

LEGEND

SYMBOLS

geologic contacts (approximate, inferred).....

fault, movement not known (approximate, inferred).....

thrust fault (approximate, inferred).....

normal fault (approximate, inferred).....

fold axial trace (anticline, syncline).....

bedding (general, upright, overturned).....

apparent dip of bedding (in cross-section).....

field station (number refers to fossils table).....

road.....

seismic transect (with station numbers).....

GEOCHRONOLOGY

Material: B = biotite, Hn = hornblende, Zn = zircon, WR = whole rock

Sources:

- (1) Beltsprecher and Mortensen (2004)
- (2) M. Colpron and R. Friedman, unpublished data (2002-2007)

NOTES

This map presents an interpretation of the bedrock geology of the northern Whitehorse trough as extrapolated from field observations and a reflection seismic survey (White et al., 2006). Although much of the bedrock in this region is concealed by locally extensive Quaternary deposits, we present here an interpretation that is projected beneath this cover. This map was compiled from field observations by the authors during the summers 2002-2006 and from field notes by D. Tempelman-Kluit and co-workers (1972-1984; compiled in Tempelman-Kluit, 1984). Lauren Blackburn digitally captured these archival notes and corrected the location of some fossil and geochronology samples. Geology east of Frenchman Lake is in part modified from Colpron et al. (2002). Geology west of the Klondike highway is primarily from Cordey and Makepeace (1999).

Interpretation of the seismic profiles (White et al., 2006) was primarily completed by D. White and M. Colpron, and benefited from discussions with G. Abbott, D. Murphy, C. Hart, D. Thorkelson, G. Buffett, B. Roberts, S. Israel, L. Pigeau, S. Gordey, L. Lane, and K. Ozadetz.

REFERENCES

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DIGITAL CARTOGRAPHY and drafting by Maurice Colpron, Yukon Geological Survey.

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

Paper copies of this map, accompanying reports and Yukon MINFILE may be purchased from Geoscience Information and Sales, c/o Whitehorse Mining Recorder, Energy, Mines and Resources, Yukon Government, Room 102 - 300 Main St., Whitehorse, Yukon, Y1A 2B5. Ph. 867-667-5200, Fax. 867-667-5150, Email geosales@gov.yk.ca.

A digital PDF (portable document file) file of this map may be downloaded free of charge from the Yukon Geological Survey website: <http://www.geology.gov.yk.ca>.

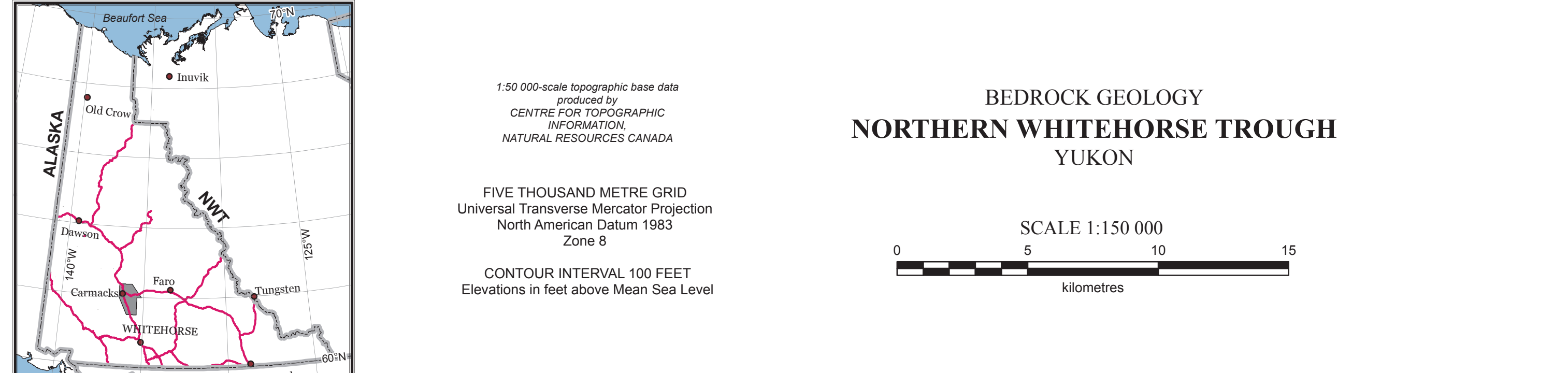
Fossils

Locality	GSC-ID	Material	Age	Unit	CAI	Paleontologist
1	C-091763	bivalves	late Pliensbachian	Tanglefoot fm		H.W. Tipper (1)
2	C-091777	ammonites	Early Jurassic, Sinemurian or Pliensbachian	Tanglefoot fm		T.P. Poulton (1)
3	C-091782	ammonites	possibly very late Pliensbachian	Tanglefoot fm		H.W. Tipper (1)
4	C-091784	ammonites	probably early Toarcian	Tanglefoot fm		H. Frieboel (1)
5	C-091778	ammonites	early Bajocian?	Tanglefoot fm		H.W. Tipper (1)
6	C-091781	ammonites	early Bajocian	Tanglefoot fm		H.W. Tipper (1)
7	C-091774	ammonites	late Pliensbachian, older than C-091782	Tanglefoot fm		H.W. Tipper (1)
8		ichthyoliths	Carman?	Hancock mb	1.5-2.5	M.J. Orchard (2)
9		ichthyoliths	Carman, early Norian	Hancock mb	1.5-2.5	M.J. Orchard (2)
10	C-202960	conodonts	Aptian or early-middle Alban	Tantulus fm		A.R. Sweet (2)
11	C-440138	palynomorphs	Middle Jurassic, early Bajocian	Tantulus fm		A.R. Sweet (2)
12	C-440187	palynomorphs	Middle Jurassic, early Bajocian	Tantulus fm		A.R. Sweet (2)
13	C-202965	palynomorphs	Early Paleocene - late Neogene	Tantulus fm		A.R. Sweet (2)
14		ichthyoliths	Carman - early Norian	Hancock mb		M.J. Orchard (2)
15	C-091780	bivalves	Middle Jurassic, possibly middle Bajocian	Tanglefoot fm		T.P. Poulton (2)
16	C-096429	conodonts	Late Triassic, Norian	Hancock mb	2.5-3.5	M.J. Orchard (1)
17	C-202734	conodonts	Late Triassic	Hancock mb		M.J. Orchard (1)
18	C-096430	conodonts	Late Triassic, Norian	Hancock mb	2.5	M.J. Orchard (1)
19	C-096428	conodonts	Late Triassic, Carman	Hancock mb	2.5-3.5	M.J. Orchard (1)
20	C-096427	conodonts	probably Late Triassic, Carman	Hancock mb	2.5-3.5	M.J. Orchard (1)
21	C-202735	conodonts	Late Triassic	Hancock mb		M.J. Orchard (1)
22	C-202736	conodonts	Late Triassic	Hancock mb		M.J. Orchard (1)
23	C-307621	conodonts	Late Triassic, Carman	Hancock mb		M.J. Orchard (2)
24	C-307667	ammonites	Toarcian or Middle Jurassic, possibly mid- to late Aalenian	Tanglefoot fm		T.P. Poulton (2)
25	C-090606	palynomorphs	Early Cretaceous	Tantulus fm		W.S. Hopkins (1)
26	C-090607	palynomorphs	Early Cretaceous	Tantulus fm		W.S. Hopkins (1)
27	C-090608	palynomorphs	Early Cretaceous	Tantulus fm		W.S. Hopkins (1)
28	C-090609	palynomorphs	Early Cretaceous	Tantulus fm		W.S. Hopkins (1)
29	C-090608	palynomorphs	Early Cretaceous	Tantulus fm		W.S. Hopkins (1)
30	C-090609	palynomorphs	Early Cretaceous	Tantulus fm		W.S. Hopkins (1)
31	C-440148	palynomorphs	Early Cretaceous	Tantulus fm		A.R. Sweet (2)
32	C-096352	conodonts	Neocomian	Tantulus fm		A.R. Sweet (2)
33	C-440147	palynomorphs	Early Cretaceous	Tantulus fm		A.R. Sweet (2)
34	C-096437	conodonts	Late Triassic, Carman	Hancock mb	4-4.5	M.J. Orchard (1)
35	C-86700	bivalves	Late Triassic, possibly late Carman	Mandanna mb		H.W. Tipper (1)
36	C-307616	conodonts	Carman	Hancock mb		M.J. Orchard (2)
37	C-307665	ammonites	early Pliensbachian?	Tanglefoot fm		T.P. Poulton (2)
38	O-097034	bivalves	Late Triassic, probably late Norian	Hancock mb		E.T. Tozer (1)
39	O-097037	ammonites	early Pliensbachian	Nordenskiöld fm		E.T. Tozer (1)
40	C-096434	conodonts	Late Triassic, Norian	Casca mb	5	M.J. Orchard (1)
41	O-097042	bivalves	Late Triassic, probably late Norian	Casca mb		E.T. Tozer (1)
42	C-096433	conodonts	Late Triassic?	Casca mb		M.J. Orchard (1)
43	C-096432	conodonts	Late Triassic, late Norian	Casca mb	4.6-5.5	M.J. Orchard (1)
44	C-096430	bivalves	Middle Jurassic	Tanglefoot fm		T.P. Poulton (1)
45	C-307668	bivalves	Bajocian or Bathonian?	Tanglefoot fm		T.P. Poulton (2)
46	C-096807	ammonites	late Pliensbachian	Tanglefoot fm		J.A. Juretzky (1)
47	C-096808	ammonites	early Pliensbachian	Tanglefoot fm		H.W. Tipper (1)
48	C-307620	bivalves	late Norian-Pliensbachian	Hancock mb		M.J. Orchard (2)
49	C-307642	corals	Late Triassic, probably late Norian	Mandanna mb		E.T. Tozer (1)
50	C-081315	ammonites, bivalves	Toarcian?, Early Jurassic	Nordenskiöld fm		T.P. Poulton (1)
51	C-081308	bivalves	mid-early - early-middle Sinemurian	Tanglefoot fm		T.P. Poulton (1)
52	C-081309	bivalves	Sinemurian	Tanglefoot fm		T.P. Poulton (1)
53	C-081310	bivalves	Sinemurian	Tanglefoot fm		T.P. Poulton (1)
54	C-081311	bivalves	Sinemurian	Tanglefoot fm		T.P. Poulton (1)
55	C-081322	bivalves	Sinemurian	Tanglefoot fm		T.P. Poulton (1)
56	C-081323	bivalves	Sinemurian	Tanglefoot fm		T.P. Poulton (1)
57	C-307675	bivalves	Sinemurian or Pliensbachian, most likely late Sinemurian	Tanglefoot fm		T.P. Poulton (2)
58	C-096446	conodonts	Late Triassic, late Carman	Mandanna mb	3-4	M.J. Orchard (1)
59	C-096445	conodonts	Late Triassic, late Carman	Mandanna mb	3.5-4	M.J. Orchard (1)
60	O-097043	corals	Late Triassic	Hancock mb		E.T. Tozer (1)
61	C-090607	palynomorphs	Early Cretaceous-recent	Tantulus fm		W.S. Hopkins (1)
62	O-097039	corals	Late Triassic, probably late Norian	Casca mb		E.T. Tozer (1)
63	O-097041	bivalves	Late Triassic, probably late Norian	Casca mb		E.T. Tozer (1)
64	O-097044	brachiopods	Late Triassic?	Hancock mb		E.T. Tozer (1)
65	O-097045	corals	probably Late Triassic	Hancock mb		E.T. Tozer (1)

Mineral Occurrences

Yukon MINFILE (Deklerk and Traynor, 2005)

105E 010	Pickers	showing	Cu skarn	115H 054	Bushy	unknown	coal
105E 058	Coughlan	unknown	unknown	115I 001	South Tantulus	deposit	coal
105E 061	Brabum Lime	drilled prospect	limestone	115I 002	Tantulus Mine	underground past producer	coal
105L 038	Eugene	unknown	coal	115I 003	Tantulus Butte	underground past producer	coal
105L 044	Conservation	unknown	unknown	115I 004	Five Fingers, Millers	underground past producer	coal
105L 061	Obird	showing	Cu-Ag porphyry	115I 005	Conglomerate	anomaly	showing
105L 066	Frenchman	anomaly	Cu-Ag veins	115I 077	Crossing	showing	Cu veins
115H 001	Loesch	prospect	coal	115I 078	Ewing	unknown	unknown
115H 002	Andreas Porter, May	prospect	coal	115I 080	Meyers	unknown	unknown
115H 003	Nippon, Ah, Raz	showing	Cu-Mo-Au porphyry	115I 092	Rink	anomaly	coal
115H 004	Ah	showing	Cu massive sulphide	115I 098	Hlavay	drilled prospect	coal
115H 005	Alice, Arch, Earl, Ross, Bingo	anomaly	unknown	115I 108	Toot	showing	Cu-Mo-Au porphyry
115H 031	Orloff, King Orloff, Wisper	anomaly	unknown	115I 116	Dorward	unknown	unknown
115H 044	Power	showing	Au, Zn, Pb, Ag veins	115I 118	Johah	unknown	unknown



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