EXPLANATION

Recent and Pleistocene

Qal — Alluvial deposits (*Only larger areas shown*)

Post-Eocene

QTg — High terrace gravels

Eocene (?) — Intrusive igneous rocks of Laramide revolution

Earlier than tungsten ores; later (?) than gold-telluride ores

12 — Limburgite, group 12 (*May include basalt of Ward district*)

Earlier than gold-telluride ores; later than pyritic gold ores

11 — Biotite latite, group 11

10 — Biotite monzonite, group 10

Earlier than pyritic gold ores; later than lead-silver ores. Fluorspar at Jamestown and some lead-silver ores occur between Ti 9 and 9

Ti 9 / 9 — Bostonite, group 9

Ti 8 / 8 — Alkali syenite, diorite, monzonite, and sodic granite, group 8

Ti 7 / 7 — Rhyolite and alaskite, group 7

Ti 6 / 6 — Quartz monzonite, group 6 (*Lincoln porphyry type*)

Earlier than lead-silver and fluorspar ores; later than quartz-hematite veins, "breccia reefs"

Ti 5 / 5 — Intermediate quartz monzonite, group 5 (*Includes groups 4-6*)

Ti 4 / 4 — Diorite, granodiorite, and andesite, group 4

Paleocene (?)

Ti 3 / Tiu 3 — Quartz monzonite, monzonite, and andesite, group 3 (Tiu, *Syntectic masses of ultrabasic material*)

Earlier than quartz-hematite veins, "breccia reefs"

Ti 2 / 2 — Diorite, diabase, and gabbro, group 2

Ti 1 / Tiu 1 — Monzonite, andesite, and felsite, group 1 (Tiu, *Syntectic masses of ultrabasic material*)

Ui — Unclassified intrusives

Upper Cretaceous

Kp — Pierre shale

Knb — Niobrara formation and Benton shale, undifferentiated

WEST SIDE OF RANGE

Kdq — Dakota quartzite

UNCONFORMITY

Jm — Morrison formation (*Sandstone, limestone, and variegated shale*)

Pennsylvanian

Pm — Maroon formation (*Red arkose, sandstone, and conglomerate. Includes Permian(?) and Triassic(?) formation (Pennsylvanian) may be present in some places*)

UNCONFORMITY

EAST SIDE OF RANGE

Kn — Niobrara formation (*Limestone and limy shale*)

Kb — Benton shale

Kds — Dakota sandstone

UNCONFORMITY

Jm — Morrison formation (*Sandstone, limestone, and variegated shale*)

TrPl — Lykins formation (*Brick-red sandstone and shale*)

Pl — Lyons sandstone

Cf — Fountain formation (*Red arkose, sandstone, and shale*)

UNCONFORMITY

TERTIARY QUATERNARY

TERTIARY (?)

CRETACEOUS

JURASSIC (?)

TRIASSIC (?)

PERMIAN

CARBONIFEROUS

EXPLANATION (CONTINUED)

PRE-CAMBRIAN

pt — Pegmatite

sqg — Silver Plume granite (*Age, determined by lead-uranium ratio, approximately 940,000,000 years*)

ppg — Pikes Peak granite (*Age, determined by lead-uranium ratio, approximately 1,000,000,000 years*)

dh — Quartz diorite and hornblendite

gn — Granite gneiss and gneissic aplite

bcg — Boulder Creek granite and quartz monzonite

mg — Quartz monzonite gneiss and gneissic pegmatite

qt — Quartzite at Coal Creek

sch — Schist layers in quartzite

xg — Swandyke hornblende gneiss

Is — Idaho Springs formation (*Chiefly biotite schist*)

Laramide faults (*Faults in the northeastern part of area are known as "breccia reefs"*)
Dip of fault plane
U, Upthrow side; D, downthrow side
U, Upper plate of thrust
Arrow, direction of horizontal movement of walls
Arrow, direction of downward movement of wall

Pre-Cambrian fault zone

Gold, silver, lead, zinc veins

Tungsten vein

Fluorspar vein (*In Jamestown district*)

Zone of disseminated pyrite (*Denser pattern indicates strong pyritization*)

Strike and dip of foliation or schistosity

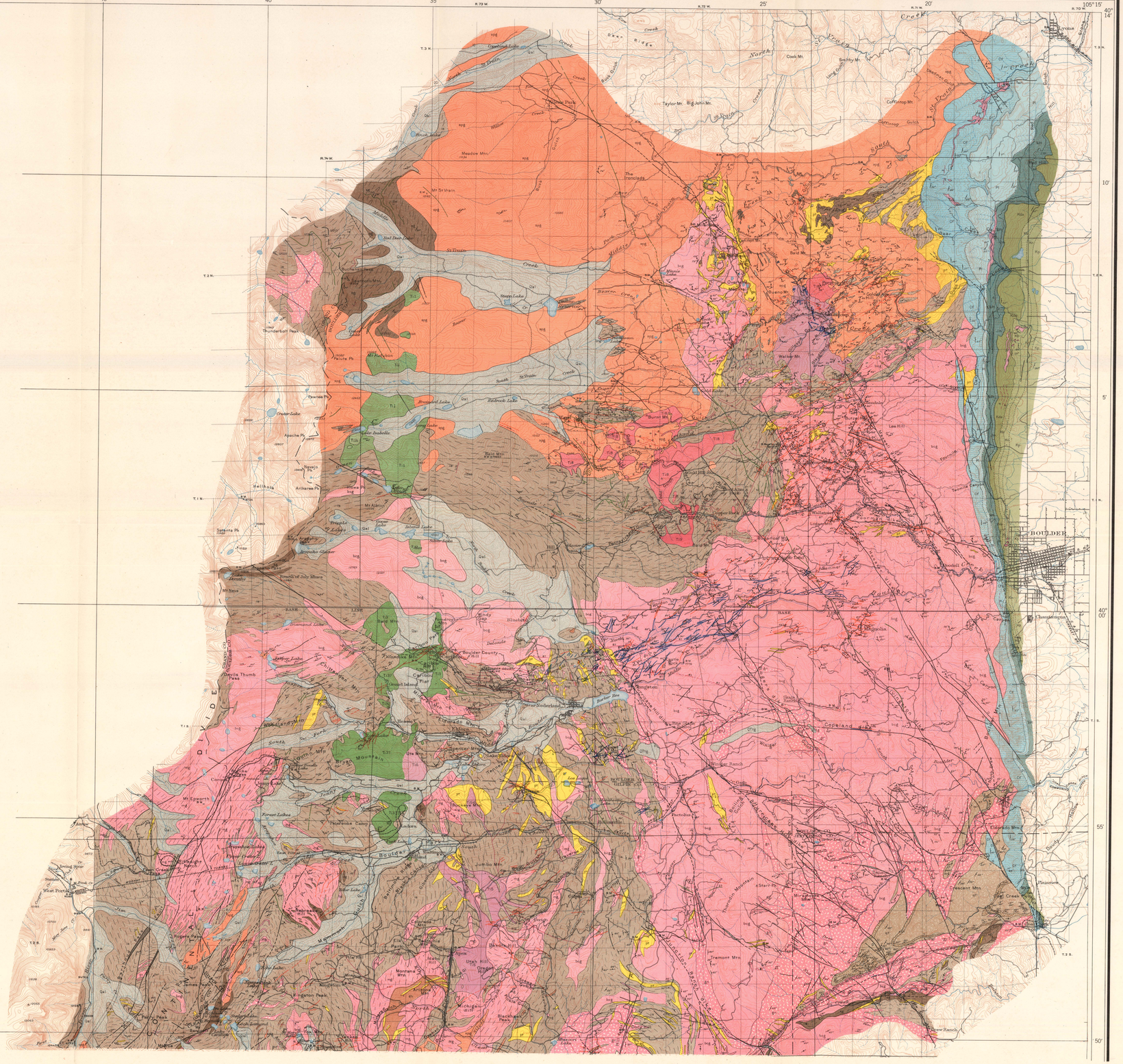
Strike and dip of beds

Strike of vertical foliation or schistosity

Strike of vertical beds

Pitch of linear elements in igneous rocks

Pitch of linear element combined with foliation symbols

Note: Foliation symbols in Tertiary intrusive rocks represent flow structure; those in pre-Cambrian rocks may be either flow structure or metamorphic structure

Linear pattern in pre-Cambrian gneisses and schists indicates direction of metamorphic structure.