

CLEVELAND TIN N.L.

CATEGORY  
MINE  
EXPL.

HOLE No. : C631



GENERAL DATA

Objective : HALLS LODE 17-20 LEVEL

Area of Operation : Location : GA SECTION, SURFACE, EAST OF DEEP CREEK

Collar R.L. : 397.4 Co-ordinates : 15205.4 N, 11015.5 E

Bearing of Hole : Angle of Hole : Final Depth : ~~489.8~~ 489.8 m

Drilling Commenced : Completed : Logged by : K.G. PALMER

DRILLING DATA

Drilled by : LONGYEAR Non Coring :

Drilling Rig : 38 Coring :

Driller(s) : Core Recovery :

HOLE SURVEYS

CAMERA SURVEY

TROPARI

ACID

ABMINCO N.L. - Cleveland Mine

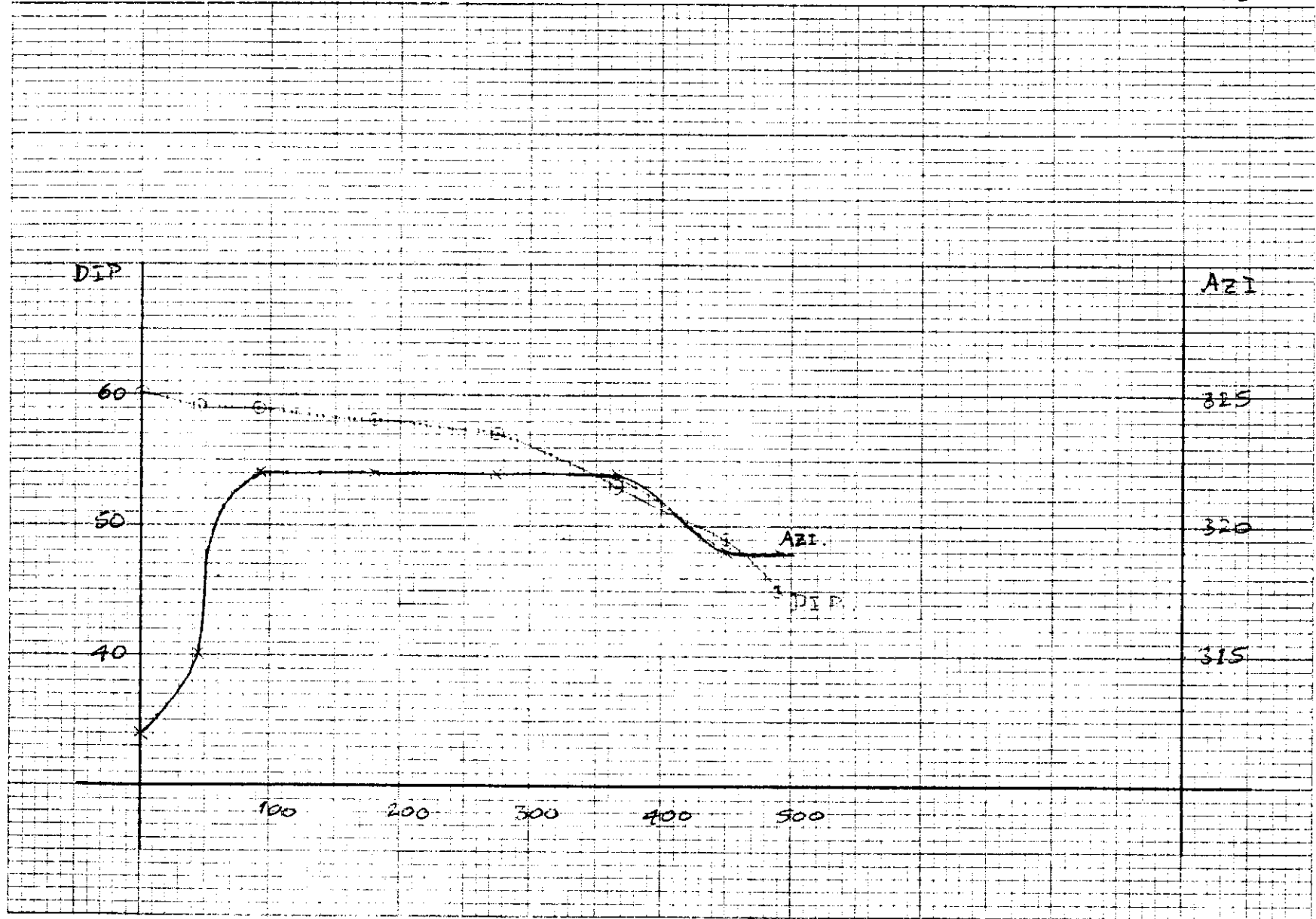
Hole No. C 631

Sheet No. 1

DIAMOND DRILL HOLE DATA

PROGRAM DATA				SURVEY DATA				INTERPOLATED DATA		
				Instrument Type	Depth	Dip	Azimuth	Depth	Dip	Azimuth
1	Attitude	CHS	(+) (-)		0	60	312	0	60	312
					45.7	59	315	12.5	60	312.5
2	Hole No.	631			91.44	59	322	37.5	59.4	314.2
					182.88	58	322	62.5	59	320.7
3	Down Hole Interval	25			274.32	57	322	87.5	59	321.9
					365.76	53	322	112.5	58.8	322
4	Collar	15205.4	N		449.58	49	319	137.5	58.3	322
					489.8	45	319	162.5	58	322
5	Co-ords.	11015.5	E					187.5	58	322
								212.5	57.9	322
6	Collar R.L.	397.4						237.5	57.4	322
								262.5	57.2	322
7	Halls Sect.	15432.8	N					287.5	56.8	322
								312.5	55.5	322
8	Intersect Point	10762.0	E					337.5	54.5	322
								362.5	53	322
9	Battery Sect.		N					387.5	52	321.5
								412.5	50.7	320.3
10	Intersect. Point		E					437.5	49.7	319.3
								462.5	48	319
11	Start Plot (Depth)	0	ϕ = Collar					487.5	45.4	319
								512.5		

C631



COPIED FROM THE ORIGINAL RECORDS OF THE U.S. GEOLOGICAL SURVEY

DOWN HOLE PLOT

Hole No: C 631

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. Ga	Dist. from Batt.	Sect.		N	E	RL	Dist. from N.R.P.	Dist. from B.R.P.	Dist. from Halls	Sect.	Dist. from Batt.
0	15205.4	11015.5	397.4	340.54		2.26												
25	15213.84	11006.28	375.75	328.04		2.31												
50	15222.72	10997.16	354.23	315.32		2.74												
75	15232.68	10989.01	332.80	302.58		4.62												
100	15242.81	10981.06	311.37	289.89		6.78												
125	15253.02	10973.09	289.99	277.13		8.96												
150	15263.37	10965.0	268.72	264.18		11.18												
175	15273.81	10956.84	247.52	251.12		13.42												
200	15284.25	10948.69	226.32	238.06		15.66												
225	15294.72	10940.51	205.14	224.97		17.90												
250	15305.33	10932.22	184.0	211.69		20.18												
275	15316.0	10923.88	163.06	198.34		22.47												
300	15326.79	10915.45	142.14	184.85		24.78												
325	15337.95	10906.73	121.54	170.9		27.17												
350	15349.39	10897.79	101.19	156.59		29.63												
375	15361.25	10888.63	81.22	141.76		32.17												
400	15373.29	10878.95	61.52	126.57		34.64												
425	15385.47	10868.83	42.17	110.85		36.85												
450	15397.73	10858.29	23.11	94.84		38.82												
475	15410.36	10847.32	4.53	78.22		40.78												
500	15423.61	10835.80	-13.27	60.79		42.84												





HOLE No. : C 63/

**SAMPLE DATA**

SHEET No. : .....

LENS	SAMPLE No.	ROCK TYPE	Σ	INTERVAL		Length (L)	Assays (A)			Product (A x L)		
				From	To		% Snt	% Sns	% Cu	P. Snt	P. Sns	P. Cu
	113830	LODE		1516'0"	1519'3"	0'9"	0.26		0.12			
	31	LODE		1519'3"	1522'5"	0'9"	0.42		0.07			
	32	LODE		1522'5"	1525'10"	0'9"	0.05		0.13			
	33	LODE		1525'10"	1529'8"	0'9"	0.06		0.08			
		Chert		1529'8"	1530'5"	0'9"						
	34	LODE		1530'5"	1531'9"	1'4"	0.04		0.01			
		Shale		1531'9"	1533'1"	1'4"						
	35	LODE		1533'1"	1535'5"	2'4"	0.04		0.01			
		Shale.		1535'5"	1536'4"	0'11"						
	36	LODE		1536'4"	1539'11"	1'11"	0.08		0.61			
	37	LODE		1539'11"	1543'5"	3'6"	0.06		0.60			
	38	LODE		1543'5"	1547'7"	4'2"	0.04		0.14			
		Shale		1547'7"	1548'9"	1'2"						
	113839	LODE.		1548'9"	1549'3"	0'6"	0.04		0.04			
			Σ	462.08	472.21	10.13	0.10		0.19			

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HOLE No. C631

# GEOLOGICAL LOG

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL			BEDDING Angle to Core Axis	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length				% Snt	% Sns	% Cu
174.04	175.87	1.80	270.08	288.48	18.40		Basalt.	Very fine grained massive green to brownish green basaltic volcanic.			
175.87	177.80	2.01									
177.80	180.85	3.02	288.48	293.85	5.37	48°	Tuff.	Fine grained greyish green and brownish grey <del>shale</del> <sup>tuff</sup> and buffaceous shale.			
180.85	183.19	2.00									
183.19	186.24	3.16						Fine bedded and sometimes chaotic			
186.24	188.09	1.67	293.85	300.28	6.43		Basalt.	Fine grained greyish green and brown massive basaltic volcanic. Last 10 cm is mineralized with CH <sub>4</sub> , CO <sub>2</sub> , H <sub>2</sub> O, Cr <sub>2</sub> O <sub>3</sub> .			
188.09	189.00	0.97									
189.00	191.12	2.15									
191.12	194.17	3.03	300.28	326.18	25.90		Shale.	Grey, brownish grey and rosey greenish grey massive and chaotic shale.			
194.17	197.20	3.02									
197.20	197.81	0.65						Contains rare small sections of			
197.81	200.25	2.44						brownish grey sandy material and			
200.25	203.30	2.99						occasional small cherty patches.			
203.30	206.35	2.99						Some greenish coloured patches are			
206.35	209.40	2.88						slightly coarser grained and may be			
209.40	212.45	3.10						buffaceous.			
212.45	215.49	3.07	326.18	328.16	1.99		Sandstone.	Massive brownish grey to greenish grey			
215.49	218.54	3.01						sandstone.			
218.54	219.15	0.60									

HOLE No. C031

## GEOLOGICAL LOG

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL			BEDDING Angle to Core Axis	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length				% Snt	% Sns	% Cu
0	4.10	0.37	0	38.28	38.28	40°	BROWN SHALE.	Very broken core. Chocolate to reddish brown shale. Very rarely tabular.			
4.10	4.86	0.09						to pale grey. Occasionally fine bedded.			
4.86	5.64	0.80						Cleaves readily parallel to bedding.			
5.64	6.41	1.02						Get colour variation - dark brown and			
6.41	7.47	1.20						rose greyish bands from 2.8.0 metres onwards			
7.47	8.54	1.32						Rock contains very fine bands of brown			
8.54	9.75	1.22						and brownish grey sandy material.			
9.75	10.20	0.66						Choochi around 32.0 metres.			
10.20	11.12	1.04									
11.12	11.58	0.74	38.28	40.32	2.04		LITHIC GREYWACK	Sedimentary massive rock composed of			
11.58	11.89	0.29						fragments of rock of variable size and			
11.89	14.32	0.24						colour. Colour variation whitish grey through			
14.32	14.93	0.33						green to red brown. Fragments are sub rounded			
14.93	15.56	0.24						to angular and vary in size from sand to			
15.56	15.85	0.25						gravel. Size sorting evident with biggest fragments			
15.85	16.00	0.20						towards the bottom. Conglomerate at 39.00			
16.00	16.31	0.28						to 39.70 m.			
16.31	16.61	0.24	40.32	43.24	2.92	39°	Siltstone	Purplish grey and brown fine bedded siltstone.			
16.61	16.92	0.22						Greenish brown to grey in fresh section.			

HOLE No. C631

## GEOLOGICAL LOG

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL			Length	BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Angle to Core Axis		% Snt			% Sns	% Cu	
16.92	17.07	0.33	43.24	44.81	6.57	53°	Tuff, Shale Siltstone.	Interbedded green tuff and purple and greenish brown shale. Tuff is minor at start but becomes dominant. Last 0.30 meter is all greenish tuff. Tuff sections are sometimes cherty and rarely contain disseminated subhedral pyrite. Shale sections are normally purple brown and rarely are silty.				
17.07	17.37	0.45										
17.37	18.18	0.37										
18.18	18.29	0.31										
18.29	18.90	0.50										
18.90	19.35	0.36										
19.35	20.73	1.49										
20.73	21.34	0.76	44.81	73.33	23.52		Basalt.	Massive dark green, fine grained basalt.				
21.34	21.80	0.33										
21.80	22.10	0.36										
22.10	22.56	0.53	73.33	83.45	10.12	48°	LITHIC TUFF	Normally massive but rarely fine grained bedded tuffaceous rock. Major component is fine grained grey gran groundmass but contains variable quantities of brown to grey rock fragments - angular.				
22.56	23.47	0.83										
23.47	23.93	0.37										
23.93	24.23	0.33										
24.23	24.84	0.66										
24.84	26.51	1.48										
26.51	27.28	0.45										
27.28	28.80	1.62										
28.80	29.73	0.83										
									Vein at 73.83 0.02 meter wide. Quartz, chalcopyrite, galena, pyrite. Rare coarse lithic fragments. 76.48 to 77.34			

# GEOLOGICAL LOG

 HOLE No. C 631

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
29.73	32.61	2.93	83.45	84.42	0.97		Brown SHALE	Purplish brown massive shale. Minor bed			
32.61	34.44	1.68						of lithic tuff in early section. Minor cherty rock.			
34.44	35.66	1.32	84.42	85.32	0.90	33°	Tuff	Purplish green fine bedded tuff and tuffaceous shale.			
35.66	38.10	2.19									
38.10	38.71	0.95	85.32	86.13	0.81		Brown shale.	As above. Rarely has cherty units.			
38.71	39.62	1.09	86.13	92.55	6.42	30°	Tuff.	Green, greyish green and in early sections brownish green tuff. Normally cherty and rarely fine bedded. Often cherty.			
39.62	41.75	1.88									
41.75	44.80	3.04									
44.80	47.09	2.47						Occasionally contains very rare subhedral pyrite.			
47.09	48.77	1.63						Rarely lithic tuff.			
48.77	50.90	2.05	92.55	143.08	50.53		Basalt	Massive dark green, fine grained basic volcanic.			
50.90	53.95	3.00									
53.95	57.00	3.09						Commonly fractures along chloritic partings.			
57.00	60.04	3.12						Extensive quartz mining rock with sphalerite.			
60.04	63.09	3.04						Vein at 112.76 m. Pyrite, chalcopyrite,			
63.09	64.91	1.88						sphalerite, arsenopyrite.			
64.91	67.97	2.89						Vein at 118.60. Ugly pyrite, chalcopyrite			
67.97	69.34	1.58						sphalerite arsenopyrite.			
69.34	72.23	2.00									

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HOLE No. C 631

## GEOLOGICAL LOG

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL			BEDDING Angle to Core Axis	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length				% Snt	% Sns	% Cu
72.23	73.76	1.47	143.08	149.52	6.44		LITHIC TUFF	Commonly fine grained but often containing coarse fragments of lithic material. Grey to greenish grey. Often massive and rarely fine bedded. Chaotic in places.			
73.76	75.28	1.52									
75.28	78.33	2.90									
78.33	79.86	1.30									
79.86	81.38	1.78									
81.38	83.52	2.21									
83.52	86.57	3.10									
86.57	89.62	2.87									
89.62	90.68	1.32									
90.68	91.44	0.85	149.52	152.08	2.56		Greywacke.	Fine grained pale greenish grey lithic greywacke. May be a thin buffaceous version of the tuff above. Appears to be a gradational contact.			
91.44	93.57	1.99									
93.57	96.62	3.04									
96.62	99.62	3.04									
99.62	102.71	3.05	152.08	154.22	2.14	35°	Shale.	Pale greenish grey rarely fine bedded shale. Minor greywacke sections.			
102.71	105.76	3.14									
105.76	108.81	3.15	154.22	158.54	4.32		Greywacke	Fine grained pale greenish grey lithic greywacke. Common carbonate veins. Coarse fragments near the top.			
108.81	111.86	3.01									
111.86	114.91	3.00	158.54	161.14	2.60	36°	Shale.	Grey shale. Rare fine bedding. Occasional veins with pyrite. No carbonate.			
114.91	117.96	3.07									

HOLE No. C 631

# GEOLOGICAL LOG

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
117.96	121.10	3.10	161.14	170.28	9.14		Shale	Grey shale with minor greywacke. Rarely fine bedded. Extension (tension?) fractures particularly towards the bottom always filled with chlorite. Minor calcareous in partings.			
121.10	124.05	3.06									
124.05	127.10	2.50									
127.10	130.15	3.07									
130.15	133.19	3.16									
133.19	134.32	1.09	170.28	175.72	5.44		Basalt Tuff	Section of mixed dark green fine to medium grained basalt volcanics with light greyish green cherty stuff which is very fine grained. Individual basalt sections vary from 1cm to about 50cm. No evidence of chilled margins. May be flow top.			
134.32	137.47	2.99									
137.47	139.29	1.81									
139.29	142.34	3.03									
142.34	142.65	0.58									
142.65	145.39	2.53									
145.39	145.70	0.21									
145.70	146.00	0.27	175.72	208.79	35.07		Basalt	Dark green fine to medium grained basalt volcanics. Amygdaloidal from 184 to 192. Subparallel vein 182.10 to 183.19. Owing chlorite, pyrite, sphalerite and rare chalcopyrite.			
146.00	146.15	0.14									
146.15	147.82	0.33									
147.82	148.43	0.62									
148.43	148.58	0.15									
148.58	149.04	0.12									
149.04	149.36	0.50									

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HOLE No. C 631

## GEOLOGICAL LOG

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL			BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length	Angle to Core Axis			% Snt	% Sns	% Cu
149.36	150.27	0.70	208.79	210.53	1.74	53°	Tuff.	Greyish green fine grained, fine bedded tuff. Common chloritic partings. Cherty in first sections.			
150.27	150.57	0.22									
150.58	150.88	0.31									
150.88	151.34	1.24	210.53	258.45	47.92		Basalt.	Massive fine grained basaltic volcanic. Irregular sections of v.l.g. grey green tuffaceous material occasionally brecciated. Common chloritic partings. Looks slumped?			
152.34	152.46	0.33									
152.46	153.01	0.39									
153.01	155.91	3.03									
155.91	157.12	0.80									
157.12	159.26	2.22									
159.26	160.63	1.47									
160.63	162.76	1.90	258.45	261.45	3.00	42°	Tuff.	Numerous insignificant veins containing quartz, chlorite, pyrite, sphalerite, pyrochlore. Fine to very fine grained grey to greenish grey and green tuff. Fine bedded but commonly slumped involving distorted and minor folded bedding.			
162.76	163.67	1.08									
163.67	164.59	0.69									
164.59	164.90	0.14									
164.90	166.72	2.13									
166.72	169.77	3.03	261.45	265.16	3.71		Basalt.	Fine grained green and brownish green massive basaltic volcanic.			
169.77	170.53	0.83									
170.53	172.82	1.39	265.16	270.08	4.92	58°	Tuff.	Fine bedded greyish green tuff. Cherty in places.			
172.82	174.04	1.25									

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## GEOLOGICAL LOG

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL			BEDDING Angle to Core Axis	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length				% Snt	% Sns	% Cu
219.15	221.59	2.52	328.16	329.11	0.95		Shale.	Grey and brownish grey massive chaotic			
221.59	224.64	2.95						shale. Has been intensely fractured and			
224.64	227.69	3.03						fracture infilled with quartz and minor			
227.69	230.73	2.97						carbonate. Some small patches of unbedded			
230.73	232.46	1.78						sandstone.			
232.46	235.61	3.12	329.11	329.98	0.87		Sandstone.	Grey and greenish grey massive medium			
235.61	238.66	3.01						grained sandstone.			
238.66	241.71	3.09	329.98	330.74	.76		Chert.	Dark grey chaotic massive chert.			
241.71	244.76	3.09						Minor unbedded sandstone.			
244.76	247.96	3.08	330.74	338.37	7.63		Sandstone	Grey and greenish grey fine grained			
247.96	251.09	3.15						massive sandstone.			
251.09	252.07	0.83	338.37	338.67	0.30		Shale.	Mid greenish grey massive shale.			
252.07	255.12	2.99	338.67	338.89	0.22		Sandstone	As above.			
255.12	258.17	3.07	338.89	339.22	0.33		Shale	As above.			
258.17	260.05	1.84	339.22	344.57	5.35		Sandstone	Identical to sandstone above but has			
260.05	262.13	2.25						minor shale inclusions			
262.13	265.16	2.94	344.57	352.55	7.98		Shale.	Mid grey chaotic massive shale.			
265.16	266.22	0.94						Minor cherty patches, particularly towards			
266.22	269.27	3.10						the bottom. Very rare stringers and patches of			

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## GEOLOGICAL LOG

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL			BEDDING Angle to Core Axis	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length				% Snt	% Sns	% Cu
269.27	272.32	3.09						Pyrothotite chalcopyrite chlorite minor			
272.32	275.38	3.09						Some minor veinlets.			
275.38	278.59	3.07	352.55	354.28	1.73		LODE	Chloritic lode with pyrothotite, minor			
278.59	281.64	2.99						chalcopyrite and rose visible consistently.			
281.64	283.77	2.10						Sulphides are normally minor			
283.77	286.82	3.06	354.28	354.61	0.33		LODE	Tourmaline and minor chert with rose			
286.82	289.87	3.03						pyrothotite and less chalcopyrite.			
289.87	290.18	0.20	354.61	356.19	1.58		LODE	Pyrothotite, chalcopyrite, chlorite quartz,			
290.18	291.70	1.52						carbonate with rose tourmaline and			
291.70	292.01	0.44						conglomerate			
292.01	294.75	2.34	356.19	358.64	2.45		Shale	Dark grey chaotic shale, granitic colors			
294.75	297.49	2.66						in places. Mosaic.			
297.49	299.46	1.93	358.64	361.17	2.53		Sandstone	Grey and greenish grey sandstone			
299.46	302.51	3.13						Mosaic but considerable variation in grain			
302.51	302.97	0.40						size from very fine to medium to coarse.			
302.97	305.26	2.39	361.17	361.46	0.29		Shale	Dark grey massive spotted shale			
305.26	305.87	0.61						Brownish fringe when broken.			
305.87	309.07	3.2	361.46	363.06	1.60		Sandstone	Light to mid grey sandstone. Minor			
309.07	312.12	3.09						argillaceous content.			

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# GEOLOGICAL LOG

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL			BEDDING Angle to Core Axis	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length				% Snt	% Sns	% Cu
312.12	313.34	1.10	363.06	363.47	0.41		Shale.	Dark brownish grey massive shale.			
313.34	316.08	2.80	363.47	364.81	1.34		Sandstone	Light grey massive sandstone.			
316.08	319.13	2.95	364.81	365.17	0.36		Shale	As above with minor sand content.			
319.13	322.17	3.09	365.17	368.91	3.74		Sandstone	As above, some medium grained.			
322.17	325.22	3.02	368.91	369.25	0.34		Shale	As above. Massive.			
325.22	328.27	2.90	369.25	375.77	6.52		Sandstone	Mud to light grey, massive. Variable argillaceous content. Changes occasionally to sandy shale.			
328.27	330.09	1.80									
330.09	333.14	3.14									
333.14	336.04	3.01						Becomes lighter coloured (to cream) and fine grained from 372.20 onwards.			
336.04	339.09	3.00									
339.09	342.14	3.10	375.77	376.43	0.66		Shale.	Light grey chaotic shale.			
342.14	343.51	1.31	376.43	376.86	0.43		Sandstone	Cream coloured massive fine grained sandstone.			
343.51	346.56	3.00									
346.56	349.61	3.11	376.86	376.88	0.12		Shale	As above.			
349.61	351.74	1.69	376.88	377.03	0.15		Sandstone.	Greenish grey massive sandstone.			
351.74	354.79	3.04						fine grained.			
354.79	357.53	3.06									
357.53	360.63	3.11					END OF HOLE	(EXTENDED)			
360.63	363.68	3.09									

N.W.P.S. COCKINGTON PRINT



HOLE No. C 631

# GEOLOGICAL LOG

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL		Length	BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To		Angle to Core Axis			% Snt	% Sns	% Cu
1237	1247'0"	10'4"	1237	1237'10 1/2"			Sandstone	Light grey fine grained massive sandstone			
1247'0"	1257	11'2"	1237'10 1/2"	1248'6"			Shale	Med to dark grey massive shale. Minor inclusion of sandstone.			
1257'0"	1263	4'8"									
1263'0"	1272	9'6"	1241'6"	1248'1"			Sandstone	As above.			
1272'0"	1282	10'3"	1248'1"	1249'7"			Shale	As above.			
1282'0"	1292	10'3"	1249'7"	1366'6"			Sandstone	As above			
1292'0"	1301	8'6"						Vein at 1253'6", Quartz, fluorite,			
1301'0"	1311	9'10"						Talc, chlorite, actinolite, sphalerite and			
1311'0"	1317	5'11"						molybdenite. #			
1317'0"	1327	9'11"						Minor but not uncommon patches			
1327'0"	1337	10'0"						of dark grey shale.			
1337'0"	1347	10'1"						Vein at 1301'0" Quartz, carbonate			
1347'0"	1357	10'7"						chlorite, talc and or sericite, chalcopyrite			
1357'0"	1367	9'3"						fluorite and coarse grained calcite			
1367'0"	1377	10'0"						with rare sphalerite.			
1377'0"	1387	9'9"	1366'6"	1376'7"			Shale	Dark grey massive shale. Softly and			
1387'0"	1389	2'9"						rovely splinter			
1389'0"	1397	8'0"	1376'7"	1384'10"			LODE	Chlorite quartz carbonate actinolite			
1397'0"	1407	10'8"						brown mica, and very rare sulphides, Pb, Fe.			

N.W.P.S. COCKINGTON PRINT



HOLE No. CC31

# GEOLOGICAL LOG

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL		Length	BEDDING	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To		Angle to Core Axis			% Snt	% Sns	% Cu
								Top section is cherty and is only piece which may have corundum.			
								Some sections look as though they may be related to a sub parallel axis.			
			1384'10"	1390'3"	423.75		Shale.	Amotie section of massive shale (dark grey) with minor mixed in chert.			
			1390'3"	1409'3"	429.54		Sandstone	Mid grey fine grained sandstone.			
			1409'3"	1471'0"	248.36		Shale.	Mid grey massive (possibly poorly bedded) shale. Disturbed in places. Occasionally cherty.			
			1471'0"				Chert.	Mid to light grey chert.			

COCKINGTON PRINT

# GEOLOGICAL LOG

 HOLE No. C 631

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL			BEDDING Angle to Core Axis	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length				% Snt	% Sns	% Cu
1465'0"	1475'	10'1"		1516'3"			Chert.	Initially mid grey massive chert but			
1475'0"	1476'6"	1'4"		466-72				becoming whiter and more fractured.			
1476'6"	1486'0"	10'8"						For sections are intensely fractured, rose			
1486'0"	1496'6"	9'5"						bedding is disrupted. Fractures are filled			
1496'6"	1507'0"	10'1"						with quartz, rose chlorite, rose brown mica			
1507'0"	1517'0"	10'2"						and possibly tourmaline, imparting a			
1517'0"	1527'0"	10'7"						dark grey colour.			
1527'0"	1537'0"	9'11"	1510'3"	1516'6"		45°	Altered Chert.	Dark grey <sup>to brown</sup> rock, texture as same as chert.			
1537'0"	1547'0"	9'11"		262-68				Softer than chert, does not fizz with HCl.			
1547'0"	1557'0"	10'2"						Sometimes fine bedded. May be tourmaline			
								but definitely include some chlorite. Particularly			
								towards the end of the section. Considerable v.f.g. brown mica.			
			1516'0"	1529'8"			LODE	Pyrrhotite, chalcopyrite extensive chlorite			
				466-72				with some brown mica, minor quartz.			
								Venies within the section include common			
								apparent blade shaped crystals with possibly			
								a hexagonal section.			
			1529'8"	1530'5"	0'9"		Chert.	Granitic white cherty fine bedded chert			
				266-28				with much chlorite			

HOLE No. C 631

## GEOLOGICAL LOG

SHEET No. ....

From ..... To .....

LIFTS			DRILL INTERVAL			BEDDING Angle to Core Axis	ROCK TYPE	DESCRIPTION	ASSAYS		
From	To	Recovery	From	To	Length				% Snt	% Sns	% Cu
			1530'5"	1531'9" 46 5-8	1'4"		LODE	Mostly chlorite, brown mica and very rare sulphides			
			1531'9"	1533'1" 47 20	1'4"		Shale.	Thin brownish grey massive shale with minor chlorite.			
			1533'1"	1535'5" 48 10	2'4"		LODE	Pyrrhotite, chalcopyrite, chlorite, quartz carbonate + brown mica. Sulphides ore.			
								100			
			1535'5"	1536'4"	0'11"		Shale.	Brownish grey massive shale.			
			1536'4"	1547'7" 49 69	11'3"		LODE	Pyrrhotite, chalcopyrite, quartz chlorite carbonate, minor pyrite.			
			1547'7"	1548'9" 52 24	1'2"		Shale.	Brownish grey massive shale. Very hard at in early section.			
			1548'9"	1549'3"	0'6"		LODE	Mostly chlorite, brown mica (v.f.g.) and quartz.			
			1549'3"	1550'6" 54 7	1'3"		Chert.	Chert white and grey chert.			
			1550'6"				Sandstone.	Fine grained massive brownish grey sandstone.			
								Mineralization at 1553'4" may be seen.			
								ie. 4" wide. Py, Cpy chlorite and quartz.			

