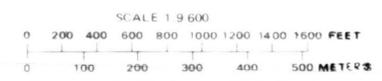


Sketched base map developed from data by U.S. Geol. Survey Ketchikan A-5, Alaska, 1962; U.S. Bureau of Indian Affairs, 1964, 1966, 1967, 1969, 1976; Alaska Dept. Highways, 1970; U.S. Army Corps. Engrs., 1970; Alaska State Housing Authority, 1972; and U.S. National Ocean Survey Chart 17435, 1973



Land contour interval 50 feet (15.2 m); datum--mean sea level. Bathymetric contour interval 100 feet (30.5 m), supplemental interval 50 feet (15.2 m) near shore; datum--mean lower low water. Diurnal tide range 14.7 feet (4.5 m)

Geology mapped by field methods, 1965, by airphoto interpretation, 1976. Includes data from U.S. Bureau of Indian Affairs (written commun., 1965, 1966, 1969), R. W. Lemke (written commun., 1965, 1972), Robert Rehfeld (written commun., 1970), and Berg (1972a)



DESCRIPTION OF GEOLOGIC MAP UNITS  
SURFICIAL DEPOSITS

- Qf** ARTIFICIAL FILL (HOLOCENE)--Mostly irregular pieces of quarried rock, rip-rap (armor rock) and lesser amounts of pebble gravel. Does not include most road embankments. Where map unit ruled, fill is dumped muskeg excavated elsewhere. Thickness may average 4 ft (1.2 m); maximum possibly 30 ft (9.1 m) near breakwater. In many places back from marine shores, overlies muskeg; elsewhere, overlies diamicton, modern shore deposits, or bedrock
- Qm** MUSKEG AND OTHER ORGANIC DEPOSITS (HOLOCENE)--Muskeg and other wet, moss-covered, or boggy ground; small ponds common. Irregularly stratified beds of moss, water plants, and some woody plants, all in differing states of decomposition. Thickness may average 5 ft (1.5 m); maximum possibly 25 ft (7.6 m). Where muskeg is interpreted to be thinner than the defined minimum thickness [3 ft (0.9 m)], the underlying geologic material, mainly diamicton and (or) bedrock, is shown on map. Muskeg may be concealed at a depth of less than 3 ft (0.9 m) beneath some artificial fills
- Qa** ALLUVIAL DEPOSITS (HOLOCENE)--Probably pebble gravel and sand developed by small streams through erosion of underlying diamicton. Thickness possibly averages 5 ft (1.5 m); maximum 15 ft (4.6 m). Covered by less than 3 ft (0.9 m) of muskeg; locally thicker. Distribution of mapped deposits determined by airphoto interpretation except at marine shores
- Qsd** MODERN SHORE AND DELTA DEPOSITS (HOLOCENE)--Chiefly pebbly sand mostly near Village Point and mouths of streams; elsewhere, chiefly pebbles and (or) cobbles and lesser amounts of sand, locally boulders and driftwood. Mapped up to highest tide level and includes berm of storm beach. Includes many bedrock outcrops too small to show. Loose. Thickness may average 4 ft (1.2 m); maximum possibly 10 ft (3 m). Mostly overlies bedrock
- Qes** EMERGED SHORE DEPOSITS (HOLOCENE)--Mostly sand and pebble gravel winnowed from diamicton by wave action during uplift of land following deglaciation. Below altitude of about 50 ft (15 m) above mean sea level. Loose. Thickness may average 4 ft (1.2 m) and thin landward; maximum possibly 20 ft (6 m). Overlies diamicton. Overlain in many places by deposits of muskeg which thicken landward. Thickness of muskeg commonly 2 ft (~0.5 m); locally much thicker. Back from marine shores, mapped limit largely by airphoto interpretation

**Qd** DIAMICTON DEPOSITS (PLEISTOCENE)--An unsorted mixture of stony to probably stone-sparse silt and clay with sand; stones chiefly of pebble and cobble size. Mostly compact. Thickness variable, but may average 15 ft (4.6 m); maximum possibly 100 ft (30 m). Below altitude of about 50 ft (15 m) above mean sea level, upper parts of deposits locally contain concentrations of pebbles and (or), possibly, horizons of silt and clay with marine shells. Covered by an average of less than 4 ft (1.2 m) of muskeg which locally is much thicker. Bedrock probably directly underlies diamicton deposits in most places. Formed mostly by glacial and subordinately by glaciomarine and shore processes. Distribution of deposits on map determined by airphoto interpretation except near excavations and along some roads

BEDROCK

**Pzmr** METAMORPHIC ROCKS (UPPER PALEOZOIC OR LOWER MESOZOIC)--Degree of metamorphism increases southwestward with interbedded greenschist, greenstone, phyllite, fine-grained schist, and some hornfels northeast of imaginary line between proposed harbor and Skaters Lake; southwest of line, interbedded hornfels and subordinate phyllite, schist, and some gneiss. Covered by generally less than 3 ft (0.9 m) of muskeg or diamicton, or, along marine shores, by pebbles and sand. Distribution determined by airphoto interpretation except at quarry and along marine shores and some roadcuts

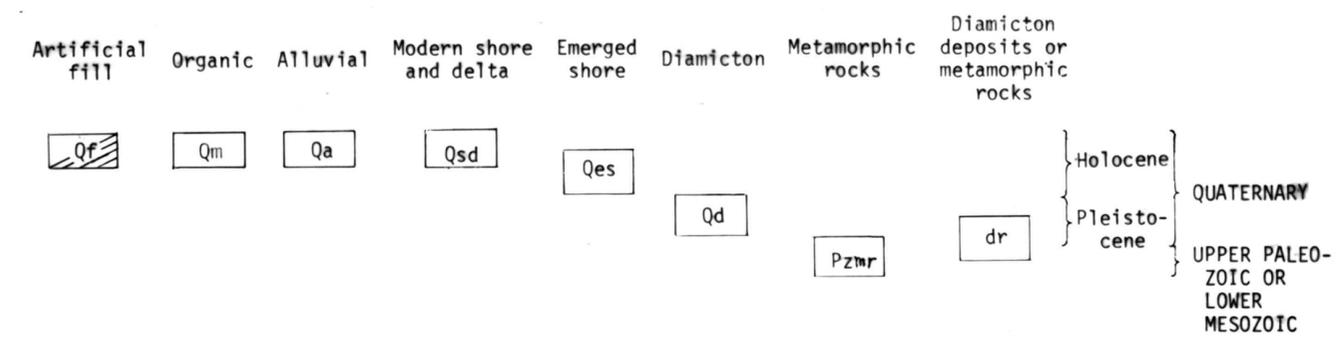
SURFICIAL DEPOSITS OR BEDROCK

**dr** DIAMICTON DEPOSITS OR METAMORPHIC ROCKS (PLEISTOCENE, OR UPPER PALEOZOIC OR LOWER MESOZOIC)--Area whose appearance on airphotos not diagnostic as to having one or the other geologic material several feet (~1 m) or less beneath the ground surface

**NOTES:** Distribution of map units mostly determined by airphoto interpretation; units as mapped considered to be 4 ft (1.2 m) or more thick. Mean lower low waterline is lower limit of mapping. Terminology of sediment-grain sizes follows Wentworth (1922): clay, less than 0.00015 in. (0.0039 mm); silt, 0.00015-0.0025 in. (0.00625-0.0625 mm); sand, 0.0025-0.079 in. (0.0625-2 mm); granule, 0.079-0.157 in. (2-4 mm); pebble, 0.157-2.5 in. (4-64 mm); cobble, 2.5-10.1 in. (64-256 mm); boulder, greater than 10.1 in. (256 mm)

This report is preliminary and has not been edited or reviewed for conformity with U.S. Geological Survey standards or nomenclature.

CORRELATION OF GEOLOGIC MAP UNITS



- CONTACT--Dashed where approximately located, gradational, or inferred
- 70° STRIKE AND DIP OF BEDS--Top of beds unknown
- STRIKE AND DIP OF FOLIATION IN METAMORPHOSED BEDDED ROCKS:
  - ⊕ Vertical
  - 70° Inclined
  - ▲ Parallel bedding and foliation
- 70° STRIKE AND DIP OF CLEAVAGE
- 70° STRIKE AND DIP OF JOINT OR JOINT SET
- ⚡ QUARRY

FIGURE 5.--RECONNAISSANCE GEOLOGIC MAP OF THE METLAKATLA AREA, ALASKA.