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GEOLOGICAL SURVEY OF CANADA | COMMISSION GÉOLOGIQUE DU CANADA

TECTONIC SETTING

This map is one of a set of two 1:250 000 scale maps and an accompanying sheet of cross-sections that describe the geological framework of some 22 975 km² of east-central Yukon (see inset and index maps). A detailed map of part of the area (central 105-K and 105-J) is published separately at 1:100 000 scale (Map 2150A).

Much of Sheldon Lake and Tay River areas (NTS105-J,-K) northeast of Tintina Fault is underlain by uppermost Proterozoic and Lower Paleozoic basinal strata (Selwyn Basin) that formed in a re-entrant within shallow-water carbonate and clastic strata (Mackenzie Platform) along the outer margin of ancestral North America. The oldest exposed strata consist of latest Proterozoic to Cambrian turbiditic quartz sandstone (unit PY) and micaceous slate (unit PCHy), (more than 2500 m thick) succeeded by local Cambrian shale (unit CG) (up to 700 m), capped by a widespread Cambro-Ordovician basinal limestone and siltstone (unit COH) (300 m). A starved sequence of shale, chert, and siltstone (unit OSh; lowermost Dr) (450 m) with local volcanic rocks (unit OM) was deposited during the Ordovician to Middle Devonian. Regional sub-Upper Cambrian (unit COH) and other local unconformities suggest intermittent extension and syndepositional faulting. In the Silurian and Devonian the basin was flanked on the southwest by shallow-water carbonate and clastic units of McEvoy Platform (units SDc, Ssp) (more than 300 m). Large stratiform zinc-lead deposits are known in Early Cambrian (Faro) and Early Silurian (Howards Pass, to east of area) strata.

In the Late Devonian, turbiditic quartz-chert sandstone, and chert-pebble conglomerate were deposited in submarine fan complexes as shale deposition transgressed far northeastward onto the ancestral margin (units DME, MC, DMm and DP). The coarse clastic units, perhaps 1200 m in aggregate thickness, were derived from elevated fault blocks of Selwyn Basin strata to the north and west, including latest Proterozoic gritty quartzose clastic rocks and Ordovician-Silurian chert. An extensional or transtensional event is indicated by an absence of compressional deformation, local felsic volcanism (unit Mv), and widespread stratiform barite (± lead-zinc) occurrences (e.g, Tom, Jason to east of area). A regional unconformity occurs beneath upper Upper Devonian strata (unit DMP).

Succeeding Lower Mississippian and Triassic carbonate and siliciclastic sedimentary rocks separated by Carboniferous to Permian chert and shale (units MT, CPMC, and TJ) (total 1700 m) were likely deposited on a silty to muddy, at times euxinic, shallow-marine shelf. A regional unconformity occurs beneath Middle to Upper Triassic (unit TJ), and possibly beneath Upper Mississippian strata (unit CPMC).

Rare Lower Cretaceous chert-bearing clastic rocks (unit KBT) (more than 120 m), the first signal of Jura-Cretaceous orogenic uplift to the west, disconformably overlie Upper Triassic strata.

Ancestral margin strata southwest of Tintina Fault comprise two distinct successions separated by the northwest-trending St. Cyr Fault. On the southwest, the Pelly Mountains assemblage (3500 m) consists of relatively deep-water, late Proterozoic to Silurian fine clastic and carbonate strata (units PCp, COsl, OSt) succeeded by shallow-water, Siluro-Devonian carbonate and clastic rocks (units Sst, SDdq; Canadian Platform). In turn overlain by Devono-Mississippian shale and chert-bearing sandstone (unit DMs). The Devono-Mississippian strata are analogous in tectonic affinity to the Earn Group (unit DME) northeast of Tintina Fault. To the south of Tay River map area the succession includes felsic volcanic rocks that host volcanogenic massive-sulphide occurrences (e.g, Wolf). Unconformities occur at the base of the Lower Silurian (unit Sst) and upper Upper Devonian (unit DMs). In the narrow belt between St. Cyr and Tintina faults, the St. Cyr assemblage (more than 1500 m) differs from the Pelly Mountains assemblage in the lack of Paleozoic shallow-water clastic or carbonate strata, as well as in the presence of a unique and enigmatic unit of Late Devonian limestone-rhyolite (unit DMcsl). Cambro-Ordovician to Devonian strata consist chiefly of fine-grained pelitic (unit ODsl) and carbonate (unit COc) rocks of probable deep-water origin. Southwest of Carbonferous to Triassic strata include chert (unit Mt), siltstone, carbonate, and shale (units DMs, Csl, uTsc) that resemble equivalent strata in adjacent regions southwest of St. Cyr Fault.

In the Early Cretaceous, northeast-southwest compression led to northwest-trending, regional scale folds, and extensive, shallow-dipping thrust faults. Incompetent Ordovician to Devonian shale and chert are complexly deformed above a regional, flat-lying, buried detachment (see cross-sections, sheet 3). Shortening in Cambro-Ordovician to Devonian strata is at least 50%, indicating that the paleogeographic width of the Selwyn Basin was twice as much as is currently represented. Folds and faults ultimately root in a basal detachment that extends beneath the region and across the entire deformed belt. Upper Paleozoic oceanic rocks of the Slide Mountain terrane (unit CPs), and metasedimentary rocks of the Yukon-Tanana terrane (unit CTy), were emplaced as thrust sheets during this deformation. Deformation is bracketed as younger than affected Early Cretaceous strata (unit KBT), and older than intrusion of the mid-Cretaceous Selwyn Plutonic Suite (unit KS) and eruption of dacitic pyroclastic rocks of the coeval South Fork volcanics (unit KSF). The plutons are regionally associated with tungsten-copper skarn (e.g, Mactung) and base-metal vein occurrences. The volcanic rocks are notably barren.

Cretaceous-Tertiary dextral slip along Tintina fault zone, which transects the southwest part of the area, amounted to at least 430 km. Pull-apart basins along the fault zone accumulated fluvial clastic rocks (unit Ts) and bimodal volcanic rocks (unit Tv) that host epithermal precious-metal veins (e.g, Grew Creek).

ACKNOWLEDGMENTS

Excellent field assistance was provided by T. Frakes (1982), D. Thorkelson (1983), B. Thomas (1985, 1986), S. Gareau (1986), S. Irwin (1986), and D. Rhys (1987). During 1986 and 1987, a base camp was shared in Ross River with L. Jackson of the Geological Survey, who was mapping surficial geology in Tay River map area. B. Hermiley and C. Hemsley, proprietors of the Ross River Service Centre, are commended for excellent expediting. Helicopter pilot J. Witham (Trans North Turbo Air), skillfully performed many difficult landings that were required in parts of the region. His knowledge of the terrain and of local history were invaluable. Northern Mountain Helicopters provided efficient charter service from Macmillan Pass in 1982, and D. Perrault gave excellent fixed-wing service from Ross River in 1987. J. Morin, then Chief Geologist, Whitehorse office of Indian and Northern Affairs Canada, encouraged the project, and kindly made available office, mail, and warehouse facilities in Whitehorse. The mapping benefited greatly from friendly and open discussion on the geology of the Anvil Range, its deposits and environs with L. Pigage and G. Jilson (then of Curragh Resources Ltd.).

C. Roots and K. Fallas are thanked for constructive reviews.

Figure 1. Tectonic setting of Tay River (left) and Sheldon Lake (right) areas. Tectonic elements: Mackenzie Platform (MP), Selwyn Basin (SB), Kechika Trough (KT), Interior Platform (IP), McEvoy Platform (McP), Cassiar Platform (CP), Mackenzie Platform (MP), Macdonald Platform (MaP), and Tintina Fault (TF).

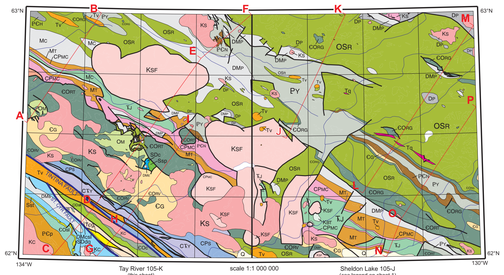
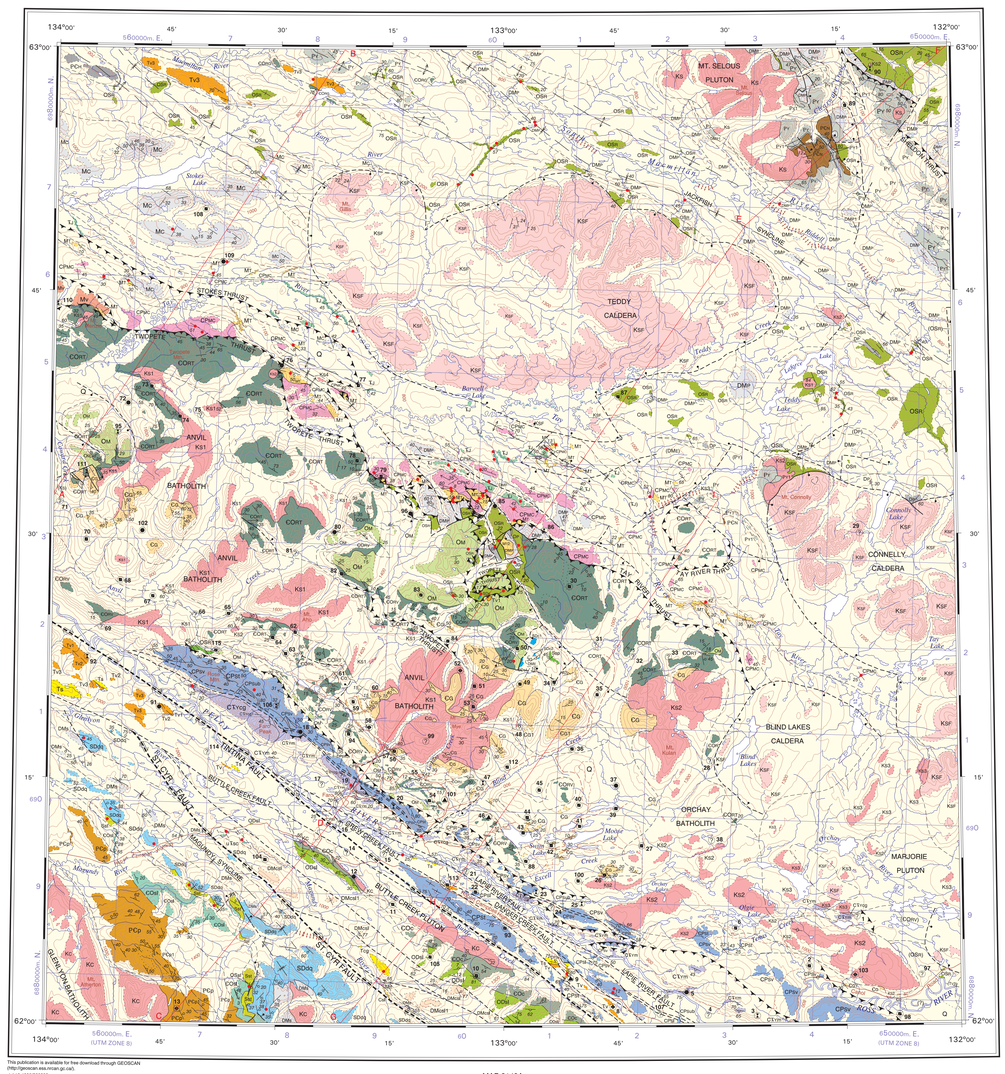


Figure 2. Index map of geology, Tay River–Sheldon Lake area.

MINFILE[1]	NAME	STATUS	DEPOSIT TYPE	COMMODITY[2] (MAJOR/MINOR/TRACE)
1	Skeena	Unknown	Unknown	—
2	Wop	Drilled prospect	Polymetallic veins Ag-Pb-ZnsAu	Cu, Mo
3	Rags	Showing	CusAg quartz veins	Cu, Mo
4	Pen	Unknown	Volcanogenic massive sulphide-type not determined	—
5	Deejay	Anomaly	Unknown	—
6	Oligie	Drilled prospect	Cu skarn	Cu
7	Citation	Unknown	Unknown	—
8	Mourne	Prospect	Epithermal Au-Ag-Cu: high sulphidation	—
9	Grew Creek	Deposit	Epithermal Au-Ag: low sulphidation	Au, Ag
10	Fargo	Drilled prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb, Ag, Zn
11	Lyn	Drilled prospect	Polymetallic veins Ag-Pb-ZnsAu	Pb, Ag, Zn
12	Casca	Anomaly	Sedimentary exhalative Zn-Pb-Ag (Sedex)	—
13	Thomas	Prospect	Pb-Zn skarn	Zn
14	Tillman	Unknown	Unknown	—
15	Eye	Unknown	Epithermal Au-Ag-Cu: high sulphidation	—
16	Bridge	Unknown	Unknown	—
17	Fan-Tan	Unknown	Unknown	—
18	Taku	Anomaly	Unknown	—
19	Glyn	Unknown	Unknown	—
20	Nesbitt	Showing	Unknown	Cu
21	Spit	Unknown	Unknown	—
22	Bobcat	Drilled prospect	Epithermal Au-Ag-Cu: high sulphidation	—
23	Green Valley	Showing	Unknown	—
24	Holly	Unknown	Unknown	—
25	Orchay	Showing	Gabbroid Cu-Ni-PGE	Cu
26	Sock	Drilled prospect	Unknown	—
27	Spur	Drilled prospect	Unknown	Pb, Ag, Zn
28	Domo	Unknown	Unknown	—
29	Northman	Unknown	Unknown	—
30	Laurel	Drilled prospect	Unknown	—
31	Trump	Unknown	Unknown	—
32	Lodge	Unknown	Unknown	—
33	Jet	Unknown	Unknown	—
34	Adamson	Drilled prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Cu
35	Tel	Drilled prospect	Unknown	—
36	Beta	Drilled prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb
37	Blind	Anomaly	Unknown	—
38	Valley	Unknown	Unknown	—
39	Cub	Drilled prospect	Polymetallic veins Ag-Pb-ZnsAu	Pb
40	Nasty	Drilled prospect	Unknown	—
41	Abraham	Drilled prospect	Polymetallic veins Ag-Pb-ZnsAu	—
42	Sea	Drilled prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb, Ag, Zn
43	SB	Drilled prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb, Ag, Zn
44	Blackwood	Drilled prospect	Pb-Zn skarn	Cu, Pb, Zn
45	Bea	Drilled prospect	Unknown	—
46	Swim	Deposit	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb, Ag, Zn
47	Wann	Showing	Polymetallic veins Ag-Pb-ZnsAu	Zn
48	Elbow	Unknown	Unknown	—
49	St. Lucie	Drilled prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Cu
50	O'Connor	Drilled prospect	Unknown	—
51	Action	Drilled prospect	Polymetallic veins Ag-Pb-ZnsAu	Au, Pg, Ag
52	Mye	Prospect	Polymetallic veins Ag-Pb-ZnsAu	Au, Ag
53	Mur	Drilled prospect	Polymetallic veins Ag-Pb-ZnsAu	Pb, Ag, Zn
54	Shrimp	Drilled prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	—
55	Vangorda	Open pit past producer	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb, Zn
56	Grum	Open pit past producer	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb, Zn
57	Kulan	Drilled prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb, Ag, Zn
58	Kim	Prospect	Unknown	Cu
59	LO	Drilled prospect	Unknown	—
60	Tay	Unknown	Unknown	—
61	Faro	Open pit past producer	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb, Zn
62	Flagstone	Drilled prospect	Cu skarn	Cu
63	Briden	Drilled prospect	Unknown	—
64	Jacola	Drilled prospect	Plutonic related Au	Pb, Ag, Zn
65	Crown	Drilled prospect	Unknown	—
66	Leon	Unknown	Unknown	—
67	Lorna	Drilled prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb
68	Reserve	Drilled prospect	Cu skarn	Cu
69	Paradox	Unknown	Unknown	—
70	Mary	Unknown	Unknown	—
71	Coward	Unknown	CusAg quartz veins	Cu
72	Paige	Anomaly	Plutonic related Au	—
73	Twopete	Drilled prospect	Unknown	—
74	Colt	Drilled prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Zn
75	Blue	Unknown	Unknown	—
76	Hoot	Anomaly	Pb-Zn skarn	Pb
77	Owl	Drilled prospect	Polymetallic veins Ag-Pb-ZnsAu	Pb, Ag, Zn
78	Keglovic	Drilled prospect	Plutonic related Au	Cu, Zn
79	Ivan	Drilled prospect	Plutonic related Au	Cu, Pb, Zn
80	Shannon	Anomaly	Unknown	—
81	Complication	Unknown	Unknown	—
82	Ty	Drilled prospect	Unknown	—
83	Rebel	Drilled prospect	Unknown	Cu, Pb, Zn
84	Kangaroo	Drilled prospect	Unknown	—
85	Yeti	Anomaly	Unknown	—
86	Marks	Showing	Polymetallic manto Ag-Pb-Zn	Pb, Zn
87	Teddy	Drilled prospect	Volcanogenic massive sulphide–type not determined	Zn
88	Sirola	Drilled prospect	Unknown	—
89	Andrew	Drilled prospect	Polymetallic veins Ag-Pb-ZnsAu	Pb, Ag, Zn
90	Solo	Showing	Polymetallic veins Ag-Pb-ZnsAu	Sb, Pb, Ag
91	El Pino	Anomaly	Epithermal Au-Ag: low sulphidation	—
92	Galway	Showing	Polymetallic veins Ag-Pb-ZnsAu	—
93	Parliament	Anomaly	Epithermal Au-Ag-Cu: high sulphidation	—
94	Cessna	Drilled prospect	Unknown	—
95	Bunbury	Showing	Unknown	—
96	Jon	Anomaly	Unknown	—
97	Petancic	Unknown	Unknown	—
98	Chaput	Drilled prospect	Volcanogenic massive sulphide–type not determined	Pb, Ag, Zn
99	O'Neill	Unknown	Unknown	—
100	Mor	Drilled prospect	Unknown	Cu
101	DY	Deposit	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb, Ag, Zn
102	Sellmer	Anomaly	Unknown	—
103	Tenas	Prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb, Zn
104	Dev	Drilled prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Pb, Zn
105	Sir John A.	Drilled prospect	Sedimentary exhalative Zn-Pb-Ag (Sedex)	Zn
106	Urn	Showing	Sediment-hosted barite	Ba
107	Wedekind	Unknown	Epithermal Au-Ag-Cu: high sulphidation	—
108	Lady Di	Drilled prospect	Plutonic related Au	Pb, Ag, Zn
109	Prince Charles	Anomaly	Unknown	—
110	Mt. Mennzie	Showing	Sediment-hosted barite	Ba
111	Union	Showing	W skarn	Cu, Ag, Zn
112	Starlight	Drilled prospect	CusAg quartz veins	Zn
113	Pontoon	Drilled prospect	Epithermal Au-Ag-Cu: high sulphidation	—
114	Great Dane	Unknown	Unknown	—
115	Multi	Drilled prospect	Unknown	—

[1] For full MINFILE number, add prefix "105K" or "105K0", or "105K00" as appropriate, e.g, MINFILE 15 = "105K015"
[2] Deklerk, R, and Traynor, S, (compilers), 2005, Yukon MINFILE 2005 - A database of mineral occurrences, Yukon Geological survey, CD-ROM, (updated March, 2008 from Yukon Minfile online at http://www.geology.gov.yk.ca)
— = no known commodities.

Table 1. Mineral prospects (from Yukon MINFILE[2], 2010).



This publication is available for free download through GEOSCAN (http://geoscan.ess.nrcan.gc.ca/).
doi:10.4095/288980

MAP 2149A

GEOLOGY

SELWYN BASIN (SHELDON LAKE AND TAY RIVER)

YUKON

Scale 1:250 000/Échelle 1/250 000

kilometres 5 0 5 10 15 20 kilometres

Universal Transverse Mercator Projection
North American Datum 1983

Projection transverse universelle de Mercator
Système de référence géodésique nord-américain, 1983

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105-M OF2483	105-N 990A OF 3171	105-O OF2465
105-L 1221A	105-K 2149A Sheet 2	105-J 2149A Sheet 1
105-E OF1960	105-F OF486 OF1290	105-G OF4243

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ACCORING GEOLOGICAL SURVEY OF CANADA MAPS

LEGEND

SOUTHWEST — *NORTHEAST*

NOTE: Rock units on legend arranged to reflect their geographical distribution (ie. from northeast to southwest) and time equivalence. Units projected beneath unit Q appear in parentheses e.g. (CPMc)); (?) indicates projection of units uncertain.

PLEISTOCENE AND RECENT

Q — *Unconsolidated glacial and alluvial deposits.*

CENOZOIC

TERTIARY

Tv — *Bimodal volcanic unit:* Tv, *undivided;* Tv1, *small stocks and necks of white-weathering, flow-banded, rhyolitic, quartz-sanidine porphyry;* Tv2, *laminated rhyolitic ash-flow tuffs and flows;* Tv3, *dark grey-weathering, locally amygdaloidal, dark grey-green basalt necks and flows.*

Ts — *Alluvial clastic unit: recessive, thick-bedded to massive, pebble to boulder chert-quartz conglomerate, chert sandstone and thin-bedded, dark brown sandstone and shale.*

Tcg — *Limestone conglomerate unit: resistant, grey-orange-weathering, massive, limestone conglomerate.*

MESOZOIC

MID-CRETACEOUS

Kc — *CASSIAR PLUTONIC SUITE: resistant, grey-weathering, locally foliated, biotite±hornblende diorite, granodiorite, and granite.*

KSF — *SOUTH FORK VOLCANICS: dark brown-weathering, locally columnar jointed, massive, densely welded, biotite-quartz-hornblende-feldspar crystal- and crystal-lithic tuff.*

Ks — *SELWYN PLUTONIC SUITE: Ks, undivided: grey-weathering, resistant, medium- to coarse-grained, locally megacrystic (K-feldspar), biotite±hornblende±muscovite granite, quartz monzonite, and granodiorite; Ks1, plutons without hornblende; Ks2, plutons with hornblende; Ks3, porphyritic biotite-hornblende granite characterized by large smoky grey quartz phenocrysts and locally K-feldspar phenocrysts; Ks4, mafic-free granite.*

ALLOCHTHONOUS

PALEOZOIC – MESOZOIC

PENNSYLVANIAN AND PERMIAN

CPs — *SLIDE MOUNTAIN TERRANE: CPs, undivided; CPsv, volcanic unit: resistant, dark weathering, dark grey-green basalt, tuff, and breccia; CPsh, chert unit: thin-bedded, grey-green, jasper-red, and apple-green chert and siliceous tuff; CPsl, limestone unit: light grey-weathering, massive, fine crystalline, dark grey limestone; CPsub, ultramafic unit: recessive, green-weathering serpentinite.*

CARBONIFEROUS TO TRIASSIC

CTy — *YUKON-TANANA TERRANE: CTy, undivided; CTym, schist unit: grey-weathering, muscovitic, quartz blastomylonite; recessive, muscovitic quartzite and quartz-muscovite-biotite±glaucophane schist with local pods of eclogite; CTyog , conglomerate unit: resistant, massive, poorly sorted, conglomerate with pebble- to cobble-size clasts of basalt, chert, rhyolnite, and limestone; CTyc1, thin-bedded, grey, calcareous slate, locally with interbedded argillaceous limestone.*

ALLOCHTHONOUS TERRANES (CPs, CTy) EMPLACED DURING JURA-CRETACEOUS

MESOZOIC

TRIASSIC

uTsc — *Shale-limestone unit: dark brown- to black-weathering, grey to black, fine crystalline limestone, platy limestone and shale; rare grey, thin-bedded chert.*

TJ — *JONES LAKE FORMATION: brown-weathering, medium- to thick-bedded, calcareous siltstone, sandstone, and shale; abundant ripple crosslamination.*

MISSISSIPPIAN TO (?)PERMIAN

Csl — *Limy clastic unit: recessive, dark grey-weathering, thin-bedded, interlaminated, buff-yellow siltstone and brown argillite; strongly bioturbated.*

CARBONIFEROUS TO PERMIAN

CPMc — *MOUNT CHRISTIE FORMATION: resistant, orange- to buff-weathering, thin- to medium-bedded, light grey-green to black chert.*

LOWER MISSISSIPPIAN

MT — *TAY FORMATION: recessive, dark brown-weathering, thin- to medium-bedded, calcareous, dark grey to brown siltstone, sandstone, and shale; thin to thick interbeds of fine crystalline, dark grey limestone; MT1, light grey-weathering, thick-bedded to massive, dark grey limestone (on sheet 1 only); MT2, resistant, coarse-grained quartz sandstone.*

MISSISSIPPIAN

Mlf — *Chert unit: resistant, rusty-orange-weathering, thin-bedded, apple green and dark grey chert and cherty tuff.*

DEVONIAN AND MISSISSIPPIAN

EARN GROUP (Dr, DMr, Mc, and Mv)

DME — *EARN GROUP: undivided, mostly Mc, and DMr, minor Dr.*

LOWER MISSISSIPPIAN

Mv — *Felsic volcanic unit: orange-weathering, massive, aphanitic, altered felsic volcanic and/or subvolcanic.*

MC — *CRYSTAL PEAK FORMATION: resistant, dark grey-weathering, massive chert-pebble conglomerate and chert-quartz sandstone; minor brown-weathering, dark blue-grey shale.*

UPPER DEVONIAN TO MISSISSIPPIAN

DMP — *PREVOST FORMATION: recessive, brown-weathering, thin-bedded, laminated, dark blue-grey to black slate with thin to thick interbeds of fine- to medium-grained chert-quartz arenite and wacke, and chert-pebble conglomerate; DMP1, recessive, dark grey to black limestone and shale (105-K/16).*

LOWER DEVONIAN TO UPPER DEVONIAN

DP — *PORTRAIT LAKE FORMATION: black-, blue-black- or silvery white-weathering, thin-bedded, siliceous; black siltstone, slate, and chert.*

PELLY MOUNTAINS ASSEMBLAGE

UPPER DEVONIAN AND MISSISSIPPIAN

DMs — *Black clastic unit: recessive, black-weathering with rusty streaks, thin-bedded, black siliceous slate and minor interbedded chert wacke and chert-granule grit.*

UPPER DEVONIAN AND MISSISSIPPIAN

DMs — *Black clastic unit: recessive, black-weathering with rusty streaks, thin-bedded, black siliceous slate and minor interbedded chert wacke and chert-granule grit.*

UPPER DEVONIAN OR YOUNGER

DMcsl — *Limestone-rhyolite unit: recessive, buff-orange-weathering, orange to dark blue-grey phyllite and thinly laminated phyllitic limestone; minor laminated calcareous siltstone, green slate, and rare chert; DMcsl1, limestone, rare dolostone and quartz arenite.*

SILURIAN AND DEVONIAN

SDdq — *Dolostone unit: resistant, medium grey- to buff-weathering, medium- to thick-bedded dolomite, sandy dolomite and quartz arenite.*

ORDOVICIAN TO DEVONIAN

ODsl — *Black slate unit: moderately resistant, black-weathering, siliceous, graphitic, black siliceous and pyritic slate.*

ORDOVICIAN AND SILURIAN

UPPER SILURIAN

Sst — *Platy siltstone unit: tan-weathering, thin-bedded, dolomitic, platy siltstone.*

UPPER ORDOVICIAN AND LOWER SILURIAN

OSsl — *Black shale unit: black-weathering, thin-bedded, black graptolitic shale preserved between units COsl and Sst at one locality, 62° 2.25' N, 133° 33.20' W, UTM: 5755566E, 6875184N.*

UPPER CAMBRIAN AND ORDOVICIAN

COsl — *Phyllite unit: grey-orange-weathering, finely interlaminated, calcareous phyllite and grey limestone; abundant quartz-carbonate veins and pods.*

UPPER(?) CAMBRIAN AND ORDOVICIAN

COc — *Silty limestone unit: buff-, orange-, and orange-brown-weathering, thinly interlaminated calcareous shale and silty limestone.*

PROTEROZOIC AND LOWER CAMBRIAN

PCp — *Lower slate unit: dark brown-weathering, noncalcareous, dark blue-grey slate, siltstone and minor limestone; PCp1, buff-orange- to light grey-weathering, thin-bedded, argillaceous limestone and calcareous phyllite; metamorphosed equivalents near Glenlyon batholith are biotite-muscovite-quartz schist and minor marble.*

PRECAMBRIAN

HYLAND GROUP (PY, PCh)

PROTEROZOIC AND LOWER CAMBRIAN

PCH — *HYLAND GROUP: undivided Yusezyu and Narchilla formations.*

PCN — *NARCHILLA FORMATION: recessive, maroon-weathering, interbedded maroon and apple-green slate; rare grey-brown-weathering, medium- to thick-bedded quartz sandstone and quartz-pebble conglomerate.*

PY — *YUSEZYU FORMATION: grey brown-weathering, thin- to thick-bedded, interbedded, quartz sandstone, local quartz-pebble conglomerate, and grey-green to dark grey slate; PY1, grey-weathering, dark grey, fine crystalline limestone.*

ST. CYR FAULT

TINTINA FAULT

Geological boundary (defined, approximate, assumed or extrapolated beneath overburden, outcrop boundary)

Fault, steeply dipping (defined, approximate, assumed or extrapolated beneath overburden; solid circle indicates downthrown side)

Fault, thrust (defined, approximate, assumed or extrapolated beneath overburden; teeth indicate upthrust side)

Fault, dextral (assumed)

Anticline (approximate or extrapolated beneath overburden)

Syncline (approximate or extrapolated beneath overburden)

Cross-section lines A B

Bedding, top known (inclined) 30

Bedding, top unknown (inclined, vertical) 15

Cleavage, foliation (inclined, vertical) 20 90

Axis of small-scale fold of bedding (inclined) 15

Minfile status (anomaly, deposit, drilled prospect, open pit)

Minfile status (prospect, showing, unknown)

Fossil locality (GSC Bulletin 599; Gordey (2013))

Author: S.P. Gordey

Geology by S.P. Gordey, Geological Survey of Canada 1980, 1982–1983, 1985–1987, with contributions from previous work by J.A. Roddick and L.H. Green

Cartography by R. Cocking, R. Chan, and S.P. Williams, Geological Survey of Canada and E. Everett, Data Dissemination Division

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Digital base map from data compiled by Natural Resources Canada, modified by GSC Pacific

Mean magnetic declination 2013, 23°23' E, decreasing 24' annually Readings vary from 22°06' E in the SW corner to 23°37' E in the NE corner of the map

Elevations in metres above mean sea level

REFERENCES

Gordey S.P., 2013, Geology, central Tay River, Yukon; Geological Survey of Canada, Map 2150A, scale 1:250 000, doi:10.4095/288983

Gordey, S.P., 2013, Geology, Selwyn Basin, Yukon; Geological Survey of Canada, Bulletin 599,

Sheet 2 of 3: Geology, Tay River

Recommended citation

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Canada