

FOR PUBLICATION**UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

MARY ANN MURRAY; LIGE M.
MURRAY,
*Plaintiffs-Counter-Defendants-
Appellees,*

v.

BEJ MINERALS, LLC; RTWF, LLC,
*Defendants-Counter-Claimants-
Appellants.*

No. 16-35506

D.C. No.
1:14-cv-00106-
SPW

OPINION

Appeal from the United States District Court
for the District of Montana
Susan P. Watters, District Judge, Presiding

Argued and Submitted February 6, 2018
Seattle, Washington

Filed November 6, 2018

Before: Milan D. Smith, Jr. and Mary H. Murguia, Circuit
Judges, and Eduardo C. Robreno,* District Judge.

Opinion by Judge Robreno;
Dissent by Judge Murguia

* The Honorable Eduardo C. Robreno, United States District Judge
for the Eastern District of Pennsylvania, sitting by designation.

SUMMARY**

Montana Law

The panel reversed the district court's summary judgment in favor of Lige and Mary Ann Murray, owners of a Montana ranch, who brought the action seeking a declaratory judgment that dinosaur fossils found on the ranch belonged to them as owners of the surface estate.

In 2005, prior to the discovery of the fossils, Jerry and Robert Severson, the previous owners of the ranch, sold their surface and one-third of the mineral estate to the Murrays. In the conveyance, the Seversons expressly reserved the remaining two-thirds of the mineral estate.

The panel held, as an initial matter, that definitions of "mineral" found in Montana statutes, like dictionary definitions, were contradictory and therefore inconclusive. The panel further held that the Montana Supreme Court has generally adopted the test in *Heinatz v. Allen*, 217 S.W.2d 994 (Tex. 1940), for determining whether a particular substance was a mineral in the context of deeds and agreements regarding mineral rights to land. The panel held that under this test, the dinosaur fossils, which were rare and exceptional, were "minerals" pursuant to the terms of the deed, and belonged to the owners of the mineral estate. The panel rejected the Murrays' policy-driven arguments to the *Heinatz* test. The panel remanded for further proceedings.

** This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

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Judge Murguia dissented, and she would hold that the district court correctly concluded that dinosaur fossils do not fall within the ordinary and natural meaning of the terms “minerals,” as that term was used in the mineral deed in this case. Judge Murguia would affirm the district court’s grant of summary judgment for the Murrays.

COUNSEL

Eric D. Miller (argued), Perkins Coie LLP, Seattle, Washington; Shane R. Swindle, Perkins Coie LLP, Phoenix, Arizona; for Defendants-Counter-Claimants-Appellants.

Harlan B. Krogh (argued) and Eric Edward Nord, Crist Krogh & Nord PLLC, Billings, Montana, for Plaintiffs-Counter-Defendants-Appellees.

OPINION

ROBRENO, District Judge:

Once upon a time, in a place now known as Montana, dinosaurs roamed the land. On a fateful day, some 66 million years ago, two such creatures, a 22-foot-long theropod and a 28-foot-long ceratopsian, engaged in mortal combat. While history has not recorded the circumstances surrounding this encounter, the remnants of these Cretaceous species, interlocked in combat, became entombed under a pile of sandstone. That was then . . . this is now.

In 2006, an amateur paleontologist uncovered the well-preserved fossils of the “Dueling Dinosaurs” on a Montana ranch (“the Ranch”) in an area known as Hell Creek. Lige

and Mary Ann Murray (“the Murrays”), the plaintiffs in this action, own the surface estate of the ranch where the fossils were found. In 2005, prior to the discovery of the fossils, Jerry and Robert Severson (“the Seversons”), the defendants and previous owners of the ranch, sold their surface estate and one-third of the mineral estate to the Murrays. In the conveyance, the Seversons expressly reserved the remaining two-thirds of the mineral estate, giving them ownership, as tenants in common with the Murrays, of all right, title, and interest in any “minerals” found in, on, and under the conveyed land.

These fossils are now quite valuable. After a dispute arose regarding the true owner of the Dueling Dinosaurs and several other valuable dinosaur fossils found on the Ranch (including a nearly intact *Tyrannosaurus rex* skeleton, one of only twelve ever found) (collectively, “the Montana Fossils”), the Murrays filed this action seeking a declaratory judgment that the Montana Fossils belonged to them as owners of the surface estate.¹ In turn, the Seversons asserted a counterclaim seeking a declaratory judgment that the Montana Fossils belong to the mineral estate. The answer turns on whether the Montana Fossils are deemed “minerals”

¹ Although the term “surface estate” is used by the district court and the parties to describe the property that constitutes the Ranch other than the mineral estate, “surface estate” is a misnomer. The mineral estate includes any minerals found “in, on or under” the conveyed land, including minerals found on the surface. The surface estate, in turn, includes all of the property other than minerals, including property underneath the surface. Thus, whether a substance is found on the surface of the Ranch or underneath the surface of the Ranch does not determine whether that substance is part of the surface estate or part of the mineral estate. Instead, the only relevant question is whether the substance is a mineral. As a result, whether the Montana Fossils were found under the surface of the Ranch or protruding from the surface of the Ranch is irrelevant to this litigation.

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within the meaning of the mineral deed under Montana law. If the Montana Fossils are minerals, the Seversons, as majority owners of the mineral estate, will own two-thirds of the Montana Fossils. If the Montana Fossils are not minerals, they will belong to the Murrys in their entirety.

Following the filing of cross-motions for summary judgment, the district court granted summary judgment for the Murrys, holding that, under Montana law, the Montana Fossils are not “minerals” within the meaning of the mineral deed. The Seversons now appeal. The district court had jurisdiction over this diversity action pursuant to 28 U.S.C. § 1332(a)(1).² We have jurisdiction pursuant to 28 U.S.C. § 1291, and for the reasons set forth below, we reverse the district court’s order granting summary judgment for the Murrys, and remand for further proceedings consistent with this opinion.

I.

The facts of this case are largely undisputed. George Severson previously owned property used as a farm and ranch in Garfield County, Montana (“the Ranch”). In 1983, he began leasing the Ranch to Mary Ann and Lige Murray

² There is complete diversity between the plaintiffs and the defendants in the underlying action: Plaintiffs Mary Ann and Lige Murray are citizens of Montana; Defendant BEJ Minerals, LLC, is a Washington limited liability company with its principal place of business in Florida and members who are citizens of Florida and Washington; Defendant RTWF, LLC, is a Florida limited liability company with its principal place of business in Florida and members who are citizens of Florida; and Defendants Robert and Jerry Severson are citizens of Florida. In addition, the amount in controversy is over \$75,000, as the parties agree that the Montana Fossils are worth millions of dollars.

(“the Murrays”), who worked there as ranchers. George Severson later transferred a portion of his property interest in the Ranch to his sons, Jerry and Robert Severson (“the Seversons”), and sold the remainder of his interest to the Murrays.

The Seversons and the Murrays jointly owned and operated the Ranch until 2005, when the Seversons sold their surface ownership rights and a portion of their mineral rights to the Murrays.³ The mineral deed that the parties executed and recorded in connection with the 2005 transaction (“the Deed”) stated that the Seversons and Murrays would own, as tenants in common, “all right title and interest in and to all of the oil, gas, hydrocarbons, and minerals in, on and under, and that may be produced from the [Ranch].” The purchase agreement for the 2005 transaction required the parties “to inform all of the other parties of any material event which may [affect] the mineral interests and [to] share all communications and contracts with all other Parties.”

The Seversons and the Murrays have represented that, at the time of the sale, they did not suspect that there were any valuable dinosaur fossils buried beneath the surface of the Ranch. However, beginning a few months after the sale, the Murrays discovered several rare dinosaur fossils on the

³ Under the 2005 agreement, the mineral estate for all but one parcel of the Ranch is divided as follows: Robert Severson owns one third, Jerry Severson’s company, Severson Minerals, LLC, owns one third, and Lige and Mary Ann Murray each own one sixth. With respect to the other parcel, Billings Garfield Land Company, an unrelated third party, owns half of the mineral rights, with the other half distributed among the Seversons and Murrays in the same proportions as the remainder of the land’s mineral estate (one third to Robert Severson, one third to Severson Minerals, LLC, and one sixth to each of the Murrays).

property, including: (1) the fossils of two separate dinosaurs locked in battle when they died, nicknamed “the Dueling Dinosaurs,” discovered in 2006; (2) a fossilized Triceratops foot and skull, discovered in 2007 and 2011, respectively; and (3) a nearly complete fossilized Tyrannosaurus rex skeleton, nicknamed the “Murray T. Rex,” discovered in 2013.⁴ The ownership of all of these fossils (previously defined as “the Montana Fossils”) is implicated in this litigation.

The parties agree that the Montana Fossils are rare and extremely valuable. The Murrays’ experts testified that, because fossils of dinosaurs interacting are rare, the Dueling Dinosaurs are a “one-of-a-kind find” with “huge scientific value.” Although the Dueling Dinosaurs have not yet been sold, they were appraised at between seven million and nine million dollars, and the parties have stipulated that the set is worth several million dollars. The Murrays sold the Triceratops foot for \$20,000 and have offered to sell the skull for \$200,000 to \$250,000. Their expert, in an email attempting to sell the skull, described it as “one of the best if not the best Triceratops skull ever found.” Finally, the Murray T. Rex is one of only a dozen intact Tyrannosaurus rex skeletons ever found. The Murrays sold it to a Dutch museum in 2014 for several million dollars. The proceeds are being held in escrow pending the outcome of the instant litigation.

⁴ For additional background regarding the discovery of the Montana Fossils, see Mike Sager, *Will the Public Ever Get to See the “Dueling Dinosaurs”?*, Smithsonian Magazine, July 2017, available at <https://www.smithsonianmag.com/science-nature/public-ever-see-dueling-dinosaurs-180963676/> (last visited Sept. 4, 2018).

The Murrays first informed the Seversons about the Montana Fossils in 2008. After the Seversons asserted an ownership interest, the Murrays filed this action in Montana state court seeking a declaratory judgment that, as owners of the surface estate (*i.e.*, all of the Ranch’s property other than the mineral estate, *see supra* note 1), they are the sole owners of the Montana Fossils. The Seversons removed the action to federal court and asserted a counterclaim seeking a declaratory judgment that the Montana Fossils are part of the mineral estate.⁵

During discovery, both parties produced experts who testified regarding the composition of the Montana Fossils. The Seversons’ expert, Raymond Rogers, testified that bones and teeth, including in living vertebrates, naturally contain the mineral hydroxylapatite. Rogers performed an x-ray diffraction test on the Montana Fossils and determined that they had recrystallized from hydroxylapatite into the mineral francolite during the fossilization process that occurred over millions of years. The Murrays’ expert, Peter Larson, agreed with Rogers regarding the fossilization process in general. However, Larson concluded that the Montana Fossils had not been replaced by francolite, and instead contained the same patterns of the mineral hydroxylapatite as a modern bison bone, “just as when [the dinosaurs were] alive.”

Following discovery, the parties filed cross-motions for summary judgment. In an opinion dated May 20, 2016, the district court found that the Montana Fossils are not included

⁵ Robert Severson’s interest is now held by BEJ Minerals, LLC (“BEJ”), and Jerry Severson’s interest is now held by RTWF LLC (“RTWF,” and hereinafter, together with Robert Severson, Jerry Severson, and BEJ, “the Seversons”).

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in the ordinary and natural meaning of “mineral” under Montana law and therefore are not part of the mineral estate. Accordingly, the court granted summary judgment for the Murrays. The Seversons now appeal.

II.

We review a district court’s ruling on motions for summary judgment *de novo*. *Guatay Christian Fellowship v. County of San Diego*, 670 F.3d 957, 970 (9th Cir. 2011). Summary judgment is appropriate when “there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). We review a district court’s interpretation of state contract law *de novo* as well. *AmerisourceBergen Corp. v. Dialysist West, Inc.*, 465 F.3d 946, 949 (9th Cir. 2006). The parties agree that Montana law applies.

III.

Under Montana law, the interpretation of a deed conveying an interest in real property is governed by the rules of contract interpretation. *Mary J. Baker Revocable Tr. v. Cenex Harvest States, Coops., Inc.*, 164 P.3d 851, 857 (Mont. 2007) (citing Mont. Code Ann. § 70-1-513). The interpretation of a contract is a question of law. *Id.* Words in a contract are interpreted “in their ordinary and popular sense unless the parties use the words in a technical sense or unless the parties give a special meaning to them by usage.” *Dollar Plus Stores, Inc. v. R-Montana Assocs., L.P.*, 209 P.3d 216, 219 (Mont. 2009). If the language in a contract is ambiguous, *i.e.*, subject to at least two reasonable but conflicting meanings, then “a factual determination must be made as to the parties’ intent in entering into the contract.” *Mary J. Baker Revocable Tr.*, 164 P.3d at 857.

A.

In order to determine the ordinary meaning of a word used in a contract, we typically begin with dictionary definitions. However, as the Supreme Court has recognized and is particularly applicable to this case, “[t]he word ‘mineral’ is used in so many senses, dependent upon the context, that the ordinary definitions of the dictionary throw but little light upon its signification in a given case.” *N. Pac. Ry. Co. v. Soderberg*, 188 U.S. 526, 530 (1903). In this case, for example, the parties do not dispute that the Montana Fossils *are* minerals in a scientific sense, as they are composed entirely of the minerals hydroxylapatite and/or francolite.⁶ The Montana Fossils thus fit within definitions of the word “mineral” that focus on a substance’s chemical composition. *See, e.g., Webster’s Third New International Dictionary, Unabridged* 1437 (3d ed. 2008) [hereinafter *Webster’s*] (“an inorganic substance; *especially*: a mineral element whether in the form of an ion, compound, or complex”); *New Oxford American Dictionary* 1113 (3d ed. 2010) (“a solid inorganic substance of natural occurrence”); Mineral, *Black’s Law Dictionary* (10th ed. 2014) (“Any

⁶ The parties’ experts testified that the bones and teeth of living vertebrates are composed of the inorganic mineral hydroxylapatite and various organic components, including, for example, tissue, marrow, nerves, blood vessels, and collagen. After a vertebrate’s death, all of the organic components of the bones and teeth eventually decompose, leaving only the inorganic mineral hydroxylapatite. Over time, this mineral may “recrystallize” into a different mineral, francolite. As noted above, the parties’ experts dispute whether the x-ray diffraction test results indicate that the Montana Fossils are composed of the mineral hydroxylapatite, or whether the Montana Fossils instead contain the mineral francolite (which the mineral hydroxylapatite could have recrystallized into during the fossilization process). The parties do not dispute, however, that the Montana Fossils are entirely composed of one or both of these two mineral substances.

natural inorganic matter that has a definite chemical composition and specific physical properties that give it value <most minerals are crystalline solids>.”).

Although the Montana Fossils clearly fall within these dictionary definitions of the word “mineral,” our analysis does not end there. Under traditional principles of contract interpretation, words are interpreted “in their ordinary and popular sense unless the parties use the words in a technical sense or unless the parties give a special meaning to them by usage.” *Dollar Plus Stores*, 209 P.3d at 219. While the above-cited definitions of the word “mineral” are quite broad, other dictionary definitions are more narrow, relating to the manner in which a substance is used, as opposed to its chemical composition. For example, *Webster’s* includes the following secondary definition of “mineral”:

any of various naturally occurring homogeneous or apparently homogeneous and usually but not necessarily solid substances (as ore, coal, asbestos, asphalt, borax, clay, fuller’s earth, pigments, precious stones, rock phosphate, salt, soapstone, sulfur, building stone, cement rock, peat, sand, gravel, slate, salts extracted from river, lake, and ocean waters, petroleum, water, natural gas, air, and gases extracted from the air) obtained for man’s use usually from the ground[.]

Webster’s 1437. Similarly, *Black’s Law Dictionary* provides one definition of mineral as including “[a] subsurface material that is explored for, mined, and exploited for its useful properties and commercial value.” Mineral, *Black’s Law Dictionary* (10th ed. 2014).

Although, as explained above, the parties agree that the Montana Fossils fit within the scientific definition of minerals, they disagree about whether the Montana Fossils fit within the more narrow use-related definitions of minerals. The Murrays argue that they do not, while the Seversons argue that they do. Relying on dictionary definitions and several Montana mining statutes, the district court agreed with the Murrays and determined that:

[T]he common understanding of “mineral” includes the mining of a hard compound or oil and gas for refinement and economic exploitation. In contrast, dinosaur fossils are the remains of once-living vertebrates. The fossils’ properties are not what make them valuable. Fossils are not subject to further refinement before becoming economically exploitable. Instead, the fossils are valuable because of their very existence. Dinosaur bones are not economically valuable to be processed into fuel or materials or manufactured into jewelry. Further, dinosaur fossils are not mined in the traditional sense, but rather discovered by happenstance.

The definition that the court created – “the mining of a hard compound or oil and gas for refinement and economic exploitation” – did not itself appear in any of the dictionary or statutory definitions the court cited, but instead represented the court’s own interpretation of what it believed to be the relevant portions of those dictionary and statutory definitions.

On appeal, the Seversons argue that the district court’s interpretation of the dictionary definitions is disconnected

from the definitions themselves, and that even the narrower, use-related dictionary definitions include – or at the very least, do not exclude – the Montana Fossils. The Seversons have the better of the arguments.

First, the fact that the narrower dictionary definitions found in *Webster's* and *Black's Law Dictionary* emphasize the “use” of a substance does not exclude the Montana Fossils. Some of the Montana Fossils are being “used” for economic or commercial purposes: they were sold (or offered for sale) for millions of dollars and subsequently displayed in a museum that charges admission to view them. Further, certain of the definitions do not limit the “use” of the substance to use for economic or commercial purposes; surely the Montana Fossils are being “used” in the general sense. For example, under the *Webster's* definition, the Montana Fossils are clearly “naturally occurring homogeneous . . . solid substances . . . obtained for man's use.” *Webster's* 1437. Although it could be argued that dinosaur fossils are unlike oil, gas, coal, and other substances traditionally thought of as minerals because they are not used as fuel, neither are many of the other substances specifically listed in the *Webster's* definition, such as salt, sand, and gravel. In addition, as the Seversons point out, oil, gas, and coal all derive from the remains of plants and animals,⁷ just like dinosaur fossils, and should not be treated any differently because they are valuable for a different reason.

Second, there are other definitions of the word “mineral” not considered by the district court that explicitly include fossils in general. For example, an older edition of *Black's*

⁷ See *Webster's* (defining “fossil fuel” as “a fuel (such as coal, oil, or natural gas) that is formed in the earth from plant and animal remains”).

Law Dictionary defines a mineral as including “all fossil bodies or matters dug out of mines or quarries, whence anything may be dug, such as beds of stone which may be quarried.” Mineral, *Black’s Law Dictionary* (6th ed. 1990).

Given the inconsistencies in dictionary definitions of “minerals,” and recognizing that at least one of the definitions explicitly includes fossils as minerals, we disagree with the district court’s conclusion that the word “minerals” in the Deed did not encompass dinosaur fossils. As the parties agree that the Deed must be interpreted under Montana law, we next rehearse Montana law.

B.

The Montana Supreme Court, when tasked with interpreting the meaning of the word “minerals” in a similar deed, noted that the need to determine the ordinary and popular meaning of the term “mineral” has created “considerable confusion in mineral law litigation nationwide.” *Farley v. Booth Brothers Land & Livestock Co.*, 890 P.2d 377, 379 (Mont. 1995).

Attempting to make sense of the legal morass regarding the term “mineral,” the court observed:

[t]he only reliable rule which surfaces from the confusing and inconsistent approaches taken by those courts attempting to ferret out the subjective intent of the parties is that the word ‘mineral’ means what the court says it means. The result is title uncertainty and the need to litigate each general reservation of minerals to determine which minerals it encompasses.

Id. (quoting *Miller v. Land & Mineral v. Highway Comm’n*, 757 P.2d 1001, 1002 (Wyo. 1988)). Explaining that the question of the interpretation of the word “mineral” in a land transfer agreement was one of first impression in Montana, the court surveyed the definition of “mineral” in several Montana statutes and case law from other states. Finding these statutory definitions inconclusive,⁸ the court rested on the following test from the Texas Supreme Court’s decision in *Heinatz v. Allen*, 217 S.W.2d 994 (Tex. 1949):

[S]ubstances such as sand, gravel and limestone are not minerals within the ordinary and natural meaning of the word unless they are rare and exceptional in character or possess a peculiar property

⁸ The court looked at two conflicting statutory definitions of mineral from Title 82 of the Montana Code, which relates to minerals, oil, and gas. The first statutory definition, relating to metal mine reclamation, defined “mineral” as:

any ore, rock, or substance, other than oil, gas, bentonite, clay, coal, sand, gravel, phosphate rock, or uranium, taken from below the surface or from the surface of the earth for the purpose of milling, concentration, refinement, smelting, manufacturing, or other subsequent use or processing or for stockpiling for future use, refinement, or smelting.

Farley, 380 P.2d at 379 (quoting Mont. Code Ann. § 82-4-303(9)). The second statutory definition, from the section relating to “opencut” mining reclamation, defined “minerals” as “bentonite, clay, scoria, phosphate rock, sand, or gravel.” *Id.* (quoting Mont. Code Ann. § 82-4-403(6)). Recognizing that these two statutory definitions were “not necessarily consistent” – given that one definition explicitly included scoria but it was “unclear” whether it would be included in the other – the court concluded that the term “mineral” has varying definitions in different contexts. *Id.*

giving them special value, as for example sand that is valuable for making glass and limestone of such quality that it may be profitably be manufactured into cement. Such substances, when they are useful only for building and road-making purposes, are not regarded as minerals in the ordinary and generally accepted meaning of the word.

Id. at 380 (quoting *Holland v. Dolese Co.*, 540 P.2d 549, 550–51 (Okla. 1975) (citing *Heinatz*, 217 S.W.2d at 997)).

The particular question at issue in *Farley* was whether “scoria,” a local term referring to the baked roof rock (composed of shale, sandstone and clay) that results from the burning of coal outcropping, was a mineral within the meaning of a mineral reservation in a lease agreement. *Id.* at 380. Like the Montana Fossils, scoria is a mineral in the scientific sense, that is, it is composed of minerals. Applying the *Heinatz* test, the court noted that the scoria at issue was used in road construction, and then found that “[t]he use of scoria in constructing roadways does not elevate scoria to the status of a compound which is ‘rare and exceptional in character’ and therefore, a ‘mineral.’” *Id.* (quoting *Holland*, 540 P.2d at 550–51).

On appeal, the Seversons argue, as they did below, that the Montana Fossils are minerals under the test adopted by the Montana Supreme Court in *Farley*. The Seversons claim that, pursuant to *Farley*, a substance that is technically a mineral in the scientific sense is also a mineral within the meaning of a real property agreement if it is rare and exceptional in character or possesses a peculiar property giving it special value. The Seversons then argue that the Montana Fossils satisfy that test because the Montana

Fossils are composed of mineral substances as a technical matter, and the Montana Fossils are rare and exceptional and have special value.

In response, the Murrays first argue that the Montana Supreme Court did not adopt the *Heinatz* test in *Farley* as a general universally applicable measure to determine whether a substance is a mineral, and instead the court merely used the *Heinatz* test as a “secondary reference” to determine whether scoria was a mineral. They next argue that, to the extent *Farley* did adopt *Heinatz*’s “rare and exceptional” test, the test is a categorical one: a particular dinosaur fossil cannot be a mineral unless all dinosaur fossils, in general, are minerals. Because the Seversons admit that not all dinosaur fossils are rare and valuable – and that, in fact, many are virtually worthless – the Murrays contend that dinosaur fossils, including the Montana Fossils at issue in this case, are not minerals under *Heinatz*. The Murrays also argue that the test the Seversons ask this Court to adopt would create a confusing distinction between rare and valuable mineral fossils and common and worthless non-mineral fossils, requiring litigation with respect to each individual fossil. Instead, the Murrays urge the Court to focus its legal analysis on definitions of minerals found in various Montana statutes and regulations, under which, the Murrays claim, dinosaur fossils have “never” been defined as minerals under Montana law.

We address each of these arguments in turn.

C.

As an initial matter, we agree with the Seversons that definitions of “mineral” found in Montana statutes, like dictionary definitions, are contradictory and therefore inconclusive. Contrary to the Murrays’ assertions, the

majority of the statutes and regulations the Murrays cite *do* encompass fossils in their definition of “minerals,” and those definitions that exclude fossils are limited to particular statutory schemes that are not relevant here.⁹

⁹ The Murrays first cite a statutory definition stating in relevant part that “mineral” means “any . . . substance, other than oil, gas, bentonite, clay, coal, sand, gravel, phosphate rock, or uranium, taken from below the surface of the earth or from the surface of the earth for the purpose of . . . subsequent use or processing or for . . . future use.” *See* Mont. Code Ann. § 82-4-303(16)). Although the Murrays claim that this definition does not include the Montana Fossils, it does: the Montana Fossils are a substance (other than the specific substances listed) taken from below the surface of the earth for the purpose of subsequent use. The Murrays’ second statutory definition, which states that “mineral” means “any . . . nonrenewable merchantable products extracted from the surface or subsurface of the state of Montana,” *see* Mont. Code Ann. § 15-38-103(3)), is similarly applicable to the Montana Fossils: the Montana Fossils are nonrenewable, merchantable products, and they were extracted from the subsurface of Montana.

The Murrays next argue that “minerals” cannot include dinosaur fossils in general because certain Montana statutes and regulations differentiate between “fossils” and “minerals.” The Murrays point to the definition for “general recreational use” within the Montana Department of Natural Resource’s regulations regarding surface management rules for leasing of state-owned land, which contains separate exclusions for the “collection, disturbance, alteration, or removal of archeological, historical, or paleontological sites or specimens (e.g. fossils, dinosaur bones . . .)” and “mineral exploration, development, or mining,” and notes that the former requires an antiquities permit and the latter requires a mineral lease or license. *See* Mont. Admin. R. 36.25.145. The Murrays also note that the Montana Historical Society has the power to collect and preserve “fossils, plants, minerals, and animals,” suggesting that the separate listing of “fossils” and “minerals” means that they must be distinct, non-overlapping categories. *See* Mont. Code Ann. § 22-3-107. Contrary to the Murrays’ assertion, the separate listing of minerals and fossils does not establish that fossils are not a subset of minerals. More

It is true that the Montana Supreme Court did not explicitly announce in *Farley* that it intended to adopt the *Heinatz* test for all mineral disputes going forward. However, fourteen years later, when faced with the next dispute regarding whether a substance was a mineral in the context of a deed, the Montana Supreme Court again quoted and applied the *Heinatz* test, pointing to *Farley* to support its reliance on *Heinatz*. See *Hart v. Craig*, 216 P.3d 197, 198 (Mont. 2009). The Montana Supreme Court’s reliance on the *Heinatz* test for a second time reinforces our conclusion that the Montana Supreme Court has generally adopted the *Heinatz* test for determining whether a particular substance is a mineral in the context of deeds and agreements regarding mineral rights to land.¹⁰

fundamentally, these definitions relate to a particular statutory scheme and are not relevant here.

Finally, the Murrays cite the federal Paleontological Resources Preservation Act (“the PRPA”), 16 U.S.C. § 470aaa, which defines “paleontological resources” as including “fossilized remains,” and the regulations under that act, which provide that “paleontological resources” do not include “coal, oil, natural gas, and other economic minerals that are subject to the existing mining and mineral laws.” See 36 C.F.R. § 291.9(d). In addition to their irrelevance to this case since they apply to federal land, the PRPA regulations actually undermine the Murrays’ argument, because the regulations would not need to *exclude* coal, oil, natural gas, and other similar minerals from the definition of paleontological resources unless those substances would otherwise be included in the definition.

¹⁰ To the extent that the Montana Supreme Court has not formally adopted the *Heinatz* test, we predict that, if faced with the issue, it would do so. See *First Intercontinental Bank v. Ahn*, 798 F.3d 1149, 1157 (9th Cir. 2015) (explaining that, as a federal court sitting in diversity, “when the state’s highest court has not squarely addressed an issue, we must predict how the highest state court would decide the issue”) (internal

Under the *Heinatz/Farley* test, the court asks whether a substance that is scientifically a mineral is also “rare and exceptional in character or possess[es] a peculiar property giving [it] special value.” *Farley*, 890 P.2d at 380 (quoting *Holland*, 540 P.2d at 549 (citing *Heinatz*, 217 S.W.2d at 997)). As noted above, the parties disagree about whether the test is “categorical” or “non-categorical;” that is, whether *all* examples of a particular substance (*e.g.*, all dinosaur fossils) must meet the test in order for *some* examples of the substance (*e.g.*, the Montana Fossils at issue here) to be considered minerals.

The Murrays do not argue that the Montana Fossils are not rare and exceptional or have special value. Instead, they contend that *Farley* did not address whether the test is categorical or not, and that we should reject the “non-categorical” approach as confusing and unworkable.

It may well be that the non-categorical approach generates some unpredictability regarding which substances are rare and valuable enough to be considered minerals within the context of a mineral deed. Regardless, it is clear from the explanation provided in *Heinatz*, which the Montana Supreme Court quoted in *Farley*, that the test is non-categorical. The court gave the examples of “sand that is valuable for making glass” and “limestone of such quality that it may profitably be manufactured into cement,” *Farley*, 890 P.2d at 380 (quoting *Heinatz*, 217 S.W.2d at 997), suggesting that there exist sand that is *not* valuable for making glass and limestone that is *not* of such quality that it can become cement, neither of which would qualify as minerals under the test. Likewise, although many dinosaur

quotation marks omitted) (quoting *Glendale Assocs., Ltd. v. Nat’l Labor Relations Bd.*, 347 F.3d 1145, 1154 (9th Cir. 2003)).

fossils have little or no value, the Murrays concede that the Montana Fossils are rare and exceptional. Therefore, under the teachings of *Farley*, the Montana Fossils are “minerals” pursuant to the terms of the Deed, and belong to the owners of the mineral estate.

The remainder of the Murrays’ arguments are policy-based criticisms of the *Heinatz/Farley* test. The Murrays argue that the test is disconnected from the ordinary and natural meaning of the word “minerals;” creates needless litigation to determine which substances are valuable enough to be considered minerals; and leads to absurd results in the case of dinosaur fossils, including jeopardizing museums’ ownership of their fossil collections. Of course, as a federal court sitting in diversity, in matters of state law we are not free to impose our policy preferences over those of the Montana Supreme Court. In any case, the Murrays’ assertions lack merit. The *Farley* test is connected to the ordinary and natural meaning of the term “minerals” as used in a deed, because the purpose of retaining or acquiring a mineral estate is to extract something valuable from the land. In a mineral estate transaction where the quantity, quality, or type of substances present underneath the land may be unknown to both the seller and purchaser of the mineral estate, it is logical to tie the definition of the material conveyed to whether or not it is valuable. Further, it is unlikely that the *Farley* test will result in much, if any, needless litigation, given the extremely broad definition of “value” provided in *Heinatz*, which included both glass and cement as examples of materials made of rare and valuable

minerals. Finally, the Murrays' concern regarding museum collections is hypothetical and unlikely to arise often.¹¹

IV.

For the foregoing reasons, we reverse the decision of the district court granting summary judgment for the Murrays and remand for further proceedings consistent with this disposition.

REVERSED AND REMANDED.

MURGUIA, Circuit Judge, dissenting:

Because I disagree with the majority's conclusion that dinosaur fossils fall within the ordinary and natural meaning of the word "mineral" and that they accordingly pertain to the mineral estate, I respectfully dissent.

The present case involves a dispute over ownership of several valuable dinosaur fossils that were found on a large ranch in Garfield County, Montana. The Severson family owned the ranch until 2005, when the mineral and surface estates were severed through a mineral deed that transferred

¹¹ As the Seversons point out, a museum's ownership of fossils would only be in doubt following this decision if the museum purchased fossils from the owner of the surface rights of the property where the fossils were found, the mineral estate was owned by another party that did not consent to the sale of the fossils to the museum, and the mineral estate was defined to include all "minerals" without any further definition or clarification of the term. Even then, if the mineral estate's owner successfully sued the museum for ownership of the fossils, the museum could recover the value of the sale from the owner of the surface estate.

the surface estate to the Murrays in full, but made express reservations regarding the mineral estate. Specifically, the mineral deed granted to Severson Minerals LLC, Robert E. Severson, and the Murrays, in varying percentages,

all right title and interest in and to all of the oil, gas, hydrocarbons, and minerals in, on and under, and that may be produced from the lands situated in Garfield County, Montana . . . together with the right, if any, to ingress and egress at all times for the purpose of mining, drilling, exploring, operating, and developing said lands for oil, gas, hydrocarbons, and minerals, and storing, handling, transporting, and marketing the same therefrom together with the rights to remove from said lands all of Grantors' property and improvements.

After the transfer was executed, the Murrays—now owners of the surface estate and a portion of the mineral estate—discovered the first dinosaur fossil: a *Pachycephalosaurus* spike cluster. Thereafter, the Murrays discovered and excavated more valuable fossils, including the “Dueling Dinosaurs” and the “Murray T-Rex.” The question presented in this case is whether these rare and valuable dinosaur fossils are “minerals” under the 2005 mineral deed.

The question whether dinosaur fossils constitute “minerals” is a question of first impression under Montana law.¹ The Montana Supreme Court has twice considered

¹ In spite of the novel question of law and the potential policy implications of this case, the parties did not request certification of this question to the Montana Supreme Court. *See* M. R. App. P. 15(3)(a)–(b).

whether a particular substance constitutes a “mineral” for the purposes of property transfers. In *Farley v. Booth Brothers Land and Livestock Co.*, 890 P.2d 377, 378 (Mont. 1995), the Montana Supreme Court asked whether scoria, a type of rock used in road construction, was a mineral. The court concluded it was not. *Id.* at 381. In *Hart v. Craig*, the Montana Supreme Court considered whether sandstone used for rip-rap and landscaping was a mineral, again concluding that it was not. 216 P.3d 197, 211 (Mont. 2009). In both cases, the court looked to the particular properties of the substance to see if it fell within the “ordinary and natural meaning” of the term “mineral.” *See Farley*, 890 P.2d at 380 (quoting *Holland v. Dolese Co.*, 540 P.2d 549, 550–51 (Okla. 1975)); *Hart*, 216 P.3d at 211 (quoting *Heinatz v. Allen*, 217 S.W.2d 994, 997 (Tex. 1949)); *see also Dollar Plus Stores, Inc. v. R-Montana Assocs., L.P.*, 209 P.3d 216, 219 (Mont. 2009) (Words in a contract are interpreted “in their ordinary and popular sense unless the parties use the words in a technical sense or unless the parties give a special meaning to them by usage.”).

The “ordinary and natural meaning” test, as applied to minerals conveyed through a property transfer, was first set forth in a 1949 Texas Supreme Court case, *Heinatz v. Allen*, 217 S.W.2d 994 (Tex. 1949). The Texas court held that “mineral,” for the purposes of property transfers, is to be understood as used in its “ordinary and natural meaning unless there is a clear indication that it was intended to have a more or less extended signification.” *Id.* at 997. The driving principle behind this test is to effectuate the intent of the contracting parties. *Id.* (“The words ‘the mineral rights’ used in the will are to be interpreted according to their ordinary and natural meaning, there being nothing in the will manifesting an intention on the part of the testatrix to use them in a scientific or technical sense.”). In other words,

when Party A transfers to Party B the rights to all “minerals” in the estate, the court presumes that parties intended to apply the ordinary and natural meaning of “minerals,” unless the contract says otherwise. In determining the ordinary and natural meaning of “mineral,” the *Heinatz* court considered several factors, including “the evidence as to the nature of the [substance], its relation to the surface of the land, its use and value, and the method and effect of its removal.” *Id.* at 995–96. In concluding the limestone at issue was not a mineral, one factor that the court considered was that the limestone was not valuable, but the court also considered the fact that limestone was quarried at the surface and would significantly affect the use of the surface estate.

As in *Heinatz*, in *Farley* and *Hart*, the Montana court considered several factors, such as the substance’s particular properties and use, in order to determine whether that substance was a mineral. Specifically, *Farley* and *Hart* relied on the principle that “substances such as sand, gravel and limestone are not minerals within the ordinary and natural meaning of the word unless they are rare and exceptional in character or possess a peculiar property giving them special value Such substances, when they are useful only for building and road-making purposes, are not regarded as minerals in the ordinary and generally accepted meaning of the word.” *Hart*, 216 P.3d at 211 (quoting *Heinatz*, 217 S.W.2d at 997); *Farley*, 890 P.2d at 380 (quoting *Holland*, 540 P.2d at 550–51).

Here, the district court began by considering definitions of the term “mineral,” including dictionary, statutory, and regulatory definitions.² *See, e.g., Mineral, Black’s Law*

² The majority goes to pains to distinguish each and every definition presented by the Murrays, in an effort to prove that fossils fall under none

Dictionary (10th ed. 2014); Mont. Code Ann. § 15-38-103(3); Mont. Code Ann. § 82-4-303(16). The district court noted that all of the definitions described the mining of hard substances or oil and gas that are primarily extracted for future refinement and economic purposes, and that dinosaur fossils do not seemingly fall into those statutory definitions. I agree with the district court's summation of the quoted definitions. I further note that the district court's observation is supported by the way the term "mineral" is used in the mineral deed here, which clearly contemplates traditional mineral extraction for an economic purpose.

The district court went on to consider the unique properties of dinosaur fossils that distinguish them from those substances that we typically think of as minerals. The district court explained that fossils' mineral properties are not what make them valuable, but instead the value turns on characteristics other than mineral composition, such as the completeness of the specimen, the species of dinosaur, and how well the fossil is preserved. The district court further noted that fossils are the remains of once-living vertebrates, with paleontological value, and that they are not refined for economic purposes or mined in the traditional sense, but rather are discovered by happenstance. These are precisely the same types of factors that were determinative in *Farley*,

of them. While I would agree that no single definition cited by the district court or the parties on appeal is wholly dispositive here, I see no error in the district court's use of these statutes in an effort to discern whether any similar properties exist among these definitions that might shed light on the scope of the term "mineral." See *Dollar Plus Stores*, 209 P.3d at 219; *Newman v. Wittmer*, 917 P.2d 926, 930 (Mont. 1996) ("[S]tatutory definitions provide guidance in interpreting the ordinary and popular meaning of undefined terms in a restrictive covenant.").

Hart, and *Heinatz* under the ordinary and natural meaning test.

Indeed, if we only apply the factors applied by the Texas Supreme Court under *Heinatz*—“the evidence as to the nature of the [substance], its relation to the surface of the land, its use and value, and the method and effect of its removal”—we would still reach the district court’s conclusion that dinosaur fossils are not minerals.³ *Heinatz*, 217 S.W.2d 995–96. First, the nature of the substance here is organic matter that has fossilized over time into a mineral compound. This factor weighs in favor of finding that fossils are minerals. Second, however, fossils pertain much more closely to the surface of the land. Like the quarried limestone in *Heinatz*, fossils are not “mined” but rather excavated. A large excavation would interfere with the use of the surface estate—a factor which the *Heinatz* court found weighed heavily against a finding that limestone was a mineral. Third, the use and value of fossils are not akin to other substances deemed minerals, such as coal, gas, or oil, which are typically extracted for some economic purpose. Collectively, these factors lead to the conclusion reached by the district court here—that dinosaurs are not “minerals” as that term is ordinarily understood.

In sum, the district court correctly concluded that dinosaur fossils do not fall within the ordinary and natural meaning of the term “minerals,” as that term is used in the mineral deed in this case. I would accordingly affirm the

³ I agree with the majority’s conclusion that although the Montana Supreme Court did not expressly adopt the *Heinatz* test, it would likely do so. In any event, the ultimate question—whether fossils fall within the ordinary and natural meaning of “mineral”—is the same under *Farley*, *Hart*, and *Heinatz*.

district court's grant of summary judgment for the Murrays.
For these reasons, I respectfully dissent.

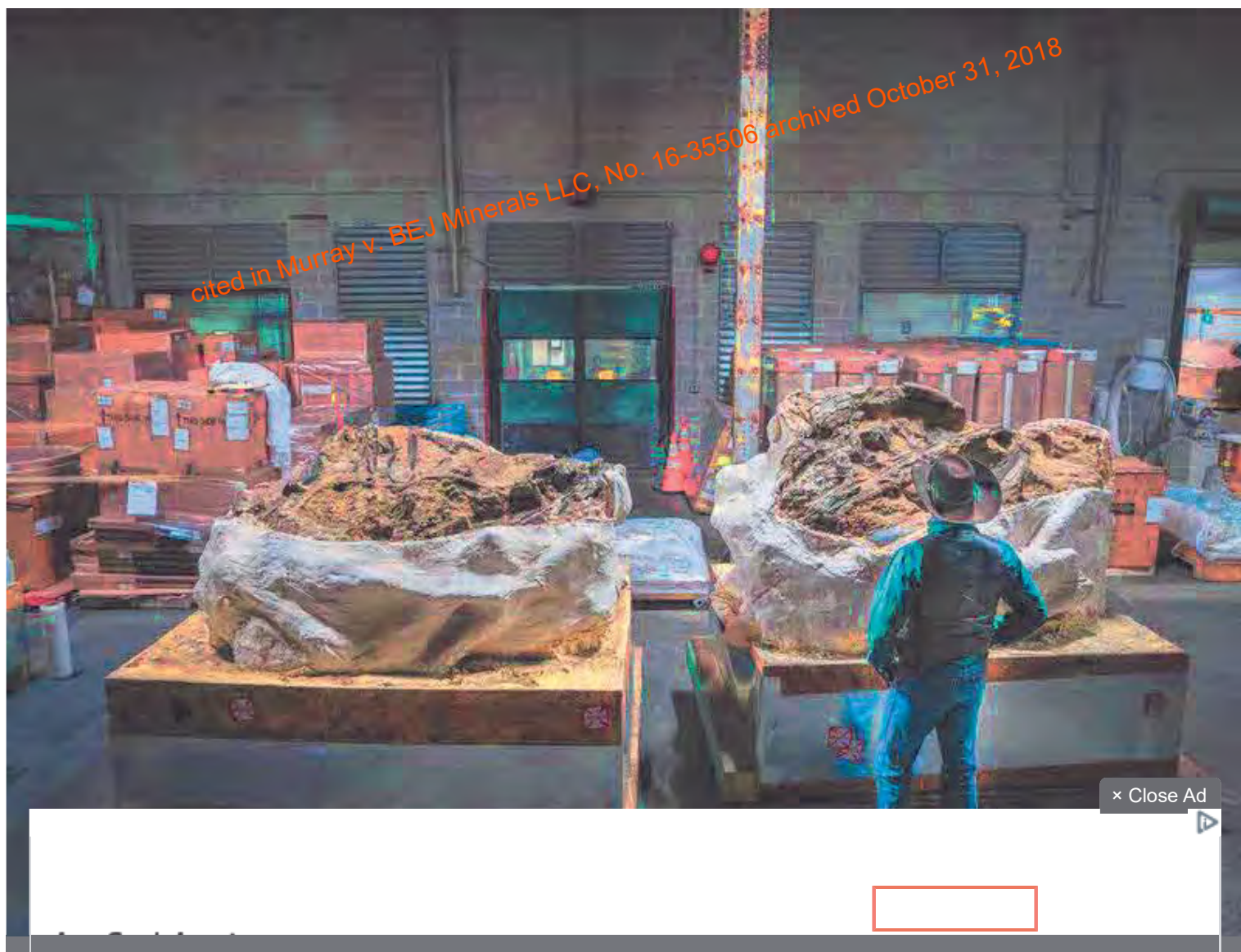


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Will the Public Ever Get to See the “Dueling Dinosaurs”?

America’s most spectacular fossil, found by a plucky Montana rancher, is locked up in a secret storage room. Why?



on the right.(Robert Clark)

By **Mike Sager**

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The Dinosaur Cowboy sits behind an old desk in the dusty basement workshop of the ranch house where he grew up, wearing a denim shirt and blue jeans, his thinnish brown hair bearing the impression of his black Stetson, which he's left upstairs in the mudroom, along with his boots. Behind him, peering down over his shoulder from its perch atop an antique safe, is the fearsome, dragon-like head of a horned *Stygomoloch*, a replica of an important fossil he once found. The way it is mounted, jaws agape, it appears to be smiling, captured in a moment of prehistoric mirth.

The Dinosaur Cowboy is smiling, too. You could probably say it's an ironic smile or a little bit of a grimace. His real name is Clayton Phipps. A wiry 44-year-old with a weathered yet impish face, he lives on the ranch with his wife, two sons, a few horses and 80 cows in the unincorporated community of Brusett, Montana. Located in the far north of the state, near the rim of the Missouri River Breaks, it is all but impassable during winter; the closest shopping mall is 180 miles southwest, in Billings. Of his spread, Phipps likes to say: "It's big enough to not starve to death on."

Phipps is the great-grandson of homesteaders—pioneers who were given the right to claim, improve and buy land at bargain prices. Most became cattle ranchers, the only logical choice in this unforgiving region. Little did they know the land they'd claimed was sitting atop the Hell Creek Formation, a 300-foot-thick bed of sandstone and mudstone that dates to a period between 66 million and 67.5 million years ago, the time just before dinosaurs went extinct. Stretching across the Dakotas and Montana (in Wyoming, it's known as Lance), the formation—one of the richest fossil troves in the world—is the remnant of great rivers that once flowed eastward toward an inland sea.

Before his father died, and the homestead was divided among four descendant families, including Phipps and his two siblings, Phipps scraped by as a ranch hand on a neighboring ranch. He and his wife, Lisa, a teacher's aide at the local school, lived in a cabin on the rancher's property. One day in 1998, Phipps says, a man showed up and asked the landowner's permission to hunt fossils. Given consent to roam the property for a weekend, the man returned Monday morning and showed Phipps a piece of triceratops frill—part of the shield-like structure that grew around the massive plant-eater's head.

BEJ Minerals LLC, No. 16-35506 archived October 31, 2018
cited in Murray v. BEJ Minerals LLC, No. 16-35506 archived October 31, 2018

"He told me: 'This piece is worth about \$500,'" Phipps recalls. "And I was like, 'The heck it is! You found that just walking around?'"

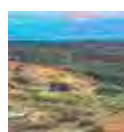
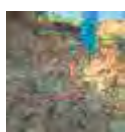
From that day on, whenever Phipps wasn't doing ranch work, he was out looking for fossils. What he found he prepared in his basement workshop, or consigned to others to prepare, for sale at trade shows and to museums and private collectors. In 2003, he unearthed the head of the horned *Stygimoloch*—from the Greek and Hebrew, roughly, for "demon from the river Styx"—a bipedal dinosaur, about the size of a bighorn sheep, prized by collectors for its highly ornamented skull. Phipps sold the fossil for more than \$100,000 to a private collector, who placed the specimen in a museum in Long Island, New York.

Then, one hot day in 2006, Phipps and some partners made the discovery of a lifetime—experts say it might well be one of the greatest fossil specimens ever unearthed. Or, more accurately, two specimens. Jutting out from a desiccated hillside were the remains of a 22-foot-long theropod and a 28-foot-long ceratopsian. Locked in mortal combat when they were instantly buried in sandstone, perhaps along a sandy riverbed, the incredibly well-preserved pair is forever captured in a moment in time from more than 66 million years ago. "There's an entire skin envelope around both dinosaurs," Phipps says. "They're basically mummies. There could be soft tissue inside." If true, the specimen offers the possibility that scientists might recover tissue cells or even ancient DNA.

The exact species of the Montana Dueling Dinosaurs, as the specimens have become known, are still in contention. The larger of the two appears to be a ceratopsian, from the family of beaked and bird-hipped plant-eaters beloved by children for their horned faces. The existence of additional horns on the animal's faceplate, however, has led to some speculation that it may be a rare or new species. The smaller specimen appears to be either a juvenile *Tyrannosaurus rex* or a *Nanotyrannus*, a dwarf species, rarely documented, the very existence of which some scientists dispute.

Scott Sampson, a paleontologist and the president of Science World, a nonprofit education and research facility in Vancouver, is among the few academics, museum officials and commercial collectors who have viewed the specimen. "The Dueling Dinosaurs is one of the most remarkable fossil discoveries ever made," he says. "It is the closest thing I have ever seen to large-scale fighting dinosaurs. If it is what we think it is, it's ancient behavior caught in the fossil record. We've been digging for over 100 years in the Americas, and no one's found a specimen quite like this one."

And yet there is a chance the public will never see it.





It's not uncommon to stumble across fossil fragments in the dirt, sandstone and brush of Hell Creek. Phipps stopped to examine a horn. (Bill Hatch)

cited in Murray v. Big Minerals LLC, No. 16-35506 archived October 31, 2018

We may speculate romantically about how far into the past dinosaur fossils were collected by our hominin ancestors, but the study of dinosaurs is a relatively new science. Deep thinkers in ancient Greece and Rome recognized fossils as the remains of life-forms from earlier epochs. Leonardo da Vinci proposed that fossils of marine creatures like mollusks found in the Italian countryside must have been evidence of ancient seas that once covered the land. But for the most part, fossils were regarded as the remains of gods or devils. Many believed they had special powers of healing or destruction; others that they were left behind from Noah's flood, a notion still held by creationists, who deny evolution.

Dinosaurs inhabited much of the earth, but their fossils are not easily found in most places. The western United States is a treasure trove due to a combination of factors: We live during a sweet spot in time when the rock layers laid down during the end of the Cretaceous Period have become exposed after eons of erosion, a process accentuated by the stark environment, lack of plant life and extreme weather conditions that continually reveal ever new layers of ancient rock. As layers of the earth's surface erode, fossilized bones of dinosaurs, more solid than the sand and clay in which they are buried, peek through.

In the early 20th century, universities and museums frequently commissioned commercial bone diggers to excavate dinosaur fossils. Many of the oldest specimens on display in museums in the United States and Europe were uncovered and harvested by these “professional amateurs.” While federal land can only be prospected by accredited academics in possession of a permit, dinosaur bones found on private land are private property: Anybody can dig with the permission of the owner.



The Hell Creek Formation gets its name from this tributary, which flows into the Missouri River north of Jordan, Montana. (Bill Hatcher)

In 1990, a group of paleontologists digging on the Cheyenne River Indian Reservation, in South Dakota, unearthed an enormous and incredibly well-preserved *T. rex*. Later named “Sue,” it is to date the largest and most complete specimen ever found, with more than 90 percent of its bones recovered. Sue was auctioned in 1997 for \$7.6 million to the Field Museum of Natural History in Chicago, the most ever paid for a dinosaur fossil.

The record sale was publicized around the world and kicked off a sort of dinosaur bone “gold rush.” Scores of prospectors descended on Hell Creek and other fossil beds in the West, drawing the ire of academics, who contend that fossils should be extracted according to scientific protocols, not ripped from the ground

by profit-seeking amateurs. To scientists, every site contains much more than fossil trophies—the plant, pollen and mineral records, as well as the exact placement of the find, are critically important to understanding the history of our planet.^[P]^[SEP] Over the following decade, the mania for dinosaur bones was fueled by the popularity of movies like *Jurassic Park*, booming wealth in Asia, where fossils became ultra-chic for use in home décor, and the media’s attention to celebrity collectors like Leonardo DiCaprio and Nicolas Cage. At the height of the bone rush, there were perhaps hundreds of prospectors conducting digs across hundreds of thousands of square miles, ranging from the Dakotas to Texas.

One of them was Cowboy Phipps.

It was a typical day in early June, clear with the mercury in the triple digits, when Phipps discovered the Dueling Dinosaurs.

He was prospecting with his cousin Chad O’Connor, 49, and a friend and fellow commercial bone digger named Mark Eatman, 45. O’Connor, strong and good-humored, is partially disabled by cerebral palsy. This was his first time hunting for dinosaur bones. He’d later say he accompanied his cousin on the expedition in the hope he’d “find something that could change my life.”

Eatman had been a full-time prospector for many years before falling demand and prices for fossils, along with a three-year stretch of bad luck, forced him to give up the game. “His wife told him it was time to get a real job,” Phipps says.

Eatman found work selling carpet in Billings. On occasion he’d join Phipps for an expedition, sometimes camping out for a few days at a time. Bone diggers across the spectrum—commercial, academic, amateur—would probably agree that the hunt is often as important as the find, an opportunity to get out into nature and to collaborate with like-minded people beneath the same ancient stars the dinosaurs stood under.

Phipps and his partners were checking out an area about 60 miles north of Phipps’ ranch. Because he was using “a small map of a big area,” Phipps says, he believed they were on land his brother was leasing, in the Judith River Formation, which predates Hell Creek by at least ten million years. Later, Phipps discovered they were actually prospecting about ten miles north of where he thought they were, in the area that Phipps, like most of the locals, calls *Hell Crik*. The land was part of a 25,000-acre ranch owned by Mary Ann and Lige Murray.

The men picked their way through the sunburnt environment, the ground a mix of eroded clay, shale and sand. The topography is riven with canyons, ravines and gullies, interrupted by striated buttes, hunkered beneath the cloudless sky like silent messengers from the past. In the time of the dinosaurs, the Hell Creek area was subtropical, with a warm and humid climate. The swampy lowlands were rich with flowering

cited in Murray v. BEJ Minerals LLC, No. 16-35506 archived October 31, 2018

plants, palmettos and ferns. At higher elevations were forests of shrubs and a variety of broad-leaved trees and conifers.

About 66 million years ago, an asteroid collided with the earth, leading to the extinction of the dinosaurs and much of the earth's fauna and paving the way for the evolution of mammals and modern plants. Today, Hell Creek is stark, hot and seemingly deserted. The crew made its way around low-growing cactuses, through prickly and fragrant sage, over tufts of wild grasses. Phipps was riding a small, off-road motorcycle. The other two men were on foot.

Along the way they encountered an occasional set of sun-bleached bones, late of a grazing cow or other denizen: prairie dog, mule deer, antelope, coyote.

At about 11 a.m. Eatman spotted what looked like a piece of massive bone sticking out of a sandstone bank. Phipps approached the hillside for closer inspection. Right away, he says, "We knew we had a pelvis, possibly of a ceratopsian. And we knew we had the femur articulated into the pelvis—we could see the head of the femur." What they didn't know was whether any more of the creature was buried beneath the sand, or whether the rest of the dinosaur had already been washed away from erosion.

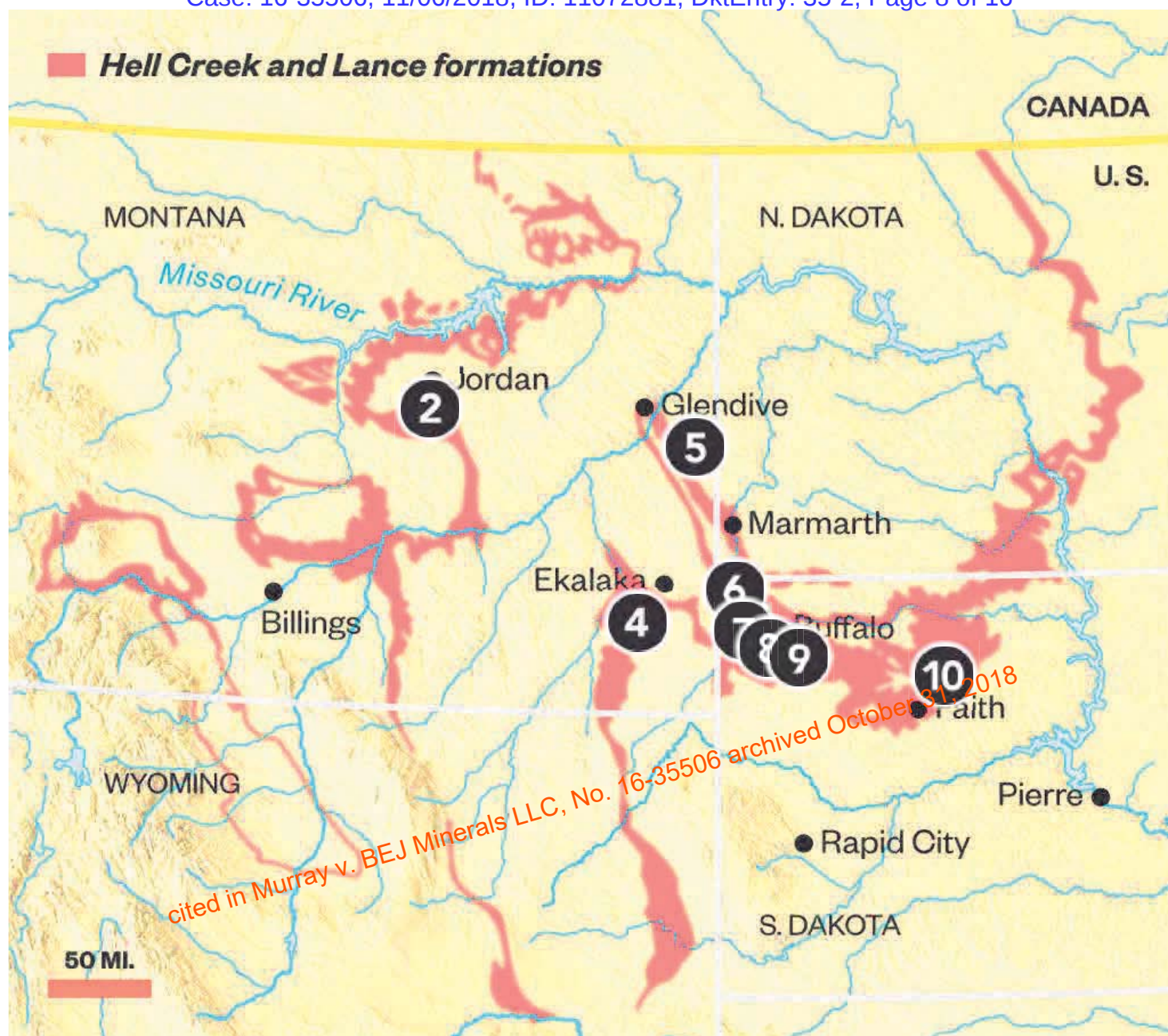
Phipps marked the spot carefully in his mind's eye, and then he and the party headed home. The answers to these mysteries would have to wait for another time.

"I had 260 acres of hay to cut," he says.

Prehistoric Beasts of the Badlands

From remarkable T. rex skeletons to a 66-million-year-old mummy, here are 10 celebrated fossils unearthed at Hell Creek (Map credit: Guilbert Gates; Research credit: Ginny Mohler)





Later that summer, after the hay was mowed, rolled and put up—feed for his cattle over the long winter—Phipps returned to the secret location, this time in the company of Lige Murray, the landowner.

Now Phipps found pieces of ceratops frill that had already weathered out of the bank. He could also see a line of vertebrae leading toward a skull. It seemed likely the dinosaur's back end was buried in the hill—meaning there was a good chance it was still intact.

Murray gave his approval, and Phipps began the painstaking process of excavating, starting with a brush and a penknife. Meanwhile, business partners were gathered; contracts were signed. A \$150,000 loan was arranged. A road to the site was constructed.

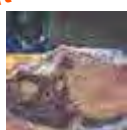
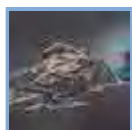
Most of the arduous work of extraction was done by Phipps and O'Connor. "He doesn't get around very good, but he's got a great sense of humor," Phipps says of his cousin, who helped ease the burden of their long, hot days. Eatman came up on weekends to help, as did a small cast of confidants and colleagues, who lent elbow grease and expertise. The find was kept secret throughout the entire process. "I didn't even tell my family until just before we finished the excavation," Phipps says.

After two weeks, Phipps had established a perimeter around the ceratopsian from head to tail. "We had basically all the bones to his body mapped out at that point," he says. One day he was sitting in the cab of a backhoe he'd borrowed from his uncle, which he was using to remove the soil behind and around the specimen to prepare the area for the fossil's removal.

"I went to dump my bucket—as usual I was watching very carefully," Phipps recalls. "Suddenly I see these bone chips. The bones were easy to tell from the light-colored sand because they were dark in color, like dark chocolate."

Phipps clambered down off the backhoe and began to sift the contents of the bucket by hand. That's when he saw it: "There was a claw," he says. "And it was a carnivore claw. It's not any bone that goes with a ceratopsian."

Phipps smiles at the memory. "Man, my hat went in the air," he recalls. "And then I had to sit down and think, like, What's going on? Here is this meat-eater in with this plant-eater, and obviously they weren't friends. What are the odds of another dinosaur being there?"





Phipps with a section of the Nanotyrannus, one of the Dueling Dinosaurs (Robert Clark)

It took Phipps and his partners three months to extract the specimens from the remote site. The sinewy Phipps lost 15 pounds in the process. Railroad ties were inserted beneath the Dueling Dinosaurs to preserve their position and integrity. Plaster jackets were placed around the exposed bone, a standard procedure among paleontologists. In the end there were four large sections and several smaller ones—all together they weighed nearly 20 tons. The section of earth containing the theropod alone was the size of a small car, weighing some 12,000 pounds.

Phipps enlisted the help of friends at CK Preparations, run by a preparer named Chris Morrow and the paleoartist Katie Busch. The multi-ton blocks were transported to a facility in northeastern Montana, where Phipps and his partners carefully removed the jackets. Next the specimens were “cleaned down to the outline of the bones, so you could see everything that was there, how each animal is arranged,” Phipps says. About 30 percent of the fossils were exposed, the bones shiny and dark.

In situ, Phipps explains, using a model he holds in his lap, the skeletons overlapped, with the tail of the theropod, which was about the size of a polar bear, resting beneath the back foot of the elephant-size ceratopsian. Both dinosaurs, buried in some 17 feet of sand, are fully articulated, meaning their skeletons are intact from nose to tail.

Phipps speculates that on the day in question, scores of millions of years ago, one or more *Nanotyrannuses* attacked the ceratopsian. A number of theropod teeth were found around the site, and at least two were embedded in what were the ceratopsian's fleshy areas, one in the throat and one near the pelvis. Scientists believe that theropods shed teeth and quickly regrew them, like sharks. In this case, Phipps says, some of the theropod's teeth are broken in half, indicating a violent fight.

A pitched battle ensued. "The ceratopsian is almost ready to die," Phipps says, picking up the narration and growing animated. "He's hot, he's tired, he's whipped, he's bleeding from all the bite marks in him. Just as the ceratopsian is about to tip over, he staggers around and steps on the nano's tail. Well that hurts, right? So the nano bites the ceratopsian's leg. And what's the ceratopsian gonna do? Instinctively he kicks the nano in the face. The nano's skull is actually cracked. When the ceratopsian caved in the side of the nano's head, the force slammed him into a loose sandbank—and the wall of sand came down," burying them both instantly.

"There's so much science in these dinosaurs!" Phipps exclaims, a rare show of emotion from a guy who likes to wear his black cowboy hat low on his brow. "There may be last meals, there may be eggs, there may be babies—we don't know."

Well aware he'd found something special, Phipps set out to alert the world.

There was only one problem. Nobody would listen. "We called every major American museum and told them what we had," Phipps says. "But I was a nobody. A lot of them probably thought, Yeah, right. This guy is crazy. Nobody sent anyone to verify what we'd found."

In time, though, word got out. Sampson, the Canadian paleontologist, then with the Denver Museum of Nature & Science, spent an hour with a group from the museum examining the fossils in a Quonset hut in eastern Montana. "We were blown away," Sampson says. "It's an amazing specimen."

Several other experts who've seen the Dueling Dinosaurs have come to the same conclusion. "It's exquisite," says Kirk Johnson, director of the Smithsonian's National Museum of Natural History. "It's one of the more beautiful fossils found in North America, ever." Tyler Lyson, a curator at the Denver Museum of Nature & Science, calls it a "spectacular discovery. Any museum would love to have it."

But not everyone agrees. "As far as I'm concerned, those specimens are scientifically useless," says Jack Horner, the pioneering and world-famous paleontologist who was the inspiration for the dinosaur expert played by Sam Neill in *Jurassic Park*. "Every single specimen collected by a commercial collector is useless, because they do not come with any of the data" that academically trained paleontologists are careful to collect, Horner says.

As time dragged on, Phipps tried everything he could think of to find a buyer for the Dueling Dinosaurs. "There were a few museums that were interested," he says. "We got close with one. I was negotiating with the director, and we actually came to an agreement on a price at one point. And then—nothing happened. They didn't get back to us. I don't know more than that."



This interpretation shows the bared teeth of the *Nanotyrannus*; several nano teeth were found embedded in the ceratopsian. (Illustration by Bill Mayer. Reference sources: Eric Baker; CK Preparations)

cited in Murray v. BDO Minerals LLC, No. 16-35506 archived October 31, 2018

In 2013, after seven years in the lab of CK Preparations, the Dueling Dinosaurs were brought to auction at Bonhams, in New York City. It was valued by appraisers as high as \$9 million, according to Phipps.

To transport the specimens from Montana, custom crates had to be built for each section. A special semi-truck with an air-ride suspension was hired. Phipps and his party flew to New York.

Bonhams displayed the fossils in a large atrium room at its facility on Madison Avenue. The crowd at the event was a mix of "professorial baby boomers, wily prospectors, impeccably dressed collectors," according to an account of the event published by the website Gizmodo. Phipps, the website reported, "wore a rancher's vest, neckerchief and black cowboy hat."

The bidding on the Dueling Dinosaurs lasted just 81 seconds. The only offer was \$5.5 million, which failed to meet the reserve. (Although the reserve price was not publicly announced, Phipps says it was closer to the appraised figure of around \$9 million.) "I just felt that they were worth probably twice what we were offered," Phipps says. "We were expecting better, and we weren't willing to take that."

Perhaps reflecting the falling market for fossils, a number of other items failed to sell that day, including a triceratops skeleton, valued between \$700,000 and \$900,000, and a *Tyrannosaurus rex* valued at up to \$2.2 million.

Three years later, sitting in his office, there is regret in his voice. “The reason they went to auction was sort of out of frustration on my part. And then it was over before it started. It was disappointing that we couldn’t make a sale, but I guess I was half expecting it. My attitude is always the same: You don’t count your chickens before they hatch.”

Since then, the Dueling Dinosaurs have been housed in a storage facility at an undisclosed location in New York. They remain unstudied more than a decade after they were exhumed. In the meantime, Phipps has been regarded by some, however undeservedly, as a privateer devoted more to money than to science.

“I’ve never had any money, so money’s never been all that important to me,” he says. “But I’m not gonna just give them away. There were people that said I should just donate them. Well, no. I’ve got partners. I’ve put too much into the project. I was out there trying to make a living. It’s just like them academics that come out every summer between classes to look for fossils—they’re trying to make a living, too.”

Johnson, of the Smithsonian, says there is tremendous value in the Dueling Dinosaurs, despite some of the criticisms leveled against how the specimens were excavated. “There’s scientific value, there’s display value, there’s the novelty of the two of the dinosaurs being adjacent,” he says. But, he adds, “the price tag is sort of out of reach of most museums, unless somebody comes along who wants to buy it and donate it. And that hasn’t happened yet.” Johnson says he viewed the Dueling Dinosaurs in the company of a wealthy museum supporter whom he invited, hoping the man might take an interest in the fossil. It turned out the donor had already seen it—with an official from another museum. “There really aren’t that many buyers for something like this.”

The sale of Sue, the *T. rex*, for more than \$7 million, was a “high-water mark” for fossils, Johnson says, reflecting unprecedented donations by corporate sponsors like McDonald’s and Disney. “Sue changed everything, because ranchers went kind of nuts when they realized that dinosaurs weren’t just old bones, they were a source of money—and that screwed everything up.”

Tyler Lyson, of the Denver Museum, says it would unquestionably be “a shame if it ultimately doesn’t end up in a museum.” A Yale-trained paleontologist who grew up about three hours southeast of Phipps, along the Montana-North Dakota border, Lyson got his start hunting fossils on ranch land homesteaded by his mother’s family. Improbably, through a series of scholarships, his childhood hobby became his life’s work.

“There’s only a certain percentage of people on the planet who are interested in fossils to begin with,” Lyson says. “We all share that common bond, even though we might be interested for different reasons.”



Phipps with his son Luke, who holds a fossil he found while prospecting with his father, in their basement workshop in Montana's far northeast. (Tom Fowlks)

At five o'clock, Phipps' wife rings the dinner bell. Phipps hoists himself out of the chair and gingerly climbs the stairs. Three months ago, he and his 12-year-old son were cutting a calf from the herd when Phipps' horse slipped and rolled over on top of him. Phipps broke his leg in several places; his foot was turned the wrong way. His son, thinking he was dead, began to administer CPR. Last week the screws were removed from the leg; it looks like he will recover full use. Of course, during his convalescence, an entire prospecting season was lost, along with any hope of any income from fossils—revenue that over the years has accounted for two-thirds of his annual income, he says.

Besides her duties at the nearby one-room schoolhouse, Lisa Phipps has published two children's books. We are joined at the table by the couple's two boys, the younger of whom is 10. (Their eldest, a daughter, is in nursing school.) We eat a convivial supper of shredded chicken, potatoes and squash. The windows

frame the rugged beauty of the surrounding countryside. The early evening sunlight creates an intimate glow. Beside my plate, in two little plastic bags, are a pair of triceratops teeth that Phipps has given me as a remembrance of my visit.

“The academics think what I’m doing is horrid,” Phipps is saying. “They think I’m destroying fossils and selling them to the highest bidder. But that’s not true,” he says, anger rising in his voice. “I love fossils as much as they do. Granted, I’m self-taught. I’m just a cowpoke, I don’t know everything. But I’ve had several paleontologists, even ones who don’t exactly condone what I do, tell me I did a good job getting the fossils out. Maybe I didn’t do the totally detailed scientific work like they do, but I don’t have 30 college students under me working for nothing. When we found the Dueling Dinosaurs, I thought the academics would be big enough to bridge the gap. I figured they’d say, ‘OK, this is a once in a lifetime find.’”

Someday, Phipps hopes, the divide with the academic community will be bridged and whatever valuable scientific data the Dueling Dinosaurs retain will be reaped. “The dinosaurs have been removed,” he says. “If we left them in the hill, the weather would have destroyed them in the last eight or ten years since we dug them out. We did the best we could with what we had at our disposal. You gotta make up your own mind if what I do is wrong or not. But to me, it’s not.”

After my visit, not long before this article went to press, Phipps told me that there have been renewed overtures from a museum interested in buying the Dueling Dinosaurs. “There are some things happening, but I’m not at liberty to discuss it,” he said. But he did suggest that sufficient funds haven’t yet been raised. “It’s like anything in business, I guess. You want a fair price. I’m gonna wait and see what happens. I’m not in any hurry.”

In the meantime, Phipps says, “I’ve paid back my debts, and I’m trying to build the ranch up a little more, and to get more cattle. I’m leasing more ground now, too. I’m trying to focus on that, because fossils aren’t a guarantee, you know?”



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United States Court of Appeals for the Ninth Circuit

Office of the Clerk
95 Seventh Street
San Francisco, CA 94103

Information Regarding Judgment and Post-Judgment Proceedings

Judgment

- This Court has filed and entered the attached judgment in your case. Fed. R. App. P. 36. Please note the filed date on the attached decision because all of the dates described below run from that date, not from the date you receive this notice.

Mandate (Fed. R. App. P. 41; 9th Cir. R. 41-1 & -2)

- The mandate will issue 7 days after the expiration of the time for filing a petition for rehearing or 7 days from the denial of a petition for rehearing, unless the Court directs otherwise. To file a motion to stay the mandate, file it electronically via the appellate ECF system or, if you are a pro se litigant or an attorney with an exemption from using appellate ECF, file one original motion on paper.

Petition for Panel Rehearing (Fed. R. App. P. 40; 9th Cir. R. 40-1)

Petition for Rehearing En Banc (Fed. R. App. P. 35; 9th Cir. R. 35-1 to -3)

(1) A. Purpose (Panel Rehearing):

- A party should seek panel rehearing only if one or more of the following grounds exist:
 - ▶ A material point of fact or law was overlooked in the decision;
 - ▶ A change in the law occurred after the case was submitted which appears to have been overlooked by the panel; or
 - ▶ An apparent conflict with another decision of the Court was not addressed in the opinion.
- Do not file a petition for panel rehearing merely to reargue the case.

B. Purpose (Rehearing En Banc)

- A party should seek en banc rehearing only if one or more of the following grounds exist:

- ▶ Consideration by the full Court is necessary to secure or maintain uniformity of the Court's decisions; or
- ▶ The proceeding involves a question of exceptional importance; or
- ▶ The opinion directly conflicts with an existing opinion by another court of appeals or the Supreme Court and substantially affects a rule of national application in which there is an overriding need for national uniformity.

(2) Deadlines for Filing:

- A petition for rehearing may be filed within 14 days after entry of judgment. Fed. R. App. P. 40(a)(1).
- If the United States or an agency or officer thereof is a party in a civil case, the time for filing a petition for rehearing is 45 days after entry of judgment. Fed. R. App. P. 40(a)(1).
- If the mandate has issued, the petition for rehearing should be accompanied by a motion to recall the mandate.
- *See* Advisory Note to 9th Cir. R. 40-1 (petitions must be received on the due date).
- An order to publish a previously unpublished memorandum disposition extends the time to file a petition for rehearing to 14 days after the date of the order of publication or, in all civil cases in which the United States or an agency or officer thereof is a party, 45 days after the date of the order of publication. 9th Cir. R. 40-2.

(3) Statement of Counsel

- A petition should contain an introduction stating that, in counsel's judgment, one or more of the situations described in the "purpose" section above exist. The points to be raised must be stated clearly.

(4) Form & Number of Copies (9th Cir. R. 40-1; Fed. R. App. P. 32(c)(2))

- The petition shall not exceed 15 pages unless it complies with the alternative length limitations of 4,200 words or 390 lines of text.
- The petition must be accompanied by a copy of the panel's decision being challenged.
- An answer, when ordered by the Court, shall comply with the same length limitations as the petition.
- If a pro se litigant elects to file a form brief pursuant to Circuit Rule 28-1, a petition for panel rehearing or for rehearing en banc need not comply with Fed. R. App. P. 32.

- The petition or answer must be accompanied by a Certificate of Compliance found at Form 11, available on our website at www.ca9.uscourts.gov under *Forms*.
- You may file a petition electronically via the appellate ECF system. No paper copies are required unless the Court orders otherwise. If you are a pro se litigant or an attorney exempted from using the appellate ECF system, file one original petition on paper. No additional paper copies are required unless the Court orders otherwise.

Bill of Costs (Fed. R. App. P. 39, 9th Cir. R. 39-1)

- The Bill of Costs must be filed within 14 days after entry of judgment.
- See Form 10 for additional information, available on our website at www.ca9.uscourts.gov under *Forms*.

Attorneys Fees

- Ninth Circuit Rule 39-1 describes the content and due dates for attorneys fees applications.
- All relevant forms are available on our website at www.ca9.uscourts.gov under *Forms* or by telephoning (415) 355-7806.

Petition for a Writ of Certiorari

- Please refer to the Rules of the United States Supreme Court at www.supremecourt.gov

Counsel Listing in Published Opinions

- Please check counsel listing on the attached decision.
- If there are any errors in a published opinion, please send a letter **in writing within 10 days** to:
 - ▶ Thomson Reuters; 610 Opperman Drive; PO Box 64526; Eagan, MN 55123 (Attn: Jean Green, Senior Publications Coordinator);
 - ▶ and electronically file a copy of the letter via the appellate ECF system by using “File Correspondence to Court,” or if you are an attorney exempted from using the appellate ECF system, mail the Court one copy of the letter.

United States Court of Appeals for the Ninth Circuit

BILL OF COSTS

This form is available as a fillable version at:

<http://cdn.ca9.uscourts.gov/datastore/uploads/forms/Form%2010%20-%20Bill%20of%20Costs.pdf>.

Note: If you wish to file a bill of costs, it MUST be submitted on this form and filed, with the clerk, with proof of service, within 14 days of the date of entry of judgment, and in accordance with 9th Circuit Rule 39-1. A late bill of costs must be accompanied by a motion showing good cause. Please refer to FRAP 39, 28 U.S.C. § 1920, and 9th Circuit Rule 39-1 when preparing your bill of costs.

v. 9th Cir. No.

The Clerk is requested to tax the following costs against:

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* *Costs per page:* May not exceed .10 or actual cost, whichever is less. 9th Circuit Rule 39-1.

** *Other:* Any other requests must be accompanied by a statement explaining why the item(s) should be taxed pursuant to 9th Circuit Rule 39-1. Additional items without such supporting statements will not be considered.

Attorneys' fees **cannot** be requested on this form.

Continue to next page

Form 10. Bill of Costs - Continued

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Signature

("s/" plus attorney's name if submitted electronically)

Date

Name of Counsel:

Attorney for:

(To Be Completed by the Clerk)

Date

Costs are taxed in the amount of \$

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, Deputy Clerk