

## Wingate Valley Groundwater Basin

- Groundwater Basin Number: 6-19
- County: Inyo, San Bernardino
- Surface Area: 71,400 acres (112 square miles)

### Basin Boundaries and Hydrology

Wingate Valley Groundwater Basin underlies a northeast-trending valley in northeastern San Bernardino and southeastern Inyo counties. Surface elevation of the valley floor ranges from about 1,300 to 3,300 feet above mean sea level. The basin is bounded by nonwater-bearing consolidated rocks of the Panamint Range on the north, the Owlshead Mountains on the east, the Quail Mountains on the south, and Brown Mountain and adjoining peaks on the west. Elevations in the surrounding mountains rise to above 5,000 feet. The basin lies largely within the China Lake Naval Air Weapons Center (USGS 1962; DWR 1964).

Average annual rainfall ranges up to 8 inches. Runoff from the surrounding mountains drains towards Wingate Wash, which flows northeast and discharges to Death Valley (DWR 1964).

### Hydrogeologic Information

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

Quaternary alluvium, which forms the principal water-bearing unit within the basin, is divided into unconsolidated younger alluvial deposits and underlying unconsolidated to poorly consolidated older alluvial deposits (DWR 1964). The thickness of water-bearing deposits is estimated at about 200 feet (DWR 1975).

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

Replenishment to the basin is derived from the infiltration of precipitation and the percolation of runoff from the surrounding mountains. Alluvial fan deposits emanating from surrounding mountains form the principal recharge areas. Groundwater in the younger and underlying older alluvium moves in a northeast direction following the hydraulic gradient towards Death Valley (DWR 1964).

#### ***Groundwater Level Trends***

Water level information is not available.

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

**Groundwater Storage Capacity.** The estimated total storage capacity is about 870,000 af (DWR 1975).

**Groundwater in Storage.** Unknown.

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

Groundwater budget information is not available.

### Groundwater Quality

**Characterization.** An analysis of water from Hidden Springs, located in the southern portion of the basin, indicated sodium chloride-bicarbonate character (DWR 1964).

**Impairments.** The quality of the water from Hidden Springs was rated marginal for both domestic and irrigation uses. This evaluation was based on elevated levels of fluoride and boron. TDS content was 656 mg/L (DWR 1964).

### Well Characteristics

Well yields (gal/min)		
Municipal/Irrigation	Range: –	Average:
Total depths (ft)		
Domestic	Range: -	Average:
Municipal/Irrigation	Range: -	Average:

### Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
	Groundwater levels	
	Miscellaneous water quality	
Department of Health Services and cooperators	Title 22 water quality	

### Basin Management

Groundwater management:

Water agencies

Public

Private

### References Cited

California Department of Water Resources (DWR). 1964. *Ground Water Occurrence and Quality Lahontan Region*. Bulletin No.106-1. 439 p.

\_\_\_\_\_. 1975. *California's Ground Water*. Bulletin No. 118. 135 p.

Jennings C. W. *et al.* 1962. *Geologic Map of California: Trona Sheet*. Olaf P. Jenkins Edition. California Department of Conservation, Division of Mines and Geology. Scale 1: 250,000.

### Errata

Substantive changes made to the basin description will be noted here.