

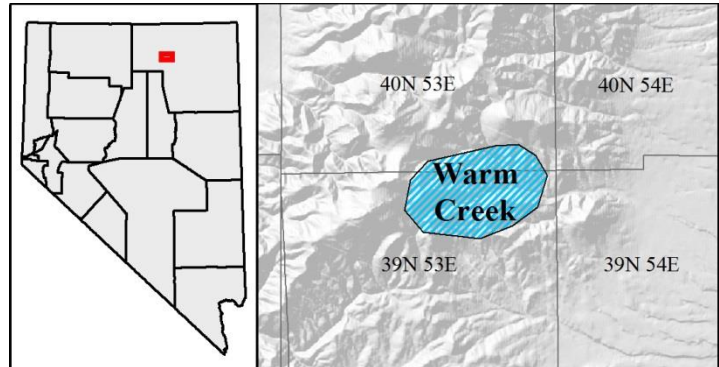
Site Description

Independence Mountains (Warm Creek Cluster)

(Updated 2014)

Geologic setting:

The Independence Mountains are located approximately 90 kilometers to the northwest of Elko, Nevada. The geology of Elko County has been documented and ranges in age from Late Proterozoic to Cenozoic. The Independence Mountains consist of allochthonous Ordovician quartzites, shales, and cherts of the Valmy Group that are thrust over Paleozoic carbonate rocks (Kerr, 1962; Churkin and Kay, 1967; Sibbett, 1982). The allochthonous rocks were eroded and overlain by Mississippian to Permian conglomerate, shale, chert, and quartzite tentatively correlated with the overlap assemblage by Miller and others (1981). The Schoonover formation (Fagan, 1962) was thrust over or faulted against these rocks in the northern part of the Independence Mountains (Miller and others, 1981; Sibbett, 1982).



The Independence Mountains lie within the Carlin trend, a 60-km-long area considered the most important gold-producing areas of north-central Nevada. The Carlin trend was the site of Eocene magmatism and large-magnitude extension (Ressel and Henry, 2006; Henry and Boden, 1998). The area consisted of east-draining paleovalleys during the Eocene, overlying a silicic plutonic complex which may have been a source of the heat, fluids, and metals of the Carlin trend deposits (Ressel and Henry, 2006; Henry, 2008).

Geothermal features:

Warm Creek: Three spring samples have been taken from Warm Creek. A U.S. Geological Survey spring sample taken in 1993 (Sec. 2, T39N, R53E) was 30.5°C (U.S. Geological Survey, 2012). Two other samples are listed in the Great Basin Geochemical Database as being greater than 20°C. No geochemistry or geothermometer data available.

Leasing information:

N/A

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