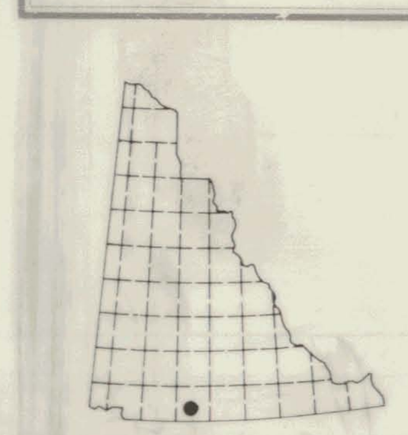
Canada

canada/yukon economic development agreement

Yukon

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



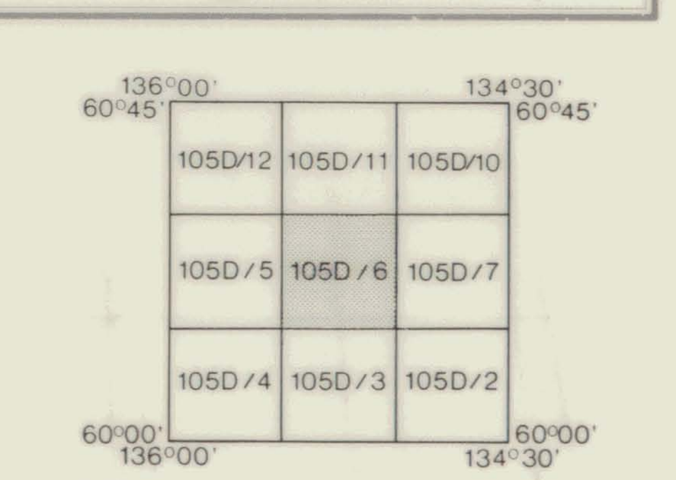
ALLIGATOR LAKE

YUKON TERRITORY TERRITOIRE DU YUKON

Scale 1:50 000 Échelle

Miles 1 0 1 2 3 Miles

Metres 1000 0 1000 2000 3000 4000 Mètres



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
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_{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-Cauldera 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, auto-brecciated 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 E_{S1} and E_{S2} 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_{rfp}, 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}	Grandodiorite 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)........ (A) 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

Pride, M. J. 1985: 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 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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