



LEGEND

TERTIARY

- Tdb: White-weathering, aphanitic to fine-grained, locally fine-bedded **gabbro-diorite porphyry** (defined, approximate, assumed)

CRETACEOUS

ANVIL PLUTONIC SUITE

- mKCb: Grey, resistant, generally medium- to coarse-grained, locally megacrystic, undifferentiated **granite to quartzite**
- mKMa: Major phase - **biotite hornblende granite to granodiorite**. Characterized by phenocrysts of alkali feldspar and white biotite.
- mKOg: Orchard phase - **biotite hornblende granite to granodiorite**
- mKMs: Mount Mye phase - **biotite hornblende granite**. Locally foliated.

TRIASSIC

- Tg: Resistant, massive, polymorphic **conglomerate**. Clasts include quartzite, chert, limestone, and serpentinite. Matrix contains detrital muscovite.
- Tk: Dark grey carbonaceous, locally calcareous **shale or siltstone** interbedded with medium to dark grey, fine-grained **sandstone**.
- Tn: Grey, green, red, or black **gabbro-diorite**
- Ts: Interbedded cherty argillite, chert, sandstone, and mafic greywacke or conglomerate.
- Tm: Massive, dark green, fine-grained to aphanitic **schist**. Occurs within Vangorda Creek fault zone; may be equivalent to Anvil Range Group basalt.

PALEOZOIC

YUKON-TANANA COMPLEX

- PYg: Pale green, tan-weathering, **phyllite to amphibolite**. Locally displays melt-equigranular igneous texture. Locally includes ultramylonitic and/or eclogite (PYgs). Contains lesser beds of medium to dark grey muscovite-quartzite to quartzite schist.
- PYb: Grey to tan, massive **limonite or dolomite**
- PYc: Medium to dark green, **phyllite to amphibolite**. Locally displays melt-equigranular igneous texture. Locally includes ultramylonitic and/or eclogite (PYcs). Contains lesser beds of medium to dark grey muscovite-quartzite to quartzite schist.
- PYd: Granitic **orthogneiss**, locally with felsic augen.
- Pz: **Mafic and ultramafic rocks** of the Vangorda Creek fault zone. Locally extensively sheared and reemplaced. Pz-: serpentinite; Pz-her: hercynite; Pz-edg: edgite; Pz-gab: gabbro; Pz-d: diabase; Pz-b: basalt.

PERMIAN

ANVIL RANGE GROUP

- PARGb: Epithermal, locally hornfelsic, dark green, resistant, massive, poorly foliated **basalt or basaltic andesite**. Contains lesser grey, green, red, and black bedded chert and pale green siliceous sandstone or conglomerate.

PENNSYLVANIAN

MOUNT CHRISTIE FORMATION ?

- PVC: Dark grey, tan-weathering, **phyllite to schist** interbedded with lesser maroon chert and argillite, especially near top of unit. Also contains minor black bedded chert, black chert nodules, conglomerate, siltstone, limestone and argillite. May be broadly similar to and lithologically equivalent to Mount Christie Formation.

DEVONIAN-PENNSYLVANIAN

UNDIVIDED MOUNT CHRISTIE FORMATION and EARN GROUP

- DPACb: Dark grey to black, pale green, and maroon, noncalcareous **argillite and bedded chert** with lesser grey siltstone, sandstone, chert pebbles, conglomerate, and limestone.

DEVONIAN-MISSISSIPPIAN

EARN GROUP

- DME: Dark grey to black, noncalcareous, siliceous **argillite and bedded chert** with lesser grey siltstone, sandstone, chert pebbles, conglomerate, and primarily bedded limestone.
- DMea: Silty, orange-weathering, **bedded phyllite chert** with light grey **bedded beds**.
- DMei: Pale green, noncalcareous **argillite and bedded chert** with lesser pale green shale and siltstone, medium to dark grey sandstone, and grey to green chert pebbles conglomerate. Locally contains maroon argillite and bedded chert, especially near bottom and top of unit.

ORDOVICIAN-DEVONIAN

UNDIVIDED ROAD RIVER GROUP

- ODRRb: Dark grey, tan-weathering, **bedded phyllite chert** with light grey **bedded beds**.
- ODRPa: Pale green, noncalcareous **argillite and bedded chert** with lesser pale green shale and siltstone, medium to dark grey sandstone, and grey to green chert pebbles conglomerate. Locally contains maroon argillite and bedded chert, especially near bottom and top of unit.

QUARTZ ARENITE and DOLOSTONE

- ODa: Massive, medium-grained, **quartz arenite** interbedded with pale tan-weathering limestone or dolomite. Interbedded with units OSMCb, ODRRb, and OSMCa.

ORDOVICIAN-SILURIAN

ROAD RIVER GROUP

STEEL FORMATION

- Ss: Tan- to orange-weathering, diatomitic, bioturbated, **shaly mudstone**. Not differentiated southwest of the Anvil faultline.

DUO LAKE FORMATION

- OSL: Dark grey to black, **greasy shale argillite**. Contains lesser medium to pale grey siltstone and fine sandstone, medium grey limestone, and basalt flows.

MENZIE CREEK FORMATION

- OSMc: Undivided dark grey green, **bedded basalt**. Includes massive and pillowed, locally amygdaloidal flows and tuffaceous or monolithic breccias with lesser limestone, argillite, and silt. Interbedded with undivided Road River Group (ODRRb), Duo Lake Formation (OSL), and Vangorda Formation (COVg).
- OSMcb: Dark grey green, locally amygdaloidal, **bedded basalt** with minor monolithic basalt breccia, volcanoclastic sandstone, siltstone, and silt. Interbedded with undivided Road River Group (ODRRb), Duo Lake Formation (OSL), and Vangorda Formation (COVg).
- OSMcg: Dark grey green, monolithic **basalt** locally with lesser volcanoclastic sandstone, siltstone and silt, and massive and pillowed flows. Interbedded with undivided Road River Group (ODRRb), Duo Lake Formation (OSL), and Vangorda Formation (COVg).
- OSMca: Grey to off-white **limonite** locally interbedded with orange-weathering **dolomite**.
- OSMcb: Dark green, locally magnetic, coarse- to fine-grained, massive to foliated **gabbro**. Subvolcanic dikes and sills to Menzies Creek basalt (OSMcb) in Vangorda (COVg) and Mount Mye (UPCMm) formations. Enclosing phyllites locally display thin contact metamorphic aureoles.
- OSMca: Dark green, locally magnetic, coarse-grained, massive to foliated, variably serpentinized **gabbro**. Subvolcanic dikes and sills to Menzies Creek basalt (OSMcb) in Vangorda (COVg) and Mount Mye (UPCMm) formations. Enclosing phyllites locally display thin contact metamorphic aureoles.

CAMBRIAN-ORDOVICIAN

VANGORDA FORMATION

- COVg: Dark grey green, **calcareous phyllite** with lesser medium crystalline grey marble (COVg), dark grey to black phyllite (COVg), and dark green gabbro dikes and sills (OSMcb). Contains lesser beds of calc-siltstone (COVg). Regionally correlated with Rubellite Formation.
- COVb: Pale green and dark purple brown, **finely bedded calc-siltstone** with lesser black schist (COVb), marble (COVb), and dark green gabbro dikes and sills (OSMcb). Amphibolite facies equivalent of calcareous phyllite (COVg). Regionally correlated with Rubellite Formation.
- COVc: Black, locally calcareous, **calcareous phyllite or schist**. Commonly contains thin quartzite and/or quartz. Interbedded with dark green gabbro dikes and sills (OSMcb).
- COVd: Pale to dark grey, foliated **limonite to marble**.

UPPER PROTEROZOIC-CAMBRIAN

MOUNT MYE FORMATION

- UPCMm: Brownish grey, metamorphic, pervasively foliated **amphibolite**. Locally indistinctly bedded. Contains minor siltstone, limonite-marble, calc-siltstone, and calcareous phyllite beds and dark green gabbro dikes and sills. Regionally correlated with Duo Lake Formation.
- UPCMb: Brownish grey, metamorphic, pervasively foliated **amphibolite**. May contain staurolite, garnet, and/or kyanite. Locally indistinctly bedded. Contains minor siltstone, limonite-marble, calc-siltstone, and calcareous phyllite beds and dark green gabbro dikes and sills. Locally correlated with Duo Lake Formation.
- UPCMc: Interbedded pale green **calc-siltstone** and purple brown biotite phyllite. Contains thin, medium to dark grey marble and siliceous marble beds and dark green gabbro dikes and sills. Lithologically similar to Vangorda Formation.
- UPCMd: Dark to pale grey, medium crystalline **gabbro**. Typically contains abundant boudins of calc-siltstone and/or quartz. Locally contains coarse crystalline gabbro-gneiss stam.
- UPCMe: **Black phyllite to schist**. Locally contains lenses and beds of black carbonaceous limonite and dark green gabbro dikes and sills.

RECOMMENDED CITATION

Piggie, Lee, C. 2000. Geological map of Swim Lakes (NTS 105K/2 W), central Yukon (1:25 000 scale). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 2000-6.

Digital cartography and drafting by Lee C. Piggie, Yukon Geology Program.

Any revisions or additional geological information known to the user would be welcomed by the Yukon Geology Program.

Copies of this map, the accompanying report and Yukon Millfile may be purchased from the Geoscience Information and Sales, c/o Whitehorse Mining Recorder, Indian and Northern Affairs Canada, Room 302-309 Main St., Whitehorse, Yukon, Y1A 2E5. Ph. 867-667-3266, Fax. 867-667-3267.

Keep this map in a dark area to keep colours from fading.

COMPILED SOURCES

- Indian and Northern Affairs Canada, Exploration and Geological Services Division, Yukon Region
- Open File 2000-6
- Geological Map of Swim Lakes (NTS 105K/2 W), Central Yukon (1:25 000 scale)
- compiled by Lee C. Piggie, Yukon Geology Program

SYMBOLS

Geological contact (defined, approximate, assumed).....

Fault or vein-fault, displacement unknown (defined, approximate, assumed).....

Thrust fault (defined, approximate, assumed, teeth on hanging wall).....

Normal fault (defined, approximate, assumed, teeth on downthrow side).....

Strike-slip fault (defined, approximate, assumed).....

Fold surface (defined, approximate, assumed, overturned anticline, syncline).....

Metamorphic boundary (symbol on higher grade side).....

Bedding (top not known).....

Foliation (one tick indicates earliest phase of deformation, two or more indicates subsequent phase(s) of deformation).....

Foliation (phase of deformation unknown).....

Lineation (one arrow indicates earliest phase of deformation, two or more indicates subsequent phase(s) of deformation).....

Joint.....

Igneous compositional banding.....

Igneous mineral lining.....

Fault plane orientation, shear band (C-bands) orientation.....

Shear band plane of flattening (S-bands).....

Mineral lineation/voiding associated with shear bands.....

Apparent dip of measured bedding, foliation (in cross-section).....

Foliation form lines in cross-section.....

Limit of outcrop, subcrop.....

Projection to surface of mineral resource.....

Limit of mapping.....

Igneous age determination sample location and age (includes radiometric age, 2 sigma error, and sample number).....

Fossil sample, includes sample number and reference.....

Geochronological sample-whole rock with major oxides, minor and trace elements. Includes assay number and reference.....

Survey control station with station name and elevation (in metres).....

Diamond drill hole collar (overburden depth total depth) in metres.....

Rotary drill hole collar (overburden depth total depth) in metres.....

Field station.....

Trench.....

Line of cross-section.....

MINERAL OCCURRENCES
Yukon MINIFILE (1997)

105K 23	★	GREEN VALLEY	Exploration Target
105K 24	★	HOLLY	Exploration Target
105K 25	★	ORCHAY	Exploration Target
105K 26	★	SOCK	Exploration Target
105K 27	★	BLIND	Exploration Target
105K 28	★	BLIND	Exploration Target
105K 29	★	BLIND	Exploration Target
105K 30	★	NASTY	Exploration Target
105K 41	★	ABRAHAM	Exploration Target
105K 42	★	SEA	Soxide
105K 43	★	SB	Soxide
105K 44	★	BLACKWOOD	Exploration target
105K 45	★	BEA	Exploration target
105K 88	★	SIROLA	Exploration target
105K 93	★	PARLIAMENT	Exploration target
105K 100	★	MOR	Exploration target

ISOTOPIC AGE DATES

Sample	Date	System	Mineral	Comments	Ref
PE85-25-1	246 ± 14 Ma	Rb-Sr	zircon	metamorphic cooling age	(3)
PE85-25-1	256 ± 19 Ma	K-Ar	muscovite	metamorphic cooling age	(3)
PE85-25-1	273 ± 3 Ma	K-Ar	muscovite	metamorphic cooling age	(4)
PE85-25-2	207 ± 16 Ma	K-Ar	muscovite	metamorphic cooling age	(3)
PE85-25-2	243 ± 12 Ma	Rb-Sr	zircon	metamorphic cooling age	(3)
PE85-25-2	246 ± 9 Ma	Rb-Sr	zircon	metamorphic cooling age	(3)
PE85-10-1	207 ± 3 Ma	K-Ar	zircon	metamorphic cooling age	(4)

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