CLEVELAND TIN N.L.

CATEGORY: E

HOLE No.: 580

GENERAL DATA

Objective :

Area of Operation : CLEVELAND MINE, TASMANIA. Location : L SECTION. WEST OF DEEP CK.

Collar R.L. : 460·0 Co-ordinates : 15261·0 N, 11148·9 E.

Bearing of Hole : ~~62°~~ 319° Angle of Hole : ~~329°~~ −62° Final Depth : 1606'0" (489·5m)

Drilling Commenced : Completed : Logged by : G Boyle.

DRILLING DATA

Drilled by : LONGYEAR Non Coring :

Drilling Rig : " 46 Coring :

Driller(s) : P LEFTERUK, O KOSKI

Core Recovery :

HOLE SURVEYS

TROPARI		ACID		ACID		ACID	
−64° at 321°	500'	50'	−62°	600'	−62°	1100	−64°
−61° at 320½°	650'	200'	−62°	700'	−61°	1200	−62°
−63° at 319°	900'	300'	−63°	800'	−59°	1300	−62½°
		400'	−62°	900'	−59½°	1400	−58½°
		500'	−63½°	1000'	−62½°	1500	−57°

HOLE No. :

N.W.P.S.

HOLE Nº : 580
SHEET Nº : 1

DRILL HOLE DATA

DATE: 12/4/77
LOGGED: SRH

COLLAR LOCATION: SURFACE, WEST OF DEEP CREEK, Near L section.

OBJECTIVE:

FINAL DEPTH: 489.5 CORE SIZE: NQ/BQ

BEARING: 319°

DIP: -62° R.L.: 460.0

COLLAR CO-ORDINATES: 15261.0 N; 11148.9 E;

SURVEY DATA				INTERPOLATED DATA			CALCULATED POSITION									
INSTR. TYPE	DEPTH	DIP	AZI.	DEPTH	DIP	AZI	N	E	R.L.	Depth	DIST. FROM HALLS	SECT L	DIST. PERP. TO H.R.P.	Co-ords Halls Int. point	DIST. FROM BATT.	SECT	DIST. PERP. TO B.R.P.
Eastman				0						0	-3.17		401.86	15533.67N			
Camera	15.2	62.0	321.0	12.5	62.0	321.0	15270.12	11141.51	437.93	25	-1.39		390.26	10853.68E			
Tropari	61.0	62.0		25.0													
Camera	91.4	63.0		37.5	62.0	321.0	15279.24	11134.13	415.85	50	+0.39		378.66				
"	121.9	62.0		50.0													
"	152.4	63.0	321.0	62.5	62.0	321.0	15288.36	11126.74	393.78	75	2.17		367.06				
	182.9	62.0		75.0													
	198.1	61.0	320.5	87.5	63.0	321.0	15297.18	11119.60	371.50	100	3.89		355.84				
	213.4	61.0		100.0													
	243.8	59.0		112.5	62.5	321.0	15306.16	11112.33	349.33	125	5.65		344.42				
	274.3	63.0	319.0	125.0										484.5			
	304.8	62.5		137.5	62.5	321.0	15315.13	11105.07	327.15	150	7.40		333.01				
	335.3	64.0		150.0													
	365.8	62.0		162.5	62.5	321.0					9.15		321.61				
	396.2	62.5		175.0			15324.10	11097.81	304.98								
	426.7	58.5		187.5	61.5	320.5											
	457.2	57.0		200.0			15333.30	11090.22	283.01		10.85		309.80				
	489.5	57.0		212.5	61.0	319.5											
				225.0			15342.52	11082.35	261.14		12.38		297.78				
				237.5	59.0	319.0											
				250.0			15352.24	11073.90	239.71		13.89		284.99				

HOLE Nº: 580
SHEET Nº: 2

DRILL HOLE DATA

DATE:
LOGGED: SRH

COLLAR LOCATION: ☒ SURFACE, Near L section

OBJECTIVE: FINAL DEPTH: CORE SIZE:

BEARING: DIP: R.L.:

COLLAR CO-ORDINATES: N ; E ;

SURVEY DATA				INTERPOLATED DATA			CALCULATED POSITION										
INSTR. TYPE	DEPTH	DIP	AZI.	DEPTH	DIP	AZI	N	E	R.L.		DIST. FROM HALLS	SECT. L	DIST. PERP. TO H.R.P.		DIST. FROM BATT.	SECT	DIST. PERP. TO B.R.P.
				282·5	60·0	319·0											
				275·0			15361·67	11065·70	218·06		15·35		272·58				
				287·5	63·5	319·0											
				300·0			15370·09	11058·38	195·69		16·66		261·50				
				312·5	62·5	319·0											
				325·0			15378·80	11050·81	173·22		18·07		250·04				
				337·5	64·0	319·0											
				350·0			15386·63	11044·00	150·75		19·22		239·73				
				362·5	62·5	319·0											
				375·0			15395·34	11036·43	128·57		20·58		228·27				
				387·5	60·5	319·0											
				400·0			15404·63	11028·35	106·81		22·02		216·04				
				412·5	59·0	319·0											
				425·0			15414·35	11019·91	85·38		23·53		203·26				
				437·5	58·0	319·0											
				450·0			15424·35	11011·21	64·18		25·08		190·09				
				462·5	57·0	319·0											
				475·0			15434·63	11002·28	43·22		26·68		176·57				
				487·5	57·0	319·0											
				500·0	proj.		15444·90	10993·35	22·25	E.O.H proj	28·27		163·06				

13569·20
10867·81

ABMINCO N.L. - Cleveland Mine

DIAMOND DRILL HOLE DATA

Hole No. C580

Sheet No. 1

PROGRAM DATA				SURVEY DATA				INTERPOLATED DATA		
				Instrument Type	Depth	Dip	Azimuth	Depth	Dip	Azimuth
1	Attitude	- CHS	(+) (-)	ACID	0	62	319	0	62	319
2	Hole No.	580		"	15·24	62		12·5	62	
3	Down Hole Interval	25		"	60·96	62		37·5	62	
4	Collar Co-ords.	15261·0	N	"	91·44	63		62·5	62	
5		11148·9	E	"	121·92	62		87·5	62·5	
6	Collar R.L.	460·0		"	152·40	63·5		112·5	62·3	
7	Halls Sect. L Intersect Point	15533·67	N	"	182·88	62		137·5	63	
8		10853·68	E	"	213·36	61		162·5	62·5	
9	Battery Sect. Intersect. Point		N	"	243·84	59		187·5	61·8	
10			E	"	274·32	59·5		212·5	60·8	
11	Start Plot (Depth)	0	ϕ = Collar	"	304·80	62·5		237·5	59·8	
				"	335·28	64		262·5	59·8	
				"	365·76	62		287·5	61	
				"	396·24	62·5		312·5	62·7	
				"	426·72	58·5		337·5	63·5	
				"	457·20	57		362·5	63	
								387·5	61·8	
								412·5	60	
								437·5	58	
								462·5	57	

DOWN HOLE PLOT

Hole No: C580

Sheet No: 1

DEPTH	PLAN			CROSS SECTION		LONG SECTION				Depth	PLAN			CROSS SECTION		LONG SECTION			
	N	E	RL	Dist.from H.R.P.	Dist.from B.R.P.	Dist. from Halls	Sect. L	Dist from Batt.	Sect.		N	E	RL	Dist.from H.R.P.	Dist. from B.R.P.	Dist from Halls	Sect.	Dist. from Batt	Sec
0	15261·0	11148·90	460	401·86		-3.17													
25	15269·86	11141·20	437·93	390·21		-1·80													
50	15278·72	11133·50	415·86	378·55		-0·42													
75	15287·57	11125·80	393·78	366·89		0·95													
100	15296·29	11118·23	371·60	355·43		2·30													
125	15304·91	11110·73	349·37	344·08		3·64													
150	15313·48	11103·28	327·09	332·81		4·97													
175	15322·19	11095·71	304·92	321·35		6·32													
200	15331·10	11087·96	282·89	309·61		7·71													
225	15340·31	11079·96	261·06	297·50		9·13													
250	15349·80	11071·71	239·46	285·01		10·61													
275	15359·29	11063·46	217·85	272·52		12·08													
300	15368·44	11055·51	195·98	260·49		13·50													
325	15377·09	11047·98	173·77	249·10		14·84													
350	15385·51	11040·66	151·39	238·02		16·15													
375	15394·08	11033·22	129·12	226·75		17·48													
400	15402·99	11025·47	107·09	215·02		18·86													
425	15412·43	11017·27	85·44	202·60		20·33													
450	15422·42	11008·58	64·23	189·45		21·88													
475	15432·70	10999·64	43·27	175·92		23·47													

HOLE No.: 580

SAMPLE DATA

SHEET No.: .....

FOOTAGE: From 365'0" To 1584'0"

LENS	SAMPLE No.	LITHOLOGY	Σ	INTERVAL (ft) From	INTERVAL (ft) To	Length (L)	Assays (A) % Snt	Assays (A) % Sns	Assays (A) % Cu	Product (A x L) P. Snt	Product (A x L) P. Sns	Product (A x L) P. Cu
	90592	PYRITIC LIMESTONE ~~DOLOMITE~~		369'0"	372'6"	3'6"	001	NONE	002			
	90593	LIMESTONE ~~DOLOMITE~~		380'0"	383'3"	3'3"	002		002			
	90594	CHALCOPYRITE, PYRRHOTITE PYRITE, CARBONATE CHLORITE.		1431'0"	1432'5"	1'5"	021		026			
*	90595	PYRRHOTITE, CHALCOPYRITE, MINOR PYRITE, QUARTZ, CHLORITE, TOURMALINE.		1440'11"	1441'0"	2'1"	0·10		0·28			
	90596	PYRRHOTITE, CHALCOPYRITE, MINOR PYRITE, ~~QUARTZ~~ CHLORITE, QUARTZ CARBONATE		1444'0"	1447'7"	3'7"	0·60		0·60			
	90597	"		1447'7"	1450'8"	3'1"	0·51		0·84			
	90598	"		1450'8"	1454'1"	3'5"	0·79		1·22			
*	90599	"		1454'1"	1457'10"	3'9"	0·20		1·32			
			Σ	~~1440~~ 439·19	444·35	5·16	0·43		0·85			
	90600	SMALL ~~a~~ CHALCOPYRITE PYRRHOTITE, QUARTZ, CHLORITE, TOURMALINE		1497'2"	1499'2"	2'0"	0·09		0·17			
	90601	CHALCOPYRITE, PYRRHOTITE, QUARTZ CHLORITE		1523'2"	1524'5"	1'3"	0·17		0·38			
	90602	"		1538'6"	1539'3"	9"	0·10		0·02			
	90603	PYRITE, CHLORITE QUARTZ		1586'11"	1584'0"	2'1"	0·07		0·54			

W.P.S.

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 1

From 0 To 101'0"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
0	24'0"	4'10"	0	24'0"	24'0"		SHALE	MASSIVE FINE GREY SHALE, OFTEN MUCH			
24'0"	26'0"	1'8"		7.32				BROKEN AND IRON STAINED. MINOR DARK			
26'0"	31'0"	2'7"						GREY SHALE AND CHAOTICALLY INTERBANDED			
31'0"	38'0"	2'0"						GREY SANDSTONE. CHAOTIC ZONE APPEARS			
38'0"	44'0"	2'4"		7.54				TO BE FROM 0 TO 18'.			
44'0"	50'0"	1'9"	24'0"	24'9"	9"		CHERT	FINE, MASSIVE, ORANGE-BROWN CHERT.			
50'0"	54'0"	2'9"	24'9"	27'9"	3'0"		SHALE	MASSIVE, FINE BLACK SHALE, MINOR			
54'0"	62'0"	7'7"		8.46 9.14				ORANGE-BROWN CHERT.			
62'0"	66'0"	2'10"	27'9"	30'0"	2'3"		CHERT	MASSIVE, FINE, MID GREY CHERT. MAY			
66'0"	74'0"	3'3"		30.57				BE SILICIFIED SHALE.			
74'0"	76'0"	1'6"	30'0"	100'3"	69'9"		SHALE	MASSIVE, FINE, MID GREY SHALE WITH			
76'0"	80'0"	2'3"						MINOR DARK GREY SHALE. SOME GREENISH			
80'0"	86'0"	3'0"						TINGING. MINOR, IRREGULAR, BEDDING, SOME			
86'0"	90'0"	1'5"						CHAOTIC ZONES. OFTEN HEAVILY STAINED			
90'0"	100'0"	2'4"						BY IRON OXIDES. SILICIFIED, OFTEN NEARLY CHERTY,			
100'0"	104'0"	3'7"						~~SHALE~~ MID GREY SHALES 73'9" TO 84'.			
104'0"	107'0"	1'7"						42' TO 100'3". BLACK SHALE. FINE,			
107'0"	110'0"	2'0"		30.78				BEDDED PARALLEL TO CORE.			
110'0"	112'0"	1'0"	100'3"	101'0"	9"		LIMONITE	SOFT, FRIABLE HEAVILY WEATHERED LIMONITE-			

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 2

From 101'0" To 209'0"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
112'0"	116'0"	1'8"	100'8"	101'0"	9"			MANGANESE DIOXIDE MATERIAL. MAY BE SEVERELY			
116'0"	118'0"	1'5"		31.70				WEATHERED LODE.			
118'0"	121'0"	1'11"	101'0"	104'0"	3'0"		SHALE	FINE, MASSIVE, DARK GREY TO MID GREY			
121'0"	122'0"	9"	10	32.00				SHALE. OFTEN HEAVILY FOLIATED.			
122'0"	123'0"	11"	104'0"	105'0"	1'0"		CHERT	MASSIVE, FINE GREY CHERT.			
123'0"	125'6"	2'6"	105'0"	147'9"	42'9"		SHALE	MASSIVE, FINE, PALE TO PURPLISH MID GREY			
125'6"	127'6"	2'0"		45.03				SHALE, SLIGHTLY PYRITIC. OFTEN FOLIATED,			
127'6"	129'0"	6"						VARIABLE DEGREES OF SILICIFICATION, OFTEN			
129'0"	130'0"	10"		46.02				TO CHERT			
130'0"	131'0"	5"	147'9"	151'0"	3'3"		CHERT	MASSIVE, BRECCIATED APPEARING, RED, BLACK			
131'0"	134'0"	1'1"						AND SLIGHTLY GREEN, PYRITIC CHERT OR			
134'0"	139'0"	11"		47.93				QUARTZ VEIN BRECCIA.			
139'0"	140'0"	11"	151'0"	157'3"	6'3"		SHALE	MASSIVE, FOLIATED, PALE GREY-GREEN TO			
140'0"	144'0"	9"		48.62				DARK GREY, SHALE.			
144'0"	145'0"	10"	157'3"	159'6"	2'3"		CHERT	MASSIVE, FINE, PALE GREY-GREEN CHERT.			
145'0"	151'0"	2'2"	159'6"	209'0"	49'6"		SHALE + MINOR CHERT.	MASSIVE, FINE, MID TO DARK GREY AND			
151'0"	154'0"	1'1"		63.70				PALE GREY-GREEN SHALE AND MINOR			
154'0"	157'0"	1'9"						CHERT OF LIKE APPEARENCE. THE TWO			
157'0"	160'0"	2'2"						ARE CLOSELY INTERMINGLED AND DIFFICULT			

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 3

From 209'0" To 358'0"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
160'0"	162'0"	2'0"						TO SEPERATE EXCEPT BY HARDNESS.			
162'0"	164'0"	7"				40°		MINOR BEDDING TRACES. SOME CHAOTIC			
164'0"	170'0"	5'0"	63.70	64.29				ZONES			
170'0"	177'0"	9"	209'0"	210'9"	1'9"		LIMESTONE	FINE, SOFT, GRANULAR, WHITE SPECKLED, PALE			
177'0"	180'0"	2'9"		109.12				LIMESTONE TREATS VIGOROUSLY WITH ACID.			
180'0"	183'0"	1'4"	210'9"	358'0"	147'3"		SHALE	FINE, MASSIVE, SOMETIMES CHAOTIC,			
183'0"	187'0"	1'6"						MED TO DARK GREY-BLACK, AND PALE TO DARK			
187'0"	190'0"	11"						GREY GREEN SHALE. SOME FOLIATION.			
190'0"	192'0"	9"						OFTEN SILICIFIED TO CHERT IN SMALL			
192'0"	193'0"	11"						PATCHES. ABUNDANT EVIDENCE OF SLUMPING			
193'0"	199'0"	3'6"						AT 260' THE COLOUR ASSEMLAGE			
199'0"	201'0"	1'7"						CHANGES TO DARK PURPLE-BROWN AND			
201'0"	204'0"	1'8"						DARK GREEN-GREY SHALES. INTERMINGLED			
204'0"	207'0"	2'4"						AND INTERBEDDED. SLUMPING STILL			
207'0"	211'0"	4'0"						EVIDENT. SOME PYRITIC SECTIONS			
211'0"	221'0"	9'10"						306'6" TO 325'0" FINE, MASSIVE TO			
221'0"	222'6"	1'6"						IRREGULARLY BEDDED PALE TO MID GREEN			
222'6"	230'0"	7'6"						SHALE, SOME SECTIONS SILICIFIED TO			
230'0"	234'0"	4'0"						CHERT 325'0" TO 358'0" PALE TO DARK			

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 4

From 358'0" To 438'10"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
234'0"	238'0"	4'0"						GREY, FINE, MASSIVE SHALES. MINOR			
238'0"	239'6"	1'6"						FINE, CRYSTALLINE, PALE GREY, IMPURE			
239'6"	243'0"	2'10"						RECRYSTALLIZED DOLOMITES. BOTH			
243'0"	245'0"	1'11"						INTERBEDDED AND INTERMINGLED WITH			
245'0"	254'0"	10'0"						THE PALE GREY-GREEN SHALE AND			
254'6"	258'0"	3'10"						CHERT.			
258'0"	259'6"	1'6"						ALL THIS SEQUENCE SHOWS ABUNDANT			
254'0"	262'0"	3'0"	109.12	110.03				SIGNS OF SLUMPING.			
262'0"	266'0"	4'0"	358'0"	361'0"	3'0"		LIMESTONE ~~DOLOMITE~~	PALE TO MID GREY, FINE, CRYSTALLINE,			
266'0"	268'0"	2'0"						IMPURE, RECRYSTALLIZED LIMESTONE ~~DOLOMITE~~ WITH			
268'0"	271'0"	3'0"						VERY MINOR, VERY FINE PYRITE, MINOR			
271'0"	277'0"	6'0"						INTERMINGLED, DARK GREY FOLIATED			
277'0"	285'0"	8'0"		112.47				SHALE.			
285'0"	289'0"	4'0"	361'0"	365'0"	8'0"		SHALE	PALE TO DARK GREEN-GREY, MASSIVE, FOLIATED			
289'0"	299'0"	10'0"						SHALE AND MINOR DARK GREY SHALE.			
299'0"	305'0"	6'0"						SOME PYRITIC SECTIONS. MINOR BEDDING,			
305'0"	311'0"	4'8"	112.47	133.76				VERY IRREGULAR IN DIRECTION.			
311'0"	324'0"	5'1"	365'0"	438'10"	69'10"		LIMESTONE ~~DOLOMITE~~	FINE, MID TO DARK GREY, CRYSTALLINE, MASSIVE,			
324'0"	324'0"	3'0"						PYRITIC, IMPURE LIMESTONE ~~DOLOMITE~~ WITH MINOR			

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 5

From 438'10" To 468'0"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
324'0"	333'0"	9'10"						DARK GREY SHALE. SHALE IRREGULARLY			
333'0"	343'0"	10'0"						INTERMINGLED WITH DOLOMITE. PYRITE			
343'0"	350'0"	7'0"						IS FINE GRAINED, DISSEMINATED TO MASSES			
350'0"	351'0"	1'0"						UP TO 1CM. NUMEROUS CARBONATE VEINS			
351'0"	361'0"	10'0"						PYRITE LESS COMMON AFTER 401', PYRITE			
361'0"	363'0"	2'0"						CUBES PREDOMINATE AFTER 401'. $\frac{3}{4}$" VEIN			
363'0"	371'0"	8'0"						AT 418'9", ANGLE TO CORE 70°.			
371'0"	381'0"	10'0"						VEIN IS SPHALERITE, CHALCOPYRITE, PYRRHOTITE	*		
381'0"	391'0"	10'0"		135.20				IN CARBONATE GANGUE.			
391'0"	401'0"	10'0"	438'10"	443'7"	4'9"	65°	SHALE	FINE, BEDDED, PALE GREEN-GREY SHALE			
401'0"	411'0"	10'0"						NUMEROUS FINE GRAINS AND 'SHREDS' OF			
411'0"	422'0"	9'9"						?MARCASITE AND MINOR PYRITE AS LARGE			
422'0"	432'0"	10'10"		142.65				FINE GRAINED MASSES.			
432'0"	442'0"	9'9"	443'7"	468'0"	24'5"	65° TO 45°	CHERT	FINE, BEDDED, PALE GREEN-GREY CHERT AT 254' CHANGING TO FINE, DARK PURPLE BROWN			
442'0"	452'0"	10'0"						CHERT WITH FINE INTERBEDS OF PALE			
452'0"	457'0"	5'0"						GREY GREEN CHERT GRADING TO DARK			
457'0"	462'0"	4'9"						PURPLISH GREY CHERT WITH INTERBEDS OF			
462'0"	468'0"	6'0"						PALE GREY-GREEN CHERT AT 254'.			
468'0"	472'0"	4'0"									

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 6

From 468'0" To 564'6"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
472'0"	480'0"	8'9"						CHERT GRADES IMPERCEPTIBLY TO SHALE			
480'0"	490'0"	9'3"						OF IDENTICAL APPEARENCE IN			
490'0"	500'0"	9'7"		172.06				A TWO FOOT ZONE TO 488'.			
500'0"	510'0"	9'11"	468'0"	564'6"	96'6"	45°	SHALE	DARK TO MID PURPLE TO RED-BROWN			
510'0"	520'0"	10'0"						SHALE WITH MINOR FINE INTERBEDS OF			
520'0"	526'0"	6'0"						PALE GREY-GREEN SHALE. MINOR			
526'0"	534'0"	8'0"						SILICIFICATION NEAR 468'. RICH			
534'0"	544'0"	10'0"						RED BROWN COLOUR PREDOMINATES AFTER			
544'0"	554'0"	10'0"						470'. 498'-501'8" SECTION OF GREY			
554'0"	557'0"	2'7"						-GREEN, PURPLISH TINGED SHALES IN THE			
557'0"	567'0"	10'0"						RED BROWN & MINOR GREY-GREEN SHALE			
567'0"	577'0"	10'0"						SEQUENCE. 1" VEIN AT 25° AT 500'.			
577'0"	586'0"	9'0"						CHALCOPYRITE, PYRITE, QUARTZ. APPEARS			
586'0"	593'0"	6'0"						TO BE SHEAR ZONE. NUMBEROUS FINE			
593'0"	594'0"	1'0"						CARBONATE VEINS, CHLORITIC MATERIAL			
594'0"	604'0"	10'0"						ON SHEARS. FROM 544' TO 564'6"			
604'0"	614'0"	10'0"						THE SHALE COLOUR VARIES WIDELY, DARK GREY,			
614'0"	624'0"	10'0"						MID TO DARK GREEN, PINK-BROWN, SOMETIMES			
624'0"	634'0"	10'0"						GREEN TINGED, AND PURPLE BROWN SHALES.			

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 7

From 564'6" To 586'0"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
634'0"	644'0"	10'0"	564'6"	566'4"	1'10"		GREYWACKE	GREY-GREEN GREYWACKE OR SLUMP BRECCIA, GRAINS OF			
644'0"	654'0"	10'0"		172.62				SHALE OF ALL COLOURS REPRESENTED IN THE			
654'0"	664'0"	10'0"						PREVIOUS 20 FEET AND GRAINS OF QUARTZ. GRAIN			
664'0"	674'0"	10'0"						SIZE UP TO 1mm. MATERIAL SHOWS GOOD			
674'0"	684'0"	10'0"						ALIGNEMENT OF GRAINS. NUMEROUS LARGE			
684'0"	694'0"	10'0"						SHARDS OF PURPLE-BROWN SHALE AND			
694'0"	704'0"	10'0"		172.82				SEVERAL LARGE, BARREN QUARTZ VEINS. *			
704'0"	714'0"	10'0"	566'4"	567'0"	8"		SHALE	FINE, MASSIVE, PURPLE-BROWN SHALE,			
714'0"	724'0"	10'0"	567'0"	173.0 567'9"	9"		GREYWACKE	GREYWACKE AS ABOVE,			
724'0"	734'0"	10'0"	567'9"	173.41 568'11"	1'4"		SHALE	FINE, MASSIVE, PURPLE-BROWN SHALE.			
734'0"	744'0"	10'0"	568'11"	174.40 572'2"	3'3"		GREYWACKE	GREYWACKE AS ABOVE BUT PURPLE-BROWN			
744'0"	754'0"	10'0"						SHALE PREDOMINATES GIVING STRONG,			
754'0"	764'0"	10'0"						DARK PURPLE-GREEN COLOURATION.			
764'0"	774'0"	10'0"						NUMBER OF QUARTZ VEINS AND MASSES,			
774'0"	784'0"	10'0"						ONE ¼" VEIN CONTAINS CHALCOPYRITE.			
784'0"	794'0"	10'0"						NEAR 572' THE GREYWACKE IS ALMOST			
794'0"	804'0"	9'10"		178.61				PURE PURPLE BROWN SHALE.			
804'0"	814'0"	10'0"	572'2"	586'0"	45° TO 50°		SHALE	FINE, BEDDED, PURPLE-BROWN TO RED-BROWN			
814'0"	824'0"	10'0"						AND GREEN TO GREY GREEN SHALES,			

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HOLE No. 580

GEOLOGICAL LOG

SHEET No. 8

From 586'0" To 655'4"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
824'0"	834'0"	9'10"						PROBABLY GRADING INTO TUFFS. BEDDING			
834'0"	844'0"	10'0"						SOMETIMES IRREGULAR ABUNDANT EVIDENCE			
844'0"	854'0"	10'0"						OF SLUMPING AND SHEARING. NUMEROUS			
854'0"	864'0"	9'11"		196.20				QUARTZ VEINS -			
864'0"	874'0"	10'0"	586'0"	634'8"	48'8"		BASIC VOLCANICS	FINE, MASSIVE, DARK GREEN, BASIC VOLCANICS			
874'0"	884'0"	10'0"						SOME CRYSTALLINE COMPONENTS. NUMEROUS			
884'0"	894'0"	10'0"						CARBONATE VEINS. MINOR PALE GREEN CHERT.			
894'0"	904'0"	10'0"						ABUNDANT CHLORITE VEINS AND THE			
904'0"	914'0"	9'10"						VOLCANICS ARE OFTEN HEAVILY CHLORITIC.			
914'0"	924'0"	10'0"		199.87				WEATHERING ZONE 618'6" TO 620'0", HEAVILY			
924'0"	934'0"	9'10"	634'8"	655'4"	21'1"		BASIC TUFF	KAOLINIZED // AFTER 834'8" THE			
934'0"	944'0"	9'10"						VOLCANICS ARE A PALER, MID GREEN,			
944'0"	954'0"	10'0"						PYRITIC, WITH ROUNDED GRAINS UP TO 1mm IN			
954'0"	964'0"	9'11"						SIZE OF PALE GREEN AND PALE PINK-BROWN			
964'0"	974'0"	9'10"						ROCK. THIS APPEARS TO BE A TUFF,			
974'0"	984'0"	10'0"						THE BUFF COLOURED ROCK TO BE CHERT			
984'0"	994'0"	10'0"						FRAGMENTS OR SILICIFIED SHALE. SEVERAL			
994'0"	1004'0"	9'9"						ZONES IN THE TUFF CONSIST OF ROUNDED			
1004'0"	1014'0"	10'0"						CHERT - SHALE GRAINS IN A PALE GREEN MATRIX			

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 9

From 655'9" To 729'6"

LIFTS From	LIFTS To	LIFTS Recovery	DRILL INTERVAL From	DRILL INTERVAL To	Length	BEDDING Angle to Core Axis	ROCK TYPE	DESCRIPTION	ASSAYS % Snt	ASSAYS % Sns	ASSAYS % Cu
1014'0"	1024'0"	10'0"						THE ROCK FRAGMENTS BEING UP TO			
1024'0"	1034'0"	10'0"						3 mm LONG AND WELL ALIGNED. SEVERAL			
1034'0"	1044'0"	10'0"		200.10				MINOR PALE GREY-GREEN SHALE BANDS.			
1044'0"	1054'0"	10'0"	655'9"	656'6"	9"		BASIC TUFF ~~SHALE~~	MASSIVE, FINE, PALE GREY-GREEN			
1054'0"	1064'0"	10'0"		340.16				~~SHALE~~ BASIC TUFF.			
1064'0"	1074'0"	10'0"	656'6"	1116'0" (459'6"			BASIC VOLCANICS	FINE, MASSIVE, MID TO DARK GREEN, WHITE & PALE GREEN SPECKLED QUARTZ			
1074'0"	1084'0"	10'0"						AND CHLORITE VEINED BASIC VOLCANICS.			
1084'0"	1094'0"	9'8"						MINOR SPHALERITE IN QUARTZ VEINS AROUND			
1094'0"	1104'0"	10'0"						657'6", MINOR PYRITE AND PYRRHOTITE			
1104'0"	1114'0"	10'0"						DISSEMINATED IN PORTIONS OF THE			
1114'0"	1124'0"	10'0"						VOLCANICS. SOME ROUND CLOTS OF CHLORITE			
1124'0"	1134'0"	10'0"						PRESENT IN SOME ZONES. QUARTZ,			
1134'0"	1144'0"	10'0"						ARSENOPYRITE, SPHALERITE VEIN AT 672'6".			
1144'0"	1154'0"	9'9"						SEVERAL IRREGULAR VEINS OF FINE, HARD			
1154'0"	1164'0"	10'0"						YELLOW-GREEN MATERIAL, ? EPIDOTE IN THE 670'-680'			
1164'0"	1174'0"	10'0"						REGION - BETWEEN 691'6" AND 718'6"			
1174'0"	1182'6"	8'6"						THERE ARE NUMEROUS LARGE DARK GREEN			
1182'6"	1193'0"	10'6"						MASSES OF CHLORITE. PYRITE, SPHALERITE			
1193'0"	1203'0"	10'0"						QUARTZ VEINS AROUND 742' TOTALLING 2" THICK			

GEOLOGICAL LOG

HOLE No. 580

SHEET No. 10

From 779'6" To 897'9"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
1203'0"	1212'0"	9'0"						FINE, DARK GREEN, PYRRHOTITIC BASIC VOLCANIC			
1212'0"	1222'0"	10'0"						FROM 779'6" TO 799', PYRRHOTITE IS FINE,			
1222'0"	1232'0"	9'11"						DISSEMINATED. UP TO 1%. THIS ALTERNATES			
1232'0"	1241'0"	8'3"						WITH THE FINE, MED TO DARK GREEN,			
1241'0"	1251'0"	10'0"						WHITE SPECKLED, MASSIVE BASIC VOLCANIC			
1251'0"	1261'0"	10'0"						WITH SOME CRYSTALLINE COMPONENTS AND			
1261'0"	1271'0"	10'0"						ABUNDANT CHLORITE AND CARBONATE VEINS.			
1271'0"	1281'0"	10'0"						AND MINOR FINE, DISSEMINATED PYRITE			
1281'0	1291'0"	10'0"						OR PYRRHOTITE. MINOR GREY-GREEN BASIC			
1291'0"	1301'0"	9'9"						VOLCANICS, APPARENTLY KAOLINIZED OR			
1301'0"	1311'0"	10'0"						WEATHERED SECTIONS OF THE SPECKLED			
1311'0"	1321'0"	10'0"						VOLCANICS. PYRRHOTITE, SPHALERITE, CHALCOPYRITE			
1321'0"	1331'0"	10'0"						QUARTZ VEIN AT 812'9", ½" WIDE. MINOR			
1331'0"	1341'0"	10'0"						VEINS OF HARD YELLOW-GREEN MATERIAL (? EPIDOTE)			
1341'0"	1351'0"	10'0"						854'4", 1" VEIN OF SPHALERITE, PYRRHOTITE,			
1351'0"	1360'0"	8'9"						CHALCOPYRITE. QUARTZ, SPHALERITE,			
1360'0"	1366'0"	5'9"						CHALCOPYRITE, PYRRHOTITE VEINS AT 871'3"			
1366'0"	1376'0"	10'0"						(1") AND 881'0" (2"), ALSO 886'2" (½")			
1376'0"	1386'0"	10'0"						897'9" (1") THERE ARE ALSO A NUMBER			

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 11

From 887'6" To 1174'9"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
1386'0"	1389'0"	3'0"						OF FINE VEINS OF SIMILAR COMPOSITION.			
1389'0"	1390'0"	9"						MINOR PALE TO MID GREEN, - GREY-GREEN			
1390'0"	1400'0"	10'0"						TUFF AT 929'. DIP 50° TO CORE. PALE GREEN			
1400'0"	1403'0"	3'0"						QUARTZ VEINED, BRECCIATED ZONE FROM			
1403'0"	1411'0"	7'8"						939'6" TO 944'. 979'9", ½" VEIN OF			
1411'0"	1412'0"	1'10"						QUARTZ, ARSENOPYRITE, CHALCOPYRITE.			
1412'0"	1415'0"	2'11"						NUMEROUS MINOR FINE QUARTZ - SULPHIDES			
1415'0"	1422'0"	6'6"						VEINS THROUGHOUT BASICS. 987'7" - 989'-7"			
1422'0"	1428'0"	6'0"						PALE GREY-GREEN, FINE MASSIVE? TUFF.			
1428'0"	1429'0"	8"						OFTEN QUITE RICH IN PYRITE AS FINE			
1429'0"	1434'0"	5'0"						GRAINED MASSES UP TO 1cm ACROSS.			
1434'0"	1436'0"	2'0"						QUARTZ - SPHALERITE, PYRRHOTITE VEINS AT			
1436'0"	1436'6"	3"		343.66				1109'8" (1") AND 1111'4" (1").			
1436'6"	1441'0"	4'2"	1116'0"	1127'6"	11'6"	45°	BASIC TUFF	MASSIVE, FINE, BEDDED, PALE GREEN-GREY			
1441'0"	1451'0"	10'0"						TUFF. 1119', 2" VEIN OF QUARTZ, SPHALERITE,			
1451'0"	1460'0"	8'11"						PYRRHOTITE, CHALCOPYRITE. OTHER THIN			
1460'0"	1462'5"	2'5"						VEINS THROUGH THE TUFF OF SIMILAR			
1462'5"	1471'0"	8'7"		358.06				COMPOSITION.			
1471'0"	1473'0"	2'11"	1127'6"	1174'9"	47'3"		BASIC VOLCANIC	MASSIVE, FINE, MID TO DARK GREEN,			

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 12

From 1174'9" To 1207'10"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
1473'0"	1479'0"	6'0"						WHITE SPECKLED, PARTIALLY CRYSTALLINE			
1479'0"	1485'0"	5'4"						IN COMPOSITION, VARIABLE, FINE, PYRITE			
1485'0"	1495'0"	10'0"						MASS CONTENT, BASIC VOLCANIC.			
1495'0"	1505'6"	10'0"						QUARTZ, SPHALERITE, PYRRHOTITE, CHALCOPYRITE			
1505'6"	1510'0"	4'5"						VEINS AT 1188' (1") AND 1198'6" (1½")			
1510'0"	1514'0"	4'0"						NUMEROUS CHLORITE VEINS. BLEACHED			
1514'0"	1524'0"	10'0"		368.15				ZONE 1172'8" TO 1174'9"			
1524'0"	1534'0"	9'11"	1174'9"	1207'10"	33'1"	40°	BASIC TUFF	FINE, BEDDED, DARK GREEN TUFF			
1534'0"	1544'0"	10'0"						WITH MINOR PALER BEDS AND SOME			
1544'0"	1554'0"	9'9"						COARSER, WHITE SPECKLED BEDS.			
1554'0"	1564'0"	10'0"						1179'4" TO 1187'10". PINK-GREEN			
1564'0"	1574'0"	10'0"						LITHIC BEDDED TUFF WITH ABUNDANT LARGE FRAGMENTS			
1574'0"	1584'0"	10'0"						OF BASIC VOLCANICS UP TO 1" DIAMETER,			
1584'0"	1592'0"	7'6"						AVERAGING ⅛". AFTER 1187'10", FINE,			
1592'0"	1600'0"	8'0"						BEDDED, DARK GREEN TUFF WITH MINOR			
1600'0"	1606'	5'10"						PALER BEDS AND SOME COARSER, WHITE			
	END							SPECKLED BEDS. 1202'9" TO 1205'10"			
								PINK-GREEN LITHIC TUFF WITH FRAGMENTS			
								OF BASIC VOLCANICS UP TO ½", AVERAGE ⅛"			

7'8"

GEOLOGICAL LOG

HOLE No. 580

SHEET No. 13

From 1207'10" To 1272'0"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
								1205'10" TO 1207'10" DARK GREEN,			
				372.62				BEDDED, BASIC TUFF			
			1207'10"	1222'6"	14'8"		BASIC VOLCANICS	FINE, MASSIVE, DARK GREEN, EXTERNALLY			
								WHITE SPECKLED BASIC VOLCANIC. SOME			
								CRYSTALLINE COMPONENTS. ABUNDANT			
								CHLORITE VEINS. ? EPIDOTE, AMPHIBOLE-			
				375.97				CHLORITE VEIN AT 1209', 1" WIDE.			
			1222'6"	1233'6"	11'6"		BASIC TUFF	FINE, BEDDED, DARK TO MID GREEN AND			
								DARK GREEN-BROWN TUFF. LITHIC TUFF,			
				385.24				AS BEFORE, FROM 1228'9" TO 1230'6".			
			1233'6"	1263'11"	30'5"		BASIC VOLCANIC	FINE, MASSIVE, DARK GREEN, EXTERNALLY			
								WHITE SPECKLED BASIC VOLCANIC. ABUNDANT			
								FINE CHLORITE VEINS. MINOR FINE PYRITE.			
								IN MASSES UP TO $\frac{1}{8}$" IN SIZE. $1\frac{1}{2}$" VEIN OF			
				387.71				CHALCOPYRITE & PYRRHOTITE AT 1258'7"			
			1263'11"	1272'0"	8'1"		BASIC TUFF	FINE, BEDDED TO MASSIVE DARK TO MID			
								GREEN AND DARK BROWN-GREEN BASIC			
								TUFF. MINOR BLEACHED, CHLORITE VEINED			
								BASIC VOLCANICS. BEDDING IRREGULAR			

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 14

From 1272'0" To 1354'0"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
			1272'0"	1284'0"	12'0"		BASIC VOLCANICS	MASSIVE, FINE, DARK GREEN, CHLORITE			
				391.36				VEINED BASIC VOLCANICS. MINOR FINE			
								GRAINED PYRITE MASSES. BLEACHED ZONES AT			
								BOTH TOP AND BOTTOM. CHALCOPYRITE, PYRRHOTITE			
				359.97				VEIN OF IRREGULAR SIZE UP TO 1" AT 1276'.			
			1284'0"	1312'3"	28'3"	55°	BASIC TUFF	FINE, BEDDED, BASIC TUFF AND BASIC LITHIC			
								TUFF INTERBEDDED. MATRIX OF TUFF CONSISTS OF			
								GREY GREEN TO DARK BROWN TO GREEN-BROWN AND DARK GREEN			
								COLOURED TUFF. LITHIC FRAGMENTS UP TO			
								½", AVERAGE ⅛". QUARTZ, CHALCOPYRITE,			
								SPHALERITE VEINS AT 1304'9" (1") AND			
								1311" 8" (4"). NO LITHIC TUFFS AFTER			
				412.70				1294'.			
			1312'3"	1354'0"	41'9"		BASIC VOLCANIC	FINE, MASSIVE, DARK GREEN BASIC VOLCANIC			
								SOME COMPONENTS OF WHICH ARE CRYSTALLINE.			
								FEW CHLORITE ZONES. GREY-GREEN, VERY			
								PATCHY BLEACH OR KAOLINIZATION ZONE			
								1312'3" TO 1319'6". THIN CHALCOPYRITE,			
								QUARTZ VEINS AT 1319'8" (⅛") AND			

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HOLE No. 580

GEOLOGICAL LOG

SHEET No. 15

From 1354'0" To 1431'0"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
								1324'2" ($\frac{1}{16}$"). 1322'3" TO 1325' BROWN			
								GREEN ZONE OF VOLCANICS. SOME EXTERNAL			
								PALE SPECKLING OF VOLCANICS. ZONE OF			
								CHLORITE OR AMPHIBOLE UP TO 2mm GRAINS. IN			
				417·12				BASIC VOLCANICS FROM 1334'10" TO 1338'2".			
			1354'0"	1368'6"	14'6"	50°	BASIC TUFF	FINE, BEDDED DARK REDDISH BROWN AND MID			
				421·77				GREEN-GREY TUFF MINOR QUARTZ VEINING			
			1368'6"	1383'4"	15'3"		BASIC VOLCANIC	FINE, MASSIVE, DARK GREEN, BASIC VOLCANIC			
								WITH SOME CRYSTALLINE COMPONENTS. SLIGHT			
								PALE SPECKLING, MINOR, PATCHY, KAOLINIZATION			
								OR BLEACHING. AFTER 1372'6" CHLORITE			
								BLOTCHES UP TO 4mm IN SIZE ARE PRESENT			
								AND THERE ARE ZONES OF DARK BROWN			
								BASIC VOLCANIC, APPARENTLY WITHOUT CHLORITE			
								BLOTCHES. NUMEROUS FINE CHALCOPYRITE			
				436·17				VEINS, ESPECIALLY IN THE LAST FOOT.			
			1383'4"	1431'0"	47'8"	60°	BASIC TUFF ?	FINE, BEDDED, DARK BROWN AND GREY-GREEN			
								BASIC TUFF. GRADING INTO A LAKE-TINGED MID GREY			
								TUFF. INSECTIONS SOME WHITE SPECKLING. PYRITE			

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HOLE No. 580

GEOLOGICAL LOG

SHEET No. 16

From 1431'0" To 1443'0"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
								CHALCOPYRITE, PYRRHOTITE VEINS AND DISSEMINATIONS			
								~~AFTER~~ 1406' TO 1408', DARK REDDISH			
								BROWN COLOURATION IS PREDOMINANT AFTER			
								1415'. SOMETIMES FINELY BEDDED OTHER			
								SECTIONS MASSIVE, SOME MINOR WHITE			
								SPECKLING IN PATCHES. MAY BE A SHALE			
								OR A TUFF. SEVERAL FINE PYRITE VEINS IN			
				436·70				LAST 3'.			
			1431'0"	1432'4"	1'4"		LODE	MEDIUM TO FINE GRAINED CHALCOPYRITE, PYRRHOTITE,			
								PYRITE IN MEDIUM TO FINE GRAINED			
								FINELY BANDED, PALE TO DARK BROWN,			
								CARBONATE, CHLORITE LODE. SULPHIDES			
								OCCUR AS SEMI-VEIN - SEMI DISSEMINATED.			
								MAY BE MINERALIZED, RECRYSTALLIZED			
				439·19				IMPURE DOLOMITE.			
			1432'4"	1440'11"	8'2"		SHALE	FINE, MASSIVE, DARK RED-BROWN SHALE WITH MINOR			
				439·82				GREY-GREEN SHALE.			
			1440'11"	1443'0"	2'1"		LODE	PYRRHOTITE, CHALCOPYRITE, MINOR PYRITE,			
								QUARTZ, CHLORITE, TOURMALINE. RARE, DISSEMINATED			

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 17

From 1443'0" To 1499'2

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
								TO VEIN, FINE TO MEDIUM GRAINED SULPHIDES			
								IN PATCHY, QUARTZ RICH, CHERT-LIKE			
				440·13				LODE.			
			1443'0"	1444'0"	1'0"		SHALE	FINE, MASSIVE, DARK RED BROWN SHALE			
				444·32				WITH MINOR GREY-GREEN SHALE.			
			1444'0"	1457'9"	13'9"		LODE	PYRRHOTITE, CHALCOPYRITE, MINOR PYRITE,			
								CHLORITE, QUARTZ, POSSIBLE VISIBLE			
								CASSITERITE. SULPHIDES FINE TO COARSE			
								GRAINED, DISSEMINATED, VEINS AND			
				452·25				PATCHES. SOME BROKEN IRREGULAR VEINS.			
			1457'9"	1483'9"	16'0"		SHALE	MASSIVE, FINE, DARK RED BROWN SHALE,			
								SOME GREEN AND GREY TINGED SECTIONS.			
				455·12				SOME WHITE SPOTTED SECTIONS.			
			1483'9"	1493'2"	9'5"		SANDSTONE	CHAOTIC ZONE OF MASSIVE, MEDIUM			
								GRAINED, MID GREY-GREEN, WHITE			
								SPECKLED SANDSTONE WITH MINOR GREY-			
				456·34				GREEN AND RED BROWN SHALE.			
			1493'2"	1497'2"	4'0"		SHALE	FINE, MASSIVE, DARK RED-BROWN SHALE.			
			1497'2"	1499'2" 456·95	2'0"		SHALE / LODE	MASSIVE, FINE, GREY GREEN SHALE WITH			

HOLE No. 580

GEOLOGICAL LOG

SHEET No. 18

From 1449'2" To 1600'0"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
								CHALCOPYRITE, PYRRHOTITE, QUARTZ + CHLORITE			
				14-87				AND TOURMALINE LODE: FINE, DISSEMINATED			
								TO PATCHY SULPHIDE. LODE AND			
								SHALE ARE ERRATICALLY AND IRREGULARLY			
			456·95	460.45				INTERMINGLED.			
			1449'2"	1510'8"	11'6"		SHALE	FINE, MASSIVE, DARK RED BROWN SHALE			
			1510'8"	1589'0"	78'4"		SANDSTONE	MASSIVE, MEDIUM GRAINED, WHITE SPECKLED,			
				484.32				MID GREY-GREEN TO DARK BROWN-GREY			
								SANDSTONE. QUARTZ, CHLORITE, CHALCOPYRITE			
							N.B. VEINS →	PYRRHOTITE VEINS 1524' (9") 1539' (6")			
								A NUMBER OF CHLORITE, QUARTZ, CARBONATE			
								VEINS, SOMETIMES WITH MINOR SPHALERITE OR			
								PYRITE, THROUGH SANDSTONE UP TO 6" WIDE.			
								MINOR DARK GREY SHALE. 1586"11" TO			
								1589'0" CHLORITE, QUARTZ, PYRITE VEIN, 60°			
								ANGLE TO CORE. COARSE CHLORITE WITH			
								BANDS OF FINE PYRITE.			
			1589'0"	1600'0"	11'0"		SHALE	MASSIVE, FINE DARK GREY-BROWN SHALE WITH			
				487.70				MINOR MID TO PALE GREY CHERT, MINOR CHALCOPYRITE,			

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HOLE No. 580

GEOLOGICAL LOG

SHEET No. 19

From 1600'0" To 1606'0"

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
								PYRRHOTITE, QUARTZ VEINS.			
			1600'0"	1606'0"	6'0"		SHALE/SANDSTONE	CHAOTIC ZONE OF IRREGULARLY INTERMIXED			
				489.51				DARK GREY-BROWN SANDSTONE AND			
								DARK GREY-BROWN SHALE.			