

## Mason Valley Groundwater Basin

- Groundwater Basin Number: 7-59
- County: San Diego
- Surface Area: 5,530 acres (8.6 square miles)

### Basin Boundaries and Hydrology

The Mason Valley Groundwater Basin underlies a southeast-trending valley in eastern San Diego County. Elevation of the valley floor ranges from about 2,500 to 3,000 feet above sea level. The basin is bounded by nonwater-bearing rocks of the Laguna Mountains on the west and northwest, of the Granite Mountains on the north, of the Vallecito Mountains on the east, and of the Sawtooth Range on the south and southeast. Maximum elevation in the surrounding mountains is 5,665 feet at Garnet Mountain in the Laguna Mountains (Strand 1962; Rogers 1965).

Annual average precipitation ranges from about 12 to 20 inches. Mason Valley is drained by Vallecito Creek, which discharges eastward into Vallecito Valley (Brown 1923; Rogers 1965).

### Hydrogeologic Information

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

Groundwater is found in unconsolidated younger Quaternary alluvial deposits and underlying unconsolidated to semi-consolidated older Tertiary to Quaternary alluvial deposits (DWR 1954).

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

Recharge of the basin is from surface and subsurface inflow from Vallecito Creek by way of Rodriguez Canyon on the northwest, from infiltration of runoff through coarse-grained alluvial deposits at the base of the surrounding mountains, and from percolation of precipitation that falls on the valley floor. Groundwater moves east and discharges as underflow of Vallecito Creek into the Vallecito-Carrizo Valley Groundwater Basin (Brown 1923; Rogers 1965).

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

Data from one well in the central portion of the basin show groundwater levels rose about 30 feet from 1978 through 1994, with depth to water fluctuating between about 40 and 75 feet during this period.

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

**Groundwater Storage Capacity.** Unknown (DWR 1975).

**Groundwater in Storage.** Unknown.

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

Groundwater budget information is not available.

## Groundwater Quality

**Characterization.** A chemical analysis of groundwater in 1952 shows calcium-sodium bicarbonate-sulfate character and concentrations of fluoride of 1.1 mg/L, sulfate of 372 mg/L, and TDS of 1,050 mg/L.

**Impairments.** The 1952 analysis shows that water from that well was impaired by high fluoride, sulfate and TDS concentrations.

## 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
Department of Health Services and cooperators	Groundwater levels	1
	Miscellaneous water quality	
	Title 22 water quality	

## Basin Management

Groundwater management:

Water agencies

Public

Private

## References Cited

Brown, J.S., 1923. *The Salton Sea Region, California*. U. S. Geological Survey Water-Supply Paper 497. 292 p.

California Department of Public Works. 1954. *Ground Water Occurrence and Quality, Colorado River Basin Region*. Water Quality Investigations Report No. 4. 59 p.

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Rogers, T. H. 1965. *Geologic Map of California: Santa Ana Sheet*. Olaf P. Jenkins Edition. California Department of Conservation, Division of Mines and Geology. Scale 1: 250,000.

Strand, R. G. 1962. *Geologic Map of California: San Diego-El Centro 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.