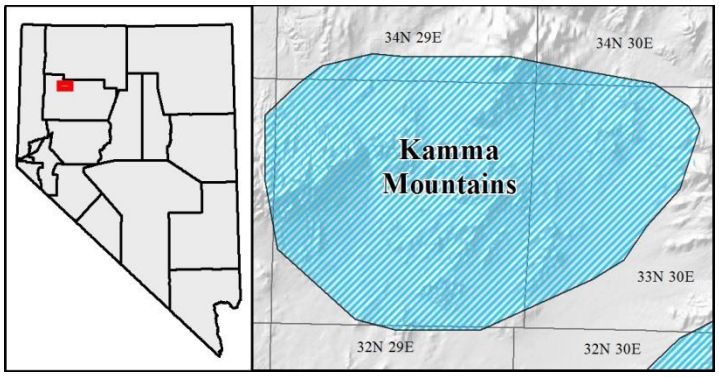
Site Description

Kamma Mountains
(updated 2014)



Geologic setting:

The Kamma Mountains are located in northwestern Nevada approximately 80 kilometers west of Winnemucca and just south of the Pershing-Humboldt County line.. Hycroft Gold Mine is located within the Sulfur Mining District in the Kamma Mountains. Allied Nevada Gold Corporation re-opened the Hycroft Gold Mine in 2008 after acquiring it from Vista Gold Corp. (Allied Nevada Gold Corp., Hycroft Mine). The deposit at Hycroft is an epithermal hot springs deposit with gold and silver mineralization that is both disseminated and vein controlled. . Uplift of Jurassic basement rocks, volcanic, and sedimentary rocks lead to the formation of the Kamma Mountains. Uplift began in the Miocene and continued into the Quaternary Epoch. The mountain range is bounded by north to northeast striking normal faults on the western flank as is down dropped to the west (Allied Nevada Gold Corp., Hycroft Mine Geology & Mineralization). Rock units exposed in the Kamma Mountain area have been identified from the lower most unit to be a large section of rhyolite and latite lavas and plugs interbedded with volcaniclastic sedimentary rocks. Above the lower most units lay large amounts of conglomerate, sandstones, lacustrine tuffs and minor hot spring sinters approximately 2,000 ft in thickness (Wallace, 1980).

Geothermal features:

Maud's Well: The Great Basin Groundwater Geochemical Database lists Maud's Well (Sec. 34, T34N, R30E) as 15.5°C. While minimal data exists for this site, a Na-K-Ca geothermometer of 6.51°C (Fournier, 1981), a quartz geothermometer of 73.6°C (Fournier, 1977), and a chalcedony geothermometer of 41.96°C (Fournier, 1981) were all recorded at this locality (Great Basin Groundwater Geochemical Database).

The SMU Western Geothermal database reports six drill holes in the Kamma Mountains area, with reported temperatures ranging from 14.6°C to 20.2°C (Blackwell and Richards, 2008).

Leasing information:

BLM lease was issued in 2010 to Geothermal Technical Partners.

Bibliography:

Allied Nevada Gold Corp., Hycroft Mine, <http://www.alliednevada.com/properties/hycroft-mine/> Accessed November 26, 2014.

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Allied Nevada Gold Corp., Hycroft Mine Geology & Mineralization, <http://www.alliednevada.com/properties/hycroft-mine/hycroft-mine-geology/> Accessed November 26, 2014.

Blackwell, D.D., and Richards, M., 2008, Southern Methodist University (SMU) AMAX database: <http://www.smu.edu/geothermal/georesou/nevada.htm> Accessed January 21, 2014.

Fournier, R.O., 1977, Chemical geothermometers and mixing models for geothermal systems: Geothermics, v. 5, p. 51 – 50.

Fournier, R. O., 1981, Application of water geochemistry to geothermal exploration and reservoir engineering, *in* Rybach, L., and Muffler, L. J. P., eds, Geothermal Systems: Principles and Case Histories: John Wiley & Sons, New York , p. 109 – 143.

Great Basin Groundwater Geochemical Database, Nevada Bureau of Mines and Geology: <http://www.nbmg.unr.edu/Geothermal/GeochemDatabase.html>.

Wallace, A., 1980, Geology of the Sulphur District, Southwestern Humboldt County, Nevada. Cordex Exploration Company.