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TEMPERATURE SURVEY

January 13-14, 1986

Number of probes: 57
Maximum Temperature: 19.95 degrees C.
Minimum Temperature: 16.93 degrees C.
Average Temperature: 18.14 \pm 0.77 degrees C.
Skewness: -1.17

Interpretation

South of Armistead, cooler temperatures occur in a well defined zone that includes areas where stream channels enter the valley, particularly those from the Sierra Nevada, and in a broad band that extends through the central part of the valley. Higher temperatures occur along the valley margins between major stream channels.

The shape of the low temperature zone suggests that ground water from Horse and Bird Spring Canyons flows into the valley and then either south towards Red Rock Canyon or east across the valley.

It appears that a ground water divide exists near the mouth of Sage and Cow Heaven Canyons (in the area defined by Stations 18, 21, 39 and 28). It affects the discharge from these canyons such that some ground water may flow to the northeast and some may flow down a prominent thermal trough to join the discharge from Bird Spring and Horse Canyons.

Ground water from the El Paso Mountains may flow near Station 35 and then either north or west.

North of Armistead, temperatures and the temperature gradient tend to increase to the northeast. Isothermal contour lines tend to be oriented perpendicular to the valley axis rather than parallel as in the southern half. This suggests the presence of a ground water flow barrier trending northwest-southeast across the valley near the location of Freeman Gulch.

Within the project area, ground water discharging from Freeman Canyon probably flows to the southeast. Additional ground water from Freeman Canyon may discharge north of West Bowman Road in an area not covered by temperature surveys.