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CONTRACTING FOR SUSTAINABLE SURFACE MANAGEMENT

Tara Righetti*

INTRODUCTION

Oil and gas development is highly regulated. Operators must comply with state and federal environmental laws to protect clean water, endangered species, and historical and cultural resources. State conservation laws regulate well spacing, setbacks from lease lines and occupied structures, permitting requirements, and operational rules, whereas local rules may impose additional restrictions.[1] Operations on federal lands are subject to the requirements of the National Environmental Policy Act, onshore orders governing surface use, and rules for waste prevention and hydraulic fracturing.[2] These public governance mechanisms materially influence surface use, mitigation and reclamation and have greatly

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1. Jan G. Laitos & Elizabeth H. Getches, *Multi-Layered, and Sequential, State and Local Barriers to Extractive Resource Development*, 23 VA. ENVTL. L.J. 1, 2 (2004); Riley W. Vanham, *A Shift in Power: Why Increased Urban Drilling Necessitates a Change in Regulatory Authority*, 43 ST. MARY'S L.J. 229, 248-54 (2011) (describing local oil and gas, zoning and subdivision ordinances regulate operations within municipal limits).

2. 43 C.F.R. §§ 3160.0-1, 3160.0-3 (2017).

reduced the environmental impacts of hydrocarbon development.

It is against this background of public governance that split-estate landowners and energy developers negotiate terms of surface use and compensation for damages. The resulting agreements fill in the gaps and complement public governance mechanisms. As such, surface damage agreements are a highly adaptable and effective private governance instrument to promote site-specific surface management plans and environmental behavior and best practices.

This article examines the surface damage agreement as an instrument of private governance. Part I describes split-estate ownership of oil and gas and the historic dominant-servient ordering of the mineral and surface estates. Part II explores the rebalancing of power effectuated by split estate acts and statutory requirements to contract for surface damages in both state and federal law. Part III examines the surface damage agreement and provides a catalog of common environmental provisions and covenants within those agreements. Part IV analyses surface damage agreements within the framework of private governance instruments, identifying their benefits and exploring the limitations of reliance on individual surface owners to promote surface management best practices. Part V identifies opportunities to increase the governance function of surface damage agreements through the incorporation of third-party standards and verification and explores the potential of other private governance instruments to influence upstream surface management practices.

I. SPLIT ESTATES

Split estates result when the minerals are severed within a tract of land and separate parties own the mineral and surface estates.[3] These configurations exist throughout the United States and include parcels with federal surface and private

3. Chartiers Block Coal Co. v. Mellon, 25 A. 597, 598 (1893). Although surface rights are referred to as the "surface estate," the "surface" owner also has a property interest in the non-mineral components of the subsurface, including the pore space. *See* Troy A. Rule, *Property Rights and Modern Energy*, 20 GEO. MASON L. REV. 803, 810 (2013).

minerals,[4] private surface and federal minerals,[5] or separate private ownership of both estates.[6] Development of the minerals often requires use of and damage to the surface of the land. Although the methods of development have changed significantly, conflicts among split estate property owners about the permissible extent of surface use and claims for compensation for damages resulting therefrom are as present in 2017 as they were in 1928.[7]

State and federal courts have ordered the mineral and surface estates according to a dominant-servient paradigm wherein severance of the mineral estate gives rise to an implied easement in the mineral owner to use the surface.[8] This arrangement derives from the very nature of the severance itself: without rights of surface use the underlying severed minerals would be worthless.[9] While mineral rights holders do not strictly meet the common-law requirements for implied easements of necessity, courts have nearly universally construed

4. *See* Minard Run Oil Co. v. U.S. Forest Serv., 670 F.3d 236, 242 (3d Cir. 2011); Andrew C. Mergen, *Surface Tension: The Problem of Federal/Private Split Estate Lands*, 33 LAND & WATER L. REV. 419, 425, 428-29 (1998). The Bureau of Land Management (BLM) estimates that there are approximately 58 million acres of split estate federal minerals in the United States. *BLM Facts: Subsurface Acreage Managed by the BLM*, BUREAU LAND MGMT. (June 15, 2011), https://www.blm.gov/nhp/facts/acres.htm [https://perma.cc/CNQ8-A85K].

5. *See* Watt v. W. Nuclear, Inc., 462 U.S. 36, 37, 47-51 (1983).

6. *See* A-W Land Co. v. Anadarko E&P Co., No. 09-cv-02293-MSK-MJW, 2017 WL 1023375, at *3 (D. Colo. Mar. 16, 2017).

7. *See* Kinney-Coastal Oil Co v. Kieffer, 277 U.S. 488, 490 (1928); Entek GRB, LLC v. Stull Ranches, LLC, 763 F.3d 1252, 1253 (10th Cir. 2014); Steed v. Endeavor Energy Res., No. CIV 09-1084 RB/GBW, 2010 WL 11452553, at *1 (D.N.M. Dec. 10, 2010).

8. *Kinney-Coastal*, 277 U.S. at 504-05; Wyo. Outdoor Council v. U.S. Army Corps of Eng'rs, 351 F. Supp. 2d. 1232, 1245 (D. Wyo. 2005); *see also* 4 NANCY SAINT-PAUL, SUMMERS OIL AND GAS § 41:2 (3d ed. 2017); Phillip William Lear & Stephanie Barber-Renteria, *Split Estates and Severed Minerals: Rights of Access and Surface Use After the Divorce (and Other Leasehold Access-Related Problems)*, *in* JOHN C. LACY, THE SECOND TWENTY-FIVE YEARS: A HISTORY OF THE ROCKY MOUNTAIN MINERAL LAW FOUNDATION 10-1, § 10.02(3)(d) (2004); Bruce M. Kramer, *The Legal Framework for Analyzing Multiple Surface Use Issues*, 44 ROCKY MTN. MINERAL L. FOUND. J. 273, 274 (2007); K.K. DuVivier, *Sins of the Father*, 1 TEX. A&M J. REAL PROP. L. 391, 396-98 (2014).

9. Harris v. Currie, 176 S.W.2d 302, 305 (Tex. 1943).

a grant or reservation severing the minerals to include the rights of surface use for access and enjoyment of the minerals.[10]

The implied easement of surface use can be understood as a "property-rule."[11] Dominant-servient ordering assures continuing rights of access and use by the mineral owner, thus protecting the mineral owners' basic incidents of ownership and establishing the foundation for contracting among surface and mineral owners.[12] As a property rule, which some courts have even interpreted to be a rule of contract,[13] the implied easement empowers a mineral owner to protect its rights of access. It can accordingly enjoin a surface owner's interference with its operations[14] and, if needed, damage or even destroy the surface property in order to access its property.[15]

The relationship, however, is more multidimensional than this ordering implies.[16] Courts have limited the uses permitted under the implied easement to those that are reasonably necessary to the extraction of the underlying minerals,[17] relate to the primary purpose of obtaining production,[18] and are not for the benefit of extra-lateral parcels.[19] Thus, use of the surface for production facilities, roads, flow lines, tanks, or disposal operations that benefit multiple leases within a field may be an

10. Kramer, *supra* note 8, at 275-76; Richard T. Miller, *A Mineral Owner's Implied Rights to Use Surface Property Owned by Others*, 32 ENERGY & MINERAL L. INST. 203, 205 (2011); John S. Lowe, *The Easement of the Mineral Estate for Surface Use: An Analysis of Its Rationale, Status, and Prospects*, *in* PROCEEDINGS OF THE ROCKY MOUNTAIN MINERAL LAW THIRTY-NINTH ANNUAL INSTITUTE 4-1, § 4.02, at 4-3 (Rocky Mtn. Mineral L. Found. 1993).

11. Rule, *supra* note 3, at 810; Louis Kaplow & Steven Shavell, *Property Rules Versus Liability Rules: An Economic Analysis*, 109 HARV. L. REV. 715, 715-16 (1996).

12. For a description of property rules in the energy context, see Rule, *supra* note 3, at 806-08.

13. *See generally* Kramer, *supra* note 8.

14. Douglas R. Hafer et al., *A Practical Guide to Operator/Surface-Owner Disputes and the Current State of the Accommodation Doctrine*, 17 TEX. WESLEYAN L. REV. 47, 53 (2010).

15. *Id.* at 65.

16. *See id.* at 49.

17. *See* Union Producing Co. v. Pittman, 146 So. 2d 553, 555 (Miss. 1962); Warren Petroleum Corp. v. Monzingo, 304 S.W.2d 362, 363 (Tex. 1957).

18. Gill v. McCollum, 311 N.E.2d 741, 743 (Ill. App. Ct. 1974).

19. Russell v. Tex. Co., 238 F.2d 636, 642 (9th Cir. 1956); Robinson v. Robbins Petroleum Corp., 501 S.W.2d 865, 867-68 (Tex. 1973).

impermissible surface use based on an implied easement.[20] However, where a use is both reasonable and related to the production-underlying minerals, under the traditional dominant-servient ordering the mineral owner may proceed with the use irrespective of the damage caused to the surface parcel.[21]

A growing number of states have also adopted a doctrine of accommodation.[22] Originally recognized in the *Getty Oil* case in 1971, the accommodation doctrine frames the mineral owner's rights of use as non-absolute and as owing due regard to the interests of the surface owner.[23] In states adopting the accommodation doctrine, the scope of the implied easement may be determined based on a multidimensional "balancing of seemingly competing and co-equal" or "correlative rights" of the surface and mineral owners.[24] Each has rights within the surface and subsurface property and the use of one may be bounded by the use of the other.

Practically speaking, the accommodation doctrine requires the mineral owner to use "available non-interfering and reasonable ways and means of producing the minerals which would permit the surface owner to continue his existing use of the surface."[25] Accommodations that make drilling or

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20. *See Gill*, 311 N.E.2d at 743; Dick Props., LLC v. Paul H. Bowman Trust, 221 P.3d 618, 621 (Kan. Ct. App. 2010); Farragut v. Massey, 612 So. 2d 325, 330-31 (Miss. 1992).

21. Hafer et al., *supra* note 14, at 65.

22. *See* Diamond Shamrock Corp. v. Phillips, 256 Ark. 886, 891, 511 S.W.2d 160, 163 (1974); Gerrity Oil & Gas Corp. v. Magness, 946 P.2d 913, 919 (Colo. 1997); Amoco Prod. Co. v. Carter Farms Co., 703 P.2d 894, 896 (N.M. 1985); Hunt Oil Co. v. Kerbaugh, 283 N.W.2d 131, 135 (N.D. 1979); Getty Oil Co. v. Jones, 470 S.W.2d 618, 621 (Tex. 1971); Flying Diamond Corp. v. Rust, 551 P.2d 509, 511 (Utah 1976); Buffalo Mining Co. v. Martin, 267 S.E.2d 721, 725 (W. Va. 1980); Mingo Oil Producers v. Kamp Cattle Co., 776 P.2d 736, 740 (Wyo. 1989). Other states that "may be leaning to the multidimensional 'reasonable accommodation' doctrine" include Mississippi, Pennsylvania, and Kansas. *See* PATRICK H. MARTIN & BRUCE M. KRAMER, WILLIAMS & MEYERS OIL AND GAS LAW § 218.8, at 244, 244 nn. 9.12-9.13 (2008) [hereinafter WILLIAMS & MEYERS].

23. *Getty Oil*, 470 S.W.2d at 621; JAN G. LAITOS, *Literature Review of Severed Minerals, Split Estates, Rights of Access, and Surface Use in Mineral Extraction Operations*, *in* SEVERED MINERALS, SPLIT ESTATES, RIGHTS OF ACCESS, AND SURFACE USE IN MINERAL EXTRACTION OPERATIONS 1B-1, 1B-1 (Rocky Mtn. Mineral L. Found. 2005) [hereinafter SEVERED MINERALS].

24. Kramer, *supra* note 8, at 301, 311.

25. City of Lubbock v. Coyote Lake Ranch, 440 S.W.3d 267, 272 (Tex. App. 2014). For a sampling of opinions adopting a common law doctrine of accommodation, see, e.g., *Diamond Shamrock Corp.*, 511 S.W.2d at 163; Gulf Pipe Line Co. v. Pawnee-Tulsa

operations less convenient or more expensive are not per se unreasonable, although the surface owner retains the burden of proof.[26] In some states, this burden may include a requirement that the surface owner demonstrate that it has no other reasonable alternative to conduct its operations.[27] Thus, rather than permitting all reasonable uses, the accommodation doctrine instead protects the surface owner from "unnecessary injury."[28] Importantly, the accommodation doctrine does not undo the basic dominant-servient ordering of the mineral and surface estates.[29] The surface owner may not block operations where no reasonable method of accommodation is available.[30]

The surface owner's use of its property may likewise be limited to those uses that do not unreasonably interfere with existing oil and gas operations.[31] Mineral owners may enjoin those uses that interfere with oil and gas operations or obtain access to the surface over the objections of the surface owner.[32] Mineral owners have not been successful, however, in blocking uses of the surface in anticipation of future development conflicts.[33] In *Osage Nation ex rel. Osage Minerals Council v. Wind Capital Group*, an oil and gas lessee attempted to enjoin use of the surface based on the claim that development of the

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Petroleum Co., 127 P. 252, 253 (Okla. 1912); *Getty Oil*, 470 S.W.2d at 621; Getty Oil Co. v. Royal, 422 S.W.2d 591, 593 (Tex. Civ. App. 1967).

26. Hafer et al., *supra* note 14, at 58-59; Will Russ, *Inheriting the Wind: A Brief Guide to Resolving Split Estate Issues When Developing Renewable Projects*, *in* RENEWABLE ELECTRIC ENERGY LAW, DEVELOPMENT, AND INVESTMENT 5-1, 5-8 (Rocky Mtn. Mineral L. Found. 2013).

27. Merriman v. XTO Energy, Inc., 407 S.W.3d 244, 248-50 (Tex. 2013); Courtney R. Potter, Comment, *The Accommodation Doctrine Revisited: Implications in Law and in Policy,* 46 ST. MARY'S L.J. 75, 76 (2014).

28. Magnolia Petroleum Co. v. Norvell, 240 P.2d 80, 82 (Okla. 1952).

29. 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, 119 (2002); Andrew M. Miller, Comment, *A Journey Through Mineral Estate Dominance, The Accommodation Doctrine, and Beyond: Why Texas is Ready to Take the Next Step with a Surface Damage Act*, 40 HOUS. L. REV. 461, 495 (2003).

30. Michelle Andrea Wenzel, Comment, *The Model Surface Use and Mineral Development Accommodation Act: Easy Easements for Mining Interests*, 42 AM. U. L. REV. 607, 629-30 (1993).

31. *See* Anschutz Corp. v. Sanders, 734 P.2d 1290, 1291 (Okla. 1987).

32. Sagebrush Res., LLC v. Peterson, 841 N.W.2d 705, 714 (N.D. 2014).

33. *See* Osage Nation *ex rel.* Osage Minerals Council v. Wind Capital Grp., No. 11–CV–643–GKF–PJC, 2011 WL 6371384, at *8 (N.D. Okla. Dec. 20, 2011).

surface as a wind farm would diminish its rights of access.[34] The court declined to limit the surface owner's proposed use based on an anticipated, rather than actual, interference.[35] Although improvements to the surface may be later subjected to destruction or removal by the mineral owner, the surface owner's right to develop its property is not restricted, even where such development may require future accommodation by the mineral owner or make its use more expensive.

Unsurprisingly, conflicts between the surface and mineral owners of split estates are common.[36] Frequently, these conflicts arise over disputes about the reasonableness of a proposed surface use or requested accommodation.[37] Reasonableness is a fluid rather than static test. Whether an activity is reasonable will be largely dependent on the individual circumstances of the real property involved and the "usual, customary and reasonable practices in the industry under like circumstances of time, place and servient estate uses."[38] Thus, whereas shooting a well with nitroglycerine to increase its flow may have been considered common and good oil practice at one time,[39] it would likely be seen as reckless today. Likewise, accommodation that required directional drilling from a corner of a property might have been seen as a ludicrous suggestion at one point, but has emerged as a commonly available and widely accepted practice.[40]

Reliance on the common-law implied easement is problematic for both surface and mineral owners. At common law, no compensation is owed to the surface owner for either the right of access or damage resulting from uses that fall within the

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34. *Id.* at *1-2.

35. *Id.* at *9-10.

36. Clarence A. Brimmer, *The Rancher's Subservient Surface Estate*, 5 LAND & WATER L. REV. 49, 52 (1970); David E. Pierce, *Oil and Gas Easements*, *in* 33 ENERGY & MINERAL L. INST. 317, 318 (2012); James J. O'Malley & Kendor P. Jones, *Chained Gates and No Trespassing Signs: Dealing With Wary Landowners in a Brave New World*, 51 ROCKY MTN. MIN. L. INST. 7-1, 7-4, 7-33 (2005).

37. Kramer, *supra* note 8, at 287.

38. Hunt Oil Co. v. Kerbaugh, 283 N.W.2d 131, 136 (N.D. 1979).

39. Bradford Glycerine Co. v. Kizer, 113 F. 894, 895 (6th Cir. 1902) (describing the practices of an "oil-well shooter").

40. *See* Valence Operating Co. v. Tex. Genco, 255 S.W.3d 210, 217 (Tex. App. 2008).

scope of the implied easement.[41] Additionally, in the absence of negligence, the majority of courts—with the notable exception of Louisiana—refuse to imply an obligation to restore the premises into an oil and gas lease.[42] Although state conservation agencies and federal land agencies may impose remediation or orphan well bonding requirements as a condition to obtaining a permit to drill, those requirements do not assure the surface landowner that remediation will be to its specifications or satisfaction.[43] The mineral owner's rights under the implied easement are likewise constrained. Uses that exceed the scope of the implied easement for reasonably necessary use constitute a trespass, and thus the mineral owners uses are constantly measured against the evolving standard of reasonableness.[44] Further, the implied easement does not grant the operator a license to commit a nuisance or to operate negligently.[45] Thus, surface owners may pursue claims for

41. EOG Res., Inc., v. Turner, 908 So. 2d 848, 854-55 (Miss. Ct. App. 2005); Amoco Prod. Co. v. Carter Farms Co., 703 P.2d 894, 897 (N.M. 1985); Moser v. U.S. Steel Corp., 676 S.W.2d 99, 103 (Tex. 1984) ("It is reasonable to assume a grantor who expressly conveys a mineral which may or must be removed by destroying a portion of the surface estate anticipates his surface estate will be diminished when the mineral is removed."); Placid Oil Co. v. Lee, 243 S.W.2d 860, 861 (Tex. Civ. App. 1951); Indian Territory Illuminating Oil Co. v. Rainwater, 140 S.W.2d 491, 492 (Tex. Civ. App. 1940); Cosden Oil Co. v. Sides, 35 S.W.2d 815, 817 (Tex. Civ. App. 1931); WILLIAMS & MEYERS, *supra* note 22, § 218.7, at 234 n.3; Kramer, *supra* note 8, at 340 ("The mineral owner has a property interest and a contract right to use the surface without compensation unless it engaged in unreasonable, excessive or negligent actions."); *see also* Wyo. Outdoor Council v. U.S. Army Corps of Eng'rs, 351 F. Supp. 2d 1232, 1245-47 (D. Wyo. 2005).

42. *Amoco Prod. Co.*, 703 P.2d at 897; Nichols v. Burk Royalty Co., 576 P.2d 317, 323 (Okla. Civ. App. 1977); Warren Petroleum Corp. v. Monzingo, 304 S.W.2d 362, 363 (Tex. 1957); Exxon Corp. v. Pluff, 94 S.W.3d 22, 30 (Tex. App. 2002); *see also* Robert L. Theriot, *Duty to Restore the Surface (Implied, Express, and Damages)*, *in* LA. MINERAL LAW INST., FIFTY-SECOND ANNUAL INSTITUTE ON MINERAL LAW 141, 148-49 (Patrick H. Martin ed., 2008); Christopher S. Kulander, *Surface Damages, Site-Remediation and Well Bonding in Wyoming—Results and Analysis of Recent Regulations*, 9 WYO. L. REV. 413, 434 (2009).

43. *See* 43 C.F.R. § 3814.1 (2017); 055-3 WYO. CODE R. § 4 (LexisNexis 2016).

44. WILLIAMS & MEYERS, *supra* note 22, § 218.8; Kramer, *supra* note 8, at 287-88.

45. Kartch v. EOG Res., Inc., No. 4:10-cv-014, 2010 WL 11562067, at *5 (D.N.D. Oct. 15, 2010) (denying summary judgment for a nuisance claim related to use of the property for flaring, noise, and emissions); Crosstex N. Tex. Pipeline v. Gardiner, 505 S.W.3d 580, 604-07 (Tex. 2016); Lucas Satterlee, *Shattered Nerves: Addressing Induced Seismicity Through the Law of Nuisance*, 46 ENVTL. L. REP. 10326, 10331 (2016); M. Kristeen Hand & Kyle R. Smith, Comment, *The Deluge: Potential Solutions to Emerging Conflicts Regarding On-Lease and Off-Lease Surface Damage Caused by Coal Bed Methane Production*, 1 WYO. L. REV. 661, 682-83 (2001).

injunctive relief to "prevent or modify" ongoing operations and thus operators may be subject to claims when even reasonable or customary surface uses interfere with an owners' use and enjoyment of her property.[46] These limitations may result in operational inefficiencies and ongoing conflicts between surface and mineral owners.

As a result, a strong custom of contracting has developed between surface and mineral owners. Surface and minerals owners are likely to repeatedly encounter one another through various stages of development and often on many parcels. Initial seismic surveys for exploration yield exploratory drilling, which result in operations, the potential of infill drilling and increased density, and eventually abandonment and site restoration. The result can be a relationship spanning hundreds or thousands of acres and many decades of shared use of land. To address the ongoing relationship, parties customarily meet to outline plans and parameters for development.[47] These meetings may result in "informal handshake agreements" or formal contractual relationships that limit or expand permissible surface uses, create obligations for restoration, impose operating conditions, and require compensation for damages resulting from reasonable surface uses.[48]

II. STATUTORY INCENTIVES TO CONTRACT ON PRIVATE AND FEDERAL LAND

The majority of states with oil and gas operations, excepting California and Texas, have enacted statutes—often called Split Estate Acts or Surface Damage Acts—that modify the common law dominant-servient relationship and adjust entitlements between mineral and surface owners.[49] Split estate

46. *Weiss v. Pedersen,* 933 P.2d 495, 498 (Wyo. 1997); Matthew J. Salzman & Aaron K. Friess, *Shotguns, Locked Gates, and Indignation: Litigating Temporary Restraining Orders and Injunctive Relief in Surface Use Disputes*, *in* OIL & GAS AGREEMENTS: SURFACE USE IN THE 21ST CENTURY, 9-1, 9-1 to 9-3 (Rocky Mtn. Mineral L. Found. 2017) [hereinafter OIL & GAS AGREEMENTS].

47. Kulander, *supra* note 42, at 416.

48. These provisions may be in leases, or often are contained with separate surface owner agreements. *See infra* notes 96-99 and accompanying text; s*ee also* WILLIAMS & MEYERS, *supra note 22,* §§ 673.3, 673.6.

49. ARK. CODE ANN. §§ 15-72-214, -216 to -219 (2016); COLO. REV. STAT. § 34-60-127(1)(d) (2018); 765 ILL. COMP. STAT. ANN. 530/6(B) (West 2018); KY. REV. STAT.

acts codify the custom of contracting between surface and mineral owners by entitling surface owners to compensation for damages and by imposing notice or negotiation requirements and restricting surface access until an agreement, waiver, or bond is in place. These acts have withstood constitutional challenges even where the requirements are imposed retroactively, and have been upheld as a valid exercise of the states' police power to protect public welfare.[50]

All surface owner statutes require some method of notice to the surface owner prior to drilling or commencement of drilling or "oil and gas operations."[51] Generally, operators must provide surface owners with written notice that includes information relative to the proposed operations—such as estimated timing and the proposed drilling location. Kentucky and Illinois require an actual meeting between the developer and surface owner if the surface owner requests.[52] Statutes may also require that the notice include an offer to negotiate for access and damages. Montana, North Dakota, Oklahoma, South Dakota, and Wyoming each require that parties carry out these negotiations in good faith.[53]

Split estate acts in Colorado and Wyoming also modify the common law implied easement by expressly requiring accommodation of surface uses.[54] Wyoming's statute requires that operators "reasonably accommodate existing surface

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ANN. § 353.595 (West 2018); MONT. CODE ANN. § 82-10-504 (West 2017); N.M. STAT. ANN. § 70-12-5 (West 2018); N.C. GEN. STAT. §§ 113-420 to 113-425 (2018); N.D. CENT. CODE § 38-18-07 (2018); OKLA. STAT. tit. 52, § 318.2-.9 (2018); S.D. CODIFIED LAWS § 45-5A-4.1 (2018); TENN. CODE. ANN. § 60-1-604 (2018); UTAH CODE ANN. § 40-6-21 (West 2018); W. VA. CODE § 22-7-3(a)(1) (2018); WYO. STAT. ANN. § 30-5-405 (2018).

50. Collins v. Oxley, 897 F.2d 456, 458-60 (10th Cir. 1990); Murphy v. Amoco Prod. Co., 729 F.2d 552, 558-60 (8th Cir. 1984); Houck v. Hold Oil Corp., 867 P.2d 451, 457-58 (Okla. 1993); Jeanine Feriancek & Cynthia L. McNeill, *Oil Company Surface Use: Do Farmers Need Protection?*, 9 NAT. RESOURCES & ENV'T. 28, 29-30 (1995).

51. WYO. STAT. ANN. § 30-5-402(b) (2018). States differ as to whether notice is required for "non-surface disturbing activities" including inspections, staking, measurements, and surveys. *Compare* WYO. STAT. ANN. § 30-5-402(b), *with* N.M. STAT. ANN. § 70-12-5, *and* S.D. CODIFIED LAWS § 45-5A-5.1 (2018); *see also* Kulander, *supra* note 42, at 418.

52. 765 ILL. COMP. STAT. ANN. 530/4 (West 2018); KY. REV. STAT. ANN. § 353.595(3)(d).

53. OKLA. STAT. tit. 52, § 318.3; MONT. CODE ANN. § 82-10-504; S.D. CODIFIED LAWS § 45-5A-4.1; WYO. STAT. ANN. § 30-5-402 (2018).

54. Paige Anderson, *Reasonable Accommodation: Split Estates, Conservation Easements, and Drilling in the Marcellus Shale*, 31 VA. ENVTL. L.J. 136, 148 (2013).

uses."[55] Colorado's act similarly requires an operator to "conduct oil and gas operations in a manner that accommodates the surface owner by minimizing intrusion upon and damage to the surface of the land."[56] In the absence of a written agreement for damages, the common-law accommodation doctrine may still apply in states with split estate acts where the state legislature has not expressly incorporated accommodation requirements into the statute.[57] Like the common-law accommodation doctrine in Texas, these declarations do not upend the dominance of the mineral estate. These requirements do not prohibit development where reasonable accommodations are unavailable but rather require that an operator take reasonable steps to minimize the damage and disruption caused by its operations.

Perhaps most importantly, split estate acts create a statutory right to compensation for surface damages resulting from lawful mineral development operations.[58] Compensable harms differ from state to state. While some include only improvements or the values of agricultural uses, others permit recovery for diminution in value or loss of access and use.[59] For example, Kentucky and Illinois provide damages for "growing crops, shrubs, trees, fences, roads, structures, improvements, personal property, and livestock."[60] North Dakota, in addition to other categories of damages, uniquely permits recovery for "lost use

55. WYO. STAT. ANN. § 30-5-402; Jennifer A. C. Richardson, *Protecting Surface Land by Internalizing the Cost of Oil and Gas Development: Wyoming's Surface Owner Accommodation Act Strikes a More Sustainable Balance*, 38 HASTINGS CONST. L.Q. 697, 708-09 (2011).

56. COLO. REV. STAT. § 34-60-127(1) (2018).

57. Mosser v. Denbury Res., Inc., 112 F. Supp. 3d 906, 915-16 (D.N.D. 2015); Sagebrush Res., LLC v. Peterson, 841 N.W.2d 705, 713-14 (N.D. 2014). New Mexico, which had previously adopted the common law accommodation doctrine in *Amoco Production Co. v. Carter Farms Co.*, 703 P.2d 894, 897 (N.M. 1985), now imposes strict liability for surface damages under its split estate act. *See* Woody Inv., LLC v. Sovereign Eagle, LLC, 362 P.3d 107, 110 (N.M. Ct. App. 2015).

58. Vastar Res., Inc. v. Howard, 38 P.3d 236, 239 (Okla. Civ. App. 2001); Christopher S. Kulander, *Split-Estate and Site Remediation Issues on Tribal Lands*, 2 TEX. J. OIL GAS & ENERGY L. 125, 139 (2007) ("Surface Damage Acts are not substitutes for standard civil actions brought on by tortious activities, such as negligent surface damage or pollution").

59. Susan Hlywa Topp, *Severed Minerals: Are Surface Owners Entitled to Damages for Diminution of Their Property Value?*, 78 MICH. B.J. 148, 149-50 (1999).

60. 765 ILL. COMP. STAT. ANN. 530/6(A)(1) (West 2018); KY. REV. STAT. ANN. § 353.595(5) (West 2018).

of and access to the surface owner's land."[61] This provision formed the basis for a recent dispute regarding a surface owner's "lost use of and access to" the subsurface pore space under his property resulting from the mineral developer's produced water disposal operations.[62] In addition to protecting losses to improvements, Montana, Wyoming, South Dakota, New Mexico, and North Dakota each include provisions granting compensation for lost land value.[63] Despite identical language, however, states define lost land value differently. For example, in Montana, lost land value is limited to the "highest and best reasonably available [non-mineral] use of the land" based on uses that, if required, are already permitted.[64] Wyoming's statute provides no such limitation, thus potentially permitting recovery for "any diminution in value" including, for example, the dwindling of "dubious values associated with loss of a remotely-possible future use."[65] Thus, while a surface owner may not block exploration entirely or holdout for extortive terms, it is provided with a cost-free guarantee that it will be compensated for certain categories of losses resulting from mineral development. As such, the surface owner can proceed relatively unencumbered with development of its surface parcel towards the highest and best use, notwithstanding future rights of mineral entry.

Where parties cannot reach agreement on damages or access prior to development, surface damage acts create procedures for dispute resolution and assure operators immediate access. Dispute resolution procedures may include settlement offers, judicial resolution, mediation and arbitration.[66] In addition to protections provided by state statutes, in Pennsylvania and West Virginia, separate coal bed methane review boards exist to resolve surface use disputes related to

61. N.D. CENT. CODE § 38-11.1-04 (2018).

62. Mosser v. Denbury Res., Inc., 112 F. Supp. 3d 906, 922 (D.N.D. 2015).

63. MONT. CODE ANN. § 82-10-504(1)(a) (West 2018); N.D. CENT. CODE § 38-11.1-04; N.M. STAT. ANN. § 70-12-4(A) (West 2018); S.D. CODIFIED LAWS § 45-5A-4 (2018); WYO. STAT. ANN. § 30-5-405(a)(i) (2018).

64. MONT. CODE ANN. § 82-10-502(2) (West 2018).

65. Kulander, *supra* note 42, at 423, 427-28.

66. *See* TENN. CODE ANN. § 60-1-607 (2018); UTAH CODE ANN. § 40-6-21 (West 2018); W. VA. CODE § 22-7-7 (2018); WYO. STAT. ANN. § 30-5-406 (2018).

well location and access issues.[67] These dispute resolution processes, however, cannot be used to forestall development. Split estate acts universally include bonding mechanisms to permit mineral owners or developers to proceed with operations.[68] Typically, the operator may post a bond amount with the state conservation agency pending a final determination of damages owed under the split estate statute. This serves the dual purpose of permitting development to proceed without unnecessary delay while assuring a timeline and process for final resolution of damages. Despite this option, these bonding mechanisms are rarely used.[69]

Mineral and surface owners alike have a strong interest in reaching a surface damage and use agreement. Surface damage acts do not expand the rights of mineral owners to use the surface and, accordingly, access provided by a bond is limited to those reasonable uses that are within the scope of the common-law implied easement. Further, the bond is held by the conservation agency and, thus, the surface owner has no access to the funds until a final resolution is reached. The bond will likely also only include coverage for those harms enumerated within the statute. Accordingly, the strong mutual interest in maintaining a relationship, avoiding tort liability, and definitively resolving terms of access creates a strong incentive to contract.

Importantly, split estate acts do not upend dominance of the mineral estate. They do not, for example, provide the surface owner with a veto or key holder right to unilaterally block development. However, the importance of these statutes should not be diminished. Split estate acts modify the traditional property rule applied to split estates—guaranteeing the mineral owner cost-free access to and enjoyment of his property—with the addition of a liability rule requiring the mineral developer to internalize some of the surface harms of development. In so doing, these statutes reduce transactional costs related to information-gathering and uncertainty, create a framework

67. Alyssa Looney, *ADR and the Extraction of Coal Bed Methane from Split-Ownership Estates*, 6 Y.B. ARB. & MEDIATION 371, 377 (2014).

68. Kulander, *supra* note 42, at 417.

69. Drake D. Hill & P. Jaye Rippley, *The Split Estate: Communication and Education Versus Legislation*, 4 WYO. L. REV. 585, 599 (2004).

within which bargaining can occur, and adjust the "power balance between natural resource development companies and surface owners."[70]

A. Obligations to the Federal Split-Estate Surface Owner

The right of surface access on federal split estates is generally express, rather than implied. Mineral reservations in the Stock Raising Homestead Act, the Agricultural Entry Act, and other land disposition laws expressly preserve the mineral owners right "to reenter and occupy so much of the surface thereof as may be required for all purposes reasonably incident to the mining or removal of the coal or other minerals."[70] Further, the reservation includes the right to dispose of the minerals according to laws in place at the time of disposition.[71] Disposal may include leasing, unitization, communitization, or other actions that impact the private surface.[72]

Federal regulations impose additional requirements for bonding and development of a surface plan of use.[73] The extent to which federal regulations control may depend on how the minerals were reserved or the surface obtained and which agency is responsible for management.[74] For example, for surface lands acquired pursuant to the Weeks Act which overlie private minerals, the extent that federal regulations can impose additional conditions on development may be limited.[75] Operations on split estates within the National Wildlife Refuge System or underlying lands managed by the National Park Service may also be subject to additional operational requirements.[76]

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[70] Alexandra B. Klass, *The Frontier of Eminent Domain*, 79 U. COLO. L. REV. 651, 685 (2008).

70. 43 U.S.C. § 299(a) (2012).

71. *Id.*

72. 30 U.S.C. § 226(m) (2012 & Supp. 2015); Entek GRB, LLC v. Stull Ranches, LLC, 763 F.3d 1252, 1255-56 (10th Cir. 2014); *Mountain Fuel Supply Co. v. Smith*, 471 F.2d 594, 596 (10th Cir. 1973).

73. *See* 30 C.F.R. § 942.800 (2017).

74. Minard Run Oil Co. v. U.S. Forest Serv., 670 F.3d 236, 253 (3d Cir. 2011).

75. *Id.* at 252; Clayton Gritz, *Drilling for Split Estate Clarity: The Impact of* Minard Run Oil Company v. United States Forest Service, 24 VILL. ENVTL. L.J. 287, 307 (2013).

76. Mergen, *supra* note 4, at 430-32.

The Bureau of Land Management (BLM) and the U.S. Forest Service (USFS) manage the majority of split estate lands in the United States. In addition to authority pursuant to the Property and Supremacy Clauses, the Mineral Leasing Act directs agencies to dispose of reserved minerals "to promote the orderly development of the oil and gas deposits in the publicly owned lands of the United States through private enterprise."[77] However, regulatory considerations are not limited to the maximization of production or revenue from public lands. Other federal laws, including the Federal Land Policy and Management Act (FLPMA) and the Energy Policy Act of 1992 (EPACT) include provisions requiring the consideration of surface uses and environmental impacts, even where wells are directionally drilled into federal minerals from entirely on non-federal surface locations.[78] Both the BLM and Forest Services are multiple use agencies and thus have authority to establish reasonable conditions to protect federal surface resources and to take actions necessary to prevent undue degradation to federal lands.[79] These standards have resulted in an approach to surface management which permits access to federal minerals on split estates such that both parties can use and enjoy their property "to the highest degree possible not inconsistent with the rights of the other."[80] Consistent with this federal purpose, a number of regulations impose additional conditions on surface use that resemble the due regard standard encapsulated by the common-law accommodation doctrine.[81]

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77. Harvey v. Udall, 384 F.2d 883, 885 (10th Cir. 1967) (quoting S. SUBCOMM. OF THE COMM. ON INTERIOR & INSULAR AFFAIRS, 84TH CONG., INVESTIGATION OF OIL & GAS LEASE PRACTICES 2 (1957)).

78. 43 U.S.C. §§ 1701-1782 (2012); 43 U.S.C. § 1732(b) (2012) (stating that the Secretary of Agriculture has authority under the Federal Onshore Oil and Gas Leasing Reform Act of 1987 to regulate surface disturbing activities); Mergen, *supra* note 4, at 443-44; Richardson, *supra* note 55, at 713; BUREAU OF LAND MANAGEMENT, Permanent Instruction Memorandum No. 2018-014*, Directional Drilling Into Federal Mineral Estate from Well Pads on Non-Federal Locations*, (June 12, 2018).

79. The operating regulations in 43 C.F.R § 3164.1 authorize the BLM's Director to issue Onshore Oil and Gas Orders when necessary to implement and supplement the operating regulations. 43 C.F.R § 3164.1(a) (2017); Robert B. Keiter, *Ecological Concepts, Legal Standards, and Public Land Law: An Analysis and Assessment*, 44 NAT. RESOURCES J. 943, 956 (2004).

80. Flying Diamond Corp. v. Rust, 551 P.2d 509, 511 (Utah 1976).

81. Laitos & Getches, *supra* note 1, at 7-8.

The best practices for management of federally-owned mineral rights on private lands are comprehensively outlined in the BLM's and USFS's "Gold Book."[82] BLM regulations require a Surface Use Plan of Operations and a Reclamation Plan to be filed with the application for permit to drill.[83] The Surface Use Plan of Operations may control items such as use of existing roads, locations of wells and facilities, and waste disposal.[84] Although such action is not required, mineral owners are highly encouraged to incorporate environmental Best Management Practices into the Surface Use Plan of Operations.[85] Onshore Order 1 also prohibits certain surface-damaging activities such as operations on steep slopes, in floodplains or wetlands, during periods of freezing or thawing, or which may otherwise contribute to erosion.[86]

In addition to these requirements, BLM regulations also address surface use on split estates.[87] Like many state split estate acts, BLM regulations require that the mineral developer notify the surface owner prior to entry or staking.[88] Mineral developers must engage in good-faith efforts to reach an agreement for damages, access, and use with the surface owner. The surface owner is also entitled to compensation for loss or

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82. *See generally* BUREAU OF LAND MGMT. & U.S. FOREST SERVICE, SURFACE OPERATING STANDARDS AND GUIDELINES FOR OIL AND GAS EXPLORATION AND DEVELOPMENT: THE GOLD BOOK (4th ed. 2007) [hereinafter THE GOLD BOOK], https:// www. blm.gov/ programs/ energy- and- minerals/ oil- and- gas/ operations-and-production/the-gold-book [https://perma.cc/HWH9-37AC].

83. 43 C.F.R. § 3162.3-1(d) (2017); Onshore Oil & Gas Order No. 1, Approval of Operations, 72 Fed. Reg. 10,308, 10,329, 10,331 (Mar. 7, 2007) [hereinafter Onshore Order 1].

84. Onshore Order 1*, supra* note 83, at 10,331.

85. *Id.* at 10,330.

86. *Id.* at 10,335.

87. *Id.* at 10,330. There is some dispute about whether these rules preempt state split estate laws or whether both apply. Richardson, *supra* note 55, at 699. Wyoming, for example, requires compliance with its split estate act on Federal Lands. *Id.* The BLM has stated that it believes Wyoming's statute is limited to private and state lands but has not challenged Wyoming's application of its statute to federal lands in addition to requirements of federal regulations. *Id.* In the event agreement cannot be reached with the surface owner, dual bonding with both the BLM and the Oil and Gas Conservation Commission may be required. *Id.* at 712; *see* Matt Micheli, *Showdown at the OK Corral – Wyoming's Challenge to U.S. Supremacy on Federal Split Estate Lands*, 6 WYO. L. REV. 31, 32 (2006).

88. Onshore Order 1, *supra* note 83, at 10,336; THE GOLD BOOK, *supra* note 82, at 8-9.

damages to crops or tangible improvements, the scope of which may be limited based on the terms of the land disposition act under which the land was patented.[89] Other damages are only reimbursable if the use is excessive or negligent, exceeding the scope of reasonably necessary activities expressly provided for in the reservation.[90] If the parties are unable to reach a surface access and damages agreement, the mineral developer may obtain access to the premises by posting a Surface Owner Damages Bond, but cannot exceed those uses that are reasonably necessary as expressly provided for within the mineral reservation.[91] The surface owner has procedural rights during the bonding process to object to the sufficiency of the bond but is otherwise limited in its ability to control access or timing of operations.[92] Accordingly, both surface and mineral owners typically prefer to obtain surface damage agreements rather than proceed with the bonding process.[93]

III. THE SURFACE USE AGREEMENT

Oil and gas development often entails surface disturbances that damage the land and interfere with the use and enjoyment of surface property. Where the property is owned in fee, the mineral owner has considerable bargaining power to obtain restrictions on surface use, contract for surface and environmental protections, and negotiate payments for damages.[94] Accordingly, when leasing their minerals, fee owners customarily impose conditions on surface use as part of the oil and gas lease or as a concurrently executed surface use agreement.[95] These agreements may include restrictions on well

89. THE GOLD BOOK, *supra* note 82, at 12.

90. *See* Bell v. Cardinal Drilling Co., 85 N.W.2d 246, 251 (N.D. 1957).

91. 43 C.F.R. § 3814.1(c) (2017). Procedures may differ where the surface is classified as restricted Indian Lands. *See* 43 C.F.R. §§ 3164.3, 3164.4 (2017); U.S. Dep't of the Interior, Bureau of Land Mgmt., Instruction Memorandum No. 2003-131 (Apr. 2, 2003); Hill & Rippley, *supra* note 69, at 599.

92. *See* 43 C.F.R. § 3814.1(d) (2017).

93. *See* SE. WYO. MINERAL DEV. COAL., LANDOWNER GUIDELINES FOR NEGOTIATING A MINERAL LEASE OR SURFACE USE AGREEMENT 20, 26 (2011), http://region8water.colostate.edu/PDFs/Oilgaslandownerguidelines.pdf [https://perma.cc/T29U-ZT6G].

94. Kendor P. Jones et al., *Split Estates and Surface Access Issues*, *in* LANDMAN'S LEGAL HANDBOOK 181, 183-85 (Rocky Mtn. Min. L. Found. 5th ed. 2013).

95. WILLIAMS & MEYERS, *supra* note 22, at §§ 673.3-.6.

locations, restrictions on use of the surface owner's water, setbacks from specified structures or features, express obligations to restore the condition of the premises, and general agreements for non-interference.[96] Damage provisions often provide for the types of damages that the surface owner can recover, methods to determine the extent of damages suffered, and remedies available to the landowner for breach of surface use provisions.[97]

Even in states with surface damage acts, split estate owners have considerably less bargaining power than fee owners principally because a split estate owner cannot withhold access to the minerals based on acceptance of conditions for surface use.[98] Nonetheless, the majority of split-estate surface owners and mineral developers contract for conditions of access and use and compensation for damages.[99] These agreements, variously called Surface Compensation or Surface Damage Agreements are not a purchase of access rights: the mineral owner already has a legal right of access. Rather, these agreements address the reasonable access, operational, and remediation concerns of the surface owner and provide the mineral developer with liability releases, conflict-free access to the surface, and limit the transaction costs and risk associated with using litigation or arbitration to define the extent of their rights and obligations.[100]

Public governance mechanisms such as the Clean Air Act, Clean Water Act, and Endangered Species Act, address many of the macro-scale externalities of development. These

96. *See generally id*.

97. *See generally id.* § 673.6 (explaining different damage provisions).

98. *See infra* Part II.

99. *See* Robert J. Duffy, *Political Mobilization, Venue Change, and the Coal Bed Methane Conflict in Montana and Wyoming*, 45 NAT. RESOURCES J. 409, 419 (2005); LoValerie Mullins, *The Equity Illusion of Surface Ownership in Coalbed Methane Gas; The Rise of Mutual Simultaneous Rights in Mineral Law and the Resulting Need for Dispute Resolution in Split Estate Relations*, 16 MO. ENVTL. L. & POL'Y REV. 109, 191 (2009).

100. These transactional costs are not insignificant and may significantly affect lease bonus payments on split estate lands. *See* Timothy Fitzgerald, *Evaluating Split Estates in Oil and Gas Leasing*, 86 LAND ECON. 294, 307-08 (2010); James L. Huffman, *The Allocative Impact of Mineral Severance: Implications for the Regulation of Surface Mining*, 22 NAT. RESOURCES J. 201, 216-22 (illustrating transactional costs through examples).

regulations, however, are "piecemeal and reactive."[101] As such, they may be less equipped to address site-specific concerns and localize impacts of development.[102] Like impact benefit agreements, good neighbor agreements, and environmental agreements, surface damage agreements provide a supra-regulatory mechanism to address environmental impacts to the individual property.[103] Additionally, by providing a proactive, relational approach rather than a compliance-based approach, these agreements present an opportunity for private parties to contract for operations with a restorative, rather than harm-avoidant, effect.[104]

Surface damage agreements are as varied as the land on which oil and gas development occurs. Just as there is no one-size-fits-all oil and gas lease, there is no universal surface damage agreement. Further, surface damage agreements are rarely publicly recorded in full. Instead, parties customarily record a memorandum of surface use agreement that provides public notice of the agreement without making the terms public.[105] Accordingly, an empirical study of surface use provisions is not possible, although several sources provide sample agreements or descriptions of commonly included terms.[106]

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101. *See* Gerlinde Berger-Walliser et al., *Using Proactive Legal Strategies for Corporate Environmental Sustainability*, 6 MICH. J. ENVTL. & ADMIN. L. 1, 3 (2016).

102. *See* David B. Spence, *Federalism, Regulatory Lags, and the Political Economy of Energy Production*, U. PA. L. REV. 431, 480-83 (2013) (demonstrating local governments have difficulties addressing impacts of development).

103. *See* Berger-Walliser et al., *supra* note 102, at 14-17 (describing agreements outside of legal system that address different issues); Don C. Smith & Jessica Richards, *Social License to Operate: Hydraulic Fracturing-Related Challenges Facing the Oil & Gas Industry*, *in* 1 SPECIAL INSTITUTE ON INTERNATIONAL MINING AND OIL & GAS LAW, DEVELOPMENT, AND INVESTMENT 15-1, 15-31 (Rocky Mtn. Mineral L. Inst. 2015); Sarah M. Zuzulock & James R. Kuipers, *The Good Neighbor Agreement: A Proactive Approach to Water Management through Community Enforcement of Site-Specific Standards*, 53 GREENER MGMT. INT'L 73, 75 (2006); *see generally* Lindsay Galbraith et al., *Towards a New Supraregulatory Approach to Environmental Assessment in Northern Canada*, 25 IMPACT ASSESSMENT & PROJECT APPRAISAL 27 (2007).

104. *See* Berger-Walliser et al., *supra* note 102, at 9-13 (explaining proactive approaches and the benefits).

105. Jones, *supra* note 94, at 193-95.

106. *See id.*; Randall B. Reed & Lindsay A. Woznick, *Addressing Key Items in Surface Use Agreements*, *in* OIL & GAS AGREEMENTS, *supra* note 46, at 8-1, 8-8 to 8-23; *see generally* Harper Estes & Douglas Prieto, *Contracts as Fences: Representing the Agricultural Producer in an Oil and Gas Environment*, 73 TEX. B.J. 378 (2010) (describing

Compensation is the most heavily negotiated and important component of these agreements to most surface landowners and has the largest impact on surface owner perception of oil and gas activities.[107] Compensation can take the form of a per-acre payment for disturbed land, a gross payment for all damages, a small amount of royalty, a well payment, or an annual payment structured more like a lease.[108] The majority of agreements also include provisions for determination of anticipated damages to land—for example, for damages caused by spills or resulting from injury to livestock or per-rod payments for roads, powerlines, and pipelines.[109]

Surface users and mineral owners tailor agreements to suit the anticipated use by the mineral owner, the existing and planned uses of the surface owner, the unique topographical and ecological conditions of the surface parcel, and the priorities of the surface owner. For example, provisions of a surface damage agreement for undeveloped rangeland may differ substantially than those for development where there are residential uses or row crops.[110] While some of these provisions may mimic requirements in regulations, often parties contract for greater surface protections than would otherwise be required by law. Broadly, surface use terms can be categorized into three

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general clauses in mineral leases); Jeffrey R. Fiske, *Surface Damage Agreements*, *in* LAND & PERMITTING II 3-1 (Rocky Mtn. Mineral L. Found. 1996) (pointing out damage clauses in surface agreements); Joseph B.C. Fitzsimons & F. Parks Brown, *Surface Use Negotiations from the Landowner's Perspective*, *in* OIL & GAS AGREEMENTS, *supra* note 46, at 11D-1 (stating there are surface agreements used in general practice); Christopher G. Hayes, *Surface Use Agreements*, *in* SEVERED MINERALS, *supra* note 23, at 15-1; Rebecca Love Kourlis & Stephen D. Alfers, *Surface Use Agreements*, *in* RIGHTS OF ACCESS AND SURFACE USE 2-1 (Rocky Mtn. Mineral L. Found. 1984) (providing checklist for surface use agreements). While some of the provisions and descriptions of terms referenced herein are included within published cases, many are based on agreements provided to the author by surface users and landowners.

107. *See generally* POWDER RIVER BASIN RES. COUNCIL, THE STATE OF THE SPLIT ESTATE: A LANDOWNER PERSPECTIVE: FIVE YEARS AFTER PASSAGE OF THE WYOMING SPLIT ESTATE STATUTE (2010), https://www.powderriverbasin.org/wp-content/uploads/2017/12/state-of-split-estate-prbrc.pdf [https://perma.cc/WK44-4PYE] (explaining compensation is the most important concern); Alan R. Collins & Kofi Nkansah, *Divided Rights, Expanded Conflict: Split Estate Impacts on Surface Owner Perceptions of Shale Gas Drilling*, 91 LAND ECON. 688 (2015).

108. Reed & Woznick, *supra* note 106, at 8-12 to 8-15.

109. *See id.*

110. *See* Estes & Prieto, *supra* note 106, at 380-85 (illustrating agreements differ based on the type of land and providing examples of certain provisions).

categories: negative restrictions on operations, affirmative requirements, and forward-looking or proactive clauses.[111]

Restrictive provisions are provisions that limit the extent of surface use permitted by the operator.[112] These provisions frequently include seasonal restrictions on operations based on planting, harvesting, or hunting seasons, or periods of freeze and thaw. State conservation rules will typically include setbacks from lease lines and other wells, and may include setbacks from occupied structures. Through the surface damage agreement, surface owners frequently negotiate for greater distances from significant locations such as a home, livestock pond, a calving barn, irrigation systems, archeological or paleontological sites, slopes of a specified grade, or specific landscape features.[113] Restrictive provisions may also limit methods for produced water disposal—for example, requiring underground injection in lieu of surface evaporation—or create total surface disturbance maximums. Restrictive provisions frequently require the mineral developer to keep the property free of rubbish and may also impose limits on company employees and invitees such as prohibitions on dogs, hunting, fishing, and the use of drugs, alcohol or firearms.[114] Landowners may also require mineral developers to limit activities to designated industrial areas or to consent to areas of no surface occupancy. Landowners may also require operators to waive rights to condemnation—for example, for pipelines or ways of necessary—or to bond on.

Affirmative requirements are those provisions that require the mineral developer to take additional actions to protect, restore, or improve the surface, provide benefits to the landowners, or to avoid interference with the surface owner's use and enjoyment of the property.[115] Affirmative provisions frequently include practical considerations to avoid damage or interference to the landowner's property or operations such as the installation of cattle guards and gates, construction of berms

111. Jones, *supra* note 94, at 193-95.

112. *See* Reed & Woznick, *supra* note 106, at 8-15 to 8-19 (examining restrictive provisions in surface use agreements and the limitations imposed).

113. *See* Lionheart Co. v. PGS Onshore, Inc., No. 10-06-00303-CV, 2007 WL 1704906, at *2 (Tex. App. June 13, 2007) (explaining landowners had contracted for a non-drilling zone on the property).

114. Estes & Prieto, *supra* note 106, at 382-85; Jones, *supra* note 94, at 193-95.

115. *See* Fitzsimons & Brown, *supra* note 106, at 11D-17 to 11D-18.

to protect streams and wetlands, noxious weed control, and noise and visual impact mitigation. In addition to limiting harm, landowners may also contract for improvements to the property, including the installation or improvement of roads or fences, development of water resources, or development of habitat improvements to generate tradable mitigation credits.[116] Landowners may also contract for a higher standard of care than is otherwise required by law, including hazardous waste handling provisions, obligations to abandon and reclaim wells to the landowners' specifications, and the use of specified seed mixes.[117] Provisions may also provide landowners with economic benefits such as rights of first refusal to sell the developer water or gravel, or payment by the developer to perform reclamation activities.

Lastly, surface damage agreements frequently include proactive or forward-looking provisions that focus on dispute preemption and address the ongoing relationship between the surface and mineral owner.[118] It is through these provisions that landowners can establish frameworks for communication and accountability. Communication can be facilitated through provisions requiring additional notice prior to commencing operations, coordination of future surface development, or which establish a plan of operations for future drilling. The use of consultants to develop, implement, or monitor various components of surface use may create mechanisms for accountability. Parties may also impose information governance provisions such as environmental reporting and monitoring and the incorporation of early warning mechanisms. For example, in areas of coal bed methane development or shallow hydraulic fracturing landowners may contract for proactive groundwater monitoring to assure non-interference with the landowners' water and wells.

116. *Id.* at 11D-17.

117. Estes & Prieto, *supra* note 106, at 384.

118. Berger-Walliser et al., *supra* note 101, at 10-11 (describing proactive law "as an enabling instrument to create success and foster sustainable relationships").

IV. THE GOVERNANCE FUNCTION OF SURFACE USE AGREEMENTS

Surface damage agreements advance environmental protections and sustainability goals for oil and gas development on private surface lands. The agreements are highly adaptable and are customized by landowners and mineral developers to suit the unique conditions of the land and priorities of the surface users. As a result, the surface use agreement can be an effective mechanism for context-based development and to control for micro-level externalities. By requiring energy developers to negotiate with split-estate surface owners, split estate acts shift power to demand environmental exactions to those parties who are most likely to experience the localized impacts of development without sharing in economic benefits.[119]

However, surface damage agreements are a supplement to, not a substitute for, public governance structures. While violations of environmental laws may also breach contractual obligations in surface damage agreements, private remedies and enforcement do not supplant regulation.[120] Overall, the existence of split estates or surface damage agreements have not been shown to result in fewer violations of environmental laws.[121] This suggests that, while surface use agreements may result in site-specific sustainability practices to minimize impacts to surface owners, they may not be an effective mechanism to increase public environmental regulatory compliance. Instead, the surface damage agreement should be used as part of a hybrid approach to complement public

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119. Although damage calculations may include losses to tenants, N.D. CENT. CODE § 38-11.1-08.1 (2018), the majority of split estate acts however do not require negotiation with other parties who may have surface use rights in the property, including tenants such as wind developers or agricultural lessees, although parties are well advised to include surface tenants as parties to agreements. *See* Reed & Woznick, *supra* note 107, at 8-9.

120. Peter A. Appel, *Improving Corporate Environmental Performance: Encouraging Sustainable Commerce Through Regulatory and Other Governmental Action* 9-10 (Univ. of Oslo Faculty of Law Legal Studies Research Paper Series, Paper No. 2011-27, 2011), https:// papers.ssrn.com/ sol3/ papers.cfm? abstract_id=1924808 [https://perma.cc/78L5-M9RH].

121. Timothy Fitzgerald, *The Role of Ownership in Environmental Performance: Evidence from Coalbed Methane Development*, 52 ENVTL. MGMT. 1503, 1514 (2013) (measuring violations of WYPDES permits, noting that land ownership patterns may impact violations due to more unified private land along waterways).

governance and "fill gaps" with the localized expertise and concerns of landowners.[122]

The localized and individualized nature of surface damage agreements also limit their utility as an environmental governance mechanism. Surface owners negotiate these agreements for their individual benefit and not for broad societal benefits such as clean air, clean water, species protection, or limiting greenhouse gas emissions from exploration and production activities.[123] Thus, the extent to which owners negotiate for additional environmental protections or sustainability practices will be based on the individualized concerns, values, and priorities of the surface landowner as well as the landowner's willingness to exchange monetary consideration for these "soft benefits." The level of protection negotiated by a landowner may also be driven based on their bargaining power and sophistication. These dynamics may be determined by factors including whether the surface owner also owns the minerals, the size of the property, "the geographic location of the property, the geologic location of the property, the specific company seeking to lease the property, and, of course, prevailing economic conditions."[124] Accordingly, split estate acts bring the parties to the table and necessitate the negotiation process, but do not assure an environmentally-preferable outcome or balance between local, regional, and national environmental considerations.

Not all local landowners have the right to participate in surface damage negotiations. The right to damages and the power to exact concessions from developers is based on ownership, not on the extent to which a party may experience harm from development. For example, split estate acts only require negotiation with the owner of the surface land on which the well is drilled.[125] As a result, surface negotiations may be

122. Michael P. Vandenbergh, *Private Environmental Governance,* 99 CORNELL L. REV. 129, 186 (2013); *see also* Jody Freeman, *The Private Role in Public Governance,* 75 N.Y.U. L. REV. 543, 548 (2000); *see generally* Hari M. Osofsky & Hannah J. Wiseman, *Hybrid Energy Governance*, 2014 U. ILL. L. REV. 1.

123. WILLIAMS & MEYERS, *supra* note 22, § 673.3 ("Restrictions of this kind are for the benefit of the owner of the protected premises, structures or trees and hence may not be enforced by owners of other interests in the premises.").

124. Estes & Prieto, *supra* note 106, at 380.

125. *See* Micheli, *supra* note 89, at 33-34.

required with a landowner living out of state or with thousands of acres between their home and the well but impose no similar obligation to contract with a party across a property line but only five hundred feet from that same well. These parties may have vastly different concerns related to drilling. The neighboring owner is likely to directly experience environmental impacts of drilling and thus might attribute more value to provisions which assure environmental compliance and control for noise, air pollution, and aesthetic impacts. In contrast, an out-of-state owner's self-interest may drive him to negotiate for monetary consideration and higher reclamation standards to prevent degradation of land value.

The protections provided by surface damage agreements are also limited by the mechanisms of enforcement.[126] These are private contracts between private parties. The community and the public are incidental, rather than intended, third-party beneficiaries to these contracts and have no rights of enforcement. Further, since surface damage agreements are rarely recorded,[127] there is a lack of transparency associated with the governance they provide. For example, state and federal inspectors charged with releasing well plugging or remediation bonds may be unaware of additional remediation standards the surface damage agreement requires. Even were those terms public, an inspector would not have authority to withhold release of the bonds based on a perceived violation of those private contracts.

Dynamics between surface and mineral owners may drive dispute resolution towards mechanisms that repair the relationship and settle damages rather than obtain performance. Disputes relative to surface damage agreements may be resolved through further negotiation, alternative dispute resolution such as mediation or arbitration, or through litigation for an injunction, damages, or specific performance.[128] These disputes frequently result after a drawn out period of failures on both

126. Shannon L. Ferrell, *The Oklahoma Surface Damage Act: Basics for the 'Non-Oil-and-Gas' Practitioner*, 80 OKLA. B.J. 1049, 1050-51 (2009).

127. *See supra* notes 105-06 and accompanying text.

128. Jamie L. Jost & Ronald I. Schindler, *Surface Use Agreements: The Good, The Bad, and the Ugly*, *in* SURFACE USE FOR MINERAL DEVELOPMENT IN THE NEW WEST 12-1 (Rocky Mtn. Min. L. Found., Feb. 2008).

sides resulting in animosity and distrust between the parties.[129] Litigation and recurrent disputes are likely to be undesirable to both parties. Although surface owners have an interest in enforcing the private contractual provisions within surface damage agreements, where language is vague or key portions of the arrangement were not written down, industry custom and usage may point towards interpretation that is unfavorable to the landowner.[130] Disputes also erode value and result in costly delays to the mineral developer. Accordingly, while both parties should be aware of their rights and remedies, rebuilding the good-neighbor relationship and resolving past damages in a manner that builds understanding are most likely the key priorities of both parties. Successful dispute resolution will also help avoid recurrent disputes by enhancing collaboration to ensure future satisfactory performance.

V. OPPORTUNITIES FOR PRIVATE GOVERNANCE IN UPSTREAM SURFACE MANAGEMENT

Surface damage agreements present an opportunity for innovation and experimentation through the incorporation of "prescriptive" "performance-based or technology-based standards," "market leveraging," and "informational" governance instruments.[131] Through these instruments it may be possible to inform and empower landowners to negotiate for environmental standards, develop and promote best practices, and increase transparency and accountability of best practice implementation.

Landowner advocacy groups play an important role in reducing information costs and discrepancies in bargaining position among surface owners. Information regarding surface use agreements and terms may be challenging to obtain, and smaller landowners or those less experienced in the negotiation of surface damage agreements may not be aware of existing best practices. Through education initiatives, development of best practices or contract templates, and negotiation of regional

129. *Id.*

130. Ernest E. Smith, *The Growing Demand for Oil and Gas and the Potential Impact Upon Rural Land*, 4 TEX. J. OIL GAS & ENERGY L. 1, 8 (2008).

131. Sarah E. Light & Eric W. Orts, *Parallels in Public and Private Environmental Governance*, 5 MICH. J. ENVTL. & ADMIN. L. 1, 23-24 (2015).

good-neighbor agreements,[132] landowner advocacy groups can resolve some of the asymmetries, thus resulting in regional consistency. Already, groups such as the Powder River Basin Resource Council, the West Virginia Surface Owners' Rights Organization, and the Center for the American West have developed materials to provide information to landowners including checklists, negotiation guides, and sample agreements.[133] These resources may result in increased collaboration between landowners and neighbors in surface-use-agreement negotiation.[134] These efforts have resulted in an unlikely alliance between green advocacy, tribes, and western ranchers with a common goal of conservation.[135]

The implementation of prescriptive performance and technology-based standards within surface damage agreements may reduce information and transaction costs and provide verifiable performance metrics. These collective standard-setting instruments and certification or labeling programs are increasingly used in other contexts. For example, companies can obtain certification based on third-party verification of standards for agricultural products such as food, fish, or wood products, green building practices, and the design, construction,

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132. *See, e.g.*, *Good Neighbor Agreement*, N. PLAINS RESOURCE COUNCIL, https://northernplains.org/issues/good-neighbor-agreement/ [https://perma.cc/TWR9-NJVT].

133. *See generally, e.g.*, DAVID B. MCMAHON ET AL., WEST VIRGINIA SURFACE OWNERS' GUIDE TO OIL AND GAS (2d ed. 2005), https://wvsoro.org/west-virginia-surface-owners-guide-oil-gas-pdf [https://perma.cc/2RVC-9BGP]; Patty Limerick et al., *What Every Westerner Should Know About Oil Shale*, CTR. FOR AM. W., https://www.centerwest.org/ projects/ energy/ oil- shale/ oil- shaleabout- this-guide [https://perma.cc/SXN6-22VL]; POWDER RIVER BASIN RES. COUNCIL, A LANDOWNER GUIDE TO THE WYOMING SPLIT ESTATE STATUTE (2005) [hereinafter LANDOWNER GUIDE], https:// www.powderriverbasin.org/ wp-content/ uploads/ 2017/ 12/ split-estateprbrc.pdf [https://perma.cc/93AN-P62X]; *Resources for Land Owners*, POWDER RIVER BASIN RESOURCE COUNCIL [hereinafter *Resources*], https:// www.powderriverbasin.org/ resources- for- landowners/ [https://perma.cc/6BGR-AWKK].

134. For example, the Powder River Basin Resource Council encourages landowners to communicate and collectively negotiate for surface protections. *See Resources*, *supra* note 133 ("It is in your best interest to keep in contact with your neighbors. You may be better positioned for negotiation if you know what your neighbors are doing or better yet, get organized as a group, then negotiate as a group[.]").

135. Keith G. Bauerle, *Reaping the Whirlwind: Federal Oil and Gas Development on Private Lands in the Rocky Mountain West*, 83 DENV. U. L. REV. 1083, 1088, 1091 (2006) ("Whereas in the context of the split estate working landscapes in the Powder River Basin, the progressive rancher/green alliance is trying to protect these lands not by keeping development out but rather by trying to insurance that it is accomplished in a responsible manner that protects the environmental and cultural heritage for future generations.").

and operation of civil infrastructure projects.[136] The electronics industry, through the Responsible Business Alliance, has developed a code of conduct including a set of standards relative to sustainability, conflict minerals, and human rights.[137] Similar opportunities exist within the oil and gas and renewable energy development context.[138] Independent groups such as the American Petroleum Institute, the Center for Sustainable Shale Development and the Gas and Preservation Partnership have developed best practices to address some of the environmental and health harms associated with energy development.[139] However, presently, there are no third-party certifications for sustainable surface impact management.

Landowners may reference external standards or incorporate market-leveraging mechanisms within surface damage agreements.[140] For example, one landowner described agreements requiring maintenance of functional acreage as described by the Wyoming Conservation Exchange's Greater Sage-Grouse Habitat Quantification Tool,[141] adopting protective stipulations within Wyoming's Greater Sage-Grouse Core Areas Protection Strategy,[142] and requiring reclamation and restoration to conform to the voluntary standards set forth within Wyoming's compensatory mitigation framework.[143] Like other

136. Vandenbergh, *supra* note 122, at 148-54; *see*, INSTITUTE FOR SUSTAINABLE INFRASTRUCTURE, http://sustainableinfrastructure.org/envision/ (last visited June 12, 2018).

137. RESPONSIBLE BUSINESS ALLIANCE, Code of Conduct (Jan. 1. 2018), http://www.responsiblebusiness.org/standards/code-of-conduct/ (last visited June 15, 2018).

138. Although this article focuses on oil and gas, similar opportunities for incorporation of external standards exist for surface intensive renewable energy developments, such as for solar or wind.

139. Amanda C. Leiter, *Fracking, Federalism, and Private Governance*, 39 HARV. ENVTL. L. REV. 107, 109 (2015).

140. Light & Orts, *supra* note 132, at 32.il

141. MATT HOLLORAN ET AL., WYO. CONSERVATION EXCH., GREATER SAGE-GROUSE HABITAT QUANTIFICATION TOOL: A MULTI-SCALED APPROACH FOR ASSESSING IMPACTS AND BENEFITS TO GREATER SAGE-GROUSE HABITAT 6-7 (2015), http://www.wyomingconservationexchange.org/ wp-content/ uploads/ 2014/ 08/ WY_Sage_Grouse_HQT_May01_2015.pdf [https://perma.cc/J39J-X5KJ].

142. *See* Exec. Order No. 2015-4, 244 Wyo. Gov't Reg. 1, 1-4, 10-12 (LexisNexis Aug. 2015).

143. STATE OF WYO., REVISED GREATER SAGE-GROUSE – COMPENSATORY MITIGATION FRAMEWORK 6-9 (2017), https:// wgfd.wyo.gov/ WGFD/ media/ content/ Habitat/ 20170 710-Revised-Habitat-Mitigation-Framework.pdf [https://perma.cc/A86U-9GPF]; Kevin E. Doherty et al., *Energy Development and Conservation Tradeoffs:*

assurance or certification programs, Wyoming's sage-grouse mitigation framework includes measurement of achievable goals, accountability metrics, and impact assessments.[144] According to a study by the Western Energy Alliance, oil and gas developers frequently make agreements to maintain functional acreage in exchange for financial incentives:

> The majority of documents contain adaptive management and monitoring; no surface occupancy buffers; seasonal, timing, and spatial restrictions; interim and final reclamation; traffic reduction and restrictions; and noise abatement. In addition, companies utilize measures that permanently reduce footprint in GrSG habitats including horizontal drilling, reuse of produced water, multiple-wells on drill pads, co-location of facility equipment and twinning pipelines, and funding for GrSG research projects.[145]

Credits generated through the compensatory mitigation program could have value to both the producers, who might be required to purchase credits to offset operations in core areas, and to landowners, who could sell those credits to other users.

Similarly, landowners may contract for information gathering, monitoring or accountability through provisions requiring the use of third-party consultants or disclosure of information through public portals. For example, the Wyoming Conservation Exchange requires appointment of a third-party verifier to determine baseline project conditions and monitor ongoing maintenance.[146] Similarly, even prior to adoption of

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Systematic Planning for Greater Sage Grouse in their Eastern Ranges, *in* GREATER SAGE-GROUSE: ECOLOGY AND CONSERVATION OF A LANDSCAPE SPECIES AND ITS HABITATS 505, 513-16 (Steven T. Knick & John W. Connelly eds., 2011).

144. Restoration credits are awarded "when a disturbed site conforms to the appropriate Ecological Site Description (ESD) after five (5) years of data collection with a documented stable state and trend toward optimal GSG habitat." STATE OF WYO., *supra* note 142, at 6.

145. *Greater Sage-Grouse Conservation Study*, W. ENERGY ALLIANCE, https:// www. westernenergyalliance.org/ knowledge- center/ wildlife/ greater- sage-grouse/ greater- sage- grouse- conservation- study [https://perma.cc/VN63-PA9T]; *see generally* SWCA ENVTL. CONSULTANTS, EVALUATION OF THE NEPA PROCESS AS AN ADEQUATE REGULATORY MECHANISM TO ELIMINATE OR MINIMIZE THREATS TO GREATER SAGE-GROUSE ASSOCIATED WITH OIL AND NATURAL GAS DEVELOPMENT ACTIVITIES (2014) (full study).

146. WYO. CONSERVATION EXCH., EXCHANGE MANUAL 29-32, 48-50, 56 (2014), http://www.wyomingconservationexchange.org/wp-content/uploads/2015/01/Wyoming-Conservation-Exchange-Manual-v-1.0.pdf [https://perma.cc/HNN2-QTKF].

Wyoming's chemical disclosure and groundwater monitoring requirements,[147] landowners reported contracting for third-party groundwater testing and enhanced environmental reporting through mechanisms such as FracFocus. Incorporation of these voluntary standards indicates a broader opportunity for use of external metrics within surface damage agreements.

Collectively, surface damage agreements can result in the emergence of best practices that shape understanding of what uses and accommodations are reasonable. Recall, first, that a mineral owner has the implied right to use so much of the surface as is reasonably necessary to the development of the minerals and, second, that the accommodation doctrine may require a mineral developer to accommodate, to the extent reasonably possible, the existing uses of the surface owner.[148] These determinations of reasonableness evolve over time based on an assessment of custom and practice in the industry. Surface use agreements are a powerful mechanism to shape custom and practice towards more sustainable surface management, water handling, restoration, and production practices. As demands for environmental protections such as smaller land disturbances, stream protection, or habitat improvement become commonplace, these standards may evolve judicial understandings of reasonableness within a specific region. While these benchmarks do not replace the need for environmental regulation, they may overall encourage new norms of sustainable surface management practices.[149]

Incorporation of private governance mechanisms within surface damage agreements may also provide opportunities for companies to receive recognition for good surface management practices and to build social license. Social license refers to a company's perceived legitimacy and implied rights to operate based on perceived conformance with legal and social norms

147. *See* 55-3 WYO. CODE R. § 45(d) (LexisNexis 2018); Hannah J. Wiseman, *The Private Role in Public Fracturing Disclosure and Regulation*, 3 HARV. BUS. L. REV. ONLINE 49, 53-54, 54 n.40 (2013).

148. *See supra* notes 8-46 and accompanying text.

149. *But see* Bruce H. Kobayashi & Larry E. Ribstein, *Law as Product and Byproduct*, 9 J.L. ECON. & POL'Y 521, 525, 527 (2013).

imposed by society.[150] Lack of transparency and community engagement and poor handling of environmental concerns have imperiled the social licenses of certain oil and gas extractive activities.[151] This has led to increased regulatory scrutiny, friction during permitting processes, citizen ballot initiatives, proposals for rules that would require permitting agencies to give greater consideration to environmental impacts, heightened local regulation, and public calls to unify split estates and radically reallocate power between surface and mineral owners.[152] Improved transparency and accountability related to resolution of surface use disputes or use of third-party verification metrics of compensation funds could help companies facilitate trust and regain social license.[153] A desire to obtain and maintain social license may encourage companies to adopt private governance standards and contract for higher

150. Jennifer Howard-Grenville et al., *Constructing the License to Operate: Internal Factors and Their Influence on Corporate Environmental Decisions*, 30 LAW & POL'Y 73, 77 (2008).

151. Evan J. House, *Fractured Fairytales: The Failed Social License for Unconventional Oil and Gas Development*, 13 WYO. L. REV. 5, 52-56 (2013).

152. Jeffrey R. Fiske, *Earning and Maintaining A Social License to Operate—An Operator's Perspective*, *in* OIL & GAS AGREEMENTS, *supra* note 46, at *11C-1,* 11C-2 to 11C-4; Lucas C. Satterlee, *Clearing the Fog: A Historical Analysis of Environmental and Energy Law in Colorado*, 28 VILL. ENVTL. L.J. 1, 40-43 (2017); Amy Mall, *It's Time to Eliminate Hurdles for Split Estate Landowners to Buy Federal Oil and Gas Rights*, NAT. RESOURCES DEF. COUNCIL: EXPERT BLOG (May 09, 2014), https:// www.nrdc.org/ experts/ amy-mall/ its- time- eliminate- hurdles- split- estate- landowners- buy-federal-oil-and-gas-rights [https://perma.cc/C73F-D9WB]; SPLIT ESTATE (Red Rock Pictures 2009), http://www.splitestate.com/the_film.html [https://perma.cc/5KD7-RQ9R]; Martinez v. Colorado Oil and Gas Conservation Commission, 2017 WL 1089556 (Colo. App. 2017), *cert. granted*, 2018 WL 582105 (Colo. 2018) (Case No. 17SC297); COLORADO SECRETARY OF STATE, In the Matter of the Title, Ballot Title and Submission Clause for Proposed Initiative 2017-2018 #178, #179, #180 and #181 "Regulation of Oil and Gas Development," https://www.courts.state.co.us/Courts/Supreme_Court/2017Initiatives.cfm (May 15, 2018).

153. *See* Melanie Bonner Bell, *Land Negotiators' View From the Field: Maintaining Your Social License to Operate From the Landman's Perspective*, *in OIL & GAS AGREEMENTS, supra note 46*, at 11A-1, 11A-8 to 11A-9, 11A-13 to 11A-14; Kate Konschnik, *Regulating Stability: State Compensation Funds for Induced Seismicity*, 29 GEO. ENVTL. L. REV. 227, 259 (2017); Alex Ritchie, *Fracking in Louisiana: The Missing Process/Land Use Distinction in State Preemption and Opportunities for Local Participation*, 76 LA. L. REV. 809, 854 (2016) (citing Kieren Moffat & Airong Zhang, *The Paths to Social Licence to Operate: An Integrative Model Explaining Community Acceptance of Mining*, 39 RESOURCES POL'Y 61, 61 (2014)).

standards of performance.[154] Further, environmental and liability insurance companies and investors may encourage companies to adopt policies that promote social license in order to limit business interruption risk and facilitate regulatory entitlements.[155]

Private contracts providing for surface damages and environmental protections may have little impacts on overall market perceptions of industry practices. An operator's upstream surface management practices will be readily apparent to members of the community in which extractive activities take place; they are unlikely to be apparent to downstream purchasers of petroleum products. While sustainable surface management practices are "integrative dynamic capabilities" that have the potential to differentiate among competitors,[156] lack of transparency downstream diminishes the link between social license and best practices. Split estate landowners have no choice over which companies operate on their property, and they cannot unilaterally convey or revoke social license. Downstream users may not be able to ascertain between products produced using best practices and those from companies with poor surface management policies, as products are commingled, refined, and rebranded many times before reaching retail markets. Even in rare cases where retail fuel purchasers may be able to observe poor upstream environmental performance, consumer choices and boycotts may not be particularly effective. For example, following the Deepwater Horizon disaster and spill, one of the largest in U.S. history, there were widespread calls to boycott British Petroleum products on social media.[157] While boycott may be a method of

154. *See* Neil Gunningham et al., *Social License and Environmental Protection: Why Businesses Go Beyond Compliance*, 29 LAW & SOC. INQUIRY 307, 308 (2004).

155. *See, e.g.*, Light & Orts, *supra* note 131, at 42-44 (describing, among other private efforts, "Equator Principles" reporting requirements for lenders to large-scale infrastructure projects; various firms' voluntary adoption of greenhouse gas disclosure requirements in response to pressure from institutional investors; and ISO specifications for voluntary greenhouse gas reporting).

156. Rodrigo Garcia, et al., *Strategic Partnering in Oil and Gas: A Capabilities Perspective*, 3 ENERGY STRATEGY REVIEWS 21, (2014).

157. Ron Lieber, *Driving Past the BP Station, and Tilting at Windmills*, N.Y. TIMES, B1 (June 12, 2010); *see also* Sidharth Muralidharan et al., *The Gulf Coast Oil Spill: Extending the Theory of Image Restoration Discourse to the Realm of Social Media and Beyond Petroleum*, 37 PUB. REL. REV. 226 (2011).

enforcement of environmental governance,[158] these efforts may not have been particularly effective given the branding and franchise model used by BP.[159] Public and academic suspicion of greenwashing[160] and ambiguous crisis-communication tactics may also diminish consumer responses to companies adopting strong environmental practices.[161] Accordingly, an individual company may be more likely to be influenced by industry-wide perceptions of environmental management than by its own best practices.

Bilateral standard setting offers the potential to increase consumer transparency and link surface management to pro-social consumer norms.[162] Bilateral standard setting occurs where one party—in a lending or supplier agreement, for example—includes provisions designed to reduce the environmental impacts of the supplier's or borrower's operations.[163] Supply-chain contracting requirements have already been identified as an important source of private environmental governance.[164] Requirements set by Walmart and Target have driven changes in packaging and toxic chemicals and Chipotle has driven changes in food production.[165] There are corporate reputational benefits to adopting environmentally sustainable practices, and consumers have indicated a

158. Sarah E. Light & Michael P. Vandenbergh, *Private Environmental Governance*, *in* DECISION MAKING IN ENVIRONMENTAL LAW 253, 261 (LeRoy C. Paddock et al. eds., 2016).

159. Lieber, *supra* note 157, at B1, B5.

160. *See* Light & Orts, *supra* note 131, at 67-68; *see generally* Magali A. Delmas & Vanessa Cuerel Burbano, *The Drivers of Greenwashing*, 54 CAL. MGMT. REV. 64 (2011).

161. Gerdien de Vries et al., *Sustainability or Profitability? How Communicated Motives for Environmental Policy Affect Public Perceptions of Corporate Greenwashing*, 22 CORP. SOC. RESP. & ENVTL. MGMT. 142, 144 (2015); Young Kim, *Toward an Ethical Model of Effective Crisis Communication*, 120 BUS. & SOC'Y REV. 57, 73 (2015).

162. *See* Michael Vandenbergh, *The New Wal-Mart Effect, The Role of Private Contracting in Global Governance*, 54 UCLA L. REV. 913, 916-17 (2007) (observing that bilateral supply chain contracting is popular among sampled firms and that pressure to impose supply-chain requirements or other bilateral standards do arise from consumer preferences); *but see id.* at 959-63 (questioning the accountability of private contracting as a governance regime).

163. Vandenbergh, *supra* note 122, at 147.

164. Vandenbergh, *supra* note 162, at 925-26.

165. *Id.* at 927-28; Michael P. Vandenbergh, *The Implications of Private Environmental Governance*, 99 CORNELL L. REV. ONLINE 117, 128 (2014); *see* J.C. Swanson, *The Ethical Aspects of Regulating Production*, 87 POULTRY SCI. 373, 376 (2008).

willingness to pay for lower carbon goods.[166] In fact, there are already retail fuel companies such as the U.K.'s Ecotricity and Philadelphia's Energy Co-Op that offer customers the option to purchase "frack-free gas."[167] These same practices could apply to upstream environmental behavior. For example, companies with branded fuel operations such as Walmart, Safeway, and Target could require suppliers to assure that upstream operations meet minimum standards, thus transferring environmental standards along the supply chain.[168] Use of the blockchain can facilitate tracking, monitoring, and data collection.[169] By increasing transparency and traceability, supply chain standards focused on environmental behavior could encourage companies to adopt sustainable upstream surface management practices and encourage consumers to make purchasing decisions based on environmental management practices.[170]

VI. CONCLUSION

Upstream oil and gas development frequently involves significant impact to surface land and water resources. As a result, land use conflicts over mineral development are common. These conflicts are amplified where surface and mineral ownership is severed, and thus the party experiencing the majority of environmental externalities may not be sharing in corresponding economic benefits of development. Often, the split-estate surface owner has no right to impede development and may not be entitled to compensation for damages resulting

166. Michael P. Vandenbergh & Jonathan Gilligan, *Beyond Gridlock*, 40 COLUM. J. ENVTL. L. 217, 222 (2015).

167. *Ecotricity Promises "Frack-Free Gas,"* ECOTRICITY (Sept. 27, 2013), https://www.ecotricity.co.uk/news/news-archive/2013/ecotricity-promises-frack-free-gas [https://perma.cc/H8M8-NJLF]; Andrew Maykuth, *Energy Co-op Program Offers Frack-Free Gas Alternative*, PHILA. INQUIRER (Jan. 19, 2016, 1:07 AM), http://www.philly.com/philly/business/20160119_Energy_Co-op_program_offers_frack-free_gas_alternative.html [https://perma.cc/5764-MZH4].

168. *See* Su-Yol Lee et al., *The Green Bullwhip Effect: Transferring Environmental Requirements Along a Supply Chain*, 156 INT'L J. PRODUCTION ECON. 39, 41-42 (2014) (describing the "green bullwhip effect" and concluding that it might accelerate and expand the adoption of green supply chain practices).

169. Jan Mendling, et al., *Blockchains for Business Process Management – Challenges and Opportunities*, 9 ACM TRANSACTIONS ON MANAGEMENT INFORMATION SYSTEMS 1, 1-16 (2018);

170. *See generally* Michael P. Vandenbergh, *The Emergence of Private Environmental Governance*, 44 ENVTL. L. REP. 10125 (2014).

from oil and gas activity, provided those activities do not exceed the scope of what is reasonably necessary to explore for and produce the underlying minerals. Where uses are perceived as excessive, the surface owner may bring claims of nuisance, negligence, and trespass.

To reduce conflict and minimize transaction costs and uncertainty, surface owners and mineral developers have customarily contracted for terms of surface use and access. Split estate acts adopted in the majority of oil and gas producing states now make these negotiations, as well as some form of compensation to the surface owner, mandatory. The resulting surface damage agreements incorporate covenants to accommodate the surface owner and adopt pro-environmental behavioral practices and impose restrictions on the location or scope of exploration and production activities. As such, surface damage agreements are a powerful instrument of private governance imposing restrictive, affirmative, and forward-looking obligations on the oil and gas developer.

These agreements present an opportunity for increased governance through utilization of independently-developed standards and third-party verification or certification. By increasing transparency, monitoring, accountability, and market leveraging, companies and surface owners can drive surface management towards sustainable best practices. Downstream retail fuel purchasers can further amplify these efforts through the imposition of supply chain requirements based on surface management best practices. In so doing, landowners, energy companies, and consumers can evolve industry customs, practices, and understandings of reasonableness of surface use.