

# DRILL HOLE RECORD

822249

093K/14

PROJECT NAME : <i>Mt. Sidney Williams</i>		DATE STARTED (M/D/Y): <i>08/18/91</i>		DIRECTIONAL DATA: <span style="font-size: small;">A = Acid Test L = Light Log</span> <span style="float: right; font-size: small;">M = Multishot T = Tropari</span>					
HOLE NUMBER : <i>MSW-91-4</i>		DATE COMPLETED(M/D/Y): <i>08/19/91</i>		DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
LOCATION : <i>Upper Zone</i>		DATE LOGGED (M/D/Y): <i>08/20/91</i>							
PROJECT NUMBER : <i>671</i>		UNITS (F/M) : <i>M</i>							
CLAIM NUMBER :									
PLOTING COORDS	GRID : <i>estimated</i>	ALTERNATE COORDS	GRID :						
	NORTH : <i>225.00 S</i>		NORTH : _____+_____						
	EAST : <i>125.00 E</i>		EAST : _____+_____						
	ELEV : <i>1497.00 m</i>		ELEV : _____						
COLLAR BRNG	GRID : <i>299° 00' 00"</i>	COLLAR SURVEY(Y/N) : <i>N</i>							
	ASTRONOMIC: <i>299° 00' 00"</i>	RQD LOG (Y/N) : <i>N</i>							
	COLLAR DIP: <i>-45° 00' 00"</i>	PULSE EM SURVEY(Y/N): <i>N</i>							
CONTRACTOR : <i>S. T. Thomas</i>	LOGGED BY : <i>A. R. Hill</i>								
CORE STORAGE : <i>on site</i>	START DEPTH: <i>0.0</i>								
CASING : <i>pulled</i>	FINAL DEPTH: <i>109.7</i>								
PLUGGED (Y/N) : <i>N</i>									
HOLE SIZE : <i>BDBm</i>									
PURPOSE/COMMENTS : <i>To test the "Upper Zone" west of the creek.</i>									

HOLE NO. *MSW-91-4*

LOGGED BY *A. Hill*

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 to 3.0	<Csg/08>			10cm of serpentine pebbles recovered.				
3.0 to 32.9	<HARZBURGITE>	Black and grey		Hole begins to very rubbly, serpentized harzburgite, with poor recovery down to 9.1m (drilling subparallel to bedrock surface). Lithology comprised of black matrix (serp) with 40-60% light grey porphyroblasts of pyroxene. Some have brown cores and may be bronzite(?). Some light green serpentine on fractures at all orientations.		Weak to moderate serpentization, restricted mostly to matrix, and fracture controlled.	Very fine grained disseminated magnetite and possibly ilmenite(?). Very magnetic interval.	Recovery: 3.0-5.5 = 35% 5.5-9.1 = 25% 9.1-12.2 = 95% 12.2-15.2 = 98% 15.2-16.5 = 90% 16.5-18.3 = 100% 18.3-21.3 = 100% 21.3-24.4 = 98% 24.4-26.5 = 100% 26.5-29.6 = 100% 29.6-30.5 = 95% 30.5-32.9 = 98%

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
32.9 to 39.4	(HARZ +/- CARB-TALC)			Sudden appearance of orange carbonate and talc on hairline fractures at all orientations. Otherwise harzburgite is similar to that described above.		Weak fracture filling carbonate and talc, which does not permeate the host rock. Reaches weak to moderate level from 38.3-39.3.	Tr. py and mte only.	Not strong enough to be termed a listwanite. Recovery: 32.9-35.7 = 98% 35.7-37.8 = 100% 37.8-39.3 = 93%
39.4 to 43.6	(SERPENTINITE)			Gradational disappearance of carbonate and talc on fractures, and strengthening of pervasive serpentine alteration to strong levels, increasing down hole. Ghosted, pale porphyroblasts faintly visible until 41.1m, then virtually massive dark green serpentine cut by uncommon thin white fractures.		Intense serpentinization increasing slightly downhole.		39.3-41.1 = 95% 41.1-42.7 = 98%

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
43.6 to 49.7	<NORITE>			Very sharp, planar contact with only a 2cm chilled margin. Pale green, fine grained diabasic norite, with a slight grain size increase towards the centre to about 2-3mm. Pyroxene-feldspar intrusive rock is bleached throughout, and cut by a gently warped, ribboned calcite-ankerite veinlet, 0.5 to 2cm wide which runs down the core axis from 45.2 to 49.6m. (stains mauve and blue). Lower contact broken and ground up by drill.	35	Pervasive ankeritization is strong, and core stains dark blue.	No sk. observed.	Paler green than most, but with same distinctive <del>st</del> texture.  Recovery: 42.7-45.7=99% 45.7-48.8=100% 48.8-51.8=95%

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
49.7 to 52.0	<SERPEN TINITE>			Upper contact expressed by 12cm of strong talc alteration. Remainder of interval is near massive dark green serpentine, cut by spaced, hairline white fractures that stain violet (calcite), along with trace talc. Gradational contacts.		Pervasive intense serpentinization. Minor fracture filling Fe-calcite and talc.	Trace v.t.g. accessory py only. Also trace oxide magnetite. Weakly magnetic.	
52.0 to 53.2	<TALC +/- NORITE>			Predominantly intense pale green talc alteration after serpentine and harzburgite. At 52.25m and 52.5 to 52.7 there are fine grained dykelets of norite at 45° to c/a.		Talc alteration of wallrock with minor carb, (mostly Fe-calcite). Norite is pervasively carbonated (ankerite).	No visible sx.	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
53.2 to 60.9	<HARZBURGITE>			Fairly fresh, dense dark green and dark grey rock with minor brown (bronzite?) porphyroblasts unaltered. At about 59.2 m the amount of "nodules" increases rapidly up to about 40%.		Moderate serp., fracture controlled, and incomplete, with "cores" between fractures apparently fresh.	Only very trace accessory py ( $\pm$ po) observed.  Very magnetic, especially on porphyroblasts.	
60.9 to 81.0	<CARB-TALC ALT. HARZ>			Gradational contact with first the rounded "nodules" and then the matrix becoming bleached by carbonatization and talc. General bleaching increasing downhole, along with the intensity of hairline talc filling fractures.		Carbonate-Talc alteration increasing downhole. Hematite stained nodules at 70.0m to 80.0 in patches (diagnostic of this facies?).	Only trace to 1% disseminated pyrite except: 71.6-72.7 (sil. list, 2% py, tr. asp) with minor mariposite, but seemingly overprints the talc-carb textures with pervasive silicification. Minor qtz-carb veinlets at 30° in both directions!	Hostrock is ubiquitously a porphyritic harzburgite as relict textures abound. Recovery: 64.0-66.7 = 85% due to limonitic fractures. 66.7-68.6 = 95% otherwise 100%!

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
81.0 to 94.9	{ SIL-CARB LISTWAN ITE }			<p>Contact is an irregular alteration front of pervasive silicification and the appearance of disseminated malposite, mostly replacing all or part of relict harzburgite porphyroblasts.</p> <p>At 82.5 m 0.5-1.0 cm qtz veinlets, with vugs cut the core at 20-30 degrees. The veins are clearly open space filling, with "cockscomb" internal quartz (only) crystalline growths.</p> <p>Thin hydrobreccia zones (5cm wide) exist with branching <sup>chaledony</sup> veinlets at 85.0 and 85.7 m, with clear qtz</p>		<p>Pervasive silicification is dominant alteration, of pale to bright green (malposite) altered harzburgite. Relict talc-carbonate textures exist, but are apparently overprinted.</p>	<p>Generally a very low sulphide system, with only minor grey patches (1-10cm) revealing the presence of very fine needlelike arsenopyrite and amorphous pyrite.</p> <p>{81.0-94.9} { 1% py, 1% aspy }</p>	<p>Type 7 Listwanite.</p> <p>Approx. 30° to core axis?</p>

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<p>matrix, and shards of light grey and mariposite green listwanite.</p> <p>Hair-like talc is common throughout the zone, but appears to have been overprinted by silicification.</p> <p>A large breccia (tectonic?) occurs at 88.1 to 89.1 m with angular clasts up to <sup>supported</sup> 2cm in a grey quartz matrix.</p> <p>Good contacts at: 30°</p> <p>General foliation and preferred veinlet direction at: 30°</p>			<p>Also, a black opaque, possibly ilmenite (?), forms particle trains parallel to foliation locally throughout interval. Grain size &lt; 1mm and overall very low trace amounts.</p> <p>88.1-89.1 (Breccia @ 30 deg)</p>	



FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
94.9 to 105.6	<CARB-TALC ALT.>			<p>Rather sharp contact parallel to the relict layering in the host harzburgite at:</p> <p>Patchy serpentine and bleached carb-talc alteration, with nodules either white or hematite stained.</p> <p>A short interval (97.6-99.4) (s.l. zone) is overprinted, like the main zone described above.</p> <p>Below this the alteration gradually weakens, with the matrix becoming dark green serpentine.</p>	40°	<p>Pervasive carbonatization with associated talc and fracture-filling talc. Hematite stained nodules common.</p> <p>Stain reveals carbonate is Fe-dolomite to ankerite in composition.</p>	<p>No sulphides visible except for the silicified zone from 97.6-99.4m, which has trace py, +/- aspy in 1-2cm grey siliceous patches.</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
105.8 to 109.7  END OF HOLE	{HARZBURGITE}			<p>Typical moderately serpentized harzburgite, with faint "mantle cumulate" layering in pyroxenes and olivine rich bands.</p> <p>At 108.9, relatively unaltered grey pyroxene comprises roughly 50% of the core to EOH.</p>	50°	<p>Minor talc and carb on fractures.</p> <p>Moderate to weak serpentization.</p>	<p>No SK observed.</p> <p>Very magnetic.</p>	

ASSAY SHEET

Mo

Sample Number	From (m)	To (m)	Estimate		Length ( )	% Cu	% Zn	% Pb	gm. T Ag	gm. T Au	% SiO <sub>2</sub>	% TiO <sub>2</sub>	% Na <sub>2</sub> O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	AS ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb	
			Cu	Zn																			27	
98239	3.0	5.5																					3	
98240	5.5	9.1																						1
41	9.1	12.1																						19
42	12.1	15.1																						17
43	15.1	18.1																						3
44	18.1	21.1																						7
98245	21.1	24.1																						1
46	24.1	27.1																						19
47	27.1	30.1																						21
48	30.1	32.9																						3
49	32.9	35.9																						18
98250	35.9	38.3																						3
51	38.3	39.4																						3
52	39.4	41.1																						18
53	41.1	42.3																						3
54	42.3	43.6																						5
98255	43.6	45.2																						5
56	45.2	48.2																						3
57	48.2	50.2																						1
58	50.2	51.7																						

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ASSAY SHEET

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Sample Number	From (m)	To (m)	Estimate		Length (m)	% Cu	% Zn	% Pb	gm. T Ag	gm. T Au	% SiO <sub>2</sub>	% TiO <sub>2</sub>	% Na <sub>2</sub> O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	AS ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb
			Cu	Zn																			
98259	51.7	53.2																					/
60	53.2	56.2																					/
61	56.2	59.2																					/
62	59.2	60.9																					3
63	60.9	63.9																					/
64	63.9	66.9																					/
98265	66.9	68.6																					/
66	68.6	70.6																					/
67	70.6	71.6																					33
68	71.6	72.7																					40
69	72.7	73.7																					5
98270	73.7	75.8																					10
71	75.8	77.7																					5
72	77.7	80.0																					/
73	80.0	81.0																					138
74	81.0	82.5																					1260
98275	82.5	83.5								1.40	*FA												313
76	83.5	84.8																					1060
77	84.8	85.8								1.21	*FA												195
76	85.8	87.1																					

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ASSAY SHEET

Mo

Sample Number	From (m)	To (m)	Estimate		Length ( )	% Cu	% Zn	% Pb	gm. T Ag	gm. T Au	% SiO <sub>2</sub>	% TiO <sub>2</sub>	% Na <sub>2</sub> O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	AS ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb	
			Cu	Zn																			1810	
98279	87.1	88.1								2.01	*FA													1280
80	88.1	89.1								1.97	*FA													1105
81	89.1	90.1								1.36	*FA													722
82	90.1	91.1																						427
83	91.1	92.1																						535
84	92.1	93.1																						1000
98285	93.1	94.0								.99	*FA													1020
86	94.0	94.9								1.08	FA													6!
87	94.9	96.3																						1
88	96.3	97.6																						42
89	97.6	99.4																						1
98290	99.4	100.4																						1
91	100.4	102.4																						2
92	102.4	104.1																						1
93	104.1	105.8																						4
94	105.8	107.3																						1
95	107.3	108.9																						3
98296	108.9	109.7																						OK
	END																							

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