East Salton Sea Groundwater Basin

- Groundwater Basin Number: 7-33
- County: Imperial, Riverside
- Surface Area: 196,000 acres (306 square miles)

Basin Boundaries and Hydrology

This basin underlies Chocolate Valley in southern Riverside County and northern Imperial County. The basin is bounded by nonwater-bearing rocks of the Chocolate Mountains on the north and east and by the San Andreas and Banning Mission Creek faults on the west (Jennings 1967). The valley is drained by the Iris and Mammoth Washes to the Salton Sea. Average annual precipitation ranges to 4 inches.

Hydrogeologic Information

Water Bearing Formations

The water-bearing material within the basin is alluvium, which includes unconsolidated younger Quaternary alluvial deposits and the underlying unconsolidated to semi-consolidated older Tertiary to Quaternary alluvial deposits. Maximum depth of the valley fill is at least 400 feet (DWR 1954).

Restrictive Structures

The western portion of the basin is traversed by the San Andreas fault zone and two unnamed faults, which may impede the movement of groundwater. Included in this zone is the Banning Mission Creek fault (Jennings 1967).

Recharge Areas

Recharge to the basin is chiefly from the infiltration of runoff through alluvial deposits at the base of the surrounding mountains.

Groundwater Level Trends

Water level measurements made between 1963 and 2000 indicate a steady decline has occurred in the basin over that period (DWR 1999).
Groundwater levels range from 20 to 48 feet below the surface (DWR 1999).
Groundwater moves in a southwest direction as underflow to the Salton Sea.

Groundwater Storage

Groundwater Storage Capacity. . Total storage capacity is estimated to be 360,000 af (DWR 1975).

Groundwater in Storage. Unknown.

Groundwater Budget (Type C)

Natural recharge is estimated at about 200 af/yr (DWR 1975). Extractions totaled about 6 af in 1952 (DWR 1975).

Groundwater Quality

Characterization. Groundwater in the basin is sodium chloride or sodium sulfate in character, with TDS content ranging from 356 mg/L to 51,632 mg/L.

Impairments. Groundwater in the basin is not suitable for domestic, municipal, or agricultural purposes (DWR 1954; DWR 1975).

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
USGS	Groundwater levels	1
	Miscellaneous water quality	
Department of Health Services and cooperators	Title 22 water quality	4

Basin Management

Groundwater management:

Water agencies

Public

Private

References Cited

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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_____. 1999. *Groundwater Level Data: Water Data Library.* http://well.water.ca.gov/gw/admin/main_menu_gw.asp. (August 2002).

Jennings, C. W. 1967. *Geologic Map of California: Salton Sea 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.