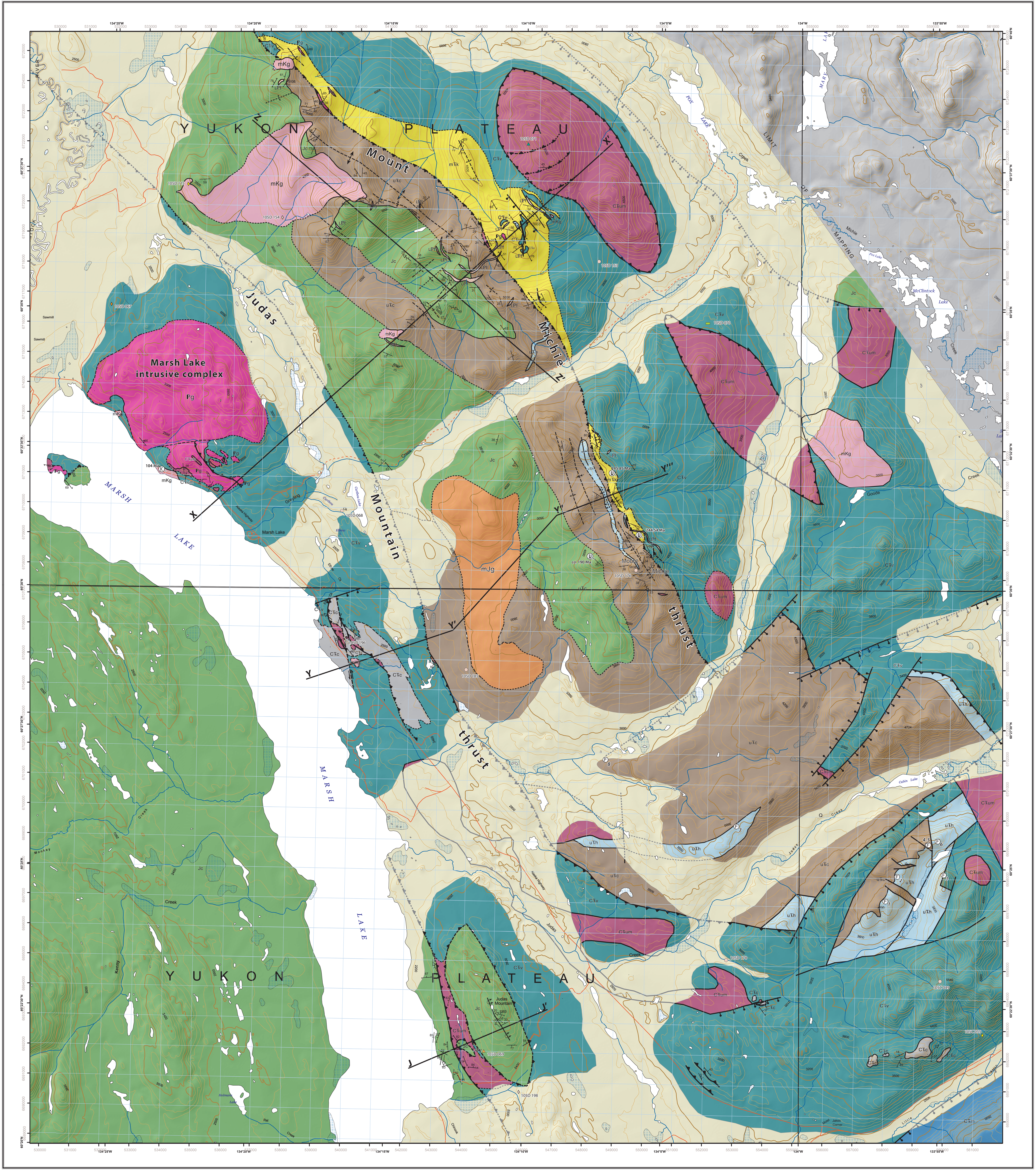
YUKON GEOLOGICAL SURVEY

Yukon Energy, Mines and Resources



LEGEND

QUATERNARY

Q unconsolidated glacial, glaciofluvial and glaciolacustrine deposits; fluvial silt, sand, and gravel, in part with cover of soil and organic deposits

INTRUSIVE ROCKS

PALEOGENE

LPf light to dark grey, very fine to medium-grained spherulitic dacite, rhyodacite; subvolcanic white-buff rhyolite, rarely with biotite and porphyritic K-feldspar

EARLY to LATE CRETACEOUS

mKg medium to coarse-grained hornblende diorite; coarse-grained quartz biotite monzonite

MIDDLE JURASSIC

mJg coarse-grained to pegmatitic biotite muscovite syenite

PENNSYLVANIAN TO TRIASSIC

Marsh Lake intrusive complex

Pg light grey to grey-green, medium to coarse-grained to porphyritic gabbronorite; medium-grained clinopyroxenite; fine to medium-grained diorite; olivine porphyritic diabase

LAYERED ROCKS

JURASSIC

Richthofen formation

Jc green-brown, medium to coarse-grained lithic sandstone, typically coupled with brown to dark grey turbiditic siltstone; polymictic paraconglomerate

STIKINIA

TRIASSIC

Aksala formation

uTc coarse-grained, black-grey arkosic sandstone to fine-grained, thinly laminated, dark grey argillaceous siltstone; siltstone forms thick sections with grey-buff, very fine-grained sandstone interlaminates, locally bioturbated; sandstone locally calcareous

uTh coarsely crystalline, light grey limestone to limestone breccia, locally fossiliferous

CACHE CREEK TERRANE

PENNSYLVANIAN TO TRIASSIC

Michie formation (new unit)

mTk dark grey, fine-grained siltstone; buff, coarse-grained calc-lithic sandstone; green-grey wacke to pebble polymictic orthoconglomerate; fine-grained siltstone locally interbedded with thin, argillaceous limestone beds; carbonate-rich debris flows and rare olistoliths(?)

CTm grey, massive, crystalline limestone, locally crinoidal and fusuline; recrystallized white to pale yellow limestone, limestone breccia; dolostone

CTc grey-red-brown massive to ribbon banded chert, locally with soft sediment deformation; argillite interbeds

CTv dark grey, medium-grained to aphanitic, chloritized basalt, locally amygdaloidal; light grey, fine-grained andesite; lenses of limestone and chert, locally, within the volcanic rocks; andesite to chloritized basalt intercalated with green-grey autobrecciated volcaniclastic rocks; basalt rarely pillowed and hyaloclastic

CTum dark grey-brown, medium to coarse-grained pyroxenite; dun-brown to orange, coarse-grained dunite, harzburgite; sheared, locally brecciated, highly magnetic serpentinite; dun-orange listwaenite

Mineral Occurrences
Yukon MINFILE

105C 049	○	NUF	Anomaly		Unknown
105C 055	◇	Eaglenest	Showing	Au, Ag	Au-Quartz Veins
105D 067	◇	McClintock	Drilled Prospect	Cu	Cu+/-Ag Quartz Veins
105D 068	○	Oak	Anomaly		Unknown
105D 069	△	Marsh	Drilled Prospect	Cu, Au	Gabbroid Cu-Ni-PGE
105D 070	▭	Lavalee	Showing	Asbestos	Ultramafic-hosted asbestos
105D 071	△	Michie	Showing	Cr	Podiform Chromite
105D 115	◇	Worbetts	Prospect	Au, Ag	Polymetallic Veins Ag-Pb-Zn+/-Au
105D 153	○	Ichie	Anomaly		Unknown
105D 154	◇	Into	Anomaly		Polymetallic Veins Ag-Pb-Zn+/-Au
105D 176	○	Mt. Michie	Unknown		Unknown
105D 178	○	Military	Anomaly		Unknown
105D 185	○	Bronco	Anomaly		Unknown
105D 196	◇	Mike	Showing		Cu+/-Ag Quartz Veins
105D 198	◇	NLC	Showing		Au-Quartz Veins

SYMBOLS

Geologic contacts (defined, approximate, inferred, covered)

Fault; movement not known (defined, covered)

Thrust fault (defined, approximate, inferred, covered)

Sinistral strike-slip fault (approximate)

Normal fault (defined, approximate, inferred, covered)

Fold axial trace (upright - anticline, syncline; overturned - anticline, syncline)

Bedding (inclined, overturned)

Dominant foliation (inclined)

Intersection lineation (m, s, z)

Fold axis (dominant phase)

Igneous fabric

Isotopic date (U-Pb detrital zircon, K-Ar hornblende) (youngest detrital age indicated; italic numbers refer to geochronology table)

Fossil locality (italic numbers refer to fossil table)

Field station

Road/trail

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

Sense of displacement across strike-slip fault (in cross-section; away, toward)

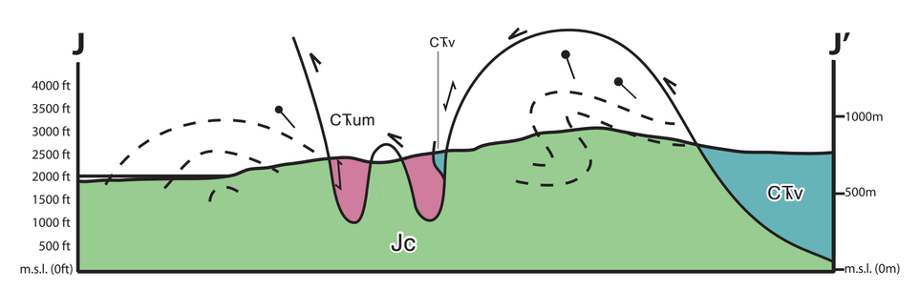
FOSSIL LOCALITIES

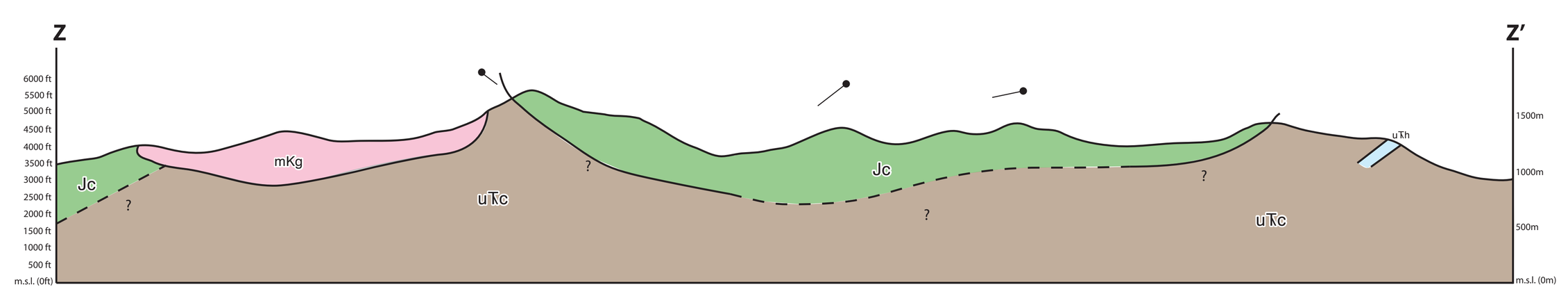
MAP#	CURATION#	AGE	FORMATION	AUTHOR	DATE	STATION	FOSSIL TYPE	FOSSIL CATEGORY
1	C-176034	Late Triassic, Late Norian	Hancock	M.J. ORCHARD	1991	91-GGA-13-5A	conodont; foraminiferid; radiolarian; gastropod; echinoderm; cephalopod (ammonoid); bivalve; sponge; fish	microfossil
2	C-176035	Late Triassic, Late Norian	Hancock	M.J. ORCHARD	1994	91-GGA-13-6A	conodont; foraminiferid; radiolarian; gastropod; echinoderm; cephalopod (ammonoid); bivalve; sponge; fish	microfossil
3	C-176012	Middle or Late Triassic, Anisian-Carnian	Cache Creek	F. CORDEY	1994	91-GGA-10-01C	radiolarian	microfossil
4	C-176014	Late Triassic, Norian?	Hancock	M.J. ORCHARD	1991	91-GGA-13-3A	conodont; foraminiferid; radiolarian; gastropod; echinoderm; cephalopod (ammonoid); bivalve; sponge; fish	microfossil
5	C-300023	Late Triassic-Middle Jurassic	Cache Creek	F. CORDEY	1991	91-GGA-13-03B	radiolarian	microfossil
6	C-176059	Late Triassic, Middle-Late Norian	Hancock	M.J. ORCHARD	1991	91-GGA-13-2B	conodont; foraminiferid; radiolarian; gastropod; echinoderm; cephalopod (ammonoid); bivalve; sponge; fish	microfossil
7	O-025048	probably late Norian	Hancock	E.T. TOZER			bivalve	macrofossil
8	C-117184	Late Carboniferous (Pennsylvanian)-Early Permian?	Cache Creek	M.J. ORCHARD	1985	85-TD-WH-1	conodont; foraminiferid; radiolarian; gastropod; echinoderm, holothuroid; sponge; fish	microfossil

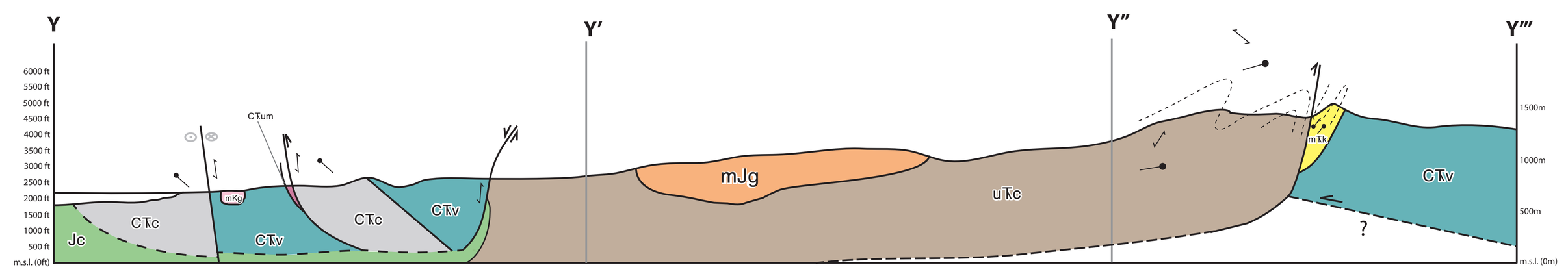
Isotopic Age Determinations

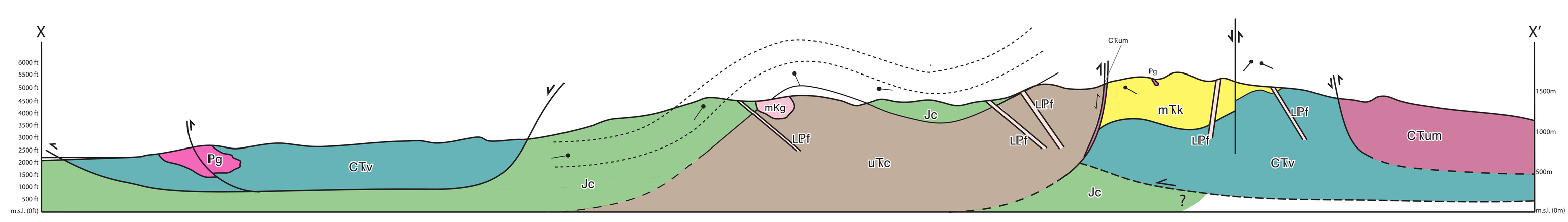
Map ID	Type	Station #	Age (Ma)	Material	Method	Interpretation	Reference
1	K-Ar	89CH64-1	104 +/- 4	Hornblende		crystallization	Hart (1995) M.Sc. thesis, University of British Columbia
2	U-Pb	10MC049	244.54 +/- 0.13	Zircon (detrital)	CA-TIMS	source	Bickerton (2014)
3	U-Pb	12LB181	245.85 +/- 0.07	Zircon (detrital)	CA-TIMS	source	Bickerton (2014)
4	U-Pb	12LB220	*ca.* 190	Zircon (detrital)	LA-ICPMS	source	Bickerton (2014)

CROSS-SECTIONS









NOTES

1) Geology of the northeastern and western portion of the Tagish (NTS 105D/8) map area is after Wheeler (1961).

2) Geology of the western portion of the Streak Mountain (NTS 105C/12) and north western portion of the Squanga Lake (NTS 105C/5) is after Gordey and Stevens (1994).

3) Detrital zircon dates from coarse sandstones of "Michie formation" is from this mapping study (Bickerton, 2014).

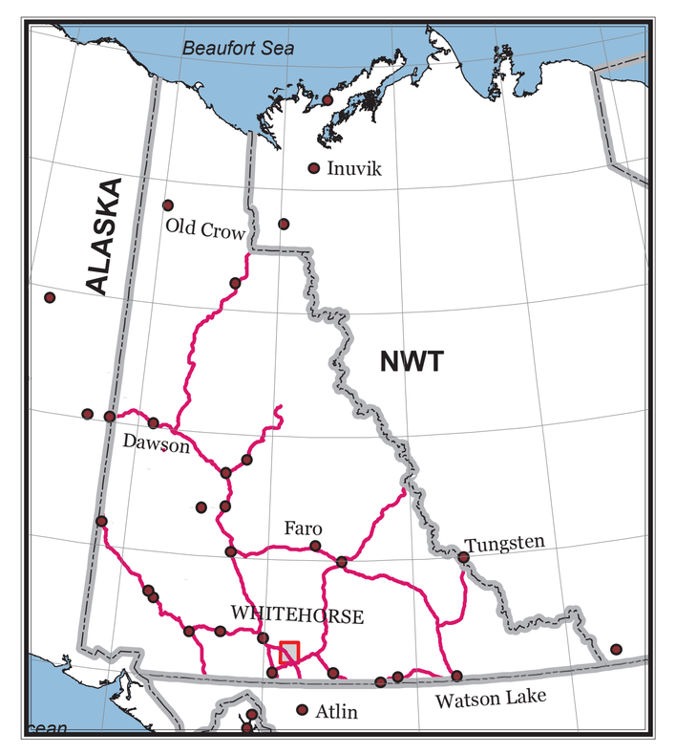
REFERENCES

GORDEY, S.P. and STEVENS, R.A., 1994. Geology, Teslin, Yukon Territory: Geological Survey of Canada, Open File 2886, 1:250 000.

HART, C.J.R., 1995. Magmatic and tectonic evolution of the Intermontane superterrane and coast plutonic complex in southern Yukon Territory. Unpublished MSc. Thesis, University of British Columbia, Vancouver, British Columbia.

WHEELER, J.O., 1961. Whitehorse map-area, Yukon Territory, 105D. Geological Survey of Canada, Memoir 312, 156 p.

BICKERTON, L., 2014. The northern Cache Creek terrane: a record of Middle Triassic arc activity and Jurassic-Cretaceous terrane imbrication. Unpublished MSc. Thesis, Simon Fraser University, Burnaby, British Columbia.



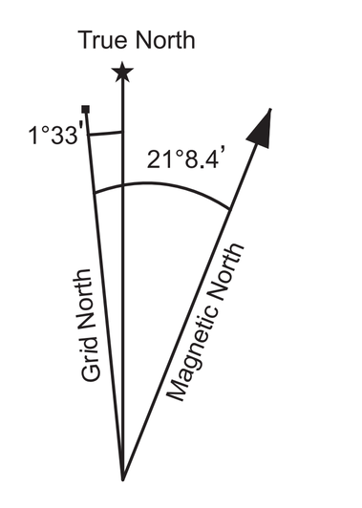
1:50 000-scale topographic base data produced by CENTRE FOR TOPOGRAPHIC INFORMATION, NATURAL RESOURCES CANADA

ONE THOUSAND METRE GRID
Universal Transverse Mercator Projection
North American Datum 1983
Zone 8

CONTOUR INTERVAL 20 METRES
Elevations in metres above Mean Sea Level

BEDROCK GEOLOGY
MICHIE CREEK/TAGISH
YUKON

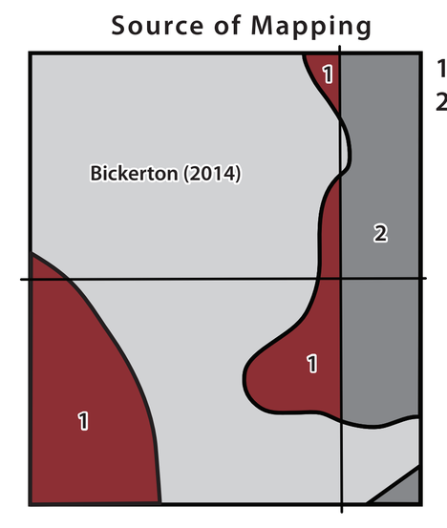
SCALE 1:50 000
0 1 2 3 4 5
kilometres



Use diagram only to obtain numerical values
APPROXIMATE MEAN DECLINATION 2005
FOR CENTRE OF MAP

105D/15 Joe Mountain	105D/16 Mount M'Clintock	105C/13 Rosy Lake
105D/10 Macrae	105D/09 THIS MAP	105C/12 Streak Mountain
105D/07 Robinson		105C/05 Squanga Lake

Source of Mapping



1 Wheeler (1961)
2 Gordey and Stevens (1994)

APPENDIX A

Geological map of Michie Creek area (NTS 105D/9) and parts of Tagish area (NTS 105D/8) (1:50,000 scale)

by

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