

REPORT ON
DIAMOND DRILLING

by
I. G. Sutherland, B.Sc.

on the

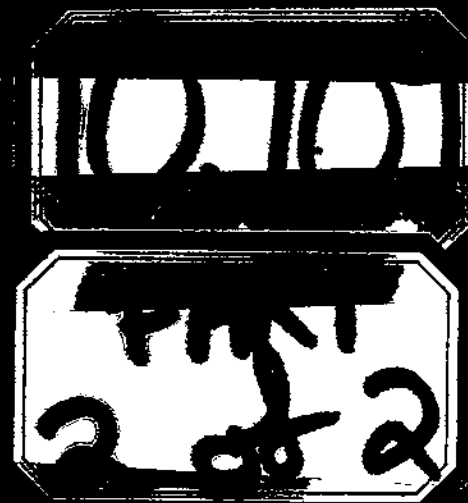
At 2 Mineral Claims

situated north of Metsantan Lake
in the Liard Mining Division

$57^{\circ}28^{\prime}N$, $127^{\circ}24^{\prime}W$
NTS 94E/6W

owned by
KIDD CREEK MINES LTD.

work by
KIDD CREEK MINES LTD.



APPENDIX C

Diamond Drill Logs and Analytical Results

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,709

PART 2 of 2

TEXTURE, ALTER ¹ N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC ^Y %	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		5.1 - 5.75 Fault zone. Andesitic lapilli tuff frag- ments as above in ground/clay matrix. Light grey to light pink.	5.09	5.84			2477	5	42	24	0.8	10
		5.8 - 6.0 Andesitic crystal tuff fragments	5.84	6.84			2478	5	28	20	0.7	5
		6.0 - 6.6 Fault bx fragments and ground/clay matrix. Light pink-buff (highly altered lapilli tuff?)										
		6.6 - 6.9 Strongly silicified slight sericite, tuff breccia?, possibly minor hematite			90							
		6.9 - 7.25 Fault breccia, ground + clay matrix as 6.0 - 6.6										
		7.25 - 7.6 Strongly silicified altered tuff as above	6.84	7.84			2479	4	54	8	0.8	10
		7.6 - 7.9 Fault breccia-core ground chips. Ex- silicified altered tuff.										
		7.9 - 8.3 Highly chloritic (medium grey-blue-green), very fine altered volcanic, possibly minor seri- cite. Fault zone core ground chips.	7.84	8.34			2480	13	16	176	1.0	10
		8.3 - 9.7 Strong chlorite, calcite, minor sericite, originally andesitic? crystal (5-10%) fine lapilli (<1cm, <5%) tuff. Occasional quartz megacryst (1%), medium brown, green - slightly mottled.	8.34	9.34			2481	15	24	329	1.1	5
		BOX 2 9.27 - 15.14			80							
		9.7 - 11.0 As above but very fine lapilli tuff, matrix supported.	9.34	10.34	Box 2		2482	40	23	196	1.2	10
		11.0 - 14.8 Andesitic lapilli tuff breccia medium grey to medium green. Strongly altered chlorite, minor calcite sericite alteration. Polymictic lapilli with varied possibly fine epiclastic mat- rix. Laharic tuff breccia. Fragments, 2cm and less to very fine blending to matrix, include crystal tuff to epiclastic	10.34	11.34			2483	30	22	119	1.2	5
		11.0 - 11.3 slightly hematitic					2484	19	103	185	2.5	5
					100							

KIDD CREEK MINES LTD

DRILL HOLE LOG

HOLE No.
A-82-3

PAGE No.
9

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		51.0 - 56.35 Quartz breccia, polyphase, trace to 3% (cont) limonite & hematite. Vuggy (leached) clear (occasionally) milky creamish yellow (limonite stained) quartz mainly occasionally light grey - drusy (micro-scopically) in fine vugs. Highly silicified tuff breccia probably. Occasionally clear quartz sub-angular.	54.0	55.0	100		2538	14	4	10	2.5	840
			55.0	56.0	100		2539	18	4	10	2.9	680
			56.0	56.35	100		2540	32	2	8	2.0	90
		56.35 - 56.9 Quartz breccia as above but rebrecciation and heavily hematized on fractures (remob). At 56.8 chip with malachitic tarnish + manganese.	56.35	56.90			2541	133	91	16	25.0	430
		56.9 - Quartz breccia, polyphase as 51.0 - 56.35, with some argillic limonite relicts?	56.90	57.40	100		2542	36	17	7	8.4	735
		57.4 - 57.9 Quartz breccia as above with fine rebrecciation, crusting? very vuggy porous limonite and hematite stained. Looks argillically altered but all finely crystalline or ground quartz, possibly some argillic alteration relicts.	57.40	57.9		75	2543	46	36	10	3.0	260
		BOX 11 58.04 - 64.83	57.9	59.0			2544	19	186	9	8.2	4200
		57.9 - 64.1 Quartz breccia, polyphase as 51.0 - 56.35 with trace to 5% limonite + hematite, vuggy, silicified, hematized and leached (argillic components) tuff breccia as above. Increasing fracture and breccia as fault contact approached.				75						
		58.6 - 59.0 fractures hematite coated	59.0	60.0			2545	6	21	8	10.0	1620
			60.0	60.5		75	2546	15	48	9	11.5	210
			60.5	61.5		55	2547	47	78	13	10.8	70

KIDD CREEK MINES LTD

DRILL HOLE LOG

HOLE No.
A-82-3

PAGE No.
10

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		57.9 - 64.1 Quartz breccia as previously described												
					55									
			61.5	62.7			2548	78	33	10	22.0	60		
		52.7 - 63.2 strongly hematite & manganese coated chips			55									
		63.35 - 63.5 rebrecciation breccia with hematite cement/matrix												
		63.8 - 63.9 relict argillic, limonitic alteration. Very minor	62.7	63.2			2549	92	92	16	16.2	20		
		63.9 - 64.1 Rebrecciation breccia heavy limonite coating	63.2	63.9	100		2550	22	230	12	8.5	15		
		64.1 - 65.15 Fault gouge medium grey + 1cm light green-grey @ 64.2 with some quartz breccia fragments and possibly some argillic feldspars + ash tuff fragments??	63.9	64.1			2551	295	163	31	24.5	15		
		@ 64.6 (10cm) x 0.5cm white clay fracture	64.1	65.15	100		2552	186	116	77	1.6	15		
		64.8 - 65.1 Rotten insipient breccia purple andesitic tuff?			90									
		65.1 - 65.15 purple and light cream green gouge. BOX 12 64.83 - 70.66	65.15	66.2			2553	23	28	12	0.7	5		
		65.15 - 66.2 Argillically altered crystal lapilli tuff (andesitic originally?) intense alteration.			90									
		Matrix - light orange pink grey very fine silica and clay or sericitization trace to 2% magnetite (fine throughout) crystals ± 25% 3mm + less, euhedral to subhedral totally kaolinized feldspar.			90									
		Magnetite aggregates in fine disrupted lamina imparting faint flow lamination. Less than 5% lapilli silicified.	66.2	66.85			2554	110	121	9	1.1	10		
		66.2 - 66.85 Silicified argillically altered crystal lapilli tuff. As above but intense silicification (grey-white) replaces crystals. & trace hematite.	66.85	67.3	100		2555	28	23	7	0.6	10		
			67.3	67.8	100		2556	56	55	10	0.4	5		

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		66.85 - 70.3 Argillically altered crystal lapilli tuff as 65.15 - 66.2 but with \pm 15% lapilli. Lapilli also argillically altered & silicified. Lapilli display some flattening generally <2.5cm long and 1cm wide. Occasional larger ie 4x3cm. Flattened lapilli impart distinct flow banding to unit	67.8	68.3			2557	54	29	6	0.4	5
		appears to be a highly altered poorly to partially welded tuff.	68.3	68.8			2558	65	86	7	0.9	10
		5-10% very fine pyrite (other sulphide?) aggregates <0-3mm in size disseminated throughout in matrix and lapilli.	68.8	69.8	100		2559	725	125	7	1.1	5
		BOX 13 70.5 - 78.8	69.8	70.3			2560	480	61	13	0.9	10
		70.3 - 70.8 Intense argillic alteration, kaolinization presumably of above tuff - no original textures preserved and minor hematite on fractures and disseminated.	70.3	70.8	60		2561	83	39	39	0.9	15
		BOX 13 70.5 - 78.47										
		70.8 - 71.9 Intense kaolinization, bleaching to cream white of crystal lapilli tuff as in 66.5-70.3. Pyrite aggregates now ghosts (unidentifiable light translucent yellow-brown - not hematite/limonite - must be relict of associated mineral in aggregate.	70.8	71.9			2562	55	39	19	2.7	5
		71.9 - 75.8 Silicified hematized and leached (of all clay altered lapilli and crystals - as indicated by vugs) crystal lapilli tuff. (Argillically altered edition 66.5 - 70.3). Hematite coated fractures. Much of the earlier quartz breccia and rebrecciation quartz breccia probably was also originally crystal tuff to crystal lapilli tuff prior to silicification and brecciation.	71.9	72.9	60		2563	142	970	25	13.3	10
			72.9	73.9			2564	31	240	40	13.2	10
			73.9	74.9			2565	181	920	23	20.0	50
			74.9	75.8			2566	26	230	36	12.4	700

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
					60								
		75.8 - 77.7 Quartz breccia highly silicified ex-tuff presumably minor hematite matrix 75.8 - 76.8 minor limonite matrix 76.8 - 77.8			25								
			75.8	77.7			2567	44	33	18	2.2	5	
					25								
					25								
		77.7 - 78.85 Pyrophyllite vein (light grey, hardness ± 2, pearly lustre, soapy translucent looks like talc). Hydrothermal alteration of kaolinite (differs from anhydrite by hardness - anhydrite H=3.3.5). 78.3 - 78.85 may be minor assoc. quartz.			90								
			77.7	78.85			2568	106	25	41	2.9	5	
					100								
		BOX 14 78.8 - 84.32											
		78.85 - 79.15 Altered crystal tuff (dacitic? andesitic) light-medium yellow-grey-green feldspar crystals- subhedral to euhedral 3mm and less in red-brown matrix (hematite). Feldspars also appear to have been altered to pyrophyllite. Poss. some chlor?? matrix.	78.85	80.00	Box14		2569	790	128	2390	2.5	5	
					100								
		79.15 - 81.05 Altered crystal lapilli tuff. As above but with lapilli which as before are flattened and impart a foliation. More medium yellow- grey-green - stronger pyrophyllitization (possibly minor chlorite). Minor hematite matrix.	80.00	81.05			2570	410	190	2560	3.4	5	
			81.05	81.5			2571	230	120	101	1.5	5	
		80.6 - 81.05 Decreasing intensity of this pyro- phyllitization. Sharp fracture contact at 81.05.											
					100								
		81.05 - 81.5 Crystal lapilli tuff. Medium red grey matrix with cream argillitized feldspars (15% subhedral <3mm) lapilli (5%, cm and less) argillitized. 10% hematite matrix	81.5	82.5			2572	6	37	8	1.2	5	

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		81.5 - 83.3 Silicified argillitized (relict crystal lapilli tuff). Quartz breccia intensely silicified. Light orange-grey, very fine silica and clays. Possibly some sericite? Vugs after leached and partially leached feldspars. Bleached.	82.5	83.3			2573	9	34	4	1.0	<5
		82.8-83.3 Lapilli (flattened) relicts more apparent leached also increased vugs (crystal ghosts).	83.3	83.8			2574	10	34	52	1.4	5
		83.3 - 83.45 Highly argillitized and hematized crystal tuff. Matrix light-medium purple/grey. Feldspars cream to light greenish white clays also pervasive replacement. (Possibly some gypsum? pink white clay).	83.8	84.2			2575	6	16	18	0.8	10
		83.45 - 83.8 Crystal tuff light pink-grey. Highly argillitized. Light green-white clays fill open fractures. Late baryte? filling some vugs	84.2	85.2	100		2576	47	21	21	0.7	5
		83.8 - 84.2 Argillitized crystal tuff. Matrix slightly hematite to give medium grey-red colour. Feldspars kaolinized				Box 15						
		84.2 - 86.35 Argillitized medium-dark grey/red/purple crystal lapilli tuff. Feldspar subhedral to sub-rounded cream, <3mm argillitized (30%)	85.2	86.35			2577	46	16	20	0.6	15
		Lapilli - argillitized, 2cm x 0.5cm max. mainly 1cm x 0.3cm flattened (10%) - altered partially welded tuff. 5% hornblende crystals. Hematite in matrix.										
		BOX 15 84.32 - 89.2										
		86.35 - 90.0 Silicified argillitized lapilli crystal tuff. Intense alteration but relict texture discernable. 70% silicification. Bleached light-medium orange, pink. Feldspars argillitized silicification has corroded. Accessory baryte 1% in places. Lapilli also argillitized silicification altered. Minor fine vugs baryte as micro-crystal line vug replacement.	86.35	87.35			2578	285	29	25	0.4	5
		87.35 - 88.35 Increasing silicification and obliteration of original texture	87.35	88.35	100		2579	4	17	3	0.2	10
		88.35 - 89.35 Increasing silicification and obliteration of original texture	88.35	89.35	100		2580	13	28	7	0.2	5

KIDD CREEK MINES LTD

DRILL HOLE LOG

HOLE No.
A-82-3

PAGE No.
14

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		BOX 16 89.2 - 94.7												
		Silicified argillized lapilli tuff as described previous page.	89.35	89.85	Box16 100		2581	21	26	3	0.2	5		
			89.85	90.45			2582	102	12	15	0.3	10		
		90.0 - 90.45 Silicified to quartz breccia (polyphase). 1% baryte crystals filling (late intro) occasional vug. May be very fine baryte lining fractures and pervasive?	90.45	90.65	25		2583	345	28	23	0.6	5		
		@ 90.25 <1% grey unidentified microscopic sulphide mainly in fractures. Occasional hematite grain.	90.65	91.0			2584	725	47	43	1.6	5		
		90.45 - 90.65 As above but hematite stained (original tuff matrix fragments?) - accessory hematite and <1% microscopic pyrite (+ other sulphide?) sparse dissemination.	91.0	91.35	75		2585	69	39	75	0.9	10		
			91.35	92.10			2586	6	151	1730	2.7	5		
		90.65 - 91.35 Highly fractured silicified tuff/quartz breccia as above. Grey black silvery metallic unidentified aggregates coating fractures and any openings 2%.			100									
			92.10	93.10			2587	15	123	960	8.4	5		
		91.35 - 93.15 Altered crystal lapilli tuff medium green and red/brown matrix and lapilli. Feldspars argillitized. Possibly some chloritization of matrix. Original partially welded crystal tuff (similar to 79.15 - 81.05. No pyrophyllite.	93.10	93.40			2588	2	310	75	9.5	10		
		93.15 - 94.6 Crystal lapilli tuff. Argillically altered hematized. 93.15 sharp fracture 1.5cm wide filled with remobilized hematite and silicification. + fine disseminated sulphide. Tuff matrix medium-dark grey red, feldspar euhedral subhedral and fragmented argillically altered. Numerous lapilli - light grey-light grey red flattened 1cmx(1-2)mm argillitized. Also larger 5x3mm lapilli (crystal+altered argillically with some "spinefex texture" presumably devitrified glass + phenocrysts 15-20% lapilli.	93.40	94.0	100		2589	4	43	52	1.0	5		
			94.0	94.6	100		2590	3	33	36	0.7	10		
		@ 93.6 1mm crystal-cutting veins - argillic and hematitic accessory hornblende crystals	94.6	95.6			2591	1	30	38	0.4	5		
			95.6	96.35	Box17 100		2592	2	20	19	0.5	5		

KIDD CREEK MINES LTD

DRILL HOLE LOG

HOLE No.
A-82-3

PAGE No.
17

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		Slightly argillitized plagioclase. Lapilli rounded elliptical. (non-welded) some internally crystallized and phenos. Moderately altered.	103.48	103.8	100		2602	2	40	27	0.5	5
		103.48 - 103.8 Bleached silicified crystal lapilli tuff (light-grey) as 98.28 - 98.4 in fracture contact with unaltered grey-red andesite crystal lapilli tuff as @ 102.5 - 103.48.	103.8	104.5			2603	2	30	41	0.3	5
		103.8 - 105.1 Bleached silicified crystal lapilli tuff as at 98.28 - 98.4. relict feldspars argillitized.	104.5	105.1			2604	2	26	54	0.3	5
		BOX 19 105.25 - 111.10	105.1	105.75	Box 19		2605	1	34	25	0.4	5
		105.1 - 105.75 Andesitic crystal lapilli tuff (grey red moderately altered) and bleached silicified tuff in irregular sharp and fracture contact as at 103.48 - 103.8.	105.75	106.2	100		2606	1	140	37	0.9	5
		105.75 - 106.0 Andesitic crystal lapilli tuff - grey red as 102.5.										
		106.0 - 106.2 Andesitic lapilli crystal tuff - medium dusky red-grey lapilli dark red-brown pumice fiamme crystals (7-10%) slightly argillically altered plagioclase, minor hornblende. Partially welded.	106.2	107.3			2607	1	150	160	1.0	5
		106.2 - 107.3 Andesitic crystal lapilli tuff - medium grey-red. 15-20% of andesitic lapilli 1x2cm + ex-pumice fiamme 10x(1-2)mm plagioclase altering to pyrophyllite (25-30%) + minor hornblende. Matrix medium grey-red, hematite and microcrystalline feldspars, amphibole?	107.3	108.6	100		2608	1	185	1750	1.2	5
		107.3 - 108.6 Argillically altered lapilli crystal tuff dark red-brown + medium yellow-grey-green pyrophyllitized feldspars. Lapilli ex-pumice fiamme (10x1mm) 20-25% crystals, 20% partially welded.										
		108.6 - 109.15 Propylitic to argillically altered crystal lapilli tuff (CaCO ₃ + chloritized and clay alteration of feldspars. Original textures as in 106.2-107.3)										
		109.15-115.4 Argillically altered lapilli crystal tuff dark red-brown + medium yellow-grey-green pyrophyllitized feldspars as 107.3-108.6 but only partially propylitized.	108.6	109.6			2609	2	118	1340	1.2	5
				110.6			2610	15	97	1320	1.2	10

KIDD CREEK MINES LTD

DRILL HOLE LOG

HOLE No.
A-82-3

PAGE No.
19

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		BOX 21 116.63 - 122.0	116.72	117.6			2618	29	22	36	0.3	5
		116.72 - 118.4 Bleached silicified (light grey- orange pink) relict argillitized crystal lapilli tuff. Pyrophyllitic @ 116.7 - 117.1, 116.6 - 118.4	117.6	118.4	100		2619	25	20	37	0.4	5
		otherwise kaolinitic.										
		118.4 - 119.45 Andesitic crystal lapilli tuff medium grey-red. Altered feldspar crystals - subhedral to breccia, argillitized (kaolinitic) except where otherwise stated (30-40%), 3mm maximum length generally less. Lapilli minor volcanic lithic fragments - mostly crystallized pumice fiamme (15%), 2cm x 0.5cm maximum size down to 10 x 1mm - argilli- zed. Matrix tuffaceous hematitic/argillic feldspar, hornblende chlorite and hematite. Similar to 107.3 - 108.6. Partially welded originally.	118.4	119.45			2620	17	16	10	0.5	5
		Feldspars generally kaolinitic except @ 118.4 - 118.7	119.45	119.75	100		2621	8	18	23	0.6	5
		119.45 - 119.75 As above but with pinkish bleaching as a result in fine pervasive silicification. Feldspar altered to pyrophyllite in less silicified tuff.	119.75	120.2			2622	8	17	8	0.5	5
		119.75 - 120.2 Altered crystal lapilli tuff as 118.4- 119.45.	120.2	120.55			2623	18	23	22	0.3	5
		120.2 - 120.45 Altered crystal tuff as 118.4 but feldspar to pyrophyllite.										
		120.45 - 120.55 Altered crystal tuff as 118.4 but silicified.	120.55	121.55			2624	20	195	8	0.3	10
		120.55 - 124.6 Andesitic crystal lapilli tuff medium grey-red. Argillitized - as 118.4 - 119.45	121.55	122.55	100		2625	15	56	12	0.3	10
		120.8 - 121.8 minor vert. fractures annealed with SiO ₂ and hematite stained + clay										
		BOX 22 122.0 - 127.5			Box22							
		@122.0 - 122.2 fractures + 1mm iron-stained quartz and feldspars pyrophyllitic	122.55	123.55			2626	7	29	11	0.5	5
		124.5 - 124.6 - pinkish slight silicification			100							
			123.55	124.05			2627	8	48	6	0.4	5

KIDD CREEK MINES LTD

DRILL HOLE LOG

HOLE No.
A-82-3

PAGE No.
20

TEXTURE, ALTER ^N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		124.6 - 124.9 Quartz feldspar (second generation) vein Minor (5-10%) pyrophyllite particularly near upper contact. Pervasive silicification of crystal lapilli tuff - ghost texture.	124.05	124.6	100		2628	5	30	5	0.5	10	
		124.9 - 125.3 Silicified baked "andesitic" hornfels (ex-crystal tuff?) - dark red-black.	124.6	124.9			2629	26	287	7	0.7	5	
		125.3 - 126.6 Buff milky-cherty quartz vein? Potas- sium feldspars new? adularia? Total silicification of lapilli tuff with some minor pyrophyllite.	124.9	125.3			2630	12	60	18	0.8	5	
		125.3 - 126.6 Buff milky-cherty quartz vein? Potas- sium feldspars new? adularia? Total silicification of lapilli tuff with some minor pyrophyllite.	125.3	126.0	100		2631	10	42	7	0.5	10	
		126.6 - 127.25 Andesitic crystal lapilli tuff andesitic silicified medium grey + pinkish. Upper vein contact c/a 90°.	126.0	126.6			2632	8	37	11	0.3	10	
		127.25 - 127.6 Silicified, crystal lapilli tuff baked dark grey-black. Some fine pyrophyllite replacement, minor fine bleached amph? (<a3mm), + fine microscopic grey-brown micaceous mineral slightly sericitized. Like 124.9 - 125.3.	126.6	127.25			2633	7	26	10	0.3	5	
		BOX 23 127.5 - 132.5			Box23								
		127.6 - 131.2 Buff quartz (polyphase), Potassium- feldspars? veins (minor pyrophyllite fuse 20cm on upper contact) ex-or metasomatized lapilli crystal tuff. Like 125.3 - 126.2. Quartz-polyphase light grey, clear and yellowish-cream (or is this potassium feldspars-? adularia? fine replacement) light grey clear and pinkish quartz-matrix. Yellow-cream - lapilli replacement	127.25	127.6			2634	8	44	16	0.4	5	
		127.6 - 131.2 Buff quartz (polyphase), Potassium- feldspars? veins (minor pyrophyllite fuse 20cm on upper contact) ex-or metasomatized lapilli crystal tuff. Like 125.3 - 126.2. Quartz-polyphase light grey, clear and yellowish-cream (or is this potassium feldspars-? adularia? fine replacement) light grey clear and pinkish quartz-matrix. Yellow-cream - lapilli replacement	127.6	128.6			2635	7	37	5	0.3	5	
		127.6 - 131.2 Buff quartz (polyphase), Potassium- feldspars? veins (minor pyrophyllite fuse 20cm on upper contact) ex-or metasomatized lapilli crystal tuff. Like 125.3 - 126.2. Quartz-polyphase light grey, clear and yellowish-cream (or is this potassium feldspars-? adularia? fine replacement) light grey clear and pinkish quartz-matrix. Yellow-cream - lapilli replacement	128.6	129.6	100		2636	5	13	1	0.4	5	
		127.6 - 131.2 Buff quartz (polyphase), Potassium- feldspars? veins (minor pyrophyllite fuse 20cm on upper contact) ex-or metasomatized lapilli crystal tuff. Like 125.3 - 126.2. Quartz-polyphase light grey, clear and yellowish-cream (or is this potassium feldspars-? adularia? fine replacement) light grey clear and pinkish quartz-matrix. Yellow-cream - lapilli replacement	129.6	130.6			2637	10	14	1	0.3	10	
		127.6 - 131.2 Buff quartz (polyphase), Potassium- feldspars? veins (minor pyrophyllite fuse 20cm on upper contact) ex-or metasomatized lapilli crystal tuff. Like 125.3 - 126.2. Quartz-polyphase light grey, clear and yellowish-cream (or is this potassium feldspars-? adularia? fine replacement) light grey clear and pinkish quartz-matrix. Yellow-cream - lapilli replacement	130.6	131.2	80		2638	18	28	7	0.2	5	

KIDD CREEK MINES LTD

DRILL HOLE LOG

HOLE No.

A82-4

PAGE No.

12

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		98.4 - 98.9m Mottled grey-maroon quartz-hematite alteration with minor soapy white clays along fractures. Local relic lapilli textures.	100.0	101.0			2805	131	69	336	1.7	10
		98.9 - 99.35 Fault gouge - 98.9 - 99.1m - 50% angular maroon hematite fragments in a bleached white clay matrix.										
		99.1 - 99.35m Bleached grey to white clays with minor intermixed soapy pale green clays (pyrophyllite) lower contact 30° to core axis.	101.0	102.0			2806	6	30	198	1.0	10
		99.35 - 99.62m - Maroon and crystal lapilli tuff, plagioclase-clays and clays along fractures.	102.0	103.0			2807	4	10	126	0.7	5
		99.62 - 100.0m - fault gouge with 30% fragments of grey andesite and light grey quartz in a yellowish grey clay matrix.										
		BOX 18 102.72 - 108.45m										
		100.0 End of Box 17 andesite-feldspar-biotite-hornblende crystal lapilli tuff (ash flow tuff) as in previous boxes with pumice fragments - brownish clays and plagioclase - hematite stained white clay or pale green soapy clay (pyrophyllite) especially between 100.0 - 100.5m. The andesite crystal lapilli tuff continues through Box 18. Relatively unaltered with good preservation of lapilli textures (ie flattened lithic and pumice fragments. Generally grey to faintly maroon.)	103.0	104.0			2808	2	13	103	0.7	10
			104.0	105.0			2809	3	8	84	0.7	10
			105.0	106.0			2810	1	9	92	0.6	5
		Local scattered white calcite stringers (1st appearance of carbonate).										
			106.0	107.0			2811	3	9	65	0.7	5
			107.0	108.0			2812	2	12	54	0.8	5
			108.0	109.0			2813	4	10	56	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		
		<u>BOX 19 108.45 - 114.18m</u>												
		Same as Box 18; grey to faintly maroon andesite feldspar-biotite-hornblende crystal lapilli tuff. Relatively unaltered with rare calcite stringers. Plagioclase altered to clay which is locally partially leached out leaving voids. Fragments are dominantly thin, wispy, maroon to brownish, (clay altered) pumice with lesser (<1%) subrounded mar- oon plagioclase (-clay) porphyritic fragments and subrounded grey, fine grained fragments (0.5cm - 4cm). Fragments of same lithology as host are absent. Plagioclase and matrix react weakly to moderately with HCl.	103.0	110.0			2814	3	8	55	0.6	15		
			110.0	111.0			2815	3	7	50	0.6	10		
			111.0	112.0			2816	3	100	51	0.6	10		
			112.0	113.0			2817	2	9	55	0.6	5		
			113.0	114.0			2818	3	8	52	1.2	5		
		<u>BOX 20 114.18 - 119.82m</u>	114.0	115.0			2819	3	7	62	0.7	15		
		Same as previous two boxes, except for appearance of slightly flatten, partially bleached, greyish orange fragments of the same lithology as host (but lacking tuffaceous and pumice fragments within the fragments). Plagioclase altered to clay-carbonate (calcite) mixture.	115.0	116.0			2820	8	10	66	1.2	5		
		Minor, white, quartz-calcite stringers and veinlets are locally displaced ≤ 1 cm along irregular frac- tures (ie 116.5m) approximately 25° to core axis.	116.0	117.0			2821	6	15	68	0.8	5		
		Weak carbonate alteration of matrix.	117.0	118.0			2822	2	8	67	0.7	5		

KIDD CREEK MINES LTD

DRILL HOLE LOG

HOLE No.
A-82-3

PAGE No.
21

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		131.2 - 131.5 Buff silicified crystal tuff as 124.6 - 124.9 with fragments of baked silicified dark grey red tuff as 119.45.	131.2	131.5			2639	11	31	9	0.2	5
		131.5 - 131.8 Andesitic crystal lapilli tuff. Slightly bleached to medium pink red. Argillitic alteration. Plagioclase (30-40%) cream white kaolinite. Fine light grey argillic lapilli fiamme - fine (10 x .5mm) maximum size. Occasional lithic lapilli 1cm. Similar to 115.7 - 116.72.	131.5	131.8	80		2640	9	25	3	0.3	5
		131.8 - 132.8 Andesitic crystal lapilli tuff. Medium grey-red. Similar to 107.3 - 108.6 and 109.15 - 115.4. Plagioclase-medium yellowish-green. Partially pyrophyllitic to completely pyrophyllite replaced (20%) 2mm x 1mm maximum, subhedral average. Lapilli mainly hematitic dark red-brown fiamme. Tuff matrix presumably feldspar, hematite, hornblende. Occasional larger lithic lapilli (2x3cm) similar composition presumably. Partially welded originally. Argillic alteration.	131.8	132.8			2641	234	792	78	5.5	10
		132.5 - 137.0 Andesitic crystal lapilli tuff. Medium grey-red. Similar to 107.3 - 108.6 and 109.15 - 115.4. Plagioclase-medium yellowish-green. Partially pyrophyllitic to completely pyrophyllite replaced (20%) 2mm x 1mm maximum, subhedral average. Lapilli mainly hematitic dark red-brown fiamme. Tuff matrix presumably feldspar, hematite, hornblende. Occasional larger lithic lapilli (2x3cm) similar composition presumably. Partially welded originally. Argillic alteration.	132.5	137.0	100		2642	900	1155	94	3.4	5
		133.8 - 134.8 Andesitic crystal lapilli tuff. Medium grey-red. Similar to 107.3 - 108.6 and 109.15 - 115.4. Plagioclase-medium yellowish-green. Partially pyrophyllitic to completely pyrophyllite replaced (20%) 2mm x 1mm maximum, subhedral average. Lapilli mainly hematitic dark red-brown fiamme. Tuff matrix presumably feldspar, hematite, hornblende. Occasional larger lithic lapilli (2x3cm) similar composition presumably. Partially welded originally. Argillic alteration.	133.8	134.8	100		2643	224	6300	710	2.2	5
		134.8 - 135.8 Andesitic crystal lapilli tuff. Medium grey-red. Similar to 107.3 - 108.6 and 109.15 - 115.4. Plagioclase-medium yellowish-green. Partially pyrophyllitic to completely pyrophyllite replaced (20%) 2mm x 1mm maximum, subhedral average. Lapilli mainly hematitic dark red-brown fiamme. Tuff matrix presumably feldspar, hematite, hornblende. Occasional larger lithic lapilli (2x3cm) similar composition presumably. Partially welded originally. Argillic alteration.	134.8	135.8	100		2644	210	7900	1490	2.0	5
		135.8 - 136.8 Andesitic crystal lapilli tuff. Medium grey-red. Similar to 107.3 - 108.6 and 109.15 - 115.4. Plagioclase-medium yellowish-green. Partially pyrophyllitic to completely pyrophyllite replaced (20%) 2mm x 1mm maximum, subhedral average. Lapilli mainly hematitic dark red-brown fiamme. Tuff matrix presumably feldspar, hematite, hornblende. Occasional larger lithic lapilli (2x3cm) similar composition presumably. Partially welded originally. Argillic alteration.	135.8	136.8			2645	170	5050	252	1.4	10
		136.8 - 137.3 Andesitic crystal lapilli tuff. Slightly bleached to pink red. Plagioclase crystals kaolinitic. Similar to 131.5-131.8;115.7-116.72.	136.8	137.3			2646	22	198	16	0.5	5
		137.3 - 137.6 Silicified + bleached to light orange pink + blackish silicified relicts of above tuff (136.8 - 137.3)	137.3	137.6	100		2647	22	318	17	0.2	5
		137.6 - 138.15 Buff quartz (polyphase) potassium-feldspars? vein metasomatic replacement of crystal lapilli tuff. Similar to 127.6 - 131.2	137.6	138.15			2648	43	2975	20	2.2	10

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		BOX 25 138.0 - 143.82			Box25									
		138.15 - 138.5 Andestic crystal tuff - dark grey red silicified contact zone with quartz vein.	138.15	138.5	100		2649	17	710	18	0.4	5		
		138.5 - 146.43 Andesitic crystal lapilli tuff medium-dark grey-red + brown-red altered fiamme relicts and minor lithic lapilli. Buff medium yellow-grey-green plagioclase crystals. Argillically altered partially welded tuff, as before 107.3 - 108.6; 131.8 - 139.5; 136.8, etc. Feldspar partially pyrophyllite altered.	138.5	139.5			2650	39	217	486	0.4	10		
		139.3 - 140.5 - shrinkage + 10cm "heave" at 140 - minor montmorillonite?? Also @ 141.56 and 142.9 associated with fractures. c/a for fiamme "bedding plane" 40° .	139.5	140.5			2651	3	70	1690	0.7	5		
			140.5	141.5	100		2652	4	64	1040	0.5	5		
			141.5	142.5			2653	4	75	1970	1.1	5		
			142.5	143.5	100		2654	3	74	1020	0.4	5		
			143.5	144.5			2655	5	60	1510	0.5	5		
		BOX 26 143.82 - 148.75			Box26									
		As above												
			144.5	145.5	100		2656	4	54	1530	0.8	5		

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
				100									
		146.43 - 146.62 Andesitic crystal lapilli tuff as above, slightly silicified and bleached to light medium pink-red, adjacent to silicious vein.	145.5	146.43			2657	2	122	750	0.9	10	
		Similar to 136.8 - 137.3.	146.43	146.62			2658	2	148	208	0.4	5	
		146.62 - 147.2 Quartz vein "psuedo breccia" (potassium feldspars?). Advanced silicification and replace- ment destroyed early textures. Quartz clay matrix + quartz fragments presently mottled light grey, white cream. Contact c/a @ 146.6 = 10°. 147.0 - 147.2. Silicified tuff fragment (dark grey-red).	146.62	147.2			2659	3	86	125	0.5	5	
		At 147.2, 147.7 - 147.9 bluish grey clay (pyrophy- llite or sulphate replacements - minor 10%). Grey metallic sulphide and pyrite finely disseminated @ 147.52 - 147.72, 147.9, 148.0, 148.1 - 148.2 kaolinitic.	147.2	147.7	100		2660	6	1170	183	2.3	10	
		148.2 - 149.1 Andesitic crystal lapilli tuff medium grey-red matrix. Plagioclase - partially kaolinized (white to cream) lapilli-fiamme argillitized to light-medium grey. Minor lithic (same composi- tion?) lapilli. Slightly bleached. Similar to 131.5 - 131.8.	147.7	148.2			2661	149	6750	443	12.8	5	
		BOX 27 148.75 - 154.55	148.2	149.1			2662	8	133	235	0.5	5	
		149.1 - 150.6 Andesitic crystal lapilli tuff. Argil- lically altered dark red-brown and light yellow- grey-green plagioclase (euhedral to fragments) 4mm maximum and altered to pyrophyllite. Lapilli- fiamme hematitic red-brown. Originally partially welded. Similar to 131.8 - 136.8.	149.1	150.1		Box27	2663	9	142	875	1.1	5	
		150.3 - 150.6 - Plagioclase partially pyrophyllitic to kaolinitic.	150.1	150.6	100		2664	8	180	515	0.9	5	
		150.6 - 150.85 Quartz vein - pervasive silicification. Ghost texture - plagioclase crystals relicts altered to pyrophyllite. Quartz fine polyphase.	150.6	151.0			2665	3	1225	580	1.6	5	
			151.0	152.0			2666	9	96	1090	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		
		5 x 3mm bands chloritic and fine grey-black un-												
		identified mineral.												
		150.85 - 151.0 Bleached (orange-brown) silicified												
		andesitic tuff.												
		151.0 - 157.2 Andesitic crystal lapilli tuff. Argil-	152.0	153.0			2667	4	67	1940	0.9	10		
		lically altered - clay to pyrophyllitic light			100									
		yellow green to cream tan plagioclase. Fiamme												
		lapilli dark brown-red. Matrix hematitic dark												
		grey-red. Similar to 149.1 - 150.6.	153.0	154.0			2668	6	39	1200	0.8	<5		
		151.25 - 151.3 leached veinlet similar to 150.6 -												
		150.85												
		151.95 - 152.05 slightly bleached, pyrophyllite												
		well developed.												
		152.9 - 2cm hematite stained silicified veinlets												
		154.35 1cm " " " "												
		154.55 - 154.75 70° c/a fractures + 1mm quartz	154.0	155.0	100		2669	5	36	660	0.8	10		
		annealing												
		BOX 28 154.55 - 160.25												
						Box28								
			155.0	156.0			2670	5	46	466	0.8	5		
					100									
		156.15 - 157.0 unsipient breccia "heaving" of	156.0	157.2			2671	26	48	590	0.8	5		
		areas (5 to 15cm) where clays more conc. (all												
		hematitic)			100									
		157.2 - 158.2 Andesitic crystal lapilli tuff medium	157.2	158.2			2672	4	23	162	0.4	5		
		grey-red, plagioclase white cream - plagioclase												
		kaolinized. Possibly slightly silicified. Grey												
		fiamme lithic lapilli 157.6 - 157.7 silicified												
		moderate.												
		158.2 - 159.65 Andesitic crystal lapilli tuff. Argil-	158.2	158.9			2673	4	48	780	0.6	5		
		lically altered medium-dark grey-red-brown matrix			100									
		with light yellow-grey-green, partially pyrophylliti-		159.65			2674	4	44	1100	0.5	5		
		plagioclase.												

TEXTURE, ALTER'N MINERALIZATION, ETC.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		163.3 - 163.75 Quartz breccia andesitic tuff frag- ment upper 10cm. Polyphase quartz light-dark grey to milky cream. Fine pyrite disseminated in dark grey quartz and matrix.	165.2	166.2	100		2684	3	153	1830	0.8	10
		163.75 - 164.15 Varicoloured banded purple, green, brown, light green cream, brown red green clay (gouge) swelling and chips andesite. Montmorillo- nite										
		BOX 30 166.1 - 171.8										
		164.15 - 167.2 Andesitic lapilli crystal tuff breccia. Medium - dark green. Chlorite matrix Propylitic alteration. Lapilli fiamme chlorite ghosts and limonite clay lapilli ghosts. Feld- spars pyrophyllitic? Also lithic lapilli 2-4cm variable compositions: tuffaceous (waterlain), andesitic crystal tuff, fine tuff breccia clasts, Alteration chlorite minor CO ₃ . swelling gouge vari-coloured @ 164.4 (10cm). Swelling gouge vari-coloured @ 165.25 (5cm) Hairline fracture fillings. Ankeritic carbonate + silicification.	166.2	167.2	Box30		2685	3	76	1290	0.7	5
		166.2 - 166.6 gouggy hematitic matrix (50%) Insipient brecciation/shatter throughout.			100							
		166.2 - 166.6 gouggy hematitic matrix (50%) Insipient brecciation/shatter throughout.	168.4	168.75			2687	6	44	246	0.6	5
		167.2 - 168.4 Andesitic lapilli crystal tuff. Medium-dark green as above but lapilli 3cm maximum chloritized sub-rounded to sub-angular fragments (2cm bleached buff andesitic fragments at 168.5) Minor ghost pumice (chloritized) fragments. Generally as above.	168.75	169.85			2688	6	58	1190	1.0	5
		168.4 - 168.75 Andesitic crystal tuff medium-dark grey red. Argillically altered. Feldspar kaolinitic, ex-pumice fragments (1.5cm x 2mm) hematitic. Hairline fractures quartz ankerite	169.85	170.9			2689	6	44	750	1.1	5
		168.50 - 168.75 chloritized pumice fiamme (20-30%) partially welded originally.										
		168.4 - 168.75 Andesitic crystal tuff medium-dark grey red. Argillically altered. Feldspar kaolinitic, ex-pumice fragments (1.5cm x 2mm) hematitic. Hairline fractures quartz ankerite	170.9	171.4	100		2690	6	107	390	2.5	5

ALTERATION, LOCATION,	GRAPHIC GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		- weathered crystal tuff fragments in a white clay groundmass	17.3	18.1			3422	14	52	224	3.8	25
		- lower contact very sharp 30° to axis										
		17.3 - 18.5; andesite crystal lapilli tuff-40% white feldspar crystals, 5% lapilli fragments (1cm in size), 55% dark grey, slightly propylitic groundmass - strongly weathered	18.1	18.5			3423	24	30	163	2.4	10
		- numerous irregular fractures										
		- one quartz vein @ 18.1, 5mm wide, 30° to axis	18.5	19.2			3424	3	26	27	0.5	70
		- lower contact sharp 20° to axis										
		18.5 - 19.9; light brown weathered crystal lapilli tuff	19.2	19.9			3425	4	30	45	1.3	25
		- alteration to clays - initially is brecciated with white clay around fragments										
		- becoming slightly siliceous with depth										
		- lower contact is gradational										
		19.9 - 20.6; medium grey andesite crystal lapilli tuff same as 17.3 - 18.5	19.9	20.6			3426	22	17	26	0.4	5
		20.6 - 20.83; clay gouge; 45% small weathered crystal tuff fragments, 55% white-pale green clay	20.6	20.83			3427	2	32	59	0.4	40
		BOX 4 20.83 - 26.47										
		Altered andesite crystal tuff-clay alteration and silicification	20.83	21.0			3428	5	24	91	0.5	285
		20.83 - 21.0; silicification and clay alteration;										
		- prominent fracture running 10° to axis;	21.0	21.6			3429	4	16	23	0.7	30
		- on one side of the fracture is a silicified andesite tuff, medium grey colour - on the other side is a clay gouge	21.6	22.2			3430	110	16	28	1.1	25

INTER'N ATION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		- weathered crystal tuff fragments in a white clay groundmass	17.3	18.1			3422	14	52	224	3.8	25
		- lower contact very sharp 30° to axis										
		17.3 - 18.5; andesite crystal lapilli tuff-40% white feldspar crystals, 5% lapilli fragments (1cm in size), 55% dark grey, slightly propylitic ground-	18.1	18.5			3423	24	30	163	2.4	10
		mass - strongly weathered	18.5	19.2			3424	3	26	27	0.5	70
		- numerous irregular fractures										
		- one quartz vein @ 18.1, 5mm wide, 30° to axis	19.2	19.9			3425	4	30	45	1.3	25
		- lower contact sharp 20° to axis										
		18.5 - 19.9; light brown weathered crystal lapilli tuff	19.9	20.6			3426	22	17	26	0.4	5
		- alteration to clays - initially is brecciated with white clay around fragments	20.6	20.83			3427	2	32	59	0.4	40
		- becoming slightly siliceous with depth										
		- lower contact is gradational										
		19.9 - 20.6; medium grey andesite crystal lapilli tuff same as 17.3 - 18.5										
		20.6 - 20.83; clay gouge; 45% small weathered crystal tuff fragments, 55% white-pale green clay										
		BOX 4 20.83 - 26.47										
		Altered andesite crystal tuff-clay alteration and silicification	20.83	21.0			3428	5	24	91	0.5	285
		20.83 - 21.0; silicification and clay alteration;										
		- prominent fracture running 10° to axis;	21.0	21.6			3429	4	16	23	0.7	30
		- on one side of the fracture is a silicified ande-										
		site tuff, medium grey colour - on the other side is a clay gouge	21.6	22.2			3430	110	16	28	1.1	25

LITHOLOGY, CORRECTION, GRAPHS	GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
			30.5	31.0			3447	20	46	6	0.3	5
		BOX 6 31.7 - 37.1	31.0	31.5	100		3448					
		Quartz-pyrophyllite alteration of crystal lapilli tuff similar to 26.47 - 37.1	31.5	32.0			3449	11	40	13	0.3	5
		- alteration of white feldspars to pyrophyllite										
		- pyrophyllite also concentrated along fractures	32.0	32.5			3450	2	30	11	0.4	5
		- silicification, throughout varying from moderate to strong	32.5	33.0			3451	14	125	8	0.7	5
		- lapilli fragments from 31.7 - 33.0 are large (4-6cm wide), angular and hematitic	33.0	33.5			3452	11	107	8	0.8	5
		- kaolinite clay seam from 34.2 - 34.3										
		- from 36.0 - 37.1 is patchy disseminated chalcopyrite - pyrite, 5% chalcopyrite also found in narrow stringers - black fine grained mineral also associated - probably galena	33.5	34.0			3453	20	205	7	1.0	5
		- linear fractures infilled with pyrophyllite are 10-15° to axis	34.0	34.5			3454	43	220	7	0.9	10
			34.5	35.0			3455	36	180	8	0.9	5
			35.0	35.5			3456	46	180	10	1.2	5
			35.5	36.0			3457	23	124	12	0.9	5
			36.0	36.5			3458	58	480	10	2.1	15
		BOX 7 37.1 - 42.22	36.5	37.0			3459	168	870	7	5.8	190
		Quartz-pyrophyllite alteration similar to 31.7 - 37.1 - locally sulphide rich	37.0	37.5			5943	65	310	10	6.6	110

INTERSECTION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		- pyrophyllite mainly along fractures - core broken with strong pyrophyllite alteration from 39.5 - 40.0	39.5	40.0			3464	41	142	8	0.8	30
		- linear fractures 10-15° to axis										
		40.0 - 42.22; strong silicification of host crystal tuff - locally sulphide rich	40.0	40.5			3465	58	32	8	1.7	450
		- stringers of chalcopyrite - pyrite from 40.0 - 40.5 (5%), 41.0 - 41.5 (10%) minor associated galena	40.5	41.0			3466	420	16	65	1.8	1000
		- after 41.5 local disseminated pyrite and one chalcopyrite stringer @ 42.0 - fractures 10° to axis	41.0	41.5			5944	189	230	8	6.4	1400
		BOX 8 42.22 - 47.86	41.5	42.0			3467	13	94	7	1.1	15
		Silicified crystal tuff and weathered andesite crystal tuff	42.0	42.5			3468	26	134	8	1.3	10
		42.22 - 44.2; silicified crystal tuff containing sulphides	42.5	43.0			3469	4	64	9	0.8	5
		- 45% white feldspar crystals altering to pyrophyllite, 55% hematitic groundmass	43.0	43.6			3470	12	230	10	1.3	10
		- few large light brown silicified lapilli fragments										
		- sulphides (py & cpy) from 42.22 - 42.5, 3% in blebs and stringers and from 43.2 - 44.2 as 5%	43.6	44.2			3471	40	74	16	2.0	190
		disseminated pyrite, lesser chalcopyrite and trace galena	44.2	44.7			3472	3	140	10	1.2	5
		44.2 - 46.0; silicified andesite crystal lapilli tuff										
		- 40% white feldspar crystals altering to pyrophyllite, 10% lapilli fragments, 50% siliceous-hematitic groundmass	44.7	45.0			3473	3	65	8	0.9	5
		- lapilli fragments are light grey, siliceous, fine grained, sub-angular 1-4cm wide	45.0	45.5			3474	3	72	8	1.1	5

INTER'N TION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		- disseminated pyrite in host rock close to quartz veins, 3-5% - quartz veins carry pyrite, local chalcopyrite and trace galena												
		- more smokey parts of the quartz veins carry more chalcopyrite and galena												
		BOX 9 47.86 - 53.56												
		Andesite crystal lapilli tuff												
		47.86 - 53.5; andesite crystal lapilli tuff	47.5	48.0			3478	220	72	660	2.1	5		
		- 45% white feldspar crystals altering to pyrophyllite 5% lapilli fragments, 50% medium grey ground-mass												
		- quartz stringer sub-parallel to axis @ 47.86 - 48.1, 49.1 - 49.2, 39.7 - 50.0, 50.6 - 50.7, 51.4 - 51.5, 52.0 - 52.2, 52.4 - 52.8 - stringers average 0.5cm wide and contain 1-2% sphalerite and galena	48.0	49.0			3479	23	39	1540	1.3	5		
		- host rock is altered, bleached 1cm from all quartz stringers	49.0	50.0			3480	32	36	4700	1.4	5		
		53.5 - 53.56; silicification; very intense												
		- contain 2-3% pyrite and chalcopyrite along stringers and in patches	50.0	51.0			3481	5	38	3040	1.2	5		
		- one fracture running 20° to axis with a maroon clay along it.												
			51.0	52.0			3482	9	102	2375	1.2	5		
			52.0	53.0			3483	6	285	1960	2.2	5		
		BOX 10 53.56 - 58.62	53.0	53.5			3484	3	65	2075	1.2	10		
		Intense silicification, lesser pyrophyllite alteration	53.5	54.0			3485	43	255	182	2.2	45		

INTER'N TION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		filled @ 167.4 - 167.48.											
		168.75 - 170.9 Andesitic crystal lapilli tuff medium green. Propylitic alteration. Matrix, lapilli (ex pumice) chlorite, quartz and minor CO ₃ . Feldspar crystals (10-20%) altered to ankerite carbonate.	171.4	172.4			2691	6	51	920	1.0	5	
		170.9 - 171.4 Andesitic tuff breccia, medium grey red and medium green. 5-10cm fragments of argillically altered and propylitically altered tuffs. (similar to 168.4 - 168.75 and 168.75 - 170.9).	172.4	173.0	100		2692	5	48	630	0.8	<5	
		171.4 - Propylitically altered lapilli crystal tuff. Similar to 168.75 and 167.2 but with lithic and pumice lapilli.											
		BOX 31 172.8 - 177.48	173.0	174.0			2693	5	53	960	1.4	5	
		171.4 - 173.0 Propylitically altered andesitic lapilli crystal tuff. Medium green. Matrix - chloritized and possibly 3-5% ilmenite grains. Plagioclase (10-15%) carbonate replacement in progress (buff, 3mm maximum euhedral to fragmented) lapilli-lithic ie bleached volcanics (buff to chloritized crystal tuff) 3% and chloritized pumice fiamme	174.0	174.5	100		2694	5	50	1290	1.0	10	
		ghosts. Originally welded to partially welded.	174.5	175.4			2695	5	32	760	0.9	10	
		173.0 - 174.5 Propylitic alteration of andesitic crystal lapilli tuff. Essentially as above (171.4 - 172.9) but with 30% feldspar (CO ₃ altered) crystals and 25% chloritized lapilli pumice ghosts. 1% lithic lapilli.	175.4	176.3	100		2696	4	40	630	0.6	5	
		174.5 - 175.4 As 171.4 - 172.9 intensely fractured, subvertically separating block of medium grey red argillically altered andesite (with small feldspar	176.3	177.3			2697	4	42	740	0.8	5	

KIDD CREEK MINES LTD

HOLE No. A82-4	PAGE No. 1
-------------------	---------------

TYPE: A1
 LOCATION: Ridge-Bonanza 9+50E/1+20N

DRILL HOLE LOG

DIRECTION: 55°
 ELEVATION: 50°
 LENGTH: 124.05m
 CORE SIZE: NQ

SURVEY

DEPTH	AZIM.	DIP	DEPTH	AZIM.	DIP
122m	062°	-53°			

CLAIM No: A1 2
 SECTION:
 LOGGED BY: D. Piroshco
 DATE LOGGED: August 10 - August 12, 1982
 DRILLING CO: Coates
 ASSAYED BY: Min-En Labs

QUALITY: Excellent

LITHOLOGY, ALTERATION, GRAPH. GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
		FROM	TO				Cu	Pb	Zn	Ag	Au		
	0 - 6.10 OVERBURDEN												
	BOX 1 Andesitic crystal lapilli tuff Generally grey to slightly maroon Plagioclase (30%) - Subhedral to anhedral, orangish clay altered crystals from </mm to 3mm (2mm average) Matrix (60-70%) - grey to slightly maroon, fine grained mixture of feldspar-quartz-hematite; relatively unaltered.	6.1	7.0			2707	6	34	136	0.7	10		
	Fragments (0-10%) - angular to subangular fragments range in size from 2mm - >4cm (1.5cm average), often flattened and elongated 80° - 90° to core axis. Suggesting an ash flow origin (solidified)	7.0	8.0			2708	3	33	98	0.6	200		
		8.0	9.0			2709	5	21	110	0.7	5		

INTER'N TION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		21.0m - Dark grey, heavily clay altered fragment flattened roughly 85° to core axis. Other elongated flattened fragments are characteristically light orangish, grey and bleached relative to most.	20.0	21.0			2721	2	66	225	0.5	5
		21.2m - Fracture (70° to core axis) with 1cm orange hematite-clay halo. - also 2cm above fracture is a 1 x 3cm grey, fine grained clay altered ash tuff fragments.	21.0	22.0			2722	6	38	140	0.5	5
		Minor deep maroon hematite stringers.	22.0	23.0			2723	1	33	123	0.6	10
			23.0	24.0			2724	2	23	106	0.5	5
		BOX 4 23.9 - 29.57m	24.0	25.0			2725	1	25	78	0.6	5
		Generally the same as previous with <1% anhedral to subhedral copper colored micaceous (biotite) flakes 1 - 2mm in size. Essentially unaltered except for minor clay alteration of plagioclase crystals and fragments.	25.0	26.0			2726	1	25	68	0.6	5
		Local white barite in gashes, minor deep maroon hematite stringers.	26.0	27.0			2727	3	22	67	0.7	5
		- Fragments locally show irregular, diffuse boundaries and may be partially altered to sericite.	27.0	28.0			2728	4	24	86	0.7	5

REEK MINES LTD

DRILL HOLE LOG

HOLE No.
A82-4PAGE No.
4

ALTER'N ATION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		BOX 5 29.52 - 35.35m											
		Generally the same as previous; andesitic plagioclase biotite crystal lapilli tuff with 5-10% slightly bleached, greyish elongate fragments, minor maroon subrounded fragments (1cm- >10cm) with 15% clay altered plagioclase. Crystals and megacrysts (≤ 7 mm)	30.0	31.0			2730	1	35	76	0.7	10	
		with minor hematite staining, minor fine grained grey fragments with 5% clay altered, hematite stained plagioclase megacrysts (34.1m) and 20% thin wispy, grey, pumice fragments (fiamme) 1-2mm wide and ≤ 2 cm length - preferentially oriented 80°-90° to the core axis. These "fiamme" suggest the rock type is a slightly welded ash flow tuff.	31.0	32.0			2731	3	25	78	0.8	5	
		The grey elongate fragments contain plagioclase and biotite crystals and have rare grey pumice rims (ie 34.2).	32.0	33.0			2732	2	40	98	0.6	5	
			33.0	34.0			2733	3	156	133	0.6	5	
			34.0	35.0			2734	3	49	180	0.7	10	
			35.0	36.0			2735	2	76	385	0.5	5	
		BOX 6 35.35 - 41.0m											
		Generally the same as previous, grey to maroon fld-bi andesitic crystal lapilli tuff (welded tuff). Local minor barite gashes. Relatively unaltered.	36.0	37.0			2736	3	95	1090	0.7	5	
		37.9 - 38.35m - Fracture zone with 1cm bleached white clay seams (30° to core axis) and mod. pink silici- fication. Halos around fractures with plagioclase altered to light green, soapy pyrophyllite?	37.0	37.9			2737	4	84	1350	0.6	20	

LITHOLOGY, CORRECTION, GRAPH	GEOLOGICAL	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		39.95m - 3cm pink moderate silicification zone with 1mm irregular dark grey stringer with plagioclase-soapy light green pyrophyllite within the zone and adjacent to the zone for approximately 5cm.	38.35	39.0			2739	970	195	1940	31.5	140
			39.0	40.0			2740	85	82	930	1.1	10
			40.0	41.0			2741	126	260	1450	4.1	10
		BOX 7 41.03 - 46.4m Generally the same as previous but with change in colour (grey - maroon) at 44.2.	41.0	42.0			2742	27	158	1360	1.0	15
		44.2 - 44.6m Zone of dark reddish brown clay with 10% rock fragments.	42.0	43.0			2743	4	128	1510	0.7	5
		44.6 - 46.4m Dark maroon andesitic crystal lapilli tuff with lighter maroon, plagioclase porphyritic fragments most apparent. Fiamme and other 'flattened' elongate fragments are partially to completely obscured by the darker coloration plagioclase is relatively unaltered (local plagioclase - partially to clay or chlorite), hematite stained and coppery mica is still present in amounts <1%.	43.0	44.2			2744	3	90	740	0.7	5
			44.2	44.6			2745	3	63	850	0.8	10
			44.6	45.0			2746	3	61	770	0.6	5
		Local intense deep maroon hematite alteration adjacent to fractures (ie 45.7m)	45.0	46.0			2747	2	53	840	0.5	5
			46.0	47.0			2748	4	58	790	0.5	10

CORRECTION, GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
		FROM	TO				Cu	Pb	Zn	Ag	Au	
	unaltered with minor maroon fragments and stringers.											
	48.8m - 1cm Orangish quartz-hematite alteration along fracture.	48.0	49.0			2750	35	60	830	0.7	15	
		49.0	50.0			2751	5	83	910	0.6	5	
		50.0	51.0			2752	5	65	595	0.6	10	
		51.0	52.0			2753	2	80	540	0.6	5	
	BOX 9 51.83 - 57.54m											
	Generally the same as Box 8.	52.0	53.0			2754	11	95	870	0.7	5	
	Feldspar-biotite ± hornblende andesitic crystal lapilli tuff with scattered elongate, slightly bleached fragments of same compound as host (≈1cm- > 5cm). Local elongate 'flattened' maroon fragments (1-3m x 0.5 - 2cm) and subrounded dark grey cherty fragments (1-2cm). Also <1% grey wispy pumice fragments (fiamme) and <1% grey fine grained, sub-	53.0	54.0			2755	18	185	463	0.5	10	

COR'D TION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		63.65 - 63.7m 1.5cm bleached pale green clay gouge with upper and lower pale green to pinkish orange halos (1-2cm wide). Clay gouge 70° to core axis.	65.0	66.0			2767	2	50	99	1.0	5
			66.0	67.0			2768	3	50	102	0.3	15
			67.0	68.0			2769	2	60	111	0.3	10
			68.0	69.0			2770	7	57	111	0.2	5
		<u>BOX 12</u> 68.92 - 74.4m	69.0	70.0			2771	3	83	116	0.3	5
		Same as above; relatively homogenous, unaltered andesitic feldspar-biotite-hornblende crystal lapilli tuff.										
		69.5 - 69.8m Fractured, broken core with minor reddish clay shears (60° to core axis).	70.0	71.0			2772	2	62	107	0.3	15
		Minor barite gashes and stringers.	71.0	72.0			2773	2	50	108	0.3	20

INTER'N TION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		82.9 - 84.8m Intense argillic alteration with feldspar crystals, fragments and matrix altered to clay. Coppery biotite and cherty grey fragments remain unaltered. Local intense bleaching and clay alteration along fractures with only vague ghosts of primary textures. Zones of intenser alteration are characterized by intense bleaching and complete overprinting of primary textures (ie 83.9 - 84.0, 84.2 - 84.4m). Upper contact (approximately 85° to core axis) marked by moderate clay alteration.	82.9	84.0			2785	220	410	275	2.3	20
		84.0 - 84.8m Maroon andesitic crystal lapilli tuff with patchy orangish clay alteration and orangish clay alteration along fractures, plagioclase-clay. Fragments - clay-bleached greenish orange.	84.0	84.8			2786	340	505	223	3.6	25
		83.7m - 2cm x 5cm Angular grey quartz fragment.										
		84.8 - 87.1m Maroon andesitic crystal lapilli tuff with patchy orangish clay alteration and orangish clay alteration along fractures, plagioclase-clay. Fragments - clay-bleached greenish orange.	84.8	86.0			2787	10	121	193	0.8	5
		BOX 15 85.65 - 91.33m The above orangish clay alteration and local bleaching increases throughout this interval.	86.0	87.0			2788	19	94	250	0.7	10
		87.1 - 87.2 Intense argillization and swelling of core (montmorillonite) - feldspar, - fragments and matrix - clays. Matrix is maroon and lacks the orangish clay alteration and bleaching.	87.0	88.0			2789	12	75	248	0.6	5
		87.2 - 87.35 - Weak argillic alteration 87.35 - 87.5m - Same as 87.1 - 87.2m										
		87.5 - 90.5m - Weakly argillitized and crystal lapilli tuff with plagioclase and fragments - clays. Primary textures (ie flattened fragments and fiamme)	88.0	89.0			2790	18	57	331	1.0	5

EEK MINES LTD

DRILL HOLE LOG

HOLE No.
A82-4PAGE No.
17

ER'N TION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		grey silicification with relic primary lapilli textures. Contacts are sharp (upper 50°, lower 85° to core axis) with thin (<1mm) dark grey sulphide selvages.	91.0	91.5			2793	4800	56	196	40.0	5
		BOX 16 91.33 - 96.98m										
		Variably clay altered andesitic feldspar-biotite-hornblende crystal lapilli tuff (ash flow tuff) with local narrow zones of silicification as in Box 15.	92.05	93.0			2795	79	100	730	1.0	10
		The core shows local fracturing and swelling with pervasive argillic alteration throughout. Silicified intervals occur between 91.5 - 92.05m and 93.0 to 93.9m. The contacts are sharp and irregular but appear to be oriented 10-30° to the core axis.	93.0	93.9			2796	870	1060	265	8.4	15
		The contacts are locally associated with thin bleached argillic seams and thin sulphide (galena) selvages parallel and mimic the contacts. 10% 'islands' of clay altered andesite occur within the zones. The silicification is typically massive and yellowish grey with minor yellowish hairline stringers. Local ghosts of primary textures.	93.9	95.0			2797	129	122	393	1.3	5
		96.6 End of Box. Pervasive grey to greyish orange quartz-clay alteration - primary textures overprinted. Minor milky, powdered material.	95.0	96.0			2798	4	65	610	0.4	10
		BOX 17 96.98 - 102.72m										
		Variably altered grey to maroon and crystal lapilli tuff.	96.0	96.6			2799	18	71	740	0.3	5
		96.98 - 97.3m - Grey to faint maroon grey quartz-clay altered and crystal lapilli tuff with relic clay	96.6	97.3			2800	37	58	63	2.4	20
			97.3	98.4			2801	3	23	25	0.2	5

CREEK MINES LTD

DRILL HOLE LOG

HOLE No.
A82-5PAGE No.
3

ALTER'N ZATION, C.	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		(ie 9.2m); 9.3 - 9.5m - Grey quartz with 30% fine dary grey intermixed pyrite. 9.5 - 10.5m - Grey to faintly maroon quartz-clay- ± pyrite alteration. Minor clay along fractures, plagioclase - white clay minor soapy white clays (9.5m)	13.6	14.0			2839	8	38	920	0.5	10
		10.6 - 10.6m - Reddish maroon, siliceous andesite crystal-lapilli tuff.										
		10.7m - Fracture (40° to core axis) with upper 10cm zone of intense bleaching, clay alteration, and minor hematite staining.	14.0	15.0			2840	125	143	1250	2.6	5
		10.7 - 11.4m - Maroon, intensely clay altered andesite crystal-lapilli tuff.										
		BOX 3 14.85 - 20.42	15.0	16.0			2841	4	28	335	0.8	<5
		11.4 - 12.2m - Grey to faintly maroon, relatively unaltered andesite crystal-lapilli tuff with fragments locally bleached and stained orange. Minor dark maroon, plagioclase porphyritic, subrounded fragments (2mm - 1.5cm) - weak argillic alteration.	16.0	17.0			2842	1	31	235	0.5	5
		12.4 - 1cm Bleached clay seam (fault) - 50° to core axis with 5cm envelopes of moderate bleaching and hematite staining.										
		12.45 - 14.0m - Same as 11.4 - 12.2m.										
		14.0 - 14.05 - Heavily bleached and clay altered zone with relic primary textures (50° to core axis).	17.0	18.0			2843	3	36	210	0.7	10
		14.05 - 14.95 - (Beginning of Box 3) - Same as 11.4 - 12.2m but with moderate bleaching and weak hematite staining of fragments. Lination defined by para-	18.0	19.0			2844	2	16	120	0.7	5

ALTER'N ATION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		angular grey fine grained ash tuff fragments (1-2cm) and <1% subrounded maroon plagioclase porphyritic fragments (<1cm - >5cm). BOX 4 20.42 - 26.1m	20.0	21.0			2846	3	35	405	0.6	15
		Same as Box 3 to 22.85m - Minor white quartz stringers (@ 21.7m)	21.0	22.0			2847	3	18	1380	0.5	10
		22.85 - 23.4m - Light bleaching and orangish clay alteration of fragments minor orangish clay alteration along hairline stringers.										
		23.4 - 23.8 - Heavily fractured, intensely clay altered Maroon andesite crystal-lapilli tuff in sharp contact (30° to core axis) with underlying silicified zone.	22.0	23.0			2848	11	40	1470	0.6	10
		23.8 - 24.0 - Intense bleaching, grey-faintly maroon quartz-clay ± hematite alteration. The clay is finely intermixed with the quartz and replaces relic plagioclase.	23.0	23.4			2849	4	34	2540	0.9	5
		24.0 - 24.5m - Intense grey silicification (minus clay) with plagioclase leached away leaving voids. Darker grey zones in sharp contact with lighter grey zones probably contain finely disseminated pyrite. Fine pyrite locally partially infills void spaces. The lower contact of the zone is sharp and irregular and is marked by a 2cm bleached white clay zone.	23.4	23.8			2850	52	49	180	0.5	5
			23.8	24.5			2851	93	14	85	1.2	30
			24.5	25.5			2852	54	31	350	0.5	5
		24.5 - 25.5m - Brown, intensely clay altered andesite crystal-lapilli tuff with dark brown clays along irregularly oriented fractures.	25.5	26.5			2853	84	49	530	0.7	10

CREEK MINES LTD

DRILL HOLE LOG

HOLE No.
A82-5PAGE No.
5

ALTER'N ZATION, C.	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		27.45 - 27.6m - Intensely clay altered grey to maroon andesite crystal-lapilli tuff.	27.8	28.1			2856	39	51	168	0.8	120
		27.6m - 27.8m - Intensely bleached orangish white clay altered andesite crystal-lapilli tuff.	28.1	28.5			2857	32	9	10	1.1	15
		27.8 - 28.1m - Light maroon (bleached), weakly siliceous andesite crystal-lapilli tuff plagioclase - white clay. Lower contact of this zone is marked by an intense 2cm zone (20° to core axis) of bleached greyish-green clays.	28.5	29.0			2858	28	27	5	0.8	10
			29.0	29.5			2859	11	31	7	0.8	10
			29.5	30.0			-					
		28.1 - 28.5m - Maroon, siliceous andesite crystal-lapilli tuff plagioclase - clay.										
		28.5 - 29.0m - Above zone in sharp contact (25° to core axis) with zone of intense, light maroon quartz-hematite alteration with relic plagioclase-clays and minor dark grey sulfide? specks.	30.0	30.5			2860	30	12	4	3.4	100
		29.0 - End of Box - Intense grey silicification ± clay alteration with lapilli fragments. Replaced.	30.5	30.7			2861	50	31	7	7.8	150
		BOX 6 31.5 - 37.03m Brecc. quartz and fine pyrite. Locally pitted with a brittle nature. @ -9.5m - 1cm translucent, pale green soapy pyrophyllite (30° to core axis).	30.7	31.3			-					
			31.3	31.6			2862	31	46	9	1.8	450
			31.6	32.0			2863	44	116	14	2.1	95
			32.0	33.0			2864	5	74	18	0.7	5
		30.6m - 30.75 - Zone of patchy, pale yellowish green pyrophyllite 29.7 - 2cm bleached, clay zone silicification zone continues to 31.6m.										
			33.0	34.0			2865	7	74	161	1.8	15
		31.6 - 31.8m - Bleached yellowish white, clay, fault gouge.										
		31.8 - 32.0m - Intense grey quartz-clay alteration										
		32.0 - 33.3m Maroon, weakly clay altered andesite	34.0	35.0			2866	3	35	152	1.4	5

INTER'N TION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		BOX 11 58.82 - 63.72	59.0	60.0			2892	3	29	295	1.0	5
		Variably clay altered maroon, andesitic crystal lapilli tuff as in previous boxes.										
		58.82 - 59.5m - Weakly clay altered maroon andesitic crystal-lapilli tuff.										
		59.5 - 59.8m - Intensely clay altered maroon andesitic crystal-lapilli tuff. Core is extensively crumbled.	60.0	61.0			2893	3	19	176	0.7	5
		59.8 - 63.1m - Relatively unaltered maroon andesitic crystal-lapilli tuff. Plagioclase locally partially replaced by white clay. 62.2m - 1cm white calcite veinlet (25° to core axis) with an associated 1cm zone of intense argillic alteration.	61.0	62.0			2894	2	20	101	0.8	10
		63.1 - 63.3m - Same as 59.5 - 59.8										
		63.3 - 63.72 - Same as 59.8 - 63.72										
			62.0	63.0			2895	3	26	107	0.9	5
			63.0	64.0			2896	12	63	391	1.2	10
		BOX 12 63.72 - 69.1m										
		Variably clay altered, maroon andesitic crystal-lapilli tuff as in previous boxes.	64.0	65.0			2897	790	161	860	25.0	5
		63.72 - 64.0m - Weakly clay altered maroon andesitic crystal-lapilli tuff.										
		64.0m - 66.2m - Moderately to intensely clay altered maroon andesitic crystal-lapilli tuff.										
		64.3m - 0.5cm - Bleached clay seam (25° to core axis) with associated intense dark green chloritization of the andesitic crystal-lapilli tuff	65.0	66.0			2898	13	87	890	1.6	10

INTER'N TION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		79.1m - 2cm - Calcite-pyrophyllite vein (15° to core axis)											
			77.0	78.0			2910	3	64	610	1.3	5	
			78.0	79.0			2911	3	66	620	0.8	5	
			79.0	80.0			2912	4	113	157	1.4	10	
		BOX 15 79.51 - 85.11m											
		Generally the same as previous, variably clay altered, maroon to greyish (slightly bleached) andesitic crystal-lapilli tuff.	80.0	81.0			2913	3	81	510	1.2	5	
		79.7 - 80.1m - Extensive white calcite stringer network											
		80.1 - 82.3m - Weak to moderately clay altered maroon andesitic crystal-lapilli tuff with minor calcite ± pyrophyllite stringers (ie 82.0m) and minor shears (50° to core axis).	81.0	82.0			2914	127	770	1280	3.4	10	
		82.3 - 83.8m - Intensely clay altered, grey, slightly bleached andesitic crystal-lapilli tuff with minor calcite - pyrophyllite veinlets (30° to core axis) at 82.8 and 83.0m.											
		83.8 - 85.11m - Relatively unaltered, maroon andesitic	82.0	83.0			2915	38	390	1280	2.8	5	

LITHOLOGY, STRATIGRAPHY, GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
		FROM	TO				Cu	Pb	Zn	Ag	Au
		94.0	95.0			2927	5	139	815	1.7	10
		95.0	96.0			2928	5	60	1040	1.8	5
	BOX 18 96.15 - 101.67 Variably clay altered, maroon andesitic crystal-lapilli tuff as in previous boxes.	96.0	97.0			2929	4	47	1130	1.2	5
	96.15 - 97.3m - Same as 94.3 - 96.15m with minor, randomly oriented calcite stringers locally offset approximately 1cm along irregular fractures. Calcite stringers are locally stained with hematite.	97.0	98.0			2930	5	50	1010	1.3	5
	97.3 - 97.55m - Fractured and sheared core with minor clay alteration and carbonate.	98.0	99.0			2931	4	46	710	1.2	5
	97.55 - 99.15 - Relatively unaltered grey to slightly maroon andesitic crystal-lapilli tuff.										
	99.15 - 99.7m - Intense clay alteration - heavily ground up core with upper contact (25° to core axis) sharp and marked with a 1cm zone of calcite-pyrophyllite alteration.	99.0	100.0			2932	6	52	550	1.6	5
	99.7 - 98.2 Broken core.										
	98.2 - 101.67m - Relatively unaltered andesitic crystal-lapilli tuff	100.0	101.0			2933	3	43	495	1.2	5

REEK MINES LTD

DRILL HOLE LOG

HOLE No.
A82-5

PAGE No.
14

ALTER'N ATION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		RECY	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		stringers and veinlets. Plagioclase→clay												
			103.0	104.0			2936	3	46	710	1.3	5		
			104.0	105.0			2937	4	59	1040	1.5	5		
			105.0	106.0			2938	2	113	830	1.3	5		
			106.0	107.0			2940	1	116	1210	1.1	10		
			107.0	108.0			2941	2	60	1080	1.0	5		
		BOX 20 107.36 - 11.9m												
		Same as Box 19												
		108.0 - 5cm Carbonate-clay gouge (30° to the core axis)	108.0	109.0			2942	1	123	780	0.8	5		
		109.4 - 2cm Carbonate-clay vein (20° to core axis).												
			109.0	110.0			2943	4	73	850	0.9	5		

KIDD CREEK MINES LTD

HOLE No. 82-6	PAGE No. 1
------------------	---------------

Y: AL
 N: 9+40E/2+65N
 0° ELEV:
 7° LENGTH: 84.4 (277')
 CORE SIZE: NQ
 August 4, 1982
 August 5, 1982
 RY:

DRILL HOLE LOG

SURVEY

DEPTH	AZIM.	DIP	DEPTH	AZIM.	DIP
82.3	067°	-50°			

CLAIM No: AL 2
 SECTION:
 LOGGED BY: P. Leriche
 DATE LOGGED: August 13, 14 & 15
 DRILLING CO: Coates Enterprises
 ASSAYED BY: Min-En Labs

INTER'N, SECTION,	GRAPH GEOLOG	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		0-4.3; Overburden											
		BOX 1, 4.3 - 10.8			81.5								
		Mainly quartz breccia and extensive quartz-hematite alteration.											
		4.3 - 7.0; quartz breccia; originally andesite (probably) which has been silicified and later shattered - healed by quartz, sericite and probably clays.	4.3	5.0			2946	175	66	56	2.8	220	
		- relic pseudomorphs of feldspar and hornblende now infilled with quartz or not infilled at all	5.0	5.5			2947	87	17	25	4.0	140	
		- initially (4.3-4.5) core is unconsolidated with quartz fragments in a muddy groundmass.	5.5	6.1			2948	40	10	16	6.8	50	
		- new lower contact, core broken	6.1	7.0			2949	55	12	26	1.5	60	
		- few linear fractures 30-40° to axis											
		- lower contact 25° to axis and sharp											
		- local fine grained pyrite <1%	7.0	7.8			2950	53	22	21	4.9	45	

REEK MINES LTD

DRILL HOLE LOG

HOLE No.
A82-6

PAGE No.
2

ALTER'N ATION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		altered fragments (80%) healed by sericite-clay (20%) - fragments are various sizes and angular - fragments contain feldspar phenocrysts now altered to sericite (possible pyrophyllite)	9.8	10.3			2954	16	25	31	0.7	5
		10.3 - 10.8; similar to 7.0 - 8.4 - 50% white feldspar phenocrysts, completely altered to sericite in a purple quartz-hematite altered groundmass - pyrophyllite (white, soft, micaceous) along frac- ture surfaces - linear fractures 20-30° to axis	10.3	10.8			2955	12	130	37	0.7	5
		BOX 2 10.8 - 17.5			67.2							
		Silicified, bleached lapilli tuff and quartz brec- cia	10.8	11.2			2956	13	97	27	0.7	5
		10.8 - 13.7; silicified crystal lapilli tuff - 50% white feldspar crystals altered to soft, white micaceous mineral (pyrophyllite) in a light brown silicified groundmass - few cream coloured lapilli fragments which have been squeezed and flattened out @ 60° to core axis.			72.4							
		- @ 13.0 core is broken and more pyrophyllite rich- possible brecciation	11.2	12.0			2957	22	70	38	0.6	< 5
		12.0 - 12.9; quartz breccia; light brown and smokey grey quartz; smokey quartz is later stage and con- tains minor drusy vugs and amethystine quartz.	12.0	12.9			2958	47	70	34	0.4	5
		- secondary malachite and azurite 2-3% throughout - fine grained pyrite, 1%, associated with smokey quartz										
		13.7 - 14.4; quartz breccia; light brown and smokey grey quartz; smokey quartz is later stage and con- tains minor drusy vugs and amethystine quartz.	12.9	13.7	85.7		2959	305	360	53	0.8	5
		- secondary malachite and azurite 2-3% throughout - fine grained pyrite, 1%, associated with smokey quartz	13.7	14.4			2960	1690	1700	65	6.1	900
		14.4 - 15.5; polyphase quartz breccia and stringers	14.4	15.0	72.7		5936	3800	7500	3300	31.5	3000

LITHOLOGY	GRAPHIC GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		- covellite (blue, soft), 1-2% after 14.9m - sometimes associated with yellow-brown sphalerite in rounded blebs - sphalerite 5%	16.5	17.5			2963	615	1250	95	4.0	15
		- fine grained galena 1% disseminated - few grains of chalcopyrite altering to covellite, probable source of malachite and azurite										
		- minor disseminated pyrite @ 1%										
		15.5 - 15.8; poorly consolidated breccia-silicified light brown fragments (95%) of various sizes poorly bound by pyrophyllite? - clay (5%)										
		- initially few specs, of malachite										
		15.8 - 17.5; quartz breccia-intense silicified crystal tuff with ghosts of white feldspar which has been later brecciated - specs of azurite (1%) throughout			70.6							
		- late stage rusty oxides coating surfaces.										
		BOX 3 17.5 - 25.7			52.4							
		Quartz breccia and altered andesite crystal lapilli tuff										
		17.5 - 22.2; quartz breccia similar to 15.8 - 17.5 - light brown silicified tuff and white quartz, moderately brecciated - later stage smokey quartz stringers - late stage iron oxides along fractures and coating surfaces.	17.5	18.1	36.2		2964	228	190	25	1.1	80
		- after 19.0 core is broken and recovery very poor										
		- local malachite and azurite (1%) throughout										
		- botryoidal malachite along fracture @ 17.8										
		- @ 20.6 few pieces contain covellite, possible chal- cocite, trace chalcopyrite and malachite - light	18.1	19.0			2965	353	148	21	1.2	25

ER' N TION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		(55%), 10% stretched out cream coloured lapilli fragments											
		- few quartz stringers especially near upper contact few linear fractures 30° to axis											
		- malachite 1% locally	22.2	23.2			2968	68	37	20	2.5	540	
		- lower contact sharp 60° to axis											
		23.9 - 25.7; andesite crystal lapilli tuff - 50% white feldspar crystals altering to sericite in a maroon groundmass. (35%) - 15% stretched medium brown lapilli fragments, tuffaceous in composition	23.2	23.9	100		2969	183	55	32	2.0	920	
		- from 24.3 - 24.7 groundmass is muddy and core is very soft											
		- one linear fracture @ 25.4, 30° to axis	23.9	25.0			2970	8	103	1020	1.6	150	
		BOX 4 25.7 - 31.45			100								
		Similar to 23.9 - 25.7; andesite crystal lapilli tuff; white feldspars altering to sericite and flattened out light brown lapilli fragments in a fine grained maroon groundmass	25.0	26.0			2971	6	90	2030	1.0	5	
		- local, very narrow, irregular sericitic seams											
		- veins of white (pinkish) sulphate? @ 27.3, 28.4,											
		30.6 - vein at 30.6 brecciates the core	26.0	27.0			2972	4	58	1560	0.6	5	
		- more intense sericitization @ 28.8 - 29.0											
		- linear fractures 40-45° to axis											
			27.0	28.0			2973	4	80	1660	0.8	5	

ALTERATION, LOCATION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
			30.0	31.0			2976	6	96	1510	0.8	10
		BOX 5 31.45 - 37.25			100							
		Altered andesite crystal tuff and zone of sericite alteration with several intervals of smokey quartz.	31.0	32.0			2977	4	128	1360	0.7	5
		31.45 - 34.00; andesite crystal tuff;										
		- 50% white feldspar crystals altering to sericite in a dark maroon groundmass										
		- numerous irregular fractures - core is soft and crumbly	32.0	33.0			2978	6	48	920	0.6	5
		- few local quartz stringers										
		- lower contact sharp 25° to axis										
		34.00 - 35.1; quartz-hematite-sericite altered crystal tuff - upper contact marked by quartz-hematite vein	33.0	34.0			2979	95	48	131	1.9	10
		3cm wide, 25° to axis	34.0	34.5			2980	12	36	48	0.7	10
		- white feldspar crystals - sericite in a hematitic slightly siliceous groundmass	34.5	35.1			2981	10	40	36	1.0	1050
		- becoming very sericitic and brecciated near lower contact	35.1	35.4			2982	38	33	63	1.6	1450
		- lower contact approximately 60° to axis										
		35.1 - 35.4; smokey quartz-hematite breccia										
		- quartz-hematite fragments healed by purple iron oxides	35.4	36.1			2983	7	48	58	0.8	125
		- numerous white sulphate veinlets which have been displaced by later purple iron oxide										
		35.4 - 36.1; same as 34.0 - 35.1; no quartz										
		36.1 - 37.25; same as 31.45 - 34.0; core swelling probably due to clays	36.1	37.0			2984	6	25	87	1.2	5

INTERVAL	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
		FROM	TO				Cu	Pb	Zn	Ag	Au	
	62.3 - 62.6; breccia; brecciated andesite with 50% fragments of barite and quartz											
	- clay alteration of groundmass	61.7	62.3			3240	7	94	1030	2.2	220	
	62.6 - 65.8; similar to 60.1 - 62.6; locally brecciated @ 63.6 - 63.7; 63.9 - 64.2; 64.4 - 64.5; all are a brecciated andesite with a few angular pieces of quartz	62.3	62.6			3241	10	22	172	1.1	200	
	- irregular barite vein @ 65.3	62.6	63.7			3242	9	122	602	1.6	15	
		63.7	64.7			3243	6	97	316	0.8	25	
	BOX 11 65.8 - 71.8	64.7	65.8			3244	6	101	301	1.3	10	
	Andesite crystal lapilli tuff similar to 60.1 - 62.3; late stage irregular fractures making core crumbly											
	- feldspars altering to pyrophyllite	65.8	66.8			3245	11	159	940	1.2	5	
	- calcite vein at 67.4, 0.5cm wide, trending											
	- 20% to axis contains galena and chalcopyrite, disseminated 5%	66.8	67.9			3246	10	150	430	1.0	5	

INTER'N TION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		7.62 - 8.00; quartz-clay, alteration of andesite crystal tuff; strong silicification and lesser clay-pyrophyllite	8.7	9.2			3274	305	113	241	2.3	65
		- relic "ghosts" of white feldspar										
		- upper and lower contacts both broken										
		8.00 - 8.30; breccia; same rock type as 7.62 - 8.00 but has been ground up into small silicified pieces in a clay groundmass										
		- lower contact sharp 90° to axis										
		8.30 - 9.20; very strong silicification;										
		- relic feldspars now pitted out or altered to pyrophyllite										
		- clay alteration from 8.8 - 9.0										
		- late stage rusty iron oxides along fractures										
		BOX 2 9.20 - 15.02			91.4							
		Mainly silicified and brecciated volcanics										
		9.20 - 9.60; pyrophyllite-clay alteration; white feldspar, crystals pyrophyllite in a light brown clay rich groundmass	9.20	9.60			3275	78	40	130	1.2	50
		- initially slightly siliceous	9.60	10.25			3276	34	15	72	0.7	40
		9.60 - 11.2; breccia; consists of pyrophyllite clay pervasive hematite and minor quartz which has been ground up into small fragments	10.25	11.2			3277	62	23	117	0.8	5
		- locally not brecciated										
		- hematite content decreasing approaching lower contact - contact is broken	11.2	11.7			3278	68	26	64	1.0	35
		11.2 - 13.2; quartz breccia; 98% intensely silicified crystal tuff fragments of various sizes; 2% clay	11.7	12.1			3279	40	21	26	0.8	110

SER'N ION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
			13.9	14.5			3285	66	180	57	1.4	1100
		BOX 3 15.02 - 20.56	14.5	15.02			3286	52	181	54	1.6	200
		Silicified and brecciated crystal tuff										
		15.02 - 16.1; intensely silicified crystal tuff	15.02	15.5			3287	83	240	56	1.2	65
		- highly fractured and brecciated - light brown colour										
		- relic pseudomorphs of white feldspar now silicified	15.5	16.1			3288	118	138	47	1.0	530
		- light brown clay seam 3cm wide @ 15.5										
		- few later stage narrow quartz stringers	16.1	16.5			3289	360	76	59	18.0	2400
		16.1 - 16.3; muddy gouge; 15% angular silicified frag-	16.5	16.9			3290	200	490	36	6.4	640
		ments in a medium brown unconsolidated muddy groundmass (85%)	16.9	17.5			3291	176	390	35	1.8	450
		16.3 - 16.9; polyphase quartz breccia; angular frag-										
		ments of smokey quartz and quartz hematite in a light brown silicified groundmass	17.5	18.0			3292	1020	780	102	2.8	400
		- minor barite in open spaces										
		- fragment of a black, hard mineral - probably fine grained oxidized pyrite	18.0	18.5			3293	230	240	35	3.3	780
		- few later stage quartz stringers	18.5	19.0			5938	214	245	48	0.8	185
		16.9 - 20.56; silicified crystal tuff similar to 15.02	19.0	19.4			3294	700	330	84	2.6	215
		- 16.1; 40% relic white feldspar crystals in a light brown silicified groundmass (60%)	19.4	19.9			3295	690	450	87	3.4	140
		- many irregular fractures giving core brecciated appearance; many drusy quartz stringers, 5mm wide with minor hematite associated; 2% disseminated oxidized pyrite	19.9	20.3			3296	130	120	28	1.6	25
			20.3	20.56			3297	97	180	23	5.0	580

LATER'N ATION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		- late stage rusty iron oxides coating broken surface	22.3	22.8			3302	126	45	18	0.8	10
		- linear fractures run 30-40° to axis	22.8	23.1			3303	220	70	26	2.1	300
			23.1	23.6			3304	96	38	14	0.6	175
			23.6	24.0			3305	225	84	27	3.3	170
			24.0	24.5			3306	98	45	12	1.4	45
		BOX 5 25.2 - 30.2	24.5	25.0	92.0		3307	180	77	16	7.6	230
		Silicified crystal tuff and breccia										
		25.2 - 29.6; silicified crystal tuff similar to 20.52-30.2										
		- light brown containing relic feldspar crystals	25.0	26.0			3308	110	47	25	0.5	110
		- core fractured and pitted										
		- minor quartz stringers and silicified bands of pyrophyllite	26.0	26.5			3309	57	66	26	4.3	50
		- minor local pyrite 1% - iron oxides coating surface	26.5	27.0			3310	166	38	40	0.6	130
		29.6 - 30.2; breccia; fragments of silicified crystal tuff in a clay groundmass	27.0	27.5			3311	180	64	37	1.2	200
		- initially very little clay but content increases to 35% after 30.0	27.5	28.0			3312	70	19	12	0.7	105
			28.0	28.5			3313	72	16	8	0.5	90
			28.5	29.0			3314	113	20	10	0.8	65
			29.0	29.6			3315	69	12	8	0.6	75

LITHOLOGY, DESCRIPTION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		- initially strongly siliceous, decreasing approaching lower contact - contact broken	40.3	40.8			3331	900	76	90	4.0	450
		39.6 - 40.3; strong sericite (pyrophyllite?) alteration										
		- core fractured and broken										
		40.3 - 45.1; quartz breccia; angular fragments of smokey quartz, light brown quartz cemented together by silica	40.8	41.8			3332	1200	20	27	1.6	1100
		- also fragments and patches of a black fine metallic mineral - possibly fine grained sulphides and precious metals? - these patches very common up to 42.5 then decreasing but still present.	41.8	42.4			5940	64	24	10	0.5	115
		45.1 - 45.5; sericite-pyrophyllite alteration;	42.4	43.1			3333	520	13	134	1.1	620
		- probable andesite crystal tuff with feldspars altering to sericite-pyrophyllite										
		- minor hematite approaching lower contact.	43.1	44.0			3334	980	22	35	1.0	265
		45.5 - 46.3; andesite crystal tuff. 35% white feldspar crystals - pyrophyllite, 65% maroon groundmass	44.0	44.6			3335	460	11	16	0.9	45
		- core fractured and crumbly	44.6	45.1			3336	570	9	18	0.8	30
			45.1	45.5			3337	140	62	43	0.9	5
		BOX 8 46.3 - 52.0 Altered andesite crystal tuff	45.5	46.3			3338	38	27	61	0.9	5
		46.3 - 46.9; andesite crystal tuff same as 45.5 - 46.3	46.3	46.9			3339	5	26	37	0.8	5
		- fracturing 30° to axis										
		- lower contact sharp 15° to axis	46.9	47.7			3340	4	100	48	1.1	40

ER'N ION,	GRAPH GEOL.	DESCRIPTION	-INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		- locally brecciated	57.4	58.1			3357	4	8	16	0.8	340
		- quartz veins, @ 57.9, 20° to axis										
		- vague contact 70° to axis										
		58.1 - 59.8; andesite crystal lapilli tuff										
		- 50% white feldspar crystals - pyrophyllite, 50% hematitic groundmass	58.1	59.15			3358	5	7	18	0.5	10
		- occasional lapilli size (2cm), maroon coloured fragments	59.15	59.8			3359	4	6	16	0.5	5
		- fracturing infilled with pyrophyllite 30° to axis										
		- lower contact wavy 30° to axis	59.8	60.3			3360	20	10	6	0.7	520
		59.8 - 63.1; silicification; light brown silicified crystal tuff; crystals very vague	60.3	60.8			3361	7	6	9	0.8	110
		- local intense fracturing, brecciating core-fractures infilled with pyrophyllite	60.8	61.3			3362	5	7	10	0.4	10
		- quartz-hematite vein 60° to axis within small breccia zone @ 60.1	61.3	61.8			3363	4	6	7	0.5	10
		- numerous irregular milky white quartz stringers										
			61.8	62.3			3364	4	8	11	0.6	30
			62.3	62.9			3365	4	7	8	0.5	45
		BOX 11 63.1 - 68.8										
		Silicified and hematitic crystal tuff	62.9	63.4			3366	4	6	7	0.4	55
		63.1 - 63.4; same as 59.8 - 63.1; lower contact 40° to axis										
		63.4 - 65.0; hematitic crystal lapilli tuff	63.4	64.2			3367	3	7	8	0.3	5
		- 40% white feldspar crystals > pyrophyllite, 5% lapilli fragments, 55% hematitic groundmass										
		- lapilli fragments, subangular, maroon and creamy coloured - slightly siliceous	64.2	65.0			3368	2	6	10	0.4	105

REEK MINES LTD

DRILL HOLE LOG

HOLE No.
A82-7PAGE No.
11

ALTER'N ATION,	GRAPH. GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		- lower contact approximately 20° to axis											
		82.6 - 85.8; similar to 80.1 - 82.6	82.6	83.6			3394	11	82	1430	1.1	5	
		- more alteration to a dark green clay mineral - pyrophyllite?											
		- groundmass is a dark green-maroon colour											
		- calcite stringers throughout - intense calcite stringers from 84.5 - 85.0 - chalcopryrite and galena at the margin of a stringer @ 84.95 in minor quantity	83.6	84.6			3395	10	124	950	0.8	10	
		- few linear fractures 40° to axis	84.6	85.6			3396	2270	305	365	16.4	50	
		BOX 15 85.8 - 91.5											
		Altered andesite crystal lapilli tuff											
		85.8 - 86.4; dark green-maroon crystal lapilli tuff with calcite stringers as 82.6 - 85.8	85.6	86.4			3397	16	132	520	1.9	5	
		- lower contact 25° to axis	86.4	86.7			3398	5	54	57	1.4	5	
		86.4 - 86.7; quartz-hematite-pyrophyllite alteration											
		- quartz-hematite with pyrophyllite infilling frac- tures and a later stage intense calcite stringers cross-cutting everything	86.7	87.7			3399	4	86	468	1.2	20	
		- lower contact 30° to axis											
		86.7 - 91.5; andesite crystal lapilli tuff											
		- 35% white feldspars - pyrophyllite, 10% dark grey lapilli fragments, 55% maroon, slightly hematitic groundmass	87.7	88.7			3400	3	52	471	1.0	5	
		- lapilli fragments are rounded, composed of fine grained white feldspar, mafic mineral and possible pyrite	88.7	89.6			3401	2	18	197	0.9	5	
		- numerous calcite stringers 1mm wide to 1cm wide											
		- core broken and crumbly from 90.1 - 90.5 due to	89.6	90.5			3402	2	19	133	0.8	5	

LITHOLOGY, LOCATION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		- very pyritic - 5-10% pyrite throughout along frac- tures and in stringers - locally 1% chalcopyrite	55.0	55.5			3488	31	74	10	1.4	40
		- from 53.56 - 53.7 is a light grey clay gouge	55.5	56.0			3489	12	157	8	0.9	30
		- linear fractures are mostly 30° to axis	56.0	56.3			3490	6	104	11	0.9	5
		- most fractures have slickensides on them with smeared fine grained pyrite	56.3	56.8			5946	353	46	20	1.5	730
			56.8	57.3			3491	235	80	14	2.2	550
			57.3	58.0			3492	85	52	11	1.2	240
		BOX 11 58.62 - 64.04	58.0	58.5			3493	103	74	10	1.4	230
		Intensely silicified crystal tuff similar to 53.56 - 58.62	58.5	59.0			3494	96	22	7	2.3	300
		58.62 - 59.8; similar to 53.56 - 58.62; 45% white feldspar crystals altering to pyrophyllite in a silicified, slightly hematitic groundmass (50%)	59.0	59.4			3495	178	127	10	1.5	260
		- 5% massive pyrite along stringers and fractures	59.4	59.8			3496	65	162	6	1.2	145
		59.8 - 60.3; breccia; angular fragments of silicified crystal tuff (30%), massive pyrite (20%) in a smokey quartz groundmass (50%)	59.8	60.3			5947	255	495	30	9.2	950
		- trace chalcopyrite with the pyrite	60.3	61.0			3497	182	730	11	2.0	95
		60.3 - 64.04; silicified crystal lapilli tuff similar to 53.56 - 58.62	61.0	61.5			3498	55	860	78	2.2	90
		- 5% fine grained massive pyrite along fractures and in stringers	61.5	62.0			3499	72	1100	18	2.9	70
		- feldspars breaking down to pyrophyllite										
		- no observed sulphides from 62.2 - 62.9	62.0	62.5			3500	7	770	27	1.6	5
		- linear fractures 30-40° to core axis	62.5	62.9			3501	14	860	32	1.4	5
		- lapilli fragments white and olive green and squeezed perpendicular to core axis	62.9	63.5			3502	280	740	18	6.5	210

LITHO DESCRIPTION	GRAPH GEOL.	DESCRIPTION	INTERVAL		RECY	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		20% stretched out light brown fragments, 50% siliceous, slightly hematitic groundmass												
		- pyritic stringer, 3mm wide @ 90.95												
		- becoming less siliceous near lower contact												
		91.65 - 92.0; andesite crystal lapilli tuff; 40% white feldspar - pyrophyllite, 10% lapilli fragments, 50% maroon groundmass												
		- highly fractured and crumbly												
		BOX 17 92.0 - 97.78												
		Andesite crystal lapilli tuff	91.65	92.45			3549							
		92.0 - 92.45; crumbly andesite crystal tuff												
		- medium grey-probable clay alteration because core is swelled												
		- one small fragment of quartz @ 92.2	92.45	93.4			3550							
		92.45 - 97.78; andesite crystal lapilli tuff; 40% white feldspar crystals altering to pyrophyllite, 10% dark grey 1cm wide lapilli fragments, 50% dark grey groundmass	93.4	94.0			3551							
		- initially core is crumbly and clay altered												
		- also small crystals originally hornblende which have altered and left rusty iron oxides which have permeated along very thin fractures	94.0	95.0			3552							
		- small zones of more pervasive pyrophyllite alteration 92.9 - 93.1 and 94.1 - 94.2												
		- rounded pyrophyllite-hematite fragment 3cm long @ 93.7	95.0	96.0			3553							
			96.0	97.0			3554							
		BOX 18 97.78 - 103.44												
		Andesite crystal lapilli tuff as described 92.0 - 97.78	97.0	98.0			3555							

LITHOLOGY	GRAPHIC GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		- quartz-hematite veins @ 98.9, 99.3, 100.9, 104.4; all trend 30-35° to axis											
		- mostly quartz, lesser hematite, with pyrophyllite "wisps" at the margins	98.0	99.0			3556						
		- few small pieces of host rock trapped within veins											
		- vein @ 99.3 has a bleached halo several centimetres from vein	99.0	100.0			3557						
		- 1% fine grained galena in veins											
		- @ 103.35 is a patch 6cm long, 4cm wide of strong hematitic alteration - within this patch are numerous "rosettes" of zeolite, possible laumontite-pinkish narrow radiating crystals	100.0	101.0			3558	10	110	1490	1.4	5	
		- linear fractures 25-30° to axis - one fracture @ 102.4 has a maroon clay along it.	101.0	102.0			3559	6	66	1470	1.2	5	
			102.0	103.0			3560	5	46	1600	2.2	5	
		BOX 19 103.44 - 108.9											
		Altered andesite crystal lapilli tuff											
		103.44 - 105.4; andesite crystal lapilli tuff similar to 92.0 - 97.78	103.0	104.0			3561	6	91	1140	1.0	5	
		- narrow quartz-hematite vein @ 103.5 - pyrophyllite halo 2cm from vein											
		- one rusty fragment @ 104.2 containing 1% disseminated pyrite - .5cm pyrophyllite halo surrounding it - 4cm wide	104.0	105.0			3562	5	35	1190	1.3	5	
		- core becoming bleached approaching lower contact	105.0	105.4			3563	89	37	950	1.4	5	
		105.4 - 106.0; clay altered andesite crystal tuff	105.4	106.0			3564	22	150	223	4.6	10	
		- upper and lower contact 40° to core axis - both contacts marked by a pale green pyrophyllite zone - upper contact pyrophyllite from 105.4 - 105.6 -	106.0	107.0			3565	58	38	549	1.4	5	

KIDD CREEK MINES LTD

HOLE No. A82-9	PAGE No. 1
-------------------	---------------

Y: AL
 N: 9+00E/0+40S Bonanza-Ridge

DRILL HOLE LOG

30° ELEV:
 50° LENGTH: 220.1m (722')

SURVEY

DEPTH	AZIM.	DIP	DEPTH	AZIM.	DIP
220.1	335°	-54°			

CLAIM No: AL 2
 SECTION:
 LOGGED BY: P. Leriche
 DATE LOGGED: August 23,24,25,26,27,28, & 29
 DRILLING CO: D.W. Coates Enterprises
 ASSAYED BY: Min-En Labs

LITHO'N, SECTION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		0 - 3.96; OVERBURDEN												
		BOX 1 3.96 - 9.45			94.7									
		Altered and weathered andesite crystal lapilli tuff.												
		3.96 - 7.1; andesite crystal lapilli tuff												
		- 40% white feldspar altering to pyrophyllite, 10% medium grey, lithic lapilli fragments, 50% medium grey-purple groundmass	3.96	5.18			3568	16	182	854	1.0	5		
		- up to 5.20 core is light brown colour due to weathering	5.18	6.0			3569	3	64	791	0.8	5		
		- lapilli fragments are fine grained volcanic avera- ging 2-3cm wide - fragments contain 1% dissemina- ted pyrite												
		- calcite along fractures and in narrow stringers	6.0	7.1			3570	3	44	782	0.6	10		
		- few linear fractures 50° to axis												
		7.1 - 7.5; clay alteration; andesite crystal tuff with strong alteration to pyrophyllite and light grey clay	7.1	7.5			3571	5	39	225	0.8	5		
		- core is highly fractured, crumbly and swelled due to clays soaking up water	7.5	8.65			3572	22	260	643	1.1	10		
		- lower contact irregular												
		7.5 - 8.65; similar to 39.6 - 7.1												
		- lapilli fragments are crystal tuff in composition and large light brown weathered fragments	8.65	9.45			3573	110	950	134	6.7	5		

LITHO ION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		crystals - one, fragment @ 16.1 is 10cm wide with K-spar crystals 1cm long - lesser small hornblende crystals	16.0	17.0			3581	8	19	40	1.1	5
		- few biotite crystals throughout core that are altering to bronze coloured mineral - possibly vermiculite?										
		- one fragment @ 17.7 is 6cm wide, silicified with a very narrow hematitic margin	17.0	18.0			3582	10	20	40	0.7	10
		- weak argillic alteration throughout groundmass and feldspars altering to clay										
		- linear fractures approximately 40° to axis	18.0	19.0			3583	11	19	37	0.7	5
			19.0	20.0			3584	5	16	42	0.6	5
		BOX 4 20.5 - 25.9										
		Andesite crystal lapilli tuff similar to 10.2-15.0										
		- 40% white feldspar crystals partially altering to pyrophyllite, 10% lapilli fragments, 50% medium grey slightly hematitic groundmass	20.0	21.0			3585	7	17	42	0.4	5
		- lapilli fragments are 1) medium grey fine grained, subrounded volcanic fragments, 1-5cm wide 2) maroon subangular, porphyritic fragments, 30-8cm wide	21.0	22.0			3586	7	17	41	0.7	10
		- calcite along a fracture @ 25.3										
		- few linear fractures 25° to axis	22.0	23.0			3587	11	18	41	0.6	5
			23.0	24.0			3588	6	17	46	0.5	5
			24.0	25.0			3589	3	24	59	0.7	10

LITHOLOGY	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
			33.0	34.0			3598	8	16	47	0.8	5
			34.0	35.0			3599	6	14	43	0.6	5
			35.0	36.0			3600	3	14	68	0.7	5
			36.0	37.0			3601	4	21	89	0.8	5
		BOX 7 37.36 - 42.9			100							
		Andesite crystal lapilli tuff - containing light brown trachytic? fragments										
		37.36 - 39.5; andesite crystal lapilli tuff as described @ 20.5 - 25.9	37.0	38.0			3602	7	19	58	0.7	10
		39.5 - 42.9; andesite crystal lapilli tuff										
		- 30% feldspar crystals stained orange, 30% lapilli fragments, 40% medium grey groundmass	38.0	39.0			3603	5	18	48	0.9	5
		- most lapilli fragments are altered, light brown containing orange feldspar crystals	39.0	39.5			3604	5	22	70	0.5	5
		- some crystals look like K-spar therefore trachytic? in composition										
		- most fragments partially stretched out 50-60° to axis	39.5	40.5			3605	4	20	103	0.8	10
		- pyrophyllite alteration from 41.7 - 41.9 - feldspars altering to pyrophyllite and pyrophyllite infilling fractures 45° to axis										
		- from 41.9 - 42.1 is 90% light brown lapilli fragments	40.5	41.5			3606	9	47	267	0.9	5
		- white fine grained material infilling fracture @ 42.8 - hardness 4 - possibly barite?										
			41.5	42.5			3607	174	130	402	1.1	25

LITHOLOGY DESCRIPTION	GRAPH GEOLOGICAL	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		- linear fractures 30° to axis											
		- minor calcite along fractures											
			51.0	52.0			3617	6	22	96	0.7	5	
			52.0	53.0			3618	8	21	61	0.9	5	
		BOX 10 54.1 - 59.88	53.0	54.0			3619	11	23	73	1.0	5	
		Andesite crystal lapilli tuff - clay alteration											
		54.1 - 55.8; andesite crystal lapilli tuff same as											
		48.5 - 54.1											
		- lower contact is gradational	54.0	55.0			3620	12	26	85	0.8	10	
		55.8 - 59.88; clay alteration of andesite crystal											
		lapilli tuff											
		- 40% white feldspar crystals altering to light green											
		pyrophyllite, 15% light brown lapilli fragments	55.0	55.8			3621	13	26	241	1.1	5	
		contain altered feldspar crystals in a light brown											
		groundmass - size ranges from 1-8cm - fragments											
		stretched, 60-70° to axis	55.8	57.0			3622	31	109	825	1.0	15	
		- strong pervasive pyrophyllite alteration from											
		56.5 - 56.69 and 58.1 - 58.2											
		- quartz hematite vein @ 59.6, 45° to axis	57.0	58.0			3623	35	52	1020	0.7	10	
		- quartz-hematite centre with pyrophyllite at the											
		margins and a narrow light brown altered halo - few											
		specs of galena within quartz	58.0	59.0			3624	31	185	1140	0.6	15	
		- few linear fractures 45° to axis											
		BOX 11 59.88 - 65.37											
		Andesite crystal lapilli tuff	59.0	60.0			3625	15	84	1210	0.7	5	

R ¹ N ON,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		59.88 - 63.4; andesite crystal lapilli tuff - 35% white feldspars altering to pyrophyllite, 15% lapilli fragments, 50% medium grey groundmass												
		- lapilli fragments mainly medium brown, slightly rusty with altered feldspar crystals - also a few fine grained light grey with 1% disseminated pyrite	60.0	61.0			3626	11	290	755	1.2	10		
		- brown fragments stretched @ 50° to axis	61.0	62.0			3627	5	100	710	1.1	15		
		- pyrophyllite along fractures												
		- one narrow quartz vein @ 61.75, 20° to axis												
		- main fractures 30° to axis												
		63.4 - 65.37; andesite crystal lapilli tuff	62.0	63.0			3628	18	137	615	0.9	5		
		- 40% white feldspars to pyrophyllite, 5% light grey lapilli fragments, 55% dark grey groundmass												
		- probable clay in groundmass	63.0	64.0			3629	8	41	1340	0.6	5		
		- quartz vein @ 63.8, 15cm wide, trending 60° to axis												
		- pyrophyllite at margins												
		- fractures 35-50° to axis												
			64.0	65.0			3630	5	40	1090	0.7	5		
		BOX 12 65.37 - 70.52			100									
		Andesite crystal lapilli tuff and silicified pyritic tuff												
		65.37 - 67.2; andesite crystal lapilli tuff	65.0	66.0			3631	6	68	980	1.6	10		
		- 40% feldspar crystals altering to pyrophyllite, 5% medium grey, fine grained lapilli fragments, 55% dark grey groundmass												
		- strong pyrophyllite alteration approaching lower contact	66.0	67.2			3632	105	230	590	1.5	10		
		67.2 - 70.52; quartz-pyrophyllite-pyrite alteration of crystal tuff	67.2	67.7			3633	140	295	55	3.0	680		
		- pseudomorphs of feldspars altered to pyrophyllite many of which have been pitted out	67.7	68.2			3634	108	210	10	2.3	430		
		- following this was pyrite coming along in "bands"	68.2	68.6			3635	107	225	12	1.7	235		
			68.6	69.1			5950	230	98	90	4.2	2750		

COR'N ION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		- becoming less chloritic approaching lower contact											
		- lower contact irregular	100.0	101.0			3676	3	410	895	1.4	10	
		101.7 - 101.9; pyrophyllite alteration - 35% white feldspar crystals in a bleached slightly hematitic groundmass (65%)	101.1	101.7			3677	2	147	840	1.6	5	
		- few narrow quartz-hematite veins 60° to axis	101.7	101.9			3678	36	140	74	1.3	5	
		- lower contact 60° to axis											
		101.9 - 103.9; chloritized andesite crystal lapilli tuff same as 94.9 - 98.4											
		- quartz stringer with minor hematite running sub-parallel to core axis from 102.2 - 102.5	101.9	103.0			3679	10	83	820	0.8	5	
		- margin of vein are a very narrow medium brown mineral - alteration product?											
		BOX 19 103.9 - 109.55											
		Mainly chloritized andesite crystal lapilli tuff	103.0	104.0			3680	12	59	378	0.3	10	
		103.9 - 105.77; andesite crystal lapilli tuff											
		- 45% white feldspar crystals altered to pyrophyllite. 10% lapilli fragments, 45% hematitic, slightly chloritic groundmass	104.0	105.0			3681	11	70	282	0.4	10	
		- lapilli fragments are dark green chloritic and maroon hematitic in composition											
		- narrow light brown (mystery mineral) veinlets											
		105.77 - 109.55; very strong chlorite alteration of andesite lapilli crystal tuff	105.0	106.0			3682	13	139	720	0.6	5	
		- fragments are mainly dark green, lapilli size composed of ash size pieces											
		- .5cm wide quartz vein @ 108.3, 20° to core axis - possible fine grained galena near margin - outer margins are mystery brown mineral	106.0	107.0			3683	19	420	1270	1.2	5	
		- brecciated from 109.2 - 109.35 - narrow quartz veins, 20° to axis, at both contacts of breccia	107.0	108.0			3684	21	200	1240	2.4	10	
		- mystery brown mineral associated with quartz veins	108.0	109.0			3685	20	560	830	2.1	5	

LITHO	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		119.3 - 121.31; hematitic andesite crystal lapilli tuff - 40% white feldspar crystals to pyrophyllite, 10% hematitic and chloritic lapilli fragments, 50% hematitic groundmass	117.0	118.0			3694	9	62	1610	0.8	5
		- quartz - hematite vein @ 119.8 - 120.0, .5cm wide trends 10° to axis	118.0	118.7			3695	9	57	1420	0.8	5
		- another quartz vein .5cm wide, @ 120.25 - 121.0, trending 10° to axis - asymmetrical bleached halo	118.7	119.3			3696	10	50	960	1.0	5
		- halo extends 2cm above vein and lower part of vein is bound by a narrow hematitic margin - 2% combined pyrite and galena in vein with possible trace chalcopyrite	119.3	120.25			3697	17	93	341	0.9	10
		- more quartz - hematite pyritic stringers from 121.0 to 121.2	120.25	121.0			3698	650	295	2410	5.7	25
		- core is brecciated at end of box										
		BOX 22 121.31 - 127.25										
		Altered andesite crystal lapilli tuffs	121.0	121.6			3699	64	225	218	6.4	15
		121.31 - 122.6; strong clay alteration										
		- 40% white feldspar crystals altering to pyrophyllite in a medium grey swelled groundmass (60%)	121.6	122.4			3700	16	43	57	1.2	5
		- swelled groundmass probably from clay absorbing water	122.4	122.8			3701	39	205	107	5.1	10
		- from 121.31 - 121.8 contains broken up quartz veins which are pyritic										
		- veinlet of mystery brown mineral @121.50										
		- lower contact sharp 10° to axis	122.8	123.8			3702	13	51	41	0.5	5
		- 122.6 - 125.9; andesite crystal tuff with moderate clay alteration	123.8	124.3			3703	79	150	152	1.5	5
		- 35% white feldspar crystals in a dark grey-maroon groundmass (65%)	124.3	124.9			3704	45	195	890	4.0	10
		- core is fractured aslightly swelled due to clay alteration	124.9	125.2			3705	15	67	170	2.1	15
		- series of pyritic quartz veins running parallel to 10° from core axis										
		122.4 - 122.8; pyritic quartz vein which is 1cm wide	125.2	126.0			3706	11	25	223	0.4	5

CORR'N ION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		and trends 10° to axis											
		- pyritic middle, border by quartz, with a 1cm bleached halo											
		123.55 - 123.75 - lighter bleached zone of core containing a few pyritic veins 60° to axis	126.0	127.0			3707	14	24	1750	0.5	5	
		124.0 - 124.3; pyritic quartz vein, .5cm wide trending 10° to axis											
		124.3 - 124.9; pyritic quartz vein .5cm wide, trending 10° to axis - mystery brown mineral at the margins of vein - core slightly brecciated beside vein - one side of vein is bleached and clay altered, the other side being relatively unaltered.											
		125.0 - 125.1; quartz-hematite-clay vein, 40° to axis - quartz-hematite middle with red clay at margins - hanging wall above vein is sulphide rich with chalcopyrite and pyrite											
		125.9 - 127.25; chloritized andesite (basalt?) crystal lapilli tuff											
		- 30% white feldspar crystal altering to pyrophyllite and stained green, 15% dark green lapilli fragments											
		55% chloritic - hematitic groundmass											
		- laumontite infilling along narrow fractures from 126.8 - 127.1											
		BOX 23 127.25 - 132.8											
		Chlorite-hematite altered andesite crystal lapilli tuff											
		127.25 - 131.55; chlorite-hematite altered andesite crystal lapilli tuff	127.0	128.0			3708	9	34	1670	1.2	5	
		- 35% white feldspar crystals altered to pyrophyllite, 10% lapilli fragments, 55% hematite-chlorite altered groundmass											
		- lapilli fragments are maroon crystal tuff and dark green fine grained fragments	128.0	129.0			3709	12	36	580	0.7	15	

ALTER'N ATION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		lapilli tuff- 30% feldspar crystals 15% hematite and chlorite altered fragments, 55% hematitic groundmass	147.0	148.0			3729	13	24	142	0.6	6
		- numerous small veinlets infilled with calcite - bedding 50° to axis										
		148.0 - 149.2; chlorite-hematite alteration, same as 143.51 - 146.9; bedding 60° to axis	148.0	149.0			3730	22	115	520	0.8	5
		BOX 27 149.2 - 154.5 Altered andesite crystal lapilli tuff										
		149.2 - 150.15; chlorite-hematite altered andesite crystal lapilli tuff similar to 143.51 - 146.9	149.0	150.0			3731	43	4500	5300	3.9	10
		- clay gouge with andesitic fragments in a white clay @ 149.3 - 149.4										
		- calcite along fractures and in stringers - core highly fractured and broken - lower contact gradational	150.0	151.0			3732	19	86	341	0.5	5
		150.15 - 154.5; andesite crystal lapilli tuff - 35% relatively unaltered white feldspar crystals, 15% fragments, 50% maroon-hematitic groundmass	151.0	152.0			3733	11	43	198	0.6	10
		- fragments are fine grained, hematitic, slightly chloritic, 1cm to 4cm wide										
		- small green clay gouge zone @ 152.4 - numerous calcite infilled veinlets - bedding approximately 60° to axis	152.0	153.0			3734	12	47	442	0.9	5
		- linear fractures 40° to axis approximately perpen- dicular to bedding	153.0	154.0			3735	12	50	356	0.7	5
		BOX 28 154.5 - 160.21 Mainly dacitic dyke and altered andesite crystal lapilli tuff	154.0	155.2			3736	13	78	740	0.8	10
		154.5 - 155.2; andesite crystal tuff - 30% white feldspar crystals altering to pyrophy- llite, 70% dark grey groundmass	155.2	155.6			3737	10	74	40	1.0	5
		- core highly fractured with minor clay infilling between pieces - lower contact approximately	155.6	156.0			3738	6	93	123	1.2	10

ALTER'N ATION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		90° to axis											
		155.2 - 155.6; hematite-clay alteration											
		- upper contact has strong pyrophyllite alteration	156.0	157.0			3739	12	22	66	0.8	5	
		- white feldspar crystals altered to pyrophyllite (35%), 65% hematitic groundmass											
		- bedding approximately 70° to axis	157.0	158.0			3740	11	36	72	1.0	10	
		- lower contact with underlying dacitic dyke is sharp but highly irregular											
		- very hematitic near lower contact											
		155.6 - 160.21; dacitic dyke	158.0	159.0			3741	12	30	81	1.4	15	
		- 30% plagioclase, 7% orthoclase, 10% combined hornblende and biotite, 10% small quartz grains, all phenocrysts, 42% medium green moderately chloritic groundmass											
		- 1% euhedral disseminated pyrite	159.0	160.0			3742	11	127	85	1.1	5	
		- plagioclase and K-spar phenocrysts are stained orange, subhedral, .5 - 1.0cm long											
		- minor calcite stringers											
		- linear fractures 25-35° to axis											
		BOX 29 160.21 - 165.7											
		Dacitic dyke similar to 155.6 - 160.21											
		- biotite is the main mafic mineral altering to a combination of chlorite and vermiculite	160.0	161.1			3743	10	28	97	1.2	5	
		- plagioclase phenocrysts often zoned											
		- calcite along fractures and stringers											
		- small brecciated, fault zone 6cm wide @ 161.0 -											
		both contacts of zone are 40° to axis	161.1	162.0			3744	10	23	100	0.6	10	
		- most linear fractures run 30° to axis											
			162.0	163.0			3745	8	17	49	0.5	5	
			163.0	164.0			3746	8	19	42	0.6	10	

INTER'N TION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
			164.0	165.0			3747	7	18	38	0.4	5
		BOX 30 165.7 - 171.08										
		Dacite dyke same as 155.6 - 160.21										
		- groundmass has no chlorite in it until 169.7 when it turns green and moderately chloritic	165.0	166.0			3748	8	30	45	0.6	5
		- quartz phenocrysts have an amethystine tinge to them										
		- minor calcite along fractures	166.0	167.0			3749	8	16	40	0.6	5
		- linear fractures 40° to axis										
			167.0	168.0			3750	9	18	40	0.5	5
			168.0	169.0			3751	10	19	39	0.4	5
			169.0	170.0			3752	10	18	48	0.6	10
		BOX 31 171.08 - 176.69	170.0	171.0			3753	10	26	77	0.5	5
		Dacite dyke and andesite crystal lapilli tuff	171.0	171.35			3754	18	300	247	0.6	5
		171.08 - 171.35; dacite dyke as described above	171.35	172.1			3755	14	172	367	1.2	10
		- lower contact is sharp, but highly irregular and ragged - becoming more chloritic near contact	172.1	172.6			3756	5	90	46	3.2	5
		171.35 - 172.1; andesite crystal lapilli tuff	172.6	172.9			3757	4	65	112	0.6	10

LITHO DESCRIPTION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		- 35% white feldspar crystals altering to pyrophyllite 5% lapilli fragments, 60% dark purple-grey groundmass - groundmass probably hematitic	172.9	174.0			3758	8	160	940	1.1	5
		- thin "wisps" of mystery brown mineral										
		- lower contact approximately 40° to axis										
		172.1 - 172.6; clay alteration, initially small altered andesite fragments in a white-maroon clay groundmass until 172.2	174.0	175.0			3759	3	67	750	1.0	5
		- grading into an andesite crystal tuff with strong alteration of feldspars to pyrophyllite, in a bleached, slightly hematitic and argillic groundmass	175.0	176.0			3760	3	35	630	0.6	5
		- lower contact marked by narrow quartz vein 40° to axis										
		172.6 - 172.9; similar to 171.35 - 172.1										
		- one quartz vein @ 172.7 - 172.8, .5cm wide, 25° to axis										
		- lower contact is gradational										
		172.9 - 176.69; andesite crystal lapilli tuff										
		- 40% orange stained feldspar crystals, 10% combined lapilli fragments, 40% light green groundmass										
		- lapilli fragments are two types; 1) dark green chloritic with feldspar crystals 2) light maroon with crystals of hornblende and stained feldspar										
		- fragment size averages 1-2cm, but goes up to 6cm										
		- abundant calcite along fractures										
		- narrow veinlets of brown mystery mineral										
		- linear fractures 30-40° to axis										
		BOX 32 176.69 - 181.80										
		Andesite crystal lapilli tuff same as 172.9 - 176.69										
		- minor light brown clay along fractures	176.0	177.0			3761	3	30	695	0.6	5

LITHOLOGY, STRATIGRAPHY, GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
		FROM	TO				Cu	Pb	Zn	Ag	Au	
	in large patches											
	- pyrite content 5-10% throughout											
	- much of quartz smokey or dark grey suggesting fine grained pyrite or other sulphides possibly even precious metals											
	- gypsum along some broken surfaces especially at 186.0	185.9	187.9			3772	28	470	7	6.8	5	
	- note - recovery over this interval is extremely poor - only about 30%											
	- an original pervasive silicification came first followed by a later introduction of pyrite											
	- smokey and dark grey quartz	187.9	189.5			3773	23	305	17	2.6	10	
	- stringers of pyrite appear to cross-cut darker quartz											
		189.5	191.5			3774	15	166	620	2.2	15	
	BOX 34 191.5 - 197.5											
	Altered andesite crystal lapilli tuffs	191.5	191.8			3775	16	19	3180	1.1	15	
	191.5 - 191.8; altered andesite crystal tuff											
	- small feldspar crystals altering to sericite in a medium grey clay groundmass											
	- possible clay or sulphate alteration of groundmass	191.8	193.0			3776	10	100	765	2.2	10	
	- yellowish stain all over rock - could be jarosite											
	- core broken											
	191.8 - 194.3; strong clay alteration with different alteration fronts	193.0	194.3			3777	15	295	980	3.2	5	
	- upper contact marked by yellowish-brown stain 5cm long											
	- up to 192.7 is brecciated andesite into very small pieces cemented together by a dark brown-greenish clay	194.3	195.0			3778	18	60	2105	1.1	5	

ER'N ION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		192.7 - 193.0; intense white-grey clay alteration - small bleached andesite pieces within clay-clay is swelled - probably montmorillonite	195.0	196.0			3779	6	70	1680	1.1	5
		193.0 - 193.2; sharp contact zone between yellow clay altered andesite crystal tuff and purple hematitic crystal tuff - contact at 25° to axis	196.0	197.0			3780	45	810	4590	3.2	5
		193.2 - 194.3 - upper hematitic contact quickly grades into a brecciated, chloritic crystal tuff - this grades into strong brecciation with clay cementing pieces together										
		- clay is light green to maroon probably derived from the andesite										
		- one small fragment at 194.0 has barite in it										
		194.3 - 197.5; dacite crystal lapilli tuff										
		- 30% feldspar crystals, 10% quartz, 10% lapilli fragments, 50% hematitic groundmass - minor hematite										
		- two types of lapilli fragments: 1) dark green, fine grained chloritic 2) angular light purple, slightly siliceous containing feldspar crystals.										
		- in general core broken and fractured										
		- narrow completely broken vein @ 194.7 - consists of altered plagioclase to a pale green mineral, quartz and hornblende? - all coarse grained										
		- contact zone @ 196.4 - contact at 20° to axis - groundmass is no longer hematitic changing to a light green										
		BOX 35 197.5 - 202.76										
		Andesite crystal lapilli tuff										
		197.5 - 201.5; dacite crystal lapilli tuff similar to 194.3 - 197.5	197.0	198.0			3781	42	550	3450	2.2	10

LITHOLOGY, CORRECTION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		- 25% white feldspar crystals altering to sericite, 10% quartz crystals, 15% chloritic lapilli fragments, 50% brownish groundmass	198.0	199.0			3782	17	40	710	0.6	5
		- locally broken and crumbled										
		- becoming bleached near lower broken contact										
		201.5 - 201.75; breccia - small medium green fragments of dacite (60%) in a light medium-green groundmass of clay (40%)	199.0	200.0			3783	5	116	915	0.7	10
		- fragments contain 1-2% pyrite										
		201.75 - 202.76; dacite crystal lapilli tuff										
		- upper contact sharp 35° to axis	200.0	201.0			3784	18	76	1050	1.0	5
		- to 202.0 is bleached and has 1-2% pyrite-white clay alteration	201.0	201.5			3785	7	190	980	1.0	5
		- grading into dacitic crystal lapilli tuff as described from 197.5 - 201.5	201.5	201.8			3786	43	780	1550	3.9	10
		<u>BOX 36</u> 202.76 - 208.56	201.8	202.75			3787	32	275	380	2.0	5
		Dacitic crystal lapilli tuff										
		202.76 - 205.0; dacite crystal lapilli tuff similar to 197.5 - 201.5										
		- initially bleached and pyritic - 2%										
		- minor calcite stringers										
		- one lapilli fragment @ 204.4, rounded, 3cm wide, granitic in composition - consists of 30% plagioclase altering to sericite, 30% K-spar, 20% euhedral hornblende, 18% quartz, 2% specular hematite	202.75	204.			3788	20	114	346	1.6	5
		- lower contact is gradational	204.0	205.0			3789	4	22	111	1.0	5
		205.0 - 208.56; dacite crystal lithic lapilli tuff										
		- 35% plagioclase crystals with minor alteration to sericite, 5% K-spar crystals, 10% anhedral quartz crystals, 5% lithic lapilli fragments, 45% maroon groundmass	205.0	206.0			3790	3	18	55	0.4	10
		- lithic lapilli fragments or possibly xenoliths are almost pegmatitic in size and composition - average	206.0	207.0			3791	2	20	73	1.0	5

KIDD CREEK MINES LTD

HOLE No. PAGE No.
A82-10 1

Y: AL #03
 N: 8+00E/0+40S
 Bonanza-Ridge
 ELEV:
 LENGTH: 169.8m
 CORE SIZE: NQ
 82/08/10
 82/08/11

DRILL HOLE LOG

SURVEY

DEPTH	AZIM.	DIP	DEPTH	AZIM.	DIP
167.6	336°	52°			

CLAIM No: AL2
 SECTION:
 LOGGED BY: J.R. Clark
 DATE LOGGED: 82/08.25
 DRILLING CO: D.W. Coates Enterprises
 ASSAYED BY: Min-En Labs (Vancouver)

INTER'N, TION,	GRAPH GEOL	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		OVERBURDEN 6.4m												
			6.4	7.4			3805	2	30	98	1.3	5		
		BOX 1 6.4-12.25m												
		Andesitic lapilli-crystal tuffs, light to moderately chloritized and sericitized. Medium greenish grey. Fragments 50-60%, subangular to flattened appearance though no evidence of welding, average 0.5-2cm, up to 4cm across; andesitic composition, plagioclase-hornblende-biotite phyric, fine, plagioclase-rich groundmass; moderately to fairly heavily altered to chlorite-seric with some remnant hematite in mafics. Matrix 10-20% crystals, plagioclase-hornblende-biotite, rare prismatic soft brownish minerals, fine ash and lithic fragments; light to moderate alteration to chlorite-sericite-hematite. Tuffs air fall but possibly into shallow water (?). Minor carbonate-laumontite veinlets, random orientations. Tuffs poorly sorted, poor to fair bedding shown mainly by long axes and flattening of lithic fragments, 65° core axis at 8.6m.	7.4	8.4	60%		3806	3	30	121	1.2	5		
			8.4	9.4	80%		3807	4	28	150	1.4	5		
			9.4	10.4			3808	4	33	156	0.6	10		
			10.4	11.4			3809	13	54	354	1.1	10		

LITHOLOGY, LOCATION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		Rare siliceous veinlets, e.g. at 11.5m. Occasional fragments of ash tuff, dacites, basaltic andesites, but overall quite monolithic.	11.4	12.4			3810	18	290	505	1.1	5
		BOX 2 12.25-18.0m										
		Andesitic lapilli-crystal tuffs, moderately chloritized-sericitized. Same as Box 1. Some sections have variable crystal content of matrix, but generally same rock type. Some fractures and veinlets of whitish to brownish zeolite in addition to laumontite, eg at 17.8m. Crude bedding from long axis orientation of fragments 50° to core axis at 13.8m. Many of the fragments appear to have been pumiceous and subsequently flattened.	12.4	13.4			3811	4	18	440	0.8	5
			13.4	14.4			3812	30	320	479	0.7	5
			14.4	15.4			3813	12	895	2975	2.8	30
			15.4	16.4			3814	12	310	1045	1.1	5
			16.4	17.4			3815	25	360	1555	1.2	5
			17.4	18.4			3816	100	660	3175	2.2	20

ALTERATION, LITHOLOGY,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		downhole. Upper contact gradational, lower contact lost in broken core. Bedding defined by long axis orientation of flattened fragments 60° core axis at 25.1m.	25.4	26.4			3824	8	149	870	0.9	5
			26.4	27.5			3825	8	141	1665	0.9	5
		27.5-28.1m - greenish grey, heavily altered equivalent of 23.4-27.5m, probably shear related. Heavy pyrophyllite-montmorillonite-seric bands, some soft brownish veinlets oriented ~60° core axis. Grades down into weak argillic alteration with pyrophyllite-sericite-montmorillonite-hematite, lower contact gradational.	27.5	28.1			3826	41	225	1150	0.7	5
			28.1	29.1			3827	5	130	640	0.5	5
		28.1-32.7m - same as 6.4- 23.4m. Minor shear (5cm) with increased montmorillonite-sericite and decreased chlorite at 29.1m. Amount of zeolites increasing downhole; white soft and brownish medium soft ones; randomly oriented fractures and veinlets up to 3mm across; where abundant get some bleaching and development of pyrophyllite and possibly montmorillonite, bleached haloes with Fe removed and slight reddish rims on bleached portions; rare blebs of galena (<0.5mm) associated with bleached areas. Very occasional carbonate with zeolite alteration. In addition to zeolite proportion of pyrophyllite alteration of plagioclase increases in intensity downhole, lower contact gradational.	29.1	30.1			3828	3	33	610	0.6	10
			30.1	31.1			3829	3	45	1175	0.8	5
			31.1	31.9			3830	3	38	1450	0.9	5

COR'N ON,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		BOX 5 29.5 - 35.2m	31.9	32.7			3831	2	65	1450	1.2	5
		Andesitic lapilli-crystal tuffs and altered equivalents, chlorite-sericite to zeolite to weak argillitic to pyrophyllite-quartz-pyrite gradation downhole.										
		32.7-33.3m - weak argillitic alteration, purplish to reddish brown with minor bleached veinlets; plagioclase completely replaced by pyrophyllite, mafics hematized, groundmass pyrophyllite-montmorillonite-hematite altered; bleached veinlets with slight silicification in center, grading out in bleached sericite-pyrophyllite rich material, possibly additional unknown component. Becomes more purplish, pyrophyllite-montmorillonite rich toward lower contact, no quartz and more hematite and probably montmorillonite. Lower contact gradational.	32.7	33.3			3832	4	151	650	1.3	5
		hematized, groundmass pyrophyllite-montmorillonite-hematite altered; bleached veinlets with slight silicification in center, grading out in bleached sericite-pyrophyllite rich material, possibly additional unknown component. Becomes more purplish, pyrophyllite-montmorillonite rich toward lower contact, no quartz and more hematite and probably montmorillonite. Lower contact gradational.	33.3	34.0			3833	6	340	1800	0.9	10
		hematite altered; bleached veinlets with slight silicification in center, grading out in bleached sericite-pyrophyllite rich material, possibly additional unknown component. Becomes more purplish, pyrophyllite-montmorillonite rich toward lower contact, no quartz and more hematite and probably montmorillonite. Lower contact gradational.	34.0	34.4			3834	6	200	136	1.2	5
		pyrophyllite-montmorillonite rich toward lower contact, no quartz and more hematite and probably montmorillonite. Lower contact gradational.	34.4	34.9			3835	5	210	46	0.9	5
		33.3-34.0m - purplish to bluish grey, weak argillitic alteration; plagioclase completely altered to pyrophyllite, groundmass hematitic and probably montmorillonite; abundant chlorite in fragment relics and mafics. Crumbly core. Lower contact gradational.	34.9	35.4			3836	3	200	106	0.5	5
		34.0-34.4m - similar to 33.3-34.0m, core very crumbly and sheared appearance; very pyrophyllite-montmorillonite rich, minor brownish veinlets of zeolite (?). Lower contact sharp at ~75° core axis, marked by weak silicification front which holds together core.	35.4	36.0			3837	20	340	18	0.9	5
		34.4-36.6m - in pinkish to brownish silicified and argillitized intermediate volcanic. Strong quartz-pyrophyllite alteration with traces hematite, possibly some sericite, mostly replacement though ~10-20% veining. Replacement of plagioclase largely by pyrophyllite (± sericite?), mafics by sericite (?), groundmass partial silicification with abundant pyrophyllite. Veining of quartz-pyrophyllite - sericite mixtures, some internal	36.0	36.6			3838	3	49	22	0.4	5
		34.4-36.6m - in pinkish to brownish silicified and argillitized intermediate volcanic. Strong quartz-pyrophyllite alteration with traces hematite, possibly some sericite, mostly replacement though ~10-20% veining. Replacement of plagioclase largely by pyrophyllite (± sericite?), mafics by sericite (?), groundmass partial silicification with abundant pyrophyllite. Veining of quartz-pyrophyllite - sericite mixtures, some internal	36.6	37.7			3839	5	103	64	0.8	5
		34.4-36.6m - in pinkish to brownish silicified and argillitized intermediate volcanic. Strong quartz-pyrophyllite alteration with traces hematite, possibly some sericite, mostly replacement though ~10-20% veining. Replacement of plagioclase largely by pyrophyllite (± sericite?), mafics by sericite (?), groundmass partial silicification with abundant pyrophyllite. Veining of quartz-pyrophyllite - sericite mixtures, some internal	37.7	38.3			3840	10	210	1080	1.1	15
		34.4-36.6m - in pinkish to brownish silicified and argillitized intermediate volcanic. Strong quartz-pyrophyllite alteration with traces hematite, possibly some sericite, mostly replacement though ~10-20% veining. Replacement of plagioclase largely by pyrophyllite (± sericite?), mafics by sericite (?), groundmass partial silicification with abundant pyrophyllite. Veining of quartz-pyrophyllite - sericite mixtures, some internal	38.3	39.3			3841	5	31	1805	1.3	5

ALTER'N ATION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		silification, traces pyrite as disseminated cubes, probably intermixed (but generally later) zeolites. Host rock changes somewhere in this section to massive hypabyssal dyke (as described below), loses all fragmental character. Lower contact gradational.	46.5	47.1			3852	10	360	460	1.2	5
		45.5-47.1m - light greenish grey felsic intermediate hypabyssal intrusive. Plagioclase 20%, sub-euhedral, 1-5mm, heavily altered to pyrophyllite/sericite; hornblende 5-10%, euhedral, 1-3mm, heavily altered to hematite and chlorite; groundmass plagioclase rich, largely altered to sericite-chlorite (± pyrophyllite?); very little hematite in groundmass. Very minor zeolite veinlets, some possible shearing though not measurable. Possibly minor quartz and biotite, but alteration obscures their presence (inferred by comparison to fresher material down-hole).	47.1	47.8			3853	14	45	280	1.0	10
		47.8-48.5m - light greenish grey felsic to intermediate hypabyssal intrusive. Plagioclase 20-25%, sub-euhedral 1-7mm, heavily altered to seric (possibly some pyrophyllite?); K-feldspar 10%, sub-euhedral, 1-10mm, heavily altered to sericite; quartz 5-7% subhedral-skeletal, 1-5mm; biotite 5%, sub-euhedral, 1-5mm, heavily altered to chlorite; hornblende 1%, euhedral, 1-3mm, altered to chlorite; groundmass very fine-grained feldspar rich sericite. Pyrite 1-3% fine disseminated, especially with mafics. Chloritic along fractures. Traces chalcopyrite with pyrite. Rare quartz-carbonate veinlets.	47.8	48.5			3854	7	33	110	1.6	5
		48.5-49.3m - tan to greenish felsic dyke (?). Plagioclase 20-25%, sub-euhedral 1-7mm, heavily altered to seric (possibly some pyrophyllite?); K-feldspar 10%, sub-euhedral, 1-10mm, heavily altered to sericite; quartz 5-7% subhedral-skeletal, 1-5mm; biotite 5%, sub-euhedral, 1-5mm, heavily altered to chlorite; hornblende 1%, euhedral, 1-3mm, altered to chlorite; groundmass very fine-grained feldspar rich sericite. Pyrite 1-3% fine disseminated, especially with mafics. Chloritic along fractures. Traces chalcopyrite with pyrite. Rare quartz-carbonate veinlets.	48.5	49.3			3855	12	28	100	1.8	5
		49.3-50.2m - tan to greenish felsic dyke (?). Plagioclase 20-25%, sub-euhedral 1-7mm, heavily altered to seric (possibly some pyrophyllite?); K-feldspar 10%, sub-euhedral, 1-10mm, heavily altered to sericite; quartz 5-7% subhedral-skeletal, 1-5mm; biotite 5%, sub-euhedral, 1-5mm, heavily altered to chlorite; hornblende 1%, euhedral, 1-3mm, altered to chlorite; groundmass very fine-grained feldspar rich sericite. Pyrite 1-3% fine disseminated, especially with mafics. Chloritic along fractures. Traces chalcopyrite with pyrite. Rare quartz-carbonate veinlets.	49.3	50.2			3856	26	41	126	1.3	5
		BOX 8 46.5 - 51.7m										
		Moderately to heavily altered felsic to intermediate intrusive.	50.2	51.2			3857	16	69	162	1.2	5
		47.1-48.5m - tan to greenish felsic dyke (?). Plagioclase 20-25%, sub-euhedral 1-7mm, heavily altered to seric (possibly some pyrophyllite?); K-feldspar 10%, sub-euhedral, 1-10mm, heavily altered to sericite; quartz 5-7% subhedral-skeletal, 1-5mm; biotite 5%, sub-euhedral, 1-5mm, heavily altered to chlorite; hornblende 1%, euhedral, 1-3mm, altered to chlorite; groundmass very fine-grained feldspar rich sericite. Pyrite 1-3% fine disseminated, especially with mafics. Chloritic along fractures. Traces chalcopyrite with pyrite. Rare quartz-carbonate veinlets.	51.2	52.1			3858	20	98	190	1.3	5
		52.1-52.5m - tan to greenish felsic dyke (?). Plagioclase 20-25%, sub-euhedral 1-7mm, heavily altered to seric (possibly some pyrophyllite?); K-feldspar 10%, sub-euhedral, 1-10mm, heavily altered to sericite; quartz 5-7% subhedral-skeletal, 1-5mm; biotite 5%, sub-euhedral, 1-5mm, heavily altered to chlorite; hornblende 1%, euhedral, 1-3mm, altered to chlorite; groundmass very fine-grained feldspar rich sericite. Pyrite 1-3% fine disseminated, especially with mafics. Chloritic along fractures. Traces chalcopyrite with pyrite. Rare quartz-carbonate veinlets.	52.1	52.5			3859	21	260	83	6.2	30
		52.5-53.1m - tan to greenish felsic dyke (?). Plagioclase 20-25%, sub-euhedral 1-7mm, heavily altered to seric (possibly some pyrophyllite?); K-feldspar 10%, sub-euhedral, 1-10mm, heavily altered to sericite; quartz 5-7% subhedral-skeletal, 1-5mm; biotite 5%, sub-euhedral, 1-5mm, heavily altered to chlorite; hornblende 1%, euhedral, 1-3mm, altered to chlorite; groundmass very fine-grained feldspar rich sericite. Pyrite 1-3% fine disseminated, especially with mafics. Chloritic along fractures. Traces chalcopyrite with pyrite. Rare quartz-carbonate veinlets.	52.5	53.1			3860	21	137	198	1.3	5

CORRECTION	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS						
			FROM	TO				Cu	Pb	Zn	Ag	Au		
		traces of galena in addition to pyrite. Sericitic seam 3cm across at 55.0m, with 25° core axis. Lower contact gradational.												
		55.5-58.6m - same as 48.5-50.2m minor carbonate stringers (<2mm wide), randomly oriented. Core somewhat broken up. Lower contact lost in broken core.	59.3	60.3			3869	12	55	105	0.9	5		
		BOX 10 57.4 - 63.04m												
		Felsic to intermediate dyke (?) with variable light to moderate sericite-chlorite alteration.												
		58.6-59.3m - similar to 48.5-50.2m but moderately sericitized and locally chloritized especially diffusion from fractures. Plagioclase and K-feldspar heavily sericitized (possibly some pyrophyllite?), mafics chloritic and possible brownish epidote, groundmass moderately sericitized and chloritized, pyrite 1-3% fine disseminated euhedral, <1mm. Controlling fractures very irregular, no real orientations. Lower contact gradational.	61.3	62.3			3871	10	20	98	0.9	5		
		62.3-63.1m - same as 48.5-50.2m. Lower contact gradational.	62.3	63.1			3872	12	67	118	1.0	5		
		59.3-63.1m - same as 48.5-50.2m. Lower contact gradational.	63.1	63.7			3873	8	108	37	2.0	10		
		63.7-64.3m - same as 48.5-50.2m. Lower contact gradational.	63.7	64.3			3874	68	142	66	2.0	5		
		BOX 11 63.04 - 68.44m												
		Felsic to intermediate intrusive, variable sericitic (± pyrophyllite) and mild chlorite-pyrite altered.	64.3	65.3			3875	17	63	141	0.9	10		
		63.1-64.3m - light greenish grey, strongly altered felsic to intermediate dyke; sericite (± pyrophyllite) altered of all feldspar and most of mafics, minor chlorite-epidote remnants in mafics; pyrite 2-4% disseminated euhedral to 1mm; core very crumbled, possibly some montmorillonite mixed in with sericite, etc., parts of core still competent, mainly those which were significantly silicified as well as sericitized/argillitized. Traces barite in late fractures/veinlets. Lower contact gradational.	65.3	66.3			3876	12	490	720	1.1	5		
		64.3-76.7m - light to moderately altered felsic to	66.3	67.3			3877	10	111	166	0.8	5		

LITHOLOGY	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		intermediate hypabyssal as previously described. Plagioclase moderate-heavy altered to sericite/pyrophyllite, K-feldspar moderate-heavy altered to sericite, biotite and hornblende moderate-heavy altered to chlorite-sericite-hematite, groundmass lightly sericitized. Pyrite 1% fine disseminated euhedral. Minor chloritic areas around some fractures, though sericite still dominant, traces galena replacing altered plagioclase, eg 66.6m. Rare crystal-cutting carbonate veinlets, <3mm across, randomly oriented.	67.3	68.3			3878	9	21	96	0.8	10
		BOX 12 68.44-73.95m Felsic to intermediate hypabyssal intrusive variable light to moderate sericitization and chlorite altered. Minor (5cm) shear at 72.3m orient ~40° core axis.	68.3	69.3			3879	54	1300	290	1.0	5
			69.3	70.3			3880	12	245	156	1.0	15
			70.3	71.3			3881	16	77	136	0.8	10
			71.3	72.3			3882	10	67	127	0.9	<5
		BOX 13 73.95 - 79.3m Felsic to intermediate hypabyssal intrusive, variable light to moderate sericitization and chlorite alteration.	72.3	73.3			3883	10	21	65	0.8	5
			73.3	74.3			3884	10	34	67	0.7	10

INTER'N TION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
			74.3	75.5			3885	10	18	72	0.7	5
			75.5	76.7			3886	9	20	60	0.8	5
		76.7-77.9m - similar to 64.3-76.7m, tan brown, light to moderate sericite; 5% late barite + carbonate veinlets, randomly oriented, <5mm; pyrite 1-3% fine disseminations. Lower contact gradational.	76.7	77.3			3887	8	34	56	1.4	10
			77.3	77.9			3888	5	24	40	1.5	5
		77.9-80.0m - brownish to greenish grey, altered felsic to intermediate intrusive as previously described (64.3-76.7). Moderately sericitized, lightly chloritized throughout. Pyrite 2-3% fine disseminated euhedral to 1mm. Minor quartz-carbonate veinlets, <3mm wide. Lower contact gradational.	77.9	78.9			3889	8	27	71	0.6	10
			78.9	80.0			3890	8	30	64	1.0	5
		BOX 14 79.3 - 84.85m Sericitized + chloritized felsic to intermediate intrusive.										
		80.0-89.7m - similar to 64.3-76.7m lightly to moderately sericitized (possibly some pyrophyllite in plagioclase?). Rare 1% cross-cutting amethystine quartz veinlets up to 3mm across, randomly oriented may have slight chlorite halos. Pyrite 1-2% fine disseminations. Possibly slightly purplish tinge to primary quartz phenos (relationship to veining?), eg 82.3m etc. Quartz veinlets abundance decreases downhole, and there is a slight increase in number	80.0	81.0			3891	7	19	51	0.8	5
			81.0	82.0			3892	5	26	50	2.5	5

CORRECTION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		of fine-grained xenoliths (<1% sub-angular to subround, up to 2cm, moderately to heavily sericitized). Often get weak fracturing tendency parallel to core axis. Lower contact gradational, mainly a colour change.	82.0	83.0			3893	5	16	39	1.7	5
			83.0	84.0			3894	10	18	50	0.8	5
			84.0	85.0			3895	10	20	49	0.6	10
		BOX 15 84.85 - 90.63m										
		Felsic to intermediate hypabyssal intrusive, light to moderately sericitized, possibly some potassic alteration.	85.0	86.0			3896	10	37	37	5.7	5
			86.0	87.0			3897	18	50	41	16.6	20
			87.0	88.0			3898	10	16	34	0.9	5
			88.0	89.0			3899	8	12	32	0.5	10

TER'N TION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		RECY	EST GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
			88.9	89.7			3900	10	10	33	0.5	10
		89.7-90.3m - reddish brown altered felsic to inter- mediate intrusive. Moderately sericitized but colour may indicate potassic alteration of ground- mass (some greenish plagioclase alteration pre- served untouched) or just Fe remobilization. Lower contact appears to be alteration front ~40° core axis.	89.7	90.3			3901	10	10	40	0.6	5
			90.3	91.3			3902	14	9	37	0.4	5
		40.3-94.1m - tan brown felsic to intermediate hypa- byssal, moderately sericitized as in previous descriptions. Feldspar heavily sericitized (all greenish), (possibly some pyrophyllite?), mafics bleached and sericitic, groundmass moderately sericitized. Pyrite 1-3% for disseminated euhedral to 1mm. Lower contact gradational, marked where chlorite becomes significant.	91.3	92.3			3903	9	10	47	0.6	5
			92.3	93.2			3904	8	14	59	0.3	10
		BOX 16 90.63 - 96.1m										
			93.2	94.1			3905	5	19	129	0.4	10
		94.1-94.8m - light greenish grey altered felsic to intermediate hypabyssal, similar to that previously described. Becomes more strongly sericitic down- hole, introduction of pyrophyllite veinlets and groundmass alteration to pyrophyllite increasing downhole. Chloritic in mafic relics (though domi- nantly sericite, possibly some epidote?) and especially along fractured surfaces. Brownish veinlets (soft to medium hard, zeolite?) 3-5%, random orientations and local stockworks. Rare amethystine quartz veinlets, up to 2mm across.	94.1	94.8			3906	14	18	147	1.4	5
			94.8	95.3			3907	51	270	148	2.3	5
			95.3	95.8			3908	47	210	520	8.5	5
			95.8	96.3			3909	83	156	590	3.4	15

COR'D ON,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		random orientations. Lower contact lost in broken core, becoming extremely pyrophyllite-sericite rich near contact, also pyrite content rises from 2-4% to ~5%, Almost schisty near contact.	96.3	96.8			3910	21	185	590	1.3	10
		94.8-96.3m - altered intermediate volcanics difficult to see origin in this section, alteration quite intense. Weak argillic alteration throughout, mainly pyrophyllite + sericite alteration of plagioclase, possibly some montmorillonite. Later veining 15-20%, quartz-barite at late stages earlier brownish zeolite, grey quartz, and quartz-pyrophyllite-pyrite veining; difficult to distinguish history accurately. Pyrite overall 3-7%, especially concentrated in veining areas. Relic lapilli tuff textures rarely visible, but very diagnostic angular fragments of coarse-bladed plagioclase porphyritic silicified "Takla" at 95.8m, looks altered prior to deposition. Late veining attitudes average 30-50° core axis, eg 50° core axis at 95.3m, 35° core axis at 95.9m. Lower contact marked by end of significant argillic alteration and abundant veining, and by small breccia dyke-3cm across at 15° core axis (seems tectonic with moved fragments of variably altered volcanics. 1cm of fine material in hanging wall, 2cm of coarser material in footwall with subangular fragments to 2cm in fine matrix).	96.8	97.3			3911	10	78	501	1.4	10
			97.3	97.8			3912	2	45	790	0.8	5
			97.8	98.3			3913	15	148	1160	3.3	5
			98.3	98.8			3914	63	260	3450	9.4	10
			98.8	99.3			3915	50	460	1840	9.6	30
			99.3	99.8			3916	31	280	1520	7.5	10
			99.8	100.3			3917	21	240	2250	5.5	5
			100.3	100.8			3918	58	580	3970	8.5	5
			100.8	101.3			3919	46	630	3050	5.9	5
			101.3	101.8			3920	43	210	2890	5.0	10
			101.8	102.3			3921	73	540	3690	13.7	5
		BOX 17 96.1 - 101.95m										
		Andesitic lapilli-crystal tuffs, weak to moderate pyrophyllite + sericite alteration, quartz-barite veins and local tectonic/hydrothermal breccias.	102.3	102.8			3922	58	730	4560	10.4	5
		96.3-104.7m - brownish to greenish grey andesitic	102.8	103.3			3923	10	195	1740	1.4	5

DEPTH M	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS					
			FROM	TO				Cu	Pb	Zn	Ag	Au	
		BOX 18	101.95	107.94m									
		Andesitic lapilli-crystal tuffs, moderate to strong pyrophyllite + montmorillonite + quartz-pyrite alteration with quartz-barite-galena veinlets.	103.3	103.8			3924	12	84	2020	1.4	10	
			103.8	104.3			3925	6	36	1830	1.3	5	
		96.3-104.7m - (continued) bedding at 102.5m 40° core axis and quartz-barite-hematite ± galena veining 35° core axis (85° angle between the two atti- tudes). Sericite-pyrophyllite-zeolite (?) breccia	104.3	104.7			3926	4	25	1260	0.6	5	
		vein 3cm across at 103.0m contains silicified and argillically altered fragments, similar to previously noted breccia veins but matrix micaceous instead of siliceous, attitude 20° core axis, or 70° to bedding. Quartz-hematite-barite vein 3cm across at 103.7m, 25° core axis (85° to bedding).	104.7	105.3			3927	7	26	1550	0.6	5	
		Lower contact gradational marked by increase of Fe (hematite) and montmorillonite (?).	105.3	105.9			3928	100	117	2080	16.5	5	
		104.7-105.3m - reddish to purplish brown altered andesite lapilli ± crystal tuff (as in 96.3-104.7m etc). Alteration heavier with plagioclase com- pletely altered to pyrophyllite, mafics strongly hematized, groundmass hematite-montmorillonite ± pyrophyllite. Minor quartz-hematite-barite vein- lets, <2mm across. Bedding at 105.0m 60° core axis. Lower contact sharp alteration front at 20° core axis (or 70° to bedding).	105.9	106.6			3929	18	38	64	1.6	5	
			106.6	106.9			3930	204	110	105	13.6	5	
			106.9	107.3			3931	43	58	42	2.5	5	
			107.3	107.6			3932	190	270	352	21.5	10	
			107.6	107.9			3933	19	86	660	0.5	10	
			107.9	108.5			3934	46	50	2160	1.2	5	
		105.3-105.9m - zone of intense alteration of andesitic lapilli-crystal tuff (relic textures occasionally visible). Multiphase silicification and veining, fine disseminated pyrite to 15-20%, galena traces especially associated with brownish quartz phase (possibly later) and minor barite. Lower contact sharp alteration front at ~30° core axis.	108.5	108.8			3935	106	320	4730	23.0	10	
			108.8	109.05			3936	5	40	499	0.8	5	
			109.05	109.45			3937	60	76	395	6.1	5	
			109.45	109.8			3938	69	90	295	9.6	5	
			109.8	110.0			3939	6	46	247	0.6	5	
		105.9-106.6m - similar to 104.7 - 105.3m, moderate to heavy pyrophyllite-montmorillonite-hematite alteration with patchy weak silifications. Core	110.0	110.4			3940	10	200	211	1.7	5	

LATER N ATION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
			110.4	110.9			3941	32	250	98	5.0	5
			110.9	111.4			3942	10	60	31	0.8	5
			111.4	111.9			3943	11	45	6	0.9	10
			111.9	112.4			3944	22	156	7	2.2	5
			112.4	112.9			3945	5	38	8	0.7	10
			112.9	113.4			3946	6	27	3	0.6	5
		BOX 20 113.57 - 119.29m Andesitic lapilli-crystal tuffs, variable moderate to intense pyrophyllite+quartz+montmorillonite+ pyrite (possible sericite and/or sulfate as well ?) assemblages.	113.4	114.0			3947	11	80	4	1.0	5
		114.0-115.5m - similar to 106.9-107.3m. Good relic tuffaceous textures, often flattened fragments ap- pear to be somewhat preferentially hematized. Minor patchy pyrite, good crystallinity, usually euhedral	114.0	114.7			3948	10	72	6	0.6	10
		to 5mm surrounded by slightly bleached (Fe mostly removed to pyrite) halos, overall 2%. Veining of whitish to greyish to greenish pyrophyllite (though possibly some sericite or fine sulfate)with finely intermixed quartz, eg. 114.2m at 35° core axis for 2cm, at 115.0m 40° core axis (bedding to vein angle 80°). Some veins have pyrite-rich por- tions within them, especially when slickensided in apparent subvertical directions. Bedding from frag- ments flattening at 114.7m 45° core axis. Lower contact sharp alteration front (though some dis- placement by later faulting) at 45° core axis (or perpendicular to bedding).	114.7	115.5			3949	3	30	4	0.2	15
			115.5	116.2			3950	1	71	6	0.2	10
			116.2	116.8			3951	1	61	5	0.2	5
			116.8	117.6			3952	1	88	4	0.2	5

LITHOLOGY, TERMINATION,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		increasingly grey coloured and pyrophyllite-rich downhole, loss of quartz (and other clays?), also slight increase in pyrite content to 3-5% mainly associated with veining and mafic relics. Original lapilli texture becomes increasingly obscured downhole, at 119.8m 45° core axis. Fine streaming of pyrophyllite veins through core generally parallel, eg at 119.8m 55° core axis (or 80° between bedding and veining). Lower contact gradational, marked by sudden increase in pyrite abundance.	117.6	118.1			3953	18	94	2	0.2	10
			118.1	118.6			3954	11	73	6	0.6	10
			118.6	119.1			3955	5	45	6	0.2	15
			119.1	119.6			3956	12	46	7	0.3	10
			119.6	120.1			3957	5	58	4	0.2	5
		BOX 21 119.24 - 124.55m										
		Andesitic lapilli-crystal tuff, moderate to intense quartz-pyrite and pyrophyllite-pyrite alteration, heavily veined to strongly brecciated.										
		120.7-122.1m - similar to 117.6-120.7m but increasingly pyrophyllite-pyrite-rich. Core becomes medium grey, banded with multitudinous fine veinlets, and locally brecciated. Apparently composed	120.1	120.7			3958	2	63	5	0.2	10
		entirely of pyrophyllite and minor quartz with minor auxiliary clays; most plagioclase preserved as pure pyrophyllite pseudomorphs, mafics bleached tan relics, lapilli only rarely recognizable. Pyrite	120.7	121.2			3959	3	57	6	0.1	20
		5-10% mainly in pyrite-rich veins with pyrophyllite some of which have been brecciated to leave pyrite fragments. Veining attitudes at 121.7m 20° core axis, apparently steep angles to bedding. Some	121.2	121.6			3960	57	53	6	1.5	35
		quite wide (1-2cm) veins of greyish soft, greasy, probable pyrophyllite near 121.1m, now in broken core contain areas within the grey which are sea-green and seem to be same mineral (strange colour for pyrophyllite). Quartz increasingly common in replaced (not veined) portions of core toward downhole contact which is sharp breccia front at 30°	121.6	122.1			3961	159	90	6	5.6	95
		core axis.	122.2	122.6			3962	133	72	58	5.3	110
			122.6	123.1			3963	12	11	7	0.3	15
			123.1	123.6			3964	18	15	6	0.6	45
			123.6	124.0			3965	117	37	9	2.8	130
			124.0	124.4			3966	28	30	8	0.7	35
		122.1-124.4m - white to grey altered intermediate vlc; strong quartz-pyrite, pyrophyllite-quartz-pyrite;	124.4	124.9			3967	17	25	4	0.4	10

COR'N ON,	GRAPH GEOLOG.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		Vein attitudes inconsistent, near random orientations and stockworking. Traces soft greyish (grey streak) sulfide along fracture planes. Lower contact sharp alteration front marked by change in colour from grey to pinkish due to fine hematite and loss of sulfides, ~45° to core axis.	124.9	125.4			3968	24	26	4	1.0	5
			125.4	125.9			3969	28	21	5	0.6	20
			125.9	126.4			3970	24	22	4	0.3	5
		BOX 22 124.55 - 130.1m										
		Intermediate lapilli-crystal tuffs, moderate to strong pyrophyllite-quartz-pyrite/hematite ± clay/sericite alteration.	126.4	126.9			3971	16	20	5	0.3	10
			126.9	127.4			3972	31	24	7	0.6	5
			127.4	127.9			3973	9	22	6	0.3	15
			127.9	218.5			3974	11	23	6	0.5	5
			128.5	129.05			3975	26	25	6	1.6	10
		129.05-131.8m - pinkish brown to greyish altered intermediate lapilli-crystal tuff. Fragments visible through alteration mostly flattened, form crude bedding at 129.4m ~60° core axis. Alteration pyrophyllite (+sericite) after plagioclase, mafics bleached out tan relics, groundmass pyrophyllite (+ sericite)-quartz+clays with traces hematite to give pinkish colour. Cut by 10% greenish to greyish veins of pyrophyllite (up to 2cm across) and local grey breccias of pyrophyllite-rich material.	129.05	129.6			3976	2	18	7	0.3	10
			129.6	130.1			3977	2	24	9	0.3	5
			130.1	130.6			3978	6	200	12	0.4	15
			130.6	131.2			3979	3	255	4	0.3	10
		Veining somewhat irregular but 15° core axis (or 60° to bedding) at 129.5m, at 130.9m 40° core axis. Bedding at 130.5m 50° core axis (veins make 40° angle with bedding). Lower contact on alteration front (sudden increase in groundmass hematite) but	131.2	131.8			3980	3	645	66	0.5	10

LITHOLOGY, CORRECTION, GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
		FROM	TO				Cu	Pb	Zn	Ag	Au
	one which is controlled by irregular fractures so that fronts are not uniform.	131.8	132.2			3981	3	520	8	0.6	15
		132.2	132.8			3982	6	960	64	0.8	5
		132.8	133.4			3983	3	300	35	0.6	10
	BOX 23 130.1 - 135.6m										
	Intermediate lapilli-crystal tuffs, moderate to intense pyrophyllite (\pm sericite) - quartz-hematite-pyrite alteration, underlain by weak to moderate pyrophyllite-hematite alteration.	133.4	133.9			3984	5920	98	440	61.5	50
		133.9	134.3			3985	155	99	99	2.0	5
	131.8-132.2m, similar to 129.05-131.8 but irregular alteration fronts, with increased Fe. Alteration as previously, with more fine hematite, pyrophyllite-quartz-hematite overall. Lower contact sharp but highly irregular.	134.3	134.8			3986	14	12	6	0.5	5
		134.8	135.3			3987	4	14	21	0.6	10
	132.2-133.4m - light grey altered intermediate lapilli crystal tuff. Strong pyrophyllite-quartz alteration, pyrophyllite after plagioclase, mafics bleached, pyrophyllite-quartz (+sericite and rare clay?)	135.3	135.8			3988	478	17	13	1.5	10
	replacement of groundmass. Abundant fine veining of pyrophyllite, from <0.5mm to 1cm size veinlets, irregular orientations and local stockwork brecciations. Distinct blebs (5mm) of hematite sprinkled through core becoming more abundant	135.8	136.3			3989	7300	44	1650	21.5	5
	downhole, to 3-4%. Minor whitish fine grained quartz veining at 133.2m (1cm wide) $\sim 35^\circ$ core axis.	136.3	136.8			3990	247	76	105	1.0	5
	Lower contact an alteration front marked by appearance of sulfides, $\sim 70^\circ$ core axis.	136.8	137.3			3991	367	90	120	1.1	5
	133.4-133.9m - light to medium grey alteration intermediate fragmental volcanics, original textures obscured by alteration. Strong pyrophyllite-quartz alteration as previously described, veins and intense disseminations of pyrite (5-20%) and possible pyrolusite (soft, dark, bluish black, possibly	137.3	137.8			3992	120	260	156	0.8	5
	mixed with pyrophyllite). Pyrolusite forms local dendrites along fractures. Veins banded pyrophy-	137.8	138.3			3993	28	1800	2020	1.2	10
		138.3	138.8			3994	18	240	2110	1.2	5
		138.8	139.3			3995	17	86	1590	1.2	5

LITHOLOGY	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		becoming less common downhole. Sporadic felsic and/or altered fragments begin to appear below	139.3	139.8			3996	16	57	2950	1.0	5
		136.0m; pinkish coloured, feldspar-quartz phytic, subround, 1-2cm. Size on average, apparently	139.8	140.3			3997	16	45	2150	1.2	15
		altered around rims by post-deposition alteration, brownish halos of unknown composition. Bedding at	140.3	140.8			3998	16	42	2640	1.2	5
		136.8m 50° core axis, veining becomes irregular but generally occurs at steep angles to bedding. Veins	140.8	141.3			3999	17	38	2750	1.3	5
		at 136.1m 30° core axis, 5cm across, quartz-hematite-pyrite-chalcopyrite core with quartz-brownish mineral then pyrophyllite rims. Lower contact	141.3	141.8			4000	52	31	2490	2.1	5
		gradational change from purplish hematitic core to brownish coloured material.	141.8	142.7			5001	53	40	2090	2.3	15
		BOX 24 135.6 - 141.32m										
		Andesitic-dacitic lapilli-crystal tuffs (probable ash flow content), weak to moderate pyrophyllite-hematite-zeolite alteration:	142.7	143.6			5002	31	42	1980	1.6	10
		137.8-143.6m - brownish altered andesitic-dacitic lapilli-crystal tuffs. Moderately altered, plagioclase replaced by pyrophyllite, mafics altered to hematite-sericite (?), groundmass moderately altered to pyrophyllite-montmorillonite-hematite-	143.6	144.2			5003	476	54	1450	4.5	10
		brownish soft to medium hard mineral (possibly a zeolite?). Minor veinlets of quartz ± barite ±	144.2	144.7			5004					
		brownish mineral with traces of pyrite and galena. Veinlets of pyrophyllite ± galena at 138.3m with slight bleached halo. Bedding at 138.4m 50° core axis, at 141.2m 55° core axis. Late veining	144.7	145.2			5005	6	33	116	0.7	10
		apparently randomly oriented, comprise <2% of core. Lower contact gradational, marked by abundance of hematite and patchy bleached zones.	145.2	145.8			5006	4	38	23	0.5	5
			145.8	146.2			5007	25	170	1200	1.4	15
		BOX 25 141.32 - 147.0m	146.2	147.1			5008	112	215	920	2.6	5

INTER'N ATION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		146.2-147.1m - brownish grey reworked andesitic tuff, heavily altered and difficult to distinguish. Barely visible subangular to angular fragments, feldspar phyric (now pyrophyllite), 0.5-1cm average. Generally moderate to heavy pyrophyllite ± sericite ± quartz-clays. Minor carbonate veinlets, randomly oriented, traces of galena. Top of unit marked by 2cm of greyish fine ash (probably waterlain) tuff, exhibiting little alteration. Lower contact sharp alteration front (or shear front) at ~30° core axis	147.1	148.1			5009	32	79	640	1.3	5
		BOX 26 147.0 - 152.63m										
		Andesitic to dacitic volcanoclastic tuffs, generally coarse-grained but some finer members, little post-depositional alteration.	149.1	150.1			5011	5	39	204	1.1	5
		147.1-169.7m - greenish to brownish grey andesitic-dacitic reworked (volcanoclastic) tuffs. Fragments average 0.5-2cm, up to 10cm, subround to subangular local areas of finer material where grain size <1mm but overall only fair to poor bedding and sorting; compositions of fragments range from plagioclase-hornblende phyric andesites to plagioclase-K-feldspar-quartz phyric dacites and possibly latites, ranging from greenish to purplish in original colour, some fine-grained hematitic fragments probably volcanoclastics, some apparent hypabyssal porphyritic fragments from dioritic to fairly felsic; fragments mostly altered prior to deposition although most exhibit only low grade alteration; minor pyrophyllite-montmorillonite, chlorite-sericite, chlorite-epidote-sericite-carbonate; most fragments are slightly propylitized which may have occurred post-depositionally. Matrix	150.1	151.1			5012	31	40	307	1.4	5
			151.1	152.1			5013	20	30	298	1.3	15
			152.1	153.1			5014	19	39	197	1.2	10
			153.1	154.1			5015	43	76	108	1.3	5

LITHO ION,	GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
			FROM	TO				Cu	Pb	Zn	Ag	Au
		of fine fragments (ash), crystals of plagioclase-biotite-hornblende-quartz and possible rare K-feld; plagioclase altered to pinky-orange sericite ± carbonate, mafics to hematite ± chlorite ± sericite ± epidote. Fine-grained sections show best bedding eg 151.0-151.4m 55° core axis, 152.4-152.5m 50° core axis. Minor carbonate veinlets, occasionally drusy, <2mm across, randomly oriented.	154.1	155.1			5016	9	30	95	0.8	5
		BOX 27 152.63 - 158.4m	155.1	156.1			5017	15	27	89	0.8	10
		Andesitic-dacitic volcanoclastic tuffs, same as 147.1-169.7m. Bedding at 155.4m 55° core axis (a 3cm fine hematitic volcanic sediment) at 158.3m 70° core axis. Overall finer sediments than previous Box 26, average 1-5mm grain size though still coarser sections as well; sedimentation cycles crudely grade uphole but some instances of possible reverse grading, average cycle is 20-50cm thick.	156.1	157.1			5018	4	23	93	0.5	5
			157.1	158.1			5019	7	20	172	0.8	10
		BOX 28 158.4 - 163.96m	158.1	159.1			5020	10	22	143	0.9	5
		Andesitic-dacitic volcanoclastic tuffs, same as 147.1-169.7m with possible incipient montmorillonite development (core tends to crumble more than usual). Bedding at 160.7m 55° core axis, at 163.5m 50° core axis. Distinctive 60cm greenish fine-grained unit 162.8-163.4m, slightly chloritic matrix.	159.1	160.1			5021	3	24	113	1.0	5
			160.1	161.1			5022	4	26	126	0.9	5

LITHOLOGY, CORRECTION, GRAPH GEOL.	DESCRIPTION	INTERVAL		REC'Y	EST. GRADE	SAM. No.	ASSAYS				
		FROM	TO				Cu	Pb	Zn	Ag	Au
		161.1	162.1			5023	6	20	158	0.6	5
		162.1	163.1			5024	19	16	233	0.8	10
	BOX 29 163.96 - 169.7m Andesitic-dacitic volcanoclastic tuff, same as 147.1-169.7m. Bedding at 168.6m 55° core axis.	163.1	164.1			5025	7	18	91	0.6	10
		164.1	165.1			5026	8	20	71	0.7	5
		165.1	166.1			5027	5	26	105	1.0	5
		166.1	167.1			5028	5	27	94	0.7	5
		167.1	168.4			5029	3	28	105	1.0	5

