

GEOLOGIC MAP UNITS

Please see accompanying report for descriptions of the map units.

IGNEOUS ROCKS

METAMORPHIC ROCKS

- SLATE CREEK INTRUSIVE SUITE
FELSIC PORPHYRY (Paleogene)
MAFIC INTRUSIONS (Paleogene)
EIELSON INTRUSIVE SUITE
GRANITE (Latest Cretaceous)
FAIRBANKS-SALCHA PLUTONIC SUITE
GRANITE (Early Late Cretaceous)
GRANODIORITE (Early Late Cretaceous)
PORPHYRY (Early Late Cretaceous)
QUARTZ DIORITE (Early Late Cretaceous)
WHITE MICA-BEARING GRANITE (Early Late Cretaceous)
TONALITE (Early Late Cretaceous)

- METAMORPHIC ROCKS
BUTTE ASSEMBLAGE
MARBLE, DIOLOSTON AND CALC-SCHIST (Mississippian to Devonian)
METAFELSIC ROCKS (Mississippian to Devonian)
METAMAFIC ROCKS (Mississippian to Devonian)
METACONGLOMERATE (Mississippian to Devonian)
METAGRIT (Mississippian to Devonian)
METASEDIMENTARY ROCKS (Mississippian to Devonian)
BLACKSHELL ASSEMBLAGE
METAFELSIC ROCKS (Mississippian to Devonian)
CARBONACEOUS ROCKS (Pre-Mississippian)
CALC-PHYLLITE AND MARBLE (Pre-Mississippian)
QUARTZITE AND QUARTZ PHYLLITE (Pre-Mississippian)

- ORDOVICIAN MAFIC-ULTRAMAFIC ROCKS
META-ULTRAMAFIC AND METAMAFIC ROCKS (Early Ordovician)
PREACHER CREEK ASSEMBLAGE
CALC-SCHIST AND MARBLE (Paleozoic to Neoproterozoic)
CHLORITIC SCHIST AND PHYLLITE (Paleozoic to Neoproterozoic)
METAMAFIC ROCKS (Paleozoic to Neoproterozoic)
SCHIST AND PHYLLITE (Paleozoic to Neoproterozoic)
METASANDSTONE AND METAGRIT (Paleozoic to Neoproterozoic)

- FAIRBANKS-CHENA ASSEMBLAGE
META-ULTRAMAFIC ROCKS (Triassic? to Paleogene)
AMPHIBOLITE (Early Mississippian to Late Devonian)
ORTHOGNEISS (Early Mississippian to Late Devonian)
CALC-SILICATE GNEISS (Pre-Mississippian)
GRAPHITIC ROCKS (Pre-Mississippian)
MARBLE (Pre-Mississippian)
PARAGNEISS (Pre-Mississippian)
QUARTZITE (Pre-Mississippian)
QUARTZITE AND PARAGNEISS (Pre-Mississippian)
SCHIST (Pre-Mississippian)
SCHIST AND GNEISS (Pre-Mississippian)
SCHIST, CALC-SILICATE, AND CARBONATE ROCKS (Pre-Mississippian)
RECRYSTALLIZED GNEISS AND SCHIST (Pre-Mississippian)
LAKE GEORGE ASSEMBLAGE
ORTHOGNEISS (Early Mississippian to Late Devonian)
METASEDIMENTARY ROCKS (Pre-Mississippian)

PLANAR FEATURES

- SMALL, MINOR INCLINED FAULT — showing strike and dip
SMALL, MINOR INCLINED FAULT — showing strike, dip, and movement
INCLINED METAMORPHIC or TECTONIC FOLIATION — showing strike and dip
INCLINED FLOW BANDING or FOLIATION IN IGNEOUS ROCK — showing strike and dip
INCLINED BED PARALLEL METAMORPHIC or TECTONIC FOLIATION — showing strike and dip
SMALL, MINOR INCLINED JOINT — showing strike and dip
INCLINED CLEAVAGE — showing strike and dip
SMALL, MINOR INCLINED DIKE — showing strike and dip
SMALL, MINOR OVERTURNED ANTICLINE — showing strike
SMALL, MINOR INCLINED VEIN — showing strike and dip

LINEAR FEATURES

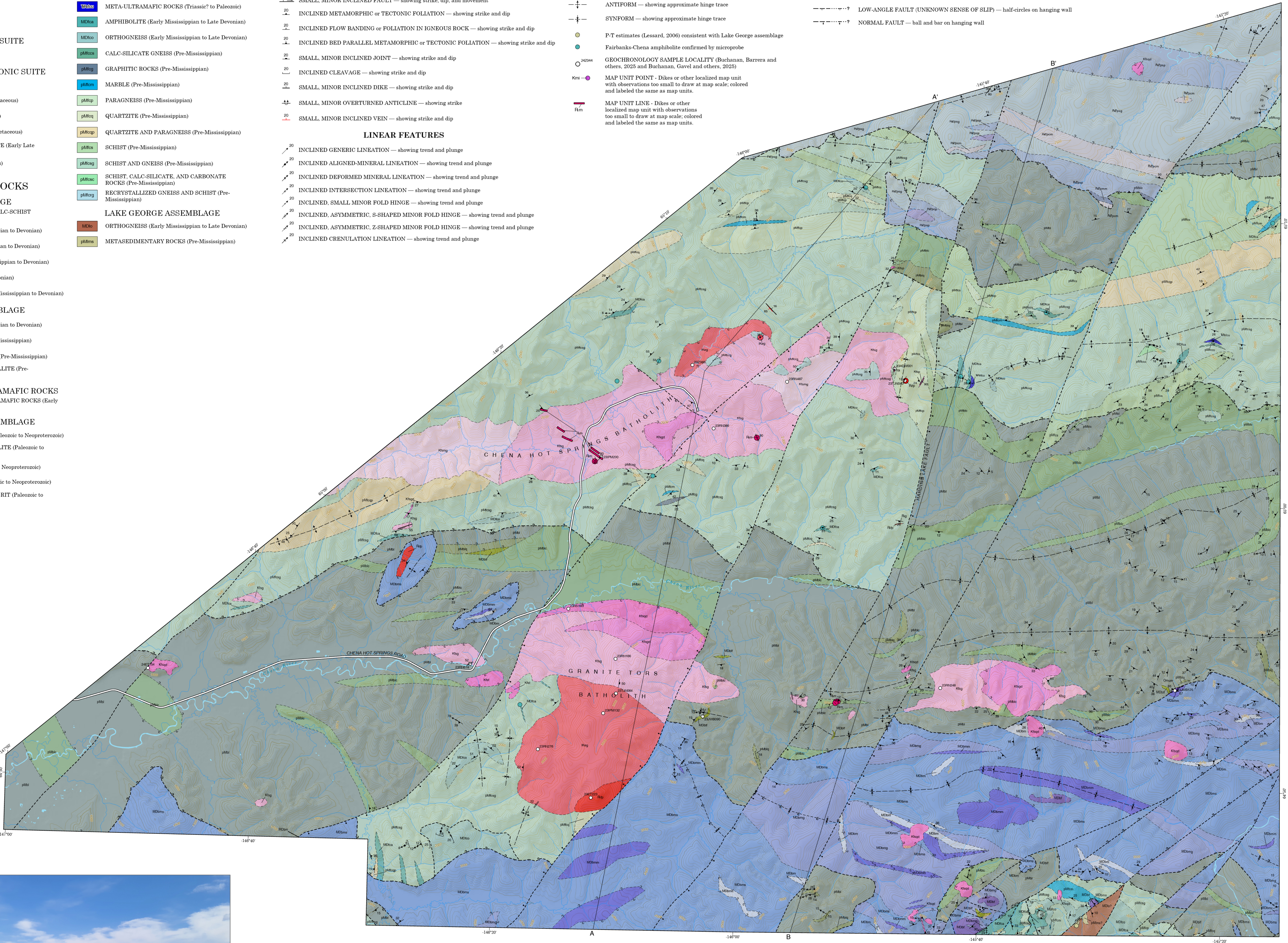
- INCLINED GENERIC LINEATION — showing trend and plunge
INCLINED ALIGNED-MINERAL LINEATION — showing trend and plunge
INCLINED DEFORMED MINERAL LINEATION — showing trend and plunge
INCLINED INTERSECTION LINEATION — showing trend and plunge
INCLINED, SMALL MINOR FOLD HINGE — showing trend and plunge
INCLINED, ASYMMETRIC, S-SHAPED MINOR FOLD HINGE — showing trend and plunge
INCLINED, ASYMMETRIC, Z-SHAPED MINOR FOLD HINGE — showing trend and plunge
INCLINED CRENULATION LINEATION — showing trend and plunge

EXPLANATION OF MAP SYMBOLS

- MISCELLANEOUS MAP SYMBOLS
CROSS SECTION LINE
ANTIFORM — showing approximate hinge trace
SYNFORM — showing approximate hinge trace
P-T estimates (Lessaard, 2006) consistent with Lake George assemblage
GEOCHRONOLOGY SAMPLE LOCALITY (Buchanan, Barrera and others, 2025 and Buchanan, Gavel and others, 2025)
MAP UNIT POINT - Dikes or other localized map unit with observations too small to draw at map scale; colored and labeled the same as map units.
MAP UNIT LINE - Dikes or other localized map unit with observations too small to draw at map scale; colored and labeled the same as map units.

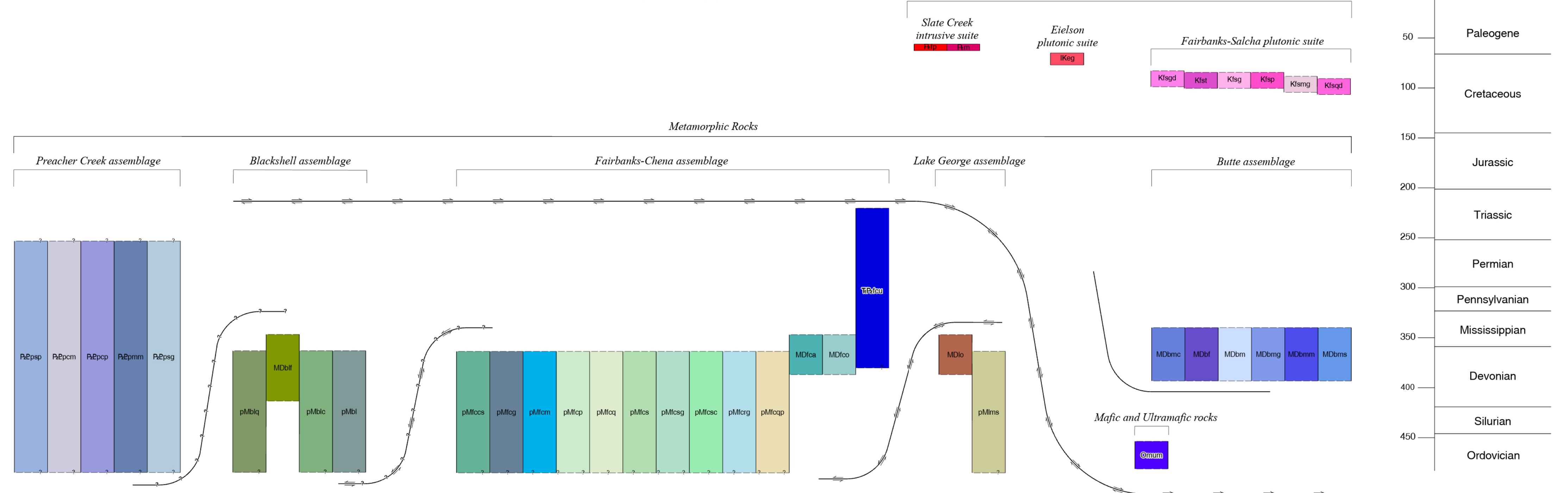
CONTACTS AND FAULTS

- Line work is solid where location is accurate, long-dashed where location is approximate, and short-dashed where location is inferred. Question marks indicate the existence or identity of the feature is questionable.
CONTACT
FAULT — sense of movement indeterminate
LOW-ANGLE FAULT (UNKNOWN SENSE OF SLIP) — half-circles on hanging wall
NORMAL FAULT — ball and bar on hanging wall

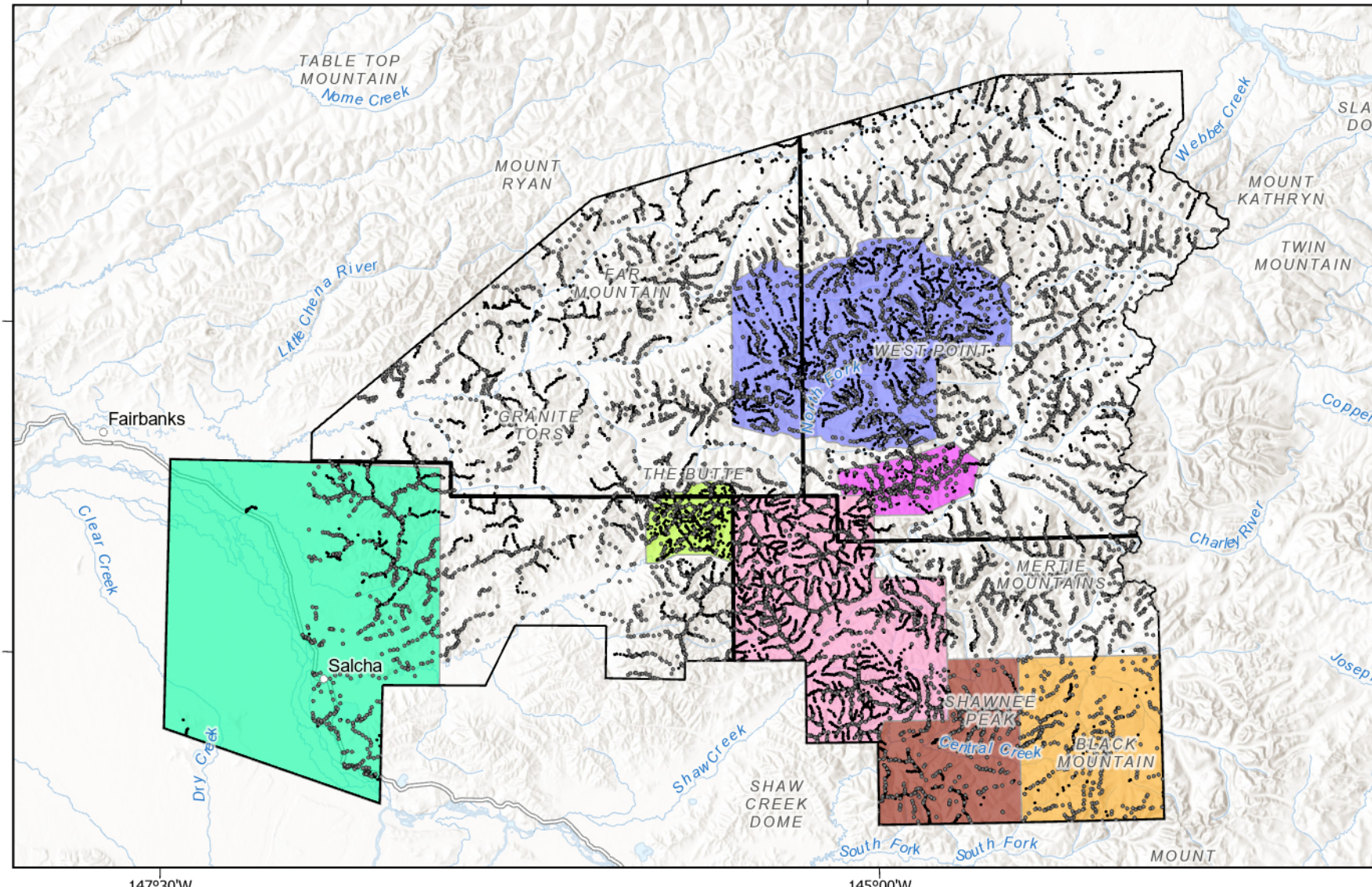


View from the southern contact of the Granite Tors Batholith, 232N422 (photograph taken 08/03/2023 by R.J. Newberry)

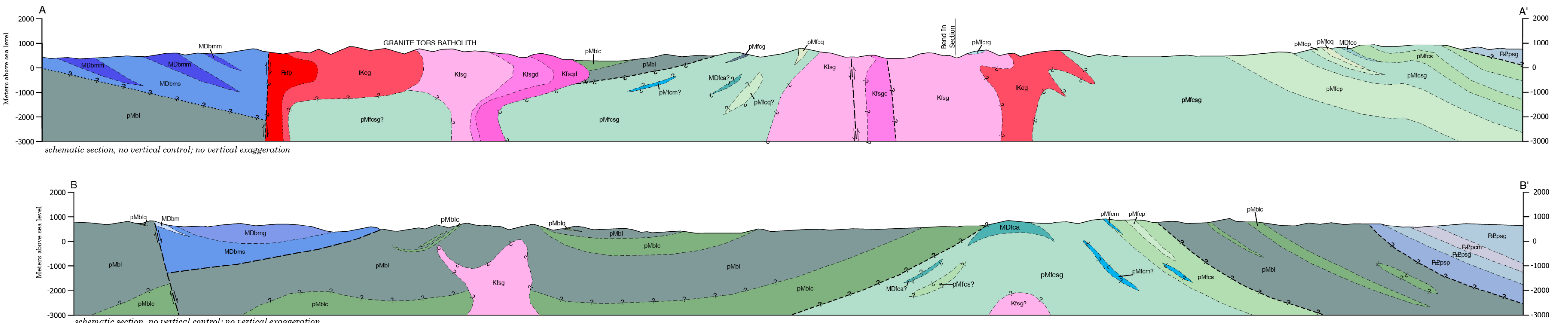
CORRELATION OF MAP UNITS



FIELD STATIONS AND SUPPLEMENTARY DATA SOURCE MAPS COMPILED



- LEGEND:
- DGGS FIELD STATION LOCALITY
- USGS FIELD STATION LOCALITY (Weber and Foster, 1964-2000; Day and others, 2008)
- Sims and others (2025)
- Day and others (2007)
- Day and others (2003)
- Lessard and others (2022)
- Smith and others (1994)
- Werten and others (2004)
- Southworth (1985)



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Bedrock Geologic Map of the Granite Tors and Chena Hot Springs areas, Circle and Big Delta Quadrangles Alaska

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