

GEOLOGY OF THE KLIYUL CREEK - JOHANSON LAKE AREA  
PARTS OF NTS 94D/8 and 9

Contribution to the Toodoggone Targeted Geoscience Initiative II - Mining Company Partnership

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Scale 1:50 000

0 1 2  
kilometres

LAYERED ROCKS

Upper Triassic  
TAKLA GROUP

- UTv<sub>b</sub>** Dark green to grey-green, brown weathering mafic volcanic breccia; clasts dominated by pyroxene-phryic basalt; locally includes volcanic sandstone, siltstone and massive pyroxene porphyry (dikes, sills, flows)
- UTs<sub>b</sub>** Grey to green, fine to coarse grained volcanic sandstone, siltstone, pebble conglomerate, lapilli tuff and volcanic breccia; commonly massive, locally thin to thick bedded; typically feldspar-rich, also locally rich in pyroxene and pyroxene-bearing lithic fragments; locally includes rusty weathered, thin-bedded siltstone and argillite, dark grey limestone, and green pyroxene-phryic basalt
- UTs<sub>t</sub>** Grey to green volcanic sandstone, siltstone, conglomerate and breccia, commonly associated with dark grey limestone which occurs as lenses, slump blocks, clasts in conglomerate/breccia, and chaotically-deformed breccia matrix.

INTRUSIVE ROCKS

Late Jurassic - Early Cretaceous

- JKg** Light grey, locally pink, biotite granite and granodiorite

Jurassic

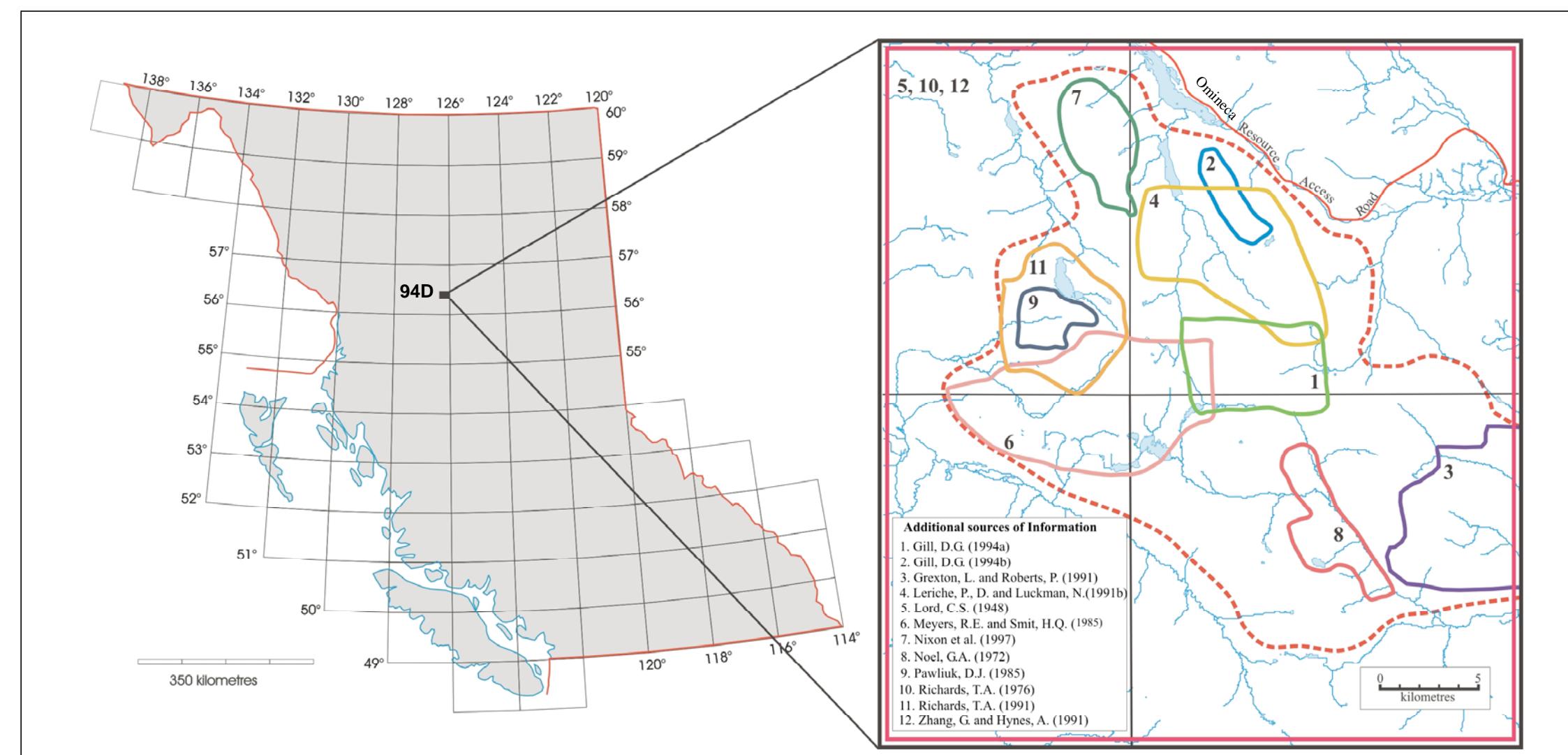
- Jt** Light grey hornblende-biotite tonalite and quartz diorite

Late Triassic

- LTs<sub>b</sub>** Light to dark grey and greenish-grey diorite, monzonodiorite and gabbro; locally includes monzonite, quartz diorite, microdiorite, hornblende-feldspar porphyry, intrusion breccia, pyroxenite and hornblende
- LTp** Dark grey to green pyroxenite, hornblende and mafic gabbro; includes lesser amounts of diorite and monzonodiorite

Symbols

- Limit of mapping: .....
- Geological contact (defined, approximate, inferred): -----
- Fault (defined, inferred, arrows indicate relative sense of movement): → ← ↗ ↘ ↙ ↘
- Bedding, tops known (inclined): ↗ ↘ ↙ ↘
- Bedding, tops unknown (inclined, vertical): ↗ ↘ ↙ ↘
- Cleavage, schistosity (inclined, vertical): ↗ ↘ ↙ ↘
- Axis of mesoscopic fold: ↗ ↘ ↙ ↘
- Field station location: ◻
- MINFILE occurrence and map reference number: ◻ 013
- Assay sample with sample number: ◻ 03PSC-84
- Quartz-carbonate alteration zone: ◻
- Quartz-pyrite-sericitic alteration zone: ◻
- Fossil locality (macrofossil, conodont): ◻ (G)
- U-Pb age determination site (zircon, titanite): ◻ (G) 219.5 ± 0.8 Ma  
◻ (G) 132 ± 150 Ma (preliminary)  
◻ (G) 201.3 ± 5.5 Ma
- Road (all weather, seasonal): .....



MINFILE TABLE

Map_reference	Minfile_no	Name	Easting	Northing	Commodities	Description	Reference
12	0940.12	Solo	669.220	6,268,870	Au, Ag	quartz veins and stockwork; py, ga	Richards, 1991
13	0940.13	Bruce	669.520	6,268,040	Au, Ag	quartz veins; py, ga, nAu	Richards, 1991
14	0940.14	Ginger B	674.670	6,266,590	Au, Ag	quartz veins; py (ga, cpy)	White, 1948
15	0940.15	Croy	682.110	6,263,320	Cu, Au, Ag	shear zones; qtz, carb, chi, py, po, mag, cpy	Noel, 1971a
19	0940.19	Kli	680.380	6,259,370	Au, Ag, Cu	skarn; py, py	Noel, 1971b
23	0940.23	Kliyul	676.260	6,265,850	Au, Ag, Cu	magnetite-pyrite-chalcocite skarn	Smit and Meyers, 1985
25	0940.25	Soup North	680.660	6,262,250	Au, Ag, Cu	magnetite-pyrite-chalcocite skarn	Smit and Meyers, 1984
27	0940.27	Goldway	670.130	6,267,470	Au, Ag	quartz veins; py, ga, sph	Richards, 1991
28	0940.28	Independence	677.590	6,266,280	Au, Ag	quartz veins	Wilson, 1984
29	0940.29	Banjo	677.643	6,264,967	Au, Ag	quartz veins, silicified shear zones; py, cpy, msr	Wilson, 1984
59	0940.09	Galena Ridge	677.140	6,265,270	Au, Ag	quartz vein; py, ga, cpy	Wilson, 1984
92	0940.02	Lady Diana	682.560	6,260,250	Au, Ag, Cu	py, cpy (ga) in stringers, fractures, disseminations	Myers and Smit, 1985
105	0940.105	Soup South	681.710	6,261,000	Cu, Au, Ag	magnetite-pyrite-chalcocite skarn	Grexton and Roberts, 1991
113	0940.113	Davie Creek Moly	684.310	6,260,770	Mn	porphyry Mo; py, mo (cp) in quartz stringers, stockwork, and along fractures	Sinclair, 1975
136	0940.136	Glacier	671.530	6,267,440	Au, Ag	quartz veins and stockwork; py (ga)	Folk, 1979; Grexton and Roberts, 1991
137	0940.137	Marjorine	670.700	6,266,260	Au, Ag	quartz veins and stockwork within quartz-rusty carbonate alteration zone; py (ga, cpy)	von Rosen, 1986; Gill, 1996
139	0940.139	Darb	676.220	6,270,740	Cu, Au	quartz veins; shear zones, along fractures and locally within quartz veins cutting Takla volcanics along margin of diorite stock	Grechko and Luckman, 1991b; Bourgey, 1973
139	0940.139	Upper	682.930	6,262,720	Au, Cu, Ag	quartz veins; shear; py, cpy, mal (ga)	Grexton and Roberts, 1991
138	0940.138	Tar	686.670	6,268,100	Au, Ag	quartz veins	Richards, 1991
140	0940.140	KC 2	679.770	6,263,410	Au, Ag, Cu	silicified, carbonated shear and quartz veins; py, cpy, mag, po, mal, az, ga, sph	Wilson, 1984; Cross, 1985
141	0940.141	Mal	678.730	6,265,140	Au, Ag	silicified-carbonate veins associated with silicified fractures and shear zones; py	Wilson, 1984
142	0940.142	Denum	679.420	6,266,480	Cu	quartz vein; py, cpy, mal	Grextion and Roberts, 1991
145	0940.145	Karen Creek	682.750	6,261,060	Au, Ag, Cu	quartz veins; shear zones; py, cpy, mal (ga, sph)	Leriche and Luckman, 1991b
165	0940.165	Joh 4	675.470	6,271,470	Cu, Au	disseminated py, cpy in diorite and diorite-hosted quartz stringers; mal along fractures	Leriche and Luckman, 1991a
167	0940.167	Joh 2	670.050	6,272,400	Cu, Au	py, lim, cpy in stringers and fractures along margin of diorite pluton and in dikes and shear zones cutting adjacent volcanics	Leriche and Luckman, 1991a
168	0940.168	Joh 1	671.910	6,272,870	Au, Cu	quartz vein; lim, mal	Leriche and Luckman, 1991a
169	0940.169	Joh 3	672.820	6,269,790	Au, Cu	3-m wide chloritized, pyritic shear zone in diorite; thick quartz vein with py, cpy	Leriche and Luckman, 1991b
170	0940.170	Joh 9	677.290	6,267,220	Au	homfelsed volcanic rock	Leriche and Luckman, 1991b
171	0940.171	Joh 11	671.630	6,268,570	Au, Cu	silicified shear zones with quartz stringers; py	Fox, 1991
A	0940.2	Cro 2	678.720	6,262,500	Au, Ag, Cu	silicified shear zones with quartz stringers; py	Grexton and Roberts, 1991
B	0940.2	DBC	683.170	6,260,370	Au, Ag, Cu	quartz veins, shear zones; py, cpy, mal (ga)	Pawluk, 1985
C	0940.2	F vein	670.060	6,268,190	Au, Ag	quartz vein; py, ga, cpy, mal, az, lim	
D	0940.2	Joh 7	677.110	6,269,940	Cu	py, cpy in quartz veins and as disseminations in diorite dikes and adjacent volcanics; mal along fractures	Gill, 1994
E	0940.2	KC 1	678.360	6,265,250	Au, Ag	quartz veins and shear zones; py, cpy, ga	Fox, 1982
F	0940.2	KP0274	672.130	6,268,420	Cu	quartz veins	Gill, 1996
G	0940.2	Pacific Sugar	675.940	6,266,970	Cu, Au	magnetite-pyrite-chalcocite skarn	Gill, 1995
H	0940.2	UPC	682.120	6,262,530	Au, Ag, Cu	quartz veins; py, cpy	Grexton and Roberts, 1991
I	0940.2	V3	670.320	6,269,100	Au, Ag	quartz veins	von Rosen, 1986
J	0940.2	873001	676.140	6,266,600	Au, Ag	sheared quartz-pyrite-altered rock	Smit and Meyers, 1985

Abbreviations: az-sazurite; carb-carbonate; chl-chlorite; chl-chlorite; cpv-chalcocite; ga-galena; fm-fimberite; mag-magnetite; mal-malachite; mbo-molybdenite; na-native gold; po-pyrrhotite; sph-sphalerite

ASSAY TABLE

Field_Number	Easting	Northing	Type	Mo_ppm	Cu_ppm	Pb_ppm	Zn_ppm	Ag_ppm	Ni_ppm	Co_ppm	Mn_ppm	Fe_percent	As_ppm	U_ppm	Au_ppb	Th_ppm	Sr_ppm	Cd_ppm	Stb_ppm	Bi_ppm	V_ppm	Ca_percent	P_percent	La_ppm	Cr_ppm	Mg_percent	Ba_ppm	Tl_percent	B_ppm	Al_percent	Na_percent	K_percent	W_ppm	Sc_ppm	Tl_ppm	S_percent	Hg_ppb	Se_ppm	Te_ppm	Ga_ppm	Au_ppb2	Pt_ppb	Pd_ppb
03PSC-1	684.346	6,261,197	metachlorite-stained gabbro	2.73	190.24	3.88	115.9	1467	52.6	711	5.45	0.4	< 1	23.8	< 1	9.9	0.97	0.08	0.04	116	0.88	0.013	< 5	2.85	18.8	0.102	1	2.17	0.083	0.07	< 1	4	0.02	0.06	0.5	0.07	6.1	31	9	24			
03PSC-41	684.058	6,261,190	quartz veinlets with pyrite-molybdenite in pyroxenite	2734.98	1867.67	1.31	15.5	2034	268.7	825	130	18.3	2.3	0.2	10.6	< 1	2.2	0.08	0.05</td																								