Kelso Valley Groundwater Basin

- Groundwater Basin Number: 6-31
- County: San Bernardino
- Surface Area: 255,000 acres (398 square miles)

Basin Boundaries and Hydrology

Kelso Valley Groundwater Basin underlies a northeast trending valley in east-central San Bernardino County. Elevation of the valley floor ranges from about 1,500 to 4,000 feet above mean sea level. The basin is bounded by nonwater bearing consolidated rocks of the Marl Mountains and Teutonia Peak on the north, the Providence Mountains on the east, the Granite, Old Dad, and Bristol Mountains on the south, and the Kelso Mountains on the west. Elevation in the Providence Mountains reaches a maximum of about 7,000 feet; maximum elevations of the other surrounding mountains are about 4,500 to 5,500 feet (DWR 1964).

Average annual precipitation ranges from 4 to 8 inches. Runoff from the surrounding mountains drains towards Kelso Wash, which trends in a southwest direction down the central portion of the valley. Near the western margin of the valley, Kelso Wash turns northwest and discharges into Soda Lake Valley (Jennings 1961; Bishop 1963).

Hydrogeologic Information

Water Bearing Formations

Quaternary alluvium forms the major water-bearing unit within the basin. Included in this unit are the unconsolidated younger alluvial deposits and the underlying unconsolidated to poorly consolidated older alluvial deposits. Maximum thickness of the alluvium is at least 1,970 feet (DWR 1964).

Recharge Discharge Areas

Replenishment of the basin is chiefly from the percolation of runoff from the surrounding mountains and infiltration of precipitation that falls to the valley floor. Groundwater in the younger and underlying older alluvium moves, as does the surface runoff, towards Kelso Wash and discharges as subsurface outflow to Soda Lake Valley Groundwater Basin (DWR 1964).

Groundwater Level Trends

Water levels near Kelso, located in the central part of the basin, have ranged between about 420 and 480 feet below the surface during 1954 through 1984. However, water levels were essentially the same in 1984 as in 1954, with a depth to water of about 470 feet. In the far northeast part of the basin, water levels in wells ranged between about 50 and 65 feet below the surface during 1969 through 1970. In the extreme western part of the basin near Sands, the depth to water was measured at about 350 feet in 1965.

Groundwater Storage

Groundwater Storage Capacity. Total storage capacity is estimated at about 5,340,000 af (DWR 1975).

Groundwater in Storage. Unknown.

Groundwater Budget (C)

Groundwater budget information is not available.

Groundwater Quality

Characterization. The groundwater at Kelso has a sodium bicarbonate-sulfate character (DWR 1964).

Impairments. The groundwater is suitable for all beneficial uses and has a TDS content of about 570 mg/L (DWR 1964).

Well Production Characteristics

	Well yields (gal/min)	
Municipal/Irrigation	Range: to 370 gal/min	Average: 290 (DWR 1975)
	Total depths (ft)	
Domestic		
Municipal/Irrigation		

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

Bishop, C. C. 1963. *Geologic Map of California: Needles Sheet.* Olaf P. Jenkins Edition. California Department of Conservation, Division of Mines and Geology. Scale 1: 250,000.

California Department of Water Resources (DWR). 1964. *Ground Water Occurrence and Quality Lahontan Region.* Bulletin No. 106-1. p. 437-439.

_____. 1975. *California's Ground Water*. Bulletin No. 118. p. 82-83.

Jennings, C. W. 1961. *Geologic Map of California: Kingman 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.