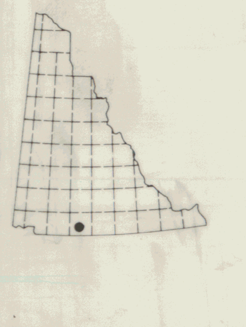
Canada

canada/yukon economic development agreement

Yukon

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 1 2 3 Milles

Metres 1000 0 1000 2000 3000 4000 Mètres

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

Index to adjoining maps of the National Topographical System

LEGEND

QUATERNARY

R_{MC} Miles Canyon Basalt — Dark red to brown weathering, columnar jointed flows of amygdaloidal and vesicular basalt

Q_c 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_g Glacial Deposits — Unconsolidated, moraine, esker, kame and drift material

TERTIARY

EOCENE

SKUKUM GROUP (49-52Ma)

MOUNT SKUKUM VOLCANIC COMPLEX

E_{rfp} Rhyolite Feldspar Porphyry — High level, buff weathering, felsic domes, plugs and laccoliths

E_{qfp} 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

$Ŧ_{gr}$ 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_{rf} 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-Caudera collapse breccia, composed of very large blocks of flow banded rhyolite (E_{rf})

E_{rf} Rhyolite Flows — Flaggy, dark red, purple to grey, white to pale green flow banded, autobreciated and spherulitic rhyolite flows

E_{s3} Epiclastic Tuff and Sediments — Light tan brown well-bedded epiclastic sandstone, siltstone, occurs locally at the base of E_{rf}

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_{an} Andesite Flows and Tuff — Massive to poorly-bedded dark brown and purple to pale green andesite and andesite porphyry flows and associated tuff

E_{dt} Dacite to Andesite Lithic Tuff — Pale green dacite lithic tuff, commonly containing dark reddish brown magnetic clasts of intermediate composition

E_{s2} Interlayered Epiclastic Rocks — Interlayered epiclastic sediments, bedded tuff, lithic tuff, and a dark pink, densly welded ignimbrite marker

E_{s1} 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_s Tuffs and Epiclastic Rocks — Es1 and Es2 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 Erfp, may be of Late Cretaceous age

LATE CRETACEOUS and TERTIARY

KT_{qm} Pink Quartz Monzonite — Pale pink weathering, medium-grained, quartz-monzonite

KT_{al} Perkins Peak Plug — Alaskite-granite with mafic border phase rich in biotite and hornblende

KT_{gr} Mount McNeil Biotite Granite — Light rusty orange weathering, medium-grained, biotite granite

LK_{lg} 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} Granodiorite — Grey, coarse-grained hornblende granodiorite.

MK_{gr} Mount Anderson Granite-Granodiorite — Crumbly weathering biotite, hornblende granite granodiorite

K_{qm} Boudette Creek Quartz Monzonite — Dark grey weathering, massive, medium- to coarse-grained, smokey quartz-eye biotite hornblende quartz-monzonite

JURASSIC and CRETACEOUS

UPPER JURASSIC

JK_{gd} Wheaton Valley Hornblende Granodiorite — Medium- to coarse-grained foliated, highly fractured and altered hornblende granodiorite

UPPER JURASSIC AND CRETACEOUS

TANTALUS FORMATION

JK_{Tcg} 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

JK_{Tcm} Coal Measures — Recessive weathering highly fractured, high ash and meta-anthracite coal; interbedded with JK_{Tcg}

JK_{di} 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_{Lan} 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_{Lcg} Conglomerate — Orange-weathering massive to poorly-bedded, clast-supported, well-rounded granitic cobble conglomerate

J_{di} Friday Creek Diorite — Foliated, fine- to medium-grained hornblende and biotite granodiorite, diorite

UPPER TRIASSIC TO JURASSIC

$Ŧ_{ub}$ Pyroxenite — Dark brown, coarse-grained pyroxenite with locally developed serpentine in shears

$Ŧ_b$ Leuco-Gabbro — Coarse-grained foliated leucogabbro

$Ŧ_{gd}$ Megacrystic Granite-Granodiorite — Pink potassium feldspar megacrystic granodiorite, commonly with easterly trending mafic dyke swarms

$Ŧ_{bx}$ Intrusion Breccia ? — Siliceous fragmental breccia of uncertain age

LEWES RIVER GROUP

$uŦ_{Ls}$ Clastic Rocks — Massive- to medium-bedded, well-indurated, dark grey greywacke and arkose with minor conglomerate, argillite, occasional limey beds, sometimes fossiliferous, massive dark grey, angular, fragmental, monolithic pebble conglomerate and tuff

$uŦ_{Lvs}$ 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

$uŦ_{Lc}$ Carbonate — Massive, occasionally fossiliferous, white to buff to light grey weathering limestone and brecciated or sheared marbles

$Ŧ_{Lv}$ 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_{gdn} Granodiorite — Foliated hornblende and hornblende-biotite granodiorite, quartz diorite and quartz monzonite

$H€_{sn}$ Gneiss, Schist — Resistant, slightly rusty weathering, mesocratic, biotite muscovite quartz and feldspar schist, chlorite-rich, biotite-granite gniess; 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) 58±1

MINERAL OCCURENCES 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	EVIEW (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

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Lambert, M. B. 1974: The Bennett Lake Cauldron Subsidence Complex British Columbia and Yukon Territory; Geol. Surv. Can., Bull. 227

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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 1988-2

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, of Aurum Geological Consultants Inc.

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