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GEOLOGICAL SURVEY OF CANADA / COMMISSION GÉOLOGIQUE DU CANADA

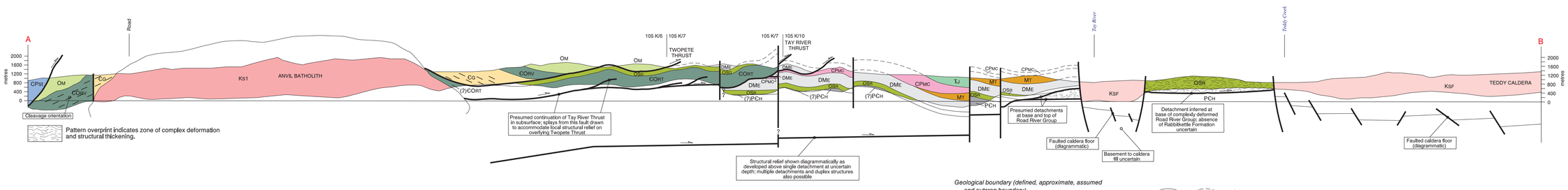


Figure 1. Cross-section A-B.

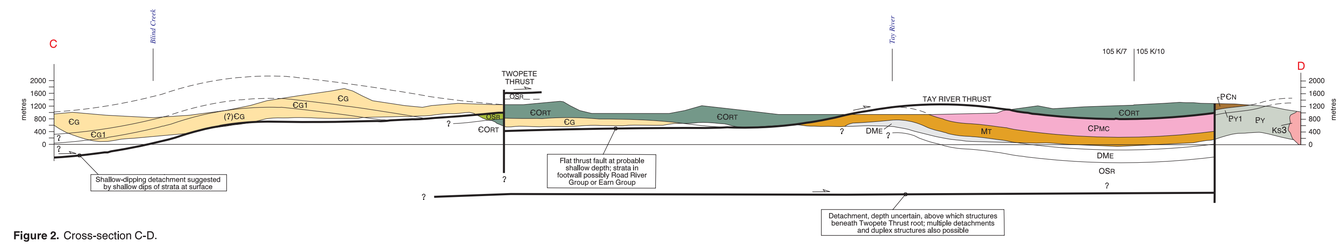


Figure 2. Cross-section C-D.

Geological boundary (defined, approximate, assumed and 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, unknown (approximate, assumed)

Anticline (approximate or extrapolated beneath overburden)

Syncline (approximate or extrapolated beneath overburden)

Cross-section

Bedding, top known (inclined)

Bedding, top unknown (inclined, vertical)

Cleavage, foliation (inclined, vertical)

Axis of small-scale fold of bedding (inclined, vertical)

MINFILE status (anomaly, drilled prospect, open pit)

MINFILE status (prospect, showing, unknown)

Fossil locality (GSC Bulletin 599 Gordey (2013))

REFERENCES

Gordey S.P., 2013. Geology Selwyn Basin (Sheldon Lake and Tay River), Yukon; Geological Survey of Canada, Map 2149A (2 map sheets, scale 1:250 000 and 1 sheet of cross-sections, scale 1:100 000). doi:10.4095/288980

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

LEGEND

NOTE: Units conform to Map 2149A (Gordey, 2013),Tay River; for complete regional unit descriptions, refer to Gordey (2013). Units projected beneath unit Q appear in parentheses e.g. (CPMC).

CENOZOIC

PLEISTOCENE AND RECENT

Q — *Unconsolidated glacial and alluvial deposits.*

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.*

MESOZOIC

MID-CRETACEOUS

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: 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 smokey grey quartz phenocrysts and locally K-feldspar phenocrysts;* Ks4, *mafic-free granite.*

ALLOCHTHONOUS

PALEOZOIC - MESOZOIC

PENNSYLVANIAN AND PERMIAN

CPs — *SLIDE MOUNTAIN TERRANE:* CPsv, *volcanic unit: resistant, dark grey-weathering, dark grey-green basalt, tuff, and breccia;* CPst, *chert unit: thin-bedded, grey-green, jasper-red and apple-green chert and siliceous tuff;* CPsub, *ultramafic unit: recessive, green-weathering serpentinite.*

CARBONIFEROUS TO TRIASSIC

CŦY — *YUKON-TANANA TERRANE:* CŦYm, *schist unit: grey-weathering, muscovitic, quartz blastomylonite; recessive, muscovitic quartzite and quartz-muscovite-biotite±glaucophane schist with local pods of eclogite;* CŦYcg, *conglomerate unit: resistant, massive, poorly sorted, conglomerate with pebble- to cobble-size clasts of basalt, chert, mylonite, and limestone.*

ALLOCHTHONOUS TERRANES (CPs, CŦY) *EMPLACED DURING JURA-CRETACEOUS*

MESOZOIC

TRIASSIC

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

PALEOZOIC

CARBONIFEROUS TO PERMIAN

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

MISSISSIPPIAN

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;* MT2, *resistant, coarse-grained quartz sandstone (105 K/7).*

DEVONIAN AND MISSISSIPPIAN

EARN GROUP (DP, DMP, MC, and DME)

DME — *EARN GROUP: undivided, mostly* MC, DMP, *minor* DP.

LOWER MISSISSIPPIAN

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.*

LOWER DEVONIAN TO UPPER DEVONIAN

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

SILURIAN AND DEVONIAN

(?) UPPER SILURIAN TO MIDDLE DEVONIAN

SDC — *Carbonate-sandstone unit:* SDC1, *massive, medium-grained quartz arenite;* SDC2, *light grey-weathering, massive to thick-bedded, fine crystalline limestone and dolostone, locally cherty.*

SILURIAN AND (?) EARLY DEVONIAN

SSP — *Siltstone unit: tan-weathering, thin-bedded, dolomitic, platy siltstone.*

ORDOVICIAN AND SILURIAN

OSR — *ROAD RIVER GROUP: undivided Duo Lake and Steel formations (may include infolds of units* ЄOR *and* DP*);*
STEEL FORMATION (Upper Silurian): orange-weathering, thin-bedded, burrowed, dolomitic, grey-green mudstone, siltstone, and chert; thin-bedded, black chert; rare black graptolitic shale;
DUO LAKE FORMATION (Lower Ordovician to Lower Silurian): resistant, grey-weathering, thin- to medium-bedded, green, grey, and black chert; recessive, blue-black-weathering, black graptolitic shale.

SS / OSD — *Shale unit:* SS, *black graptolitic shale;* OSD, *dark grey-weathering, thin-bedded, dolomitic siltstone.*

CAMBRIAN AND ORDOVICIAN

LOWER ORDOVICIAN

OM — *MENZIE CREEK FORMATION: resistant, dark-weathering, massive, locally pillowed, dark grey-green andesite to basalt, tuff, and breccia.*

UPPER CAMBRIAN AND LOWER ORDOVICIAN

*RABBITKETTLE FORMATION (*ЄOR*)*

ЄORT — *Twopete facies: resistant, dark grey-weathering, massive to laminated, blocky, white to light grey quartzose siltstone and chert, and rare black slate; strikingly laminated, very fine-grained, tuffaceous siltstone and chert; minor grey phyllitic limestone, calcareous phyllite, and greenstone.*

ЄORV — *Vangorda facies: silver-grey-weathering, laminated to thin-bedded, dark grey, shaly limestone to calcareous phyllite.*

LOWER AND (?) MIDDLE CAMBRIAN

ЄG — *GULL LAKE FORMATION: recessive, brown-weathering, noncalcareous, dark grey to black slate and siltstone; metamorphosed equivalents near Anvil and Orchay batholiths include quartz-muscovite-biotite schist (±garnet±sillimanite±staurolite±andalusite) and minor marble;* ЄG1, *grey-white-weathering, laminated, medium crystalline marble with minor lenses and pods of mica schist.*

PRECAMBRIAN

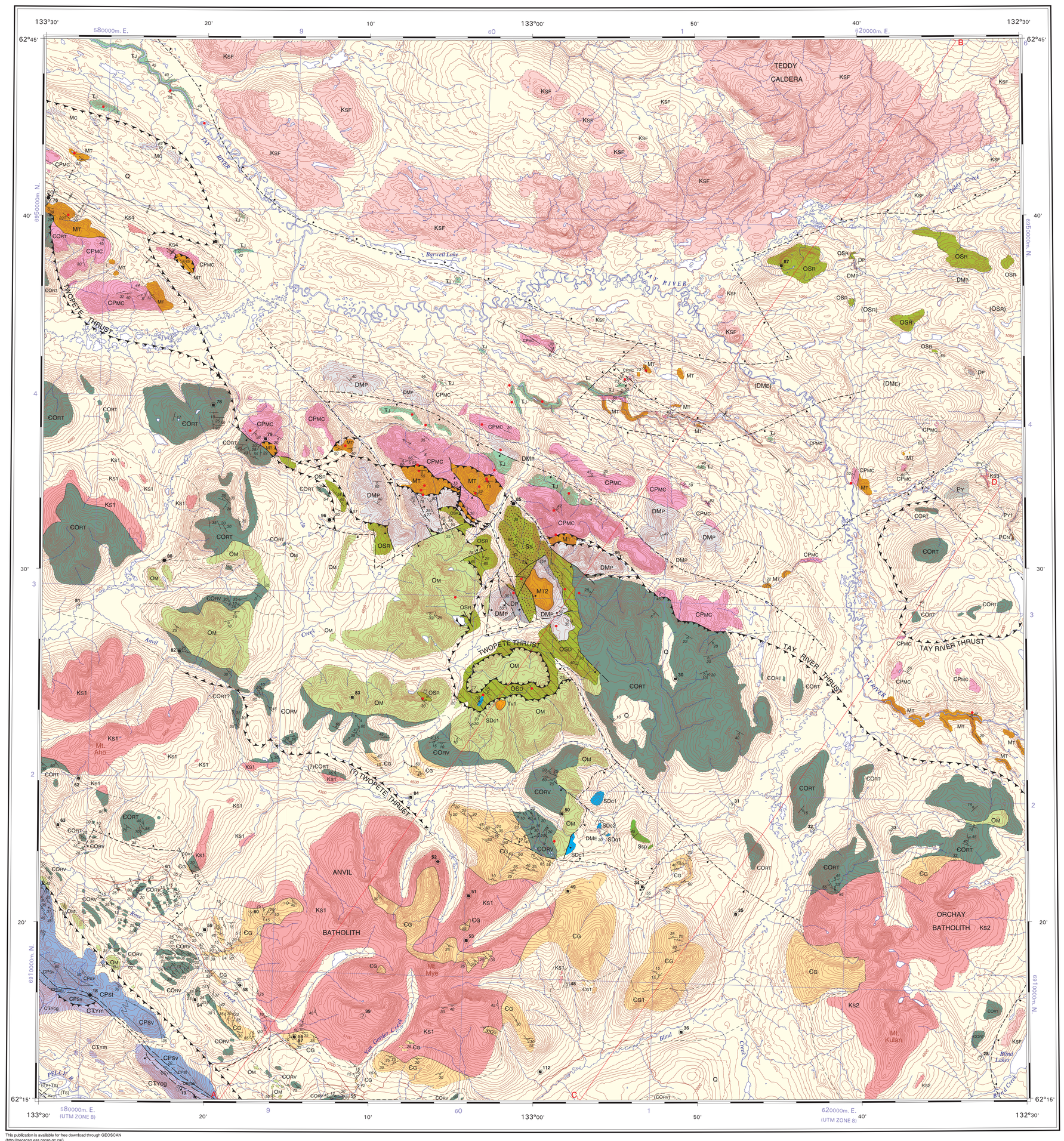
PROTEROZOIC AND LOWER CAMBRIAN

HYLAND GROUP (PY, PЄN, *and* PЄH)

PЄH — *HYLAND GROUP: undivided YUSEZYU and NARCHILLA formations. Cross-section only.*

PЄN — *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.*



MINFILE[1]	NAME	STATUS	DEPOSIT TYPE	COMMODITIES[3]
18	Taku	Anomaly	Unknown	—
19	Glyn	Unknown	Unknown	—
28	Domo	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
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-Zn±Au	Au, Pb, Ag
52	Mye	Prospect	Polymetallic veins Ag-Pb-Zn±Au	Au, Ag
53	Mur	Drilled prospect	Polymetallic veins Ag-Pb-Zn±Au	Pb, Ag, Zn
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	—
76	Hoot	Anomaly	Pb-Zn skarn	Pb
77	Owl	Drilled prospect	Polymetallic veins Ag-Pb-Zn±Au	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	Try	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
94	Cessna	Drilled prospect	Unknown	—
96	Jon	Anomaly	Unknown	—
99	O'Neill	Unknown	Unknown	—
112	Starlight	Drilled prospect	Cu±Ag quartz veins	Zn

[1] For full MINFILE number, add prefix "105K", or "105K0", or "105K00" as appropriate, e.g. MINFILE 34 = "105K034"

[2] Yukon MINFILE 2010. Yukon MINFILE - A database of mineral occurrences. Yukon Geological Survey, http://servlet.gov.yk.ca/ygsmin/index.do [accessed May 19, 2010]

[3] — = no known commodities.

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

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

doi:10.4095/288983

LOCATION MAP

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

Digital cartography by S.P. Williams and R.B. Cocking, Geological Survey of Canada, E. Everett, Data Dissemination Division

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

MAP 2150A

GEOLOGY

CENTRAL TAY RIVER

YUKON

Scale 1:100 000/Échelle 1/100 000

kilometres 2 0 2 4 6 8 kilomètres

Universal Transverse Mercator Projection
North American Datum 1983
© Her Majesty the Queen in Right of Canada 2013

Projection transverse universelle de Mercator
Système de référence géodésique nord-américain, 1983
© Sa Majesté la Reine du chef du Canada 2013

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

Mean magnetic declination 2013, 22°22' E, decreasing 24.0' annually Readings vary from 22°14' E in the SW corner to 22°29' E in the NE corner of the map

Elevations in metres above mean sea level

105-K/13	105-K/14	105-K/15	105-K/16
105-K/12	105-K/11	105-K/10	105-K/09
	2150A		
105-K/05	105-K/06	105-K/07	105-K/08
105-K/04	105-K/03	105-K/02	105-K/01

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE

Recommended citation
Gordey, S.P., 2013. Geology, central Tay River, Yukon; Geological Survey of Canada, Map 2150A, scale 1:100 000, doi:10.4095/288983

Canada