Diamond Drilling

Township of McElroy

Report Nº 25

Work performed by: Falconbridge Copper Limited

Claim Nº	Hole Nº	Footage	Date	Note
L 476663	LL-77-3	95.0'	Nov/77	(1)
L 440995	LL-77-4	502.0'	Jan/78	(1)
L 367390	LL-77-5	405.0'	Jan/78	(1)
L 367391	LL-77-6	805.0'	Dec/77	(1)
MR 25	LL-77-7	404.0'	Jan/78	(1)
L 476663	LL-77-3A	625.0'	Feb/78	(2)

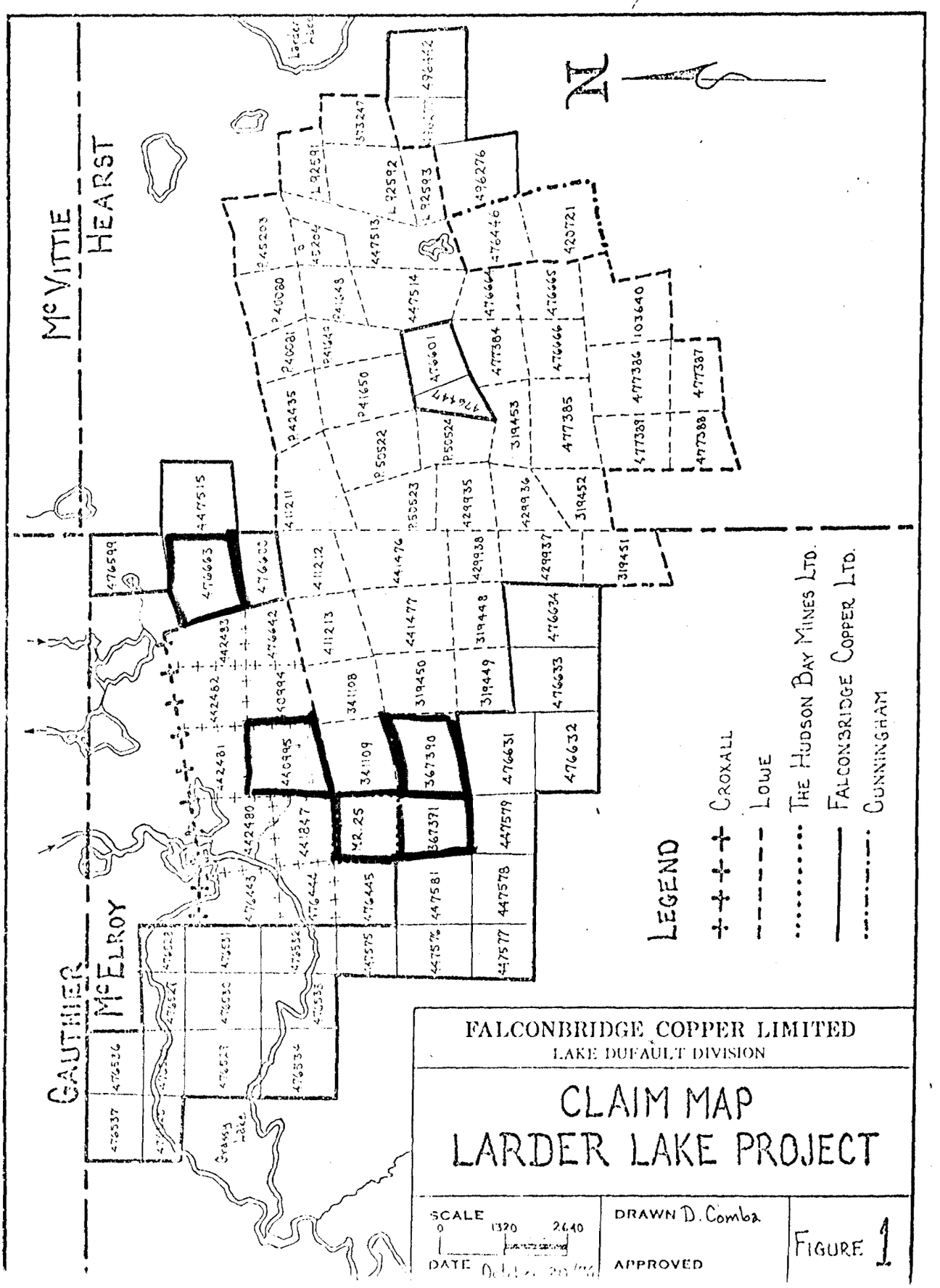
6 DDH - 2836'

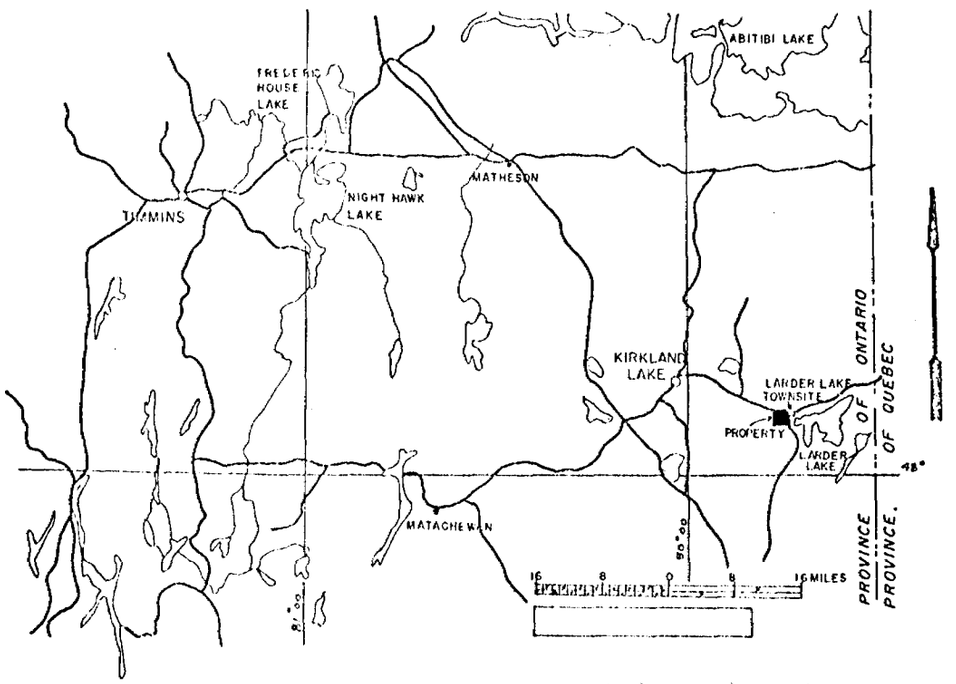
Notes:

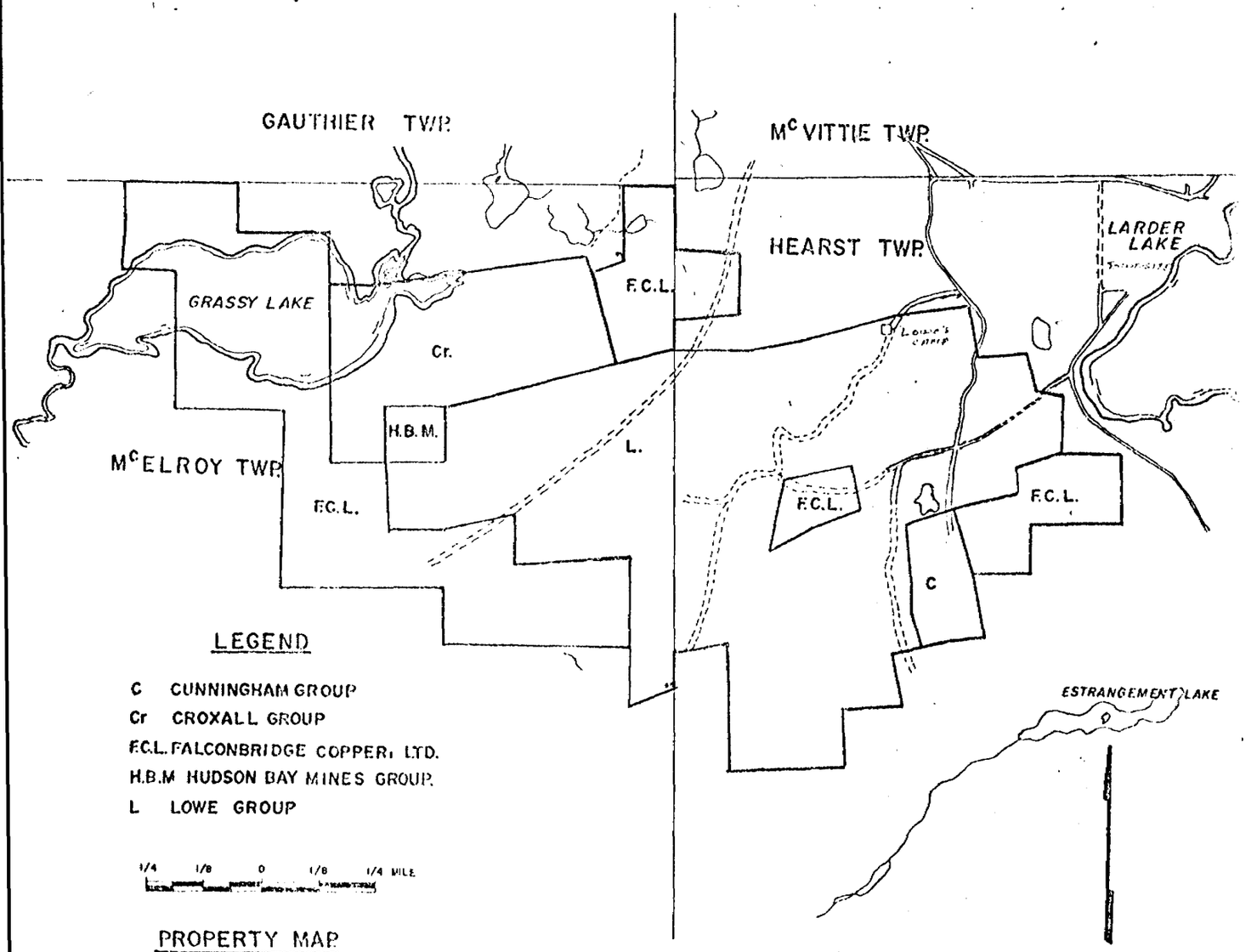
(1) #35-78

(2) # 9-79

McElroy Twp.
#35-78
Falconbridge Copper Ltd.







LEGEND

C CUNNINGHAM GROUP
Cr CROXALL GROUP
F.C.L. FALCONBRIDGE COPPER LTD.
H.B.M HUDSON BAY MINES GROUP
L LOWE GROUP

1/4 1/8 0 1/8 1/4 MILE

PROPERTY MAP

1977 - 1978

WINTER DRILL PROGRAM

on the

LARDER LAKE PROPERTIES

by

Dave Comba MSc.

N.T.S. 32 D-4

FALCONBRIDGE COPPER LIMITED
Noranda, Quebec
February, 1978

ACCOMPANYING DRILL LOGS

LL 77-3	Plan and Section	1" = 100'
LL 77-4	Plan and Section	1" = 100'
LL 77-5	Plan and Section	1" = 100'
LL 77-6	Plan and Section	1" = 100'
LL 77-7	Plan and Section	1" = 100'

CONTENTS

SUMMARY

A contract for 2500 feet of AQ wireline drilling was let to Contractor A. McKnight Diamond Drilling, Haileybury, Ontario to test promising geological environments, and geophysical conductors. Four of five holes have been completed. The fifth hole, initially abandoned after encountering difficult overburden conditions, is to be redrilled.

No sulphides of economic interest have been intersected. Total footage to date (February 10, 1978) 2211 feet.

INTRODUCTION

Semi-massive to massive sulphides, principally pyrite and pyrrhotite, occur in graphitic horizons interbedded with volcanic flows and sediments. Significant concentrations of sphalerite, chalcopyrite and argentiferous galena may occur with graphite-rich sediments or late calcitic veinlets. In situ brecciated and altered volcanic rocks frequently occur in the footwall of the main volcanic sediment interface. Sulphides are assumed in part to be related to metal-exhalative processes or remobilizations from accumulations originally deposited by such processes.

Five holes totalling 2500 feet were laid out to test geologically favorable environments and geophysical conductors in McElroy Township.

LOCATION AND ACCESS

The claim group is situated on the southwestern outskirt of the Larder Lake Townsite. Highway 624 between Englehart and Larder Lake passes within 300 feet of the easternmost claim. The north boundary lies from 1500 to 5000 feet south of Highway 66 to Kirkland Lake. Access for the subject drill program in McElroy Township has been made via an old lumber road that joins Highway 66 from the south, approximately 600 feet east of the Mesima River bridge.

TOPOGRAPHY AND VEGETATION

A north trending esker ridge dominates the east end of the claim group. The ridge slopes steeply to the east and is utilized by a local ski club. To the west the esker slopes gradually to the township boundary. West of the boundary the area is characterized by gently undulating hills and broad flat swampy areas. A few larger hills with steep cliff-like slopes are present south and northeast of Grassy Lake. The west end of the property is covered by a wide shallow section of the Mesima River, aptly named Grassy Lake. Topographic relief on the claim group does not exceed 200'.

The entire area is heavily forested with secondary growth spruce, hemlock, and cedar in wet areas and with balsam, pine, poplar and birch occurring on the better drained slopes. Bedrock exposures account for only 10% of the

total area and 90% of these exposures are overgrown with moss.

PROPERTY

A contiguous block of 91 claims was acquired in Hearst and McElroy Townships, Ontario and includes the following separately acquired properties:

1) The Lowe Group (46 claims) - optioned from prospector D. Lowe January 1st, 1977.
2) Claims staked by Falconbridge Copper Limited: June-July 1976 (28) and October 1977 (3)
3) The Croxall Property (11 claims) - optioned from J. Croxall June 20th 1976.
4) The Hudson Bay Mines Ltd. Claim MR-25 - optioned November 20th, 1976.
5) The Cunningham Claims (2) - optioned from consultant L. Cunningham March 1st 1977.

The subject drill program has resulted in the following footages drilled on individual claim groups in McElroy Township.

CLAIM GROUP	CLAIM	HOLE NUMBER	FOOTAGE
Falconbridge	L-476663	LL 77-3	95'
Croxall	L-440995	LL 77-4	502'
Lowe	L-367390	LL 77-5	405'
	L-367391	LL 77-6	75'
Hudson Bay	MR-25	LL 77-6	730'
	MR-25	LL 77-7	404'

PREVIOUS WORK

At least 64 drill holes are known or are reported to have been drilled on the property. Logs exist in assessment files for approximately two-thirds of the holes. Core from FALCONBRIDGE COPPER LIMITED holes is stored at the Norbec Mine site, Noranda, Quebec. Some core from the AMAX drilling in the late 60's is stored at Lowe's Camp on claim L-40080 (P) Hearst Township, but is in poor condition. All remaining core has been lost. FIGURE 2 indicates the location of the majority of the holes, but the reader is referred to 1" = 400' geology maps submitted by the writer for a complete compilation.

THE FALCONBRIDGE COPPER WINTER 77-78 DRILL PROGRAM

Drilling is confined to targets in McElroy Township. Five holes were spotted in November 1977 to test promising geological environments and geo-

physical conductors. Field men from three potential contractors were taken to the proposed sites on two occasions. A contract with A. McKnight Diamond Drilling, Haileybury, Ontario was signed November 25th, 1977. Four of five holes have been completed. The fifth hole, initially abandoned after encountering difficult overburden conditions, is to be redrilled. Total footage to date, 2211 feet, is summarized as follows:

HOLE	FOOTAGE	CLAIM(S)	REMARKS
LL 77-3	95'	L-476663	Filed as manual work
LL 77-4	502'	L-440995	
LL 77-5	405'	L-367390	
LL 77-6	805'	L-367391 and MR-25	75' filed for assessment
LL 77-7	404'	MR-25	Not eligible for assessment.
	2211		

RESULTS

Hole LL 77-3

Location:	Latitude	48+75N
	Departure	10+00W
	Azimuth	180°
	Dip	45°
	Depth	95' (overburden)

This hole was drilled on claim L-476663 with the intention of checking an H.E.M. conductor. Hole abandoned at 95' at 50° after successive attempts over twenty days failed to penetrate a layer of quicksand below 70' of overburden. Holes of 45° and 50° attempted from the same setup. Machine employed; Longyear "38" with hydraulic head, chuck and tricone bit.

Hole LL 77-4

Location:	Latitude	28+00N
	Departure	44+00W
	Azimuth	360°
	Dip	55°
	Depth	502'

Drilled to test a promising geological environment and VLF conductor with coincident magnetic high. Numerous lapilli sized clasts of massive pyrrhotite and pyrite were intersected in hangwall (stratigraphic tops) conglomerates. No massive metal sulphides of economic interest were intersected at the volcanic sediment contact below the conductor. Located on claim L-440995.

CONCLUSIONS

No base metal sulphides of a commercially exploitable nature have been cored, although the geological environment is interesting. Near vertical dips restrict the amount of follow up geophysics and drilling that can be justified on the basis of the intersections to date.

— Dave Comba —

Dave Comba, MSc.
Geologist
Falconbridge Copper Limited
Exploration Division

Hole LL 77-5

Location:	Latitude	4+00N
	Departure	51+50W
	Azimuth	360°
	Dip	50°
	Depth	405°

This hole was spotted approximately 200' east of WRIGHT-HARGREAVES HOLE #4 (1954) and 400' west of AMAX HOLE #36 (1968) to test a weak H.E.M. conductor. The earlier holes intersected 1.05% Pb, 1.90% Zn, 0.38% Cu, over 18.5' and 0.28 oz Ag, 3.36% Zn, 0.05% Cu over 13.5' respectively. The hole intersected 4.07% Zn, over 7.0' from 218.0 to 225.0 on claim L-367390.

Hole LL 77-6

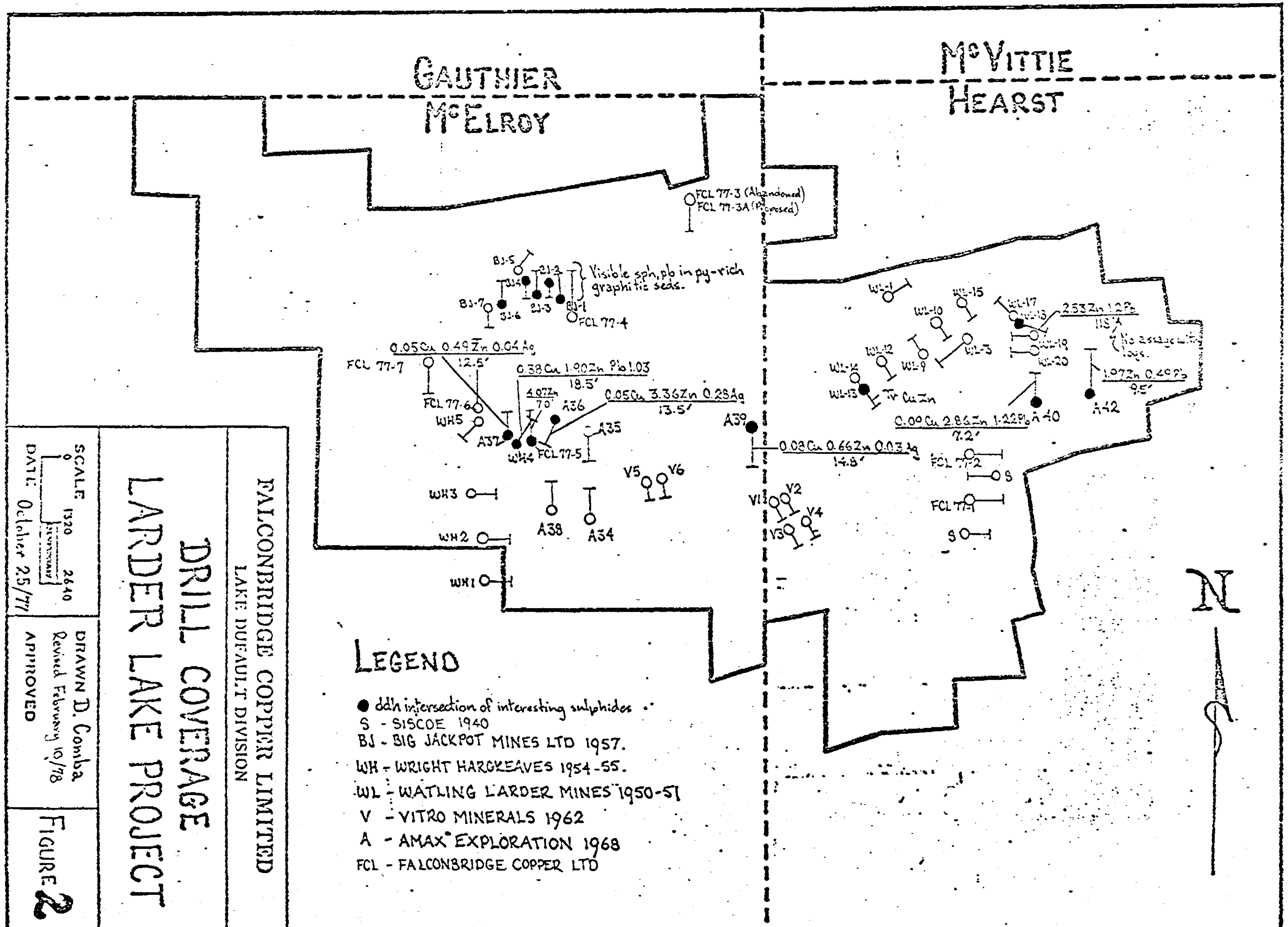
Location:	Latitude	8+00N
	Departure	60+00W
	Azimuth	360°
	Dip	50°
	Depth	805'

Drilled to test a 40' wide H.E.M. conductor, then pass beneath an old shaft on patented claim MR-25. Three short massive iron sulphide intersections were made at successive volcanic sediment contacts. A bedded cherty tuff lying on top of one massive sulphide section assayed 1340 ppm Zn over 0.3 feet. Occasional hairline calcite filled fractures containing euhedral crystals of sphalerite, pyrite and lesser amounts of galena and chalcopyrite were encountered throughout the hole. These euhedral base metal sulphides are interpreted as remobilizations from one or more adjacent "source-beds". The first 75 feet of the hole was drilled on claim L-367391.

Hole LL 77-7

Location:	Latitude	12+50N
	Departure	64+00W
	Azimuth	180°
	Dip	50°
	Depth	405'

Spotted to test a weak H.E.M. conductor 400' west of hole LL 77-6. Attained similar results. The bedded cherty tuff contained thin contorted beds of sphalerite and assayed 1.40% Zn over 0.4'.


GAUTHIER
McELROY
McVITTIE
HEARST
FCL 77-3 (Abandoned)
FCL 77-3A (Proposed)
Visible sph, pb in py-rich graphitic seds.
FCL 77-4
0.05Cu 0.49Zn 0.04Ag
12.5'
FCL 77-7
0.38Cu 1.90Zn Pb1.03
18.5'
0.05Cu 3.36Zn 0.28Ag
13.5'
FCL 77-6
WH5
A37
WH4
FCL 77-5
A36
A35
A39
0.08Cu 0.66Zn 0.03Ag
14.8'
WH3
WH2
WH1
A38
A34
V5
V6
V1
V2
V3
V4
2.53Zn 1.2Pb
No assays with logs.
1.07Zn 0.49Pb
9.5'
A42
A40
Tr Cu Zn
FCL 77-2
FCL 77-1
S
N
LEGEND
● ddh intersection of interesting sulphides
S - SISCOE 1940
BJ - BIG JACKPOT MINES LTD 1957.
WH - WRIGHT HARGREAVES 1954-55.
WL - WATLING LARDER MINES 1950-51
V - VITRO MINERALS 1962
A - AMAX EXPLORATION 1968
FCL - FALCONBRIDGE COPPER LTD
FALCONBRIDGE COPPER LIMITED
LAKE DUFAULT DIVISION
DRILL COVERAGE
LARDER LAKE PROJECT
SCALE
0
1320
2640
DATE October 25/77
DRAWN D. Comba
Revised February 10/78
APPROVED
FIGURE 2

Ontario

THE MINING ACT – MINISTRY OF NATURAL RESOURCES

DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON EVERY PAGE

HOLE NO. LL77-3 | PAGE NO. 1

DRILLING COMPANY: McKNIGHT DIAMOND DRILLING

COLLAR ELEVATION: Surface ~ 975'

BEARING OF HOLE FROM TRUE NORTH: 180°

TOTAL FOOTAGE: 95'

DIP OF HOLE AT: collar 50°

DATE HOLE STARTED: November 25/77

DATE COMPLETED: December 14/77

DATE LOGGED: N/A

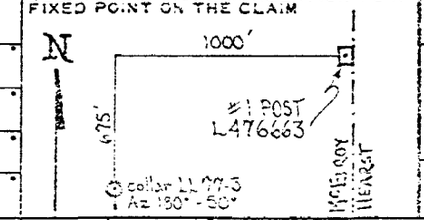
LOGGED BY: C.D.A. Comba MSc.

EXPLORATION CO., OWNER OR OPTIONEE: FALCONBRIDGE COPPER LTD.

DATE SUBMITTED:

SUBMITTED BY (Signature):

LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM



MAP REFERENCE NO.: 32 D/4

CLAIM NO.: L 47666

LOCATION (Tp., Lot, Con. OR Lot. and Long.): McELROY TOWNSHIP

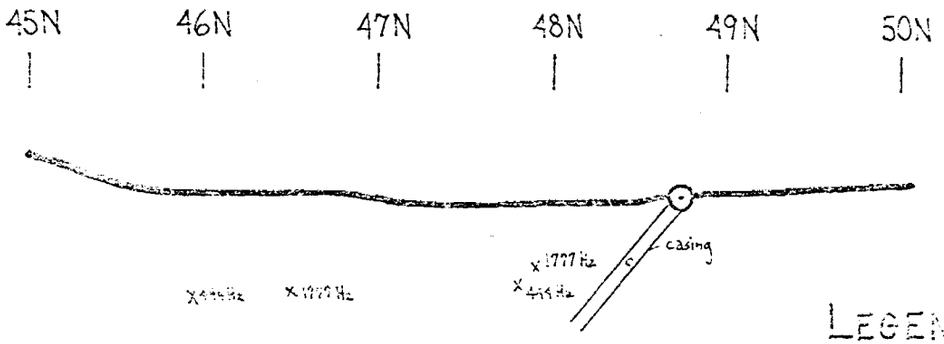
PROPERTY NAME: LARDER LAKE PROJECT

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE ANGLE °	CORE SPECIMEN FOOTAGE +	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE FOOTAGE TO	SAMPLE LENGTH	ASSAYS +
0	70	OVERBURDEN	Boulder till							
70	95	OVERBURDEN	Quicksand, high water pressure							
			Hole abandoned after successive failures to reach bedrock. Holes of 45° to 55° were attempted with similar results.							

+ Additional credit available. See Assessment Work Regulations.

LATITUDE

December 15/78 SCALE 1"=100' D. Comba



LEGEND

x Maxmin II H.E.M. Conductor (no width)

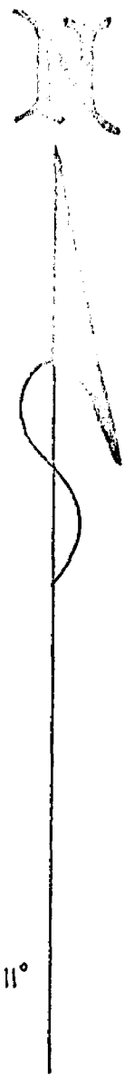
LARDER LAKE PROJECT

X-SECTION SKETCH LL 77-3

LINE 10N

McELROY TOWNSHIP CLAIM L476663

December 15/77 [illegible] D. Comba



LEGEND

× Maxmin II. H.E.M. Conductor (no width)

LL 77-3

50° c casing

× 1777 Hz
× 444 Hz

× 1777 Hz

× 444 Hz

11°

50N
49N
48N
47N
46N
45N

12W 11W L10W 9W L8W 7W

LARDER LAKE PROJECT

PLAN VIEW LL 77-3

McELROY TOWNSHIP

CLAIM L 476663

Ontario

THE MINING ACT – MINISTRY OF NATURAL RESOURCES

DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON EVERY PAGE ▶ HOLE NO. LL 77-4 | PAGE NO. 1

DRILLING COMPANY	COLLAR ELEVATION	BEARING OF HOLE FROM TRUE NORTH	TOTAL FOOTAGE	DIP OF HOLE AT	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM	MAP REFERENCE NO.	CLAIM NO.
A. McKNIGHT DIAMOND DRILLING		360°	502'	collar | 55 200 ft | 51 300 ft | 47 400 ft | 42 500 ft | 38	collar LL 77-4 Az 360° - 55°; 365'; 385'; #2 Post L 440995; N	32 D/4	L 440995

DATE HOLE STARTED	DATE COMPLETED	DATE LOGGED	LOGGED BY	LOCATION (Tp., Lot, Con. OR Lot. and Lon.)
January 25th, 1978	February 10, 1978	Feb 11, 1978	C.D.A. Comba	McELROY TOWNSHIP

EXPLORATION CO., OWNER OR OPTIONEE	DATE SUBMITTED	SUBMITTED BY (Signature)	PROPERTY NAME
FALCONBRIDGE COPPER LTD.	Jeb 12 78	- Dave Comba -	LARDER LAKE PROJECT

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE ANGLE °	CORE SPECIMEN FOOTAGE +	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE FOOTAGE TO	SAMPLE LENGTH	ASSAYS +
0	12.0	OVERBURDEN								
12.0	246.3	CROXALL TYPE CONGLOMERATE	HETEROGENEOUS CONGLOMERATE. Angular to rounded, poorly sorted clasts of rhyolite, bedded cherty tuff or quartzite?, massive iron-sulphides, bedded greywacke and slate, komatiite, tholeiite and rare plutonic rocks. All clasts moderately well supported in a sandy matrix. Sulphide clasts only account for 1-2% of rock, but are very distinctive. Pyrrhotite clasts may contain odd speck of chalcopyrite. Lamprophyre dykes: 56.9 to 67.7	45°-60°						
			73.2 to 74.8	40°-45°						
			125.0 to 126.8	40°						
			217.0 to 222.7 (Fractured)	45°						
			227.1 to 227.7	45°						
246.3	284.4	MAFIC DYKE (OR FLOW?)	Lt. to med. grey and grey-green. Massive, aphanitic. Fractured. No flow structures							
234.4	285.0	BASALTIC FLOW BRECCIA.	Grass green, massive, aphanitic, moderate to strongly chloritized. Flow top breccia. Possibly inclusion in a dyke. Contacts sharp.							
285.0	291.0	MAFIC DYKE (OR FLOW?)	Lt to med grey and grey-green. Aphanitic, massive. Similar to section 246.3 to 284.4.							
291.0	299.4	LAMP DYKE	Med. to dk green. Fine to med. grained. Reacts to dilute acid.							
9.4	303.5	BASALT FLOW BRECCIA	Grass green, massive, aphanitic. Chloritized. Sheared at 45°.	45°						
303.5	308.5	VOLCANICLASTIC WITH SEMI-MASSIVE PYRITE	Med to light green and grey-green with brassy yellow streaks and patches. Vuggy in short sections. 20-25% pyrite as clasts? and matrix to volcanic clasts.							
308.5	312.0	GRAPHITIC GREYWACKE	Med: to dk grey and black banded. Thinly bedded.	45°-75°						
312.0	502.0	BASALTIC FLOW WITH VOLCANICLASTIC INTERCALATIONS.	Lt. to med green-grey, with mottled or dk green speckled sections. Massive aphanitic. Bands of mafic tuff and/or shearing at 45° to C.A. Minor mafic dykes. Mottled sections appear to be recrystallized. Trace of reddish sphalerite in hairline fracture at 315.4. Speck of chalcopyrite 331.5.	45°						
502.0		END OF HOLE								

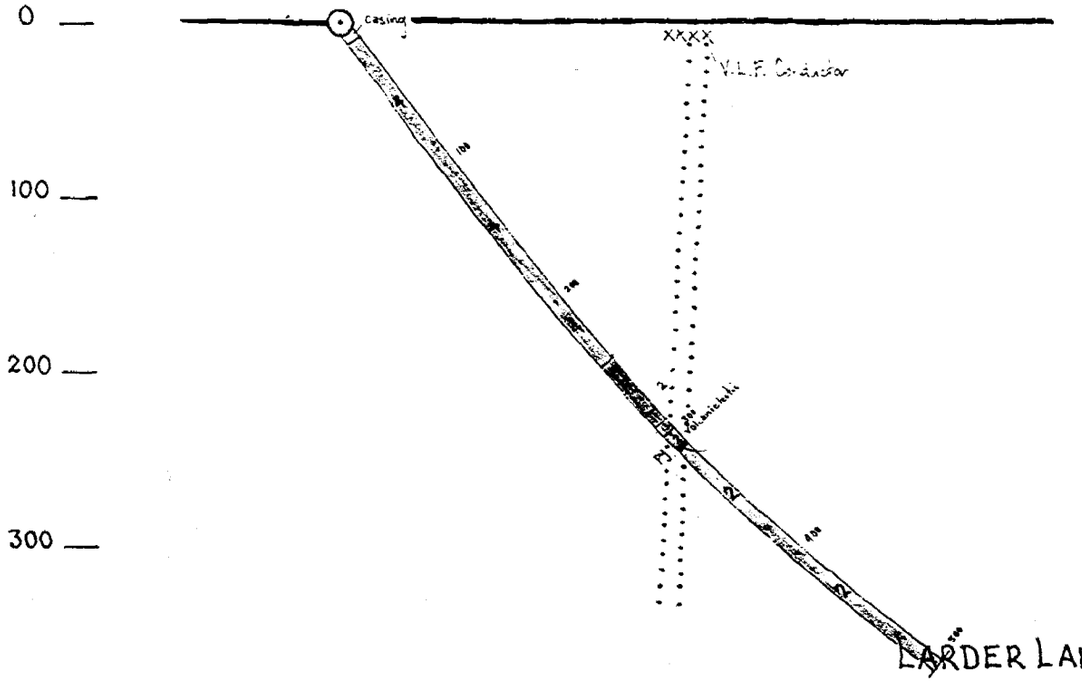
LATITUDE

February 10/78

SCALE 1" = 100'

D. Comba

27N 28N 29N 30N 31N 32N



LEGEND

4 CROXALL CONGLOMERATE

2 THOLEIITIC BASALT

MAFIC DYKE

13 LAMP DYKE

GREYWACKE (GRAPHITIC)

X-SECTION SKETCH LL 77-4
LINE 44W

McELROY TOWNSHIP

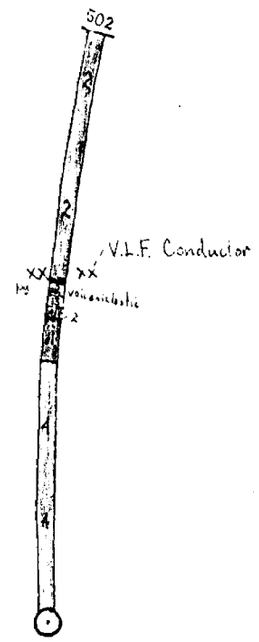
CLAIM L 440995

February 10/78 **SCALE 1" = 100'** D. Comba

N

LEGEND

- 4 Croxall Conglomerate
- 2 Tholeiitic Basalt
- 10 Mafic Dyke
- 13 Lamp Dyke
- 14 Greywacke (Graphitic)



11°

33N
32N
31N
30N
29N
28N
27N

47W L46W 45W L44W 43W

LARDER LAKE PROJECT

PLAN VIEW LL77-4

McElroy Township Claim L 440995

Sulphide Samples

DIAMOND DRILL CORE ASSAY RECORD

C.D	SAMPLE NUMBER	FROM FT.	TO FT.	ESTIMATE CU	ESTIMATE ZN	LENGTH FT.	ASSAYS % CU	ASSAYS % ZN	ASSAYS OZ. AG	ASSAYS OZ. AU	ASSAYS ppm Ni	PROGRESSIVE TOTALS Ft. % Cu	PROGRESSIVE TOTALS Ft. % Zn	PROGRESSIVE TOTALS Ft. Oz. Ag	PROGRESSIVE TOTALS Ft. Oz. Au	REMARKS AND AVERAGE ASSAYS FROM	TO	LENGTH	% CU	% ZN	OZ. AG	OZ. AU
	14523	84.5	85.5		2%	1.0	1940	3.25%	0.16	0.001	418	0.74%										
	14524	86.5	87.0		1%	0.5	945	0.81%	0.09	0.001	1900	1300										
	14525	130.0	130.4			0.4	312	680	0.05	0.001	142	35										
	26	130.4	131.0			0.6	540	622	0.03	0.001	40	1200										
	14527	206.0	208.0		1%	2.0	215	1.31%	0.04	0.001	184	410										
	28	208.0	210.0		.3%	2.0	245	1000	0.03	0.001	165	780										
	14529	210.0	215.0		Tr	5.0	220	390	0.02	0.001	116	36										
	30	215.0	218.0		1%	3.0	213	596	0.02	0.001	148	30										
	31	218.0	220.5		2%	2.5	760	2.45%	0.07	0.001	158	1600										
	32	220.5	221.9		-	1.4	1580	0.89%	0.03	0.001	52	45										calcite vein
	33	221.9	223.1	>10%		1.2	56	12.40%	0.05	0.001	104	86.										
	34	223.1	225.0	>1%		1.9	102	0.53%	0.02	0.001	145	520										
	35	225.1	229.1	>.5%		4.0	152	555	0.02	0.001	170	60										
	36	229.1	234.1	.5%		5.0	112	1800	0.03	0.001	175	460										
	37	234.1	239.1	.5%		5.0	100	2700	0.04	0.001	180	565										
	14538	393.5	396.5	>.5%		3.0	92	1300	0.02	0.001	152	100										
	39	396.5	397.5		1.5%	1.0	58	0.41%	0.01	0.001	142	125										
	NOTE: Based on 2600 samples surface rock geochem survey the following values are the Geometric Mean for Cu, Pb, Zn.																					
							69%	73.53				12.14										

HOLE NO. LL 77-5

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Ontario

THE MINING ACT – MINISTRY OF NATURAL RESOURCES

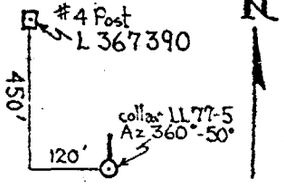
DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON EVERY PAGE → HOLE NO. LL 77-[illegible] | PAGE NO. 1

DRILLING COMPANY: A. McKNIGHT DIAMOND DRILLING	COLLAR ELEVATION	BEARING OF HOLE FROM TRUE NORTH: 360°	TOTAL FOOTAGE: 405	DIP OF HOLE AT: collar | 50	MAP REFERENCE NO.: 32 D/4
DATE HOLE STARTED: JANUARY 16, 1978	DATE COMPLETED: JANUARY 23, 1978	DATE LOGGED: JAN. 30, 1978	LOGGED BY: C.D.A. Comba	100 ft | 47	CLAIM NO.: L 367390
EXPLORATION CO., OWNER OR OPTIONEE: FALCONBRIDGE COPPER LTD.		DATE SUBMITTED: Feb 10/78	SUBMITTED BY (Signature): Dave Comba	200 ft | 42 300 ft | 39 400 ft | 36	LOCATION (Tp., Lot, Con. OR Lot. and Long.): McELROY TOWNSHIP

LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM



PROPERTY NAME: LARDER LAKE PROJECT

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE ANGLE °	CORE SPECIMEN FOOTAGE ±	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE FOOTAGE TO	SAMPLE LENGTH ±	ASSAYS +		
0	61.1	OVERBURDEN										
61.1	82.0	PILLOWED BASALT	Dk green with lt green patches or bands. Massive, aphanitic, with occasional pillow rim or selvage. Flow top breccia 73.0 to 73.4.							Cu (ppm)	% Zn	Pb (ppm)
82.0	85.5	FAULT GOUGE	Lt to med grey streaked and churned (crushed). Moderate to intence chloritization, weak to moderate carbonitization. Blebs and veinlets of dk brown sphalerite 84.5 to 85.5	45°		14523	84.5	85.5	1.0	1940	3.25	0.74
85.5	93.0	FRACTURED BASALT	Lt. to med. grey-green and grey. Massive, aphanitic. Chloritic fractures, minor carbonate bleaching. Veinlets of massive pyrrhotite with porphyroblasts of galena and sphalerite.			14524	86.5	87.0	0.5	945	0.81	1300
93.0	122.7	PILLOWED BASALT	Med. grey-green with lt. green and variagated bands. Massive, aphanitic. Interstitcies between pillows contain blebs and/or fine disseminations of sulphide. Two samples from these very narrow and sparse selvages were collected with a filleting device.			10322	–	–	0.1	260	1300	30
						10323	–	–	0.1	2700	4900	33
122.7	135.6	SILICEOUS BEDDED TUFF	Banded and streaked lt. to dk. grey with bronze. Fine grained to cherty. Massive. Less than 3% pyrrhotite overall, but occassional thin beds of massive, particularly at begining and end of section. Bedded dissem. sphalerite 130.2 to 130.3. Fractures with traces of sphalerite, galena and chalcopyrite 130.4 to 131.0	40°-45°		14525	130.0	130.4		312	680	35
						14526	130.4	131.0		540	622	1200
						10324	122.7	125.6	2.9	115	525	35
						10325	131.5	131.6	4.1	170	205	47
135.6	159.2	PILLOWED BASALT	Dk green with occasional lt. green patches. Massive, aphanitic, similar to section 61.1 to 82.0									
159.2	161.0	POSSIBLE MAFIC TUFF	Banded lt to med. grey. Aphanitic, massive, possible shear 160.7 to 161.0 Trace disseminated pg	45°		10326	159.2	160.8	1.6	218	94	40
161.0	178.4	FELDSPAR PORPH. DYKE	Mottled med. grey-green with tiny white flecks. Fg. porphyritic (phenos less than 1mm) Contacts at 45°. Trachitic, low density of feldspar phenocrysts. Unlike feldspar porphyry dykes in holes LL 77-6 and LL 77-7	45°						Cu (ppm)	Zn (ppm)	Pb (ppm)
178.4	216.0	PILLOWED IN SITU BRECCIATED BASALT	Dk green with lighter green patches. Greenblack stockwork veinlets after 205.0. Massive, aphanitic, with chlorite-rich fracture filling. Trace sphalerite, chalcopyrite in calcite veinlets 208.0 - 210.0. Coarse grained sphalerite in calcite 206.0 to 208.0			14527	206.0	208.0	2.0	215	1.31%	410
						14528	208.0	210.0	2.0	245	1000	780
						14529	210.0	215.0	5.0	220	390	36
216.0	220.5	MINERALIZED SEDIMENT or SHEAR	Med. grey green with reddish brown and bronze streaks. Fg. massive. Sheared volcaniclastic or poorly bedded greywacke or tuff.			14530	215.0	218.0	3.0	213	596	30
						14531	218.0	220.5	2.5	760	2.45%	1600
220.5	221.9	CALCITE VEIN	White, marbled with pale green. Cseg. Massive. Rare inclusion of chloritized host rock			14532	220.5	221.9	1.4	1580	0.89%	45
221.9	223.1	SPHALERITIC BRECCIA	Yellow brown, mottled white and dk. grey. Cseg. Massive. Lapilli sized clasts of cherty tuff and graphitic sediment. Carbonate and wk chloritic alteration.			14533	221.9	223.1	1.2	56	12.40%	86
						14534	223.1	225.0	1.9	102	0.53%	520
223.1	405.0	SEDIMENT	Banded med-grey with sections of black streaks, rare bronze patches and lt. grey spots. Massive to thin bedded fine clastic greywacke to coarse pebble conglomerate. Lapilli sized clasts of very fine grained pyrrhotite and pyrite are rare, but can best been seen			14535	225.0	229.0	4.0	152	555	60
						14536	229.0	234.0	5.0	112	1800	460
						14537	234.0	239.0	5.0	100	2700	565
			between 264.5 - 266.0; 269.0 - 269.5; and 288.5 - 291.5. Veinlets of dark brown			14538	393.5	396.5	3.0	92	1300	100
			sphalerite 393.3 to 397.5 contains one ¾" wide vein of coarse zoned sphalerite stalk.			14539	396.5	397.5	1.0	58	0.41%	125
			Pebble conglomerate 269.0 to 304.0. Cobble conglomerate 304.0 to 324.0. Numerous screams of elongate chlorite-rich clasts over several inches or feet.									

TUFF

DIAMOND DRILL CORE ASSAY RECORD

C.D.	SAMPLE NUMBER	FROM FT.	TO FT.	ESTIMATE Cu	ESTIMATE Zn	LENGTH FT.	ASSAYS ppm Cu	ppm Zn	OZ. AG	OZ. AU	% Fe	PROGRESSIVE TOTALS ppm Mn	ppm Co	ppm Ni	ppm Pb		REMARKS AND AVERAGE ASSAYS FROM	TO	LENGTH	% CU	% ZN	OZ. AG	OZ. AU
	10322	106.7	106.8			0.1	260	1300	0.08	NO PULP	7.15	723	71	115	30		Pillow selvage						
	23	116.8	116.9			0.1	2700	4900	0.08	NO PULP	6.65	867	80	625	33		Pillow selvage						
	24	122.7	125.6			2.9	115	525	0.07	0.001	6.40	290	50	90	35		Tuff						
	25	131.5	135.6			4.1	170	205	0.04	0.001	5.05	98	38	108	47		Tuff						
	26	159.2	160.3			1.6	218	94	0.08	0.001	6.15	430	72	154	40		Tuff ?						
							69.76	73.53							12.14								

NOTE: Based on a 600 sample surface rock geochem survey the following values are the Geometric Mean for Cu, Pb, Zn.

HOLE NO. LL 77-5

PAGE 11

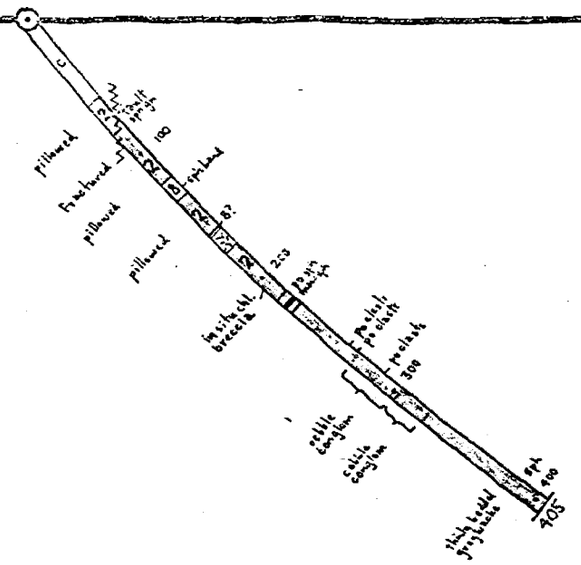
LATITUDE

January 30/78 SCALE 1"-100' D. Comba

3N 4N 5N 6N 7N 8N 9N

ELEVATION

0 100 200 300 400



LEGEND

2 THOLEIITIC BASALT

GREYWACKE, CONGLOMERATE

8 CHERTY TUFF?

FELDSPAR PORPHYRY

LARDER LAKE PROJECT

X-SECTION SKETCH LL 77-5

51+50W

McELROY TOWNSHIP

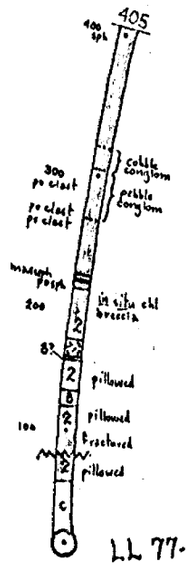
Claim L 367390

January 30/78 SCALE 1" = 100' D Comba

N

LEGEND

- 2 THOLEIITIC BASALT
- SEDIMENT
- 8 CHERTY TUFF?
- FELDSPAR PORPHYRY



11°

8N
7N
6N
5N
4N
3N

54W 53W L52W 51W L50W 49W

LARDER LAKE PROJECT

PLAN VIEW LL 77-5

McELROY TOWNSHIP

CLAIM L367390

THE MINING ACT – MINISTRY OF NATURAL RESOURCES

Ontario

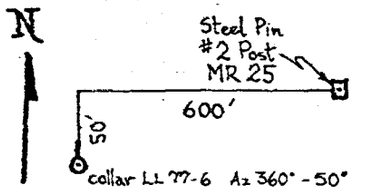
DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON EVERY PAGE ▷ HOLE NO. LL 77-6 | PAGE NO. 1

DRILLING COMPANY: A. McKNIGHT DIAMOND DRILLING	COLLAR ELEVATION: Surface ~950'	BEARING OF HOLE FROM TRUE NORTH: 360°	TOTAL FOOTAGE: 805'	DIP OF HOLE AT: collar | 50°	MAP REFERENCE NO.: 32 D/4
DATE DRILLING STARTED: December 21, 1977	DATE COMPLETED: January 5, 1978	DATE LOGGED: Jan 15, 1978	LOGGED BY: C.D.A. Comba MSc	200 ft | 42°	CLAIM NO.: MR 25 & L367931
EXPLORATION CO., OWNER OR OPTIONEE: FALCONBRIDGE COPPER LTD.	DATE SUBMITTED: Feb 10/78	SUBMITTED BY (Signature): Dave Comba		400 ft | 24°	LOCATION (Tp., Lot, Con. OR Lot. and Long.): McELROY TOWNSHIP
				600 ft | 21°	PROPERTY NAME: LARDER LAKE PROJECT
				800 ft | 11°	

LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM



FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE ANGLE *	CORE SPECIMEN FOOTAGE +	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE FOOTAGE TO	SAMPLE LENGTH	ASSAYS +
0	35.0	OVERBURDEN								
35.0	247.5	BASALTIC FLOWS MINOR TUFFS	35.0 - 59.0 sheared at 50° to C.A. Lt. grey to dk grey, aphanitic	50°						
			59.0 - 68.0 tuff? variagated lt. to dk. grey. Trace dissem pyrrhotite	45°-50°						
			68.0 - 86.0 flow, possible amygdules at 73'. Dk grey, aphanitic							
			86.0 - 206.5 foliated massive flow. Chloritic spots (1mm) elongate parallel to foliation. Local traces of disseminated pyrrhotite	50°						
			206.5 - 207.3 tuff? Lt grey to med. grey thinly banded. 1-2% pyrrhotite. Magnetic	40°-50°						
			207.3 - 232.0 pillowed basalts. Possible amygdules at 226' and flow breccia 222.5. Med. grey with 10-15% lt. grey-green bands (selveges?)	50°						
			232.0 - 247.5 chlorite-rich matrix to volcaniclastic. Clasts of pyrrhotite (lapilli) elongate at 50° to C.A. 244.5 to 245.5. Traces of pyrite and chalcopyrite.	50°						ppm Cu / ppm Zn / ppm Ni
247.5	249.0	MASSIVE PYRRHOTITE	35% ash to lapilli sized volcaniclastics (silicified?) elongated 45-50° to C.A.	45-50°		14397	247.5	249.0	1.5	830 / 540 / 463
										oz Ag / oz Au
										0.10 / 0.004
249.0	249.3	EXHALATIVE TUFF	Thinly bedded, less than 1mm at 45° to 50° to C.A. Variagated reddish grey and brassy bronze. 20% - 25% pyrrhotite, minor pyrite.	45°-50°						
249.3	278.3	BASALTIC FLOWS	249.3 - 253.0 massive flow. Med grey-green, aphanitic. Magnetic. 1% pyrrhotite							
			253.0 - 255.0 fault zone, chloritic fractures at 45° with white quartz vein	45°						
			255.0 - 256.7 massive flow, similar to section 249.3 to 253.0							
			256.7 - 275.0 feldspar porphyry dyke (feldspars to 3mm and zoned) chilled contacts. Grey with densly packed white flecks.							
			275.0 - 278.3 massive flow. Vague contorted banding at 277. Med. green-grey							
278.3	455.0	GREYWACKE (GRAPHITIC)	No free graphite. Banded lt. grey to dk grey with odd green-grey section (mafic dykes). Local brownish cast (biotite?) eg. 298-343. Densly packed chlorite-rich spots 2-3mm 285'-325'. Lt. grey spots (cordierite?) 1-2mm 433-452.	50°-60°						
			Mafic dykes: 348.0 - 351.0							
			364.7 - 365.2							
			365.3 - 365.8							
			418.4 - 419.7							
			439.4 - 439.8							
455.0	487.2	BASALTIC FLOW	Med. grey with pale green in amygdules and selveges. Hyaloclastite 455.0 to 455.5 with elongate clasts at 50° to C.A.	50°						

* For features such as foliation, bedding, schistosity, measured from the long axis of the core.

THE MINING ACT – MINISTRY OF NATURAL RESOURCES

Ontario

DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON EVERY PAGE

HOLE NO. LL 7[redacted] | PAGE NO. 2

DRILLING COMPANY	COLLAR ELEVATION	BEARING OF HOLE FROM TRUE NORTH	TOTAL FOOTAGE	DIP OF HOLE AT	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM	MAP REFERENCE NO.	CLAIM NO.
				collar			
DATE HOLE STARTED / DATE COMPLETED	DATE LOGGED	LOGGED BY		ft		LOCATION (Tp., Lot, Con. OR Lat. and Long.)	
EXPLORATION CO., OWNER OR OPTIONEE	DATE SUBMITTED	SUBMITTED BY (Signature)		ft		PROPERTY NAME	
				ft			
				ft			

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE ANGLE °	CORE SPECIMEN FOOTAGE +	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE FOOTAGE TO	SAMPLE LENGTH	ASSAYS +		
487.2	553.5	GREYWACKE (GRAPHITIC)	Thinly banded lt. grey to dk. grey with odd lt. green sections. Brownish cast (biotite)	50°-70°								
			or lt. grey spots (cordierite?) may be developed locally. Occassional elongate									
			blebs of pyrrhotite, less than 1% overall. Barren white qtz-filled breccia zone									
			547.6 - 548.0. Mafic dykes: 515.8 - 518.3									
			527.4 - 528.0							ppm Cu	% Zn	ppm Pb
553.5	554.0	MASSIVE SULPHIDES	30% volcaniclastics in sulphide matrix. Sulphides in decreasing order of			14490	553.5	554.0	0.5	890	1.88	2000
			abundance: pyrrhotite, pyrite, sphalerite and trace chalcopyrite.							oz Ag	oz Au	
										0.12	0.002	
554.0	584.3	BASALTIC FLOW	554.0 to 559.0 10-15% chlorite-rich bands may represent flow tops or	50°-60°								
			pillow selveges. Appears brecciated.									
			559.0 to 580.0 Lt. to med. grey-green. Aphanitic. Possibly pillowed.									
			580.0 to 584.3 similar to section 554.0 to 559.0									
584.3	584.6	GRAPHITIC SEDIMENT	Dk grey black. Very thin contorted beds. Disseminated pyrrhotite trace pyrite.							ppm Cu	ppm Zn	ppm Ni
584.6	588.0	MASSIVE PYRRHOTITE	Lapilli to bomb sized bleached gaseous volcanic clasts in pyrrhotite-rich matrix.			14491	584.6	588.0	3.4	725	610	380
			Pyrite porphyroblasts up to 5mm. Trace chalcopyrite.									
588.^	805.0	BASALTIC FLOW	588.0 to 593.0 bleached (silicified?) lt. grey. Aphanitic, locally cherty looking.									
			593.0 to 639.5 pillowed. Med green-grey. Aphanitic. Brecciated to 598.0.									
			639.5 to 680.5 pyroxenite? dyke. Aphanitic chills with coseg interior.							ppm Cu	ppm Zn	ppm Pb
			680.5 to 805.0 locally foliated pillowed basalt. Med. grey-green. Aphanitic			14492	708.5	709.0	0.5	320	5500	4300
			hairline fractures and thin carbonate veinlets containing			14493	709.0	710.5	1.5	1000	1.05%	4400
			euhedral sphalerite with traces of chalcopyrite and galena									
			708' - 744'			14496	734.0	735.5	1.5	155	2200	745
						14497	735.5	736.0	0.5	68	1.90%	4400
	805.0		END OF HOLE			14498	736.0	740.0	4.0	167	2200	255
						14499	740.0	741.5	1.5	165	3600	915
						14500	741.5	744.0	2.5	173	3800	1200

SULPHIDES SHEET #1

DIAMOND DRILL CORE ASSAY RECORD

C.D.	SAMPLE NUMBER	FROM FT.	TO FT.	ESTIMATE CU	ESTIMATE ZN	LENGTH FT.	ASSAYS ppm Cu	ppm Zn	Oz. Ag	Oz. Au	ppm Co	PROGRESSIVE TOTALS ppm Ni FT.	% Co	FT.	% Zn	FT. Oz. Ag	FT. Oz. Au	REMARKS AND AVERAGE ASSAYS FROM	TO	LENGTH	% Cu	% Zn	Oz. Ag	Oz. Au
	14397	247.5	249.0			1.5	830	540	0.10	.004	197	463		58		Rejn adjacent hole								
	14398	272.0	264.0			5.0	173	1502	0.02	.002	58	225		90										
	99	284.0	289.0			5.0	128	202	0.02	.002	57	190		27										
	14400	289.0	294.0			5.0	97	153	0.01	.002	48	196		23										
	14451	294.0	299.0			5.0	88	160	0.02	.001	60	193		22										
	52	310.0	315.0			5.0	103	187	0.03	.002	68	208		16										
	3	315.0	320.0			5.0	100	153	0.01	.002	63	202		18										
	4	320.0	325.0			5.0	106	158	0.03	.002	55	183		13										
	5	325.0	330.0			5.0	105	140	0.01	.002	60	170		20										
	6	330.0	335.0			5.0	83	107	0.01	.001	52	145		13										
	7	335.0	340.0			5.0	97	118	0.02	.001	54	153		12										
	8	340.0	345.0			5.0	92	140	0.02	.002	45	177		10										
	14459	353.0	358.0			5.0	128	300	0.01	.002	58	218		18										
	60	358.0	363.0			5.0	187	570	0.02	.002	53	225		28										
	1	363.0	368.0			5.0	173	630	0.01	.002	72	185		25										
	2	368.0	373.0			5.0	86	138	0.01	.002	55	152		8										
	3	373.0	378.0			5.0	80	133	0.02	.002	50	160		10										
	4	378.0	383.0			5.0	78	95	0.02	.001	46	145		8										
	5	383.0	388.0		*	5.0	93	125	0.04	.001	53	173		13										
	6	388.0	393.0			5.0	90	107	0.02	.001	47	176		10										

HOLE NO. LL-77-6

SULPHIDES SHEET 2

DIAMOND DRILL CORE ASSAY RECORD

C.D.	SAMPLE NUMBER	FROM FT.	TO FT.	ESTIMATE CU	ESTIMATE ZN	LENGTH FT.	ASSAYS ppm Cu	ASSAYS ppm Zn	ASSAYS Oz. Ag	ASSAYS Oz. Au	ASSAYS ppm Co	PROGRESSIVE TOTALS Ft. % Cu	PROGRESSIVE TOTALS Ft. % Zn	PROGRESSIVE TOTALS Ft. Oz. Ag	PROGRESSIVE TOTALS Ft. Oz. Au	REMARKS AND AVERAGE ASSAYS FROM	TO	LENGTH	% Cu	% Zn	Oz. Ag	Oz. Au
	14467	393.0	398.0			5.0	80	117	0.02	.001	52	175	13									
	8	410.0	415.0			5.0	66	150	0.02	.001	58	138	20									
	9	415.0	420.0			5.0	72	250	0.02	.001	23	97	8									
	70	420.0	425.0			5.0	60	103	0.01	.001	24	118	7									
	1	425.0	430.0			5.0	64	163	0.02	.001	30	115	20									
	2	430.0	435.0			5.0	100	360	0.02	.001	36	190	18									
	3	435.0	440.0			5.0	70	200	0.02	.001	42	165	13									
	4	440.0	445.0			5.0	75	263	0.02	.001	37	168	22									
	5	445.0	450.0			5.0	133	700	0.03	.001	52	355	20									
	6	450.0	455.0			5.0	116	527	0.02	.001	64	540	23									
	14477	488.0	493.0			5.0	157	790	0.01	.001	47	295	24									
	8	493.0	498.0			5.0	166	755	0.02	.001	53	325	34									
	9	498.0	503.0			5.0	155	660	0.01	.001	55	347	35									
	80	503.0	508.0			5.0	138	618	0.02	.001	52	340	30									
	1	508.0	513.0			5.0	160	660	0.02	.001	60	518	35									
	14482	521.0	526.0			5.0	133	647	0.02	.001	57	430	42									
	3	526.0	531.0			5.0	142	600	0.02	.001	55	390	28									
	4	531.0	536.0			5.0	218	668	0.02	.001	64	275	36									
	5	536.0	541.0			5.0	173	650	0.01	.001	48	380	43									
	6	541.0	546.0			5.0	128	638	0.03	.001	57	375	40									

HOLE NO. LL-77-6

SULPHIDES SHEET 3

DIAMOND DRILL CORE ASSAY RECORD

C.D	SAMPLE NUMBER	FROM FT.	TO FT.	ESTIMATE Cu	ESTIMATE Zn	LENGTH FT.	ASSAYS ppm Cu	ASSAYS ppm/% Zn	ASSAYS Oz. Ag	ASSAYS Oz. Au	ASSAYS ppm Co	PROGRESSIVE TOTALS ppm Ni / ppm/% Ft. % Cu	PROGRESSIVE TOTALS Ft. % Zn	PROGRESSIVE TOTALS Ft. Oz. Ag	PROGRESSIVE TOTALS Ft. Oz. Au	REMARKS AND AVERAGE ASSAYS FROM	TO	LENGTH	% Cu	% Zn	Oz. Ag	Oz. Au
	14487	546.0	551.0			5.0	208	730	0.02	.001	63	280	120									
	8	551.0	552.5			1.5	150	310	0.03	.001	57	395	660									
	9	552.5	553.5		.2	1.0	65	9400	0.02	.003	46	247	.288									
	14490	553.5	554.0	Tr	.5	0.5	890	1.88%	0.12	.002	550	338	2000									
	14491	554.6	558.0	Tr		3.4	725	610	0.07	.004	186	380	70									
	92	[illegible]	[illegible]			0.5	320	5500	0.06	.003			4300									
	93	709.0	709.5			1.5	1000	1.05%	0.07	.003			4400									
	14494	725.5	729.0			3.5	168	970	0.02	.002			430									
	5	729.0	734.0			5.0	145	370	0.01	.001			67									
	6	734.0	735.5			1.5	155	2.20%	0.02	.001			745									
	7	735.5	736.0			0.5	68	1.90%	0.07	.001			4400									
	8	736.0	740.0			4.0	167	2200	0.03	.001			255									
	9	740.0	741.5			1.5	165	3600	0.02	.003			915									
	14500	741.5	744.0			2.5	173	3800	0.05	.001			1200									
	NOTE: Based on a 600 sample rock geochem survey the following values are the Geometric Mean for Cu, Pb, Zn																					
							69.76	73.53					12.14									

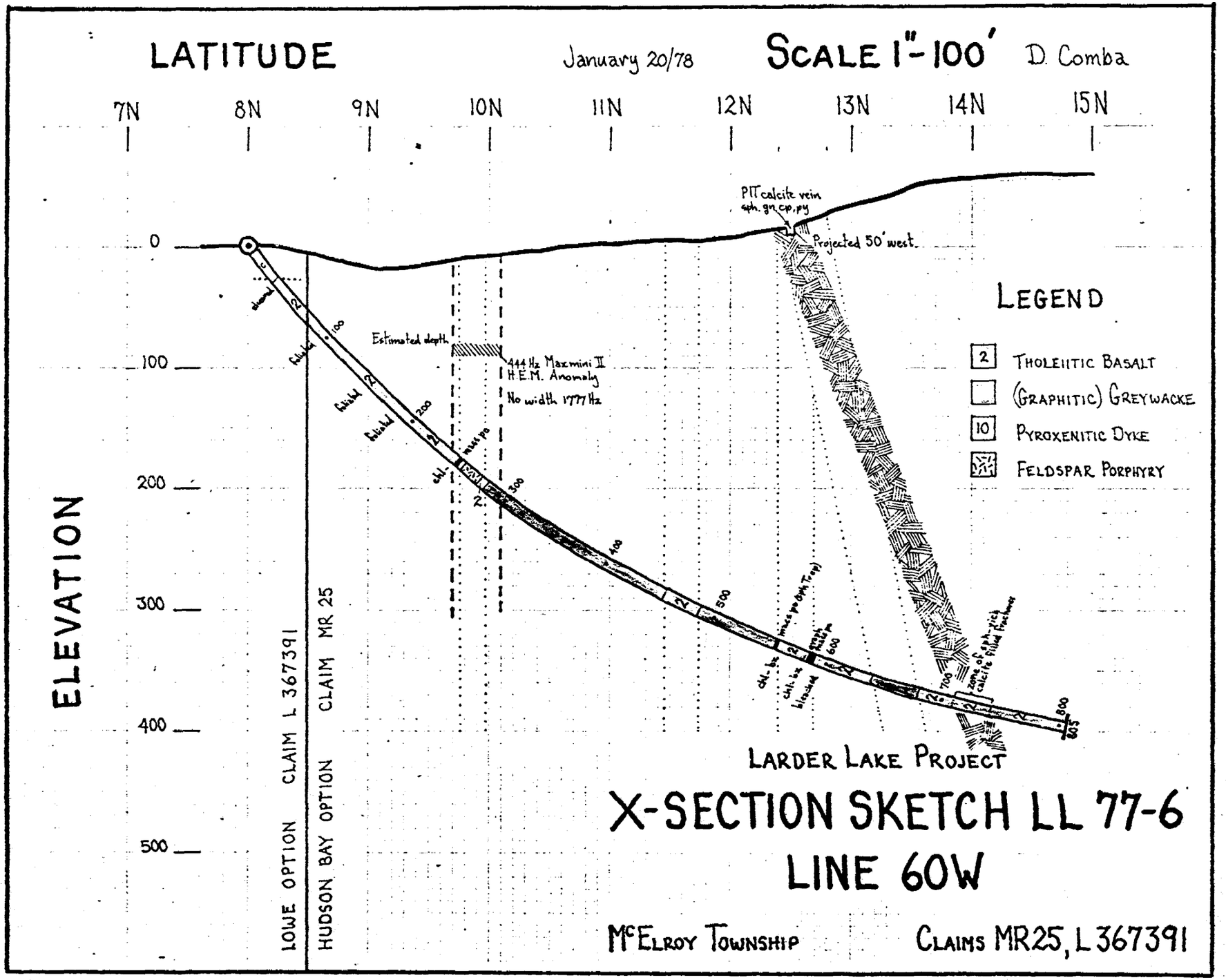
HOLE NO. LL 77-6

TUFFS

DIAMOND DRILL CORE ASSAY RECORD

C.D	SAMPLE NUMBER	FROM FT.	TO FT.	ESTIMATE CU	ESTIMATE ZN	LENGTH FT.	ASSAYS ppm Cu	ASSAYS ppm Zn	ASSAYS Oz. Ag	ASSAYS Oz. Au	ASSAYS ppm Cd	PROGRESSIVE TOTALS Ft. % Cu	PROGRESSIVE TOTALS Ft. % Zn	PROGRESSIVE TOTALS Ft. Oz. Ag	PROGRESSIVE TOTALS Ft. Oz. Au	PROGRESSIVE TOTALS ppm Ni	PROGRESSIVE TOTALS ppm Pb	REMARKS AND AVERAGE ASSAYS FROM	TO	LENGTH	% Cu	% Zn	Oz. Ag	Oz. Au
	10321	249.0	249.3			0.3	245	1340	0.01	0.001	9	8.67	0.37	315	63	150	38							

HOLE NO. LL 77-6


LATITUDE
January 20/78
SCALE 1"-100'
D. Comba
7N
8N
9N
10N
11N
12N
13N
14N
15N
ELEVATION
0
100
200
300
400
500
PIT calcite vein
sph. gn. cp. py
Projected 50' west
Estimated depth
444 Hz Maxmini II
H.E.M. Anomaly
No width 1777 Hz
LEGEND
2 THOLEIITIC BASALT
(GRAPHITIC) GREYWACKE
10 PYROXENITIC DYKE
FELDSPAR PORPHYRY
LOWE OPTION CLAIM L 367391
HUDSON BAY OPTION CLAIM MR 25
LARDER LAKE PROJECT
X-SECTION SKETCH LL 77-6
LINE 60W
McELROY TOWNSHIP
CLAIMS MR25, L367391
Coloured by Terri Smith

Ontario

THE MINING ACT – MINISTRY OF NATURAL RESOURCES

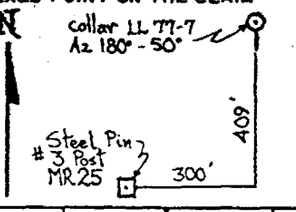
DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON EVERY PAGE — HOLE NO. LL 77-7 — PAGE NO.

DRILLING COMPANY: A. McKNIGHT DIAMOND DRILLING	COLLAR ELEVATION	BEARING OF HOLE FROM TRUE NORTH: 180°	TOTAL FOOTAGE: 404	DIP OF HOLE AT: collar | 50 ; 100 ft | 48 ; 200 ft | 41 ; 300 ft | 35 ; 400 ft | 30°
DATE HOLE STARTED: JANUARY 10, 1978	DATE COMPLETED: JANUARY 12, 1978	DATE LOGGED: JAN 26, 1978	LOGGED BY: C.D.A. Comba	
EXPLORATION CO., OWNER OR OPTIONEE: FALCONBRIDGE COPPER LTD.		DATE SUBMITTED: Feb 10/78	SUBMITTED BY (Signature): Dave Comba	

LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM



MAP REFERENCE NO.: 32 D/4 — CLAIM NO.: MR25

LOCATION (Tp., Lot, Con. OR Lot. and Long.): McELROY TOWNSHIP

PROPERTY NAME: LARDER LAKE PROJECT

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE ANGLE °	CORE SPECIMEN FOOTAGE +	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE FOOTAGE TO	SAMPLE LENGTH	ASSAYS +	
0	32.0	OVERBURDEN									
32.0	36.0	LAMPROPHYRE DYKE	Med. to dk. green speckled. Med. grain, porphyritic, looks gabbroic on cored surface. Carbonated.								
36.0	49.5	FOLIATED VOLCANICS ?	Med. grey-green with irregular thin lt. green bands 42.0'-43.0'. Aphanitic to fg. Foliated.	30°-35°							
49.5	54.5	FRACTURE ZONE	Sheared, crushed med. green-grey with greenblack and white streaks subparalled to C.A.	5°-10°							
54.5	132.2	PYROXENITE? DYKE	Dk. green and black mottled 54.5-75.0; with white flecks 75.0-132.2. Feldspar usually interstitial, but feldspar phenos after 100, especially in chill zones. Aphanitic to cseg. Contacts chilled and sheared. Massive fg. foliated sections: 99.9-98.0 and 104.5-106.0. Carbonitized adjacent to calcite filled fractures and massive foliated zones. Similar dyke in hole LL 77-6 between 639.5 and 680.5.								
132.2	188.0	SULPHIDE-RICH GRAPHITIC GREYWACKE	Thinly banded at 45° to C.A. Med grey 132.2 to 136.5. with dk grey and black bands to 188.0. Brassy bands and rare bronzy blebs and streaks. Sheared 132.2 to 133.0. Massive 133.0 to 133.7, with faint bedding to 136.5. Distinctive bedding to 188.0. No free graphite. Pyrite pyrrhotite ratio 4:1 Fe-sulphides 1%-2% as thin (1mm) beds 137-150, increasing in thickness and frequency to 188 and approximately 15%. Section 163-164 is semi massive pyrite (95%) pyrrhotite (5%)	45°							
188.0	201.4	FELDSPAR PORPHYRY DYKE	Med. grey with densly packed white specks. Med. grained (to cseg). Feldspars to 3mm. Similar to dyke in hole LL 77-6 256.7-275.0. Contacts sharp at 40° and 45°.	40°-45°							
201	202.6	FOLIATED MAFIC DYKE?	Med. grey-green. Aphanitic, massive, sheared at 45°. Pyrite (1%) on shear planes.	45°						ppm Cu	ppm Zn
202.6	205.5	SULPHIDE-RICH GRAPHITIC GREYWACKE	Lt. grey and black with brass to bronze bands at 45°. Bed thickness varies from 1mm-15mm. 30% blebby and subhedral pyrite 202.6-203.0. 3-5% pyrite, pyrrhotite as thin massive beds up to 1.5cm. 203.0 to 205.3. 40% pyrite pyrrhotite 205.3 to 205.5 in massive beds up to 4mm.	45°	14511		202.6	205.5	2.9'	200	1005
205.5	208.0	BLEACHED FRACTURED GREYWACKE (TUFF?)	Lt. grey with bronze veinlets. Dk grey bands 207.5 to 208.0 at 45°. Pyrite pyrrhotite ratio 3:2 from 206.5 to 207.0 (55%). Massive magnetic pyrrhotite veinlets (20%) 207.0-207.5	45°						ppm Cu	ppm Zn
208.0	208.8	MASSIVE PYRRHOTITE WITH VOLCANIC CLASTS?	Bronze with irregular lt. to med. grey rounded clots, and infrequent brassy patch. Fine grained Rounded clasts are lapilli sized (35-40%). 1-2% pyrite porphyroblasts in massive po.		14512		208.0	208.8	0.8'	720	<20
208.8	209.2	EXHALATIVE SPHALERITE AND TUFF?	Marbled, fractured cherty grey upper section. Lt. grey to dk grey-black and reddish brown bands and spots in lower section. Thinly bedded semi-massive sphalerite. Aphanitic to fg. Bedding attitudes 45°-35°. Hairline fracture filled with crystalline darker red-brown sphalerite.	35°-45°	14513		208.8	209.2	0.4'	160	1.40%
209.2	212.0	GREYWACKE.	Lt. to med grey with darker bands. Lower contact gradational and may be at 218.0 1cm wide graphitic pyrrhotite-rich band at 209.6. Diseem pyrite and pyrrhotite.	40°-45°	14514		209.2	212.0	1.8'	ppm Cu 255	ppm Zn 1600

Ontario

THE MINING ACT – MINISTRY OF NATURAL RESOURCES

DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON EVERY PAGE ▶ HOLE NO. LL 77-7 | PAGE NO. 2

DRILLING COMPANY	COLLAR ELEVATION	BEARING OF HOLE FROM TRUE NORTH	TOTAL FOOTAGE	DIP OF HOLE AT	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM	MAP REFERENCE NO.	CLAIM NO.
				collar			
DATE STARTED / DATE COMPLETED	DATE LOGGED	LOGGED BY		ft		LOCATION (Tp., Lot, Con. OR Lot. and Long.)	
EXPLORATION CO., OWNER OR OPTIONEE	DATE SUBMITTED	SUBMITTED BY (Signature)		ft		PROPERTY NAME	
				ft			
				ft			

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE ANGLE °	CORE SPECIMEN FOOTAGE +	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE FOOTAGE TO	SAMPLE LENGTH	ASSAYS +		
212.0	340.5	AMPHIBOLITIZED ?	Upper contact gradational and may be at 218.0. Possible amygdules 218.0 - 218.5	45°-55°								
		BASALT FLOW	Foliated. Tiny (<1mm) dk green elongate spots, densly packed, provide gabbroic look to									
			many sections. These sections account for 50% of rock, and contacts with more									
			massive "normal" looking mafic flow may be sharp or gradational. Recrystalized									
			gabbroic looking sections may be contact features related to shearing and a meta									
			thermal aureole about the McElroy syenite stock. Less than 1% pyrrhotite as fine									
			disseminations and odd bleb associated with carbonated fractures. Isolated base metal									
			mineralized hairline fractures scattered irregularly throughout section. Fracture									
			planes between 276.3 and 285.3 contain smears of sphalerite, galena and									
			trace chalcopyrite. Shattered carbonate soaked zone 309.8 to 310.5 contains									
			5-10% sphalerite. Calcite veinlet 337.3 to 337.7 10-15% euhedral sphalerite									
			crystals to 4mm. Sphalerite filled fracture 1mm wide parallels C.A. 337.7 - 339.0									
340.5	394.5	PYROXENITE? DYKE	Dk. green and black mottled with white spots 391.0 to 394.4. Aphanitic to ccog. Interstitial									
			feldspar phenocrysts in lower chill. Upper chill at 10°-15° to C.A. Lower contact at 65°.									
			Euhedral sphalerite crystals to 4mm a side loosely scattered in white calcite veinlets:							ppm Cu	ppm Zn	ppm Pb
			351 - 353.5			14520	351.0	353.5	2.5	77	0.30%	2300
			361 - 365			14521	361.0	365.0	4.0	54	1500	450
			Galena smear on fracture (70°) at 370.4 Similar dyke in this hole 54.5 -									
			132.2 and hole LL 77-6 639.5 - 680.5. May be hornblendite?							ppm Cu	ppm Zn	ppm Pb
394.5	404.0	AMPHIBOLITIZED?	Med. green with tiny (<1mm) dark green spots. Foliated. Looks gabbroic. Fine to med.			14522	401.0	401.6	0.6	543	120	35
		BASALT FLOW	grained. 3-4% pyrite and 5% sphalerite in carbonated section 401.0 - 401.6.									
			Similar to sections in 212.0 to 340.5									
	404.0		END OF HOLE									

SULPHIDE SAMPLES

DIAMOND DRILL CORE ASSAY RECORD

C.D.	SAMPLE NUMBER	FROM FT.	TO FT.	ESTIMATE CU	ESTIMATE ZN	LENGTH FT.	ASSAYS % CU	ASSAYS % ZN	ASSAYS OZ. AG	ASSAYS OZ. AU	ASSAYS ppm Co	PROGRESSIVE TOTALS ppm Ni FT. % CU	PROGRESSIVE TOTALS ppm Pb FT. % ZN	PROGRESSIVE TOTALS FT. OZ. AG	PROGRESSIVE TOTALS FT. OZ. AU	REMARKS AND AVERAGE ASSAYS FROM	TO	LENGTH	% CU	% ZN	OZ. AG	OZ. AU
	14501	137.0	142.0			5.0	270	1600	0.04	0.001	55	305	50									
	2	142.0	147.0			5.0	223	895	0.01	0.001	50	325	42									
	3	147.0	152.0			5.0	237	860	0.01	0.001	49	255	44									
	4	152.0	157.0			5.0	215	1300	0.02	0.001	58	280	45									
	5	157.0	162.0			5.0	225	1015	0.02	0.001	63	292	48									
	6	162.0	167.0			5.0	193	1010	0.02	0.001	61	232	44									
	7	167.0	172.0			5.0	190	1700	0.03	0.001	55	245	38									
	8	172.0	177.0			5.0	223	1400	0.02	0.001	60	258	56									
	9	177.0	182.0			5.0	225	905	0.01	0.001	49	245	40									
	10	182.0	187.5			5.5'	228	1600	0.03	0.001	77	270	42									
	14511	202.6	205.5			2.9'	200	1005	0.02	0.001	62	126	45									
	14512	208.0	208.8	Tr		0.8'	720	425	0.01	0.001	93	235	28									
	13	208.8	209.2		4%	0.4'	160	1.40%	0.05	0.001	62	187	27									
	14	209.2	212.0		Tr	1.8'	255	1600	0.04	0.001	68	105	18									
	14515	276.3	281.3			5.0	158	1300	0.03	0.001	40	120	390									
	16	281.3	285.3			4.0	137	678	0.01	0.001	35	132	1130									
	14517	309.8	310.5		4%	0.7	68	2.76%	0.05	0.001	57	78	242									
	14518	337.3	337.7		6%	0.4	66	6.80%	0.13	0.001	72	39	4400									
	19	337.7	339.0		4%	1.3	100	3.45%	0.07	0.001	48	67	4100									
	14520	351.0	353.5			2.5	77	0.80%	0.05	0.001	41	120	2300									

HOLE NO. LE 77-7

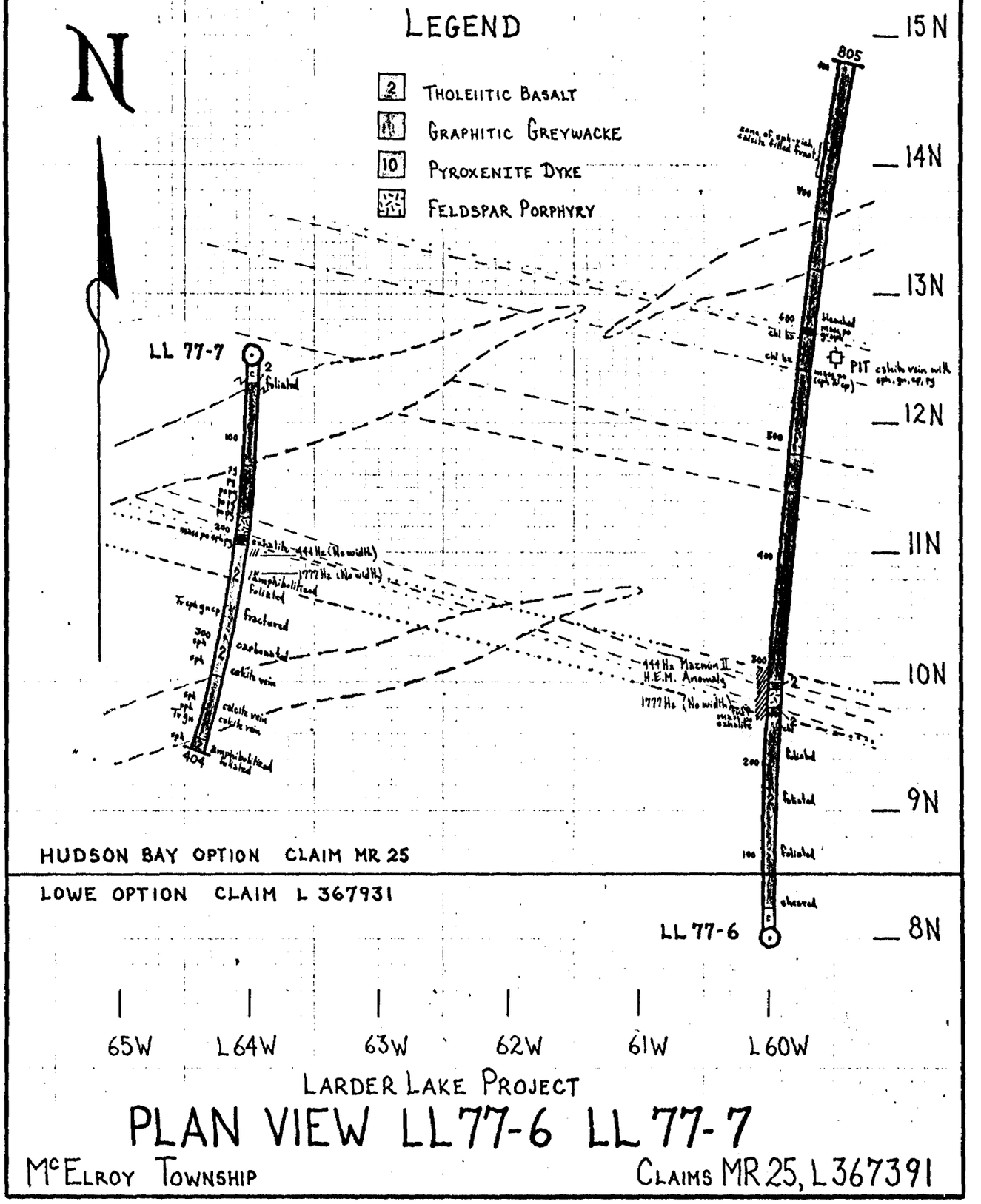
SULPHIDE SAMPLES #2.

DIAMOND DRILL CORE ASSAY RECORD

C.D	SAMPLE NUMBER	FROM FT.	TO FT.	ESTIMATE Cu	ESTIMATE Zn	LENGTH FT.	ASSAYS ppm Cu	ASSAYS ppm Zn	ASSAYS Oz. Ag	ASSAYS Oz. Au	ASSAYS ppm Co	PROGRESSIVE TOTALS ppm Ni / ppm Pb FT. % Cu	PROGRESSIVE TOTALS FT. % Zn	PROGRESSIVE TOTALS FT. Oz. Ag	PROGRESSIVE TOTALS FT. Oz. Au	REMARKS AND AVERAGE ASSAYS FROM	TO	LENGTH	% Cu	% Zn	Oz. Ag	Oz. Au
	14521	361.0	365.0			4.0	54	1500	0.02	0.001	40	158	430									
	14522	401.0	401.6		1.6	0.6	540	120	0.01	0.001	72	111	35									
	NOTE	Based on a 600 sample rock geochem survey the following values are the Geom Mean for Cu, Pb, Zn																				
							69.76	73.53					12.14									

HOLE NO. LL 77-7

January 30/78 SCALE 1"=100' D. Comba



LARDER LAKE PROJECT

PLAN VIEW LL77-6 LL77-7

McELROY TOWNSHIP

CLAIMS MR25, L367391

LATITUDE

January 26/78

SCALE 1" = 100'

D. Comba

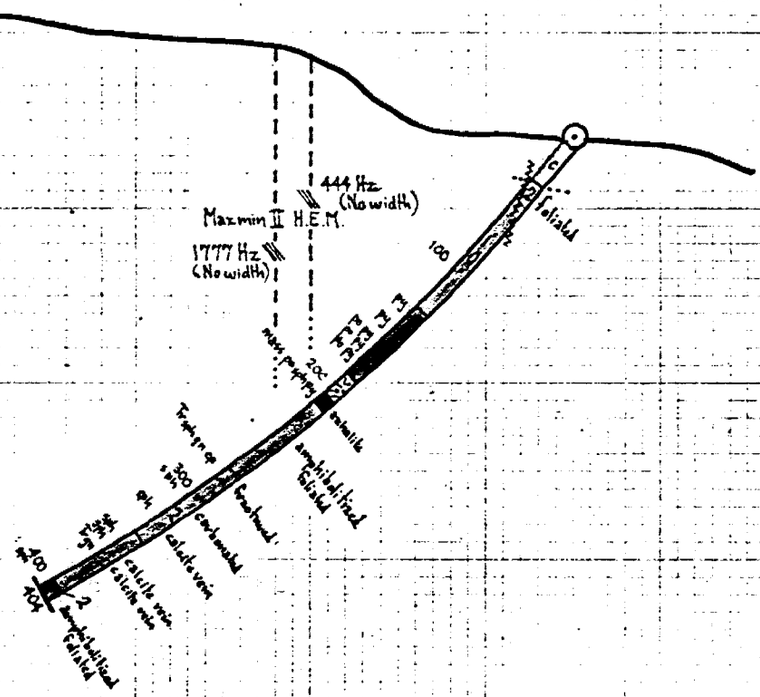
7N 8N 9N 10N 11N 12N 13N 14N 15N

ELEVATION

0 100 200 300 400

LOWE OPTION CLAIM L367391

HUDSON BAY OPTION CLAIM MR 25



LEGEND

2 THOLEIITIC BASALT

GRAPHITIC GREYWACKE

10 PYROXENITIC DYKE

FELDSPAR PORPHYRY

LARDER LAKE PROJECT

X-SECTION SKETCH LL 77-7

LINE 64W

McELROY TOWNSHIP

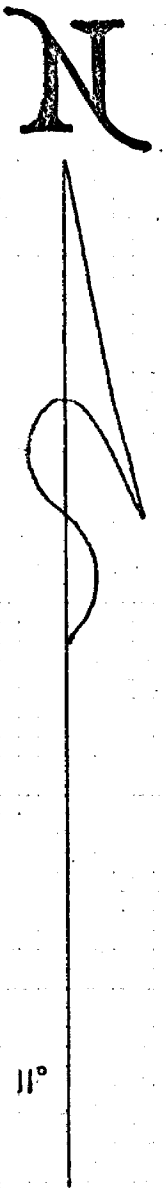
Claim MR 25

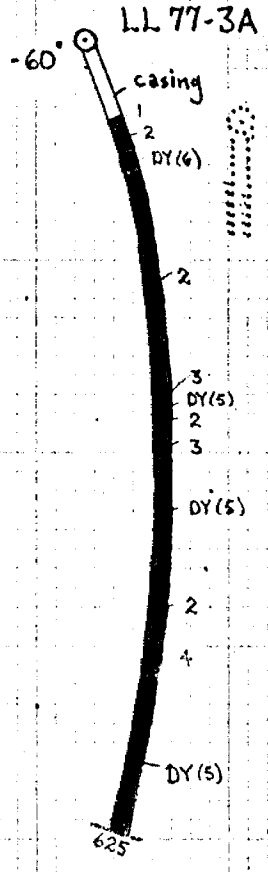
March 6/78

SCALE 1" = 100'

D. Comba

-DC-





LEGEND

- Felsic Dyke
- Mafic Dyke
- Tholeiitic Lava
- Graphitic Sediment
- Wacke Sediment
- Komatiitic Lava

50N
49N
48N
47N
46N
45N

12W 11W L10W 9W 8W 7W

LARDER LAKE PROJECT

PLAN VIEW LL 77-3A

McELROY TOWNSHIP

CLAIM L 476663.

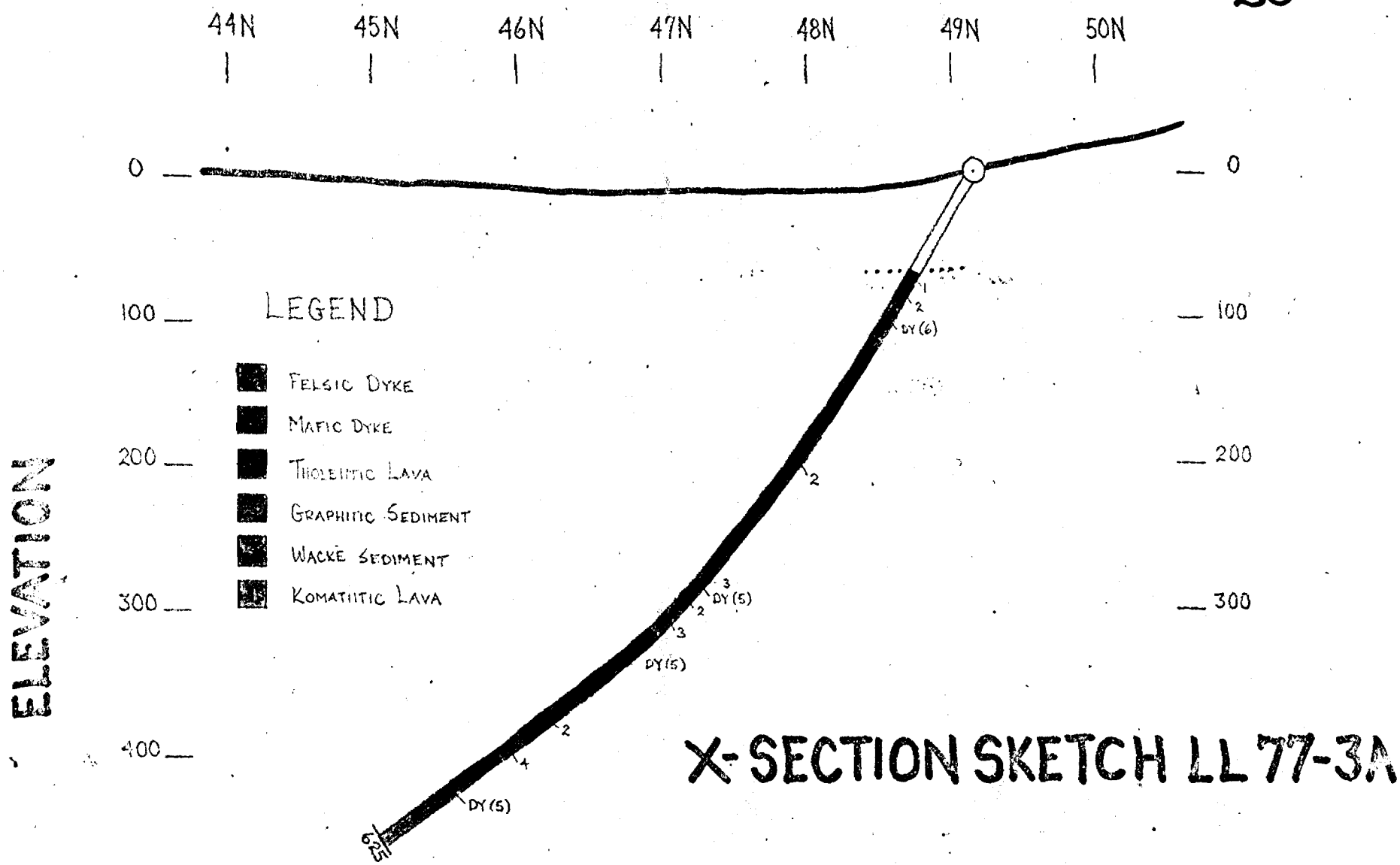
LATITUDE

March 6/78

SCALE 1" = 100'

D. Comba

SC



X-SECTION SKETCH LL 77-3A

McElroy Township

Claim L 476663

Ontario

THE MINING ACT – MINISTRY OF NATURAL RESOURCES

DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON EVERY PAGE

HOLE NO. LL 77-3A | PAGE NO. 1

DRILLING COMPANY: A. McKNIGHT DIAMOND DRILLING	COLLAR ELEVATION:	BEARING OF HOLE FROM TRUE NORTH: 160°	TOTAL FOOTAGE: 625'	DIP OF HOLE AT: collar | -60°	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM: 1120' E of #1 Post; CLAIM L476663; 635' S; McElroy Twp. / Hearst Twp.; collar LL77-3A Az 160° Dip -60°
DATE HOLE STARTED: February 22 1978	DATE COMPLETED: February 28, 1978	DATE LOGGED: March 1978	LOGGED BY: D. Comba	100 ft | 60°	
EXPLORATION CO., OWNER OR OPTIONEE: FALCONBRIDGE COPPER LIMITED		DATE SUBMITTED: January 1979	SUBMITTED BY (Signature): Dave Comba	200 ft | 58°	
				300 ft | 52°	
				460 ft | 36°	

MAP REFERENCE NO.: 32 D/4 | CLAIM NO.: L 476663

LOCATION (Tp., Lot, Con. OR Lat. and Long.): McELROY TWP.

PROPERTY NAME: LARDER LAKE PROJECT

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE ANGLE *	CORE SPECIMEN FOOTAGE +	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE FOOTAGE TO	SAMPLE LENGTH	ASSAYS +		
										Au/oz/TON	Ag/oz/TON	Cu/ppm
0.0	82.0	Overburden	Sand minor gravel component "B" casing 50' "A" casing 82'									
82.0	88.0	KOMATIITE ?	Light green grey-beige with brassy specks and fuchsite green streaks and flecks. Vague banding and discontinuous laminations due to shearing at 25°-35° to C.A. 2-3% fuchsite	25°-35°								
			as 1-3cm long filaments 87.0 to 88.0. Euhedral metacrysts of pyrite up to 5mm. Less									
			than 1% iron sulphide overall. Carbonated. Hairline fractures oxidized. Fine grained									
88.0	107.3	WACKE SEDIMENT	Dark grey black with light grey streaks and bands. Brassy cubes and lenses. Fine clastic									
			sheared at 30° 40° to C.A. Bedding convoluted and broken, occassional in situ brecciation									
			of massive beds. Beds 1-2mm to 2-3cm. Carbonate-rich. Carbonaceous (graphitic)	30°-40°								
			sections 98.7-99.2. Approximately 1% pyrite overall, but 20% 30% 88.0-89.8 and									
			90.6 to 94.5 where pyrite occurs as sheared semimassive to massive beds and possible									
			nodules.									
107.3	136.3	SYENITE DYKE	Mottled light grey and green 106.3 to 112.0. Medium grey with light pink streaks 113.0 to 125.0			14585	108.0	113.0	5.0	0.001	0.02	78
			and beige streaks 125.0 to 135.6. Fine to medium grained. Fractured, carbonate			86	113.0	118.0	5.0	0.001	0.02	96
			bleaching adjacent to fractures 1-3% pyrite as fine disseminations. Gold			87	118.0	123.0	5.0	0.001	0.02	74
			values reported in syenite 2500' west.			88	123.0	128.0	5.0	0.001	0.01	80
						89	128.0	133.0	5.0	0.001	0.01	82
						90	133.0	136.3	3.3	0.001	0.01	75
136.3	338.0	WACKE SEDIMENT	Dark grey black and light grey bands. Sheared 35° to 45° to C.A. Fine clastic.	35°-45°								
		INTERCALATIONS OF	Carbonate metasomatism. Approximately 1% pyrite overall, but many thin							Au/oz/TON	Zn/ppm	Cu/ppm
		PYRITIC GRAPHITE	sections or beds of semimassive to massive pyrite. 140.6 to 147.0 2-3% pyrite.			14591	141.0	146.0	5.0	0.001	5800	730
			15%-25% pyrite 148.4-149.3 and 179.0-179.6. Numerous graphite-rich beds			14921	333.0	336.8	3.8	0.001	110	39
						14922	336.8	338.0	1.2	0.001	113	52
338.0	340.3	PYRITIFEROUS GRAPHITE	Black with brassy blebs. Aphanitic. Thin contorted beds at approximately 45° to C.A.	45°		14594	338.0	340.3	2.3	0.001	7900	260
			10-15% pyrite as thin beds 0.5-1mm or elongate blebs. 3cm. Good conductor									
340.3	350.0	PYRRHOTITE RICH								Au/oz/TON	Zn/(ppm)	Cu/ppm
		ULTRA MAFIC DYKE	Light green with bronze speckle and fuchsite green flecks. Fine grained. Upper contact			14592	340.3	345.0	4.7	0.001	263	150
			at 45° to C.A., lower contact at 50° to C.A. Carbonated. 15-25% pyrrhotite as	45°-50°		14593	345.0	350.0	5.0	0.001	538	168
			fine disseminations and irregular clots. 0.5mm to 2mm. 0-5% pyrite. Magnetic									
			pyrrhotite.			14917	350.0	353.0	3.0	0.001	1820	180
350.0	366.0	WACKE SEDIMENTS	Thin bedded, medium to dark grey and black banded. Fine clastic. Bed thicknesses			18	354.0	356.0	2.0	0.001	330	65
			range from 1-2mm to 10 cm. Contorted beds frequent. Mafic or ultramafic dyke			19	356.0	361.0	5.0	0.001	122	39
			354.2 to 354.6. Carbonated.			20	361.0	366.0	5.0	0.001	63	48

* For features such as foliation, bedding, schistosity, measured from the long axis of the core.

+ Additional ...

Ontario

THE MINING ACT – MINISTRY OF NATURAL RESOURCES

DIAMOND DRILLING LOG

Start a new page for every new hole, but fill in top portion of form only on first page for each hole.

FILL IN ON EVERY PAGE → HOLE NO. LL77-3A | PAGE NO. 2

DRILLING COMPANY	COLLAR ELEVATION	BEARING OF HOLE FROM TRUE NORTH	TOTAL FOOTAGE	DIP OF HOLE AT	LOCATION OF HOLE IN RELATION TO A FIXED POINT ON THE CLAIM	MAP REFERENCE NO.	CLAIM NO.
				collar			L476[illegible]3
DATE HOLE STARTED / DATE COMPLETED	DATE LOGGED	LOGGED BY		ft		LOCATION (Tp., Lot, Con. OR Lat. and Long.)	
				ft		McELROY TWP.	
EXPLORATION CO., OWNER OR OPTIONEE	DATE SUBMITTED	SUBMITTED BY (Signature)		ft		PROPERTY NAME	
		-DC-		ft			

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION Colour, grain size, texture, minerals, alteration, etc.	PLANAR FEATURE ANGLE *	CORE SPECIMEN FOOTAGE +	YOUR SAMPLE NUMBER	SAMPLE FOOTAGE FROM	SAMPLE FOOTAGE TO	SAMPLE LENGTH	ASSAYS + Au oz/ton	Zn %ppm	Cu %ppm
366.0	389.8	PYRITIFEROUS GRAPHITE	Black with brassy nodules. Fine clastic with infrequent intercalations of convoluted			14595	366.0	371.0	5.0	0.002	4000	540
			grit beds. 30% irregular white carbonate filled fractures. Pyrite 2-7% as			96	371.0	376.0	5.0	0.002	4500	563
			massive bands eg: 366.0, nodules or fine disseminations. Chalcopyrite nodule			97	376.0	381.0	5.0	0.002	6800	1040
			1.5cm at 381.0. Looks like coal. Excellent conductor.			98	381.0	386.0	5.0	0.002	9600	765
389.8	452.0	PYRRHOTITE RICH	Upper contact gradational over 1.0'. Medium grey-green with light grey and bronze			99	386.0	391.0	5.0	0.001	7000	605
		ULTRA MAFIC DYKE	flecks. Trace fuchsite? adjacent to contacts. Fine grained to medium grained			14916	391.0	393.0	2.0	0.001	80	900
			Lower contact sharp at approximately 45° to C.A. Strongly carbonated. 10% 20%			14600	393.0	395.0	2.0	0.001	97	815
			pyrrhotite (magnetic) as fine disseminations 0-5% pyrite.			14701	395.0	400.0	5.0	0.001	60	230
						2	400.0	405.0	5.0	0.001	43	123
						3	405.0	410.0	5.0	0.001	50	172
						4	410.0	415.0	5.0	0.001	48	130
						5	415.0	420.0	5.0	0.002	38	248
						6	420.0	425.0	5.0	0.001	73	234
						7	425.0	430.0	5.0	0.001	50	268
						8	430.0	435.0	5.0	0.001	55	262
						9	435.0	440.0	5.0	0.001	44	258
						10	440.0	445.0	5.0	0.001	46	156
						11	445.0	450.0	5.0	0.001	67	99
						12	450.0	455.0	5.0	0.001	58	107
						13	455.0	459.0	4.0	0.001	80	150
459.0	507.2	GREYWACKE MINOR	Dark to medium grey banded with occasional black band and patches of brassy metallic	45°-60°		14	469.0	472.0	3.0	0.001	1600	280
		PYRITE GRAPHITE	Fine clastic. Bedding at 45° to 60° to C.A. Carbonated and carbonaceous.			15	472.5	473.5	1.0	0.001	7500	150
			3-5% pyrite in graphite-rich section 469.2 to 487.0. Pyrite occurs as fine									
			disseminations, lenses, nodules, or thin massive beds. Trace sphalerite associated							SiO_2 %	TiO_2 %	Mo %
			with calcite filled fractures in dyke rock 477.5 - 478.5.			12524	459.0	468.0	9.0	68.3	0.41	0.24
507.2	527.0	IN SITU BRECCIATED	Medium green grey with green-black stockwork matrix. Aphanitic. Brecciated			12525	519.0	520.0	10.0	52.9	1.26	1.83
		BASALT	in situ i.e. angular clasts can be visually reconstructed into an fracture whole.									
			Black chlorite in matrix areas. Strongly carbonated. Probably tholeiitic.									
527.0	625.0	GABBROIC DYKE	Light to medium green-grey. Aphanitic chill to medium grained. Bleached									
			and carbonated 527.0' to approx. 560. All hairline fractures filled with									
			calcite. Less than 1% pyrrhotite. Weakly magnetic over short sections.									

* For features such as foliation, bedding, schistosity, measured from the long axis of the core.

+ Assay [illegible]