

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0-6.6	And. Crystal Tuff.			15-20% epidotized fsp crystals.				
6.6-9.2	Diorite							
9.2-12.4	QP Tuff			3-5% q's.				
12.4-14.8	Intermediate Ash with Chert.			- QP Tuff grades into chl ash. - bottom part of unit = cht (13.6-14.8)				- cht split.
14.8-19.65	Diorite.							
19.65-93.9	Felsic Tuff.			- generally well-foliated aphyric.  fault gouge at: 84.9-86.95 93.0-95.7		Wchl - ser.  73.3 - strong ser with siliceous, cherty-looking patches - core bleached white.	tr. diss py.	93.0-95.7 - fault gouge includes white felsic tuff, grey - black mud & green gl/diorite.
93.9-107.7	Gabbro/Diorite		m-gr.	intergranular texture. lower contact sharp	107.7-45°			
107.7-113.1	Felsic Tuff.		f.gr.	- massive.		Wchl - relatively unaltered.	1% py veinlets.	
113.1-113.4	Fault Gouge.							
113.4-135.6	Diorite.					1% leucoxene in lower part of unit.		

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135.6 - 148.6	Felsic Tuff			well-foliated.		W chl.	tr. py.	
148.6 - 162.8	foliated Diorite or mafic tuff.	greenish brown	fgs.	well-foliated + v. finely banded. - upper contact marked by 0.3m of fault gouge material.		have 1-2% wisps of light brown leucocase?		check TiO <sub>2</sub> to see if it is diorite.
162.8 - 179.5	Diorite			- above unit grades in fsp-porphyrific diorite				
179.5 - 180.9	Felsic Tuff.							
180.9 - 185.9	Mafic Ash			locally well-bedded; otherwise looks quite massive.	181.7m - 45° bedding.	M-S chl	1% diss py. to tr. py.	
185.9 - 214.9	Felsic Tuff. with thin interbeds of chloritic mafic ash.			- locally looks fragmental but this may be an alteration feature. - patches with 1-2% fsp crystals + tr. mm-sized q's. - towards base of unit start to get interbeds of mafic ash as at 180.9 - 185.9		w-n. chl - mottled look.		* hole has cut primarily diorite + FV - but little sulphides + little significant alteration in FV's. - still in hanging wall to L-T horizons.
214.9 - 219.3	Diorite.							
219.3 - 234.7	Felsic Crystal Tuff.			- beds with 10% cream-coloured fsp crystals -		relatively unaltered.		
234.7 - 260.3	Diorite.							

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0-163.7 EOH.	Felsic Ash/ Tuff.			<p>- have the odd q + fsp crystal. - weakly foliated.</p> <p>- locally have zone with 5% q's. (see Harold's original log for details.) * would not classify any of these units as flow - look fairly ashy + crystal content generally &lt; 1%.</p> <p>71.0 - 120.8 unit has a distinct QP nature - 1-2% q's - 2-3mm across - almost all are round - larger one elliptical - possibly = vesicles? - crystal tuff - lacks angular q's of flow. - unit fairly massive - only weakly foliated. - locally have mm-sized white specks = fsp?</p>		<p>23.1-50.9 - patches of intense silica-sericite alteration</p> <p>50.9- Weak per. ser. - sulphide content lower.</p> <p>86.9-87.8 - intense sericite-silica.</p> <p>101.9-105.5 - moderate to intense sericite</p>	<p>1% diss py.</p> <p>23.1-50.9 2-3% diss py + as stringers. 43.9-44.35 - 15% py in siliceous stringer (split)</p> <p>50.9- 1% diss py in fgr. ash/tuff.</p> <p>86.9-87.8 2-3% py in silica-rich parts.</p> <p>98.5-98.65 - Semi-massive py stringers.</p>	<p>} altered. stringer zone.</p>

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				<p>120.8 - 163.7</p> <ul style="list-style-type: none"> <li>- unit locally has 5% fsp crystals; tr - 2% q's. - not as well defined as above.</li> <li>- massive to weakly foliated.</li> <li>- siliceous patches in unit</li> </ul>		<p>120.8 - 163.7. relatively unaltered.</p>	<p>128.55 - 130.65</p> <ul style="list-style-type: none"> <li>- 2-3% py as stringers + disseminations.</li> </ul>	<p>MTS-19 - almost entirely in same unit - have minor variations in Qtz crystal content.</p> <ul style="list-style-type: none"> <li>- near top of hole have sulphide stringers + ser-sil alteration - becoming relatively unaltered towards bottom.</li> <li>- hole entirely in footwall to L-T horizons. which may not be present on this section due to NE'y trending Lenora(?) fault.</li> </ul>
				<p>158.4 - 161.15</p> <ul style="list-style-type: none"> <li>- diorite, f. gr. green. carb veins.</li> <li>upper contact sharp at 35° to C.A.</li> </ul>				

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0 - 12.75	Chloritic QFP.	greenish grey				Chloritic.		- is this really felsic? - check geochem.
12.75 - 22.1	Diorite			fsp-phyrlic - upper contact sharp at 60°				
22.1 - 30.7	QFP x' tuff with And Ash layers.			And Ash at: 25.2 - 25.65 25.95 - 26.75		weak perv. chlorite.	none.	- is this really felsic? - check geochem.
30.7 - 62.55	Andesite Ash / Crystal Tuff (fsp, tr. pyroxene).			- good grading from ash to crystal tuff at top of unit. ∴ tops up hole 37.5 - epidote pseudomorphs of equant pyroxene crystals. 54.9 - well-bedded andesitic ash	at 65-70° to C.A.	fsp crystals perv mod. ep 2-3% ep. "balls" 39.3-40.5 - tr. carb-hem. veinlets.		
62.55 - 66.9	Bedded Andesitic Ash + grey chert fragments + beds.			cht. frags - have carb tension veinlets. set in green ashy matrix.	63.9m - 55° bedding.			
66.9 - 70.4	And x' Tuff							
70.4 - 84.7	And. Ash.			locally well bedded. QFP dikes at 71.8-72.2 72.6-72.7	71.4m - 58° bedding 76.0m - 63° bedding.			

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84.7 - 106.1	Felsic Tuff/Ash.			- well-foliated. - contact with overlying And Ash indistinct - could occur between 79.4 & 84.7 if felsics are chloritic.		perv. weak carb veining - have siliceous zones near upper contact.	tr. diss py (note split sections in original logs). 89.6 - 90.3 - 1-2% py	
106.1 - 110.35	Fsp-phyric felsic dike.	grey.		5-10% epidotized fsp crystals. - lower contact sharp - upper contact indistinct.				
110.35 - 125.25	Andesitic Ash Crystal Tuff			- pred. fig. ash - unit massive.		1% ep. patches	tr. diss py - primarily in veinlets.	- possibly a dike? - check TiO <sub>2</sub> .
125.25 - 129.95	Chert & Ash.			- chert is well-bedded.	127.1m - 80° (bedding) 129.6 - 45° (bedding).			- upper 0.7m split only.
129.95 - 139.5	And. Ash							
139.5 - 142.15	Fsp-phyric dike.			10% epidotized fsp crystals. - lower contact = fault gouge.		W-M ep.		- unit similar to hanging wall unit in Canamera holes.
142.15 - 153.7	And. X <sup>1</sup> Tuff/Ash.						1-2% py in patches (split).	

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153.7-163.7	Felsic Cherty Tuff.			- locally have <sup>8</sup> cherty beds and frags - 1-2% mm-sized q's. contact marked by q.v.			tr-1% dis py, tr. q in q.v's.	
163.7-280.1	Intermediate Ash. with FP-rich layers.			f.gr. ash interlayered with FP layers (5% weakly ep fsp crystals). - tr-1% elliptical - qtz filled vesicles in these FP rich layers 186.0 - 248.15 unit becoming massive FP with 5-10% white fsp x <sup>1s</sup> . 248.15 - 280.1 - have fgr. intermediate ash interlayered with fsp-rich layers as near top of hole.		186.0 - 280.1 fsp weakly epidotized. - locally have f.gr. siliceous zone with diffuse boundaries.	1% dis py.	FP unit not as homogeneous as in Canamera holes - dealing with tuffaceous sequence grading into flow? - all we see in Canamera holes is base of unit - flow.
280.1-287.3	Felsic Ash	light grey	fgr.					
287.3-288.0 EOH	Andesitic Ash.		fgr.	patches with 5% ep. fsp crystals.				* Sulphides are definitely lacking in this hole. Still in hanging wall sequence.

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0 - 8.4	Felsic Tuff			well-foliated.		W ser.	1% py.	
8.4 - 37.0	Diorite.							
37.0 - 55.6	Felsic Flow? Tuff.	light grey	f.gr.	-generally well-foliated aphyric.		siliceous zones + patches - possibly primary.	tr. py.	- unit generally unaltered.
55.6 - 71.3	Diorite			- f. mgr. 1-2% leucoxene. locally fsp-phyric. fault gouge at 56.4-56.8.				
71.3 - 84.7	Felsic Tuff.			1-2% q's. -generally well-foliated at 30° to C.A.		W-M chl	1-2% dis py - abundant split core - see original logs.	
84.7 - 145.0	Diorite.							
145.0 - 160.2	Intermediate Ash.			f.gr. greyish green ash with the odd interbed of qtz-phyric material 2-3% q's.		W chl.	1% dis py - some split sections.	
160.2 - 180.8	I - Felsic Crystal Tuff QFP			3-5% rounded q's set in green chloritic matrix - unit looks sediment-like (clastic character). also have 2-3% fsp crystals.		W-M chl, ser.	3-5% f.gr. dis py - some split sections.	have not really seen this before although chl alt <sup>er</sup> may be giving it a different look.
180.8 - 270.0	Felsic Ash?			f.gr. massive, aphyric - have the odd mm-sized qtz crystal. 263.5 - 270.0 - unit has cherty bands and frags - probably flow breccia.		W perv. carb. alt <sup>er</sup> has stained core rusty orange. W chl.	tr. dis py. 225.85 - 226.4 semi-massive py. stringer-split.	unit quite homogeneous throughout.



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270.0-286.0	Diorite			upper contact sharp.	270.0m-45°			
286.0-293.5 EOH.	Felsic Flow?			siliceous massive unit. have odd siliceous/cherty fragment. -generally aphyric - no visible crystals.		mottled appearance due to patchy chl alteration.	tr. py stringers.	

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0-10.3	Felsic Tuff	white	f.gr.	well-foliated.				
10.3 - 14.5	I Tuff with cherty beds.			greyish in colour. - interbeds of grey cht in grey fgr. ash - towards lower contact have frags? of more felsic material. (or alt <sup>o</sup> feature)	11.5m-70° (bedding)		1% v.f.gr. py associated with cht.	- where does this sit wrt N Zone?
14.5-70.0	Felsic Tuff.			- well-foliated - becoming more massive - tr - 2% mm sized q's + f's in areas that are not as altered  45.8 - unit has cherty frags and bands - primary feature. oriented at 60° to C.A. - actual upper contact of this zone is diffuse.	16.0m-40° fol <sup>o</sup>  - 60.3m-60° (bedding?)	moderate sericite.  45.8 - unit weakly chloritic - much more siliceous.	tr. py.	siliceous areas - irregular shapes - possibly looking at flow banding.
70.0-102.5	FP dike?	grey.	mgr.	- upper contact obscured by blocky core - but sharp - no chill margin. 5-10% fsp 1-2mm long.		fsp - weakly ep.	none.	- same unit in MTS-21 - but upper part had ashy layers.
102.5-121.1	- F ash.			- v.f.gr - locally have more siliceous patches. - weakly foliated.		wchl	tr. py.	
121.1-126.1	I ash with screen of felsic ash.						1% diss py.	
126.1-127.6	Diorite			fsp - porphyritic.				

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127.6 - 130.45	Fault gouge.			- upper part of gouge (0.5m) = white felsics + black mud = arg? - rest = I tuff				
130.45 - 173.75	I tuff c minor felsic crystal tuff (QP) screens	grey	mgr.	- intermediate ash and crystal tuff - mm-sized fsp crystals - thin (0.7 m wide) felsic tuff screens. interlayered. - generally moderately foliated	157.0m - 45° (fol <sup>s</sup> )	- weak chl.		patches with 1-2% diss py (split - see original logs for assays. - py occurs as fine disseminations parallel to fol <sup>s</sup> .
173.75 - 180.4	QP Tuff.			3-5% mm-sized q's. - contacts fairly sharp.	173.75 - 45° (contact)	w chl-ser.		tr - 1% diss py.
180.4 - 196.5	I tuff			- as at 130.45 - 173.75.				
196.5 - 202.1 EOH.	Felsic Flow			massive - aphyric.		mottled look due to silicification.		tr py.  * sulphide content of hole still low; still in hanging wall.

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0-55.0	Felsic Tuff	greyish white	mgn.	foliated - $\approx$ parallel to core axis. - have patches with 5% creamy white fsp x <sup>ls</sup> + tr. qtz crystals - flattened in plane of fol.	15m - 30° (fol.),	W ser, chl	tr. py - diss + stringers	
55.0-106.2	Diorite.			fsp-phyric at margins - upper contact sharp but irregular.				
106.2-136.4	Felsic Tuff.			1-2% mm-sized q's - generally well-foliated at 45° to C.A.		W-M ser, W chl	tr. py.	- Sulphide content low - in Hanging Wall?
136.4-136.8	Fault Gouge							
136.8-146.3	Intermediate Ash with well-defined Chert layers			- grey intermediate ash with light grey chert - bedding contorted near fault zone. - lower in unit well-defined at 60° to C.A. - contact sharp	144.8m - 60° (bedding).	W-M ser.	tr. f.gr. py.	- one of L-T horizons?
146.3-169.3	QP-FP Tuff/Ash.			1-2% mm-sized q's in upper part of unit. in lower part of unit have patches with 5% fsp crystals			1% py as stringers.	
169.3-183.9	Diorite - carb rich.			fsp-phyric in center.				

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183.9 - 199.0 EOH.	Intermediate Ash with minor cht.	greenish grey	f.gr.	light grey cherty beds in matrix to intermediate ash. - hard to see bedding as entire unit quite blocky.	197m - 50°	- W-M chl.	1% py - f.gr.	- similar to unit at 136.8, 146.3 - possibly same one just dilated by diorite.  I Ash/Cht units in hole similar to those hosting L-T horizons. - hole stopped in unit did not completely test stratigraphy.  * except same unit seen in MTS-48 - sulphides occur $\approx$ 60m down section. o.p. are we only 50-60m from ore in MTS-23??