

THE URANIUM DEPOSITS OF THE FISH CREEK DISTRICT, COLORADO

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The Fish Creek district is in the east-central part of Routt County, in the southern Rocky Mountain physiographic province. The area can be reached by taking U. S. Highway 40 east from Steamboat Springs, thence north on county highway 32 to Fish Creek Falls. The initial uranium-bearing discovery in the area in section 12, T. 6 N., R. 84 W., which was examined by Beroni and McKeown (1952) is approximately 1 mile northwest of the falls. The rocks in the vicinity of the claims consist principally of hornblende and biotite schists interlayered with and crosscut by granitic rocks. In general, the contacts between the schists and granitic rocks are gradational. The granitic rocks are composed of potassium—and sodium—feldspars with a minor amount of quartz and biotite, and are medium grained to pegmatitic in texture. These granitic bodies are commonly in the shape of elongated pods as much as 100 feet in length, and are conformable with the foliation of the schist.

The foliation of the schists and alinement of the granitic bodies trend north to northeasterly, and the foliation planes dip between 50 and 75 degrees to the northwest. Drag folds, fracture and flow cleavage, and slickensides are common, but the uranium mineralization does not seem to be genetically related to any of these structural features.

The secondary uranium minerals identified from the district are autunite, and uranophane. These uranium-bearing elongated zones are from 1 to 20 feet in length. Generally, the secondary uranium minerals are concentrated along the gradational contacts between the granitic rocks and the hornblende and biotite schist. Uranium-bearing material of the above type can be noted in the present workings of the original uranium

discovery. Pitchblende was found microscopically disseminated in the biotite folia, especially with the biotite books that showed the greatest concentration of secondary uranium minerals.

Select samples taken from some of the uranium-bearing localities showed them to contain up to 0.3 percent uranium. Chip channel samples taken across the radioactive zones showed the uranium content to range from 0.002 to 0.054 percent.

Several dozen other exposures of abnormally radioactive rock were found within half a mile of the initial uranium discovery. All of them are limited to a few feet in areal extent and many are lithologically similar to the radioactive rock on the original uranium-bearing zone. Radioactivity in excess of 0.01 percent equivalent uranium was measured at these other localities.

One abnormally radioactive locality is on the west bank of the north fork of Fish Creek. The highest radioactivity is associated with granite that is stained with hematite and coated with an efflorescent incrustation. A chip channel sample collected from this locality assayed 0.026 percent equivalent uranium, and 0.036 percent uranium. The efflorescent incrustation was probably a combination of uranium and radium sulfates.

Of the numerous small uranium-bearing localities in the Fish Creek district, only a very small number have been examined in detail. Therefore, prospecting in the area might uncover additional uranium-bearing zones.

REFERENCE

- Beroni, E. J., and McKeown, F. A. (1952), "Reconnaissance For Uraniferous Rocks in Northwestern Colorado, Southwestern Wyoming, and Northeastern Utah," U. S. Geol. Survey Trace Elements Investigation Report 308A.

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