



Site Description

McDermitt

(updated 2010)

Geologic setting: The McDermitt caldera, a Miocene-era structure 40 x 30 kilometers across, has abundant rhyolite ash-flow tuffs (late Miocene) and basaltic/dacitic flows (early Miocene). These flows unconformably overlie Cretaceous granite (Rytuba, 1976). Mercury ore, primarily cinnabar and corderoite (mercury chloride), is found within McDermitt caldera normal faults (Roper, 1976). The surrounding volcanics have been silicified into opalite (Yates, 1942).

Several mercury mines are found near McDermitt, within the greater caldera (Opalite mining district). Mercury is fault-associated at the Cordero and Ruja mines, but concentrates in paleo-lakebeds at the McDermitt and Bretz mines (Bonham et al., 1985).

Geothermal features:

Cordero Mine ([Map](#)): The Cordero mine is part of the Opalite mining district, 25 kilometers west of McDermitt. White (1955a) reported that the lower workings of the Cordero Mercury Mine (Sec. 33, T47N, R37E) were hot, on the order of 30-35°C. White also mentioned oxidation in the mine between the 150- and 183-m levels. Reed and others (1984, p. 40) reported a 56°C spring south of the mine with an estimated reservoir temperature of 110°C. Water wells downslope from the mine have temperatures up to 60°C (Visher, 1957) at depths of 120-180 m. Isotopic analysis of well waters indicated a strong dominance by water of meteoric origin (White, 1974).

Fort McDermitt Well, Mentaberrys Well, Nevada Noques Well: A well in Sec. 17, T47N, R38E, 9 km northeast of the Cordero Mine, has a reported temperature of 32°C.

Leasing information: N/A



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Bibliography:

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Roper, M.W., 1976, Hot springs mercury deposition at McDermitt Mine, Humboldt County, Nevada, AIME Preprint 76-S-28.

Rytuba, J.J., 1976, Geology and ore deposits of the McDermitt Caldera in Nevada and Oregon and related mercury deposits, AIME preprint 76-S-83.

Yates, R.G., 1942, Quicksilver deposits of the Opalite District, Malheur County, Oregon, and Humboldt County, Nevada, U.S. Geological Survey Bulletin 931-N.