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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

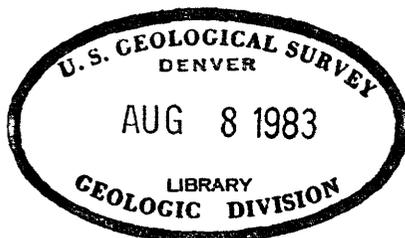
FORTY-NINER, KING SOLOMON RIDGE, AND WEST END CLAIMS
NEAR CLANCY, JEFFERSON COUNTY, MONTANA

by

M. R. Klepper

August 1950

Trace Elements Memorandum Report 31



USGS-TEMR 31 August 1950
Consisting of 3 pages
Issued to (see below)

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ILLUSTRATION

(at back of report)

Map showing location of Forty-Niner, King Solomon Ridge, and West End claims, Jefferson County, Montana.

FORTY-NINER, KING SOLOMON RIDGE, AND WEST END CLAIMS
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Abstract

Secondary minerals of the uranite group occur in dense quartz veins and in altered aplitic granite along and near the crest of the east-trending ridge about one mile west of Clancy, Montana. Brief examination suggests that the radioactive minerals are erratically distributed, but a more thorough study of the area will be made by the Geological Survey during the coming field season.

Location and ownership

The writer, in company of Wayne Hinman of Clancy, briefly examined the Forty-Niner, King Solomon Ridge, and West End claims on October 28, 1949. The claims cover the crest of an east-trending ridge on the north side of Clancy Creek from one to one and a half miles west of Clancy, Jefferson County, Montana. (See index map.) Mr. Hinman noted radioactivity on the north side of Clancy Creek and staked the claims during April and May 1949, and shortly thereafter optioned them to the Elkhorn Mining Company of Boulder, Montana. On October 28, 1949, the Sunshine Mining Co. of Kellogg, Idaho, had an option agreement with the Elkhorn Mining Co. to do exploratory work.

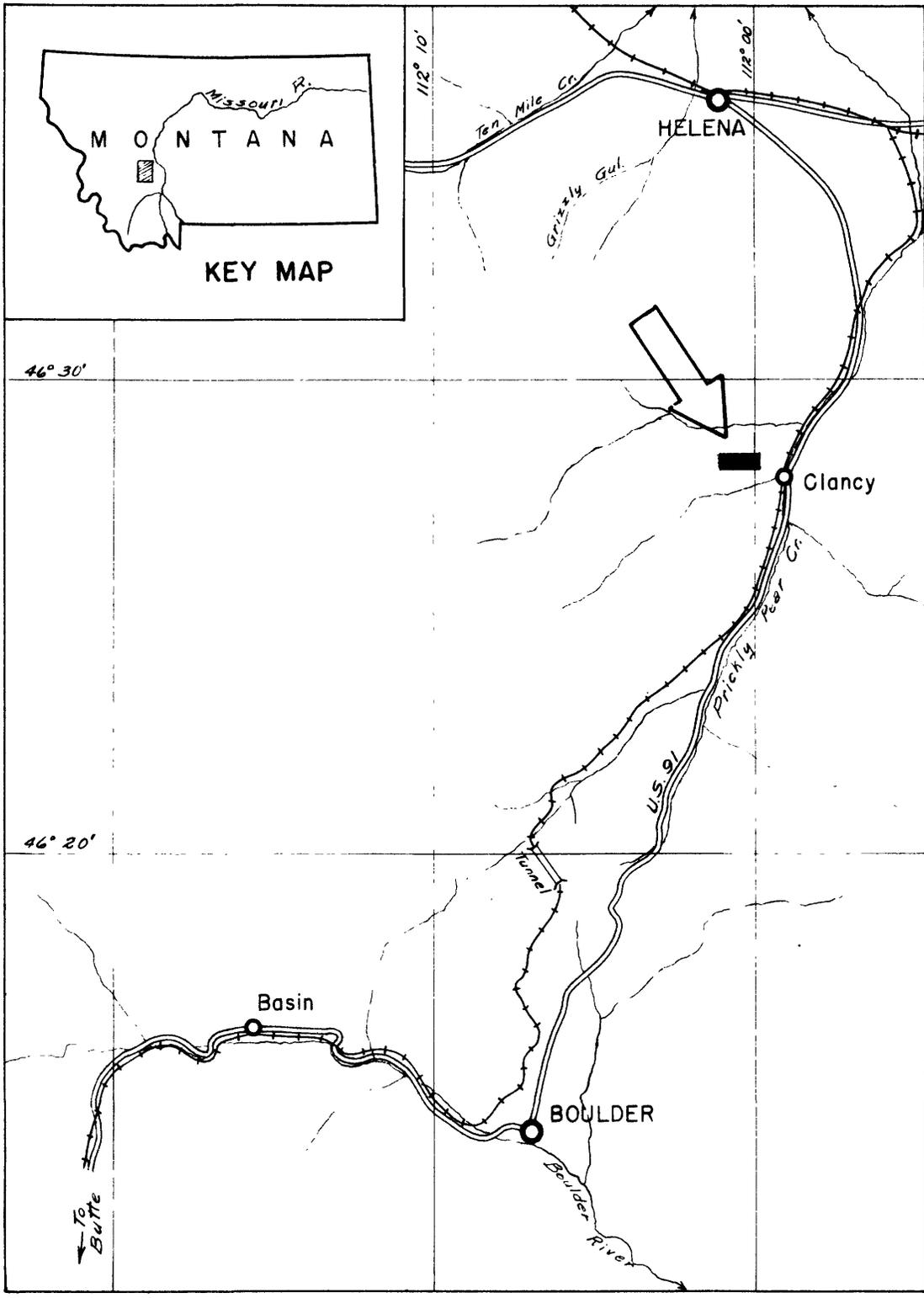
Geology

The crest of the ridge is mostly, if not wholly, composed of light-colored aplitic granite that appears to form a thick east-trending dike in quartz monzonite. The radioactivity is concentrated in and adjacent to dark gray siliceous and slightly pyritic veins that cut the aplitic granite. Fragments of radioactive aplitic granite and siliceous vein material have been found for at least 2,000 feet along and near the ridge crest, but only one vein has been even superficially explored. Where exposed in a pit and a crosscut about 30 feet below the pit, this vein is 18 to 30 inches thick and contains a few small green platy crystals that appear to be radioactive. The vein material has an activity of about 25 times background; selected pieces were analyzed and found to contain 0.096 percent uranium. A secondary mineral of the uranite group, probably zeunerite, and a uranium carbonate, rutherfordine, were identified in the Geological Survey's laboratory.

The most radioactive material is altered aplitic granite, of which only a few float pieces have been found along the crest near the east end of the ridge. This rock contains a yellowish-green secondary radioactive mineral as sporadic thin crusts or fracture fillings. Although in the field it had an activity of the order of 100 times background, and radiometric analysis in Spokane indicated 0.65 percent equivalent uranium, chemical analysis showed that it contains only 0.084 percent uranium. Secondary minerals of the uranite group, probably autunite and zeunerite, were identified in the laboratory.

Conclusions and plans for further work

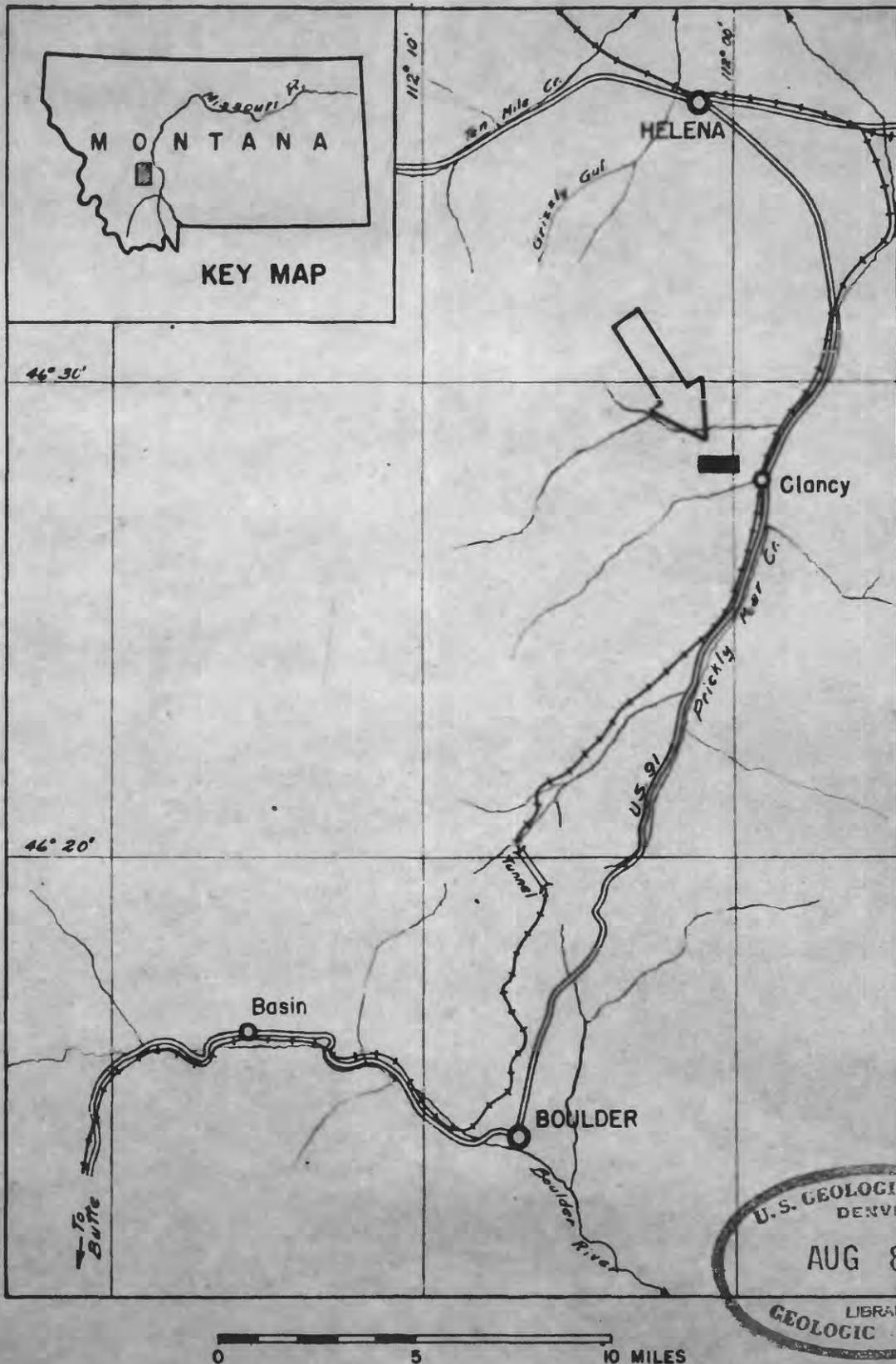
The assay data available indicate that the uranium-bearing veins and the adjacent altered aplitic granite on the Forty-Miner, King Solomon Ridge and West End claims are probably of low grade, but the lack of geologic mapping and of systematic sampling makes estimates of tonnage impractical. The Geological Survey plans to make a comprehensive study of the Jefferson County area during fiscal year 1951 and in the course of the work will make a more detailed study of these showings.



MAP SHOWING LOCATION OF FORTY-NINER, KING SOLOMON RIDGE, AND WEST END CLAIMS, JEFFERSON COUNTY, MONTANA

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