DIAMOND DRILLING

TOWNSHIP: MUNSTER REPORT NO: 15

WORK PERFORMED FOR: FALCONBRIDGE EXPLORATION LIMITED

RECORDED HOLDER: SAME AS ABOVE [X]

: OTHER [ ]

CLAIM NO.	HOLE NO.	FOOTAGE	DATE	NOTE
1046872	MU-01	172.52 M	OCT/90	(1)
1046873	MU-02	407.22 M	OCT/90	(1)
1046872	MU-03	291.39 M	OCT/90	(1)
1046875	MU-04	190.81 M	OCT/90	(1)
1046935	MU-05	164.20 M	NOV/90	(1)
1046933	MU-06	275.15 M	NOV/90	(1)
	MU-07	361.50 M	NOV/90	(1)
1046919	MU-08	370.64 M	NOV/90	(1)
1046874	MU-10	520.13 M	FEB/91	(1)

NOTES: (1) #W9170.00057, FILED JAN/92

FALCONBRIDGE EXPLORATION

WORK REPORT
MUNSTER, MONCRIEFF, CRAIG
ULSTER, HESS TOWNSHIPS

BENNY
DIAMOND DRILL CORE
EXPLORATION PROGRAMME

G.SNYDER

APRIL 1991

FALCONBRIDGE EXPLORATION LIMITED

CONTENTS

SUMMARY AND CONCLUSIONS

The Benny property is located within the Archean Benny Greenstone Belt and in the Sudbury Mining Division. In the fall of 1990 a 15 hole diamond drill programme (total 3873.87 m) tested numerous targets for Zn-Cu-Pb-Ag-Au volcanogenic massive sulphide mineralization. In 1991, a 2 hole program was conducted over deeper targets totalling 870.13 m.

The drill holes did not intersect any significant base or precious metal mineralization. The best intersection was in hole MU-10 drilled in 1991, 0.54% Zn, 0.16% Pb over 1.65 m.

II. INTRODUCTION

The Geneva West Property is located 64 km northwest of Sudbury within the Archean Benny Greenstone Belt and in the Sudbury Mining Division (centred on coordinated 46° 48' 00" N, 81° 34' 00" W).

The Benny Property extends from Spanish River on the far West to within 800 m of the Geneva Lake Mine to the East. Highway 144 and the Geneva Lake Mine road provide excellent access to the East half of the property (fig. 1).

During the fall of 1990 and winter of 1991, 17 drill holes were drilled to the East of Highway 144 with a total 4744 m, (15564.30 ft). Dominik Drilling was the contractor. The core is stored at Chelmsford Falconbridge Exploration office.

III RESULTS

The 1990 drill programme drilled 15 holes at numerous surface EM conductors and surface trenches and showings. The conductors were mainly explained by massive pyrrhotite, pyrite. There was no significant base metal values encountered. Table 1, summarizes the drill hole locations and orientations.

The 1991 drill programme drilled two holes. One hole targeted a surface trench (Double Pay Day) at 350 m below surface. The other hole was a follow up on MU-08 from 1990 drilling. Both holes intersected no significant base metal mineralization. The holes locations and orientations are summarized in Table 1. Detailed logs for 1990, 1991 drilling is attached in appendix III.

IV RECOMMENDATION

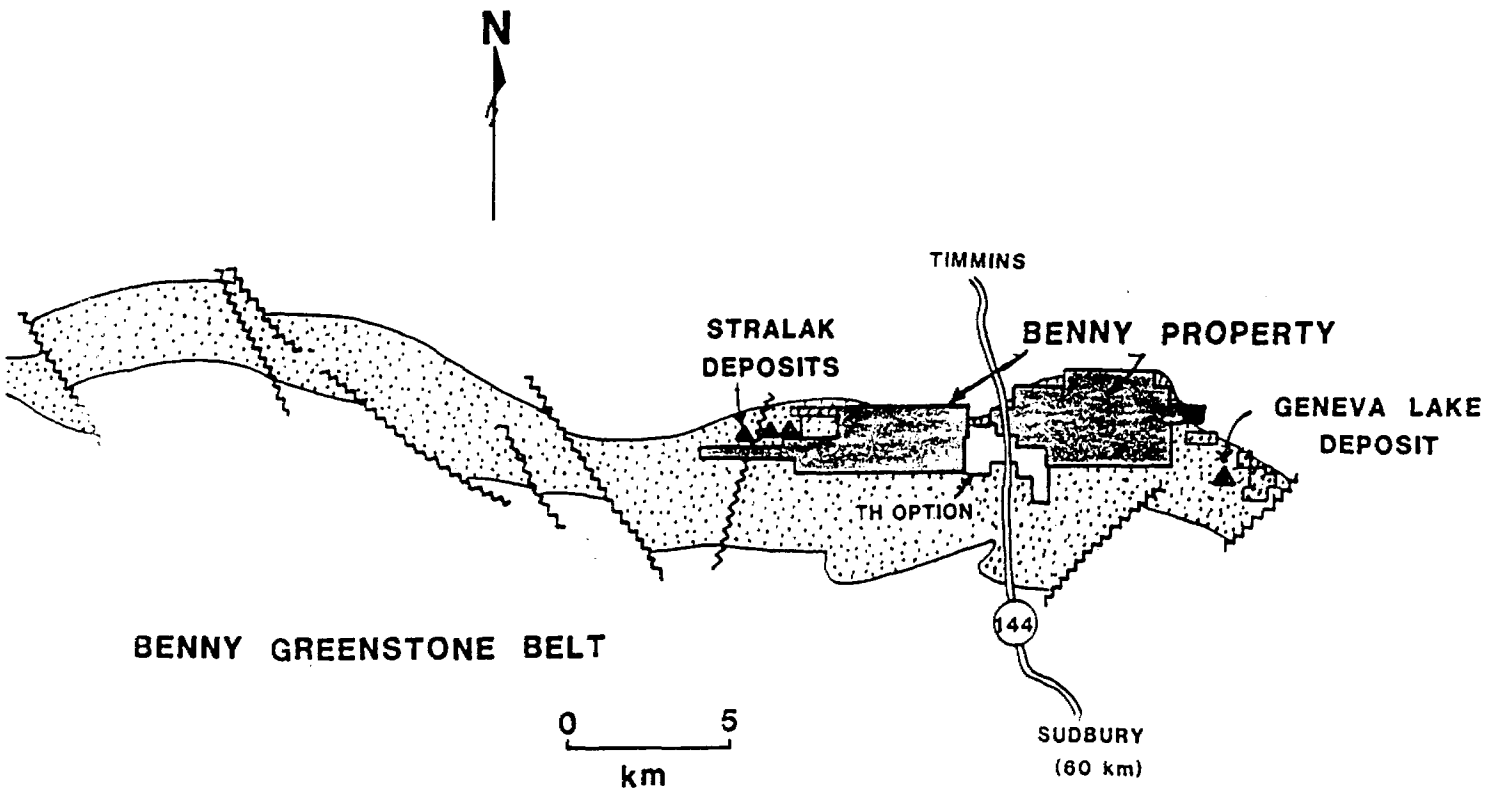
The 1990 and 1991 drilling tested most surface Deepem conductors. A few of the surface conductors are unexplained and should be followed up by drilling.

APPENDIX I

STATEMENT OF QUALIFICATIONS

DIAMOND DRILL HOLES
BENNY EAST PROJECT, 1990, 1991

HOLE	GRID EASTING	GRID NORTHING	UTM EASTING	UTM NORTHING	ELEV.	(°) DIP	(°) AZM.	(m) DEPTH	COMMENTS
1. HE-03 (90)	2+25W	19+47S	456914	5181725	415	-55	025	181.66	RUSTY CHAIN
2. MO-01 (90)	4W	19+11S	456772	5181845	418	-55	030	151.18	CHAIN TRENCH
3. HE-05 (90)	3W	16+89S	456970	5181985	431	-55	050	178.61	ANOMALY "F"*
4. HE-06 (90)	3+05W	14+11S	457110	5182225	425	-55	045	193.85	ANOMALY "G"*
5. MO-02 (90)	6W	19+95S	456555	5181875	412	-55	030	254.81	CHAIN TRENCH
6. HE-04 (90)	3+50E	15+38S	457610	5181780	453	-50	350	327.98	ANOMALY "G"*
7. MO-03 (90)	11+10W	12+82S	455940	5182613	394	-60	290	352.35	ANOMALY "C"*
8. MU-07 (90)	9W	8+08S	456900	5183046	425	-55	025	361.50	NORANDA TRENCH*
9. MU-06 (90)	10W	6+76S	456879	5183210	415	-60	360	275.15	NORANDA TRENCH*
10. MU-05 (90)	7+95W	6+56S	457066	5183130	435	-50	055	164.20	NORANDA TRENCH*
11. MU-02 (90)	4W	3+95N	456556	5184293	415	-50	360	407.22	BAR-B-QUE TRENCH
12. MU-03 (90)	6W	3+52N	456453	5184240	412	-50	355	291.39	BAR-B-QUE TRENCH
13. MU-01 (90)	7+80W	3N	456274	5184194	397	-60	350	172.52	BAR-B-QUE TRENCH
14. MU-04 (90)	11+34W	1+73N	457200	5184010	407	-50	360	190.81	ANOMALY "B"
15. MU-08 (90)	0+45W	3+11N	457009	5184205	409	-65	020	370.64	SERICITE PIT
16. MU-10 (91)	0+60W	2+71N	456998	5184195	409	-65	020	520.13	SERICITE PIT
17. HE-07 (91)	8+50W	0+20N	458850	5182855	440	-55	028	350.00	DOUBLE PAY TRENCH
TOTAL								4744.00	



FALCONBRIDGE LTD EXPLORATION

BENNY PROJECT

PN 232

STATEMENT OF QUALIFICATIONS

I, Gregg A. Snyder, of Sudbury, Ontario hereby certify that:

1) I graduated from Acadia University with a Bachelor of Science Degree in Geology (1989).

2) I am a geologist employed on a contract basis by Falconbridge Exploration Limited of 1977 McKenzie Road, Chelmsford, Ontario.

3) I have been practicing my profession for the past 2 years.

4) I have no financial interest in the claims involved in this report, or in Falconbridge Limited.

Dated at Sudbury, Ontario this _____ day of _____ 1991.

Gregg A. Snyder
Field Geologist

APPENDIX II

DOMINIK INVOICE

TOTAL DRILLING FOOTAGE	(1990)	3873.87 m		12709.55 ft
	(1991)	870.13 m		2854.76 ft
TOTAL		4744.00 m	or	15564.30 ft

TOTAL NUMBER OF WORK DAYS

1 ft Diamond Drilling = 1 Work Day
15564.30 ft = 15564.30 work days.

TOTAL NUMBER OF CLAIMS = 190

FACTURE INVOICE

FORAGE DOMINIK (1981) INC.
DOMINIK DRILLING (1981) INC.

1080, rue de l'Echo
C.P. / P.O. Box 247 Val d'Or, P.Q. J9P 4P3
Téléphone (819) 824 6839 Télex 057 45523

Falconbridge Limited
P.O. Box 40
Falconbridge (Ontario)
P0M 1S0

No de facture / Invoice No.: 4320

Date February 15, 1991

Termes Net 7 jours / Terms Net 7 Days

RECEIVED

SURFACE DIAMOND DRILLING BQ BENNY PROPERTY FEBRUARY 1-15/ 1991

DRILL N° 1

Hole No. MU-91-09 (hexagone)

From	62.7896	to 150.0000	87.2104 m coring x 42,40 + 1,30	3 811,09
	150.0000	to 195.0744	45.0744 m coring x 43,55 + 1,30	2 021,59

Hole No. HE 91 09 (hexagone)

From	0.0000	to 15.0000	15.0000 m casing x 42,40	636,00
	15.0000	to 26.2131	11.2131 m casing x 47,30	530,38
	26.2131	to 150.0000	123.7869 m coring x 42,40 + 1,30	5 409,49

Hole No. HE 91 07 (hexagone)

From	0.0000	to 14.0210	14.0210 m casing x 42,40	594,49
	14.0210	to 150.0000	135.9790 m coring x 47,30	6 431,81
	150.0000	to 300.0000	150.0000 m coring x 42,40 + 1,30	6 555,00
	300.0000	to 404.1697	104.1697 m coring x 43,55 + 1,30	4 672,01

Hole No. MU-91 10 (hexagone)

From	0.0000	to 3.0480	3.0480 m casing x 42,40	129,24
	3.0480	to 142.0385	138.9905 m coring x 42,40 + 1,30	6 073,88

	45 115,75 $
7% GST	3 158,10
	48 273,85 $

FORAGE DOMINIK (1981) INC.
DOMINIK DRILLING (1981) INC.

Page No / No Page 002
Invoice No / No De Facture 4320

CONT'

MATERIAL LEFT IN HOLE:

No. MU-91 09:	3 BW casing 10'	x 131.67 =	395,01
:	1 BW casing shoe	x 185,00 =	185,00
No. HE-90-09:	8 BW casing 10'	x 131,67 =	1 053,36
:	3 BW casing 2'	x 26,33 =	78,99
:	1 NQ crown special	x 420,00 =	420,00
No. HE-91 09:	4 NW casing 10'	x 155,30 =	621,20
:	1 NW casing 2'	x 31,06 =	31,06
:	1 NW casing shoe	x 230,00 =	230,00
:	4 BW casing 10'	x 131,67 =	526,68
:	3 BW casing 2'	x 26,33 =	78,99
:	1 BW casing shoe	x 185,00 =	185,00

N overcharge 882.26 ...

2923.03	3 805,29 $
15% serv. charge	570,79
7% GST	306,33
8% PST	304,42
	4 986,83 $
	3 830.62

MISCELLANEOUS:

540 BQ core box trays x 4,60		2 484,00 $
	7% GST	173,88
		2 657,88 $

FALCONBRIDGE LIMITED

VOUCHER NUMBER		VENDOR NUMBER	
ACCOUNT	COST CENTRE	AMOUNT	CR X
6061 6010	2016232	51185.07	
1313 10015	GST	3557.28	
DUE DATE		CURRENCY	
CODED	EXT & ADDS	A/PAY	CHECKED

Contract # 121 679
Footage drilled 3319'

FORAGE DOMINIK (1981) INC.
TPS: 101 840 684
PST: 101 840 684

SUMMARY

	50 522.78
Invoice	51 405,04 $
	438.45
15% serv. charge	570,79
	3 567.28
7% GST	3 638,31
	233.84
8% PST	304,42
TOTAL...	55 918,56 $
	54 762.35

S.V.P. RETOURNER UNE COPIE AVEC VOTRE REMISE... MERCI

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FACTURE · INVOICE

FORAGE DOMINIK (1981) INC.
DOMINIK DRILLING (1981) INC.

1080, rue de l'Echo
C.P. / P.O. Box 247, Val d'Or, P.Q. J9P 4P3
Téléphone: (819) 824 6839 Télex: 057 45523

Falconbridge limited
P.O. Box 40
Falconbridge (Ontario)
P0M 1S0

No de facture / Invoice No.: 4349

Date February 28, 1991

Termes - Net 7 jours / Terms - Net 7 Days

SURFACE DIAMOND DRILLING BQ BENNY PROPERTY FEBRUARY 16-28 / 1991

DRILL N° 1

Hole No. MV-91-10

From	142.0385	to 150.0000 =	7.9615 m coring	x 42,40 =	337,57	
	150.0000	to 300.0000 =	150.0000 m coring	x 43,55 =	6 532,50	
	300.0000	to 450.0000 =	150.0000 m coring	x 44,65 =	6 697,50	
	450.0000	to 519.9951	69.9951 m coring	x 45,85 =	3 209,28	

Hole No. HE-91-089

From	404.1697	to 450.0000 =	45.8303 m coring	x 44,65 =	2 046,32	
	450.0000	to 550.4755 =	100.4755 m coring	x 45,85 =	4 606,80	
						23 429,97 $
				7% GST		1 640,10
						25 070,07 $

ACID TEST:

No. MV-91-10 : acid test at 30m, 183, 244m,305m,366m,427m,488m,518m.
No. HE-91-08 : acid test at 457m,518m.

3 acid tests	x 55,00 = 165,00		
7 acid tests	x 65,00 = 455,00		620,00 $
		7% GST	43,40
			663,40 $

Not paying the [illegible]

DOMINIK

FORAGE DOMINIK (1981) INC. Page No / No Page 002
DOMINIK DRILLING (1981) INC. Invoice No / No De Facture 4349

CONT'

OTHER COSTS:

Feb. 26 : 24 man hrs (set-up on old hole, put rodes down)
Feb. 26 : 12 drill hrs (" ")

24 man hrs	x 23,50 =	564,00		
12 drill hrs	x 22,00 =	264,00		828,00 $
			7% GST	57,96
				885,96 $

MATERIAL LEFT IN HOLE:

No. MV-90-10:	1 BW casing 10'	x 131,67 =	131,67		
:	1 BW casing shoe	x 185,00	185,00		316,67 $
				15% Service charge	47,50
				7% GST	25,49
				8% PST	25,33
					414,99 $

Contract n° 121 679

Footage drilled 1720'

FALCONBRIDGE LIMITED

VENDOR NAME: FORAGE DOMINIK (1981) INC. TPS: 101 840 684 GST: 101 840 684	VENDOR NUMBER		
ACCOUNT	COST CENTRE	AMOUNT	CR X
6 0 5 1 6 0 0 1	0 1 6 2 3 2	24 647 47	
1 3 2 1 0 0 5 1	GST	1 723 55	
DUE DATE		CURRENCY	
APPROVED	CODED 65	EXT & ADDS	CHECKED

SUMMARY

Invoiced	~~25 194,64 $~~ 24 574.64
15% Service charge	47,50
7% GST	~~1 766,95~~ 1723.55
8% PST	25,33
TOTAL....	~~27 034,42 $~~ $ 26 371.02

0465
605 600

S.V.P. RETOURNER
UNE COPIE AVEC VOTRE
REMISE... MERCI

FACTURE INVOICE

FORAGE DOMINIK (1981) INC.
DOMINIK DRILLING (1981) INC.

1080, rue de l'Écho
C.P. / P.O. Box 247, Val d'Or, P.Q. J9P 4P3
Téléphone (819) 824-6839 - Télex: 057-45523

FALCONBRIDGE limited
P.O. Box 40
Falconbridge (Ontario)
POM 1S0

No de facture / Invoice No.: 4287

Date January 31, 1991

Termes - Net 7 jours / Terms - Net 7 Days

SURFACE DIAMOND DRILLING BQ

DRILL N^{O} 1

Hole No. HE-91-07- (Hexagone)

From	0.0000	to	7.3153	=	7.3153 m casing	x	42.40	=	310.17
	7.3153	to	150.0000	=	142.6847 m coring	x	42.40 + 1.30	=	6,235.32
	150.0000	to	300.0000		150.0000 m coring	x	43.55 + 1.30	=	6,727.50
	300.0000	to	450.0000		150.0000 m coring	x	44.65 + 1.30	=	6,892.50
	450.0000	to	516.9471		66.9471 m coring	x	45.85 + 1.30	=	3,156.56
Standard									
	516.9471	to	574.8598		57.9127 m coring	x	45.85	=	2,655.30

Hole No. MU-91 09

From	0.0000	to	9.1441		9.1441 m casing	x	42.40	=	387.71
	9.1441	to	62.7896	-	53.6455 m coring	x	42.40	=	2,274.57
									$ 28,639.63
					7% TPS				2,004.77
									$ 30,644.40

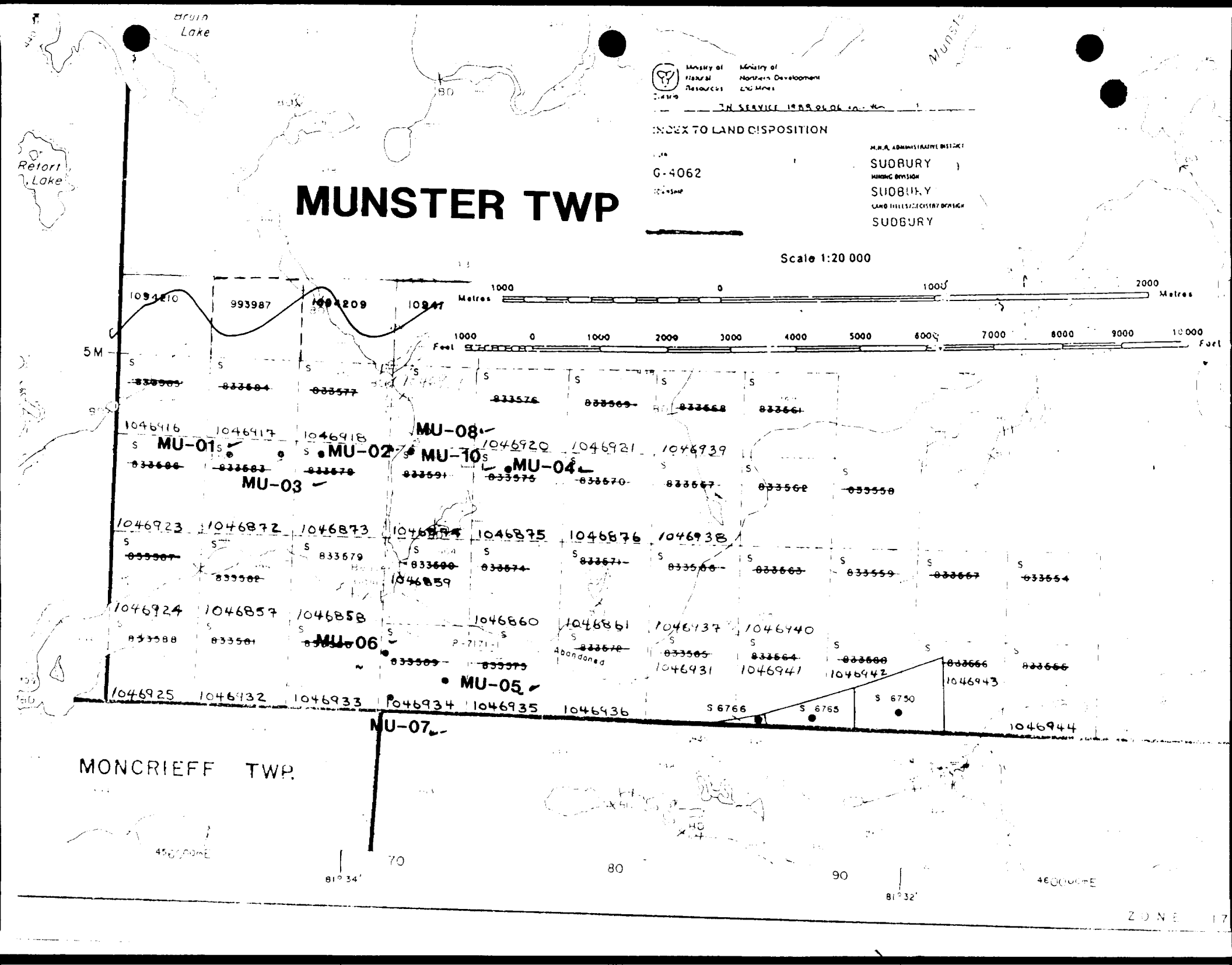
FALCONBRIDGE LIMITED

VOUCHER NUMBER		VENDOR NUMBER	
ACCOUNT	**COST CENTRE**	**AMOUNT**	**CR**
16 P 51 16 0 0 1	0 16 1 - 1 3 2	$ 331489 34	
1 3 2 1 0 0 5	GST	$ 31340	76
DUE DATE		CURRENCY $ 35,830.00	

APPROVED	CODED	EXT & ADDS	A/PAY	CHECKED
	65			

APPENDIX III

DRILL LOGS


Bryan Lake
Retort Lake
MUNSTER TWP
Ministry of Natural Resources
Ministry of Northern Development and Mines
IN SERVICE 1989 04 05
INDEX TO LAND DISPOSITION
G-4062
M.N.R. ADMINISTRATIVE DISTRICT
SUDBURY
MINING DIVISION
SUDBURY
LAND TITLES/REGISTRY DIVISION
SUDBURY
Scale 1:20 000
1000 0 1000 2000 Metres
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10 000 Feet
5M
MU-01
MU-02
MU-03
MU-04
MU-05
MU-06
MU-07
MU-08
MU-10
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1046932
1046933
1046934
1046935
1046936
1046931
1046941
1046942
1046943
1046944
S 6766
S 6765
S 6750
MONCRIEFF TWP.
81° 34'
81° 32'
70
80
90
ZONE 17

HOLE NUMBER: MU-07

FALCONBRIDGE LTD
DRILL HOLE RECORD

DATE: 28 February 1991
IMPERIAL UNITS: METRIC UNITS: x

PROJECT NAME: BENNY
PROJECT NUMBER: 6032
CLAIM NUMBER: [illegible]
LOCATION: MUNSTER TWP

PLOTTING COORDS GRID: GENEVA WEST LN
NORTH: 3.00N
EAST: 7.80E
ELEV: 397.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0N
EAST: 0+ 0E
ELEV: 0.00

COLLAR DIP: -60°45' 0"
LENGTH OF THE HOLE: 172.52m
START DEPTH: 0.00m
FINAL DEPTH: 172.52m

COLLAR ASTRONOMIC AZIMUTH: 350° 0' 0"

GRID ASTRONOMIC AZIMUTH: ° ' "

DATE STARTED: October 19, 1990
DATE COMPLETED: October 23, 1990
DATE LOGGED: October 26, 1990

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: YES
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: DOMINIK DRILLING
CASING: BW 10.97 m, LEFT IN HOLE
CORE STORAGE: CHELMSFORD
UTM COORD.: 5814194, 456274

COMMENTS : TESTING EM-37 ANOMALY, RUSTY BAR-BOQUE TRENCH.
WEDGES AT:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
10.90		-60°45'	ACID	OK	
108.50		-56°45'	ACID	OK	
172.50		-55°30'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 10.97	CASING «CAS»	Casing left in hole, 8.6 m of overburden 36" casing in hole NW. 8.6 m - 10.97 m broken core 1 cm - 30 cm rounded to angular pieces.				
10.97 TO 20.25	PYROXENITE DIKE «PXIT»	- Fine grained to medium grained, green locally with 5-10% dark green, 1-3 mm pyroxene phenocrysts, phenocrysts evenly distributed and are subhedral. Generally massive and homogeneous. - Joints 3-8/m at CA 75-65° out contact sharp at CA 90°.				
20.25 TO 26.20	RHYOLITE TUFF «RTUF»	- Fine grained to very fine grained, grey to dark grey, weak pinkish brown colouration possibly due to hematite staining on fractures. *Homogeneous to very weakly foliated at CA 80-90°.* 21.50-22.40: Open joint at CA 0°, broken core to 25.50 sharp angular pieces, also joints at CA 70° 1/10 cm. 26.20: Sharp irregular out contact.		- Network of fractures <1 mm 1/1-3 mm with pinkish brown and light green colouration 1-4 mm about fractures, *hazy and sharp.*		
26.20 TO 70.13	BASALT FLOW «BFLW»	- Fine grained, green, generally homogeneous poor banding to very weakly banded at CA 50°, light and dark green bands, moderately foliated at CA 50°. - Locally contains mafic dikes, fine grained, green massive with 1-4 mm dark green pyroxene? phenocrysts. Approximately 5% phenocrysts, mafic dikes average 30 cm to 50 cm, *sharp contacts eg 36.0 m.* }48.9-50.02}«STUF» Very fine grained, grey to reddish brown, poorly foliated, no banding, siliceous, chert? Uphole contact sharp at CA 60-70°. Downhole contact sharp at CA 80°, 1-3 cm white quartz vein with minor reddish brown hematite on downhole contact. 50-60: Good amygdules over 50 cm, 1-4 mm round quartz infilling, approximately 3-8%.		- Quartz veins sharp at various CA angles, average 1 mm - 1 cm 1/10-30 cm, quartz also infilling <1 mm fractures ± light green epidote 1/10 cm. - Quartz veins <1 mm - 1 cm sharp at various CA angles also quartz fracture fillings 1/1-5 cm, reddish brown colouration from hematite about veins and fractures.	- Trace chalcopyrite as fracture fillings ± quartz, <1 mm to 1 mm specks, good fracture filling at 48.95.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				57.75: Quartz carbonate vein 1 cm at CA 45°, not sampled.	- Chalcopyrite speck 1 mm in vein.	
					64.5-65.5: Sphalerite trace fracture filling? ± quartz in fractures ± pyrite, chalcopyrite? <1 mm - 1 mm fractures 1/10-30 cm.	
				66.50: Quartz calcite veins <1 mm to 1 cm, 1/1-2 cm over 30 cm, sharp, also at 69.250, quartz-carbonate vein 5 mm to 1 cm sharp angular, fracture filling.	- Possible sphalerite in vein at 69.20.	
70.13 TO 84.78	OLIVINE DIABASE	- Fine grained to medium grained, green, homogeneous, non-foliated, strongly magnetic, sharp uphole contact at CA 30°, chill margin to 70.50. - Sharp downhole conatct at CA 30° basalt xenolith at 98.14-99.0 sharp contacts, strongly foliated segment.		- Quartz veins + epidote average 5-10 cm, 1/3-6 m clear to white, sharp contacts at average CA 30-45°.		
84.78 TO 92.00	ANDESITE/ BASALT TUFF «ABTF»	- Fine grained, strongly banded, 5 mm - 1 cm alternating green and grey bands at CA 60°, strongly foliated parallel to banding, light grey bands siliceous hard, green bands chloritic soft. Fewer green chloritic bands down hole grades to RTUF interbedded RTUF-ABTUF? 91.0-91.64: Mafic dike?/Sediment? Fine grained to medium grained, grey segment, non-banded contains 3% 3-6 mm round dark green porphs? phenos? some with light green cores, sharp contacts at CA 70° parallel to banding. 92.0: Gradational out contact over 1 m.			89.82: Galena trace within <1 mm fracture ± quartz.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
92.00 TO 132.00	RHYOLITE TUFF, RDTF? «RTUF/RDTF»	- Fine grained to very fine grained, grey to light grey to grey green, generally strongly banded light and dark grey to green bands average 1 cm at average CA 50°, contains up to 5-8% <1 mm to 2 mm average <1 mm to 1 mm grey quartz eyes locally possibly >10% over 10-30 cm eg 110.0 m. 104.0 and 123.30, average 1-3%. locally blue quartz eyes eg 115.60, 1-3% <1 mm to 1 mm, quartz eyes round to ellipticle. Locally feldspar phenocrysts, appear white to buff 1-3 mm round, average 1-4% locally eg at 107.0 m. Grey bands hard siliceous, green bands soft chloritic micaceous. Locally contains mafic dikes generally with sharp contacts at CA 50° to parallel to foliation, dark green, fine grained with 1-3%, 1-3 m dark green phenocrysts, dikes average 10-20 cm, eg at 104.25. 120.00: Bands at CA 70°. 126.80-132.0: Light grey bands pinch - not continuous appear to be ellipticle fragments locally, possibly light grey rhyolite fragments approximately 1 cm x 5 to 10 cm in light green to grey matrix, possibly RTBx.		- Quartz veins - clear to white average 20-40 cm sharp irregular contacts average 1/3-6 m to 115.6 m.	- Some veins contain 1 mm to 5 mm clots of pyrite and or pyrrhotite. 120.0-121.0: Pyrite 3%, pyrrhotite 1-2% in <1 mm to 2 mm stringers generally parallel to foliation at CA 70°.	- Veins sampled for Au.
132.00 TO 172.52	ANDESITE/ BASALT PILLOWED FLOW «ABPF»	- Very fine grained, grey green, bands at CA 70 to 80°, contains greenish brown 5 mm to 1 cm bands which are generally softer and thinner than the grey bands suggests possible pillow selvedge, very distinct locally and curve around grey segments, also locally have a dark green alteration halo, grey segments generally hard and are on average 5-10 cm thick, eg 132.45 best eg at 171.2. From 132.0 to 150.0 bands/pillows poorly formed, mixed interfingering of micaceous/ chloritic bands (selvege) with harder grey bands (pillcore), average CA 70-80°, narrow pillows. eg 5 cm x 30 to 50 cm as seen on surface.		- Local carbonate veins ± quartz average 1-3 cm sharp at average CA 50° approximately three veins to 145.5 m.	- Pyrrhotite, pyrite locally tend to concentrate in trace amounts in chloritic/micaceous (selvedge) bands.	

HOLE NUMBER: MU-[illegible]

FALCONBRIDGE LTD
DRILL HOLE RECORD

DATE: 28-February-1991

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					138.25-145.30: Pyrrhotite, pyrite stringers also minor clots flattened parallel to foliation and disseminations, best concentration at 139.25-140.25, pyrrhotite 10-15%, pyrite 1-2% as stringers up to 2 cm, stringers average 1-4 mm condensed into 5-10 cm segments 1-2/m, local massive 5 cm pyrrhotite, pyrite slugs eg 143.3 and 144.4.	
		147.60-149.45 «GOKE» Fine grained to medium grained massive, sharp contacts uphole contact at CA 30° chilled margin to 148.20 downhole contact sharp at CA 30°, also at 152.80-154.0.				
		150.0-172.52: Pillows well formed, average 1 cm selvedge, green chloritic micaseous bands at CA 70-80° with 1 - 3 mm dark grey green alteration halo separated by dark to medium grey pillow core segments average 1-10 cm.				
172.52 TO 172.52	END OF HOLE					

HOLE NUMBER: MU-92

FALCONBRIDGE LTD
DRILL HOLE RECORD

DATE: 6-March-1991
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: BENNY
PROJECT NUMBER: 6232
CLAIM NUMBER: [illegible]
LOCATION: MUNSTER TOWNSHIP

PLOTTING COORDS GRID:
NORTH: 390.00N
EAST: 400.00E
ELEV: 415.00

ALTERNATE COORDS GRID: UTM
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 409.00

COLLAR DIP: -50° 0' 0"
LENGTH OF THE HOLE: 407.22m
START DEPTH: 0.00m
FINAL DEPTH: 407.22m

COLLAR ASTRONOMIC AZIMUTH: -50° 0' 0"
GRID ASTRONOMIC AZIMUTH: ° ' "

DATE STARTED: October 21, 1990
DATE COMPLETED: October 24, 1990
DATE LOGGED: November 21, 1990

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: Dominik Drilling
CASING: BW
CORE STORAGE: Chelmsford
UTM COORD.: 5184205N, 457009E, 409 m

COMMENTS : Test EM-37 conductor, Rusty Bar-B-Que trench
WEDGES AT:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
9.10		-48° 0'	ACID	OK	
91.40	-	-46°45'	ACID	OK	
183.00	-	-49° 0'	ACID		
274.00	-	-46°45'	ACID	OK	
365.70	-	-42°45'	ACID	OK	
399.00	337° 0'	-46°30'	SING.SHOT	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.10	CASING (HOLE)	Casing NW 20' in hole				
6.10 TO 71.13	RHYOLITIC TUFF (RTUF)	Fine grained, ranging from homogeneous medium grey to a mottled buff grey, medium grey, various coloured <mm to >mm size elliptical quartz eyes, clear to hazy blue and >mm - size squarish cloudy white feldspar pheno's or possibly another variety of quartz pheno's local zones of compositional banding with mm to cm size more felsic lamination less dominant. Sheared/bedded at 60° to CA. Occasional MDKE's, 5-40 cm wide, relatively fine grained, possibly diabase, non-magnetic.		- 2-3% mm-cm size quartz stringers MDKE's cause hematitic staining of surrounding RTUF; reddish-pinkish to brown discolouration on a cm-scale at the margins of MDKE's		
		6.10-10.12: Medium grey, homogeneous RTUF with 2-3% <mm-size hazy blue quartz is and 1% mm size feldspar/cloudy white quartz? pheno's.				
		10.12-30.6: Mottled buff grey/medium grey comp banded RTUF with 12% quartz stringers-veins, mm to 40 cm in size. MDKE's, 5-40 cm constituting 5% of interval, MDKE at 50° to CA 29.26-30.00 broken up core, QVN, pinkish material, possible fault.		10.12-30.60: 10-12% quartz vein; creating local bleached halo's and incorporating RTUF fragments silicification due to quartz veins, hematization due to MDKE's, pink-red-brown discolouration.	- Sparsely, fine grained, pyrite, pyrrhotite 0.2 to 0.3% in quartz vein. 0.2% fine grained, pyrite as laminations mm-size in RTUF.	
		30.60-35.50: Medium grey, homogeneous RTUF with 2-3% <mm-size elliptical hazy blue quartz is and 1% mm-size feldspar/cloudy white quartz? squarish phenocrysts, minor felsic bands 1-5 cm in size with numerous clear quartz is locally up to 5-7%.				
		35.5-39.74: Mottled buff grey/medium grey RTUF with 30% MDKE's, 40-50 cm in size.		35.5-33.74: 2-3% quartz calcite ± epidote stringers within MDKE's.	- Sparse, fine grained, pyrite 0.1 to 0.2%.	
		39.74: Significant increase in feldspar/cloudy white quartz? squarish pheno's up to 2-3%, 1-2% mm-size hazy blue, occasional 10-20 cm		- localized bleaching about quartz stringers, chloritic inclusions reddish brown staining around		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		MOKE.		MOKE's (hematization)		
		51.00-71.13: Interbanding of homogeneous medium grey RTUF and mottled buff grey/medium grey RTUF 2-3% mm-size feldspar/cloudy white quartz? eyes and 2% mm-size hazy blue elliptical quartz 4%, sheared/bedded at 60-65° to CA {56.69-65.00}«STRINGER ZONE»weakly mineralized slight silicified, pyrite, subordinate pyrrhotite stringer zone, with sphalerite fracture coatings {64.44-68.96}«MOKE» fine grained to medium grained, non-magnetic.		51.81-53.75: 20% quartz vein at 30 to 60° to CA. 56.69-65.00: Slight silicification in the stringer zone. 10% quartz stringers.	- 0.3 to 0.5% fine grained to coarse grained pyrite fractures and blebs (in quartz vein). - Stringer zone: - up to 5% fine grained to medium grained anhedral pyrite as lamination 0.2% pyrrhotite blebs and trace-0.1% sphalerite as fracture infillings.	- SA32051. - SA32052 to SA32058.
		68.96-71.13: RTUF breccia, cm-size more felsic fragments, fewer quartz is, mainly <mm-size clear elliptical quartz is.		- Moderately siliceous.	- 0.3 to 0.5% mm-size pyrrhotite with subordinate pyrite stringers at 60° to CA, trace sphalerite as fracture infilling.	- SA32059.
71.13 TO 143.42	APFL/ATUF	- Andesitic Pillowed Lava Flow - weakly feldspar-phyric, fine grained to medium grained, medium green pillow cores with light green mm-cm size epidote altered pillow rims and possible hyaloclastite shards along and between rims, mm-size white feldspar phenocrysts. *Occasional ATUF interbeds* bedding at 70° to CA.		- Pillow rims epidotized. 3-5% mm-size quartz ± calcite stringers.	- Pyrite/pyrrhotite 0.2% to 0.3% as fine grained as mm-size laminations.	- WRA SA22152 at 71.13 m.
		{81.47-94.75}«STUF»Siliceous tuff horizon with three major sections of good siliceous tuff, and banded pyrite/pyrrhotite that is surrounded by good peripheral stringer zones with moderate silicification and minor bleaching.		- Silicification of an ATUF percursor 2-3% quartz stringers.	- 1/2 m sections of 15-20% pyrrhotite/pyrite as cm-size bands and stringers with trace chalcopyrite, galena, sphalerite as fracture fillings. Overall up to 10% pyrite/pyrrhotite stringers with trace chalcopyrite, sphalerite, galena fracture coatings.	- SA32060 to SA32070.
		94.75-140.22: Slight increase in background sulphide content 7%, 10-40 cm fine grained MOKE's, non-magnetic.		- Quartz + epidote alteration along pillow rims and in patches. 2-3% quartz ± calcite mm-size stringers.	- 0.3% pyrite/pyrrhotite streaks/ stringers.	- SA32076.
					99.18: 0.1 to 0.2% sphalerite in a	- SA32072.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					mm-size pyrrhotite stringer.	
				109.50: 15 cm quartz + calcite stringer at 20° to CA.	- 0.2 to 0.3% fine grained pyrite/ pyrrhotite, 0.5% fine grained laminated sphalerite, trace galena.	- SA32073.
				113.42-114.47: 20% quartz ± calcite stringers 30-40° to CA.	- 0.3 to 0.5% blebs pyrite/ pyrrhotite.	- SA32074.
		- 124.82-127.39 «STUF» siliceous tuff horizon followed by a 50 cm MDKE. Mixed bag of fine ash beds and cherty material all overprinted by silicification; interbedded more mafic chloritic mm-size tuff beds.		- Silicification disrupting bedding etc.	- Up to 2% medium grained, pyrite, subordinate pyrrhotite as mm-size laminations, trace chalcopyrite blebs.	- SA32075. WRA SA22152 at 128.36 m.
		- 131.83-137.42 «STUF» Very fine grained, medium to dark grey, mainly cherty exhalitive horizon with 2-70 cm, fine grained MDKE's, silicified APFL/ATUF sections with cm-size fine ash, buff coloured, bands.		- Silicification, 1% quartz, quartz ± calcite, tourmaline stringers at 70° to CA.	- 3, 0.5 m sections of semi-mass medium grained pyrite/ pyrrhotite, trace chalcopyrite, averaging 20 to 25% pyrite/pyrrhotite overall section 10-15% pyrite/ pyrrhotite.	- SA32076 to SA32080.
		137.30-140.35: Footwall alteration to the STUF mineralized zone, slight silicified D-RDTUF, bed, no apparent quartz is, destrowyed by alteration.		- Silicification.		- WRA SA22153 at 137.35 m.
		140.35-143.42: GDKE, medium grained, non-magnetic.				
143.42 TO 151.07	ABFL	- Andesitic Basalt Massive Flow, fine grained to medium grained, medium to dark green, relatively massive, slightly gritty		- 2-3% quartz stringers with chloritic inclusion parallel to CA.	- Sparse pyrite/pyrrhotite 0.1%.	
		- 151.07-158.11 «STUF» Fine grained, light grey to buff bands with sections of dark grey cherty exhalitive? sections, fine ash mm-cm size laminations, brecciated, finely laminated mm-scale, weakly mineralized 12 cm MDKE at 154.45 m. mm-size quartz shards.		- Silicification cherty exhalitive sections are carbonated.	- 0.3-0.5% pyrite/pyrrhotite in dark grey cherty exhalitive sections.	- SA32081 to SA32083.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
151.07 TO 198.60	APFL ? Andesitic ? Pillowed ? Flow	- Andesitic pillow Lava (Andesite-Andesitic Basalt) fine grained, medium green with quartz and epidote alteration along pillow rims and as patchy alteration pods, minor hyaloclastic shards with chloritic cores, feldspar-phyric, mm-size feldspar pheno's, locally few quartz-filled amygdules.		- 3-5% cm-size quartz calcite stringers quartz epidote alteration as pods and along pillow rims.	- 0.2% fine grained, pyrite/ pyrrhotite, mm-size stringers.	
					165.60-166.30: 0.5 to 0.7% pyrite/ pyrrhotite stringers, mm-size, cm size pyrite/pyrrhotite stringers parallel to CA with 0.1% chalcopyrite, sphalerite.	- SA32084.
		166.50-174.52 «ATUF» Localized section looks more tuffaceous with good laminations, mm-scale, minor quartz-calcite stringers		- 2-3% quartz calcite stringers at 60-70° to CA.	- 0.1% sphalerite specks in the quartz-calcite stringers, 0.3 to 0.5% pyrite/pyrrhotite stringers, mm-size through out section.	- SA32085 to SA32091.
		174.52: Slightly more quartz ± epidote amygdules >mm-size, up to 1-2%, slighly fewer quartz ± calcite stringers <2%, thicker pillows or else massive flow section, occ GDKE, <5% of total.		- Quartz-epidote alteration along pillow rims and in pods (cm-size) bands of spotty calcite alteration possible calcite in a few amygdules?	- 0.2% disseminated pyrite/pyrrhotite.	
		184.10-186.17: GDKE, medium grained, non-magnetic, carbonated?		- Partially carbonated calcite.		
				188.00-195.65: Slightly more quartz ± epidote alteration, 5% quartz stringers with chloritic inclusions at 45° to CA.		- WRA SA22154 at 186.22 m.
		195.65-198.60 «QVN» 3 m quartz vein at 40° to CA. Cloudy white quartz, chloritized fragments and fracture coatings.		- Major 3 m wide quartz vein chloritic alteration of APFL fragments.	- 0.2% cm-size pyrrhotite slugs, 0.1% fine grained disseminated pyrite.	- SA32092 to SA32094.
198.60 TO 288.96	ANDESITIC TUFF «ATUF»	- Andesitic Tuff, fine grained, medium green, finely laminated, mm-scale, intruded by MDKE's, Sudbury-type breccia, locally feldspar-phyric sections, leucoxene-phyric sections SDBX; cherty and flow-like andesite matrix with heterolithic fragments, MDKE's, fine grained to medium grained, non-magnetic.		- 2-3% quartz and calcite stringers quartz-epidote alteration, fracture-controlled in the intrusive rocks.	- Medium grained to coarse grained pyrrhotite with subordinate pyrite as blebs, slugs and stringers, trace chalcopyrite, 0.3 to 0.5% pyrrhotite/pyrite overall.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		207.30-214.30: Numerous MDKE's, SDBX.		- Quartz-epidote stringer type alteration, 2-3% quartz calcite stringer.	- Pyrrhotite, subordinate pyrite up to 0.5%, stringers and slugs, trace chalcopyrite, sphalerite.	- SA32095 to SA32096.
				214.30-217.30: 10% quartz, quartz + calcite stringers.	- 0.3 to 0.5% pyrrhotite/pyrite, trace sphalerite, chalcopyrite.	- SA32097.
		221.00: Local sections of feldspar-phyric ATUF andesitic tuff, >mm-size feldspar phenos, increasing quartz-epidote alteration in fractures.		- Quartz-epidote stringer-type alteration.		
		228.00-232.56: SDBX, MDKE's with minimum sections of ATUF.		- 3% quartz stringers at 65 to 70° to CA, quartz-epidote stringer type alteration.	- Trace sphalerite, chalcopyrite 0.1 to 0.2% pyrite/pyrrhotite.	
		232.56: Very fine grained feldspar pheno's <mm-size.		232.56: Slightly less quartz-epidote stringer-type alteration, <1% discordant, mm-size quartz-calcite stringers, cm-size quartz laminations parallel to bedding.		
		239.91-269.00: Leucoxene bearing ATUF section >mm-size pinkish flecks of TiO2, up to 1% increasing percentage of quartz lamination parallel to bedding.		- Increasing silicification.		
		247-252: Fine grained to medium grained gritty diabase dike, with minor xenoliths? sections of ATUF.				
		270.06-284.50: Weakly mineralized/altered horizon, silicified ATUF with stringer/ disseminated pyrite, subordinate pyrrhotite.		- Weak to moderate silicification.	- 0.3 to 0.5% fine grained to medium grained disseminated/ stringer pyrite, minor pyrrhotite, mm-size stringers.	
		286.40-288.96: RED CHERT - ALTERED RTUF salmon pink discolouration due to hematite staining, fine grained, siliceous looking, medium grey to salmon pink, few if any quartz eyes, obliterated by alteration?		- Hematization of RTUF <1% quartz+ calcite blebs/stringers.	- 0.2 to 0.3% pyrite/pyrrhotite blebs.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
288.96 TO 398.07	BFLW/BTUF ? BASALT FLOW BASALT TUFF	Massive basalt flow or massive basalt tuff. Fine grained, medium green, relatively massive, structureless, mm-size quartz-epidote stringer type alteration, slight increase in chloritic alteration suggesting more mafic composition. occ SDBX-type dikes, <1%.				
		288.56-295.50: Slightly more altered/mineralized section of BFLW/BTUF?		- Slightly more silicified.	- 0.3 to 0.5% medium grained, disseminated pyrite, trace pyrrhotite.	
				302.55: cm-size quartz-epidote stringer with slugs of magnetite.	- cm-sized band of magnetite where 50% magnetic, 5% pyrrhotite, trace pyrite.	- WRA SA22155 at 305.61 m.
		317.50-320.31: Carbonate BFLW/BTUF? section.		317.50-320.31: Localized carbonated section of BTUF/BFLW displaying mm-size quartz-calcite patches alteration and epidote, quartz, calcite stringer-type alteration.	319.70-320.0: 30 cm zone with sphalerite stringers mm-size, estimate 2-3% sphalerite over 30 cm interval.	- SA32098.
		320.31-321.50: BTUF, fine grained, medium grey, finely laminated, mm-scale, good bedding indicative of tuff, 1% quart laminae, mm-cm scale, bedding/foliation at 45° to CA.		- Slighly silicification.	- Trace chalcopyrite, 0.2 to 0.3% pyrrhotite/pyrite seams.	- SA32099.
				334.60-335.25: Quartz vein with chloritic inclusion at 45° to CA.	- 0.1 to 0.2% disseminated pyrite.	
		336.00-349.15: slight increase in alteration/ mineralization subtle increase.		- Slight silicification, quartz laminae/blebs, 1%-2% quartz, quartz-epidote, quartz calcite stringers, mm-size.	- 0.3-0.5% pyrrhotite, subordinate pyrite, trace chalcopyrite in stringers (overall intersection) up to 3% pyrrhotite over 30 cm sections.	- SA32100, SA32151, SA32152.
		356.30-359.00: Quartz, chlorite, carbonate-rich, section with chalcopyrite-bearing stringers, subtle alteration change.		- Weakly silicified with chlorite-calcite alteration carbonate mostly fracture controlled. 5% quartz-calcite stringers at 30° to CA.	- Up to 3% pyrrhotite, locally subordinate pyrite, trace chalcopyrite in quartz blebs and stringers.	- SA32153 to SA32155.
		364.03-365.67 IRON FORMATION=Massive magnetite laminations, mm-cm-size, with chlorite and		- Silicified, with chlorite, calcite alteration.	- Semi-massive to massive magnetite, 0.3 to 0.5% blebs	- SA32156 to SA32157.

FROM / TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		calcite bands, mainly mm-size, magnetite is brecciated into cm-size fragments with a quartz, chlorite, calcite matrix.			and mm-size stringers of pyrrhotite, subordinate medium grained disseminated pyrite.	
		{367.50-376.85}«GDKE»Carbonated, medium grained, gabbroic/diabase relatively massive dike, non-magnetic, 3-5% quartz vein, with calcite and epidotized wallrock inclusions possibly carbonated volcanic material?? alteration may have affected grain size?				
				373.69: 25 cm quartz-calcite vein at 35-40° to CA, epidote alteration associated with quartz vein possibly hematite staining also.	- Sparse 0.1% disseminated pyrite.	
				376.85-388.50: Moderate epidote-quartz ± calcite stringer-type alteration.	- Medium grained disseminated euhedral pyrite, 0.2 to 0.3% trace flecks of sphalerite?	
		388.93-391.00: SOBX, fragments are heterolithic, matrix flow-like possibly andesitic in composition.				
		391.00-398.07: Altered ATUF grading into huronian metaseds; grey wacke, quartzite, conglomerate.		- Patchy calcite, cm-size silicified.	- Nil.	
398.07 TO 407.22	«QZT/CON» QUARTZ CONGLOMERATE.	- Huronian Metaseds - alternating beds of medium grey siltstone and dark grey argillite/ mudstone, cm-scale, grading into conglomerate, clast supported? soft sediment deformation.		- Moderate carbonate alteration.		
407.22 TO 407.22	END OF HOLE					

HOLE NUMBER: MU-03

FALCONBRIDGE LTD
DRILL HOLE RECORD

DATE: 28-February-1991
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: BENNY
PROJECT NUMBER: 6232
CLAIM NUMBER: [illegible]
LOCATION: Munster

PLOTTING COORDS GRID:
NORTH: 352.00N
EAST: -6.00E
ELEV:

ALTERNATE COORDS GRID: UTM
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 412.00

COLLAR DIP: -50° 0' 0"
LENGTH OF THE HOLE: 291.39m
START DEPTH: 0.00m
FINAL DEPTH: 291.39m

COLLAR ASTRONOMIC AZIMUTH: 355° 0' 0"

GRID ASTRONOMIC AZIMUTH: ° ' "

DATE STARTED: October 26, 1990
DATE COMPLETED: October 28, 1990
DATE LOGGED: November 21, 1990

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: YES
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: Dominik Drilling
CASING: BW
CORE STORAGE: Chelmsford
UTM COORD.: 5184240N, 456453E, 412 m

COMMENTS : Test Rusty Bar-B-Que horizon and EM-37 anomaly
WEDGES AT:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
10.00	-	0° 0'	ACID		Broken test tube	-	-	-	-	-	
93.27	-	-45°15'	ACID	OK		-	-	-	-	-	
182.80	-	-41°45'	ACID	OK		-	-	-	-	-	
274.30	-	-37°45'	ACID	OK		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.50	CASING «Job»	Overburden, BQ core, BW casing left in hole 10 ft? 12 ft?				
3.50 TO 60.00	RHYOLITE TUFF «RTUF»	- Fine grained to very fine grained, light to dark grey with light to dark green to buff and reddish brown bands. Generally grey with weak to moderate banding, coloured bands as mentioned above average 1 mm to 1 cm and have hazy diffuse contacts, generally occur 1/mm-cm in local segments up to 1 m eg 13.5 m, bands at CA 70 to 80°, possibly alteration bands parallel to a strong foliation at CA 70-80°. - Contains up to 12% quartz eyes, average <1 mm to 1 mm round to ellipticle 5-8% grey quartz eyes and 1-2% blue quartz eyes, eg 27.40. - Locally contains possible feldspar phenocrysts 1% <1 mm to 1 mm white round to ellipticle phenocrysts eg 27.40. - Contains 10% MD's, generally fine grained to medium grained, dark green to green, with 1-8% dark green <1 mm to 2 mm phenocrysts, average dike 20 cm to 50 cm up to 1 1/2 m, good example at 8.60 to 10.1 average 1/3-6 m, contacts, sharp generally at CA 45-60°, contacts crosscuts foliation and banding of host rock, MD's weakly foliated parallel to host rock foliation. 54.0: Drill bit wearing out. Grinding bit, core has shallow "S" shaped curvature, core has a <1 mm to 3 mm black spiraling band on the core surface due to grinding. 60.0: Gradational out contact over 1-2 m.		- Contains 10% cherty pervasive reddish brown sections, hematite staining plus silicification. Very hard, example at 7.92 to 8.5, 14.44 to 17.07 and 38.70 to 39.70.		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
60.00 TO 291.39	BASALT FLOW «BFLW» ANDESITE BASALT TUFF? «ABTF?»	Fine grained, grey green, moderately banded, light to dark grey and green diffuse bands average 1 mm to 1 cm at CA 70°, generally fine grained grey and poorly banded. Locally possible amygdules example 70.15 m 1-2 mm round to ellipticle quartz filled amygdules (sections of ABTF, ABMF, ABPillowed Flow). MD's similar to above 1/3-6 m good example at 62.79 to 65.0.		- 10% quartz veins ± calcite generally 3 to 10 cm with sharp irregular contacts, appear clear to white, commonly carrying pyrrhotite ± pyrite, 1 to 5 mm clots also possible, brown mineral?	- Pyrrhotite locally 2 to 5% over 1 m as 4 mm stringers and 1 mm to 4 mm laminations parallel to foliation. Pyrite trace to 1% with pyrrhotite stringers best at 90.22 to 97.15 95.4-96.15: Conductor? Pyrrhotite stringers weakly connected, conductive up to 10 to 15 cm. 3 pyrrhotite stringers 5 mm to 1 cm at average CA 70° with disseminations and discontinuous laminations. 10% pyrrhotite with minor pyrite, local 3 mm pyrite cubes.	
		110.40-112.85 «ARG» Fine grained, grey to black, generally grey with sharp <1 mm to 1 cm black beds/laminations at average CA 80° 1/mm-cm, graphite on some planes, very conductive but very isolated and discontinuous, unit as a whole non-conductive. - Uphole contact sharp at CA 90°. - Downhole contact sharp at CA 80°.		- Calcite infilling fractures <1 mm and discontinuous to 1 to 2 mm sharp fractures at various CA angles 1/cm moderate - strong alteration. 111.0-111.85: Quartz vein and calcite white, sharp irregular contacts at various CA angles.	- Pyrite-pyrrhotite trace to 2% laminations <1 mm to 4 mm parallel to beds and with calcite.	
		112.3-112.5: MD's, fine grained, green sharp contacts at CA 80-90°.				
		112.5-163.50: Moderately well banded, cm-scale relatively massive sections, good feldspar phyric sections, mm-size squarish feldspar phenocrysts, up to 3 to 5%, bedding approximately 90° to CA. 2-3% fine grained MDKE's, 10 to 30 cm, <mm-size leucoxene clots, concordant quartz laminations, mm-cm size.		- Quartz ± calcite stringer-type alteration. 140.62-140.74: Quartz-calcite stringers uphole contact at 80° to CA, downhole contact at 60° to CA, chloritic inclusions, H.W. to argillite has quartz-epidote stringers.	- Trace sphalerite stringers, mm-size. - Trace sphalerite flecks, 0.2% blebs of pyrrhotite in stringer.	
		163.50-164.20 «ARGZ» Medium to dark grey, very finely laminated, mm-scale, traces of graphite, minor sections of ATUF-ABTUF, bedding at 45° to CA, sharp contacts.		- Very weakly carbonated.	- 0.3 to 0.5% pyrrhotite, minor pyrite, mm-size stringers. 0.2% graphite along bedding planes.	- Au?

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		164.20-165.09: Slightly increased altered/ mineralized section with pyrrhotite stringers and slight bleaching of ABFL/ABTUF?		- Weak silicification	- 2 to 3% pyrrhotite stringer zone, moderately conductive over 5 cm.	
		173.90-174.70 «ARGZ» Medium grey to dark grey with light green bands of interbedded ABTUF, cm-scale, finely laminated on a mm-scale.		- Moderately carbonated, mm-size calcite fracture infillings.	- 1% pyrrhotite stringers, trace pyrite, trace sphalerite in quartz calcite stringers, trace graphite?	- Au?
		218.62-218.90 «ARGZ» Medium to dark grey, very fine grained mudstone, very finely laminated, mm-scale, graphite-bearing, weakly conductive over 2 to 5 cm bedding at 45 to 50° to CA.		- Weakly carbonated. Carbonate pods, cm-size.	- Trace to 0.2% graphite, 0.3% pyrrhotite laminations, mm-scale.	175.00-229.00: Spiral marks on core, bit worn? Pushing the drill machine?
		231.64-235.08 «STUF» Medium grey with buff bands, very fine grained cherty, minor ATUF beds, mm-cm scale, fine grained pinkish leucoxene grains, mm-size, siliceous.		- Silicified.	- Very fine grained disseminated pyrite/pyrrhotite 0.1 to 0.2%, trace chalcopyrite fine grained dissemination. 235.60-236.65: cm cherty stringer with seamy sphalerite, 5-7% sphalerite over interval.	
		235.68-239.10: GDKE, gritty chloritic, medium grained, non-magnetic.				
		239.10-244.58: Slight increase in quartz-calcite stringer-type alteration.		- 2% mm-size quartz calcite stringer, 2% quartz stringers.	- 0.1% disseminated pyrite/pyrrhotite.	
		244.58-246.81 «STUF» Weak siliceous tuff, possible mudstone beds interbedded with quartz laminations, stringers? buff fine ash layers; cm-scale, cherty in sections.		- Silicified.	- 0.2 to 0.3% mm-size pyrrhotite stringers, trace chalcopyrite weakly disseminated.	
		246.81-291.39 «ABFL» Pillowed section/ massive tuff? probably massive ABTUF or Andesitic basalt pillow lava. Slight increase in quartz-epidote stringer-type alteration appear to be bands of glass shards hyaloclastite material, cm-size suggesting pillow selvages? local sections appear amygdaloidal, quartz filled >mm-cm size, few feldspar phenocrysts, mm-size, <1%.		2-3% quartz-calcite ± epidote stringers, mm-cm size.		

FROM / TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
291.39 TO 291.39	END OF HOLE					

HOLE NUMBER: ML-04

FALCONBRIDGE LTD
DRILL HOLE RECORD

DATE: 6 March 1991
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: BENNY
PROJECT NUMBER: 6232
CLAIM NUMBER: [illegible]
LOCATION: MUNSTER

PLOTTING COORDS GRID:
NORTH: 1.73N
EAST: -11.34E
ELEV:

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 407.00

COLLAR DIP: -55° 0' 0"
LENGTH OF THE HOLE: 190.81m
START DEPTH: 0.00m
FINAL DEPTH: 190.81m

COLLAR ASTRONOMIC AZIMUTH: 360° 0' 0"
GRID ASTRONOMIC AZIMUTH: ° ' "

DATE STARTED: October 28, 1990
DATE COMPLETED: October 29, 1990
DATE LOGGED: November 15, 1990

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: Dominik Drilling
CASING: BW
CORE STORAGE: Chelmsford
UTM COORD.: 5184010N, 457200E, 407 m

COMMENTS : Test blind EM-37 anomaly.
WEDGES AT:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
9.14	-	-52°15'	ACID	OK	
91.44	-	-52°15'	ACID	OK	
190.81	-	-45°45'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.56	CASING «Casing»	- 6.56 m NW casing.				
6.56 TO 17.54	ABFL/ABTUF?	- Andesite Basalt flow/tuff?, fine grained, medium green, relatively massive, quartz-epidote patchy alteration, weakly feldspar-phyric, mm-size, occasional fine grained MDKE.		- Quartz- epidote patchy alteration (weakly),1-3% quartz, quartz ± calcite stringers at 30-50° to CA, mm-size, discordant to foliation.	- Sparse pyrite/pyrrhotite 0.1%.	
17.54 TO 32.49	RHYOLITIC TUFF «RTUF»	- Rhyolitic tuff, fine grained light grey to white 5-7% quartz is ranging from elliptical clear, mm-size, to cloudy white squarish phenos (possible feldspar? doubtful) mm->mm size, mm-cm scale bedding, with buff coloured beds and minor chloritic mafic beds at 60° to CA, occasional MDKE's. 18.74-19.58: MDKE at 55° to CA, (both contacts) fine grained to medium grained, relatively massive, non-magnetic, bordering on diabase?		- Quartz laminations, mm-cm scale 17.89-18.09, 20 cm quartz vein at 30° to CA, chloritic inclusions, calcite blebs cm-size.		
32.49 TO 64.48	ANDESITE BASLAT FLOW OR TUFF? «ABFL/ABTF?»	- Andesitic basalt flow/tuff? fine grained to medium green, relatively massive, weakly feldspar-phyric, mm-size, 1-2%, foliation 50 to 55° to CA, minor quartz-epidote stringer alteration, quartz-calcite stringers, 1%, mm-size, 3-5%, 10 to 40 cm GDKE's, medium grained, non-magnetic.		- Quartz-epidote stringer type alteration 47.37 to 47.57, quartz-calcite stringer at 60° to CA, chlorite inclusions, carbonate blebs. 62.21: 5 cm quartz, calcite, epidote stringer at 30° to CA.	- 0.2-0.3% disseminated fine grained pyrite. - 5% slug of galena, 2-3% pyrrhotite stringer over 5 cm interval.	- SA32169.
64.48 TO 72.26	RHYOLITE TUFF «RTUF»	- Rhyolite tuff, fine grained, light grey to white, good lamination, with buff white beds, mm-scale chloritic beds <5%, mm-size elliptical clear quartz is and >mm-size squarish cloudy white quartz phenos (possible feldspar?) 5% total phenocrysts, downhole contact slight hematite alteration causing a pinkish discolouration, bedding at 70-80° to CA.		- Quartz lamination, mm-cm scale. Weak quartz-epidote alteration.	- trace disseminated pyrite/pyrrhotite.	

FROM / TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
72.26 TO 95.12	ABFL/ABTF?	Andesitic Basalt Flow/Tuff? fine grained, medium green, relatively massive, weakly feldspar phyric, fairly non-descript rock, foliation at 60° to CA.		· Moderate quartz-epidote stringer type, 1%, 2-3% quartz-calcite ± epidote stringers.	· Sparse 0.1% disseminated pyrite/pyrrhotite.	
95.12 TO 102.41	STUF	· Siliceous tuff, fine grained, grey with white bands, green mm-size chloritic seams, mm-cm scale lamination, enveloping a semi-massive pyrite/pyrrhotite section with peripheral stringer-type pyrite/pyrrhotite and sphalerite stringers almost appears like a RTUF within interbedded ATUF?? however no no quartz is, more of an alteration appearance than primary composition.		· Silicified, quartz laminae concordant.	95.12-96.72: 2-3% mm-cm size pyrite/pyrrhotite stringers. 96.72-97.20: Semi-massive pyrite/pyrrhotite lens, honey comb texture. 97.52: 1 cm quartz-calcite stringer with sphalerite flecks 97.52-102.41: 0.3-0.5% pyrite/pyrrhotite stringers.	
102.41 TO 190.81	ATUF/AMFL?	· Andesite Tuff/Flow? fine grained, medium gn, andesitic tuff, weakly feldspar-phyric vague to good bedding at 55° to CA, quartz-epidote-calcite str. type alteration and a STUF horizon.		· 3-5% quartz ± epidote, calcite stringers mm-cm size.	· Sparse pyrite/pyrrhotite 0.1 to 0.2%.	
		126.65-129.15 = STUF = Silicified ATUF horizon enveloping a MSUS lens at 127.58 to 127.71 with peripheral stringer sulfides, fine grained, siliceous, med grey bleached ATUF. 40 cm fine grained MDKE, uphole contact at 128.18 m.		· Silicified.	126.65-127.58: 5-7% stringer pyrite/pyrrhotite, trace chalcopyrite. 127.58-127.71: MSUS pyrite/pyrrhotite, trace chalcopyrite. 127.71-128.18: 5-7% stringers of pyrite/pyrrhotite, trace chalcopyrite. 128.18-129.65: 0.3-0.5% pyrite with subordinate pyrrhotite as mm-size stringers and disseminated.	
		129.65: Slight increase in quartz, quartz + calcite stringers, bedding more distinct at 65° to CA.				
		135.80-138.85: Slight increase in alteration/mineralization causing subtle bleaching of ATUF possible fault at 138.85?		· Slight increase in silicification.	· 0.5-0.7% pyrite/pyrrhotite as mm-size stringers.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		140.0-172.52: 3-5% patchy quartz-epidote alteration 1-2% quartz stringers, bedding at 65° to CA, 1% quartz-calcite stringers, mm-size.		140.0: 5 cm quartz-calcite brecciated zone containing angular ATUF fragments, mm-cm size, quartz-epidote patches, quartz, quartz-calcite stringers.	- 0.5% sphalerite as mm-size flecks in quartz calcite breccia, 0.1 to 0.2% chalcopyrite.	- SA32176.
		173.50-181.12: moderate increase in alteration/ mineralization, possible SDBX-type dykes, possible fault at 180.00 m, broken up core.		- Increased quartz-epidote, calcite fractured-controlled alteration.	- Up to 10% seamy, cm-thick pyrite/pyrrhotite in local sections. Trace galena in quartz-calcite stringers, mm-size.	- SA32177-80.
190.81 TO 190.81	END OF HOLE					

HOLE NUMBER: MU-05

FALCONBRIDGE LTD
DRILL HOLE RECORD

DATE: 6 March 1991
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: BENNY
PROJECT NUMBER: 6232
CLAIM NUMBER: 1064, 91-25
LOCATION: MUNSTER TOWNSHIP

PLOTTING COORDS GRID:
NORTH: -656.00N
EAST: -795.00E
ELEV:

ALTERNATE COORDS GRID:
NORTH: 0+ 0N
EAST: 0+ 0E
ELEV: 435.00

COLLAR DIP: -50° 0' 0"
LENGTH OF THE HOLE: 164.20m
START DEPTH: 0.00m
FINAL DEPTH: 164.20m

COLLAR ASTRONOMIC AZIMUTH: 55° 0' 0"
GRID ASTRONOMIC AZIMUTH: ° ' "

DATE STARTED: November 4, 1990
DATE COMPLETED: November 5, 1990
DATE LOGGED: December 12, 1990

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: YES
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: DOMINIK DRILLING
CASING: BW
CORE STORAGE: CHELMSFORD
UTM COORD.: 5183130N, 457066E, 435 m

COMMENTS : TESTING GROUND EM-37 ANOMALY AT NORANDA TRENCH
WEDGES AT:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
9.14	-	-52°15'	ACID	OK	
91.44	-	-49° 0'	ACID	OK	
164.20	-	-45°45'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.05	CASING «rob-»	- BQ, core, BW casing left in hole, overburden.				
3.05 TO 164.20	RHYOLITE TUFF «RTUF»	- Fine grained, medium grey, brecciated in sections, intruded by (MDKE swarm, fine grained to medium grained, non-magnetic 10-60 cm, constituting 10-20%), few clear and hazy blue quartz is, mm-size, cloudy white quartz is, mm-size, totalling 1-3% brecciated sections maybe ash flow tuff, pumice fragments (fiamme structures?). Bedding at 65 to 70° to CA; poor to good, mm-cm scale.		- 1% quartz-calcite stringers localized silicified sections.		
					26-26.20: Few mm-size, medium grained pyrite/pyrrhotites stringers, constitute 5% of interval.	
		27: Slight increase in quartz-calcite stringers, 1-3%.		- 1-3% quartz calcite stringers.		
		35-40.5: Zone of hazey blue quartz is, >mm-size, 5-7%.		38.41-39.00: 5-7% mm-size quartz-epidote porphyroblasts 3 cm quartz-epidote band.		
		40.50-43.00: Well laminated section, partially brecciated, possible pumice fragments, flattened, 41.45-43.00, section with mm-size, pale pinkish, possible lecoxene clots?/garnets? possible ash flow tuff?				
		45.00-52.57: Slight increase in quartz-calcite stringers, MDKE is chloritized in this section, core is soft.		>carbonated, slight increase in silicification.		
		52.57-52.94: Fine grained, carbonaceous chert, jet black, very weakly conductive, slightly carbonated.		Carbonated (calcite)	- Pyrite/pyrrhotite fracture infillings, 1-2%, trace graphite.	- SA32404
		52.94-70.0: Ash flow tuff section, flattened, cm-size wispy pumice fragments; dark grey, possibly chloritized.		- Possibly chloritic?		- W.R.A. at 61-64 SA22160 F.W.
		56.18-60.80 «CHT/CHA» 25% of interval is fine grained exhalative jet black, chert-cherty		- Carbonate (calcite) as stringers/ fracture infillings/possible	- 2-3% pyrrhotite lesser pyrite as discontinuous seams, fracture	- Mineralization concentrated in CHT/CHA and carbonated ash flow

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		argillite, interbanded with ash flow tuff; carbonated, slightly silicified, 40 cm lamprophyre dike, with 5% mm-size brown biotite flakes. 10 cm CHT/CHA sections are very weakly conductive.		silicification.	infillings/stringers, trace graphite.	tuff SA32405-32409.
		95.10-100.60: Altered/mineralized section, silicified carbonated RTUF section >mm-size (95.10-98.50) pinkish porphyroblasts?? 104.00-105.46 diabase dike/BMFL? fine grained chloritic, non-magnetic, bedding at 90° to CA RTUF exhibits good lamination/bedding, mm-cm scale, brecciated in sections?		Silicified, carbonated section. Chlorite immediately associated with pyrite mineralization minor quartz-stringers.	95.77-95.80: 3 cm band of coarse grained anhedral pyrite pods forming a band. Mainly pyrite/ pyrrhotite stringers, sphalerite blebs, chalcopyrite stringers overall 0.7 to 0.9% pyrite/ pyrrhotite, trace sphalerite, chalcopyrite.	
		109.95-117.40 «STUF» Fine grained, siliceous, carbonated "exhalative", primary STUF horizon, H.W. side of CHT exhalative. 20% fine grained chloritic BMFL or diabase dike, relatively massive, weakly carbonated.		Silicification, carbonate stringer/lamination and blebs (calcite) locally chloritic alteration near intense mineralization.	109.95-110.40: Semi massive sulphide, pyrite/pyrrhotite with chalcopyrite blebs, sphalerite stringers, up to 1% chalcopyrite, sphalerite over interval upto 3% pyrite/ pyrrhotite stringers, trace sphalerite, chalcopyrite over entire STUF section.	SA32412-SA32416
		117.40-120.70 «CHT/CHA» 50-60% of interval fine grained, finely laminated, jet black, carbonaceous chert, interbedded with STUF; carbonated, local semi massive sulphide lens, chert horizons very weakly conductive.		Silicification, carbonate stringers/ blebs (calcite) chlorite near intense mineralization.	Locally semi-massive sulphide lens 10 cm max, 5% discontinuous seams, mm-cm size pyrite/pyrrhotite, trace sphalerite, chalcopyrite, graphite. 1% fine grained, sphalerite fracture coating in chert sections.	SA32417-32419, SA32422, SA32423
		120.70-128.50: Ash flow tuff section, flattened angular possible pumice fragments, cm size, numerous mm-size clear quartz is, 5-7%.				W.R.A. SA22161 at 120.77 m.
					132.80-133.00: 10% pyrite/ pyrrhotite stringers.	
				133.90-134.30: 2-10 cm quartz stringers at 65-70° to CA.	10% coarse grained discontinuous seamy pyrite; subordinate pyrrhotite.	
		135.00 138.00: >mm-size cloudy white quartz shards, 5%, 80 cm diabase dike with quartz-				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		calcite fracture infillings. CFH 138-143 FAH 143-166.42: Pinkish hematite stained RTUF in sections, BTUF bed at 152.50-154.00, medium grey RTUF sections with cloudy white >mm-size quartz phenocrysts, 1.5 m carbonated GDKE at 159.90 to 161.40 m, hole ends with 0.75 m andesitic tuff bed.		- Moderately carbonated. - 20 cm quartz vein at 30° to CA, (164.60-164.80).	- 3-4 cm coarse grained, pyrite slug at downhole contact of quartz vein.	- Broken up core over entire interval.
164.20 TO 164.20	END OF HOLE					

HOLE NUMBER: MU-36

FALCONBRIDGE LTD
DRILL HOLE RECORD

DATE: 6 March 1991
IMPERIAL UNITS: METRIC UNITS: x

PROJECT NAME: BENNY
PROJECT NUMBER: 6232
CLAIM NUMBER: 1248 & 525
LOCATION: MUNSTER TOWNSHIP

PLOTTING COORDS GRID:
NORTH: 675.00N
EAST: 1000.00E
ELEV: 415.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0N
EAST: 0+ 0E
ELEV: 415.00

COLLAR DIP: -55° 0' 0"
LENGTH OF THE HOLE: 275.15m
START DEPTH: 0.00m
FINAL DEPTH: 275.15m

COLLAR ASTRONOMIC AZIMUTH: 360° 0' 0"
GRID ASTRONOMIC AZIMUTH: ° ' "

DATE STARTED: November 5, 1990
DATE COMPLETED: November 7, 1990
DATE LOGGED: December 12, 1990

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: YES
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: DOMINIK DRILLING
CASING: BW
CORE STORAGE: CHELMSFORD
UTM COORD.: 5183210N, 456879E, 415 m

COMMENTS : TEST GROUND EM-37 ANOMALY AT NORANDA TRENCH
WEDGES AT:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
9.14	-	-53°15'	ACID	OK	
91.44	-	-53°15'	ACID	OK	
182.88	-	-52°15'	ACID	OK	
243.84	-	-53°15'	ACID	OK	
275.15	-	-53°15'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.22	CASING «CASING»	- BQ core, BW casing, left in hole, overburden.				
3.22 TO 110.78	ANDESITE FLOW «AFLW»	- Very fine grained, medium grey green, relatively massive, weakly feldspar-phyric andesite massive flow intruded by GDKE, swarm, fine grained to medium grained (diabasic texture) non-magnetic, foliation at 60° to CA. Dikes are difficult to distinguish from flow, except a subtle grain size difference, brittle when broken and lacked subtle flow banding average dike component 50-60%, 1-5 m.		- <1%, mm-size, quartz-calcite stringers. 38.11-38.21: 10 cm quartz stringer at 30° to CA, possible brown tourmaline blebs, green tourmaline prism-like crystals.	- 0.2-0.3% pyrrhotite, 0.1% disseminated pyrite.	- WRA SA22162 at 14 m.
		61.65-61.90: Argillite with interbedded siltstone, mm-cm scale, jet black argillite beds, with grey siltstone beds. Soft sediment deformation, broken up beds, bedding at 70° to CA.			- 0.2-0.3% pyrrhotite blebs.	
		68.90-75.00: Slight increase in quartz-calcite-epidote fracture infillings.		- 1% quartz-calcite-epidote fracture infillings 70.49-70.64, 74.82-75.16, quartz veins at 30° to CA, green tourmaline prism-like crystals.		
		{86.68-102.80}«CHA»Cherty? argillite interbedded with siltstone, mm-cm scale, minor STUF sections, bedding at 70° to CA, soft sediment deformation structures, brecciated beds locally, possible fault at 102-102.80, broken up core.		- STUF intervals are moderately to strongly carbonated (calcite) 101.45-102.00: Quartz-calcite vein with 5 cm section of coarse grained pyrrhotite, subordinate pyrite band.	- 1% pyrrhotite stringers parallel to bedding, trace chalcopyrite, 1-2% medium grained discordant pyrite fracture coatings/stringers mm-cm size. 100.60-100.80: 1% chalcopyrite over 20 cm section of CHA. trace graphite along foliation planes, trace galena.	- SA32426-SA32437.
		{102.80-110.78}«GDKE»Fine grained to medium grained, almost diabase texture, non-magnetic.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
110.78 TO 229.20	RHYOLITE TUFF «RTUF»	Fine grained, siliceous, medium grey, Rhyolite, quartz is xtal tuff, mm-size, hazey blue, cloudy white, quartz 5-10%, locally, foliation at 65° to CA, interbedded ATUF beds, 10-15%, very fine grained, medium to light green, relatively massive, weakly carbonated, occasional GDKE, 10-50 cm, medium grained, non-magnetic.		- <1% quartz-calcite stringers mm-size.		- WRA SA22163 at 117.50 m.
		132.07-134.00 «CHA» Fine grained, finely laminated, mm-scale, dark grey to black, cherty argillite. Undulating bedding, bedding at 65° to CA.		- Weakly carbonated.	- 0.5% pyrite stringers, mm-size, fracture coatings, trace of graphite.	- SA32438, SA32439
		152.85-152.95: 5 cm of broken up core, CHERTY ARGILLITE SEAM.			- Trace graphite, 5% pyrite stringers.	
		162.33-166.23: Section of amygdaloidal ABFL, fine grained, medium green, moderately carbonated (calcite), quartz-calcite infilled amygdules, possibly brecciated?		- Moderately carbonated.		
				172.50: 10 cm quartz vein with chloritic seams.	- Nil	- WRA at 179.50 m SA22164.
				211.68: 5 cm quartz-calcite stringer at 15° to CA.	- Nil	
				212.27: Same stringer bends back into core?		
229.20 TO 264.64	GABBRO DIKE «GDKE»	- Gabbro dike, fine grained to medium grained, diabase texture? non-magnetic.		- 2% quartz-calcite, quartz-epidote fractures, mm-size, hematite staining associated with dike intrusion.	- 0.3% medium grained disseminated euhedral pyrite.	
				232.13-234.55: Quartz vein at 65° to CA, hematite stained, chloritic inclusions, minor calcite fracture infillings.		
264.64 TO 275.15	BASALT FLOW «BFLW»	- Fine grained, medium green to dark green, chloritic, relatively massive, subtle flow banding, weakly foliated at 55° to CA localized band of quartz-epidote amygdules, mm-size.		- 2-3% quartz-epidote stringers, mm-size. 1% quartz stringers, cm-size.	- Nil	- WRA at 267.00 m SA22165.

FROM / TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
275.15 / TD / 275.15	END OF HOLE					

HOLE NUMBER: MU-07

FALCONBRIDGE LTD
DRILL HOLE RECORD

DATE: 6-March-1991
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: BENNY
PROJECT NUMBER: 6232
CLAIM NUMBER:
LOCATION: Munster Twp

PLOTTING COORDS GRID:
NORTH: -808.00N
EAST: -900.00E
ELEV: 425.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0N
EAST: 0+ 0E
ELEV: 0.00

COLLAR DIP: -55° 0' 0"
LENGTH OF THE HOLE: 361.50m
START DEPTH: 0.00m
FINAL DEPTH: 361.50m

COLLAR ASTRONOMIC AZIMUTH: 25° 0' 0"

GRID ASTRONOMIC AZIMUTH: ° ' "

DATE STARTED: November 8, 1990
DATE COMPLETED: November 10, 1990
DATE LOGGED: December 13, 1990

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: YES
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: DOMINIK DRILLING
CASING: BW
CORE STORAGE: CHELMSFORD
UTM COORD.: 5183055N, 456900E, 425 m

COMMENTS : TEST EM CONDUCTOR AT NORANDA TRENCH
WEDGES AT:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
9.14	-	-55°30'	ACID	OK	
93.27	-	-52°15'	ACID	OK	
184.71	-	-53°15'	ACID	OK	
276.15	-	-52°15'	ACID	OK	
361.50	-	-50° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.33	CASING «Cob-»	- 3.05 m BW casing, left in hole, BQ core, overburden.				- 3.05 m casing reported but core begins at 6.33 m.
6.33 TO 62.18	RHYOLITE TUFF «RTUF»	- RTUF breccia in sections with interbedded, 20-40%, AMFL-FP, RTUF - fine grained, medium grey with dark grey, cm-size, fragments 5-7% clear-cloudy white, <mm-mm size quartz is, AMFL-FP, very fine grained, medium green, mm-size feldspar phenocrysts, occassional GDKE, (possible diabase) 10 cm to m size, fine grained, non-magnetic.				- Core is spiralled in sections. - WRA SA22166 at 36.00 m.
				39.20-40.70: 15-20% quartz-calcite stringers at 40-50° to CA, chloritic inclusions, epidotized inclusions of wallrock.	- 0.3-0.5% fine grained disseminated pyrite/ lesser pyrrhotite.	- SA32440 Au?
		62.18: RTUF brecciated near contact with AFLW.				
62.18 TO 132.53	ANDESITE FLOW «AFLW»	- Fine grained, medium green grey, possible pillowed, epidotized, palagonitized pillow rims, localized sections appear amygdaloidal, quartz-calcite filled, 10-15% diabase dikes, 10-80 cm, fine grained, non-magnetic.		- Moderately carbonated, mm-size quartz-calcite stringers, mm-size blebs, 1-2% quartz-epidote fracture fillings. 70-71 mm-cm size, quartz-epidote fracture fillings, at 20-30° to CA.	- 0.3% disseminated pyrrhotite, lesser pyrite.	- WRA SA22167 at 81.97 m.
		77.47-78.03: possible lamprophyre dike, 3% coarse grained biotite flakes.				
		{90.52-92.82}«CHA»Fine grained, finely laminated mm-scale, minor siltstone beds, cm-scale, graphitic along foliation planes, bedding at 70-80° to CA.		- <1% quartz-calcite stringers, mm-size.	- 0.3% pyrite/pyrrhotite fractures fillings, mm-size.	- SA32441, SA32442.
		{125.20-127.85}«CHA/SLS»Interbedded cherty argillite, fine grained, jet black and siltstone, fine grained, medium grey green, interbedded at cm-mm scale. Bedding at 80° to CA undulating bedding.		- Siltstone slightly chloritic.	- 0.5% pyrrhotite/pyrite stringers mm-size, trace graphite along foliated planes mineralization parallel to bedding.	
		127.85-132.53: Minor bands of CHA, mm-cm scale within AFLW-FP.				-WRA SA22168 at 128.00 m.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
132.53 TO 177.60	CHA CHA/SLS	CHA mineralized exhalative horizon, 60% CHA minor siltstone component, 30% GOKE swarm; remainder STUF, minor RTUF sections - CHA; very fine grained, dark black with inter-bedded grey siltstone beds, mm- m scale bedding at 80° to CA, CHA sections 1-3 m. GOKE, fine grained to medium grained, non-magnetic, almost diabasic textures, 50 cm - 4.5 m, STUF sections, very fine grained, light grey, contains most base metal concentrations, 50-150 cm, CHA exhibits soft sediment deformation and broken up beds.		- 2% quartz-calcite stringers/ fracture fillings, mm-size, 3 and 8 cm bands of more intense quartz-calcite stringers silicification and minor chloritic alteration near intense mineralization. Silicified.	- 132-165.00: 10 cm massive sulphide at (154.87 to 154.97 m), pyrite, minor pyrrhotite. 10% pyrrhotite/pyrite stringers, blebs and discontinuous seams. Trace chalcopyrite, sphalerite throughout CHA/SLS sections (trace graphite).	- SA32443-SA32450, SA06351-SA06356.
					165.00-177.14: 10, 85, 30 cm sections of semi-massive sulphide to massive sulphide predominantly pyrrhotite, minor pyrite, locally 1% sphalerite, 0.2% chalcopyrite over 90 cm at (174.35-175.25) trace graphite.	- SA06357-SA06361.
				173.27-174.37, 110 cm quartz vein, chloritic inclusions, 0.2% chalcopyrite, 0.3% pyrrhotite stringers network.		- Best intersection (SA06359)
177.60 TO 213.46	RHYOLITE TUFF «RTUF»	- Minor RTUF sections, up to 50 cm, to the end of the CHA/SLS intersection from 177.60 on RTUF dominant rhyolite tuff - (quartz is xtal tuff). Fine grained, medium grey, finely laminated, mm-scale, 10-12% clear-hazey blue, <mm->mm size quartz is, less cloudy white possible feldspar/or quartz phenocrysts.		- Weak sericite alteration? especially footwall to CHA/ SLS section.		- WRA SA22169 FW to CHA/SLS zone.
		193.86-195.00: Pink discolouration about quartz calcite, pyrrhotite stringers, also flecks of pinkish possible discoloured carbonate grains, mm-size possible garnets?		- 1% quartz-calcite stringers.	- mm-size pyrrhotite fracture fillings, 0.2% pyrrhotite/ pyrite.	
				198.72-199.70: 43 cm quartz vein with chloritic inclusions, 1, 3 cm quartz stringers, at 40 to 60° to CA.	- 18 cm massive slug of pyrrhotite at up hole contact of large quartz vein, trace pyrite and galena.	
		199.35-213.46: 5%, 10-80 cm, Andesite massive flow/tuff? beds, possibly bleached dikes?, fine grained, light to medium green, relatively massive, slightly silicified contacts sharp, minor interbeds with the dominant RTUF. Andesitic beds appear weakly feldspar-phyric, mm-size, localized zones.		- Slightly silicified, >1% quartz-calcite stringers, mm-size, only in the Andesitic interbeds.	- 0.3-0.5% pyrrhotite/lesser pyrite mainly associated with quartz calcite stringers.	

FROM / TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		210.92-211.75: Broken up core, quartz vein material, RTUF, possible fault zone?		211.24-211.60: Broken up quartz-calcite vein, numerous chloritic inclusions.	- 20% coarse grained, pyrite pods in quartz-calcite vein, 0.5% galena as mm-size fracture fillings, trace sphalerite, trace chalcopyrite.	- SA06363.
213.46 TO 271.40	BASALT FLOW WITH GABBRO DIKE «BFLW/GDKE»	- Basalt intruded by GDKE (bordering on diabase) swarm. - Basalt (possible andesitic basalt?) fine grained, medium to dark green, relatively massive, localized possible amygdaloidal zone? quartz-calcite filled, quartz-epidote stringer network, mm-size GDKE, fine grained to medium grained, mineralized, magnetic, possible QD? swarm-like, 10 cm to m size, carbonated, contacts at 45-50° to CA, RTUF sections, up to 1 m, 5-7% of total interval.		- Quartz-epidote stringer network, approximately 2-3%, 1% quartz-calcite fracture fillings, 217.22 to 217.54, 30 cm quartz-calcite veins, at 50° to CA, chloritic inclusions/epidotized GDKE flags.	- 0.3% pyrrhotite blebs, mm-size.	- WRA SA22170 at 236.60 m. - SA06364.
		{229.80-236.40}«RTUF»Rhyolite bed, fine grained, medium grey, 7-10%, mm-size hazey blue, elliptical quartz is,				
		239-242: Local quartz-calcite filled amygdaloidal BFLW section.		- 1%, cm size quartz-calcite stringers at 30° to CA.		
				245-248: 2% quartz-calcite stringer, mm-5 cm.	- 0.1% disseminated galena, trace chalcopyrite, 0.2-0.3% pyrite/pyrrhotite stringers, <mm-size.	
		{251.05-253}«FAI»Broken up core, possible fault zone?				
				254-259.50: 3-5% quartz-epidote stringer alteration peaks here.		
		{260.00-269.00}«SILICEOUS ZONE»Silicified BFLW zone, with 70 cm RTUF interbed.		- Silicification, moderate carbonate (calcite) and localized chlorite bands near pyrite lamination. 2-3% calcite ± quartz fracture fillings, mm to cm size epidote alteration bands, fracture	- 1% fine grained to medium grained euhedral pyrite cubes as mm-size laminations and disseminated.	- Au potential? SA06371-SA06377. WRA SA22171 at 270.40 m.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				fillings, over cm bands.		
271.40 TO 353.26	RHYOLITE TUFF «RTUF»	- Fine grained, light to medium grey, Rhyolite tuff with numerous, cloudy white-clear - hazey blue elliptical <mm to mm size quartz is 5-7% laminated at cm-scale, discolouration due to alteration, epidote to green, hematite to pink, 2-3% interbedded BFLW/BTUF sections, occasional GDKES, 10-100 cm, fine grained to medium grained, non-magnetic, approximately 2% of interval, felsic dikes at up hole interval, 20% of 217.00 to 301.00 m quartz, possible feldspar phenocrysts in a chloritic matrix, intrusive equivalent to the RTUF? possible mafic diorite? 20 cm to 3 m dikes.		- Localized hematite discoloration quartz lamination, minor epidote stringer network alteration in RTUF, mainly in the BFLW/BTUF and GDKE's due to composition?		- WRA SA22172 at 301.75 m.
		293-315: Slight increase in concordant quartz lamination, cm-size, 5-7% over interval, bedding and quartz lamination at 80° to CA.		- 2-3% quartz stringers at 45° to CA, discordant to bedding. Slightly greenish-yellow discoloration due to epidotization.		
		317-323: GDKE's appear a little more mafic with <1% mm-size biotite flakes, slight increase in mineralization constitute 40% of interval.		- Epidote ± quartz stringers, mm-size associated with the pyrite mineralization.	318.42-319.28: Slightly mineralized GDKE. 0.5% disseminated pyrite, fine grained, all dikes contain 0.3-0.5% disseminated fine grained pyrite.	
		339-353.26: Excellent >mm-size hazey blue quartz is, 3-5%.				
		351.00-353.26: Slightly more siliceous section with slightly increased mineralization. RTUF is a pale buff grey in colour with quartz-calcite stringers.		- 2-3% discordant quartz-calcite stringers mm-cm size.	- 0.5% pyrrhotite pods with trace galena.	- SA06378.
353.26 TO 361.50	BASALT FLOW «BFLW»	- Fine grained, medium green, relatively massive, massive Basalt flow/tuff?, quartz-epidote-calcite stringers, chlorite, foliation at 70° to CA.		- Moderately quartz-epidote stringer network, 5%, 1% quartz calcite stringers, mm-size containing, very fine grained brown, soft mineral probably tourmaline, cm-size wispy bands.		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		360.66-361.50: DTUF, interbed?, 2-3%, mm-size, dark grey quartz is to end of hole.				
361.50 TO 361.50	END OF HOLE					

HOLE NUMBER: MB-08

FALCONBRIDGE LTD
DRILL HOLE RECORD

DATE: 6-March-1991
IMPERIAL UNITS: METRIC UNITS: x

PROJECT NAME: BENNY
PROJECT NUMBER: 6232
CLAIM NUMBER:
LOCATION: 1041 1/9

PLOTTING COORDS GRID:
NORTH: 311.00N
EAST: -45.00E
ELEV:

ALTERNATE COORDS GRID:
NORTH: 0+ 0N
EAST: 0+ 0E
ELEV: 409.00

COLLAR DIP: -65° 0' 0"
LENGTH OF THE HOLE: 370.64m
START DEPTH: 0.00m
FINAL DEPTH: 370.64m

COLLAR ASTRONOMIC AZIMUTH: 20° 0' 0"

GRID ASTRONOMIC AZIMUTH: ° ' "

DATE STARTED: November 11, 1990
DATE COMPLETED: November 15, 1990
DATE LOGGED: December 14, 1990

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: YES
PLUGGED: NO
HOLE SIZE: BQ

CONTRACTOR: DOMINIK DRILLING
CASING: BW
CORE STORAGE: CHELMSFORD
UTM COORD.: 5184205N, 457009E, 409 m

COMMENTS : TEST ALTERATION AND SURFACE BASE METAL ANOMALIES NEAR THE SERICITE PIT.
WEDGES AT:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
9.14	-	-64°15'	ACID	OK	
91.44	-	-62°30'	ACID	OK	
182.88	-	-63°30'	ACID	OK	
276.15	-	-61°15'	ACID	OK	
183.79	19° 0'	-62° 0'	SING.SHOT	OK	
366.67	22° 0'	-60° 0'	SING.SHOT	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.35	CASING	- 6.35 m of BW casing, left in hole, overburden.				
6.35 TO 68.80	ANDESITE TUFF «ATUF»	- Very fine grained, light to medium green, finely laminated, mm-scale, well defined bedding, quartz-epidote-calcite stringer network alteration, bedding at 60° to CA, localized Sudbury breccia-type dikes, cm-size, <1% often near fault zones.		- Quartz-epidote stringer network, mm-cm size, increasing intensity around fault increase significantly from 12.10 m to fault. <1% quartz-calcite stringers, mm-size.	9.85-12.37: 0.5% pyrite/pyrrhotite stringers, mm-size with semi massive pyrite, minor pyrrhotite, lens from 11.70 to 12.10.	- SA06386 to SA06388 - WRA SA22174 at 12.65 m.
		16.57-18.84 «FAI» Broken up core, fault gouge, brecciated, altered section.		- Quartz-calcite stringers, mm-size, approximately 1-2% quartz-epidote stringer network intense.	- 0.2% galena as fracture fillings in quartz-calcite stringers.	- SA06389-SA06391.
				18.84-23.17: Moderate quartz-epidote stringer network.	- 0.2% pyrite fracture filling, trace galena.	- SA06392, SA06393.
		37.83-38.00: Possible fault?, fault gouge altered broken up core.		- Intense quartz-epidote-calcite stringer network.	- 38.07-38.50: Semi massive to massive pyrite, minor pyrrhotite, trace galena.	- SA06394, SA06395.
				38.50-43.47: Slightly bleached section, moderately mineralized section, intense quartz-epidote fracture filling, quartz-calcite fracture fillings, 5% quartz-calcite stringers with chloritic inclusions, minor green tourmaline.	- Moderately mineralized section, 0.5% disseminated pyrite/pyrrhotite, 0.1% galena as fracture coatings.	- SA06396 to SA06399.
		53.30-54.00: ATUF is brecciated, due to quartz-epidote and quartz-calcite stringer networks.				
		54.65-60.20: Subtle, slightly bleached zone of ATUF, slight increase in alteration/mineralization, bedding at 40° to CA.		- Slightly silicification, quartz-epidote, quartz-calcite, fracture network chlorite alteration near 2-2-4 cm quartz stringers at 45° to CA epidotized and chlorite inclusions.	- 0.5% fine grained pyrite/pyrrhotite stringers, <mm to mm size, concordant and discordant to bedding/foliation, trace chalcopyrite in quartz-calcite fracture fillings.	- SA06400, SA32181 to SA32183.
		60.20-67.60: Numerous quartz-epidote bands, cm-size, possible preferential alteration of felsic lamination? slightly altered/mineralized zone at up hole contact with		- 20% quartz-epidote lamination slightly silicification near dike.		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				vein with epidotized selvages and chloritic inclusions.	chalcopyrite concentrated in the selvages.	
		181.50-201.43: Slightly altered mineralized DTUF with MOKE and Sudbury breccia-type dikes apparent near down hole contact proximal to a fault. Subtle bleaching associated with slight increase in mineralization in DTUF.		- Quartz-epidote stringer network increases towards fault weak silicification.	- 0.5% pyrrhotite, minor pyrite stringers with trace chalcopyrite, galena, sphalerite. Galena along fracture surfaces especially close to fault.	- SA32186, SA32187 to SA32196. - WRA SA22178 at 183.00 m.
		201.37-102.43 «FAI» Fault gouge, broken up core Sudbury breccia and MOKE prominent around fault zone especially within 1 m of the up hole contact.				- SA32197.
201.43 TO 352.35	ANDESITE TUFF/DACITE TUFF «ATUF/DTUF»	- Mixed bag of exhalative chert, very fine grained ash, possible SLS-ARG sediment minor component, sections of good ATUF and STUF sections, entire interval exhibits good compositional layering, mm-scale, very distinct bedding, at 60° to CA, finely bedded <mm to mm scale, entire unit; fine grained, green grey to medium grey brown to dark grey, 1% MOKE, medium grained, non-magnetic, but mineralized. Distinct grey-brown colour overall dominantly Andesite tuff unit.				- WRA SA22179 at 210.00 m - SA32198 to SA32199.
		201.43-205.04: Dominantly STUF horizon, with cherty exhalative beds intercalated with ATUF, and minor fine ash layers, mm-cm scale.		- 2-3% quartz laminations parallel to bedding foliation.	- 0.5% pyrite/pyrrhotite pods/stringers, mm-size.	
				- <1% quartz-calcite fracture-fillings.	- Trace sphalerite, galena.	
		205.04-218.65: Fairly uniform brownish grey ATUF section with minor mm-size cherty laminations, very fine grained material possible ash or even argillaceous sediment?		- 10 cm quartz stringer with smaller 2-4 cm stringers at 60° to CA, 207.00-207.70 m weakly carbonated (1% quartz-calcite fracture fillings) except between 211-212.70, moderately carbonated quartz-calcite-epidote fracture fillings up to 5%	- 5% pyrite, pyrrhotite pods, 0.2% epidote seams/blebs, mm-size.	- SA32200.
		218.65-244.00: Fairly uniform grey green		- 30% quartz ± calcite laminations	- Zones of quartz impregnation tend	- SA32301 to SA32309.

FROM / TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				vein with epidotized selvages and chloritic inclusions.	chalcopyrite concentrated in the selvages.	
		181.50-201.43: Slightly altered mineralized DTUF with MDKE and Sudbury breccia-type dikes apparent near down hole contact proximal to a fault. Subtle bleaching associated with slight increase in mineralization in DTUF.		- Quartz-epidote stringer network increases towards fault weak silicification.	- 0.5% pyrrhotite, minor pyrite stringers with trace chalcopyrite, galena, sphalerite. Galena along fracture surfaces especially close to fault.	- SA32186, SA32187 to SA32196. - WRA SA22178 at 183.00 m
		201.37-202.43 «FAULT» Fault gouge, broken up core Sudbury breccia and MDKE prominent around fault zone especially within 1 m of the up hole contact.				- SA32197.
201.43 TO 352.35	ANDESITE TUFF/DACITE TUFF «ATUF/DTUF»	- Mixed bag of exhalative chert, very fine grained ash, possible SLS-ARG sediment minor component, sections of good ATUF and STUF sections, entire interval exhibits *good compositional layering, mm-scale, very* distinct bedding, at 60° to CA, finely bedded <mm to mm scale, entire unit; fine grained, green grey to medium grey brown to dark grey, 1% MDKE, medium grained, non-magnetic, but mineralized. Distinct grey-brown colour overall dominantly Andesite tuff unit.				- WRA SA22179 at 210.00 m - SA32198 to SA32199.
		201.43-205.04: Dominantly STUF horizon, with cherty exhalative beds intercalated with ATUF, and minor fine ash layers, mm-cm scale.		- 2-3% quartz laminations parallel to bedding foliation.	- 0.5% pyrite/pyrrhotite pods/ stringers, mm-size.	
				- <1% quartz-calcite fracture-fillings.	- Trace sphalerite, galena.	
		205.04-218.65: Fairly uniform brownish grey ATUF section with minor mm-size cherty laminations, very fine grained material possible ash or even argillaceous sediment?		- 10 cm quartz stringer with smaller 2-4 cm stringers at 60° to CA, 207.00-207.70 m weakly carbonated (1% quartz-calcite fracture fillings) except between 211-212.70, moderately carbonated quartz-calcite- epidote fracture fillings up to 5%.	- 5% pyrite, pyrrhotite pods, 0.2% epidote seams/blebs, mm-size.	- SA32200.
		218.65-244.00: Fairly uniform grey green		- 30% quartz ± calcite laminations	- Zones of quartz impregnation tend	- SA32301 to SA32309.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		ATUF section with zones of intense quartz impregnations approximately 25-30% of interval. These zones exhibit cm-size quartz laminations intercalcated with mm-size ATUF beds, minor cherty exhalative material.		stringers in zones of 50-100 cm opaque brown accessory, mineral, very hard, not likely tourmaline, possible rutile?	to have increased mineralization, up to 5% pyrite/minor pyrrhotite stringers and discontinuous seams, trace sphalerite as stringers, in a quartz calcite fracture fillings also trace chalcopyrite and galena.	- WRA SA22180 at 239.60 m.
		244.00-270.00: Slight increase in the amount of intercalated exhalative chert. Quartz stringer/laminations are still prominent, mm-cm size, bedding at 50° to CA.		244-255: 5-7% quartz stringers with sericitic selvages/inclusions, concordant and discordant stringers.		- SA32310 to SA32315.
		250.16-250.50: Mineralized MDKE, contacts at 50° to 60° to CA.		- 1% quartz calcite stringer at 30° to CA.	- 1% disseminated pyrite/pyrrhotite.	
		⎨270.00-280.44⎬=STUF=Fine grained, light to medium grey cherty exhalative with minor intercalated ATUF, mm-scale fine ash tuff, slump structure at 274.50, cm-scale.		- 1% calcite ± quartz fracture fillings, silicified? weakly sericite alteration.	- 0.2% pyrite/pyrrhotite stringers, 0.2%-0.5% sphalerite stringers/ laminations <mm-size, and as disseminated fracture fillings.	- SA32316-SA32317. - WRA SA22181 at 270.00 m.
					277.50-278.25: Sphalerite stringers, mm-size, 3-4% over interval some <mm-size parallel to bedding, some discordant and associated with calcite fracture fillings	- SA32318 to SA32321.
		⎨280.45-297.00⎬=AFLW=Fine grained, medium green, relatively massive although there appears to be ghost bedding, suggesting that the AFLW was altered? by the overlying sphalerite stringer zone in STUF.				- WRA SA22182 at 280.50 m. - WRA SA22183 at 285.30 m.
		297.00-357.00: Returns to the mixed bag of ATUF, minor STUF, intercalated with fine ash beds, numerous mm-cm size quartz laminations impregnated sections STUF; fine grained cherty exhalative layers intercalated with fine grained, finely laminated, mm-scale ash laminations. 1%, fine grained to medium grained, GDKE, non-magnetic, 10-30 cm.		- 2-3% cm-size quartz stringers, discordant to bedding/foliation.		- WRA SA22184 at 310.00 m.
		⎨318.00-326.00⎬=STUF=prominent cherty exhalative (STUF) beds, cm-scale, Z-shaped folds, cm-scale with parasitic microfolds, mm-scale,		- 15% discordant quartz veins with chlorite, minor sericite inclusions, 5-20 cm, 1%	- 0.5% pyrite/pyrrhotite stringers with trace chalcopyrite.	- SA32322-SA32327.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		at 319.45 m, bedding appears slighly more shallow at 30-40% to CA, some chert beds are discontinuous lenses, almost brecciated locally.		quartz-calcite fracutre fillings, mm-size.		
		341.40-345.40: Epidote alteration section, bedding/foliation at 45-50° to CA.		- Quartz-epidote stringers/bands mm-cm size, approximately 20% of interval.	- 0.3% disseminated/stringer pyrite/pyrrhotite.	- SA32328. - WRA SA22185 at 341.50 m
		{345.96-352.35}«STUF»Dominantly primary STUF section attenuated and folded chert exhalative beds, mm-cm size intercalated, fine ash, ATUF, discordant quartz veining, bedding at 45-50° to CA.		- 5% discordant quartz veins 7 to 20 cm, chlorite alteration in the selvages, cm-scale.	- Concordant and discordant pyrite/minor pyrrhotite stringers, mm-size, trace chalcopyrite.	- SA32329 to SA32332.
352.35 TO 370.64	ANDESITE BASALT «ATBF»	- Fine grained, medium green, laminated, mm-cm scale, Sudbury breccia, mafic dike prominant at contact with ATUF, contact maybe a fault? at 353.00m? dike zone prominant. 352.55 to 361.50 bedding at 35-40° to CA, bedding is undulating and microfaulted with displacement mm to cm scale.		- Quartz-epidote-calcite fracture controlled alteration 2% quartz-stringers, 5 cm.	- 0.2 to 0.3% pyrite/pyrrhotite pods stringers.	- WRA SA22186 at 362.00 m.
370.64 TO 370.64	END OF HOLE					

HOLE NUMBER: MU-10

FALCONBRIDGE LTD
DRILL HOLE RECORD

DATE: 20-March 199'
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: BENNY
PROJECT NUMBER: 6232
CLAIM NUMBER: 1076 S' 22
LOCATION: Munster

PLOTTING COORDS GRID:
NORTH: 311.00N
EAST: 45.00E
ELEV: 409.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -75° 0' 0"
LENGTH OF THE HOLE: 520.13m
START DEPTH: 0.00m
FINAL DEPTH: 520.13m

COLLAR ASTRONOMIC AZIMUTH: 20° 0' 0"

GRID ASTRONOMIC AZIMUTH: 150° 0' 0"

DATE STARTED: February 15, 1991
DATE COMPLETED: February 20, 1991
DATE LOGGED: February 20, 1991

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: YES
PLUGGED: YES
HOLE SIZE: BQ

CONTRACTOR: Dominik
CASING: 2-88 m of BW Casing.
CORE STORAGE: Chelmsford
UTM COORD.:

COMMENTS : To test off-hole in MU-91-08 and to test STUF horizon.
WEDGES AT:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
30.48	22°30'	-75° 0'	SING.SHOT	OK	
121.92	11°30'	-70° 0'	SING.SHOT	OK	
182.88	18°30'	-70° 0'	SING.SHOT	OK	
243.84	11° 0'	-69° 0'	SING.SHOT	OK	
304.80	8° 0'	-68° 0'	SING.SHOT	OK	
365.76	10° 0'	-66° 0'	SING.SHOT	OK	
518.16	7° 0'	-61° 0'	SING.SHOT	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 2.88	CAS «casing»	- 2.88 m. of BW casing.				
2.88 TO 458.10	ATUF	- Fine grained to medium light mottled grey; well to moderately developed bedding CA 50°, mm to cm scale. 5-10 cm silicified units within ATUF. 1-2/3 m mafic dykes 5-10 cm wide CA 50°, 1-2/5m		- 1-2/2 m quartz, carbonate fracture fill CA 40-60°, 5-8 mm wide.	- trace to 1% pyrite pyrrhotite along foliation.	
		- {7.95-11.71} possible STUF unit small silica rich unit 3-5 cm wide, well foliated, CA 50°.			- 1-2% pyrrhotite and pyrite.	
					- 8.00-9.50: trace to 1% pyrite along fractures.	
					- 9.50-11.00: 1-2% finely disseminated pyrite along foliation.	
					- 11.00-12.50: trace to 1% pyrite.	
		- 14.02-35.36: the unit becomes more silicified with 1-2 cm wide beds of quartz rich material. Almost cherty with small quartz eyes, 5-10 cm wide coarse grained mafic dykes CA 30-40°. Almost DTUF looking. Bedding and foliation CA 50°, small 10-15 cm creamy white silicified beds with 1-2% chlorite blebs.			- trace to 1% pyrite disseminated along fractures.	
					- 35.50-47.50: trace to 2% finely disseminated pyrrhotite and pyrite with trace sphalerite along fractures and disseminated along foliation.	
		- {41.45-44.70} «SDBX» a zone of weakly developed Sudbury breccia ground up fragments and flow fabric developed within. 60 cm - 1 m of fault breccia or Sudbury breccia.		- strong epidote alteration with minor carbonate fractures.		
				- 44.70-47.00: altereted ATUF due to Sudbury breccia.		
				- 50.60-78.54: light green epidote alteration; mostly hair line fractures up to 5%.		
		- {57.13-57.25} «{FAI CA 45°»» light to medium				

FROM / TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		greenish grey chlorite rich clay gouge with 40% pebbles. CA 45°.				
		- {58.20-58.28} «{FAI}» broken and blocky core with 1 cm clay. Fault gouge with 80% pebbles CA ??				
		- 59.15-59.51: light grey to clear white quartz vein CA 45-55°.		- Light green epidote alteration.		
		- 60.85-61.54: sludge, greenish-grey mud or clay gouge from up the hole.				
				- 65.84-68.87: 3-4/m white carbonate fracture fill and veins 5-20 cm wide CA 40-50°.		
				- 78.03-81.08: 10-20% light green epidote alteration along foliation.		
		- {83.23-88.60} «BFW» medium to dark grey, no foliation or flow banding evident. Weak to moderately magnetic contact sharp with CA 40-60° Possible gabbro dyke, no evidende of amygdules.		- 1-2% carbonate, quartz fracture fill 1-8 mm wide CA varies.	- trace to 1% pyrrhotite and pyrite.	
					- 96.50-107.00: 2-5% pyrrhotite and pyrite disseminated along foliation with trace chalcopyrite and sphalerite.	
				- 105.46-120.70: 5-10% carbonate and light green epidote fracture fill and hair like fractures.	- trace pyrite.	
				- 125.00-132.40: 5% quartz, carbonate feldspar rich fracture fill and blebs 5-10 cm wide CA 30-60°. 1-2/4 m 5-6 mm wide quartz fracture fill. CA		
					133.95-134.35: 1-2% pyrrhotite blebs within quartz vein upper and lower contact sheared and broken with minor gouge.	
				139.90-142.04: 1-2/m light yellow		

FROM / TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				to white fracture fill 1-2 cm wide CA 30-60°.		
		- 142.29-142.42: broken and blocky core with minor clay gouge, possible fault.				
		- {145.26-153.31} «QUARTZ VEIN» creamy white fine grained quartz vein with 5% mafic rags and blebs; with 1-2% chlorite blebs. Upper contact 2-3 mafic fragment brecciated by quartz vein. 30-40 cm of broken and blocky core CA 10-15° due to low angle joint.		- minor chlorite alteration.	- trace pyrite cubes, trace chalcopyrite blebs.	
					- 148.15-149.65: trace pyrite. - 149.65-151.15: 1% pyrite, cubic. - 151.15-152.65: trace to 1% pyrite. - 152.65-153.15: 1-2% pyrite blebs.	
					- 154.50-154.70: 1% chalcopyrite blebs along a fracture CA 40°, 1-2 mm wide.	
		- 155.00-160.00: strongly foliated, and slightly silicified ATUF.				
					- 160.40-161.10: trace to 1% pyrite and trace sphalerite.	
		- 160.60-160.90: quartz vein, cross-cutting foliation CA 60°.				
					- 165.00-166.50: trace to 1% pyrite and to sphalerite. - 166.50-167.60: trace to 1% pyrite pyrrhotite along foliation, 1-2% pyrrhotite and pyrite.	
		- 167.60-168.40: clear white quartz vein with 2% epidote alteration with 1% mafic rags.				
					- 168.40-169.90: 2-3% pyrrhotite and pyrite along foliation. Trace sphalerite.	
					- 169.90-171.40: 1-2% pyrite along foliation with trace sphalerite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					- 171.40-171.15: 2-3% pyrite along foliation. Trace sphalerite.	
					- 171.15-172.40: 2-3% sphalerite finely disseminated along fracture.	
					- 172.40-173.80: 2-4% pyrite, pyrrhotite along foliation with trace sphalerite.	
					- 173.80-175.40: trace sphalerite with trace pyrite along foliation.	
					- 175.40-176.90: trace pyrite, sphalerite finely disseminated along fractures.	
		- 177.00-224.33: slightly alterated ATUF with well developed foliation and bedding mm to cm scale. 1-2/2 m quartz vein 5-10 cm wide CA 30-60°, small 5-10 cm wide zones of Sudbury breccia, which are poorly developed.		- 1-2/m carboante fracture fill 1-2 cm wide. Light green epidote alteration and fracture fill with 1-2% carbonate and feldspar rich fracture fill CA varies, 5-10 mm wide.	- trace to 2% pyrrhotite pyrite blebs along foliation.	
					- 187.70-192.20: 1-3% pyrrhotite and pyrite with trace sphalerite along fractures.	
		- 205.00-205.40: possible cherty bed, light green, grey CA 10° with a minor zone of Sudbury breccia on upper contact.			- trace pyrrhotite, pyrite.	
		- ⟨210.69-210.80⟩ «FAI» broken and blocky core with 1 cm wide clay and pebble gouge CA 50°.				
		- 213.00-213.90: broken and blocky core due to jointing. Minor gouge and chlorite slips along joint faces possible shear zones.				
		⟨220.00-270.05⟩ «ATUF-BTUF» medium to dark grey, fine grained, weakly to non magnetic, moderate to well bedded and foliated, mm to cm scale. Small 1-3 mm elongated quartz eyes only <1%. Small 1-10 cm wide siliceous beds, 1-2/3 m white quartz vein, 5-10 cm wide, CA 40-50°. Small 5-10 cm zone Sudbury breccia		- Light green epidote alteration with hair line fracture minor carbonate and quartz fracture fill, 1-8 mm wide CA varies.	- trace to 1% pyrrhotite along fractures with trace pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		contacts sharp CA 50-80°. Joints 1-2/2 m CA 40-60°.				
					- 273.00-280.50: 1-3% pyrite pyrrhotite blebs and fracture fill along foliation.	
					- 280.50-280.80: 2-3% sphalerite as stringer 1-2% pyrite, pyrrhotite.	
		280.80-284.70: broken and blocky core minor gouge along pieces. 10 feet of core lost.				- 10 feet of core lost.
				- minor chlorite and carbonate alteration with weak sercite alteration.	- 285.30-291.10: 2-3% pyrrhotite and pyrite disseminations along fracture with trace sphalerite.	
					- 296.00-296.40: white clear quartz vein with 1-2% chalcopyrite blebs throughout.	
				- 297.10-299.10: light green epidote alteration along foliation.		
		- 299.03-299.20: broken and blocky core with quartz carbonate pebbles. Chlorite and carbonate coating along pieces.				
					- 303.60-304.30: trace pyrite, sphalerite specks within quartz vein along foliation.	
		306.63-321.20: moderated to well developed ATUF with 10-20 cm wide siliceous zones. Moderate to well developed bedding, mm scale.		- weak to moderate carbonate and epidote alteration.	- trace to 1% pyrrhotite along foliation and bedding planes.	
					- 325.00-328.00: trace to 1% pyrite and chalcopyrite.	
		- 330.70-330.80: broken and blocky core with minor gouge 0.5 cm wide, CA 45°.		- weak to moderate chlorite alteration.		
				- 337.13-343.00: light green epidote alteration along fracture 5-10 cm wide. Weak quartz carbonate alteration and fracture fill.		

FROM / TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					- 344.90-345.25: 1-2% sphalerite and pyrrhotite alonf fracture fill CA 10° 1-3 mm wide.	
		- 349.33-376.78: moderate to well developed ATUF to BTUF with well developed layering CA 40°, mm to cm scale.		- moderate to well developed quartz carbonate alteration as fracture fill 5-10 mm wide, CA 40°.		
				- 393.00-433.10: light greyish green buff color weak sercite alteration with chlorite fracture fill and blebs minor quartz carbonate fracture fill 5-15 mm wide. Small siliceous beds interbedded with the breccia looking, altered ATUF.		
		- {395.64-395.93} «{FAI}» broken and blocky core with 4 cm wide pebble chlorite rich clay gouge, CA ??				
				- 395.93-396.50: moderate to strong chlorite alteration with a strong epidote alteration, and a weak hematite alteration.		
		- 397.03-398.00: light buffed light grey ATUF with a well defined foliation. CA 40°.		- small mild fractures of chlorite brecciating the ATUF.	- trace chalcopyrite blebs 1-2 mm with trace pyrrhotite and pyrite.	
		- 398.13-403.50: similar to above 397 m.				
				- 404.50-412.80: small 1-3 mm fracture of quartz carbonate and hair line fractures along foliation. CA 40°. weak chlorite alteration.		
		- 404.00-419.49: well developed ATUF with 10-40 cm wide siliceous beds and 1-2/m 10-60 cm mafic dykes, sharp contact CA 20-50°. 1-2/4 m granite dykes.				
				- 422.00-423.20: light grey to white bleached color ATUF. Siliceous field with 2-3% chlorite fracture fill.		
				- 424.00-431.68: 2-3% pyrrhotite	- 2-3% pyrrhotite blebs and rags.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				blebs and fracture fill disseminated throughout. Light grey buff color nodular tuff, bedding and foliation weak. 3-5% chlorite alteration along fractures. Minor carbonate alteration silicified along bedding planes.		
		{430.02-431.00} «{FAI}» broken and bolcky core Low angle joint set CA 10-20°. Minor clay gouge 1 cm CA ??		- along 10 m angle joint chlorite slips with minor gouge minor carboante fracture fill.		
		- 432.57-439.50: very siliceous beds almost cherty, light grey quartz vein, 434.45-435.30 with the ATUF/BTUF silicified around it.		- minor chlorite alteration along fracture fill.	- trace -1% pyrrhotite and pyrite with trace chalcopyrite flakes <1-5 mm.	
		- 440.83-470.68: BTUF/ATUF, the foliation and bedding planes poorly developed and become more matic rich. 1-2/m quartz veins, 5-20 mm wide.		- weak carbonate chlorite alteration weak epidote fracture fill and hair like fractures.	- trace to 1% pyrrhotite and pyrite blebs and specks.	
					- 441.00-451.50: trace to 2% pyrrhotite and pyrite blebs and rags along bedding and fracture fill with trace sphalerite, chalcopyrite.	
		{443.53-453.58} «{FAI}» broken and blocky core with chlorite slips along pieces 0.5-1 cm wide chlorite clay gouge CA 60° with minor quartz, carbonate brecciation.				
				- 456.03-462.00: weak to moderate quartz, carbonate alteration 1-3 cm wide stringer and micro fracture fill.	- trace pyrite.	
					- 457.50-465.00: 1-3% pyrite and pyrrhotite disseminated throughout within epidote breccia.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
458.10 TO 502.71	BTUF	- medium to dark grey, fine grained with moderate to poorly developed bedding, mm to cm scale. The unit is becoming more altered due to granite. Upper contact gradational over 10 m.		- moderate to strong epidote alteration fracture fill and hairline fractures. Weak chlorite alteration.	- 2-3% pyrrhotite disseminated throughout.	
				- 461.00-462.00: strong carbonate, epidote alteration brecciating BTUF.	- finely disseminated pyrrhotite and pyrite.	
				- 462.30-462.90: moderate to strong chlorite, carbonate alteration.		
				- 465.30-465.50: moderate chlorite with weak carbonate alteration.	- 3-4% pyrrhotite, trace sphalerite and pyrite.	
		- {470.10-472.50} «BIF» well developed BIF with a general foliation CA 40° sharp upper and lower contact CA 30°. 20-30% magnetic. Quartz vein 471.30-471.90.		- weak epidote alteration.	- 5-8% pyrrhotite with trace -1% chalcopyrite.	
		473.42-474.40: light green epidote, breccia at CA 10°, 3-4 cm wide.		- strong epidote, carbonate alteration.	- trace to 1% pyrite and pyrrhotite.	
				- 474.00485.80: light green to grey epidote, quartz, weak carbonate alteration along foliation. Sharp lower contact CA 60°.	- trace to 0.5% sphalerite within 1 cm at base altered zones.	
		- 485.80-491.00: more massive zone with a weak foliation.		- weak epidote and carbonate alteration.		
		- 492.68-502.71: moderate to strongly baked and silicified BTUF.		- light green epidote and carbonate alteration.	- trace pyrite and pyrrhotite.	
		- {501.94-502.46} «fFAI» broken and blocky core 10-30 cm chlorite clay gouge CA 50-80°. Lower contact strong epidote alteration.				
502.71 TO 520.13	GR	- well developed feldspar and quartz rich, coarse grained weak granite with 30% mafic rich pyrite matrix. Sharp upper contact CA 50°.		- light green epidote alteration.		
		515.10-515.15: fine grained black siliceous, baked up basaltic TUFF unit. Sharp contact.				

FROM / TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
520.13 TO 520.13	END OF HOLE					

Ministry of Northern Development and Mines
Ontario

W 9170. 00057

Instructions

41113SE0001 15 MUNSTER

900

Mining Act — Report of Work

Name and Address of Recorded Holder	Prospector's Licence No.
FALCONBRIDGE EXPLORATION LIMITED, P.O. Box 40	A 2167
FALCONBRIDGE ONTARIO P0M 1S0	Telephone No 693-2761

Summary of Distribution of Credits and Work Performance

Mining Division: SUDBURY
Township or Area: ~~HESS~~ Munster
Total Assessment Credits Claimed: 1556430

Type of Work Performed (Check one only)

- [ ] Manual Work
- [ ] Shaft Sinking Drifting or other Lateral Work
- [ ] Mechanical equipment
- [ ] Power Stripping other than Manual (maximum credit allowed 100 days per claim)
- [X] Diamond or other Core drilling
- [ ] Core Specimens

Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.
S	1046856	80	S	1046894	80	S	1094650	95
S	1046862	80	S	1046895	80	S	1094651	80
S	1046863 ✓	80	S	1046896 ✓	80	S	1094652	80
S	1046864	80	S	1046897 ✓	80	S	1094653	80
S	1046865	80	S	1046904	80	S	1094654	80
S	1046889	80	S	1046905	80	S	1094655	80
S	1046890	80	S	1046906	80	S	1094656	80
S	1046891	63	S	1094647	126.04	S	1094657	80
S	1046892	80	S	1094648	126.03	S	1094658	80
S	1046893	80	S	1094649	120			

Dates when work was performed	Total No. of Days Performed	Total No. of Days Claimed	Total No. of Days to be Claimed at a Future Date
From: Sept 1990 To: March 1991	15564.30	15564.30	0

All the work was performed on Mining Claim(s) Indicate no. of days performed on each claim * (See note No. 1 on reverse side)

Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days
S1046863	1148.29	S1046894	1076.05	S1046896	635.99	S1046897	1181.99		

Required Information eg. type of equipment, Names, Addresses, etc. (See Table on reverse side)
If space below is insufficient, attach schedules with required information and location sketches

15 claims

Diamond Drilling - 1ns - 3

Forage Dominik (1981) Inc.
1080, rue de l'Echo C.P. 247
Val D'Or, Québec
J9P 4P3

Téléphone (819) 824-6839

Fax (819) 824-4217

RECORDED
APR 8 1991
Receipt

Certification of Beneficial Interest * (See Note No. 2 on reverse side)

I hereby certify that, at the time the work was performed, the claims covered in this report of work were recorded in the current recorded holder's name or held under a beneficial interest by the current recorded holder.	Date	Recorded Holder or Agent (Signature)
	April 1990	

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 Address of Person Certifying	Telephone No	Date	Certified By (Signature)
Gregg Snyder, Falconbridge Exploration Limited, P.O. Box 40; Falconbridge Ontario P0M 1S0	As above	[illegible]/91	

For Office Use Only

Work Assignments

ONTARIO GEOLOGICAL SURVEY
GIS - ASSESSMENT FILES
SEP 23 1991
RECEIVED

Received Stamp

SUDBURY
MINING DIV.
RECEIVED
APR 8 - 1991
A.M. 7|8|9|10|11|12|1|2|3|4|5|6 P.M.

Ontario

Ministry of Northern Development and Mines

W 9170. 00057

Instructions
- Please type or print
- For each type of work performed, a separate Report of Work should be completed.
- For Geo-technical work, use form no. 1362 "Report of Work (Geological, Geophysical, Geochemical") and form no. 878 for Expenditures.
- Refer to Sections 76 and 77, the Mining Act for assessment work requirements and the reverse side of this form for table of information.

Mining Act

Report of Work

Name and Address of Recorded Holder	Prospector's Licence No.
	Telephone No

Summary of Distribution of Credits and Work Performance

Mining Division	Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr
Township or Area MUNSTER	S	1046937	80	S	1046857	80	S	1046875	80
Total Assessment Credits Claimed	S	1046938	80	S	1046858	80	S	1046876	80
	S	1046940	80	S	1046859	80	S	1046916	80
Type of Work Performed (Check one only)	S	1046941	80	S	1046860	80	S	1046917	80
[ ] Manual Work	S	1046942	72.23	S	1046861	80	S	1046918	80
[ ] Shaft Sinking Drifting or other Lateral Work	S	1046943	80	S	1046872	80	S	1046919	80
[ ] Mechanical equipment				S	1046873	80	S	1046920	80
[ ] Power Stripping other than Manual (maximum credit allowed - 100 days per claim)				S	1046874	80	S	1046921	80
[X] Diamond or other Core drilling									
[ ] Core Specimens									

Dates when work was performed	Total No. of Days Performed	Total No. of Days Claimed	Total No. of Days to be Claimed at a Future Date
From: To			

All the work was performed on Mining Claim(s) Indicate no. of days performed on each claim. * (See note No. 1 on reverse side)

Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days
S1046872	1522.01	S1046873	1336.01	S1046874	2332.48	S1046919	1216.01		

Required Information eg. type of equipment, Names, Addresses, etc. (See Table on reverse side)
If space below is insufficient, attach schedules with required information and location sketches

Certification of Beneficial Interest * (See Note No. 2 on reverse side)

I hereby certify that, at the time the work was performed, the claims covered in this report of work were recorded in the current recorded holder's name or held under a beneficial interest by the current recorded holder	Date	Recorded Holder or Agent (Signature)
	[illegible]	[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 Address of Person Certifying	Telephone No	Date	Certified By (Signature)
		Apr 1/08/91	[signature]

For Office Use Only

Work Assignments	Received Stamp
	SUDBURY MINING DIV. RECEIVED APR 8 - 1991 A.M. 7|8|9|10|11|12|1|2|3|4|5|6 P.M.

Ministry of Northern Development and Mines

Ontario

W 9170. 00057

- Please type or print.
- For each type of work performed, a separate Report of Work should be completed.
- For Geo-technical work, use form no. 1362 "Report of Work (Geological, Geophysical, Geochemical") and form no. 878 for Expenditures.
- Refer to Sections 76 and 77, the Mining Act for assessment work requirements and the reverse side of this form for table of information.

Mining Act

Report of Work

Name and Address of Recorded Holder	Prospector's Licence No.
	Telephone No.

Summary of Distribution of Credits and Work Performance

Mining Division: MONCRIEFF

Township or Area

Total Assessment Credits Claimed

Type of Work Performed (Check one only)

- [ ] Manual Work
- [ ] Shaft Sinking Drifting or other Lateral Work
- [ ] Mechanical equipment
- [ ] Power Stripping other than Manual (maximum credit allowed 100 days per claim)
- [X] Diamond or other Core drilling
- [ ] Core Specimens

Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.
S	1046886	80	S	1046907	80	S	1042317	85
S	1046887	80	S	1046908	80	S	1042318	85
S	1046888	80	S	1046909	80	S	1042319	85
S	1046898	80	S	1046910	80	S	1042320	85
S	1046899	80	S	1046911	80	S	1042321	85
S	1046900	80	S	1046912	80	S	1042322	85
S	1046901	80	S	1046913	80	S	1042323	85
S	1046902	80	S	1013391	85	S	1042324	85
S	1046903	80	S	1013392	85	S	1042325	85

Dates when work was performed From:	To:	Total No. of Days Performed	Total No. of Days Claimed	Total No. of Days to be Claimed at a Future Date

All the work was performed on Mining Claim(s) Indicate no. of days performed on each claim * (See note No. 1 on reverse side)

Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days
S1046886	1156.00	S1046898	1331.99								

Required Information eg type of equipment, Names, Addresses, etc (See Table on reverse side)
If space below is insufficient, attach schedules with required information and location sketches

Certification of Beneficial Interest * (See Note No. 2 on reverse side)

I hereby certify that, at the time the work was performed, the claims covered in this report of work were recorded in the current recorded holder's name or held under a beneficial interest by the current recorded holder	Date	Recorded Holder or Agent (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 Address of Person Certifying

Telephone No.	Date	Certified By (Signature)

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Work Assignments	Received Stamp
	SUDBURY MINING DIV. RECEIVED APR 8 - 1991 A.M. 7 8 9 10 11 12 1 2 3 4 5 6 P.M. 11:47 am

Ministry of Northern Development and Mines

Ontario

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Mining Act

Report of Work

Name and Address of Recorded Holder	Prospector's Licence No.
	Telephone No.

Summary of Distribution of Credits and Work Performance

Mining Division: MONCRIEFF

Total Assessment Credits Claimed

Type of Work Performed (Check one only)

- [ ] Manual Work
- [ ] Shaft Sinking Drifting or other Lateral Work
- [ ] Mechanical equipment
- [ ] Power Stripping other than Manual (maximum credit allowed - 100 days per claim)
- [X] Diamond or other Core drilling
- [ ] Core Specimens

Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.
S	1042363	85	S	1042387	85	S	1094639	80
S	1042367	85	S	1042388	85	S	1094640	80
S	1042368	85	S	1046914	80	S	1094641	80
S	1042369	85	S	1042946	85	S	1094642	80
S	1042370	85	S	1042952	85	S	1094643	80
S	1042371	85	S	1094635	80	S	1094644	80
S	1042372	85	S	1094636	80	S	1094645	80
S	1042377	85	S	1094637	80	S	1094646	80
S	1042378	85	S	1094638	80			

Dates when work was performed From:	To	Total No. of Days Performed	Total No. of Days Claimed	Total No. of Days to be Claimed at a Future Date

All the work was performed on Mining Claim(s) indicate no. of days performed on each claim.
* (See note No. 1 on reverse side)

Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days

Required Information eg. type of equipment, Names, Addresses, etc. (See Table on reverse side)
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Name and Address of Person Certifying	Telephone No.	Date	Certified By (Signature)

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Mining Act — Report of Work

Name and Address of Recorded Holder	Prospector's Licence No.
	Telephone No.

Summary of Distribution of Credits and Work Performance

Mining Division	Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.
Township or Area ULSTER	S	1042327	85	S	1042357	85	S	1046880	80
Total Assessment Credits Claimed	S	1042328	85	S	1042400	86	S	1046881	80
	S	1042329	85	S	1042484	86	S	1046883	86
Type of Work Performed (Check one only)	S	1042330	85	S	1042485	86	S	1046884	86
☐ Manual Work	S	1042331	85	S	1042486	86	S	1046922	80
☐ Shaft Sinking Drifting or other Lateral Work	S	1042332	86	S	1042487	86	S	1046926	80
☐ Mechanical equipment	S	1042333	85	S	1042488	86	S	1046927	80
☐ Power Stripping other than Manual (maximum credit allowed - 100 days per claim)	S	1042334	85	S	1042504	86	S	1046928	80
☒ Diamond or other Core drilling				S	1046871	80	S	1046929	80
☐ Core Specimens	S	1042336	86	S	1046877	80	S	1046930	80

Dates when work was performed From:	To	Total No. of Days Performed	Total No. of Days Claimed	Total No. of Days to be Claimed at a Future Date

All the work was performed on Mining Claim(s) Indicate no. of days performed on each claim * (See note No. 1 on reverse side)

Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days

Required Information eg. type of equipment, Names, Addresses, etc. (See Table on reverse side)
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Name and Address of Person Certifying	Telephone No.	Date	Certified By (Signature)

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768 (93/05)

Ministry of Northern Development and Mines

Ontario

W [illegible] 00057

Instructions
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Mining Act — Report of Work

Name and Address of Recorded Holder	Prospector's Licence No.
	Telephone No.

Summary of Distribution of Credits and Work Performance

Mining Division	Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.
[illegible]		1042326	85	S	1042344	85	S	1042353	85
[illegible]		1042335	85	S	1042345	85	S	1042354	85
[illegible]		1042337	85	S	1042346	85	S	1042355	85
(Check one only)		1042338	85	S	1042347	85	S	1042356	85
[illegible]		1042339	85	S	1042348	85	S	1042358	85
[illegible]		1042340	85	S	1042349	85	S	1042359	85
[illegible]		1042341	85	S	1042350	85	S	1042360	85
[illegible]		1042342	85	S	1042351	85	S	1042361	85
[illegible]		1042343	85		1042352	85	S	1042362	85
							S	994096	45

[illegible]	[illegible]	Total No. of Days to be Claimed at a Future Date
From [illegible]		

All the work was performed on Mining Claim(s) indicated. No. of days performed on each claim (See note No. 1 on reverse side)	[illegible]	[illegible]	[illegible]	Mining Claim	No. of Days
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Required Information eg. type of equipment, Names, Addresses, etc. (See Table on reverse side)
If space below is insufficient, attach schedule with required information and location sketches

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