

## Fossils are Minerals???

By Peter Larson, President, Black Hills Institute of Geological Research, 11/11/2018

On August 6, 1915 the Assistant Secretary of the US Dept. of Interior, Jones, issued a decision that a mineral claim filed by Earl Douglas on what was to become Dinosaur National Monument was invalid. Jones stated: "Fossil remains of dinosaurs and other prehistoric animals are not mineral within the meaning of the United States mining laws, and lands containing such remains are not subject to entry under such laws." (Earl Douglas, 44 L.D. 325, 326, (1915).) Fossils have been treated as part of the surface estate (**not minerals**), throughout the United States, from that day forward.

The Douglas decision has been the settled law of the land in the United States since that date, and landowners in Montana and other states have relied upon that precedent when selling fossils and granting permission to collect fossils on their land. Legislators in Montana have also followed the lead of the Federal Government, separating fossils (covered under the Montana State Antiquities Act, and the Montana Environmental Policy Act, and administered by the Montana Department of Natural Resources and Conservation) from minerals (covered under Montana Mining Laws and administered by the Montana Bureau of Mines). This separation under Montana Codified Law clearly shows that the elected representative of the citizens of Montana did not consider fossils to be minerals, yet the Ninth circuit decision ignored this fact and the spirit of Montana Law, which separates fossils from minerals.

Furthermore, Mineral rights originated with the Federal Government and were granted in some Homestead acts and were withheld in others. Similarly they were granted in some railroad grants of land and withheld in others. Those rights should follow federal guidelines and law. Federal Courts, Federal Agencies, the US Congress and Montana Courts, Agencies and the Montana Legislature (as well as courts, etc. in other states) have never deviated from the Douglas decision - until this decision.

The Federal Government has consistently continued to consider and regulate fossils as **not minerals** since the Douglas decision. For many years permits for fossil collecting on Federal Land were issued under the Antiquities Act (Public Law 34-209, 16 U.S.C., 43 CFR 3 and 7 CFR 3100) and later under the Federal Land Management Policy Act (43 U.S.C. 173 (b)), etc. In 2009 the US Congress passed the Paleontological Resources Preservation Act (Public Law 111-11, 16 USC 470aaa), continuing the settled law that fossils are **not minerals**. Fossils have **never** been subject to the US Mining Laws.

Fossils are not like minerals, they are not quarried, smelted and refined by machines. Fossils are extracted through a unique combination of scientific and engineering expertise and multiple types of artistry peculiar to paleontology, developed over the last 150 years, changing even today using new technologies including CT scanning and 3D printing.

When the Keystone XL Pipeline Company submitted its Final Supplemental Environmental Impact Statement, as required by the State of Montana, the Statement also included the following:

“Fossils or other paleontological resources found on private land would only be recovered with approval of the landowner, and, therefore, may be unavailable for scientific study...Both Montana and South Dakota have enacted legislation to manage and protect paleontological resources on state-managed lands. In Montana, Keystone has secured a certificate of compliance under the Major Facilities Siting Act from the Montana Department of Environmental Quality (MDEQ). MDEQ has the authority to require mitigation actions when significant paleontological resources are inadvertently discovered on any lands (i.e. public and privately owned land).” (4.1.3.2)

Even the definition of Minerals, in the Montana Code (Section 70-9-802: Definitions) excludes fossils:

(9) “Mineral” means gas; oil, coal; other gaseous liquid, and solid hydrocarbons; oil shale; cement material; sand and gravel; road material; building stone; chemical raw material; gemstone; fissionable and non fissionable ores; colloidal and other clay; stream and other geothermal resource; or any other substance defined as a mineral by the law of this state.

Not only does Montana Code exclude fossils from this exhaustive list, it appears to exclude anything that has not been defined as a mineral. Fossils are also excluded under Montana Code Annotated 2013 (82-4-303. Definitions):

(9) “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 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.

It seems that if the State of Montana wanted fossils to be a mineral or a part of the mineral estate, they would have said so.

Now, more than 100 years after the Douglas decision, the Ninth Circuit Court of Appeals has found that fossils are minerals in the state of Montana, ignoring that precedence and the laws of both Montana and the United States. This decision turns logic and normality on its head and asks us all to start over. It separates landowners from a resource that many have come to depend upon. It potentially separates virtually every natural science museum from the Montana fossils in its collection. It also opens the door to thousands of lawsuits potentially brought by mineral rights owners to recover the specimens and money that has changed hands over the last 100+ years.

How does the Court address this scientific, artistic and financial earthquake?

“[I]f the mineral estates 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 rights.”(Page 22, footnote 11).

Because landowners, fossil collectors and museums have relied upon the more than 100 years of settled law, this ruling is literally an ex post facto law, prohibited by the Constitution (check on this). It also is a retroactive invitation to the legal equivalent of a tsunami of litigation against museums all over the world and 100+ years of Montana landowners. How could any landowner, collector, buyer, or seller have known that fossils would become minerals? The Court turned the world of fossils upside down by applying a single ruling of the Montana State Supreme Court (*Farley v, Booth Brothers Land & Livestock Co.*, 890 P.2d 377, 379 (Mont. 1995)) and a single dictionary definition of minerals, which vary from source to source. And this they did without asking the Montana Supreme Court to certify their findings, despite the advice of the Murrays counsel, or asking the people of Montana through their elected representatives. They also overturned the Federal District Court’s ruling by a Judge who is a resident of Montana and also served as a Montana Judge, before coming to the Federal bench.

The Ninth Circuit decision and the argument presented by the Seversons rely heavily upon the Farley decision. In Farley, the Montana Supreme court ruled that scoria (a material abundant in the state of Montana as the result of burned underground coal seams that partially melted contacting sandstone beds creating a dirty natural glass that is used for graveling roads) is not a mineral, because a mineral under Montana Law must be “valuable” and “rare”.

The Seversons pointed out, and the Murrays agreed, that a Tyrannosaurus rex fossil was both rare and valuable. However the Murrays argued, and the District Court Judge agreed, that most fossils are neither rare nor valuable. The Seversons countered that the “rare and valuable test” could be easily be made by the filing of lawsuits in special cases when an important fossil is found. The Ninth Circuit took this concept a step further and declared that fossils (all fossils) are minerals.

The surface of the state of Montana consists of more than 90% sedimentary rocks. Sedimentary rocks are filled with fossils, both microscopic and macroscopic. In fact some sedimentary rocks, like limestone, are composed almost entirely of the calcareous skeletons of plankton and invertebrate fossils. It is also true that these calcareous skeletons are composed completely of the minerals aragonite and calcite. Yet Montana Law does not consider limestone a mineral.

Taken a step further, scoria (see Farley) also contains abundant fossilized remains of plants and animals. These fossils are within, and on the surface of, the scoria that is used to gravel roads. Scoria has produced museum specimens of fossil leaves, some of our best records of Paleocene Age flora. The Ninth Circuit decision literally reverses the findings of the Montana Supreme Court: scoria now becomes a mineral because much of it is made up of fossil plants.

The “rare and valuable” test is an absurdity, which would upset the ordinary course of dealings between every buyer and seller of land in Montana, every individual scientific or commercial digger of fossils, every vertebrate and even invertebrate paleontologist who study and/or collect Montana fossils, and every museum with Montana fossils in their collections - a safe estimate would be 90% of all natural history museums, world wide. This is because Montana sits within a multi-state series of sedimentary basins that preserve a host of fossils from different ages. Fossil collectors have collected this region, with its unique fossil content found nowhere else in the world, continuously for the last 100+ years. These fossils are continuously eroding on the surface in badlands and ravines that take the place of arable profitable agricultural land. For much of this land, the only crop that landowners can harvest is a fossil. Although much of the land in Montana has fossils of scientific and commercial interest, the likelihood of finding an extremely economically valuable fossil on one’s land is small. However, the chance of finding something of value keeps landowners and fossil hunters out on the land, looking for fossils. That is why so many important fossils are discovered in Montana before erosion destroys them.

Taking the Ninth Circuit Panel’s draconian ruling one step further: The Murrays’ ranch lies upon outcrops of the Cretaceous Hell Creek and Paleocene Fort Union Formations. These rocks contain abundant plant and animal fossils that are part of the soil. The fossil bones are fed upon by extant plants, which extract phosphorus and calcium from the fossil bones that are then consumed by the cattle, which are the main crop of the Murray ranch. Do the owners of the mineral estate now also own the grass and the cattle that have, via the grass, consumed those fossils?