

## Saline Valley Groundwater Basin

- Groundwater Basin Number: 6-17
- County: Inyo
- Surface Area: 146,000 acres (228 square miles)

### Basin Boundaries and Hydrology

Saline Valley Groundwater Basin underlies a northwest-trending alluvial valley located in central Inyo County (Jennings 1958). This basin is bounded by consolidated rocks of the Saline and Last Chance Ranges on the north and northeast, by the Inyo Mountains on the west, by the Nelson Range on the south, and by the Panamint Range on the east (Jennings 1958; DWR 1964).

Saline Valley is drained principally by Waucoba Wash which originates on the Inyo Mountains and stretches southward across the valley floor until it reaches Salt Lake (Jenning 1958). Annual precipitation of the basin ranges from 4 inches on the valley floor to 12 inches in the Inyo Mountains (DWR 1964).

### Hydrogeologic Information

#### ***Water Bearing Formations***

Quaternary alluvium, which forms the primary water-bearing unit within the basin, includes unconsolidated younger alluvial fan material underlain by semi-consolidated, older alluvium. The saturated thickness of the alluvium is about 48 feet along the margin of the basin. Toward the middle of the basin, these alluvial deposits thin and coalesce with layers of silty clay of lacustrine origin. The alluvium is generally unconfined, although locally confined conditions occur near Salt Lake (Bader 1969; DWR 1964).

#### ***Restrictive Structures***

The basin is bordered by faults along the foothills of the Inyo Mountains and the Nelson Range which may restrict groundwater flow on the west and southwest side of the basin (Jennings 1958).

#### ***Recharge and Discharge Areas***

Recharge of the basin includes percolation of surface flows through alluvial fans and along ephemeral channels and washes, and groundwater underflow from Eureka Valley. The general groundwater flow direction is toward Salt Lake at the center of the basin (Bader 1969; DWR 1964).

***Groundwater Level Trends*** Unknown.

#### ***Groundwater Storage***

**Groundwater Storage Capacity.** Total storage capacity of the basin is estimated at about 2,430,000 af (DWR 1975).

**Groundwater in Storage.** Unknown.

### **Groundwater Budget (Type C)**

Data are not available to form a groundwater budget.

### **Groundwater Quality**

**Characterization.** Overall, the water quality of the basin is inferior for domestic use. Waters issuing from springs along Willow Creek on the northwestern side of the basin and from Lower Warm Springs on the eastern side of the basin are characterized as sodium bicarbonate and sodium sulfate-bicarbonate type waters. Water samples from a well south of Salt Lake is sodium chloride type water and contain TDS concentrations as high as 3,765 mg/L (Bader 1969; DWR 1964). Analysis of water from a well on Gervais Ranch in 1996 (Ganner 2002) indicates calcium sulfate-bicarbonate water with TDS concentration of 529 mg/L.

**Impairments.** Waters issuing from springs along Willow Creek on the northwestern side of the basin and from Lower Warm Springs on the eastern side of the basin contain high concentrations of fluoride.

### **References Cited**

- Bader, J.S. 1969. *Ground-Water Data as of 1967 South Lahontan Subregion California*. U.S. Geological Survey. Water Resources Division. Open-File Report. 25p.
- California Department of Water Resources (DWR). 1964. *Ground Water Occurrence and Quality Lahontan Region*. p.149-152.
- \_\_\_\_\_. 1975. *California's Ground Water*. Bulletin 118. 135p.
- Ganner, Tom. 2002. Email Communication and Unpublished Data at Website: [www.majorproduction.net/saline.html](http://www.majorproduction.net/saline.html) . 28 May 2002.
- Jennings, C. W. ed. 1958. *Geologic Map of California Death Valley Sheet*. Olaf P. Jenkins Edition. California Department of Conservation, Division of Mines and Geology. Scale 1:250,000.

### **Errata**

Changes made to the basin description will be noted here.