



Approximate magnetic declination in 1987 was N29°00' E
and decreasing at an annual change of 14.2°

ALLIGATOR LAKE
YUKON TERRITORY TERRITOIRE DU YUKON

Scale 1:50 000 Échelle
Miles 1 0 1000 2000 3000 4000 Mètres

136°00'				134°30'
60°45'				60°45'
	105D/12	105D/11	105D/10	
	105D/5	105D/6	105D/7	
	105D/4	105D/3	105D/2	
60°00'				60°00'

Index to adjoining maps of the National
Topographical System

LEGEND

QUATERNARY

- R_{mc}** Mile Canyon Basalt
Dark red to brown weathering, columnar jointed flows of amygdaloidal and vesicular basalt
- Q_g** Colluvial Deposits
Locally derived, unconsolidated gravel
- Q_f** Fluvial Deposits
Unconsolidated gravel, silt and sand of fluvial or glaciofluvial origin
- Q_l** Lacustrine Deposits
Unconsolidated sand, silt and varved clay of glacial or glaciolacustrine origin
- Q_y** Glacial Deposits
Unconsolidated, moraine, esker, kame and drift material

TERTIARY

EOCENE

SKUKUM GROUP (49-52Ma)

MOUNT SKUKUM VOLCANIC COMPLEX

- E_{mp}** Rhyolite Feldspar Porphyry
High level, buff weathering, felsic domes, plugs and laccoliths
- E_{ep}** Bennett Lake Ring Dykes
Coarse quartz-feldspar granite porphyry
- E_r** Rhyolite Dykes
Flaggy, orange, rusty orange to white orange, mauve or tan, fine-grained rhyolite; occur as dykes, dyke swarms, and flow domes; composite dykes are common
- T_{gr}** Smokey Quartz-Eye Granite
Orange brown weathering, medium- to coarse-grained smokey quartz eye, quartz-rich granite
- E_{wt}** Welded Felsic Tuff
Dark reddish brown, columnar jointed densely welded tuff; includes unwelded tuff on Vesuvius Hill
- E_{rt}** Rhyolite Tuff
Well-bedded, purple and grey rhyolite tuff and lithic tuff; probably equivalent to E_{rt} or E_{wt}
- E_{lt}** Felsic Pyroclastic Rocks
Massive to well-bedded, pastel coloured slightly altered rhyolite to intermediate tuff, lithic tuff and welded tuff
- E_{mbx}** Felsic Mega Breccia
Intra-Cauldera collapse breccia, composed of very large blocks of flow banded rhyolite (E_{rt})
- E_{rf}** Rhyolite Flows
Flaggy, dark red, purple to grey, white to pale green flow banded, auto-brecciated and spherulitic rhyolite flows
- E_{es}** Epiclastic Tuff and Sediments
Light tan brown well-bedded epiclastic sandstone, siltstone, occurs locally at the base of E_{rt}
- E_{sk}** Skukum Group Undifferentiated
Undifferentiated volcanic rocks
- E_{ab}** Andesite Breccia
Massive, dark green and brown andesite monolithic breccia, composed of andesite porphyry fragments
- E_{af}** Andesite Flows and Tuff
Massive to poorly-bedded dark brown and purple to pale green andesite and andesite porphyry flows and associated tuff
- E_{ad}** Dacite to Andesite Lithic Tuff
Pale green dacite lithic tuff, commonly containing dark reddish brown magnetic clasts of intermediate composition
- E_{so}** Interlayered Epiclastic Rocks
Interlayered epiclastic sediments, bedded tuff, lithic tuff, and a dark pink, densely welded ignimbrite marker
- E_{si}** Tuffs and Epiclastic Rocks
Moderately well-bedded, pastel coloured felsic and altered felsic pyroclastic rocks commonly interbedded with associated grey, green and purple epiclastic rocks
- E_u** Tuffs and Epiclastic Rocks
E_{si} and E_{so} undivided.
- E_{cg}** Conglomerate
Massive, hematitic, clast-supported, cobble and boulder conglomerate, contains locally derived basement fragments
- E_{va}** Felsic Volcanics
Dark vitreous rhyolite and dacite flows and welded tuff, containing granitic fragments; hornfelsed at the contact with E_{rt}, may be of Late Cretaceous age

LATE CRETACEOUS and TERTIARY

- K_{tm}** Pink Quartz Monzonite
Pale pink weathering, medium-grained, quartz-monzonite
- K_{tu}** Perkins Peak Plug
Alaskite-granite with mafic border phase rich in biotite and hornblende
- K_{tr}** Mount McNeil Biotite Granite
Light rusty orange weathering, medium-grained, biotite granite
- K_{tg}** Leucogranite
White weathering, medium-grained, saccharoidal textured, quartz rich granite
- K_v** Felsic to Intermediate Volcanics
Interbedded dark grey vitreous rhyolite flows and lithic tuff, porphyritic andesite flows, tuff and associated epiclastic sediments

CRETACEOUS

- K_{gr}** Folle Mountain Granite
Medium- to coarse-grained biotite granite
- K_{gd}** Grandodiorite
Grey, coarse-grained hornblende granodiorite
- M_{Kgr}** Mount Anderson Granite-Granodiorite
Crumbly weathering biotite, hornblende granite granodiorite
- K_{am}** Boudette Creek Quartz Monzonite
Dark grey weathering, massive, medium- to coarse-grained, smokey quartz-eye biotite hornblende quartz-monzonite

JURASSIC and CRETACEOUS

UPPER JURASSIC

- J_{Kgd}** Wheaton Valley Hornblende Granodiorite
Medium- to coarse-grained foliated, highly fractured and altered hornblende granodiorite

UPPER JURASSIC and CRETACEOUS

TANTALUS FORMATION

- J_{Ktg}** Conglomerate
Massive to thick bedded, resistant, medium grey, chert pebble conglomerate with recessive, poorly indurated, gritty sandstone and quartz sandstone interbedded with dark grey shale and varicoloured well-bedded siliceous shale
- J_{Ktm}** Coal Measures
Recessive weathering highly fractured, high ash and meta-anthracite coal; interbedded with J_{Ktg}
- J_{Kg}** Fenwick Creek Diorite
Fine- to medium-grained, acicular hornblende, biotite diorite, quartz diorite with mafic xenoliths, and minor gabbro

LOWER and MIDDLE JURASSIC

LABERGE GROUP

- J_{lm}** Porphyritic Andesite
Coarse-grained plagioclase porphyritic flows
- J_{ls}** Sedimentary Rocks
Massive to well-bedded, dark grey greywacke, arkose, siliceous siltstone and argillite, immature sandstone and grit; may contain 3 meter bed of limestone or fossiliferous black shale
- J_{lsg}** Conglomerate
Orange-weathering massive to poorly-bedded, clast-supported, well-rounded granitic cobble conglomerate
- J_{ld}** Friday Creek Diorite
Foliated, fine- to medium-grained hornblende and biotite granodiorite, diorite

UPPER TRIASSIC to JURASSIC

- J_{ub}** Pyroxenite
Dark brown, coarse-grained pyroxenite with locally developed serpentine in shears
- J_{ga}** Leuco-Gabbro
Coarse-grained foliated leucogabbro
- J_{gd}** Megacrystic Granite-Granodiorite
Pink potassium feldspar megacrystic granodiorite, commonly with easterly trending mafic dyke swarms
- J_{ba}** Intrusion Breccia ?
Siliceous fragmental breccia of uncertain age

LEWES RIVER GROUP

- U_{lx}** Clastic Rocks
Massive- to medium-bedded, well-indurated, dark grey greywacke and arkose with minor conglomerate, argillite, occasional limy beds, sometimes fossiliferous, massive dark grey, angular, fragmental, monolithic pebble conglomerate and tuff
- U_{lv}** Volcanic Sediments
Purple and green, massive agglomerate, conglomerate, bedded arkose, greywacke and shale, clasts are typically of andesitic feldspar porphyry, chlorite amygdaloidal lavas and associated volcanic sediments; intraformational conglomerate, interbedded amygdaloidal lava flows and a 4 m bed of pale grey to pink limestone and limestone breccia
- U_{lx}** Carbonate
Massive, occasionally fossiliferous, white to buff to light grey weathering limestone and brecciated or sheared marbles
- U_{lv}** Volcanic Rocks
Massive, resistant, altered, dark-green andesitic flow, breccia, tuff, feldspar porphyry and augite porphyry commonly sheared to chlorite or chlorite augen schist or talc schists with secondary epidote or iron-carbonate alteration

TRIASSIC and OLDER ?

- M_v** Mesozoic Volcanics ?
Massive, recessive weathering, dark green, altered and metamorphosed andesite flow, breccia and tuff

PALEOZOIC and OLDER

- P_{gd}** Granodiorite
Foliated hornblende and hornblende-biotite granodiorite, quartz diorite and quartz monzonite
- H_{cs}** Gneiss, Schist
Resistant, slightly rusty weathering, mesocratic, biotite muscovite quartz and feldspar schist, chlorite-rich, biotite-granite gneiss; quartzite and minor quartz mica schist with rare amphibolite bands
- H_c** Marble
Variably sheared massive to thickly-bedded white to dark-grey granular marble

SYMBOLS

- Geological Boundary (defined, approximate, assumed).....
- Bedding (inclined, vertical, dip unknown).....
- Schistosity (inclined, vertical, unknown).....
- Fault (defined, approximate).....
- Fault (solid circles on downthrown side).....
- Thrust Fault (teeth in direction of dip).....
- Mafic Dyke Swarm.....
- Adit or Tunnel (caved).....
- Rock Glacier.....
- Mine or Mineral Prospect.....
- Whole Rock Geochemical Sample Location.....
- Metals Analyses Sample Location.....
- Age Date Determination (millions of years).....

MINERAL OCCURRENCES 105 D/6

YEX Number	Name (Commodity)
35	DAIL (Au, Ag, Te)
36	GOLDREEF (Au, Ag, Te)
37	UNION MINE (Ag, Pb, Zn)
38	MT. BUSH (Coal)
39	LEGAL TENDER (Ag, Pb, Zn)
40	ALLIGATOR (Cu, Mo)
41	WHITEHORSE COAL (Coal)
78	INCO (Cu, Mo)
82	PTARMIGAN (Coal)
83	COAL RIDGE (Coal)
84	BERESFORD (Coal)
116	DAYIR (Cu, Fe, Zn, Ag)
117	BEVIEW (Ag, Pb, Zn)
145	BEAR (Au, Ag)
224	RED RIDGE (Au, Ag, Pb, Cu)
228	SAID/THE (Au, Ag)
259	LUCKY BOY (Cu, Pb)

COMPILATION SOURCES

Cairnes, D. D. 1912:	Wheaton River District, Yukon Territory; Geol. Surv. Can., Mem. 31
Lambert, M. B. 1974:	The Bennett Lake Cauldron Subsidence Complex British Columbia and Yukon Territory; Geol. Surv. Can., Bull. 227
Pride, M. J. 1965:	Preliminary Geological Map of the Mount Skukum Volcanic Complex 105 D/2, 3, 4, 5. Exploration and Geological Services Division, Yukon; Open file 1985
Wheeler, J. O. 1961:	Whitehorse Map Area, Yukon Territory, 105D; Geol. Surv. Can., Mem. 321

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

PRELIMINARY
GEOLOGICAL MAP OF ALLIGATOR LAKE
MAP AREA (105 D/6)

to accompany

OPEN FILE REPORT 1986-2

Geology of Fenwick Creek (105 D/3) and Alligator Lake (105 D/6)
map areas by R.A. Doherty, C.J.R. Hart, J. Hunt and J. Wegenast,
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