

CORRELATION OF MAP UNITS

Table correlating map units (e.g., Qta, Qtb, Qtc, Qtd, Qte, Qtf, Qtg, Qth, Qti, Qtj, Qtk, Qtl, Qtm, Qtn, Qto, Qtp, Qtq, Qtr, Qts, Qtt, Qtu, Qtv, Qtw, Qtx, Qty, Qtz, Qua, Qub, Quc, Qud, Que, Quf, Qug, Quh, Qui, Quj, Quk, Qul, Qum, Qun, Quo, Qup, Quq, Qur, Qus, Qut, Quv, Quw, Qux, Quy, Quz, Qva, Qvb, Qvc, Qvd, Qve, Qvf, Qvg, Qvh, Qvi, Qvj, Qvk, Qvl, Qvm, Qvn, Qvo, Qvp, Qvq, Qvr, Qvs, Qvt, Qvv, Qvw, Qvx, Qvy, Qvz, Qwa, Qwb, Qwc, Qwd, Qwe, Qwf, Qwg, Qwh, Qwi, Qwj, Qwk, Qwl, Qwm, Qwn, Qwo, Qwp, Qwq, Qwr, Qws, Qwt, Qwv, Qww, Qwx, Qwy, Qwz, Qxa, Qxb, Qxc, Qxd, Qxe, Qxf, Qxg, Qxh, Qxi, Qxj, Qxk, Qxl, Qxm, Qxn, Qxo, Qxp, Qxq, Qxr, Qxs, Qxt, Qxv, Qxw, Qxx, Qxy, Qxz, Qya, Qyb, Qyc, Qyd, Qye, Qyf, Qyg, Qyh, Qyi, Qyj, Qyk, Qyl, Qym, Qyn, Qyo, Qyp, Qyq, Qyr, Qys, Qyt, Qyv, Qyw, Qyx, Qyz, Qza, Qzb, Qzc, Qzd, Qze, Qzf, Qzg, Qzh, Qzi, Qzj, Qzk, Qzl, Qzm, Qzn, Qzo, Qzp, Qzq, Qzr, Qzs, Qzt, Qzv, Qzw, Qzx, Qzy, Qzz) with geological periods (Quaternary, Tertiary, Cretaceous, Paleocene, Eocene, Oligocene, Miocene, Pliocene, Pleistocene, Holocene, Paleozoic, Mesozoic, Triassic, Jurassic, Cretaceous, Paleogene, Neogene, Quaternary, Paleozoic, Mesozoic, Paleoproterozoic, Archean, Proterozoic).

EXPLANATION

- Contact, approximately located
- Contact, gradational
- Contact, concealed
- Fault, arrows indicate possible direction of movement, otherwise direction unknown
- Fault, inferred
- Fault, concealed
- Thrust fault, teeth on upper plate
- Thrust fault, concealed, teeth on upper plate
- Terrace
- Dikes, various compositions and ages
- Ecolitic horizons in Chatanika allochthon (Pc)

FOLDS

- Anticline or Antiform
- Syncline or Synform
- Horizontal
- Vertical
- Overtured
- Strike and dip
- FOLIATION
- Horizontal
- Vertical
- Strike and dip
- Bedding or foliation estimated from distant, aerial, or photogeologic observations

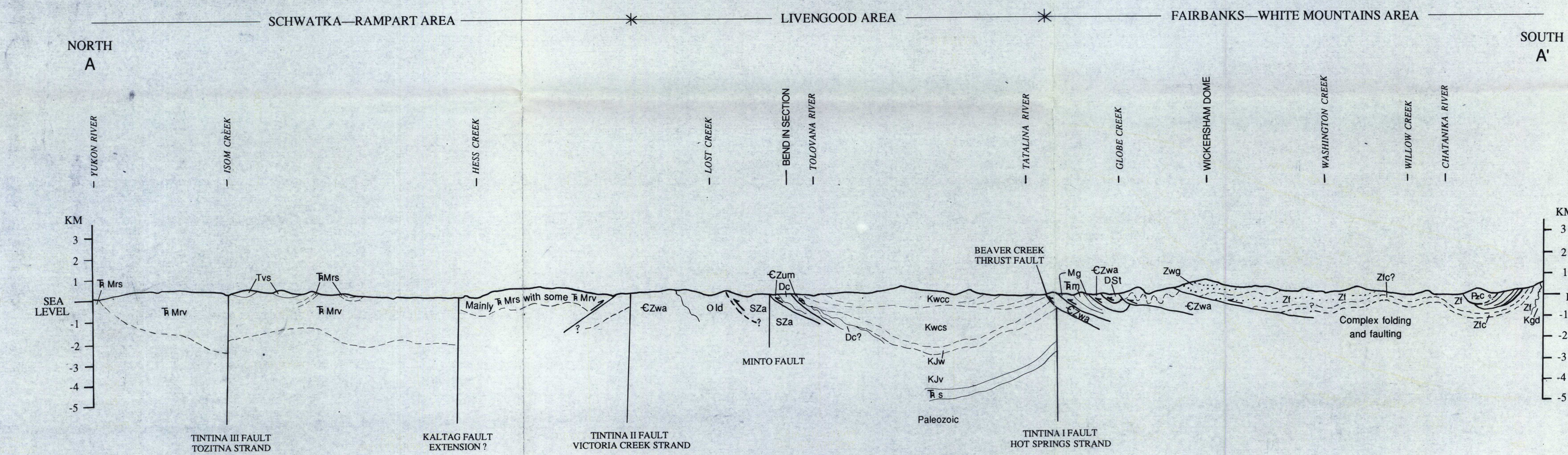
DEFINITION OF MAP UNITS

- Qa Alluvium
- Qb Reworked creek gravels in placer mining areas
- Qc Abandoned or inactive flood plain deposits
- Qd Sand dune deposits
- Qe Swamp deposits
- Qf Alluvial fan deposits
- Qg Sil, undifferentiated, contains reworked loess, swamp and organic-rich deposits
- Qh Loess and colluvium—Including mine spoil alluvium
- Qta Gravel, sand, and silt
- Qtb Volcanic and sedimentary rocks—Conglomerate, graywacke, siltstone, shale, coal, greenstone, basalt, and tuff
- Qtc Alaska—Raven Creek Hill
- Qtd Rampart Group—Intrusive and associated extrusive mafic igneous rocks, a few interlayered sedimentary rocks
- Qte Rampart Group—Sedimentary rocks—Argillite, chert, graywacke, shale, limestone, and minor amount of mafic igneous rocks
- Qtf Raven Creek Hill unit—Garnetiferous quartz biotite-muscovite-chlorite schist
- Qtg Metamorphic and sedimentary rocks—Several indeterminate or poorly identified units combined
- Qth Schwatka unit—Mafic metacarbonate rocks and minor chert, sedimentary rocks
- Qti Schwatka unit—Lime mudstone or wackestone
- Qtk Wickersham unit—Arenaceous, micaceous limestone
- Qtl Wickersham unit—Maroon and green argillite, grit (bimodal quartzite), chert, siltite, graywacke, and phyllite
- Qtm Wickersham unit—Grit, quartzite, graywacke grit, phyllite, slate, limestone, and chert
- Qtn Gravel, sand, and silt
- Qto Quartz monzonite—Tolovana Hot Springs Dome pluton
- Qtp Monzonite(?) or monzonite(?)—Small bodies, about 4.5 km northeast of Tolovana Hot Springs Dome pluton
- Qtr Tkn Franciscan rocks—Dikes, sills and small bodies of irregular shape, scattered throughout central part of quadrangle, mainly in upper Wilbur Creek area
- Qts Quartz monzonite, monzonite, and syenite—Six plutons at and near Sawtooth, Elykash, and Wolverine Mountains
- Qtt Mms unit—Siltstone, sandstone, graywacke, quartzofeldspathic sandstone, shale, and clay shale
- Qtu Wilbur Creek unit—Polymictic conglomerate, conglomeratic graywacke, siltstone, and shale
- Qtv Wilbur Creek unit—Shale, siltstone, and graywacke
- Qtw Wolverine quartzite unit—Quartzite, shale, siltstone, and local coquina
- Qtx Vrs unit—Slate or shale, and minor siltstone
- Qty Calcareous phyllositic shale, limestone, minor calcareous sandstone, and granite conglomerate—Along northern edge of Beaver Creek Fault in eastern part of quadrangle
- Qtz Shale or slate, chert, and tuff—About 10 km northwest of Wolverine Mountain
- Qva Phyllite, schistose phyllite, quartzite, siltite, amphibolite, diorite, and gneiss—In southwestern part of quadrangle
- Qvb Sedimentary rocks—Siltstone, sandstone, and minor conglomerate—About 4 km southwest of Raven Creek Hill
- Qvc Sedimentary rocks—Siltstone, shale, chert and cherty argillite, greenstone, lime wackestone, and minor conglomerate—West side of Troublesome Creek and south of Wilbur Creek
- Qvd Quartz unit—Phyllite, siliceous quartzite sandstone, graywacke, and conglomerate—West-central part of quadrangle
- Qve Quartz unit—Cherty argillite, chert, siliceous slate, associated with intrusive and extrusive mafic rocks—West-central part of quadrangle
- Qvf Troublesome unit—Cherty argillite, chert, siliceous slate, associated with intrusive and extrusive mafic rocks—West-central part of quadrangle
- Qvg Cascade Ridge unit—Shale, siltstone, graywacke, polymictic conglomerate, limestone, and minor calcareous limestone—South side of Cascade Ridge and on the flanks of Amy Dome
- Qvh Lost Creek unit—Lime mudstone and wackestone, graywacke, chert, pebbles to cobble conglomerate, micritic limestone, chert—About 3 km north and also 10 km northeast of Cascade Ridge pluton
- Qvi Livengood Dome Chert—Chert, siliceous slate, rare greenstone, tuff, and limestone
- Qvj Amy Creek unit—Dolomite, lime mudstone, wackestone and packstone, chert, argillite, basaltic greenstone, tuff, siliceous siltstone, shale, and minor volcanoclastic graywacke
- Qvk Mafic igneous rocks and minor interlayered sedimentary rocks—Gabbro, diabase, diorite, gneiss, quartzite, shale, siliceous shale, chert, argillite, claystone, siltite, quartzite, and dolomite—South of Victoria Creek in northeastern part of quadrangle
- Qvl Ultramafic and mafic rocks—Serpentine, chlorophyllite, peridotite, diorite, clinopyroxenite, clinopyroxene-plagioclase megacrysts, diorite, monzonite, dikes of clinopyroxene gabbro, megacrysts, and diorite
- Qvm Wickersham unit—Dark gray quartziferous arenaceous limestone
- Qvn Wickersham unit—Maroon and green argillite, phyllite, quartzite, graywacke, siltite, and minor grit
- Qvo Gravel, sand, silt, minor sandstone, conglomerate, and coal
- Qvp Oolite basalt—Fourth of July Hill and vicinity
- Qvq Perammonite granite—Cacho Mountain pluton
- Qvr Leucocratic quartz monzonite—Fair Creek pluton
- Qvs Syenite—Roy Creek stock
- Qvt Granite—Pluton mapped at Pedro Dome
- Qvu Gneiss—Pluton mapped at Pedro Dome
- Qvw Mafic igneous rocks—Gabbro, and diorite or diorite sills and dikes—Bridges Globe unit
- Qvx Oolite unit—Quartzite, slate, phyllite, and minor claystone
- Qvy Beaver Bend unit—Conglomerate, graywacke, siltstone, and silts—Near big bend of Beaver Creek
- Qvz Tolovana Limestone—Lime mudstone, wackestone, packstone and granitoid, and rare dolomite
- Qwa Fossil Creek Volcanics—Alkali basalt, agglomerate, volcanoclastic conglomerate, minor limestone and sandstone
- Qwb Chatanika unit—Quartz-biotite-muscovite schist, quartzite, includes eclogitic rocks, aliochthonous
- Qwc Wickersham unit—Maroon and green argillite, grit, quartzite, siltite, graywacke, phyllite, and limestone—Unroofed by gabbro in and near the White Mountains
- Qwd Wickersham unit—Dolomite
- Qwe Wickersham unit—Grit, quartzite, graywacke, conglomerate, limestone, phyllite, slate, and argillite
- Qwf Fairbanks schist unit—Micaceous quartzite and quartz-mica schist, pelitic schist, and rare foliated quartz-mica schist
- Qwg Cherty schist—White felsic schist, micaceous quartzite, chloritic or acinolitic greenschist, greenstone, and marble

Base from U.S. Geological Survey 1:250,000 topographic series: Livengood 1956, limited photo revision 1944.

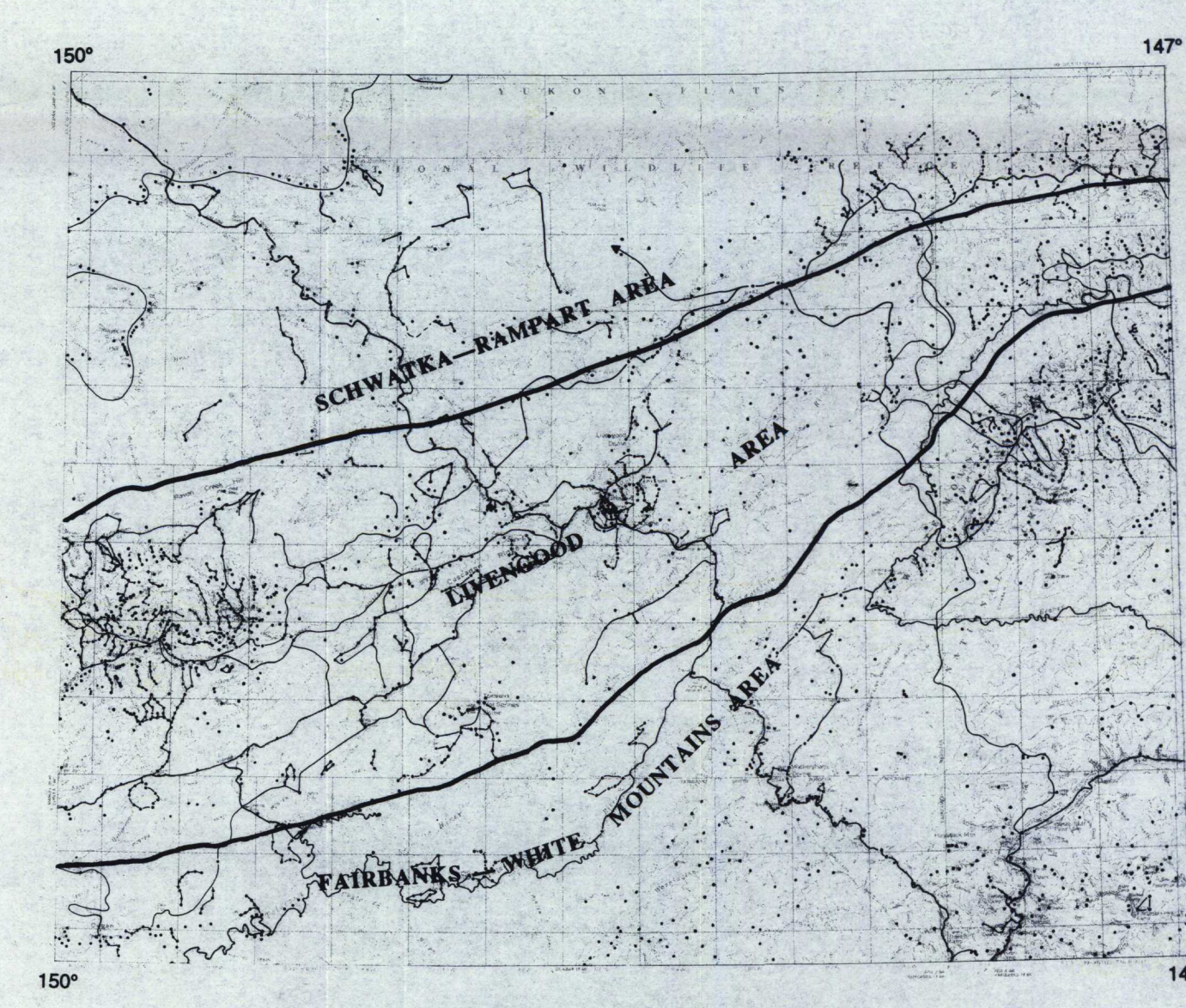
SCALE 1:250,000

CONTOUR INTERVAL 200 FEET
DOTTED LINES REPRESENT 100-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL



Surficial deposits are omitted from cross section

SCALE 1:250,000
VERTICAL EXAGGERATION 2X



INDEX MAP OF LIVENGOOD QUADRANGLE SHOWING LOCATIONS OF FIELD OBSERVATION POINTS, CROSS-SECTIONS A-A' AND B-B', AND THE THREE FOLD AREAS. Identifiable field stations and traverse routes of geologists who worked between 1952 and 1954 are included. There are more field stations in the area near Livengood and Pedro Dome than can be plotted on this scale. Many field stations along the continuous traverse routes are not shown individually.

GEOLOGIC MAP OF THE LIVENGOOD QUADRANGLE, ALASKA

by
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