

INTRUSIVE ROCKS

EOCENE

- E_{wh}** white-weathering, aphanitic to fine-grained, locally flow-banded quartz-feldspar porphyry; commonly contains phenocrysts of smoky grey quartz, biotite and white feldspar

CRETACEOUS

- T_{YR}** Tay River plutonic suite
- M_{KTRg}** Orchay phase - biotite + hornblende granite to granodiorite
- M_{KAg}** Mount Mye phase - biotite-muscovite granite; locally foliated

PERMIAN?

- P_{um}** mafic and ultramafic intrusive rocks; locally extensively sheared and serpentinized

ORDOVICIAN-SILURIAN

- O_{Sg}** gabbro and pyroxenite

LAYERED ROCKS

YUKON-TANANA TERRANE

TRIASSIC

- T_{Yp}** Faro Peak formation

PALEOZOIC

metasedimentary and metavolcanic rocks

- P_{Y1}** medium to dark grey, locally gritty, muscovite meta-quartzite to quartzose schist; contains bands of greenschist, gabbro, phyllite; rarely contains eclogite lenses
- P_{Y2}** grey to tan, massive limestone or dolostone
- P_{Y3}** medium to dark olive green, chloritic phyllite to amphibolite; locally displays relict equigranular igneous texture; locally includes ultramafic rocks and/or eclogite (P_{Y3c})
- P_{Y4}** felsic orthogneiss or paragneiss

PERMIAN

- P_{CR}** resistant, massive, polydeformed conglomerate; interbedded with carbonaceous shale or siltstone, fine-grained limestone, grey, green, red and black bedded chert, sandstone and mafic greywackes, and aphanitic basalt

DEVOLCANIC

- D_{CR}** Epitaxial, locally hematitic, dark green, resistant, massive, poorly foliated basalt or trachyandesite; contains lesser grey, green, red and black bedded chert, and pale green kaolinitic sandstone or conglomerate

EARLY CARBONIFEROUS-PERMIAN

- C_{Phw}** pale green, tan-weathering, bedded phyllitic 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

DEVONIAN-PERMIAN

- D_{PMMA}** undivided Rose Mountain formation and Mount Aho formation

DEVONIAN-EARLY CARBONIFEROUS

- D_{CMw}** dark grey to black, noncalcareous, siliceous argillite and bedded chert with lesser siltstone, sandstone, chert-pebble conglomerate and limestone; contains silvery cream, tan-weathering, bedded phyllitic chert with light grey barite beds
- D_{CMn}** pale green, noncalcareous argillite and bedded chert with lesser shale and siltstone breccia; grey sandstone and chert-pebble conglomerate; locally contains maroon argillite and bedded chert; contains silvery cream, tan-weathering, bedded phyllitic chert with light grey barite beds

ANCIENT NORTH AMERICA

- D_{CL}** dark grey to black, noncalcareous, siliceous argillite with lesser siltstone, sandstone, chert-pebble conglomerate and limestone

SILURIAN

- S_{Sp}** dark grey to black, platy, tan-weathering, thinly laminated, dolomitic siltstone

Road River Group

- S_S** tan-to-orange-weathering, dolomitic, bioturbated, silty mudstone

ORDOVICIAN-DEVONIAN

- O_{DDL}** dark grey to black, granitic argillite; contains lesser medium to pale grey siltstone and fine sandstone, medium grey limestone and basalt flows
- O_{DM}** massive, medium-grained, quartz sandstone interbedded with pale tan-weathering limestone or dolostone
- O_{DMc1}** massive, medium-grained, quartz sandstone interbedded with pale tan-weathering limestone or dolostone
- O_{DMc2}** dark grey green, locally amphibolitic, massive and pillowed basalt with minor noncalcareous basalt breccia, volcanoclastic sandstone and tuff
- O_{DMc3}** dark grey green, monolithic basalt breccia with lesser volcanoclastic sandstone, siltstone and tuff, and masses and pillowed flows

CAMBRIAN-ORDOVICIAN

- C_{OV1}** soft, silvery grey, siliceous phyllite with lesser medium crystalline, grey marble, dark grey to black phyllite and dark green gabbro dykes and sills (O_{S2})
- C_{OV2}** pale green and dark purplish brown, thinly bedded calc-silicate rock, with lesser black schist, marble and dark green gabbro dykes and sills (O_{S2})
- C_{OV3}** black, locally calcareous, carbonaceous phyllite or schist; commonly contains thin quartzite interbeds; interbedded with dark green gabbro dykes and sills (O_{S2})
- C_{OV4}** black phyllite to schist; locally contains lenses and beds of black carbonaceous limestone and dark green gabbro dykes and sills (O_{S2})

UPPER PROTEROZOIC-CAMBRIAN

- U_{PCMM}** brownish grey, noncalcareous, pervasively foliated phyllite, locally indistinctly bedded; contains minor siltstone, marble, calc-silicate rock, carbonaceous phyllite and dark green gabbro dykes and sills (O_{S2})
- U_{PCMN}** brownish grey, noncalcareous, pervasively foliated muscovite-biotite schist; may contain minor siltstone, marble, calc-silicate rock, carbonaceous phyllite and dark green gabbro dykes and sills (O_{S2})
- U_{PCMH}** pale green and dark purplish brown, thinly bedded calc-silicate rock; contains marble and siliceous marble beds and dark green gabbro dykes and sills (O_{S2}); lithologically similar to Vangoro calc-silicate rock
- U_{PCML}** dark to pale grey, medium crystalline marble; typically contains abundant routes of calc-silicate rock and/or quartz; locally contains coarsely crystalline garnet-pyroxene schist
- U_{PCM2}** black phyllite to schist; locally contains lenses and beds of black carbonaceous limestone and dark green gabbro dykes and sills (O_{S2})

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REFERENCES - ISOTOPIC AGE DATES

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RECOMMENDED CITATION

Pigeau, L.C., 2004. Geological map of Anvil District (NTS 105K/2, 3, 5, 6, 7, 11), central Yukon (1:100 000 scale). Yukon Geological Survey, Geoscience Map 2004-2, also Plate 2 in Bulletin 15.

This map accompanies the bulletin:

Pigeau, L.C., 2004. Bedrock geology compilation of the Anvil District (parts of 105K/2, 3, 5, 6, 7, and 11), central Yukon. Yukon Geological Survey, Bulletin 15.

Digital cartography and drafting by L.C. Pigeau, Yukon Geological Survey.

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

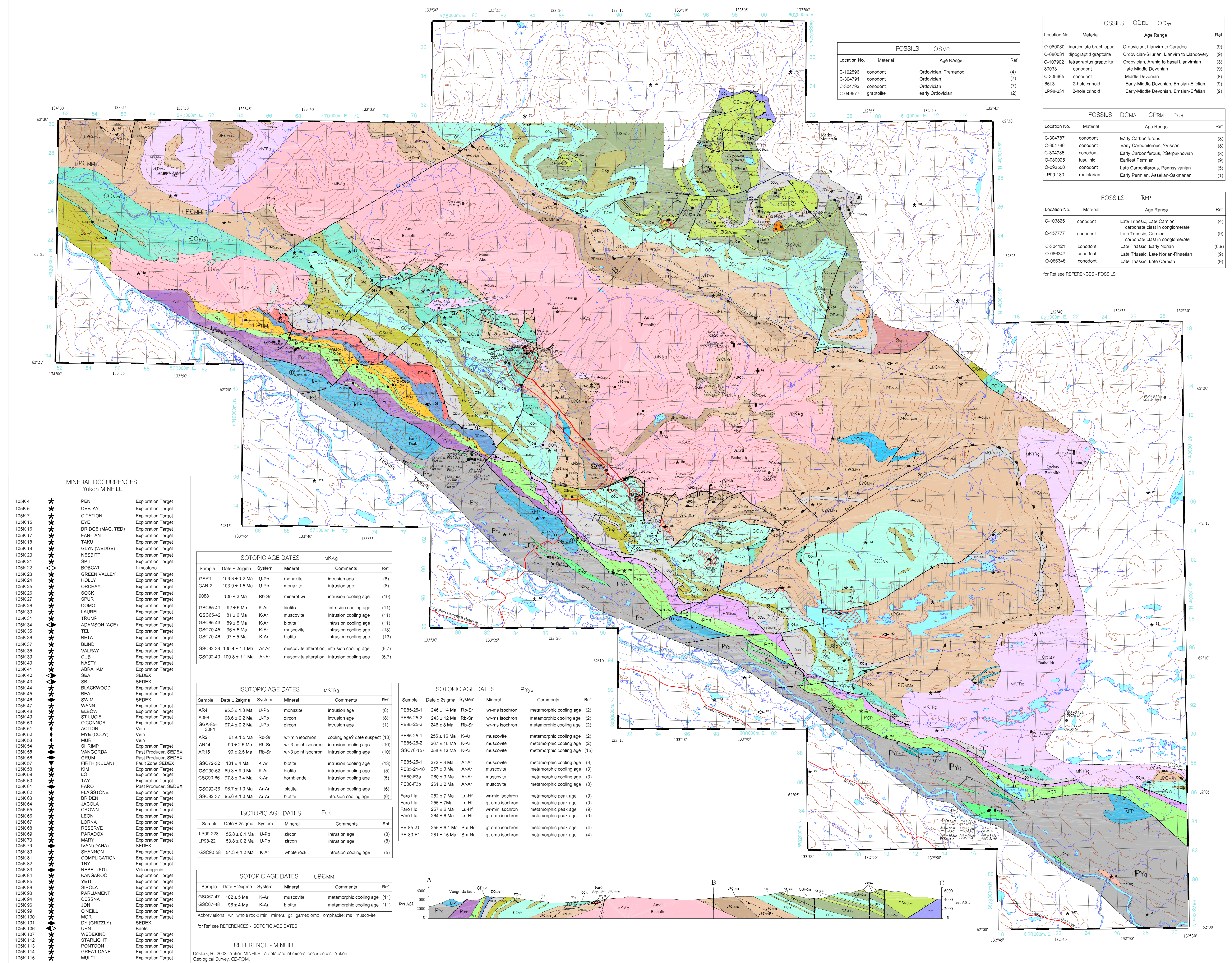
Printer copies of this map, the accompanying report and Yukon MINFILE may be purchased from the Geoscience Information and Sales, Geoscience Mining Recorder, Box 2703 (K-102), Whitehorse, Yukon, Y1A 2C0. Phone 867-667-3200, Fax 867-667-5150, Email gsoles@gov.yk.ca.

A digital PDF (Portable Document Format) file of this map may be downloaded free of charge from the Yukon Geological Survey website at www.geology.gov.yk.ca.

Keep this map in a dark area to keep colours from fading.

An earlier version of this map was published as Geoscience Map 2001-31 by Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada.

Yukon Geological Survey
Energy, Mines and Resources
Yukon Government



MINERAL OCCURRENCES
Yukon MINFILE

105K 4	★	PEN	Exploration Target
105K 5	★	DEEJAY	Exploration Target
105K 7	★	CITATION	Exploration Target
105K 15	★	EYE	Exploration Target
105K 16	★	BRIDGE (MAG, TED)	Exploration Target
105K 17	★	FAN-TAN	Exploration Target
105K 18	★	TAKU	Exploration Target
105K 19	★	GLYN (WEDGE)	Exploration Target
105K 20	★	NESBITT	Exploration Target
105K 21	★	SPIT	Exploration Target
105K 22	★	BOBAC	Exploration Target
105K 23	★	GREEN VALLEY	Exploration Target
105K 24	★	HOLLY	Exploration Target
105K 25	★	ORCHAY	Exploration Target
105K 26	★	SOCK	Exploration Target
105K 27	★	SPUR	Exploration Target
105K 28	★	DOMO	Exploration Target
105K 30	★	LAUREL	Exploration Target
105K 31	★	TRUMP	Exploration Target
105K 32	★	ADAMSON (ACE)	Exploration Target
105K 35	★	TEL	Exploration Target
105K 36	★	BETA	Exploration Target
105K 37	★	BUND	Exploration Target
105K 38	★	VALRAY	Exploration Target
105K 39	★	CUB	Exploration Target
105K 40	★	NASTY	Exploration Target
105K 41	★	ASRAMAM	Exploration Target
105K 42	★	SEA	SEDEX
105K 43	★	SB	SEDEX
105K 44	★	BLACKWOOD	Exploration Target
105K 45	★	BEA	Exploration Target
105K 46	★	SWIMM	Exploration Target
105K 47	★	WANN	Exploration Target
105K 48	★	ELBOW	Exploration Target
105K 49	★	ST LUCIE	Exploration Target
105K 50	★	O'CONNOR	Exploration Target
105K 51	★	ACTION	Exploration Target
105K 52	★	MOVE (CODY)	Vein
105K 53	★	MUR	Vein
105K 54	★	SHIRASP	Exploration Target
105K 55	★	VANGORDA	Past Producer, SEDEX
105K 56	★	GRUM	Past Producer, SEDEX
105K 57	★	FIRTH (KULAN)	Past Producer, SEDEX
105K 58	★	KIM	Exploration Target
105K 59	★	LO	Exploration Target
105K 60	★	TAY	Exploration Target
105K 61	★	FARO	Past Producer, SEDEX
105K 62	★	FLAUSTONE	Exploration Target
105K 63	★	BRIDEN	Exploration Target
105K 64	★	JACOBA	Exploration Target
105K 65	★	CHOCUN	Exploration Target
105K 66	★	LEON	Exploration Target
105K 67	★	LORNA	Exploration Target
105K 68	★	RESEBET	Exploration Target
105K 69	★	PARADOX	Exploration Target
105K 70	★	MARY	Exploration Target
105K 71	★	IVAN (DANA)	Exploration Target
105K 72	★	SHANNON	Exploration Target
105K 73	★	COMPLICATION	Exploration Target
105K 74	★	TRIVY	Exploration Target
105K 75	★	REBEL (KD)	Exploration Target
105K 76	★	KANGAROO	Exploration Target
105K 77	★	YETI	Exploration Target
105K 78	★	SIROLA	Exploration Target
105K 79	★	PARLIAMENT	Exploration Target
105K 80	★	CESSNA	Exploration Target
105K 81	★	JON	Exploration Target
105K 82	★	ONEILL	Exploration Target
105K 83	★	MOR	Exploration Target
105K 84	★	DY (GRIZZLY)	SEDEX
105K 85	★	UNU	SEDEX
105K 86	★	WEDKIND	Exploration Target
105K 87	★	STARLIGHT	Exploration Target
105K 88	★	PONTOON	Exploration Target
105K 89	★	GREAT DANE	Exploration Target
105K 90	★	MULTI	Exploration Target

ISOTOPIC AGE DATES

Sample	Date ± 2σ (Ma)	System	Mineral	Comments	Ref
QAR-1	102.3 ± 1.2	U-Pb	monazite	intrusion age	(8)
QAR-2	103.8 ± 1.5	U-Pb	monazite	intrusion age	(8)
9088	100 ± 2	Rb-Sr	mineral-wr	intrusion cooling age	(10)
GSC65-41	92 ± 5	K-Ar	biotite	intrusion cooling age	(11)
GSC65-42	81 ± 8	K-Ar	muscovite	intrusion cooling age	(11)
GSC65-43	89 ± 5	K-Ar	biotite	intrusion cooling age	(11)
GSC70-45	95 ± 5	K-Ar	muscovite	intrusion cooling age	(13)
GSC70-46	97 ± 5	K-Ar	biotite	intrusion cooling age	(13)
GSC92-39	100.8 ± 1.1	Ar-Ar	muscovite alteration	intrusion cooling age	(6,7)
GSC92-40	100.8 ± 1.1	Ar-Ar	muscovite alteration	intrusion cooling age	(6,7)

ISOTOPIC AGE DATES

Sample	Date ± 2σ (Ma)	System	Mineral	Comments	Ref
ARA	95.3 ± 1.3	U-Pb	monazite	intrusion age	(8)
AIS8	86 ± 0.2	U-Pb	zircon	intrusion age	(9)
GSA-85-30F1	97.4 ± 0.2	U-Pb	zircon	intrusion age	(1)
AR2	81 ± 1.5	Rb-Sr	wr-min isochron	cooling age? date suspect	(10)
AR14	99 ± 2.5	Rb-Sr	wr-3 point isochron	intrusion cooling age	(10)
AR15	99 ± 2.5	Rb-Sr	wr-3 point isochron	intrusion cooling age	(10)
GSC72-32	101 ± 4	K-Ar	biotite	metamorphic cooling age	(13)
GSC90-82	89.3 ± 9.9	K-Ar	biotite	intrusion cooling age	(5)
GSC90-88	87.8 ± 3.4	Mg-Ar	hornblende	intrusion cooling age	(3)
GSC92-36	86.7 ± 1.0	Ar-Ar	biotite	intrusion cooling age	(6)
GSC92-37	85.6 ± 1.0	Ar-Ar	biotite	intrusion cooling age	(6)

ISOTOPIC AGE DATES

Sample	Date ± 2σ (Ma)	System	Mineral	Comments	Ref
LP99-228	55.8 ± 0.1	U-Pb	zircon	intrusion age	(8)
LP98-22	53.8 ± 0.2	U-Pb	zircon	intrusion age	(8)
GSC90-88	84.3 ± 1.2	Mg-Ar	whole rock	intrusion cooling age	(5)

Abbreviations: wr - whole rock; min - mineral; gr - garnet; omp - omphacite; ms - muscovite

for Ref see REFERENCES - ISOTOPIC AGE DATES

ISOTOPIC AGE DATES

Sample	Date ± 2σ (Ma)	System	Mineral	Comments	Ref
PE85-25-1	246 ± 14	Rb-Sr	wr-min isochron	metamorphic cooling age	(2)
PE85-25-2	243 ± 12	Rb-Sr	wr-min isochron	metamorphic cooling age	(2)
PE85-25-2	246 ± 8	Rb-Sr	wr-min isochron	metamorphic cooling age	(1)
PE85-25-1	256 ± 16	K-Ar	muscovite	metamorphic cooling age	(2)
PE85-25-2	267 ± 16	Mg-Ar	muscovite	metamorphic cooling age	(2)
GSC78-157	258 ± 13	Mg-Ar	muscovite	metamorphic cooling age	(15)
GSC72-32	273 ± 3	Mg-Ar	muscovite	metamorphic cooling age	(13)
PE85-21-10	267 ± 3	Mg-Ar	muscovite	metamorphic cooling age	(3)
PE80-F3a	250 ± 3	Mg-Ar	muscovite	metamorphic cooling age	(3)
PE80-F3b	261 ± 2	Mg-Ar	muscovite	metamorphic cooling age	(3)
Faro IIIa	252 ± 7	Mg-Hf	wr-min isochron	metamorphic peak age	(9)
Faro IIIa	250 ± 7	Mg-Hf	gr-omp isochron	metamorphic peak age	(9)
Faro IIIc	257 ± 8	Mg-Hf	wr-min isochron	metamorphic peak age	(9)
Faro IIIc	254 ± 8	Mg-Hf	gr-omp isochron	metamorphic peak age	(9)
PE-85-21	255 ± 8.1	Mg-Nd	gr-omp isochron	metamorphic peak age	(4)
PE-80-F1	261 ± 15	Mg-Nd	gr-omp isochron	metamorphic peak age	(4)

ISOTOPIC AGE DATES

Sample	Date ± 2σ (Ma)	System	Mineral	Comments	Ref
GSC67-47	102 ± 5	K-Ar	muscovite	metamorphic cooling age	(11)
GSC67-48	98 ± 4	K-Ar	biotite	metamorphic cooling age	(11)

Abbreviations: wr - whole rock; min - mineral; gr - garnet; omp - omphacite; ms - muscovite

for Ref see REFERENCES - ISOTOPIC AGE DATES

REFERENCE - MINFILE

Doherty, R., 2003. Yukon MINFILE - a database of mineral occurrences. Yukon Geological Survey, CD-ROM.

ANVIL DISTRICT
(105K/2, 3, 5, 6, 7, 11)
YUKON
SCALE 1:100 000

