January 1983

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WRONGFUL GEOPHYSICAL EXPLORATION

Robert J. Rice*

I. INTRODUCTION

Consider the following three situations:

(1) An oil company offers to lease a landowner's property for five dollars per acre. After being turned down by the landowner, who is holding out for ten dollars, the company breaks down the fence while the owner is away, trespasses upon the property and conducts seismic tests. The information obtained reveals that the landowner's property lacks any indication of favorable mineralization. The oil company tells the owner it is no longer interested in leasing at any price.

(2) Failing to acquire a lease upon its terms, the oil company instructs its seismic crew to travel along the county road bordering the land in question and “shoot” across the landowner’s property. They do, with the same results as in situation number one.

(3) After being turned down by the landowner, the oil company conducts geophysical exploration entirely upon adjacent property which it holds under valid lease. Based upon those tests, the oil company extrapolates the results and concludes that the landowner's property has no lease value and therefore withdraws its offer.

Has the landowner suffered a legally compensable loss in any of the foregoing situations? If so, what right or rights have been violated and what should be the measure of damages?

The courts have implicitly recognized a new tort: wrongful appropriation of the right to explore. The right to explore belongs to the mineral owner or his lessee. Although implying the existence of the tort, courts have been reluctant to explicitly recognize it and have attempted to wrap recovery in traditional legal theories, such as trespass or conversion, which do not logically or historically fit the new tort. Reliance upon such traditional theories has caused confusion and inconsistency among the cases.

As interest by oil companies in Montana and other Rocky Mountain states has increased, so has mineral exploration increased. This exploration, combined with new technology, has

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1. Unless otherwise stated, the term “landowner” will be used in this article to refer to the owner of both surface and minerals. Where the minerals have been severed, the terms “mineral owner” or “surface owner” will be used where appropriate.
magnified the likelihood of conflict between mineral exploration and the interests of the landowner. To develop a consistent legal framework within which to resolve this conflict, Montana must explicitly recognize the tort of wrongful appropriation of the right to explore.

The focus of this article is on the development of the new tort, the traditional legal theories applied in the case law and their shortcomings, and the types of damages the courts have awarded parties injured by wrongful geophysical exploration.

II. GEOPHYSICAL EXPLORATION

Geophysics deals with the composition and physical phenomena of the earth and its environment. Geophysical prospecting depends upon a few fundamental variables in the earth's physical condition, including gravity, magnetism, electrical resistance, and seismic vibrations. Sensitive instruments are used to measure changes in these variables which may be related to certain subsurface conditions. These conditions, in turn, point to probable oil or gas-bearing formations.

The technology of geophysical exploration is advancing rapidly, due in large part to renewed interest and support by oil companies. Deeper and more costly drilling and generally higher exploration costs, associated with more difficult targets, have required the acquisition of ever larger amounts of geophysical data. This has led to an emphasis on perfecting more reliable and faster data acquisition techniques.

The first geophysical instruments used for oil and gas exploration were the surface magnetometer, the refraction seismograph, and the torsion balance for gravimetric surveying. Early cases alleging wrongful geophysical exploration contain many references to the use of these instruments. Later came the reflection seismograph, gravimeter, and airborne magnetometer. Perhaps the most commonly used geophysical exploration instrument today, replacing the shot hole method as the favorite technique, is the com-

3. Id. at 27.
4. Id.
6. Id. at 28. A magnetometer measures magnetic intensities while a seismograph records the velocity and character of the earth's vibrations created by a shock. The torsion balance is an instrument which measures the direction and strength of the force of gravity.
8. The shot hole method is still fairly commonly used. With this technique small di-
pressional wave vibrator. 9 This instrument is mounted under a truck. When placed on the ground, the vibrator generates continuous low frequency sound waves which penetrate downward into the rock layers. Each formation reflects the sound waves back to the surface, where they are picked up and changed into electrical impulses by instruments called geophones. 10 A significant development in surface exploration is the use of the helicopter in acquiring commercial quality gravity data. Helicopters have been used extensively in the Rocky Mountain Overthrust Belt where access is often difficult because of severe topography. 11

Land based exploration methods have become so advanced that it is sometimes unnecessary to be physically present on the surface of property that is being geophysically explored. By employing an instrument called the Seisloop, for example, receivers can be placed along roads surrounding an inaccessible area of interest. 12 As seismic sources are activated around this perimeter, traces are generated that cover the area inside the loop. Thus, a set of data can be put together to provide seismic coverage over an otherwise inaccessible area. 13 Such an area may be inaccessible to an oil or geophysical exploration company for a variety of reasons, including lack of permission by the landowners. When methods such as these are employed to conduct unauthorized exploration of the subsurface below the inaccessible area, questions arise regarding possible violation of the landowner’s rights.

III. THE RIGHT OF EXPLORATION AS A PROPERTY RIGHT

Conflict between mineral exploration and landowners arose early in the development of the oil industry. Most often the conflict occurred in the form of unauthorized seismic tests accompanied by physical trespass upon the surface of the land.

That a legal right of the landowner is violated by such unauthorized geophysical exploration was readily determined by the courts. In the noted Louisiana case, Angelloz v. Humble Oil &

10. Id.
11. Id. at 1092.
13. Id.
Refining Co., the defendant oil company entered plaintiff’s property after permission had been refused and placed four torsion balance stations in a line across one corner. The total area involved was about fifty-five acres, out of nine hundred fifty acres owned by plaintiff. The survey yielded unfavorable information regarding the presence of oil under the property, and the information was then communicated to other oil companies. Plaintiff sued Humble in trespass, seeking to recover the value of the right to enter and conduct a geophysical survey, and also asking damages for loss of lease value caused by defendant’s actions. The Supreme Court of Louisiana upheld an award of $7500 to the plaintiff by the trial court, which had found that defendant had received information of value to it from the survey, and that the survey had caused a depreciation of the leasing value of the land. The court emphasized that “[t]he right to permit entry upon land to conduct geological surveys or for the purpose of exploring for oil, gas or other minerals is a valuable property right and belongs exclusively to the owner.”

In Phillips Petroleum Co. v. Cowden, the Fifth Circuit Court of Appeals applied the same reasoning: “There can be no doubt that in Texas the right to explore for oil and minerals is a valuable property right that can be legally protected.”

Where the mineral estate has been severed from the surface estate, the right to explore has been determined to be an attribute of the mineral ownership. The extent of this right to explore, when it conflicts with the rights of the surface owner, is still being defined.

The mineral owner can, of course, convey the right to explore either by itself or in conjunction with a mineral lease. When doing so, it is important that the parameters of the right be made clear in the grant, because the consequences to both parties can be severe if the operator exceeds its authority. In a Montana case, Francis v. Sun Oil Co., plaintiff landowner did not object to defendant conducting explosive seismic tests on his property. He did object,

14. 196 La. 604, 199 So. 656 (1940).
15. Id. at 608, 199 So. at 658.
16. 241 F.2d 586 (5th Cir. 1957).
17. Id. at 590. See also Ohio Oil Co. v. Sharp, 135 F.2d 303 (10th Cir. 1943); Layne La. Co. v. Superior Oil Co., 209 La. 1014, 26 So.2d 20 (1946).
however, when he observed that defendant was getting too close to a spring and told defendant to "be sure, damn sure no damage was done to this spring."21 Over plaintiff's objections, defendant oil company proceeded to detonate a charge which destroyed the spring. The Montana Supreme Court held that when defendant's geophysical activities exceeded the terms of the consent given, it became a trespasser ab initio and was liable for all damages directly caused by its trespass, irrespective of negligence.22

A non-exclusive right to explore will be implied in a mineral lease where the exploration right is not specifically mentioned and has not been previously conveyed.23 In most modern oil and gas lease forms the right to explore is expressly made exclusive in the lessee. Where the mineral owner has conveyed an exclusive right to explore, the holder of the exploration right, not the mineral owner, will have the right to bring an action for unauthorized geophysical exploration.24

IV. LEGAL THEORIES OF RECOVERY

Although the courts have been willing to cloak the right to explore for minerals in a mantle of legal protection, they have been less successful in finding an appropriate legal theory under which to provide that protection. This has led to confusing and sometimes contradictory decisions.

A. Trespass

Most early factual situations which presented the issue of unauthorized geophysical exploration were associated with a physical trespass to the land. Thus, perhaps naturally, the first attempts to recover damages were based primarily on the tort of trespass.

In one of the earliest cases, Thomas v. Texas Co.,25 defendant, while conducting a gravitational survey on adjacent land, entered onto plaintiff's property and placed two torsion balance stations on a portion of plaintiff's land. The negative results of the survey were then made known to other oil companies. Following disclosure of the information, companies which previously had been negotiating with plaintiff to purchase a royalty interest withdrew their offers. Plaintiff sued in trespass, claiming destruction of the

21. Id. at 310, 340 P.2d at 825.
22. Id.
23. Ready v. Texaco, 410 P.2d 983 (Wyo. 1966); see Annot., 28 A.L.R.3d 1419 (1969);
Yates v. Gulf Oil, 182 F.2d 286 (5th Cir. 1950).
value of his royalty interest. The appellate court upheld the trial court's directed verdict for defendant on the grounds that there was insufficient evidence linking the trespass with the alleged damages.\textsuperscript{26}

In general, however, when the unauthorized geophysical activities were accompanied by a physical trespass, courts usually have found that a legal right was violated.\textsuperscript{27} Perhaps because of the early link between trespass and wrongful exploration, physical trespass is almost essential to recovery in many jurisdictions. Reliance upon trespass as a theory of recovery, however, has led to inconsistent results in cases where no physical trespass accompanies the unauthorized exploration.

In \textit{Kennedy v. General Geophysical Co.},\textsuperscript{28} defendant, denied permission to conduct seismic tests on plaintiff's land, conducted them on adjacent property by exploding dynamite charges in shot holes placed ten to fifteen feet from plaintiff's boundary. Plaintiff, suing in trespass, claimed that vibrations from the shot points travelled through his property. The court, however, concluded that no trespass had been committed. Citing \textit{Corpus Juris} and a line of blasting cases, the court refused to base liability upon the theory that the vibrations amounted to a trespass. "To constitute trespass," the court indicated, "there must be an entry upon the land."\textsuperscript{29}

In a similar factual situation, however, the Tenth Circuit Court implied that vibrations were indeed sufficient in themselves to constitute a trespass.\textsuperscript{30} In \textit{Ohio Oil Co. v. Sharp}, plaintiff oil company hired a geophysical company to shoot seismic tests along a county road, without the consent of adjacent mineral owners. The tests were run, and an employee of the geophysical company disclosed the results to Sharp, who obtained leases on the adjacent property. Plaintiff oil company sued to impose a constructive trust on the leases. Although the decision was based on other grounds, the court conceded for the sake of argument that the geophysical tests constituted a trespass upon the rights of the mineral owner.\textsuperscript{31} A concurring judge denied that such tests could be a trespass, be-

\begin{itemize}
\item \textsuperscript{26} \textit{Id.} at 598.
\item \textsuperscript{27} Francis v. Sun Oil Co., 135 Mont. 307, 340 P.2d 824 (1959); Phillips Petroleum Co. v. Cowden, 241 F.2d 586 (5th Cir. 1957); Angelloz v. Humble Oil \& Ref. Co., 196 La. 604, 199 So. 656 (1940).
\item \textsuperscript{28} 213 S.W.2d 707 (Tex. Civ. App. 1948).
\item \textsuperscript{29} \textit{Id.} at 712. An important factor in the court's refusal to find a trespass appears to be the fact that no information directly concerning plaintiff's property was found.
\item \textsuperscript{30} Ohio Oil Co. v. Sharp, 135 F.2d 303 (10th Cir. 1943).
\item \textsuperscript{31} \textit{Id.} at 306.
\end{itemize}
cause trespass requires an invasion of possession. In Oklahoma the landowner does not own the oil and gas in place, Judge Phillips reasoned, but merely owns an incorporeal hereditament. "It is difficult for me to see how there can be a trespass upon a incorporeal hereditament." 32

Reliance upon trespass as a theory of recovery for unauthorized geophysical exploration presents inherent logical difficulties and, as these cases demonstrate, can lead to contradictory results in ownership and non-ownership states. 33 Most courts, drawing from blasting case analogies, appear to hold that mere seismic waves or explosive vibrations, without accompanying physical entry, are insufficient to constitute a trespass. 34 Their unwillingness to stretch the definition of trespass seems to be based on sound policy considerations, as the ramifications of such a holding would be far-reaching. A mineral owner, for example, may be unable to develop his own property for fear that waves or vibrations from exploration or drilling activities would "escape" onto his neighbor's land. Further, the increasingly widespread use of microwave technology to disseminate telephone, radio, and television signals would create insurmountable problems for detecting geophysical "trespassers."

Nonetheless, associating unauthorized geophysical testing with a physical entry and calling the combination a trespass against the mineral owner is a logical non sequitur. The physical entry, usually in the form of breaking a gate or fence, walking or driving onto the land and damaging vegetation or structures, occurs on the surface of the property and is a trespass against the surface estate, not the mineral estate. Thus, the only "trespass" committed against the mineral estate continues to be vibrations from seismic testing, which, as we have seen, does not constitute a trespass. It is apparent that the wrongful exploration committed against the mineral owner is something other than a trespass. Unfortunately, the confusion has been perpetuated by courts and some commentators who continue to refer to unauthorized geophysical operations as "geophysical trespass." 35

32. Id. at 310 (Phillips, J., concurring).
35. See Brown, Geophysical Trespass, 3 ROCKY MTN. MIN. L. INST. 57 (1957); 4 W. SUMMERS, THE LAW OF OIL AND GAS § 660 (1962) [hereinafter cited as Summers].
B. Conversion

Some courts and attorneys have recognized that in many situations trespass is not a viable theory on which to base recovery for unauthorized geophysical operations, and they have attempted to press into service other common law actions. One of these actions is conversion—traditionally applied to personal property and defined as "unauthorized assumption and exercise of the right of ownership over [property] belonging to another, to the alteration of [its] condition or the exclusion of the owner's rights." 36

In Shell Petroleum Corp. v. Moore, plaintiff brought an action against Shell in Texas for alleged unauthorized exploration which occurred on plaintiff's property in Louisiana. After negotiations for permission to conduct seismograph tests on plaintiff's property were unsuccessful, Shell allegedly entered plaintiff's land and conducted the tests anyway. Judgment for plaintiff in district court was reversed by the Fifth Circuit on the grounds that the action was one for trespass and that a trespass committed in Louisiana was not maintainable in Texas. 38 Anticipating this objection, plaintiff had argued that defendant's actions amounted to a conversion of plaintiff's property right by making unauthorized tests and acquisition of information concerning the presence of oil. The court, however, resisted the effort to break away from the trespass theory:

The trespass which the court's opinion shows it found was committed did not have the effect of a taking or converting by the appellant of a property right of the appellee. The appellee's right to the exclusive possession and use of his land was the same after the trespass as it was before. No part of the fee simple owner's property right in land is taken or converted by a trespass which violates that right. The right of action for wrongfully entering upon and using appellee's land was one in trespass, not one for converting a thing which was susceptible of being taken and carried away. The contention under consideration is not sustainable. 39

Based on the common law limits of the action for conversion, the court was correct in refusing to apply it to unauthorized geophysical operations. Historically, the action has been limited strictly to tangible personal property and intangible property customarily

36. BLACK'S LAW DICTIONARY 300 (5th ed. 1979).
37. 46 F.2d 959 (5th Cir. 1931).
38. Id. at 962.
39. Id. at 961-62.
identified with a tangible document.40

Montana law appears to conform to the common law limits of conversion. In Thompson v. Mobil Producing Co.,41 the federal district court held that confidential oil information is not property subject to conversion. Thompson, an independent geologist, submitted to Mobil a confidential oil and gas prospect with the intention of having Mobil join in the drilling of a well. Mobil rejected the plaintiff's prospect but after the expiration of plaintiff's option on the land, acquired its own leases on the same land and proceeded to drill a well. In his complaint plaintiff alleged that Mobil had converted the information to its own use. In holding that the complaint failed to state a cause of action, the Montana Federal District Court cited the common law rule that personal property can be the subject of conversion only if it is of a tangible nature, or if it is tangible evidence of title to intangible or real property.42 "Confidential oil information," the court concluded, "is not property which is the subject of an action in conversion."43

C. Quasi-Contract

Other plaintiffs have attempted to recover for unauthorized geophysical operations on the basis of assumpsit or quasi-contract, analogizing that the defendant wrongfully took from the plaintiff a right (to explore for minerals) for which he should pay the market value.

Shell Petroleum Corp. v. Scully44 involved such a theory. Plaintiff alleged that defendant oil company physically entered his property without consent and conducted seismic tests. It was not claimed that the information gleaned from the tests decreased the value of the property; the test results were actually favorable, and the land was worth more for leasing purposes after the tests than before. Plaintiff, however, claimed and recovered the value of the right to go on the property and explore. The Fifth Circuit Court of Appeals upheld the recovery (but reversed the amount of damages) upon plaintiff's "simple theory that by an act at least quasi an offense, giving rise to an obligation in quasi-contract, defendant had taken a privilege for which he ought to pay, though in the exercise of it he had not caused plaintiff any injury . . . ."45
Texas, however, appears to be in the minority in allowing recovery for unauthorized geophysical operations on the basis of quasi-contract or assumpsit. The problem with basing recovery on this remedy is much the same as with conversion. The remedy has accumulated such an historical crust of procedural barnacles that it cannot be stretched to fit the wrong committed by unauthorized geophysical activity. For example, a majority of courts still require a “tenancy” as a prerequisite to maintaining the quasi-contract action for wrongful use or occupation of land. The tenancy requirement is deeply rooted in the historical assumpsit action for use and occupancy of land and which would lie only where there was a tenancy.

D. Disparagement of Quality or Title

Although pleadings and discussions by the courts in many of the cases do not indicate clearly the theory under which relief is sought, it appears that disparagement of the mineral quality of plaintiff’s land is a factor in the reasoning of at least some decisions.

The problems associated with disparagement of quality as a ground for relief in unauthorized geophysical exploration cases are thoroughly discussed by W. L. Summers, a noted oil and gas authority. Summers points out that in an action for disparagement of the mineral quality of land arising from unauthorized geophysical testing, the plaintiff must prove the following elements in order to recover: (1) the plaintiff owns the land or has some transferable mineral interest in it; (2) the defendant published or communicated to some person, other than the plaintiff, a statement disparaging the mineral quality of the land; (3) the statement is not true, in fact; and (4) actual damage was caused to the plaintiff by the statement.

The two primary obstacles to recovery are the requirement of communication of a disparaging statement and the requirement that the statement be false. Most frequently — especially with re-

46. See Phillips Petroleum Co. v. Cowden, 241 F.2d 586 (5th Cir. 1957); Iberville Land Co. v. Amerada Petroleum Co., 141 F.2d 384 (5th Cir. 1944).
48. Id. See also Phillips Petroleum Co. v. Cowden, 241 F.2d 586, 591-92 (5th Cir. 1957)(limiting damages to land actually “occupied”).
50. Summers, supra note 35 at § 660.
51. Id.
cent technology — the information communicated about the property is true, thus barring relief under the disparagement of quality theory. Nevertheless, the injury to the plaintiff caused by wrongful appropriation of the exploration right may be very real, particularly when the speculative value of the land has been ruined or seriously questioned.

E. Invasion of Privacy

The wrong committed by unauthorized geophysical explorations has been compared by one commentator to an invasion of privacy.52 There are certainly elements of this tort in most factual situations involving geophysical "trespass." The nature of the tort, however, has stamped the claim for relief with certain requirements that make it inappropriate in this situation.53 As in disparagement of mineral quality, public disclosure is required but is not always present in unauthorized exploration situations. In addition, most jurisdictions, including Montana, require an element of outraged personal feelings caused by the invasion.54 In Sistok v. Northwestern Telephone Systems,55 a telephone tapping case, the Montana Supreme Court defined the cause of action as a "wrongful intrusion into one's private activities in such a manner as to outrage or cause mental suffering, shame or humiliation to a person of ordinary sensibilities."56 This does not describe the typical unauthorized geophysical exploration situation, though to what different contexts "private activities" and "outrage" might apply is uncertain.

F. Trade Secrets

One commentator has suggested that wrongful appropriation of the right to explore for minerals is analogous to the law of trade secrets.57 Examination of trade secret principles is indeed instructive because they have developed, not from one coherent legal theory, but from a variety of elements pragmatically taken from contract law, property law, equity, and other areas of law.58

55. Id.
56. Id. at 182.
Technically, however, the property right involved in mineral exploration does not meet the definitional requirements of a trade secret as developed by the courts.69 The commentator concedes this technical deficiency but suggests that courts in wrongful geophysical activity cases should use the two-step approach employed in trade secret cases to determine whether a plaintiff is entitled to relief: first, determine whether the plaintiff has a legally protectable interest in the information or process; and second, decide whether the defendant used improper means in acquiring it.60 It is the second step, the good faith or ethical conduct of the defendant, which should play the determining role, according to the commentator.61

Such an approach would prohibit recovery in situations where the exploration right has been wrongfully appropriated through negligence rather than bad faith or unethical conduct on the part of the operator. Cases alleging wrongful geophysical activity, however, contain more examples of boundary errors than of bad faith. Yet when the defendant, without authority, gains valuable information through negligence or mistake, the mineral owner suffers as much of a loss as when the information results from unethical conduct. Thus, the morality of defendant's conduct should not necessarily be a factor in the recovery by plaintiff of compensatory damages. It would, however, be an important factor in determining whether punitive damages are recoverable.

The conclusion that must be reached from analysis of the case law is that none of the traditional legal theories fit the factual situation presented by unauthorized geophysical operations; and such traditional theories are becoming increasingly inappropriate with every new development in the technology of exploration. Nonetheless, the courts have allowed recovery under a variety of fact patterns. Whether the courts speak in terms of trespass, quasi-contract, or some other legal theory, where recovery has been allowed, the damages awarded are similar and indicate that the decisions are based upon a broader principle which is entitled to separate recognition. The courts, in effect, have implicitly recognized a new tort which, for purposes of discussion, may be termed the wrongful appropriation of the right to explore. The kinds of damages awarded by the courts help to further define this tort.

59. Note, supra note 57.
60. Id. at 910.
61. Id.
V. Damages

Courts have awarded three types of damages in unauthorized geophysical exploration cases: actual surface damage, the value of the exploration right taken, and loss of lease value. Punitive damages may also be awarded in the appropriate factual situation.

A. Actual Damage

Actual surface damage has been the type of damage most readily accepted by the courts, probably because damage to trees, fences, and other surface features is easily proved and measured; this is the type of damage most often associated with trespass cases. Where no actual damages are shown, courts have been willing to grant nominal damages. Where the minerals have been severed from the surface, the mineral owner, of course, receives no benefit from these damages.

In Thomas v. Texas Co., even though the plaintiff sought to recover for the alleged destruction of market value of his land, the Texas court awarded only nominal damages on the grounds that the evidence failed to establish that the trespass was the proximate cause of the alleged loss of value. Similarly in the earliest Louisiana opinion involving wrongful geophysical operation, Le Bleu v. Vacuum Oil Co., plaintiff's recovery was limited to a $100 nominal award for trespass, instead of the damages sought for lease depreciation. Apparently, limitation of damages in these cases to actual surface damage, or nominal damages, is a direct result of basing the theory of the case on trespass and of failure by the courts to recognize that the more serious wrong committed against plaintiff was not the physical trespass, but rather, the wrongful appropriation of the exploration right.

In Montana the question of recovery for surface damage has been resolved by statute. Compensation is allowed in an amount equal to the damages sustained by the surface owner for loss of agricultural production and income, lost land value, and lost value of improvements caused by oil and gas operations (defined as exploration or drilling). This remedy would seem to apply regardless of whether the damage was caused by authorized or unauthorized exploration activities. The statute protects the surface owner and provides no direct relief to the mineral owner.

63. 15 La. App. 689, 132 So. 233 (1931).
B. Value of Exploration Right

Actual surface damage is usually an insignificant part of the loss sustained by plaintiffs due to wrongful appropriation of the right to explore. Once the courts determined that the right to explore for minerals should be protected, a measure of damages had to be found that would compensate the mineral owner for the wrong committed.

The Fifth Circuit recognized such a measure in *Shell Petroleum v. Scully.* Scully owned a large parcel of swamp land in Louisiana for which defendant Shell had unsuccessfully attempted to negotiate exploration rights. While conducting seismic tests on neighboring land, Shell detonated explosive charges at two shot points located on Scully's land. The survey yielded favorable information and Shell then offered to lease Scully's land. Scully refused and sued Shell to recover the value of the right to explore the land. Shell argued that because there was no diminution of the lease value of Scully's land, Scully was entitled only to nominal damages. The court disagreed:

We do not agree with defendant that there should have been an instruction for nominal damages only . . . . It is a fundamental and cardinal principle of the law of damages that the injured party shall have compensation for the injury sustained. The injured party is entitled to recover full indemnity for his loss, and to be placed as nearly as may be in the condition which he would have occupied had he not suffered the injury complained of. No measure of damages which does not afford just compensation for the loss sustained can stand the fundamental test. 

Thus, the court sent the case back for a jury determination of the amount of damages which would compensate plaintiff for the wrongful appropriation of his right to explore.

There is no question that the right of exploration for minerals has a real value over and above the value of the minerals themselves. The real value of the exploration right is evidenced by oil companies that are sometimes willing to pay large sums of money for the privilege. The value, of course, varies from area to area but normally can be determined by reference to the prices paid for other tracts in the same area. The value of the exploration right as a recoverable element of damages has been recognized by most cases dealing with unauthorized geophysical operations. 

65. 71 F.2d 772 (5th Cir. 1934).
66. Id. at 775.
67. See Phillips Petroleum Co. v. Cowden, 241 F.2d 586 (5th Cir. 1957); Franklin v.
C. Loss of Lease Value

Although frequently claimed as damages, courts have been more reluctant to recognize loss of lease value as a measure of damages. In the typical factual situation, plaintiff alleges that the wrongful geophysical survey produced negative information which was communicated to the public or to other oil companies. The result is that the mineral owner, who had been offered a certain amount to lease his land before the survey, is now unable to lease for that price or, in some cases, for any price.

The first case to recognize and award damages for loss of lease value involved not unauthorized geophysical activity but the actual drilling of a dry hole. In *Humble Oil & Refining Co. v. Kishi*, the Humble entered Kishi’s property over his protest, but in good faith, believing its lease was still valid. Because of a producing well located on adjacent property, the lease value of Kishi’s land at the time of entry was $1000 per acre. Following the drilling of the dry hole by Humble, the lease value was virtually nil. The Texas court reversed the lower court’s award of merely nominal damages and awarded the “before” lease value of the property, stating that “proof of the market value was in law sufficient to determine the amount of the judgment.”

The *Kishi* case was severely criticized by one commentator and was also attacked two years later by the Wyoming Supreme Court in *Martel v. Hall Oil Co.*. There, under similar facts, the Wyoming court denied all but nominal recovery to the plaintiff, stating that “whatever value the rights of plaintiff had were purely speculative,” and speculative damages are not recoverable. The *Martel* court argued that because there was no oil on the property, the property never had any value for lease purposes. Even if plaintiff could have sold a lease, the court asked, “what would they have given in return? Nothing. They would have sold something of no value whatever.”

The court’s reasoning is erroneous. The fact that there is no

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68. 276 S.W. 190 (Tex. 1925).
69. Id. at 191.
70. See Note, What Protection Has a Landowner Against a Trespass Which Merely Destroys the Speculative Value of His Property? 4 Tex. L. Rev. 215 (1925-26).
71. 36 Wyo. 166, 253 P. 862 (1927).
72. Id. at 179, 253 P. at 864.
73. Id. at 183, 253 P. at 866.
oil under a parcel of land does not mean there is not a real value for lease purposes. The court confused "speculative value"—in the sense of not being reasonably certain and ascertainable—with value for speculative purposes. Certainly the purpose of leasing the land would be to speculate on the possibility of finding oil. This does not mean that there is not a relatively certain and ascertainable value to such a lease.

The unfortunate effect of the Martel case was to contribute the term "loss of speculative value" to the legal vocabulary. Use of the term in commentaries on unauthorized geophysical operations contributes to perpetuation of the same confusion exhibited by the Martel court. The Martel decision has not been followed by other courts, and loss of lease value, if established by sufficient evidence, can be recovered at least in cases of dry hole trespass.

When the claimed loss of lease value has been caused by unauthorized geophysical operations, the courts are divided as to recovery of this measure of damages. A close reading of the cases, however, indicates that at least where a specific sale is lost due to the unauthorized geophysical operations, recovery has been allowed.

Broken down into its components, loss of lease value has at least three different elements: (1) loss of a potential bonus usually paid for the execution of a lease; (2) loss of annual rental; and (3) loss of royalty. The first two elements appear to have value regardless of the actual presence of oil or gas (although a lessee may allow the lease, and thus the obligation to pay rent, to lapse following the discovery of oil or gas or the drilling of a dry hole). Since royalty, however, depends on production, it would be difficult to establish a value in the absence of oil or gas. Nonetheless, if the plaintiff can show loss of a specific opportunity to sell the royalty interest, it seems appropriate to allow this element as well. In Thomas v. Texas Co., plaintiff made just such a claim. The court disallowed the claim, however, partly on the basis that there was no proof of loss of an actual sale.

Recovery of lost lease value as a measure of damages for

74. *See*, e.g., I. *Williams & C. Meyers, Oil & Gas Law* § 229 (1978).
76. Layne La. Co. v. Superior Oil Co., 209 La. 1014, 26 So.2d 20 (1946) (allowing recovery); Angelloz v. Humble Oil & Ref. Co., 196 La. 604, 199 So. 656 (1940) (allowing recovery); Phillips Petroleum Co. v. Cowden, 241 F.2d 586 (5th Cir. 1951) (plaintiffs unable to establish decrease in market value); Shell Petroleum v. Scully, 71 F.2d 772 (5th Cir. 1934) (plaintiff not entitled to recover lost lease value in absence of claim in pleadings).
wrongful appropriation of the exploration right should be distinguished from the tort of interference with the right to lease, a tort which has long been recognized and for which lost lease value is also a measure of damages. American Surety Co. v. Marsh\textsuperscript{78} involved such interference with the right to lease. Under an invalid lease, defendant possessed land which was actually leased to the plaintiff. The issue was litigated, and during an appeal from a judgment against the defendant in the lower court, defendant proceeded to drill on adjacent land which resulted in a dry hole. After the judgment was affirmed, plaintiff sued for loss of lease value, proving that he lost a specific opportunity to sell his lease due to defendant’s wrongful possession of the land while drilling the dry hole during the appeal. The court, relying on Kishi, awarded the difference in the “before” and “after” lease values.\textsuperscript{79}

Because of the absence of trespass, it appears that the wrong actually recognized by the court, and for which relief was granted, was interference by defendant with plaintiff’s right to lease. If the wrongful activity conducted during the pendency of the appeal had been a geophysical survey conducted on adjacent land, which had led to the same result, the court’s holding should have been the same. Again, the wrongful activity in that situation would not be the exploration per se, but interference with the plaintiff’s right to lease his land while the exploration occurred.

The Montana Supreme Court recognized the tort of interference with the right to lease in Solberg v. Sunburst Oil & Gas Co.\textsuperscript{80} In that case defendant negligently failed to publish a declaration clearing an expired oil and gas lease from the record. The court affirmed an award of damages to plaintiff based upon a lost opportunity to lease the property clouded by defendant. In its discussion, the court distinguished the action from slander of title and declared that the proper measure of damages was “the difference between what plaintiff could and would have sold for, or, in other words, the fair market value of such a lease, at a time when the record should have been clear, and the market value of such a lease at the time of trial.”\textsuperscript{81}

D. Punitive Damages

As with any other tort, punitive damages should be recoverable in wrongful geophysical exploration cases on an appropriate

\textsuperscript{78} 146 Okla. 261, 293 P. 1041 (1930).
\textsuperscript{79} Id. at 266-67, 293 P. at 1047.
\textsuperscript{80} 76 Mont. 254, 246 P. 168 (1926).
\textsuperscript{81} Id. at 274-75, 246 P. at 177.
showing of facts. The Montana Supreme Court in *Francis v. Sun Oil Co.*\(^8\) stated that the willful act of defendant in going ahead with its seismic operations, after being warned that it was getting too close to the spring, was sufficient evidence of legal malice to make the question of punitive damages one for the jury.\(^8\)

VI. CONCLUSION

Returning to the three hypothetical situations posed at the beginning of the article, it is evident that the right of exploration has been wrongfully appropriated in situations one and two, but not in three. Because the first hypothetical also involves a physical trespass, most courts would allow recovery of surface damages and the value of the exploration right. Recovery of loss of value for leasing purposes may be allowed where plaintiff can show loss of a specific opportunity to lease.

Although the exploration right has also been wrongfully appropriated in the second situation, it is more doubtful whether, under the current state of the law, recovery would be allowed. Yet the injury to the mineral owner is no less than in the first situation. No court has allowed recovery in the third situation, nor should there be recovery, since the owner’s right to explore or lease his own property has not been directly affected.

As in other areas of technology, recent technological advances in geophysical exploration have created difficulties for the law. Wrongful appropriation of the right to explore for minerals is no longer necessarily associated with physical trespass. In order to keep pace, courts must be willing to look beyond traditional legal theories which no longer provide an adequate framework within which to protect the mineral owner.


\(^8\) Id. at 310, 340 P.2d at 826.