5160 0005

WASHINGTON

ROAD RIVER CLAIM

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Branch of Radioactive Materials
Building 25, Federal Center
Denver 25, Colorado

August 25, 1961

Mr. R. R. Coats
U. S. Geological Survey
345 Middlefield Road
Menlo Park, California

Dear Bob:

The memorandum accompanying this note is somewhat later in getting finished and dispatched than it should have been. It was written mainly to preserve a record of what was seen in a rather rapid tour and the tentative and somewhat nebulous ideas stemming from the observations.

Uranium deposits of the kind near Mountain City are sufficiently widespread to suggest that resources of uranium in deposits of this kind might be significant. At the present time, however, too little is known about the critical aspects of the relation of such deposits to their geologic setting and of events that have shaped or taken place in that setting to permit any reasonable definition of that potential.

Although the exploited or discovered deposits near Mountain City are relatively small, study of them would contribute to knowledge of the habits, distribution and relation of such deposits to their setting that would be very useful in helping to understand better the significance of this environment for uranium.

I think that gaining the kind of information that is needed to resolve some of the problems is beyond the scope of what investigations by the AEC are likely to accomplish, even though Bob Cohenour is aware of the problems. I hope that the charter for your project is liberal enough so that you can find an opportunity to help fit the uranium deposits and their possible provenance into the more comprehensive geologic picture that your work will develop.

I am sorry that our visit to the area could not have come at a time when you were there, but timing had to be accommodated in part to the schedule for Mr. Udas of the Indian Atomic Energy Commission.

Best wishes,

Art

Arthur P. Butler, Jr.

Enclosure

Copy to: Director's Reading File
Office of Economic Geology

The Lowary and Red Bluff deposits are vein or fracture controlled deposits. At the Lowary cut light gray lithoidal tuff, probably slightly welded, overlies a gray friable crystal tuff. Uranium is associated with a nearly vertical silicified zone of fracturing in the lithoidal tuff which strikes about N. 30° E. and steeply dipping subsidiary fractures that strike N. 30° W. About 200 tons of ore were shipped in 1957.

The Red Bluff deposit, in the same general setting, consists of mineralized rock adjacent to a normal fault that strikes about N. 20° E., dips 55° W. and cuts welded felsic tuff. Rocks adjoining the fault and fractures branching into the footwall are radioactive and exhibit yellow secondary uranium minerals. The deposit is explored by several open cuts and a crosscut adit and drift. The adit is about 75 feet long and the connecting drift extends more than 100 feet along the strike of the fault. More rock has been moved here than at the Lowary, but only one shipment of about 60 tons of ore containing about 0.6 percent U_3O_8 has come to the writer's attention.

Other deposits

The deposit at the River Road claim, SW¼ sec. 3, T. 7 N., R. 27 E., Lyon County, consists of mineralized gouge and breccia along a westerly trending normal fault which dips S. and drops water-laid tuff and tuffaceous sedimentary rocks in the hanging wall against coarse-grained granitic rock in the footwall. The deposit is explored by an open cut about 100 feet long, a shaft about 15 feet deep near the south end of the cut, and a crosscut 40 feet long from the bottom of the shaft. Although the structure is persistent, brecciated rock and gouge adjoining the fault are only locally radioactive. Megascopically visible uranium minerals are sparse. About 40 tons of ore containing 0.14 percent U_3O_8 were mined and shipped in 1957.

At the Carol R mine in sec. 31, T. 8 N., R. 32 E., Mineral County, a limonite-stained layer along bedding of gray devitrified tuff which dips 65° NNW is radioactive and microfractures in tuff for about a foot under the layer are sparsely coated with yellow and green secondary minerals of uranium. The radioactive beds are about 60 feet stratigraphically above a coarse-grained granitic rock. Along a concealed contact they also adjoin a flow-banded partly glassy felsic rock which also appears to overlie the granitic rock. Other than the lack of carbonaceous material the deposit resembles Type A deposits in Elko and Washoe Counties. Geologists of the Atomic Energy Commission (written communication, Oct. 1959) report carnotite in gouge in fractures overlying basalt.

Fine-grained water-laid beds in the Siebert tuff of Spur are all locally mineralized with uranium at places from 1.5 to 2.5 miles west of Tonopah and about 1 mile south of U. S. Highway 95.