Surficial deposits

Manmade fill

Chilkat River flood-plain and delta deposits

Chiefly fine sand and silt; some clay-size material and minor gravel.

Modern beach deposits

Chiefly gravel, sand, cobbles, and boulders; includes small outcrops

of bedrock and glaciomarine drift or fine-grained marine deposits

too small to map. Mapped down to approximate mean lower low water

level; deposit may be entirely covered during storms at high tide

Colluvial deposits

Gravel, cobbles, and sand, or rubble in a sandy to silty matrix,

which has moved or is moving down slope under the influence of

gravity. High percent of organic material locally. Includes

talus, landslide deposits, and products of downslope mixing of

deposits. Löose, generally unsorted; some crude bedding by gravity

Alluvial fan deposits

Mostly gravel, cobbles, and boulders; local sand and silt. Generally

poorly sorted and bedded. May merge with or thinly cover elevated

Elevated shore and delta deposits

Mostly gravel, sand, and cobbles. Moderately to well sorted and

stratified. Includes elevated shore and elevated delta deposits

deposits too small to map, irregularly veneer other deposits on

gentle slopes up to an altitude of at least 300 feet; geologic

Qem | Qemy

Mostly silt and clay-size material with variable sand and gravel

content; slightly coarser near headlands and raised beaches.

Elevated fine-grained marine deposits

Commonly fossiliferous. Includes elevated shore and undifferentiated

glaciomarine drift deposits too small to map separately. Qem, older

deposits; Qemy, younger deposits (subject to occasional flooding)

Outwash and ice-contact deposits

Drift deposits, undifferentiated

slopes up to an altitude of at least 300 feet

Sandy gravel with varying amounts of cobbles and silt. Moderately well

sorted; well stratified in part. Grades in places into or merges with

indicated to be more than 5 feet thick. Thinner accumulations, or

relationships are commonly obscured by depositional complexities or

by later downslope gravity mixing (colluviation) with other deposits

beach, glaciomarine drift, or fine-grained marine deposits up to an

drift, glaciomarine, fine-grained marine, and elevated beach

sorting. Generally overlies bedrock at shallow depth

altitude of at least 300 feet

be entirely covered during river flood stages and high tides

Mapped down to approximate mean lower low water level; deposit may

Intermixed gravel, sand, cobbles, and boulders; includes rubble,

fill, not shown

used as riprap, and some refuse. Small areas, including road

a thin veneer of elevated shore and delta deposits (Qeb) on gentle Consist of silty gravel and sand with variable clay and cobble content. Mostly till and other diamictons; some fluvioglacial deposits. Generally poorly sorted, unstratified, and compact. Include small alluvial fan deposits, colluvium, and elevated fine-grained marine and glaciomarine deposits too small to map separately. Mantle of elevated shore deposits irregularly veneers drift on gentle slopes

> Bedrock Kt Ked Igneous rocks

Kt, quartz diorite (tonalite); massive, medium-grained rock consisting of plagioclase, quartz, orthoclase, hornblende, biotite, sphene, and a few accessory minerals

Ked, diorite; light- to medium-gray, coarse-grained; consists chiefly of plagioclase, hornblende, and epidote

up to an altitude of at least 300 feet

Mzm Mzp

Metamorphic rocks Mzm, metabasalt; dark-green, fine-grained metamorphosed volcanic rock, consisting chiefly of hornblende and feldspar Mzp, pyroxenite; consists chiefly of augite

Note: Bedrock and surficial deposits Qaf, Qc, Qd, Qeb, Qem, and Qo are covered in places by as much as several feet of organic material or organic-rich silt. Unconsolidated deposits, as mapped, are thought to be at least 5 feet thick.

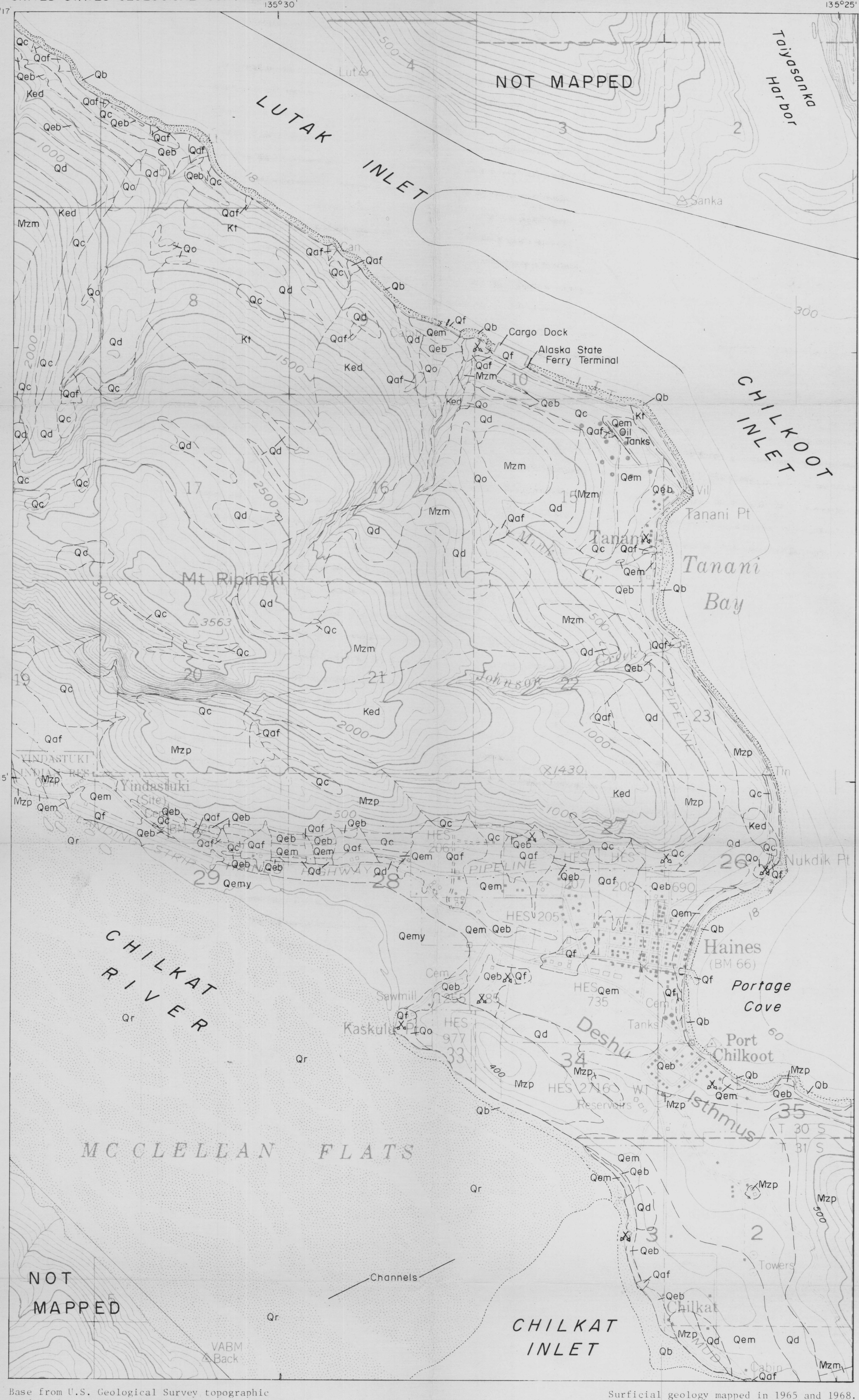
Best delineation of surficial deposits is close to Tanani Pt, Haines, Port Chilkoot, Haines aircraft landing strip, and roads; delineation elsewhere, in remote areas, made largely by airphoto interpretation

> Contact Dashed where inferred or gradational

Seaward limit of mapping; geologic units are shown on map down to approximately mean lower low water

Sand and gravel pit or rubble pit

I T C D Docks and piers



Base from U.S. Geological Survey topographic quadrangle maps Skagway A-2, B-2, 1:63.360, 1954, minor revisions 1963. Topography by photogrammetric methods from July 5, 1948 aerial photographs; tidal shore position interpreted as approximately mean high water that date; river channels also that date. Selected hydrographic data from U.S. Coast and Geodetic Survey chart 8303, 1945, minor revisions 1966

DEPARTMENT OF THE INTERIOR

UNITED STATES GEOLOGICAL SURVEY

1953. APPROXIMATE MEAN DECLINATION, 1954

Bedrock geology mapped in 1950, 1951, and

SCALE 1:24 000

Contour interval 100 feet (datum mean sea level); bathymetric contours 18, 60, and 300 feet (datum mean lower low water). Diurnal tidal range 16.8 feet

Figure 3.--RECONNAISSANCE GEOLOGIC MAP OF THE HAINES AREA, ALASKA

Surficial geology by Richard W. Lemke and Lynn A. Yehle

Bedrock geology by Eugene C. Robertson