

107
355



Sedimentary Rocks

- Alluvium: Recent stream and beach deposits of sand, silt, clay, and gravel.
- Dune Sand: Only larger deposits shown.
- Clayey drift: Undifferentiated till and stratified drift.
- Volcanic sedimentary rocks: Poorly consolidated sandstone, conglomerate, and reworked tuff. Mostly of fluvial origin, age uncertain.
- Tachilini Formation: Fossiliferous marine sandstone, mudstone, conglomerate, and some black shale. Well-bedded, tuffaceous sandstone, siltstone, and conglomerate. Strata containing fossil bivalves intertonguing with beds containing abundant carbonaceous debris.
- Nikolofai tuff: Tuffaceous sandstone, siltstone, and conglomerate with interbedded black carbonaceous coaly sandstone. Locally contains broad leaf and fir needle fossils. Rare bivalves near base of section. Contains some ash-flow tuff, andesitic tuffs, dikes, and breccia. Includes "green arkose" of Kennedy and Walton (1955).
- Shumagin Formation: Thin to thick-bedded flysch composed of volcanoclastic sandstone and mudstone. Structurally complex with local isoclinal and chevron folds, and broken formation. Includes a slab of thin-bedded chert interbedded with mudstone and graywacke, and minor pyroxene pillow basalt exposed along the NE shore of Long Island.
- Hakak Formation: Gently dipping arkosic sandstone and siltstone derived from a granitic source. Contains locally abundant *Buchia* and rare ammonites and gastropods.

Igneous Rocks

- Frosty Peak volcanics: Light-gray porphyritic basalt flows and interbedded pyroclastic deposits. Q59a, volcanic rocks of the summit cone.
- Volcanic rocks: Qv, volcanic flows, breccias and pyroclastic deposits flanking Quaternary strata volcanoes. Q1, volcanic intrusive centers.
- Morzhovoi volcanics: Porphyritic olivine basalt flows and interbedded pyroclastic deposits, and some volcanic sedimentary rocks.
- Undifferentiated volcanic rocks: Flows of andesite and basalt interbedded with pyroclastic deposits, agglomerate and breccia. Age uncertain, may include some rocks of early Quaternary age. T1, volcanic intrusive centers.
- Quartz diorite: Stocks of pyroxene and biotite bearing quartz diorite. Locally intrudes the Belkofski tuff. Age uncertain.
- Sanak pluton: Granodiorite, intrudes Shumagin Formation on Sanak Island. Potassium-argon age date 59.3 ± 1.5 a.y. (Moore, 1973).

Geological Symbols

- Contact: Querried where approximately located or inferred.
- Crest of anticline: Dashed where approximately located.
- Trough of syncline: Dashed where approximately located.
- Strike and dip of beds: Symbol broken where attitude is estimated.
- Strike and dip of overturned beds: Symbol is broken where attitude is estimated.
- Irregular strike and dip.
- Horizontal or nearly horizontal beds.
- Fossil locality of larger invertebrates.

References

- Burk, C. A., 1965, Geology of the Alaska Peninsula—Island arc and continental margin. Geol. Soc. America Mem. 95.
- Kennedy, C. C., and Walton, H. H., 1955, Geology of Pavlov volcano and vicinity, Alaska. U.S. Geol. Survey Bull. 1028-A, 19 p.
- Moore, J. C., 1973, Complex deformation of Cretaceous trench deposits, southeastern Alaska. Geol. Soc. America Bull., v. 84, p. 2005-2020.
- Walton, H. H., 1961, Geologic reconnaissance of Frosty Peak volcano and vicinity, Alaska. U.S. Geol. Survey Bull. 1028-T, p. 677-708.

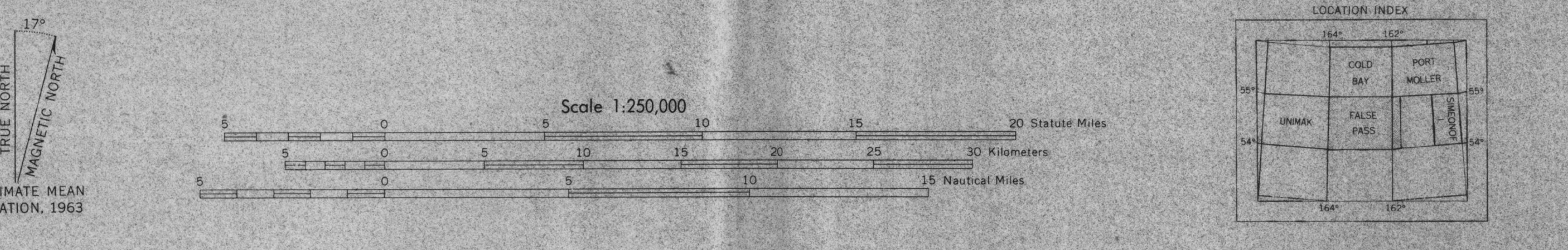
U.S.G.S. Catalog Locality Number	Rock Unit	Identifiable Fossils	Probable Age	Approximate map locality
M7139	TC	Bivalves: CHLANTIS (SWITTOPECTEN) LOBERTHELENI MacNeil - common CYCLOCARDIA sp. - common GLYCYMERIS sp. - common abundant TILLINA sp. - uncommon SPISULA POLYNYMA VOXI (Gabb) - common PAPYRIDA sp. - uncommon MACOMA sp. - uncommon PANDORA sp. - rare	Late Miocene or Pliocene	Cape Tachilini, type section of Tachilini Formation
M7140	TC	Gastropods: NATICA (CRYPTOPATICA) CLAUSA Broderip & Sowerby - uncommon NEPTUNA (NEPTUNA) LYRATA ALTISSIMA Gabb - uncommon ? CANCELARIA sp. - rare NATICA (CRYPTOPATICA) CLAUSA Broderip & Sowerby - common	Pliocene	Cape Tachilini, type section of Tachilini Formation
M7141	TC	Bivalves: MYA (? ARRHONOTA) of H. (7A) ELEGANS (Richard) - 1 specimen CHLANTIS (SWITTOPECTEN) sp. - 2 fragments	Miocene or Pliocene	Cape Tachilini, type section of Tachilini Formation
M7142	TC	Bivalves: CHLANTIS (SWITTOPECTEN) COALINGENSIS (Arnold) - abundant MYA (MYA) TRUNCATA Linnaeus -	Late Miocene or Pliocene	Cape Tachilini, type section of Tachilini Formation
M7143	TC	Bivalves: MYA (MYA) TRUNCATA Linnaeus - prolific Gastropods: NATICA (CRYPTOPATICA) CLAUSA Broderip & Sowerby - common NEPTUNA (NEPTUNA) LYRATA ALTISSIMA Gabb - common ? CANCELARIA sp. - uncommon	Late Miocene or Pliocene	South of Frosty Peak in valley north of Sandy Cove
M7144	TC	Bivalves: PLECTERIS sp. - abundant fragments in outcrop CLEMOCARDIUM sp. - 1 fragment	Insufficient data	South of Frosty Peak in valley north of Sandy Cove
M7145	TC	Bivalves: MACOMA sp.	Insufficient data	South of Frosty Peak in valley north of Sandy Cove
M7146	TC	Bivalves: SPISULA POLYNYMA VOXI (Gabb) - abundant NATICA (CRYPTOPATICA) CLAUSA Broderip & Sowerby - common MYA (MYA) TRUNCATA Linnaeus - common CYCLOCARDIA sp. - common GLYCYMERIS sp. - common TILLINA sp. - uncommon PANDORA sp. - uncommon PAPYRIDA sp. - uncommon NATICA (CRYPTOPATICA) CLAUSA Broderip & Sowerby - uncommon MYA (? ARRHONOTA) ELEGANS (Richard) - uncommon MACOMA of H. BRODA Dall - uncommon MYA (MYA) TRUNCATA Linnaeus - common NATICA (CRYPTOPATICA) CLAUSA Broderip & Sowerby - common NEPTUNA (NEPTUNA) LYRATA ALTISSIMA Gabb - common ? CANCELARIA sp. - uncommon	Late Miocene or Pliocene	South of Frosty Peak in valley north of Sandy Cove
M7149	TC	Bivalves: MYA (? ARRHONOTA) ELEGANS (Richard) - abundant CLEMOCARDIUM sp. - prolific SWITTOPECTEN WOLLENBERGII MacNeil - abundant	Late Miocene or Pliocene	Swaciff exposure between False Pass and Morzhovoi Bay
M7150	TC	Bivalves: SILICODA sp. - common CLEMOCARDIUM sp. - prolific NATICA (CRYPTOPATICA) CLAUSA Broderip & Sowerby - common MACOMA of H. BRODA Dall - common MYA (MYA) TRUNCATA Linnaeus - common PANDORA sp. - uncommon PAPYRIDA sp. - uncommon NATICA (CRYPTOPATICA) CLAUSA Broderip & Sowerby - common NEPTUNA (NEPTUNA) LYRATA ALTISSIMA Gabb - common ? CANCELARIA sp. - uncommon	Late Miocene or Pliocene	Swaciff exposure 3.1 km. southeast of Kozmoe Head
M7151	TC	Bivalves: ? ANADARA sp. - abundant ? MACOMA sp. - common MYA sp. - 3 specimens, juvenile CYCLOCARDIA sp. - 1 specimen, fragment of shell alone	Oligocene	Swaciff along northwest shore of Belkofski Bay

RECONNAISSANCE GEOLOGIC MAP OF THE COLD BAY AND FALSE PASS QUADRANGLES, ALASKA

By
Hugh McLean, C.L. Engelhardt and D.G. Howell

1978

Data from U.S. Geological Survey topographic quadrangles Cold Bay and False Pass, 1:250,000 scale.



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