

## Johnson Valley Groundwater Basin, Upper Johnson Valley Subbasin

- Groundwater Basin Number: 7-18.02
- County: San Bernardino
- Surface Area: 34,830 acres (54 square miles)

### Basin Boundaries and Hydrology

Upper Johnson Valley Subbasin underlies the Upper Johnson Valley in the southern Mojave Desert. The subbasin is bounded on the north by the Fry Mountains and on all other sides principally by other unnamed crystalline rocks. The western boundary follows the Johnson Valley fault, and surface drainage divides form parts of the southern and eastern boundaries. Upper Johnson Valley has internal surface drainage that converges to Melville (dry) Lake. Average annual precipitation ranges from 4 to 6 inches.

### Hydrogeologic Information

The main water-bearing materials in the subbasin are alluvial deposits consisting of silt, clay, sand, and gravel, along with some fine-grained lakebed deposits. Depth to bedrock is unknown, but probably is about 200 feet in the deepest part of the valley (French 1978). The alluvium in the northern part of the subbasin is a thin cover over a bedrock pediment. A well completed in the northern part of the subbasin penetrated 40 feet of alluvium and 84 feet of weathered bedrock and struck unweathered bedrock at 125 feet. Water was found at a depth of 480 feet in fractured bedrock (French 1978).

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

Data are not available.

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

**Groundwater Storage Capacity.** Unknown.

**Groundwater in Storage.** Unknown.

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

Groundwater budget information is not available.

#### ***Groundwater Quality***

**Characterization.** Groundwater sampled by French (1978) was sodium chloride to sodium sulfate in character with TDS concentrations as high as 3,000 mg/L.

**Impairments.** Groundwater in the subbasin has TDS and fluoride concentrations above the recommended levels for drinking water (French 1978).

## 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

French, J.J. 1978. *Ground-Water Storage in the Johnson Valley Area San Bernardino County, California*. U.S. Geological Survey Water-Resources Investigations 77-130. 35 p.

## Additional References

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Jones and Stokes Associates, Inc. 1973. *Initial Draft Report, Environmental Impact Analysis for the Lucerne Valley Water Pipeline Project*. Report for Mojave Water Agency. 188 p.

Koebig and Koebig, Inc. 1962. *Mojave Water Agency Supplemental Water Report*. Report for Mojave Water Agency. 92 p.

Mendez, M.O., and A.H. Christensen. 1997. *Regional Water Table (1996) and Water-Level Changes in the Mojave River, the Morongo, and the Fort Irwin Ground-Water Basins, San Bernardino County, California*. U.S. Geological Survey Water-Resources Investigations Report 97-4160. 34 p.

Mojave Water Agency (MWA). 2000. *Annual Ground Water Level Monitoring Program for 1999*. Apple Valley California. 129 p.

Riley, F.S. 1956. *Data on Water Wells in Lucerne, Johnson, Fry, and Means Valleys, San Bernardino County, California*. U.S. Geological Survey Open-File Report. 150 p.

## Errata

Changes made to the basin description will be noted here.