

GL03516

TEMPERATURE EXPLORATION FOR GROUND WATER IN KAU, HAWAII

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The survey area was in the elevation range 1,000 to 2,000 feet above sea level, within the recharge area of Ninole Springs. A thermal pattern was found, which when interpreted in its geologic setting and compared with the temperature data from Ninole and other springs, and from the Maui-type well at Pahala, suggested that high level ground water occurred beneath the survey area.

In subsequent slim-hole exploratory drilling, water was encountered in two drillholes at about 950 feet above sea level. Several

lines of evidence suggest that the water found represents a massive body rather than a small restricted flow zone, and is probably the basal water table.

Rainfall in the survey area and in the recharge area upslope ranges from 60 inches to more than 100 inches per year. Although faulting is present below the survey area, dikes are rare or absent. It appears that high level ground water can occur in Hawaii beneath areas of high precipitation without the necessity of retaining structures.