



Site Description

Rhodes Marsh

(updated 2010)

Geologic setting: Similar to Teels Marsh, the Rhodes Marsh playa hosts abundant borate minerals, which led [Coolbaugh et al. \(2006\)](#) and [Kratt et al. \(2006\)](#) to investigate the potential for geothermal energy.

A hot-springs-type tungsten-manganese deposit (the Black Jack Mine) occurs in pre-Tertiary chert 500 m northeast of Sodaville, ~8 km north of Rhodes Marsh (NW¼ SE¼ SW¼ Sec. 29, T6N, R35E). The deposits consist of veins of bluish chalcedonic quartz, calcite, gypsum (often selenite), iron oxides, and tungsten-bearing psilomelane. The main vein trends about N50°E, dips 75 southeast, and is up to 1 m wide (White, 1955a; L. Garside, unpub. data). At one time, travertine probably capped the veins but has since been removed by slight erosion. The veins are believed to be the "roots" of former Pliocene hot springs (R. Roberts, in White, 1955a; Kerr, 1946).

Geothermal features:

Rhodes Marsh playa ([map](#)): A shallow temperature survey has been conducted by UNR researchers at Rhodes Marsh. The anomaly is elongate in a NNE-SSW direction and as currently mapped, exceeds 2.5 km length. The anomaly's northern and southern limits have not yet been defined. Additional temperature mapping is planned for late May 2008. Several outcrops of opalized sands were identified immediately east of the playa along the Pilot Mountains. The temperature anomaly was detected upslope of the opalized sands.

UNR staff sampled two warm artesian wells, one of which yielded a quartz geothermometer of 162°C and an Mg-corrected Na-K-Ca geothermometer of 155°C. The well water contains 360 ppm Cl, suggesting minimal contamination with evaporite fluids.

Leasing information: The 480 acre Rhodes Marsh property, leased by Caldera Geothermal, has no further information available.

Sodaville Springs: Two spring clusters near Sodaville have temperatures up to 38.3°C (NE¼ NE¼ SW¼ and SW¼ SW¼ SE¼ Sec. 29, T6N, R35E). The total flow was reported to be 341 L/min (Van



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Denburgh and Glancy, 1970; Stearns and others, 1937). White (1955a) reported that springs emerge from marshy ground and travertine, and have a maximum temperature of 37.7°C. Mariner and others (1974) have estimated the reservoir temperature at 98°C from a silica geothermometer.

In the 1880s the readily available water supply at Sodaville prompted construction of an ore smelter. A hotel and bathhouses, owned by Martin Brazzanovich, also occupied the site during this period (Myrick, 1962, p. 175). For several years (ca. 2000) Bob Eddy of Desert Lobster has raised freshwater crayfish (locally called freshwater Australian lobster or the red swamp crayfish) in the warm waters. The optimum water temperature for growth of red swamp crayfish is reported to be 24-29°C. Desert Lobster reported that the crayfish grow to 0.45 kg. A limited amount of vegetables is raised for sale in a small greenhouse.

Leasing information: TerraGen has leased property near Sodaville Springs, but no further information is available.

Bibliography: