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Rocky Mountain Section 28th Annual Meeting

MAY 3-6, 1975
RODEWAY INN CONVENTION CENTER
BOISE, IDAHO

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THE
GEOLOGICAL SOCIETY
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1800 ppm (parts per million). Cobalt values exceed 250 ppm and iron values are in excess of 200 ppm in sampled areas. Water quality data indicate waste piles and mine portals are the major sources of poor quality water. Waste piles contribute most of the dissolved copper while mine portal drainage is responsible for nearly all of the dissolved iron. Cobalt appears to be ubiquitous to both areas. Ninety-five percent of the 250 pounds of daily copper production from the district during low flow is from waste piles. Portal drainage produces ninety-eight percent of the total 21 pounds daily production of iron during low flow. The production of poor quality water in the underground workings is related to water recharged at sites of surface disturbance. Approximately 16 acres of land surface have been disturbed by open pit mining operations and exploration trenches. Precipitation captured in these surface openings is believed to be recharged to the underground workings.

GEOLOGIC SETTING OF THE RAFT RIVER GEOTHERMAL AREA, IDAHO

Williams, P. L., Pierce, K. L., McIntyre, D. H., Covington, H. R., and Schmidt, P. W., U.S. Geological Survey, Denver, Colorado 80225

The Raft River Known Geothermal Resource Area (KGRA) in southernmost central Idaho lies in the southern Raft River Valley, a late Cenozoic structural downwarp bounded by faults on the W, S and E. The S end of the valley is defined by the east-trending Raft River Range; 55 km to the N, the valley opens onto the Snake River Plain. The valley is underlain by (1) 5-70 m of Pleistocene and Holocene fan gravel and alluvium; (2) the Pleistocene Raft Formation, 0-200 m of silt and sand; and (3) the Pliocene Salt Lake Formation, up to 1,800 m thick, consisting of (a) lower tuffaceous sediments, (b) middle volcanics--felsic lava flows, and ash flows--and (c) upper basin-fill tuffaceous sediments and conglomerate. Shallow, nearly contemporaneous felsic plugs intrude the Salt Lake Formation. The Tertiary rocks rest on structurally complex Paleozoic and Precambrian rocks.

Warm water is pumped from wells in several parts of the valley, but the most promising thermal anomaly is around two wells near Bridge that flow boiling water. This anomaly is at the intersection of two major structures: a NNE-trending normal fault set, down to the E, with movement probably as recent as late Pleistocene, and an ENE structural discontinuity, probably a right-lateral fault, that separates different styles of deformation at the S end of the Jim Sage Mountains W of the valley and that is one of several major lineaments on space photographs.

Geologic and geophysical data suggest deep circulation and heating of ground water and upwelling of hot water along faults. The moderate geothermal gradients common in the Basin and Range province or along the margins of the Snake River Plain are sufficient to represent the heat source.

POST-1882 EROSIONAL HISTORY OF DOUGLAS CREEK, COLORADO

Womack, W. Raymond, Department of Earth Resources, Colorado State University, Fort Collins, Colorado 80523

In the decade following 1882, Douglas Creek, a tributary of the White River in northwestern Colorado, incised into its relatively flat-floored valley to depths that in places exceed 50 feet.

This gulying correlates with the "epicycle" of erosion which has been recognized throughout the Southwest following 1880 and which has

been attributed to climate. Below the 1882 surface, continuous terraces that locations 6 of these terraces is a cut terrace capped downcutting followed by

These surfaces indicate downcutting following response is normal, then may be due to the response of to changing climate or 1

THE SCHWARTZWALDER URANIUM
Young, E. J., U.S. Geological Survey, Denver, Colorado 80225; Lahr, Mel, Colorado 80215

The Schwartzwald uranium 8 miles (13 km) northwest been in almost continuous 8.5 million pounds (3.86 Corporation, a wholly owned Underground workings now original surface working

Host rocks for the high-grade Precambrian rocks contain in part garnetiferous; 1 pegmatite. The closest mafic monzonite dike of to the southeast. The sedimentary contact between Paleozoic and Mesozoic trending fractures in the solutions. The main vein west-southwest. Numerous Illinois and roughly parallel direction. Ore minerals structural control.

Uraninite is the major amounts of pyrite and galena minerals are sparse. Molybdenite has been found. Lead-uranium ages of uranium