

**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

ORDER CERTIFYING  
QUESTION TO THE  
SUPREME COURT OF  
MONTANA

Filed May 20, 2019

Before: Sidney R. Thomas, Chief Judge, and Kim McLane  
Wardlaw, Marsha S. Berzon, Jay S. Bybee, Consuelo M.  
Callahan, Sandra S. Ikuta, Mary H. Murguia, Morgan  
Christen, Paul J. Watford, Michelle T. Friedland, and  
Ryan D. Nelson, Circuit Judges.

Order

**SUMMARY\***

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**Mineral Rights**

The en banc court stayed proceedings and certified the following question to the Montana Supreme Court:

Whether, under Montana law, dinosaur fossils constitute “minerals” for the purpose of a mineral reservation.

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**ORDER**

THOMAS, Chief Circuit Judge:

Upon a vote of a majority of the non-recused active judges, we granted rehearing *en banc* in *Murray v. BEJ Minerals, LLC*, 908 F.3d 437 (9th Cir. 2018) (“*Murray II*”), to determine whether dinosaur fossils are part of the surface estate or the mineral estate under Montana law. *Murray v. BEJ Minerals*, 920 F.3d 583 (9th Cir. 2019). This central question of state law is determinative of the instant case, and we find no controlling precedent in the decisions of the Montana Supreme Court. Mont. R. App. P. 15(3). Thus, we respectfully certify this question of law to the Montana Supreme Court pursuant to Rule 15 of the Montana Rules of Appellate Procedure.

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

As a general matter, “[t]he task of a federal court in a diversity action is to approximate state law as closely as possible in order to make sure that the vindication of the state right is without discrimination because of the federal forum.” *Ticknor v. Choice Hotels Int’l, Inc.*, 265 F.3d 931, 939 (9th Cir. 2001) (quoting *Gee v. Tenneco, Inc.*, 615 F.2d 857, 861 (9th Cir. 1980)). If the state’s highest appellate court has not decided the question presented, then we must predict how the state’s highest court would decide the question. *Id.*

However, if state law permits it, we may exercise our discretion to certify a question to the state’s highest court. *Lehman Bros. v. Schein*, 416 U.S. 386, 391 (1974). We may elect to certify a question *sua sponte*. *Parents Involved in Cmty. Sch. v. Seattle Sch. Dist. No. 1*, 294 F.3d 1085, 1086 (9th Cir. 2002), *certified question answered*, 72 P.3d 151 (Wash. 2003); *see also Lombardo v. Warner*, 391 F.3d 1008 (9th Cir. 2004) (en banc) (certifying question from an en banc court). The Montana Supreme Court permits certification of questions of law from federal courts. Mont. R. App. P. 15(3).

“We invoke the certification process only after careful consideration and do not do so lightly.” *Kremen v. Cohen*, 325 F.3d 1035, 1037 (9th Cir. 2003). In deciding whether to exercise our discretion, we consider: (1) whether the question presents “important public policy ramifications” yet unresolved by the state court; (2) whether the issue is new, substantial, and of broad application; (3) the state court’s caseload; and (4) “the spirit of comity and federalism.” *Id.* at 1037–38.

Whether dinosaur fossils belong to the surface estate or the mineral estate under Montana law presents important public policy ramifications for Montana that have not yet

been resolved by the Montana Supreme Court. Given the frequency of divided ownership of Montana surface and mineral estates, and that Montana possesses vast deposits of valuable vertebrate fossil specimens, the issue is substantial and of broad application. Therefore, after considering these factors, and in the spirit of comity and federalism, we exercise our discretion to certify this question to the Montana Supreme Court.

Thus, pursuant to Montana Rule of Appellate Procedure 15(6), we provide the following information for the consideration of the Montana Supreme Court.

1

We first provide the factual context of this dispute, along with the procedural history. Mary Ann and Lige Murray live on a farm and ranch in Garfield County, Montana. *Murray v. Billings Garfield Land Co.*, 187 F. Supp. 3d 1203, 1204 (D. Mont. 2016) (“*Murray I*”). As is common in Montana, the Murray property mineral estate has been severed from the surface estate. *Id.* at 1205. The Murrays own the surface estate and a minority interest in the mineral estate. *Id.* The remaining mineral rights are currently owned by non-Montana entities, BEJ Minerals, LLC and RTWF, LLC. *Id.*

The parties’ mineral deed provides that the Murrays and these entities 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 lands[.]” The purchase agreement accompanying the mineral deed obligated all 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.” At the time the parties executed the purchase agreement and mineral deed in 2005, “none of the parties or their agents had ever considered whether the Mineral Estate as defined in the 2005 Mineral Deed included fossils, and none of the parties or their agents had or expressed any specific intent about who would be entitled to ownership of any fossils found on the Subject Property.”

Shortly thereafter, in Fall 2005, the Murrays discovered a “spike cluster” fossil on the property, but did not consider this discovery significant. *Id.* Several valuable fossil discoveries have followed. These discoveries include the complete fossilized remains of a *Tyrannosaurus rex*, the fossilized remains of two dinosaurs locked in combat (the “Dueling Dinosaurs”), a large *Triceratops* skull, and a *Triceratops* foot. According to BEJ and RTWF, the Murrays first notified the other mineral titleholders of the fossil discoveries in 2008. BEJ and RTWF asserted an ownership interest based on their status as mineral titleholder in 2013.

The Murrays filed a complaint on May 22, 2014, in Montana’s Sixteenth Judicial District Court, Garfield County, seeking a declaratory judgment that fossils found on the property are owned solely by the Murrays. BEJ and RWTF removed the case to federal district court on August 21, 2014, on the basis of diversity jurisdiction. BEJ and RWTF filed a counterclaim, seeking a declaratory judgment that the fossils are properly classified as minerals under Montana law, and an order directing the Murrays to provide a full accounting detailing all fossils found, expenses incurred, profits gained, and contracts formed regarding said fossils.

The parties moved for summary judgment, and the district court granted the Murrays’ motion, declaring the Murrays, as

owners of the surface estate, the sole owners of the dinosaur fossils. *Murray I*, 187 F. Supp. 3d at 1212. Copies of the district court decision and panel opinion are attached.

BEJ and RWTF timely appealed. A majority of a three judge panel of our Court reversed the district court, deciding the Montana state law question in a precedential opinion that bound the federal district courts in Montana, where many of these property interest disputes were likely to be litigated on the basis of diversity jurisdiction. The Murrays filed a petition for rehearing and rehearing *en banc*. BEJ and RWTF filed a response. We granted leave to various parties to file amicus briefs. Upon a majority vote of the active, non-recused judges, we granted rehearing *en banc*, and by separate order designated *Murray II* as non-precedential. Because of the importance of the state law question, and the potential of different outcomes in federal and state courts, we have elected to certify the issue to the Montana Supreme Court.

2

The Montana Supreme Court has not decided the question of whether dinosaur fossils belong to the owner of surface estate or the owner of the mineral estate in Montana. The Montana Supreme Court has twice employed the “ordinary and natural meaning” test, first articulated by the Supreme Court of Texas, to determine whether a mineral deed encompasses a particular mineral. *Farley v. Booth Bros. Land & Livestock Co.*, 890 P.2d 377, 380 (Mont. 1995) (applying the test first articulated in *Heinatz v. Allen*, 217 S.W.2d 994, 997 (Tex. 1949)); *Hart v. Craig*, 216 P.3d 197, 198 (Mont. 2009) (same). The Montana cases to apply *Heinatz* considered whether scoria useful for constructing

roadways, *Farley*, 890 P.2d at 380, and sandstone used in landscaping, *Hart*, 216 P.3d at 198, constituted minerals reserved by the instruments there at issue. The Montana Supreme Court has never applied the *Heinatz* test in the context of dinosaur fossils, nor have other state courts to apply the test resolved this question.

On April 16, 2019, the Governor of Montana signed into law a bill declaring that dinosaur “fossils are not minerals and that fossils belong to the surface estate.” H.B. 229, 66th Leg. (Mont. 2019) (as transmitted to the Governor). H.B. 229 “does not affect penalties that were incurred or proceedings in courts that were begun” before the law takes effect, like the instant matter. *Id.* at § 5. In addition, the question of whether H.B. 229 applies retroactively has not been litigated.

3

In light of the foregoing, we respectfully certify the following question to the Montana Supreme Court:

Whether, under Montana law, dinosaur fossils constitute “minerals” for the purpose of a mineral reservation?

We acknowledge that, as the receiving court, the Montana Supreme Court may reformulate the certified question. Mont. R. App. P. 15(6)(a)(iii).

The names and addresses of counsel for the parties, as required by Mont. R. App. P. 15(6)(a)(iv), are as follows:

Harlan B. Krogh and Eric Edward Nord, Crist, Krogh & Nord, PLLC, 2708 First Avenue North, Suite 300, Billings, MT 59101, for Appellees Mary Ann and Lige M. Murray.

Brian C. Lake and Shane Ray Swindle, Perkins Coie LLP, 2901 North Central Avenue, Suite 2000, Phoenix, AZ 85012-2788, for Appellants BEJ Minerals, LLC and RWTF, LLC.

## 4

The Clerk shall forward a certified copy of this certification order, under official seal, to the Montana Supreme Court. The Clerk is also ordered to transmit a copy of the Excerpts of Record filed in this appeal to the Montana Supreme Court and, if requested by the Montana Supreme Court, provide all or part of the district court record not included in the Excerpts of Record. Mont. R. App. P. 15(5). The Clerk is further directed to forward a copy of the briefs filed by the parties, the petition for rehearing *en banc*, the response to the petition for rehearing *en banc*, and the amicus briefs filed concerning rehearing *en banc*.

Submission of this appeal for decision is vacated and deferred pending the Montana Supreme Court's final response to this certification order. The Clerk is directed to administratively close this docket, pending further order. The parties shall notify the Clerk of this court within fourteen days of the Montana Supreme Court's acceptance or rejection

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of certification, and again, if certification is accepted, within fourteen days of the Montana Supreme Court's issuance of a decision.

**QUESTION CERTIFIED; PROCEEDINGS STAYED.**

**APPENDIX**

187 F.Supp.3d 1203  
United States District Court,  
D. Montana,  
Billings Division.

Mary Ann Murray and **Lige M. Murray**, Plaintiffs,  
v.

Billings Garfield Land Company, Robert E.  
Severson, Severson Minerals, LLC, BEJ Minerals,  
LLC, RTWF, LLC and John Does 1-10, Defendants.  
BEJ Minerals, LLC, RTWF, LLC Counter-Claimants,  
v.

Mary Ann Murray and Lige M.  
Murray, Counter-Defendants.

CV 14-106-BLG-SPW  
|  
Signed May 20, 2016

OPINION and ORDER

SUSAN P. WATTERS, United States District Judge

Before the Court are competing summary judgment motions filed by Plaintiffs/Counter-Defendants Mary Ann Murray and Lige E. Murray (collectively the “Murrays”) and Defendants/Counter-Claimants BEJ Minerals, LLC and RTWF, LLC (collectively the “Seversons”). The motions present the question of whether dinosaur fossils found on a ranch are included in the surface estate or the mineral estate. For the reasons that follow, the Court finds that fossils are not included in the ordinary definition of “mineral.” Accordingly, the Court determines that the dinosaur fossils found on the ranch are part of the surface estate.

Synopsis

**Background:** Owners of surface interest in real estate commenced action in state court against owners of mineral interests, seeking declaratory judgment that fossils found on property were part of surface estate and therefore solely owned by them. Defendants removed action on basis of diversity jurisdiction. Defendants counterclaimed for declaratory judgment that fossils were properly classified as minerals under Montana law for purposes of mineral deed. Plaintiffs moved for summary judgment.

The District Court, *Susan P. Watters, J.*, held that dinosaur fossils were not “minerals” under mineral deed.

Motion granted.

Attorneys and Law Firms

\*1204 **Eric Edward Nord, Harlan B. Krogh, Crist, Krogh, Butler & Nord, LLC, Billings, MT, Patrick K. Duffy, Patrick K. Duffy, LLC, Rapid City, SD, for Plaintiffs.**

**Brian C. Lake, Shane R. Swindle, Perkins Coie LLP, Phoenix, AZ, Stephanie Malinda Regenold, Perkins Coie, LLP, Boise, ID, for Defendants.**

I. Background<sup>1</sup>

A. Factual Background

George Severson formerly owned a large amount of farm and ranch property located in Garfield County, Montana. (Doc. 33 at 3.) Beginning in 1983, the Murrays leased the land from George Severson and worked there as ranchers. (*Mary Ann Murray Depo. 30:3-31:8, Doc. 48-4 at 5-6.*) \*1205 Over the years, George Severson transferred portions of his interests in the property to his sons Jerry and Robert Severson and sold the other portions of his property interests to the Murrays. (Doc. 33 at 3.) From approximately 1991 through mid-2005, the Murrays operated the property in partnership with Jerry and Robert Severson under the name Murray Severson Ranch Partnership. (*Id.* at 4.)

In 2005, Jerry and Robert Severson (and/or entities they owned and managed) sold their surface ownership rights in the property to the Murrays. (*Id.*) At the time of the 2005 sale, the mineral estate was severed from the surface estate. (*Id.*) The purchase agreement provided that at closing, the parties would execute a mineral deed apportioning ownership of the mineral rights as follows: 1/3 to Robert Severson, 1/3 to Jerry Severson's company Severson Minerals, LLC, and 1/6 each to Lige and Mary Ann Murray. (*Id.*) One exception was a parcel where half the mineral rights were owned by an unrelated third party known as the Billings Garfield Land Company. (*Id.* at 5.) On that parcel, ownership of the mineral rights was

apportioned as follows: 50% to Billings Garfield Land Company, 16.67% to Robert E. Severson, 16.67% to Severson Minerals, LLC, and 16.67% to the Murrays. (*Id.*)

The mineral deed provided that the Seversons and the 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 [property].” (*Id.* at 6.) The parties executed and recorded the deed in connection with the sale of the surface estate. (*Id.* at 4.) At the time of the sale, neither the Seversons nor the Murrays suspected that dinosaur fossils existed on the property. (Doc. 55 at 6.) Robert Severson's interest is now held by BEJ Minerals, LLC. (Doc. 33 at 5.) Severson Minerals, LLC's interest is now held by RTWF LLC. (*Id.* at 4.) To avoid being involved in this lawsuit, Billings Garfield Land Company has subsequently transferred to the Seversons any interest it had in any fossils found on the property. (Doc. 53 at 8.)

After the severance of the mineral and surface estates, the Murrays discovered several dinosaur fossils on the property. The first fossil was a “spike cluster” from a Pachycephalosaur found in the fall of 2005. (Doc. 53 at 12.) At the time, the Murrays did not consider this fossil to be significant. (*Id.*)

Sometime prior to December 2006, the Murrays discovered fossils of two separate dinosaurs that appear to have been locked in battle when they died. (Doc. 53 at 12, 14-15.) Subsequently nicknamed the Dueling Dinosaurs, one of the Murrays' experts described it as a “one-a-kind find.” (*Peter Larson Depo. 131:10*, Doc. 48-4 at 141.) Fossils of dinosaurs that appear to have interacted are rare, and the Dueling Dinosaurs “have huge scientific value.” (*Phillip Manning Depo. 120:11-25*, Doc. 48-4 at 185.) An appraiser concluded that the Dueling Dinosaurs have a market value of between \$7 million and \$9 million. (Doc. 55 at 17.) The Murrays attempted to sell the Dueling Dinosaurs at a New York City auction, but nobody bid over the reserve of \$6 million. (Doc. 55 at 17; *Mary Ann Murray Aff.* ¶ 3, Doc. 55-2 at 2.)

The Murrays also discovered the fossilized remains of a Tyrannosaurus rex on the property. (Doc. 55 at 7-8.) Subsequently nicknamed the “Murray T. Rex,” there are only about a dozen Tyrannosaurus rex skeletons as well preserved and complete as the Murray T. Rex. (*Id.* at 18.) The Murray T. Rex has been sold to a Dutch museum

for a negotiated price in the millions of dollars. (*Id.*) The proceeds from the sale are being held in escrow pending the outcome of this action. (*Id.* at 8.)

\*1206 A Triceratops skull and part of a Triceratops foot have also been found on the property. (Doc. 33 at 6.) The Murrays' agent who helped prepare the Triceratops skull for display wrote that it was “the best specimen I have ever worked on and i [sic] have done 27 Triceratops skulls.” (*Chris Morrow Email*, Doc 48-6 at 27.) Clayton Phipps, who helped the Murrays locate and excavate the fossils found on the property, described the skull to a potential purchaser as “one of the best if not the best Triceratops skull ever found and the best one available for sale now.”<sup>2</sup> (*Clayton Phipps Email*, Doc. 48-6 at 23.) The Murrays have offered to sell the Triceratops skull for between \$200,000 and \$250,000. (Doc. 55 at 20.) They sold the Triceratops foot by itself for \$20,000. (*Id.* at 21.)

The Murrays entered into contracts and arrangements with third parties relating to the excavation and sale of the fossils found on the property. (*Id.* at 10.) The Murrays did not notify the Seversons upon discovery of the fossils or before attempting to sell the fossils. (*Id.*) The parties agree that the Dueling Dinosaurs, the Murray T-Rex, and the Triceratops fossils are rare, exceptional, and have special value. (*Id.* at 18, 19, and 21.)

### B. General Information about Fossils

The parties' experts differ slightly in describing the process of how the dinosaur bones found on the property became “fossilized.” The Seversons' expert Raymond Rogers described fossilization “as a preservational process.” (*Raymond Rogers Depo. 89:9-10*, Doc. 48-4 at 234.) Bones and teeth naturally contain a mineral called hydroxylapatite. (*Raymond Rogers Ex. Disclosure at 6*, Doc. 48-4 at 199.) In the vast majority of instances after a vertebrate's death, the bones are decomposed and destroyed. (*Id.* at 7, Doc. 48-4 at 200.) However, in some circumstances, the bones and teeth can be stabilized and fossilized after a material called collagen is removed. (*Id.*) Rogers opined that fossilization refers to the “recrystallization” of organic bone matter into more stable forms. (*Id.*) Further, minerals are sometimes added to the bone by filling preexisting open spaces in the bone structure and the space formerly occupied by decomposed collagen. (*Id.*) Such minerals include calcite, pyrite, barite,

apatite, chlorite, and silica. (*Id.*) However, minerals do not fill voids in all fossils. (*Id.* at 8, Doc. 48-4 at 201.)

In reviewing the dinosaur fossils found on the Murrays' ranch, Rogers concluded that the dinosaur bones recrystallized into a compound called francolite. (*Id.* at 10, Doc. 48-4 at 203.) According to Rogers, “[f]rancolite is a carbonate and fluorine enriched apatite group mineral.” (*Id.* at 9, Doc. 48-4 at 202.) Rogers stated that francolite is the most common mineral found in recrystallized fossil bone. (*Id.* at 8-9, Doc. 48-4 at 201-02.) Rogers reviewed x-ray diffractograms performed on the fossils found on the property, and he concluded that francolite is present in the fossils. (*Id.* at 9-10, Doc. 48-4 at 202-03.) Rogers opined “that the fossil dinosaur bones in question were recrystallized to the mineral francolite during fossilization.” (*Id.* at 10, Doc. 48-4 at 203.)

The Murrays' experts largely agree with the fossilization process described by Rogers, but they differ on the conclusion that francolite is a mineral compound. Expert Peter Larson opined that “francolite has not been recognized as a distinct, valid mineral species since 2008.” (*Peter Larson Rebuttal Ex. Report at 1*, Doc. 55-6 at 6.) Larson stated that the fossils are composed of the mineral hydroxylapatite. (*Pe \*1207 ter Larson Depo. 223:12-14*, Doc. 48-4 at 156.) As mentioned above, hydroxylapatite is not unique to fossils, as it is found in the bones of living vertebrates. Larson compared the x-ray diffraction patterns of the Murray T. Rex and a modern bison bone, and he concluded that the samples contained identical patterns of hydroxylapatite. (*Id.* at 219:17-221:17, Doc. 48-4 at 219-221.) Larson opined that the fossil “has not been replaced by minerals in any way, shape, or form. It is hydroxylapatite just as when it was alive.” (*Id.* at 224:15-18, Doc. 55-3 at 7.) Larson does not consider minerals that fill voids in the bone to be part of the fossil. (*Id.*)

While the Dueling Dinosaurs, the Murray T. Rex, and Triceratops skull and foot are indisputably valuable, not all dinosaur fossils are rare and valuable. (Doc. 53 at 16-17.) Fragments of fossils that have little or no value are sometimes referred to as “chunkosaur” or “junkosaur.” (*Id.*) Clayton Phipps stated that he has “walked by literally truckloads of bone fragments which [he] regularly call[s] ‘leave-rite’ which means ‘leave ‘er rite there, it’s worthless.’” (*Clayton Phipps Aff.* ¶ 4, Doc. 47-9 at 2.) Finding valuable fossils is mostly a matter of luck

and effort, and locating fossils involves walking, riding, or driving around to see if there are any bones lying around or sticking out of the ground. (Doc. 53 at 19.)

### C. Procedural Posture

The Murrays filed this action in Montana state court seeking a declaratory judgment that the fossils found on the property are part of the surface estate and therefore solely owned by the Murrays. (Doc. 1-1.) The Seversons removed the action to this Court on the basis of diversity jurisdiction. (Doc. 1.) The Seversons include a counterclaim for a declaratory judgment that the fossils are properly classified as minerals under Montana law for purposes of a mineral deed. (Doc. 7 at 18-19.) The Murrays and the Seversons now move for summary judgment on their claims.

## II. Standard

Summary judgment is proper when “the pleadings, the discovery and disclosure materials on file, and any affidavits show that there is no genuine issue as to any material fact and that the movant is entitled to judgment as a matter of law.” Fed.R.Civ.P. 56(c). An issue is “genuine” only if there is a sufficient evidentiary basis on which a reasonable fact finder could find for the nonmoving party and a dispute is “material” only if it could affect the outcome of the suit under the governing law. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986). In considering a motion for summary judgment, the court “may not make credibility determinations or weigh the evidence.” *Reeves v. Sanderson Plumbing Prods.*, 530 U.S. 133, 150, 120 S.Ct. 2097, 147 L.Ed.2d 105 (2000); *Anderson*, 477 U.S. at 249–50, 106 S.Ct. 2505. Since the Court is sitting in diversity jurisdiction, Montana substantive law applies. *In re Exxon Valdez*, 484 F.3d 1098, 1100 (9th Cir.2007).

## III. Analysis

The Seversons argue that the undisputed facts show that the fossils at issue are composed of minerals. The Seversons note that even crediting the Murrays' expert's opinion, the fossils are composed of the mineral hydroxylapatite. The Seversons continue that the fossils are “rare and exceptional in character” and possess “special value,” and are therefore properly classified as “minerals” for purposes of a mineral deed under Montana law. The Murrays argue that the ordinary and

natural meaning of “mineral” does not include fossils. The Murrays point to statutory and regulatory definitions of “mineral” in other \*1208 contexts to support their argument. The Murrays also argue that public policy supports a finding that fossils are not “minerals” under a mineral deed.

#### A. Ordinary and Natural Meaning Test

As mentioned above, the mineral deed provides joint ownership of “all of the oil, gas, hydrocarbons, and minerals” found on the property. (Doc. 33 at 6 (emphasis added).) When used in a deed, the “term ‘mineral’ has been the source of considerable confusion in mineral law litigation nationwide.” *Farley v. Booth Bros. Land & Livestock Co.*, 270 Mont. 1, 890 P.2d 377, 379 (1995). This confusion has led to “title uncertainty and the need to litigate each general reservation of minerals to determine which minerals it encompasses.” *Id.* (quoting *Miller Land & Mineral Co. v. State Highway Comm’n of Wyoming*, 757 P.2d 1001, 1002 (Wyo.1988)).

In *Farley*, the Montana Supreme Court considered whether scoria is a “mineral” for purposes of land transfers without the benefit of established Montana law on the topic. 890 P.2d at 379. The Court first examined statutory definitions of the term “mineral” and found that the definition differs depending on the context in which it is used. *Id.* For example, scoria was explicitly included in the definition of “mineral” under Mont. Code Ann. § 82-4-403(6), which is included in a part of the code entitled Open-cut Mining Reclamation.<sup>3</sup> *Farley*, 890 P.2d at 379. Conversely, scoria may not have been included in the definition of “mineral” formerly found at § 82-4-303(9), which was included in a part of the code entitled Metal Mine Reclamation.<sup>4</sup> *Id.*

In the absence of an applicable statutory definition, the Court examined case law from other jurisdictions. *Id.* at 379–80. The Court favorably quoted a North Dakota case which held that “materials like gravel, clay and scoria are not ordinarily classified as minerals because they are not exceptionally rare and valuable.” *Id.* at 380 (quoting *Hovden v. Lind*, 301 N.W.2d 374, 378 (N.D.1981)). The Court also favorably quoted an Oklahoma case which held “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.” *Farley*, 890 P.2d at 380 (quoting *Holland v. Dolese Co.*, 540 P.2d 549, 550 (Okla.1975)). Finally, the Court also favorably cited *Miller*, where the Wyoming Supreme Court concluded that gravel was not a mineral. *Farley*, 890 P.2d at 380 (citing *Miller*, 757 P.2d at 1004). The cases cited by the Montana Supreme Court followed a test commonly known as the “ordinary and natural meaning test” first articulated by the Supreme Court of Texas in *Heinatz v. Allen*, 147 Tex. 512, 217 S.W.2d 994, 997 (1949). Numerous courts follow this approach. *Miller*, 757 P.2d at 1004.

In *Heinatz*, the Court considered whether limestone is a “mineral.” 217 S.W.2d at 995. The Court noted that scientific or technical definitions of a “mineral” are not helpful, as “it is rare, if ever, that mineral is intended in the scientific or geological sense in the ordinary trading transactions about which deeds and contracts are made.” *Id.* at 997. The Court determined that the term “mineral” should be interpreted according to its “ordinary and natural \*1209 meaning.” *Id.* Under this approach, “mineral” is defined according to “its ordinary and natural meaning unless there is a clear indication that [it is] intended to have a more or a less extended signification.” *Id.* Applying that definition, the Court held that:

[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 giving them special value, as for example sand that is valuable for making glass and limestone of such quality that it may 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.* Since the limestone at issue in *Heinatz* was only useful for building purposes, it was not a mineral for purposes of a mineral deed. *Id.*

After reviewing these persuasive authorities, the Montana Supreme Court held that scoria is not a mineral. *Farley*, 890 P.2d at 380. Scoria is used in road construction, which did 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 550–551). Since scoria does not possess any special properties to make it rare and exceptional, scoria was not included in the mineral estate. *Farley*, 890 P.2d at 381.

The Montana Supreme Court later reaffirmed this approach by holding that sandstone is not a mineral included in a general reservation of mineral rights. *Hart v. Craig*, 352 Mont. 209, 216 P.3d 197 (2009). The Court noted that *Farley* followed the reasoning articulated in *Heinatz*. *Hart*, 216 P.3d at 198. However, rather than focusing on the “ordinary and natural meaning” of “mineral,” the Court concluded that sandstone is not a mineral because it “is not exceptionally rare and valuable.” *Id.*

#### B. Application of the Test to Dinosaur Fossils

At least two takeaways from the *Heinatz* test are relevant here. First, the focus of the test articulated by *Heinatz* does not turn on whether the substance is “rare and exceptional in character.” If that were true, then every rare and exceptional substance found on somebody’s property would be considered a “mineral.” Instead, for purposes of property transfers, the *Heinatz* test turns on the “ordinary and natural meaning” of “mineral.” *Dyegard Land P’ship v. Hoover*, 39 S.W.3d 300, 310 (Tex.App.2001).

Whether a material is “rare and exceptional” assists the determination of whether it is included in the ordinary and natural meaning of “mineral.” For example, as in *Heinatz*, limestone could be a mineral if it could be profitably used in making cement, but it is not a mineral if the limestone can only be used for building purposes. 217 S.W.2d at 997. Sand is also not generally a mineral, but it could be if it had special properties that made it valuable for making glass. *Id.* Similarly, sandstone and scoria could fall into the ordinary definition of mineral, but for purposes of a mineral deed they do not because they do not possess any special properties that make them rare and exceptional. *Farley*, 890 P.2d at 380; *Hart*, 216 P.3d at 198. When a material may fit into the “ordinary and natural meaning” of “mineral,” such as limestone and sand, any rare and valuable characteristics inform the inquiry into whether

a material fits the definition. However, not all rare and valuable materials fit the ordinary and natural meaning of mineral.

\*1210 The second takeaway is a material’s inclusion in the scientific definition of “mineral” is not determinative. *Heinatz*, 217 S.W.2d at 997. If courts were to follow the technical definition of “mineral,” “dirt composing a large part of the surface could also be considered a mineral.” *Dyegard*, 39 S.W.3d at 310; see also *Fleming Found. v. Texaco, Inc.*, 337 S.W.2d 846, 851 (Tex.Civ.App.1960) (Although there is no “doubt about water being technically a mineral,” subsurface water is not a mineral under a reservation of mineral rights). Thus, the Court does not need to involve itself in the dispute as to whether francolite is properly classified as a mineral. Similarly, the presence of the mineral hydroxylapatite is not determinative. As discussed above, bones and teeth of living and dead vertebrates naturally contain hydroxylapatite. (*Raymond Rogers Ex. Disclosure at 6*, Doc. 48-4 at 199.) Yet a reasonable person would not believe that the remains of a mule deer found on the Murrays’ ranch that contain either francolite or hydroxylapatite would fit the ordinary definition of “mineral” under a mineral deed.

Accordingly, the Court’s task is not simply to determine whether the dinosaur fossils are “rare and exceptional in character.” The Court uses the fossils’ characteristics to help inform the analysis of whether they meet the ordinary and natural meaning of “mineral.” The Court looks to several sources in aid of that determination. Deeds conveying an interest in property are governed by contract principals. *Mary J. Baker Revocable Trust v. Cenex Harvest States, Cooperatives, Inc.*, 338 Mont. 41, 164 P.3d 851, 857 (2007) (citing Mont. Code Ann. § 70-1-513). Montana courts use dictionary definitions to assist in determining the common and ordinary understanding of a contract term. *Dollar Plus Stores, Inc. v. R–Montana Associates, L.P.*, 350 Mont. 476, 209 P.3d 216, 219 (2009); *Ravalli Cty. v. Erickson*, 320 Mont. 31, 85 P.3d 772, 774 (2004).

The relevant dictionary definitions of “mineral” typically include an inorganic element or compound mined for economic purposes. See *Webster’s Third New International Dictionary* 1437 (Philip Babcock Gove ed. 1981) (defining “mineral,” in part, as “a solid homogenous crystalline chemical element or compound (as diamond

or quartz) that results from inorganic processes of nature and that has a characteristic crystal structure and chemical composition or range of compositions; any of various naturally occurring homogenous or apparently homogenous and usu[ally] but not necessarily solid substances... obtained for man's use usu[ally] from the ground"); *New Oxford American Dictionary* 1113 (Angus Stevenson & Christine Lindberg eds., 3rd ed. 2010) ("a solid inorganic substance of natural occurrence; substance obtained by mining"); and *The American Heritage Dictionary* 1120-21 (Joseph Pickett ed., 5th ed. 2011) ("A naturally occurring, homogenous inorganic solid substance having a definite chemical composition and characteristic crystalline structure, color, and hardness; Any of the various natural substances, as: a. An element, such as gold or silver. b. An organic derivative, such as coal or petroleum. c. A substance, such as stone, sand, salt, or coal, that is extracted or obtained from the ground or water and used in economic activities"). Finally, the latest edition of *Black's Law Dictionary* defines "mineral" as:

1. Any natural inorganic matter that has a definite chemical composition and specific physical properties that give it value <most minerals are crystalline solids>.
2. A subsurface material that is explored for, mined, and exploited for its useful properties and commercial value.
3. Any natural material that is defined as a mineral by statute or caselaw.

*Black's Law Dictionary* 1145 (Bryan Gamer ed., 10th ed. 2014).

\*1211 In addition to dictionaries, Montana courts may look to statutory definitions from other contexts to help determine the common and ordinary understanding of a contract term. *Dollar Plus Stores*, 209 P.3d at 219–20. Cited earlier, *Mont. Code Ann.* § 82-4-303(16) provides:

"Mineral" means any ore, rock, or substance, other than oil, gas, bentonite, clay, coal, sand, gravel, peat, soil materials, or uranium, that is 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.

Under Montana's tax code, "mineral" is defined as

[A]ny precious stones or gems, gold, silver, copper, coal, lead, petroleum, natural gas, oil, uranium, talc, vermiculite, limestone, or other nonrenewable merchantable products extracted from the surface or subsurface of the state of Montana.

*Mont. Code Ann.* § 15-38-103.

The above statutory definitions of "mineral" focus on the mining of hard substances or oil and gas that are primarily extracted for future refinement and economic purposes. Dinosaur fossils do not seemingly fall into those statutory definitions. Montana law draws distinctions between minerals and fossils in other places. In the context of leasing state land, regulation differentiates fossil collection and mineral exploration:

"General recreational use" means non-concentrated, noncommercial recreational activity, except:

- (a) collection, disturbance, alteration, or removal of archeological, historical, or paleontological sites or specimens (e.g., fossils, dinosaur bones, arrowheads, old buildings, including siding) (which requires an antiquities permit pursuant to 22-3-432, MCA);
- (b) mineral exploration, development, or mining (which requires a lease or license pursuant to Title 77, chapter 3, MCA);
- (c) collection of valuable rocks or minerals (which requires a lease or license pursuant to Title 77, chapter 3, MCA).]

*Mont. Admin. R.* 36.25.145(11). Further, the legislature differentiated between fossils and minerals by granting the Montana Historical Society the authority "to collect and preserve such natural history objects as fossils, plants, minerals, and animals[.]" *Mont. Code Ann.* § 22-3-107(13).

The Seversons challenge the use of unrelated statutory definitions to assist in determining the meaning of the term “mineral” as used in their mineral deed. The Seversons point out that the Montana Supreme Court in *Farley* considered but ultimately did not rely on the statutory definitions of “mineral.” Instead, the Seversons urge this Court to only consider whether the fossils are “rare and exceptional.”

The Court agrees that the statutory definitions are used in different contexts and cannot be used as the sole legal authority to determine whether a material is a “mineral” for purposes of a land transfer. However, the Court can use these definitions to assist in the determination of whether dinosaur fossils are included in the ordinary and natural meaning of “mineral.” Montana law permits the use of both dictionary and statutory definitions to determine the ordinary and common meaning of an agreement’s term. *Dollar Plus Stores*, 209 P.3d at 219–20; *see also Newman v. Wittmer*, 277 Mont. 1, 917 P.2d 926, 930 (1996) (“statutory definitions provide guidance in interpreting the ordinary and popular meaning of undefined terms in a restrictive \*1212 covenant”). Further, *Farley* is distinguishable because one statutory definition of “mineral” explicitly included scoria, while it was unclear whether scoria was included in another statutory definition. *Farley*, 890 P.2d at 379. Because of this inconsistency, the statutory definitions were unhelpful. *Id.* As relating to fossils, the Court finds that the statutory and dictionary definitions of “mineral” are consistent; all of them exclude fossils from the definition of “mineral.”

The Court finds that dinosaur fossils are not included in the natural and ordinary meaning of “mineral” as used in the Seversons’ and Murrays’ mineral deed. The above cited dictionary and statutory definitions show that the 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. (Doc. 53 at 19.)

The Court finds that dinosaur fossils do not meet the ordinary and natural definition of “mineral” for purposes of a mineral deed, even though the fossils found on the Murrays’ ranch could be described as “rare and exceptional.” As discussed above, a material’s status as “rare and exceptional” helps inform whether it is ordinarily considered a mineral. The test is not solely whether the material is rare and exceptional, however. Not all materials that are rare and exceptional are considered minerals. Here, the Court finds that both valuable dinosaur fossils, such as the Dueling Dinosaurs, and worthless fossils, like “junkasaur,” are not ordinarily considered minerals. The Dueling Dinosaurs and “junkasaur” are likely composed of the same minerals. The composition of minerals found in the fossils does not make them valuable or worthless. Instead, the value turns on characteristics other than mineral composition, such as the completeness of the specimen, the species of dinosaur, and how well it is preserved.

If the test is truly whether a material is rare and exceptional, then many items that ordinarily would not be considered minerals would fall under a mineral deed. Although the Dueling Dinosaurs, the Murray T. Rex, and the Triceratops fossils are indisputably valuable, they do not fall under the ordinary and natural definition of “mineral” for purposes of a mineral deed.

#### IV. Conclusion

The Court finds that dinosaur fossils are not minerals under a general mineral deed. Accordingly, IT IS HEREBY ORDERED:

1. The Murrays’ Motion for Summary Judgment (Doc. 45) is GRANTED.
2. The Seversons’ Motion for Summary Judgment (Doc. 48) is DENIED.
3. The Murrays are the sole owners of the dinosaur fossils found on the subject property.
4. The Clerk of Court shall enter judgment and close this case.

#### All Citations

187 F.Supp.3d 1203

Footnotes

- 1 Unless otherwise noted, these facts are undisputed.
- 2 The Court notes that both the Morrow and Phipps emails were to potential buyers, so there is a chance that the superlatives were puffery.
- 3 In 1999, the Montana legislature changed the defined term found at § 82-4-403(6) from "minerals" to "materials." H.B. 183, 1999 Reg. Sess. (Mont. 1999).
- 4 This definition of "mineral" is now found at § 82-4-303(16).

908 F.3d 437

United States Court of Appeals, 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

|  
Argued and Submitted February  
6, 2018 Seattle, Washington

|  
Filed November 6, 2018

#### Synopsis

**Background:** Owners of surface interest in real estate brought state court action against owners of mineral interests, seeking declaratory judgment that fossils found on property were part of surface estate and therefore solely owned by them. Action was removed on basis of diversity jurisdiction. Defendants counterclaimed for declaratory judgment that fossils were properly classified as minerals under Montana law for purposes of mineral deed. The United States District Court for the District of Montana, No. 1:14-cv-00106-SPW, *Susan P. Watters, J.*, 187 F.Supp.3d 1203, entered summary judgment for plaintiffs. Defendants appealed.

The Court of Appeals, Robreno, J., held that dinosaur fossils constituted “minerals” pursuant to terms of mineral deed.

Reversed and remanded. Murguia, Circuit Judge, issued dissenting opinion.

#### Attorneys and Law Firms

\*438 *Eric D. Miller* (argued), Perkins Coie LLP, Seattle, Washington; *Shane R. Swindle*, Perkins Coie LLP, Phoenix, Arizona; *Brian C. Lake*, 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.

Appeal from the United States District Court for the District of Montana, *Susan P. Watters*, District Judge, Presiding, D.C. No. 1:14-cv-00106-SPW

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

Dissent by Judge *Murguia*

#### OPINION

ROBRENO, District Judge:

\*439 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 Murrys filed this action seeking a declaratory judgment that the Montana Fossils belonged to them as owners of the surface estate.<sup>1</sup> 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” 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).<sup>2</sup> We have \*440 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 (“the Murrys”), 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 Murrys.

The Seversons and the Murrys 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 Murrys.<sup>3</sup> The mineral deed that the parties executed and recorded in connection with the 2005 transaction (“the Deed”) stated that the Seversons and Murrys 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 Murrys 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 Murrys discovered several rare dinosaur fossils on the 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.<sup>4</sup> 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 Murrys’ 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 \*441 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 Murrys 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 Murrys 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.

The Murrys first informed the Seversons about the Montana Fossils in 2008. After the Seversons asserted an ownership interest, the Murrys 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.<sup>5</sup>

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 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.*, 338 Mont. 41, 164 P.3d 851, 857 (2007) (citing \*442 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.*, 350 Mont. 476, 209 P.3d 216, 219 (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, 23 S.Ct. 365, 47 L.Ed. 575 (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.<sup>6</sup> 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 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, \*443 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,<sup>7</sup> just like \*444 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*

*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.*, 270 Mont. 1, 890 P.2d 377, 379 (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,<sup>8</sup> the court rested on the following test from the Texas

Supreme Court’s decision in *Heinatz v. Allen*, 147 Tex. 512, 217 S.W.2d 994 (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 \*445 in character or possess a peculiar property 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 \*446 those definitions that exclude fossils are limited to particular statutory schemes that are not relevant here.<sup>9</sup>

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*, 352 Mont. 209, 216 P.3d 197, 198 (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.<sup>10</sup>

\*447 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 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.<sup>11</sup>

**\*448 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 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 *Pachycephalosaur* 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.<sup>1</sup> The Montana Supreme Court has twice considered whether a particular substance constitutes a “mineral” for the purposes of property transfers. In *Farley v. Booth Brothers Land and Livestock Co.*, 270 Mont. 1, 890 P.2d 377, 378 (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. 352 Mont. 209, 216 P.3d 197, 211 (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 \*449 *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*, 147 Tex. 512, 217 S.W.2d 994, 997 (1949) ); see also *Dollar Plus Stores, Inc. v. R-Montana Assocs., L.P.*, 350 Mont. 476, 209 P.3d 216, 219 (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*, 147 Tex. 512, 217 S.W.2d 994 (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.<sup>2</sup> See, e.g., *Mineral, Black’s Law 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 \*450 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*, *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.<sup>3</sup> *Heinatz*, 217 S.W.2d at 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 district court’s grant of summary judgment for the Murrays. For these reasons, I respectfully dissent.

#### All Citations

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#### Footnotes

- \* The Honorable Eduardo C. Robreno, United States District Judge for the Eastern District of Pennsylvania, sitting by designation.
- 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.
  - 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.
  - 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).
  - 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-seedueling-dinosaurs-180963676/> (last visited Sept. 4, 2018).
  - 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”).
  - 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.

- 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").
- 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*, 890 P.2d at 379 (quoting *Mont. Code Ann. § 82-4-303(9)*). The second statutory definition, from the section relating to "openpit" 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.*
- 9 The Murrys 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 Murrys 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 Murrys' 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 Murrys next argue that "minerals" cannot include dinosaur fossils in general because certain Montana statutes and regulations differentiate between "fossils" and "minerals." The Murrys 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 Murrys 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 Murrys' assertion, the separate listing of minerals and fossils does not establish that fossils are not a subset of minerals. More fundamentally, these definitions relate to a particular statutory scheme and are not relevant here.  
Finally, the Murrys 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 Murrys' 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 quotation marks omitted) (quoting *Glendale Assocs., Ltd. v. Nat'l Labor Relations Bd.*, 347 F.3d 1145, 1154 (9th Cir. 2003)).
- 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.
- 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)*.

- 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 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*, 277 Mont. 1, 917 P.2d 926, 930 (1996) ("[S]tatutory definitions provide guidance in interpreting the ordinary and popular meaning of undefined terms in a restrictive covenant.").
- 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*.