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Geological Survey Branch
Open File 2001-2

GEOLOGY OF THE SOUTHERN McCONNELL RANGE BRITISH COLUMBIA

PARTS OF NTS 94D/9, 10, 15, 16
by Andrew Legun
SCALE 1:50 000

0 1 2 3 4 5 Kilometres

VOLCANIC AND SEDIMENTARY ROCKS

LATE TRIASSIC TAKLA GROUP

MOOSEVALE FORMATION

uTrMs

Crystal lithic tuff and volcanic breccia, andesitic tuff, volcanic greywacke and minor sills of megacrystic augite porphyry (uTrMs-p). The breccias contain clasts of feldspar-augite porphyry, augite porphyry, and "snowflake" feldspar lathe porphyry in a tuffaceous matrix with scattered broken grains of feldspar. The clasts are derived by a few grey dacitic-andesitic clasts with amphibole. The lower part of the sequence includes matrix supported conglomerates and graded, stratified conglomerates with large slabs of transported red siltstone. The sequence probably represents deposits of submarine slumps and fans proximal to a subaerial volcanic edifice.

BASAL MOOSEVALE FACIES

uTrMs-B

A lens of bedded epiclastic sediments lying on reddened top of the uppermost lathe porphyry flow of Savage Mountain facies. The sequence consists of crossbedded tuffaceous sandstones, sandy conglomerate, red and green siltstones, very thin beds of brown limy siltstone, and laminated cherty siltstone. Minor detrital quartz is found in the sandstones. Interbedded is minor reddish lithic crystal tuff.

SAVAGE MOUNTAIN FORMATION

uTrSv

Massive basalt, basaltic flows and minor tuff; includes pillowd basalt, reddish and rubby amygdaloidal flows.

North side of Menard Valley

Mostly dark green massive basalt, basalt flows, pillowd basalt

South side of Menard Valley

Includes hematitic, amygdaloidal flows with rubble tops and red aphanitic lenses of baked mudstone and tuff.

Johanson highland

Includes "snowflake" feldspar lathe porphyry, as thin flows, sills, hypabyssal dikes.

Lithologies:

- (b) dark aphanitic basalt, greenish chloritized basalt.
- (bp) basalt porphyry, feldspar and augite phenocrysts
- (ap) basalt porphyry, large black euhedral augite phenocrysts
- (lp) feldspar lathe porphyry, amygdaloidal lathe porphyry (lpa)
- (bx) volcanic breccia, amygdaloidal breccia (bxa)

Locally mappable lithic tuff and breccia on Johanson highland.

INTRUSIVE ROCKS

EARLY JURASSIC

uIBi

Black Lake Intrusive Suite
Calc-alkaline granodiorite to diorite to monzonogranite phases in composite stock and batholith bodies.

LATE TRIASSIC

uTrMs-p

Dikes of augite porphyry, characterised by large phenocrysts, 1-2cm.

uTr?cp

Subvolcanic dacitic to andesitic porphyry of unknown age.

MENARD COMPLEX

uTrum1

Grey to greenish clinopyroxenite +/- olivine. Medium to coarse grained to locally pegmatitic. Cumulate textures in thin section.

uTrum2

Clinopyroxenite and magnetite-rich gabbro. Includes bands of pyroxenite in gabbro and masses of pyroxenite in gabbro.

uTrum3

Gabbro, consisting of subequal proportions of plagioclase and clinopyroxene, variably enriched in magnetite (5-15%). Accessory minerals include ilmenite, trace olivine, biotite. Weathers orange.

uTrum4

Leuco to melanocratic gabbro and banded hornblende diorite with zones of magnetite-rich rock, minor dikes of diorite. Gabbro texture varies from intergranular to subachytic.

uTrum5

Interlayered gabbro, basalt, lathe porphyry and pyroxenite. Lathe porphyry as late sills.

LEGEND

Station location	.....
Limit of outcrop	.....
Contacts defined, approximate	.....
Fault defined, approximate	.....
Dike	.....
Bedding	.....
Foliation	.....
Minfile class (with name):	.....
Showing	.....
Prospect	.....
Mineral showing (not in minfile):	.....
minor	.....
sampled for assay	.....
Vein	.....
Gossan	.....
Rock lithochem sample site	.....
Road	.....

MINFILE OCCURRENCES

MINFILE	#	STATION	REFERENCES	UTM X	UTM Y	host	Character	Alteration	Visible minerals	Notes
Kim	ALE97-13-7	new	653101 6291390	chloritic greenstone	selvages in foliation	crt, carb	py, tr mlct, azrt, brmt?	located south of Ard (Minfile 94D 090) in same phyllitic fault zone.		
Gary	ALE97-16-9	new	654934 6291361	epidote rock	irregular fractures	carb, epdt, hmtt	mlct, azrt	silicified shear nearby		
Copper King	149 ALE97-32-7	Asr 4593	654951 6285930	lithic tuff, lathe porphyry contact	quartz veins along contact	silica	mlct, azrt, spcl, clcc	Minfile relocated: first Copper King vein on ridge top		
Copper King	149 ALE97-32-5	Asr 4593	655018 6285679	lithic tuff, lathe porphyry contact	quartz veins along contact	silica	mlct, azrt, spcl, clcc	second Copper King vein on ridge top		
Verna	ALE97-18-13	new	649405 6290249	slickensided epidote rock	fracture network	epdt	mlct, azrt	Epitote "metadomain" measuring about 10m by 3 m.		
Ing North	(151) ALE97-27-21	Asr 525?	657925 6283244	lathe porphyry	irregular fractures	silica	mlct, azrt	located north of Minfile 94D 151 (Ing)		
Bornite North	(37) ALE97-30-10	Asr 4593, ch loc	655856 6284281	lithic tuff	quartz impregnations	silica	mlct, azrt	located north of Minfile 94D 037 (Bornite)		
D.S (original)	4 ALE97-34-13	Asr 474, 4593, 5256 6562933	6285877	granite and volcanic wallrock	scattered fractures and shears		mlct, azrt	Minfile relocated: a series of small showing on ridge top and eastern dropoff.		

epdt = epidote, hmtt = hematite, mlct = malachite, azrt = azurite, clcc = chalcocite, brmt = bornite, carb = carbonate, crt = chlorite, py = pyrite

asr = assessment report

Selected Samples from MINFILE OCCURRENCES

MINFILE	#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe* %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca ppm	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al ppm	Na %	K %	W ppm	Au ppb	FAIC
Kim	ALE97-13-7	4	34395	< 3	97	13.7	49	85	1324	8.77	< 2	< 8	< 2	4	29	0.3	< 3	12	235	5.38	< .001	1	140	3.27	8	0.16	< 3	3.06	0.02	< .01	< 2	4	
Garry	ALE97-16-9	< 1	3475	< 3	42	2.9	38	20	523	1.59	2	< 8	< 2	3	272	0.2	< 3	< 3	70	5.28	0.063	2	56	1.21	3	0.33	3	1.51	0.01	< .01	< 2	59	
Copper King	149 ALE97-32-7	1	42136	10	77	20.8	87	15	507	1.64	< 2	< 8	< 2	77	1	< 3	< 3	55	1.36	0.088	2	160	0.97	20	0.13	< 3	2.02	0.04	0.1	< 2	29		
Copper King	149 ALE97-32-5	1	29707	< 3	33	17.1	11	13	438	3.92	< 2	8	< 2	2	90	< .2	< 3	41	0.93	0.036	1	8	1.15	8	0.14	< 3	1.32	< .01	< .01	< 2	159		
Verna	ALE97-18-13	1	50077	< 3	67	20.6	22</																										