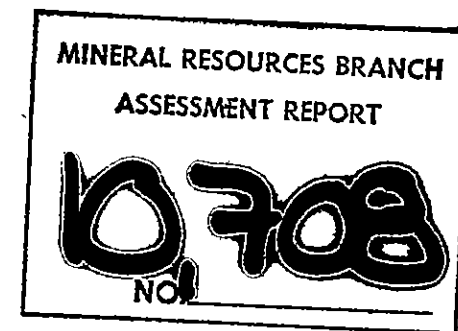


APPENDIX C

Diamond Drill Logs and Analytical Results

part 2
et 2



TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		BOX 7 40.0 - 45.77	39.0	40.0			2033	16	29	69	0.5	5
		Trachy-andesite flow, porphyritic with K-spar, plagioclase and hornblende phenocrysts in a light grey groundmass - up to 40.2 core is crumbly becoming more massive.										
		- numerous irregular calcite veinlets	40.0	41.0			2034	19	56	132	1.0	15
		- local small sericite seams										
		- @ 42.1 to 42.3 moderate argillic alteration										
		- few linear fractures varying between 35-60° to axis	41.0	42.0			2035	13	55	108	0.5	5
			42.0	43.0			2036	7	108	93	0.4	10
			43.0	44.0			2037	5	18	65	0.5	5
			44.0	45.0			2038	6	26	74	0.3	20
		BOX 8 45.77 - 1.10										
		- Porphyritic trachy-andesite as described 7.23 - 18.12										
		- numerous small calcite veinlets - one large calcite vein @ 48.7 is 1cm wide trending 10° to axis	45.0	46.0			2039	17	34	88	0.8	5
		- sericitic alteration @ 47.85 - 48.15										
		- smaller sericitic seams 1cm wide @ 49.1 (30° to axis) and 50.4 (90° to axis)	46.0	47.0			2040	4	18	60	0.4	10
		- linear fracture 40-60° to axis										
			47.0	47.9			2041	20	40	86	0.7	5

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DRILL HOLE LOG

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TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		- one fracture 20° to axis	57.0	58.15			2051	33	118	265	0.7	15
		57.0 - 58.15; trachy-andesite flow; minor alteration to sericite	58.15	58.60			2052	95	230	280	1.4	10
		- several sericitic seams 1cm wide 40° to axis										
		- lower contact sharp 90° to axis										
		58.15 - 58.60; argillic alteration; breakdown to kaolinite clay - several pieces of trachy-andesite flow breaking down to clay - lower contact 90° to axis	58.6	59.3			2053	52	83	218	0.8	10
		58.6 - 59.3; trachy-andesite, minor sericite alteration	59.3	59.6			2054	69	440	402	1.2	10
		- lower contact fairly sharp 30° to axis										
		59.3 - 59.6; strong argillic alteration - white clay	59.6	60.6			2055	35	90	188	0.8	5
		- one calcite vein @ 59.4, 1cm wide 25° to axis										
		- grads back into trachy-andesite - lower contact marked by sericite seam 40° to axis										
		59.6 - 62.22; porphyritic trachy-andesite flow, linear fractures 50° to axis - few infilled with iron-oxides -	60.6	61.7			2056	9	36	169	1.0	5
		BOX 11 62.22 - 67.85										
		Trachy-andesite flow; K-spar, plagioclase, hornblende phenocrysts (40%) in a light grey ground-mass.										
		- several round xenoliths @ 64.2 and 65.9	61.7	62.9			2057	21	22	154	1.2	5
		- xenoliths medium grained, composed of quartz, plagioclase, and hornblende all in equal proportion - margins of xenoliths unaltered										
		- numerous thin calcite veinlets, some with quartz associated - veinlets crosscut xenolith and fault them .5cm	62.9	64.0			2058	15	25	142	1.0	5
		- linear fractures 40-60° to axis										
			64.0	65.0			2059	20	30	121	0.8	15
			65.0	66.0			2060	57	26	147	1.2	10

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
			66.0	67.0			2061	10	22	123	0.6	10	
		BOX 12 67.85 - 73.17											
		Porphyritic trachy-andesite tuff as described	67.0	68.0			2062	10	18	114	0.7	5	
		7.23 - 18.12 - groundmass light grey-maroon											
		- one xenolith as 64.2, 65.9 @ 68.9, 4-5cm wide, rounded											
		- large fracture running parallel to core axis from 69.2 - 69.9	68.0	69.0			2063	14	21	180	1.0	35	
		- occasional irregular quartz-carbonate veins- predominantly carbonate with lesser quartz											
		- linear fractures 25-35° to axis	69.0	70.0			2064	4	32	180	1.0	10	
			70.0	71.0			2065	21	71	276	0.8	5	
			71.0	72.0			2066	11	36	247	1.1	10	
		BOX 13 73.17 - 78.85	72.0	73.0			2067	3	26	412	0.8	5	
		Porphyritic trachy-andesite flow and a pyritic clay gouge fault zone											
		73.17 - 74.7; porphyritic trachy-andesite flow as											
		67.85 - 73.17 - clay alteration increases approach- ing gradational lower contact	73.0	74.0			2068	4	28	330	1.1	5	
		74.7 - 75.3; argillic alteration, intense altera- tion to white clay, probably kaolinite grads back into less altered trachy-andesite	74.0	74.7			2069	8	50	535	0.9	10	
		75.3 - 75.9; porphyritic trachy-andesite flow with minor alteration to clays and sericite - few narrow (1mm) hematite veinlets - grads back into	74.7	75.3			2070	75	32	352	1.1	5	
			75.3	75.9			2071	5	40	543	1.0	10	

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DRILL HOLE LOG

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TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		argillic zone												
		75.9 - 76.5; intense argillic alteration, probable fault gouge - white kaolinite clay becoming pyritic (1-2%) near broken contact with siliceous zone	75.9	76.5			2072	14	82	140	1.8	5		
		76.5 - 76.8; light grey intensely silicified zone - disseminated pyrite 1-2%, minor hematite, broken lower contact.	76.5	76.8			2073	37	27	126	0.4	5		
		76.8 - 77.4; white clay fault gouge similar to 75.9 - 76.5; fine-grained pyrite 1-2% - grads back to andesite	76.8	77.4			2074	18	105	125	2.4	10		
		77.4 - 78.85; porphyritic trachy-andesite flow - minor breakdown to clays - K-spar megacrysts, plagioclase and hornblende phenocrysts (50%) in a light grey groundmass (50%)	77.4	78.5			2075	32	68	530	1.2	5		
		BOX 14 78.85 - 84.25 Porphyritic trachy-andesite flow and one zone of phyllic alteration	78.5	79.5			2076	6	46	282	1.3	5		
		78.85 - 80.85; trachy-andesite with white feldspar and hornblende phenocrysts - minor K-spar - feldspars altering to sericite												
		80.85 - 81.7; phyllic alteration; quartz-sericite pyrite clay	79.5	80.25			2077	37	24	125	1.2	5		
		- pink tinge to core-quartz in small veinlets (stringers)-sericite and clay more pervasive	80.25	80.85			2078	23	26	71	1.0	5		
		- dissiminated euhedral pyrite 2% - grads back into trachy-andesite												
		81.7 - 84.25; porphyritic trachy-andesite flow - 2 large xenoliths @ 82.0 - similar to host rock only fine grain with only small white feldspar phenocrysts	80.85	81.7			2079	16	48	340	1.4	15		
		- feldspars altering to sericite	81.7	82.7			2080	33	52	189	0.7	10		
		- few narrow quartz stringers												
		- linear fracture 40-50° to axis	82.7	83.7			2081	12	27	99	1.0	10		
		BOX 15 84.25 - 90.0 Porphyritic trachy-andesite flow and a patchy phyllic alteration zone												
		84.25 - 84.8; trachy-andesite flow, porphyritic with	83.7	84.8			2082	7	33	120	0.7	15		

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TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		K-spar, plagioclase - hornblende phenocrysts (50%) in a light grey groundmass - one quartz vein @ 84.3, 30° to axis	84.8	85.15			2083	11	53	280	1.6	10
		84.8-85.15; patchy phyllic alteration - few patchy areas of mainly sericite - clay alteration - minor quartz and pyrite (<1%) - hematite associated with quartz and pyrite - hematite margin around patches pervading into andesite 1cm.	85.15	86.15			2084	15	34	195	0.5	15
		85.15-89.9; porphyritic trachy-andesite flow- occasional xenoliths 6-8cm wide and round-consists of medium grained plagioclase and hornblende with lesser quartz	86.15	87.0			2085	8	40	189	1.0	10
		- occasional quartz-carbonate veins 60° to axis - alteration 89.0, few hematitic stringers and ground- mass hematitic - mild alteration of feldspars to sericite or possibly clays.	87.0	88.0			2086	6	36	185	1.1	20
		89.9-90.0; more intense hematitic groundmass and alteration of feldspars to sericite	88.0	89.0			2087	2	48	327	1.0	35
		<u>BOX 16</u> <u>90.0 - 95.74</u>	89.0	89.9			2088	13	27	210	0.8	15
		Altered trachy-andesite and a fault gouge zone. 90.0-90.7; similar to 89.9-90.0; sericite altera- tion very intense approaching 90.5 - clay and probable sulphate associated	89.9	90.7			2089	7	42	110	0.9	15
		- lower contact very sharp 30° to axis 90.7-91.5; fault gouge; 95% gouged andesite frag- ments in a sericite clay-hematite groundmass(5%). - feldspars within andesite altering to sericite - lower contact irregular approximately 35° to axis	90.7	91.5			2090	3	31	80	0.6	5
		91.5-91.9; intense sericite-quartz ± sulphate stringers pseudo-brecciating the host andesite - hematitic stringers and hematite in groundmass - pinkish patches, possible potassic alteration	91.5	91.9			2091	12	38	230	1.1	10
		91.9-95.74; altered porphyritic-trachy-andesite	91.9	92.95			2092	36	30	195	0.7	10

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		- intense sericite alteration from 109.8 - 110.1											
		- linear fracturing 45° to axis											
		BOX 20 112.44 - 118.07	111.4	112.44			2113	13	52	632	1.1	15	
		Porphyritic trachy-andesite flow - mild sericite alteration and one interval of phyllic alteration 112.44-115.7; porphyritic trachy-andesite flow											
		- moderate sericite alteration - sericitic "wisps" and stringers (1mm wide) - minor quartz stringers	112.44	113.4			2114	12	54	585	1.0	5	
		- minor hematite along fractures											
		- lower contact wavy and sharp 20° to axis											
		115.7-116.3; phyllic alteration; sericite-quartz-pyrite	113.4	114.4			2115	14	54	900	0.9	10	
		- predominantly sericite-very narrow quartz stringers											
		- euhedral pyrite cubes (<1%)											
		- lower contact is gradational											
		116.3-118.07; similar to 112.44 - 115.7											
		- intense sericite alteration @ upper contact, 117.1 - 117.2, 117.6, 117.95 - 118.07	114.4	115.7			2116	18	58	970	1.2	20	
		- hematitic stringers of 117.5 - 118.07											
			115.7	116.3			2117	40	106	933	2.9	5	
			116.3	117.35			2118	29	60	335	1.4	5	
		BOX 21 118.07 - 125.37	117.35	118.07			2119	55	36	492	0.7	5	
		Clay gouge and polyphase quartz breccia	118.07	118.40			2120	13	82	173	1.0	10	
		118.07-118.40; clay fault gouge; initially sericite andesite flow (10cm) turning into a light brown clay gouge-minor late stage iron-oxides	118.4	119.2			2121	22	50	37	0.3	10	
		- lower contact is broken											
		118.40-123.57; polyphase quartz breccia	119.2	119.6			2122	3	215	17	0.4	25	
		- several phases of quartz-light brown-grey quartz, white milky quartz, and a later stage smokey quartz in stringers which cross-cut	119.6	120.0			2123	3	25	5	0.1	10	

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TEXTURE, ALTER ^N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		- other quartz-relic pseudomorphs of hornblende (rectangular-euhedral) and specularite-both have been leached and infilled with milky quartz	120.1	120.6			2124	2	34	4	0.2	5
			120.6	120.85			2125	3	79	4	0.2	30
			120.85	121.1			2126	7	132	34	0.5	120
		- local hematitic stringers - very narrow										
		120.85-121.10; complex, "bizarre" banding of smokey quartz, light brown quartz, and hematite -	121.1	121.6			2127	2	82	21	0.2	10
		subsequently been faulted (small scale), brecciated, and folded (small scale) then probable later stage hematite.	121.6	122.2			2128	1	84	14	0.2	10
		Dark grey metallic mineral, fine grained, soft (2-3), black streak-small patchy disseminations @ 120.5, 122.2, 122.5, 123.3-possibly fine-grained galena enargite?	122.2	122.75			2129	2	200	19	0.4	30
		BOX 22 123.37 - 128.98	122.75	123.2			2130	1	295	5	0.4	15
		123.37-124.2; polyphase quartz breccia as described 118.07-123.37 - local later stage hematite veinlets-fine-grained black sulphide @ 123.4	123.2	123.6			2131	2	175	4	0.3	25
			123.6	124.0			2132	2	56	3	0.1	10
		124.2-126.0; rebrecciated quartz breccia-polyphase quartz breccia which has been brecciated and healed by quartz, hematite and alunite	124.0	124.2			2133	2	565	15	0.9	70
			124.2	124.7			2134	2	365	81	0.7	20
		- fragments all quartz, variable in size	124.7	125.2			2135	148	330	61	1.2	40
		- alunite (10%)-yellow-green, hardness 4, greasy looking translucent is open space filling-pseudo-cubes in open spaces	125.2	125.6			2136	4	455	51	0.8	25
			125.6	125.9			2137	3	260	36	0.4	20
		- sulphides including pyrite + chalcopyrite (1%) occur within quartz-hematite groundmass-black fine-grain sulphide, probably galena occurs throughout(1-2%)	125.9	126.45			2138	2	215	16	0.6	15
		126.0-126.9; same as 118.07-123.37										
		126.9-127.7; brecciated quartz breccia-rebrecciated polyphase quartz breccia-hematite and rusty iron	126.45	127.0			2139	2	195	12	0.5	5
		oxides pervade-minor fine-grained metallic black sulphide	127.0	127.7			2140	6	180	17	0.5	10
		- core pitted and partially infilled with alunite										
		- later stage grey quartz stringers 1-2mm wide	127.7	128.3			2141	5	210	12	0.2	25
		127.7-128.98; polyphase quartz breccia similar to 118.07-123.37 - late stage rusty iron oxides-minor patchy black sulphides (fine-grained)										
		- later stage quartz stringers	128.3	128.98			2142	1	110	15	0.2	5

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TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		BOX 23 128.98 - 134.0												
		Polyphase quartz breccia as 118.07 - 123.37	128.98	129.5			2143	2	23	9	0.2	5		
		- numerous smokey grey later stage quartz stringers	129.5	130.0			2144	1	21	2	0.3	10		
		- late stage hematite and rusty iron-oxides along fractures	130.0	130.5			2145	2	35	12	0.3	10		
		- enargite-metallic, dark grey, soft @ 129.4 and 132.2 - 132.4 - contains 5% enargite over .2 metres	130.5	131.0			2146	1	122	3	0.2	5		
		- banded quartz-hematite 5cm wide @131.0 trending 40° to axis	131.0	131.5			2147	1	34	5	0.2	10		
		- @ 133.6-133.7 core is brecciated and healed with quartz-hematite	131.5	132.0			2148	1	28	10	0.2	5		
			132.0	132.5			2149	9	5900	15	2.3	20		
			132.5	133.0			2150	1	43	13	0.1	10		
			133.0	133.4			2151	2	11	8	0.3	15		
			133.4	134.0			2152	1	9	12	0.1	15		
		BOX 24 134.6 - 140.10	134.0	134.5			2153	1	4	7	0.2	5		
		Polyphase quartz breccia-similar to 118.07-123.37	134.5	134.9			2154	1	2	2	0.1	10		
		- light brown-grey quartz, milky white quartz and later stage smokey quartz stringers	134.9	135.5			2155	1	5	4	0.2	10		
		- pseudomorphs of hornblende, now white coloured and silicified												
		134.6-137.1; as described above, narrow hematitic stringers-concentrations of hematite @ 135.4,136.9	135.5	136.0			2156	2	7	2	0.1	5		
		- minor late stage iron-oxides	136.0	136.5			2157	1	4	2	0.1	5		
		- numerous irregular narrow smokey quartz stringers												
		137.1-137.6; slightly rebrecciated polyphase quartz intense hematite invasion along fractures - most quartz is dark grey - smokey	136.5	137.0			2158	1	8	2	0.1	<5		
		- numerous later stage irregular quartz stringers	137.0	137.6			2159	4	23	15	0.4	35		

TEXTURE, ALTER' ^N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		- feldspars to sericite and groundmass sericitic												
		- pale green sericite seam 1cm wide @ 146.5, 20° to axis	146.25	147.20			2174	8	38	59	1.0	15		
		147.2-151.42; porphyritic, trachy-andesite flow												
		- strong pervasive sericite alteration												
		- occasional irregular quartz-sericite vein - minor associated carbonate.	147.20	148.10			2175	14	23	91	0.9	5		
		- from 148.7 - 149.6; moderately sheared - several pale green sericite seams, 1-2cm wide oriented approximately 20° to axis - purple iron-oxides (hematite) along fractures	148.1	149.0			2176	16	22	94	0.9	10		
			149.0	150.0			2177	15	20	73	1.0	25		
			150.0	151.0			2178	15	19	125	0.8	10		
		<u>BOX 27</u> 151.42 - 156.95												
		Fault zone - sheared trachy-andesite - intense sericite alteration throughout - one interval quartz - hematite alteration	151.0	151.8			2179	18	22	108	0.7	5		
		151.42-153.4; shear zone; intense pervasive alteration to sericite	151.8	152.5			2180	31	26	84	1.0	50		
		153.4-153.5; quartz-hematite alteration-silicification and specular hematite as well as red hematite												
		153.5-156.95; strong sericitic alteration of trachy-andesite	152.5	153.4			2181	16	23	52	1.1	15		
			153.4	153.5			2182	25	66	98	1.2	10		
		- locally sheared with more intense sericitic @ 154.0, 154.3-154.6, 154.8-155.3, 155.9-156.0												
		- purple iron-oxides infilling along irregular veinlets	153.5	154.5			2183	12	63	150	1.1	20		
			154.5	155.4			2184	14	88	191	0.9	5		

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TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		- intense pervasive alteration to sericite												
		- sheared with sericite along shears	163.8	164.7			2199	10	39	39	0.9	20		
		- lower contact @ 163.0 marked by sericitic shear												
		20° to axis	164.7	165.2			2200	76	32	50	1.2	10		
		165.1-167.5; trachy-andesite flow; local brecciation												
		- 50% phenocrysts, K-spar, plagioclase - hornblende in a medium grey-brown groundmass (50%)												
		- numerous stringers-several stages of stringers	165.2	166.0			2201	21	12	77	0.9	5		
		- quartz-sulphate stringer (probably alunite) which are cross-cut by pure smokey quartz stringers												
		- blebs (1-2mm) of specular hematite, 2%												
		- brecciated zone with intense quartz stringers @ 166.0-166.2, 166.5-166.7, 166.73-166.9-gypsum-sulphate-quartz vein @ 167.3	166.0	167.0			2202	17	18	93	0.8	10		
		- quartz-hematite infilled contact (2mm) @ 167.5, 20° to axis	167.0	167.5			2203	10	15	76	0.8	5		
		BOX 30 167.85 - 173.34												
		Porphyritic trachy-andesite flow with one interval of sericite-quartz-hematite fault gouge	167.5	168.4			2204	12	10	92	0.8	5		
		167.5-169.9; porphyritic trachy-andesite flow												
		- K-spar megacrysts, plagioclase and hornblende phenocrysts (50%) in a medium grey-brown groundmass (50%)	168.4	169.1			2205	9	12	106	0.7	15		
		- minor quartz and sulphate, stringers-brecciated @ 169.0-169.9-170.6; probable fault gouge, mainly sericite gouge with quartz-hematite breccia fragments-fragments variable in size and comprise 20% of gouge - hematite also along fractures	169.1	169.9			2206	10	18	100	1.1	5		
		- one sericitic slickenside	169.9	170.6			2207	13	19	46	1.0	10		
		170.6-173.34; trachy-andesite flow similar to 167.5-169.9												
		- numerous very narrow quartz stringers (<1mm wide)												
		- one round volcanic xenolith @ 171.7; medium grained consisting of quartz-plagioclase-orthoclase-hornblende - 8cm wide	170.6	171.6			2208	17	12	154	0.8	10		
		- one patchy phyllic zone @ 172.3-172.4; quartz-sericite, no pyrite-pink, orange stain which could be potassic alteration?	171.6	172.2			2209	9	15	119	0.7	5		
			172.2	172.5			2210	8	11	83	0.9	5		

TEXTURE, ALTER ^N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
			181.25	182.2			2224	14	26	32	1.2	5
			182.2	183.1			2225	13	20	31	1.2	5
			183.1	184.0			2226	11	28	38	0.9	10
		<u>BOX 33</u> <u>184.72 - 185.93</u>										
		Similar to 178.96-184.72 - trachy-andesite flow which moderate sericite alteration - minor quartz stringers and silicification @ 185.0 - 185.1	184.0	185.0			2227	7	16	31	1.4	25
			185.0	185.93			2228	14	24	59	1.0	10
		END OF HOLE DDH A-82-1										

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KIDD CREEK MINES LTD

HOLE No. A82-2	PAGE No. 1
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PROPERTY: 03 (Bull)

HOLE LOCATION: Furlong 0+65N/1+05E

DRILL HOLE LOG

AZIM: 300° ELEV:

DIP: -75" LENGTH: 210.4m (690')

CORE SIZE: NQ

STARTED: July 27, 1982

COMPLETED: July 29, 1982

PURPOSE:

CORE RECOVERY:

SURVEY

DEPTH	AZIM.	DIP	DEPTH	AZIM.	DIP
206	308	-76			

CLAIM No: Bull

SECTION:

LOGGED BY: J.R. Clark

DATE LOGGED: August 1, 1982

DRILLING CO: D.W. Coates Enterprises

ASSAYED BY: Min-En Labs (Vancouver)

TEXTURE, ALTER'N, MINERALIZATION, ETC.	GRAPH GEOLOG	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		OVERBURDEN	0	4.57									
		BOX 1 4.57 - 9.78m											
		Andesitic to dacitic crystal lapilli tuff, weak argillic ± propylitic alteration.											
		Purplish grey plagioclase 20-30%, subhedral to broken, altered to sericite ± clays ± carbonate, 1-5mm. Hornblende 10%, euhedral to broken, 0.5-3mm, altered to hematite-chlorite ± epidote.	4.57	5.6			2229	7	10	34	0.5	5	
		Specularite 3%, blebs to 2mm. Fragments 5-20%, subangular, average 0.5-3cm, generally andesitic greenish to reddish-purplish grey, plagioclase and hornblende phyrlic; greener fragments more propylitized, greater epidote? Quartz 0-2% irregular distribution, ≤1mm. Matrix from fragments-crystals, etc., lightly sericitized and carbonatized (carbonate up to 5-7%) mainly after plagioclase. Very minor carbonate stringers up to 2mm wide and irregular orientations. Traces hematite along fractures.	5.6	6.6	80%		2230	6	9	40	0.4	10	
			6.6	7.6			2231	5	10	40	0.4	10	
			7.6	8.6			2232	9	12	46	0.5	5	

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
			8.6	9.6			2233	6	9	32	0.4	5	
		BOX 2 9.78 - 15.69m											
		Similar to Box 1. Andesitic to dacitic crystal- lapilli tuff. Locally greater hematite altered, especially in matrix of tuffs. Composition may border on trachy-andesite as very rare potassium- feldspars megacrysts do occur. Hematitized por- tions exhibit anastomosing veinlet of hematite ± clays in matrix; dominant plagioclase altered is still sericite, dominant hornblende altered hema- tite ± chlorite ± epidote. Rare carbonate and laumontite (pink soft zeol?) veinlets.	9.6	10.9			2234	8	8	3	0.5	5	
		12.1 - 14.4m - Broken core, occasional visible slick- ensides plus evidence of shear, minor local breccia- tion. Matrix slightly more sericitic in places. Orientation unknown.	10.9	12.1			2235	12	11	44	0.6	5	
		12.1 - 14.4m - Broken core, occasional visible slick- ensides plus evidence of shear, minor local breccia- tion. Matrix slightly more sericitic in places. Orientation unknown.	12.1	13.1	90%		2236	10	8	50	1.2	10	
		15.4 - 16.1m - Same as 12.1 - 14.4m, sheared up appearance.	13.1	13.9	90%		2237	39	10	47	8.0	75	
			13.9	14.5			2238	23	8	43	1.2	5	
			14.5	15.4			2239	12	7	50	0.5	10	

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
			15.4	16.1			2240	5	10	42	0.3	5
		BOX 3 15.69 - 20.82m										
		Similar to Boxes 1-2, andesitic (\pm dacitic to trachytic tendencies) lapilli-crystal tuff. Fragmented lithic texture becoming more dominant down-hole locally tuff breccia; fragments subangular to subround up to 5.0cm, average 1-5cm (largest fragments between 17-20m sections), some fragments preferentially epidotized although no apparent control by rock type, possible control by "altered fronts" eg. at 19.6m; fragments composed generally andesitic plagioclase hornblende pyritic, occasional apparently intrusive fine grained equivalents.	16.1	17.1			2241	7	6	34	0.3	5
		19.3 - 20.1 - Heavy \pm epidote-chlorite \pm alteration of feldspar-hornblende.	18.1	19.3			2243	3	10	43	0.4	10
			19.3	20.1			2244	3	9	43	0.3	15
		BOX 4 20.82 - 26.30m	20.1	21.1			2245	3	9	43	0.2	10
		Similar to previously described lapilli-crystal andesite, locally phyllically altered especially along suspected faults, generally propylitic (epidote-carbonate \pm hematite \pm clays \pm sericite). Andesite lopes occasional quartz grains plus gains biotite. Biotite 3-5%, sub-euhedral usually heavy altered to epidote \pm hematite \pm sericite. Fragments 20-40% average. 1-5cm, up to 20cm (with local tuff breccia sections), subangular andesitic in composition. Fragments may be preferentially propylitic with heavier epidote altered especially near rims, allows possible flow breccia origin	21.1	22.1			2246	2	8	32	0.3	10
			22.1	22.8			2247	2	10	35	0.3	10
			22.8	23.8			2248	5	9	39	0.5	5

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		Pyrite content decreases downhole. Core generally sheared and/or broken.												
		28.1 - 30.4 - With fragmental andesite, probable lapilli-crystal tuff since it contains several types of andesitic fragments, whereas flow breccia below contains monolithic fragments. Basically same as tuffs of 20.82 - 26.3m.	30.4	31.4			2256	2	12	47	0.4	10		
		30.4 - 38.1m - Trachy-andesite flow breccia. Upper contact unclear but chosen areas of change from polyolithic to monolithic fragments and first appearance of potassium-feldspar megacrysts. Medium grey. Fragments 50-80%, subangular to subround, up to 30cm average. 5cm, almost exclusively plagioclase-hornblende ± potassium-feldspar phyrlic intermediate volcanics, little or no biotite, plagioclase 35% sub-euhedral 1-5mm, hornblende 10-15% sub-euhedral, 0.5 - 2mm, potassium 1% euhedral megacrysts 7-15mm, groundmass plagioclase-rich, specularite 3-5% to 2mm; most fragments homogeneous though some exhibit strong flow banding by orientation of long axes of crystals. Matrix includes fine fragments and crystals; only occasional digestion textures of fragments (eg swirled and amoeboid shapes). Weak to moderate propylitic altered throughout, especially matrix and rims of breccia fragments, abundant epidote + carbonate + chlorite in these areas; some apparent concentration in upper zones.	31.4	32.4			2257	6	9	42	0.3	15		
			32.4	33.4			2258	2	9	46	0.4	5		
			33.4	34.4			2259	3	7	41	0.2	5		
			34.4	35.4			2260	3	5	43	0.3	<5		
		BOX 6 31.51 - 37.34m												
		Rock types same as 30.4 - 38.1m, a trachy-andesite flow breccia. Alterations vary slightly	35.4	36.4			2261	2	9	41	0.3	10		

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		though still looks clastic overall. Minor late carbonate veinlets.											
		Minor sheer at 22.1m with associated weak hematite-clay-sericite altered and rotted texture, also at 22.8m and approximately 60° core axis with greater sericite-chlorite content.	23.8	24.6			2249	7	11	53	0.3	5	
		22.8 - 23.8m - Slight phyllic and heavy propylitic alteration, irregular patchy distribution, also apparent preferential alteration of fragments, sericite-epidote-chlorite-carbonate altered. Feldspars quite heavily sericitized.	24.6	25.4			2250	7	8	46	0.4	5	
		25.4 - 28.1m - Chloritized and some evidence of movement along fault shears. Plagioclase heavily sericitized, hornblende + biotite heavily hematized and chloritized, groundmass chloritized and sericitized. Some heavily altered hornblende is whitish in patches (but only rare visible epidote and carbonate). Pyrite 2-5% disseminated blebs to 1mm.	25.4	26.4	80%		2251	11	19	66	2.5	25	
		Minor fractures coated with light quartz druses + iron-oxides. Becomes less chloritic and more sericitic downhole.	26.4	27.2	70%		2252	6	13	76	1.4	15	
			27.2	28.1	90%		2253	14	11	49	0.7	10	
		BOX 5 26.3 - 31.51m											
		Similar to Box 4, with chloritic fault zone petering out into andesitic lapilli-crystal tuff (propylitized), overlying a trachy-andesite flow breccia.	28.1	29.1			2254	8	8	38	0.4	5	
		25.4 - 28.1m - Less chloritic downhole plagioclase + groundmass moderately sericitic epidote-hematite ± chlorite after mafics. Minor silicification and quartz and carbonate veinlets (quartz veinlets <3mm randomly oriented, <5% of section) at 27.4-27.5m.	29.1	30.4			2255	3	7	41	0.3	5	

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		minor subround to rounded fine grained diositic xenoliths.	43.3	44.3			2269	12	20	59	0.7	5
		BOX 8 42.9 - 48.6m										
		Trachy-andesite brecciated flow underlain by water-lain tuffaceous (volcanoclastic) sediment. Basal portions of flow breccia contain some quite large blocks (to 35cm); and begin to incorporate wispy bands and veinlets of hematitic material below	44.3	45.3			2270	13	18	51	0.7	<5
		45.6m, becoming more abundant toward downhole contact. Irregular areas of moderate to heavy epidote-chlorite-carbonate alteration, overall weak to moderate propylitic alteration.	45.3	46.4			2271	8	16	47	0.6	5
		Rubbly core and strong chlorite-sericite altered, associated with shearing 44.5 - 44.8m. One small calcite veinlet 60° core axis at 44.95m. Lower contact sharp at 65° core axis.	46.4	47.4			2272	7	23	53	0.6	5
		46.4 - 53.6m - Reddish-brown near top to brownish-grey near base. Probable volcanoclastic sediment strongly tuffaceous in part and possible "hot" debris component. Fine grained near top grading downward to coarser fragmental/clastic texture. Near top dominantly muddy with 20% clasts average 0.5-1cm, near base dominantly fragmental with 80% clasts average 1-2cm. Exceptional sizes of clasts may occur anywhere. No good bedding and only large scale sorting. Lithic fragments mainly andesitic in composition, also significant plagioclase plus minor hornblende crystals scattered in fine brown muddy matrix. Many clasts have lightly bleached thin rims indicating some in situ altered (ie. deposited hot in water and/or muddy flow?). Minor carbonate veinlets randomly oriented. Sericitic altered band 1cm wide 55° core axis 48.3m.	47.4	48.4			2273	12	23	57	0.6	5
		Minor shear at 47.2m approximately 50° core axis.	48.4	49.4			2274	29	24	55	0.8	10
			49.4	50.8			2275	12	21	53	0.7	5

TEXTURE, ALTER ¹ N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		BOX 9 48.6 - 54.4m												
		Mainly andesitic volcanoclastic tuffs, beginning to incorporate occasional larger (1-10cm) fragments of trachy-andesite downhole, and becoming greenish grey from purplish grey. Local sections of coarser material, e.g. 49.6 - 50.0m and 50.4 - 50.7m (includes large grey andesite block 20cm across). Minor shear with heavy sericite altered 50.8 - 51.3m at approximately 60° core axis.	50.8	51.3			2276	12	30	64	0.9	5		
		Trachy-andesite fragments near bottom of box exhibit weak propylitic alteration; hornblende to epidote-hematite-chlorite, feldspar to sericite, groundmass to sericite-chlorite-carbonate. Fragments seem propylitized in general but not all, inferring altered prior to deposition. Matrix does not show significant alteration other than possibly remobilization of hematite, especially along fractures. Rare patches of carbonate especially in matrix.	51.3	52.3			2277	10	23	69	0.6	5		
			52.3	53.3			2278	12	22	63	0.7	10		
			53.3	54.3			2279	11	27	81	0.7	5		
		BOX 10 54.3 - 59.85m	54.3	55.3			2280	14	22	61	0.7	5		
		Similar to Box 9, etc., grading from andesitic volcanoclastics into dominantly trachy-andesite tuffs. Main fragment type trachy-andesite (plagioclase-hornblende andesite with minor potassium-feldspar megacrysts, greenish grey, slight propylitic alteration), with lesser medium grey andesite and dark brownish grey basaltic andesite (plagioclase-hornblende phytic). Fragments comprise 70-90% of rock, average 1-5cm, up to 30cm across, generally subangular. Matrix from fragments, plagioclase-hornblende-potassium-feldspar ± biotite crystals, lightly to moderately hematitic. No clear contact with good volcanoclastic	55.3	56.3			2281	16	26	63	0.6	10		
			56.3	57.3			2282	22	24	65	0.7	<5		

TEXTURE, ALTER ⁿ MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		material, gradational change from dominant sedi- mentary environment to dominantly volcanic (dynamic submarine) occurs approximately 54m. Minor irre- gular carbonate-zeol (pink-orange and soft, possi- bly laumontite) veinlets throughout. Slight shearing with locally greater chlorite between 59.4 - 59.7m.	57.3	58.3			2283	20	23	61	0.7	5
			58.3	59.3			2284	19	22	52	0.5	5
			59.3	60.3			2285	22	26	61	0.7	10
		<u>BOX 11 59.85 - 65.25m</u>										
		Andesitic and trachy-andesitic volcanoclastic tuff, all submarine but with variable sediment versus volcanic dominance; fragments 0.5 - 3cm average. Subangular, generally as previously described in Box 10. Altered weak propylitic in fragments, occasionally moderate chlorite in green fragments . Carbonate vein with laumontite rims 1cm across at 63.65m approximately 60° core axis. Large fragments of greenish grey trachy-andesite (weak to moderate chlorite-carbonate ± sericite ± epidote alteration), 50cm across, 60.9 - 61.4m. Probable bedding 40° core axis at 68.2m.	60.3	61.3			2286	26	27	76	0.6	15
			61.3	62.3			2287	23	27	62	0.7	10
			62.3	63.3			2288	18	25	59	0.7	5
			63.3	64.3			2289	16	25	62	0.8	5

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		similar to those of Box 12 etc., local variations in fragment size, bedding quality, and fragment abundance.											
		70.9 - 73.1m - Reddish brown andesitic volcanoclastic tuff, poorly bedded and sorted, generally lithic fragments (plagioclase-hornblende phytic). 2 - 5mm, but locally up to 5cm in discrete angular-subangular clasts. Matrix hematitic + mud/ash rich. Alteration restricted to weak propylitic. Upper contact sharp at 55° core axis, lower contact lost in broken core. Concentrations of coarser clasts may mark local internal bedding units, e.g. at 72.3m apparent contact 80° core axis.	71.9	73.1			2297	7	16	53	0.4	5	
		Hematitic shear with irregular contact is at 71.45-71.5m (reddish brown gouge).											
		73.1 - 78.3m - Andesitic to trachy-andesitic lithic tuffs (waterlain) and volcanoclastic sediments as in Boxes 11 + 12, etc. Fragments weakly propylitized, strongly altered 5cm fragments at 75.3m; average 0.5 - 2cm, up to 10cm. Propylitic alteration increases downhole. Sericitic shear 5cm across at 74.7m, approximately 65° core axis. Laumontite (?) ± carbonate along minor fractures.	74.1	75.1			2299	7	18	54	0.7	5	
			75.1	76.1			2300	8	15	58	0.6	5	
		BOX 14 76.05 - 81.8m	76.1	77.1			2301	9	16	63	0.7	5	
		Propylitized andesitic to trachy-andesitic volcanoclastic tuffs underlain by mixed hematitic sediment and volcanic tuff, underlain by extensive trachy-andesite flow and flow breccia.											
		Waterlain, reworked lithic tuffs are greenish grey, with fragments average 3 - 15mm, up to 2cm, subangular, mainly propylitized andesitic to trachy-andesitic in composition, although some quite hematitic andesitic fragments as well; matrix of fine	77.1	78.3			2302	8	18	54	0.8	5	

TEXTURE, ALTER ¹ N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Ag
		grained fragments, hematitic mud (minor) carbonate cement, carbonate 3-5% of rock; propylitic alteration, moderate throughout and locally heavy epidote chlorite-carbonate \pm sericitic. Lower contact lost. Poorly sorted, poorly bedded.	78.3	78.9			2303	12	16	50	0.8	10
		78.3 - 78.9m - Reddish brown to grey intermix of fine grained hematitic volcanic mudstones and sandstones and andesitic to trachy-andesitic clasts. Visible grains mainly plagioclase (0.5 - 3mm sericitic) + hornblende (0.5 - 3mm, chloritic + hematitic), clasts subangular to subround, up to 2cm across. Weak to moderate propylitic alteration, significant carbonate alteration in fragments (up to 7%). Bedding 65° core axis at 78.8m, banded on cm scale.	78.9	79.9			2304	4	10	38	0.7	5
		78.9 - 85.3m - Trachy-andesite to dacite flow and flow breccia. Light greenish grey. Plagioclase 25%, 1-5mm, slightly pinkish orange, lightly sericitized and carbonatized. Hornblende 7-10%, euhedral, hematized + chloritized. 0.5 - 3mm. Specularite 1-2%, 0.5 - 2mm. Groundmass plagioclase-rich, sericitic in part potassium-feldspar \leq 1%, 10-20mm, euhedral, sericitized and carbonatized. Breccia fragments same comp., similar in texture though few microdioritic fragments, subrounded in general and may exhibit rims bleaching. Locally flow banded with long axis orientation of hornblende. Slight to moderate propylitic alteration, epidote-chlorite carbonate-sericite assemblage, increasing intensity downhole especially below 80.2m. Altered grade increases into heavy propylitic to light phyllic (sericite-epidote dominant alteration of plagioclase) between 81.5 - 82.4m with up to 3% disseminated pyrite (approximately 1mm grain size).	79.9	80.7			2305	5	13	51	0.8	5
			80.7	81.5			2306	7	11	53	0.8	5
			81.5	82.5			2307	10	13	57	0.9	5
			82.5	83.3			2308	5	15	62	1.0	5
			83.3	84.2			2309	17	16	56	1.8	5
			84.2	84.7			2310	6	18	59	1.9	5
			84.7	85.3			2311	65	40	52	3.3	10

KIDD CREEK MINES LTD

DRILL HOLE LOG

HOLE No.
A82-2

PAGE No.
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TEXTURE, ALTER ['] N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		BOX 15 81.8 - 87.52m											
		Trachy-andesitic to dacitic flow and flow breccia as in Box 14. Some fragments in brecciated segments contain occasional quartz grains. Alteration generally moderate to heavy propylitic (epidote-carbonate-chlorite), locally somewhat phyllic with significant sericitic + groundmass quartz + minor (up to 2%) disseminated pyrite (eg 84.2 - 85.4m). Fault shears with heavy sericite alteration 84.7 - 85.3m, contacts + orientation lost. Minor shear 81.2 - 81.4m with sericitic alteration. Breccia fragments subangular to subround, up to 4cm average 1-3cm, usually less propylitized than matrix which may contain up to 5% carbonate overall.	85.3	86.3			2312	19	16	54	1.0	5	
		85.3 - 87.52 Trachy-andesite to dacite lapilli-crystal tuff, possibly some flow breccia. Generally similar in comp. to 78.9 - 85.3m, separated by fault zone. Fragments up to 15cm, average 1-5cm, generally angular to subangular, comprise 70-75% of core. Matrix moderately propylitized.	86.3	87.3			2313	5	16	57	0.7	5	
			87.3	88.3			2314	4	15	56	0.8	5	
			88.3	89.3			2315	7	17	55	0.8	5	
			89.3	90.3			2316	7	15	49	0.8	10	
		BOX 16 87.52 - 92.96m											
		Trachy-andesite to dacite lapilli-crystal tuff, moderately propylitized. Same as 85.3 - 87.52.	90.3	91.3			2317	5	14	51	0.8	5	
			91.3	92.3			2318	6	15	56	0.7	5	

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		dacitic lapilli-crystal tuffs, variable grain size, finer material near top of Box grades down into coarser lapilli tuffs (± crystals in matrix) with subangular 1-5cm size lithic fragments. Rare fragments are heavily altered to sericite and may contain cross-cutting carbonate veinlets. Indicates some alteration prior to depositions, although pervasive weak to moderate propylitic alteration occurs throughout. Finer sections fairly well bedded, but still poorly sorted. Coarser sections poorly sorted and bedded. Bedding 60° core axis at 99.3m, 55° core axis at 103.8m. Main fragment types of similar compositions - two stand out, one slightly greener grey with dominantly pink-orange plagioclase, the other greenish to brownish grey with mainly white to pinkish plagioclase; no definite trends in relative abundance. Propylitic alteration preferential in matrix sometimes causes slightly heavier rim alteration of fragments.	99.3	100.3			2326	10	17	58	0.6	5
			100.3	101.3			2327	8	18	72	0.7	15
			101.3	102.3			2328	11	18	65	0.7	10
			102.3	103.3			2329	10	17	71	0.8	15
			103.3	104.3			2330	10	19	88	0.9	5
		BOX 19 104.45 - 110.25m	104.3	105.3			2331	10	16	63	0.7	10
		Same as Boxes 16-18 etc., trachy-andesite to dacite lapilli-crystal tuffs. Dominant fragments are white plagioclase type, some with weakly developed flow textures and rare subvolcanic xenoliths. Material 104.7 - 109.7m is mainly finer grained with minor large fragments to 10cm irregularly "dropped in".	105.3	106.3			2332	11	19	73	0.8	5

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		Bedding 60° core axis at 106.1m, 50° core axis at 108.6m.												
			106.3	107.3			2333	12	14	66	0.7	15		
			107.3	108.3			2334	10	13	64	0.7	15		
			108.3	109.3			2335	11	13	67	0.6	5		
			109.3	110.3			2336	10	13	56	0.6	10		
		BOX 20 110.25 - 115.84m												
		Same as Boxes 16-19 etc., trachy-andesite to dacite lapilli-crystal tuffs. Variable coarse to fine grained as previously described. Finer sections contain significant large fragments sporadically. Dominantly finer sections eg. 113.7 - 114.5m. Set as previously described. Bedding 50° core axis at 112.0m (locally fines toward top of hole in finer grained material), 48° core axis at 113.8m. Minor carbonate veinlets, <2mm wide, irregular distribution, beginning below 114.5m.	110.3	111.3			2337	11	20	56	0.5	5		
			111.3	112.3			2338	9	18	51	0.7	10		
			112.3	113.3			2339	6	18	57	0.6	10		

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
			113.3	114.3			2340	5	18	56	0.6	5
			114.3	115.3			2341	8	16	51	0.5	10
			115.3	116.0			2342	6	18	51	0.6	5
		BOX 21 115.84 - 121.56m										
		Similar to Boxes 16-20, etc., trachy-andesite to dacite lapilli-crystal tuffs. Generally weak propylitization, a finer grained section.	116.0	116.25			2343	8	20	58	0.5	5
		117.9 - 119.2m - Is moderate to heavy epidote-chlorite ± carbonate ± sericite altered (low grade phyllic?) Fault shear 2cm wide at 116.1m surrounded by 10cm on each side of heavy epidote-chlorite-sericite alteration, affecting matrix more than fragments. Bedding 50° core axis at 118.6m, 50° core axis at 121.4m.	116.25	117.3			2344	11	18	58	0.7	45
			117.3	118.3			2345	13	20	64	0.8	10
			118.3	119.3			2346	18	18	63	0.8	5
			119.3	120.3			2347	10	17	52	0.7	5

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
			120.3	121.3			2348	8	18	61	0.6	10		
		BOX 22 121.56 - 127.1m	121.3	122.3			2349	10	18	65	0.8	5		
		Same as Boxes 16-21, trachy-andesite to dacite lapilli-crystal tuffs and washed equivalents. Weak propylitic alteration throughout. Local cross-cutting bedding in fine grained sections indicate												
		tops uphole. Minor faulting along slippage fractures may cause slight (1cm) displacement of fine grained beds. Dominantly fine grained unit 123.5-	122.3	123.3			2350	11	16	62	0.6	20		
		124.7m but still occasional large clast dropped in. Large intrusive fragment (10cm) i.e. xenolithic clast at 125.6m. Bedding 50° core axis at 122.7m, 40° core axis at 126.4m.	123.3	124.3			2351	10	16	58	0.7	15		
			124.3	125.3			2352	12	15	59	0.8	5		
			125.3	126.3			2353	11	19	56	1.1	15		
			126.3	127.6			2354	10	20	57	1.2	5		

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		BOX 23 127.1 - 133.0m												
		Trachy-andesite to dacite lapilli-crystal tuff as previously described (becoming slightly more altered downhole, sericite-chlorite increasing), underlain by sericitized ash and lapilli-crystal tuffs, in turn underlain by andesitic-dacitic lapilli-crystal tuffs (also sericitized).	127.6	128.8			2355	15	19	68	1.5	10		
		127.6 - 130.0m - Andesitic-dacitic for lapilli-crystal and ash tuffs; well bedded but poorly sorted in general, occasional large fragments include brownish to greenish grey andesite-dacite (plagioclase hornblende phyrlic) up to 6cm, average 0.5 - 2cm (most fragments much smaller, essentially bimodal distribution), rarely get angular to subangular completely silicified fragments up to 2cm across	128.8	130.0			2356	12	23	75	1.5	5		
		with preserved relic andesitic textures indicating altered prior to deposition e.g. 129.2m. Upper contact sharp, marked by thin banded greenish to purplish cherty sediments, occasional reduction sphere (pyrite-now oxidized to hematite-limonite) to 2mm, 40° core axis. Lower contact sharp at 40° core axis, slightly cherty ash sediment. Light phyllic alteration throughout, abundant sericite + chlorite-carbonate, 3-5% for disseminated pyrite, probably some fine grained quartz added as well.	130.0	131.0			2357	10	20	66	1.4	10		
		131.1 - 132.0m - sharp at 40° core axis, slightly cherty ash sediment. Light phyllic alteration throughout, abundant sericite + chlorite-carbonate, 3-5% for disseminated pyrite, probably some fine grained quartz added as well.	131.1	132.0			2358	8	20	55	1.3	5		
		132.0 - 133.0m - sharp at 40° core axis, slightly cherty ash sediment. Light phyllic alteration throughout, abundant sericite + chlorite-carbonate, 3-5% for disseminated pyrite, probably some fine grained quartz added as well.	132.0	133.0			2359	10	19	67	1.3	5		
		130.0 - 134.2m - Andesitic-dacitic lapilli and lapilli crystal tuff. Fragments 60-70%, subangular, average 0.5 - 4cm, up to 10cm across; singular brownish-green colour, plagioclase-hornblende phyrlic, plagioclase subhedral 208mm altered to sericite hornblende sub-euhedral 1-6mm altered to chlorite + hematite; fragments generally altered, but less so than matrix, light sericite±chlorite±pyrite;matrix	133.0	134.2			2360	18	20	65	1.0	10		

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		alteration slight to moderate sericite-chlorite-carbonate-pyrite (1-5%) with increased pyrite in heavier altered zones; altered probably after deposition, some rim alteration of fragments; minor carbonate veinlets, sporadic distribution, up to 2mm wide. Lower contact sharp at 55° core axis; includes a single silicified andesite-dacite fragment subangular, 1cm across, near base.	134.2	135.2			2361	15	17	69	0.8	5
		135.2 - 136.1m - Same as 126.1 - 130.0m - Andesitic-dacitic fine grained lapilli-crystal and ash tuffs; minor but highly significant subangular to subround silicified fragments (≤1cm). Upper contact marked by fine grained ash and cherty beds, often crude grading upwards of tuffs into cherty beds within sequence, repetitive cycles. Lower contact sharp at 45° core axis.	135.2	136.1			2362	13	18	63	1.0	15
		136.1 - 137.1m - Same as 130.0 - 134.2m, andesitic-dacitic lapilli-crystal tuffs (waterlain). Becomes matrix dominated toward downhole contact, though still large subangular fragments to 5cm, fragments = matrix = 1:2.	136.1	137.1			2363	15	21	76	0.8	10
		137.1 - 138.1m - Same as 130.0 - 134.2m, andesitic-dacitic lapilli-crystal tuffs (waterlain). Becomes matrix dominated toward downhole contact, though still large subangular fragments to 5cm, fragments = matrix = 1:2.	137.1	138.1			2364	13	20	62	0.7	10
		BOX 25 138.72 - 144.31m Andesitic-dacitic lapilli-crystal and ash tuffs with cherty interbeds, moderate sericite-epidote-quartz alteration.										
		140.1 - 140.7m - Andesitic to dacitic for lapilli-crystal and ash tuffs (waterlain). Moderate sericite altered, especially plagioclase, hornblende altered to hematite-chlorite. Heavy sericite + chlorite shear at 140.6 - 140.65m, approximately 45° core axis. Upper contact gradational, lower contact sharp at 55° core axis and marked by thin grey chert horizon.	138.1	139.1			2365	14	18	69	0.8	5
		140.7 - 142.9m - Light tan grey altered andesite-dacite lapilli-crystal tuff. Fragments andesitic-dacitic, hornblende-plagioclase-specularite pyritic	139.1	140.1			2366	12	15	90	1.0	15

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TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		rare quartz; moderate to heavy sericite \pm quartz altered, probably iron remobilization. Matrix variably siliceous (cherty) to sericite-rich,	140.1	140.7			2367	13	24	166	0.8	5
		probably heavily altered but cherty sections bear close resemblance to bedded cherts at tops of	140.7	140.95			2368	19	82	112	0.8	10
		units, possibly minor epidote in plagioclase crystals in matrix. Fragments subangular, up to 4cm, average 1-3cm, comprise 60-70% of core. Includes a section of sheared + heavily altered material	140.95	141.2			2369	6	113	24	0.6	5
		140.9 - 141.6m, with a silicified area bounded by wide sheared sericitic + pyrophyllitic altered.	141.2	141.6			2370	8	32	34	0.6	5
		(Ground preparation surface altered?)	141.6	142.2			2371	9	46	168	0.8	5
		142.9 - 143.7m - Andesitic-dacitic for lapilli-crystal and ash tuffs, local cherty interbeds at tops of sediment-volcanic cycles. Fragments + crystals composed similar to surrounding sections, e.g.	142.2	142.9			2372	14	46	102	0.7	5
		140.7 - 142.9m. Altered moderate to heavy sericitic, moderate epidote + silicification. Minor pyrite (now mostly oxidized) reduction spheres in cherty horizons. Upper contact gradational lower contact erosional surface, sharp at 55° core axis.										
		143.7 - 144.8m - Andesitic-dacitic lapilli crystal tuff strong silicification (cherty) in matrix, with overall abundant sericite + epidote altered.	142.9	143.7			2373	12	25	140	0.6	5
		Bizarre cherty area ground 144.3m, cherty interbed with soft sediment slump, includes an unaltered fragment enclosed in chert (altered of fragment post deposition in general). Similar to 140.7 - 142.9m.	143.7	144.8			2374	9	27	136	0.6	10
		144.8 - 145.6m - Dominantly fine grained ash tuffs and grey chert; cherts top each ash cycle which roughly grades upwards. Upper contact sharp at 40° core	144.8	145.6			2375	12	24	109	0.6	10
		BOX 26 144.31 - 150.65m										
		Andesitic-dacitic lapilli-crystal and ash tuffs with cherty interbeds.	145.6	146.5			2376	25	30	142	0.8	5
		144.8 - 145.6m - Dominantly fine grained ash tuffs and grey chert; cherts top each ash cycle which roughly grades upwards. Upper contact sharp at 40° core	146.5	147.05			2377	10	27	100	0.5	10
		144.8 - 145.6m - Dominantly fine grained ash tuffs and grey chert; cherts top each ash cycle which roughly grades upwards. Upper contact sharp at 40° core	147.05	148.0			2378	16	52	158	0.9	5

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		axis. Light to moderate sericite altered.	148.0	149.0			2379	10	122	188	1.0	5
		145.6 - 146.5m - Reddish brown andesitic to dacitic lapilli-crystal tuff. Similar to previous sections but greater trace hematite content. Fragments average 1 - 1.5cm, range up to 2.5cm, mainly plagioclase-hornblende andesitic-dacite though some with heavy reddish brown altered. Matrix: fragments ratio 1=3, altered matrix sericite-iron remobilization. Lower contact sharp at 55° core axis.	149.0	149.8			2380	5	1060	261	1.2	15
		146.5 - 147.05m - Same as 144.8 - 145.6m.	149.8	150.4			2381	11	226	17	0.6	10
		147.05 - 149.0m - Reddish brown intermediate volcanoclastic tuff. Crudely grades downhole from reworked ash-lapilli to reworked lapilli tuff; fragments subangular to subround; average ranges from 3 - 5mm near top of section to 2-3cm near base;	150.4	150.9			2382	4	60	8	0.4	5
		includes a 20cm trachy-andesite (plagioclase-hornblende-potassium feldspar megacryst) fragment near 148.4m; most fragments are andesitic-dacitic to trachy-andesite in components; comprise 20-40% of core. Matrix fine grained, hematitic, cut by thin veinlets of anhydrite along fractures (≤1mm thick); classic red-bed appearance for volcanic terrain; also contains minor proportion altered plagioclase and rare hornblende and specularite crystals.	150.9	151.9			2383	4	48	9	0.4	10
		Alteration difficult to distinguish, probably general sericitization, some sulphate + clays (?) in plagioclase, hematite and sericite in hornblende; fragments generally epidote-carbonate-zeol mixtures, some rim altered possible. Upper contact sharp but irregular (erosional?) at 75° core axis, lower contact gradational. Minor low angle shear (with sericite = montmorillonite + pyrphyllite) 149.6 - 149.9m.	151.9	153.0			2384	5	24	8	0.5	5
		149.0 - 149.8m - Most similar to basal parts of	153.0	153.6			2385	4	37	13	0.4	5
			153.6	154.2			2386	3	39	32	0.4	15
			154.2	155.2			2387	4	76	19	0.7	20

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TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		153.0 - 154.2m - Similar to 150.9 - 151.9m including good, very fine quartz-rich areas but very irregular contacts, possibly combination of irregular altered fronts + polyphase activity; where quartz most intense also plagioclase relics completely replaced, but most plagioclase now pyrophyllite. Minor shearing near downhole contact, which in itself gradational.	162.2	163.2			2395	16	26	338	0.7	5
		154.2 - 155.2m - Similar to 149.8 - 150.4m, pyrophyllite-clay-sericite alter'n of lapilli-crystal tuff, includes some little altered ash tuff bands now brecciated. Shearing sporadically throughout, especially near probable fault downhole contact, 20cm of grey clayey gouge near contact.	164.2	165.2			2397	24	29	309	0.6	10
		155.2 - 170.2m - Medium greenish brown trachy-andesite lapilli tuff. Fragments average 1-3cm, up to 5cm; moderate sericite altered of plagioclase (plagioclase-hornblende phyrlic) minor epidote; Matrix fine grained fragments crystals, ash; altered to sericite with fine disseminated hematite. Patchy slight silicification of matrix near upper contact, with somewhat sheared + broken core. Upper contact sharp at approximately 80° core axis. Slight patchy matrix silicification grades down into veinlet dominated weak argillic alter'n veinlets control hematite-light clay- and quartz altered, also locally minor dolomite although this appears to post-date weak argillic event; overall veinlets comprise 5-10% of core, greater abundance where they form local "stockwork" breccias; veinlet orientations variable, at 156.0m approximately 75° core axis, at 159.5m approximately 25° core axis, at 161.0 approximately 50° core axis, many cases anastomosing structures and splays on all scales, grossly average >45° core axis. Host rock where	165.2	166.2			2398	18	32	380	0.9	5
			166.2	167.2			2399	22	28	308	0.8	5
			167.2	168.2			2400	32	32	516	1.0	5
			168.2	169.2			2401	37	48	475	0.9	5

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		not overly altered in trachy-andesite fragmental; fragments and matrix similar composition except greater altered in matrix (groundmass propylitic); plagioclase 25-30% euhedral-broken 1-5mm, horn- blende 7-10%, euhedral-broken 1-7mm, potassium- feldspar 1% euhedral 1-2cm; away from altered vein- lets rock is quite fresh.	169.2	170.2			2402	9	70	426	0.8	5
			170.2	171.2			2403	28	95	170	0.8	10
		<u>BOX 28 155.7 - 161.33m</u> Same as 155.2 - 170.2m. Trachy-andesite lapilli tuff with weak argillic altered veinlets.										
			171.2	172.1			2404	20	158	191	0.9	10
		<u>BOX 29 161.33 - 167.03m</u> Same as 155.2 - 170.2m. Veinlet attitudes at 163.8 approximately 40° core axis at 166.2 approximately 35° core axis; in this box attitudes average ≥45° core axis. Larger veinlet systems, eg 163.8 - 163.85, may contain significant quartz with hematite. Sporadic minor epidote altern of feld- spar, especially matrix, possibly slight increase downhole.	172.1	172.5	70%		2405	4	167	113	0.4	5
			172.5	172.9			2406	3	348	24	0.7	5
			172.9	173.7			2407	3	555	21	1.4	10
		<u>BOX 30 167.03 - 172.78</u> Trachy-andesite lapilli tuffs with weak argillic veinlets as in 155.2 - 170.2m, becoming sheared with greater pyrophyllite-montmorillonite + seri- cite downhole, with a short section of heavily sili- cified material surrounded by pyrophyllite (then montmorillonite?) halos. Weak pervasive epidote alter'n of matrix and to lesser extent fragments as described in Box 29.	173.7	174.9			2408	8	140	38	1.0	15
			174.9	175.4			2409	12	91	41	1.1	5
		170.2 - 172.1m - Similar to 155.2 - 170.2m, increa- singly sheared and crumbled core downhole; probable increasing pyrophyllite + montmorillonite content; almost completely grey clay near downhole contact;	175.4	175.9			2410	8	58	114	0.7	5

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		upper contact gradational downhole contact lost. Shears average 40-60° core axis.												
		172.1 - 172.5m - White strongly silicified almost entirely quartz though various subtle shades of white-tan-greenish. Good relic texture of plagioclase/hornblende. Vugs 1%, after leached feldspar (?) light quartz druse (clear). Traces dark metallic mineral, unknown entity (<0.5mm size). Minor tan to white coatings on fractures, soft zeol (?). Lower contact sharp at 45° core axis, adjacent to near massive pyrophyllite band 3cm thick.												
		172.5 - 172.9m - Heavily altered and crumbled core probably originally intermed to felsic volcanic (plagioclase-hornblende bearing) now massive light green pyrophyllite near silicified 172.1 - 172.5m, grading rapidly into light greyish moderately argillic altered material (pyrophyllite-montmorillonite ± sericite). Lower contact gradational.												
		BOX 31 172.72 - 178.3m												
		Strongly altered intermediate to felsic volcanic, similar to end of Box 30, pyrophyllite-montmorillonite-sericite-quartz altered.												
		172.9 - 173.7m - Largely silicified areas in crumbly core; silicified areas appear patchy and broken up, white to pale greenish (with pyrophyllite) to pale pinkish; some relic textures of porphyritic volcanics, feldspar seems preserved as clays-pyrophyllite soft white-tan zeol (?) along fractures; silicified zones usually have crude rims of pyrophyllite, away from these get greyish-pinkish pyrophyllite- montmorillonite ± sericite altered; silicified material comprises 40-50% of core.	175.9	176.3			2411	22	67	80	1.3	5		
		173.7 - 174.9m - Same as 172.5 - 172.9m, mainly greyish crumbled pyrophyllite-montmoril + sericite	176.3	176.6	70%		2412	51	20	87	0.6	5		

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TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		193.7 - 196.5m - Similar to 192.3 - 193.7m but less sulfide and more late stage veining. Core strongly brecciated and drusy purplish to pinkish late quartz acts as new matrix. Later drusy veining comprises 20-30% of core, vugs 5-7%. Pyrite 1-3% very fine dissemination, restricted to earlier massive to veined grey silicification. Chalcopyrite traces associated with later hematitic quartz phases.	197.1	197.8			2447	22	31	24	0.5	40
		Rare blebs of dark metallic mineral along fractures very small and unidentified. Core particularly late druse disseminated from 194.2 - 195.m, many druses with late reddish coatings/surfaces in quartz crystals. Late veining angles variable but overall low angles, 5-20° core axis common, up to 50° core axis. Late veining sometimes streamed with many parallel bands, eg 196.3m.	197.8	198.3			2448	252	69	61	1.3	25
		Lower contact 30-35° core axis, marked by sudden transition (over only 10cm) of quartz ± pyrite ± hematite dominant to pyrophyllite-quartz.	198.3	198.8			2449	48	134	77	0.9	10
		196.5 - 197.8m - Same as 188.7 - 189.3m	198.8	199.3	80%		2450	45	54	33	0.4	5
		197.8 - 198.8m - Integrally mixed silicified and pyrophyllite + montmorillonite + sericite crumbles, with up to 0.5% chalcopyrite in silicified chunks near top of section. Copper hosted by cross-cutting yellowish to greenish (H=4) mineral which appears to be alunite (?!), probably fracture control. Lower contact gradational.	199.3	199.8			2451	18	170	21	0.6	5
		198.8 - 199.3m - Intense multiphase silicification, similar to 193.7 - 196.5m Late brecciation/veining comprises 15-25% of core, generally clear to pinkish (hematitic) to white. Pyrite 0.5-2%, possibly associated with a vein phase as distribution is irregular. Chalcopyrite traces in late veining and fractures. Trace galena (?) with	199.8	200.3			2452	132	185	23	1.5	10
			200.3	200.8	80%		2453	28	52	25	0.2	5
			200.8	201.2	70%		2454	76	67	22	0.7	5
			201.2	201.8	60%		2455	75	142	12	1.1	10
			201.8	202.3	90%		2456	140	103	6	1.3	5
			202.3	202.8	80%		2457	128	153	9	2.0	10
			202.8	203.3	80%		2458	90	95	6	1.4	10
			203.3	203.8	90%		5930	62	136	7	1.8	45
			203.8	204.3	90%		2459	60	159	7	1.9	5

