

EXPLANATION OF MAP UNITS
UNCONSOLIDATED DEPOSITS

- ALLUVIAL DEPOSITS**
- Qa Undifferentiated Alluvium
 - Qaa Active Alluvium
 - Qai Inactive Alluvium
 - Qab Abandoned Floodplain Alluvium
 - Qat Alluvial Terrace Deposits
 - Qad Delta Deposits
 - Qaf Alluvial Fan Deposits
- COLLUVIAL DEPOSITS**
- Qc Colluvium
 - Qca Mixed Colluvium-Alluvium
 - Qcd Landslide Deposits
 - Qcg Rock Glacier Deposits
- PALUDAL DEPOSITS**
- Qp Swamp Deposits

- GLACIAL DEPOSITS**
- Alaskan Glaciation**
- Qgah Undifferentiated Holocene Drift
- Naptowne Glaciation**
- Qgs3 Drift of Elmendorf Stade
 - Qgs2 Drift of Skilak/Killey Stades
 - Qgs1 Drift of Moosehorn Stade
- GLACIOFLUVIAL DEPOSITS**
- Undifferentiated**
- Qgo Undifferentiated Outwash
- Alaskan Glaciation**
- Qggh Undifferentiated Holocene Outwash
- Naptowne Glaciation**
- Qgic Ice-Contact Deposits of Elmendorf Stade
 - Qgpc2 Outwash of Elmendorf Stade
 - Qgpc1 Outwash of Skilak/Killey Stades

BEDROCK

- Tsc Tertiary nonmarine coal-bearing strata, middle to late Miocene
- Tal Tertiary nonmarine varved strata, middle to late Miocene
- Tmu Neogene undivided nonmarine strata in Susitna basin subsurface, early Miocene to Pliocene (Stanley and others, 2013)
- Tpu Paleogene undivided volcanic-bearing nonmarine strata in Susitna basin subsurface, late Paleocene to early Eocene (Stanley and others, 2013)
- Tg Tertiary hornblende leucogranite
- Tdg Tertiary pyroxene gabbro dike
- Tpv Tertiary pyroclastic and volcanoclastic deposits and dacitic lavas
- Tvc Tertiary dacitic to rhyolitic volcanoclastic strata
- Kjs Kahlitna assemblage, Upper Jurassic to Upper Cretaceous
- Map Unit Point - localized map unit with observations too small to draw at map scale; Colored and labeled the same as map units.

EXPLANATION OF MAP SYMBOLS

- Linework is solid where location is accurate, long-dashed where location is approximate, short-dashed where location is inferred, and dotted where features are concealed. Question marks indicate the existence or identity of the feature is questionable. Localities with multiple planar feature measurements use asymmetric symbols with the tail ends joined at the measurement point.
- CONTACTS AND FAULTS**
- CONTACT
 - FAULT - sense of movement indeterminate
 - NORMAL FAULT - bar and ball on hanging wall
 - LOW-ANGLE FAULT (UNKNOWN SENSE OF SLIP) - half circles on hanging wall
 - REVERSE FAULT - boxes on hanging wall
 - STRIKE-SLIP FAULT, LEFT-LATERAL OFFSET
 - REVERSE FAULT, QUATERNARY - displacement during Holocene time. Boxes on hanging wall.
- LINEAR FEATURES**
- INCLINED SLICKENLINE ON FAULT SURFACE - showing trend and plunge
 - INCLINED MULLIONS - showing trend and plunge
- PLANAR FEATURES**
- MINOR INCLINED FAULT - showing strike and dip
 - MINOR VERTICAL FAULT - showing strike
 - MINOR INCLINED JOINT - showing strike and dip
 - MINOR VERTICAL JOINT - showing strike
 - INCLINED BEDDING - showing strike and dip
 - VERTICAL DIKE - showing strike
- GLACIAL AND GLACIOFLUVIAL FEATURES**
- ICE FLOW DIRECTION - former flow direction indicated by drumlins, glacial striations, and other streamlined landforms. Length approximately proportional to feature size.
 - MELTWATER CUTBANKS - cutbanks of glacial meltwater stream channels - hachures point into channel. Abandoned or containing underfit stream.
 - MELTWATER FLOW DIRECTION
 - MORAINES CREST
 - ESKER
- LANDSLIDE FEATURES**
- LANDSLIDE HEADSCARP - active, distinct, and (or) accurately located. Hachures point down scarp.
 - LANDSLIDE HEADSCARP - inactive, indistinct, and (or) approximately located.
- MISCELLANEOUS MAP ELEMENTS**
- Thin Quaternary cover over bedrock
 - ANTICLINE - identity or existence questionable, location approximate
 - SYNCLINE - identity or existence questionable, location approximate
 - U-Pb GEOCHRONOLOGY SAMPLE
 - PALYNOLOGY SAMPLE
 - GLACIER
 - WATER
 - APPARENT DIP (in cross section)
 - THRUST OR REVERSE FAULT (in cross section) - Arrows show relative motion
 - STRIKE-SLIP FAULT (in cross section) - cross, away from observer; bullseye, toward observer
 - SYNCLINE (in cross section)
 - Cross section schematic stratigraphy

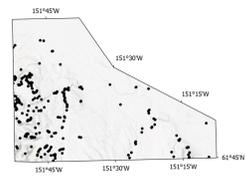


Coal bed and underlay of the middle to late Miocene Tsc unit dipping toward the Canyon Creek fault in Canyon Creek (photograph taken on 8/1/2014 by R.J. Gillis).

**Geologic Map of the West Susitna Area,
Parts of the Tyonek C-3, C-4, D-4, and D-5 Quadrangles, Alaska:
Northwest Sheet**

by
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2026

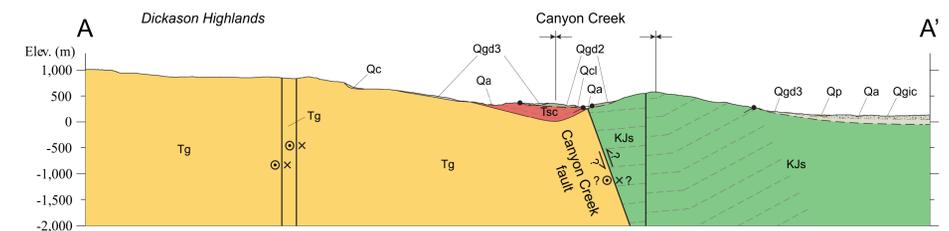
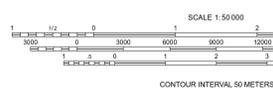
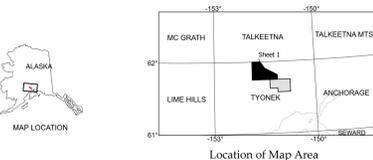


Projection:
Universal Transverse Mercator Zone 5N
Datum:
North American Datum of 1983
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U.S. Geological Survey, EROS Data Center, 2013.
Digital elevation - Interferometric Synthetic Aperture Radar (IFSAR) - Alaska
Geologic field investigations by:
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REFERENCES CITED

Stanley, R.G., Hausler, P.J., Benowitz, J.A., Goodman, D.K., Raven, R.L., Shellenbloom, D.P., Sattus, R.W., Lewis, K.A., and Potter, C.J., 2013. New stratigraphic revelations in the subsurface Susitna basin, south-central Alaska, from geochronology and biostratigraphy [poster]. GSA Cordilleran Section Meeting, Fresno, CA, May 22, 2013; Alaska Division of Geological & Geophysical Surveys, 1 sheet.

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