

EXPLANATION

UNCONSOLIDATED DEPOSITS

- Qa1** Channel and floodplain deposits of active rivers and streams. Inferred to be mainly well-sorted sand and gravel, with finer deposits (including silt) underlying some parts of floodplains. Include deposits of active streams which drain glaciers but which presently head in preglacial lakes.
- Qa2** River deposits of terraces which occur between the active floodplain and higher terraces of inferred outwash. Probably represent a late phase of outwash activity, but may represent an earlier (post-outwash) river stage followed by incision down to the present floodplain level. Inferred to be mainly well-sorted sand and gravel.
- Qa3** Deposits of glacial meltwater streams, (outwash) inferred to be mainly stratified sand and pebble gravel with lenses of cobbles and boulders. May locally include stratified silt and clay-sized particles. Unit includes valley train deposits, possible lake and meltwater channel deposits near seaward, and floodplain deposits of active streams which drain glaciers.
- Qa4** Relatively large alluvial fan deposits with low surface slopes. Inferred to be mainly stratified sand and pebble gravel, with lesser amounts of clay, silt, cobbles, and boulders. Occur near seaward at the mouths of major rivers. Probably include some mudflow and debris flow deposits.
- Qa5** Relatively small fan-shaped deposits at the mouths of small steep tributaries. Inferred to be poorly sorted alluvial silt, sand, pebbles, and cobbles, with some boulders and clay. Probably includes significant amounts of mudflow and debris flow deposits and talus.
- Qa6** Talus deposits, mainly in the form of cones at the base of relatively steep slopes. Inferred to be chiefly loose, poorly sorted deposits of angular bedrock blocks ranging from pebble size to large boulders. May include some mudflow and debris flow deposits.
- Qa7** Landslide deposits. Include poorly sorted deposits of inferred rockfalls, earthflows, and debris flows and slides. Where original material in a rotational slide or slump is apparently little deformed, the symbol for the original material is given after Qa (example: Qa7/Qs).
- Qa8** Thin surficial deposits, chiefly silt (nonsorted glacial debris consisting of sand and angular pebbles, cobbles, and boulders with minor amounts of silt and clay) and lesser amounts of stratified drift (sand and gravel). Unit includes local bedrock outcrops, slump deposits, and alluvial and colluvial deposits. Based on limited observations of exposures in scarpfills, surficial deposits are generally less than 2 or 3 meters thick but locally may be thicker. Contact with bedrock as shown is highly approximate.
- Qa9** Scarp drift deposits (chiefly silt, with local deposits of stratified drift); based on limited observations of exposures in scarpfills drift deposits of unit Qa9 are thicker than deposits of unit Qa. Includes potential deposits at higher elevations tentatively identified as lateral moraines, and potentially active rock glaciers.
- Qa10** Beach deposits consisting chiefly of sand. "u" and "v" refer to nonvegetated and vegetated deposits, respectively. Deposited deposits are not necessarily inactive, but probably are reached by highest waves. May grade seaward into intertidal deposits.
- Qa11** Beach deposits consisting chiefly of pebbles and cobbles, or pebbles and cobbles with sand. "u" and "v" refer to non-vegetated and vegetated deposits, respectively; vegetated deposits are not necessarily inactive, but are probably reached by highest waves. May grade seaward into intertidal deposits.
- Qa12** Intertidal (deltaic) deposits are seaward margins of alluvial fans. Consist chiefly of stratified sand and silt, with some pebbles and cobbles. "u" and "v" refer to nonvegetated and vegetated deposits, respectively; vegetated deposits are not necessarily inactive, but are reached by highest tides. Due to local and regional subsidence during 1964 earthquake, tides now reach further inland on fan-deltas than before; contact of deltaic deposits with deposits of units Qa1 and Qa2 is approximate.
- Qa13** Deposits underlying intertidal flats. Consist chiefly of stratified silt and sand; may include pebble gravel. Locally include cobbles and boulders which probably are remnants of wave-eroded silt deposits. "u" and "v" refer to nonvegetated and vegetated deposits, respectively; vegetated intertidal deposits occur mainly as small lagoons behind protective beaches.
- Qc** Organic deposits, chiefly accumulations of organic silt and peat in swamps. Include flat areas in floodplains and alluvial fans which are generally free of high woody vegetation and appear saturated.
- Qf** Fill comprising alluvial fans at English Bay, Port Graham, and Seldovia.

POTENTIAL AVAILABILITY OF VARIOUS CONSTRUCTION MATERIALS

Moderate to high probability of sand and gravel deposits. Active outwash channels and low lying parts of units Qa1 and Qa2 probably have shallow groundwater. Active floodplains and river channels have served elsewhere as self-renewing sources of sand and gravel (for example, Resurrection River near Seward).

Low probability of sand and gravel deposits. The units are mainly deposits of poorly sorted materials ranging in size from silt to boulders, although unit Qa1 at low elevations locally contains small amounts of sand and gravel.

Moderate probability of local sand and gravel deposits at low elevations.

High probability of gravel deposits, low to moderate probability of sand deposits. Foundation during high parts of the tidal cycle and shallow groundwater are constraints on extraction. Potential effects of extraction on stability of adjacent backshore and beach areas should be evaluated before extraction.

High probability of sand deposits, low to moderate probability of gravel deposits. Low bearing capacity and saturated nature of the deposits are constraints on extraction.

No sand or gravel deposits at the ground surface. Moderate to high probability of sand and gravel deposits beneath organic deposits on floodplains and large alluvial fans, but such deposits are likely to be beneath the groundwater table.

Low probability of gravel, crushed egg sgate, or armor riprap. Low to moderate probability of sand.

No sand or gravel. Locally, moderate to high probability of crushed aggregate. Armor riprap has been obtained from sites at the south headland of the entrance to Sade Cove and at Grey Cliff point near Seldovia; a third potential site has been identified at Halibut Cove by State Dept. of Highways personnel.

The classification of potential availability given above should be used only as a general guide to the relative probability of occurrence of the various construction materials. The classification does not consider the suitability of the various materials for specific uses, nor does it take into account the economic feasibility of extraction and transportation.

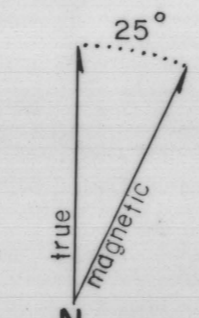
Photogeologic contact. Map units are queried where identification is uncertain; contacts are dashed where location is approximate.

Photogeologic lineament. Only those lineaments which are relatively well-defined, or appear to extend for a mile or more, are shown. On the basis of photointerpretation and limited field observations, none of the lineaments are known to be active faults.

Abandoned stream channels inferred to be ice-margin drainage channels.

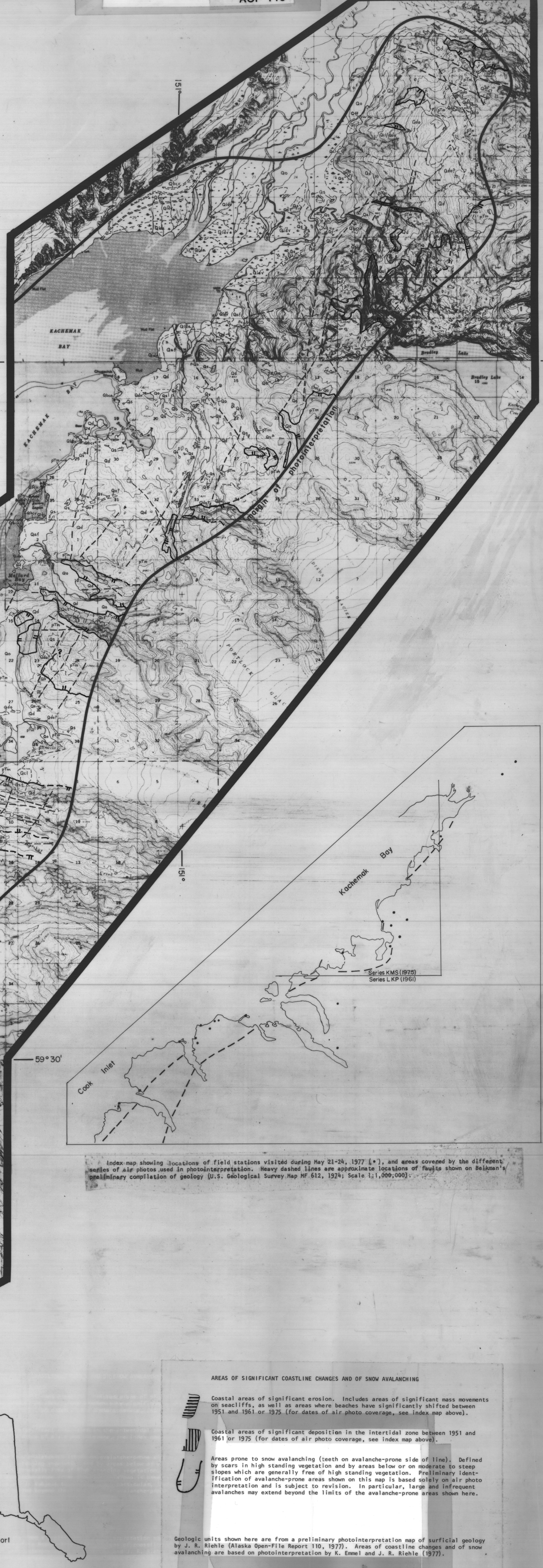
SCALE 1:63,360 0 1 2 3 4 5 miles

Data from U.S. Geological Survey Quadrangles Seldovia B-4, B-5, B-6, C-3, C-5, and B-3 (1954) and C-4 (1961).



Note: the unconsolidated deposits are presumably Quaternary in age and symbols of the map units are therefore preceded by "Q". The presumption of age is provisional; furthermore, no relative age assignment is meant to be implied by the order in which the units are presented in the legend.

This is a preliminary publication of the Alaska Division of Geological and Geophysical Surveys and as such has not received final editing and review. It may be quoted only through permission of the author and the State Geologist. The author will appreciate candid comments on the accuracy of the data, and welcomes suggestions that will improve the report.



Index map showing locations of field stations visited during May 21-24, 1977 [*], and areas covered by the different sheets of air photos used in photointerpretation. Heavy dashed lines are approximate locations of fields shown on preliminary compilation of geology (U.S. Geological Survey Map MF 612, 1974; Scale 1:1,000,000).

- AREAS OF SIGNIFICANT COASTLINE CHANGES AND OF SNOW AVALANCHING**
- Coastal areas of significant erosion. Includes areas of significant mass movements on scarpfills, as well as areas where beaches have significantly shifted between 1951 and 1961 or 1975 (for dates of air photo coverage, see index map above).
 - Coastal areas of significant deposition in the intertidal zone between 1951 and 1961 or 1975 (for dates of air photo coverage, see index map above).
 - Areas prone to snow avalanching (teeth on avalanche-prone side of line). Defined by scars in high standing vegetation and by areas below or on moderate to steep slopes which are generally free of high standing vegetation. Preliminary identification of avalanche-prone areas shown on this map is based solely on air photo interpretation and is subject to revision. In particular, large and infrequent avalanches may extend beyond the limits of the avalanche-prone areas shown here.

Geologic units shown here are from a preliminary photointerpretation map of surficial geology by J. R. Riehl (Alaska Open-File Report 110, 1977). Areas of coastline changes and of snow avalanching are based on photointerpretation by K. Ewell and J. R. Riehl (1977).

