DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

Prepared in cooperation with the State of
Alaska Division of Geological and Geophysical Surveys

OPEN FILE 82-460

LEGEND

ALLUVIAL AND GLACIAL DEPOSITS

Qag

FELSIC TO INTERMEDIATE HYPABYSSAL INTRUSIVES

Small, irregular feldspar porphyry plugs and stocks of andesite to quartz latite composition

CONGLOMERATE

Tcg — Pebble to boulder conglomerate with mudstone and siltstone matrix; very poorly sorted, well-rounded clasts comprise most units in the area; deposited on apparent unconformity in Valdez group schists

NORTH OF THE BORDER RANGES FAULT

GABBROIC TECTONIC MELANGE

TKgm — Blocks of Jg, Jtk, KJqd, KJsm, and others (?) floating in a cataclastic matrix of gabbro and serpentine; locally intruded by Ti

MCHUGH COMPLEX

KJsm — Sedimentary melange (locally less disturbed): chert, argillite, tuff, massive and pillowed greenstone; minor gabbro, sandstone, and marble; metamorphosed to prehnite-pumpellyite grade

MATANUSKA FORMATION

KJs — Marine sedimentary rocks, largely siltstone, sandstone, claystone, and conglomerate; may locally include non-Matanuska sedimentary rocks

INTERMEDIATE INTRUSIVES

KJqd — Quartz diorite, diorite, and trondjhemite stocks and plutons with abundant fine-grained mafic dikes

TALKEETNA FORMATION

Jtk — Marine and non-marine pyroclastic rocks and lavas of predominantly intermediate composition; minor sandstone and argillite

GABBRO

Jg — Layered two-pyroxene gabbro, hornblend gabbro, and leucogabbro; minor ultramafic, dioritic, and quartz dioritic rocks

CONTACT
dotted where inferred

FAULT
dotted where inferred; large dots where concealed and inferred from aeromagnetic survey

THRUST FAULT
dotted where inferred; teeth on upper plate

SOUTH OF THE BORDER RANGES FAULT

VALDEZ GROUP

Kv — Metasedimentary and minor metavolcanic rocks of predominantly greenschist grade: siltstone, argillite, sandstone, and conglomerate; minor mafic metatuff and greenstone

METAVOLCANIC ROCKS

Km — Metavolcanic and minor metasedimentary rocks predominantly of greenschist grade; local blueschists

MCHUGH COMPLEX

KJsm — Sedimentary melange (locally less disturbed): chert, argillite, tuff, massive and pillowed greenstone, minor gabbro and sandstone; metamorphosed to prehnite-pumpellite grade

GREENSCHIST AND TRANSITIONAL BLUESCHISTS

Jgb — Diverse protoliths of unknown original ages; includes metavolcanic and calcareous metasedimentary rocks

AMPHIBOLITE AND ORTHOGNEISS

Jag — Metaplutonic and metasedimentary (?) rocks; original ages and protoliths not known

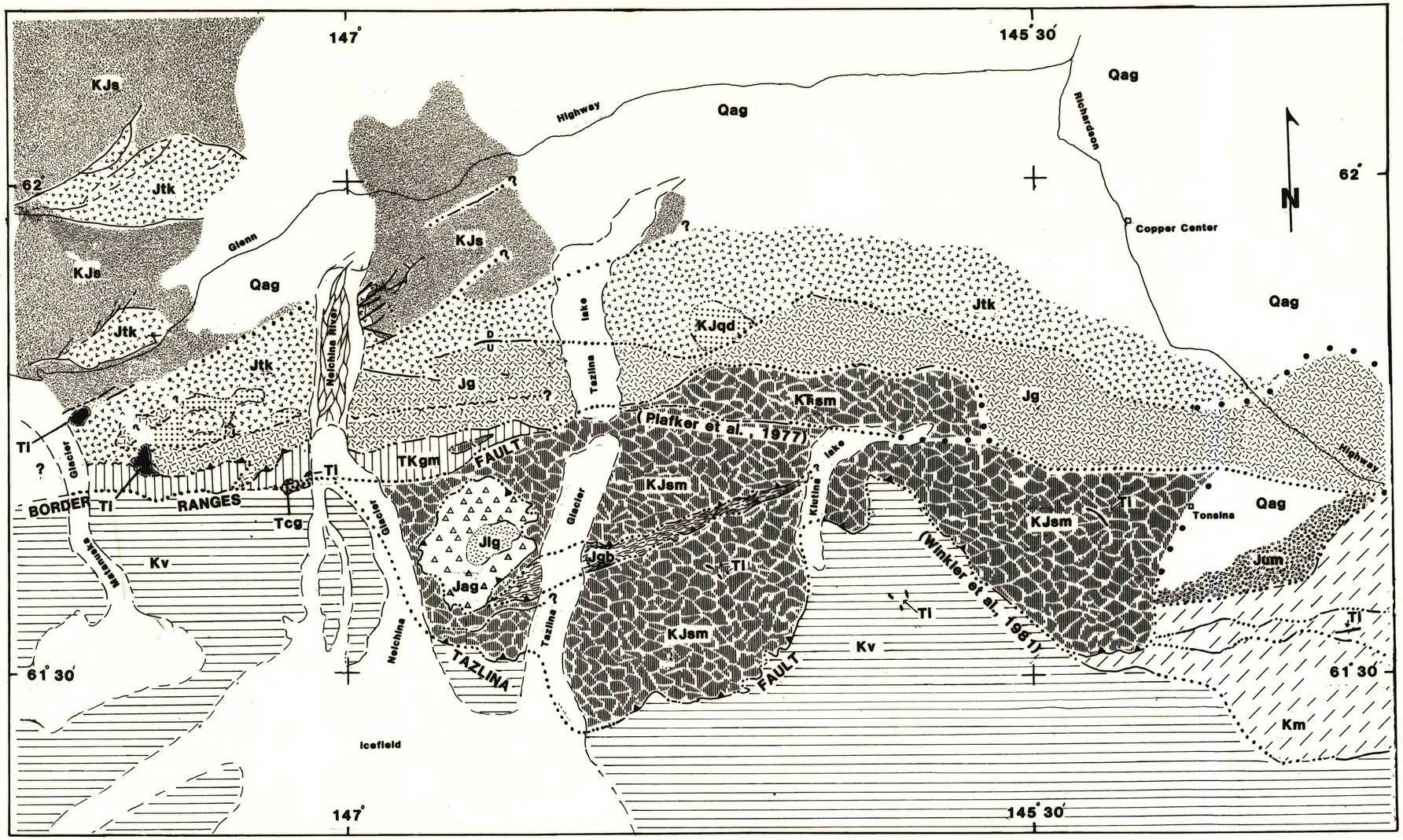
GABBRO

Jlg — Layered quartz gabbro

ULTRAMAFIC ROCKS

Jum — Largely dunite and harzburgite, minor gabbro

Note: Plafker et al. (1977) and Winkler et al. (1981) disagree in the location of the Border Ranges fault; this discrepancy has not been resolved in the literature.



Scale: 1:250,000

PLATE 1: GENERALIZED GEOLOGY OF THE N VALDEZ, NE TALKEETNA, AND SW GULKANA 1° X 3° SHEETS, ALASKA

from Andreason et al. (1964), Plafker et al. (1977), Pessel et al., (1977), Winkler et al., (1981), and Burns (unpub. data).

Compiled by L. E. Burns, 1982

This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.