

DIAMOND DRILLING



32D04SW0202 32 MCELROY

010

TOWNSHIP: MCELROY

REPORT No.: 32

WORK PERFORMED BY: FALCONBRIDGE COPPER

<u>CLAIM No.</u>	<u>HOLE No.</u>	<u>FOOTAGE</u>	<u>DATE</u>	<u>NOTE</u>
L 522815	SN-1	688.0	Sept./81	(1)
L 522814	SN-2	393.0	Sept./81	(1)
L 522814	SN-3	409.0	Sept./81	(1)
L 522821-2	SN-4	566.0	Oct./81	(1)
L 522818	SN-5	292.0	Oct./81	(1)
L 522818	SN-6	606.0	Oct./81	(1)
L 512350	SN-7	396.0	Oct./81	(1)
L 512350	SN-8	456.0	Nov./81	(1)

NOTES: (1) #204-82

# CORPORATION FALCONBRIDGE COPPER

## DRILL HOLE RECORD

METRIC UNITS  
 IMPERIAL UNITS

HOLE NUMBER SN - 1	LAT. Main Grid L 68 + 75 SE	DEP. 26 + 25 NE	ELEV. Unsurveyed	COLLAR BRNG. 030 True	COLLAR DIP -60°	HOLE SIZE AQ	FINAL DEPTH 688'
PROJECT PN 037 Superior NW	LOCATION Claim L 522815, McElroy Town- ship, Larder Lake Mining Division.	PURPOSE Test Zinc rich exhalite 400' beneath trench.	DATE STARTED Sept. 14, 1981	DATE COMPLETED: Sept. 19, 1981	CONTRACTOR: McKnight Drilling	CORE STORAGE: Moly Hill	CASING: Intact
ACID TESTS 300 -64°; 500' -62°; 600' -60°;					TROPARI TESTS 680' 025°, true -59°	PULSE EM SURVEY <input type="checkbox"/> MULTISHOT SURVEY <input type="checkbox"/>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 - 6.5	Casing	sand						
6.5 - 255.6	Mafic Intrusive (Gabbro)	Dark Green to Black with White Speckles	Variable Fine to Medium	Massive throughout  17.0 - Chilled contact with same unit (multiple intrusive events)  Quartz-carbonate-K-spar veined sections at:  32.0 - 33.0 36.8 - 37.5 45.3 - 45.4 51.1 - 51.2 52.3 - 52.5 56.0 - 56.5  133.0 - 140.0 - Gradual fining to aphanitic - v.f. grained section with a weak fabric at 40°  Overall 2% Qtz.-carbonate veinlets throughout.	30°          70° 60° 70° 80° 80° 70°    40°	Minor epidote-qtz. alteration along fractures and quartz veined sections.	None to trace pyrite cubes occasionally.	

HOLE NO. SN-1

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
255.6 - 296.1	Massive Basalt	Medium Green Overall	Fine to Aphanitic	<p>221.4 - 222.7 - f.g. basalt xenolith gabbro chilled for a few inches marginal to xenolith</p> <p>Contact chilled for 1 Ft.</p> <p>Massive non descript with vague hint of pillow selvedge-like zones (polygonal jointed flow ???)</p>	45°	<p>Very weak pervasive carbonate alteration.</p> <p>Strong zone of pervasive carbonate alteration.</p> <p>280.0 - 284.6</p>	Trace py possibly in pillow interstice.	Trace disseminated pyrite
296.1 - 330.5	Debris Flow Unit- Inter-bedded tuffs and basaltic flow material	Light Green to Dark Green with light grey bands	Tuffs of f.g. to cherty Basalt fragments aphanitic	<p>256.3 - 257.3 - Mafic dyke (f.g. gabbroic)</p> <p>261.0 - 264.0 - Feldspar porphyry dyke, hard, siliceous dark grey groundmass, white feldspars 30% (3 - 4 mm)</p> <p>284.6 - 292.0 - Feldspar porphyry dyke same as above but strongly carbonated and 2% -3% orange stained feldspar phenocrysts.</p> <p>Screens of bedded tuff, mafic and cherty felsic component, (overall intermediate composition) between massive or polygonally jointed basalt flow and debris.</p>	30°/45° 45°/60° 45°/45°	Basalt dark green and weakly chloritic. 1% -2% carbonate veinlets throughout.	Only trace pyrite as disseminations throughout.	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				<u>DETAILED BREAKDOWN</u>				
				296.1 - 301.5 - Bedded Tuffs	45°			
				301.5 - 305.5 - Polygonally jointed basalt				
				305.5 - 308.4 - Bedded Tuffs grading to lapilli tuff	45°			
				308.4 - 310.2 - Basalt.				
				310.2 - 314.0 - Coarser clastic debris, basalt fragments, mafic tuff matrix.				
				314.0 - 315.0 - Basalt				
				315.0 - 328.0 - Gabbroic Dyke				
				328.0 - 329.0 - Basalt				
				329.0 - 330.5 - Bedded Tuffs	45°			
330.5 - 377.0	Mafic Intrusive (Gabbroic) and with strongly carbonated section.	Dark Green to White Speckled	Fine to Medium	Massive 330.5 - 339.0 - Medium Grained. 339.0 - 367.0 - Fine to aphanitic, bleached look 367.0 - sharp contact with medium grained gabbro again.	45° Upper Contact Sharp 20°	Very mild, pervasive carbonate 339.0 - 367.0 - Bleached, strongly pervasive carbonate. 367.0 - 377.0 - lacks strong carbonate again.	None to trace disseminated pyrite.	
377.0 - 449.6	Debris Flow Unit	Dark Green to Grey	Fine to Aphanitic	377.0 - 379.4 - Massive Basalt 379.4 - 383.9 - Gabbroic Dyke 383.9 - 400.5 - Massive Basalt 398.0 - 399.0 - Fault Zone and gouge (chloritic)	45°			

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				400.5 - 403.0 - Bedded intermediate tuff (cherty beds 10%)	45°	Weakly chloritic		
				403.0 - 418.0 - Chloritized, weakly pyritic tuffs.	45°	Strongly chloritized	5% pyrite disseminations and as wisps or beds.	
				418.0 - 442.0 - Grey feldspar porphyry dyke (ragged upper and lower contacts.	45°/45°	Pink altered section 421.0 - 422.0	Trace pyrite.	
				442.0 - 449.6 - Chloritized weakly pyritic intermediate bedded tuffs.	45°		Trace to 2% disseminated pyrite.	
449.6 - 490.2	Mafic Intrusive (Gabbroic)	Dark Green and white speckled	Aphanitic Chill and fine centre.	Massive Contacts chilled for up to 12"	45°/20°	Minor epidote, quartz and pink feldspar alteration in zones around fractures as typical in gabbro.	Trace disseminated pyrite.	
490.2 - 503.8	Chloritic Debris Flow Unit	Dark and light Green Streaks	Aphanitic Basalts Ash to Lapilli Tuffs	Screens of weakly bedded chloritic mafic tuff (occasionally with lapilli sized felsic fragments) midst massive basalt.	Fabric at 45°	Moderate chlorite (dark green) Very weak pervasive carbonate alteration.	Overall 2%-3% disseminated pyrite. Pyritic rich sections 489 - 489.6 15% pyrite as streaks and wisps.	
503.8 - 504.4	Bedded Pyritic Horizon	Brassy Yellow to Dark Green	Fine	Bedded sulphides, magnetite and dark green chlorite	45° to 60°	Chloritic gangue material about 40% Carbonate material as veining 10%.	503.8 - 504.4* - Bedded pyrite (50%) chlorite-carbonate and magnetite. - No base metal sulphides observed.	

HOLE NO. SN-1

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
504.4 - 688.0	Differentiated Mafic to Peridotitic Intrusive	Dark Green to Green-Black	Fine	504.4 - to about 566, fine grained massive mafic similar to above ones. 566.0 - down section increasingly ultramafic with strong chloritic fabric. 577.0 - 593.6 - pink feldspar porphyritic dyke - siliceous 628.5 - 629.5 and 630.5 - 648.4 644 to 675.0 - Red feldspar porphyritic dykes -siliceous		Intense pervasive carbonate alteration in talc-chlorite altered ultramafic portion 2% - 3% free carbonate veinlets throughout.	2% -3% disseminated pyrite.  1% -2% disseminated pyrite  1% - 2% disseminated pyrite	
688.0	END OF HOLE							

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## DRILL HOLE RECORD

METRIC UNITS  
 IMPERIAL UNITS

HOLE NUMBER SN-2	LAT. Main Grid L 67 + 00 SE	DEP. 30 + 50 NE	ELEV. Unsurveyed	COLLAR BRNG. 235° True	COLLAR DIP -60°	HOLE SIZE AQ	FINAL DEPTH 393'	
PROJECT PN 037 SUPERIOR NW	LOCATION Claim L 522814 and L 522815 McElroy Township, Larder Lake Mining Div.	PURPOSE Test Zinc rich exhalite 200 Ft. West of SN-1		DATE STARTED: Sept. 21, 1981	CONTRACTOR: McKnight Drilling Co. Ltd., CORE STORAGE: Moly Hill CASING: Intact			DATE COMPLETED: Sept. 23, 1981
ACID TESTS 393' -60°					TROPARI TESTS None		PULSE EM SURVEY <input type="checkbox"/> MULTISHOT SURVEY <input type="checkbox"/>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 - 15.0	Casing							
15.0 - 94.0	Gabbro	Dark Green with white speckles and light Green Patches	Fine to Medium	Massive Grain size variation locally throughout section.		5% epidote, epidote Qtz. hematite stained quartz - k spar ?. Veinlets some times associated with epidote streaks. Weak pervasive carbonate	Trace pyrite as euhedral 1mm size cubes.	
94.0 - 105.0	Carbonated Lamprophyre Dyke	Dark Green with Black phenocrysts	Fine Ground-mass 2-3mm phenocrysts	Porphyritic in amphiboles and epidote after amphibole?	Contacts obscure	Strong pervasive carbonate Intense zone of 30% carbonate 94.0' - 94.7'	None	
105.0 - 114.7	Peridotite Intrusive	Dark Blue -Grey	Fine	Massive		Strong chlorite, talc carbonate alteration.	Trace disseminated pyrite	

HOLE NO. SN-2

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
114.7 - 135.7	Red Feldspar Porphyritic Syenite Dyke	Intense Brick Red	Fine Groundmass 2-3 mm pheno- crysts	Massive - porphyritic in feldspar 10% - 20% and amphibole needles 2-3%  Towards lower contact dyke becomes grey in colour 125.7 - 127.3 - section of peridotite as above.	Upper Contact 45°  Lower Contact 45°		2%-3% disseminated pyrite throughout	
135.7 - 144.3	Gabbro as at start of hole					Moderate pervasive carbonate alteration.		
144.3 - 220.0	Polygonally Jointed Incipient Pillowed Basalt	Light Green	Fine to Aphanitic	Massive with evidence of pyritic interpillow screen like structures and irregular seams (joints) with 1 cm bleached halos.		1% free carbonate vein- lets. Minor chlorite along slips.	Overall 1% pyrite. Occurs as concentrations up to 3% - 5% in inter-pillow materi and in joints.	
220.0 - 233.0	Bedded Chloritic Felsic Lapi- lli tuff (Debris Flow Unit)	Light Grey Green Matrix	Fragments	Felsic (rhyolitic) fragments up to 4 cm in a chloritic matrix, frags. 60%, matrix 40% Fabric - bedding like texture	30° to 40°	Matrix appears to be entirely chlorite (blue- green fibrous-platy mineral - perhaps antho- phylite	None	
233.0 - 256.3	Gabbro	As above						



FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
256.3 - 259.3	Chloritic Felsic-Lapilli Tuff	As	above					
259.3 - 307.5	Gabbro		Fine	As above				
307.5 - 330.5	Feldspar Porphyritic Syenite Dyke	Light Grey to Pink with White to Pink Crystals	Matrix Fine Pheno-crysts up to 5 mm	Porphyritic 30% - 40% feldspar crystals 5% amphibole needles 1-3mm 307.5 - 309.2 - quartz-epidote chlorite clot or zone at margin of dyke.		Weak pervasive carbonate	1%-2% disseminated pyrite	
330.5 - 351.0	Carbonated Lamprophyre Dyke	Black to Purple	Groundmass Aphanitic Phenocrysts 1-5 mm	Porphyritic in hornblende and biotite crystals (20%)	Irregular Contacts	Intense pervasive carbonate.	-	
351.0 - 361.6	Massive (Possibly Polygonally jointed) Basalt	Green	Fine to Aphanitic	Massive - sheared section 351 - 354 - marginal to dyke	45°	351 - 354 - strong pervasive carbonate marginal to lamprophyre dyke. Elsewhere weakly carbonated and minor epidote and chlorite along slips.	None	
361.5 - 393.0	Pink-Grey Feldspar Porphyritic Syenite Dyke	As above						
393.0	END OF HOLE							

HOLE NO. SN-2

# CORPORATION FALCONBRIDGE COPPER

## DRILL HOLE RECORD

METRIC UNITS  
 IMPERIAL UNITS

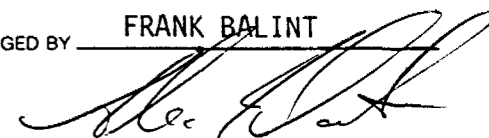
HOLE NUMBER SN-3	LAT. Main Grid L 65 + 00 SE	DEP. 31 + 25 NE	ELEV. Unsurveyed	COLLAR BRNG. 235° True	COLLAR DIP -60°	HOLE SIZE AQ	FINAL DEPTH 409
PROJECT PN 037 SUPERIOR NW	LOCATION CLAIM L 522814 - McElroy Township - Larder Lake Mining Div.		PURPOSE Test Zinc rich exhalite 200 Ft. west of SN-2	DATE STARTED: Sept. 25, 1981	CONTRACTOR: McKnight Drilling Co. Ltd. CORE STORAGE: Moly Hill CASING: Intact		

ACID TESTS 409' - 51°	TROPARI TESTS None	PULSE EM SURVEY <input type="checkbox"/> MULTISHOT SURVEY <input type="checkbox"/>
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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 - 13.0	Casing	(Ledge at 11 FT.)						
13.0 - 95.0	Mafic Intrusive (Gabbroic)	Dark Green and White Speckled	Medium to Fine	Massive - Subtle character change from medium grained speckled to finer grained light green appearance. Possible partially digested mafic volcanic xenolith	45°	Weak pervasive epidote replacing feldspars. 2% - 3% carbonate hematite stained silica veinlets.	Trace pyrite to none	
95.0 - 131.3	Peridotite (Intrusive)	Blue - Green	Fine	Massive 113.0 - 122.5 - red syenitic dyke feldspar porphyritic as below		Weak talc chlorite development. Moderate pervasive carbonate.	Trace pyrite	
131.3 - 139.8	Feldspar Porphyritic Syenite Dyke	Red to Orange	Medium to Fine	Massive - Feldspar phenocrysts up to 2 mm (20%) Contaminated hybrid contacts	Upper Contact 45° Lower Contact 45°	Weak carbonate alteration Minor chlorite along slip planes	1%-2% disseminated pyrite	

HOLE NO. SN-3

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
139.8 - 164.5	Felsic to Intermediate Bedded Tuffs and Lapilli Tuffs (Debris Flow Unit)	Light grey green to white bands	Ash to Lapilli	Overall about 20% fine beds and laminations and rest coarser weakly weakened lapilli tuffs. Very chaotic mixture.  Laminated sections generally at 45° to core axis however local primary disruption parallel to core axis. 151.8 - 161.0 - Mafic dyke (gabbroic)	45°	Weak pervasive epidote, no carbonate	Trace pyrite to none	
164.5 - 201.3	Massive Mafic Intrusive ?	Dark Green	Fine	Massive - featureless material yet resembles main intrusive		Weak pervasive epidote in sections. Light brown staining locally - iron carbonate ??	None	
201.3 - 225.0	Polygonally Jointed - Mafic Flows with Mafic Lapilli Tuff Screens	Dark Green	Fine to Aphanitic	Polygonally jointed ? - Pillowed ? flow or flows with screens of mafic to ultramafic lapilli tuff 201.3 - 205.8 - bedded ultramafic tuff - lapilli tuff 205.8 - 220.5 - jointed or pillowed massive flow. 220.5 - 221.0 - ultramafic debris 221.0 - 222.3 - gabbroic dyke 222.3 - 225.0 - ultramafic debris.	45°       60°/45°	Weakly chloritic, 1% hematite stained silica veinlets.	None	Trace pyrite and light brown stain in selvages (sphalerite ?)

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
225.0 - 248.0	Mafic Intrusive (Gabbro)	Medium Green	Fine	Massive 236.0 - 238.0 - Very ultramafic fine grained to aphanitic magnetic section . 236.0 - 236.1 - syenite dyke 239.0 - 240.0 - 1" carbonate -specular hematite veinlet sub-parallel to core axis. (5% hematite as a rim to vein)		Light pink staining throughout (hematite)	None	
248.0 - 294.6	Feldspar Porphyritic Syenite Dyke	Red to Light Orange	Medium to Fine Pheno- crysts.	Massive - feldspar porphyritic	Contacts Ragged	-	1% pyrite throughout	
294.6 - 390.6	Massive Mafic Volcanic with minor screens of Mafic-Tuff- aceous Debris	Dark green with mottled creamy brown sections	Fine to with clastic portion Lapilli to Ash	Overall 30% of section: Clastic screens consist- ing of light coloured inter- mediate to felsic fragments in a chlorite-biotite? matrix. Rest of section massive & mafic volcanic	Fabric generally 45°	Weak pervasive carbonate alteration. Matrix to clastic screens very chloritic. 294.6 - 300.0 - strongly carbonated marginal to syenite.	Trace pyrite to none	
390.6 - 409.0	Mafic Intrusive (Gabbro)	Dark Green	Fine to Medium	Massive - Coarsens down hole		Weakly chloritic	Trace pyrite	
409.0	END OF HOLE							

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## DRILL HOLE RECORD

METRIC UNITS  
 IMPERIAL UNITS

HOLE NUMBER SN-4	LAT. Main Grid L 72 + 75 SE	DEP. 5 + 75 NE	ELEV. Unsurveyed	COLLAR BRNG. 210°	COLLAR DIP -45°	HOLE SIZE AQ	FINAL DEPTH 566.0'		
PROJECT PN 037 Superior NW		LOCATION Claim L 522822, L522821 McElroy Township, Larder Lake Min. Div.		PURPOSE Test VLF, Mag and Sulphide Horizon beneath sulphide showing		DATE STARTED: Oct. 1, 1981 DATE COMPLETED: Oct. 6, 1981		CONTRACTOR: McKnight Drilling Co. Ltd CORE STORAGE: Moly Hill CASING: Intact	
ACID TESTS 566' -40°					TROPARI TESTS None			PULSE EM SURVEY <input type="checkbox"/> MULTISHOT SURVEY <input type="checkbox"/>	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 42.0	Casing							
42.0 - 406.0	Gabbro	Green and White Speckled	Medium to Fine	Massive - no fabric Equigranular 50.0 - 73.0 - Feldspar porphyritic syenite dyke. 103.0 - 104.0 106.3 - 107.0 134.0 - 134.3 Fine grained mafic xenoliths or dykes.		1%-2% epidote and hematite stained silica veinlets Weak pervasive epidote development	None to trace pyrite	
406.0 435.0	Hybrid Intrusive	Light Grey Green with Pink Speckles	Fine to Medium	Massive gabbro contaminated or altered by syenitic material  Red feldspar porphyritic dykes 415.5 - 417.0 and 421.3 - 424.4	45°/30° 45°/70°	Epidote-hematite stained veinlets 2% - 3%. Weak pervasive carbonated alteration.	Trace pyrite	
435.0 443.8	Gabbro	Same as at top of hole.						

HOLE NO. SN-4

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
443.8 453.0	Finely Laminated Pyrite, Magnetite Chlorite Chert -Iron Formation.	Creamy White, Dark Green and brassy bands	Very Fine Ash	Laminated ( 1mm scale) to beds (cm scale) <u>DETAILED BREAKDOWN</u> 443.8 - 444.5 - felsic tuffs 444.5 - 444.8 - Ultramafic pyritic tuff 444.8 - 445.3 - Grey-white quartz vein 445.3 - 446.3 - Ultramafic pyritic tuff 446.3 - 447.0 - Grey Quartz vein 447.0 - 447.5 - Magnetite - Chlorite horizon 447.5 - 448.8 - Massive banded pyrite 448.8 - 449.8 - Quartz vein 449.8 - 451.2 - Laminated pyrite-magnetite-chert- Dark green amphibole chlorite ?  451.2 - 453.0 - Magnetite -dark green fine chlorite or amphibole.	Consistent 45° 45° 45° 60°/45° 45° 45°/30° 45° 45° 45°/45° 50°/60°  45°	Chlorite-garnet developed 451' - 453'  Weakly sericitic Talc-chlorite carbonate  -  Chlorite  Chlorite veinlets 3%-5%  Chlorite  Chlorite-Amphibole ? Dark green mineral  Chlorite-amphibole ? throughout. Weak garnet developed 451.1 -451.2  Strongly chloritic ?	No Sulphides. 5% disseminated streaky pyrite.  <1% diss. pyrite.  5% -10% disseminated and streaky pyrite. 2% disseminated pyrite.  3% pyrite, 20% ? - Magnetite rest chlorite. 80% pyrite, 20% quart chlorite  2% disseminated pyrite 20% pyrite as streaks and beds. 20% - 30% Magnetite as fine streaks.  5% - 10% disseminated pyrite 30% ? - Magnetite as fine disseminations.	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
453.0 - 566.0	Intermediate Crystal Tuff Agglomerate	Grey- Green with Creamy Yellow Speckles		Fragments usually subtle. Crystal tuff fragments in a crystal tuff matrix. Some more felsic fragments (dacitic) stand out. Size of fragments probably up to 10 cm.  No fabric to unit.		2% - 3% orange hematite stained veinlets. Patches of epidote - K-spar or hematite alteration 5%.  Strongly chloritized section (10%) from 550.0 - 566.0	None          2% - 3% pyrite disseminated throughout.	

# CORPORATION FALCONBRIDGE COPPER

## DRILL HOLE RECORD

METRIC UNITS  
 IMPERIAL UNITS

HOLE NUMBER SN-5	LAT. Main Grid L 60 SE	DEP. 5 + 50 NE	ELEV. Unsurveyed	COLLAR BRNG. 210° True	COLLAR DIP -60°	HOLE SIZE AQ	FINAL DEPTH 292
PROJECT PN 037 SUPERIOR NW		LOCATION Claim L 522818, McElroy Town- ship, Larder Lake Mining Division		PURPOSE Test coincident Mag and VLF Anomalies along sulphide		DATE STARTED: Oct. 12, 1981 DATE COMPLETED: Oct. 15, 1981	
						CONTRACTOR: McKnight Drilling Co. Ltd., CORE STORAGE: Moly Hill CASING: Intact	

ACID TESTS	horizon	TROPARI TESTS	PULSE EM SURVEY <input type="checkbox"/> MULTISHOT SURVEY <input type="checkbox"/>
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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 4.0	Casing							
4.0 - 166.5	Gabbro	Dark Green with white flecks	Fine to Medium	Massive - no fabric. Occasional gradational grain size variation 59.5 - 60.0 - pink feldspar porphyry injection. 73.0 - 73.1 - quart hematite veinlet 111.5 - 111.6 - epidote hematite fault gouge. 160.0 - 166.5 - very fine grained weak fabric at 45°	40°  45°	1% -2% epidote veining surrounded by weak pervasive epidote alteration	Trace disseminated pyrite	
166.5 - 167.7	Massive Magnetite	Steel Grey to Black	Fine	Massive without any fabric whatsoever. Upper contact sharp, lower contact sharp	30° 30°		1% disseminated pyrite	
167.7 - 169.0	Semi-Massive Pyrite and Chlorite	Brassy Yellow and dark green mottled	Fine	Weakly bedded chlorite pyrite. Bedding apparent at contact with magnetite horizon.		30% chlorite 20 sugary looking quartz	Pyrite 30% -40% Magnetite 5%	

SN-5

HOLE NO. \_\_\_\_\_

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
169.0 - 170.0	Sugary Qtz. Chlorite Vein	White with dark green veinlets	Fine	Sugary quartz vein injected by chlorite veinlets.	Sharp upper Contact 20° Sharp lower contact 45°	10% -20% chlorite in veinlets	1% pyrite disseminated and in chloritic veinlets.	
170.0 - 292.0	Intermediate Crystal Tuff Pyroclastic	Grey to Grey-Green with dark grey mottling	Fine	Weak fabric reflected in alignment of biotite chlorite and elongate wispy fragments. Chlorite-magnetite biotite mottled zone 170.0 to 192.0 then gradually mottling disappears by 220'  170.0 to approx. 192.0' fine tuffs mt. and ch. rich. Approx. 192.0' - Approx. 220' lapilli tuff with 30% -40% fine tuff matrix. Approx. 220' - 292' - coarser agglomerates.	45°	10% chlorite finely divided from 170.0' - 192.0'.  1% - 2% hematite quartz veinlets	Trace pyrite throughout 237.2 - 238.2 - bedded magnetite pyrite garnet between fragments. 10% py.	
292.0	END OF HOLE							

# CORPORATION FALCONBRIDGE COPPER

## DRILL HOLE RECORD

METRIC UNITS  
 IMPERIAL UNITS

HOLE NUMBER SN-6	LAT. Main Grid L 62 SE	DEP. 7 + 55 NE	ELEV. -	COLLAR BRNG. 210°	COLLAR DIP -60°	HOLE SIZE AQ	FINAL DEPTH 606'
PROJECT PN 037 SUPERIOR NW		LOCATION Claim L 522818, McElroy Town- ship, Larder Lake Mining Division		PURPOSE Test VLF, Mag axis 200' east of SN-5 and at depth		DATE STARTED: Oct. 16, 1981 DATE COMPLETED: Oct. 20, 1981	
						CONTRACTOR: McKnight Drilling Co. Ltd., CORE STORAGE: Moly Hill CASING: Intact	

ACID TESTS 500 Ft -65°	TROPARI TESTS	PULSE EM SURVEY <input type="checkbox"/> MULTISHOT SURVEY <input type="checkbox"/>
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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 - 27.0	Casing							
27.0 - 540.3	Gabbro	Dark Green with White Flecks	Fine to Medium with Variable	Massive - 33.6 - 34.0 - quartz-feldspar veinlet. 60.0 - 63.0 - aplite dyke 67.8 - 68.3 - aplite dyke 80.5 - 84.5 - quartz veining with chlorite clots (10%) 98.0 - 99.0 - quartz feldspar vein 126.0 - 126.9 - Quartz vein 166.2 - 166.5 - Quartz vein 204.8 - 205.6 - Irregular quartz, epidote hematite veining 272.0 - 273.3 - epidote feldspar quartz vein-dyke? 255.7 - 255.8 - Qtz. vein 415.0 - 418.0 - Mafic dyke fine grained.	90°/90° 60°/70° 60°/60° 60°/60° 5° to 10° 60° 30°/45°	2% -3% epidote veinlets surrounded by aureole of pervasive epidote alteration Bleaching marginal to quartz veins.	Overall trace pyrite Trace pyrite.	

HOLE NO. SN-6

LOGGED BY FRANK BALINT

Wilson Office Specialty Ltd.

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
540.3 - 546.0	Mottled Black and White Chert	Bands of Cherty Black, grey and white with pink-green mottling	Cherty	431.4 - 431.8 - Foliated fine grained xenolith or sheared zone. Approx. 500' to 540.3' -Gabbro becomes increasingly finer grained. (chill contact) Very siliceous mottling - silicified ?? cherty material No real bedding apparent.	30°	Upper Contact Sharp 45° Lower Contact Ground	Pink (hematite staining siliceous) veinlets on jointing planes 3%-4%	Only trace pyrite
546.0 - 550.0	Semi-massive Pyrite, Magnetite, Interbedded with Felsic Tuff	Brassy yellow bands and wisps between creamy white bands	Fine	Bedded pyrite magnetite with intercalated fine, weakly bedded felsic (rhyolitic) bleached tuff. Less sulphide; more tuff as you go down section into underlying tuffs. Bedding in sulphides locally contorted.	50° to 30°	Bleach of tuffaceous section (silica) 3%-4% garnet developed as knots and crystals.	546.0 - 546.3 - 70% pyrite 30% mt. 546.3 - 550.0 - 20% pyrite and magnetite.	
550.0 - 558.0	Felsic Tuff	Creamy yellow to grey	Fine	Vague bedding apparent locally Massive for most part.	40°	Appears weakly sericitic in patches and zones.	Trace pyrite.	
558.0 - 558.2	Semi-massive pyrite	Brassy	Fine	Massive	Upper Contact 45°	10% chlorite as gänge to pyrite.	70% pyrite, 20% magnetite 10% chlorite.	

HOLE NO. SN-6

PAGE 2

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
558.2 - 559.2	Quartz Chlorite Pyrite Vein	Grey with brassy and dark green wisps.		Streaks and wisps of chlorite pyrite (15%) parallel to contacts. Contacts ragged	45°	10% chlorite	5% pyrite as wisps	
559.2 - 583.7	Pyrite Magnetite Chlorite Garnet - Iron Formation with inter- calated felsic crystal tuff fragments	Dark Green Fine -grey with brassy sections and white fragments	Fine	Iron formation consists of disseminated pyrite and magnetite and garnet in a dark green chloritic matrix. Only vague banding as wisps apparent locally. Bleached felsic crystal tuff fragments at: 565.8 - 567.0 567.7 - 570.3 574.5 - 576.8 578.2 - 578.9 580.8 - 581.8	45°	Chlorite-garnet ubiquitous Weak pervasive carbonate in iron formation.	Overall 20% pyrite 20%-30% magnetite 30%-40% chlorite 5% -10% garnet  582.0 - 583.0 - 60% pyrite 30% magnetite 10% chlorite	
583.7 - 606.0	Agglomeratic Intermediate Crystal Tuff	Light Grey-Green	Fine ash with crystals up to 3 mm	Matrix and fragments similar in composition therefore very subtle. Fragments consist of feldspar porphyritic dacite-rhyodacite or crystal tuffs ? set in a dacitic to andesitic crystal tuff matrix.		Garnet and epidote associated with pyritic seams.	3% -4% pyrite in seams or wisps probably between fragments.	
606.0	END OF HOLE							

# CORPORATION FALCONBRIDGE COPPER

## DRILL HOLE RECORD

OK

METRIC UNITS  
 IMPERIAL UNITS

HOLE NUMBER SN-7	LAT. Main Grid L 6 + 00 SE	DEP. 2 + 00 NE	ELEV. -	COLLAR BRNG. 030° True	COLLAR DIP -55°	HOLE SIZE AQ	FINAL DEPTH 396 Ft.
PROJECT PN 037 SUPERIOR NW	LOCATION Mondoux Shaft Area - Claim No. L 512350 - McElroy Township, Larder Lake Mining Division	PURPOSE Test Sulphide Horizon 250' below Mondoux Shaft		DATE STARTED: Oct. 30, 1981	CONTRACTOR: McKnight Drilling Co. Ltd., CORE STORAGE: Moly Hill CASING: Intact		

ACID TESTS 396 Ft. -50°	TROPARI TESTS None	PULSE EM SURVEY <input type="checkbox"/>	MULTISHOT SURVEY <input type="checkbox"/>
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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 - 5.5	Casing							
5.5 - 167.4	Intermediate Crystal Tuff (Agglomerate)	Light Green-Grey to Creamy -Grey Patches	Aphanitic Fine Grained with crystals up to 2mm in some fragments	Coarse fragmental made up of dacitic crystal tuff fragments in a andesitic tuffaceous matrix.  No fabric, fragments very subtle, appear up to 30 cm in size.  58.7 - 58.8 white quartz vein.  86.1 - 86.2 white qtz. vein 106.0 - 106.1 white qtz. vein 150.4 - 150.5 white qtz. vein	30° - 35°  80° 70° 70°	2% orange-white carbonate and hematite veinlets. Less than 5% epidote mottled patches	69.5' - 2 cm quartz-hematite veinlet with trace chalcopyrite.	
167.4 - 235.4	Intermediate crystal tuff (Agglomerate) with chlorite Magnetite, Garnet, Pyrite	Dark Green with light grey and green, brown	Fine	Section similar to above section except that matrix to larger fragments is very chloritic and rich in iron (Magnetite, garnet, epidote and pyrite). Matrix approx. 30% of section		Matrix substantially altered to chlorite, garnet and epidote. Garnet and epidote develops in clots and patches usually accompanied by pyrite and magnetite.	Overall 5% pyrite as fine disseminations and local concentrations or wispy beds. Significant sulphide sections	

HOLE NO. SN-7 396 Ft. Screens

LOGGED BY FRANK BALINT

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Fabric apparent in tuffaceous sections as reflected in py. streaks and bands (probably bedding). Upper contact not precise but gradually magnetite-garnet-chlorite assemblage is predominant. Quartz vein 226.3 to 228.0	45° to 60°	Overall 10% Garnet 10% Epidote 10%-20% Chlorite	206.4 - 207.7 - 50% pyrite-semi-massive 226.1 - 226.3 - 50% pyrite 231.9 - 232.4 - bedded pyrite-magnetite, about 80% sulphide	
235.4 - 235.8	Pyrite Horizon	Brassy Yellow	Fine	Weakly bedded pyrite and felsic tuff	60°	5% - 10% epidote	50% pyrite, 20% magnetite	
235.8 - 241.0	Tuffaceous Section	Grey to Dark Green	Fine dash	Massive - no distinctive bedded appearance except for relationships to sulphides. Very siliceous (felsic) 235.8 - 239.2 Gradually more mafic to a mafic magnetite rich tuff from 239.2 - 241.0		5% epidote mottling. Bleached siliceous nature 237.5 - 339.2 Moderately chloritic from 239.2 - 241.0	1% - 2% disseminated pyrite	
241.0 - 242.2	Massive Pyrite - Magnetite Horizon	Brassy yellow to dark green	Fine	Bedded fine pyrite chlorite and magnetite. Vuggy carbonate 241.8 - 241.9	45°	Epidote mottling 10% Garnet clots 5% Chlorite 20%	241.0 - 241.9 - 70% pyrite 241.9 - 242.2 - Massive magnetite 80% and chlorite	
242.2 - 291.0	Gabbro	Light green and white speckles	Med. to Fine	Massive local grain size variation. Aplite dykes 256.6 - 256.9 281.2 - 281.4	70°/50° 70°/70°	5% epidote mottling and veinlets.	Trace to nil pyrite	

HOLE NO. SN-7



# CORPORATION FALCONBRIDGE COPPER

## DRILL HOLE RECORD

METRIC UNITS  
 IMPERIAL UNITS

HOLE NUMBER SN - 8	LAT. L 4 SE	DEP. 2 NE	ELEV.	COLLAR BRNG. 030° True	COLLAR DIP -60°	HOLE SIZE AQ	FINAL DEPTH 456 Ft
PROJECT: 037,046 Superior NW and Hughes Option		LOCATION Mondoux Shaft CLM. L 521350 McElroy Township CLM. L 39843		PURPOSE To test Mondoux Shaft sulphide horizon 200' W. along strike		DATE STARTED: Nov. 4, 1981 DATE COMPLETED: Nov. 7, 1981	
						CONTRACTOR: McKnight Drilling Co. Ltd., CORE STORAGE: Moly Hill CASING: Intact	

ACID TESTS 456 Ft. -55°

TROPARI TESTS

PULSE EM SURVEY   
MULTISHOT SURVEY

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 - 5.0	Casing							
5.0 - 375.8	Intermed- Agglomeratic Crystal Tuff to Pyroclastic Unit	Light Grey to Green	Ash to Bomb	Very subtle fragmental. Fragments of rhyodacite to dacitic crystal tuff set in a dacitic to andesitic crystal tuff matrix. Matrix tuffaceous material locally contain magnetite concentrations. Fragments estimated to vary from lapilli to bombs of 30 cm.  Syenite hybrid mottling 123' - 133' (10% - 20%) Quartz veins 192.0 - 194.0 subparallel to core axis 265.5 - 266.8 (1.3') 268.6 - 268.8 (0.2')	No real Fabric	Very weak pervasive carbonate. Carbonate veinlets at random angles to core 2% - 3%; Epidote veinlets and halos to Qtz. veinlets 1% - 2%; Hematite stained silica veinlets <1%	Trace pyrite in matrix tuff	
					0°		No sulphides	
					45°	Bleached halos for 3" around veins.	1% disseminated pyrite in bleached halo.	
					45°			

HOLE NO. SN-8

LOGGED BY FRANK BALINT



FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				283.8 - 283.9 (0.1')	70°			
				284.7 - 284.8 (0.1')	60°			
				285.1 - 285.2 (0.1')	90°			
				296.5 - 298. (1.5')	Ragged	206.0 - 296.5 epidote altered	Trace pyrite	
				Aplite Dykes	Contacts			
				225.9 - 227 (1.9')	45°/60°			
				228.2 - 229 (0.8')	Ragged			
				235.1 - 235.6 (0.5') Contains 1" qtz. vein	60°/60°		1% pyrite along margin	
				337.0 - 337.4 (0.4')	70°/70°		0.5% disseminated pyrite.	
				337.8 - 338.4 (0.6')	70°/70°		" " "	
				341.3 - 351.8 (10.5')	50°/50°		" " "	
				351.8 - Matrix tuffaceous material more mafic and magnetite-pyrite rich		351.8 - down section pyroclastics become increasingly chloritic and 1% garnet evident with epidote (5% -10% clots)	351.8 to 396.8 - overall 1% -2% pyrite as local concentrations of up to 5% over 1 foot (finely disseminated)	
375.8 - 386.0	Bedded Mafic Tuff to Lapilli Tuff	Dark Green to Black	Ash to Lapilli	Mafic tuff with good bedding like fabric. Larger lapilli clasts more intermediate composition about 20% of section.	Bedding Fabric at 45°	5% -10% epidote altered patches, streaks and clots. 1% garnet knots accompanying epidote. Weakly chloritic throughout	Trace to 1% disseminated pyrite throughout.	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
386.0 - 397.7 (10.7')	Pyrite Magnetite Chlorite Iron Formation	Dark Green to Black and brassy yellow streaks	fine/ash	Bedded pyrite-magnetite bands in a chloritic mafic tuff.  <u>DETAILED BREAKDOWN</u> 386.0 - 388.6 - (2.6') bedded pyritic mafic tuff 388.6 - 389.9 - (1.3') semi-massive pyrite bedded 389.9 - 394.1 - (4.2') bedded pyritic chlorite tuff 394.1 - 394.6 - (0.5') semi-massive bedded pyrite 394.6 - 397.0 - (2.4') Qtz. veined pyritic chlorite tuff 397.0 - 397.7 - (0.7') massive pyrite	35°-45° Consistant			
397.7 - 412.3	Intermediate to Mafic Agglomerate	Mottled Light & Dark Green	Fine/Ash	Section appears to be mixture of finer mafic tuff and more intermediate crystal tuff blocks or bombs. 406.0 - 406.4 - bedded semi-massive pyrite-magnetite.	45°	Section weakly chloritic throughout. 5% epidote clots	Trace to no sulphides except for section below.  30% pyrite 10% magnetite	

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
412.3 - 456.0	Gabbro	Dark Green with white speckles	Med. to Fine	Fine grained strongly carbonated chill zone from 412.3 to about 424.0	Contact Obscure	Strong pervasive carbonate accompanied by 5% fine carbonate veinlets at 90° to CA  5% epidote, hematite stained silica veinlets at varying angles to core axis and up to 0.2' in thickness.	Occasional trace of disseminated pyrite.	
456.0	END OF HOLE							

HOLE NO SN-8

PAGE 4

BOSTON TWP  
M'ELROY TWP

III

II

I

IV

ADAM'S MINE  
TAILINGS POND

MISEMA NORTH GROUP (CFC)

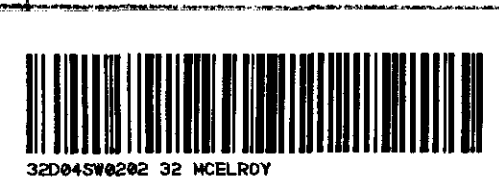
BASTARACHE - CASTONGUAY OPTION

EUGENE SHAFTS

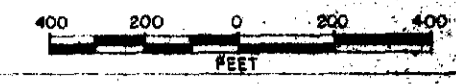
MONDOLUX  
SHAFTS

MUSEAU  
CREEK

M'ELROY TWP  
CATHERINE TWP



SUPERIOR NORTHWEST OPTION  
Drill Plan

DATE	SCALE 
DRAWN	APPROVED
REVISED	NTS 32 D-4

