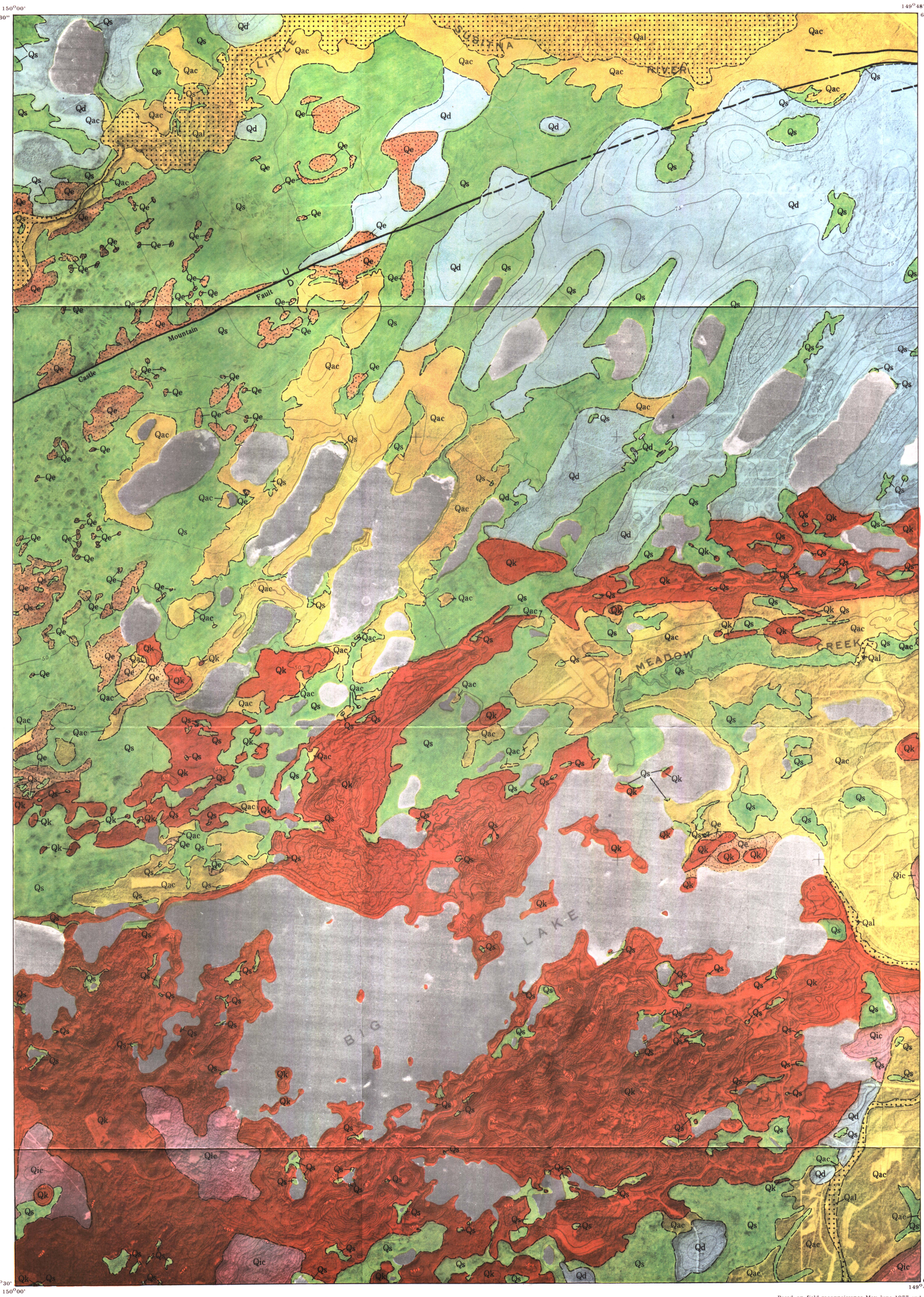
GR68-SH1

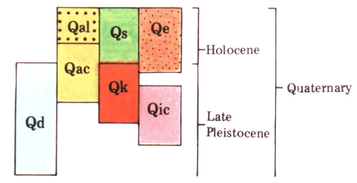
ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS
IN COOPERATION WITH DIVISION OF TECHNICAL SERVICES

GEOLOGIC REPORT 68
PLATE 1



EXPLANATION

APPROXIMATE AGE OF MAP UNITS



DESCRIPTION OF MAP UNITS

A blanket of loess less than 11,500 years old covering ~~nearly all inorganic deposits to depths of 9 to 30 cm is~~ not shown on the map.

Qal STREAM ALLUVIUM—Elongate deposits of pebble-cobble gravel and sand beneath modern flood plains; generally well sorted and medium to thick bedded, locally cross-bedded; surface smooth, except for low scarps; permeability generally excellent to good.

Qac ABANDONED MELTWATER CHANNEL ALLUVIUM—Elongate channel fillings of well-sorted pebble-cobble gravel and gravelly medium-coarse sand with rare to occasional boulders laid down by former streams from melting glacial ice; large clasts generally subangular to well rounded; medium to thick bedded, locally cross-bedded; thickness ranges from less than 1 m to over 3 m; surface generally smooth, except for low scarps; permeability excellent to good, except very poor where locally well cemented by iron and manganese oxides.

Qk KAME-ESKER DEPOSITS—Complex accumulations of well to poorly sorted gravel, sand, and silt with rare to occasional boulders primarily deposited by meltwater streams in and beneath stagnant glacial ice; large clasts subangular to well rounded; locally contains clastic fragments of Tertiary coal; thin to thick bedded, locally contorted and discontinuous to lenticular; thickness generally over 5 m; surface generally irregular; permeability excellent to fair.

Qic UNDIFFERENTIATED ICE-CONTACT DEPOSITS—Complex mixtures of kame-esker deposits, sediments of supraglacial streams, and till generally composed of sandy gravel or gravelly sand with trace to some silt and occasional boulders;* large clasts generally subrounded to subangular; generally unbedded; thickness generally more than 5 m; surface generally irregular to slightly irregular; permeability excellent to poor.

Qd TILL—Heterogeneous mixture of gravel, sand, and silt deposited directly from glacial ice, may be locally reworked by meltwater streams; commonly very dense; unbedded, except thin to thick bedded where reworked; thickness ranges from 2 m to over 6 m; surface irregular to slightly irregular; permeability fair to poor, except excellent where reworked.

Qe EOLIAN SAND—Accumulations of light-gray to light-olive-brown, clean, wind-deposited, fine to medium sand, locally mottled brown to tan by iron oxides; contains trace to some silt; clasts angular to subangular; generally unbedded, but locally cross-bedded; thickness ranges from blankets 0.3 to 0.8 m thick to dunes 1.4 to 6 m thick; surface smooth to locally irregular, forms isolated or clustered mounds and elongate ridges as well as low cliffhead dunes along scarp of Castle Mountain fault; permeability excellent.

Qs SWAMP DEPOSITS-Interlayered woody *Sphagnum* and sedge peat, organic silt, and sand accumulated in local basins, around the margins of lakes or ponds, and in former drainage channels; locally marly; commonly perennially frozen at depth; thickness ranges from less than 1 m to more than 6 m; surface smooth, hummocky, or pitted; permeability good, except very poor where frozen.

SYMBOLS

Surface trace of fault, dashed where approximate, queried where inferred

Approximate geologic contact

*Estimated percentages of sand and silt, based on field observations, are indicated by the terms "some" and "trace." 'Some' implies a general composition of 12% to 30%. 'Trace' implies a general composition of 4% to 12%. Estimated percentages less than 4% were not recorded in the field.

Base from 1974 advance print of U.S. Geological Survey orthophoto map prepared from 1:76,000-scale aerial photographs taken August 21, 1974.

Scale 1:25,000

1 .5 0 1 2 KILOMETERS

½ 0 1 MILE

1,000 0 5,000 FEET

Contour interval 5 meters
Datum is mean sea level

ALASKA

Quadrangle location

Approximate mean declination, 1950

TRUE NORTH 27° MAGNETIC NORTH

Based on field reconnaissance May-June 1977 and June-July 1978 and on aerial photograph interpretation, November 1977 through January 1978. Field assistance by Cheri L. Daniels. Reviewed by Jeffrey T. Kline, James R. Riehle, and Randall G. Updike. Cartography by Gregory M. Laird.

GEOLOGIC MAP OF THE ANCHORAGE C-8 SW QUADRANGLE, ALASKA

By Richard D. Reger

1981