

DRILL HOLE RECORD

822246

093K/14

PROJECT NAME : <u>Mt. Sidney Williams</u>		DATE STARTED (M/D/Y): <u>06/15/91</u>		DIRECTIONAL DATA: A = <u>Acid Test</u> L = <u>Light Log</u>			M = Multishot T = Tropari		
HOLE NUMBER : <u>MSW-91-1</u>		DATE COMPLETED (M/D/Y): <u>08/16/91</u>		DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
LOCATION : <u>Stibnite Zone</u>		DATE LOGGED (M/D/Y): <u>08/16/91</u>		<u>70.1</u>	<u>A</u>	<u>—</u>			
PROJECT NUMBER :		UNITS (F/M) : <u>M</u>							
CLAIM NUMBER :									
PLOTTING COORDS	GRID : <u>estimated</u>	ALTERNATE COORDS	GRID :						
	NORTH : <u>315.00 S</u>		NORTH : _____ + _____						
	EAST : <u>533.00 W</u>		EAST : _____ + _____						
	ELEV : <u>1534.00 m</u>		ELEV : _____ . _____						
COLLAR BRNG	GRID : <u>150° 00' 00"</u>	COLLAR SURVEY (Y/N) :	<u>N</u>						
	ASTRONOMIC : <u>150° 00' 00"</u>	RQD LOG (Y/N) :	<u>N</u>						
	COLLAR DIP : <u>-45° 00' 00"</u>	PULSE EM SURVEY (Y/N):	<u>N</u>						
CONTRACTOR : <u>J. T. Thomas</u>	LOGGED BY : <u>A. R. Hill</u>								
CORE STORAGE : <u>on site</u>	START DEPTH: <u>0.0</u>								
CASING : <u>L1H</u>	FINAL DEPTH: <u>91.4</u>								
PLUGGED (Y/N) : <u>N</u>									
HOLE SIZE : <u>BDBGm</u>									
PURPOSE/COMMENTS: <u>To test beneath silicified listwanite of the "Stibnite Zone"</u>									

HOLE NO. MSW-91-1

LOGGED BY A. Hill

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 to 4.3	<CSG/OB>			About 0.4m of pebbles recovered. Mixed rock types including, in decreasing order of abundance: harzburgite, serpentinite, pink granite and basalt.		Minor limonite only on fractures and minor carb. veinlets in some upm pebbles.		
4.3 to 0.7	<HARZBURGITE>			Dark green with 15-20% light green "nodules" with darker unaltered cores. Cut by hairline fracture set at 15-30 degrees to core axis, containing limonite and thin ankerite stringers. Core is broken from 5.9-6.25 m.		Serpentinization is moderate to intense. Carb. stringers have no ^{altered} envelopes, except from 5.6-6.4 m where pale green and yellow bleaching has occurred with minor talc and talc-silicate developed	Only very trace fine grey pyrite developed in a few patches at 6.2 m. Moderately magnetic throughout due to accessory mite.	Recovery: 4.3-6.1 = 85% 6.1-9.1 = 95% 9.1-12.2 = 100%

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
10.7 to 13.9	<SERPENTINITE>	Dark green to dark grey-green		Gradational contact with nodules becoming faint and disappearing for the most part. Serpentine comprises 90-95% of the rock.		Pervasive serpentine with greener mat'l on fractures. Magnetite is throughout, espec. at 12.8-12.9 where there is 5% disseminated magnetite.	No visible sulphides.	Recovery: 12.2-15.2 = 100% Possibly a dunite, or a dunite/harzburgite protolith.
13.9 to 14.2	<CONTACT ZONE>			Bleached to light green and grey and badly broken, friable core. Faint angles of foliation, breccia etc. at 15-30 degrees.		Bleaching is apparently related to clay ^{stale} alteration.	No visible sk.	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
14.2 to 35.2	(NORITE)			<p>Distinctive "salt and pepper" textured, med-grained, grey, massive norite intrusive.</p> <p>Slightly bleached and fractured up to 15m then fairly monotonous.</p> <p>Slight grain size increase from about 0.5-0.7mm to 1.5-2 mm at 17m (chilled margin?)</p> <p>Mineralogy consists of dark green pyroxene, (possibly some amphibolitized) and white plagioclase in a diabasic texture.</p> <p>Becomes fine grained again at 34.1 m.</p> <p>lower contact at: Contact is sharp.</p>	25	<p>Fairly fresh. Only minor carbonate and chlorite on uncommon fractures. Massive unit, but fairly soft (so it weathers recessively?)</p> <p>After staining the norite appears to be ubiquitously altered pervasively by ankerite (moderate)</p>	<p>No visible sx or oxides.</p> <p>Weakly magnetic throughout.</p>	<p>Recovery:</p> <p>15.2 - 18.3 = 100%</p> <p>18.3 - 21.3 = 100%</p> <p>21.3 - 24.4 = 100%</p> <p>24.4 - 27.4 = 100%</p> <p>27.4 - 30.2 = 100%</p> <p>30.2 - 33.2 = 100%</p> <p>33.2 - 35.7 = 100%</p>

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
35.2 to 38.0	{CONTACT ZONE}			Core is only moderately broken, but rock is brecciated "chilled margin" norite, cut by irregular white carb stringers. Veinlets and fractures at all orientations, but most commonly at:	30°	Patchy bleaching, and serpentization (possibly wallrock fragments). Weak carbonatization assoc. with veinlets of ankerite	No sx.	Recovery: 35.7-38.7 = 100% 38.7-41.8 = 95% 41.8-44.8 = 100%
38.0 to 43.1	{SERPENTINE - TALC ALT.}			Sharp contact (broken) with dark green serpentine cut by white, branching hairline fracture system containing talc. Weak spotted relict texture suggests harzburgite? protolith. Last 20cm contain trace fuchsite with 30% white qtz-carb veinlets.		Serpentine varies from glassy to sugary textures. From 41.2-41.9 limonite staining is along fractures and resembles the top of this hole. Talc increases from 10% at top to 30% at end of interval.	No sx. Magnetite in "spots" up to 5mm. Overall 2-3%. <u>Very</u> magnetic	44.8-47.9 = 95% 47.9-48.8 = 100%

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
43.1 to 52.2	<NORITE>			<p>Sharp, hackly contact with chilled fine grained norite. Contact is at: 40</p> <p>Rock is bleached light green to flesh tone around planar Qtz-ankerite veinlets 1mm to 1cm thick at: 30</p> <p>"Cockscomb" texture from open filling, with pyrite and very fine aspy in selvages. Veinlets are unfortunately few and restricted to 43.3-43.4 and 44.0-44.35.</p> <p>From 44.35 downhole to 50.0 the norite is typical fine to med. grained and dark green grey in colour.</p>	40	<p>Weak to moderate pervasive ankeritization throughout, with increase to strong bleaching ankeritization around veinlets of Qtz-ankerite.</p>	<p>Weakly magnetic due to accessory magnetite -</p> <p>No visible SK, except in vein margins at:</p> <p>43.3-43.4: 3% py, tr. aspy and 44.0-44.1: 3% py</p>	<p>43.8-51.8 = 97%</p> <p>51.8-54.8 = 95%</p> <p>54.8-57.9 = 95%</p>

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<p>From 50.0 down the norite is again bleached to a light "flesh tone" and is cut by 5-10mm qtz-ankerite veinlets often at:</p> <p>A faint foliation is visible in relict noritic texture:</p>	<p>35</p> <p>55</p>	<p>Staining shows strong pervasive ankeritization.</p> <p>+50.0-52.2</p> <p><Bleached, carb'd norite></p>	<p>Best samples:</p> <p>50.0-50.5: 5% pg</p> <p>+51.8-52.2 / <7% pg, 4% aspy></p> <p>as fine needles with pg in vein selvages and altered patches.</p> <p>1-2cm wide.</p>	<p>Acicular aspy "nests" to 2cm across. Pyrite is relatively coarse grained 0.5-1.5mm.</p>
52.2 to 54.0	<QTZ-CARB LISTWANITE>			<p>Sharp contact (ground) with highly silicified, light grey to limonitic listwanite. Spotty mariposite (pseudomorphs of nodules?) is minor (<3%). Relict, ghosted nodular harzburgite textures recognizable.</p>		<p>Pervasive silicification, rock is also cut by a network of qtz-ankerite stringers at all angles to core axis.</p> <p>First 15cm is a well healed breccia of qtz vein clasts (5mm-2cm) in a grey aspy rich matrix.</p>	<p>Dense, very fine grained aspy common in matrix:</p> <p>+52.2-53.0 / <10% aspy></p> <p>+53.0-54.0 / <3-5% aspy></p> <p>with about 5% finely disseminated pyrite throughout.</p>	<p>"Type 7" listwanite.</p> <p>Aspy is amorphous, v.v.f.g. grey mass. in matrix.</p>

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
54.0 to 77.1	HARZBUR GITE			<p>Gradational contact marked by decrease in silica, disappearance of mariposite, and appearance of trace hematite staining of nodules (3-10mm). Rock is light green, talc-serpentine, with black magnetite spots (5-10%).</p> <p>Patchy, very minor mariposite assoc. with bleaching around widely spaced qtz-carb veinlets.</p>		<p>Serpentinized with moderate talc on fractures and in patches. From 52.2-56.9 limonite and carbonate are present in minor amounts. Staining reveals weak pervasive ankerite throughout interval. From 63.9-65.1f an increase in carb, with silicification (type 6 and 7) with patchy (listwanite), related to widely spaced veinlets at 25° to cl.</p>	<p>Accessory pyrite only (41%). Very magnetic with 5-10% mte.</p>	<p>Recovery:</p> <p>57.9-61.0 = 100%</p> <p>61.0-64.0 = 100%</p> <p>64.0-67.1 = 100%</p> <p>67.1-70.1 = 100%</p> <p>70.1-73.2 = 95%</p> <p>73.2-76.2 = 93%</p> <p>76.2-78.3 = 98%</p>

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
						Again at 70.5 to 70.8 minor sil/carb listwanite assoc with qtz carb veinlets 1-3cm at 65° to c/a. Minor malposite and bleaching only.		
				Fracture pattern at 73.2-74.0:	45°			
77.1 to 91.4 End of Hole	<SERPENTINITE>			Gradational contact, rock is dark green with light spots, (relict nodules?) and virtually 95% Serpentine. Bright yellow-green on fractures, mostly at:	35 to 45°	Serpentine! White spots possibly anorthite +/or brucite(?). Minor talc on some fractures. Nodules from 5mm to 1.5cm.	Very magnetic with 3-5% mte, and dissem. accessory py (<1%)	Recovery: 78.3-91.4=100%. Note: This "nodular" serpentine closely resembles the core at the top of MSW-91-2. EOH

91-1

meters

ASSAY SHEET

Mo

Sample Number	From (m)	To (m)	Estimate		Length (m)	% Cu	% Zn	% Pb	gm. T Ag	gm. T Au	% SiO₂	% TiO₂	% Na₂O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	AS ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb	
			Cu	Zn																			10	
98101	4.3	5.6			2.3																		10	
98102	5.6	6.3			0.7																			31
98103	6.3	9.2			2.9																			16
98104	9.2	10.7			1.7																			3
98105	10.7	12.4			1.7																			7
98106	12.4	13.9			1.5																			11
98107	13.9	14.2			0.3																			3.
98108	14.2	15.2			1.0																			1.
98109	15.2	18.2			3.0																			12.
98110	18.2	21.2			3.0																			6
98111	21.2	24.2			3.0																			2
98112	24.2	27.2			3.0																			67
98113	27.2	30.2			3.0																			7
98114	30.2	33.2			3.0																			4
98115	33.2	35.2			2.0																			10
98116	35.2	36.5			1.3																			7
98117	36.5	38.0			1.5																			3
98118	38.0	40.0			2.0																			1
98119	40.0	42.0			2.0																			2
98120	42.0	43.1			1.1																			2

91-1

ASSAY SHEET

M10

Sample Number	From (m)	To (m)	Estimate		Length (m)	% Cu	% Zn	% Pb	gm. T Ag	gm. T Au	% SiO ₂	% TiO ₂	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	AS ppm	Sb ppm	Sb ppm	Ag ppm	Au ppm
			Cu	Zn																			ppb
98121	43.1	44.0			0.9																		21
98122	44.0	44.35			0.35																		186
98123	44.35	45.5			1.15																		10
98124	45.5	47.0			1.5																		6
98125	47.0	49.0			2.0																		3
98126	49.0	49.3			1.0																		5
98127	50.0	50.5			0.5																		232
98128	50.5	51.0			0.5																		67
98129	51.0	51.8			0.8																		30
98130	51.8	52.2			0.4				3.11														3070 *
98131	52.2	53.0			0.8																		451
98132	53.0	54.0			1.0																		6
98133	54.0	55.2			1.2																		11
98134	55.2	56.9			1.7																		4
98135	56.9	59.9			3.0																		2
98136	59.9	62.9			3.0																		2
98137	62.9	63.9			1.0																		8
98138	63.9	65.1			1.2																		59
98139	65.1	67.1			2.0																		6
98140	67.1	70.0			2.9																		2

3.11 ← Re-assay *FA } 1.6g/t Au
 over 1.2m (max. 69m)

ASSAY SHEET

Mo

Sample Number	From (m)	To (m)	Estimate		Length (m)	% Cu	% Zn	% Pb	gm. T Ag	gm. T Au	% SiO ₂	% TiO ₂	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	AS ppm	Ba ppm	Sb ppm	Ag ppm	Au
			Cu	Zn																			ppb
98141	70.0	71.0			1.0																		1
98142	71.0	74.1			3.4																		27
98143	74.1	77.1			3.0																		4
98144	77.1	80.1			3.0																		2
98145	80.1	83.1			3.0																		3
98146	83.1	86.1			3.0																		3
98147	86.1	89.1			3.0																		8
98148	89.1	91.4			2.3																		4
98149	49.3	50.0			0.7																		23

DRILL HOLE RECORD

093K/14

PROJECT NAME : <u>MH. Sidney Williams</u>		DATE STARTED (M/D/Y): <u>08/19/91</u>		DIRECTIONAL DATA: A = Acid Test L = Light Log						M = Multishot T = Tropani	
HOLE NUMBER : <u>MSW-91-5</u>		DATE COMPLETED(M/D/Y): <u>08/20/91</u>		DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS		
LOCATION : <u>Stibnite Zone</u>		DATE LOGGED (M/D/Y): <u>08/22/91</u>									
PROJECT NUMBER : <u>671</u>		UNITS (F/M) : <u>M</u>									
CLAIM NUMBER :											
PLOTING COORDS	GRID : <u>estimated</u>	ALTERNATE COORDS	GRID :								
	NORTH : <u>200.00 S</u>		NORTH : _____ + _____								
	EAST : <u>362.00 W</u>		EAST : _____ + _____								
	ELEV : <u>1475.00 m</u>		ELEV : _____								
COLLAR BRNG	GRID : <u>135° 00' 00"</u>	COLLAR SURVEY (Y/N) : <u>N</u>									
	ASTRONOMIC : <u>135° 00' 00"</u>	ROD LOG (Y/N) : <u>N</u>									
	COLLAR DIP : <u>-45° 00' 00"</u>	PULSE EM SURVEY (Y/N): <u>N</u>									
CONTRACTOR : <u>S.T. Thomas</u>	LOGGED BY : <u>A.R. Hill</u>										
CORE STORAGE : <u>on site</u>	START DEPTH: <u>0.0</u>										
CASING : <u>pulled</u>	FINAL DEPTH: <u>106.6</u>										
PLUGGED (Y/N) : <u>N</u>											
HOLE SIZE : <u>BDBGM</u>											
PURPOSE/COMMENTS : <u>Test co-incident geophysical, geochemical anomalies downslope of Stibnite Zone.</u>											

HOLE NO. MSW-91-5

LOGGED BY A. Hill

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 to 7.1	<Csg/OB.>			Casing and overburden, no recovery.				
7.1 to 14.3	<RUBBLY SERP-HARZ>			Does not appear to be a fault zone, rather just rubbly serpentized harzburgite that has been ground by the drill into balls and crescent-shaped core.		Moderate serpentinization, similar to unit below	None observed.	Recoveries: (between blocks) 7.0-9.1 = 85% 9.1-12.1 = 65% 12.1-13.4 = 50% 13.4-14.3 = 85% 14.3-16.4 = 90% 16.4-16.7 = 95% 16.7-20.7 = 95% 20.7-24.0 = 95% 24.0-27.4 = 94% 27.4-29.5 = 100% unless otherwise noted, remainder of hole was 100%.

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
14.3 to 61.0	(HARZBURG ITE)			Dark grey to dark green, porphyroblastic (5mm-8mm), moderately serpentized harzburgite peridotite. White, talcose fractures are widely spaced and thin. Rock has faint foliation at: and there is no preferred orientation of fractures.	30°	Matrix is ubiquitously altered to serpentine, while porphyroblastic pyroxene (?) has common brown crystalline core of bronzite (?). Overall about 40% porphyroblasts.	Only very trace fine grained accessory pyrite and oxide magnetite seen. Rock is moderately magnetic throughout.	Monotonous interval with <u>no</u> good dunite or "immiscible" textured layering.
61.0 to 63.7	(CARB- SERP. ALT.)			Rather sharp colour change to olive brown and grey. Relict harzburgite textures still visible. Porphyroblasts incompletely bleached.		Weak carbonate alteration, mostly of porphyroblasts, but patchy in the matrix, too. Serpentine colour change to olive green-brown.	Trace dissemin. py, now rusty. Still magnetic.	"Type 3" alteration. Carbonate-serpentine. No noticeable fracturing.

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
63.7 to 67.1	(TALC - CARB. ACT.)			Gradational bleaching to pale green talc. Interval is cut by numerous wavy ankerite veinlets, commonly at: There does not seem to be a clearcut structure, but rather a weak fracture (veinlet) system centered around 65.7 m.	25-30°	Strong, pervasive talc alteration and veinlet controlled ankerite. There is <u>no</u> maniosite development.	No visible sulphides, but trace v.t.g. black specks, possibly oxidized pyrite.	"Type 4" alteration
67.1 to 106.6 End of hole	(HARZBURGITE)			Dark green to dark grey, porphyroblastic harzburgite, as in the top of the hole. Very faint "mantle" layering of core, expressed by concentrations of porphyroblasts at 85 m:	35°	Weak to moderate, incomplete serpentinization. White talc, and minor bright olive green serpentine on fractures, especially from 101-106.6 m, increasing downhole.	Trace accessory pyrite and magnetite.	FOH.

ASSAY SHEET

Mo

Sample Number	From (m)	To (m)	Estimate		Length ()	% Cu	% Zn	% Pb	gm. T Ag	gm. T Au	% SiO ₂	% TiO ₂	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	AS ppm	Ba ppm	Sb ppm	Ag ppm	Au ppb	
			Cu	Zn																				
98297	7.0	9.1																					3	
																								2
98298	9.1	12.1																						6
98299	12.1	15.1																						2
98300	15.1	18.1																						4
301	18.1	21.1																						3
02	21.1	23.1																						3
03	23.1	27.1																						2
04	27.1	30.1																						9
98305	30.1	33.1																						6
06	33.1	36.1																						4
07	36.1	39.1																						2
08	39.1	42.1																						3
09	42.1	45.1																						5
98310	45.1	48.1																						8
11	48.1	51.1																						5
12	51.1	54.1																						2
13	54.1	57.1																						3
14	57.1	60.0																						2
98315	60.0	61.0																						4
16	61.0	62.7																						

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MSW-91-5

ASSAY SHEET

Mo

Sample Number	From (m)	To (m)	Estimate		Length ()	% Cu	% Zn	% Pb	gm. T Ag	gm. T Au	% SiO ₂	% TiO ₂	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	AS ppm	Ba /ppm	Sb ppm	Ag ppm	Au	
			Cu	Zn																			ppb	
98317	62.7	63.7																						2
18	63.7	64.7																						6
19	64.7	65.7																						2
98320	65.7	66.7																						65
21	66.7	67.7																						13
22	67.7	68.7																						21
23	68.7	71.7																						14.
24	71.7	74.7																						1
98325	74.7	77.7																						38.
26	77.7	80.7																						2
27	80.7	83.7																						9
28	83.7	86.7																						116
29	86.7	89.7																						122
98330	89.7	92.7																						64
31	92.7	95.7	No sample 98331																					
32	92.7	95.7																						57
33	95.7	98.7																						5
34	98.7	101.7																						38
98335	101.7	104.7																						23
36	104.7	106.6																						76

END