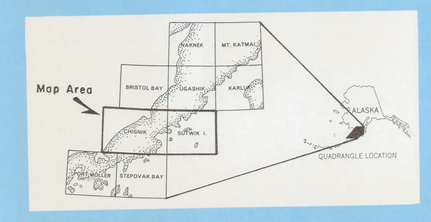
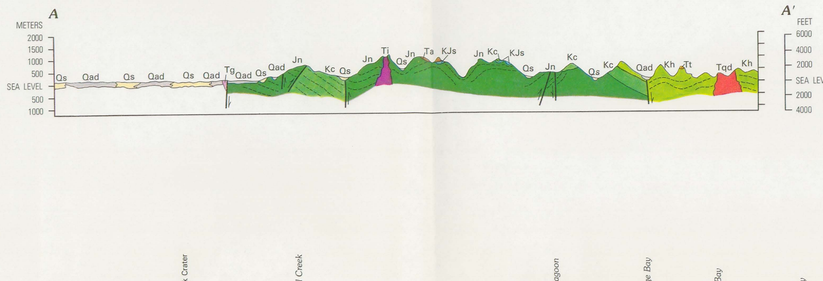
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

MISCELLANEOUS INVESTIGATIONS SERIES
MAP I-1229

STATION AND TRAVERSE LOCATION MAP

Base from U.S. Geological Survey, 1983



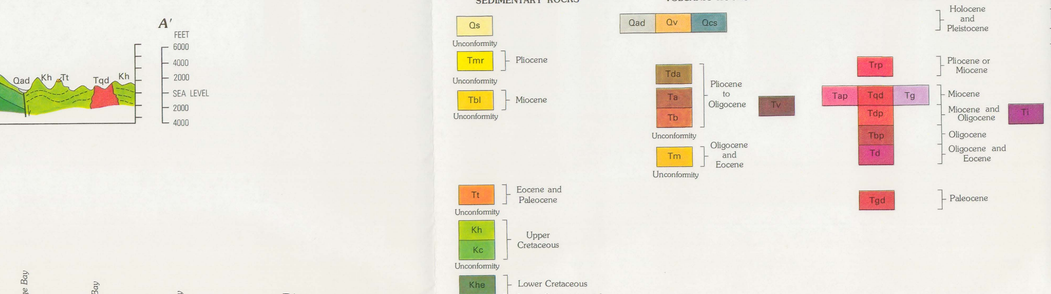


SCALE 1:250 000

1 000 000 FEET (ZONE 7)

CONTOUR INTERVAL 200 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

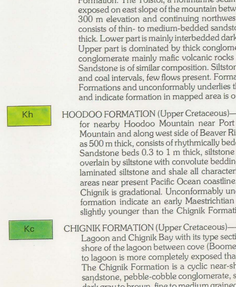
SEDIMENTARY ROCKS

Qs SURFICIAL DEPOSITS (Holocene and Pleistocene)—Unconsolidated, poorly to well sorted, poorly to moderately well stratified; includes alluvial, colluvial, glacial, marine, lacustrine, and eolian deposits. Locally includes reworked volcanic ash and debris flow deposits. Alluvial deposits range from coarse subangular rock fragments to fine sand and silt; considerable reworked pumice near volcanic centers. Colluvial deposits include coarse, angular rubble forming landslides, talus cones, and rock glaciers as well as weakly stratified silty rock debris and stony organic silt forming solifluction deposits. Glacial deposits include poorly sorted nonstratified drift forming end, lateral, and ground moraines and moderately well sorted and stratified ice-contact and outwash deposits. Marine deposits consist of moderately stratified and sorted sand and gravel on beaches, wave-cut scraps at several elevations, and mud and silt in estuaries. Lacustrine deposits consist mainly of fine sand and silt. Eolian deposits forming dunes 10 to 20 m high are largely of sand and pumice. Large areas are covered by organic silt swamp deposits

Tmr MILKY RIVER FORMATION (Pliocene)—The Milky River Formation, named but not defined by Galloway (1974, p. 381, 384), is here adopted. Type locality here designated as on the northeast spur (secs. 14, 15, and 22, T. 48 S., R.69 W.) of unnamed mountains 12 km east of Bear Lake; name selected for the Milky River which lies east of this mountain. At type locality formation is about 1525 m thick and consists of volcaniclastic and nonmarine sedimentary rocks with interlayered flows and sills. Lower part consists of 1000 m of nearly all fluvial coarse, volcanic conglomerate and cobble-boulder conglomerate, highly crossbedded and channeled. Rocks poorly indurated, dark brown to gray, with clasts composed almost entirely of volcanogenic debris. Upper part contains numerous porphyritic andesite flows, lahars, and tuff beds interspersed with the sedimentary rocks; volcanic rocks thicker and more numerous upward. One flow and tuff near top dated at 3 m.y. (F. H. Wilson, unpub. data, 1979). Clasts in lahars as large as 2 m. Fumarolic channels in some tuffaceous units with some alteration around channels. Unconformably overlies Bear Lake Formation and unconformably underlies volcanic flows and surficial deposits

Tbl BEAR LAKE FORMATION (late and middle(?) Miocene)—Named by Burk (1965, p. 89–92) for exposures above and eastward from Bear Lake. Type locality here clarified as on southwest slope (secs. 27 and 28, T. 48 S., R. 69 W.) of mountain 10 km east of Bear Lake, Chignik A–7 and Port Moller D-1 quadrangles. In most exposures, formation is 1000 to 1525 m thick and consists of inner neritic and nonmarine sandstone, conglomerate, siltstone, shale, and thin coal beds. Formation is rhythmically bedded in units 1 to 10 m in thickness; individual beds range from 6 cm to 1 m in thickness. Rocks dark gray to pale yellowish brown. Sandstone moderately well sorted and grains moderately well rounded. Conglomerate made up of well-rounded clasts, about a third of which are quartz and chert, a third volcanic fragments, and the remainder lithic sedimentary clasts. Crossbedding and channeling common in lower part of formation. Abundantly fossiliferous in well defined horizons in upper part; fossils mainly pelecypods, gastropods, and echinoids of late Miocene age (Louie Marincovich, Jr., and C. W. Allison, written commun., 1978). Unconformably overlies Meshik and Tolstoi Formations and unconformably underlies the Milky River Formation

VOLCANIC ROCKS



Tt TOLSTOI FORMATION (Eocene and Paleocene)—The Tolstoi Formation, named and defined by Burk (1965, p. 83–85, 189) who designated type locality on east shore of Pavlof Bay and in adjacent hills from Cape Tolstoi and Tolstoi Peak northward to an entrance to Canoe Bay, is here adopted. In mapped area, the Tolstoi includes all sedimentary rocks above the Hoodoo Formation and unconformably below the Meshik Formation. The Tolstoi, a nonmarine sedimentary rock unit with high percentages of volcanic clasts, is well exposed on east slope of the mountain between Windy Bay and Portage Bay in sec. 27, T. 46 S., R. 60 W., at