



This map displays structural contours on top of the Talbert and Bolsa aquifer systems in relation to mean sea level, the interpreted thickness of these aquifers and the onshore areal limits of effective aquifer sand development of these discriminated units. Probable seaward extensions of these aquifer units are not within the area of this investigation and are not interpreted.

The tops and thicknesses of these aquifers have been interpreted from lithologic descriptions contained in well logs, primarily water well logs. The Talbert aquifer is the larger of these two sand units in length, thickness and areal extent and extends from the mouth of Santa Ana Canyon, northeast of the City of Anaheim (plate 2), to the seacoast between Huntington and Newport Mesas (plate 3). The Santa Ana Canyon, east of the + 110 elevation structural contour line, the top and bottom of the Talbert aquifer is not readily distinguishable from similar coarse clastic sediments overlying and underlying this unit.

The Bolsa aquifer is the smaller of these two sand units in length, thickness and areal extent and extends from the vicinity of the City of Westminster, (Plate 1) southerly to the seacoast between Bolsa Chica and Huntington Mesas, (plate 3). The Bolsa aquifer is in hydraulic continuity with the upper youngest portion of the Talbert aquifer in the vicinity of the City of Westminster.

The Talbert and Bolsa aquifer units are Holocene age sediments and are major segments of total Holocene age sedimentation within the area of this investigation. The areal extent and shape of these coarse clastic units and the velocities of seismic waves passing through these units will be critical factors in estimating the near-surface effects of earthquake induced ground shaking.

BASE MAPS FROM U.S. GEOLOGICAL SURVEY MOSAICED ORTHOPHOTO 1:24,000 QUADRANGLES

## CLASSIFICATION AND MAPPING OF QUATERNARY SEDIMENTARY DEPOSITS FOR PURPOSES OF SEISMIC ZONATION, SOUTH COASTAL LOS ANGELES BASIN, ORANGE COUNTY, CALIFORNIA

### SECOND YEAR INTERIM REPORT

INVESTIGATORS: EDWARD C. SPOTTE, DAVID R. FULLER AND RICHARD B. GREENWOOD  
PERIOD ENDING SEPTEMBER 18, 1980.

#### TALBERT AND BOLSA AQUIFER MAP LEGEND

- $\frac{+25}{50}$  Point of control obtained from a water well or investigative test boring log. The upper value is the elevation at the top of the aquifer in feet, with respect to mean sea level. The lower value is the thickness of the aquifer in feet. The notation N.V. in place of the lower value indicates no value due to a lack of total aquifer penetration or a log description too general to make a reliable thickness determination.
- $\frac{0}{0}$  Point of control where the aquifer is not present.
- MSP-1 MILE SQUARE PARK NO.1, test hole drilled, sampled, instrumented and analyzed during this project year.
- +25'— Line of equal elevation in feet, with respect to mean sea level, of the top of the aquifer.
- - - 50' - - - Line of equal thickness of the aquifer in feet.
- - - - - Approximate areal extent of the aquifer system.
- - - - - County boundary line.

SCALE 1:48,000

