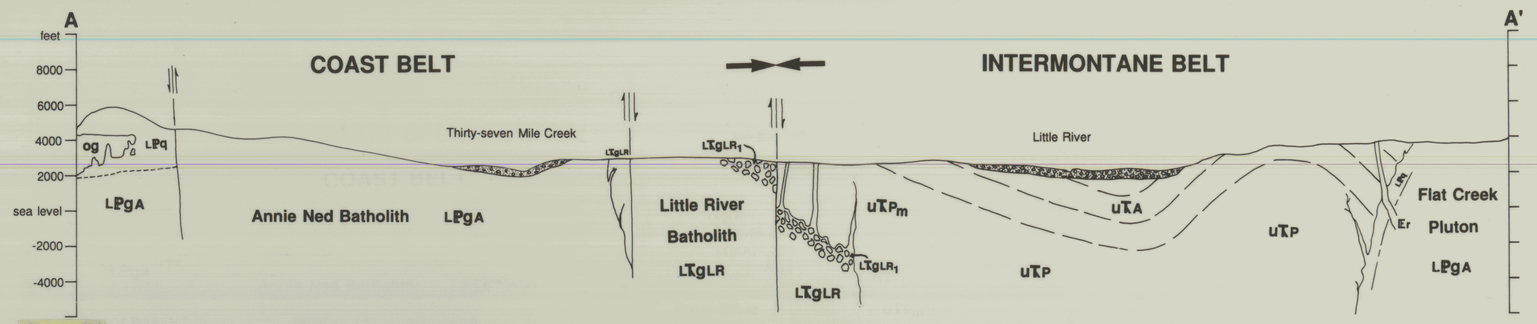
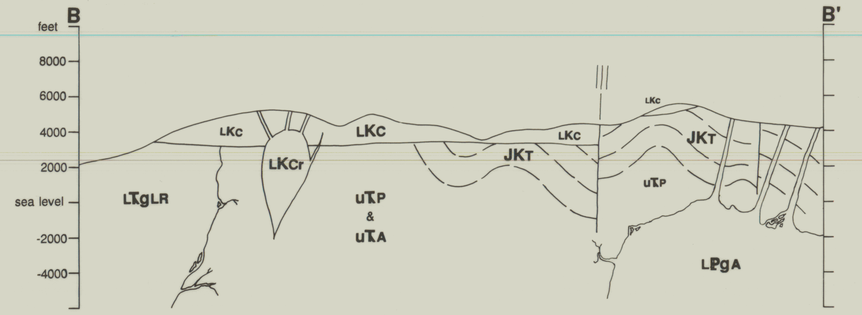
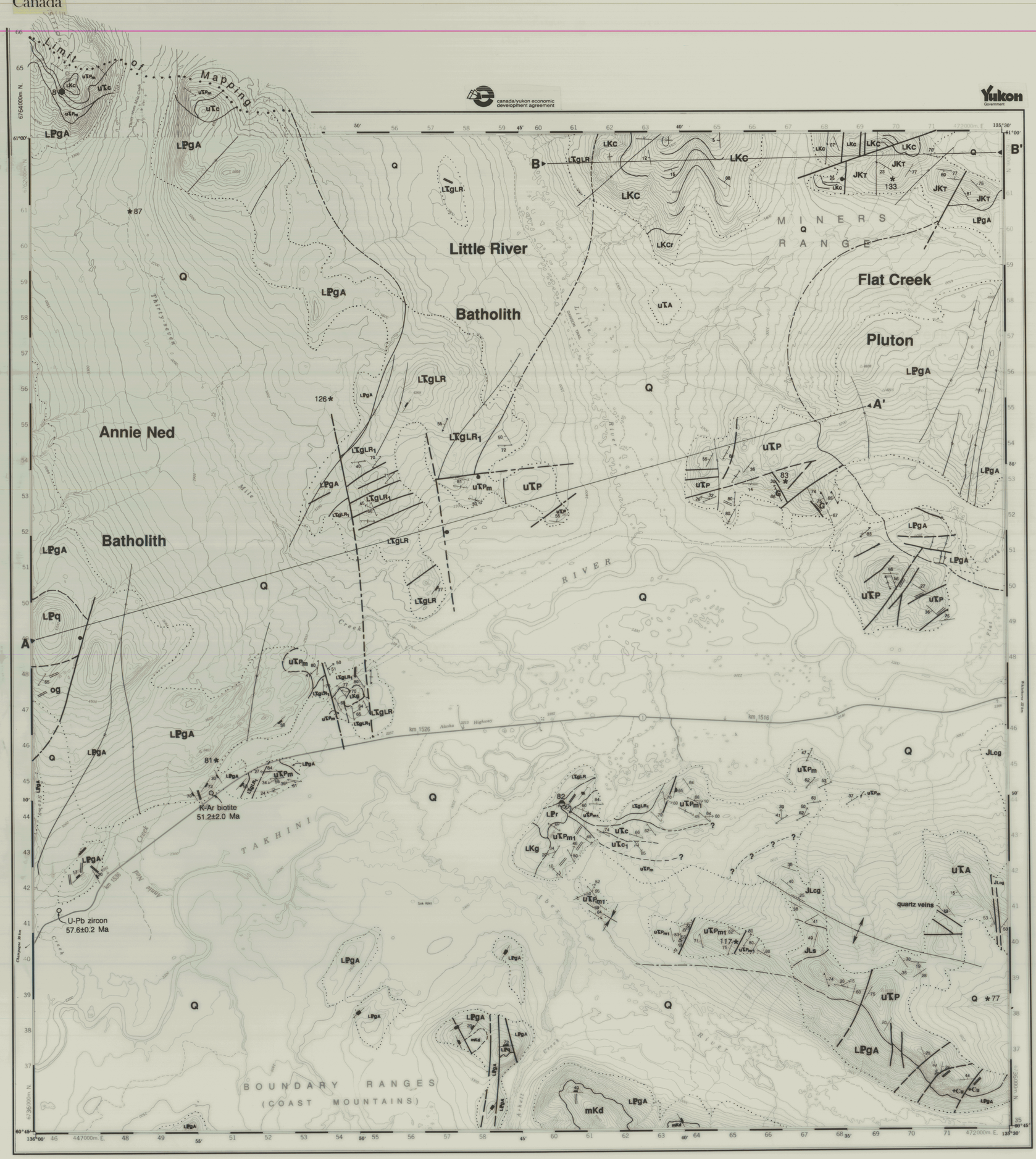



Canada

canada/yukon economic development agreement

Yukon Government




## QUATERNARY

**Q** — Unconsolidated sand, gravel and silt deposits of alluvial, glacial, lacustrine, fluvial and colluvial origin.

## LAYERED ROCKS

### CRETACEOUS
LATE CRETACEOUS

*CARMACKS GROUP*

**LKCr** — Creamy white to buff, brittle, concoidal fractured rhyolite plugs and dykes.

**LKc** — Dark purple-green and grey-green, massive and thickly bedded, well layered, locally brecciated, augite?- and plagioclase-phyric andesite lava flows, lithic tuff and ash flows, with agglomerate and associated epiclastic rocks.

UPPER CRETACEOUS TO UPPER JURASSIC

*TANTALUS FORMATION*

**JKT** — Dark tan and buff weathering, interbedded brown chert-rich sandstone, quartz-siltite, shale, chert-pebble conglomerate and hornfels, with common coally plant fragments and lesser shell fragments.

### JURASSIC
EARLY TO MIDDLE JURASSIC

*LABERGE GROUP*

**JLcg** — Dark rusty weathering, hummocky, thick-bedded to massive, well-rounded, polymictic, clast-supported cobble conglomerate with interbeds of pebbly sandstone and greywacke. Clasts are derived largely from Lewes River Group volcanic and sedimentary rocks, as well as Late Triassic granite bodies.

**JLs** — Dark rusty weathering, grey-green, poorly bedded, medium- to coarse-grained feldspathic sandstone, greywacke, grit and lithic tuffaceous sandstone; locally maroon weathering.

### TRIASSIC
UPPER TRIASSIC

*LEWES RIVER GROUP*
*AKSALA FORMATION*

**uTA** — Poorly bedded, heterolithic volcano-sedimentary assemblage of intercalated agglomerate, greywacke, volcanic flows and breccia, tuff, conglomerate, lithic sandstone and argillite; locally maroon weathering.

*POVOAS FORMATION*

**uTP** — Resistant, massive dark weathering, green to black, fine-grained, locally feldspar-phyric, chloritized basaltic andesite autoclastic flow breccia, pillowed flows, tuff and agglomerate with massive dark green, medium- to coarse-grained augite porphyry basalt.

**uTPm** — ***Takhini Deformation Zone:*** Weakly sheared to intensely foliated and metamorphosed equivalents of Povoas Formation rocks; includes greenschist, chlorite schist, chlorite-augite-feldspar gneiss, amphibolite, amphibole gniess.

**uTPm1** — As described above with light grey weathering, felsic orthogneiss, fine-grained feldspar-quartz-muscovite schist and felsic mylonite as sills in deformed Povoas Formation.

**uTc** — Recessive, light grey weathering, coarsely crystalline, white sheared marble; minor calc-silicate and skarn.

**uTc1** — Recessive, yellow-weathering, coarsly crystalline, massive dolostone; minor calc-silicate.

## INTRUSIVE ROCKS

### TERTIARY
EARLY EOCENE

Brown weathering, resistant, feldspar- and hornblende-phyric andesite dykes. Generally north-trending.

Orange weathering, sucrosic rhyolite and dacite dykes, generally with orange feldspar phenocrysts.

LATE PALEOCENE

*NISLING PLUTONIC SUITE*

**LPgA** — **Annie Ned Granite** (57.6±0.2 Ma, see Armstrong and Ghosh, 1988 and Morrison et al., 1979): Orange and crumbly-weathering, recessive, locally miarolitic, coarse-grained, smoky quartz-eye biotite granite with widely spaced and horizontal joints.

**LPr** — Light orange and grey weathering, flow banded rhyolite with feldspar phenocrysts. Locally contains screens of Little River granodiorite.

**LPq** — Coarse-grained orange feldspar and smoky quartz-eye granite porphyry crowded in a fine-grained felsic matrix.

### CRETACEOUS
LATE CRETACEOUS?

**LKg** — Salmon pink medium-grained, biotite and hornblende quartz monzodiorite.

MID-CRETACEOUS?

**mKd** — Dark grey weathering, resistant, strongly chloritized and locally sericitized, hornblende quartz diorite.

### TRIASSIC
LATE TRIASSIC

**LTgLR** — **Little River Batholith:** Moderately recessive, grey-weathering, coarse-grained hornblende-biotite granite and granodiorite with pink alkali feldspar megacrysts. Some localities are strongly sausseritized or contain notable secondary epidote.

**LTgLR1** — As above with screens and pendants of Lewes River Group volcanic rocks and deformed equivalents.

### AGE UNCERTAIN

**og** — Dark grey weathering, medium-grained, chloritized, cataclastic quartz diorite orthogneiss.

## SYMBOLS

- Limit of outcrop
- Geological boundary (defined, approximate, assumed, covered)
- Bedding (inclined, vertical, horizontal)
- Igneous flow banding (inclined, vertical)
- Pillow lavas
- Flow contacts
- Schistosity, gneissosity, foliation (inclined, vertical)
- Shear band
- Lineation (mineral, stretching, and rodding)
- Joints (inclined, vertical)
- Anticline, syncline
- Minor fold axis
- Fault (defined, approximate, covered; dot on downdropped side)
- Lineament
- Gossan — G
- Cross-section line — A ▸ ◂ A'
- Breccia zone
- Isotopic age determination

## MINERAL OCCURRENCES

| Yukon MINFILE No. | | Name | Deposit Type |
|---|---|---|---|
| 45 | | INGRAM | (actually on 105D/12) |
| 77 | ★ | LARSON | |
| 81 | ★ | STONY | |
| 82 | ★ | FARM | Zn skarn |
| 83 | ★ | WAGON | |
| 87 | ★ | CALVIN | |
| 117 | ★ | TROT | |
| 126 | ★ | THIRTY-SEVEN | |
| 133 | ★ | HYDE | |
| 105E/8 | ● | RUTH | Cu skarn |

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**This map accompanies:** HART, C.J.R. and BRENT, D., 1993. Preliminary geology of the Thirty-seven Mile Creek map sheet (105D/13), southern Yukon Territory. In: Yukon Exploration and Geology 1992. Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 37-46.

**It is recommended that this map be referenced as:** HART, C.J.R., 1993. Preliminary geology map (1:50 000) of Thirty-seven Mile Creek map area, southern Yukon Territory, NTS 105 D/13. Exploration and Geological Services Division, Indian and Northern Affairs Canada, Yukon.

**Acknowledgements:** Discussions with Steve Johnston, Derek Thorkelson and John Dickie have resulted in an improved map. Will vanRanden and Kelly Olson assisted with the final map production.



Indian and Northern Affairs Canada
Exploration and Geological Services Division
Yukon Region



**Open File 1993-4 (G)**


# PRELIMINARY GEOLOGY OF THIRTY-SEVEN MILE CREEK MAP AREA, SOUTHERN YUKON TERRITORY, NTS 105 D/13


Craig J.R. Hart
Canada/Yukon Mineral Development Agreement
Geoscience Office



Copies of this map may be purchased from: Exploration and Geological Services, Indian and Northern Affairs, 200 Range Road, Whitehorse, Yukon, Y1A 3V1.

Roads: Routes:
loose or stabilized surface, all weather ... gravier, agglomiré, toute saison
loose surface, dry weather ... de gravier, temps sec
unclassified road or street ... route non classée ou rue
cart track ... de terre
trail, cut line or portage ... sentier, percée ou portage

THIRTY-SEVEN MILE CREEK
YUKON TERRITORY TERRITOIRE DU YUKON

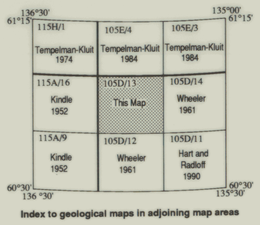
Scale 1:50 000 Échelle

Miles 1 0 1 2 3 Miles
Metres 1000 0 1000 2000 3000 4000 Mètres

CONVERSION SCALE FOR ELEVATIONS ÉCHELLE DE CONVERSION DES ALTITUDES
Metres 30 20 10 0 50 100 150 200 250 300 Mètres
Feet 100 50 0 100 200 300 400 500 600 700 800 900 1000 Pieds

ONE THOUSAND METRE
UNIVERSAL TRANSVERSE MERCATOR GRID
ZONE 8
QUADRILLAGE UNIVERSEL TRANSVERSE DE MERCATOR
DE MILLE MÈTRES

GRID ZONE DESIGNATION DESIGNATION DE LA ZONE DU QUADRILLAGE: 8 V
100 000 m SQUARE IDENTIFICATION IDENTIFICATION DU CARRÉ DE 100 000 m: MC




Index to geological maps in adjoining map areas