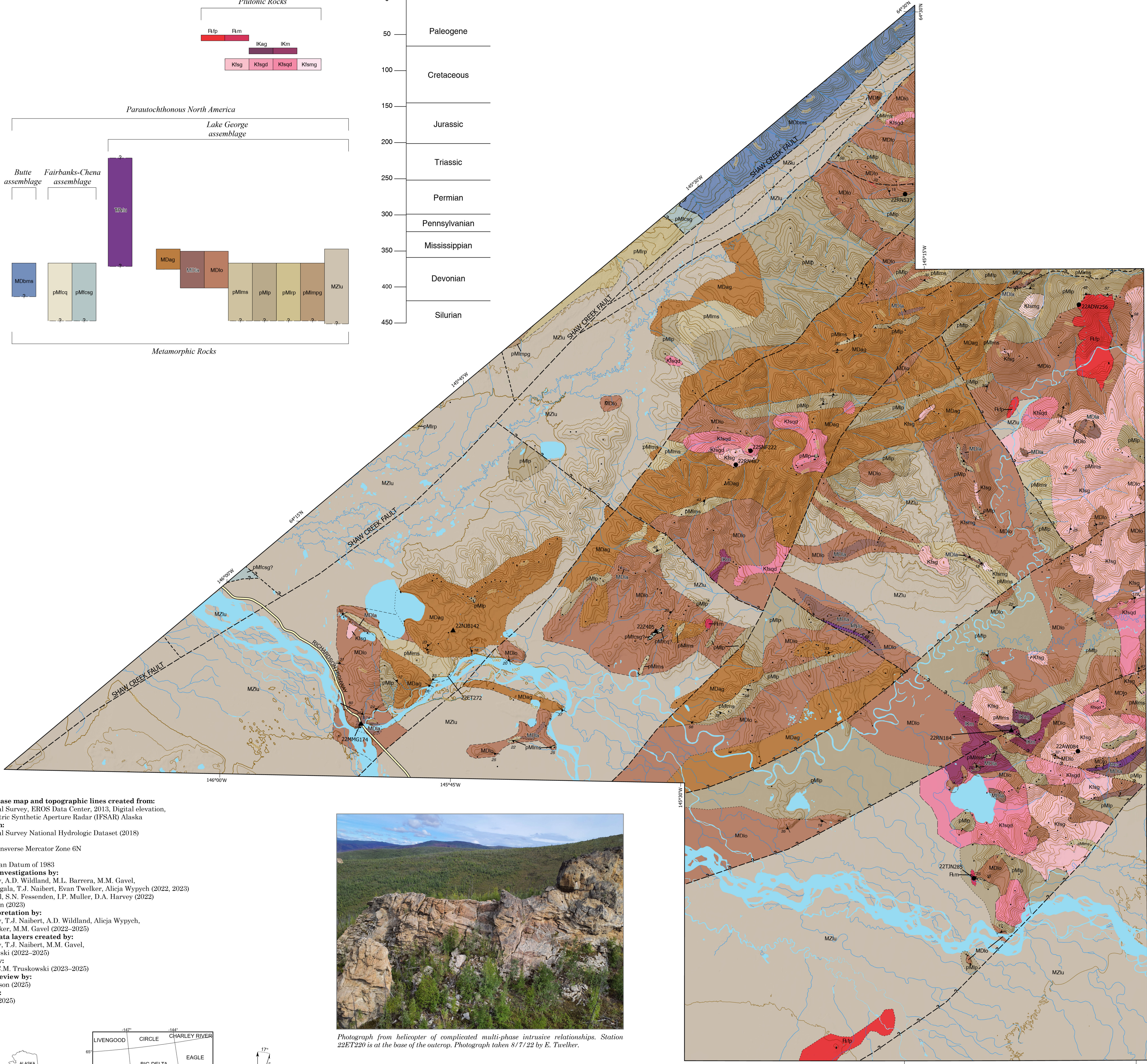
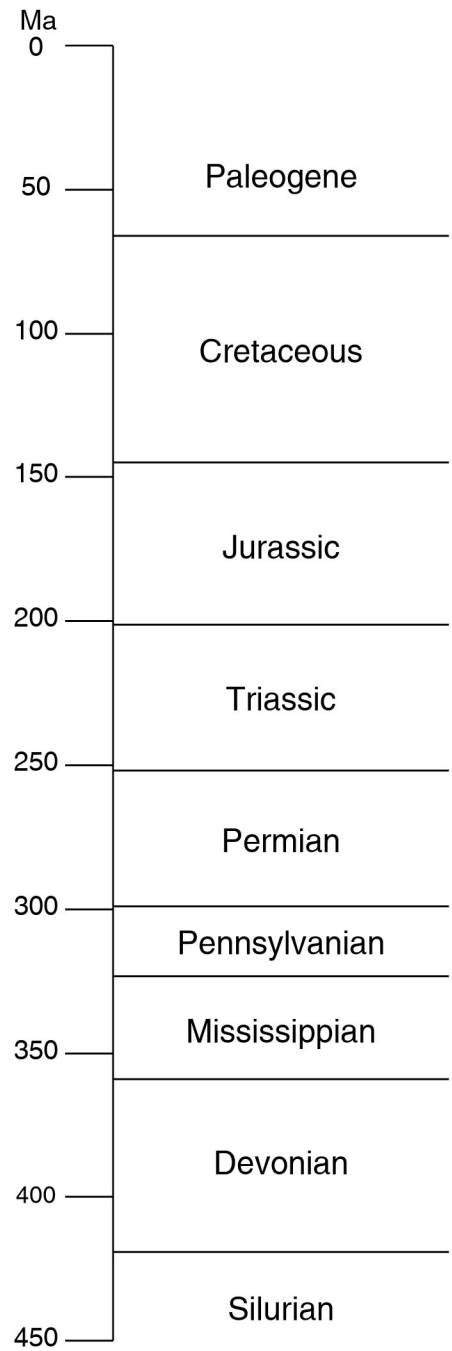
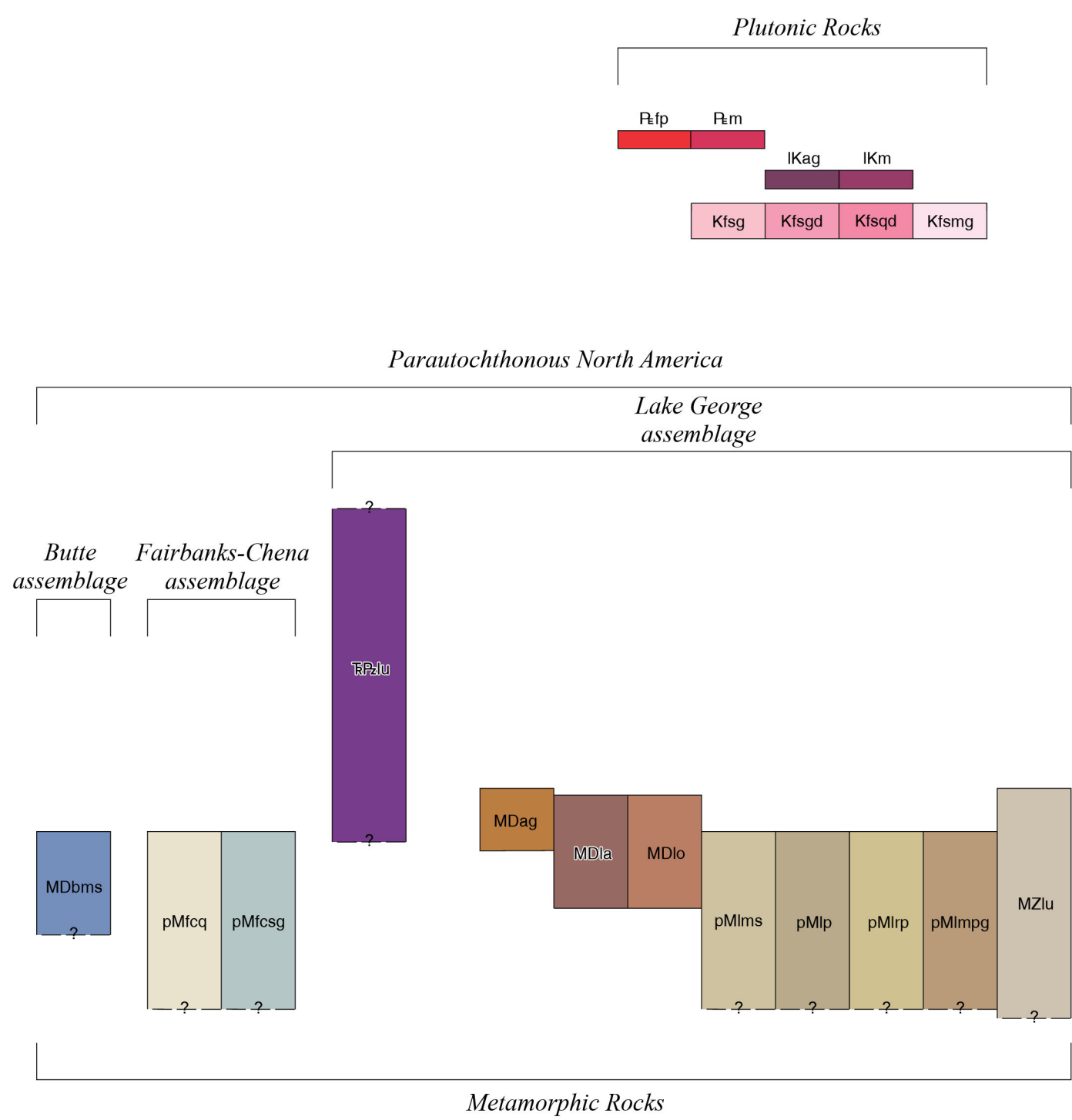




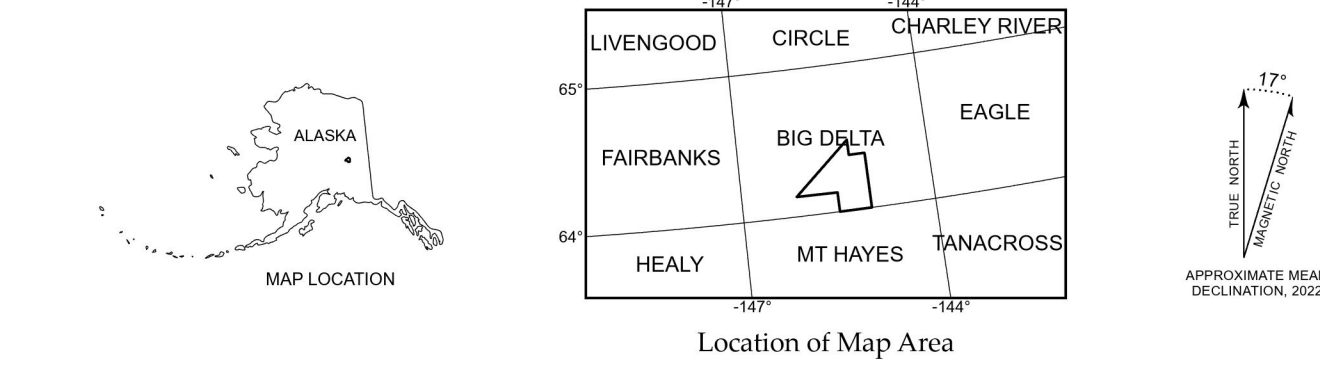
CORRELATION OF MAP UNITS



Shaded-relief base map and topographic lines created from:
U.S. Geological Survey, EROS Data Center, 2013, Digital elevation,
Interferometric Synthetic Aperture Radar (IFSAR) Alaska
Hydrology from:
U.S. Geological Survey National Hydrologic Dataset (2018)
Projection:
Universal Transverse Mercator Zone 6N
Datum:
North American Datum of 1983
Geologic field investigations by:
R.J. Newberry, A.D. Wildland, M.L. Barrera, M.M. Gavel,
D.J. Szumigala, T.J. Naibert, Evan Twelker, Alicja Wypych (2022, 2023)
N.J. Blackwell, S.N. Fessenden, I.P. Muller, D.A. Harvey (2022)
J.W. Buchanan (2023)
Geologic interpretation by:
R.J. Newberry, T.J. Naibert, A.D. Wildland, Alicja Wypych,
Evan Twelker, M.M. Gavel (2022–2025)
Geologic GIS data layers created by:
R.J. Newberry, T.J. Naibert, M.M. Gavel,
C.M. Truskowski (2022–2025)
Cartography by:
T.J. Naibert, C.M. Truskowski (2023–2025)
Cartographic review by:
A.E. Macpherson (2025)
Peer review by:
S.P. Reagan (2025)



Photograph from helicopter of complicated multi-phase intrusive relationships. Station 22ET290 is at the base of the outcrop. Photograph taken 8/7/22 by E. Twelker.



ACKNOWLEDGMENTS

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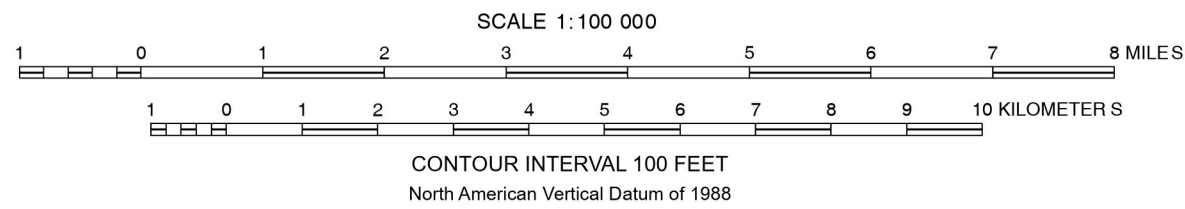
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STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS
3354 College Road • Fairbanks, Alaska 99709-3707
Phone 907-451-5010 • Fax 907-451-5050
email: dggs@alaska.gov • website: dggs.alaska.gov

Bedrock geologic map of the Goodpaster River–Shaw Creek area,
Big Delta Quadrangle, Alaska

by
R.J. Newberry¹, Evan Twelker¹, T.J. Naibert¹, Alicja Wypych², M.M. Gavel², M.L. Barrera¹, D.J. Szumigala¹, C.M. Truskowski¹,
I.P. Muller³, S.N. Fessenden², J.W. Buchanan¹, N.J. Blackwell², D.A. Harvey², and A.D. Wildland²
2025



- GEOLOGIC MAP UNITS**
- Please see accompanying report for descriptions of the map units.
- PLUTONIC ROCKS**
- SLATE CREEK INTRUSIVE SUITE**
- Rlp** FELSIC PORPHYRY (Paleogene)
 - Rm** MAFIC INTRUSIONS (Paleogene)
- TAURUS PLUTONIC SUITE**
- IKag** ALKALINE GABBRO (latest Cretaceous)
 - IKm** QUARTZ MONZODIORITE (latest Cretaceous)
- FAIRBANKS-SALCHA PLUTONIC SUITE**
- Klsq** GRANITE (early Late Cretaceous)
 - Klsqd** GRANODIORITE (early Late Cretaceous)
 - Klsmg** QUARTZ DIORITE (early Late Cretaceous)
 - Klsmg** WHITE MICA-BEARING GRANITE (early Late Cretaceous)

- METAMORPHIC ROCKS**
- PARAUTOCHTHONOUS NORTH AMERICA**
- BUTTE ASSEMBLAGE**
- MDbms** METASEDIMENTARY ROCKS (Mississippian to Devonian)
- FAIRBANKS-CHENA ASSEMBLAGE**
- pMlcq** QUARTZITE (Pre-Mississippian)
 - pMlcsq** SCHIST AND GNEISS (Pre-Mississippian)
- LAKE GEORGE ASSEMBLAGE**
- Ls2bu** META-ULTRAMAFIC ROCKS (Triassic to Paleozoic)
 - MDag** DIVIDE MOUNTAIN AUGEN GNEISS (Early Mississippian to Late Devonian)
 - MDla** AMPHIBOLITE (Early Mississippian to Late Devonian)
 - MDlo** ORTHOGNEISS (Early Mississippian to Late Devonian)
 - pMlms** METASEDIMENTARY ROCKS (Pre-Mississippian)
 - pMlp** PARAGNEISS (Pre-Mississippian)
 - pMlmp** RECRYSTALLIZED PARAGNEISS (Pre-Mississippian)
 - pMlmg** MIGMATITIC PARAGNEISS (Pre-Mississippian)
 - MZu** LAKE GEORGE ASSEMBLAGE, UNDIVIDED (Mississippian to Proterozoic)

EXPLANATION OF MAP SYMBOLS

Linework 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. 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
 - ? LOW-ANGLE FAULT (UNKNOWN SENSE OF SLIP) — half-circles on hanging wall

- PLANAR FEATURES**
- 20 20 SMALL, MINOR INCLINED FAULT — showing strike and dip
 - 20 20 INCLINED METAMORPHIC or TECTONIC FOLIATION — showing strike and dip
 - 20 20 INCLINED GNEISSIC LAYERING — showing strike and dip
 - 20 20 SMALL, MINOR INCLINED DIKE — showing strike and dip
 - 20 20 SMALL, MINOR INCLINED VEIN — showing strike and dip

- LINEAR FEATURES**
- 20 20 INCLINED SLICKENLINE ON FAULT SURFACE — showing trend and plunge
 - 20 20 INCLINED FOLD HINGE OF SMALL, MINOR FOLD — showing trend and plunge

- MISCELLANEOUS MAP SYMBOLS**
- FIELD STATION LOCALITY
 - USGS LEGACY FIELD STATION LOCALITY (Weber and Foster, 1960–1979)
 - U-Pb GEOCHRONOLOGY SAMPLE
 - ⁴⁰Ar/³⁹Ar GEOCHRONOLOGY SAMPLE
- See table 1 in accompanying report (Twelker and others, 2025)

REFERENCES CITED

Twelker, Evan, Newberry, R.J., Naibert, T.J., Wypych, Alicja, Gavel, M.M., Barrera, M.L., Szumigala, D.J., Truskowski, C.M., Muller, I.P., Fessenden, S.N., Blackwell, N.J., Harvey, D.A., and Wildland, A.D., 2025. Bedrock geologic maps of the Mount Harper-Middle Fork area, Volkmur River-Healy River area, Goodpaster River-Shaw Creek area, and the Richardson mining district, Alaska: Alaska Division of Geological & Geophysical Surveys Preliminary Interpretive Report 2025-2. 38 p. <http://doi.org/10.14509/31648>

Weber, F.R., and Foster, H.L., 1960–1979. Unpublished field station locations, archived rock samples, and field notebooks from the Big Delta and Eagle quadrangles; courtesy of U.S. Geological Survey.

Affiliations:

¹Alaska Division of Geological & Geophysical Surveys, 3354 College Rd, Fairbanks, AK 99709
²Formerly Alaska Division of Geological & Geophysical Surveys, 3354 College Rd, Fairbanks, AK 99709
³University of Texas at Austin Jackson School of Geosciences, 23 San Jacinto Blvd, Austin, TX 78712