for a regulatory agency to ensure proper plugging and abandonment of wells. Universal bonding, without opportunity for additional deposits, “good guy” grandfather clauses, or other alternatives to bonding, is the ultimate destination of producer security regulation in Texas, and this new direction provides a good model for other regulators.

Before the implementation of new bonding rules in March 2002, producers in Texas had the following options to choose from to satisfy the necessity of fiscal assurance that they will properly plug and abandon wells:

1. A bond or letter of credit based on the total footage of the wells operated;
2. A bond or letter of credit based on the number of wells operated (a “blanket bond”);
3. A \$100 annual fee if the operator had 48 consecutive months of acceptable operation under remediation statutes and regulations;
4. A fee measuring 3 percent of the otherwise applicable bond amount described in the first two options; or
5. A lien on tangible personal property in an amount equal to the otherwise applicable bond amounts in the first two options.¹⁸³

By September 1, 2004, the last three options will not be available in Texas. All operators will be required to have either a bond, a letter of credit, or to make a cash deposit.¹⁸⁴

Prior to making the financial requirements more strictly controlled, concern existed that these changes would make it difficult for small operators to stay in business. This fear has apparently not materialized. Although the number of operators did indeed drop annually from 2001 to 2003, this seems merely a continuation of the drop in the number of active operators, which has steadily declined since 1990.¹⁸⁵ The cost to maintain an inactive company has increased from \$100 to \$1,000 in March 2002, thus increasing the incentive for owners to finally shut down long-lingering inactive companies.¹⁸⁶ In addition, company registration costs

182. *Z.A.O., Inc. v. Yarbrough Drive Ctr. Joint Venture*, 50 S.W.3d 531, 550-51 (Tex. App.—El Paso 2001, no pet.).

183. Michael Williams, *Transition to Universal Bonding: Successes of the Past 24 Months* (Texas Railroad Commission 2002).

184. *Id.*

185. Loire Woodward Cantu, *On a Collision Course*, CATTLEMEN at 40, May 2004.

186. *Id.*

with the state rose from the \$300–\$1,000 range to \$300–\$1,125 over the same period.¹⁸⁷ It appears that operators who are not financially solvent enough to post an adequate bond are far more likely to not properly plug and abandon a well.

The RRC's other major recommendations for solving the orphan well problem are threefold. First, a limit to the transfer of inactive wells is suggested, keeping unproductive wells attached to the companies that originally owned—and are liable—for them. Further, it is suggested that the number of plugging extensions, via dodges like the \$100 per year fee, be curtailed. Increased funding of the RRC's plugging program through increased fees, a more robust bonding and letter of credit plan, and more vigorous state action in going after offenders with substantial fines are also seen as options available to address the orphaned well problem.

Other solutions to the problem of orphaned wells exist as well. Lease forms are often off-the-shelf and used with little foresight. If the model lease forms drafted and endorsed by the American Association of Professional Landmen (AAPL)¹⁸⁸ were made more remediation-friendly, the number of orphaned wells abandoned in the future could be attenuated.¹⁸⁹ Another suggestion is to require every oil company in Texas to annually plug a certain percentage of the shut-in wells on its inventory. For example, the companies could be required to plug 5 to 10 percent of shut-in wells in their portfolios annually.¹⁹⁰ In addition, a prescription limiting the amount of time a company has to plug such wells could be imposed. "Whole lease" provisions—loopholes that allow an operator to wait on plugging an unproductive well until drilling and production on the whole lease ceases—should be eliminated. Combining regulatory responsibility for groundwater and surface water into one agency, as opposed to dividing it between the Texas Commission on Environmental Quality¹⁹¹ and the RRC is touted by some as a solution to inconsistent regulatory enforcement.¹⁹² This last point is especially noteworthy considering that environmental regulation on tribal land can lead to conflict-

187. *Id.*

188. Further information on the American Association of Professional Landmen, *available at*: <http://www.landman.org/>.

189. *See Cantu, supra* note 186. This article mentions several problems and suggestions regarding orphan wells in addition to bonding, such as changing the model lease forms, requiring the proper plugging and abandonment of a certain percentage annually of each operator's portfolio of orphaned wells, and eliminating "whole lease" loopholes.

190. This provision could potentially eliminate wells that might return to production under better economic conditions. If such a provision would ever be adopted, care would have to be taken to require plugging of wells clearly below any threshold of realistic future, economically-sound productivity while allowing for the shut-in of wells which could realistically be reworked and made profitable with higher oil prices.

191. Further information on Texas Commission of Environmental Quality, *available at*: <http://www.tceq.state.tx.us/>.

192. *See Cantu, supra* note 186, at 7-8.

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ing co-management between the federal government and tribal agencies.

D. Alberta

On the other end of the spectrum from early Texas development is Alberta, Canada, where regulatory experiences with orphaned wells are much less problematic. The well plugging authority in Alberta is the Orphan Well Association (OWA), which operates with fiscal independence under authority of the Alberta Energy and Utilities Board (AEUB).¹⁹³ Of course, Alberta has fewer wells to worry about (and fewer people to complain about them) than Texas and also has been aided by a more proactive approach toward remediation and plugging. First, reasonable attempts are made by the agencies to recover money from responsible parties before wells are designated as orphaned.¹⁹⁴ After a well is deemed an orphan, the OWA can conduct the orphan abandonment plan. The AEUB receives funding from two sources. The first is the Orphan Fund levy, where funds are collected from the “upstream” oil and gas industry.¹⁹⁵ Each company is levied based on its proportionate share of “deemed liabilities” compared to total industry deemed liability.¹⁹⁶ In the past, the agency has based the annual levy for the Orphan Fund on the number of inactive wells each company held at the end of the previous year.¹⁹⁷ The second source of funds is a first-time-licensee fee. Recently, revenues were increased because of an increase in applications for a *first time* licensee fee for each operator.¹⁹⁸ This fee is \$10,000 and is charged to each new company wishing to hold well licenses.¹⁹⁹

Alberta, at the promulgation of its well abandonment regulation, was in a situation much like tribes face today. Alberta’s production started later than Texas and other, older fields. In addition, Alberta’s sparse population more closely mirrors that found on many reservations. Both similarities make Alberta a useful model for tribes considering their own well bonding and other environmental regulations.

193. Patricia Payne, Alberta Oil and Gas Orphan Abandonment and Reclamation Association, Frequently Asked Questions (2003), *available at*: http://www.orphanwell.ca/pg_faq.html.

194. *Id.*

195. *Id.*

196. *Id.*

197. Orphan Well Association of Alberta, *2002/03 Annual Report* (Orphan Well Association of Alberta, 2003), *available at*: http://www.orphanwell.ca/pg_reports.html (follow “2003/04 Annual Report” hyperlink). Interestingly, in 2000 and 2001, the annual levy was set at zero per inactive well to *reduce* the growing Orphan Fund balance and to match the decreased activity level of orphan abandonment and reclamations in 2000. The levy was set at zero based on the reasoning to only take money from the upstream oil and gas industry when it was required.

198. Orphan Well Association of Alberta, *2004/05 Annual Report* (Orphan Well Association of Alberta, 2005), *available at*: http://www.orphanwell.ca/pg_reports.html (follow “2004/05 Annual Report” hyperlink).

199. *Id.*

E. Wyoming

Wyoming requires a compliance bond to drill in the state, which is collected by the Wyoming Oil and Gas Conservation Commission (WOGCC).²⁰⁰ The size of the bond for drilling depends on the depth of the well. Bonds for wells less than 2,000 feet are \$10,000 per well while wells deeper than 2,000 feet require a \$20,000 individual bond.²⁰¹ A \$75,000 blanket bond is allowed to cover all wells, including wells under 2,000 feet total depth.²⁰² Wyoming's requirements for bonding necessitate an additional bonding up to \$3 per foot for idle wells in excess of 8,300 feet or 25,000 feet, depending on the bond in place.²⁰³ Currently, five options exist for companies to choose from:

1. Owner's surety bond (\$10,000 or \$20,000 as applicable)
2. Owner's blanket bond (\$75,000)
3. Letter of Credit
4. Certificate of Deposit
5. Cash (cashier's check)²⁰⁴

On state lands, the bond of the producer is paid to the Wyoming Commissioner of Public Lands in the amount of \$10,000 for an individual well or \$100,000 for a blanket bond.

F. Recommendations for Well Bonding and Marginal Wells on Tribal Lands

The first thing that Indian authorities need to do is take control of their own environmental regulations where tribal government infrastructure and knowledge makes such control feasible. The BIA well bonding and site remediation regulations simply are not enough to prevent orphaned wells and well site environmental woes. Once the tribes take up the regulatory reins, they should look to the states previously mentioned to decide how to craft their regulations, perhaps with the help of outside law firms and schools.

Preventing orphaned wells is a two-step process. The first is to prevent a rush of financially unstable producers from beginning development. The second is to see that tribal conservation efforts to manage production of oil, gas, and CBM through pooling and unitization do not encourage economic waste and needless wells that could be orphaned, as happened in Texas.

200. The website for the Wyoming Oil and Gas Conservation Commission is available at <http://www.wogcc.state.wy.us/>.

201. RULES, Chapter 3, Section 4 (a)(i-ii) (Wyoming Oil and Gas Conservation Commission 2006), <http://wogcc.state.wy.us/db/rules/3-4.html>.

202. *Id.* at (a)(iii).

203. *Id.* at (c).

204. *Id.* at (a).

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Tribes seeking to regulate wells on their own land should consider setting up bonding requirements so that each company's bond can cover that company's orphaned well responsibility and so that the money collected is tied to a particular well. When well ownership changes hands, the tribe would continue to hold enough money to cover the cost of plugging and abandoning the well. This is particularly important within the realm of coalbed methane development. Coalbed methane wells are typically quite shallow, particularly when compared to oil wells. Typical depths for these wells are 500 to 1,500 feet. Wells of this depth can be quickly, easily and cheaply drilled. This business thus attracts all manner of developers, and a tribe must keep a tight rein on development in order to prevent financially challenged, capital-constrained, or irresponsible operators from converging on reservations and then departing suddenly when prices fall again, leaving their responsibilities for remediation, well plugging, and surface damage costs unmet.

The recent changes in Texas provide perhaps the best starting point, particularly when viewed through the lens of coalbed methane, a prevalent commodity on many reservation lands. Texas's problems with orphaned wells are rooted in the fact that the bonding procedures were not responsive to maneuvers by producers short on cash but savvy to various "outs" that could be used to avoid responsibility for properly plugging and abandoning wells.

A tribe's regulatory position would be much stronger if a requirement existed mandating the collection of money via a bond to plug a well if the producer proves unable to do so. Each well could have money specifically earmarked for that particular well, rather than a pool of money provided by a blanket bond. In other words, Indian regulatory agencies should act as if *every* well will be orphaned and the tribe will have to pay to plug it. The shallow depth common to coalbed methane wells means that active producers of coalbed methane will end up with a lot of wells in their portfolio. If the producer pays the blanket bond, then the money available for plugging a potentially abandoned hole is lessened for each. All options such as "good guy" exceptions and annual fees should be eliminated, save a well-specific bond or letter of credit. These options have been proven in Texas to be ineffective in providing money to plug orphaned wells, often placing the burden on companies that do fulfill responsibilities, landowners, and the taxpayers of the state.

Furthermore, change of control of a well does not have to negatively impact the amount of money available to plug the well. If a portfolio of wells is passed from one operator to another, the money that the tribe holds to plug each well via a bond can remain at the level it was before the sale. Here again, the limitation of the blanket bond is seen. For example, a producer could acquire a multitude of marginal wells and then

go out of business, leaving only an insufficient blanket bond to cover plugging all the orphaned wells in the company's portfolio. Eliminating the blanket bond and going to a per-well bond requirement will require companies to devise alternative methods, such as establishing escrow accounts or performance bonds or using the direct approach of having the new company replace the money in the state's hands with its own cash. Furthermore, regulations could have a built-in mechanism for increasing the bond amounts should costs escalate or when inflation occurs.

Alternatively, if a well produces water fresh enough to be an asset to the surface owner, an option could exist for a producer to assign a well to a tribe that might want the water from the CBM well for irrigation or livestock. This complicates the orphaned well issue, but the water well could be a resource for surface owners or the state.

Tribal lands represent some of the largest undeveloped onshore tracts in the United States and Canada. Because of this, mistakes made by other governments can be studied and avoided. One of the greatest causes of orphaned wells, and thus pollution, surface disruption and damage, and economic waste, are unnecessary wells kept afloat by conservation schemes that result in incentives for "small parcel" wells by marginal producers. For example, in Texas, state coddling of small producers and the refusal to mandate orderly field development through unitization and spacing has resulted in a plethora of unnecessary wells produced by unstable operators.²⁰⁵ Spacing on tribal lands, where the non-allotted land is communally held and thus the "small parcel" problem may be avoided, should be large enough to optimize the number-of-wells-to-production ratio. In addition, tribes should consider spacing and field development rules that promote optimal field development that would consider directional drilling and secondary/tertiary development methods.

VII. CONCLUSIONS

Regulation of well bonding, surface remediation, and split-estate issues on tribal lands needs to prevent needless environmental damage and strongly discourage "fly-by-night" producers with only quick profits in mind, while welcoming responsible operators to develop the bountiful energy potential of Indian country. It is also important to remember that energy companies are not enemies and that regulations intended to hold out fly-by-nighters should not discourage responsible producers.

Companies, of course, must be prepared to deal with tribes with the respect they would give any other governing authority. But tribes must real-

205. Jacqueline Lang Weaver, *The Federal Government as a Useful Enemy: Perspectives on the Bush Energy/Environmental Agenda from the Texas Oilfields*, 19 PACE ENVTL. L. REV. 1, 16 (2001).

ize that with increased sovereignty comes increased responsibility. Reputable development companies will insist on being able to deal with stable, flexible, and competent tribal administrations that avoid the temptations of post-production shakedowns and inequitable regulation instability before they will decide to pursue serious development on tribal land. Until then, mineral development in Indian country will continue to be limited and disorderly and will attract a disproportionate number of unsavory “fast-buck” operators.

VIII. APPENDIX A: SURFACE DAMAGE ACTS—ANALYSIS AND COMMENTARY

The following brief compendium is intended to highlight specifics of various surface damage acts (SDAs) from western energy-producing states and their interpretation in jurisprudence and practice.

A. Oklahoma

Oklahoma does not require that surface damages be paid as a matter of course, but the behavior of mineral owners suggests that they believe the SDA of Oklahoma creates an obligation to pay for any and all damages suffered by the surface owner.²⁰⁶ Arbitration of damages is conducted by three assessors—one appointed by the landowner, one appointed by the producer, and a third appointed by the other two.²⁰⁷ If the appraisers, by majority vote, decide no compensation is owed, none is due, but the landowner can appeal.²⁰⁸ Upon appeal to a court, if the court’s judgment is less than that of the appraisal of damages, the landowner will not receive attorney fees as part of the damages.²⁰⁹ Often what occurs is that the landowner will “lowball” or “sandbag”—slang used by lawyers for purposely quoting an unreasonably low damage estimate—on the appraisal because he knows he is going to go to court anyway. Then, at court, he will be sure to get a judgment far over what was agreed upon,

206. Ronald W. Polston, *Surface Rights of Mineral Owners—What Happens When Judges Make Law and Nobody Listens?*, 63 N.D. L. REV. 41, 63-66 (1987) (discussing the results of a survey conducted by the author, in which producers of forty-six of forty-seven wells drilled accepted responsibility for some measure of surface damages. One operator, when asked why he paid, simply responded with a copy of Oklahoma’s SDA); Owen Anderson, Address to his Oil and Gas Law Class, University of Oklahoma College of Law (2003) (positing that surface owners and tenants generally know the “going rate” of surface damage settlements in the area around their land and seem to expect something akin to that value whatever the particular scenario involved, and that surface owners therefore routinely expect some measure of payment).

207. OKLA. STAT. tit. 52, § 318.5(c) (2001 & Supp. 2005). See also Bruce Stallworth, *Legislation Hits Mid-Point; Oil and Gas Bills Progress—Surface Damage Reforms*, WELLHEAD 1 (2004) (noting that two bills currently in committee in Oklahoma (HB 2541 and SB 1296) contain language that will require that all three appraisers used in a surface damage settlement be state-certified. These bills have met resistance from landowners).

208. OKLA. STAT. tit. 52, § 318.5(e).

209. *Id.* § 318.5(f).

thus assuring attorney's fees.

B. North Dakota

North Dakota's SDA²¹⁰ also requires notice. Unless waived by mutual agreement, the producer is required to give the surface owner written notice of drilling operations contemplated at least twenty days before operations begin.²¹¹ This notice must detail the proposed drilling operations to the extent that the surface owner can evaluate the scope of the mineral development's effect on the surface use.²¹² This report must include a form advising the surface owner of his rights under the North Dakota SDA.²¹³

The mineral developer is required to pay the surface owner for the amount of damages suffered by the surface owner *and the surface owner's tenant* for:

- a. Loss of agricultural production
- b. Lost land value
- c. Loss of use and access to the surface owner's land and
- d. Lost value of improvements caused by drilling operations.²¹⁴

The amount of surface damages is to be measured by whatever formula is mutually agreeable to both parties.²¹⁵ Interestingly, if no agreement exists between the surface owner and the tenant as to the division of the surface damages, the tenant is entitled to recover from the surface owner that portion of the damages suffered by the tenant.²¹⁶ At the time of notice, the mineral developer must make a written offer of a proposed amount to settle for surface damages.²¹⁷ If the surface owner rejects the offer of settlement, the surface owner can bring an action in court.²¹⁸ If the amount deemed appropriate by the court is more than the offer of settlement, then reasonable attorney's fees are in order.²¹⁹

C. Montana

Montana's SDA²²⁰ requires the mineral producer to give written notice to the surface owner of any drilling operations planned no more than

210. See N.D. CENT. CODE §§ 38-11.1-01 to 38.11.1-10 (1987).

211. *Id.* § 38-11.1-05.

212. *Id.*

213. *Id.*

214. See *id.* § 38-11.1-06.

215. *Id.* § 38-11.1-04.

216. *Id.*

217. *Id.* § 38-11.1-08.

218. *Id.* § 38-11.1-09.

219. *Id.* Unlike in Oklahoma, if you agree on the settlement, the issue has no possibility of going to court, so purposeful undervaluing on the appraisal of damages is not likely.

220. See MONT. CODE ANN. §§ 82-10-501 to 82-10-511 (1999).

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ninety days and no fewer than ten days before beginning of development.²²¹ The notice must sufficiently disclose the plan of development to the extent that the surface owner can effectively evaluate how the mineral development will affect the surface owner's use of the property.²²²

To receive damages, the surface owner must provide notice within two years after the damages become noticeable or would be noticeable to a reasonable man.²²³ Unless previously agreed upon in a written accord earlier, a mineral developer must make a written offer of compensation.²²⁴ The surface owner can reject or accept the offer.²²⁵ A mineral developer must pay the surface owner for loss of agricultural production and income, lost land value, and lost value of any improvements caused by drilling operations.²²⁶ The amount of damages can be determined by any formula agreeable to both parties.²²⁷ The surface owner can accept payment over a period of time, except for damages during exploration, which are to be paid in one lump sum.²²⁸ The damages contemplated therein cover only the land directly affected by drilling operations and must go to the surface owner—they cannot be assigned or reserved for another party unless that party is a tenant.²²⁹ If the producer does not make timely payment within sixty days after receipt of notice for non-payment, then he is liable for twice the amount agreed upon.²³⁰ If the surface owner rejects the offer of settlement, then the surface owner can bring an action to the appropriate district court.²³¹ All other common law remedies remain available.²³²

D. South Dakota

In South Dakota, the SDA²³³ requires the mineral developer to give written notice to the surface owner at least thirty days prior to the beginning of operations.²³⁴ The notice is to go to the address of the surface owner as ascertained by the county records for the land to be subject to development.²³⁵ The notice shall be explicit enough to allow the surface owner to approximate the disruption and damage that the mineral devel-

221. *Id.* § 82-10-503.

222. *Id.*

223. *Id.* § 82-10-506.

224. *Id.* § 82-10-507.

225. *Id.*

226. *Id.* § 82-10-505.

227. *Id.* § 82-10-504(1)(b).

228. *Id.* § 82-10-504(1)(c).

229. *Id.* § 82-10-504(1)(d).

230. *Id.* § 82-10-504(2).

231. *Id.* § 82-10-508.

232. *Id.* § 82-10-511.

233. *See* S.D. CODIFIED LAWS §§ 45-5A-1 to 45-5A-11 (Michie 1997).

234. *Id.* § 45-5A-5.

235. *Id.*

opment will cause.²³⁶

The amount of surface damages may be determined using any method that both sides agree upon.²³⁷ Damages can be paid in annual installments, but the surface owner can be compensated for harm caused by exploration only by one single lump sum payment.²³⁸ In addition, the payment is to be to the titleholder of the land and assignment or reservation of such compensation is prohibited unless made to a surface lessee.²³⁹ The mineral developer is to pay damages to the surface owner equal to the amount of damages sustained for:

1. Loss of agricultural production;
2. Lost land value; and
3. Lost value of improvements caused by mineral development.²⁴⁰

The surface owner, in order to receive compensation, must give the mineral developer notice in writing of damages sustained within two years after the damage became apparent or should have been apparent.²⁴¹

Unless controlled by another written agreement, the mineral developer, within sixty days of receipt of damages sustained by the surface owner, must make an "offer of settlement."²⁴² This must be accepted or rejected within sixty days of receipt.²⁴³ If the offer is rejected, the surface owner can seek redress in court of proper jurisdiction.²⁴⁴ In a clause not mentioned in any other SDA, this SDA expressly does not apply to vehicles traveling on state highways.²⁴⁵

236. *Id.*

237. *Id.* § 45-5A-4.

238. *Id.*

239. *Id.*

240. *Id.* § 45-5A-6.

241. *Id.* § 45-5A-7.

242. *Id.* § 45-5A-8.

243. *Id.*

244. *Id.* § 45-5A-9.

245. *Id.* § 45-5A-11.