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ANCHORAGE AND VICINITY

EXPLANATION

This map has been prepared at the request of the Greater Anchorage Area Borough, Alaska, to aid in borough planning and in the location of construction materials. Estimates of quantity and evaluation of material for specific uses are not presented; these facts must be determined by a more detailed exploration and testing program for each potential site prior to development. Geologic contacts on the map are approximately located. Along steep bluffs and in other places, thin deposits of small areal extent are not differentiated. Over much of the area, the materials shown on the map occur beneath a cover of humus and sand 0-3 feet thick. The topographic base map shows ground conditions prior to the earthquake of March 27, 1964.

The map is an interpretation made from the geologic map and data contained in U.S. Geological Survey Bulletin 1093, "Surficial Geology of Anchorage and Vicinity, Alaska," by R. D. Miller and Ernest Dobrovolny. Selected parts of the area were field checked in 1965. Surficial deposits in the Anchorage area have been described in Bulletin 1093 in terms of age, origin, and composition. Deposits having similar general characteristics and grain-size ranges are combined into units on this map without regard to age or origin.

Mr. Joseph Murray, a part-time employee of the city of Anchorage, assisted in laboratory testing of samples collected to provide additional data for use in classification of the materials represented on the map.

A

Gravel

Sorted material; more than one-half of the particles by weight are 0.187 inch in diameter (Tyler sieve no. 4) or larger; locally contains high percentage of fragments larger than 3 inches in diameter; in places contains lenses and beds of evenly sorted sand, fine gravel, and silt. Unit includes alluvium, abandoned-channel deposits in selected areas, alluvial fans, and outwash east of Elmendorf airstrip

B

Sand

Sorted material; most of the particles range in grain size from 0.0029 to 0.187 inches in diameter (Tyler sieve nos. 200 and 4); locally contains lenses of gravel and silt. Unit includes outwash in vicinity of Spenard, pitted outwash in selected areas, parts of delta deposits and alluvial fans

C

Sand and gravel

Sorted material; occurs in alternating beds of sand and gravel 0.1 inch to about 4 feet thick; locally lenses of silt are present; beds are generally horizontal, but in places they are steeply inclined and distorted. Unit includes outwash in the vicinity of Anchorage, glaciofluvial ice-contact deposits, abandoned-channel deposits in selected areas, kame field and kame terrace deposits, prodelta and parts of delta deposits

D

Silt and clay

Sorted material; most of the particles are smaller than 0.0029 inches in diameter (Tyler sieve no. 200). Unit includes Bootlegger Cove Clay, estuarine silt and other silt deposits

E

Swamp deposits

Predominantly organic material; in places includes silt, clay, and, locally, volcanic ash layers. Small areas not shown

F

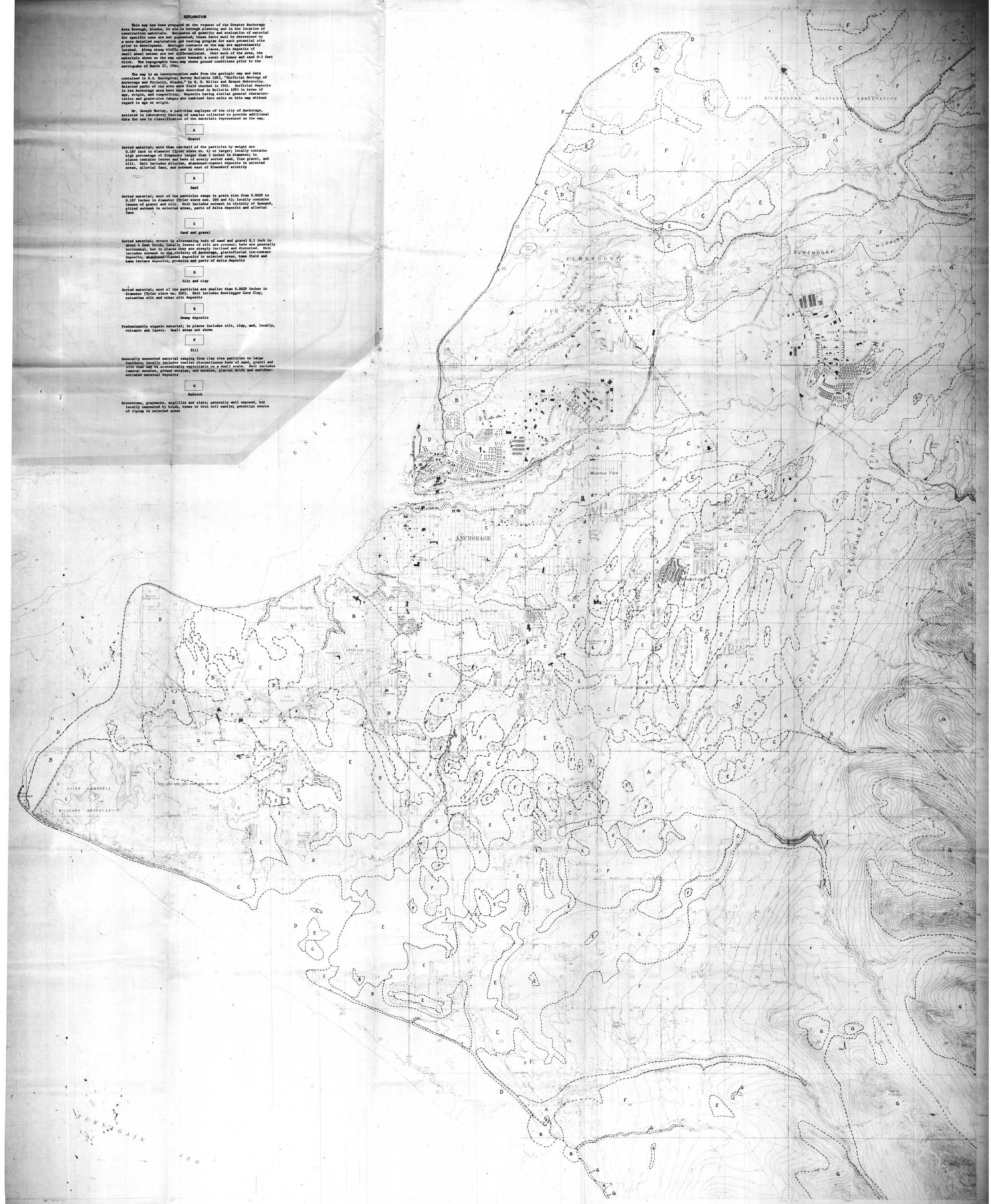
Till

Generally nonsorted material ranging from clay size particles to large boulders; locally includes smaller discontinuous beds of sand, gravel and silt that may be economically exploitable on a small scale. Unit includes lateral moraine, ground moraine, end moraine, glacial drift and undifferentiated morainal deposits

G

Bedrock

Greenstone, graywacke, argillite and slate; generally well exposed, but locally concealed by brush, trees or thin soil mantle; potential source of riprap in selected areas



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MAP OF GEOLOGIC MATERIALS, ANCHORAGE AND VICINITY, ALASKA
by Ernest Dobrovolny and Henry R. Schmoll

ANCHORAGE AND VICINITY, AL...