



**EXPLANATION**

**FANS AT MOUTH OF TRAIL, HANAUPAH, AND JOHNSON CANYONS**

**OTHER FANS**

**QUATERNARY**

**PLEISTOCENE AND RECENT**

**UPPER PRECAMBRIAN AND LOWER PALEOZOIC**

**PRECAMBRIAN AND PALEOZOIC**

**MOUNTAINS**

**CONTACT AND FAULT**

**FAULT SCARP ON FAN**

**OUTLINE OF DRAINAGE AREA**

**Y**

**R**

**x<sup>7</sup>**

Silt and evaporites  
Saltpan on floor of Death Valley

Unweathered gravel in modern washes  
Loose pebble and cobble gravel

Gravel  
Both unweathered and varnished. Includes both modern and abandoned washes

Varnished gravel in abandoned washes  
Pebble to boulder gravel; fragments at surface strongly varnished but firm

Weathered gravel  
Pebble to boulder gravel and sand, commonly cemented by caliche. Locally faulted and probably tilted. Surface of deposit is commonly a desert pavement, an armor of angular fragments from less than 1 inch to several feet in diameter. Varnish on surface of deposit less distinct than on gravel in washes. Fragments in weathered zone commonly much disintegrated

Sedimentary and metasedimentary rocks  
Include small areas of granitic rocks and volcanic rocks of Tertiary age

Areas without color or pattern between mountains and saltpan are unmapped segments of piedmont

Generalized or approximate

Many small scarps omitted

Shown only in mountains

Limit of segment of pavement on Hanaupah Canyon fan  
Individual segments identified by letters Y and Z

Fan segment mentioned in text

Sample locality

Base from U.S. Geological Survey 15-minute quadrangles, Emigrant Canyon, Furnace Creek, Telescope Peak, and Bennetts Well

Geology generalized from C. B. Hunt (unpublished data)

MAP OF PARTS OF THE PIEDMONT EAST OF THE PANAMINT RANGE, CALIFORNIA  
HANAUPAH, AND JOHNSON CANYON FANS MAPPED IN DETAIL