



Site Description

Salt Wells

(updated 2010)

Geologic setting:

Geothermal features: Geothermal heat-flow studies defined a thermal anomaly 29 km southeast of Fallon, in western Salt Wells Basin, Eightmile Flat area. The anomaly extends from 12 km south of Salt Wells (community) to the Simpson Pass area of the Cocoon Mountains (Edmiston and Benoit, 1984; GeothermEx, 2004, Fig. SAW00-1). About half the 46 km² anomaly is underlain by shallow aquifers (less than 100 m deep), with temperatures greater than 100°C. The shallow aquifers sit in fractured basalt, and are recharged by deeper reservoirs (Edmiston, 1993).

The Anadarko Production Company drilled large-diameter geothermal wells at the south end of this anomaly in 1980 and 1985. Temperatures reached 181°C (2,587-m well) and 128°C (at 400 m) in SW¼ NW¼ Sec. 36, T17N, R30E and SW/NW¼ Sec. 25, T17N, R30E, respectively (NBMG geothermal files; Edmiston and Benoit, 1984). Morrison (1964, p. 36) reported sinter-cemented sands northeast of the Cocoon Mountains, southeast of Rock Springs. Hoover and others (1977) reported telluric data, and Peterson and Kaufmann (1977) reported gravity data for the Salt Wells geothermal area.

Fourmile Flat: The Four Mile Flat section of Salt Wells Basin, a playa southeast of Eightmile Flat, has a hot spring in Sec. 6, T16N, R32E (Waring, 1965, no. 75). The water reportedly smelled of H₂S; no other information is available.

Eightmile Flat: ([Map 1](#), [Map 2](#)) In northwestern Eightmile Flat, Borax Spring (NE¼ Sec. 14, T17N, R30E) was measured at 81°C (Stearns and others, 1937; Russell, 1885, pl. 8). Borax Spring could not be located ca. 1980 (Trexler, Koenig, Flynn, and others, 1981, Table E2) or summer 2002 (oral commun., Chris Sladek, 2002), but UNR staff found it steaming in February 2005 (at 81.6°C), along with 18 other thermal springs. Opal-cemented sands occur in the area (oral commun., Chris Sladek, 2002). Presumably these are the sinter deposits reported by Edmiston and Benoit (1984) from an area of inactive hot springs. A detailed map and description of the opalized Quaternary sediments is provided by Coolbaugh et al. (2004).



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A cold NaCl spring yielded a Na-K-Ca geothermometer of 207°C (Edmiston and Benoit, 1984). Morrison (1964, p. 92) reported siliceous sinter along a postulated east-striking fault near Salt Wells (probably N½ Sec. 2, T17N, R30E, based on Plate 3 of Morrison, 1964). Morrison (1964, p. 36) also reported sinter-cemented sand in eastern Wiyemaha Valley, about 3 km north of Salt Wells. Many of these geothermal indications are located along or near the southern projection of Rainbow Mountain Fault, which bounds the east side of Rainbow Mountain north of U.S. Highway 50. This fault had movement during 1954 earthquakes (see Bell, 1984 and references therein). Morrison (1964, p. 35-36) also reported sinter-cemented sands in Sec. 26, T17N, R30E on the east flank of the Bunejug Mountains, west of the 1985 Anadarko geothermal well.

An exploration drill hole reportedly hit hot water at 120 m (total depth 152m; NW¼ NW¼ Sec. 12, T17N, R30E) (NBMG unpub. data).

Leasing information: Prior to AMP Resources, LLC taking over the Salt Wells project, the Nevada Division of Minerals issued a geothermal project area permit to Nevada Geothermal Specialists, LLC for this project. It anticipated development of six production wells, four injection wells, and ten observation wells. One of the first wells drilled under this project was the Industrial Production Well PW-2 drilled by AMP Resources, LLC in the spring of 2005 to a depth of 471 feet. Static temperature surveys showed a peak temperature of 145°C and a flowing temperature of 140°C. The well was flowed at a rate of 2500 gpm for 46 hours with no drawdown. (Nevada Division of Minerals, 2005) A transmission line to the site of a proposed 26-MW power plant has been completed.

In March 2007, Enel North America, Inc. purchased AMP Resources, LLC from AMP Capital Partners and a minority investor. The Nevada Division of Minerals has issued a geothermal project area permit to Enel Salt Wells, LLC to drill up to eight production wells and eight injection wells. The project area is located in Secs. 23, 24, 25, 26, 35, and 36 of T17N, R30E.

Just north of ENEL's existing power plant, RAM Power has leased 10,863 acres, plus an additional 8,304 acres __ along the _____. No further information is available on this project.

In 2009, Gradient Resources (formerly Vulcan Power) completed a \$300,000 Schlumberger/EScan geophysical survey on a ~15,000 acre Salt Wells property. No news on what Gradient is currently doing at the site.



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Bibliography:

