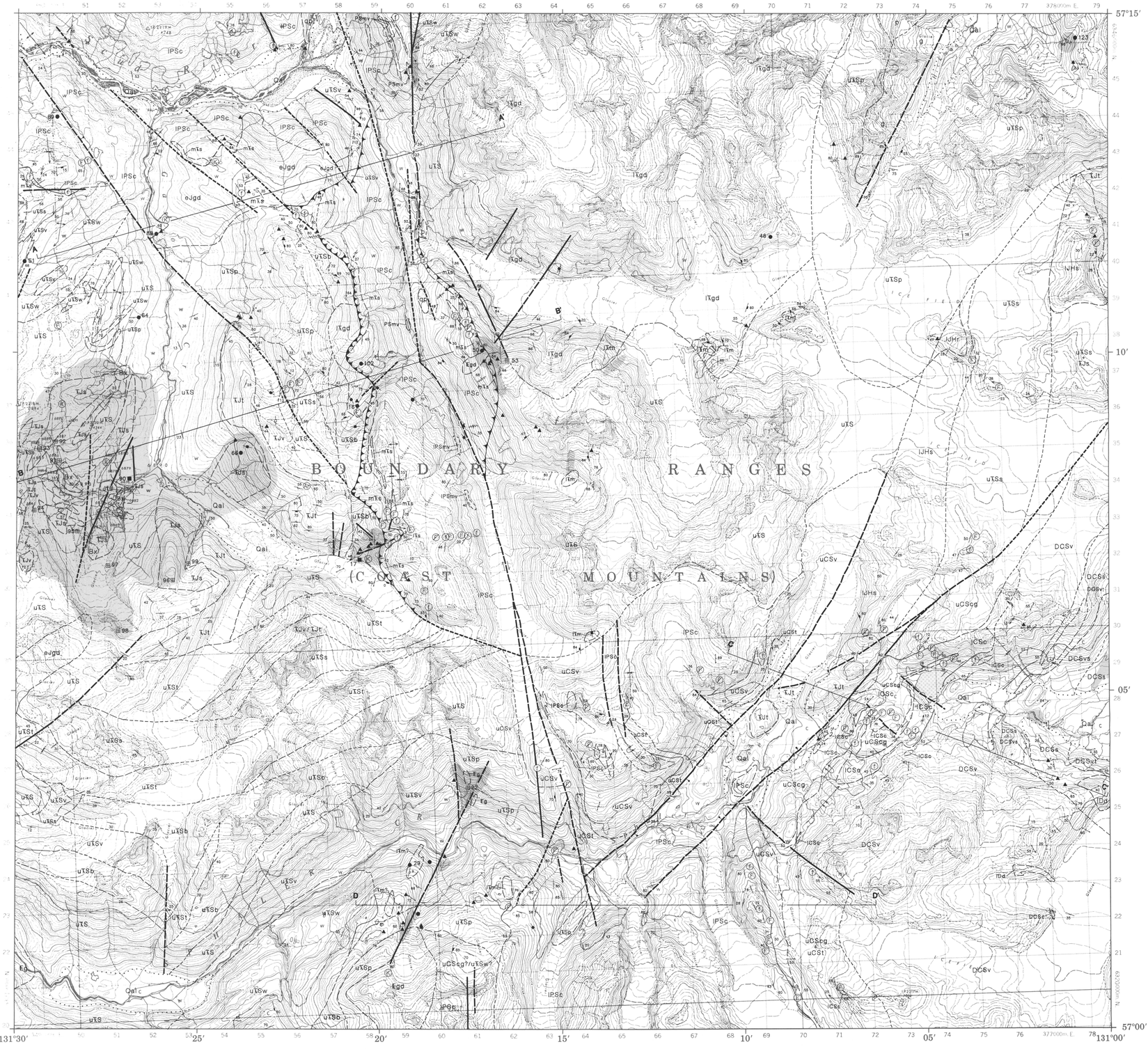


Ministry of Energy, Mines and Petroleum Resources

Geological Survey Branch

GEOSCIENCE MAP 1993-1

GEOLOGY AND MINERAL OCCURRENCES OF THE GALORE CREEK AREA

NTS 104G/03

Geology by James M. Logan, Victor M. Koyanagi and David Rhys

Scale 1:50 000

0 1 2 3 4 5 KILOMETRES

LEGEND

INTRUSIVE ROCKS

Bx Intrusive or tectonic breccia

EOCENE

Eg Pink, medium to coarse-grained and potassium feldspar megacrystic biotite granite and equigranular biotite quartz monzonite

Egd Grey, medium-grained hornblende biotite granodiorite

EARLY JURASSIC OR YOUNGER

qp Plagioclase-quartz porphyritic diorite, pyritic (age unknown)

EARLY JURASSIC

eJgd Medium-grained quartz diorite, biotite hornblende granodiorite

LATE TRIASSIC-EARLY JURASSIC
GALORE CREEK INTRUSIONS

TJs Syenite, biotite orthoclase porphyritic monzonite

MIDDLE-LATE TRIASSIC
HICKMAN BATHOLITH

lTgd Coarse to medium-grained, biotite hornblende granodiorite, augite monzonite (lTm), coarse-grained plagioclase megacrystic diorite (lTd)

ULTRAMAFIC ROCKS

g Coarse to medium-grained, clinopyroxene gabbro

p Pyroxenite

LATE DEVONIAN

lDd Hornblende diorite

LAYERED ROCKS

QUATERNARY

Qal Unconsolidated glacial till and poorly sorted alluvium

LOWER JURASSIC

lJHr Felsic tuffite

lJHs Polymictic, maroon volcanic conglomerate, limy siltstone, shale and airfall tuff, contains coaly material

VOLCANIC FACIES — SEDIMENTARY FACIES

UPPER TRIASSIC-LOWER JURASSIC

TJv Potassium-feldspar and pseudoleucite-bearing fragmentals and alkaline basalt flows

TJt Well-bedded maroon potassium-feldspar crystal tuff, epiclastics and volcanic conglomerate

UPPER TRIASSIC
STUHINI GROUP

uTS Undivided volcanics and sediments

uTSp Maroon pyroxene porphyry breccia flows and fragmentals

uTSs Fine-grained black clastics, bedded tuff and volcanic conglomerate

uTSt Aphyric andesite lapilli tuffs

uTSb Breccia flows, lahar and intermediate fragmentals

uTSv Massive basaltic-andesite, plagioclase and hornblende porphyry flows and tuffs

uTSs Well-bedded siltstone, sandstone and pyroxene crystal tuffs, flows and minor limestone contains *Monotis*

uTSp Green pyroxene-porphyry breccia flows

uTSw Well-bedded silicic clastics and volcanic wackes, minor andesite flows and basal polymictic conglomerate contains *Halobia*

MIDDLE TRIASSIC

mTs Carbonaceous silty shale with elliptical concretions, siliceous and limy siltstone contains *Daonella*

LOWER TRIASSIC

lTs Siliceous and limy siltstone, minor limestone

STIKINE ASSEMBLAGE

LOWER PERMIAN

IPSc Upper: light grey or buff massive to thickly bedded, bioclastic grainstone, foliated maroon and green epiclastics and tuff (IPSmv)
Lower: dark grey to buff thinly bedded, bioclastic limestone, chert interbeds, argillaceous near base

UPPER CARBONIFEROUS TO LOWER PERMIAN

uCSv Maroon and green intermediate volcaniclastics

uCSt Green and buff siliceous siltstones and felsic dust tuffs

uCScg Thick bedded, boulder to pebble conglomerate, clasts are augite phyric, plagioclase phyric, andesite, basalt, and limestone; thin bedded siltstone and sandstone

LOWER CARBONIFEROUS

lCSc Upper: dark grey, massive to thinly bedded grainstone, chert interbeds
Lower: pale grey coarse-grained echinoderm packstone, interbedded maroon tuffs and epiclastics

DEVONIAN TO LOWER CARBONIFEROUS

DCSv Upper: mafic and felsic flows
Lower: intermediate flows; purple ash tuff (DCSvt), chlorite and sericite schist (DCSvs)

DCSc Deformed grey and buff thin bedded coralline limestone

DCSs Quartz sericite schist, slate and carbonaceous argillite

SYMBOLS

Geological boundaries: defined, approximate, assumed

Unconformity: defined, assumed

Bedding (tops unknown): inclined, vertical

Bedding (tops known): inclined, vertical, overturned

Bedding (tops unknown, estimated dip): gentle, moderate, steep

Foliation (ages indicated by number of ticks): inclined, vertical

Joint: inclined, vertical

Dike: inclined, vertical

Vein: inclined, vertical

Antiform, synform (arrow indicates plunge)

Overturned antiform and synform (arrow indicates plunge)

Anticline, syncline (arrow indicates plunge)

Fold axis of minor fold with M, S, and Z symmetry: double arrow = second phase; arrow indicates plunge; numbers for phase greater than 2

Crenulation lineation (inclined): S_0/S_1, S_1/S_2

Fault or shear zone attitude: inclined, vertical

High angle fault (solid circle indicates downthrow side; arrows indicate relative movement): defined, approximate, assumed

Thrust fault (teeth in direction of upper plate): Defined, approximate, assumed

Cross section line — A A′

Fossil location: conodont, macrofossil, foram — (f) (F) (f)

Fossil location age indeterminate/barren — (F)

Isotopic age locality (potassium-argon, argon-argon) — (K) (Ar)

Geochemical sample locality: assay, geochem — ▲

MINFILE: developed prospect, prospect, showing — ■ ⊞ ●

Adit

Zone of alteration

REFERENCES

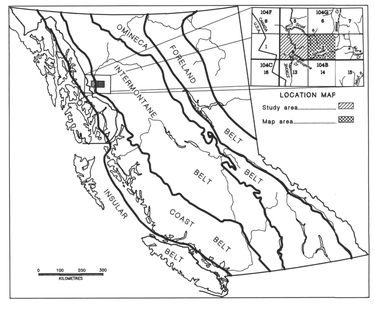
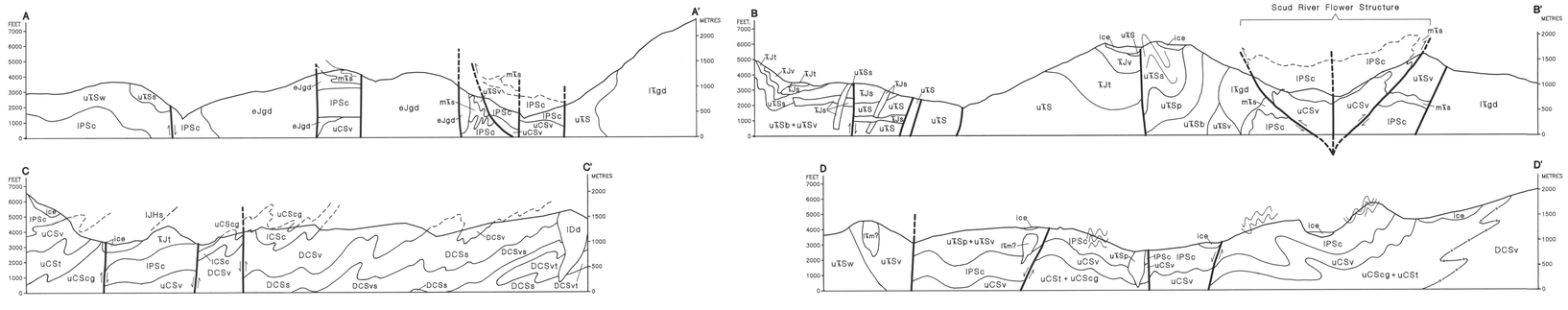
Allen, D.G., Panteleyev, A. and Armstrong, A.T. (1976): Galore Creek in Porphyry Deposits of the Canadian Cordillera, Canadian Institute of Mining and Metallurgy, Special Volume 15, pages 402-414.

Kerr, F.A. (1948): Lower Stikine and Western Iskut River Areas, British Columbia, Geological Survey of Canada, Memoir 246, 95 pages.

Souther, J.G. (1972): Telegraph Creek Map Area, British Columbia, Geological Survey of Canada, Paper 71-44, 38 pages.

Plus unpublished material from A. Panteleyev.

Macro and microfossil identifications provided by E.W. Bamber, M.J. Orchard, Lin Rui and E.T. Tozer of the Geological Survey of Canada and B.L. Mamet of the University of Montreal.



SCHEMATIC CROSS SECTIONS