

LEGEND

TERTIARY

- Top White-weathering, aphanitic to fine-grained, locally flow-banded quartz-feldspar porphyry
mKUa Grey, resistant, generally medium- to coarse-grained, locally megacrystic, undifferentiated granite to granodiorite
mKM2a Marble phase - biotite + hornblende granite to granodiorite. Characterized by phenocrysts of smoky grey quartz and white feldspar.
mKO2a Orchay phase - biotite + hornblende granite to granodiorite.
mKMMa Mount Mye phase - biotite-muscovite granite. Locally foliated.

CRETACEOUS

- ANVIL PLUTONIC SUITE
T1a Resistant, massive, polygenic conglomerate. Clasts include quartzite, chert, limestone, and serpentine. Matrix contains detrital muscovite.
T1b Dark grey carbonaceous, locally calcareous shale or siltstone interbedded with medium to dark grey, fine-grained limestone.
T1c Grey, green, red, or black bedded chert.
T1d Interbedded cherty argillite, chert, sandstone, and mafic graywacke or conglomerate.
T1e Massive, dark green, fine-grained to aphanitic basalt. Occurs within Vangorda Creek fault zone; may be equivalent to Anvil Range Group basalt.

PALEOZOIC

- YUKON-TANANA COMPLEX
PYa Medium to dark grey, locally gritty, muscovite meta-quartzite to quartzose schist. Contains bands of graywacke, gabbro, phyllite. Rarely contains eclogite lenses.
PYb Grey to tan, massive limestone or dolostone.
PYc Medium to dark olive green, phyllite to amphibolite. Locally displays relict equigranular igneous texture. Locally includes ultramafic and/or eclogite (PYgr). Contains lesser beds of medium to dark grey muscovite quartzite to quartzose schist.
PYog Granitic orthogneiss, locally with feldspar augen.
PZ Mafic and ultramafic rocks of the Vangorda Creek fault zone. Locally extensively sheared and serpentinitized. Also contains minor black bedded chert, black chert pebble conglomerate, siltstone, limestone and argillite. May be broadly similar to lithologically equivalent to Mount Christie Formation.
PZa - serpentinite; PZb - harzburgite; PZc - eclogite; PZd - gabbro; PZe - diabase; PZf - basalt.
PERMIAN
ANVIL RANGE GROUP
PARGa Epitaxial, locally hematitic, dark green, resistant, massive, poorly foliated basalt or basaltic tuff. Contains lesser grey, green, red, and black bedded chert and pale green epivolcanic sandstone or conglomerate.

PENNSYLVANIAN

- MOUNT CHRISTIE FORMATION?
PMC Pale green, tan-weathering, bedded phyllite chert interbedded with lesser maroon chert and argillite, especially near top of unit. Also contains minor black bedded chert, black chert pebble conglomerate, siltstone, limestone and argillite. May be broadly similar to lithologically equivalent to Mount Christie Formation.

DEVONIAN-PENNSYLVANIAN

- UNDIVIDED MOUNT CHRISTIE FORMATION and EARN GROUP
DPMCE Dark grey to black, pale green, and maroon, noncalcareous argillite and bedded chert with lesser grey siltstone, sandstone, chert pebble conglomerate, and limestone.

DEVONIAN-MISSISSIPPIAN

- EARN GROUP
DME Dark grey to black, noncalcareous, siliceous argillite and bedded chert with lesser grey siltstone, sandstone, chert pebble conglomerate, and rhythmically bedded limestone.
DMEa Silvery cream, tan-weathering, bedded phyllite chert with light grey barite beds.
DMEb Pale green, noncalcareous argillite and bedded chert with lesser pale green shale chip and siltstone breccia, medium to dark grey sandstone, and grey to green chert pebble conglomerate. Locally contains maroon argillite and bedded chert, especially near bottom and top of unit.
DMEc Dark grey to black, noncalcareous, siliceous argillite and bedded chert with lesser grey siltstone, sandstone, chert pebble conglomerate, and rhythmically bedded limestone.

ORDOVICIAN-DEVONIAN

- UNDIVIDED ROAD RIVER GROUP
ODRRL Dark grey to black argillite with lesser medium to pale grey siltstone and fine sandstone, medium grey limestone, and basalt flows. Upper part of unit locally contains middle Devonian limestone beds with 2-hole circular macrofossils. Includes Duo Lake Formation and unnamed Devonian sedimentary rocks. Steel Formation is not present.
QUARTZ ARENITE and DOLOSTONE
ODQ Dark grey to black, noncalcareous, siliceous argillite and bedded chert with lesser grey siltstone, sandstone, chert pebble conglomerate, and rhythmically bedded limestone.
ODQa Massive, medium-grained, quartz arenite interbedded with pale tan-weathering limestone or dolostone. Interbedded with units OSDL, ODRRL, and OSMCg.

ORDOVICIAN-SILURIAN

- ROAD RIVER GROUP
STEEL FORMATION
SS Tan to orange-weathering, dolomitic, bioturbated, gilly mudstone. Not differentiated southwest of the Anvil Batholith.
DUO LAKE FORMATION
OSDL Dark grey to black, argillitic argillite. Contains lesser medium to pale grey siltstone and fine sandstone, medium grey limestone, and basalt flows.

MENZIE CREEK FORMATION

- OSMCa Undivided dark grey green, foliated basalt. Includes massive and pillowed, locally amygdaloidal flows and breccias with lesser limestone, argillite, and tuff. Interbedded with undivided Road River Group (ODRRL), Duo Lake Formation (OSDL, ODQ), and Vangorda formation (COV).
OSMCb Dark grey green, locally amygdaloidal, massive and pillowed basalt with minor monolithic basalt breccia, volcaniclastic sandstone, siltstone, and tuff. Interbedded with undivided Road River Group (ODRRL), Duo Lake Formation (OSDL, ODQ), and Vangorda formation (COV).
OSMCc Dark grey green, monolithic basalt breccia with lesser volcaniclastic sandstone, siltstone and tuff, and massive and pillowed flows. Interbedded with undivided Road River Group (ODRRL), Duo Lake Formation (OSDL, ODQ), and Vangorda formation (COV).
OSMCd Grey to off-white limestone locally interbedded with orange-weathering dolostone.
OSMCE Dark green, locally magnetic, coarse- to fine-grained, massive to foliated gabbro. Subvolcanic dykes and sills to Menzies Creek basalts (OSMCb) in Vangorda (COV) and Mount Mye (mKMM) formations. Enclosing phyllites locally display thin contact metamorphic aureoles.
OSMCEa Dark green, locally magnetic, coarse-grained, massive to foliated, variably serpentinitized gabbro. Subvolcanic dykes and sills to Menzies Creek basalts (OSMCb) in Vangorda (COV) and Mount Mye (mKMM) formations. Enclosing phyllites locally display thin contact metamorphic aureoles.

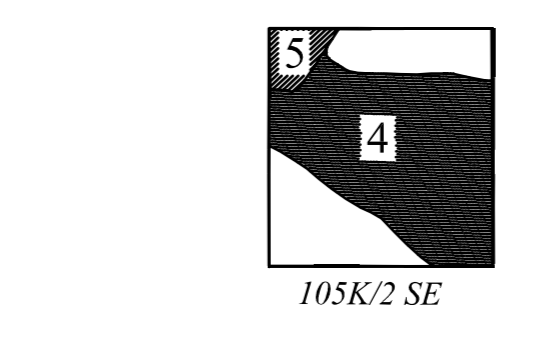
CAMBRIAN-ORDOVICIAN

- VANGORDA FORMATION
COV2a Soft, silvery grey, calcareous phyllite with lesser medium crystalline grey marble (COV1), dark grey to black phyllite (COVb), and dark green gabbro sills and dykes (OSMCg). Greenish facies equivalent of calc-silicate (COV2c). Regionally correlated with Rabbitkettle Formation.
COV2b Pale green and dark purplish brown, thinly bedded calc-silicate with lesser black schist (COV1), marble (COVb), and dark green gabbro dykes and sills (OSMCg). Amphibolite facies equivalent of calcareous phyllite (COV2a). Regionally correlated with Rabbitkettle Formation.
COV2c Black, locally calcareous, carbonaceous phyllite or schist. Commonly contains thin quartzose siltstone interbeds. Interbedded with dark green gabbro dykes and sills (OSMCg).
COV1 Pale to dark grey, foliated limestone to marble.

UPPER PROTEROZOIC-CAMBRIAN

- MOUNT MYE FORMATION
mKMMa Brownish grey, noncalcareous, pervasively foliated phyllite. Locally indistinctly bedded. Contains minor siltstone, limestone/marble, calc-silicate, and carbonaceous phyllite beds and dark green gabbro dykes and sills. Regionally correlated with Gull Lake Formation.
mKMMb Brownish grey, noncalcareous, pervasively foliated muscovite-biotite schist. May contain staurolite, garnet, and/or kyanite. Locally indistinctly bedded. Contains minor siltstone, limestone/marble, calc-silicate, and carbonaceous phyllite beds and dark green gabbro dykes and sills. Regionally correlated with Gull Lake Formation.
mKMMc Interbedded pale green calc-silicate and purplish brown biotite phyllite. Contains thin, medium to dark grey marble and silicified marble beds and dark green gabbro dykes and sills. Lithologically similar to Vangorda calc-silicate.
mKMMd Dark to pale grey, medium crystalline marble. Typically contains abundant boudins of calc-silicate and/or quartz. Locally contains coarsely crystalline garnet-pyroxene skarn.
mKMMe Black phyllite to schist. Locally contains lenses and beds of black carbonaceous limestone and dark green gabbro dykes and sills.

COMPILATION SOURCES



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, dot on downthrown side)
Strike-slip fault (defined, approximate, assumed)
Fold surface axial trace (upright anticline, syncline, overturned anticline, syncline)
Metamorphic boundary (symbol on higher grade side)
Bedding (tops 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 lineation
Fault plane orientation, shear band (C-bands) orientation
Shear band plane of flattening (S bands)
Mineral lineation/rodding associated with shear bands
Apparent dip of measured bedding, foliation (in cross-section)
Limit of outcrop, subcrop
Projection to surface of mineral resource
Limit of mapping
Isotopic age determination sample location and age (includes radiometric age, 2 sigma error, and sample number)
Fossil sample, includes sample number and reference
Geochemical 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 MINFILE (1997)
Table with columns: Sample ID, Mineral, Occurrence Type. Includes entries for 105K 4 (PEN), 105K 5 (DEJAY), 105K 7 (CITATION), and 105K 107 (WEDEKIND).

ISOTOPIC AGE DATES
Table with columns: Sample, Date, System, Mineral, Comments, Ref. Includes entry for AR14 (99 ± 2.5 Ma, Rb-Sr, 3 point isochron, intrusion cooling age).

- REFERENCES
1) Eccles, L. 1979. Unpublished Assessment Report # 091203. Mineral Resources Directorate, Yukon, Indian and Northern Affairs Canada.
2) Gordon, S.P., 1990. Geology of Tenas Creek (105K/1), Swim Lakes (105K/2), and Faro (105K/3) map areas, Yukon Territory. Geological Survey of Canada, Open File 2249 (1:50 000 scale).
3) Gordon, S.P. and Irwin, S.E.B., 1987. Geology, Shelton Lake and Tay River map areas, Yukon Territory. Geological Survey of Canada, Map 19-1987 (3 sheets, 1:250 000 scale).
4) Jennings, D.S., Allon, G.A., Hanson, D.J., and Franzen, J.P., 1978. Geology Anvil District Map Area. Unpublished Cyprus Anvil Mining Corporation internal company report (1:50 000 scale).
5) Jennings, D.S., Allon, G.A., Hanson, D.J., and Franzen, J.P., 1978. Geology Anvil District Map Area. Unpublished Cyprus Anvil Mining Corporation internal company report (1:50 000 scale).
6) Pigage, L.C. In preparation. Final report, bedrock geology, Anvil District.
7) Pigage, L.C. and Anderson, R.G., 1985. The Anvil plutonic suite, Faro, Yukon Territory. Canadian Journal of Earth Sciences, v. 22, p. 1204-1216.
8) Tappan-Hall, D.J., 1972. Geology and origin of the Faro, Vangorda, and Selkirk concordant zinc-lead deposits, central Yukon Territory. Geological Survey of Canada, Bulletin 208, 73 p.
9) Yukon Minfile, 1997. Tay River, NTS 106K. Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada. Also available from Hypertexon Productions, Whitehorse, Yukon.

RECOMMENDED CITATION

Pigage, Lee C., 2000. Geological map of Swim Lakes (NTS 105K/2 SE), central Yukon (1:25 000 scale). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 2000-4.

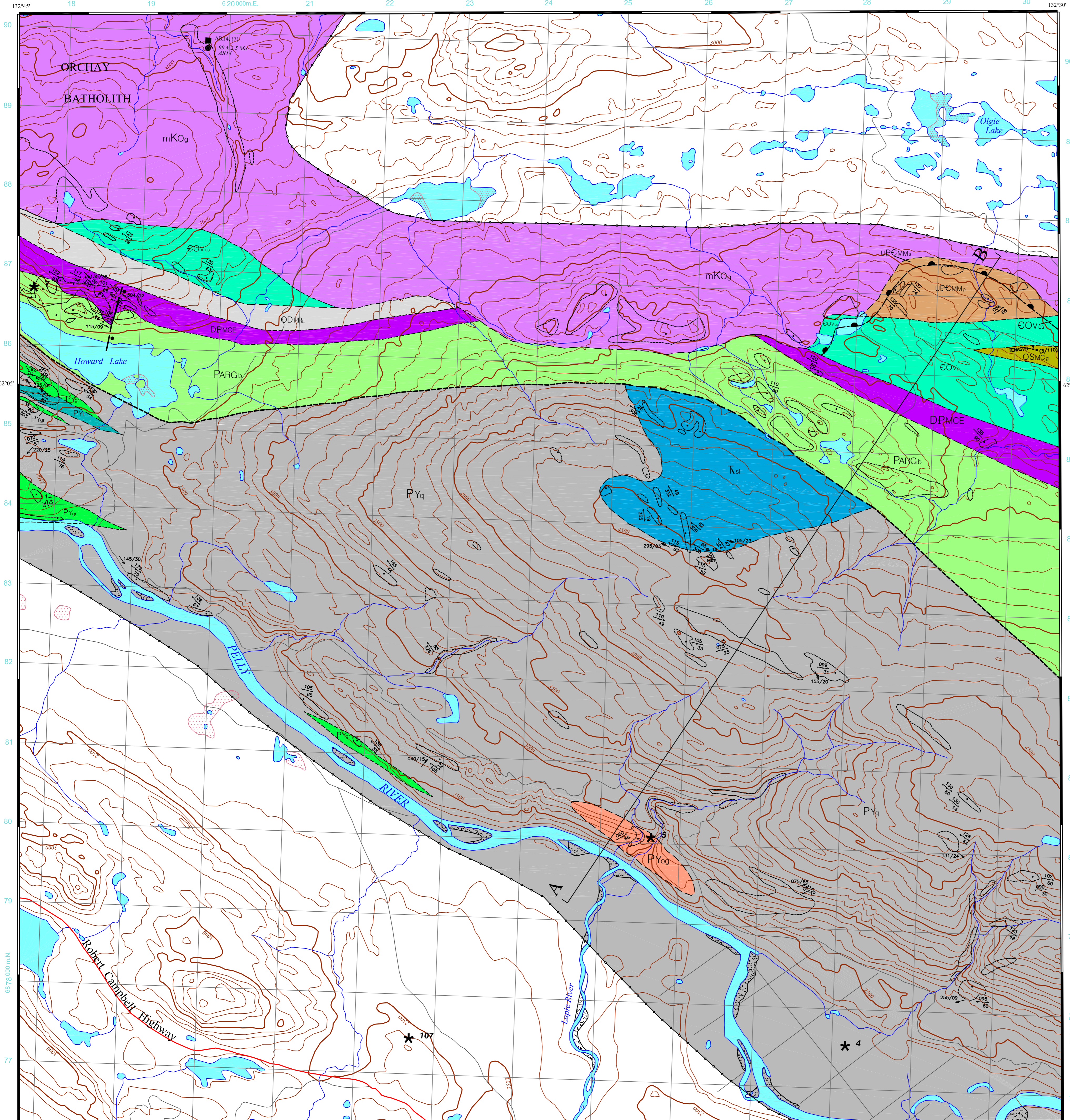
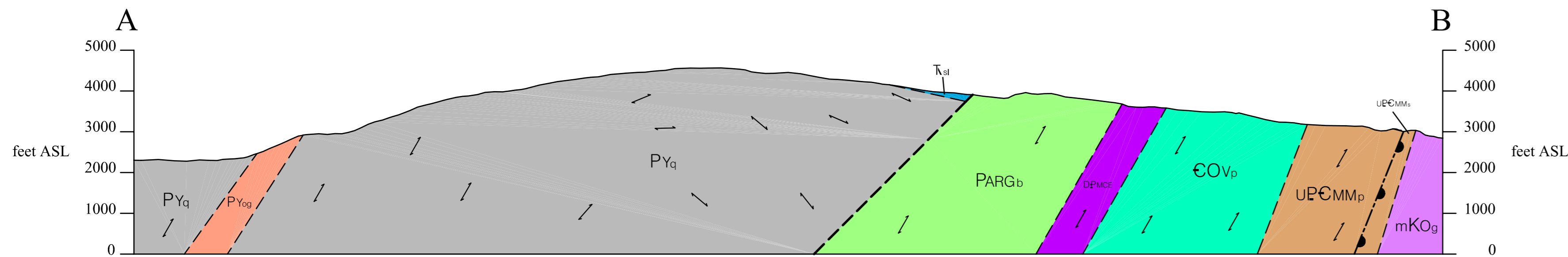
Digital cartography and drafting by Lee C. Pigage, Yukon Geology Program.

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

Open File 2000-4
Geological Map of Swim Lakes (NTS 105K/2 SE), Central Yukon (1:25 000 scale)

compiled by
Lee C. Pigage
Yukon Geology Program



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