

Data on both the rock physical properties and geologic structure and stratigraphy of a large number of drill hole sites are stored in the Lawrence Livermore Laboratory Earth Science Division Test Effects Data Bank. Retrieval of data from the bank allows geological and geophysical comparison of a particular site with other sites where successful containment of radioactivity was experienced. Sorting, comparing and averaging of data are done by standard data bank programs. They conveniently list information according to site location, drill hole construction, rock units, depth to key horizons and the water table, and distance to faults. These programs also make possible ordered listings of the geophysical properties of interval bulk density, overburden density, interval velocity, velocity to the surface, grain density, water content, carbonate content, porosity and saturation of the rocks. Data is used in presenting proposed nuclear tests for approval to the USERDA Nevada Operations Office Containment Evaluation Panel (CEP). This Panel relies on past experience with similar tests and on modelling of nuclear phenomenology. The Data Bank is an invaluable aid in providing the necessary geologic data quickly.

#### COMPARISON OF THE STRUCTURE OF A PART OF THE SAN JACINTO FAULT SYSTEM WITH THE SALTON SEA GEOTHERMAL FIELD VICINITY

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Although the structural geology of the vicinity of the Salton Sea Geothermal Field has been hypothesized as a pull-apart structure by a number of workers (e.g., Elders, et al., 1972), this hypothesis has not been confirmed conclusively for several reasons including that the subsurface structure is very difficult to map owing to lack of good correlatable markers. This paper proposes support for the pull-apart hypothesis by virtue of an analogy between the field and a well exposed location in what is believed to be a similar tectonic setting.

The geothermal field lies between right-step, seismically active, offset segments of the right lateral San Andreas fault system (i.e., the San Andreas in the Durmid Hills and the Brawley fault). The similar area is the Red Mountain area of the San Jacinto Mountains. It lies at the northwest end of the northwest trending Coyote Creek fault of the San Jacinto fault system. Red Mountain exposes several northeast trending extensional faults that join the Coyote Creek fault with the northwest trending San Jacinto fault (Sharp, 1967; Howard and Leutener, 1970). The Red Mountain area is proposed to be structurally similar to the Salton Sea Geothermal Field inasmuch as both occur at right offset steps in a right lateral strike slip fault system.

The San Jacinto fault itself is mappable to the southeast of its exposure at Red Mountain; but, except at its southeast terminous, does not seem to be as seismically active today as is the Coyote Creek fault. Slip within the system has apparently shifted to the latter fault. It is suggested that the hypothesized extension of the San Andreas fault southeast of the geothermal field does in fact exist but that slip has shifted to the Brawley fault in recent times.