

Campo Valley Groundwater Basin

- Groundwater Basin Number: 9-28
- County: San Diego
- Surface Area: 3,550 acres (5.5 square miles)

Basin Boundaries and Hydrology

This groundwater basin underlies Campo Valley, which is approximately 40 miles east of the city of San Diego and adjacent to the Mexican border. The basin is bounded by non-permeable crystalline rocks of the Peninsular Ranges (Strand 1962; DWR 1967; Moyle and Downing 1978). Campo Valley is drained by Campo Creek. Average annual precipitation ranges from 7 to 15 inches.

Hydrogeologic Information

Water Bearing Formations

The principal water-bearing unit of this basin is Quaternary alluvium. Another potential, but not regionally significant, water bearing unit is the residuum derived from weathering of local Cretaceous granitic rocks (Moyle and Downing 1978).

Quaternary Alluvium. The alluvium in this basin consists of gravel, sand, silt, and clay. The alluvium ranges in thickness from a few feet to roughly 100 feet (Moyle and Downing 1978). The average thickness is estimated at 55 feet (Erickson and Kingery 1983). Well yields are typically under 40 gpm (Moyle and Downing 1978).

Recharge Areas

Recharge of the basin is from direct precipitation and effluent from a small number of septic tanks (Erickson and Kingery 1983).

Groundwater Level Trends

Groundwater Storage

Groundwater Storage Capacity. The storage capacity for the aquifer is estimated to be 63,450 af (Erickson and Kingery 1983).

Groundwater in Storage. Total groundwater in storage in 1983 was estimated at 7,614 af (Erickson and Kingery 1983).

Groundwater Budget (Type C)

Not enough information is available to construct a budget.

Groundwater Quality

Characterization. The alluvium contains water of calcium bicarbonate character. Electrical conductivity readings are around 800 μmho (Erickson and Kingery 1983). In the 1960s, TDS concentration ranged from 219 to 480 mg/L (DWR 1967) and in the 1970s was less than 800 mg/L (Moyle and Downing 1978). The groundwater in this basin was generally rated suitable for domestic and irrigation uses (DWR 1967).

Impairments. Unknown.

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	
Department of Health Services and cooperators	Title 22 water quality	4

Basin Management

Groundwater management:	Campo Environmental Protection Agency is reported to have been working on a groundwater management plan in 1994 (EPA 2002).
Water agencies	
Public	Campo Environmental Protection Agency
Private	

References Cited

- California Department of Water Resources (DWR). 1967. *Ground Water Occurrence and Quality: San Diego Region*. Bulletin No. 106-2. 235 p.
- Erickson, John R., and Kingery, Frank A. 1983. *Hydrogeologic Investigation for Campo Hills Mobile Home Park, San Diego County, California*.
- Environmental Protection Agency (EPA). 2002. National Water Quality Inventory: 1994 Report to Congress. <http://www.epa.gov/305b/94report/>. 1 July, 2002.
- Moyle, W.R., Jr., and Downing, D.J. 1978. *Summary of Water Resources for the Campo, Cuyapaipe, La Posta, and Manzanita Indian Reservations and Vicinity, San Diego County, California*. U.S. Geological Survey Open-File Report 77-684. 43 p.
- Strand, Rudolf. 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.

Additional References

- Ellis, A. J., and C. H. Lee. 1919. *Geology and ground waters of the western part of San Diego County, California*. U.S. Geological Survey Water Supply Paper 446. 321 p.

Errata

Changes made to the basin description will be noted here.