



41010NE0042 34 CUNNINGHAM

DIAMOND DRILLING

010

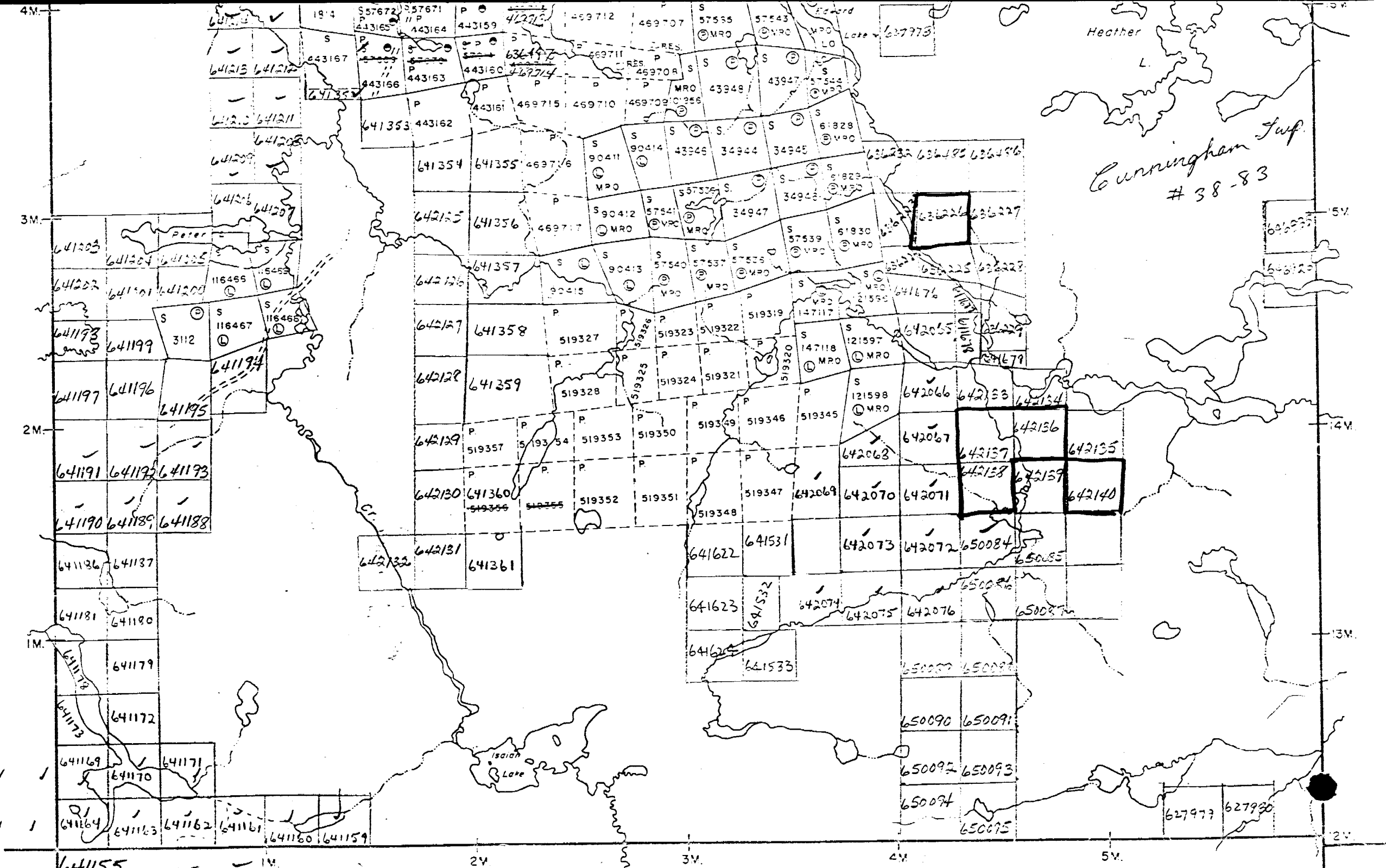
TOWNSHIP: Cunningham

REPORT NO.: 34

WORK PERFORMED BY: Kidd Creek Mines Ltd.

<u>CLAIM No.</u>	<u>HOLE No.</u>	<u>FOOTAGE</u>	<u>DATE</u>	<u>NOTE</u>
P 636226	CU-31-1	350.0	Feb/83	(1)
P 642136-7-8	CU-31-2	519.0	Feb/83	(1)
P 642136-7	CU-31-3	426.0	Feb/83	(2)
P 642140	CU-31-4	400.0	Feb/83	(2) (4)
P 642138	CU-31-5	821.0	Feb/84	(3) (5)

NOTES: (1) #38-83
(2) #66-83
(3) #119-84
(4) #336-84
(5) #21-85



Cunningham Twp.
38-83

Garnet Twp. M 8

641155

2V

3V

4V

5V

2V

627977 627980

650094

650095 650093

650090 650091

650087 650088

642074 642075 642076 650084 650085

641533

641623

641622

641621

641620

641619

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641160 641159

641162 641161

641170 641171

641172 641173

641181 641180

641186 641187

641190 641189 641188

641191 641192 641193

641197 641196 641195

641199 641194

641202 641201 641200

641207 641206 641205

641209 641208

641213 641212

641215 641214

641219 641218

Peter

Isaiah Lake

Edward

Heather

Lake

Wm. D. King

1879

1879

1879

1879

1879

1879

1879

1879

1879

1879

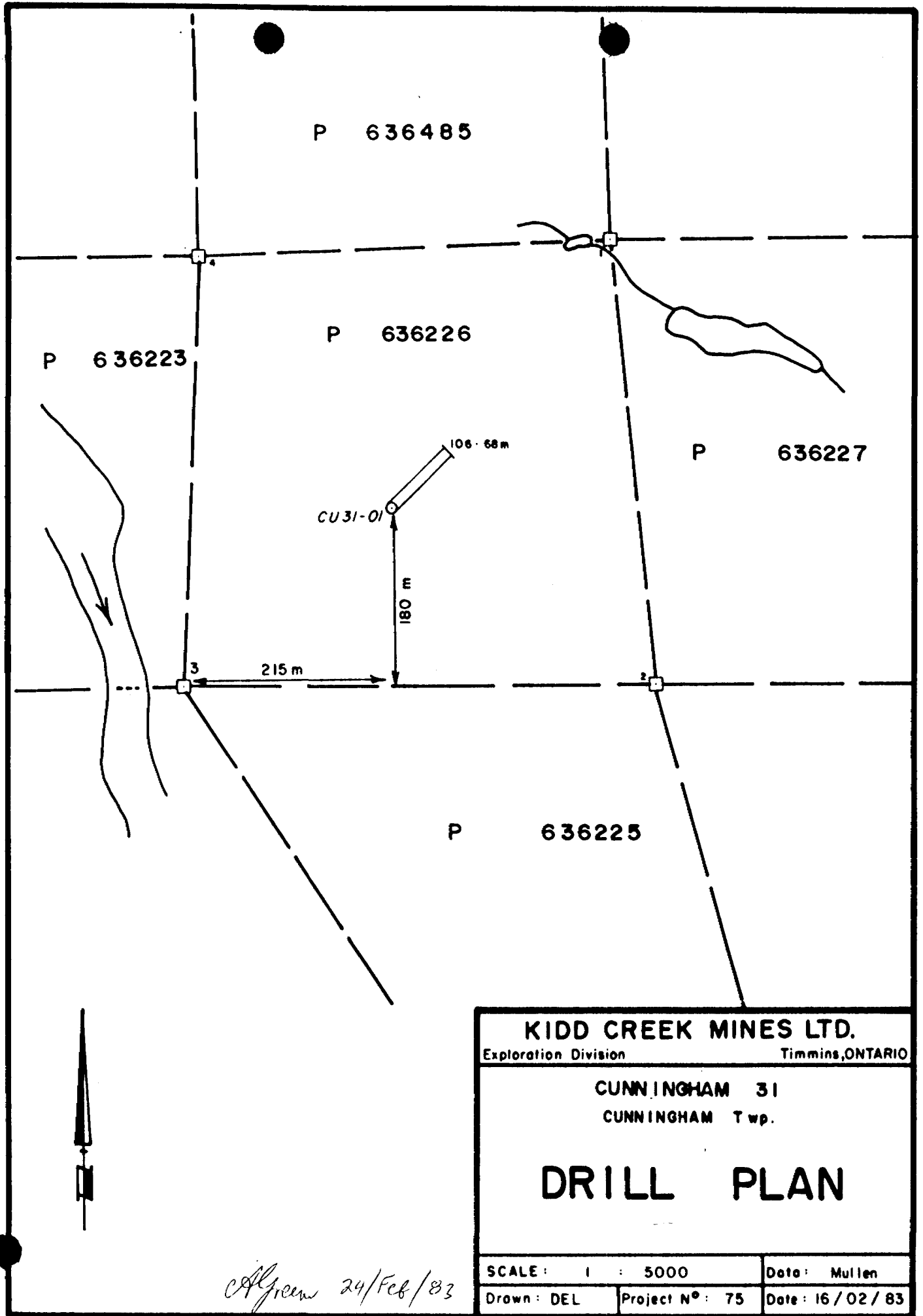
1879

5V

14V

13M

2V



P 636485

P 636226

P 636223

P 636227

CU 31-01
 106.68 m
 180 m

215 m

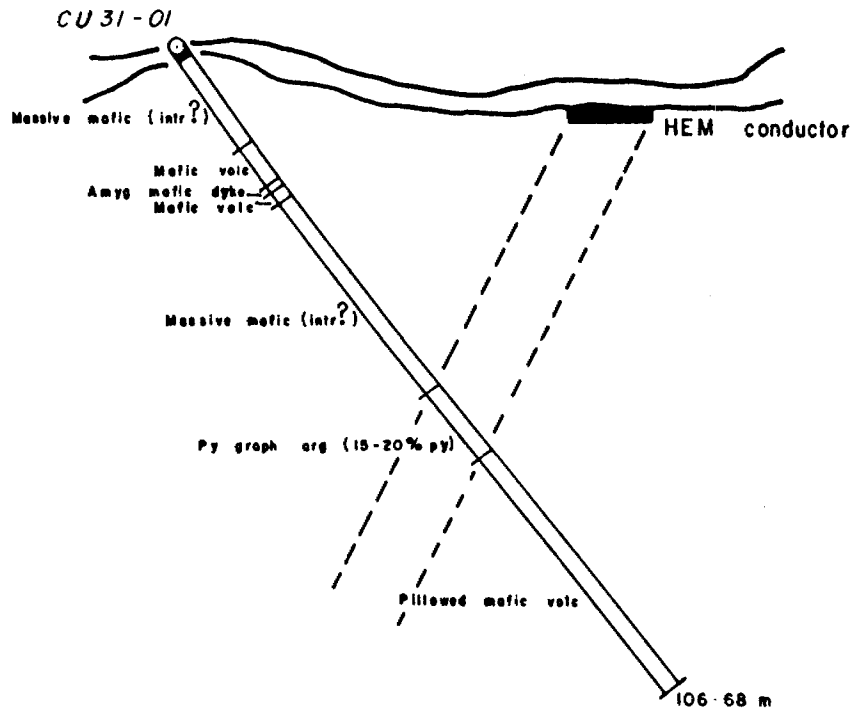
P 636225



KIDD CREEK MINES LTD.		
Exploration Division		Timmins, ONTARIO
CUNNINGHAM 31 CUNNINGHAM Twp.		
DRILL PLAN		
SCALE: 1 : 5000	Date: Mullen	
Drawn: DEL	Project N ^o : 75	Date: 16/02/83

CAJ green 24/Feb/83

→ 045°



KIDD CREEK MINES LTD.

Exploration Division

Timmins, ONTARIO

CUNNINGHAM 31

CUNNINGHAM Twp.

SECTION FOR

CU 31 - 01

(LOOKING NORTHWEST)

SCALE: 1 : 1000

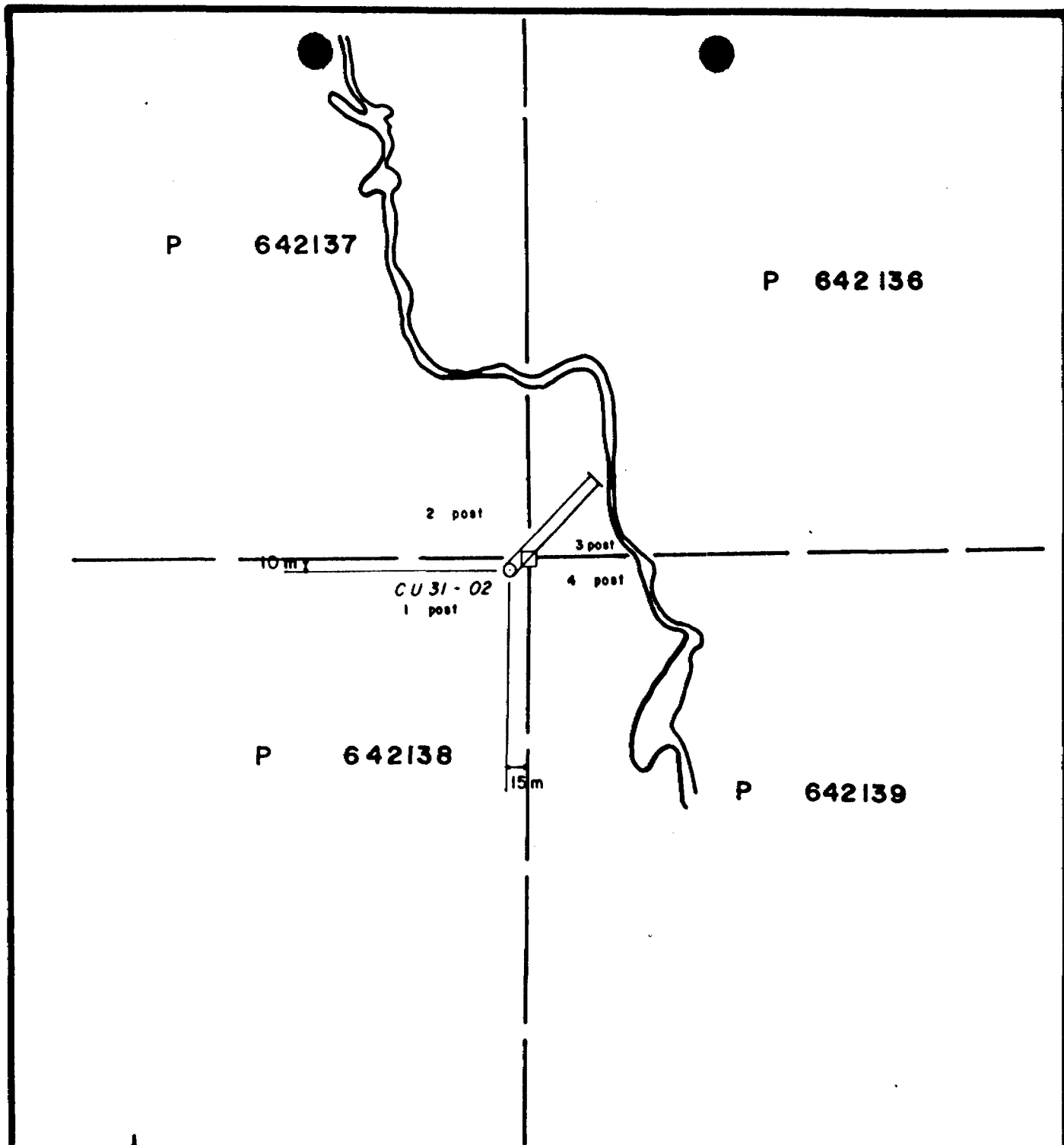
Drawn: Mullen

Drawn: DEL

Project N°: 75

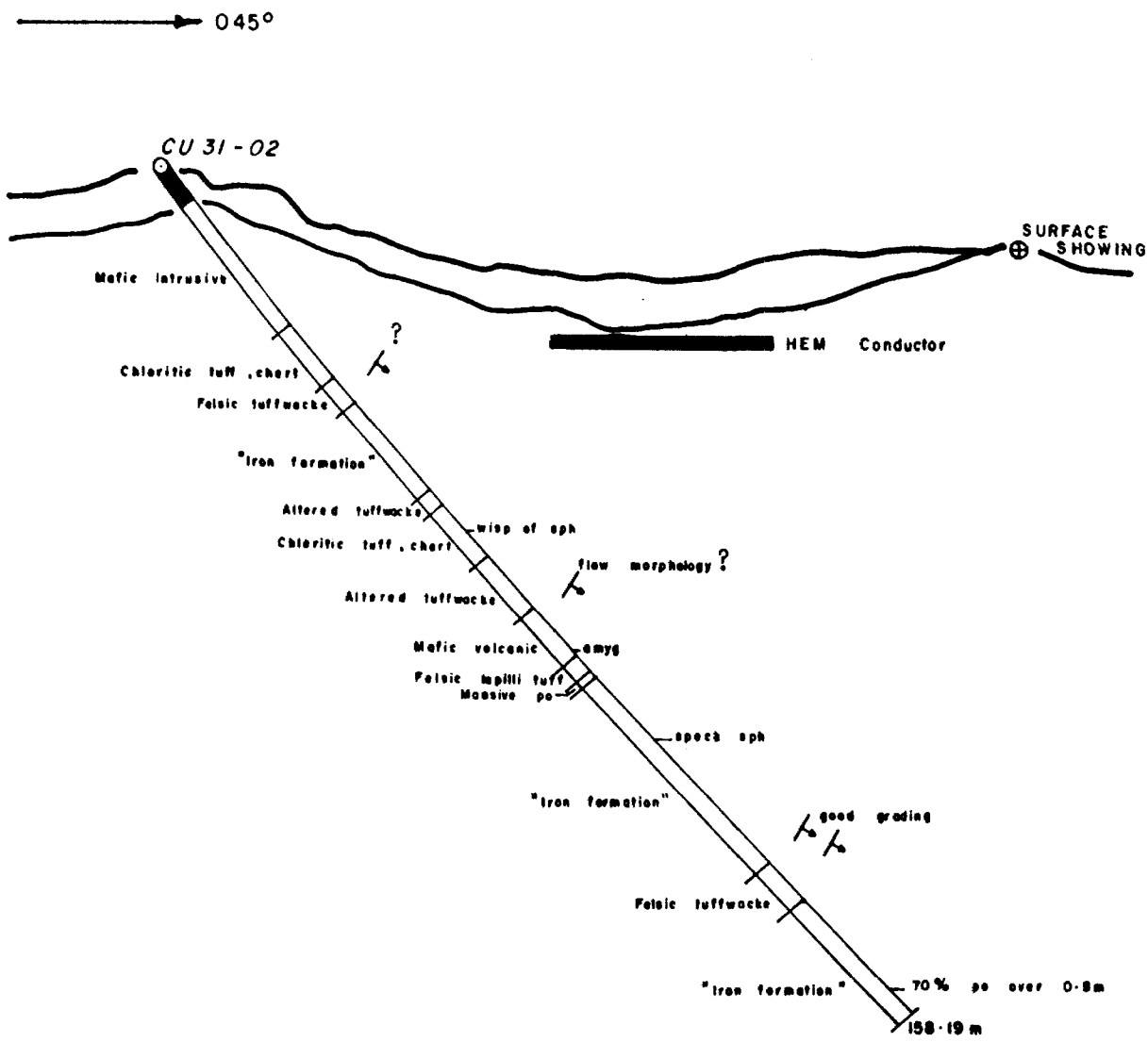
Date: 16/02/83

A Grew 24/feb/82



KIDD CREEK MINES LTD.	
Exploration Division	Timmins, ONTARIO
CUNNINGHAM 31 CUNNINGHAM Twp.	
DRILL PLAN	
SCALE: 1 : 5000	Date: DVM, AG
Drawn: DEL	Project N°: 75
	Date: 24/02/83

Alpen 24/Feb/83



KIDD CREEK MINES LTD.	
Exploration Division	Timmins, ONTARIO
CUNNINGHAM 31 CUNNINGHAM Twp.	
SECTION FOR CU 31 - 02	
(LOOKING NORTHWEST)	
SCALE : 1 : 1000	Date : Mullen
Drawn : DEL	Project N ^o : 75
	Date : 24 / 02 / 83

Algreen 24 Feb 83



DRILL HOLE RECORD

P636226

HOLE NO. CU-31-1 PROPERTY Cunningham 31 PROJECT NO.75..... CONTRACTOR Dominik Drilling START Feb. 11/83.....

FINISH Feb. 13/83.....

COORDINATES Grid Location: Latitude ..148+60N UTM: Lat. Surveyed: Lat. Mine Grid: Lat.
Departure 167+75E Dep. Dep.
Elevation Elev.

COLLAR ATTITUDE Azimuth .045..... Dip ...-55°..... LENGTH ..106.68m CORE SIZE ..BQ.....

INCLINATION TESTS

Acid Tests

Compass Tests

Table with 2 columns: Depth, Dip. Data: 30.48, -54°; 91.44, -52°

Table with 2 columns: Depth, Dip. (Empty)

Table with 4 columns: Depth, Dip, Azimuth, True Azimuth. (Empty)

REMARKS

Handwritten signature and date: A. Green 24 Feb 83

FROM - TO		DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND Ag REMARKS Au
						Cu	Pb	Zn	Ni	
0	1.82	CASING								
1.82	16.90	MASSIVE MAFIC (Intrusive?)								
		- dark green, fine to medium grained, massive, uniform								
		- initial 50cm broken, rusty core								
		- 1% scattered irregularly shaped pyrite								
		- cut by narrow carbonate veins, stringers								
		- tiny scattered leucoxenes becoming evident at 7m								
		- occasional chlorite slips coated with pyrite								
		16.5 - 2% pyrite with possible non-magnetic pyrrhotite								
		- leucoxenes coarser near lower contact								
16.90	21.95	MAFIC VOLCANIC								
		- medium grey-green, fine grained to aphanitic								
		upper contact at approx. 20° to core axis but over 50cm								
		- almost in situ brecciated with numerous crisscrossing carbonate fractures								
		19.20 - 19.26 narrow coarse grained leucoxene rich mafic dyke with fault at								
		30° to core axis								
		- after 20.1 to lower contact unit appears too be coarser								
		- 20.8 - becoming rusty and vuggy								
		- some leucoxenes present								

LOGGED BY: D. Mullen DATE: Feb/83

PROPERTY Cunningham 31

HOLE No. Cu-31-1 PAGE No. 2

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS	
					Cu	Pb	Zn	Uj	Ag	...
21.95	23.37									
23.37	25.15									
25.15	56.80									
LOGGED BY: D. Mullen		DATE: Feb. /83		PROPERTY: Cunningham 31		HOLE No. Cu31-1		PAGE No. 3		

FROM - TO		DESCRIPTION	SAMPLE No.	FROM - TO		SAMPLE LENGTH	ASSAYS				AVERAGES AND	
												Ag
25.15	56.80	(Con't)										
		42-43.6 somewhat finer grained downhole after 50 becoming granular										
		spotted looking almost a beaded "sago" texture with circular mafic crystals to 1mm	AA11233	55.8	56.8	1.0m						
		- trace pyrrhotite in fractures	AA11234	56.8	58.3	1.5m						
		- gradational downhole after 54 with buff coloured, fine grained mafic "volcanic" (?) with 1% pyrite										
		- possible basal chill of a coarse flow?? or just a chilled intrusive contact										
		56 - narrow pyrite stringer with graphite										
56.80	68.45	PYRITIC GRAPHITIC ARGILLITE										
		- black sooty graphite and graphitic argillite with pyrite and occasional narrow buff coloured pyrite mafic volcanic sections	AA11235	58.3	59.8	1.5m						
		- pyrite occurs as stringers and nodules up to 2cm in diameter in the graphitic argillite ranging from 5-20%	AA11236	59.8	61.3	1.5m						
		- pyrite occurs as clots and amygdule fillings up to 5mm in diameter and narrow stringers in the mafic volcanic averaging about 10%	AA11237	61.3	62.8	1.5m						
		- mafic volcanic also contains tiny quartz amygdules to 1mm	AA11238	62.8	64.3	1.5m						
		59.8 - 63.8 predominantly finely laminated graphitic argillite with thin seams and nodules pyrite laminated at 70°-80° to the core axis	AA11239	64.3	65.8	1.5m						
		- some pyrite recrystallized along margins of nodules	AA11240	65.8	67.3	1.5m						
		- some carbonate filled pressure shadows present	AA11241	67.3	68.5	1/2m						

LOGGED BY: D. Mullen DATE: Feb. /83

PROPERTY Cunningham 31

HOLE No. CU31-1 PAGE No. 4

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS
					Cu	Pb	Zn	Ni	
56.80	68.45								
	Con't								
	- 63.8 - 64.8 buff mafic volcanic with 5% pyrite strongly carbonated with graphitic fractures								
	after 65 carbonate veining increasing, pyrite decreasing								
	- more broken core with sooty and in places shiny graphite								
	67.5 - 5cm coarse grained pink tinged carbonate vein								
	- possible fault zone (?)								
68.45	106.68								
	PILLOWED MAFIC VOLCANIC								
	- upper contact sharp but wavy at 20° to core axis								
	- numerous pyrite filled amygdules near contact	AA11242	68.5	69.5	1.0m				
	- initially massive buff coloured and strongly carbonated giving away to medium grey-green pillowed volcanic at 70m								
	- some bleaching and amygdules near selvages								
	- selvages average 1cm thick and contain hyaloclastite with wisps of pyrrhotite and carbonate								
	- some chlorite slips								
	- crosscut by occasional carbonate stringers								
	72.42 - minor fault at 55° to core axis								
	73.51 - minor fault at 80° to core axis								
	73.9 - 5cm band of pyrrhotite, pyrite and graphite in selvage								
	- some bleaching near larger carbonate veins and patches								
LOGGED BY: <u>D. Mullen</u>		DATE: <u>Feb. /83</u>		PROPERTY <u>Cunningham 31</u>		HOLE No. <u>Cu31-1</u>		PAGE No. <u>5</u>	



DRILL HOLE RECORD

P642136-7-8

HOLE NO. CU-31-2 PROPERTY Cunningham 31 PROJECT NO. 75 CONTRACTOR Dominik.. START Feb 17/83

FINISH Feb 19/83

COORDINATES Grid Location: Latitude 128+25N UTM: Lat. Surveyed: Lat. Mine Grid: Lat. Departure 172+25E Dep. Dep. Dep. Elevation Elev. Elev.

COLLAR ATTITUDE Azimuth 045 Dip -50 LENGTH 158.19 m CORE SIZE BQ

INCLINATION TESTS

Acid Tests

Compass Tests

Table with 2 columns: Depth, Dip. Data: 60.96, -48; 121.92, -44

Table with 2 columns: Depth, Dip. (Empty)

Table with 4 columns: Depth, Dip, Azimuth, True Azimuth. (Empty)

REMARKS

CA Green 24 Feb 83

FROM - TO		DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND	
						Cu	Pb	Zn	Ni	Ag	REMARKS
0	6.10	CASING									
6.10	8.40	MAFIC VOLCANIC (?)									
		- broken core, rusty									
		- fine grained, grey-green									
		- moderately carbonated, trace pyrite									
		- possibly chilled margin of mafic intrusion									
8.40	19.00	MASSIVE MAFIC (Intrusive?)									
		- core still broken and vuggy to 11 m									
		- coarser grained than above unit, massive									
		- grey-green, numerous leucoxenes to 2 mm									
		- trace pyrite, cut by odd carbonate vein									
		- weakly carbonated									
		- a few wispy epidote veins									
		- broken core 18.4 - 19.0									
		- lower contact broken									
19.00	28.12	MAFIC VOLCANIC (?)									
		- possible fine grained phase of above unit									
		- massive, light to medium grey, fine grained									
		- mottled texture									

LOGGED BY: Dave Mullen DATE: February 1983

PROPERTY Cunningham 31

HOLE No. CU-31-2 PAGE No. 2

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND	
					Cu	Pb	Zn	Ni	Aq	REMARKS
19.00	28.12	Con't								
		- moderately carbonated								
		- a few carbonate-chlorite veins								
		- with a few siliceous "sweaty looking" patches								
		- trace pyrite in siliceous zones and carbonate veins								
		- lower contact fairly sharp at 50° to core axis								
28.12	38.06	CHLORITIC TUFFS AND CHERT								
		- medium to dark green chloritic tuffs with narrow grey to black chert beds with minor pyrite and pyrrhotite								
		- some tuffs have pervasive carbonate alteration imparting a lighter green colouration								
		- some lapilli tuffs with rounded chert clasts								
		- chert beds range from 1 to 15 cm in width								
		- occasionally finely laminated								
		- bedding at 65° to 80° to core axis								
		- some beds appear brecciated in part								
		31.9-32.3 - large carbonate vein								
		- pyrrhotite content increasing downhole occurring as narrow seams, blobs and wisps (< 5%)								
		- trace chalcopyrite with pyrrhotite in a few places lower contact sharp at 60° to core axis								
LOGGED BY: <u>Dave Mullen</u> DATE: <u>February, 1983</u> PROPERTY <u>Cunningham 31</u> HOLE No. <u>CU-31-2</u> PAGE No. <u>3</u>										

FROM - TO	DESCRIPTION	SAMPLE No.	FROM-TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND Ag REMARKS Au	
					Cu	Pb	Zn	Ni		
38.06	42.51									
	ALTERED FELSIC TUFFWACKE									
	- massive, medium grey, uniform									
	- granular looking, strong pervasive carbonate alteration									
	- occasional tiny quartz-eyes									
	- scattered specks of pyrrhotite, pyrite									
	41.4-41.6 - narrow chloritic tuff with pyrite									
	42. - faint bedding at 70° to core axis									
	- possible crude grading indicates tops downhole									
42.51	59.00									
	CHLORITIC TUFFS, CHERT AND MAGNETITE IRON FORMATION									
	- well banded dark green chloritic tuffs with stringers and 1 cm seams of									
	pyrrhotite (1-3%) with minor pyrite and trace chalcopyrite									
	- interbedded with grey to black chert beds 5-15 cm thick some of which are	AA 11243	52.	53.						
	brecciated or otherwise contorted (soft sediment deformation)	AA 11244	2	7	1.5 m					
	- magnetite bands from 5 mm to 10 cm thick, increase downhole	AA 11245	53.	55.						
	- bedding at 50° to 80° to core axis	AA 11246	7	2	1.5 m					
	- occasional carbonate veinlet		55.	56.						
	- some cherts have a light green alteration possibly grunerite (Fe-silicate)?		2	7	1.5 m					
	- also some chloritic tuffs are surprisingly quite siliceous when core is split		56.	57.						
	so the mafic component of the formation may not be that extensive		7	7	1.0 m					
	- talc alteration present after 50 m									
	52.8-55.7 - 5% pyrrhotite with trace chalcopyrite									
LOGGED BY: <u>Dave Mullen</u> DATE: <u>February, 1983</u> PROPERTY <u>Cunningham 31</u> HOLE No. <u>CU-31-2</u> PAGE No. <u>4</u>										

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO		SAMPLE LENGTH	ASSAYS				AVERAGES AND		
						Cu	Pb	Zn	Ni	Ag	REMARKS	Au
42.51	59.00	Con't										
		55.5 - 20 cm zone of 10% wispy pyrrhotite in carbonate patch										
		57 - contorted bedding										
59.00	61.50	ALTERED TUFFWACKE										
		- medium grey-green, granular - pervasive carbonate alteration										
		- slightly foliated at 80° to core axis increasing in intensity downhole										
		- odd speck pyrite										
		- possible fault at lower contact with quartz-carbonate veins with pyrite										
61.50	71.70	CHLORITIC TUFFS AND CHERT										
		- initially well foliated at 70° to core axis										
		- both network of veinlets and pervasive carbonate alteration	AA 11247	65.	66.	2	2	1.0 m				
		- a few pyrrhotite stringers with trace pyrite	AA 11248	66.	67.	2	7	1.5 m				
		- banded at 60° to core axis	AA 11249	67.	67.	7	9	0.2 m				
		- 63.0-63.4 - magnetite bands	AA 11250	67.	69.	9	4	1.5 m				
		- 65.9-66.2 - 10% pyrrhotite with trace chalcopyrite in grey chert	AA 11251	69.	70.	4	4	1.0 m				
		* 7.84 - wisp of sphalerite										
		- becoming definitely fragmental with rounded chert clasts - lapilli tuff										
		- gradational lower contact with tuffwacke										
71.70	80.73	ALTERED TUFFWACKE	AA 11252	75.	76.	5	0	0.5 m				

LOGGED BY: Dave Mullen DATE: February, 1983

PROPERTY Cunningham 31

HOLE No. Cu-31-2 PAGE No. 5

FROM - TO	DESCRIPTION	SAMPLE No.	FROM-TO		SAMPLE LENGTH	ASSAYS				AVERAGES AND Ag REMARKS Au	
						Cu	Pb	Zn	Ni		
71.70	80.73										
	con't										
	- massive, light grey green	AA 11253	76.0	77.5	1.5 m						
	- granular, very strongly carbonated	AA 11254	77.5	77.7	0.2 m						
	- occasional chert clasts or thin beds	AA 11255	77.7	78.2	0.5 m						
	- 75.4 - 5 cm quartz vein										
	76 - sulphides increasing with 1-2% pyrite and trace chalcopyrite										
	76.43 - 76.60, 76.90 - 77.00, 77.35 - 77.50 - 20% pyrrhotite with chert beds										
	- banding at 35° - 40° to core axis										
	77.50 - 77.70 - lamprophyre dyke, grey, carbonate, micaceous										
	- good lapilli tuff near 78										
	- pyrrhotite shows a lineation on chlorite slip faces										
80.73	90.22										
	MASSIVE MAFIC VOLCANIC										
	- medium grey-green, granular, massive										
	- carbonate rich, brecciated at contact										
	- full of tiny leucoxenes, trace pyrite										
	- foliated at 30° to core axis shown by alignment of leucoxenes										
	88.28 - 88.53 - lamprophyre dyke										
	- becoming finer grained downhole										
	- carbonate filled amygdules to 4 mm at lower contact										
	- lower contact broken										

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PROPERTY Cunningham 31

HOLE No. Cu-31-2 PAGE No. 6

FROM - TO		DESCRIPTION	SAMPLE No.	FROM - TO		SAMPLE LENGTH	ASSAYS				AVERAGES AND		
							Cu	Pb	Zn	Ni	Ag	REMARKS	Au
80.73	90.22	con't											
		- tops possibly downhole											
90.22	92.80	MIXED FELSIC LAPILLI TUFF AND MAFIC TUFF	AA 11256	90.2	91.0	0.8 m							
		- predominantly dark grey carbonate-rich	AA 11257	91.0	91.8	0.8 m							
		felsic lapilli tuff with a few 20 cm chloritic mafic tuff interbeds	AA 11258	91.8	92.8	1.0 m							
		main section 90.35 - 91.85											
		- felsic tuff is clast supported with very little matrix, clasts to 2 cm but some are elongated											
		- bedding at 55° to core axis											
		- 5% disseminated pyrrhotite with trace pyrite											
92.80	94.00	MASSIVE PYRRHOTITE	AA 11259	92.8	94.0	1.2 m							
		- 90% pyrrhotite with minor quartz, chert, pyrite and streaks of chalco-pyrite											
		- both upper and lower contacts are enriched in pyrite over 10 cm (25%)											
94.00	129.49	CHLORITIC TUFFS, CHERT AND MAGNETITE IRON FORMATION	AA 11260	94.0	95.0	1.0 m							
		- finely laminated pyrrhotite at contact	AA 11261	95.0	96.0	1.0 m							
		- initially pyrrhotite rich chlorite tuffs and chert giving way to magnetite iron formation downhole	AA 11262	96.0	97.7	1.7 m							
			AA 11263	97.7	99.2	1.5 m							
		- pyrrhotite occurs as seams, stringers and disseminations mainly with chert	AA 11264	99.2	100.7	1.5m							

LOGGED BY: Dave Mullen DATE: February, 1983

PROPERTY Cunningham 31

HOLE No. CU-31-2 PAGE No. 7

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO		SAMPLE LENGTH	ASSAYS				AVERAGES AND Ag REMARKS Au	
						Cu	Pb	Zn	Ni		
94.00	129.49										
	con't										
	- beds	AA 11265	100.	102.	1.5 m						
	- minor pyrite and traces pyrrhotite	AA 11266	102.	102.	0.4 m						
	- 94.45 - 94.65 - 80% pyrrhotite 10% pyrite	AA 11267	102.	104.	1.4 m						
	- well bedded at 40° - 60° to core axis increasing to 80° downhole after 97	AA 11268	104.	105.	1.4 m						
	- a few carbonate patches	AA 11269	105.	106.	1.0 m						
	- some magnetite bands with disseminated pyrrhotite	AA 11270	106.	106.	0.2 m						
	- 100.2 - 100.6, 101.3 - 101.8 - contorted beds of chert magnetite - soft	AA 11271	106.	107.	1.0 m						
	sediment deformation	AA 11272	107.	108.	1.0 m						
	- chert beds thickening downhole										
	102.26 - 102.60 - lamprophyre dyke										
	106.50 - possible arsenopyrite (silvery pyrite?) in quartz vein										
	- 106.54 - speck sphalerite										
	108.8 - 113.3 - very fine grained dark grey to black argillaceous zone										
	with finely disseminated pyrrhotite 2%, contorted bedding in places										
	- after 113.3 well bedded chloritic tuffs, magnetite iron formation and grey-										
	green chert with occasional pyrrhotite sections averages 40 cm wide from										
	114.1 through to 126.8										
	114.4 - bedding paralleling core axis										
	- when split some chloritic tuff beds appear quite siliceous (possibly altered										
	cherts in part)										
	- 128 - magnetite bands at 70° to core axis										

LOGGED BY: Dave Mullen DATE: February, 1983

PROPERTY Cunningham 31

HOLE No. Cu-31-2 PAGE No. 8

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS
					Cu	Pb	Zn	Ni	
129.49	136.60	FELSIC TUFFWACKE-ARGILLITE							
		- gradational contact with above horizon							
		- medium grey, medium to very fine grained							
		- moderately carbonated							
		- bedding at 70° to core axis							
	*	- good grading indicates downhole tops							
		- several consistent determinations							
		- beds from 30 cm to 2 m							
		- grades into green chloritic tuffs							
136.60	157.14	CHLORITIC TUFFS AND CHERT							
		- medium grey-green, moderately carbonated	AA 11273	137.138. 5 0	0.5 m				
		- with a few narrow pyrrhotite seams with minor pyrite	AA 11274	138.139. 0 0	1.0 m				
		- some brecciated chert beds	AA 11275	139.139. 0 5	0.5 m				
		- 139.06 - 139.40 - tuffwacke bed with quartz eyes							
		- cut by odd quartz vein	AA 11276	145.146. 5 0	1.0 m				
		- 146 - 147.5 - chert horizon with stringers of pyrrhotite and pyrite	AA 11277	146.147. 0 5	1.5 m				
		- very brecciated in section 145-150	AA 11278	147.149. 5 0	1.5 m				
		152.95 - 153.55 70% pyrrhotite and pyrite with trace chalcopryrite, finely laminated	AA 11279	149.150. 0 2	1.2 m				
			AA 11280	152.153. 5 0	0.5 m				
		153.55 - 153.95 chert band with pyrrhotite-pyrite stringers with chalcopryrite	AA 11281	153.154. 0 0	1.0 m				
		- broken core 155.9 - 156.7	AA 11282	154.155. 0 5	1.5 m				
LOGGED BY: <u>Dave Mullen</u> DATE: <u>February 1983</u> PROPERTY <u>Cunningham 31</u> HOLE No <u>CU-31-2</u> PAGE No. <u>9</u>									

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS			AVERAGES AND REMARKS
136.60	157.14	Con't						
		156.7 -157.1 Fault running subparallel to core axis						
157.14	158.19	MAGNETITE IRON FORMATION	AA 11283	155.5 - 156.7	1.2 m			
		- 1 cm thick beds of magnetite intercalated with grey chert	AA 11284	156.7 - 157.1	0.4 m			
		- banded at 75° to core axis	AA 11285	157.1 - 157.6	0.5 m			
158.19		END OF HOLE						
		ALL samples sent for geochemical analysis for Cu, Pb, Zn, Ni, Ag, Au						
		Total Number		43 samples				
		Total Meterage		44.1 meters				

LOGGED BY: Dave Mullen DATE: February, 1983

PROPERTY Cunningham 31

HOLE No. Cu-31-2 PAGE No. 10

Kidd Creek Mines Ltd.

EXPLORATION

DRILL HOLE RECORD

HOLE NO. *P 642136-7* Cu-31-3..... PROPERTY *Cunningham 31* PROJECT NO. *...75.....* CONTRACTOR *Dominik Drilling* START *Feb. 21, 1983.....*
 FINISH *Feb. 23, 1983.....*

COORDINATES Grid Location: Latitude *129+75N* UTM: Lat. Surveyed: Lat. Mine Grid: Lat.
 Departure *172+25E.....* Dep. Dep.
 Elevation Elev.

COLLAR ATTITUDE Azimuth *...045°...* Dip *...-50°.....* LENGTH *...129.84m* CORE SIZE *.....BQ.....*

INCLINATION TESTS

Acid Tests

Compass Tests

Depth	Dip	Depth	Dip	Depth	Dip	Azimuth	True Azimuth
60.96	-48°						
121.92	-45°						

REMARKS

Dave Mullen

FROM - TO		DESCRIPTION	SAMPLE No.	FROM - TO		SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS
0	9.14	CASING									
9.14	9.35	CHERT									
		- grey chert with pyrrhotite wisps									
9.35	29.53	MIXED FELSIC/MAFIC TUFFWACKE - ARGILLITE									
		- medium to dark grey to grey-green									
		- a few 5mm wide pyrrhotite seams with trace pyrite									
		- bedding at 65° to core axis	AA 11286	26.4	26.6	0.2m					
		- graded beds indicate downhole tops									
		- becoming light grey near 19m.	AA 11287	28.5	29.5	1.0m					
		- argillaceous material dominating									
		24.26 strong carbonate zone									
		26 - 49 wisp of sphalerite with pyrite									
29.53	31.40	CHERT AND CHLORITIC TUFFS									
		- minor pyrrhotite seams and stringers, trace pyrite and specks chalcopyrite	AA 11288	29.5	26.6	0.8m					
		- dark green chloritic tuffs	AA 11289	30.3	31.3	1.0m					
			AA 11290	31.3	32.3	1.0m					
31.40	46.84	TUFFWACKE AND ARGILLITE									
		- medium grey to black									
		- well bedded tuffwacke grading into fine argillites and minor graphite argillite									
LOGGED BY: <u>D. Mullen</u> DATE: <u>February, 1983</u> PROPERTY <u>Cunningham 31</u> HOLE No <u>Cu-31-3</u> PAGE No. <u>2</u>											

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS
31.40	46.84	Con't							
		- thin seams of pyrite and pyrrhotite associated with the graphitic argillite							
		- moderately carbonated, moderately sericitic							
		- a few dark green chloritic tuff beds	AA 11291	44.8 45.8	1.0m				
		- excellent graded beds indicate downhole tops	AA 11292	45.8 46.8	1.0m				
		- scouring features also show downhole tops	AA 11293	46.8 48.0	1.2m				
		- after 39 mainly finely laminated black argillite with a few thin seams of pyrrhotite, pyrite and traces of chalcopyrite							
		- bedding at 85° - 90° to core axis cut by a few quartz and carbonate veins							
		- occasional chert beds as at 41.25, 42.3, 43.6, 44.2							
		- 45.7 thin seam of chalcopyrite							
		- sulphides increasing up to 10% pyrite, pyrrhotite downhole, less argillite and more chert.							
			AA 11294	48.0 49.0	1.0m				
48.64	88.00	CHERT, MINOR ARGILLITE							
		- grey, green and black cherts initially with 10cm bands of massive pyrrhotite with traces chalcopyrite	AA 11295	49.0 50.5	1.5m				
		- a few argillite and chloritic tuff beds	AA 11296	50.5 51.5	1.0m				
		- bedding at 80° - 90° to core axis	AA 11297	51.5 53.0	1.5m				
		- 50.6 - 51.5 5% disseminated pyrite	AA 11298	53.0 54.5	1.5m				
		51.5 - 54.5 zone with 2% scattered pyrite cubes to 2mm	AA 11299	57.4 58.4	1.0m				
		- also chert appears more foliated and in places contorted	AA 11300	78.5 79.5	1.0m				
			aa 11301	79.5 81.0	1.5m				

LOGGED BY: D. Mullen

DATE: February, 1983

PROPERTY Cunningham 31

HOLE No. Cu-31-3 PAGE No. 3

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS
4/ 8.64	88.00	Con't							
		- foliation at 45° - 65° to core axis	AA 11302	81.0	82.5	1.5m			
		58.6 - 58.8 very contorted argillite with ribbonary chloritic fractures	AA 11303	82.5	84.0	1.5m			
		running parallel to core axis crosscutting bedding; above fractures and contorted bedding stop abruptly at 58.8	AA 11304	84.0	85.0	1.0m			
		- a few chloritic interbeds with pyrrhotite							
		58.9 - 60.7 5% pyrrhotite throughout section							
		60.1 - 60.6 quartz chip bearing felsic tuffwacke bed							
		62.3 - 68.0 graphitic argillite beds with 5% pyrrhotite and minor pyrite							
		- some chert is finely laminated at 85° to core axis							
		- 72.0 - 74.1 broken core, approximately 1m lost							
		- 77.64 - 78.03 grey, moderately carbonated biotitic lamprophyre dyke with green chlorite contacts at 45° to core axis.							
		- after 78 cherts are becoming very siliceous, clear almost opalescent							
		cut by stringers of pyrrhotite minor pyrite							
		pyrite replaces pyrrhotite as dominant sulphide							
		after 81m, approximately 5% sulphide							
88.00	88.77	LAMPROPHYRE DYKE							
		- grey, biotite rich, moderately carbonated							
		- contacts sharp at 20° to core axis							
		- contacts chloritic, medium green and contain carbonate rhombs							
LOGGED BY: D. Mullen		DATE: February 1983	PROPERTY: Cunningham 31		HOLE No. Cu-31-3		PAGE No. 4		

FROM - TO		DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS
88.77	96.32	CHERT, MAGNETITE IRON FORMATION								
		- cream to dark grey chert, some finely laminated at 80° to core axis								
		interbedded with narrow magnetite bands								
		- 89.1 brecciated band								
		- a few chloritic tuffs								
		94.6 - 95.7 - lapilli tuff bed containing cherty clasts grading into black								
		slightly graphitic argillite with 10% pyrrhotite and pyrite with trace								
		chalcopyrite to 96.3								
96.32	98.86	LAMPROPHYRE DYKE								
		- greenish grey, moderately carbonated								
		- biotite phenocrysts to 3mm								
		- contacts sharp at 80° to core axis								
		- chilled over 10cm, darker green than dyke								
98.86	101.50	CHERT, MAGNETITE IRON FORMATION								
		- predominantly grey to black very siliceous chert cut by a few pyrrhotite								
		and pyrite stringers								
		- magnetite bands present only near upper contact with lamprophyre								
		99.1 - 99.4 bit collapsed causing section with smaller core almost AQ size								

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS
101.50	129.84	VARIOLITIC PILLOWED MAFIC VOLCANIC							
		- contact sharp at 70° to core axis							
		- a few 3 mm amygdules along contact							
		- initially in situ brecciated, massive and foliated							
		- also dark grey grading to buff near 105 and then to grey-green near 107							
		102.4 - 102.5 possible chert inclusion							
		102.5 - 103.2 2% disseminated pyrite, pyrrhotite							
		- strongly carbonated							
		- foliated at 60° to core axis							
		- varioles very stretched in buff zone							
		- varioles bleached and occasionally cored, up to 1 cm in diameter, average							
		5 mm							
		- some coalesce							
		- minor disseminated pyrite							
		- finely disseminated black tourmaline scattered throughout volcanic							
		- selvages bleached and filled with hyaloclastite and some pyrite, pyrrhotite							
		- some pillows are 50% varioles while others contain less than 5%							
		- becoming buff coloured after 118							
		- 126.5 - 127.9 massive granular zone							
	129.84	END OF HOLE							

D. Mullen

LOGGED BY: D. Mullen

DATE: February, 1983

PROPERTY Cunningham 31

HOLE No. Cu-31-3 PAGE No. 6

Kidd Creek Mines Ltd.

EXPLORATION

DRILL HOLE RECORD

P642140

HOLE NO. CU-31-4 PROPERTY Cunningham 31 PROJECT NO. 75 CONTRACTOR Dominik ... START .. Feb. 25/83

FINISH .. Feb. 28/83

COORDINATES Grid Location: Latitude L 126+00N UTM: Lat. Surveyed: Lat. Mine Grid: Lat.
 Departure 176+00E Dep. Dep.
 Elevation Elev.

COLLAR ATTITUDE Azimuth 000° Dip - 55° LENGTH 121.92 m CORE SIZE BQ
400-c'

INCLINATION TESTS

Acid Tests

Compass Tests

Depth	Dip
60.96 m	-51°
121.92 m	- 48°

Depth	Dip

Depth	Dip	Azimuth	True Azimuth

REMARKS

Dave Mullen

Logged by Dave Mullen

Date February, 1983

Property Cunningham 31

Hole No. Cu-31-4

FROM - TO		DESCRIPTION	SAMPLE No.	FROM-TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS
0	8.40	CASING								
8.40	30.80	TUFFWACKE - ARGILLITE								
		- medium to dark grey to black								
		- some bedding laminated, argillite bedding at 70° to core axis								
		- a few narrow chert beds								
		- some finely disseminated pyrite, strongly carbonated								
		- possible downhole tops by grading, scour								
		- a few pyrrhotite seams and light green chloritic tuff bands near 17 m								
		20 - 23 beds to 1 m - good downhole tops from grading								
		23 - 27 mainly fine black argillite with dark green chloritic tuff, minor chert								
		and 2% disseminated and wisps of pyrite and pyrrhotite								
		29.3 - 31. broken schistose core								
		30.1 kink band, "minifold",								
30.80	35.68	CHERT MAGNETITE IRON FORMATION								
		- possible fault contact with tuffwackes								
		- medium green chert with thin magnetite bands and some dark green chlorite								
		tuff interbeds								
		- a few narrow pyrrhotite stringers								
		- lower contact marked by quartz-albite vein								

LOGGED BY: D. Mullen

DATE: February, 1983

PROPERTY Cunningham 31

HOLE No. Cu-31-4 PAGE No. 2

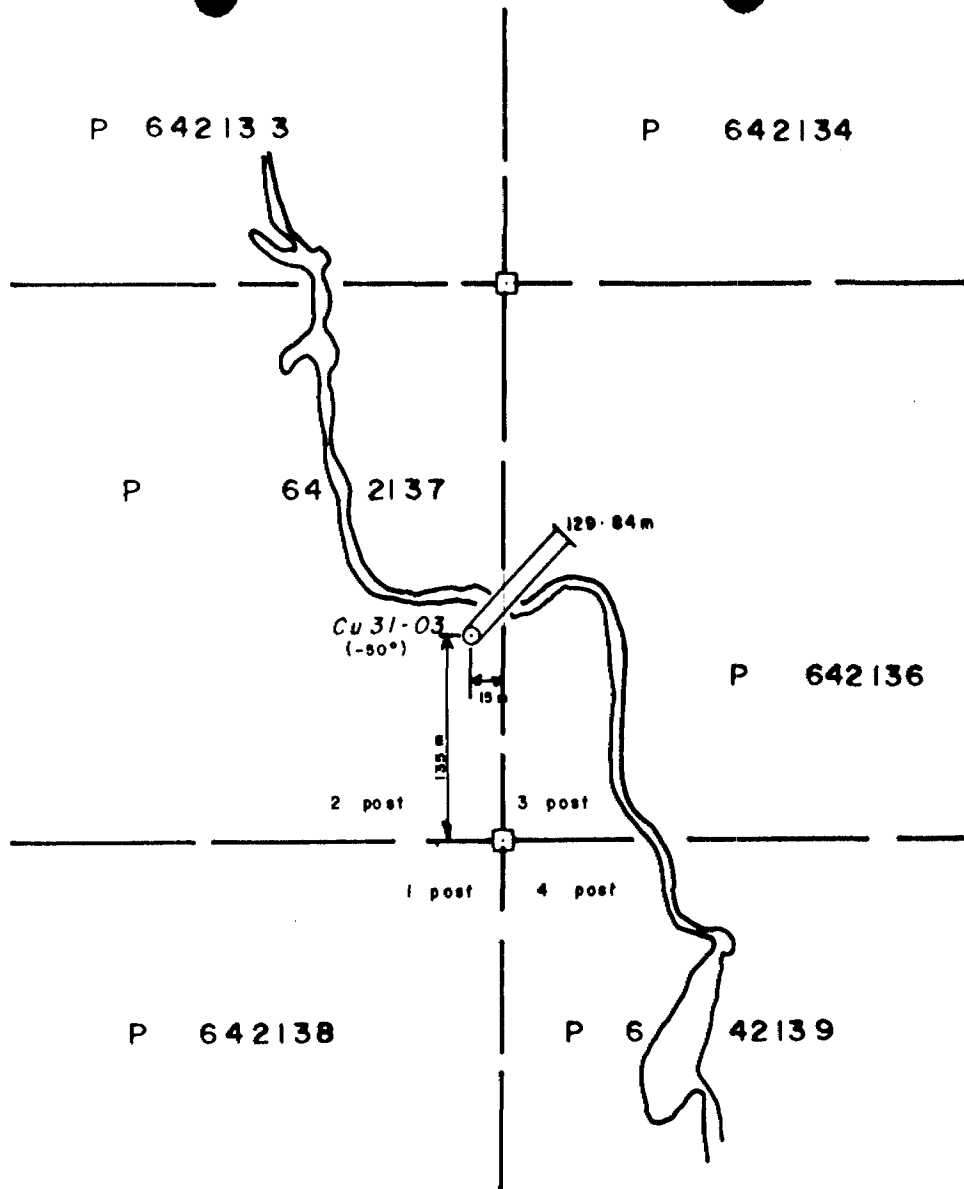
FROM - TO		DESCRIPTION	SAMPLE No.	FROM - TO		SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS	
35.68	43.20	ALTERED ULTRAMAFIC INTRUSIVE										
		- medium grey, granular	AA 11305	43.2	44.7	1.5 m						
		- exceedingly talcose	AA 11306	44.7	46.2	1.5 m						
		- cut by numerous talc-carbonate veins	AA 11307	46.2	47.7	1.5 m						
			AA 11308	47.7	49.2	1.5 m						
43.20	70.00	CHERT, TUFFWACKE, CHLORITIC TUFF	AA 11309	49.2	50.7	1.5 m						
		- intermixed grey to green chert beds with stringers of pyrite, pyrrhotite	AA 11310	50.7	51.7	1.0 m						
		with felsic tuffwacke containing quartz grains ("eyes") to 2 mm and dark	AA 11311	60.3	61.8	1.5 m						
		green chloritic tuffs with finely disseminated pyrite and pyrrhotite	AA 11312	61.8	63.3	1.5 m						
		- a few 10 15 cm thick seams of pyrite, pyrrhotite and traces chalcopyrite	AA 11313	63.3	64.3	1.0 m						
		associated with chert beds	AA 11314	64.3	65.8	1.5 m						
		- bedding at 50° - 60° to core axis	AA 11315	69.0	70.0	1.0 m						
		- a few graded beds indicate downhole tops										
		- some coarser lapilli tuff beds with chert clasts to 1 cm										
		52 - 57 fairly uniform purply-grey zone of thin chert and fine lapilli to										
		ash tuff with trace pyrite										
		57 - 59 excellent chloritic lapilli tuff containing 2 cm chert clast										
		63.3 - 64.3 35% pyrite and pyrrhotite in finely laminated beds 1 to 5 mm thick										
		67 - 70 numerous irregular quartz veins - silica dumping?										
		- associated with spotted cherts										

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS
70.00	78.00								
	CHERT AND PYRITIC TUFFS								
	- grey chert with beds of finely laminated, fine grained pyrite with trace	AA 11316	70.0	71.5	1.5 m				
	chalcopyrite	AA 11317	71.5	73.0	1.5 m				
	- pyritic zones from 5 to 30 cm wide	AA 11318	73.0	74.5	1.5 m				
	- a few darker green chloritic tuffs with disseminated pyrite and pyrrhotite	AA 11319	74.5	76.0	1.5 m				
	- bedding at 85° - 90° to core axis	AA 11320	76.0	77.0	1.0 m				
	- a few argillaceous beds	AA 11321	77.0	78.0	1.0 m				
		AA 11322	78.0	79.0	1.0 m				
78.00	121.92								
	CHERT, MAGNETITE IRON FORMATION								
	- cream, light green, grey to black chert with thin magnetite bands and								
	grey argillaceous beds								
	- some beds brecciated								
	- 79.15 hematite or jasper								
	- a few minor faults at 80.1, 80.3, 80.9								
	- minor disseminated pyrite								
	- 84 - 86.5 graphitic pyritic argillite, strongly carbonated, minor pyrrhotite								
	trace chalcopyrite								
	86.5 - 86.9 broken core								
	92.70 - possible wisps of sphalerite								
	94.4 - 96.3 magnetite bands becoming coarser grained with a pink to								
	reddish tinge (jasper? or garnets??)								
	- banding at 70° to core axis								

LOGGED BY D. Mullen DATE: February, 1983

PROPERTY Cunningham 31

HOLE No. Cu-31.4 PAGE No. 4



R. J. Mullen

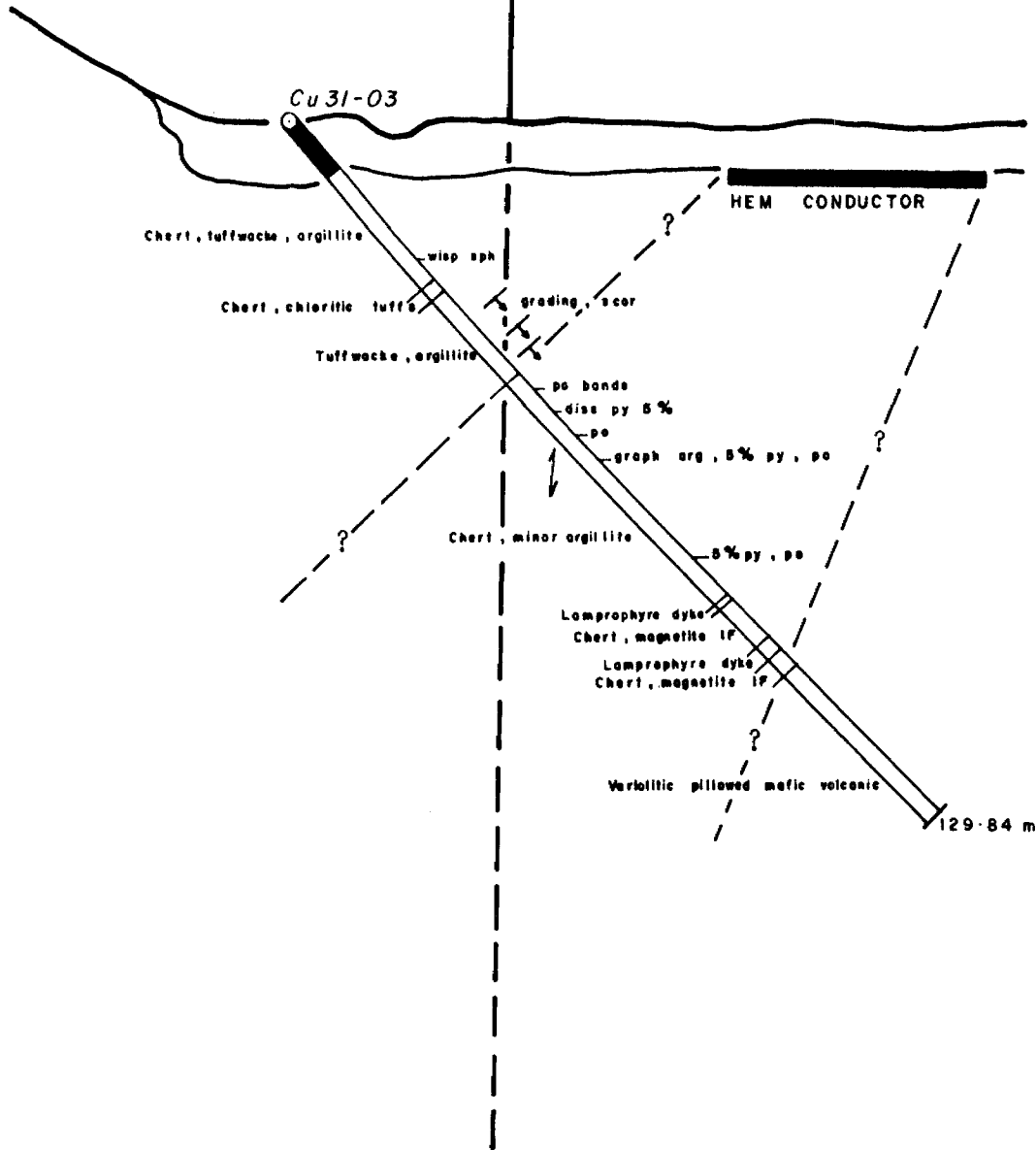


KIDD CREEK MINES LTD.		
Exploration Division		Timmins, ONTARIO
CUNNINGHAM 31		
CUNNINGHAM Twp.		
DRILL PLAN		
SCALE: 1 : 5000	Date: Mullen	
Drawn: DEL	Project N ^o : 75	Date: 02/03/83

P 642137

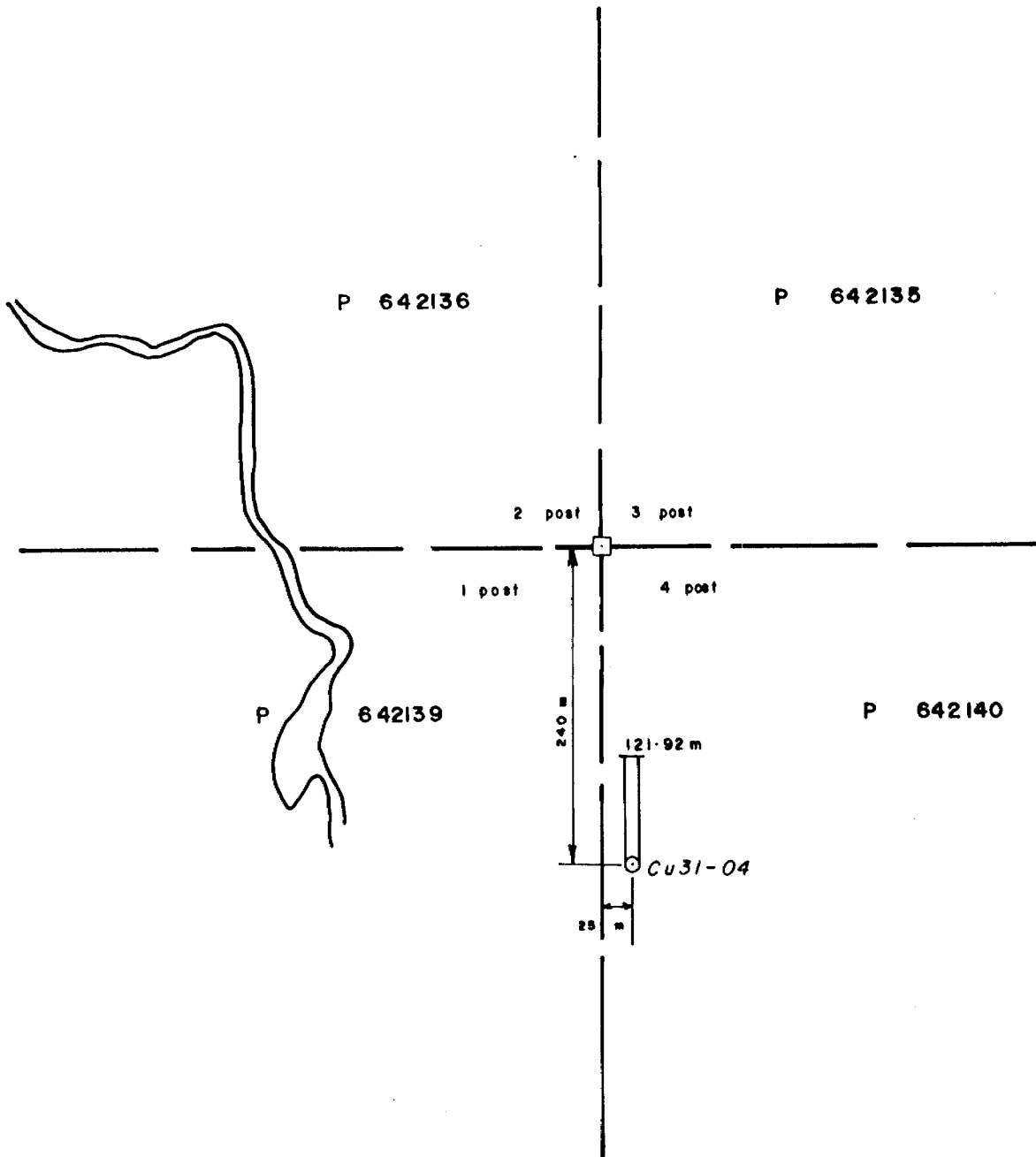
P 642136

→ 045°



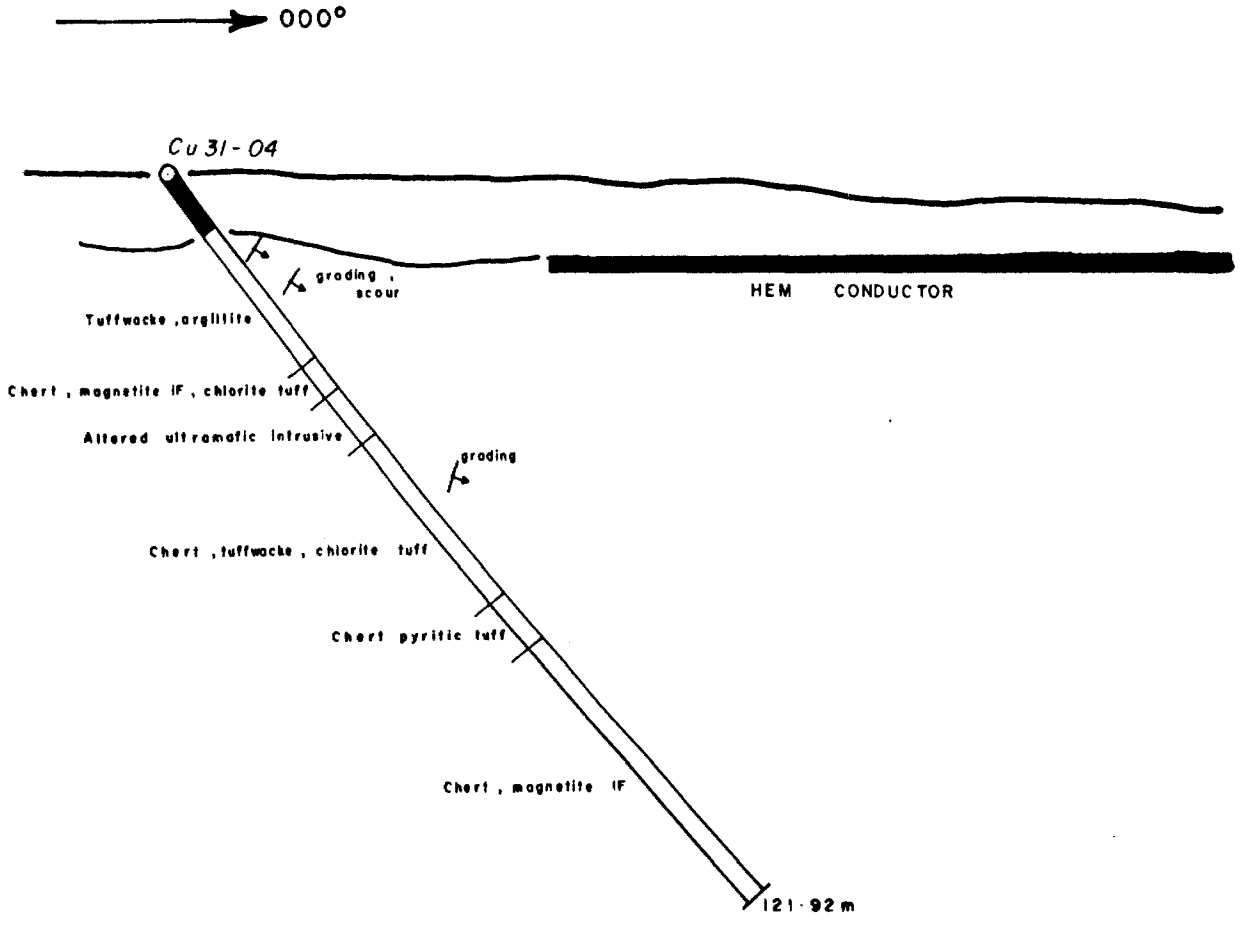
Paul Mullen

KIDD CREEK MINES LTD.		
Exploration Division		Timmins, ONTARIO
CUNNINGHAM 31 CUNNINGHAM Twp. SECTION FOR Cu 31 - 03		
(LOOKING NORTHWEST)		
SCALE: 1 : 1000	Date: Mullen	
Drawn: DEL	Project N ^o : 75	Date: 02 / 03 / 83



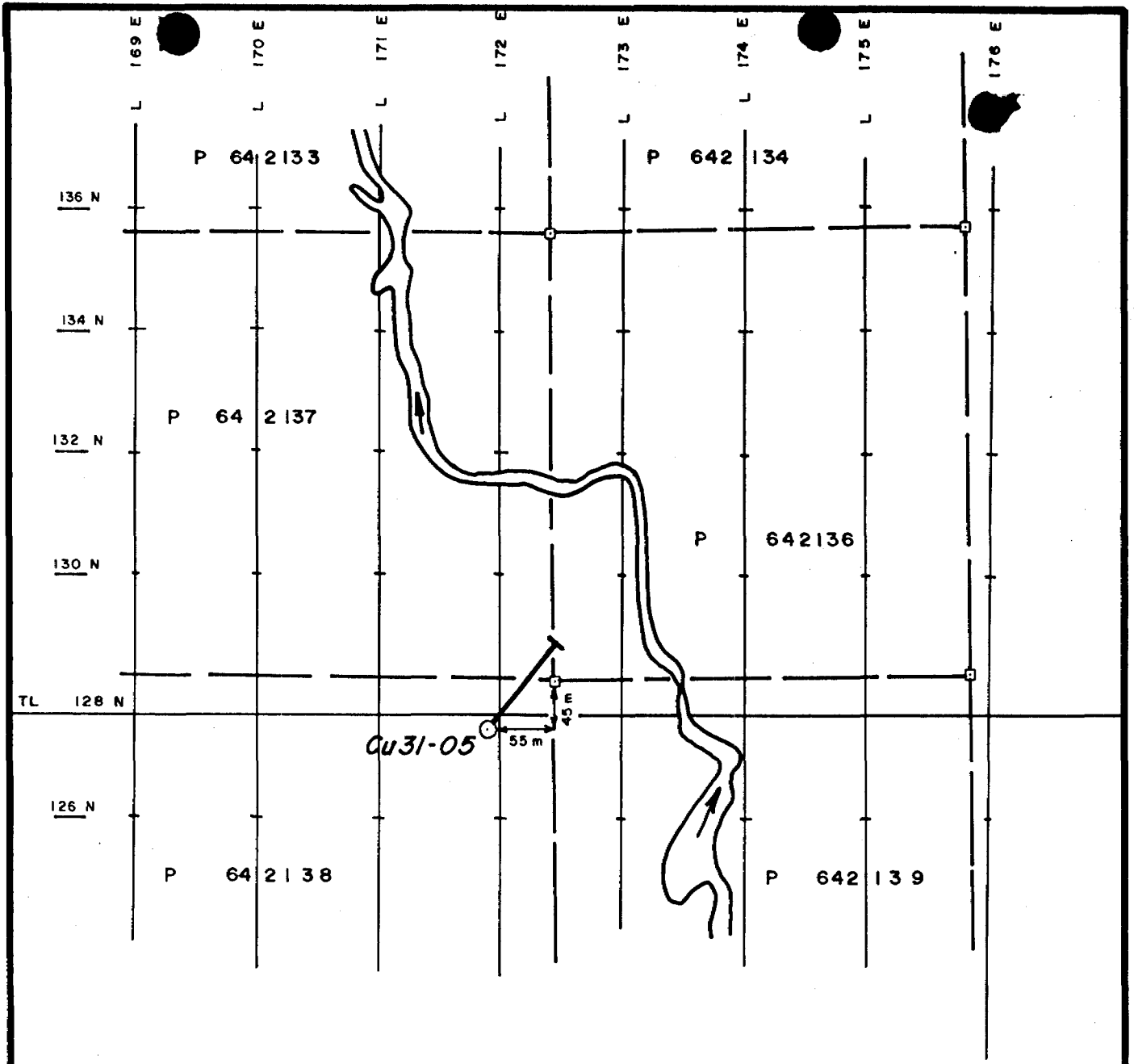
Don Mullen

KIDD CREEK MINES LTD.	
Exploration Division	Timmins, ONTARIO
CUNNINGHAM 31 CUNNINGHAM Twp.	
DRILL PLAN	
SCALE: 1 : 5000	Date: Mullen
Drawn: DEL	Project N°: 75
	Date: 04 / 03 / 83



Del Mullen

KIDD CREEK MINES LTD.		
Exploration Division		Timmins, ONTARIO
<p>CUNNINGHAM 31 CUNNINGHAM Twp. SECTION FOR Cu 31 - 04</p>		
(LOOKING WEST)		
SCALE: 1 : 1000	Data: Mullen	
Drawn: DEL	Project N ^o : 75	Date: 04/03/83



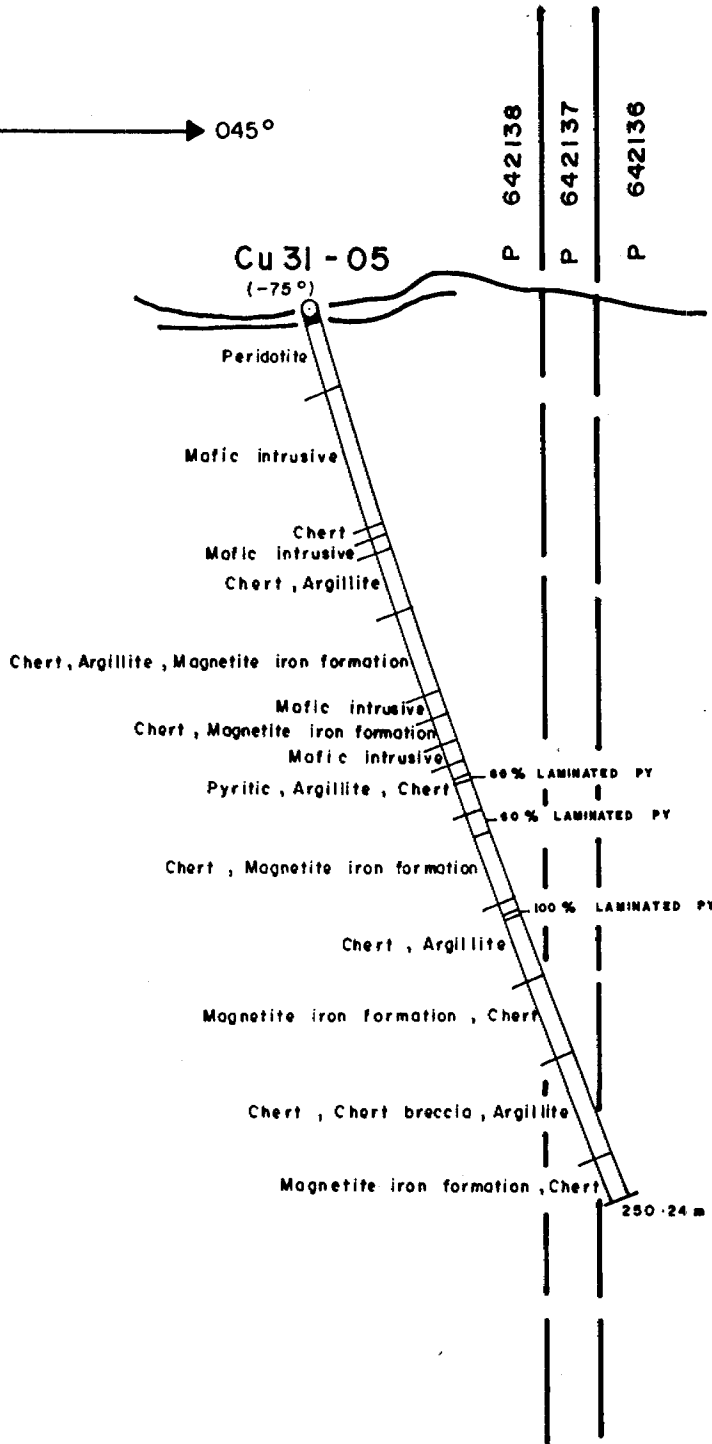
HOLE Cu31-05
 Location — 171 + 90 E
 127 + 90 N

 Azm. 045°
 Dip -75°
 Depth 250.24 m (821 ft.)

D. Miller

KIDD CREEK MINES LTD.		
Exploration Division		Timmins, ONTARIO
CUNNINGHAM 31 CUNNINGHAM Twp.		
LOCATION PLAN		
Cu 31 - 05		
SCALE: 1 : 5000	Dato: Mullen	
Drawn: DEL	Project N ^o : 75	Date: 28/02/84

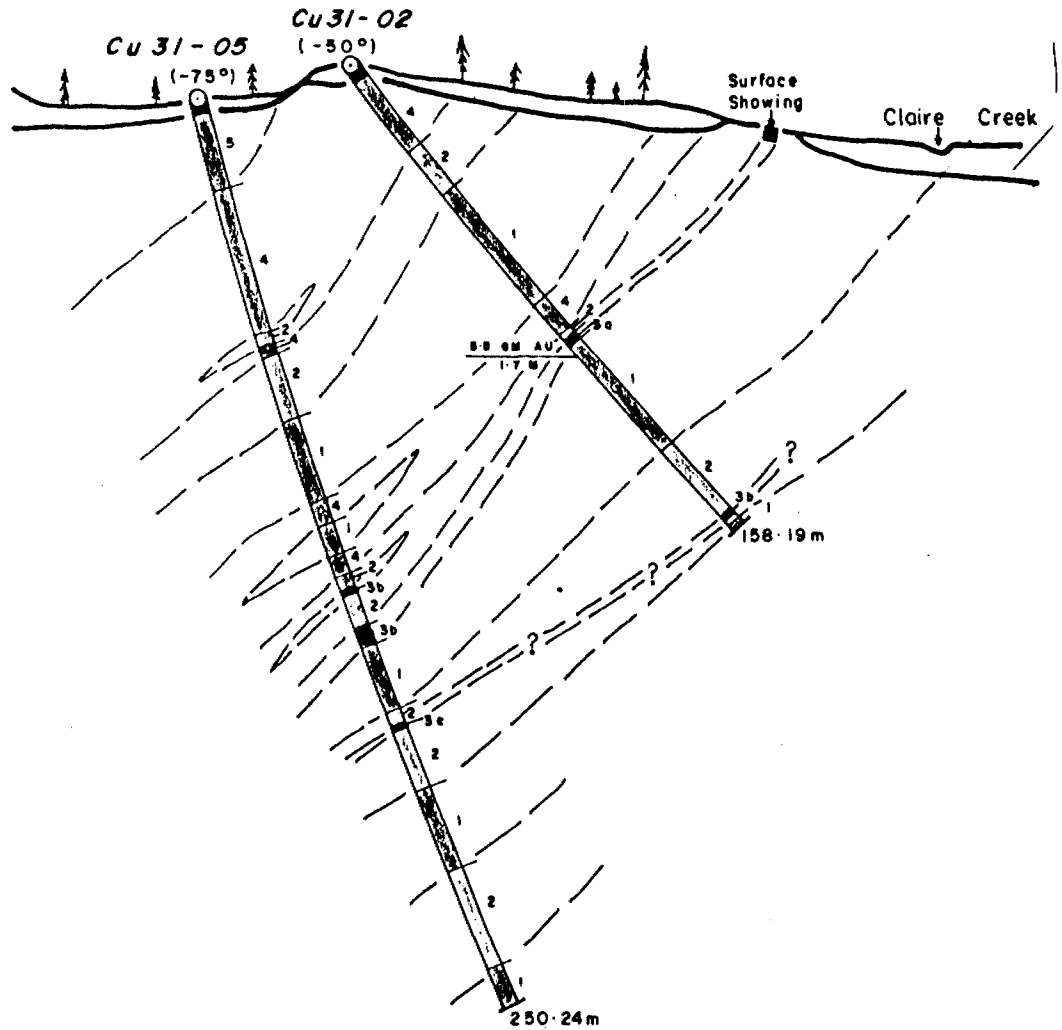
→ 045°








D. J. Miller

KIDD CREEK MINES LTD.	
Exploration Division	Timmins, ONTARIO
CUNNINGHAM 31 CUNNINGHAM Twp.	
SECTION FOR Cu 31 - 05	
(LOOKING NORTHWEST)	
SCALE: 1 : 2000	Date: Mullen
Drawn: DEL	Project N°: 75
	Date: 28/02/ 84

→ 045°



LEGEND

-  PERIDOTITE
-  MAFIC INTRUSIVE
- 
 - a MASSIVE PYRRHOTITE
 - b > 50% laminated pyrite
 - c massive laminated pyrite
-  CHERT, ARGILLITE, TUFFWACKE
-  MAGNETITE IRON FORMATION, CHERT

KIDD CREEK MINES LTD.	
Exploration Division	Timmins, ONTARIO
<p>CUNNINGHAM 31 CUNNINGHAM Twp. SECTION FOR Cu 31-02, Cu 31-05 (LOOKING NORTHWEST)</p>	
SCALE: 1:2000 (vert. = horz.)	Data: Mullen
Drawn: DEL	Project N°: 75
Date: 23/02/84	

KIDD CREEK MINES LTD.

EXPLORATION DIVISION

DRILL HOLE RECORD

HOLE NO. CU-31-5.....	PROPERTY Cunningham 31	PROJECT NO. 75.....	CONTRACTOR Bradley.	START Feb. 14, 1984																																																																						
				FINISH Feb. 18, 1984																																																																						
COORDINATES	Grid Location: Latitude 127 + 90 N....	UTM: Lat.	Surveyed: Lat.	Mine Grid: Lat.																																																																						
	Departure 171. + 90. E....	Dep.	Dep.	Dep.																																																																						
			Elevation	Elev.																																																																						
COLLAR ATTITUDE	Azimuth 045°	Dip - 75°	LENGTH 250.24m	CORE SIZE BQ.....																																																																						
INCLINATION TESTS	Acid Tests		Compass Tests																																																																							
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Depth</th> <th style="width: 50%;">Dip</th> </tr> </thead> <tbody> <tr><td>60.96m</td><td>-73°</td></tr> <tr><td>121.92m</td><td>-70°</td></tr> <tr><td>182.88m</td><td>-68°</td></tr> <tr><td>243.84m</td><td>-66°</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Depth	Dip	60.96m	-73°	121.92m	-70°	182.88m	-68°	243.84m	-66°									<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Depth</th> <th style="width: 50%;">Dip</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Depth	Dip																	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Depth</th> <th style="width: 12.5%;">Dip</th> <th style="width: 12.5%;">Azimuth</th> <th style="width: 50%;">True Azimuth</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	Depth	Dip	Azimuth	True Azimuth																															
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Depth	Dip	Azimuth	True Azimuth																																																																							
REMARKS : Duck Pond Grid																																																																										

Logged by Dave Mullen..... Date February 1984..... Property Cunningham 31..... Hole No. CU-31-5.....

FROM - TO		DESCRIPTION	SAMPLE No	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS
0	4.57	CASING								
4.57	23.70	PERIDOTITE (Intrusive)								
		- dark grey, talcose, granular in part								
		- cut by numerous green talc veinlets								
		- several sections broken, ground core								
		- devoid of sulphide, minor disseminated magnetite								
		- lower contact broken								
23.70	26.00	LAMPROPHYRE DYKE								
		- fine grained light grey, moderately carbonated								
26.00	38.70	MASSIVE MAFIC INTRUSIVE								
		- initially talcose to 26.5								
		- possible gradational contact with peridotite								
		- becoming coarser downhole near 28, moderately carbonated								
		- tiny scattered leucoxenes throughout up to 1mm								
		- decrease in carbonate downhole								
		- 35.60 - 35.75 fault gouge with quartz vein at upper contact								
		- cut by minor carbonate veins								
LOGGED BY: <u>Dave Mullen</u> DATE: <u>Feb 1984</u> PROPERTY <u>Cunningham 31</u> HOLE No. <u>Cu-31-5</u> PAGE No. <u>2</u>										

FROM - TO		DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS			AVERAGES AND REMARKS
38.70	39.15	LAMPROPHYRE DYKE							
		- brownish grey, fine grained							
		- sharp contacts at 25° to core axis							
		- finely disseminated pyrite 1%							
39.15	53.75	MASSIVE MAFIC INTRUSIVE							
		- greenish grey, medium grained							
		- full of leucoxenes							
		39.25 - 40.20 quartz-carbonate vein running subparallel to core axis							
		with minor hematite along edges							
		- some inclusions of wall rock in vein							
53.75	54.12	LAMPROPHYRE DYKE							
		- medium grey, fine grained							
		- irregular upper contact at approximately 40° to core axis							
		- broken lower contact							
54.12	64.43	MASSIVE MAFIC INTRUSIVE							
		- as before							
		- 56.6 - 56.8 carbonate patch							
		- finer grained from 62 m							
		- vague lower contact with inclusions of cherty material							
LOGGED BY: Dave Mullen			DATE: Feb 1984		PROPERTY: Cunningham 31			HOLE No. Cu-31-5 PAGE No. 3	

FROM - TO	DESCRIPTION	SAMPLE No	FROM-TO	SAMPLE LENGTH	ASSAYS			AVERAGES AND REMARKS	
					A	C	Z		
64.43	68.88								
	CHERT								
	- dark grey massive with a few lighter grey bands at 70° to core axis								
68.88	71.40								
	MASSIVE MAFIC INTRUSIVE								
	- dark grey medium grained, broken upper contact								
	- lower contact at 50°								
71.40	89.00								
	CHERT, ARGILLITE								
	- dark green chloritic chert, grey chert interbedded with argillaceous material								
	- some brecciation								
	- cut by a few pyrrhotite stringers, minor pyrite	ARCCPC1	780	795	1.5m	8	64	555	
	- numerous shallow angle slips, disrupted bedding	ARCCPC2	795	810	1.5m	3	18	210	
	- most sulphide stringers associated with grey chert	ARCCPC3	810	825	1.5m	4	126	114	
	81.0 - 81.8, 83.3 - 83.8 5% sulphide, predominantly pyrrhotite	ARCCPC4	825	840	1.5m	4	250	495	
	- 81.48 trace chalcopryite	ARCCPC5	840	855	1.5m	2	200	165	
	84- bedding in argillite at 60°	ARCCPC6	855	870	1.5m	7	102	670	
	86.0 - 87.5, 88.0 - 88.6 grey granular tuffwacke	ARCCPC7	870	885	1.5m	3	24	1400	
	86.63 specks of sphalerite	ARCCPC8	885	900	1.5m	2	42	160	
		ARCCPC9	900	915	1.5m	8	48	118	
LOGGED BY: Dave Mullen		DATE: Feb 1984		PROPERTY: Cunningham			HOLE No. CU-31-5 PAGE No. 4		

FROM - TO	DESCRIPTION	SAMPLE No	FROM-TO		SAMPLE LENGTH	ASSAYS			AVERAGES AND REMARKS
						Mo	Cu	Zn	
89.00	111.56								
	CHERT, ARGILLITE MAGNETITE IRON FORMATION	ARCCEK	914	920	1.5m	3	308	265	
	- first appearance of magnetite bands	ARCCEH	926	945	1.5m	25	140	192	
	- banding at 50° to core axis	ARCCEI	943	960	1.5m	10	178	142	
	91.7 - 92.3 - brecciated chert with chloritic matrix	ARCCEJ	960	975	1.5m	4	118	250	
	- lapilli sized clasts, pyrrhotite clasts with trace chalcopyrite	ARCCEK	975	990	1.5m	12	200	165	
	- unit is quite chloritic	ARCCEL	990	1005	1.5m	11	140	275	
	- 93.24, 93.47 thin pyrrhotite seams with chalcopyrite	ARCCEM	1005	1020	1.5m	7	66	199	
	100 - banding at 70°	ARCCEO	1020	1035	1.5m	8	82	210	
	103.4 - 105.1 30% pyrite with grey chert	ARCCEP	1035	1050	1.5m	4	150	265	
	106.0 - 106.1 75% sulphide(py:po 50:50)	ARCCEQ	1050	1065	1.5m	18	260	1025	
	106.6 - 108.2 30% pyrrhotite, minor pyrite	ARCCEZ	1065	1080	1.5m	11	410	2275	
	- minor folding at 110.5	ARCCE1	1080	1095	1.5m	27	580	840	
	- 15% pyrite over 50 cm at contact	ARCCE2	1095	1110	2.1m	10	140	115	
111.56	117.48								
	MAFIC INTRUSIVE (flow?)								
	- medium grey green, leucoxene rich								
	- weakly foliated at 40°								
	- fine grained at upper contact								
	- possible tiny amygdules at lower contact								
	- NB. this unit is probably correlative to the mafic "volcanic" described in hole CU-31-2, it is most likely a sill								
LOGGED BY: Dave Mullen		DATE: Feb 1984		PROPERTY: Cunningham 31			HOLE No. CU-31-5		PAGE No. 5

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS						
					Fe	Cu	Zn	Pb							
117.48	125.23	CHERT, MAGNETITE IRON FORMATION	ABC823	117.5	119.5	1.5m	8	144	101			Cu	Ni	Pb	As
		- grey to green chloritic chert intermixed with magnetite	ABC824	119.5	120.5	1.5m	7	90	36.5						
		- with stringers of pyrrhotite, pyrite	ABC825	120.5	120.6	1.5m	8	116	50.5						
		- 117.6 - 117.9 clots of pyrite	ABC826	120.5	123.5	1.5m	11	126	196						
		- banding at 80° to core axis	ABC827	123.5	125.2	1.7m	7	144	87						
		some magnetite bands up to 10 cm													
125.28	131.60	MAFIC INTRUSIVE													
		- as above, medium grey green, weakly foliated													
		- fine grained near contacts, with scattered leucoxenes													
		- 127.5 - 127.7 fault gouge													
131.60	150.90	PYRITIC ARGILLITE, CHERT													
		- well laminated argillite, with pyritic argillite, and	ABC828	131.6	133.5	1.9m	9	206	82						
		minor chert	ABC101	133.5	134.6	1.1m	29	1250	4786	37	120	240	90	15	
		- laminated at 60° to core axis	ABC102	134.6	136.1	1.5m	23	660	2725	37	98	166	96	N.D.	
		- 133.7 - 136.9 80% laminated pyrite-two types:	ABC103	136.1	137.6	1.5m	27	860	1525	32	110	130	96	100	
		a very fine laminated pyrite (50%) and coarser	ABC104	137.6	139.1	1.5m	41	970	1100	30	180	92	118	150	
		1-2 mm clots pyrite (recrystallized?) (50%)	ABC105	139.1	140.6	1.5m	38	1150	3305	38	260	110	112	200	
		- trace chalcovrite, sphalerite													
		- 137.5 - 141 numerous small scale folds with axes from													
		60° to 90° to core axis													
		LOGGED BY: Dave Mullen	DATE: Feb 1984	PROPERTY Cunningham 31				HOLE No. CU-31-5				PAGE No. 6			

FROM - TO	DESCRIPTION	SAMPLE No	FROM - TO	SAMPLE LENGTH	ASSAYS				AVERAGES AND REMARKS
					F	C	Zn	Pb	
	- numerous slips cutting folds								C ₂ N Pb As
	- 140.34 thin seam chalcopyrite	ABC16	142.6 143.1	1.5m	19	422	1625	26	6E 52 56 30
	142.5 - 145.0 grey chert cut by 15% pyrrhotite stringers, minor pyrite, trace chalcopyrite	ABC17	142.1 143.6	1.5m	16	516	1636	26	64 50 40 5
	145 - 150.9 weakly graphitic pyritic argillite	ABC18	143.6 145.1	1.5m	19	430	1655	26	6E 46 34 ND
	- 60% pyrite with minor pyrrhotite, trace chalcopyrite	ABC19	145.1 146.6	1.5m	40	1950	3774	51	360 138 96 300
	throughout section	ABC20	146.6 148.1	1.5m	55	1000	3225	51	212 120 152 250
	- pyrite occurs as fine laminations of 100% sulphide	ABC21	148.1 149.6	1.5m	115	930	2675	56	152 100 108 300
	over widths of 1 cm to 40 cm	ABC22	149.6 151.1	1.5m	41	730	2550	33	102 88 70 100
	- minor folding and faulting 150 - 151	ABC23	151.1 152.6	1.5m	5	240	2830	16	44 40 26 20
		ABC24	152.6 154.1	1.5m	21	192	625	16	36 38 30 ND
		ABC25	154.1 156.6	1.9m	2	204	193	20	52 192 32 200
150.90	156.07	CHERT, MAGNETITE IRON FORMATION							
	- intermixed grey and green chloritic chert with magnetite								
	- cut by occasional stringers of pyrrhotite								
	- some quartz veining, brecciated near 156								
156.07	156.92	FOLIATED MAFIC INTRUSION							
	- grey, foliated at 45° to core axis								
	- tiny scattered leucoxenes, moderately carbonated								
	- dark spots at upper contact								
		LOGGED BY: <u>Dave Mullen</u>	DATE: <u>Feb 1984</u>	PROPERTY <u>Cunningham 31</u>		HOLE No <u>Cu-31-5</u> PAGE No <u>7</u>			

FROM - TO	DESCRIPTION	SAMPLE No.	FROM - TO	SAMPLE LENGTH	ASSAYS			AVERAGES AND REMARKS
					A.	Cu	Zn	
156.92	157.60	BRECCIATED CHERT						
	- grey chert clasts cut by pyrrhotite stringers, trace pyrite	ABCC232	156.92 157.60	5.1m	33	502	1662	COMBINED INTO ONE SAMPLE
157.60	158.04	FOLIATED MAFIC INTRUSIVE						
	- as above							
158.04	158.38	BRECCIATED CHERT						
	- as above, some argillite							
158.38	162.00	FOLIATED MAFIC INTRUSIVE						
	- grey, granular, strongly carbonated							
	- leucoxenes scattered throughout							
	- foliated at 60° to core axis							
162.00	169.30	CHERT, MAGNETITE IRON FORMATION						
	- interbedded grey to green chloritic chert and magnetite	ABCC236	162.00 163.5	1.5m	2	42	141	
		ABCC237	163.5 165.0	1.5m	14	50	136	
	- contorted banding, some cherts are speckled	ABCC237	165.0 166.5	1.5m	238	190	123	± Au checked
	- minor stringers and disseminations pyrrhotite	ABCC233	166.5 168.0	1.5m	21	44	285	
		ABCC234	168.0 171.5	1.5m	19	460	3550	
169.30	179.16	ARGILLITE, PYRITE, CHERT						
	- grey argillite with a few seams of pyrite	ABCC335	169.30 179.16	17m	27	1150	4163	
	- splashes of chalcopyrite at 169.75, 170.29, 172.60, 173.86, 174.05, 177.71							

LOGGED BY: Dave Mullen DATE: Feb 1984

PROPERTY Cunningham 31

HOLE No. Cu-31-5 PAGE No. 8

FROM - TO	DESCRIPTION	SAMPLE No	FROM - TO	SAMPLE LENGTH	ASSAYS			AVERAGES AND REMARKS
	- some brecciation of chert							
	- 2% disseminated to stringer pyrrhotite, trace chalcopyrite							
210.60	CHERT FRAGMENTAL							
212.60	- clasts of grey chert from 5mm to 10 cm set in a chloritic matrix							
	- 2% disseminated pyrrhotite, minor pyrite							
212.60	LAMPROPHYRE DYKE							
212.92	- dark brownish-grey, fine grained, weakly carbonated							
	- with augite (?) phenocrysts							
212.92	CHERT FRAGMENTAL							
227.20	- as above but well foliated at 35° to core axis							
	- 214.0 - 214.8 possible fault zone							
	- some clasts are boudinaged							
	215-220 pyrite is dominant sulphide in section							
	223.4-224.3 schistose zone with several tight small scale folds,							
	schistosity at 20° - 25° to core axis							
LOGGED BY: Dave Mullen		DATE: Feb 1984		PROPERTY: Cunningham 31		HOLE No. Cu-31-5 PAGE No. 10		

FROM - TO	DESCRIPTION	SAMPLE No	FROM-TO	SAMPLE LENGTH	ASSAYS			AVERAGES AND REMARKS
					Fe	Cu	Zn	
	171.16 - 172.34 - 100% laminated pyrite							
	- contorted bedding,	ABCE36	1712-1723	1.1m	95	610	3000	
	- some pyrite appears coarser (recrystallized)	ABCE37	1723-1734	1.5m	14	3000	4800	
	- possible convolute laminations in argillite, bedding	ABCE38	1734-1753	1.5m	7	2700	2125	
	roughly parallels core axis	ABCE39	1753-1767	1.5m	2	480	925	
	- scattered pyrite cubes to 2 mm in argillite	ABCE40	1767-1783	1.5m	12	280	180	
	174.1 - 174.7 broken core	ABCE41	1783-1799	1.5m	2	510	179	
179.16	190.02	CHERT FRAGMENTAL						
	- lapilli sized clasts of rounded chert, minor pyrrhotite							
	and possibly tuffwacke set in a moderately chloritic							
	foliated matrix							
	- clasts range from 5 mm to 10 cm							
	- a few chert clasts are laminated							
	- unit cut by pyrrhotite, trace chalcopyrite							
190.02	210.60	MAGNETITE IRON FORMATION, CHERT						
	- intermixed light to dark grey speckled chert and magnetite							
	- moderate chlorite alteration							
	bedding varies from 50° to subparallel to core axis							
	especially section 200-208							
LOGGED BY: Dave Mullen		DATE: Feb 1984		PROPERTY: Cunningham 31		HOLE No. Cu-31-5 PAGE No. 9		

FROM - TO	DESCRIPTION	SAMPLE No	FROM-TO	SAMPLE LENGTH	ASSAYS			AVERAGES AND REMARKS
					A	C	Zn	
227.20-238.94	CHLORITIC ARGILLITE, CHERT - predominantly greenish-grey chloritic argillite with minor pyrite seams intermixed with occasional grey chert bed, trace chalcopryite - some chert beds weakly carbonated - a few granular looking zones, possibly very altered tuffwacke							
238.94-250.24	MAGNETITE IRON FORMATION, CHERT - interbedded magnetite, grey chert and chloritic chert - a few pyrite seams (5%) - bedding at 55° to core axis 247 - 247.5 20% stringer pyrrhotite, trace chalcopryite in " siliceous " chert 249.7 - 250.1 25% stringer pyrite pyrrhotite, trace chalcopryite	ABCCP12 ABCCP13 ABCCP14 ABCCP45	2455-2476 2476-2486 2486-2495 2495-2503	1.5m 1.0m 1.5m 0.7m	5 10 7 27	510 410 118 260	1575 240 54 385	
250.24	END OF HOLE							
LOGGED BY: Dave Mullen		DATE: Feb 1984		PROPERTY: Cunningham 31		HOLE No. Cu-31-5 PAGE No. 11		



41010NE0042 34 CUNNINGHAM

184

structions - Supply required data on a separate form for each type of work to be recorded (see table below). For Geo-technical work use form no. 1362 "Report of Work (Geological, Geophysical, Geochemical and Expenditures)".

Name and Postal Address of Recorder: **KIDD CREEK MINES LTD.** 900 Prospector's Licence: **T-1**

571 MONETA AVENUE, P.O. BOX 1140, TIMMINS, ONTARIO

Summary of Work Performance and Distribution of Credits

Total Work Days Cr. claimed	Mining Claim			Work Days Cr.	Mining Claim			Work Days Cr.	Mining Claim			Work Days Cr.
	Prefix	Number			Prefix	Number			Prefix	Number		
380 days	P	See attached schedule										
for Performance of the following work. (Check one only)												
<input type="checkbox"/> Manual Work												
<input type="checkbox"/> Shaft Sinking Drifting or other Lateral Work.												
<input type="checkbox"/> Compressed Air, other Power driven or mechanical equip.												
<input type="checkbox"/> Power Stripping												
<input checked="" type="checkbox"/> Diamond or other Core drilling												
<input type="checkbox"/> Land Survey												

ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES
RESEARCH OFFICE
APR 17 1984
RECEIVED

All the work was performed on Mining Claim(s):

Required Information eg: type of equipment, Names, Addresses, etc. (See Table Below)

Hole CU-31-5 was drilled through three claims as shown by the attached sketch.

Claim P-642138 had 660 feet for 660 days
Claim P-642137 had 115 feet for 115 days
Claim P-642136 had 46 feet for 46 days
Total length was 821 feet (250.24m) and total credits are 821 days, although only 380 days are being claimed at this time, leaving 441 days to be claimed at a later date.

Drilling was carried out by Bradley Brothers Ltd.
Highway 101 West, Timmins, Ontario using a Boyles Brother 17A drill rig over the period February 14 to February 18, 1984. Core diameter was 1 7/16' (BQ).

441 days remaining

RECORDED
MAR 22 1984
Receipt No. 10

RECEIVED
MAR 1 1984

Date of Report: Feb. 29/84
Recorded Holder or Agent (Signature): *[Signature]*

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: **DAVE MULLEN, 571 MONETA AVENUE, P.O. BOX 1140**

TIMMINS, Ontario Date Certified: **Feb. 29/84** Certified by (Signature): *[Signature]*

Table of Information/Attachments Required by the Mining Recorder

Type of Work	Specific information per type	Other information (Common to 2 or more types)	Attachments
Manual Work	Nil	Names and addresses of men who performed manual work/operated equipment, together with dates and hours of employment.	Work Sketch: these are required to show the location and extent of work in relation to the nearest claim post.
Shaft Sinking, Drifting or other Lateral Work			
Compressed air, other power driven or mechanical equip.	Type of equipment	Names and addresses of owner or operator together with dates when drilling/stripping done.	Work Sketch (as above) in duplicate
Power Stripping	Type of equipment and amount expended. Note: Proof of actual cost must be submitted within 30 days of recording.		
Diamond or other core drilling	Signed core log showing: footage, diameter of core, number and angles of holes.	Nil	Nil
Land Survey	Name and address of Ontario land surveyor.		

SCHEDULE OF MINING CLAIMS

DISTRIBUTION OF WORK CREDITS FROM 1984 DRILLING (CU-31-5)

MINING CLAIM	TOWNSHIP	WORK DAY CREDITS
P-642065	Cunningham	20
P-642072	Cunningham	40
P-642073	Cunningham	40
P-642074	Cunningham	40
P-642075	Cunningham	40
P-642076	Cunningham	40
P-642133	Cunningham	20
P-642134	Cunningham	20
P-642135	Cunningham	20
P-642136	Cunningham	20
P-642137	Cunningham	20
P-642138	Cunningham	20
P-642139	Cunningham	20
P-642140	Cunningham	20
	Total	<u>380</u> days



Ministry of
Natural
Resources

Report
of Work

CUNNINGHAM
12/1/85

TWO
Instructions

Supply required data on a separate form for each type of work to be recorded (see table below).
For Geo-technical work use form no. 1362 "Report of Work (Geological, Geophysical, Geochemical and Expenditures)".

The Mining Act

Name and Postal Address of Recorded Holder Robert A. MacGregor	Prospector's Licence No. K-15070
134 Palace Dr., Sault Ste. Marie, Ontario P6B 5H5	

Summary of Work Performance and Distribution of Credits

Total Work Days Cr. claimed 1780	Mining Claim			Mining Claim			Mining Claim		
	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.
For Performance of the following work. (Check one only) <input type="checkbox"/> Manual Work <input type="checkbox"/> Shaft Sinking Drifting or other Lateral Work. <input type="checkbox"/> Compressed Air, other Power driven or mechanical equip. <input type="checkbox"/> Power Stripping <input checked="" type="checkbox"/> Diamond or other Core drilling <input type="checkbox"/> Land Survey	P	642065	60	P	642073	140	P	642133	60
		642066	60		642074	140		642134	60
		662067	60		642075	140		642135	60
		662068	60		642076	140		642136	60
		662069	60					642137	60
		662070	60					642138	60
		662071	60					642139	60
		662072	140					642140	60

All the work was performed on Mining Claim(s): **PG42137, 642139, 642139**

Required Information eg: type of equipment, Names, Addresses, etc. (See Table Below)

Hole Cu 31 - 7 425'
Cu 31 - 6 534'
Cu 31 - 5 821'

Drilled by: **Bradley**
Timmins, Ont.
February 14/84 - Feb. 24/84

Core B.O.

RECORDED
1 APR 2 1985
Receipt No. *[initials]*

Days applied this report 1600
Remaining to be applied later 180 days

ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES
RESEARCH OFFICE
APR 25 1985
RECEIVED

PORCUPINE MINING DIVISION
RECEIVED
APR 02 1985 P.M.
A.M. 7/8/9/10/11/12/1/2/3/4/5/6

Date of Report March 29/85	Recorded Holder or Agent (Signature) <i>[Signature]</i>
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Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying
R.A. MacGregor, 134 Palace Dr., Sault Ste. Marie, Ontario P6B 5H5

Date Certified March 29/85	Certified by (Signature) <i>[Signature]</i>
--------------------------------------	--

Table of Information/Attachments Required by the Mining Recorder

Type of Work	Specific Information per type	Other Information (Common to 2 or more types)	Attachments
Manual Work	Nil	Names and addresses of men who performed manual work/operated equipment, together with dates and hours of employment.	Work Sketch: these are required to show the location and extent of work in relation to the nearest claim post.
Shaft Sinking, Drifting or other Lateral Work			
Compressed air, other power driven or mechanical equip.	Type of equipment	Names and addresses of owner or operator together with dates when drilling/stripping done.	Work Sketch (as above) in duplicate
Power Stripping	Type of equipment and amount expended. Note: Proof of actual cost must be submitted within 30 days of recording.		
Diamond or other core drilling	Signed core log showing; footage, diameter of core, number and angles of holes.	Nil	Nil
Land Survey	Name and address of Ontario land surveyor.		