

CORPORATION FALCONBRIDGE COPPER

Relog ms-74-1 to ms-74-8
827733

DRILL HOLE RECORD

Mt. Sicker

METRIC UNITS
 IMPERIAL UNITS

HOLE NUMBER MS-74-1	GRID PF	FIELD COORDS	LAT 689S	DEP. 154W	ELEV. 442m	COLLAR BRNG 180T?	COLLAR DIP -45°	HOLE SIZE 80	FINAL DEPTH (148.78m)
PROJECT 205	CLAIM # LENORA CG	SURVEY COORDS				DATE STARTED: DATE COMPLETED: 1974	CONTRACTOR: CORE STORAGE FULTONS FARM CASING		
PURPOSE Relogging of Mount Sicker core.								RQD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY

ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH ()	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP

HOLE NO MS-74-1
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY I.D. PIRIE

Checked 11/12/83
ASP

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
(0-1.98)	OVERBURDEN							
(1.98-15.85)	GRAPHITIC ARGILLITE	grey	fg	<p>Relatively homogeneous weakly to strongly graphitic fine grained argillite. Breaks in irregular pieces, not always along fold. Local fine laminae and quartz (Py-carb) veinlets show intense folding.</p> <p>3cm thick band of intermediate tuff of tuff wacke cuts core at---</p> <p>(5.18-5.48) Contact not seen. .76m of core lost.</p>	<p>0-30° erratic</p> <p>5°</p>		Py occurs sporadically as fine veinlets, now disrupted, and accompanying quartz in slightly thicker veins. (1cm)	Core badly broken. Drilled with foliation. Recovery generally good through occasional short sections missing.
(15.85-20.73)	RHYOLITE TUFF (poss. dyke)	light creamy grey	fg	Homogeneous, quite massive rhyolite. Occasional fine qtz eye in a wkly to moderately foliated qtz-sericite matrix. Contact marked by quartz vein.	20°	Wk - mod sericite	Occ. Py in fractures	
(20.73-22.10)	GRAPHITIC ARGILLITE (sulphide rich)	grey	fg	<p>Finely laminated, heterogeneous. Fine sulphide layers (py) alteration with darker graphitic layers. Fine qtz veins also impart a form of lamination. All are strongly deformed</p> <p>CONTACT SHARP AT</p>	<p>15°</p> <p>30°</p>	Local sericitic layers - after tuff?	5-10% very fine pyrite concentrated in possibly primary layers.	Sulphide layers probably primary though could be more a deformational (shears) phenomena. Further way the sulphide content of this argillite bed was quite high. Possible distal horizon.

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
(22.10-24.69)	RHYOLITE TUFF	Light creamy grey	fg	Similar to (15.85-20.73) but more pyritic. Strongly graphitic zone at (22.56) CONTACT SHARP AT	13° 10°		Pervasive 2-3% disseminated pyrite	
(24.69-58.54)	GRAPHITIC ARGILLITE	grey	fg	Usually quite well laminated, often very strongly graphitic. With depth, lighter, more sericitic, tuffaceous bands become more common. (34.12-37.80);(42.68-45.73) Numerous tuffaceous sections (50.60-58.53) Probable fault zone with slices of graphitic argillite, rhyolitic tuff and notable qtz-carb veining. Numerous lost core sections. Core recovered is in very small pieces.	10-15° (45.73)= 14° (bedding)	Moderate sericitic in tuffaceous zones	1% Py usually assoc. with thin qtz (carb) veins.	(36.43-36.89) Removed from box. End piece has 5-10% Py in gp. avg. Possibly removed for assay? (38.41-39.02) Strong qtz-carb veining. <u>NOTE:</u> (30.48-33.53);(34.45-36.58) were assayed by Dresser (according to Serem) and returned 1% Ba.
(58.54-59.15)	QUARTZ PORPHYRY	Creamy grey	fg matrix ag pheros	Still within very broken zone. (.60m) section represented by (.22m) of highly sericitic QP. 5-10% qtz eyes to 6mm.	15°	Strongly sericitic	NIL	
(59.15-60.21)	SEMI-MASSIVE SULPHIDES WITH BARITE	grey	fg-mg	Section represented by only a few pieces. 75% of core lost. Most pieces and chips are quite massive, barite and sulphide rich tuff containing a few 2-4mm qtz eyes.			25-40% very fine grained Py-Sp-Cp. Very hard to estimate due to grain size but perhaps 55% Sp 40% Py 5%Cp (7%/0.3% - 14%/0.6%)	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS	
				Overall appearance very similar to cut sample from Lenora pit. Numerous fine qtz-carb veins. Scratched area fizzes with acid and gives off H ₂ S as well as CO ₂ . Also present are small chips of pinkish, almost felsitic looking silicified wallrock containing massive Sp-Cp fracture filling - 1cm wide.				(Note: Total length of sampled material only - .30m but with chips, could represent as much as 1.06m	Recognized by Dreser, Serem but only for Ba. Sulphide content drastically underestimated 30% Ba/1.06m recorded.
(60.21-62.65)	RHYODACITE RHYOLITE TUFF	grey to creamy grey	fg	Much as previously described	10°	Weakly-moderately sericitic	Traces of Cp along fractures 5-6% Py (tr. Cp) diss'd and in fine laminae	Footwall? NOTE DISTINCT CHANGE IN FOLIATION BETWEEN THESE TWO UNITS.	
(62.65-68.45)	GRAPHITIC ARGILLITE	grey	fg	As previously described. Badly broken and ground	(64.63)= 55°				
(68.45-69.51)	RHYOLITE TUFF			As before	(68.90)		Occ. weak stringer of Py-qtz		
(69.51-70.42)	GRAPHITIC ARGILLITE			As before					
(70.42-73.17)	MIXED RHYOLITE TUFF AND GRAPHITIC ARGILLITE			Discrete beds of each but also hybrid units. (70.57) 4cm Py-qtz bed or stringer (71.64-71.79) Pale green qtz-Cp patch	(71.95)= 47°				

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
(73.17-73.32)	BARITE-SULPHIDE HORIZON?	grey	fg-mg	(72.40-72.56) Strongly graphitic				
(73.32-73.63)	RHYOLITE TUFF	grey	mg-cg	Very similar to (59.14-60.21) except less baritic (lighter), fragmental (contains frags of 73.32-73.62) and apparently only Py bearing. CONTACT SHARP AT (25.91)				5% very fine grained pyrite disseminated in matrix.
(73.63-92.99)	RHYOLITE FLOW OR INTRUSION	cream	fg	Coarse tuff with large particles or small lapilli of quartzo-feldspathic material in a finer grained matrix. (Other possibility is an originally spherulitic rock). Very distract lination in the plane of the foliation. Massive to moderately foliated homogeneous rhyolite. Occasional vague qtz eyes but not well developed. Very pale, orange, fe carb (after fpr?) common, especially in lower half of unit. Several qtz-carb veins, close to core axis angle. Numerous ground zones may indicate faults but unit is remarkably consistent save for a darkening in the lower .91m.		Weak to moderate sericite		Trace Py NIL

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
(92.55-93.29)	FAULT GOUGE							
(93.29-108.84)	GRAPHITIC ARGILLITE	dark grey	fg	As previously described. Occ. tuffaceous bands. Beyond 100.60m core is badly ground with considerable lost sections. White quartz vein material is present. Hole appears to have been wedged here or was later deepened.	bedding (100.30) Foliation locally 15° Elsewhere 40°			
(108.84-110.67)	RHYOLITE TUFF	orangey-grey	fg-cg	Fairly coarse tuff with occ. graphitic argillite beds. District yellowy-orange color of carbonate weathering. (Probably related to nearby intrusion) CONTACT SHARP AT	Bedding and Foliation at 42° 30°	Weak sericite	NIL	
(110.67-115.55)	DIORITE	Reddy green to orange green	fg-mg	Massive though strongly veined diorite. Occ. feldspar clots. Non-magnetic carbonate-qtz. veins at all angles		Strong carbonate and Fe carbonate	NIL	
(115.55-134.76)	RHYOLITE TUFF AND LAPILLI TUFF	light grey becoming green-grey		Tuffaceous unit with district lapilli sections. Lapilli usually more felsic in a more chloritic matrix. Locally districtly crenulated Lots of fine carb-qtz veining	(118.90) = 55°	Chlorite increases in abundance with depth. Sericite generally only weakly present.	Varies from nil up to 5% in a few chloritic, tuffaceous sections. (pyritic)	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
(134.76-148.78)	INTENSE FAULT GOUGE	green	fg-cg	<p>(126.52-128.96) Bleached zone around a strong fault gouge at (128.35m. Gouge shows strong malachite stain.</p> <p>(128.96-134.75) Extremely intense fine carb-qtz veining all but masks original texture</p> <p>Greenish muddy mylonite with milled quartz crystals and fragments. Contains a few remnants of a green, intermediate looking, fine grained material. (suspect diorite)</p>	45-50°		NIL	
(148.78)	END OF HOLE							

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid			
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	Ba ppm	ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppb Au							
BCD 35	17.37	20.42	68.5	13.2	2.49	2.88	1.66	2.23	2.54	0.07	0.17	3890	29	46										
Footwall rhyolite																								
36	60.21	62.50	67.4	13.0	2.83	3.17	0.98	2.00	2.95	0.07	0.18	7200	30	55										
Footwall rhyolite																								
37	77.43	80.48	75.3	13.4	1.69	1.19	2.12	2.68	0.84	0.03	0.17	1220	24	34										
Footwall rhyolite																								
38	117.37	120.42	68.5	15.3	1.34	2.70	1.14	3.00	4.34	0.08	0.20	1890	38	41										
rhyolite tuft - lapill. t.																								
39	138.10	141.15	61.6	17.0	1.52	6.71	0.59	0.15	6.49	0.11	0.45	100	28	65										
Fault zone																								
40	20.73	21.95							5.55	0.06		5800	300	2900	340	5.9	390							
Graphitic Argillite																								
41	46.34	49.39							4.24	0.07		3330	86	105	39	1.09	40							
Graphitic Argillite																								
42	64.02	67.07							5.26	0.06		3730	84	156	16	0.54	28							
Graphitic Argillite																								
43	94.51	99.08							3.69	0.04		3400	123	290	17	1.03	112							

ASSAY SHEET

Sample Number	From (m)	To (m)	Estimate		Length (m)	% Cu	% Zn	% Pb	gm T Ag	gm T Au	% SiO ₂	% TiO ₂	% Na ₂ O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au					
			Cu	Zn																					
BCD 44	59.14	60.21*	0.3	1.7%	1.06	0.78	16.8	1.78	2.90	0.035															

CORED FOOTAGE		INTERVAL	CORE DESCRIPTION	VISIBLE MINERALS ESTIMATED	SAMPLE	INTERVAL	ANALYSIS										
			Logged by ... J. S. CARTER				COB No. 1174-1	CLAIM: Lenora 253			LOCATION: 4524 2+38N Elev. 1495.33			DIP ANGLE: 5° DATE: 4/22/74 PAGE: 1			
From	To	Feet	Sediment-Igneous	Mineral	%	No.	Feet	Percent					Assays oz. per ton				
								Si	Al	Fe	Mn	Pb	Zn	Ag	Cu	Other	
0'	6.5'	6.5'	CB & Float - Argillite - Cased														
6.5'	11.0'	4.5'	Rec. 4.0' - Arg. Schist Broken & fractured Schistosity @ 10° & 11.0' - Traces Pyrite	Pyr.	Tr.	10		.01	.005			10	Tr.			0.15	
11'	13'	2'	Highly sheared - Argillite - Schistose - Black shiny coatings on shear planes - Tr. Pyrite														
13'	15'	2'	Dark gray Arg. & Sh. Shearing @ 10° Laterally along bedding planes	Calc Pyr.	Tr. Tr.												
15'	16'	1'	Black shaly Arg. - Highly sheared graphitic - Broken fragments - iron conductor														
16'	20'	4'	Broken Arg. Sh. fragments - Beds and schistosity @ 10° Rec. 12.0' L.C. 1.5' Dioritic Lens Inc.	Pyr.	Tr.												
20'	26'	6'	Thin bedded & sheared black shales, graphite on shear planes. Interbed Arg. shales & Silty. Lt. grey laminations. Lateral shearing appears to be good conductor. Tr. Pyrite only. Sample @ 20' Calcite stringers & Silica	Pyr.	Tr.	20		.01	.005			10	Tr.			0.3	
26'	28'	2'	As above - broken fragments - Highly sheared Full Rec. Box 1 Schist Bedding @ 10°														
28'	30'	2'	As above thin lenses qtz. Shearing along cores - Graphite. Beds @ 20°			20		.01	.005			3	Tr.			0.3	

CORED FOOTAGE	INTER-VAL	CORED DESCRIPTION	VISIBLE MINERALS ESTIMATED	SAMPLE	INTER-VAL	COMPANY DRESSER MINERALS										
						DDH No. M7-1 CLAIM Lenora C.G.										
Logged by J.S.C.						LOCATION										
						DIP ANGLE DATE PAGE 2										
From	To	Feet	Sediment-Metamorphic-Igneous	Mineral %	No.	Feet	Percent Assays oz. per ton									
							Cu	Pb	Zn	Fe	Ag	Au	Barium %			
30'	40'	10'	Tr. Pyrite Qtz. Veinlets Non Conductor	Pyr. Tr.	30		0.01	Tr.	-	3.0	Tr.				0.3	
40'	52'	12'	Thin bedded sheared shales Beds 10 - 30° - Non laxy Tr. Pyrite Fine x'ln on bedding Low order conductor		40		.01	Tr.	-	3.0	Tr.				0.2	
					50		Tr.	-	-	3.0	Tr.				0.5	
52'	55.5'	3.5'	Lost core													
55.5'	56'	0.5'	Harder, siliceous schist Box 2													
56'	68'	12'	Lt. grey schist - few specs. pyrite. Non conductor Schistosity 0 - 30° Sampled @ 60° @ 68' - 4" qtz. vein appears vertical Pyrite only Contact vertical		60		0.13	.05	0.05	3.0	Tr.				0.5	
68'	75'	7'	Thin bedded Arg. sh. - sheared graphitic Mine fold up 0 - 40° @ 74' Tr. Qtz. & Pyr. Barite, Anrite. Thin qtz. vein vert. Pyrite Mainly Tr. Chalco only. East seen Galena Tr. @ 75' Qtz. veins on contact - Vert. Tr. Pyrite - Galena	CuS. Tr. Chalco PbS Tr.	Tr. Tr. Tr.	70		Tr.	0.01	-	2.0	Tr.			2.0	
75'	78'	3'	Schist lt. grey Full Rec. Box 3													
78'	81'	3'	Schist - no bedding		80		0.01	-	-	2.0	Tr.				0.3	
81'	100'	19'	Thin bedded Arg. - laterally sheared graphitic partings. Tr. Pyrite only		90		Tr.	-	-	2.0	Tr.				0.2	

CORED FOOTAGE	INTER-VAL	CORED DESCRIPTION Logged by J.S.C.	VISIBLE MINERALS ESTIMATED	SAMPLE	INTER-VAL	COMPANY		DIP ANGLE		DATE		PAGE	
					
		Metamorphic Sediment-Igneous	Mineral %	No.	Feet	Percent		Assays oz. per ton					
From	To	Feet				Cu	Pb	Zn	Ag	Au	Barium		
100°	102°	2'	Minor folds Beds @ 60° & 85° Tr. Pyrite only Box 4	Pyr.	Tr.	100	Tr.	Tr.	-	2.0	Tr.		1.0
102°	108°	6'	Thin bedded - sheared laterally Graphite on shear planes Minor distortion @ 10 - 30° Argillaceous - non limy Tr. qtz. & calcite in veinlets Tr. Pyrite throughout - Poor Cond.										
108°	112°	4'	Shearing along Schistosity 10° - 40° Carbonaceous partings - graphitic in part.	Pry.	Tr.	110	Tr.	-	-	2.0	Tr.		1.0
112°	120°	8'	Arg. - sheared qtz. veins. Tr. Pyrite Contact @ 45° Vertical Sample @ 110° @ 112° Lt. grey Argillaceous shales Schistosity sheared Graphitic partings - Bedding 10 - 20°			120	Tr.	Tr.	-	2.0	Tr.		1.0
120°	132°	12'	Arg. Sh. Sch. Non Conductor Full Rec. Box 5 @ 120° Gray to dk. grey - Highly sheared shales Arg. - Bedding along Schistosity 10 - 30° Pyrite on shear planes 30°	Pry.	Tr.								
			Meta. Sed. Altered Arg. Sh. Dk. grey Highly schistose @ 70° Bedding unistinct This appears to be a lense	Pry.	Tr.	130	Tr.	Tr.	-	2.0	Tr.		0.3

CORED FOOTAGE		INTER-VAL	CORED DESCRIPTION	VISIBLE MINERALS ESTIMATED	SAMPLE	INTER-VAL	COMPANY CON No. CLAIM LOCATION DIP ANGLE DATE PAGE									
From	To	Feet	Sediment- ^{Metamorphic} Igneous	Mineral	No.	Feet	Percent		Assays oz. per ton							
							Cu	Pb	Zn	Fe	As	Au	Bismuth			
130'	130'	12'	Graphitic schist in parts Interbedded Arg. Sh. Beds 20 - 30°		130	-	.005	Tr.	-	2	0.1					0.2%
130'	130'	2'	Siliceous in part qtz. Beds 0° Qtz. contact @ 50°	Py.	Tr.											
135'	141'	7'	Arg. sh. Graphitic on shears @ 20° Conductor - tr. Pyrite Box 6	Py.	Tr.	140	.007	Tr.	-	2	Tr.					0.2%
141'	147'	6'	Black & lt. grey shaly & Schist Few clusters pyrite. Qtz. incl. Beds 20 - 30° Low order conductor	Py.	Tr.											
147'	150'	3'	Schist - Gray Talc. Fine x'ln pyrite scattered throughout - non conductor													
150'	152'	2'	Thin bedded - sheared graphitic material on shears Beds 0 - 10° non conductor Lateral slippage			150	.005	Tr.	-	2	Tr.					0.2%
152'	160'	8'	As above Beds 0 - 10° Full Rec. Box 7													
160'	172'	12'	Mainly black to grey sheared Arg. shales interbedded Lt. grey siltstones Beds 0 - 30° Traces Pyrite Lateral shearing @ 10° Graphitic material on shears Low order conductor	Py.	Tr.	160	.003	-	-	1	-					0.1%
(166' - 172')			Graphitic Sh. - broken pieces Rec. 1.0' C-rite After shearing P&T Ore Mineralization			170	.001	.005	-	1	-					0.1%

CORED FOOTAGE	INTER-VAL	CORED DESCRIPTION Logged by J.S.C.	VISIBLE MINERALS ESTIMATED	SAMPLE	INTER-VAL	COMPANY DRESSER MINERALS										
						DDH No. M 574-1		CLAIM Lenora		LOCATION		DIP ANGLE		DATE		PAGE 5
From	To	Feet	Sediment- Metamorphic Igneous	Mineral	%	No.	Feet	Percent		Assays oz. per ton						
								Cu	Pb	Zn	Iron	Ag	Au		Barium	
172'	178'	5'	Mainly lt. grey Arg. Sh. Interbedded sheared graphitic Sh. Calcite & Qtz. - Poor conductor Beds 30 - 40° Rec. 5.0' @ 175' Breccia & Qtz. - Tr. Pyrite Clusters	Pry.	Tr.											
178'	190'	12'	Sericite Schist - shearing @ 10° Graphitic partings along shear planes - lost core 8.0' Rec. 4.0' Box 8			180		.005	.005	-	4	Tr.				0.3
179'			Lost Circulation													
190'	192'	8'	Rec. 10' - Broken frags. - Arg. Sh. Graphitic on shear planes Conductor	Pry.	Tr.											
192'	194'	2'	Lt. grey schist - Schistosity @ 20° Rec. 1.0'													
194'	196'	2.0'	Hard Siliceous - Barite grey 5% Pyrite - Non conductor Disseminated throughout @ 196' Rec. 1.0' Chalco. Azurite	Ba. Pyr. Chalco PbS.	?	195' - 197' 198'	2.0'	2-3	1-2	1-2	4	2-3				30.0%
196'	198'	2.0'	Hard siliceous - grey beds 40° Barite replacement in Arg. Sh. Tr. Pyrite throughout. Galena Rec. 1.0'	Ba. Pyr.	?											
(194' - 199')	(5.0')		This zone appears to be near vertical Contact @ 40°													
198'	201'	3'	Thin bed 4" - blk. silty rock Beds 20° contorted Contact with Schist Rec. 2.0' @ 199' Graphite on shears Good Conductor			200		Tr.	Tr.	Tr.	1.0	Tr.				0.5%

CORED FOOTAGE	INTER-VAL	CORED DESCRIPTION	VISIBLE MINERALS ESTIMATED	SAMPLE	INTER-VAL	DRESSER MINERALS									
						COMPANY	DDH No.	CLAIM	LOCATION	DIP ANGLE	DATE	PAGE	Assays oz. per ton		
From	To	Feet	Sediment- Metamorphic Igneous	Mineral %	No.	Feet	Cu	Pb	Zn	Iron	Ag	Au	Barium %		
232'	236'	4'	Sericite Schist												
236'	240'	4'	Interbedded Arg. Sh. in part. Graphitic beds 70° Thin Qtz. @ 70°		240		Tr.	Tr.	Tr.	N	Tr.		0.2		
240'	242'	2'	Mainly Schist												
242'	247'	5'	Open cavity - no recovery - Beds slipped through open Mine workings. Mainly Qtz. fragments.	CuO.	Tr.										
247'	248'	1'	Schist @ 80° Talc with Qtz.												
	(248')		Fragment of old drilling - Diamond casing marks on core MS 74-1. Reamed 248' - 260'. Drilled through old casing hole appears to be near 45° South in old mine workings.												
248'	251.5'	3.5'	Sericite Schist @ 70° NS Rec. 2.0. Box 10		250		.002	-	-	1.0	Tr.		0.2		
251.5'	262'	10.5'	Lt. Grey Schist - broken fragments cored 10.0' Rec. 5.0'		260		.002	-	-	1.0	Tr.		0.2		
262'	271'	9'	As above Schistosity @ 40 - 60° Rec. 8.5'		270	-/	.003	.005	-	1.0	Tr.		0.2		
271'	281'	10'	Lt. grey Schist @ 45 - 60° Talc Full Rec. Box 11		280		.002	-	-	2.0	Tr.		0.3		
281'	301'	20'	Lt. grey - talcose sh. Schistosity 30 - 50° Tr. of X in Pyrite only NS Box 12		290		.005	-	-	1.0	Tr.		0.3		

CORED FOOTAGE		INTER-VAL	CORED DESCRIPTION	VISIBLE MINERALS ESTIMATED	SAMPLE	INTER-VAL	COMPAN. DEPOSIT INFORMATION												
			Logged by J.S.C.				DDM No.	CLAIM	Loc.	LOCATION									
							DIP ANGLE DATE PAGE 2												
From	To	Feet	Sediment- Metamorphic Igneous	Mineral %	No.	Feet	Percent					Assays or. per ton							
301	304	3	Sericite Schist - Schistosity 20 - 30°																
304	305	1	Schist in contact with Arg. Sh. @ 10° Dip test Angle 45° (-2°)																
306	324.5	18.5	Displaced upwards Arg. thinbedded shales - Beds mainly 30 - 45° sheared along bedding planes. Qtz. veinlets. Graphitic on shears Box 13		310		0.01	.02	.05	5.0	0.1					0.3			
					328		.005	-	-	3.0	-					0.3			
					330		.005	-	-	3.0	-					0.2			
324.5	336.5	12	Thin bedded Arg. Schist. Calcite bedding 40° - black partings Tr. Pyrite - Graphitic conductor. Siliceous in part. - Breccia Beds @ 60 - 70° Arg. Inc. Tr. Pyrite - Calcite Qtz. Barren white - Fault Zone Contact @ 80° NS																
336.5	341	4.5	Lost core - few Qtz. fragments NS Ni Sulphides																
	(342 - 353)		Arg. Breccia - Fault Zone																
341	349	8	Hard - part siliceous - Arg. Sh. Beds 45 - 60° Box 14 Tr. Pyrite, Breccia & Qtz.	Pyr.	341		.007	-	-	3.0	-					0.2			
					348		0.01	-	-	2.0	-					0.2			
349	362	13	Rec. 3.0' L.C. 4.0' Fault Zone Arg. Shale - Graphitic Conductor Beds 30 - 40° Breccia Tr. Pyrite - Good conductor	Pyr.	350		.005	-	-	2.0	-					0.5			
356	362		Contact 40° altered lt. grey schist int. shale Tr. Pyrite Beds 20°		360		0.01	-	-	2.0	-					0.3			

CORED FOOTAGE	INTER-VAL	CORED DESCRIPTION Logged by J.S.C.	VISIBLE MINERALS ESTIMATED	SAMPLE	INTER-VAL	COMPAN		ASSAYS OZ. PER TON						
						MS 7-1	CLAIM	Cu	Pb	Zn	Iron	Ag	Au	Barium
362	367.5	5.5	Altered Diorite - dark green Partings @ 30 - 40° - Porphyritic. "Reddish" oxide Hematite staining Box 15	Pyr. Tr.	365	.005	-	-	3.0	-	-	-	.03	
367.5	379	11.5	Dk. green Diorite - Qtz. veins @ 10° - Bands of Sulfides Tr. Reddish Stain Dioritic Lenses		370	.003	-	-	3.0	-	-	-	0.05	
379	385	6	Lt. grey schist contact @ 30° Schistosity @ 45 - 50° Tr. Pyrite only Box 16	Pyr. Tr.	380	.001	-	-	1.0	-	-	-	0.1	
385	406	21	Schist 20 - 60° Lt. grey grading to green lenses Dioritic schist. Schistosity @ 60° Box 17	Pyr. Tr.	390 400	.002 .005	-	-	1.0 1.0	-	-	-	0.2 0.2	
406	422	16	Lt. grey schist - foliation @ 60° Tr. Pyrite only		410 420	.001 .005	-	-	3.0 2.0	-	-	-	0.2 0.1	
422	428	6	As above - Siliceous in part Schistosity at 70° Tr. Pyr. & Chalco @ 424° Box 18	Pyr. Tr. CuS. Tr.										
428	441	13	Lt. grey schist - siliceous in part - foliation @ 40 - 70°		430 440	.001 .001	-	-	3.0 2.0	-	-	-	0.1 0.05	
441	442	1	Movement on contact @ 45° with dk. green schistose "Dioritic" schist - soft almost fault gouge											
442	448	6	Loose soft unconsolidated greenish Schist. Thus appears to be a fault Contact ES Box 19		448	.005	-	-	3.0	-	-	-	.05	

CORED FOOTAGE	INTER-VAL	CORED DESCRIPTION	VISIBLE MINERALS ESTIMATED	SAMPLE	INTER-VAL	COMPAN. DRESSER MINERALS							
						DDH No. MS 74-1	CLAIM Leona	LOCATION	DIP ANGLE	DATE	PAGE 10		
From	To	Feet	Metamorphic Sediment-igneous	Mineral	No.	Feet	Percent			Assays oz. per ton			
							Cu	Pb	Zn	Iron	Ag	Au	Barium
448	467	19'	Sheared schist - Chlorite Green siliceous in part. Shearing 30 - 70° NS Soft almost gouge material in places Full Rec. Box 20		450	-	.003	-	-	5.0	-	-	.01
					460	-	.007	-	-	5.0	-	-	.01
467	474	7'	Green schist - sheared soft unconsolidated core @ 50 - 60° NS @ 484' 2" Qtz. vein @ 45° NS		470	-	.001	-	-	3.0	-	-	0.02
474	488	14'	Loose green "Chloritic" schist Foliations @ 20 - 50° Tr. Pyrite II's Full Rec. Box 21		480	-	.005	-	-	3.0	-	-	0.03
488	492	4'	As above Soft lt. green schist @ 20° Talcose Hole caving - stuck rods Twisted off approx. 375' 60' rods in hole - screw barrel & overshot.		488	-	.001	-	-	3.0	-	-	0.03
492	TD		TD Hole abandoned due to lost rods at elevation 1150 ft. June 8, 1974.		492	-	.005	-	-	3.0	-	-	0.03

CORPORATION FALCONBRIDGE COPPER

DRILL HOLE RECORD

X METRIC UNITS
IMPERIAL UNITS

HOLE NUMBER MS-74-2	GRID PF	FIELD COORDS	LAT 869S	DEP 059W	ELEV 500m	COLLAR BRNG. 000T	COLLAR DIP -60°	HOLE SIZE BQ	FINAL DEPTH 250.46
PROJECT 205	CLAIM #	SURVEY COORDS				DATE STARTED: DATE COMPLETED: 1984	CONTRACTOR: CORE STORAGE: Fulton's Farm CASING.		

PURPOSE
RELOG DRESSER DRILLHOLES

RQD LOG COLLAR SURVEY PULSE EM SURVEY MULTISHOT SURVEY

ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH ()	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP

HOLE NO _____
ZIPPY PRINT - BRIDGEPORT RICHMOND

LOGGED BY IDPIRIE

checked by ADD
 19/12/83

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
(0-2.44)	OVERBURDEN							
(2.44-13.72)	RHYOLITE TO RHYODACITE TUFF AND LAPILLI TUFF	Light greenish grey	fg-mg	First 4.57m quite bleached and siliceous but becomes less felsic looking with depth. Fairly massive, probably hornfelsed but vague tuff/lapilli tuff texture. Not part. altered. Feldspar crystals still apparent. Mod carb in fine veinlets. CONTACT JOINT OFFSET. NOT SIMPLE BUT SHARP	wk but district @20-25°	First 4.57m silicified and carbonated. little	NIL	
(13.72-42.99)	DIORITE	dark grey-green	fg-mg	Massive, fairly homogenous diorite with felspar clots. giving speckled appearance. Numerous carb veinlets and occasional pervasive carbonate. Pervasive leucoxene but (37.80-39.63) Red hematite along fractures. Strong qtz-carb in this area	(33.23)=31°	18.9m epidote patch with strong carb.		
(42.99-63.41)	DACITE-RHYODACITE (CRYSTAL TUFF)	Medium grey	fg-cg	CONTACT NOT SEEN Quartz, feldspar crystal frags and quartzo-feldspathic frags less than 1 cm in diameter. Very massive, quite homogeneous but sub the grain size variations are apparent. Weak foliation very shallow to CA. Purple-red hematite coating on qtz-carb vlts. in upper parts.	(45.73)= (10-)30°	NIL	TRACES PYRITE (poss. Cp)	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
(63.41-92.38)	DACITE-RHYODACITE TUFF	grey-green	fg-mg	<p>CONTACT GRADATIONAL?</p> <p>Similar to previous unit but crystals now only a minor part. Laminations on the scale of a few mm are common.</p> <p>(70.12-70.88) Rhyodacite fragments, lapilli to small block(10cm) size, in a tan colored chloritic matrix. Frags are angular.</p> <p>(70.88-72.25) (approx) As above without the chloritic matrix.</p> <p>Still occasional qtz-eyes. Feldspar crystals common.</p>	<p>Bedding (59.45-63.41) (59.15)= 68°</p> <p>(60.97)= 44°</p> <p>Bedding (64.63)= 40° fol.same</p> <p>Locally both may be up to 60°.</p>	<p>(59.45-63.41) Strongly bleached carbonatada (silicified) zone. (Surface alteration feature?)</p> <p>(67.98-70.12) lighter, more sericitic</p> <p>Fine hematite filled hairline cracks quite common.</p> <p>Feldspar's often saussuritized (Epidote common)</p>	<p>TRACES OF Py OCCASIONALLY</p>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Around 76.21-79.26, crystal tuff again becomes predominant. No obvious change this time. Gradational.	Bedding (81.71)= 65°			
(92.38-103.05)	DIORITE	green	fg-mg	Becomes increasingly more mafic (chloritic?) towards base. Last foot or so is strongly saussuritized (epcarb strong) CONTACT SHARP AT	44°			
				Upper .60m chilled and veined (carb-qtz). Then becomes Mg, homogeneous with occasional 1-8mm clots of epidotized feldspar. Hematite still common on fine fractures. Moderately veined towards lower contact.	(96.03)= 55° (97.56)= 45°	Pervasive carbonation. Feldspars epidotized. (saussuritized)	NIL	
(103.05-168.60)	RHYOLITE OR RHYODACITE TUFF, LAPILLI TUFF	grey-green		CONTACT SHARP AT Intensely sheared, possibly fragmented, but grades into intense mylonite/fault gouge so may all be fault induced fragmentation. Although main gauge is about (106.71-109.76), almost no competent rock exists till about (137.20). What there is is strongly foliated, greenish dacite-rhyodacite booking. No obvious primary textures preserved.	49° (103.35)= 35° (120.42)= 65° (128.04)= 0-5° (137.19)= 0-5° (141.46)= 20°			Occasional traces of Py beyond 121.95. (144.81) 1/2% finely diss'd Py (trace Sp)

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				(144.81) Back into recognizable lapilli tuff. Probably rhyodacite in comp.				
				(145.42-145.57) This carbonated mafic dyke at	30°			
				(149.08-150.30) Ditto. Contacts not seen. Beyond 150.30 core is much more competent. No well defined foliation. Rock is obvious lapilli tuff with lighter frags in a darker matrix. Still overall rhyodacite composition. Hematite now present as specks and patches up to 1cm diameter.	(152.74)= 23° (161.89)= 28° (166.46)= 33°			
(168.44-168.59)	FAULT GOUGE			Numerous carb. veinlets. Distinctly homogenous, becoming lighter colored with depth (but still rhyodac)				
				Distinctly divided into an upper green gouge (after rhyodac) and a lower felsic material.	50-60°			Hangingwall sequence entirely lost?
(168.60-179.12)	GRAPHITIC ARGILLITE	grey	fg	Very similar to unit intersected in SRM-1 which yielded good assays. Locally very graphitic but with tuff screens particularly in upper parts.	from 50° (upper parts) to 60° (lower parts)		Traces throughout, up to 1-2% locally. (Although not nearly as obvious as in SRM-1, may still yield anomalous values)	Previously unsampled. Have sampled in 1.52m of shorter sections.

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
(179.12-180.03)	SERICITIC RHYOLITE TUFF	creamy	fg	Quite badly ground sections. Numerous quartz (-carb) veins, particularly near the base. CONTACT MASKED BY QTZ VEINS Very sericitic tuff, possibly with qtz-eyes smeared out along foliation. CONTACT NOT SEEN		Strong sericite	1cm + bands of 20-40% Py may be horizons but more probably stringers.	
(180.03-180.49)	CARBONATED RHYOLITE (DYKE? FLOW)	buff	fg-mg	Rather unusual buff colored strongly carbonated felsic unit of intrusive. A few quartz eyes.		Carbonate	1/2% cubic Py	Local "squirts" in the overlying tuff suggest a shallow intrusion. NOTE: Similar material seen in chips adjacent to main barite-sulphide zone in MS-74-1
(180.49-EOH)	RHYOLITE FLOW	creamy becoming greener	fg	Homogenous massive to strongly foliated rhyolite. If not flow then tuff/frag textures lost due to ser-sil alt. Around 210.97 starts to become darker, less sericitic (229.57-234.14) Heterogenous fractured silicified (carbonated) zone adjacent to a fault.	(185.98)= 40° (191.46)= 60° (194.21)= 45° (201.22)= 65° (207.32)= 67° (228.96)= 77°	Mod to strong sericite becoming weaker with depth. Notably weaker beyond 210.97. Fairly pervasive weathering carbonate. (220.73-229.57) Much stronger carbonate. Also bleached more.	Rare thin pyritic stringers virtually confined to upper 15.24m or so. But not exclusively. Traces of Py, often cubic.	As per the stringer zone in SRM-1 but with considerably less sulphide. Alteration probably just as intense though. (check geochem).

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
(250.46)	EOH			<p>(234.15-235.21) Gouge in fault zone</p> <p>(235.21-240.85) Initially broken, silicified as on other side of fault. Ends with badly broken section.</p> <p>(240.85-242.38) Silicified with district. Mottling locally apparent. Green cores surrounded by bleached rims. Deformed vesicles?</p> <p>(242.37-250.45) Bleached, silicified rhyolite</p>	<p>(242.07)= 80°</p> <p>(250.00)= 70°</p>	<p>(229.57-234.14) Silicified. Minor carb.</p> <p>Silicified. Minor carbonate. Wk sericite locally.</p>		<p>No recognizable primary textures in hole below the ore horizon. Everything seems to have been lost due to alteration- Mainly sericite-silica-carbonate. Fault zone present but not appreciably different on either side.</p>

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	PPM FeO	ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppb Au	Rock Type	Alt	Min	Grid
RCD 408	6.09	9.14	65.9	14.6	4.34	1.71	2.93	2.42	2.32	0.04	0.20	500	3	31							
rhydac. tuff - lapilli tuff.																					
409	45.12	48.17	67.6	14.6	1.83	2.45	3.50	2.71	3.86	0.04	0.18	860	5	33							
dac-rhyod. crystal tuff																					
410	75.00	78.04	65.9	15.1	1.76	2.64	4.22	2.48	4.71	0.10	0.22	800	5	48							
as 409																					
411	115.24	118.29	71.9	13.0	0.52	2.64	2.59	2.02	3.98	0.11	0.17	1080	103	111							
Fault zone																					
412	152.43	155.48	70.0	13.4	1.39	2.21	3.50	1.70	3.49	0.11	0.17	1620	74	49							
hyo-rhydac. lapilli tuff																					
413	180.79	183.84	77.4	13.2	0.99	0.79	1.97	2.78	0.84	0.02	0.17	1100	13	14							
rhyolite (footsall)																					
414	212.50	214.32	68.5	14.6	2.24	2.57	2.60	2.24	3.32	0.09	0.18	810	14	51							
as 413																					
415	243.90	246.95	70.8	15.1	1.57	0.98	2.80	2.94	1.30	0.03	0.20	1940	51	21							
as 413																					

CORED FOOTAGE		INTER-VAL	CORED DESCRIPTION Logged by J. S. CARTER	VISIBLE MINERALS ESTIMATED	SAMPLE	INTER-VAL	COMPANY DRESSER MINERALS							
From	To	Feet	Sediment-Metamorphic-Igneous	Mineral %	No.	Feet	Percent Assays oz. per ton							
							Cu	Pb	Zn	Ag	Au			
69	86	17.0	Diorite shearing @ 30° appears vertical - dike or sill odd isolated spec chalcopryrite only non conductor Box 4		75									
86	105	19.0	Green Diorite Porphyritic - Calcite (spots) - Shearing @ 30° Tr Iron Oxide Few x'ls pyrite @ 89' lense calcite chlorite schist MS Full recovery Box 5	Pyrite Tr	100									
105	108	3.0	Dioritic schist - qtz veins vertical - one trace pyrite & Chalco in schist Qtz is barren MS		110									
108	124	16.0	Hard cores Diorite - mainly Tr Iron oxide Box 6	Pyr Tr	120									
124	135	11.0	Altered zone "Dioritic" - pale green schist - Calcite veinlets Post ore - very fine stringers of hematite - shearing 35° - 70° Box 7		140									
145	160	15.0	Mainly Diorite		155									
160	166	6.0	"Dioritic" schist in part Partings @ 30° - few traces pyrite Throughout - Tiny hematite stains Full recovery Box 8											

COMPANY DRESSER MINERALS
 DDH No. MS. 74-2 CLAIM Iyer C. G.
 LOCATION 1704 + 3005 EL. 1686
 DIP ANGLE 60°N DATE June 18/74 PAGE 2

CORED FOOTAGE	INTER-VAL	CORED DESCRIPTION Logged by J. S. CARTER	VISIBLE MINERALS ESTIMATED	SAMPLE No.	INTER-VAL Feet	Assays oz. per ton												
						Percent	Cu	Pb	Zn	Ag	Au							
422		Lt green chloritic schist - lineations along core barrel @ 0 - 20° - isolated pyrite x'ls throughout - this section not Dioritic																
422	442	20.0 Full recovery Box 21 Sample 440																
442	467	25.0 Lt green chloritic schist @ 20° - 30° - tr isolated pyrite x'ls throughout - tr hematite stain - shearing and talcose on planes Non conductor																
(466)	463)	7.0 Lost core 4.0 Box 22 Sample @ 460'																
467	485	18.0 Lt green schist - tr pyrite - Breccia in part ± folding 10° - 45° - full recovery																
485	490	5.0 Dk green schist - Taley on shears - more chloritic - different phase - schistosity @ 20° - 30° contact appears vertical - MS Few traces Pyrite only - lost core 3.0 Box 23																
490	492	2.0 Dk green schist																
492		Contact @ 35° - 40° - appears vertical - thin lense only																

COMPANY DRESSER MINERALS

DDH No. MS. 74-2 CLAIM TYPE C. 6

LOCATION .. 170W. + 30QS E11686

DIP ANGLE . 60°N DATE June 18/74 PAGE 5

CORPORATION FALCONBRIDGE COPPER

X METRIC UNITS
IMPERIAL UNITS

DRILL HOLE RECORD

HOLE NUMBER MS 74-3	GRID CFC	FIELD COORDS	LAT. 578S	DEP. 763.5E	ELEV.	COLLAR BRNG. 220°	COLLAR DIP 45°	HOLE SIZE BQ	FINAL DEPTH 225.6m.
PROJECT)	CLAIM # Eslelle (53G)	SURVEY COORDS				DATE STARTED: DATE COMPLETED: 1974	CONTRACTOR: CORE STORAGE: Fulton Farm CASING: No		

PURPOSE	RQD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY
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ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH ()	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
0 to 0.9	Overburden					
0.9 to 22.1	Felsic Lapilli-Tuff	Colour - green Grain Size - m.g. - contains fragments of chert near top of unit grading downward into a sugary textured rock - 0-5% quartz eyes, variable grain size and sections with discernible chert fragments indicate it is a volcanoclastic unit - no foliation		- weak chlorite	- trace pyrite, two sections with 2% diss. py.	- possibly decreasing size gradation towards base. BCD 2926 11.2-14.3
22.1 to 23.2	Feldspar Intermediate Dyke	Colour - dark green Grain Size - aphan to m.g. - aphanitic margins which grade over 6cm into m.g., generally equigranular rock - subhedral feldspars are slightly larger than groundmass - weak foliation	55°	- numerous carbonate veinlets	- barren	
23.2 to 75.1	Felsic Lapilli-Tuff to Tuff	- similar to 0.9 to 22.1 but generally finer grained				

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
38.1 to 38.8	Pyritic Chloritic Zone	Colour - green Grain Size - aphan. - very chloritic unit with some felsic tuff - difficult to determine if chlorite is forming bands or veins		- intense chlorite	- 0-15% pyrite as disseminations, sometimes 1-3mm cubes	- core split from 38.1 to 38.8m
38.8 to 45.4	Felsic Tuff with Chert Interbeds	Colour - grey Grain Size - aphan to f.g. - basal contact sharp - interbedded impure chert and felsic tuff - internal contact between tuff and chert	75° 60°	- little alteration	- trace to 5% diss. py, generally little pyrite	
48.3 to 79.7	Felsic Tuff	Colour - grey Grain Size - f.g. - 0-2% quartz eyes (<2mm) not very conspicuous and present only for short sections - weak gneiss banding in some parts	50°	- moderate alteration to sericite	- 0 to 1% cp and py associated with quartz veinlets	- BCD 2927 63.6-66.6
79.7 to 115.4	Pyritic Felsic Tuff	Colour - whitish grey Grain Size - f.g. - relatively featureless core, sugary texture suggests clastic - banded towards base (gneissic texture) 82.9-83.2 - grey, f.g., intermediate dyke, CI=30, barren but associated quartz - chlorite vein	50° 15°	- weakly sericitic strong chlorite alteration adjacent to thin pyrite bands	- pyrite occurs as 1-2% disseminations throughout unit and as several mm wide bands scattered throughout but particularly abundant (3-5%) in the top 10m.	- BCD 2928 103.6-106.6

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
115.4 to 118.2	Felsic Tuff with Quartz Eyes	Colour - greenish-grey Grain Size - aphan. - 1-2% quartz eyes (<3mm) in glassy aphanitic matrix		- weakly sericitic	- 1% diss. py	
118.0 to 118.15	Pyritic Horizon	Colour - brassy Grain Size - f.g. - linear, slightly gradational top contact	20°		- 15-80% pyrite (averages approx. 25%) in quartz/chert and chlorite gangue	- Cut and possibly split - BCD 2929 118.0-118.15m
118.15 to 120.1	Felsic Tuff with Quartz Eyes	- same as 115.4 to 118.0			- 2% diss. pyrite - cut by 2cm qtz vein with 10% pyrite and a 10cm qtz vein with 30% pyrite at 118.6m.	- BCD 2930-2931 118.15-118.6 118.7-120.1
120.1 to 120.5	Pyritic Quartz Vein	Colour - white - upper contact gradational	20°		- 5-40% pyrite in a quartz gangue, averages 10% - pyrite is cubic	- could be exhalative horizon - core split from 120.1 to 120.5 - BCD 2933 120.1-120.5m
120.5 to 123.6	Quartz Pyritic Felsic Tuff (Feldspar)	Colour - greenish-grey Grain Size - aphan. - oval phenocrysts of quartz (<2mm) form 5% of rock and small, subhedral phenocrysts of feldspar (<1mm, 5%) are common		- very weak sericitic alteration	- 1-2% diss. py.	- BCD 2934 123.6-126.6

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
131.5 to 134.7	Fault Zone	- 30cm of gouge followed by quartz phyric felsic tuff and ending with 2m of ground core				
134.7 to 136.3	Felsic Lapilli-Tuff	Colour - grey Grain Size - f.g. - some felsic fragments up to 4cm long near basal contact		- moderate chlorite	- 1% diss. pyrite	
136.3 to 137.9	Feldspar Diorite	Colour - green Grain Size - f.g. - 2-3% subhedral feldspars (<2mm)		- carbonate veinlets		
137.9 to 138.8	Felsic Tuff	Colour - grey Grain Size - aphan. - scattered quartz eyes (<1%)		- moderate chlorite	- 0-3% pyrite as veinlets or disseminations	
138.8 to 139.5	Feldspar Diorite	- similar to 136.2 to 137.9 except has weak foliation - upper contact sharp	30°		- barren	
139.5 to 156.1	Quartz Phyric Felsic Tuff	Colour - grey Grain Size - f.g. - 5-7% quartz eyes <4mm - some possible lapilli fragments - microphenocrysts of feldspar present as well (< 1/2mm), less obvious than 120.5 to 131.5m.		- weak chlorite	- 1% diss. pyrite	

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
156.1 to 156.9	Intermediate Dyke	Colour - grey Grain Size - f.g. - top contact sharp with 6cm aphanitic margin and bottom contact similar - 2% quartz eyes (< 1 1/2mm) and 5% feldspar phenocrysts in central portion of dyke	60° 25°	- abundant carbonate patches and veinlets	- barren	
156.9 to 225.6	Interbedded Intermediate Tuffs and Lapilli-Tuffs	Colour - green Grain Size - f.g. to aphan. - interbedded tuff and lapilli-tuff - banding near 219.5m.	60°	- feldspars and fragments altered to epidote - carbonate veinlets common, particularly towards EOH - upper 20m is strongly chloritized and chlorite alteration occurs throughout	- 0-3% pyrite as disseminations, minor veinlets near upper contact	
225.6	E.O.H.					

Summary Log MS 74-3

0 to 0.9	overburden
0.9 to 38.1	felsic lapilli-tuff to tuff
38.1 to 38.8	pyritic chloritic zone
38.8 to 45.4	felsic tuff
45.4 to 48.3	felsic tuff with chert interbeds
48.3 to 79.7	felsic tuff
79.7 to 115.4	pyritic felsic tuff
115.4 to 118.0	felsic tuff with quartz eyes
118.0 to 118.15	pyritic horizon, 15-20% py with chert
118.15 to 131.5	quartz phyric felsic tuff, small phenocrysts of feldspar
131.5 to 134.7	fault zone
134.7 to 139.5	felsic lapilli-tuff
139.5 to 156.9	quartz phyric felsic tuff, microphenos of feldspar
156.9 to 225.6	interbedded intermediate tuffs and lapilli-tuffs (footwall sequence?)

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM ()	TO ()	MAJOR OXIDES										TRACE ELEMENTS						Rock Type	Alt	Min	Grid
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	ppm Ba	ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppb Au					
RCD 2926	11.2	14.3	65.9		0.30	3.65	1.69				0.23	1060	4	113			4					
Felsic Lapilli-Tuff																						
2927	63.6	66.6	64.8		0.26	5.69	1.22				0.23	1280	4	178			-2					
Felsic Tuff																						
2928	103.6	100.6	67.2		0.60	3.88	3.03				0.28	1110	270	56			6					
Felsic Tuff																						
2932			69.7		0.54	0.68	0.18				0.15	2590	23	20			12					
Diorite Std.																						
2934	123.6	126.6	70.2		2.64	1.62	0.65				0.18	2130	60	43			6					
QF																						
2935	153.0	156.0	70.8		0.51	2.69	2.53				0.15	1530	480	78			2					
QF																						
2936	157.6	159.1	52.4		0.25	7.63	0.08				0.48	1340	142	119			-2					
Intermediate Tuff																						
2937	181.7	184.7	54.3		1.55	8.26	4.14				0.57	200	810	73			8					
Inter. Tuff																						
2938	210.3	213.3	51.3		2.31	7.49	4.22				0.52	120	320				-2					
Inter. Tuff																						

Hole No. MS 74-3

Entered by David Lefebure

Logged by D. Lefebure

Page No. _____

CORED FOOTAGE	INTER-VAL	CORED DESCRIPTION		VISIBLE MINERALS ESTIMATED	SAMPLE No.	INTER-VAL Feet	Assays oz. per ton							
		From	To Feet				Percent							
Logged by J. S. CARTER							Cu	Pb	Zn	Ag	Au			
0	9	9.0	Cased - Nil O.B. - broken fragments @ 5' - lt grey schist - siliceous in part - lost core 7.0' - sample 5 - 9'											
9	27	18.0	Pale green "chloritic" schist. Sample 20' - fine x'ln pyrite - crystals disseminated throughout Recovery 20' Box 1	Py	Tr									
27	47	20.0	Pale green chloritic schist as above @ 50° - 60° - tr disseminated pyrite throughout (S) @ 30' - Recovery 20' Box 2	Py	Tr	30								
47	69	22.0	As above - more greenish in parts and talcose - schistosity @ 60° - Pyrite 1% in parts - sample @ 60' - tr only chalc @ 62' in qtz. Box 3	Chalc	Tr									
69	73	4.0	Green talcy schist @ 50° - tr pyrite											
73	76	3.0	Altered zone - dk green porphyritic in parts - pyrite Tr throughout											
76	92	16.0	pale to dk green schist - pyrite 1 - 2% in parts thin bands shearing @ 0° - schistosity @ 40° (S) @ 80' Box 4	Py	Tr	18								
92	95		As above - dk green schist @ 40° - 50°											

COMPANY ... QRESSER MINERALS
 DDH No. ... MS 74-3 CLAIM ... E.K. 4
 LOCATION ... 2600E 1068N E1 1870
 DIP ANGLE -45° AZ 220° DATE July 1/74 PAGE 1

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
0 to 37m.	Overburden					
1.07 to 19.1	Feldspar Phyric Felsic Tuff	Colour - grey Grain Size - aphan. - Feldspar quartz phyric, 10% subhedral plagioclase <2 1/2mm 1-3% ovoid Qtz eyes <1mm - phenocrysts appear like augen on broken surfaces - phenocrysts, particularly quartz not always visible - from approx. 6.5 to 9.1m the phenocrysts are more difficult to see the core is more foliated and there are pyritic veinlets - possible contact - foliation becomes more pronounced below 16.5m.	40°	- Core soft but not micaceous, wk sericite	- diss. py. varies from 0-2% - at 16.8m a 1cm pyritic veinlet at 30° to C.A.	- BCD 2861 8.1-10.4 Box #4 - 34 1/2' to 54' disintegrating, some core lost
19.1 to 19.2	Massive Chert	Colour - grey Grain Size - aphan. - massive slight colour variations - one contact is relatively sharp	20°		- approximately 5% py tr cp over full width including one 1/2cm veinlet of 40% py which cuts chert/felsic tuff contact	
19.2 to 25.2	Feldspar Phyric Felsic Tuff	Colour - grey Grain Size - aphan. - massive, very siliceous, feldspar phyric - 5% subhedral white feldspars, (<1 1/2mm) - streaky appearance - wk foliation - occas. Qtz eye		- moderately micaceous on broken surface, soft, wk sericite alt.	- 1% diss. py.	

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
25.2 to 26.2	Cherty Tuff	Colour - grey Grain Size - aphan. - massive, cherty			- patchy pyrite (5%)	- B o x 5 - 71.5'-99' core lost from centre including chert
26.2 to 33.7	Feldspar Phyric Felsic Tuff	Colour - grey Grain Size - aphan. - 2% feldspar (plag) phenocrysts ($<2\text{mm}$) - trace qtz eyes $<1\text{mm}$ - v. wk foliation - siliceous felsic tuff from 32.8 to 33.0m.		- minor chl. alt.	- barren	- BCD 2862 30.2 to 32.5
33.7 to 39.5	Microdiorite	Colour - greenish Grain Size - f.g. - equigranular, non-magnetic, - upper contact not seen - basal contact chilled	15°	- cut by qtz veins with associated chlorite and silicified wall-rock	- trace py - trace cp in qtz vein	- BCD 2863
39.5 to 46.3	Feldspar Phyric Felsic Tuff	Colour - grey Grain Size - aphan. - 35% feldspar phenocrysts, subhedral, altered, $<2\frac{1}{2}\text{mm}$ - $<2\%$ qtz eyes, $<1\text{mm}$, oval			- barren	

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
46.3 to 53.3	Siliceous Felsic Tuff	Colour - grey Grain Size - aphan. - one feldspar phyrlic section from 48.5 to 49.2m - massive, siliceous with scattered quartz eyes (<2mm) - grades into f.g. felsic tuff at 53.0m and into streaky tuff with possible <4mm fragments over basal half metre		- little altered except for occasional minor chlorite - weakly micaceous surfaces	- trace py	- possible graded bedding indicating tuff is younging towards collar of hole - BCD 2864 50.3-52.1
53.3 to 60.6	Interbedded Felsic Tuff	Colour - grey Grain Size - aphan. to f.g. - two thin chert(?) bands (1/2cm wide) at top contact - grades into f.g. felsic tuff with microphenos of feldspar interbedded - well bedded section from 58.4 to 58.6m - slaty cleavage is moderately to strongly developed - gradational contact with underlying unit	40° 40° 50°	- strongly micaceous fractures, moderate chl & ser? alt	- trace pyrite	
60.6 to 70.3	Feldspar Phyrlic Felsic Tuff	Colour - grey Grain Size - aphan. - siliceous, 35% feldspar phenocrysts, subhedral, <3mm - scat/qtz eyes (<1%) <2.5mm - wkly banded as defined by abundance of feldspars, chert band (68.6-68.8m) and siliceous fragments(?) from 68.3 to 68.6	60°	- little altered	- 1/2% diss. py.	- similar siliceous fragments seen at base of overlying felsic tuff

<u>From</u> To	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
70.3 to 70.5	Intermediate Dyke	Colour - grey Grain Size - f.g. - subhedral feldspar phenos <2mm, <5% in very f.g. matrix with some flecks of dark grey - chilled contact at base	50°	- unaltered	- trace pyrite	
70.5 to 75.7	Felsic Tuff To Lapilli- Tuff	Colour - grey flecked with green Grain Size - f.g. - grain size generally increases down the hole to a section with siliceous fragments up to 5cm long from 23.5 to 74.0m. - gradational contact with underlying unit	80°	- moderate chlorite	- minor pyrite towards base	
75.7 to 87.3	Siliceous Felsic Tuff	Colour - grey Grain Size - aphan. - upper contact arbitrary, generally corresponds to change to aphanitic siliceous rock - micro phenocrysts of feldspar (approx. 5% <1mm) - v. weak foliation - banding in core at top	10°	- little altered	- 1% diss. py.	- BCD 2865 83.2-85.0
3 to 88.3	Fault Zone	- core badly broken up, some gouge		- possibly wkly silicified	- 2-4% diss. py.	

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
88.3 to 127.9	Massive Felsic Tuff	Colour - grey Grain Size - aphan. - scat. qtz eyes (<2mm) - wk foliation - very siliceous below 120m, less pyrite	approx. 45°	- soft, wkly micaceous, wk ser. - core more sericitic beneath stringers - less altered	- 1-5% diss. py near top - from 93.0 to 94.2m chalcopryite stringers with associated chlorite approx. 7% cp - 1-3% py with occasional patches from 10m below stringers	- core split - BCD 2866 95.4-97.2
127.9 to 128.5	Intermediate Dyke	Colour - lt. brown Grain Size - aphan. - grey flecks in aphanitic matrix are probably vesicles - show good foliation	20°	- unaltered	- trace pyrite	
128.5 to 1 1	Massive Felsic Tuff	- similar to 88.3 to 127.9				
130.1 to 132.9	Intermediate Dyke	- similar to 127.9 to 128.5 - includes section of massive felsic tuff - basal contact sharp	20°			
132.9 to 153.2	Felsic Tuff	Colour - grey Grain Size - f.g. - rare qtz eyes <1 1/2mm - possible 1/2mm feldspars - sugary texture - moderately siliceous - no foliation - quartz eyes not noted below 140m - within approximately 2m of contact with diorite rock becomes more cherty in appearance with slightly coarser grain size (still f.g.)		- wkly micaceous, wk sericitic alteration - white carbonate veinlets occur from 151 to 153.2m.	- trace pyrite as small cubes	- BCD 2867 138.4-140.2 - core more broken up from 146.3m to 150m. - There is a possible change in rock type at 151m but appears more likely to be a hornfels texture superimposed on felsic tuff.

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
153.2 to 203.9	Diorite	Colour - dk grey Grain Size - aphan. to f.g. - sharp upper contact between aphanitic lt green chloritic rock (chilled margin) and felsic tuff - aphanitic phase grades over 5cm in f.g. diorite - approximately 1.2m below contact grade into feldspar diorite porphyry with 5-10% feldspar phenocrysts ($<1\frac{1}{2}$ mm) - grades into f.g. equigranular diorite at 174.7m with occasional feldspars slightly larger than groundmass	10°	- contact roughly conincident with white 2cm carbonate veinlet - carbonate and epidote veinlets occur throughout diorite	- trace pyrite	- BCD 2884 156.7-159.2
203.9	E.O.H.					

Summary Log MS74-4

0 to 1.1	overburden
1.1 to 19.1	feldspar phyric felsic tuff
19.1 to 19.2	massive chert, 5% py
19.2 to 25.2	feldspar phyric felsic tuff
25.2 to 26.2	cherty tuff, 5% py
26.2 to 33.7	feldspar phyric felsic tuff
33.7 to 39.5	microdiorite
39.5 to 46.3	feldspar phyric felsic tuff
46.3 to 60.6	felsic tuff
60.6 to 70.3	feldspar phyric felsic tuff
70.3 to 70.5	intermediate dyke
70.5 to 87.3	felsic tuff to lapilli-tuff
87.3 to 88.3	fault zone
88.3 to 153.2	massive felsic tuff with associated intermediate dykes, cp & py stringers? near top
153.2 to 203.9	diorite, chilled margin

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM ()	TO ()	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid	
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	ppm Ba	ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppb Au					
2861	8.1	10.4	78.7		1.75	3.08	0.69				0.15	1140	6	27			4					
feldspar rhyolite porphyry																						
2862	30.2	32.5	72.7		4.64	3.07	2.25				0.23	780	10	34			-2					
feldspar phytic felsic tuff																						
2863	37.5	39.3	46.8		14.0	8.37	0.04				0.83	80	62	75			-2					
diorite																						
2864	50.3	52.1	72.9		2.39	5.85	1.46				0.22	570	4	26			4					
felsic tuff																						
2865	83.2	85.0	75.1		2.36	2.70	1.62				0.18	1210	175	55			6					
felsic tuff																						
2866	95.4	97.2	72.5		1.68	3.68	1.46				0.20	1110	280	29			6					
siliceous felsic tuff																						
2867	138.4	140.2	75.9		0.90	2.17	2.82				1.83	690	19	52			4					
felsic tuff																						
2884	156.7	159.2	49.4		10.5	5.50	2.32				2.55	110	169	73								
diorite																						

Hole No. MS 74-4

Entered by D. Lefebure

Logged by D. Lefebure

Page No. _____

CORED FOOTAGE	INTER-VAL	CORED DESCRIPTION		VISIBLE MINERALS ESTIMATED	SAMPLE No.	INTER-VAL Feet	ASSAYS						
		Logged by	J.S.C.				Percent		Assays oz. per ton				
From	To	Feet	Sediment-Metamorphic-Igneous	Mineral	%	Feet	Cu	Pb	Zn	Ag	Au		
235'	247'	12'	Altered Grey Green Schist @ 70° Tr. Pyrite										
247'	254'	7'	Lenses Tale Schist & Grey green Schist Pyrite 1/2 Tr. Chalco Box 13	Cu.	0.3	250'							
254'	273'	19'	Mainly grey to Lt. grey Schist @ 60° Fine x'ls. pyrite disseminated throughout Nil Chalco seen Box 14										
273'	286'	13'	Altered siliceous lt. grey Schist @ 60°	Cu.	Tr.	274'							
286'	292'	6'	Soft broken ground Breccia & gouge Shear Zone Pyrite 1/2										
292'	293'	1'	Lt. grey Schist @ 45° Box 15										
293'	306'	13'	Lt. grey Schist 30°-50° Pyrite, Tr. Chalco (306'-306') Sample Tr. Chalco										
306'	310'	4'	Lt. grey Schist Schistosity @ 30°-45° N.B. - blebs chalco-pyrite 6% in zones weakness Replacement in softer rock. Tr. Pyrite also ZnS. Split Sample for 310' Assay. Thin Section.	Cu.	1/2	308'							
310'	313'	3'	Grey Schist. Only Tr. pyrite & Chalco. Sampled Box 16										

COMPANY D. J. B. MINERALS
 DDH No. DDH MS 74-4 CLAIM
 LOCATION
 DIP ANGLE DATE PAGE 3

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0-1.8	Overburden							
1.8-8.5	Diorite	Med. Green	mg	1.8-2.7 Generally very weathered and rusty. Core is broken into pieces no larger than 5 cm. 2.7-8.5 Generally quite massive although broken by two sets of fractures One // core axis & best developed one at 6.6 and remains so until end of unit. Foliation caused by stretching & possible shearing.	0° 45° 35°	Generally minor epidote veinlets & weathered out quartz-carb veins. Moderate chlorite 6.6 - 8.5		NQ - 6'-21' BQ - Rest
8.5-13.9	Rhyodacitic Tuff	Lt. Grey	fg-mg	Generally, fairly massive although well foliated. Recovery very good & core quite competent. Becomes finer grained towards lower contact - probably hornfelsed. 10.7-11.3 - fine lapilli sized quartz - feldspathic fragments.	45°	Moderate sericite along foliation.	At 9.4m have 5cm qtz-pyrite vein?	
13.9-15.2	Intermed.? Dyke	Med. Grey	fg-mg	Fairly massive but stretched & foliated dyke. Chill margin on top contact - 1-2 cm but recovery not complete. Chill contact at stretched feldspars and/or qtz. Bottom contact sharp but not chilled	55° 85°	Good chlorite along foliation. Often good quartz veining.	Generally moderate pyrite throughout, usually as stringers or associated with quartz veinlets.	

FROM TC	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
15.2-24.2	Rhyolite Tuff	Lt. grey	fg-mg	Small (<1cm) to lapilli size, stretched quartzofeldspathic phenos. Fairly homogenous.		Moderate sericite throughout. Some areas have good chlorite, but it's not pervasive.	Minor pyrite as disseminations and stringers mainly towards the top of the section (ie above 19.2). However py does occur below this - often smeared on foliation planes. Trace chalcopyrite.	Core well broken. Max. length = 8cm Gouge at 17.4 $\infty = 25^{\circ}$
24.2-26.4	Rhyolite Tuff	Light-Medium Grey	fg-mg	Light grey tuff with darker grey bands. Darker are generally 1.5cm and occur heterogeneously throughout the lighter grey tuff. Darker grey bands preferentially contain quartzofeldspathic phenos ≈ 1 mm in size.		Good sericite and minor chlorite. Minor quartz-carbonate veins.		
4-34.7	Rhyolite Tuff	Light Grey		Same as from 15.2-24.2 except for sulphide.			Trace pyrite.	
34.7-65.1	Rhyodacitic Tuff	Medium grey/green	mg	Generally medium gr. to lapilli size fragments in a fine-grained matrix. Very homogenous unit.	45°	Moderate chlorite and minor sericite. Very occasional quartz vein.		At 50.3m have a gouge zone @ 15° containing good clay alteration. Zone 10-15cm wide.
65.1-72.8	Rhyolite Tuff	Light grey	fg	Very homogenous fg matrix with slightly darker mg fragments.		Minor sericite and even less chlorite. Minor quartz-carb veins.		
72.8-118.3	Rhyolite Tuff	Light grey to 80.2m greenish/grey to 118.3m	fg-mg	The top of the section is quite similar to above unit but is distinguished by the presence of sausseritized feldspar phenocrysts. <u>Hanging Wall</u> - Feldspars generally small & sporadic at first but increase in size and number and form distinct clots as get closer to a 5cm pyrite stringer at 80.5m.				

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Unit is generally light grey with faint banding at 60°. Very siliceous. Footwall : Sausseritized feldspar clumps are < 1.5cm for 25cm below the pyrite stringer at which point they diminish in size to 1-2mm. Faint colour banding caused (?) by preferential alteration.	60°	Minor sericite. Chlorite alteration is pervasive for 23cm above stringer. Very good chlorite alteration in all of footwall generally increasing towards the bottom of section. After 89.0m feldspars are not detected but could be completely altered by chlorite. Sericite also picks up towards bottom.	Trace disseminated pyrite, throughout. 5cm pyrite (quartz, + feldspar) stringer at 80.5m @60° Many small pyrite stringers throughout the H.W. generally 1-3mm thick. Often with accessory quartz and occasionally with alteration selvage (chlorite) of 1cm or so. Disseminated pyrite is present throughout the section but increases with depth.	
118.3-130.3	Rhyolite Tuff	Light grey	fg	Very siliceous. Generally very homogenous but faint banding at 75° (diff. alteration).	75°	Good sericite. Minor chlorite.	Trace diss. pyrite.	15cm of fault gouge at 125.9m. In general core is less competent below gouge and breaks into pieces 1-2 cm.
130.3-143.1	Rhyodacite Tuff or Altered Rhyolite Tuff	Green/grey	fg-mg	Possibly minor feldspar development. Looks quite similar to footwall unit from 80.5-118.3. Possible fault repeat?		Good chlorite - becomes very schistose at depth. Minor sericite.	Occasional quartz-pyrite stringers. Often disseminated pyrite.	
143.1-180.7 1m of core missing at 180.2	Rhyolite Tuff	Light grey	fg-mg	Fine grained tuff occasionally with lapilli sized fragments. Occasional small quartz eyes. Similar looking to unit at 118.3-130.2 but less sericite alteration. More lapilli sized clasts and quartz eyes towards bottom of section.		From approximately 169.8 to 181.7 there is preferential chlorite alteration resulting in greenish "splotchy" looking rock. Minor chlorite throughout. Minor, but better sericite.	Fair amount of disseminated pyrite especially in the top half of the section. Also fair amount of small (1-2mm) stringers of quartz-pyrite with very occasional chalcopyrite.	Fault gouge at 158.2-158.8

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
180.7-181.4	Core Missing			8cm piece of core containing chill margin. Contact at 60°.	60°			
181.4-182.0	Rhyodacite Tuff			Fairly siliceous. Often 1-2mm feldspar phenocrysts. Often good fragments.				
182.0-183.2				Fault Gouge.				
183.2-185.3	Gabbro	Grey/green	fg	Fine grained - No feldspar visible but possibly altered.		Minor chlorite. Minor quartz veining.	Good disseminated pyrite. Leucoxene after magnetite.	
185.3-194.5	Fault?	Light grey	fg-mg	Silicified fracture zone. Quite broken with minor areas of gouge. Some silicified areas look like annealed gouge.		Minor chlorite and sericite.		
194.5-195.7	Gabbro	Dark green	fg	Quite broken. Much of it is more or less solid gouge. Feldspar sometimes distinguishable.		Minor chlorite. Minor quartz veining.		

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (ft)	TO (ft)	MAJOR OXIDES									TRACE ELEMENTS					Rock Type	Alt	Min	Grid
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	P ₂ O ₅	ppm Cu	ppm Zn	ppm Ba	ppm Ag				
0421	31.0	41.0	70.6	13.2	1.58	1.54	1.48	3.17	3.69	0.045	0.17		26	260	4200					
	91.45	12.5																		
0422	131.0	141.0	72.7	13.2	1.07	2.02	2.74	2.21	2.87	0.085	0.18		26	560	7800					
	39.96	62.99																		
0423	231.0	241.0	73.6	12.7	0.93	2.75	1.27	2.76	2.17	0.049	0.17		65	730	2310					
	20.43	73.68																		
0424	340.0	350.0	48.3	18.3	0.96	8.17	0.28	2.42	13.6	0.407	0.67		1530	440	1800					
	103.66	106.71																		
0425	432.0	442.0	57.8	15.9	0.89	6.55	0.12	3.01	7.59	0.191	0.55		240	260	1140					
	131.71	134.76																		
0426	526.0	536.0	73.8	12.3	1.15	1.69	1.47	2.96	3.17	0.013	0.15		930	38	5000					
	160.37	163.41																		
0427	601.0	638.0	75.3	12.1	2.45	1.11	4.26	1.04	0.70	0.015	0.17		8	20	650					
(8' Recovered)	183.23	194.51																		

Hole No. _____

Entered by _____

Logged by _____

Page No. _____

MS 74-5 Summary Log

0 - 1.8	Overburden
1.8 - 8.5	Diorite, gradational contact
8.5 - 34.7	Rhyolite Tuff and Lapilli Tuff, banded in places, minor pyrite
34.7 - 50.3	Rhyodacitic Lapilli Tuff
50.3 - 50.45	Gouge Zone
50.45 - 65.1	Rhyodacitic Lapilli Tuff
65.1 - 118.3	Rhyolite Tuff, feldspar phyrlic, diss. py., occas. stringer, chlorite alteration
118.3 - 130.3	Rhyolitic Tuff, sericitic
130.3 - 143.1	Rhyodacite Tuff, chloritic, diss. py. occas. qtz- pyrite stringer
143.1 - 158.2	Quartz Eye Rhyolite Tuff to Lapilli Tuff, fragments increase towards bottom, minor sericite and chlorite, diss. py. and stringers of qtz-py with tr cp.
158.2 - 158.8	Fault Gouge
158.8 - 182.0	Quartz Eye Rhyolite Tuff to Lapilli Tuff, fragments increase towards bottom, minor sericite and chlorite, diss. py. and stringers of qtz-py with tr cp.
182.0 - 183.2	Fault Gouge
183.2 - 195.7	Gabbro, including fracture/fault zone

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
0 to 4.7	Overburden					
4.7 to 8.1	Felsic (lapilli) tuff (1-3% quartz eyes)	- pale grey-green - tuffaceous looking - visible 1-4mm angular chloritic fragments - moderately sheared - quartz eyes - oblate in plane of schistosity - no discernable rodding (1-3mm in size)	37°	- weak chloritic alteration as thin shears and smears (may represent chloritic fragments) - generally weakly sericitic (micaceous schistosity planes) - @ 8.5m pyrite associated with 5mm thick chloritic stringers	- trace-1% fine-coarse (3mm) disseminated pyrite generally 5mm thick pyrite associated with sil-qtz zone at 5.5m, 7.8m, 8.5m. - trace cpy @ 6.5m 6.7m 7.8m (malachite) - @ 7.0 (20 cm section missing possibly assay)	- chloritic smears 1mm thick often cover up to 1cm sized areas along schistosity.
8.1 to 8.7	fine grained massive mafic intrusive	- dark green, aphanitic - massive, tr. 1-2mm feldspar phenocrysts - not sheared - minor faulting (slickensides and weak quartz veining) at lower contact		- 1-2% carbonate veinlets (white calcite) - weakly (1%) quartz veined	- nil	
8.7 to 13.1	Felsic (lapilli) tuff (tr-2% quartz eyes)	- similar to (4.7-8.1m) - @ 10.2 - cluster of 2-3mm chloritic angular lenticular fragments - @ 12.0m - 1% 1.0mm subhedral white feldspars @ 10.5 - tr 1.0mm feldspar down section - 11.5m.	50°	- v. wk sericitic defining schistosity - wk chloritic slips and smears or planes of schistosity.	- tr-1% fine pyrite - 10.3-11.5 tr dissem- inated cpy with 1-2% py.	- @ 9.0m 20cm section "resistivity test"

<u>From To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
13.1 to 13.2	mafic to (intermediate) intrusive	- light grey, aphanitic - tr-1% 1mm subhedral feldspars - 1% thin 2mm long prismatic mafic phenocrysts? not sheared		- 1% fine carbonate veinlets	- nil	- lower contact high angle approx. 90° to core
13.2 to 14.0	felsic tuff	- pale grey-green, tuff - 1-3% 1-3mm qtz eyes (larger ones are possibly amygdules) - moderately sheared - 1% mm sized feldspar scattered throughout (same as above)		- weak chloritic and sericitic	- @ 13.3 - 1% pyrite with tr cpy	
14.0 to 14.2	fine intermediate (to felsic) tuff (1% mm sized feldspars)	- grey-green, 1.0mm max fragment size - uniform tuff - no quartz eyes, numerous visible mm. sized chl dark fragments with 1-2% mm feldspars.		- dark-weakly chloritic	- nil	
14.2 to 14.4	felsic tuff	- pale grey - 1% qtz eyes 1-2mm weakly sheared	60°	- weakly chloritic and sericitic	- tr pyrite	- same as qtz eyes felsic tuff above
14.4 to 15.1	Intermediate (to felsic) tuff	- grey-green - sharp upper contact - same as 14.0-14.2m - no qtz eyes	70°	- weakly chloritic to sericitic	- tr pyrite	
15.1 to 16.4	felsic tuff (1% qtz eyes)	- pale grey - 2-4mm qtz eyes scattered throughout (trace amounts) see an occasional 1.0mm white feldspar - moderately sheared - uneven wavy schistosity	gradually from 60° 28° (@ 15.5m)	- a little darker than quartz phyric felsic tuff up hole possibly wk moderately chloritic	- tr-1% disseminated py - tr cpy in spots (16.3m)	

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
16.4 to 19.3	mafic (to intermediate) intrusive	- medium-grey, fine grained to aphanitic - massive - essentially unsheared - 1% 3mm amygdules (carbonate filled)		- strong carbonate alteration both pervasive and in mm thick irregular veinlets	- nil	- similar to thin intermediate intrusive at 13.1-13.2
19.3 to 30.3	feldspar porphyritic felsic (interm.) tuff to lapilli tuff (tr qtz eyes)	- pale grey-green - average 1% quartz eyes 1-3mm in size - 1-10% 1.0mm subhedral-euhedral white feldspars particularly abundant (>5%?) at 22.7-23.1 - lapilli sized (1cm - 4cm) are visible down hole from 23m. - fragments are dark (but felsic in composition, often with 1% fsp) and angular to lenticular in shape. - 1-2mm sized dark fragments are nearly always visible scattered throughout - generally only weakly schistose	approx. 75°	- weakly chloritic (chloritic smears or schistosity planes may be fragments)	- tr py throughout - significant (tr only) specks and disseminated cpy noted to approx. 25.5m. and in section from 28.2 to 30.2	- definitely a fragmental (tuff) felsic volcanic
30.3 to 30.5	fine grained mafic (inter- mediate) intrusive?	- grey-green, fine <1.0mm - can see 1% fsp looking mm sized		- strong carbonate >5% in matrix and in fine veinlets	- nil	

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
30.5 to 44.95	felsic lapilli to coarse lapilli tuff (feldspar porphyritic)	- pale grey with green - similar to 19.3-30.3 in percentage of quartz eyes and feldspars though coarser with dark lenticular to angular rock fragments up to 4cm long not uncommon - from 40m - 45m more bedding contacts between lapillistone phases and qtz-eyes (to amygdule looking) tuffaceous 40.1-41.2	90°	- wk sheared and chlorite seen probably from dark chloritic fragments	- 1-2% fine disseminated pyrite throughout - tr cpy as 2mm clots and disseminations - tr cpy disseminated with 1-2% py in section from 40.7 to 44.9m.	- Sulphide minerals associated with chloritic zones and fragments - from 40.3 to 44.95 looks more like tuff to lapilli tuff (feldspar phytic of course)
44.95 to 45.0	fine grained mafic porphyritic intrusive	- grey-green, aphanitic matrix - 5% thin 2-3mm long mafic phenocrysts - anhedral - weak sheared	upper contact 70°	- strong carbonate in matrix - 5-10%	- nil	
45.0 to 45.4	felsic to intermediate tuff to lapilli tuff	- grey - similar to tuffs above i.e. to 44.95m - tr quartz eyes, tr feldspars		- weakly chloritic	- 1-2% pyrite	
45.4 to 45.5m	f.g. mafic porphyritic intrusive same as 44.95-45.0					
45.5 to 47.6	felsic to intermediate tuff	- grey - 1-2% quartz eyes 2-3mm in size (often amygdule looking) tuffaceous texture - hard to positively identify feldspars, 2-3% overall? - fragments are generally less than 2mm		- weakly chloritic	- 2-3% disseminated pyrite	

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
47.6 to 48.0	tectonic breccia fault zone?	- cm sized greenish to greyish angular fragments in carbonate matrix or chloritic gouge	approx. 30°?			
48.0 to 53.7	quartz- feldspar porphyritic tuff? grading into feldspar porphyritic tuff	- 2-5% 1.0mm-3.0mm quartz eyes becoming less visible near bottom - 1-2 to 15% 1.0mm euhedral to subhedral white feldspar (becoming more visible by 52.0m) up to 1cm long dark fragments visible; tuffaceous looking throughout		- moderately chloritic from 48.0 to approx 51.0m - from 51.0 to 53.0 the feldspathic zones are weak to moderately sericitic	- tr.-1% pyrite as fine disseminations and 3-4mm sized clots - tr cpy scattered from 50.0 to 52.0m.	- can't see contacts yet it gets quite feldspar-rich down hole.
53.7 to 69.3	felsic to intermediate coarse tuff	- grey-green - 1-3% Qtz eyes 1-3mm in size (some may be amygdulose?) - abundant 1-2mm sized dark angular fragments - tr feldspar phenocrysts schistosity not well defined - generally at high angles but at 57.0	80°? 10°	- 3-4cm wide quartz vein at 20-25° to core axis at 57.2 62.4 - v wk sericitic - wk to moderately chloritic (these may be fragments) generally	- up to 10% disseminated pyrite along 3cm wide zones near: 56.1m. - tr cpy as clots up to 1cm in size at 57.9, 57.8 associated with a quartz chlorite zone	- toward bottom of hole - quite tuffaceous - with abundant visible 1-2mm dark fragments
69.3 to 85.3	intermediate to felsic feldspar porphyritic tuff to lapilli tuff	- green-grey - gradational contact - 2-3% 1-3mm quartz eyes dark angular - lenticular chloritic frags generally 1-2mm in size in bleached matrix only weakly sheared - no strong fabric - 2-10% 1.0mm subhedral feldspar generally visible throughout - from 81.0m increase @ 81m in development of schistosity i.e. moderate schistosity (including some ground core) until 82.0m.	approx. 68° 50°	- wk sericitic - moderate to strong chlorite alteration mozaic pattern on tuff (easy to scratch) at 69.7 - 10cm zone 70.7 - 5cm zone 70.1 - 3cm zone from 79.3 - 85 moderate chlorite alteration - bleached from 78.5 to 79.0 and 84.3 to 84.4 - 81.5 - 83.2 - quite chloritic (dark green) looking almost mafic - 81.8 - 3cm quartz in broken core - 85.3 - rough banding over 5cm section, silicification	- nil to 1% disseminated pyrite	- sections of core i.e. 72.9 - 74.5 79.0 - 81.7 - contains lapilli sized fragments(?) up to 3cm (dark with angular fuzzy shapes) which may be effect of chloritic alteration

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
86.0 to 98.3	(felsic to) intermediate lapilli-tuff (similar to above)	- grey-green - 2-3% 1.0-3mm quartz eyes (mortar texture Qtz) - 1-2% subhedral mm feldspars - 10% angular to lenticular dark fragments 1-10mm in size (average 2mm) - schistosity not well defined - lower contact not sharp ie grades into tuff over 3-4cm?	approx. 70°	- no sericite (probably intermediate in composition) wk irregular chloritic patches 3-4cm in size - possibly fragments - seen throughout section - minor carb veins at 88.0 89.0 92.6 which follow the core axis - carb/hematite slips from 94.0 to 94.6!	- tr-1% py throughout - some minor disseminated chalcocopyrite near 87.8 and 90.0	- at 86.0 - single silicified 1cm band (with fragments) at 40° to core - definitely tuffaceous - but some large chloritic zones maybe alteration
98.3 to 110.4	intermediate (felsic) tuff grading into feldspar porphyritic tuff (by approx. 105m)	- medium green - 1-2% 2-3mm quartz eyes - tr 1.0mm feldspar at 99 to 5.7% 1.0mm subhedral feldspar at 106m - weakly schistose at 99 though irregular - broken up core from 99.6 to strongly gouged at 102.7	>60°	- moderately chloritic giving core green colour up hole - mod. sericite development associated(?) with increasing feldspar content down hole!	- tr py to nil through- out	- no large fragments as last section
110.4 to 114.7	felsic feldspar porphyritic tuff	- pale grey-green - 10% hazy 1.0mm feldspars, 1% 2.3mm quartz eyes - some visible fragments up to 3mm in size - weakly schistose		- feldspar are weakly saussuritized from 111m - wk sericitic	- tr disseminated py	- more felsic than last with more competent core
114.7 to 122.5	felsic tuff to lapilli tuff	- pale grey - tr-2% 1.0mm subhedral feldspar 1% quartz eyes 1-3mm in size - visible 1:3mm dark fragments? - schistosity not well defined	>80°	- wk sericitic - wk carbonate veinlets at 116.9-117.6 - minor 2-3cm white quartz at 118.6	- tr-1% disseminated py - tr cpy in fine disseminated at 116.4 119.3 122.0	- possibly less altered variation of lapilli? tuffs above

<u>From To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
121.5 to 122.8	quartz feldspar porphyritic tuff?	- grey - 2-3% 1-2mm quartz eyes - 3-4% 1.0mm subhedral-euhedral feldspars - siliceous - not foliated			- tr pyrite fine disseminated	- no real upper and lower contact probably a phase of the felsic tuffs
122.8 to 127.7	felsic (to intermediate) tuff	- pale grey-green - 2-3% 1-3mm quartz eyes - tr-3% 1mm subhedral feldspar some visible dark fragments average 1.0mm in size - not very schistose		- only weakly sericitic - chloritic streaks on some schistosity planes (up to 1cm in size) are probably fragments - wk carbonate veinlets	- 1% very finely disseminated py - possibly some cpy associated	
127.7 to 129.9	siliceous felsic volcanic tuff? (weakly quartz porphyritic)	- medium grey - quite siliceous - 3-5% 3-5mm quartz eyes - mottled look - possibly reflecting some fragment or subtle alteration - not foliated	approx. 30°	- only weakly sericitic	- tr py	- possibly thermally metamorphosed
129.9 to 139.75	fine grained feldspar porphyritic mafic intrusive	- grey-green, porphyritic with phaneritic matrix - 0.5mm - 5% 1-2mm subhedral-anhedral pale feldspars + carbonate (replacement?) - some euhedral shapes - feldspar content decreases to 2-3% by 133.2m to none - becomes coarser down hole		- 5-10% carbonate in matrix and in coarse (rare) carbonate-pyrite veins (138.8)	- nil except for coarse pyrite (up to 40%) in cm wide carbonate vein along core from 130.4-130.8	

<u>From</u> <u>To</u>	<u>Rock Type</u>	<u>Texture and Structure</u>	<u>Angle to</u> <u>Core Axis</u>	<u>Alteration</u>	<u>Sulphides</u>	<u>Remarks</u>
134.75 to 138.80	felsic tuff to lapilli tuff (weakly quartz- porphyritic)	- siliceous - same as section from 127 to 129 - 1-3% 2-3mm quartz eyes becomes lapilli tuff from about 136.7 - dark angular-lenticular fragments visible up to 2cm long - tr feldspar seen at 137m - not very schistose - lower contact marked by sudden decreased in 1-2cm fragments	85°	- very weak chlorite alteration - minor quartz veins near intrusive contact at 134.8 and near 138.6m		- tr disseminated py
138.8 to 151.18	siliceous felsic tuff- lapilli tuff (wk quartz and feldspar porphyritic)	- 1-3% quartz eyes scattered feldspars up to 3-4% - visible 1-3mm dark angular fragments from 143.1-143.8 - some vague 1-4cm dark fragment like shapes in weakly bleached matrix (similarly from 147.4-149.0) - weakly sheared	70°	- strongly silicified/ bleached along 10-20cm sections down hole i.e. 139.7-139.9 140.4-140.5 141.3-142 142.5-142.7 143.5-144.1 144.4-144.5 146.5-146.8 150.5-151.2 - wk chloritic and sericitic - minor qtz veins (145.0)	- tr py	- this section shows strongest bleaching and silicification? of whole hole
151.18	E.O.H.					

Conclusions

MS 74-6 did not intersect the stratigraphy exposed on surface (i.e. green-mica horizon, 2 chert horizons, mafic-intermediate tuff) along most of the Bulldozer trench 30m west of L23E, BL 1+83S. This confirms the presence of small fold structure (a synform) occurring along shallow north dipping volcanics and cherts as suggested by the surface geology. The coarse felsic volcanic tuff-lapilli tuffs (with quartz eyes and weakly feldspar porphyritic) seen in the hole are similar to those exposed farther up the hill (22+60E, 2+50S) and in Tom's Shaft and adit near L24E, 2+25S. Although there is some weak pyrite (chalcopyrite) mineralization and weak chlorite alteration near the top of the hole the felsic rocks down the hole are geochemically relatively unaltered; it does not compare to the mineralization and alteration seen 150m to the west (L21+50E, 1+50S) on surface or 100m to the east at Tom's Shaft, or the style of alteration seen in the Postuk-Fulton trench near L2W, 1+70N.

Summary Log MS 74-6

0.0 - 4.7 overburden
4.7 - 8.1 felsic tuff to lapilli tuffs, 1-3% quartz eyes (1-3mm), 1-4mm chloritic fragments, wk chlorite/sericite, 1% pyrite, tr chalcopyrite
8.1 - 8.7 fine grained mafic intrusive, trace 1.2mm feldspars, 1-2% carbonate veinlets
8.7 - 13.1 felsic (to lapilli) tuff, similar to (4.7-8.1) 1% imm feldspars, very wk chlorite/sericite, 1% pyrite, tr chalcopyrite
13.1 - 13.2 fine grained mafic intrusive, 1% 2mm prismatic mafic phenocrysts, tr 1mm feldspars, 1% fine carbonate veinlets
13.2 - 16.4 felsic tuffs, similar to 8.7-13.1m, variable quartz eyes 0-3%, 1% pyrite, tr chalcopyrite
16.4 - 19.3 fine grained mafic intrusive, 1% 3mm carbonate amygdules, strong carbonate pervasive alteration
19.3 - 30.5 feldspar porphyritic felsic tuffs to lapillit tuff, 1-10% mm sized feldspars, 1% 1-3mm quartz eyes, 1mm-4cm dark fragments, wk chloritic, tr pyrite, chalcopyrite
30.5 - 47.6 felsic to intermediate lapilli tuffs, chloritic fragments up to 4cm in size, 1-2% quartz eyes, vague, wk chloritic, 1-2% pyrite, tr chalcopyrite
47.6 - 48.0 tectonic breccia, possible fault zone
48.0 - 127.7 felsic to intermediate tuff, lapilli tuffs, 1-3% 1-4mm quartz eyes, 0-10% feldspars, wk to moderate chlorite, wk sericite, tr-1% disseminated pyrite
127.7 - 129.9 siliceous felsic tuff, 3-5% quartz phenocrysts, very wk sericitic
129.9 - 134.75 fine grained feldspar porphyritic mafic intrusive, 3-5% mm sized feldspars, moderate to strong carbonate (pervasive) alteration
134.75 - 138.80 siliceous felsic tuff to lapilli tuff, similar to 127.7-129.9, grades into lapilli tuff by 136.7, very wk chloritic
138.80 - 151.18 felsic tuff to lapilli tuff, 1-3% quartz eyes, 3-4% scattered feldspars, fragments up to 4cm, silicified/bleached along 20-30cm zones, tr pyrite

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM ()	TO ()	MAJOR OXIDES										TRACE ELEMENTS						Rock Type	Alt	Min	Grid							
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	ppm Ba	ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppb Au												
BCD 2876	19.0	12.0	71.2		.157	1.17	.480				.150	2630	920	27															
moderately(?) altered felsic tuff with good barium and copper anomalies associated with													1-2% pyrite																
2877	37.0	40.0	73.6		.339	1.55	2.63				.133	1170	270	26															
felsic lapilli (feldspar phytic) tuff with 1-2% disseminated pyrite and trace chalcopyrite																													
2878	61.0	64.0	71.9		.596	1.08	1.70				.133	1080	42	24															
2879	90	93.0	69.5		1.14	1.99	2.20				.150	1490	740	30															
2880	122	125	68.5		.748	1.69	2.16				.167	1030	2060	48															
2881	148	151.2	69.7		1.85	2.65	2.08				.150	1800	7	30															

Hole No. MS 74-6

Entered by Marc Legault

Logged by Marc Legault

Page No. _____

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DRILL HOLE RECORD

METRIC UNITS
IMPERIAL UNITS

HOLE NUMBER MS-74-7	GRID PF	FIELD COORDS	LAT 641S	DEP 449W	ELEV 400m	COLLAR BRNG 180T	COLLAR DIP -56°	HOLE SIZE BQ	FINAL DEPTH 228.35m
PROJECT 205	CLAIM #	SURVEY COORDS				DATE STARTED: DATE COMPLETED: 1974	CONTRACTOR CORE STORAGE: Fulton's Farm CASING		

PURPOSE RELOG OF PREVIOUS DRILLING	RQD LOG COLLAR SURVEY	PULSE EM SURVEY MULTISHOT SURVEY
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ACID TESTS				TROPARI TESTS			MULTISHOT DATA		
DEPTH ()	CORRECTED ANGLE	DEPTH ()	CORRECTED ANGLE	DEPTH ()	AZIMUTH	DIP	DEPTH ()	AZIMUTH	DIP

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
(0-130.94)	DIORITE (QUARTZ DIORITE)	dark green	fg-cg	<p>Massive to weakly foliated dioritic intrusion. Usually mg, speckled due to weakly altered feldspars but grading locally to fg, carbonate rich zones. Quartz up to 5%. Leucoxene pervasive. Several weathered fracture zones in upper 15.24m.</p> <p>(24.69-28.04) & (33.53-50.00) Mg-Cg, equigranular, moderately magnetic phase. Intervening not mtc. zones are fine grained and carbonated. No obvious contacts.</p> <p>(44.81-45.42) Barren white quartz vein.</p> <p>(53.35-57.01) Moderate qtz-carb veining in moderately foliated zone</p> <p>(57.01-59.45) Core quite fractured. Hematite on fractures. Stronger qtz-carb vein zones occur at 100-100.30; 105.18-106.09. Chilled over 1.82m at base. Groundmass becomes much finer. Feldspar stands out as epidotized isolated clots.</p>	<p>45-50°</p> <p>(51.82)= 45°</p> <p>62°</p> <p>(79.26)= 40°</p> <p>(128.04)= 50°</p>	Local carbonated zones.	NIL	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
(130.94- E.O.H.)	RHYOLITE TUFF OR FLOW (g-e)	light grey	fg	<p>CONTACT SHARP AT</p> <p>Rather homogeneous rhyolitic material with occasional quartz eyes. Moderately-well foliated. Distinctly stringery pyritic accompanies the distinctly footwally alteration.</p> <p>Near contact with the diorite, unit is baked, more siliceous looking. Probably tuffaceous but alteration has masked all primary textures.</p> <p>(147.25-150.30) Badly broken and ground section where qtz veins cut the sericitic rhyolite. However, no indication of major fault. Same unit lies on both sides.</p> <p>Local crenulation.</p> <p>About 167.68 a slight increase in stringer density is apparent, culminating around 195.12 with a very strong stringer but still being present at the end of the hole.</p> <p>(219.20-228.35) Badly broken with ground sections. Some poss. fault</p>	<p>60°</p> <p>(133.53)= 57°</p> <p>(144.81)= 45°</p> <p>(153.96)= 55-65°</p> <p>(174.69)= 48°</p> <p>(201.21)= 48-53°</p> <p>(213.41)= 40-45°</p> <p>(224.08)= 59°</p>	<p>Weakly to moderately sericitic, locally strong. Generally quite uniform though, with changes being gradational. Everything is altered.</p> <p>Local intensely sericitic crenulated zones are present within the zone of increased stringer activity.</p>	<p>Locally strong, stringer pyrite, elsewhere almost ubiquitous 1-2% disseminated Py, smeared out along foliation.</p>	<p>Definitely no fault at contact.</p> <p>Quartz-eyes locally large (7 or 8mm) but never exceed 5% and are usually only 1-2%. Call g-e rhyolite tuff/flow, rather than QP</p>

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
(228.35) E.O.H.				gouge. However, still in sericitic, stringery rhyolite to end.				

LITHOGEOCHEMISTRY

MAJOR OXIDES

TRACE ELEMENTS

SAMPLE NUMBER	FROM (m)	TO (m)	MAJOR OXIDES										TRACE ELEMENTS					Rock Type	Alt	Min	Grid						
			SiO ₂	Al ₂ O ₃	CaO	MgO	Na ₂ O	K ₂ O	FeO	MnO	TiO ₂	P ₂ O ₅	ppm Cu	ppm Zn	ppm Ba	ppm Ag	ppb Au										
BCD 417	457 139.32	467 142.37	69.7	13.2	0.99	3.33	0.36	2.60	3.68	0.075	0.18		470	31	1080												
418	544 165.85	554 168.90	73.8	13.0	0.72	3.30	0.38	2.74	3.12	0.046	0.17		44	34	1940												
419	636 193.90	646 196.95	67.2	14.4	1.22	1.99	1.12	2.71	5.55	0.039	0.18		980	31	1620												
420	715 217.98	725 221.03	71.9	12.9	0.98	3.22	0.32	2.43	3.64	0.050	0.17		137	29	1410												

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0 - 16 (0-4.87)	Overburden							
16 - 50 (4.87-15.24)	Rhyolite Tuff	grey	f.g.	Quite massive, hornfelsed looking rhyolite. Possibly weakly banded @ Occasional quartz-eye but rare. CONTACT NOT SEEN	35°	Weakly sericitic but masked by baking?	1-2% disseminated py	
50 - 53 (15.24 - 16.15)	Diorite	green	f.g.	Quite strongly qtz-carb veined. Weakly magnetic CONTACT NOT SEEN				
53 - 74 (16.15 - 22.56)	Rhyolite Tuff	grey		As above. Still quite strongly baked. CONTACT SHARP @	(22.25) 73= 70° (rel. to intrus.?) 70°		1-2% py	
74 - 85 (22.56 - 25.91)	Diorite	green	fg-mg	Epidotized feldspar clots in fg matrix. Quite strong qtz-carb veining. CONTACT GROUND				
85 - 110 (22.91 - 33.53)	Rhyolite Tuff	grey	fg	As previously described CONTACT SHARP AT	(32.01) 105=50° 65°	Weak sericite	1-2% py	Still hornfelsed

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
110 - (3.53)	Diorite	green	fg-cg	Distinctly chilled over 3-4cm more subtly over 5 (1.52). Initially epidotized feldspar clots in finer matrix. Then varying from speckled, mg, feldspathic to finer grained carbonated phases. 157-162 (47.86-49.39) Strong fault zone. Badly fractured to about 178 (54.26) then into a moderately magnetic phase to 204 (62.19). Magnetite present here, elsewhere only leucoxene. 233-247 (71.03-75.30) Strong qtz-carb veined zone. First 6' (1.82) is pervasively brown, fe carb altered. Rest is mainly qtz-carb veining 247-680 (75.30-207.31) Very homogeneous mg-cg diorite. 680-720 (207.31-219.31) Fault zone. Main gouge at 707-713 (215.54-217.37). Badly broken above, and strongly carbonated below this.	(76.21) 250=45°	Local carbonate	NIL	
725 (221.03)	E.O.H.							

