

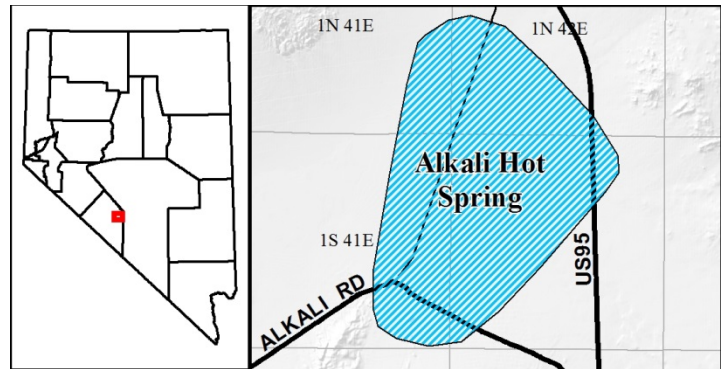
# Site Description

## Alkali Hot Spring

(updated 2014)

### Geologic setting:

Alkali Hot Spring is located between Goldfield (10 km SE) and Tonopah (25 km NE), two well-known silver districts. The valley west of Alkali Hot Spring, Clayton Valley, is North America’s primary lithium source. Still, no mineral discoveries have been made in the immediate vicinity of Alkali Hot Spring. The spring is located on a travertine knoll southeast of Alkali Lake, a seasonal saline lake.



### Geothermal features:

Alkali Hot Spring (SW¼ SE¼ NE¼ Sec. 26, T15S, R41E) originally rose from several seeps, but in the early 19th century, Combination Mines Co. drove a 12-m adit to concentrate flow into a single channel. The water was pumped 16 km southeast to the Combination mill at Goldfield. Reed et al. (1983) reported the temperatures of two springs to be 60°C and 50°C with flow rates of 223 L/min and 95 L/min, respectively. The adit face measured 60°C (Ball, 1907, p. 19, 20).

A low dome of gray-brown travertine is present 91 m north of the adit. The spring reportedly contains lithium although Alkali Flat, unlike Clayton Valley (Silver Peak Hot Springs), does not (Albers and Stewart, 1972). The springs were operated by the Joe Guisti family during Goldfield's heyday, with a large building and indoor swimming pool on site (Rosevear, 1976). Williams (1996, p. 51) referred incorrectly to this spring as Silver Peak Hot Spring. He described a 40°C pool made of concrete and brick, which locals and visitors use for bathing. ([Old Bathhouse at Alkali Spring](#))

Prior to a NBMG sampling trip in 2008, the most recent geochemistry for Alkali Hot Spring was analyzed in 1957 (R. Mariner Database, USGS, Menlo Park). Mariner calculated a Ca-Na-K, Mg-corrected geothermometer of 135°C (Fournier, 1981) for Alkali Hot Springs, and a quartz geothermometer of 112°C. The 2008 sample has not yet been analyzed. NBMG field samplers noted travertine crust along 200m of spring outflow. The upwelling zone is covered with orange algae and juniper bushes, and no detectable sulfur smell. A Goldfield local identified the hot spring source as beneath the defunct powerhouse building, 100m south of the spring. Samplers found major doming of the building foundation, concrete buckled upward, but no access to subsurface water (Penfield et al., 2011). On a return visit on 8/10/2013, a sample of the accessible water at the surface was taken. The temperature of the head water was found to be 50°C.

### Leasing information:

As of 2009, RAM power held >10,000 acres of geothermal leases near Alkali Hot Spring. Though RAM had relinquished many of their Nevada leases by the summer of 2013, as of February 2014 the BLM has not recorded any relinquishments of RAM’s Alkali Hot Spring leases.

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## Bibliography:

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