010

HOLE NUMBER: R44-11

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 02/24/1997
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: 8142
PROJECT NUMBER: 8142
CLAIM NUMBER: P-1190197
LOCATION: Robb Township

PLOTTING COORDS GRID: UTM
NORTH: 5382893.00N
EAST: 452547.00E
ELEV: 298.00

ALTERNATE COORDS GRID: Grid
NORTH: 102+ 0N
EAST: 53+ 0E
ELEV: 298.00

COLLAR DIP: -50° 0' 0"
LENGTH OF THE HOLE: 309.00M
START DEPTH: 0.00M
FINAL DEPTH: 309.00M

COLLAR ASTRONOMIC AZIMUTH: 206° 0' 0"

GRID ASTRONOMIC AZIMUTH: 206° 0' 0"

DATE STARTED: 01/22/1996
DATE COMPLETED: 01/27/1996
DATE LOGGED: 01/29/1996

COLLAR SURVEY: NO
RQD LOG: NO
HOLE MAKES WATER: YES

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

CONTRACTOR: Dominik
CASING: BW
CORE STORAGE: Kidd Creek Mine
UTM COORD.: Zone 17

COMMENTS : Test mise a la masse conductor seen from R41-10
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
30.00	211° 0' 0"	-50° 0' 0"	S	OK		-	-	-	-	-	
90.00	215° 0' 0"	-49° 0' 0"	S	OK		-	-	-	-	-	
150.00	215° 0' 0"	-47°30' 0"	S	OK		-	-	-	-	-	
210.00	215°30' 0"	-46° 0' 0"	S	OK		-	-	-	-	-	
260.00	219° 0' 0"	-45° 0' 0"	S	OK		-	-	-	-	-	
309.00	207° 0' 0"	-45° 0' 0"	S		Bad Azimuth	-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 15.60	«┤OB├» Casing Overburden					
15.60 TO 19.58	«4,a,n,*a» Felsic Volcanic fine grained spherulitic tuff	-fine grained to granular light yellow green to dark green rock -strongly foliated, common shear textures -round to elliptical structures to 1-2mm, commonly cored, probably spherulites -tuffaceous appearance, may be structural overprint -foliation direction erratic within distinct pieces in final 20cm, probably fragments rotated during fault movement -lower contact @ fault w/ gouge ╣16.00-16.01╠«┤S2 35°├» Foliation ╣19.57-19.58╠«┤FAI├Gouge» Fault -fault bounded lower contact w/ gouge @ ~35° to c.a.		-strongly sericitized -moderate to strong chloritization -minor hematite staining ╣15.60-19.58╠«SePS ,ChPM» strong, pervasive, sericitization; moderate, pervasive, chloritization	-none noted	
19.58 TO 22.37	«7,b» Mafic Intrusive medium grained	-medium grained mottled white to dark green unit -subhedral feldspar grains to 2-3mm (40-50%), orbicular structures (?) to 4mm (5-10%), minor chlorite clots 1-3mm (3-5%), possible pseudomorphs after amphibole (i.e. 23.24m) in fine grained to aphanitic, commonly chloritized groundmass -fault w/ gouge @ 22.21m -no discernable foliation -lower contact irregular, probably intrusive as opposed to structural ╣22.20-22.21╠«┤FAI├ w/ gouge» Fault		-common spotty to pervasive bleaching -zones of leaching of carbonates (?) resulting in vuggy appearance (i.e. 22.12m) -common chloritization as slip surfaces and weak to moderate chloritization of groundmass	-none noted	
22.37 TO 40.81	«7,b,G» Mafic Intrusive medium grained leucoxene bearing	-dark green to grey mottled rock w/ white grains and flecks -intrusive upper contact, partially marked by bleached and epidotized contact area -grain size increases to medium grained after 27m -leucoxene noted throughout unit -no discernable magnetic esponse -small dike or xenolith of spherulitic felsic @ 24 .97-25.02m		-common epidote-carbonate veins, some w/ leached carbonate leaving a vuggy appearance -veins @ 20-90° to c.a., but generally @ high angles	-1-3% euhedral disseminated py to 3mm	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-becomes finer grained after 39m -sharp lower contact @ 46° to c.a. ╣40.80-40.81╠«┤S0 46°├Intrusive» Bedding				
40.81 TO 89.15	«2,a,e,*t,(p?)» Mafic Volcanic fine grained amygdaloidal possibly pillowed	-fine grained dark green to grey rock w/ quartz dolomite (?) augen -strong foliation defined by chlorite +/- sericite -numerous shear lozenges (i.e. 40.3m) -possible pillow selvges marked by darker chloritic sections up to 2cm wide -elongate chlorite clots, possibly stretched and flattened vesicles -quartz augen to 3mm after primary vesicles (?) start to appear @ 56.5m -augen become larger, to 1cm @ 58.13 -calcite deposits common on natural breaks along foliation surfaces --> implies later tensional forces? -lineation parallel to short axis of foliation plane elipse (i.e. @ 90° to c.a.) -lower contact sharp @ 44° to c.a. ╣41.60-41.61╠«┤S2 46°├» Foliation ╣58.07-58.08╠«┤S2 42°├» Foliation ╣61.50-61.51╠«┤S2 40°├» Foliation ╣73.30-73.31╠«┤S2 43°├» Foliation ╣81.14-81.15╠«┤S0 41°├Intrusive» Bedding ╣88.00-88.01╠«┤S2 42°├» Foliation		-common pervasive weak to moderate chloritization	╣53.22-53.24╠«CpF20-30%» 20.0-30.0% fracture/vein controlled chalcopyrite in quartz vein ╣56.26-56.27╠«CpF5-10%» 5.0-10.0% fracture/vein controlled chalcopyrite in quartz vein	
89.15 TO 116.86	«7,b,G» Mafic Intrusive medium grained	-dark green to grey mottled rock w/ white flecks -as previous mafic intrusive unit -sharp intrusive upper contact w/ 15cm chill margin and gradational increase in grain size to medium grained		-common quartz carbonate veins -common epidote-carbonate veins, less intense epidote alteration than previous mafic intrusive unit	-trace disseminated euhedral py cubes, mostly concentrated (noticable) at chill margins	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	leucoxene bearing	-non-magnetic -leucoxene bearing -long fracture w/minor gouge and rock flour runs subparallel to c.a. from 94.47m to 95.1m -grains size gets smaller @ 96.4m, start of new chill margin -medium grained dikelet 96.47-96.51m -internal contact, chill margin @ 96.67m -small tongue of sulphidic felsic volcanic or exhalite, 96.92-96.97m -continues chilled to 97.29, where wall rock xenolith of sulphidic, spherulitic felsic volcanic starts -chill margin resumes 97.59-97.86m -unit continues medium grained to 105m, when grain size decreases to lower chill margin -lower contact sharp, intrusive ╣97.29-97.58╠«4,a,n,5s» -wall rock xenolith within mafic intrusive ╣106.85-106.86╠«┤S0 39°├Intrusive» Bedding				
106.86 TO 111.17	«4,n,Ch,5s» Felsic Volcanic spherulitic chloritzed with massive sulphide bands	-grey-green to black rock -upper contact sharp -spherulites to 2mm visible at start of unit, become larger to 5mm in fragment @ 106.45 -possible flow banding visible @ 106.84m -no discernable consistant foliation until chlorite alteration starts -unit becomes darker, alteration more intense after 107.33 -first massive sulphide section 109.95-110.05 -iron oxide staining common on fracture surfaces -lower contact @ start of massive sulphide band ╣107.83-107.84╠«┤S2 40°├» Foliation -foliation expressed by chlorite, banding in sulphides ╣111.10-111.11╠«┤S0 44°├Banding» Bedding -banding in sphalerite rich section		╣107.10-111.17╠«ChPS» strong, pervasive, chloritization	╣107.39-108.00╠«PyB10-15%,PoB3-5%,CpB0-1%» 10.0-15.0% bedded/banded pyrite; 3.0-5.0% bedded/banded pyrrhotite; 0.0-0.5% bedded/banded chalcopyrite, trace sphalerite ╣109.95-110.05╠«PyM50-60%,PoM20-30%,SphM3-5%,CpM0-1%» 50.0-60.0% massive pyrite; 20.0-30.0% massive pyrrhotite; 3.0-5.0% massive sphalerite; 0.0-1.0% massive chalcopyrite ╣110.45-110.54╠«PyB20-30%» 20.0-30.0% bedded/banded pyrite ╣110.85-111.12╠«PyB25-30%,SphB5-10%,CpC0-1%» 25.0-30.0% bedded/banded pyrite; 5.0-10.0% bedded/banded sphalerite; 0.0-1.0% clasts/fragment of	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					chalcopyrite -pyrite as euhedral grains to 5mm -sphallerite as minute grains of honey coloured and ruby jack in bottom 2cm of interval -trace chalcopyrite	
111.17 TO 112.18	«5,s,*g,S-M» Sulphide (>40%) thinly laminated massive sulphide	-finely laminated massive sulphide unit -unit composed of fine grained po, up to 30%, medium grained euhedral to subrounded py, 10-20%, very fine grained sphalerite, up to 20% locally, trace to 1% cpy, appearing as veins or fracture filling subparallel banding and with net type texture around quartz or felsic volcanic grains -fine dusty ruby jack sphalerite, (colour possibly enhanced by iron oxides?) 111.55-111.65m -minor intrusive dikelet, 111.75-111.85 -lower contact intrusive, irregular		-strong chloritization of gangue, possible silicifiaction or exhalite locally	╣111.17-112.18╠«PoB30-40%,PyB10-15%,SphB5-8%,CpF0-1%» 30.0-40.0% bedded/banded pyrrhotite; 10.0-15.0% bedded/banded pyrite; 5.0-8.0% bedded/banded sphalerite; 0.0-1.0% fracture/vein controlled chalcopyrite	
112.18 TO 114.08	«7,a» Mafic Intrusive fine grained	-fine grained dark grey rock -upper contact irregular intrusive -very little chill margin development at upper contact -very homogenous intermediate to mafic dike -non-magnetic -possibly leucoxene bearing -lower chill margin better developed -lower contact sharp, at fracture ╣114.58-114.59╠«┤S2 40°├Minor fault» Foliation ╣115.07-115.08╠«┤S0 39°├Intrusive» Bedding -NOTE- not in parallel plane to fault, contact is parallel lamination in underlying sulphides		-weakly pervasively chloritized	-no discernable mineralization	
114.08 TO 114.61	«5,s,*g,S-M» Sulphide (>40%) thinly laminated massive sulphide	-laminated massive to semi-massive sulphides -as above in texture and composition -laminations vary from 35-40° to c.a.		-where visible between laminations matrix gangue is either chlorite or white granular quartz (exhalite?)	╣114.08-114.61╠«PoB30-40%,PyB10-20%,SphB5-10%,CpD0-1%» 30.0-40.0% bedded/banded pyrrhotite; 10.0-20.0% bedded/banded pyrite; 5.0-10.0% bedded/banded sphalerite; 0.0-1.0% disseminated/blebby chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
114.61 TO 131.57	«4,n,Ch,S,s» Felsic Volcanic spherulitic chloritized with semi-massive to massive sulphide bands	-light grey green to dark green black mottled unit with sulphide rich bands -first 12cm dark green intensely chloritized spherulitic rhyolite -becomes light green white and convolutely laminated going to white quartz or exhalite at 115m -convolutely laminated sulphides appear at 116.06m account for up to 20-25% of unit -stringer vein demonstrating alteration style at 116.12-116.15 -semi-massive to massive laminated sulphides from 116.43-116.94m -best chalcopyrite section at 116.56-116.65m -semi-massive laminated to fracture controlled sulphides 117.05-118.43m -possible py clasts at 116.99-117.05m -118.43-119.46 core is greenish white, silicified -1cm spherulites visible at 119.1-119.4m -122.8m black core, intense chloritization -125.53-end of unit -->laminated sulphides reappear, 3-5% total, locally to 60% over 15cm -lower contact gradational, marked by sericitization > chloritization ╣117.15-117.16╠«┤S0 44°├Banding» Bedding ╣126.20-126.21╠«┤S2 40°├» Foliation -weak foliation defined by sericite ╣128.50-128.51╠«┤S0 38°├Banding» Bedding -lamination in sulphides, varies from 35-44°		╣114.61-118.43╠«ChPS ,SeFS,SiFM» strong, pervasive, chloritization; strong, fracture/vein controlled, sericitization; moderate, fracture/vein controlled, silicification ╣118.43-119.46╠«SiFS ,ChPM,SeSW» strong, fracture/vein controlled, silicification; moderate, pervasive, chloritization; weak, spotty, sericitization ╣119.46-121.80╠«ChPS» strong, pervasive, chloritization ╣121.80-131.57╠«ChPS ,SePM,SiFW» strong, pervasive, chloritization; moderate, fracture/vein controlled, sericitization; weak, fracture/vein controlled, silicification	╣115.00-115.70╠«PoB10-15%,PyB1-3%,SphB1-3%,CpD0-1%» 10.0-15.0% bedded/banded pyrrhotite; 1.0-3.0% bedded/banded pyrite; 1.0-3.0% bedded/banded sphalerite; 0.0-1.0% disseminated/blebby chalcopyrite ╣116.43-116.94╠«PoB30-40%,PyB5-10%,SphB5-10%,CpB5-10%» 30.0-40.0% bedded/banded pyrrhotite; 5.0-10.0% bedded/banded pyrite; 5.0-10.0% bedded/banded sphalerite; 5.0-10.0% bedded/banded chalcopyrite ╣117.05-118.43╠«PoB10-15%,PyB3-5%,SphF5-10%,CpB1-3%» 10.0-15.0% bedded/banded pyrrhotite; 3.0-5.0% bedded/banded pyrite; 5.0-10.0% fracture/vein controlled sphalerite; 1.0-3.0% bedded/banded chalcopyrite	
131.57 TO 211.80	«4,a,n,Se» Felsic Volcanic fine grained spherulitic sericitized	-fine grained dark grey to light yellowish green rock with dark grey spots -gradational upper contact -moderate to strong foliation at 45-60° to c.a. -grey spots to 3-4mm noted, larger ones are definitely spherulites, however some smaller, deformed spots may be amygdules (i.e. 134.66-134.8m) -curdy texture 139.8-140m -sulphidic section between two mafic dikes, 148.12-149.68m -152.0-158.6m fragmental appearing rock,		╣131.57-143.45╠«SePM ,ChPW» moderate, pervasive, sericitization; weak, pervasive, chloritization ╣143.45-146.51╠«SePS» strong, pervasive, sericitization ╣152.00-167.00╠«SePS ,ChPW» strong, pervasive, sericitization; weak, pervasive, chloritization	╣148.12-149.62╠«PoB5-10%,PyB1-3%,SphB0-1%» 5.0-10.0% bedded/banded pyrrhotite; 1.0-3.0% bedded/banded pyrite; 0.0-1.0% bedded/banded sphalerite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		siliceous fragments in sericitic, chloritic matrix --> may be primary fragmental, may be lapillistone, more likely preferential alteration of aphanitic groundmass -more curdy textured rhyolite 167-168m -RQD=0 182.5-185 -lower contact lost in broken core and gouge		╣189.80-200.50╠«SePS» strong, pervasive, sericitization		
		╣131.80-132.23╠«7,a»				
		╣133.50-133.51╠«┤S2 56°├» Foliation				
		╣141.50-141.51╠«┤S2 44°├» Foliation				
		╣147.48-148.10╠«7,a,G»				
		╣149.62-151.40╠«7,a,G»				
		╣152.00-158.60╠«4,n,Se(*c?)»				
		╣183.60-183.63╠«┤FAI├w/ clay» Fault -clay filled fault				
		╣197.70-197.71╠«┤S2 47°├» Foliation				
		╣210.79-210.80╠«┤FAI├w/ gouge» Fault				
210.80 TO 251.82	«7,D» Mafic Intrusive feldspar phyric	-fine grained dark grey to dark green porphyritic rock -upper contact lost in broken core and gouge -unit is feldspar phyric, with glomeroporphyritic subhedral feldspars to 3mm accounting for up to 5% of rock -fairly homogenous unit, only varying slightly in phenocryst content and alteration		-weak pervasive and spotty chloritization -very common quartz-carbonate veining at random angles to core axis	-trace disseminated py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
251.82 TO 263.71	«7,a,G» Mafic Intrusive fine grained leucoxene bearing	-fine grained dark green to dark grey rock -fine leucoxene noted -appears identical to leucoxene bearing units earlier in hole				
263.71 TO 296.51	«7,D» Mafic Intrusive feldspar phyric	-fine grained dark grey to dark green porphyritic rock -as above				
296.51 TO 309.00	«7,b,Mag» Mafic Intrusive medium grained magnetite bearing	-mottled dark green and white rock -medium grained equigranular gabbro with green plagioclase -magnetic, up to 1-2% magnetite ‡304.96-305.89‡«10,a» Diabase fine grained,			-1-2% disseminated magnetite	
309.00 TO 309.00	«EOH» End-Of-Hole					

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hb ppm	Sb ppm	Est.Ni %	Est.Po %	Est.Py %	Est.Cp %	Est.Sp %	Est.Gn %	ROCK TYPE	Comments
AT10678	52.09	52.39	0.30	4030	121	7	103	7	0.3										0.0	0.0	0.0	1.0	0.0	0.0	2,a,e,Ch	in QV
AT10679	56.16	56.46	0.30	936	122	37	84	10	0.1										0.0	0.0	0.0	1.0	0.0	0.0	2,a,e,Ch	in QV
AT10680	97.21	97.61	0.40	525	137	4	29	3	0.3										0.0	10.0	3.0	0.0	1.0	0.0	4,a,n,5,s	xenolith
AT10681	106.00	107.00	1.00	180	40	6	108	7	0.2										0.0	3.0	1.0	0.0	0.0	0.0	4,n,Ch	
AT10682	107.00	108.00	1.00	175	282	66	34	3	0.5										0.0	1.0	3.0	0.0	0.0	0.0	4,n,Ch	
AT10683	108.00	108.60	0.60	110	80	3	11	<2	0.1										0.0	0.0	1.0	0.0	0.0	0.0	4,n,Ch	
AT10684	108.60	109.10	0.50	1780	1040	20	6	86	2.2										0.0	7.0	3.0	0.0	0.5	0.0	4,n,Ch	
AT10685	109.10	110.00	0.90	248	213	1	13	10	0.4										0.0	0.0	1.0	0.0	0.0	0.0	4,n,Ch	
AT10686	110.00	110.50	0.50	149	365	1	4	7	0.5										0.0	0.0	1.0	0.0	0.0	0.0	4,n,Ch	
AT10687	110.50	111.25	0.75	3740	7220	133	9	41	4.4										0.0	1.0	4.0	0.0	1.0	0.0	4,n,Ch	
AT10688	111.25	112.10	0.85	2970	38700	45	7	202	3.9										0.0	50.0	10.0	1.0	10.0	0.0	5s	
AT26851	112.10	113.00	0.90	25	309	1	15	<2	0.1																7,a	
AT26852	113.00	114.08	1.08	14	396	1	15	3	0.1																7,a	
AT10689	114.08	114.65	0.57	277	16600	70	8	178	3.0										0.0	50.0	30.0	0.0	5.0	0.0	5s	
AT10690	114.65	115.74	1.09	4440	20200	580	2	123	12.7										0.0	10.0	5.0	0.5	2.0	0.0	4,n,Si,Ch	
AT10691	115.74	116.30	0.56	112	2870	166	1	7	3.5										0.0	1.0	5.0	0.0	0.0	0.0	4,n,Si,Ch	
AT10692	116.30	116.80	0.50	21700	42600	560	1	271	51.0										0.0	40.0	15.0	5.0	3.0	0.0	4,n,Ch,5s	
AT10693	116.80	117.50	0.70	2040	48200	70	1	161	7.2										0.0	30.0	10.0	0.0	3.0	0.0	4,n,Ch,5s	
AT10694	117.50	118.00	0.50	2540	84600	79	1	137	8.7										0.0	15.0	10.0	0.0	5.0	0.0	4,Ch,5s	
AT10695	118.00	118.50	0.50	19200	119200	308	1	151	42.5										0.0	30.0	10.0	2.0	10.0	0.0	4,Ch,5s	
AT10696	118.50	119.00	0.50	673	3770	186	1	31	7.7										0.0	5.0	0.0	0.0	1.0	0.0	4,Si,Se	
AT10697	119.00	119.40	0.40	718	10000	105	1	21	3.6										0.0	1.0	0.0	0.0	0.0	0.0	4,Si,Ch,Se	
AT26853	119.40	120.00	0.60	1810	19600	191	1	14	5.8																4,n,Ch	
AT26854	120.00	121.00	1.00	30	587	11	1	<2	0.3																4,n,Ch	
AT26855	121.00	122.00	1.00	261	595	83	2	7	2.4																4,n,Ch	
AT26856	122.00	123.00	1.00	59	237	1	4	<2	0.2																4,n,Ch	
AT26857	123.00	124.00	1.00	17	226	28	3	65	7.8																4,n,Ch	
AT26858	124.00	125.00	1.00	8	269	27	3	<2	0.9																4,n,Ch	
AT10698	125.00	126.00	1.00	125	1950	42	3	7	0.9																4,n,Ch	
AT10699	126.00	127.00	1.00	482	7060	3270	10	24	3.2										0.0	5.0	0.0	0.0	0.0	0.0	4,n,Ch,Si,Se	
AT10700	127.00	128.00	1.00	330	8020	904	7	17	1.8										0.0	3.0	0.0	0.0	0.0	0.0	4,n,Se,Si,Ch	
AT12401	128.00	129.00	1.00	203	6880	197	6	10	2.5										0.0	5.0	3.0	0.0	0.5	0.0	4,n,Si,Ch	
AT12402	129.00	130.00	1.00	570	13900	105	10	3	3.1										0.0	4.0	0.5	0.0	0.0	0.0	4,n,Ch	
AT12403	130.00	131.00	1.00	1960	344	14	5	21	2.9										0.0	8.0	3.0	0.0	0.0	0.0	4,n,Ch,Se	
AT12406	148.12	149.00	0.88	19	328	2	8	7	0.1										0.0	3.0	0.5	0.0	0.0	0.0	4,n,Ch,Se	
AT12407	149.00	149.62	0.62	350	4600	24	11	14	0.2										0.0	5.0	1.0	0.0	0.5	0.0	4,a,n	
																			0.0	1.0	1.0	0.0	0.0	0.0	4,a,n,	

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AT12482			0.00																							
AT10481	15.60	18.60	3.00																							
AT10482	20.00	22.30	2.30																							
AT10483	26.00	29.00	3.00																							
AT10484	41.00	44.00	3.00																							
AT10485	71.00	74.00	3.00																							
AT10486	90.00	93.00	3.00																							
AT10487	98.00	101.00	3.00																							
AT10488	113.00	113.20	0.20																							
AT10489	119.24	119.40	0.16																							
AT10490	120.35	120.50	0.15																							
AT10491	134.00	137.00	3.00																							
AT10492	143.00	145.00	2.00																							
AT10493	152.00	155.00	3.00																							
AT10494	179.00	182.00	3.00																							
AT10495	191.00	194.00	3.00																							
AT10496	207.00	210.00	3.00																							
AT10497	212.00	215.00	3.00																							
AT10498	242.00	245.00	3.00																							
AT10499	254.00	257.00	3.00																							
AT10500	263.00	266.00	3.00																							
AT12501	293.00	296.00	3.00																							
AT12481	299.00	302.00	3.00																							

HOLE NUMBER: R44-14

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 02/24/1997
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: 8142
PROJECT NUMBER: 8142
CLAIM NUMBER: P-1190197
LOCATION: Robb Twp

PLOTTING COORDS GRID: UTM
NORTH: 5382732.00mN
EAST: 452464.00mE
ELEV: 298.00

ALTERNATE COORDS GRID: Grid
NORTH: 100+18N
EAST: 53+ 0E
ELEV: 298.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 286.00M
START DEPTH: 0.00M
FINAL DEPTH: 286.00M

COLLAR ASTRONOMIC AZIMUTH: 18° 0' 0"

GRID ASTRONOMIC AZIMUTH: 18° 0' 0"

DATE STARTED: 02/09/1996
DATE COMPLETED: 02/13/1996
DATE LOGGED: 02/16/1996

COLLAR SURVEY: NO
RQD LOG: NO
HOLE MAKES WATER: NO

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

CONTRACTOR: Dominik
CASING: NW
CORE STORAGE: Kidd Creek Mine
UTM COORD.: Zone 17

COMMENTS : Test off hole conductor from R44-11
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
31.00	13° 0' 0"	-42°30' 0"	S	OK	
75.00	13°30' 0"	-41°30' 0"	S	OK	
151.00	14° 0' 0"	-38° 0' 0"	S	OK	
211.00	17° 0' 0"	-36° 0' 0"	S	OK	
286.00	° ' "	-34°30' 0"	A	OK	
286.00	24° 0' 0"	-34°30' 0"	S		Azimuth seems off

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 21.00	«┤OB├» Casing Overburden					
21.00 TO 26.35	«4,a,n» Felsic Volcanic fine grained spherulitic	-fine grained dark grey rock -strongly fractured and broken core, RQD=10 -weak to moderate foliation in larger pieces -spherulitic, spherules to 4mm, commonly cored by quartz grains -no quartz phenos not associated with spherulites -weak suggestion of primary fragmental, difficult to tell in weathering and fracturing ╣25.10-25.11╠«┤S2 30°├» Foliation -mostly defined by sericite alteration		-pervasive weak to moderate sericitization, chloritization, -common iron oxide staining along foliation surfaces due to weathering	-none noted	
26.35 TO 35.50	«7,a,e,G» Mafic Intrusive fine grained amygdaloidal/vesicular leucoxene bearing	-fine to medium grained dark to light green rock -upper contact foliation parallel, possibly sheared -strongly altered, possibly sheared for upper 3m -medium grained with good leucoxene @ 29.1m -grain size decreases towards lower contact -quartz and occasionally py filled amygdules noted after 33.5m -variably moderately to strongly foliated, several suggestions of more than one foliation -lower contact lost in broken core ╣27.90-27.91╠«┤S2 38°├» Foliation -strongest foliation at this point ╣34.10-34.11╠«┤S2 20°├» Foliation -strongest foliation		╣26.35-30.50╠«EpFS» strong, fracture/vein controlled, epidotization -foliation parallel	-trace py	
35.50 TO 90.70	«4,f,n» Felsic Volcanic primary fragmentals spherulitic	-dark grey to light grey coarsely spherulitic rock with pebble to cobble sized fragments -upper contact lost in broken core -strongly foliated -coarse spherulites to 4-5mm in size, some fragments to 1.5cm may actually be spherulites -two foliations visible in end of core broken at 90° to core axis at 45.84m --> 1st is low angle to core axis, (≈20°), second is at higher angle (≈45°), foliations are separated by about 30° (2nd counterclockwise from 1st) on broken face -minor mafic leucoxene bearing dikelet,		╣63.00-75.00╠«SeFS ,ChFW» strong, fracture/vein controlled, sericitization; weak, fracture/vein controlled, chloritization ╣75.00-90.70╠«ChSM ,EpFM» moderate, spotty, chloritization; moderate, fracture/vein controlled, epidotization	-remobalized and stringer po, sph, and cpy noted from 65-70.5m, locally to massive veins to 1.5cm thick ╣65.45-65.50╠«PoF5.0-10.0%,CpF0.0-1.0%, SphF1.0-3.0%» 5.0-10.0% fracture/vein controlled pyrrhotite; 0.0-1.0% fracture/vein controlled chalcopyrite; 1.0-3.0% fracture/vein controlled sphalerite ╣68.50-70.10╠«PoF1.0-5.0%,SphF0.0-1.0%»	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		52.9-53.7m -magnetic fine grained diabase dikelet, 61.55-61.8m -foliations become less discernable as spherulites and fragments become coarser after 70m -excellent shear lozenge extures present @ 83.9m -lower contact at start of semi-massive po			1.0-5.0% fracture/vein controlled pyrrhotite; 0.0-1.0% fracture/vein controlled sphalerite ╣81.00-90.70╠«PoD1.0-3.0%,SphD0.0-1.0%» 1.0-3.0% disseminated/blebby pyrrhotite; 0.0-1.0% disseminated/blebby sphalerite	
		╣36.80-36.81╠«┤S2 20°├» Foliation				
		╣43.66-43.86╠«┤FAI├» Fault -broken core, ground rock some gouge				
90.70 TO 94.00	«4,f,l,n,Se /5s» Felsic Volcanic primary fragmentals flows (banded) spherulitic sericitized /Semi-massive sulphides	-fine grained yellow white to grey rock with semi-massive pyrrhotite -fragments to cobble size, apparently primary -some white silicified fragments or exhalite fragments -elongate deformed spherules to 1-2mm -good flow banding exhibitted in fragments throughout, especially well developed at 93m -semi-massive pyrrhotite appears as original open space filling, possible replacement, and some veins -unit is electrically conductive over core length from bottom of unit to 92.6, also strongly magnetic -sulphides decrease radically after 92.6m -lower contact is gradational, marked by end of visibly flow banded fragments, possibly due to increased alteration		╣90.70-94.00╠«SiPS ,EpPM» strong, pervasive, silicification; moderate, pervasive, epidotization	╣90.70-92.60╠«PoM25.0-30.0%,PyD1.0-5.0% ,SphD0.0-1.0%,CpD0.0-0.5%» 25.0-30.0% massive pyrrhotite; 1.0-5.0% disseminated/blebby pyrite; 0.0-1.0% disseminated/blebby sphalerite; 0.0-0.5% disseminated/blebby chalcopyrite ╣93.70-93.71╠«GnF10.0-20.0%» 10.0-20.0% fracture/vein controlled galena -secondary or remobalized, only noted galena in core	Off hole conductor
94.00 TO 128.00	«4,f,n,Se» Felsic Volcanic primary fragmentals spherulitic sericitized	-fine grained yellow green to dark grey rock with pebble to cobble sized fragments -elongate deformed spherules to 5mm -some pea sized fragments may have originally been spherulites -well foliated, only dominant flatttening foliation discerned (suggestion of two foliations noted at 104.5m) -gradational lower contact marked by		╣94.00-128.00╠«SePS» strong, pervasive, sericitization	╣110.00-117.00╠«PyD5.0-8.0%,PoD1.0-3.0% ,SphC0.0-0.5%» 5.0-8.0% disseminated/blebby pyrite; 1.0-3.0% disseminated/blebby pyrrhotite; 0.0-0.5% clasts/fragment of sphalerite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		chlorite>sericite				
		╣101.50-101.51╠«┤S2 41°├» Foliation				
128.00 TO 149.75	«4,n,f,Ch,Se» Felsic Volcanic spherulitic fragmental chloritized sericitized	-fine grained yellow green to black rock with pebble sized siliceous fragments and relict sperulites -upper contact gradational -round to oblong siliceous sericitic structures to 2cm in size noted 128-130m, some appear to be relict spherules -fine grained bleached mafic (?) dikelet noted 130.8-130.9m -variable strong foliation from 40-47°, possible multiple foliations +/- shear, difficult to discern in alteration and mineralization -rock becomes almost totally replaced by chlorite after 138m -good evidence of two foliations in chloritic section at 142.3 -two good foliations noted in chlorite at 146.7m, also minor fold structures, some crenulation cleavage -lower contact somewhat gradational in chloritized zone, based on first determined change in relict fragments		╣128.00-129.70╠«ChPS ,SePM» strong, pervasive, chloritization; moderate, pervasive, sericitization ╣129.70-132.80╠«ChPS ,SiPM» strong, pervasive, chloritization; moderate, pervasive, silicification ╣132.80-149.75╠«ChPS ,SeSM,SiFM» strong, pervasive, chloritization; moderate, spotty, sericitization; moderate, fracture/vein controlled, silicification	╣129.00-136.00╠«PyD5.0-8.0%,PoD3.0-5.0%,SphD0.0-1.0%» 5.0-8.0% disseminated/blebby pyrite; 3.0-5.0% disseminated/blebby pyrrhotite; 0.0-1.0% disseminated/blebby sphalerite ╣145.20-149.50╠«PyD1.0-3.0%,PoD0.0-1.0%» 1.0-3.0% disseminated/blebby pyrite; 0.0-1.0% disseminated/blebby pyrrhotite -locally semi-massive -trace sphalerite, cpy	
		╣139.22-139.27╠«┤FAI├Seam» Fault -water bearing seam at 90° to c.a.				
		╣142.30-142.31╠«┤S2 43°├» Foliation				
		╣146.80-146.81╠«┤S2 36°├2nd Fol» Foliation				
		╣146.81-146.82╠«┤S2 47°├1st Fol» Foliation				
		╣147.90-147.92╠«┤FAI├w/ Gouge» Fault				
149.75 TO 151.05	«2,a,e,*t» Mafic Volcanic fine grained	-fine grained light grey to dark green rock -1-3mm elongate chlorite filled structures appear to be vesicles -appears to be equivalent to bleached, sheared vesicular mafic unit in R44-11		╣149.75-151.50╠«BlPS» strong, pervasive, bleaching	-1-2% disseminated py in chlorite clots (vesicles) ╣152.33-152.49╠«PyF25.0-30.0%,SphF10.0-15.0%»	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	amygdaloida l/vesicular foliated/ sheared	-upper contact taken at textural change in strongly chloritized rock -strongly foliated rock w/ some shear textures -becomes less vesicular, less bleached after 152.5m -fractures at low angle to c.a. much broken core 153.7-154m -lower contact intrusive, irregular, at low angle to c.a. ╣150.50-150.51╠«┤S2 46°├» Foliation			25.0-30.0% fracture/vein controlled pyrite; 10.0-15.0% fracture/vein controlled sphalerite	
151.05 TO 164.77	«7,b,G» Mafic Intrusive medium grained leucoxene bearing	-fine to medium grained dark to light green rock -good upper and lower chill margins -very weakly foliated -becomes medium grained, visible leucoxene by 155m -lower contact sharp @ 49° to c.a.		-minor sauceritization of feldspars -minor quartz-epidote viening at random angles to c.a.	-trace disseminated euhedral py near upper contact	
164.77 TO 202.50	«2,a,e,*t,B l» Mafic Volcanic fine grained amygdaloida l/vesicular foliated/ sheared bleached	-light grey to dark green black rock -strongly foliated -small black elongate chlorite filled clots to 1-2mm, probably after original vesicles -2-3mm quartz filled augens probably after original amygdules -groundmass is fine grained, bleached, sericitic -sections are separated on a 3-20cm scale by dark black fine grained chloritic sections (pillow selvages?) -appears reminiscent of deformed and altered pillows/pillow breccia -170-170.5m long fracture subparallel to core axis -groundmass in semi-massive sulphide zone shows similar texture, more alteration, silicification -sulphides appear to be fracture filling and replacement -numerous shear related microstructures visible under hand lens -kink band noted @ 175.75 -unusual replacement and fragment alteration textures noted @ 179.5-180m, also left lateral movement along "microfaults" noted in fragments in this interval --> movement planes subparallel to c.a.		╣164.77-171.50╠«BlPS ,ChFM» strong, pervasive, bleach ing; moderate, fracture/vein controlled, chloritization ╣171.50-186.50╠«SiPS ,ChFM,BlPM» strong, pervasive, silicification; moderate, fracture/vein controlled, chloritization; moderate, pervasive, bleaching ╣187.00-202.50╠«SePS ,ChPM,BlPS» strong, pervasive, sericitization; moderate, pervasive, chloritization; strong, pervasive, bleaching	╣171.50-180.00╠«PyF15.0-20.0%,PoF1.0-3.0%» 15.0-20.0% fracture/vein controlled pyrite; 1.0-3.0% fracture/vein controlled pyrrhotite ╣180.00-181.50╠«PyF25.0-30.0%,PoF1.0-5.0%» 25.0-30.0% fracture/vein controlled pyrite; 1.0-5.0% fracture/vein controlled pyrrhotite ╣181.50-186.00╠«PyF10.0-15.0%,PoF1.0-3.0%» 10.0-15.0% fracture/vein controlled pyrite; 1.0-3.0% fracture/vein controlled pyrrhotite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-clear quartz infilling (secondary?) of augens common to mineralized sections -186-187m RQD=10-20, much broken core, evidence of fracture subparallel to c.a., some gouge noted -193.45-196m RQD=20, much broken and poker chip core -numerous shear related microstructures from 193 to end of unit -kink banding common, from 188m to end of unit -axial planes to kink bands commonly occupied by low angle to c.a. (10-15°) quartz veins -visible folding of foliation surfaces along kink bands from 186m-202.5m -lower contact at quartz vein ╣165.90-165.91╠«┤S2 39°├» Foliation ╣174.95-174.96╠«┤FAI├Seam» Fault ╣180.77-180.78╠«┤S0 38°├Sulphides» Bedding -banding in sulphides ╣186.50-186.52╠«┤FAI├w/ Gouge» Fault				
202.50 TO 208.39	«2,a,m» Mafic Volcanic fine grained massive	-fine grained dark green grey rock -upper contact lost in q.v. -moderately foliated -possible amygdules @ 203.5m -minor shear textures visble -non-magnetic -massive, no clearly discernable primary structures -internal contacts, possible intrusive dike @ 207.56 and 207.73m -low angle to c.a. 2nd foliation visible as fine fracture pattern in undetermined structures @ 207.78-208m -main foliation pattern in unit repeated as fine fracture pattern 208.2-20 8.39m -last 0.5m of unit may be baked contact, hornfels which picks up foliations as fracture patterns -lower contact foliation parallel ╣204.75-204.76╠«┤S2 49°├» Foliation		-pervasive weak to moderate chloritization	-trace disseminated po, py -cpy smears on chloritic fracture surfaces ╣202.87-202.89╠«CpF3.0-10.0%» 3.0-10.0% fracture/vein controlled chalcopyrite -in quartz vein ╣204.80-207.00╠«CpF0.0-0.1%» 0.0-0.1% fracture/vein controlled chalcopyrite -in chlorite slip surfaces	

HOLE NUMBER: R44-14 DRILL HOLE RECORD DATE: 02/24/1997

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
208.35 TO 220.27	«7,b,G» Mafic Intrusive medium grained leucoxene bearing	-fine to medium grained dark green mottled rock -upper contact foliation parallel -good chill margin @ upper contact, grain size increases to medium grained within 0.5m -weakly foliated -good leucoxene noted throughout -shear bands +/- xenoliths of 1) feldspar phyric dark grey mafic to intermediate intrusive (209.85-209.95m) and 2) quartz phyric spherulitic felsic volcanic (216.8-.83m, 217.12-.22m, 217.75-.83m) --> contacts show no chill margins, are foliation parallel, and leucoxenes appear more smeared -lower contact has no chill margin, at foliation parallel q.v. and seam ╣210.00-210.01╠«┤S2 45°├» Foliation		-pervasive sauseritizaton of feldspars -common quartz epidote foliation parallel stringer veins	-trace disseminated py at upper chill margin -chlorite slip fracture w/ associated cpy smears @ 208.4m	
220.27 TO 226.92	«4,a,n,*t» Felsic Volcanic fine grained spherulitic foliated/ sheared	-fine grained dark grey rock -spherules to 3mm, commonly cored by quartz grains -well foliated with main flattening foliation, second foliation less well developed, noted mostly as lineation on flattening foliation parallel fracture surfaces -minor shear structures common -no visible discernable primary fragments -lower contact foliation parallel ╣223.50-223.51╠«┤S2 45°├» Foliation		╣220.27-226.92╠«SePM ,ChPW» moderate, pervasive, sericitization; weak, pervasive, chloritization	╣221.60-226.30╠«CpF0.0-0.1%» 0.0-0.1% fracture/vein controlled chalcopyrite -1-2mm stringer cpy, generally (but not exclusively) associated w/ quartz veins, mostly foliation parallel, probably remobalized	One of cpy bearing stringer veins was included in whole rock sample, Cu content should be higher than common for unit as a whole.
226.92 TO 228.48	«7,a,G» Mafic Intrusive fine grained leucoxene bearing	-fine to medium grained dark green rock with white flecks -fairly common example of thin leucoxene bearing dike/sill -non-magnetic -227.25-227.64 contains quartz "eyes", rounded, anhedral, possibly quartz filled amygdules of intrusive which rose high into volcanic pile -upper and lower contacts foliation parallel ╣227.94-227.95╠«┤S2 44°├» Foliation		-weak to moderate pervasive chloritization -common quartz veining	-trace py and cpy in a foliation parallel stringer noted at 227.72m	
228.48 TO 257.50	«2,a,Ep,Ch» Mafic Volcanic fine grained	-fine grained dark to light green rock with light greenish white knots/nodules -well foliated -numerous shear structures -epidote nodules from 1cm to 10cm+ in size start		╣234.80-257.50╠«EpSS ,ChPW» strong, spotty, epidotization; weak, pervasive, chloritization	-trace stringer and disseminated to blebby py & po, very rare cpy	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	epidotized chloritized	to appear after 233.5m -epidote nodules appear similar to those found in Noranda and Snow Lake camps -larger nodules commonly appear to be zoned, -most nodules have been brittle fractured w/ micro offsets, commonly boudinaged, -suggestion of pillow structures (i.e.possible selvages, interpillow breccia?) 235-237.5m -low angle seam @ 235.1-235.3 -two foliations and kink band axial trend visible 235.5-235.7m -zone of leaching, iron staining, vuggy po, 253-25 3.8m -lower contact is gradational, marked by end of epidote nodules ╣230.50-230.51╠«┤S2 47°├» Foliation ╣235.50-235.51╠«┤S2 47°├Flattening» Foliation -main flattening foliation , varies 46-52° ╣235.70-235.71╠«┤S2 51°├2nd Fol» Foliation -second foliation offset ~50° clockwise from main flattening foliation viewed downhole -2nd foliation in this area appears axial planar to some kink bands				
257.50 TO 286.00	«2,a,*g,*t, Se,Ch» Mafic Volcanic fine grained thinly laminated foliated/ sheared sericitized chloritized	-fine grained dark green to yellow green rock -very strongly foliated, rock has become thinly laminated due to foliation/shear -rock is essentially a chlorite-sericite schist -remnant structures (i.e. 270m) suggest protolith was vesicular +/- amygduloidal, but strain rate is much higher than in any previously observed unit -foliation is commonly folded, kinked -kink bands often observed to be of greater amplitude than higher in hole, increases downhole through unit -shear textures and micro faults with mm scale offet are extremely common throughout unit -257-261m RQD=11%, mostly poker chip core -definate polyphasic deformation ╣256.82-256.83╠«┤FAI├w/ Gouge» Fault		╣257.50-264.50╠«ChPS ,EpPM» strong, pervasive, chloritization; moderate, pervasive, epidotization ╣264.50-286.00╠«SePS ,ChPS» strong, pervasive, sericitization; strong, pervasive, chloritization	-trace py & po	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-foliation parallel				
		╡261.00-261.01╞«┤S2 54°├» Foliation				
		╡267.00-267.01╞«┤S2 32°├» Foliation				
		╡273.00-273.01╞«┤S2├Kink Axial» Foliation				
		╡277.30-277.31╞«┤S2 39°├» Foliation				
		╡281.00-281.01╞«┤S2 40°├» Foliation				
286.01 TD 286.01	«EOH» End-Of-Hole					

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hb ppm	Sb ppm	Est.Ni %	Est.Po %	Est.Py %	Est.Cp %	Est.Sp %	Est.Gn %	ROCK TYPE	Comments
AT02811	64.00	65.00	1.00	4	13	1	5	7	0.1										0.0	0.0	0.5	0.0	0.0	0.0	4,n,f	
AT02812	65.00	65.50	0.50	247	1100	125	116	3	1.2										0.0	4.0	1.0	0.5	1.0	0.0	4,n,f	
AT02813	65.50	67.00	1.50	6	23	2	9	<2	0.1										0.0	0.5	0.5	0.0	0.0	0.0	4,n,f	
AT02814	67.00	67.50	0.50	620	11900	3720	57	<2	1.8										0.0	5.0	1.0	1.5	3.0	0.0	4,n,f	
AT02815	67.50	68.50	1.00	6	394	19	6	3	0.1										0.0	0.0	0.5	0.0	0.0	0.0	4,n,f	
AT02816	68.50	69.50	1.00	42	1040	119	6	7	0.2										0.0	1.0	0.0	0.0	1.0	0.0	4,n,f	
AT02817	69.50	70.00	0.50	103	597	148	5	3	0.3										0.0	3.0	0.0	0.1	0.5	0.0	4,n,f	
AT02818	70.00	71.50	1.50	10	38	3	4	7	0.1										0.0	1.0	0.0	0.0	0.1	0.0	4,n,f	
AT02819	82.00	83.50	1.50	40	17	1	5	34	0.1										0.0	1.5	0.0	0.1	0.1	0.0	4,n,f	
AT02820	83.50	85.00	1.50	9	20	2	3	21	0.1										0.0	1.0	0.0	0.0	0.1	0.0	4,n,f	
AT02821	85.00	86.50	1.50	26	197	44	6	17	0.2										0.0	5.0	1.0	0.0	0.5	0.0	4,n,f	
AT02822	86.50	88.00	1.50	22	71	17	10	<2	0.1										0.0	1.0	0.0	0.0	0.0	0.0	4,n,f	
AT02823	88.00	89.50	1.50	37	373	95	7	<2	0.3										0.0	3.0	1.0	0.0	0.0	0.0	4,n,f	
AT02824	89.50	90.50	1.00	5	1160	16	22	<2	0.8										0.0	0.5	0.0	0.0	0.0	0.0	4,n,f	
AT02825	90.50	91.00	0.50	192	1980	948	49	<2	1.5										0.0	30.0	5.0	0.5	1.0	0.0	4,n,f/5,s	
AT02826	91.00	91.50	0.50	777	32	3	68	<2	0.2										0.0	30.0	5.0	0.5	1.0	0.0	4,n,f/5s	
AT02827	91.50	92.00	0.50	221	28	1	51	<2	0.2										0.0	30.0	5.0	0.5	1.0	0.0	4,n,l,f/5s	
AT02828	92.00	93.00	1.00	328	22	2	55	<2	0.2										0.0	20.0	3.0	0.0	0.5	0.0	4,n,l,f/5s	
AT02829	93.00	94.00	1.00	53	160	227	42	<2	0.2										0.0	2.0	0.0	0.0	0.0	0.5	4,n,l,f	
AT02821	94.00	95.00	1.00	5	20	7	6	7	0.1										0.0	1.0	0.0	0.0	0.0	0.0	4,n,l,f	
AT02822	106.00	107.50	1.50	12	11	1	14	3	0.1										0.0	0.5	0.0	0.0	0.0	0.0	4,n,f,Se	
AT02823	107.50	108.50	1.00	12	73	26	3	<2	0.1										0.0	0.5	2.0	0.0	0.1	0.0	4,n,f,Se	
AT02824	108.50	109.50	1.00	161	2290	15	11	<2	0.6										0.0	0.0	5.0	0.0	0.5	0.0	4,n,f,Se	
AT02825	109.50	110.50	1.00	59	166	6	9	10	0.2										0.0	0.0	3.0	0.0	0.0	0.0	4,n,f,Se	
AT02826	110.50	111.50	1.00	73	61	4	7	<2	0.4										0.0	1.0	5.0	0.0	0.5	0.0	4,n,f,Se	
AT02827	111.50	112.50	1.00	258	932	4	14	<2	1.3										0.0	3.0	8.0	0.0	0.0	0.0	4,n,f,Se	
AT02828	112.50	113.00	0.50	670	676	13	11	<2	3.0										0.0	3.0	10.0	0.0	1.0	0.0	4,n,f,Se	
AT02829	113.00	113.50	0.50	438	18700	33	7	72	2.4										0.0	5.0	10.0	0.0	3.0	0.0	4,n,f,Se	
AT02830	113.50	114.25	0.75	618	3980	24	5	<2	2.5										0.0	5.0	10.0	0.0	5.0	0.0	4,n,f,Se	
AT02831	114.25	115.00	0.75	108	239	37	11	31	1.1										0.0	3.0	10.0	0.0	1.0	0.0	4,n,f,Se	
AT02832	115.00	116.00	1.00	47	156	24	5	<2	0.5										0.0	1.0	5.0	0.0	0.0	0.0	4,n,f,Se	
AT02833	116.00	117.00	1.00	48	86	8	6	<2	0.2										0.0	0.0	3.0	0.0	0.0	0.0	4,n,f,Se	
AT02834	117.00	118.00	1.00	15	38	2	10	3	0.1										0.0	0.0	1.0	0.0	0.0	0.0	4,n,f,Se	
AT02835	118.00	119.50	1.50	19	123	4	4	3	0.1										0.0	0.0	0.5	0.0	0.0	0.0	4,n,f,Se	
AT02836	119.50	121.00	1.50	6	30	2	3	<2	0.1										0.0	0.0	0.0	0.0	0.0	0.0	4,n,f,Se	
AT02837	124.00	125.50	1.50	51	41	7	13	<2	0.1										0.0	0.0	5.0	0.0	0.0	0.0	4,n,Ch,Se	
AT02838	125.50	127.00	1.50	53	60	14	7	3	0.3										0.0	0.0	1.0	0.0	0.0	0.0	4,n,Ch,Se	
AT02839	127.00	128.50	1.50	45	241	45	4	<2	0.3										0.0	0.0	1.0	0.0	0.0	0.0	4,n,Ch,Se	
AT02840	128.50	130.00	1.50	15	485	94	1	7	0.3										0.0	0.5	3.0	0.0	0.1	0.0	4,n,Ch,Se	
AT02841	130.00	130.50	0.50	960	10700	275	2	3	5.4										0.0	0.5	7.0	0.0	1.0	0.0	4,n.Si,Ch	
AT02842	130.50	131.50	1.00	97	2380	66	6	<2	0.9										0.0	0.0	5.0	0.0	0.5	0.0	4,n,Si,Ch	
AT02843	131.50	132.00	0.50	6	311	119	1	7	0.3										0.0	0.0	5.0	0.0	0.0	0.0	4,n,Si,Ch	
AT02844	132.00	132.50	0.50	6	197	49	1	3	0.2										0.0	0.0	5.0	0.0	0.0	0.0	4,n,Si,Ch	
AT02845	132.50	133.00	0.50	45	1750	82	2	27	0.7										0.0	0.0	10.0	0.0	0.5	0.0	4,n,Si,Ch	
AT02846	133.00	134.00	1.00	42	2260	107	11	34	0.8										0.0	0.0	8.0	0.1	0.5	0.0	4,n,f,Si,Ch	
AT02847	134.00	134.75	0.75	47	3480	78	4	27	0.9										0.0	0.0	8.0	0.0	0.5	0.0	4,n,Ch,Si	
AT02848	134.75	135.50	0.75	18	178	28	4	3	0.6										0.0	0.0	10.0	0.0	1.0	0.0	4,n,f,Si,Ch	

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hb ppm	Sb ppm	Est.Ni %	Est.Po %	Est.Py %	Est.Cp %	Est.Sp %	Est.Gn %	ROCK TYPE	Comments
AT02849	135.50	136.00	0.50	40	4020	18	3	34	1.5										0.0	0.0	10.0	0.0	1.0	0.0	4,n,Ch,Si	
AT02851	136.00	137.50	1.50	73	2300	54	1	3	0.8										0.0	0.0	3.0	0.0	0.0	0.0	4,n,Ch,Si	
AT02852	137.50	139.00	1.50	54	517	49	2	27	1.5										0.0	0.0	0.0	0.0	0.0	0.0	4,n,Ch	
AT02853	139.00	140.50	1.50	173	700	106	3	34	3.4										0.0	0.0	0.0	0.0	0.0	0.0	4,n,Ch	
AT02854	140.50	142.00	1.50	265	394	21	1	17	0.9										0.0	0.0	0.0	0.0	0.0	0.0	4,n,Ch	
AT02855	142.00	142.50	0.50	730	3240	18	1	7	1.2										0.0	0.0	0.0	0.0	0.0	0.0	4,n,Ch	
AT02856	142.50	143.00	0.50	5040	11300	83	1	31	4.3										0.0	0.0	0.0	0.0	0.0	0.0	4,n,Ch	
AT02857	143.00	143.50	0.50	1250	6720	303	1	45	10.9										0.0	0.0	0.0	0.5	0.0	0.0	4,n,Ch	
AT02858	143.50	145.00	1.50	671	368	15	1	3	1.2										0.0	0.0	0.0	0.0	0.0	0.0	4,n,Ch	
AT02859	145.00	146.00	1.00	906	546	7	2	21	1.2										0.0	0.0	3.0	0.0	0.0	0.0	4,n,Ch,Si	
AT02860	146.00	147.00	1.00	1130	8580	58	1	45	1.8										0.0	0.0	5.0	0.0	0.0	0.0	4,n,Ch,Si	
AT02861	147.00	148.00	1.00	1140	2180	42	2	<2	1.1										0.0	0.0	10.0	0.0	0.0	0.0	4,n,Ch	
AT02862	148.00	149.00	1.00	147	1290	4	1	<2	0.2										0.0	0.0	8.0	0.0	0.0	0.0	4,n,Ch	
AT02863	149.00	149.75	0.75	205	473	21	2	7	0.5										0.0	0.0	0.0	0.0	0.0	0.0	4,n,Ch	
AT02864	149.75	150.25	0.50	21	197	1	22	<2	0.2										0.0	0.0	5.0	0.0	0.0	0.0	4,Ch	
AT02865	150.25	151.00	0.75	88	66	1	89	<2	0.1										0.0	0.0	1.0	0.0	0.0	0.0	2,a,e,Ch	
AT02866	151.00	152.00	1.00	114	56	1	87	<2	0.1										0.0	0.0	2.0	0.0	0.0	0.0	2,a,e,Bl	
AT02867	152.00	152.50	0.50	800	8820	161	60	34	1.0										0.0	0.0	1.0	0.0	0.0	0.0	2,a,e,Bl	
AT02868	152.50	154.00	1.50	24	191	2	84	<2	0.1										0.0	0.0	10.0	0.0	3.0	0.0	2,a,e,Bl	
AT02869	154.00	154.50	0.50	68	140	1	60	<2	0.1										0.0	0.0	1.0	0.0	0.0	0.0	2,a,e,Bl	
AT02871	168.00	168.50	0.50	23	89	1	61	<2	0.1										0.0	0.0	1.0	0.0	0.0	0.0	7,a	
AT02872	168.50	169.00	0.50	308	110	1	67	<2	0.2										0.0	0.0	0.0	0.0	0.0	0.0	2,a,e,*t,Bl	
AT02873	169.00	170.50	1.50	27	117	1	68	<2	0.1										0.0	0.0	0.0	0.5	0.0	0.0	2,a,e,*t,Bl	
AT02874	170.50	171.50	1.00	15	149	1	76	<2	0.1										0.0	0.0	0.0	0.0	0.0	0.0	2,a,e,*t,Bl	
AT02875	171.50	172.00	0.50	149	484	40	68	79	3.6										0.0	0.0	0.5	0.0	0.0	0.0	2,a,e,*t,Bl	
AT02876	172.00	173.00	1.00	200	2070	93	65	82	3.5										0.0	2.0	10.0	0.0	0.5	0.0	2,a,e,*t,Bl	
AT02877	173.00	174.00	1.00	363	2220	49	77	96	4.3										0.0	3.0	20.0	0.1	0.5	0.0	2,a,e,*t,Bl	
AT02878	174.00	175.00	1.00	251	222	29	83	75	3.3										0.0	1.0	8.0	0.0	0.5	0.0	2,a,e,*t,Bl	
AT02879	175.00	176.00	1.00	93	121	10	97	17	1.1										0.0	0.5	8.0	0.0	0.0	0.0	2,a,e,*t,Bl	
AT02880	176.00	177.00	1.00	61	106	16	76	41	1.2										0.0	0.0	5.0	0.0	0.0	0.0	2,a,e,*t,Bl	
AT02881	177.00	178.00	1.00	172	249	35	68	75	3.0										0.0	0.0	8.0	0.0	0.0	0.0	2,a,e,*t,Bl	
AT02882	178.00	179.00	1.00	195	2140	29	74	62	3.1										0.0	1.0	10.0	0.0	0.5	0.0	2,a,e,*t,Bl	
AT02883	179.00	180.00	1.00	264	3880	41	77	72	2.7										0.0	1.0	10.0	0.1	0.5	0.0	2,a,e,*t,Bl	cpy in qv
AT02884	180.00	181.00	1.00	400	6730	49	79	82	5.3										0.0	1.0	8.0	0.0	0.0	0.0	2,a,e,*t,Bl	
AT02885	181.00	181.50	0.50	404	223	34	66	110	3.9										0.0	1.0	25.0	0.0	0.5	0.0	2,a,e,*t,Bl,Si	
AT02886	181.50	182.00	0.50	97	137	7	100	<2	0.7										0.0	0.0	35.0	0.0	0.0	0.0	2,a,e,*t,Si	
AT02887	182.00	183.00	1.00	53	80	14	85	10	0.6										0.0	1.0	8.0	0.0	0.0	0.0	2,a,e,*t,Si	
AT02888	183.00	184.00	1.00	50	68	11	101	7	0.5										0.0	1.0	10.0	0.0	0.5	0.0	2,a,e,*t,Si,Bl	
AT02889	184.00	185.00	1.00	129	76	6	98	<2	0.4										0.0	1.0	10.0	0.0	0.5	0.0	2,a,e,*t,Si,Bl	
AT02890	185.00	186.00	1.00	553	61	7	103	7	0.6										0.0	1.0	8.0	0.0	0.0	0.0	2,a,e,*t,Bl	
AT02892	186.00	187.00	1.00	343	83	1	82	3	0.2										0.0	2.0	20.0	0.0	1.0	0.0	2,a,e,*t,Bl,Si	
																			0.0	0.0	0.0	0.0	0.0	0.0	2,a,e,*t,Bl	

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AT02659	22.00	25.00	3.00																							
AT02660	27.50	30.50	3.00																							
AT02661	37.00	40.00	3.00																							
AT02662	73.00	76.00	3.00																							
AT02663	97.00	100.00	3.00																							
AT02664	121.00	124.00	3.00																							
AT02665	139.00	142.00	3.00																							
AT02666	150.56	150.66	0.10																							
AT02667	160.00	163.00	3.00																							
AT02668	164.77	167.77	3.00																							
AT02669	187.00	190.00	3.00																							
AT02670	205.00	208.00	3.00																							
AT02671	211.00	214.00	3.00																							
AT02672	216.87	216.95	0.08																							
AT02673	217.07	217.18	0.11																							
AT02674	223.00	226.00	3.00																							
AT02675	232.00	235.00	3.00																							
AT02676	247.00	250.00	3.00																							
AT02677	259.00	262.00	3.00																							
AT02678	280.00	283.00	3.00																							

HOLE NUMBER: R44-15

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 02/24/1997
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: 8142
PROJECT NUMBER: 8142
CLAIM NUMBER: P-997530
LOCATION: Robb Twp

PLOTTING COORDS GRID: UTM
NORTH: 5383598.00mN
EAST: 452564.00mE
ELEV: 296.00

ALTERNATE COORDS GRID: Grid
NORTH: 108+40N
EAST: 50+ 0E
ELEV: 296.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 399.00M
START DEPTH: 0.00M
FINAL DEPTH: 399.00M

COLLAR ASTRONOMIC AZIMUTH: 206° 0' 0"

GRID ASTRONOMIC AZIMUTH: 206° 0' 0"

DATE STARTED: 02/14/1996
DATE COMPLETED: 02/20/1996
DATE LOGGED: 02/23/1996

COLLAR SURVEY: NO
RQD LOG: NO
HOLE MAKES WATER: NO

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

CONTRACTOR: Dominik Drilling
CASING: BW
CORE STORAGE: Kidd Creek Mine
UTM COORD.: Zone 17

COMMENTS : Test TEM conductors under Halfmoon Lake
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
48.00	210° 0' 0"	-44° 0' 0"	S	OK	
111.00	210° 0' 0"	-38°30' 0"	S	OK	
170.00	211° 0' 0"	-32° 0' 0"	S	OK	
230.00	212° 0' 0"	-28°45' 0"	S	OK	
290.00	212° 0' 0"	-25°30' 0"	S	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 36.00	«┤OB├» Casing Overburden					
36.00 TO 84.69	«4,a,e,n,q» Felsic Volcanic fine grained amygdaloidal/vesicular spherulitic quartz phyric	-fine grained light grey green rock -spherulitic, spherules to 1-2mm -quartz eyes noted -round to elliptic white quartz filled structures to 1cm in size, probably amygdules -weakly to moderately foliated -common shear lozenge textures noted, prominent to 43m, more subtle after -43.08-43.29 fine grained diabase dike, magnetic -RQD=11% 36-45m -leached, iron stained, broken core 48.3-55.5m, 58-59m, 63-64.69m -lower contact foliation parallel, in leached and altered zone, possibly structural ╣42.20-42.21╠«┤S2 49°├» Foliation		╣48.30-54.60╠«RsFS» strong, fracture/vein controlled, rust staining ╣63.30-64.69╠«RsFS» strong, fracture/vein controlled, rust staining	-1-2% disseminated py	
84.69 TO 175.00	«7,a,G» Mafic Intrusive fine grained leucoxene bearing	-fine to medium grained dark green rock -upper contact in foliated and leached zone -non-magnetic -leucoxene noted throughout unit -minor shear textures common in upper 9m of unit -suggestion of second foliation besides weak to moderate flattening foliation at begining of unit -numerous sections with small pieces and sand show iron staining, probably fractures open to surface -grain size becomes medium grained from 72-75m -grain size decreases from 104.5m to end of unit, appears to be good chill margin at lower contact ╣65.10-65.11╠«┤S2 54°├» Foliation -weak to moderate regional flattening foliation ╣68.00-68.40╠«┤FAI├w/ Sand» Fault ╣70.00-70.10╠«┤FAI├w/ Sand» Fault ╣75.70-75.90╠«┤FAI├w/ Sand» Fault		-common quartz carbonate veins and stringers at random orientation to c.a. ╣79.00-80.00╠«EpFW» weak, fracture/vein controlled, epidotization	-trace disseminated py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
105.11 TO 177.65	«4,a,e,n,q» Felsic Volcanic fine grained amygdaloidal/vesicular spherulitic quartz phyric	-fine grained light to dark grey rock -essentially the same rock unit as above mafic intrusive -spherulitic, spherules to 1-2mm, commonly cored by quartz grains -quartz microphyric, euhedral phenocrysts to 0.5mm -quartz carbonate filled amygdules to 3-4mm -weakly to moderately foliated, suggestion of two foliations -strength of foliation picks up after 160m, where groundmass becomes more pervasively chloritized -good evidence of two foliations shows up between 169-171m, both between 57-63°, rotated approximately 15° -lower contact intrusive, somewhat irregular, basically foliation parallel ╣107.50-107.51╠«┤S2 60°├» Foliation ╣112.82-113.13╠«┤FAI├ Seam» Fault -strongly leached rock, evidence of substancial focussed fluid flow ╣119.00-119.01╠«┤S2 60°├» Foliation ╣132.00-132.01╠«┤S2 57°├» Foliation ╣133.50-133.51╠«┤S2 33°├Fractures» Foliation ╣135.50-135.51╠«┤S2 56°├» Foliation ╣163.50-163.51╠«┤S2 62°├» Foliation		-pervasive weak to moderate sericitization -common cm wide q.v. at fairly random angles to c.a. from 130-158m ╣112.50-116.00╠«BlPS» strong, pervasive, bleaching associated with seam at 112.82-113.13m	╣106.00-145.00╠«PyF1.0-5.0%,SphF0.1-2.0%,PoF0.0-1.0%» 1.0-5.0% fracture/vein controlled pyrite; 0.1-2.0% fracture/vein controlled sphalerite; 0.0-1.0% fracture/vein controlled pyrrhotite -as 0.5mm to 1cm wide stringer veins at high angles to core axis, often parallel foliation but often crosscutting -pyrite also occurs as disseminated euhedral to subhedral grains to 1mm in size throughout mineralized area	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
177.66 TO 260.52	«7,b,G» Mafic Intrusive medium grained leucoxene bearing	-fine to medium grained light green rock -weakly magnetic -leucoxene bearing -equigranular -weakly foliated -shear textures present locally -upper contact somewhat irregular, intrusive, dominantly foliation parallel -fine grained chill margin like contact to 178.5 with gradually increasing grain size -188.73-189.01m fine grained section, internal chill margin or mafic volcanic xeneolith, (also 189.07-189.12m) -finer grained internal dikelet, 245-245.2m -long fracture parallel to c.a., 254.5-255.6m -shear textures increase after 257m -lower contact shows gradational decrease in grain size, chill margin features -lower contact at foliation parallel minor shear ╣186.20-186.21╠«┤S2 58°├» Foliation -weak foliation ╣260.50-260.51╠«┤S2 57°├Shear» Foliation		-common pervasive weak to moderate chloritization of groundmass -common sauseritization of feldspars -unusual orange stain/mineral associated w/ q.v.'s from 216-231m --> doesn't appear to be hematite, possibly orpiment, possibly rhodonite --> again at 242-251.5m ╣179.00-183.00╠«EpFM» moderate, fracture/vein controlled, epidotization ╣214.00-229.60╠«EpFM» moderate, fracture/vein controlled, epidotization ╣242.00-260.00╠«EpFW» weak, fracture/vein controlled, epidotization	-trace disseminated and vein related py	
260.52 TO 281.62	«4,a,n,q,Mag» Felsic Volcanic fine grained spherulitic quartz phyric magnetite bearing	-fine grained dark grey rock -spherulitic, spherules to 1-2mm -minute (<1mm) magnetite grains, unit is magnetic over large intervals -unit is very siliceous -minute quartz grains noted -unit is moderately foliated, foliation defined by chlorite veinlets -no visible primary bedding or fragments -minor shear structures common, suggestion of 2-3cm wide transported/juxtaposed shear lozenges -jointing pattern at 15° to c.a. common from 276m to end of unit -shear pod (?) of mafic volcanic 281.23-281.32m -numerous small shear lozenges, sheared post carbonate veining noted at 281 .47-281.52m -lower contact foliation parallel with minor kink band offset ╣262.50-262.51╠«┤S2 58°├» Foliation		╣260.52-281.62╠«ChFW» weak, fracture/vein controlled, chloritization -defines foliation(s)	-trace to 1% disseminated and foliation parallel stringer veinlets of py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		╣277.60-277.61╠«┤S2 60°├» Foliation				
281.62 TO 283.40	«2,a,e,*t» Mafic Volcanic fine grained amygdaloida l/vesicular foliated/ sheared	-fine grained dark grey green rock -well foliated -shear structures throughout, numerous small shearpods of juxtaposed felsic material -common quartz +/- calcite filled amygdules, commonly containing oxide or sulphide grains, commonly deformed by flattening -lower contact foliation parallel shear(?)		-common calcite veins -pervasive, weak carbonatization	-none noted except in amygdules -none noted	
		╣282.30-282.31╠«┤S2 62°├» Foliation				
283.40 TO 287.76	«4,a,n,q» Felsic Volcanic fine grained spherulitic quartz phyric	-fine grained dark grey rock -same as previous felsic unit but no magnetite present -common shear textures, shear lozenges of mafic volcanic present at 283.8m -moderately to well foliated, with change in angle to c.a. through unit (may actually be that a second foliation becomes the predominant foliation. This interpretation appears supported by orientations of chloritic foliation planes at 287.55m) -284.75-286.75m RQD=15%, most core in poker chips of 1-2cm thickness, appears to have been some leaching along foliation planes (i.e. 286m) -lower contact foliation/shear parallel at 75°		-pervasive weak to moderate chloritization defining spaced foliation planes	-trace to 1% disseminated and q.v. related py mineralization	
		╣283.66-283.67╠«┤S2 74°├» Foliation				
		╣286.00-286.01╠«┤S2 75°├» Foliation				
287.76 TO 289.51	«2,a,e,*t» Mafic Volcanic fine grained amygdaloida l/vesicular foliated/ sheared	-fine grained dark grey green rock -same rock as 281.62-283.4m -folding of foliation planes noted, at 288.2m -jointing at 15° to c.a. noted @ 288.9m -numerous small scale shear textures present -lower contact foliation parallel at 71°		-pervasive weak to moderate carbonatization	-trace to 1% disseminated and joint related py mineralization	
		╣288.00-288.01╠«┤S2 65°├» Foliation -also second foliation @ 60°				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
289.51 TO 299.50	«4,a,n,q,*t» Felsic Volcanic fine grained spherulitic quartz phyric foliated/ sheared	-fine grained dark grey rock -essentially identical to previous felsic unit -no discernable magnetite -multiple moderate to strong foliations at 60-80° to c.a. -kinked and folded foliations noted, excellent examples at 292.5-292.8m -common minor shear textures -polyphase deformation evident in microstructures -chlorite shears/slips/foliations, define a minimum of two foliation orientations -foliation defined by preferential stretching and flattening directions of quartz boudins gives lineation subparallel to long axis of ellipse formed by intersection of core axis and foliation surface -lower contact slightly irregular due to shear lozenges of differing composition and orientation		-common pervasive fracture/foliation controlled chloritization	-1-2% disseminated and foliation/fracture related stringers	
299.50 TO 318.95	«2,a,*t,Mag» Mafic Volcanic fine grained foliated/ sheared magnetite bearing	-fine to medium grained dark green rock -amygduloidal at upper contact -strongly foliated -shear lozenges throughout -magnetite grains to 0.5-1mm -multiple foliations/chlorite slip surfaces/fractures/minor shear planes, at angles of 50-90° to c.a. -open folded (kinked) foliations/slip surfaces evident at 306.95m -juxtaposed lozenges and sections of aphanitic and fine to medium grained material noted from 315m to end of unit -lower contact foliation parallel at 78° to c.a. ╣318.94-318.95╠«┤S2 78°├» Foliation -shear planes and contact		╣299.50-318.95╠«SiFM ,EpFM,ChFM» moderate, fracture/vein controlled, silicification; moderate, fracture/vein controlled, epidotization; moderate, fracture/vein controlled, chloritization -common quartz-epidote +/- chlorite stringer veins and veins	-trace to 1% py in upper 2m of unit	
318.95 TO 347.10	«4,a,n,q,*t» Felsic Volcanic fine grained spherulitic quartz	-fine grained dark grey rock -as previous felsic unit -spherules, commonly quartz cored, to 1mm -quartz micro phenos to 0.5mm -well foliated -common minor shear textures, shear lozenges -excellent minor shear with drag folded foliation planes at 321.43m, plane at approximately 90° to		-common foliation/fracture related chloritization	-trace to 1% disseminated and foliation related py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	phyric foliated/ sheared	c.a. -shear planes/foliations at multiple orientations between 60-90° -minor shear lozenges/fragments/interbeds of fine grained mafic at 321.95-3 22.05, 322.92-322.95m, -lapilli sized extremely flattened/attenuated fragments (shear pods?) of dark green to black material, possibly mafic volcanic, magnetic, noted 328.5-329.3m -minor in situ (post folition) brecciation noted 330.5m -more magnetite or magnetite bearing lapilli sized deformed fragments 337.5-340.1m -gradational lower contact				
		╣319.90-319.91╠«┤S2 72°├» Foliation -dominant foliation orientation				
		324.68-326.58 «7,a» Mafic Intrusive fine grained, mafic intrusive dike/fragment/shear pod				
		╣326.95-326.96╠«┤S2 61°├» Foliation				
340.10 TO 372.00	«4,a,n,q,*t ,Mag» Felsic Volcanic fine grained spherulitic quartz phyric foliated/ sheared magnetite bearing	-fine grained dark grey rock -as previous unit but contains small (<1mm) magnetite grains, unit is magnetic -magnetite rich stretched lapilli/fragments/xenoliths noted to 351m, <1% of unit -mafic dikes/fragments/shear pods noted 355.12-355.6, 357-357.08, 357.18-357.28, 357.4-357.8m -minor faults with associated drag folding of foliations noted at 45° to c.a. at 361.4m -in situ brecciation increases after 363.5m, spherules become larger and better defined -lower contact gradational, marked by increasing chloritization		╣352.20-365.00╠«SiPM» moderate, pervasive, silicification ╣365.00-372.00╠«ChPM» moderate, pervasive, chloritization	-trace disseminated py	
		╣340.40-340.41╠«┤S2 62°├» Foliation				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		╣361.40-361.41╠«┤S2 56°├» Foliation -weak foliation to spaced clevage in silicic section ╣371.00-371.01╠«┤S2 59°├» Foliation				
372.00 TO 386.00	«4,n,Ch» Felsic Volcanic spherulitic chloritized	-dark grey to green-black rock with white spherules -spherules to 5mm -foliated, minor shear textures common -biotite +/- iron staining starts to appear at 378m, start of contact metamorphic aureole to diabase -brecciated, hornfels, quartz flooded 382-end of unit ╣379.80-379.81╠«┤S2 62°├» Foliation		╣372.00-382.00╠«ChPS» strong, pervasive, chloritization -locally intense replacement of groundmass by chlorite ╣382.00-386.00╠«SiFS» strong, fracture/vein controlled, silicification -brecciation, quartz veining related to diabase contact	-trace to 2% disseminated and fracture related py ╣384.83-384.85╠«CpF10.0-20.0%» 10.0-20.0% fracture/vein controlled chalcopyrite -3cm x 1cm cpy blob in qv, probably remobalized by diabase	
386.00 TO 389.00	«10,a,b» Diabase fine grained medium grained	-medium grained diabase with good upper chill margin -magnetic ╣386.00-386.01╠«┤S0 25°├Contact» Bedding				
389.00 TO 389.00	«EOH» End-Of-Hole					

HOLE NUMBER : R44-15

ASSAYS SHEET

DATE: 24/02/1997

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hb ppm	Sb ppm	Est.Ni %	Est.Po %	Est.Py %	Est.Cp %	Est.Sp %	Est.Gn %	ROCK TYPE	Comments
AT03422	0.00	0.00	0.00	1130	30700	346	50	10	10.3																STD	
AT03451	0.00	0.00	0.00	32	188	1	27	<2	0.1																STD	
AT03452	0.00	0.00	0.00	10	120	13	7	<2	0.2																STD	
AT02893	60.00	61.50	1.50	14	138	28	3	10	0.3																STD	
AT02894	61.50	63.00	1.50	13	370	21	3	3	0.4										0.0	0.0	1.0	0.0	0.0	0.0	4,a,e,n,q	
AT02895	63.00	64.00	1.00	15	1480	81	4	24	2.0										0.0	0.0	0.5	0.0	0.0	0.0	4,a,e,n,q	
AT02896	64.00	64.71	0.71	20	1120	143	3	21	2.3										0.0	0.0	0.5	0.0	0.0	0.0	4,a,e,n,q	
AT02897	64.71	66.00	1.29	72	210	3	23	<2	0.8										0.0	0.0	0.5	0.0	0.0	0.0	4,a,e,n,q	
AT02898	104.50	105.00	0.50	61	331	1	25	<2	0.1										0.0	0.0	0.0	0.0	0.0	0.0	7,a	
AT02899	105.00	106.50	1.50	48	2240	2	3	<2	0.1										0.0	0.0	0.0	0.0	0.0	0.0	7,a	
AT02900	106.50	108.00	1.50	193	10100	48	4	<2	1.2										0.0	0.0	1.0	0.0	0.0	0.0	4,a,e,n,q	
AT03411	108.00	109.50	1.50	105	4400	64	4	14	1.0										0.0	0.5	3.0	0.0	0.5	0.0	4,a,e,n,q	
AT03412	109.50	111.00	1.50	55	5460	58	3	10	0.9										0.0	0.5	3.0	0.0	0.5	0.0	4,a,e,n,q	
AT03413	111.00	112.00	1.00	252	21900	34	6	82	3.4										0.0	0.5	3.0	0.0	0.5	0.0	4,a,e,n,q	
AT03414	112.00	112.83	0.83	131	15600	131	3	31	2.5										0.0	0.5	5.0	0.0	1.0	0.0	4,a,e,n,q	
AT03415	112.83	113.13	0.30	128	21200	95	1	69	4.8										0.0	0.5	8.0	0.0	3.0	0.0	4,a,e,n,q	
AT03416	113.13	114.00	0.87	30	4240	229	5	<2	2.4										0.0	0.0	0.0	0.0	0.0	0.0	4,a,e,n,q,Bl	Seam
AT03417	114.00	115.00	1.00	18	3040	1320	5	93	4.6										0.0	0.0	3.0	0.0	0.5	0.0	4,a,e,n,q	
AT03418	115.00	116.00	1.00	47	4330	193	3	75	4.3										0.0	0.0	3.0	0.0	0.0	0.0	4,a,e,n,q	
AT03419	116.00	117.00	1.00	12	338	75	4	<2	0.9										0.0	0.0	0.5	0.0	0.0	0.0	4,a,e,n,q	
AT03420	117.00	118.00	1.00	14	475	25	3	3	0.4										0.0	0.0	5.0	0.0	0.5	0.0	4,a,e,n,q	
AT03421	118.00	119.00	1.00	12	210	17	2	<2	0.2										0.0	0.0	1.0	0.0	0.0	0.0	4,a,e,n,q	
AT03422	119.00	120.00	1.00	83	6500	12	4	21	0.6										0.0	0.0	1.0	0.0	0.0	0.0	4,a,e,n,q	
AT03423	120.00	121.00	1.00	122	13200	21	5	24	1.3										0.0	0.0	4.0	0.0	0.5	0.0	4,a,e,n,q	
AT03424	121.00	122.00	1.00	88	7300	24	2	27	0.8										0.0	0.0	5.0	0.0	1.0	0.0	4,a,e,n,q	
AT03425	122.00	123.00	1.00	137	18100	457	5	65	2.8										0.0	0.0	5.0	0.0	0.5	0.0	4,a,e,n,q	
AT03426	123.00	124.00	1.00	123	10600	110	6	93	2.0										0.0	0.0	5.0	0.0	4.0	0.0	4,a,e,n,q	
AT03427	124.00	125.00	1.00	53	7480	300	2	86	2.2										0.0	0.5	5.0	0.0	2.0	0.0	4,a,e,n,q	
AT03428	125.00	126.00	1.00	32	3380	56	3	27	0.8										0.0	0.0	3.0	0.0	1.0	0.0	4,a,e,n,q	
AT03429	126.00	127.00	1.00	98	17300	78	5	62	2.7										0.0	0.0	3.0	0.0	0.5	0.0	4,a,e,n,q	
AT03430	127.00	128.00	1.00	100	15800	51	3	48	2.1										0.0	0.5	5.0	0.0	2.0	0.0	4,a,e,n,q	
AT03431	128.00	129.00	1.00	41	8380	83	4	3	1.3										0.0	0.0	2.0	0.0	3.0	0.0	4,a,e,n,q	
AT03432	129.00	130.00	1.00	43	4790	79	3	14	1.0										0.0	0.0	1.0	0.0	1.0	0.0	4,a,e,n,q	
AT03433	130.00	131.00	1.00	23	3680	61	2	17	1.0										0.0	0.0	2.0	0.0	0.5	0.0	4,a,e,n,q	
AT03434	131.00	132.00	1.00	21	900	31	3	<2	0.3										0.0	0.0	2.0	0.0	0.5	0.0	4,a,e,n,q	
AT03435	132.00	133.50	1.50	58	8500	102	3	<2	1.5										0.0	0.0	2.0	0.0	0.2	0.0	4,a,e,n,q	
AT03437	133.50	135.00	1.50	57	9400	501	3	<2	3.9										0.0	0.0	2.0	0.0	1.0	0.0	4,a,e,n,q	
AT03438	135.00	136.50	1.50	40	3780	120	6	<2	2.0										0.0	0.0	3.0	0.0	1.0	0.0	4,a,e,n,q	
AT03439	136.50	138.00	1.50	29	1960	137	5	3	1.7										0.0	0.0	1.0	0.0	0.1	0.0	4,a,e,n,q	
AT03440	138.00	139.50	1.50	13	1400	138	3	<2	0.5										0.0	0.0	2.0	0.0	0.0	0.0	4,a,e,n,q	
AT03431	139.50	141.00	1.50	16	380	95	7	<2	0.7										0.0	0.0	0.5	0.0	0.1	0.0	4,a,e,n,q	
AT03432	141.00	142.50	1.50	21	356	41	5	<2	0.7										0.0	0.0	2.0	0.0	0.0	0.0	4,a,e,n,q	
AT03433	142.50	144.00	1.50	20	470	30	4	3	0.4										0.0	0.0	1.0	0.0	0.0	0.0	4,a,e,n,q	
AT03434	144.00	145.50	1.50	36	288	28	6	7	0.5										0.0	0.0	0.5	0.0	0.0	0.0	4,a,e,n,q	
AT03435	145.50	147.00	1.50	15	65	7	2	<2	0.2										0.0	0.0	2.0	0.0	0.0	0.0	4,a,e,n,q	
AT03436	291.00	292.50	1.50	23	89	10	6	<2	0.1										0.0	0.0	0.5	0.0	0.0	0.0	4,a,e,n,q	
AT03437	292.50	294.00	1.50	50	96	6	6	<2	0.1										0.0	0.0	1.0	0.0	0.0	0.0	4,a,n,q,*t	
																			0.0	0.0	1.0	0.0	0.0	0.0	4,a,n,q,*t	

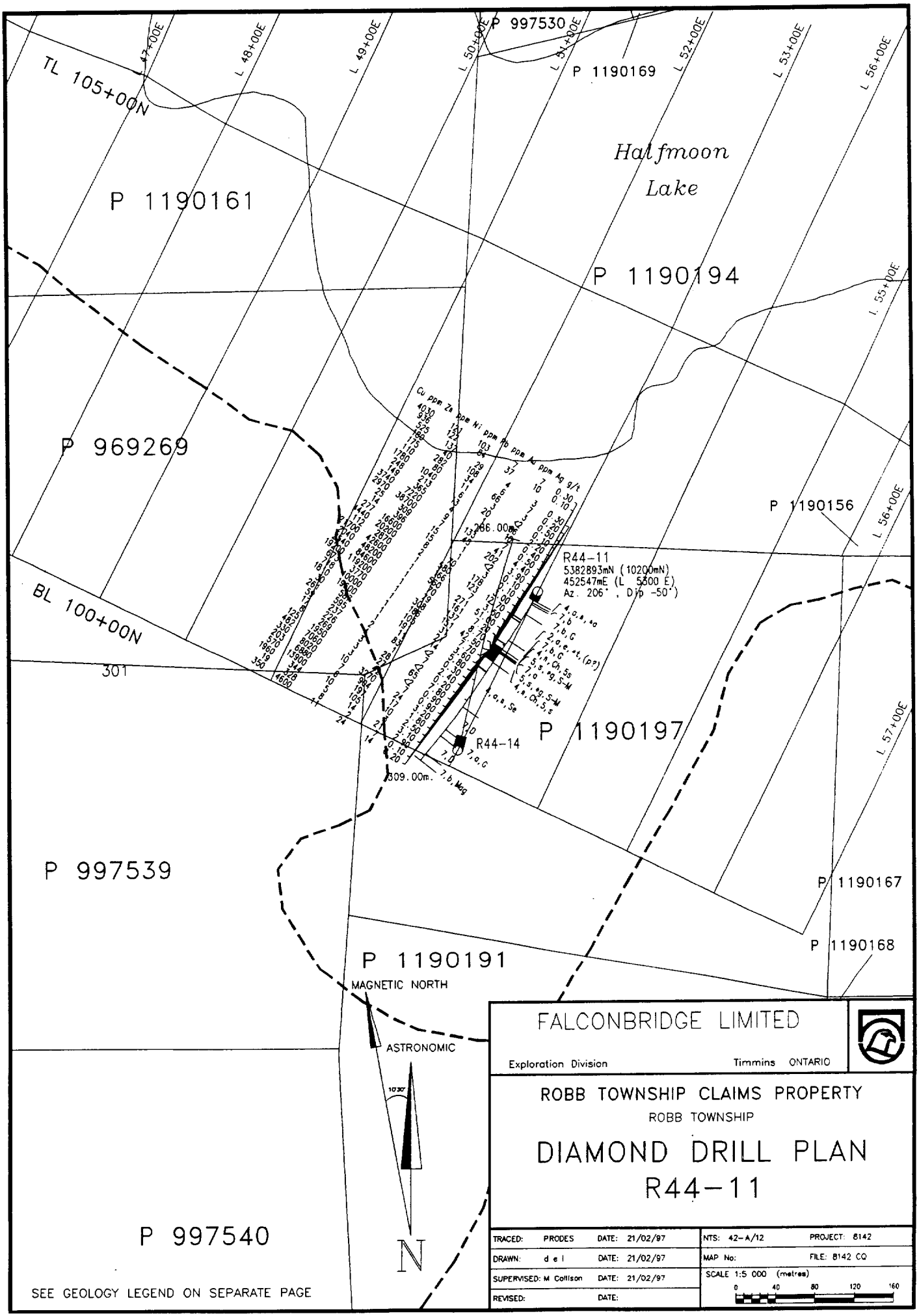
Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hb ppm	Sb ppm	Est.Ni %	Est.Po %	Est.Py %	Est.Cp %	Est.Sp %	Est.Gn %	ROCK TYPE	Comments
AT03438	294.00	295.50	1.50	29	55	2	5	10	0.1										0.0	0.0	1.0	0.0	0.0	0.0	4,a,n,q,*t	
AT03439	295.50	297.00	1.50	10	50	1	3	<2	0.1										0.0	0.0	1.0	0.0	0.0	0.0	4,a,n,q,*t	
AT03440	297.00	298.50	1.50	5	44	1	4	7	0.1										0.0	0.0	1.0	0.0	0.0	0.0	4,a,n,q,*t	
AT03441	298.50	300.00	1.50	23	71	1	18	<2	0.1										0.0	0.0	1.0	0.0	0.0	0.0	2,a,*t	
AT03442	300.00	301.00	1.00	49	62	1	20	3	0.1										0.0	0.0	1.0	0.0	0.0	0.0	2,a,*t	
AT03443	375.00	376.50	1.50	8	87	1	8	<2	0.1										0.0	0.0	0.0	0.0	0.0	0.0	4,n,Ch	
AT03444	376.50	378.00	1.50	27	167	1	10	<2	0.1										0.0	0.0	0.0	0.0	0.0	0.0	4,n,Ch	
AT03445	378.00	379.50	1.50	38	460	1	9	3	0.1										0.0	0.0	0.0	0.0	0.0	0.0	4,n,Ch	
AT03446	379.50	381.00	1.50	41	775	1	7	<2	0.1										0.0	0.0	0.0	0.0	0.0	0.0	4,n,Ch	
AT03447	381.00	382.50	1.50	724	666	1	22	<2	0.5										0.0	0.0	0.0	0.0	0.0	0.0	4,n,*s	
AT03448	382.50	384.00	1.50	46	173	1	30	7	0.1										0.0	0.0	0.0	0.0	0.0	0.0	4,n,*s,Si	
AT03449	384.00	384.50	0.50	43	135	1	25	3	0.2										0.0	0.0	0.0	0.0	0.0	0.0	4,n,*s/Q.V.	
AT03450	384.50	384.80	0.30	2700	200	1	24	10	1.2										0.0	0.0	0.0	3.0	0.0	0.0	4,n,*s/Q.V.	Remobed

HOLE NUMBER : R44-15

GEOCHEMICAL ASSAY

DATE: 24/02/1997

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AT02700	0.00	0.00	0.00																							
AT02680	39.00	42.00	3.00																							
AT02681	57.00	60.00	3.00																							
AT02682	66.00	69.00	3.00																							
AT02683	96.00	99.00	3.00																							
AT02684	105.40	105.50	0.10																							
AT02685	147.00	150.00	3.00																							
AT02686	174.00	177.00	3.00																							
AT02687	183.00	186.00	3.00																							
AT02688	213.00	216.00	3.00																							
AT02689	243.00	246.00	3.00																							
AT02690	261.00	263.00	2.00																							
AT02691	281.68	281.83	0.15																							
AT02692	284.00	287.00	3.00																							
AT02693	288.00	289.00	1.00																							
AT02694	289.51	291.00	1.49																							
AT02695	303.00	306.00	3.00																							
AT02696	324.00	327.00	3.00																							
AT02697	342.00	345.00	3.00																							
AT02698	363.00	366.00	3.00																							
AT02699	372.00	375.00	3.00																							



FALCONBRIDGE LIMITED

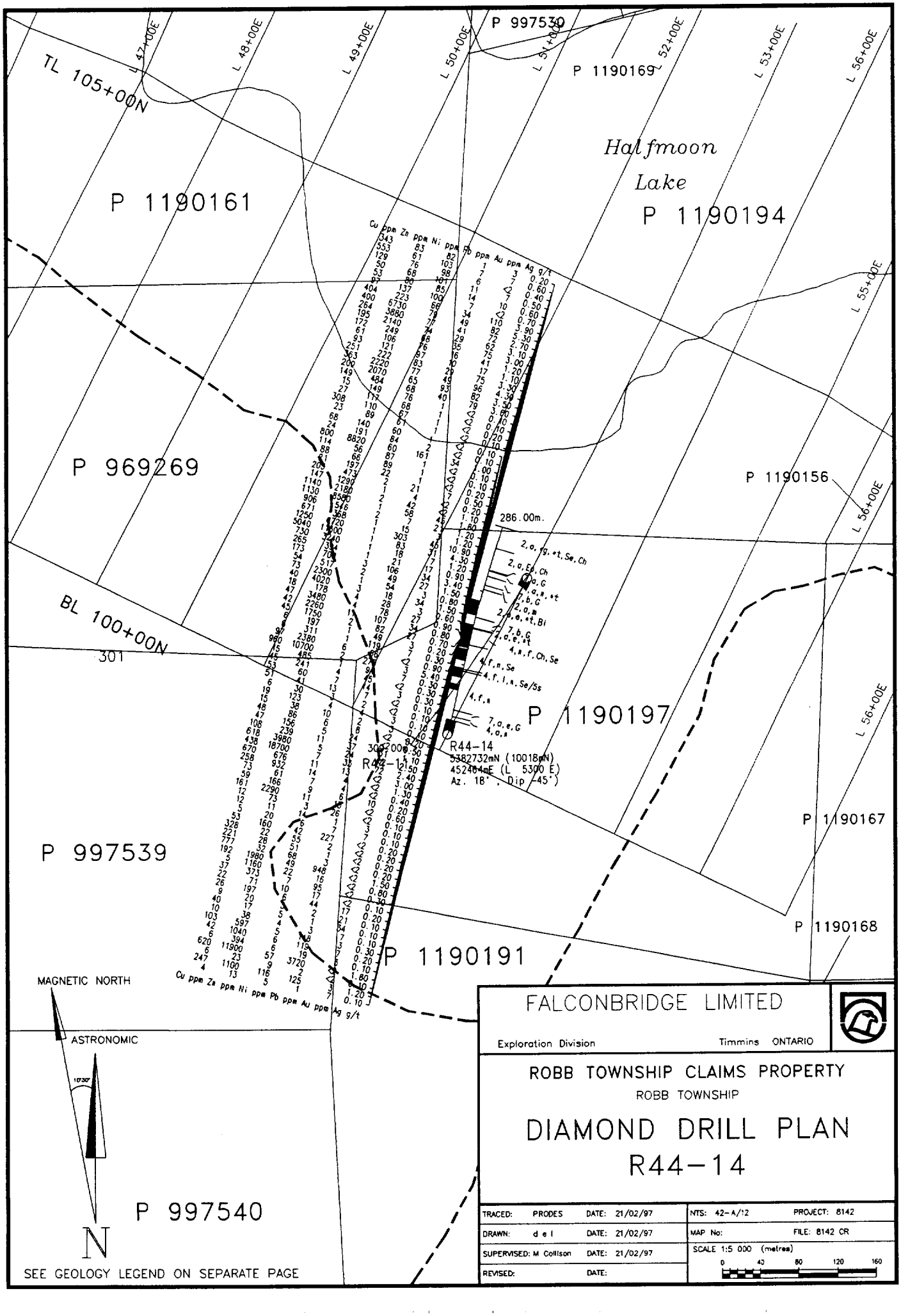
Exploration Division — Timmins ONTARIO

ROBB TOWNSHIP CLAIMS PROPERTY

ROBB TOWNSHIP

DIAMOND DRILL PLAN
R44-11

TRACED:	PRODES	DATE: 21/02/97	NTS: 42-A/12	PROJECT: 8142	
DRAWN:	d e l	DATE: 21/02/97	MAP No:	FILE: 8142 CQ	
SUPERVISED:	M Collison	DATE: 21/02/97	SCALE 1:5 000 (metres)		
REVISED:		DATE:	0 40 80 120 160		



FALCONBRIDGE LIMITED

Exploration Division — Timmins ONTARIO

ROBB TOWNSHIP CLAIMS PROPERTY

ROBB TOWNSHIP

DIAMOND DRILL PLAN
R44-14

TRACED: PRODES	DATE: 21/02/97	NTS: 42-A/12	PROJECT: 8142
DRAWN: d e l	DATE: 21/02/97	MAP No:	FILE: 8142 CR
SUPERVISED: M Collison	DATE: 21/02/97	SCALE 1:5 000 (metres)	
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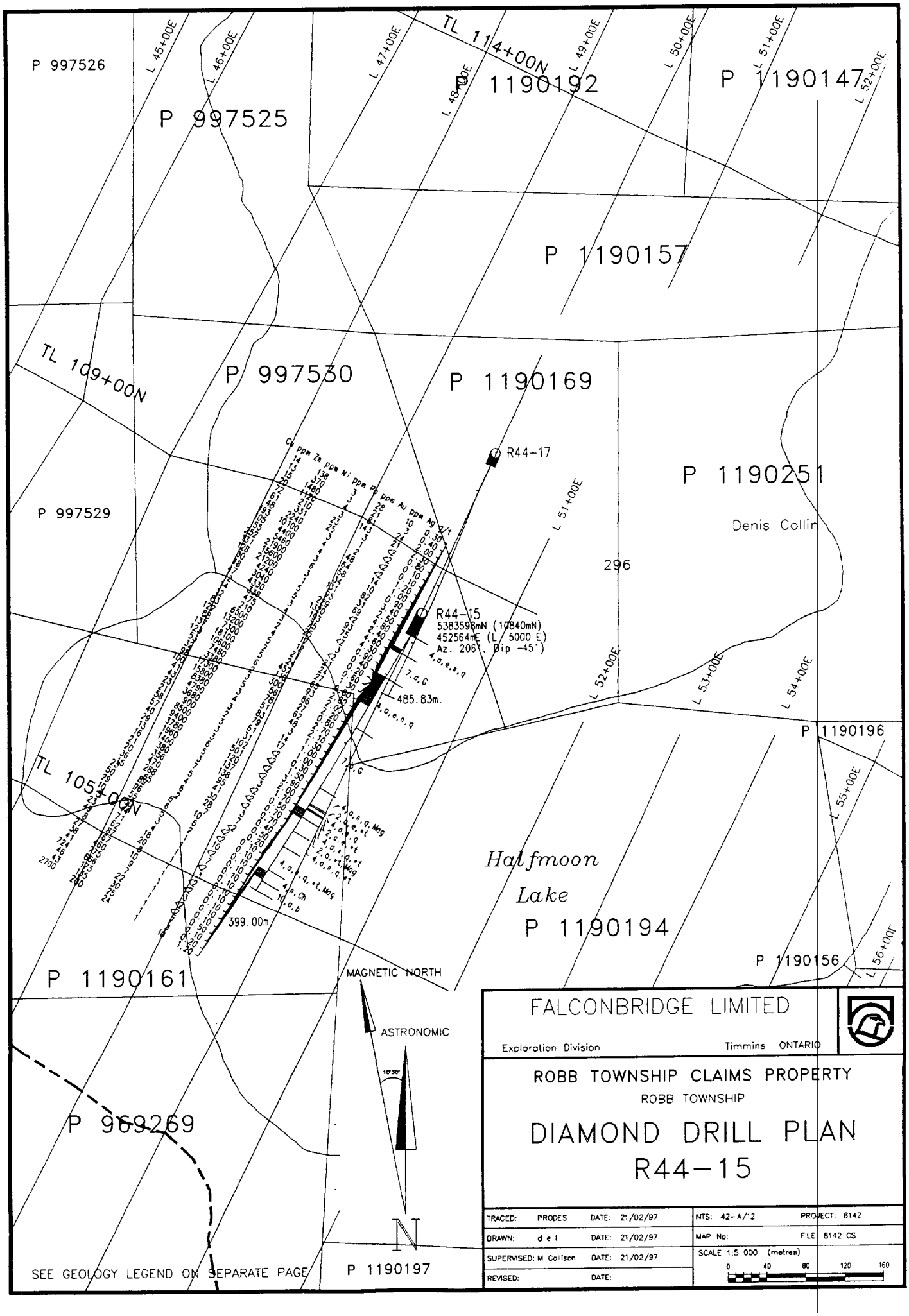


FALCONBRIDGE LIMITED

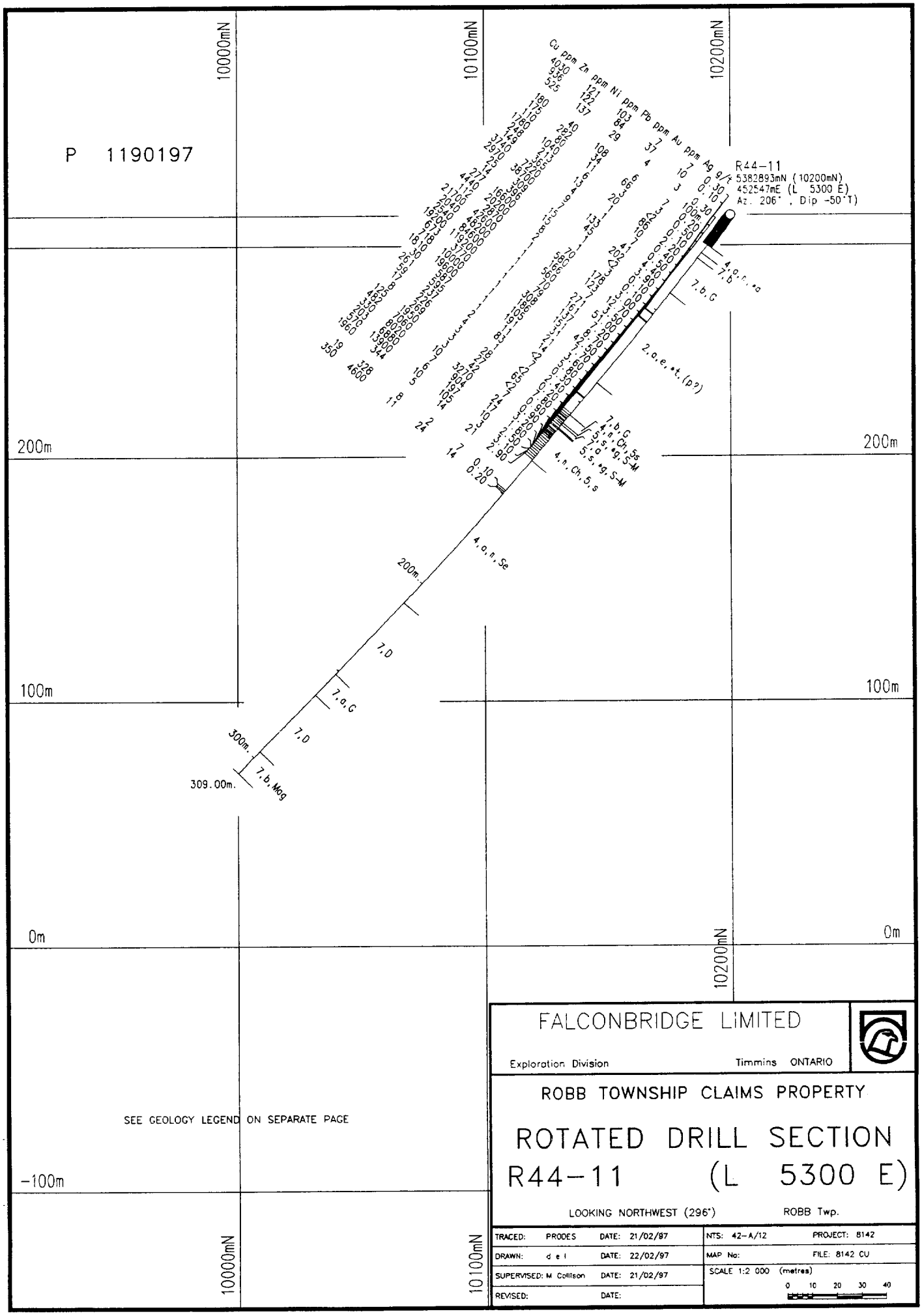
Exploration Division — Timmins ONTARIO

ROBB TOWNSHIP CLAIMS PROPERTY

ROBB TOWNSHIP

DIAMOND DRILL PLAN
R44-15

TRACED:	PRODES	DATE: 21/02/97	NTS: 42-A/12	PROJECT: 8142	
DRAWN:	d e l	DATE: 21/02/97	MAP No:	FILE: 8142 CS	
SUPERVISED:	M Collison	DATE: 21/02/97	SCALE 1:5 000 (metres)		
REVISED:		DATE:	0	40	80 120 160



FALCONBRIDGE LIMITED

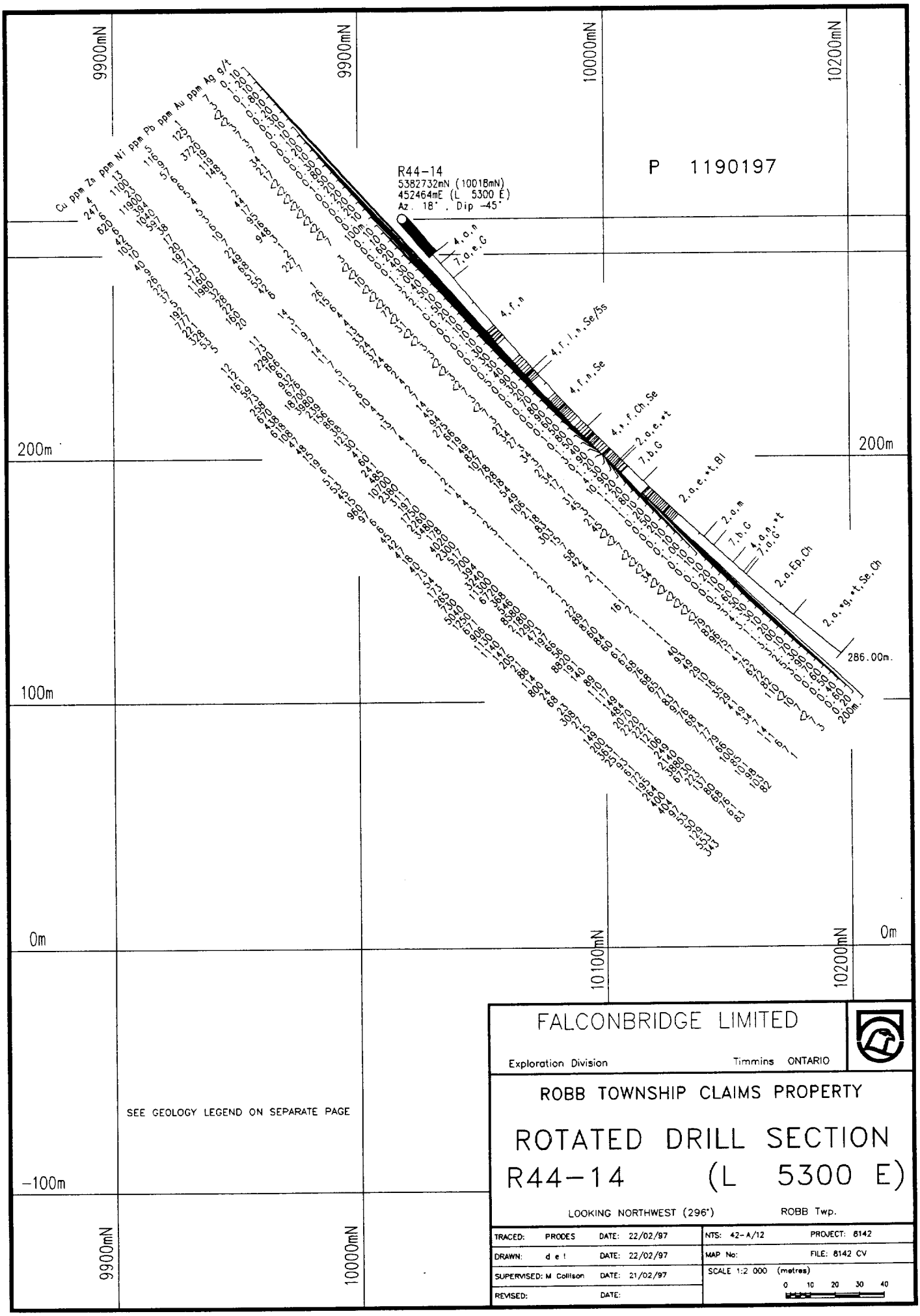
Exploration Division Timmins ONTARIO

ROBB TOWNSHIP CLAIMS PROPERTY

ROTATED DRILL SECTION R44-11 (L 5300 E)

LOOKING NORTHWEST (296°) ROBB Twp.

TRACED:	PRODES	DATE: 21/02/97	NTS: 42-A/12	PROJECT: 8142	
DRAWN:	d e l	DATE: 22/02/97	MAP No:	FILE: 8142 CU	
SUPERVISED:	M Collison	DATE: 21/02/97	SCALE 1:2 000 (metres)		
REVISED:		DATE:	0 10 20 30 40		



FALCONBRIDGE LIMITED

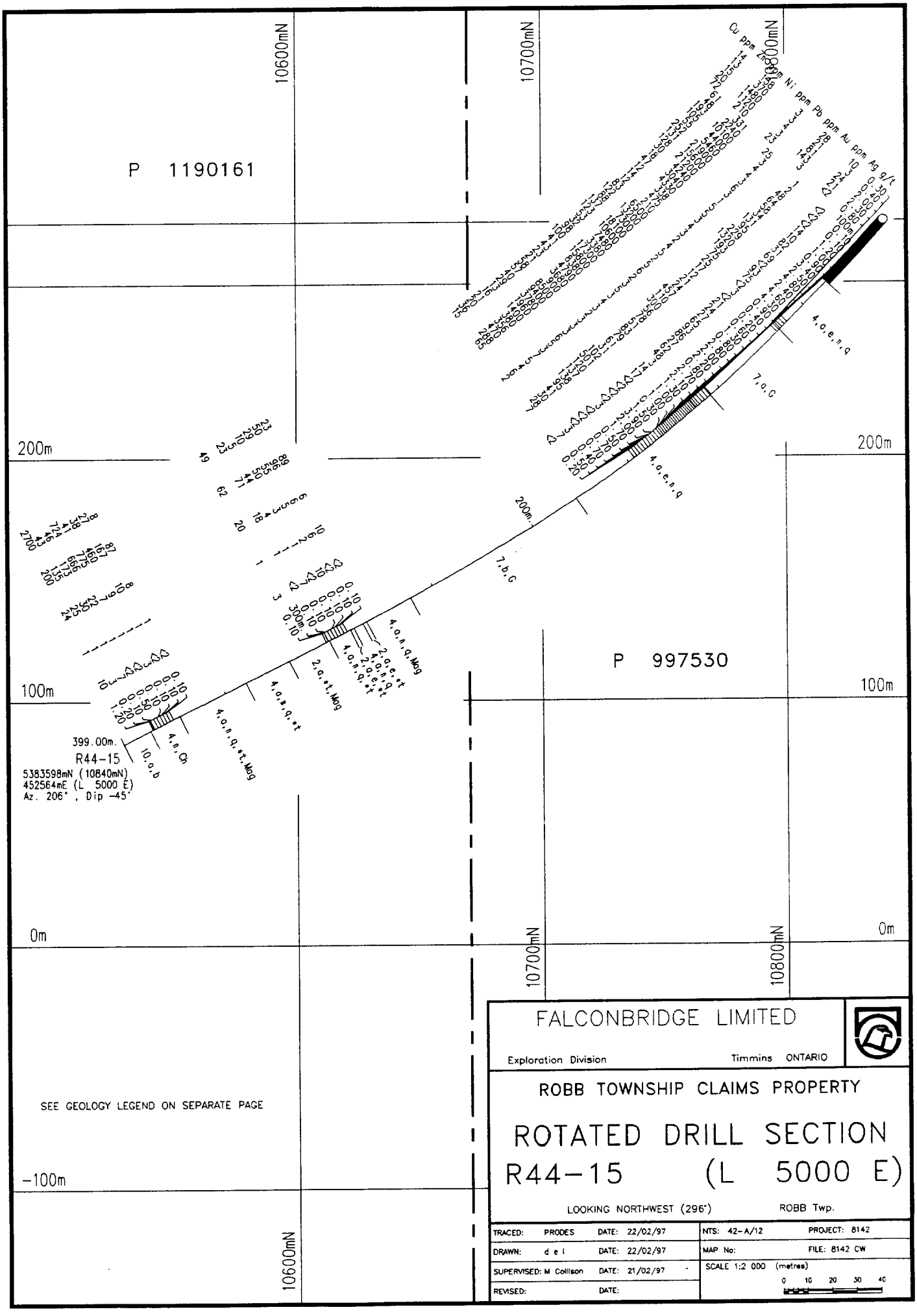
Exploration Division — Timmins ONTARIO

ROBB TOWNSHIP CLAIMS PROPERTY

ROTATED DRILL SECTION
R44-14 (L 5300 E)

LOOKING NORTHWEST (296°) — ROBB Twp.

TRACED: PRODES	DATE: 22/02/97	NTS: 42-A/12	PROJECT: 8142
DRAWN: d e l	DATE: 22/02/97	MAP No:	FILE: 8142 CV
SUPERVISED: M Collison	DATE: 21/02/97	SCALE 1:2 000 (metres)	
REVISED:	DATE:	0 10 20 30 40	



FALCONBRIDGE LIMITED

Exploration Division — Timmins ONTARIO

ROBB TOWNSHIP CLAIMS PROPERTY

ROTATED DRILL SECTION R44-15 (L 5000 E)

LOOKING NORTHWEST (296°) — ROBB Twp.

TRACED:	PRODES	DATE: 22/02/97	NTS: 42-A/12	PROJECT: 8142	
DRAWN:	d e l	DATE: 22/02/97	MAP No:	FILE: 8142 CW	
SUPERVISED:	M Collison	DATE: 21/02/97	SCALE 1:2 000 (metres)		
REVISED:		DATE:	0 10 20 30 40		

TIMMINS EXPLORATION - AMENDED ROCK LEGEND - v8.0

1. MAIN ROCK DIVISIONS

15	To be Announced
14	Huronian Supergroup
13	Metamorphic (Unknown)
12	Gneiss
11	Schist
10	Diabase
9	Felsic Intrusive
8	Intermediate Intr. Rocks
7	Mafic Intrusive Rocks
6	Ultramafic Intr. Rocks
5	Sedimentary Rocks
5,s	Sulphide (>40%)
4	Felsic Volcanic Rocks
3	Intermediate Volcanic Rocks
3,C	Heterolithic Volcanic Rocks
2	Mafic Volcanic rocks
1	Ultramafic Volcanic Rocks

2. TEXTURAL/GEOCHEMICAL MODIFIERS

a	Fine Grained	A	Primitive (Y<20)
b	Medium Grained	B	Evolved (Y>20<60)
bx	Breccia		
c	Coarse Grained	C	Heterolithic
d	Quartz-Feldspar Phyric	D	Feldspar Phyric
e	Amygdaloidal/Vesicular	E	Chert
f	Primary Fragmentals	F	Wacke
g	Graphitic/Argillaceous	G	Leucoxene Bearing
h	Tholeiitic	H	Basaltic Komatiite
i	Alkalic		
j	Calc-Alkalic	J	Pyroxenite
k	Komatiitic	K	Net Textured
l	Flows (banded)	L	Peridotite
m	Massive	M	Dunite
n	Variolitic/Spherulitic	N	Ophitic
p	Pillowed	P	Porphyritic
q	Quartz Phyric	Q	
r	Oxide Iron Formation	R	Polysutured
s	Sulphides, Exhallites	S	Fractured
t	Pyroclastic	T	Gabbroic Textured
u	High Mg	U	Pyroxene Spinifex
v	High Fe	V	Olivine Spinifex
w	High Al	W	Skeletal/Crescumulate
x	Andesite	X	Adcumulate
y	Icelandite	Y	Mesocumulate
z	Highly Evolved (Y>60)	Z	Orthocumulate

ROCK NAMES MUST HAVE ALL MODIFIERS COMMA DELIMITED AND CAN BE NO LONGER THAN 15 CHARACTERS, COMMAS INCLUDED. Example: 3,*y,d,<DAC>,*t

3. ALTERATION MODIFIERS

Ab	Albitization
Bl	Bleached
C>	Carbonaceous
Cb	Carbonatization
Ch	Chloritization
Ep	Epidotization
F>	Iron Carbonatization
He	Hematization
K>	Potassic Alteration
Ka	Kaolinitization
Rs	Rust Stained
Se	Sericitization
Si	Silicification
Sr	Serpentinization
Tc	Talc-Carbonatization
Tk	Talc

4. Textural./Structural MODIFIERS

*a	Tuff (67% <2mm)	*n	Graded Bedding
*b	Lapilli Tuff (2-64mm)	*o	Cross bedding
*c	Lapillistone (76% <264mm)	*p	Fault Gouge
*ct	Cataclastic	*q	Augen
*d	Block (>64mm)/Xenolith	*r	Porphyroblastic
*e	Autoclastic/Hyaloclastic	*s	Hornfels
*f	Thickly Laminated	*t	foliated/sheared
*g	Thinly Laminated	*u	folded
*h	Clast Supported	*v	boudinage
*i	Matrix Supported	*w	fragmental (felsic>mafic)
*j	Granule (grit 2-4mm)	*x	fragmental (mafic>felsic)
*k	Pebble (4-64mm)	*y	Crystal Tuff (>50% of frags)
*l	Cobble (64-256mm)	*z	Lithic Tuff (>50% of frags)
*m	Boulder (>256)		

ALTERATION CODES

FORM

S	Spots
F	Fracture/vein controlled
P	Pervasive

STRENGTH

S	Strong
M	Moderate
W	Weak

Example: EpPW = Epidote,Pervasive,Weak

MINERALIZATION CODES

FORM

D	Disseminated/Blebs
F	Fracture/vein controlled
M	Massive
B	Bedded
C	Clasts/Fragments

PERCENTAGE

Numeric pecentage, or percentage range (i.e. 1-3%), must always be specified

Example: CpB3% = Chalcopyrite, Bedded, 3%

5. MINERALOGICAL NAMES

Ak	Actinolite	Fc	Fuchsite	Pn	Pentlandite
Alb	Albite	Gn	Galena	Py	Pyrite
Al	Almandine	Gt	Garnet	Px	Pyroxene
Am	Amphibolite	VG	Gold	Po	Pyrrhotite
Ah	Anhydrite	Gf	Graphite	Qt	Quartz
Ad	Andalusite	GS	Gravel & sand	Ro	Rhodochrosite
Ay	Anthophyllite	Gyp	Gypsum	Ru	Rutile
Ap	Apatite	Hem	Hematite	Sur	Serpentine
Ar	Argentite	Hb	Hornblende	Sc	Sericite
Asp	Arsenopyrite	Hy	Hypersthene	Sh	Scheelite
Asb	Asbestos	Il	Ilmenite	Sid	Siderite
Aug	Augite	I-F	Iron Formation	Sil	Silica
Az	Azurite	Jr	Jarosite	Slm	Silliminite
Ba	Barite	Ky	Kyanite	Sps	Spessarite
bi	Bismuthite	Ls	Limestone	Sph	Sphalerite
Bi	Biotite	Lm	Limonite	Ti	Sphene (Titanite)
Bo	Bornite	Mag	Magnetite	Ag	Silver
Ca	Calcite	Mc	Malachite	Sp	Spinel
Cn	Chalcedony	Ma	Marcasite	Spd	Spodumene
Cc	Chalcocite	Mi	Mica	St	Staurolite
Cp	Chalcopyrite	Mk	Microcline	Sb	Stibnite
Chl	Chlorite	Mi	Millerite	Sul	Sulphides
Ch>	Chloritoid	Mo	Molybdenite	S-M	Mass.Sulphides
Cr	Chromite	Mu	Muscovite	S-D	Diss.Sulphides
Cpx	Clinopyroxene	Ne	Nepheline	Tk	Talc
Co	Cobalt Minerals	Nc	Niccolite	Te	Telluride
Cv	Covellite	Ni	Nickel minerals	Tt	Tertrahedrite
Ct	Cordierite	Ov	Olivine	Ta-Cl	Tantalite-Columbite
Dp	Diopside	Or	Orthoclase	Tl	Tourmaline
Dol	Dolomite	Opx	Orthopyroxene	Tr	Tremolite
Epi	Epidote	Pl	Phlogopite	Wo	Wollastonite
Fel	Feldspar	Pg	Plagioclase	Zr	Zircon
Fl	Fluorite				

6. ROCK TYPE / PROTOLITH

<QFG>	Quartzofeldspathic	<PER>	Peridotite	<CHM>	Chem. Precip.
<QTZ>	Quartzite	<SER>	Serpentinite	<SLA>	Slate
<MAR>	Marble	<DUN>	Dunite	<KIM>	Kimberlite
<SKA>	Skam(Calc-Silicate)	<PRX>	Pyroxenite	<CAR>	Carbonatite
<PHY>	Phyllite	<LMP>	Lamprophyre	<AMP>	Amphibolite
<TON>	Tonalite	<SST>	Sandstone	<MIG>	Migmatite
<SYN>	Syenite	<ARK>	Arkosic sandstone	<PEG>	Pegmatite
<GRA>	Granite	<WCK>	Graywacke	<LEU>	Leucocratic
<MON>	Monzonite	<CGL>	Conglomerate	<MEL>	Melanocratic
<GRD>	Granodiorite	<SLT>	Siltstone	<UNK>	Unknown Protolith
<APL>	Aplite	<ARG>	Mudstone-argillite	<UMF>	Ultramafic
<FEL>	Felsite	<EXH>	Chert/exhalite	<MAF>	Mafic
<QDI>	Quartz Diorite	<QIF>	Silicate IF	<AND>	Andesite
<GAB>	Gabbro	<OIF>	Oxide IF	<DAC>	Dacite
<NOR>	Norite	<SIF>	Sulphide IF	<RYD>	Rhyodacite
<ANT>	Anorthosite	<CIF>	Carbonate IF	<RHY>	Rhyolite
<DIO>	Diorite	<SHA>	Shale	<SCL>	Sulphide Clasts
		<LST>	Limestone	<RWV>	Reworked Volcanic Debris

7. HURONIAN SUPERGROUP

BR	Bar River Formation	
GL	Gordon Lake Formation	Cobalt Group
LR	Lorrain Formation	
GW	Gowganda Formation	
SP	Serpent Formation	
ES	Espanola Formation	Quirke Lake Group
BC	Bruce Formation	
MS	Mississagi Formation	
PC	Pecors Formation	Hough Lake Group
RL	Ramsey Lake Formation	
MK	McKim Formation	Elliot Lake Group
MT	Matinenda Formation	

Symbols

CONTACTS

- Outcrop (small, observed, inferred, boulder/float)
- Geological Boundary (observed, approximate, assumed)
- Geological Boundary (gradational, geophysically inferred)
- Flow Contact (defined, approximate)

MEASUREMENTS

- Bedding with tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding with tops unknown (inclined, vertical, dip unknown)
- Pillow top (horizontal, inclined, vertical, overturned, dip unknown)
- Spinifex top
- Schistosity, gneissosity, cleavage or foliation (horizontal, inclined, vertical, dip unknown) (No. of ticks = generation – S1, S2, S3)
- Jointing (horizontal, inclined, vertical, dip unknown)
- Lineation (horizontal, inclined, vertical)
- Folding – defined folds S fold, Z fold, multiple S, multiple Z)
- Folding – undetermined type
- Fault (defined, approximate, assumed) (inclined, vertical, movement w/circle on downthrow side)
- Fault (Geophysically inferred, Lineament inferred)
- Thrust Fault (defined, approximate, assumed) (teeth indicate upthrust side)
- Shear zone
- Dyke, vein (defined, approximate, assumed)
- Anticline, Antiform (with or without plunge, overturned)
- Syncline, Synform (with or without plunge, overturned)
- Glacial striae (ice movement known, unknown) (numbers indicate relative age)
- Limit of Geological Mapping

PHYSICAL WORK

- Mineral Occurrence
- Trench (1:20,000 +, 1:5,000 –)
- Diamond Drill Hole (collar surveyed, collar located, collar unlocated)
- Overburden Drill Hole
- Mine, quarry or glory hole (active, abandoned)
- Shaft (vertical, inclined, raise, winze)
- Adit, Ramp
- Rock Dump, Tailings
- Gravel Pit (active, abandoned)

CULTURAL AND PHYSIOGRAPHIC FEATURES

- All weather road (paved, gravel)
- Four wheel drive road
- Track
- Trail
- Buildings
- Campsite
- Power Line (major line, regular line)
- Telephone Line (usable, unusable)
- Railroad Track
- Tower
- Bridge
- River (open, rapids)
- Intermittent Stream
- Lake
- Swamp
- Esker
- Claim Post (OLS surveyed, inspected survey, located, unlocated, witness, in water)
- Grids (current grid, old grid)
- Survey Pin (located, unlocated)
- Lot/Concession Corner Pin (located, government defined)

Geophysics

GROUND

- EM — UNIDENTIFIED EM SYSTEM
- HEM — HORIZONTAL LOOP (MAX–MIN)
- VEM — VERTICAL LOOP
- VLF — VERY LOW FREQUENCY
- JEM — JUNIOR CRONE UNIT
- PEM — HORIZONTAL LOOP (PULSE EM)
- TUR — TURAM
- IP–(C,R) — INDUCED POLARIZATION (CONDUCTIVITY, RESISTIVITY)
- IP – DEFINITE, PROBABLE, POSSIBLE

AIRBORNE

- 1–2 CHANNEL (350, 450 MICROSECONDS)
- 3–4 CHANNEL (550, 670 MICROSECONDS)
- 5–6 CHANNEL (790, 910 MICROSECONDS)
- 7–8 CHANNEL (1050, 1190 MICROSECONDS)
- 9–10 CHANNEL (1350, 1510 MICROSECONDS)
- 11–12 CHANNEL (1680, 1870 MICROSECONDS)

DECARLE INTERPRETATION

- WELL DEFINED CONDUCTOR AXIS
- POORLY DEFINED CONDUCTOR AXIS
- UNCERTAIN CONDUCTOR AXIS
- WIDE CONDUCTIVE ZONE
- AEM — AEM CONDUCTOR AXIS
- AVLF — AIRBORNE VERY LOW FREQUENCY
- SPARTAN AERO SYSTEM

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENTS	SYMBOL
PATENT . SURFACE & MINING RIGHTS	Ⓟ ●
PATENT . SURFACE RIGHTS ONLY	S.R.O. ◓
PATENT . MINING RIGHTS ONLY	M.R.O. ◒
LEASE . SURFACE & MINING RIGHTS	Ⓛ ■
LEASE . SURFACE RIGHTS ONLY	◨
LEASE . MINING RIGHTS ONLY	◪
LICENCE OF OCCUPATION	L.O. . ▼
ORDER–IN–COUNCIL	O C
RESERVATION	Ⓡ
PRODUCING MINES	□

TYPE OF DOCUMENTS	SYMBOL
CANCELLED	Ⓒ . Ⓧ
SAND & GRAVEL . PIT . QUARRY	Ⓢ
CROWN LAND SALE	CS
LOCATED LAND	LOC
REMOTE TOURIST SETUP	RTS
SURFACE AND/OR MINING RIGHTS WITHDRAWN FROM STAKING	Ⓦ
SUBJECT TO FOREST ACTIVITIES	Ⓕ

NOTE : 400' SURFACE RIGHTS RESERVATION AROUND ALL LAKES AND RIVERS

- FALCONBRIDGE LIMITED 100 %
- FALCONBRIDGE LIMITED AND JOINT VENTURE OPTIONS
- FALCONBRIDGE LIMITED LEASE
- OTHER COMPANIES 100 %
- OTHER COMPANIES AND JOINT VENTURE OPTIONS
- OTHER COMPANIES LEASE

Swastika Laboratories

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Assaying - Consulting - Representation

Established 1928

Geochemical Analysis Certificate

6W-0376-RG1

Company: **FALCONBRIDGE LTD (EXPLORATION)**
Date: FEB-06-96
Project: 8142 EXPL
Attn: M. Collison/J.Pattison

We hereby certify the following Geochemical Analysis of 30 Core samples submitted JAN-30-96 by .

Sample Number	Au PPB	Cu PPM	Zn PPM	Pb PPM	Ag PPM	Ni PPM	Cu %	Zn %
AT00678	7	4030	121	7	0.3	103	-	-
AT00679	10	936	122	37	0.1	84	-	-
AT00680	3	525	137	4	0.3	29	-	-
AT00681	7	180	40	6	0.2	108	-	-
AT00682	3	175	282	66	0.5	34	-	-
AT00683	<2	110	80	3	0.1	11	-	-
AT00684	86	1780	1040	20	2.2	6	-	-
AT00685	10	248	213	1	0.4	13	-	-
AT00686	7	149	365	1	0.5	4	-	-
AT00687	41	3740	7220	133	4.4	9	-	-
AT00688	202	2970	>20000	45	3.9	7	-	3.87
AT00689	178	277	16600	70	3.0	8	-	-
AT00690	123	4440	>20000	580	12.7	2	-	2.02
AT00691	7	112	2870	166	3.5	1	-	-
AT00692	271	>20000	>20000	560	51.0	1	2.17	4.26
AT00693	161	2040	>20000	70	7.2	1	-	4.82
AT00694	137	2540	>20000	79	8.7	1	-	8.46
AT00695	151	19200	>20000	308	42.5	1	-	11.92
AT00696	31	673	3770	186	7.7	1	-	-
AT00697	21	718	10000	105	3.6	1	-	-
AT00698	7	125	1950	42	0.9	3	-	-
AT00699	24	482	7060	3270	3.2	10	-	-
AT00700	17	330	8020	904	1.8	7	-	-
AT02401	10	203	6880	197	2.5	6	-	-
AT02402	3	570	13900	105	3.1	10	-	-
AT02403	21	1960	344	14	2.9	5	-	-
AT02404 Control	21	1140	>20000	335	10.5	54	-	3.10
AT02405 Control	14	19	160	15	0.3	7	-	-
AT02406	7	19	328	2	0.1	8	-	-
AT02407	14	350	4600	24	0.2	11	-	-

Certified by [signature]

REC'D FEB 8 1996

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 FAX (705) 642-3300

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Established 1928

Assaying - Consulting - Representation

Geochemical Analysis Certificate

6W-0593-RG1

Company: **FALCONBRIDGE LTD (EXPLORATION)**
Project: 8242 EXPL
Attn: J. Pattison

Date: FEB-20-96

We hereby certify the following Geochemical Analysis of 47 Core samples submitted FEB-14-96 by .

Sample Number	Au PPB	Cu PPM	Zn PPM	Pb PPM	Ag PPM	Ni PPM
AT02438						
AT02439						
AT02440						
AT02441						
AT02442						
AT02443						
AT02444						
AT02445						
AT02446 Control						
AT02651						
AT02652						
AT02653	14	1810	19600	191	5.8	1
AT02654	<2	30	587	11	0.3	1
AT02655	7	261	595	83	2.4	2
AT02656	<2	59	237	1	0.2	4
AT02657	65	17	226	28	7.8	3
AT02658	<2	8	269	27	0.9	3

Certified by Denis Chartre

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 FAX (705) 642-3300

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Established 1928

Geochemical Analysis Certificate

6W-0649-RG1

Company: **FALCONBRIDGE LTD (EXPLORATION)** Date: FEB-28-96
Project: 8142 EXPL
Attn: J. Pattison

We hereby certify the following Geochemical Analysis of 92 Core samples submitted FEB-20-96 by .

Sample Number	Au PPB	Cu PPM	Zn PPM	Pb PPM	Ag PPM	Ni PPM
AT02801	7	4	13	1	0.1	5
AT02802	3	247	1100	125	1.2	116
AT02803	<2	6	23	2	0.1	9
AT02804	<2	620	11900	3720	1.8	57
AT02805	3	6	394	19	0.1	6
AT02806	7	42	1040	119	0.2	6
AT02807	3	103	597	148	0.3	5
AT02808	7	10	38	3	0.1	4
AT02809	34	40	17	1	0.1	5
AT02810	21	9	20	2	0.1	3
AT02811	17	26	197	44	0.2	6
AT02812	<2	22	71	17	0.1	10
AT02813	<2	37	373	95	0.3	7
AT02814	<2	5	1160	16	0.8	22
AT02815	<2	192	1980	948	1.5	49
AT02816	<2	777	32	3	0.2	68
AT02817	<2	221	28	1	0.2	51
AT02818	<2	328	22	2	0.2	55
AT02819	<2	53	160	227	0.2	42
AT02820	7	5	20	7	0.1	6
AT02821 Control	3	11	112	12	0.3	5
AT02822	3	12	11	1	0.1	14
AT02823	<2	12	73	26	0.1	3
AT02824	<2	161	2290	15	0.6	11
AT02825	10	59	166	6	0.2	9
AT02826	<2	73	61	4	0.4	7
AT02827	<2	258	932	4	1.3	14
AT02828	<2	670	676	13	3.0	11
AT02829	72	438	18700	33	2.4	7
AT02830	<2	618	3980	24	2.5	5

Certified by G. Pelow

P.O. Box 10, Swastika, Ontario P0K 1T0

Telephone (705) 642-3244 FAX (705) 642-3300

Swastika Laboratories

A Division of TSL/Assayers Inc.

Established 1928

Assaying - Consulting - Representation

Geochemical Analysis Certificate

6W-0649-RG1

Company: **FALCONBRIDGE LTD (EXPLORATION)** Date: FEB-28-96
Project: 8142 EXPL
Attn: J. Pattison

We hereby certify the following Geochemical Analysis of 92 Core samples submitted FEB-20-96 by .

Sample Number		Au PPB	Cu PPM	Zn PPM	Pb PPM	Ag PPM	Ni PPM
AT02831		31	108	239	37	1.1	11
AT02832		<2	47	156	24	0.5	5
AT02833		<2	48	86	8	0.2	6
AT02834		3	15	38	2	0.1	10
AT02835		3	19	123	4	0.1	4
AT02836		<2	6	30	2	0.1	3
AT02837		<2	51	41	7	0.1	13
AT02838		3	53	60	14	0.3	7
AT02839		<2	45	241	45	0.3	4
AT02840		7	15	485	94	0.3	1
AT02841		3	960	10700	275	5.4	2
AT02842		<2	97	2380	66	0.9	6
AT02843		7	6	311	119	0.3	1
AT02844		3	6	197	49	0.2	1
AT02845		27	45	1750	82	0.7	2
AT02846		34	42	2260	107	0.8	11
AT02847		27	47	3480	78	0.9	4
AT02848		3	18	178	28	0.6	4
AT02849		34	40	4020	18	1.5	3
AT02850	Control	3	11	115	13	0.3	6
AT02851		3	73	2300	54	0.8	1
AT02852		27	54	517	49	1.5	2
AT02853		34	173	700	106	3.4	3
AT02854		17	265	394	21	0.9	1
AT02855		7	730	3240	18	1.2	1
AT02856		31	5040	11300	83	4.3	1
AT02857		45	1250	6720	303	10.9	1
AT02858		3	671	368	15	1.2	1
AT02859		21	906	546	7	1.2	2
AT02860		45	1130	8580	58	1.8	1

Certified by G. Pelletier

P.O. Box 10, Swastika, Ontario P0K 1T0

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Geochemical Analysis Certificate

6W-0649-RG1

Company: **FALCONBRIDGE LTD (EXPLORATION)** Date: FEB-28-96
Project: 8142 EXPL
Attn: J. Pattison

We hereby certify the following Geochemical Analysis of 92 Core samples submitted FEB-20-96 by .

Sample Number	Au PPB	Cu PPM	Zn PPM	Pb PPM	Ag PPM	Ni PPM
AT02861	<2	1140	2180	42	1.1	2
AT02862	<2	147	1290	4	0.2	1
AT02863	7	205	473	21	0.5	2
AT02864	<2	21	197	1	0.2	22
AT02865	<2	88	66	1	0.1	89
AT02866	<2	114	56	1	0.1	87
AT02867	34	800	8820	161	1.0	60
AT02868	<2	24	191	2	0.1	84
AT02869	<2	68	140	1	0.1	60
AT02870 Control	<2	11	113	13	0.3	6
AT02871	<2	23	89	1	0.1	61
AT02872	<2	308	110	1	0.2	67
AT02873	<2	27	117	1	0.1	68
AT02874	<2	15	149	1	0.1	76
AT02875	79	149	484	40	3.6	68
AT02876	82	200	2070	93	3.5	65
AT02877	96	363	2220	49	4.3	77
AT02878	75	251	222	29	3.3	83
AT02879	17	93	121	10	1.1	97
AT02880	41	61	106	16	1.2	76
AT02881	75	172	249	35	3.0	68
AT02882	62	195	2140	29	3.1	74
AT02883	72	264	3880	41	2.7	77
AT02884	82	400	6730	49	5.3	79
AT02885	110	404	223	34	3.9	66
AT02886	<2	97	137	7	0.7	100
AT02887	10	53	80	14	0.6	85
AT02888	7	50	68	11	0.5	101
AT02889	<2	129	76	6	0.4	98
AT02890	7	553	61	7	0.6	103

Certified by _____

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Established 1928

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Geochemical Analysis Certificate

6W-0649-RG1

Company: **FALCONBRIDGE LTD (EXPLORATION)** Date: FEB-28-96
Project: 8142 EXPL
Attn: J. Pattison

We hereby certify the following Geochemical Analysis of 92 Core samples submitted FEB-20-96 by .

Sample Number	Au PPB	Cu PPM	Zn PPM	Pb PPM	Ag PPM	Ni PPM
AT02891 Control	<2	12	116	13	0.3	8
AT02892	3	343	83	1	0.2	82

Certified by _____

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Geochemical Analysis Certificate

6W-0738-RG1

Company: **FALCONBRIDGE LTD (EXPLORATION)**
Project: 8142 EXPL
Attn: J. Pattison

Date: MAR-05-96

We hereby certify the following Geochemical Analysis of 43 Core samples submitted FEB-26-96 by .

Sample Number	Au PPB	Cu PPM	Zn PPM	Pb PPM	Ag PPM	Ni PPM	Zn %
AT02893	10	14	138	28	0.3	3	-
AT02894	3	13	370	21	0.4	3	-
AT02895	24	15	1480	81	2.0	4	-
AT02896	21	20	1120	143	2.3	3	-
AT02897	<2	72	210	3	0.8	23	-
AT02898	<2	61	331	1	0.1	25	-
AT02899	<2	48	2240	2	0.1	3	-
AT02900	<2	193	10100	48	1.2	4	-
AT03401	14	105	4400	64	1.0	4	-
AT03402	10	55	5460	58	0.9	3	-
AT03403	82	252	>20000	34	3.4	6	2.19
AT03404	31	131	15600	131	2.5	3	-
AT03405	69	128	>20000	95	4.8	1	2.12
AT03406	<2	30	4240	229	2.4	5	-
AT03407	93	18	3040	1320	4.6	5	-
AT03408	75	47	4330	193	4.3	3	-
AT03409	<2	12	338	75	0.9	4	-
AT03410	3	14	475	25	0.4	3	-
AT03411	<2	12	210	17	0.2	2	-
AT03412	21	83	6500	12	0.6	4	-
AT03413	24	122	13200	21	1.3	5	-
AT03414	27	88	7300	24	0.8	2	-
AT03415	65	137	18100	457	2.8	5	-
AT03416	93	123	10600	110	2.0	6	-
AT03417	86	53	7480	300	2.2	2	-
AT03418	27	32	3380	56	0.8	3	-
AT03419	62	98	17300	78	2.7	5	-
AT03420	48	100	15800	51	2.1	3	-
AT03421	3	41	8380	83	1.3	4	-
AT03422 Control	10	1130	>20000	346	10.3	50	3.07

Certified by _____

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 FAX (705)642-3300

Swastika Laboratories

A Division of TSL/Assayers Inc.

Established 1928

Assaying - Consulting - Representation

Geochemical Analysis Certificate

6W-0738-RG1

Company: **FALCONBRIDGE LTD (EXPLORATION)**
Project: 8142 EXPL
Attn: J. Pattison

Date: MAR-05-96

We hereby certify the following Geochemical Analysis of 43 Core samples submitted FEB-26-96 by .

Sample Number	Au PPB	Cu PPM	Zn PPM	Pb PPM	Ag PPM	Ni PPM	Zn %
AT03423	14	43	4790	79	1.0	3	-
AT03424	17	23	3680	61	1.0	2	-
AT03425	<2	21	900	31	0.3	3	-
AT03426	<2	58	8500	102	1.5	3	-
AT03427	<2	57	9400	501	3.9	3	-
AT03428	<2	40	3780	120	2.0	6	-
AT03429	3	29	1960	137	1.7	5	-
AT03430	<2	13	1400	138	0.5	3	-
AT03431	<2	16	380	95	0.7	7	-
AT03432	<2	21	356	41	0.7	5	-
AT03433	3	20	470	30	0.4	4	-
AT03434	7	36	288	28	0.5	6	-
AT03435	<2	15	65	7	0.2	2	-

Certified by G. Leboy

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 FAX (705)642-3300

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A Division of TSL/Assayers Inc.

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Established 1928

Geochemical Analysis Certificate

6W-0838-RG1

Company: **FALCONBRIDGE LTD (EXPLORATION)**
Project: 8142 EXPL
Attn: M. Collison

Date: MAR-08-96

We hereby certify the following Geochemical Analysis of 17 Core samples submitted MAR-04-96 by .

Sample Number	Au PPB	Cu PPM	Zn PPM	Pb PPM	Ag PPM	Ni PPM
AT03436	<2	23	89	10	0.1	6
AT03437	<2	50	96	6	0.1	6
AT03438	10	29	55	2	0.1	5
AT03439	<2	10	50	1	0.1	3
AT03440	7	5	44	1	0.1	4
AT03441	<2	23	71	1	0.1	18
AT03442	3	49	62	1	0.1	20
AT03443	<2	8	87	1	0.1	8
AT03444	<2	27	167	1	0.1	10
AT03445	3	38	460	1	0.1	9
AT03446	<2	41	775	1	0.1	7
AT03447	<2	724	666	1	0.5	22
AT03448	7	46	173	1	0.1	30
AT03449	3	43	135	1	0.2	25
AT03450	10	2700	200	1	1.2	24
AT03451	<2	32	188	1	0.1	27
AT03452 Control	<2	10	120	13	0.2	7

Certified by _____

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 FAX (705) 642-3300

Ontario Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use): W9760.00273
Assessment Files Research Imaging

Personal infor
Mining Act, th
Questions at
933 Ramsey

42A12SE0030 2.17648 ROBB

900

65(2) and 66(3) of the Mining Act. Under section 8 of the
ssment work and correspond with the mining land holder.
inistry of Northern Development and Mines, 6th Floor,

2.17648

Instructions: - For work performed on Crown Lands before **recording** a claim, use form 0240.
- Please type or print in ink.

1. Recorded holder(s) (Attach a list if necessary)

Name	Client Number
FALCONBRIDGE LIMITED	130679
Address	Telephone Number
P.O. BOX 1140, 571 MONETA AVE	(705) 267-1188
TIMMINS, ONTARIO P4N	Fax Number (705) 264-6080
Name	Client Number
Address	Telephone Number
	Fax Number

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

☐ Geotechnical: prospecting, surveys, assays and work under section 18 (regs)
☑ Physical: drilling, stripping, trenching and associated assays
☐ Rehabilitation

Work Type: DIAMOND DRILLING & ASSAYS

Office Use	
Commodity	
Total $ Value of Work Claimed	$62,210
NTS Reference	
Mining Division	PORCUPINE
Resident Geologist District	TIMMINS

Dates Work Performed: From 20 (Day) 01 (Month) 96 (Year) To 26 (Day) 02 (Month) 96 (Year)

Global Positioning System Data (if available)

Township/Area: ROBB - JAMIESON - GODFREY

M or G-Plan Number:

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;
- provide proper notice to surface rights holders before starting work;
- complete and attach a Statement of Costs, form 0212;
- provide a map showing contiguous mining lands that are linked for assigning work;
- include two copies of your technical report.

3. Person or companies who prepared the technical report (Attach a list if necessary)

Name	Telephone Number
MIKE COLLISON	(705) 267-1188
Address	Fax Number
P.O. BOX 1140, 571 MONETA AVE, TIMMINS, ONT. P4N 7H9	(705) 264-6080
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number

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JUN 16 1997
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4. Certification by Recorded Holder or Agent

I, MIKE COLLISON (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent		Date
M. Collison		26 FEB 97
Agent's Address	Telephone Number	Fax Number
571 MONETA AVE, TIMMINS, ONT. P4N 7H9	(705) 267-1188	(705) 264-6080

Deemed - Post. 10/07

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

	Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
eg	TB 7827	16 ha	$26, 825	N/A	$24,000	$2,825
eg	1234567	12	0	$24,000	0	0
eg	1234568	2	$ 8, 892	$ 4,000	0	$4,892
1	SEE	ATTATCHED		SHEETS		
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
		Column Totals				

2.17648

I, MIKE COLLISON (Print Full Name), do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing: M. Collison — Date: 26 FEB 97

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- ☑ 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- ☑ 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- ☐ 3. Credits are to be cut back equally over all claims listed in this declaration; or
- ☐ 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp: RECEIVED FEB 26 1997

Deemed Approved Date: MAY 27, 1997

Date Notification Sent:

Date Approved:

Total Value of Credit Approved:

	Mining Claim Number. Or if work was done on other eligigle mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
1	997630	1	$14,657	$800	$12,000	$1,857
2	1190161	1	$11,419	$800	$10,000	$619
3	1190197	1	$36,134	$800	$12,000	$23,334
4	634743	1		$400		
5	634744	1		$400		
6	634745	1		$400		
7	634746	1		$400		
8	634747	1		$400		
9	634748	1		$400		
10	634749	1		$400		
11	634750	1		$400		
12	634751	1		$400		
13	634752	1		$400		
14	634753	1		$400		
15	634754	1		$400		
16	634755	1		$400		
17	634756	1		$400		
18	634757	1		$400		
19	634758	1		$400		
20	634759	1		$400		
21	634760	1		$400		
22	634761	1		$400		
23	634762	1		$400		
24	634763	1		$400		
25	634764	1		$400		
26	634765	1		$400		
27	634766	1		$400		
28	634767	1		$400		
29	634768	1		$400		
30	634769	1		$400		
31	634770	1		$400		
32	634771	1		$400		
33	634772	1		$400		
34	634773	1		$400		
35	634774	1		$400		
36	634775	1		$400		
37	634776	1		$400		
38	634777	1		$400		
39	634778	1		$400		
40	634779	1		$400		
41	634780	1		$400		
42	634781	1		$400		
43	634782	1		$400		
44	634783	1		$400		
45	634784	1		$400		
46	634785	1		$400		
47	634786	1		$400		
48	634787	1		$400		
49	634789	1		$400		
50	634790	1		$400		
51	634791	1		$400		
52	634792	1		$400		
53	634793	1		$400		
54	634794	1		$400		
55	634795	1		$400		
56	634796	1		$400		
57	634797	1		$400		
58	725201	1		$400		
59	725451	1		$400		
60	725904	1		$400		
61	725905	1		$400		
62	725959	1		$400		
63	726073	1		$400		

2.17648

	Mining Claim Number.Or if work was done on other eligigle mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
64	758053	1		$400		
65	758140	1		$400		
66	758731	1		$400		
67	758741	1		$400		
68	758766	1		$400		
69	758767	1		$400		
70	758793	1		$400		
71	758794	1		$400		
72	758951	1		$400		
73	758952	1		$400		
74	758953	1		$400		
75	758965	1		$400		
76	758966	1		$400		
77	758967	1		$400		
78	758968	1		$400		
79	758992	1		$400		
80	758993	1		$400		
81	758994	1		$400		
82	758995	1		$400		
83	833643	1		$400		
84	849735	1		$400		
85	949124	1		$400		
86	996684	1		$400		
87	1189507	1		$400		
88	1189508	1		$400		
		Column Totals	$62,210	$36,400	$34,000	$25,810

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Transaction No./N° de transaction: W9760.00273

Mining Act/Loi sur les mines

2.17648

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute quesiton sur la collece de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	3400	
	Field Supervision Supervision sur le terrain	1200	4600
Contractor's and Consultant's Fees Frais de l'entrepreneur et de l'expert-conseil	Type DOMINIK DRILLING	53,168	
	SWASTIKA LABS	2715	
			55883
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type		
Total Direct Costs Total des coûts directs			60483

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2. Indirect Costs/Coûts indirects

** Note: When claiming Rehabilitation work indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type TRUCK RENTAL	500	
	GAS	200	
		700	700
Food and Lodging Nourriture et hébergement			
Mobilization and Demobilization Mobilisation et démobilisation	DRILL MOB	1027	1027
Sub Total of Indirect Costs Total partiel des coûts indirects			1727
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			1727
Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs) / Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)			62210

The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Discounts

Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.

Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Value of Assessment Credit		Total Assessment Claimed
	× 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.

2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation		Montant total demandé
	× 0,50 =	

RECEIVED
FEB 26 1997
@ 2:40 (C)
PORCUPINE MINING DIVISION

Certification Verifying Statement of Costs

I certify:
the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

SENIOR FIELD GEOLOGIST (Recorded Holder, Agent, Position in Company) I am authorized to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ (titulaire enregistré, représentant, poste occupé dans la compagnie) je suis autorisé à faire cette attestation.

Signature	Date
	26 FEB 97

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

September 24, 1997

Mike Collison
FALCONBRIDGE LIMITED
P.O. Box 1140
Timmins, ONTARIO
P4N 7H9

Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (888) 415-9846
Fax: (705) 670-5863

Dear Sir or Madam:

Submission Number: 2.17648

Subject: Transaction Number(s):		**Status**
	W9760.00273	Deemed Approval

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Bruce Gates by e-mail at gates_b@torv05.ndm.gov.on.ca or by telephone at (705) 670-5856.

Yours sincerely,

ORIGINAL SIGNED BY
Blair Kite
Supervisor, Geoscience Assessment Office
Mining Lands Section

Correspondence ID: 11364

Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.17648

Date Correspondence Sent: September 24, 1997 **Assessor:** Bruce Gates

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9760.00273	997530	ROBB, JAMIESON, GODFREY	Deemed Approval	September 14, 1997

Section:
16 Drilling PDRILL

Correspondence to:
Resident Geologist
South Porcupine, ON

Assessment Files Library
Sudbury, ON

Recorded Holder(s) and/or Agent(s):
Mike Collison
FALCONBRIDGE LIMITED
Timmins, ONTARIO

Correspondence ID: 11364

Ontario Ministry of Natural Resources

Ministry of Northern Development and Mines

42A12SE0030 2.17648 ROBB

200

INDEX TO LAND DISPOSITION

PLAN

G-3968

TOWNSHIP

ROBB

M.N.R. ADMINISTRATIVE DISTRICT

TIMMINS

MINING DIVISION

PORCUPINE

LAND TITLES/REGISTRY DIVISION

COCHRANE

Scale 1:20 000

2.17648

1000 Metres 0 1000 2000 Metres

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 Feet

Contour Interval 10 Metres

RECEIVED
JUN 16 1997
GEOSCIENCE ASSESSMENT OFFICE

SYMBOLS

Boundary
- Township, Meridian, Baseline
- Road allowance; surveyed
- shoreline
- Lot/Concession; surveyed
- unsurveyed
- Parcel; surveyed
- unsurveyed
- Right-of-way; road
- railway
- utility
- Reservation
- Cliff, Pit, Pile
- Contour (20)
- Interpolated
- Approximate
- Depression
- Control point (horizontal)
- Flooded land
- Mine head frame
- Pipeline (above ground)
- Railway; single track
- double track
- abandoned
- Road; highway, county, township
- access
- trail, bush
- Shoreline (original)
- Transmission line
- Wooded area

DISPOSITION OF CROWN LANDS

Patent
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only

Lease
- Surface & Mining Rights
- Surface Rights Only
- Mining Rights Only

Licence of Occupation
Order-in-Council (OC)
Cancelled
Reservation (R)
Sand & Gravel (S)

AREAS WITHDRAWN FROM DISPOSITION

MRO - Mining Rights Only
SRO - Surface Rights Only
M + S - Mining and Surface Rights

Description	Order No.	Date	Disposition	File
(R) M.N.R. RESERVE				

~~THIS TWP. IS SUBJECT TO FOREST ACTIVITIES IN 1992/93. FURTHER INFORMATION AVAILABLE ON FILE.~~

PLANS OF SUBDIVISION - NOT OPEN FOR STAKING

PROPOSED SURFACE RIGHTS DISPOSITION UNDER THE P.L.A. - NOTICE RECEIVED MARCH 7, 1991

(F) THIS TWP. IS SUBJECT TO FOREST ACTIVITY IN 1994/95 FURTHER INFORMATION ON FILE.

(R1) ~~MINING AND SURFACE RIGHTS WITHDRAWN UNDER SECTION 35 OF THE MINING ACT, R.S.O. 1990 ORDER NO. W.P. 6/97 NER DATED APR. 28/97~~

(R2) ~~MINING AND SURFACE RIGHTS RESERVED UNDER SECTION 35 OF THE MINING ACT, R.S.O. 1990 ORDER NO. W.P. 6/97 NER DATED APR. 28/97~~ ~~EXPIRES SEPT. 28, 1997.~~

(R3) ~~MINING AND SURFACE RIGHTS WITHDRAWN UNDER SECTION 35 OF THE MINING ACT, R.S.O. 1990 ORDER NO. W.P. 6/97 NER DATED APR. 28/97 EXPIRES SEPT. 28, 1997. MINING AND SURFACE RIGHTS THE MINERAL RIGHTS SHALL BE R.L.O. H004 AND LEASED CLAIMS CONTAINED WITHIN CLM 353.~~

(R4) MINING AND SURFACE RIGHTS WITHDRAWN UNDER SECTION 35 OF THE MINING ACT, R.S.O. 1990 ORDER NO. W.P. 6/97 NER DATED APR. 28/97

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

ACTIVATED AUGUST 13, 1992
BY D.C.
CHECKED BY [illegible]

Map base and land disposition drafting by Surveys and Mapping Branch, Ministry of Natural Resources.

The disposition of land, location of lot fabric and parcel boundaries on this index was compiled for administrative purposes only.

SMD 3968

3968