

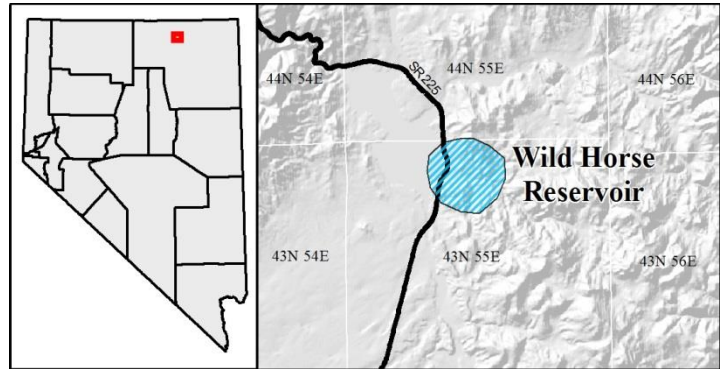
Site Description

Wild Horse Reservoir

(Updated 2014)

Geologic setting:

The Wild Horse Reservoir is located in northern Elko County in northeastern Nevada and lies on the northern edge of the Great Basin south of the Snake River Plain. The reservoir was created as a result of the building of the Wild Horse dam and the resulting damming of the Owyhee River by the Bureau of Indian Affairs in 1969. The Independence and Wild Horse Mountain Ranges lie directly to the west of the Wild Horse Reservoir and the Copper and Jarbidge Mountains towards the east (Vigg, 2004).



The Jarbidge Mountains are composed primarily of Precambrian Sedimentary rocks that have been intruded by granitic rocks with locally small areas of scheelite resulting from contact metamorphism. Deformation of these rock units occurred during the Eocene which led to the formation of basins that contain various conglomerate units and silicic tuffs. These accumulations of conglomerates and silicic tuffs were followed by eruptions of silicic and intermediate tuffs and lavas which are widespread throughout the region (Coats, R.R., 1964).

The Copper Mountains are described as a northeast trending block that rises above the topography of the surrounding region. These mountains are composed primarily of Lower Permian conglomerate, limestone, and sandstone of varying thicknesses. Light colored quartzite units are also observed along the flanks and crest of the Copper Mountains and are believed to be Lower Cambrian in age. The mountain range is bounded to the east by the Copper Mountain Thrust Fault which was responsible for placing the quartzite units above the younger sequence of sedimentary rocks (Bushnell, 1967).

Geothermal features:

The geothermal features in this cluster lie along Hot Creek which feeds into Wild Horse Reservoir near its southern end. Hot springs in this cluster have measured temperatures between 37°C and 57.8°C. The Wild Horse Reservoir Hot Springs and the MDB and M Spring have temperature readings of 54°C and 57.8°C respectively. Wild Horse Reservoir Hot Springs displayed a Na-K-Ca geothermometer measurement of 72.51°C (Fournier, 1981), a quartz geothermometer measurement of 91.68°C (Fournier, 1977) and a chalcedony geothermometer measurement of 61.05°C (Fournier, 1981). The MDB and M Spring registered a Na-K-Ca geothermometer measurement of 64.29°C (Fournier, 1981), a quartz geothermometer measurement of 93.85°C (Fournier, 1977), and a chalcedony measurement of 63.36°C (Fournier, 1981). The MDB and M hot spring was reported to have a good analysis (Great Basin Groundwater Geochemical Database). About 3.2 km southwest, near the small community of Wild Horse, a water well is 20.6°C at 85 m. The well was drilled in an area that is reported to remain snow free in winter (Mariner and others, 1974).

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Leasing information:

N/A

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[Vigg, S.C., editor, Shoshone-Paiute Tribes and Owyhee Watershed Council, 2004, Owyhee Subbasin Plan – Chapter 4 Owyhee Subbasin Management Plan: Final Draft. Submitted to the Northwest Power and Conservation Council, Portland, Oregon, May 28, 2004.](#)