93-#293 - #11363

DIAMOND DRILL REPORT

ON THE

GREY GROUP

Cariboo Mining Division

93 B/9W

(Latitude 52 33', Longitude 122 18')

OWNER AND OPERATOR

GIBRALTAR MINES LIMITED

McLEESE LAKE, B.C.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,363

AUTHOR: M. R. Schaumberger

Submitted: June 7, 1983

TABLE OF CONTENTS

FIGURES

APPENDICES

1.0 INTRODUCTION

"The Grey Group lies west and northwest of the Gibraltar Mines concentrator and includes part of the tailings pond. In effect it forms a large part of the northwest boundary of the permanent Gibraltar Mines property. The general location of the group is shown in Figure 1.

Of particular interest are several older claims of the group which cover the western flank of the Gibraltar East ore body. During the exploration of Gibraltar East in 1969, some diamond drilling was done on these claims to reveal that they covered lower grade extensions of the main Gibraltar East ore zone. This earlier drilling indicated that part of the ore was a chalcocite blanket similar to that of the main zone but of considerably lower grade. However, during the mining of the Gibraltar East pit, the chalcocite blanket was found to be of higher grade than indicated by the diamond drill holes. The possibility exists therefore, that the chalcocite-type ore remaining in the walls could also be of higher grade. As presently outlined, the chalcocite blanket within the west wall of the pit ranges between 50 and 150 feet thick and has an average grade of 0.28% copper. Two diamond drill holes were proposed to test the grade of this ore - one, hole 83-04, was to be located in the thinner lower grade northern edge of the zone, and the other, hole 83-05, was to be located over the thicker, higher grade central portion of the zone.

This report covers the results obtained from the above holes. The two vertical N.Q. wireline holes were drilled during the period April 6-10, 1983. Both were drilled to 555 feet for a total of 1,110 feet (338.33m). The contractor was G. & D. Diamond Drilling of 5425 Dallas Drive, Kamloops, B.C. Core is stored at the Gibraltar Mines plant site.

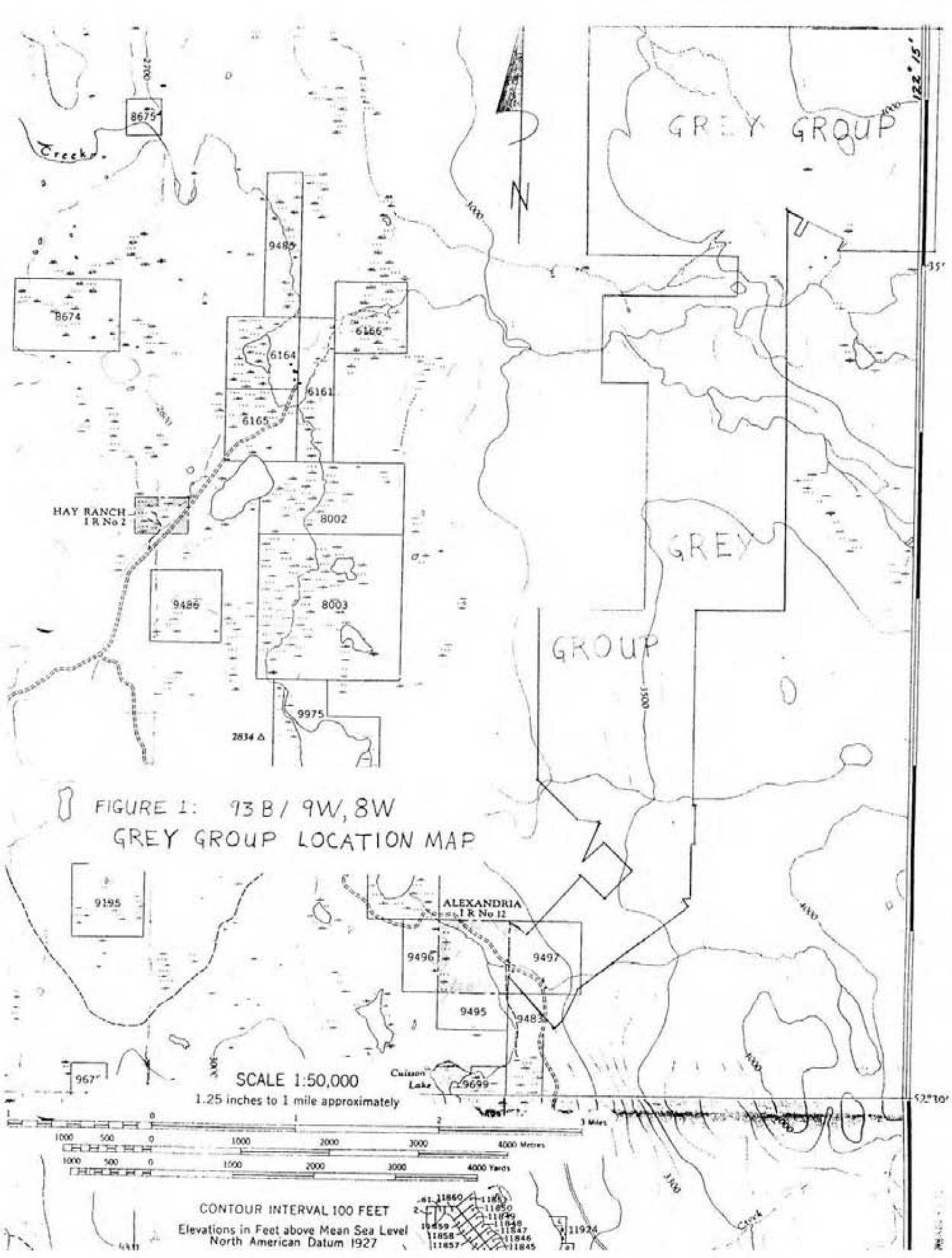

FIGURE 1: 93 B/ 9W, 8W
GREY GROUP LOCATION MAP

2.0 MINERAL CLAIMS

Claims and leases of the Grey Group are shown in Figure 2. Information on them is tabulated below.

GIBRALTAR MINES LIMITED
08-JUN-83

CLAIM GROUPS

GREY GROUP MINERAL CLAIMS

NAME	RECORDED DDMMYY	RECORD NUMBER	UNITS	MINERAL LEASE	OPTIONED FROM
HY 3	120680	01711	9		
HY 4	010569	00673	6		
HY 9	100680	01666	2		
HY 10	100680	01667	12		
HY 11	100680	01668	9		
HY 20	240381	03247	2		
ZE 1	220477	00459	20		
ZE 3	170681	03927	20		
DOT NO2	030366	34978	1	3596 M34	
DOT NO3	030366	34979	1	3596 M34	
DOT NO4	030366	34980	1	3596 M34	
DOT NO5	030366	34981	1	3596 M34	
EST #5 FR	200571	62403	1	3596 M34	
PAN NO4	040562	25794	1	3596 M34	
PAN NO5	040562	25795	1	3596 M34	
RUM #79 FR	010670	58239	1	3596 M34	
ZEPHYR 1	090162	25574	1	3596 M34	
ZEPHYR # 3	090162	25576	1	3596 M34	
ZEPHYR # 5	090162	25578	1	3596 M34	
GG 81	220465	29748	1	3597 M35	
GIB #7	200571	62410	1	3597 M35	
ZEPHYR # 7	090162	25580	1	3706 M44	
EST #6 FR	200571	62404	1	4150 M65	
GIB 21FR	210672	66784	1	4150 M65	
JAN #2 FR	220171	61461	1	4150 M65	
PAN NO1	040562	25791	1	4150 M65	

TOTAL UNITS 98

All of these claims belong to Gibraltar Mines Limited and the southern portion of these adjoins claims of the Gibraltar Mines permanent property.

3.0 DRILL PROGRAM

3.1 OBJECTIVE

The purpose of this drill program was to test the grade of the near-surface chalcocite blanket lying within the west wall of the Gibraltar East pit, and to also search for the westerly extension of deeper ore currently exposed in the Gibraltar East pit.

3.2 RESULTS

The drill locations are shown in Figure 3. Both holes intersected typical "Mine Phase Quartz Diorite" consisting of about 50% pale green saussaritized plagioclase, 15% dark green chloritized mafics, and 30% medium grey quartz.

Hole 83-04 was cased to 10 feet. From 10- to 68- feet a limonite zone was intersected which was characterized by strong limonite staining and low copper assays - complete sulphide leaching extended down to about 25-feet. From 60- to 170- feet a supergene zone was intersected showing an abrupt increase in copper grade near the base of the limonite zone. From 60- to 110- feet the copper grade averages 0.328% and this correlates well with strong chalcocite replacement of pyrite within the same interval. Beyond this enrichment, down to 170- feet, chalcocite appears weak or erratic. Chalcopyrite appears virtually absent throughout the supergene zone and copper values above 0.10% are probably entirely due to chalcocite replacement of pyrite. A strong hydrothermal alteration zone occurs between 275- and 473- feet in which the normal quartz diorite host rock has been transformed into various quartz-chlorite-sericite-carbonate zones separated by dark chlorite-enriched rock. This zone is essentially barren but directly below it, from 473- to 555- feet, significant chalcopyrite occurs for the first time, mainly as coarse chalcopyrite blebs in white bull quartz veins.

Hole 83-05 was cased to 30- feet. From 30- to 91- feet a limonite zone was intersected similar to that of hole 83-04, with complete sulphide leaching down to 50- feet. From 70- to 200- feet a supergene zone was intersected showing an abrupt increase in copper grade near the base of the limonite zone, and averaging 0.460% copper over its total intersected width of 130- feet. Strong chalcocite replacement of pyrite occurs throughout the zone but higher grades correspond with occurrences of chalcopyrite-chalcocite replacements. No signigicant ore zones occur below 200- feet.

3.3 INTERPRETATION

Both holes show similar oxide and supergene alteration. In both, the top of the supergene zone is marked by an abrupt increase in copper grade at a depth of 60 feet in 83-04 and 70 feet in 83-05. In both, rock above the supergene zone is essentially barren of ore grade copper and the best copper grades occur 10- feet below the base of the limonite

zone. The above zoning is consistent with oxidation - reduction phenomenon observed in other ore deposits. That is, oxidation and subsequent leaching of sulfides occurred above the water table to generate various iron oxides, sulfuric acid and free cupric ions. High acidity prevented the formation of malachite and other copper "oxide" minerals. Below the water table reduction and replacement took place with the formation of chalcocite replacements on primary sulfides. The incomplete sulfide leaching within the limonite zone and the overlap of the limonite zone with the supergene zone suggests that rapid dropping of the water table had occurred at some time, possibly during the mining of the Gibralter East pit, and the upper part of the chalcocite blanket may have undergone some leaching. The copper grades in both holes are however, much higher than originally projected for the chalcocite blanket while the intersected widths are in close agreement with the earlier drilling. The higher copper grades encountered in this program may be attributable to better core recovery and a more careful approach to sampling. The chief problem with chalcocite mineralization is its powdery nature - most of the copper values occur as "fines" which must be carefully sampled during the splitting of the core. At any rate, the copper grades encountered in this program, or 50- feet of 0.328% in 83-04 and 130- feet of 0.460% in 83-05 are significantly above the expected grade of about 0.28% copper for the chalcocite blanket.

The large hydrothermal alteration zone in 83-04 probably represents a barren down-dip extension of an ore zone presently exposed in the west wall of the pit. The holes fail to show any significant ore grade zones below the supergene blanket.

4.0 STATEMENT OF EXPENDITURES

APRIL, 1983 DIAMOND DRILLING, GREY GROUP

a) Drilling Cost

83-04	555' @ $13.00/ft.	$7,215.00	
83-05	555' @ $13.00/ft.	$7,215.00	
		$14,430.00	$14,430.00

b) Vehicle Costs

4x4 1980 Suburban	Apr 5-8	4 days		
	Apr 11	1 day		
		5 days @ $20.00		100.00

c) Assay Costs

108 assays @ $4.40/assay		475.20

d) Miscellaneous Costs

62 coreboxes @ $4.90	$303.80		
Sample bags, tags, etc.	50.00		
	$353.80		353.80

e) Personnel Costs

Core Logging & Supervision

G. Bysouth	Apr. 28-29	16 hrs.			
	May 9-10	16 hrs.			
		32 hrs.	@ $31.25	$1,000.00	
M. Schaumberger	Apr. 28-29	16 hrs.			
	May 9-10	16 hrs.			
		32 hrs.	@ $21.88	700.16	

Field Work & Organizing

G. Barker	Apr. 5-8	10 hrs.			
	Apr. 11	2 hrs.			
		12 hrs.	@ $20.00	240.00	
M. Schaumberger	Apr. 8	2 hrs.	@ $21.88	43.76	

Core Splitting

G. Bysouth	May 6	4 hrs.			
	May 16-18	16 hrs.			
		20 hrs.	@ $31.25	625.00	
M. Schaumberger	Apr. 28	4 hrs.			
	May 5-6	8 hrs.			
	May 12	2 hrs.			
		14 hrs.	@ $21.88	306.32	
E. Oliver	May 16-18	16 hrs.	@ $20.00	320.00	
				$3,235.24	3,235.24

TOTAL DRILLING COSTS $18,594.24

5.0 CONCLUSIONS

This drilling strongly suggests the chalcocite blanket lying within the present west wall of the Gibraltar East pit is of much higher grade than projected from the 1969 drilling, but it has failed to confirm the existence of deeper primary ore. More drilling is obviously required to reliably define the grade of the chalcocite zone.

Submitted by,

M.R. Schaumberger

M. R. Schaumberger
Mine Exploration Geologist

GIBRALTAR MINES LIMITED

APPENDIX I

STATEMENT OF QUALIFICATIONS

I, Garry D. Bysouth, of Gibraltar Mines Limited, McLeese Lake, British Columbia, do certify that:

1. I am a geologist.

2. I am a graduate of the University of British Columbia, with a B.Sc. degree in geology in 1965.

3. From 1966 to the present I have been engaged in mining and exploration geology in British Columbia.

4. I personally supervised this drill program, logged the core and assessed the results.

Garry D. Bysouth

Garry D. Bysouth

APPENDIX I

STATEMENT OF QUALIFICATIONS

I, Madeline R. Schaumberger, of Gibraltar Mines Limited, McLeese Lake, British Columbia, do certify that:

1. I am a geologist.

2. I am a graduate of the University of British Columbia with a B.Sc. in Geological Science in 1978.

3. From 1978 to the present I have been engaged in mining and exploration geology in British Columbia.

4. I personally assisted in the supervision of this drill program, logging of the core and assessment of the results.

Madeline R. Schaumberger

Madeline R. Schaumberger

APPENDIX II

ABBREVIATIONS USED IN DRILL LOGS

cal	calcite
carb	carbonate
chl	chlorite
cp	chalcopyrite
cren	crenulated
dissem	disseminated
ep	epidote
foln	foliation
grn	grained
lim	limonite
mal	malachite
mag	magnetite
py	pyrite
QSP	quartz-sericite-py
qtz	quartz
rx	rock
ser	sericite
str	strong
stkwk	stockwork
wk	weak

GRID _____

GIBRALTAR MINES LTD.

HOLE No. 83-05
SHEET No. 10 of 10

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG: Foliation Alteration	GRAPHIC LOG: Footage	GRAPHIC LOG: Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	BOTTOM DEPTHS: LEACH CAP / LIM. ZONE / SUPERGENE	REMARKS	Footage Block	Estimated Core Recovery %	R Q D	ASSAY RESULTS: Sample Number	% Cu	% Mo	OX Cu.	Estimated Grade
	Con to N.D.		555	5	¼	hem-carb	0 1 10 1 20 1 30 11 40			Qtz-clt-carb-hem	555		60%	85566	.05	.002	<.01	2960
End of hole at 555'				7012	¼ x 2	qtz-caro-chl (vug) x 2	50 60 70 ++++ 1 80 90			Qtz-clt-carb.								
							0 10 20 30 40 50 60 70 80 90											2100
							0 10 20 30 40 50 60 70 80 90			M.R. Schaumberger G.D. Bryanth								
							0 10 20 30 40 50 60 70 80 90											
							0 10 20 30 40 50 60 70 80 90											
							0 10 20 30 40 50 60 70 80 90											

GRID _____

GIBRALTAR MINES LTD.

HOLE No. 83-05
SHEET No. 8 of 10

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG Foliation Alteration	Footage	Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	BOTTOM DEPTHS: LEACH CAP / LIM. ZONE / SUPERGENE / REMARKS	Footage Discr.	Estimated Core Recovery %	R Q D	ASSAY RESULTS: Sample Number	% Cu	% Mo	O x Cu	Estimated Grade
	50-60 Wk-Mod	440	60+4 25 35 60+4 45 45+2+50 30		1/20+4 1/4 1/2 1/8+1/10+3 1/8 1/10+2+1/4 4"	qt3-chl-py +4 qt3 qt3-chl-cp (vug) qt3-chl-py +4 qt3-chl-carb-py qt3-chl-py(cp)+2 qt3-chl-ser-py (cp) zone	0 10 20 30 40 50 60 70 80 90	1.5	qt3-chl-ser ± py	437	100%	55%	85554	.04	.004	<.01	12
	30-60 Wk-Mod	450	5+20+2 50 45+2 30+15 60+2		1/20+1/10+2 1/2 1/10+2 1"+1/8 1"+1/4	qt3-chl-py+5 qt3-carb-(py) qt3-chl-py+2 qt3-chl-py-carb +2 qt3-chl(vug) +2	0 10 20 30 40 50 60 70 80 90	1.0	qt3-chl-Ser-carb- ± py	447	95%	35%	85555	.03	<.002	<.01	DB
dk alt'n zone	Crenu to 45° Wk.	400	? 20 15 20 30 40 15+3		10" 1/10 2" 12' 1/4 2" 1/20+3	qt3-chl-carb (vug) qt3-chl-py qt3-chl-carb (vug) qt3-chl-carb-py(cp) zone qt3-chl-py qt3-chl-carb-py(cp) zone chl-py+3	0 10 20 30 40 50 60 70 80 90	1.0	some clean frags: mainly qt3-chl--carb-py	457	97%	78%	85556	.17	.004	<.01	12
	45-60 Wk.	470	30 60 45+70 10-20+4+30 20?		1/8 1/10 2"+2 1/10+4+1/4 4'	chl-qg qt3-chl-py qt3-chl+2 (vug) qt3-chl-py+5 mixed bx.+qg	0 10 20 30 40 50 60 70 80 90	.5	qt3-chl-carb	467	100%	65%	85557	.04	<.002	<.01	3050 05
small steep (60-80°) fault zone??	N.D. to 70° Wk.	480	5+2		10" 1/10+2	bx+qg chl-qg+2	0 10 20 30 40 50 60 70 80 90	<.5	Badly broken chl-carb-qg	477	75%	16%	85558	.04	<.002	<.01	3050 05
	ND to 70° Mod.	490	20? 5 80 80		12" blc 1" 6"	qg+bx chl-qg qtz	0 10 20 30 40 50 60 70 80 90	<.5	480-487' Badly broken qtz-chl-carb <hem> @ 490'.	487	75%	14%	85559	.02	.002	<.01	05

GRID _____

GIBRALTAR MINES LTD.

HOLE No. 83-05
SHEET No. 7 of 10

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG Foliation Alteration Fracture	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	BOTTOM DEPTHS: LEACH CAP / LIM. ZONE / SUPERGENE / REMARKS	Footage Blocks	Estimated Core Recovery %	R Q D	ASSAY RESULTS: Sample Number	% Cu	% Mo	Ox Cu	Estimated Grade
376	TO-90		50 60 15+45 60+50	1/8 1/8 1/2+ 1/4+	qt3-chl-py qt3-chl-carb-py qt3-chl-carb-py x 2 qt3-chl-carb-py x 2	0 10 20 30 40 50 60 70 80 90	1.0	chl-ser carb ± py	377	100%	85%	85548	.03	.002	<.01	3140 10
CHLORITE-CARB. ZONE (376-397)	Mod. Str.	380	80°	6'	wk diss py											
- Poss a ser.-rich core assoc with incr py (cp)	70 Str (Cren)	393	5° + Cren	15'	ser. diss py + 3rd 1/4 - 1" veins (Foliation)	0 10 20 30 40 50 60 70 80 90	2.0	qt3-chl-ser. carb.	387	99%	94%	85549	.17	.008	<.01	3140 12
397	60? Cren				0° qt3-ser-carb-py (cp)	0 10 20 30 40 50 60 70 80 90	3.0	qt3-ser-chl-py ± carb	397	96%	58%	85550	.14	.004	<.01	.25
MINE PHASE - QUARTZ DIORITE (397-550')	60 Wk	400	15 x 3 5	1/8-1/16 x 3 1/4	qt3-chl-py x 2 qt3-carb-py											
leucocratic zone	30-60 Cren Wk.	410	5 x 2 10+40 35 25 30-80 (Cren) 5	hlex 2 1/10 + 1/4 1/10 + 1/20 x 2 1/10 30° 1/2	qq x 3 qt3-chl-carb x 2 qt3-py-cp x 3 qt3-cp qt3-ser-carb-py (cp) zone qt3-carb-py	0 10 20 30 40 50 60 70 80 90	1.0	qt3-chl-ser-py	407	81%	60%	85551	48	.002	<.01	.15
dk. alt'n zone + incr carb.	60-70 Mod	420	30 25+90 25 45 60	1/2 1/2-1/10 1/4 1/4 2°	qt3-chl-carb-py qt3-chl-carb-py x 2 qt3-chl-carb-py qt3-chl-py qt3-chl-carb (vug)	0 10 20 30 40 50 60 70 80 90	1.0	qt3-chl-ser ± py ± carb	417	100%	90%	85552	.02	.002	<.01	.10 3095
	50-60 Mod	430	60 45 15 x 2 + 30 70 30 10 x 4	2° 1/10 1/20 x 2 + 1/10 2° 1/10 1/20 x 4	qt3-chl-py qt3-chl-carb-py qt3-chl-py x 2 qt3 qt3-chl-py hem-carb x 4	0 10 20 30 40 50 60 70 80 90	.5	qt3-chl-ser ± carb ± py.	427	98%	80%	85553	.05	<.002	.01	.08 3095

GRID _____ GIBRALTAR MINES LTD. HOLE No. 83-05 SHEET No. 6 of 10

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG: Foliation Alteration Footage Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	BOTTOM DEPTHS: LEACH CAP / LIM. ZONE / SUPERGENE / REMARKS	Footage Discr.	Estimated Core Recovery %	R O D	ASSAY RESULTS: Sample Number	% Cu	% Mo	OX Cu	Estimate Grade
ep clots ~ 50% of rx.	70 Mod	220	70-60 x 4 45-70 x 6 80 x 2 70 x 4 45 x 3 70 60 x 3	1/10 x 4 1/20-1/10 x 6 1/20 x 2 1/10 x 4 1/8, 1/10, 1/20 2" 1/10 x 3	qt3-chl-py-cp x 4 qt3-chl-py (cp) qt3-chl-py-cp x 2 qt3-chl-py x 4 qt3-chl-py x 3 qt3-ep qt3-chl-py x 3	0 10 20 30 | 40 50 | 60 || 70 |||| | 80 || 90 |	2.0	chl-ser ± carb ± py	317	92%	78%	85542	.17	.004	<.01	12
60-70 wk-Mod		330	30 20 60 70 60 x 30 60	n/e 1/2 1/10 4" 1/10 x 2 1/8	qt3-chl-py qt3-chl (vug) qt3-chl-py qt3-ser-py qt3-chl-py qt3-ser-py	0 | 10 || 20 || 30 || 40 | 50 | 60 ||| 70 ||| 80 || 90 |	1.5	qt3-chl-(ser) ~ carb ~ py	327	100%	91%	85543	.06	.004	<.01	10 3185
70 Mod		340	5 40-70 70 x 3 70 10 30 50-70 x 3 80 x 4	1/10 1/10 x 2 1/20+1/10+1/4 1/4 1" 1/4 1/20-1/10 x 5 1/20 x 4	qt3-chl-py qt3-chl-carb-py x 2 qt3-chl-carb-py x 3 qt3-carb (cp) qt3-carb-chl (vug) hem-gg qt3-chl-py x 5 qt3-chl-py x 4	0 | 10 || 20 | 30 || 40 || 50 | 60 || 70 |||| 80 |||| 90 |	1.0	hem @ 335 qt3-chl-ser-py-carb.	337	99%	93%	85544	.03	.002	<.01	08 3185
70 Mod		350	50 75 50 70? 80	3" 1/10 3/4 3" 6"	qt3-chl (vug) qt3-chl-py-cp qt3-carb (vug) qt3-chl (cp) (vug) qt3-chl-carb (vug)	0 || 10 | 20 | 30 |||| 40 || 50 | 60 || 70 |||| || 80 |||| 90 |	.5	qt3-chl-ser ± py + carb.	347	98%	84%	85545	.11	.008	<.01	08
70 Mod		360	60+80 60 45 60 x 3 45	1/10 x 2 4" 2" 1/8 x 3 1/8	qt3-chl-carb-py x 2 qt3-carb qt3 (vug) qt3-chl-carb-py x 3 qt3-chl-vug	0 | 10 | 20 | 30 || 40 | 50 | 60 |||| 70 |||| | 80 ||| 90 |	<.5	chl-ser-carb-py	357	100%	90%	85546	.09	.002	<.01	.08
~70 WK		370	60 60 60 x 2 + 40 x 2 45 + 50 x 4 50 x 3 30 70 x 4	1/2 1/4 1/20 x 4 1/20 x 5 1/4 + 1/8 + 1/10 1" 1/10 x 4	qt3-ser-py qt3-chl-carb-py qt3-chl-py x 4 qt3-chl-py x 5 qt3-chl-py x 3 qt3-chl-carb-ep qt3-chl-py x 4	0 10 20 | 30 | 40 || 50 60 |||| 70 ||| 80 ||| 90	1.0	chl-ser-py-carb.	367	100%	97%	85547	.06	.002	<.01	.03

GRID _____

GIBRALTAR MINES LTD.

HOLE No. 83-05
SHEET No. 5 of 10

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG Foliation Alteration	Footage	Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	BOTTOM DEPTHS: LEACH CAP / LIM. ZONE / SUPERGENE — REMARKS	Footage Discon.	Estimated Core Recovery %	R Q D	ASSAY RESULTS: Sample Number	% Cu	% Mo	Ox. Cu.	Estimated Grade
	70° Algo-Sch. – Chl.	260		26 10.30 60 x 3 5 80	1/10 5' 1/10 x 3 1" 2"	qtz-chl-py qtz-chl-carb (ser) py zone qtz-chl-py x3 qtz-chl-carb-py zone qtz-ser-py	0 10 20 30 40 50 60 70 80 90	4.0	Some fractures clear; some w/ Chl-Ser-Py-(carb)	257	97%	55%	85536	.15	008	<.01	12
	70° Wk-Str. – Chl.	270		10 70 x 3 70 50 80 80 x 2 5-80 (cren)	1" 1/20-hle x3 8" 1/10 2" 1/10 x 3 4'	qtz-chl-ep-py zone qtz-chl-ep-py qtz-ser-py qtz-chl-py qtz-ser-py qtz-chl-py qtz-chl-ser-carb py (cp) zone	0 10 20 30 40 50 60 70 80 90	1.5	chl-Ser-Py.	267	99%	78%	85537	.16	.002	<.01	10
	60-70 Wk. Mod	280		70 30 x 3 70 80 5 90 60	1/10 1/10 x 3 1/4 3" 1" 2" 3"	qtz-chl-carb (fp) qtz-chl-py qtz-chl-cp qtz-ser-py qtz-chl-carb-py-cp qtz-ser-py-cp qtz-ser-py (cp)	0 10 20 30 40 50 60 70 80 90	3.0	Chl Carb py some hem @ 279	277	88%	40%	85538	.68	.018	.01	35
Incr ep patches	70 Wk	290		5+30 x2 5 60 70 x 3 50 x 4 70 x 2 + 45 50 x 3	1/20 x 3 2' 1/4 1/10 x 3 1/10 x 4 1/10 x 2 1/8 + 1/10 + 1/10	hem-qq x3 hem-qq-bx qtz qtz-chl-py x3 qtz-chl-py x 4 qtz-chl-carb-py x3 qtz-chl-py x3	0 10 20 30 40 50 60 70 80 90	2.0	Chl Carb ± hem Some fract clear	287	78%	53%	85539	.13	006	<.01	3230 .12
	70 Wk-Mod	300		70 +30 70 x 2 60 x 2 70 x 2 + 60 x 3 70 70 5 x 2 80 80 x 2	1/8 + 1/20 2" + 1/4 1/10 x 2 1/8 x 2 + 1/10 x 3 6" 1/8 hle x 2 1/4 1/10 x 2	qtz-ser-py + qtz-chl-py qtz-ser-py x2 qtz-chl-cp x2 qtz-ser-py x2 + qtz-chl-py x3 chl-ep zone qtz-chl-cp qq x2 qtz-ser-py qtz-chl-py x2	0 10 20 30 40 50 60 70 80 90	2.0	Chl Ser Py ± carb	297	98%	70%	85540	.18	.004	.01	3230 .15
	60 Mod	310		5 60 45 70 60 x 6 45 45-50 x 5 45 x 6 70 x 2	hle 6" 1/4 1/10 1/20 - 1/10 x 6 1/4 1/4 x 2 + 1/10 x 3 1/20 - 1/10 x 6 1/4 x 2	qq qtz-ser-carb-py qtz-carb-chl-cp-py qtz-chl-py qtz-chl-py x6 qtz-(chl)(py)(cp) qtz-chl-py x6 qtz-chl(ser)py(cp) x2	0 10 20 30 40 50 60 70 80 90	2.0	qtz-chl-Ser ± carb	307	92%	46%	85541	.18	.020	<.01	.15

GRID _____

GIBRALTAR MINES LTD.

HOLE No. 83-05
SHEET No. 4 of 10

BOTTOM DEPTHS: LEACH CAP | LIM. ZONE | SUPERGENE

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG: Foliation Alteration, Footage, Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	REMARKS	Footage Discrepancy	Estimated Core Recovery %	R O D	ASSAY RESULTS: Sample Number	% Cu	% Mo	oz Cu.	Estimated Grade
	60-80 / 150	200	20 +80 40+60×3 45+30 90 ×2 45 60 45+40+30 50 40	1/10 ×2 1/10 ×4 1/10 ≤2 hle ×2 1/4 6" 1/10 + 1/4 ×2 1" 1/4 + 1/8	qtz-chl-py ×2 qtz-chl-py ×4 qtz-chl-py (cc) ×2 lim ×2 qtz(chl)-py qtz-ser-carb (py) ((cc)) chl qtz-chl-ser-carb-py-lim (cc) ×3 qtz-chl-carb-py-lim qtz-chl-carb-py (lim) (cc)	0 10 20 30 40 50 60 70 80 90	1.5	Chl-Ser-Lim on fract. or clear, open fract.	197	97%	66%	85530	.61	.006	.06	3320 12
	Core appears sheared and lim stained 60° Mod to Cren. to 80° Str. core is very soft and bleached ≈190'-230'	210	15×2 +60 45 + 25	1/10 × 3 1/10 × 2	qtz-chl-lim (py) ×3 qtz-chl-lim-py (cc) ×2 banded	0 10 20 30 40 50 60 70 80 90	1.0	Chl-Ser-Lim? - Carb	207	80%	50%	85531	.28	.006	.07	3320 10
	70-75° Str.	220	70-90 Sl. Cren	20'	quartz-sericite carbonate-chl. zone - wk dissem py - poss. small fault @ 207'	0 10 20 30 40 50 60 70 80 90	1.0	(Lim) - Chl-Ser Chl-Ser Carb	217	96%	30%	85532	.11	.004	.01	.10
	70° Mod-Str.	230	5+30 5×2 60 60 × 3	1/10×2 1/20×2 1/4 1/10 - 1/20 ×3	qtz-chl-py-carb ×2 qtz-chl-py ×2 qtz-chl-carb-py qtz-chl-carb-py ×3	0 10 20 30 40 50 60 70 80 90	1.0	Shattered qtz. vn @ ≈221' Chl-Ser-Carb	227	82%	46%	85533	12	020	01	.10
	30-45° Mud	240	45 5+45 30 20 30	1/8 1/10 ×2 1/10 1" 2½"	qtz-chl-carb-py qtz-chl-carb-py ×2 qtz-chl-py-cp qtz-chl-ser-py qtz-chl-ser-py zone	0 10 20 30 40 50 60 70 80 90		Chl-Carb-py-<cp>	237	100%	65%	85534	.07	.002	.01	40 3275
	45-60° Wk.	250	45+50 45 ×2 45 40 ? 45-50×2 30×3	1/10×2 1/10×2 1/10 2" 1/20×2 hle×3	qtz-chl-py ×2 qtz-chl-py-carb ×2 qtz-chl-py qtz-ser-py qtz-chl-py ×2 qtz-chl-py ×3	0 10 20 30 40 50 60 70 80 90		Chl-Ser-(Carb?-(py)	247	100%	80%	85535	.05	.009	<.01	.08 3275

GRID ______ GIBRALTAR MINES LTD. HOLE No. 83-05
SHEET No. 3 of 10

ROCK TYPES & ALTERATION			∠ to Core Foliation	Graphic Log (Footage)	Veins ∠ to Core Axis	Width of Vein	Mineralization	Fracture Angle to Core Axis -Frequency-	Estimated % Pyrite	Bottom Depths: Leach Cap / Lim. Zone / Supergene — Remarks	Footage Direct.	Estimated Core Recovery %	R Q D	Sample Number	% Cu	% Mo	% Oxide Cu	Estimated Grade
			N.D. to 45-60° WK.	140	45x4 + 20 40x3 35-40x2 30 45x2 40 / 30	1/10x5 1/10x? 1/10x3 1/8 1/8+1/10 1/4 / 1/2	qtz-chl-py ((cp)) ((cc)) x 5 qtz-chl-py x 3 qtz-chl-py x 3 qtz-py-cp qtz-chl-py (cp) x - qtz-chl-py / qtz-chl-py (cp) ((cc))	0 10 20 | 30 |||| 40 ~~||||~~ |||| 50 |||| 60 ~~||||~~ || 70 ||| 80 || 90 ||	1.5	chl-ser-py ± ‹cp› - ‹cc›	137	94%	65%	85524	.42	.014	.01	.15
			N.D. to 45-60 WK.	150	60+30 - 45x80 20x2 45 70+30 80 20 20x2+30 10 + 60x90	1/10+1/8+1/10+1/2 1/8x2 1/4 1/10x2 1" 1/4 1/10x3 1/2+1/10x2	qtz-py-cc x 4 qtz-chl-py (cc) x 2 qtz-chl-py-cc qtz-chl-py-(cp) qtz-chl-(py) ((cc)) qtz (py) (cp) qtz-chl-py ((cc)) x 3 qtz-chl-py x 2	0 || 10 | 20 ||| 30 ~~||||~~ 40 ~~||||~~ 50 |||| 60 ~~||||~~ ||| 70 ~~||||~~ ~~||||~~ ~~||||~~ 80 ||| 90 |	1.5	chl-ser-sulphides ‹lim›.	147	88%	50%	85525	.45	.009	.02	.20 3365
			~60° V WK.	160	20 ? 5x6+50 5x2 50 45x2 40 30x2	1/10 2" 1/20+6+1/4 hlc x 2 1" 1/10+1/8 2" 1/20+1/10+1/4	qtz-chl-py-cc qtz-ser-chl-py (cc) qtz-chl-py x 7 lim-MnO2 x 2 qtz (cp) qtz-chl-py (cp) x 2 qtz-ser-py qtz-chl-py (cp) x 2	0 || 10 | 20 || 30 ||| 40 |||| 50 | 60 ~~||||~~ | 70 ~~||||~~ || 80 ||| 90 ||	2.0	‹lim› [illegible]	157	95%	72%	85526	.21	.013	.03	.15
			N.D.	170	40x3 45x2 60 5 60+70+50 45 40-60x6 45	1/10x3 1/10x2 1/4 1/2 1/10x3 1/8 1/20-1/10x6 1/4	qtz-chl-py x 3 qtz-chl-py x 2 qtz qtz qtz-chl-py (cp) x 3 qtz-chl-py qtz-chl-py x 6 qtz-py (cp)	0 | 10 20 ||| 30 ~~||||~~ 40 ~~||||~~ 50 | 60 ~~||||~~ | 70 ||| 80 || 90 |	1.0	Some fractures have lim, others have chl-py-‹cp›-‹cc›	167	100%	93%	85527	.12	.002	.02	.12
			60-70 V. WK.	180	60 90 60 70 30 45+80 60+60+70 40+50 45	1/20 hlc 1/2 1/10 hlc 2"+1" 1/20-1/10x3 1/10x2 1/10	qtz-chl-py-cp lim-MnO2 qtz (py) (cp) qtz-chl (py) lim qtz-chl-py x 2 qtz-chl-py (cp) x 3 qtz-chl-py x 3 qtz-chl-py	0 | 10 | 20 | 30 | 40 | 50 || 60 ~~||||~~ | 70 |||| 80 | 90 |	1.0	chl-py ± lim.	177	98%	81%	85528	.14	.022	.02	.12
			60-80 WK.	190	50+40+70x2 60-70x4 70-80x6 60 45x3 65x3 30 60+30 45x70 45+50+70	1/10+1/4+1/8x2 1/10x4 1/10x5+1/4 1/2 1/10x3 1/20-1/10x3 1/8 2"+1/8 1/10x2 1/10x3	qtz-chl-py (cp) ((cc)) x 4 qtz-chl-py ((cc)) x 4 qtz-chl-py (cp) x 6 qtz-py ((cp)) qtz-chl-py x 3 qtz-chl-py x 2 qtz-chl-py (cc) qtz-py (cc) x 2 qtz-chl-py-cc x 2 qtz-chl-py (cc) x 3	0 10 20 | 30 || 40 |||| 50 ||| 60 ~~||||~~ ~~||||~~ ||| 70 ~~||||~~ || 80 | 90 |	1.5	Clear, open fractures or chl-py	187	98%	74%	85529	.24	.004	.01	.25

GRID _____

GIBRALTAR MINES LTD.

HOLE No. 83-05
SHEET No. 2 of 10

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG Foliation Alteration	GRAPHIC LOG Footage	GRAPHIC LOG Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	BOTTOM DEPTHS: LEACH CAP / LIM. ZONE / SUPERGENE / REMARKS	Footage Diesel	Estimated Core Recovery %	R O D	ASSAY RESULTS: Sample Number	% Cu	% Mo	% Oxide Cu	Estimated Grade
	30-45° WK. to Mod.		80		20×3 45×3 20×45×3 35×10 30×3 45+80 30×3 20 30+45+30×2	hle + 1/4 + 1/10 1/2 + 1/8 + 1/10 hle×4 + 1/10×3 1/4 - 1/10×10 1/10×3 1/8×2 1/8×2 1/4 + 1/10 + 1/8×2	qtz-chl-lim lim×3 lim×4 + qtz-chl-lim×3 qtz-chl-lim-py(cc)×10 qtz-chl-lim×3 qtz-chl-py-lim×2 chl(py)×3 qtz-chl-py-lim qtz-chl-py(cp)×4		1.0	Lim, MnO2 on fractures	75	95%	56%	85518	.19	.021	.02	15
	Var. V. WK.		90		45 60×5+45×2 45×2 5×3 70×2+80+40×2 20 45+90 70×4 30+80	1/4 hle×7 1/10×2 hle×3 hle×5 1/8 1/8×2 1/10×4 1/8×2	qtz-chl-lim-py lim×7 qtz-chl-lim-py×2 lim×3 lim×5 qtz-chl-lim qtz-chl-py(cc)×2 qtz-lim×4 qtz-chl-lim-py×2		.5	Lim. on fractures	85.5		52%	85519	.19	.008	.03	.12
	N.D. to 45-60° WK.		100		40 20 20×2+10 5 40	1/8 1/10 1/20×3 1/20 1/10	qtz-chl-py-cc qtz(cc) qtz-chl-py qtz-chl-py(cc) qtz-chl-py		.5	Some lim. on fract. to 93' - only v. wk. lim. beyond this pt. -<chl>-<ser>-<gg> (with no carb) on fractures - many clear.	96	86%	40%	85520	.25	.005	.03	.12
Fault 70° WK.			110		70 ? 5 20×3 45×2+80 5°	1/8 3' 1" 1/20×3 1/2+1/4×2 1 1/2"	qtz-chl-py gg-bx qtz(chl)-py-cp-cc qtz-chl-py×3 qtz-py-cp(cc)×3 qtz-py-cp-cc		.5	102-105 - gg - broken rock - poor rec. Many clear fractures. Some w/ Chl - Ser - <sulphides> ± <gg> (no carb)	105	70%	25%	85521	1.46	.039	.03	3410 .40
	Var. WK.		120		5 5 50 5 30-40×5	2" 2" 1/2 1/2 1/8-1/4×5	qtz-carb-py-cp-cc qtz-carb-py-cp-cc qtz qtz-(vuggy) qtz-chl-py((cc))×5		1.5	chl-ser-<sulphides>-<gg> sulphides = (py)-cp-cc	116	90% 98%	71%	85522	1.28	.027	.02	3410 .40
	N.D.		130		35+50 50×3 35×2 60×20 50 20+35 45+15 70	1/4×2 1/10×3 1/8×2 1/10×2 1/10 1/10+1/8 1/8×2 1/10	qtz-chl-py(cc)×2 qtz-chl-py(cc)×3 qtz-chl-py(cc)×2 qtz-chl-py(cc)×2 qtz-chl-py(cc) qtz-chl-py(cp)(cc)×2 qtz-ser-py(cp)(cc)×2 qtz-chl-py((cc))		1.5	chl-ser-<sulphides>-<gg> Some clear.	123 127	95%	50%	85523	.42	.018	.02	.30

GRID _____

GIBRALTAR MINES LTD.

HOLE No. 83-05
SHEET No. 1 of 10

LOCATION Gibraltar East. (W. wall) | BEARING — | LATITUDE 50,033.50' N. | CORE SIZE N.Q. Wireline | LOGGED BY G.D.B., M.R.S.
DATE COLLARED April 8, 1983 | LENGTH 555' | DEPARTURE 95,609.15' E | SCALE OF LOG 1" = 10' | DATE April 28, 1983
DATE COMPLETED April 10, 1983 | DIP -90° | ELEVATION 3,513.44 | REMARKS Mainly cc.-type ore plus one "steep" cp. system @ 100'-120' (generally PY >>> cp)

BOTTOM DEPTHS: LEACH CAP 50' | LIM. ZONE 91' | SUPERGENE 200'

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG: Foliation Alteration	Footage	Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	REMARKS	Footage Drilled	Estimated Recovery %	Sample Number	% Mo	% Cu	oz/T Au	Estimated Grade
Cased to 30'.			30								30						
MINE PHASE QUARTZ DIORITE (30-376)	N.D		40		50 x 3 + 70 4 40 x 2 5 x 2 40-45 x 3 30 x 4 70 x 3	hle x 7 1/20 x 2 1/10 + 1/20 1/20 x 3 1/20-1/10 x 4 1/10 + 1/8 + 1/2	lim x 7 qt3-lim x 2 qt3-lim + qt3-chl-lim qt3-chl-lim x 3 qt3-chl-lim x 4 qt3-lim		<.5	lim. strong To 91' Lim. on all fractures.	33 37	60%	34%	85514	.02	.008	.02	.05
- Saus Alt'n - 25% qt3 - 5-10% bright green ep - 15 % chl (after "squat" hb mainly)	45-60° V. WK.		50		45 x 4 70 x 6 35 x 3 50 x 2 30 x 2 5 40-50 x 6	1/20 x 4 1/20-hle x 6 1/20 x 3 1/4 + 1/10 1/4 x 2 hle 1/20-1/10 x 6	qt3-lim x 4 lim x 6 qt3-lim x 3 qt3-chl-lim x 2 qt3-chl-lim x 2 lim qt3-chl-lim		<.5	Lim. on fractures.	15	93%	56%	85515	.02	.009	.01	.05
- ~30% saus. plag. - med grn (finer grn than Gib. w.) - core is soft	N.D		60		30 x 3 40 x 5 + 5 45+50 45+40 30 5+30 45+2+60 30+35	1/20 x 3 1/10 x 5 + 1/8 1/10 x 2 1/8 + 1/4 1/8 1/10 + 1" hle x 3 1/10 x 2	qt3-chl-lim qt3-chl-lim (py) x 6 qt3-chl-py qt3-chl-py (cp) (cc) x 2 qt3-chl-py qt3-chl-py-lim lim x 3 qt3-py-lim x 2		.5	Lim on fractures.	55	93% 90%	74%	85516	.14	.011	.03	.10 3455
and bleached down to 230'-	60-80° WK.		70		20 x 2 + 80 x 4 45 x 6 45 + 80 80 x 2 45 + 50 + 70 40 70 40 50-60 x 10	hle x 6 1/10 x 6 1" + 1/2" 1" + 1/4 hle x 3 1/2 1/2 1/4 1/20-1/8	lim x 6 qt3-lim-py-chl x 6 qt3-lim x 2 chl-lim x 2 lim x 3 lim lim lim lim-lim-py x 10		.5	Lim. on fractures.	65	88%	60%	85517	.07	.034	.04	.10 3455

GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,363

GRID _____

GIBRALTAR MINES LTD.

HOLE No. 2304
SHEET No. 10 of 10

ROCK TYPES & ALTERATION			∠ to Core Foliation	GRAPHIC LOG: Foliation Alteration	GRAPHIC LOG: Footage	GRAPHIC LOG: Stratyfyts	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	BOTTOM DEPTHS / LEACH CAP / LIM. ZONE / SUPERGENE / REMARKS	Footage Discr.	Estimated Core Recovery %	R O D	ASSAY RESULTS: Sample Number	% Cu	% Mo		Estimated Grade
						60		¼	qt3											
						80		½	qt3-chl(vug)											
						30		¼	qt3											
						30 x 3		1/20 x3	qt3-chl-py x3											
						60+70		¼ x2	qt3 x2											
					540	70		½	qt3		.5	qtz-chl-Cp/p	535	93%		85619	03	Tr.		.10
						70		¼	qt3											
						60		1"	qt3 ([cp])											
						45		20"	qt3-chl(ser)-py(cp) zone											
						90		1"	qt3											
						15		1"	qt3-chl-ser-py (cp)											
						80		1"	qt3-chl (vugs)											
					550	60		1"	qt3-cp		1.0	qtz-chl-Ser-Py ± cp/p	545	95%		85620	.16	Tr.	300'	.15
						70		2"	Q.P.											
						80		1"	qt3-cp											
						80		½	qt3											
					555	50		¼	qt3		.5	Qtz Chl-Cp/p	555			B5621	05	002		.15
		End of hole 0- 555'																		
												M.R. Schaumberger D.O. Bygrave								

GRID _____

GIBRALTAR MINES LTD.

HOLE No. 83-09
SHEET No. 9 of 10

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG Foliation Alteration	Footage	Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	BOTTOM DEPTHS: LEACH CAP / LIM. ZONE / SUPERGENE — REMARKS	Footage Diesel	Estimated Core Recovery %	R Q D	ASSAY RESULTS: Sample Number	% Cu	% Mo		Estimated Grade
473					50 x 3 45 + 50 60	1/20 x 3 1" x 2 2"	qtz-chl-py x 8 qtz-ser-py (cp) x 2 qtz-chl-carb-ser-py (cp)	0 10 20 30										
	70° Mod. to N.D.	480	5 + 40 35 70 40 70		1/8 x 2 1/10 1" 1/4 2 1/2	qtz-chl-py x 2 qtz-chl-py qtz-chl (vug) qtz-chl-carb-py qtz-carb	40 50 60 70 80 90	2.0	Qtz-Chl-Ser ± Py ± Carb. Some clear fractures.	477	98%	52%	85613	.17	006		.15
MINE PHASE (473' - 555') normal bright green sous alt'n																		
	ND to folded	490	5 x 2 70 80 90 70 50 30 x + 70 ° 80 ? 60 x 4 70		1/20 x 2 2" 2" 1/10 3" 2 1/2 1/20 - 1/10 x 4 7" 8" 1/10 x 4 24"	chl-py-qg x 2 qtz-carb qtz-ser-py (cp)(Mo) qtz-chl-py qtz-ser-carb-py qtz-carb-cp qtz-chl-py x + qtz qtz-cp qtz-chl-py qtz ((Mo))-py	0 10 20 30 40 50 60 70 80 90	3.0	Broken Qtz Veins + Qtz-Ser-Chl ± Qgg ?	487	98 %	55 %	85614	.36	.038		.25
	N.D. to 60-70° Mod	500	10 10 45 x 3 10 - 30° 55 + 30 70 40 x 5 30 70 x 2 60 x 2		36" 3" 1/10 x 3 24" 1/4 + 1/10 1" 1/10 x 5 1/2 x 2 2 1/2 + 1/4	qtz-ser-py-cp zone qtz-qg ((Mo)) qtz-chl-py x 3 qtz-ser-py (cp) qtz-chl-py x ? qtz-carb qtz-chl-py x 5 qtz-carb-cp qtz-chl (vug) qtz-ser-py x 2	0 10 20 30 40 50 60 70 80 90	2.5	Broken qtz. veins Qtz-Ser-Chl-Py ± Cp.	494	87% 98%	70 %	85615	.33	007		.30
QTS porp ?	60-70° WK	510	40 45 x 2 30 x 3 40 + 80 70 70 ° 70 °		1/4 1/10 + 1/4 1/8 x 2 1/4 + 1/2 2" 3" 36"	qtz-chl-py qtz-chl-py x 2 qtz-chl-py x 2 qtz-chl-py + qtz-chl (vug) qtz qtz (chl) qtz-ser-(chl)-(py) zone	0 10 20 30 40 50 60 70 80 90	1.5	Qtz-Chl-Ser-Py or Qtz-Ser-Chl-Py ± Carb.	504	99%	80 %	85616	.06	Tr.	3050	+10
	N.D. to 70° WK	520	40 80 40 70 80 80		3" 1" 1" 1/8 1/10 6"	qtz-ser-py (massive) qtz-chl (vug) qtz-ser-chl-carb-py qtz-chl-py-cp chl qtz (chl)	0 10 20 30 40 50 60 70 80 90	2.5	Qtz-Chl-Ser-Py ± Cp - Carb.	514.5	95%	53%	85617	14	.002		.10
	N.D.	530	90 blobs 40 70 50 70 30 x 2 60		2" 3" + 1" x 2 3" 1/2 2" 1" 1/10 x 2 1/4	qtz-chl (vug) qtz x 3 qtz-ser-carb-(py)(cp) qtz-chl (vug) qtz qtz qtz-chl-py x 2 qtz-chl-carb-py	0 10 20 30 40 50 60 70 80 90	1.0	Qtz-Chl-Ser-Py - Carb.	525	99%	85%	85618	08	.002		.10

GRID _____ GIBRALTAR MINES LTD. HOLE No. 83-04
SHEET No. 8 of 10

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG: Foliation, Alteration, Footage, Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	BOTTOM DEPTHS: LEACH CAP / LIM. ZONE / SUPERGENE / REMARKS	Footage Discrs.	Estimated Core Recovery %	R Q D	ASSAY RESULTS: Sample Number	% Cu	% Mo		Estimated Grade
- chl. appears black or very dark green	Crenulated 70-80°		10-20 x 2 70 45 x 6 70 70 20+ ∠5	3/8 x 2 1/2 1/16-1/8 x 6 3/4 1" 1/16 x 2	qtz-chl-py x+ (diss Py along chl-rich laminae) qtz-cp qtz-chl-py x 6 qtz qtz qtz-chl-py x 2	0 10 20 30 40 50 60 70 80 90	2.0	qtz-Chl-Carb	417	105%	94%	85607	.06	.002	3140	.12
417 WK.																
DARK ALTERATION ZONE (417-428)	80° WK.	420	30	1/16	qtz-chl-py											
428			10 5 5 30 x 2	1" 1/16 1/16 1/8-1/16	qtz-chl-carb-py qtz-chl-py (lim) (wisp disseminated Py) qtz-chl-py qtz-chl-py	0 10 20 30 40 50 60 70 80 90	1.0	qtz-Chl-Carb-<lim>	427	94%	52%	85608	.05	<.002		.10
This is def. an altered Qtz Porp. but is very similar to the zones above	QUARTZ-SERICITE ZONE (428-436)	ND.	45 + 80 40+5+30 5 x 3 30 5 70 30 + 40 x 6	1/8 - 1" 1/16 x 3 1/16 x 3 2" 1/16 5" 1/16 + 1/2 + 1/8 + 1/16 x 2	qtz x 2 qtz-chl-py qtz-chl-py qtz qtz-chl-py qtz qtz-chl-py x 5	0 10 20 30 40 50 60 70 80 90	1.5	Qtz-Chl-Ser-±py±Carb.	437	90%	96%	85609	.11	.002		.18
DARK ALTERATION ZONE (436-452)		440	15 20-30 x 5	1 1/2 1/16 x 5	qtz-cp qtz-chl-py x 5											
- mainly but with gradational contacts	ND to 60-80 WK to Mod.	450	80 5-20 x 4 50 x 2 60 30 x 4 + 40 x 5 40-45 x 8 50-70 x 5	2" 1/20-1/16 x 4 1/2 x 2 1/4 1/20-1/16 + 9 1/8-1/16 x 6 1/16 x 5	qtz qtz-chl-py x+ qtz-chl-py qtz qtz-chl-py qtz-chl-py qtz-chl-carb-py x 5	0 10 20 30 40 50 60 70 80 90	2.5	Clear Fractures or Qtz-Ser-Chl-Py-Carb	445	90%	73%	85610	.07	.002		.15
MINE PHASE (452-473) but only weak	70-80 WK.	460	45 40 x 2 15+50 x 2 45-50 x 3 ? 40 x 2 45 30?	1/4 1/16 x 2 1/16 x 3 1/20+1/16 x 2 2" 1/20 x 2 1" 3"	qtz-chl-carb-py qtz-chl-py x 2 qtz-chl-py x 3 qtz-chl-py x 3 qtz-ser-py qtz-chl-py x 2 qtz-chl-carb (cp) qtz-ser-(py)	0 10 20 30 40 50 60 70 80 90	2.0	Qtz-Ser-Chl-Py-Carb.	455	93% 98%	40%	85611	.07	.002	309	.10
Sauss. alt'n gen. vuggy core	70° Mod.	470	40 x 2 ? 5 60 60 x 2 60+50 x 2 30-40 x 5	1/16 x 2 12"? hie 2" 30" + 12" 1/16 + 1/8 + 1/4 1/20 x 5	qtz-chl-py x 2 qq-bx qq qtz-py qtz-ser-py 3one x 2 qtz-ser-chl-carb-py x 3 qtz-chl-py x 5	0 10 20 30 40 50 60 70 80 90	3.0	Carb. Qtz-Chl-Ser-Py	461 467	80%	36%	85612	.08	.004		.12

<table>
<tr><th>ROCK TYPES & ALTERATION</th><th>∠ to Core Foliation</th><th>GRAPHIC LOG (Foliation Alteration / Footage / Structure)</th><th>Veins ∠ to Core Axis</th><th>Width of Vein</th><th>Mineralization</th><th></th><th>FRACTURE ANGLE TO CORE AXIS -FREQUENCY-</th><th>ESTIMATED % PYRITE</th><th>BOTTOM DEPTHS: LEACH CAP / LIM. ZONE / SUPERGENE — REMARKS</th><th>Footage Blocks</th><th>Estimated Core Recovery %</th><th>R Q D</th><th>Sample Number</th><th>% Cu</th><th>% Mo</th><th></th><th>Estimated Grade</th></tr>
<tr><td>MINE PHASE
DARK ALT'N
PHASE
- a few zones of wk says</td><td>70-80°
WK.</td><td>360</td><td>20x3
5
70
30</td><td>1/20x3
1/10
1/5
1/10</td><td>qtz-chl-pyx3
qtz-chl-py(cp)
qtz
qtz-chl-py</td><td rowspan="2">fine diss</td><td>0 ||
10 |
20
30 ++++ |
40 ||
50
60 ++++
70 ++++ |
80 ++++ ++++ ||
90</td><td>1.0</td><td>- circ fract has (hem).
Qtz-Chl-Carb</td><td>356</td><td>100%</td><td>75%</td><td>85601</td><td>.05</td><td>.002</td><td></td><td>.12</td></tr>
<tr><td>- a few zones of weak carb-ser. enrichment
(345' - 388')</td><td>60-80°
WK.</td><td>370</td><td>20x3
70
80
5-15
70 x2</td><td>1/20x3
3 1/2
2"
10"
1/4x2</td><td>qtz-chl-pyx3
qtz-carb ((cp))
qtz-chl-carb-cp
qtz-ser-py
qtzx2</td><td>0
10
20 |
30 ||
40
50
60 ||||
70 |||
80 ++++ |
90</td><td>1.0</td><td>Qtz-Chl-Carb-
Py-Cp.</td><td>366.5</td><td>98%</td><td>87%</td><td>85602</td><td>.05</td><td>.004</td><td>3185</td><td>.18</td></tr>
<tr><td></td><td>60-80°
WK.</td><td>380</td><td>60
60
10
80
70?
70 x2
70</td><td>1/2
3"
1/10
5"
7"
1+2 1/2
5"</td><td>qtz
qtz-carb ((cp))
qtz-chl-py
qtz
qtz((cp))
qtzx2
qtz-chl.</td><td>py along foln planes + cp occurs as coarse blebs in white qtz veins</td><td>0 |
10 |
20
30 ++++
40
50
60 ++++ ||
70 ++++ ++++ ||
80 ++++ ++++ |
90</td><td>1.0</td><td>Qtz-Chl-Carb</td><td>377</td><td>99%</td><td>62%</td><td>85603</td><td>.07</td><td>.002</td><td></td><td>.15</td></tr>
<tr><td>388</td><td>600
WK to Mod.</td><td></td><td>20
30
40
35x3</td><td>1/4
2"
1/4
1/10 x3</td><td>qtz-chl-py (cp)
qtz-ser(py) zone
qtz-chl-py
qtz-chl-pyx3</td><td></td><td>0
10
20 |
30 |||
40 ||||
50
60 ++++ ||
70 ++++ |
80 ++++ ++++ ||
90</td><td>1.5</td><td>Qtz-Chl-Ser-Carb</td><td>387</td><td>100%</td><td>77%</td><td>85604</td><td>.09</td><td>.002</td><td></td><td>.12</td></tr>
<tr><td>QUARTZ-SERICITE
CARBONATE-
CHLORITE ZONE
(388'-417')
- gradational contacts</td><td>Cren.</td><td>390
400</td><td>45-80
30+50x2
50
60</td><td>2 1/2
1/10x3
6"
1"</td><td>qtz ((cp))
qtz-chl-pyx3
qtz (carb) ((cp))
qtz</td><td>dissem py</td><td>0 ||||
10 |
20 ||
30 |
40
50 |
60 ||
70 ||||
80 ++++ ++++
90</td><td>1.0</td><td>Qtz-Chl-Ser-
Carb- Some
clear fractures.</td><td>397</td><td>100%</td><td>85%</td><td>85605</td><td>.07</td><td>.002</td><td></td><td>.12</td></tr>
<tr><td>- similar to other zones
- a quartz porp may occur at 402-407</td><td>80°
WK.</td><td>410</td><td>45
10-20 x6
5+30x2
80</td><td>1/10
1/10-1/4 x 6
1/10x3
6 1/2</td><td>qtz-chl-py
qtz-chl-py x 6
qtz-chl-pyx2
qtz.</td><td>along chl-rich foln planes</td><td>0 |
10
20 ||||
30 |||
40 ++++
50 ||
60 ||||
70 ++++ |
80 ++++ ||||
90 |</td><td>2.0</td><td>Clear fractures +
Qtz-Chl-
Carb.</td><td>407</td><td>95%</td><td>80%</td><td>85606</td><td>.05</td><td>.004</td><td></td><td>10</td></tr>
</table>

GRID _____

GIBRALTAR MINES LTD.

HOLE No. 83-09
SHEET No. 6 of 10

BOTTOM DEPTHS: LEACH CAP | LIM. ZONE | SUPERGENE

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG: Foliation/Alteration	Footage	Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	REMARKS	Footage Block	Estimated Core Recovery %	R Q D	ASSAY RESULTS: Sample Number	% Cu	% Mo		Estimated Grade
	60-90°				5	2"	qtz-carb-py(cp)					99%						
	WK				70	1½"	qtz-carb-(cp)		2.0	Qtz-Chl-Ser	295		90%	85595	.10	.002		.15
					45	½	ser-py											
					20	½	qtz-carb-py-cp											
			300		70×2	½+1	qtz×2											
					80×2	1"+2"	qtz-carb-py×2											
					80	2"	qtz-carb					100%						
	Crem				5	⅛	qtz-chl-py											
					30	1"	qtz-ser-carb-py (cp)		1.0	Qtz-Chl-Ser-Carb	305		57%	85596	.06	.008		12
					80×2	¼×2	qtz-carb×2											
			310		70×2+80×3	⅛-¼×5	qtz-carb.×5											
312					80×4	⅛-¼×4	qtz-carb×4					99%						
					20	¼	qtz-carb-chl-py(cp)											
DARK ALTERATION PHASE (312'-331')	Crem to N.D.				10×2	⅛×2	qtz-chl-py×2		1.0	Qtz-Chl-Carb ± Py Some clear fractures.	315.5		68%	85597	.11	.002		.10
					5	⅛	qtz-chl-py											
					30×2+20×2	⅛×2+⅛×2	qtz-chl-py×4											
			320		5-70	¾+⅛	qtz-chl-carb-py×2											
					?	12"	cp-carb zone					99%						
					45×2	tile×2	hem×2											
					50	⅛	qtz-chl-py											
dk zone	70° WK				60×2+50	⅛×3	qtz-ser-py×2 + qtz-chl-py(cp)		1.0	Qtz-Chl-Ser-Carb -Py.	326		65%	~~85598~~	.07	<.002	3230	.10
					45×2	⅛×2	qtz-chl-py×2											
			330		50-60	½	qtz-carb-py											
331					70	¾	qtz					100%						
	45° to 80° WK to Str.				60×2	⅛×2	qtz×2											
QUARTZ-CHLORITE SERICITE-CARB. ZONE 'wispy' chl. laminae					50	2½	qtz (carb)	wk diss py	1.0	Qtz-Ser-Chl ± Carb.	336		96%	85599	.06	.002		.08
			340		70	1"	qtz (carb) (cp)	within chl laminae										
In a pale greenish grey matrix - contacts gradational (331-345)	60-80°				30×2	⅛×2	qtz-chl-py×2					105%						
					70	½	qtz		1.0	Qtz-Chl-Ser-Py-Carb.	346		100%	85600	.04	.002		.08
	Mod.				20	⅛	qtz-chl-py											
			350		5	⅛	qq-hem-carb											

GRID _____

GIBRALTAR MINES LTD.

HOLE No. 83-01
SHEET No. 5 of 10

BOTTOM DEPTHS: LEACH CAP | LIM. ZONE | SUPERGENE

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG: Foliation Alteration	GRAPHIC LOG: Footage	GRAPHIC LOG: Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	REMARKS	Footage Blocks	Estimated Core Recovery %	RQD	ASSAY RESULTS: Sample Number	% Cu	% Mo		Estimated Grade
	N.D. to Gren		290		15-20 x 4 30 40 5-40 (Gren 5	1/20 x 4 1/20 1/20 3' 1/10	qtz-chl-carb-py x 4 qtz-chl-py qtz-ser-py qtz-ser-chl-carb-py-cp-Mo zone qtz-chl-py		2.0	qtz-Chl-Carb-Py	237	98%	80%	85589	.06	<.002	3320	.15
	45-60° WK. to Mod.		250		45-50 x 6 20 + 45 30 x 8 30 15	1/20-1/10 x 6 1/10 x 2 1/20-1/10 x 8 1/8 1/4	qtz-chl-py x 6 qtz-chl-py x 2 qtz-chl-py x 8 qtz-chl-py qtz-chl-py		1.5	Qtz-Chl-Ser-Py ± <Carb> some clear fractures	245	95%	58%	85590	.03	.002		.10
	N.D.		260		10 +30 40 70 25 x 2 20 20 x 2 50 x 2	1/8 + 1/10 5° 1/10 1/20 x 2 1/8 1/8 x 2 1/4 x 2	qtz-chl-py x 2 chl-carb-ep zone chl-carb qtz-chl-py x 2 qtz-chl-carb-py qtz-chl-py-cp x 2 qtz-chl-carb x 2		1.0	Qtz-Chl-Ser-Py ± <Carb> Some clear fractures	255	96%	86%	85591	.07	.006		.10
	N.D. to 70° V WK.		270		20 50? x 2 50 5 35 + 15 70? 5+30 x 2 15+35	hle 1 1/2 + 2" 1/4 1/20 1/10 x 2 2" 1/10 + 1/20 x 2 1/8 + 1/10	chl-py qtz x 2 qtz-carb-chl qtz-chl-py qtz-chl-py (cp) x 2 chl (cp) qtz-chl-carb-py x 2 qtz-chl-py (cp) x 2		1.5	Qtz-Chl-Py-<Carb>	269	98%	78%	85592	.08	012		12
	dk altn and incr carb. 275	80° WK to			90 +70 50 60	1" x 2 1/2 1"	qtz-carb (chl.) + qtz-carb-chl qtz-chl-carb-lim qtz-ser-(py)		1.0	Qtz-Chl-Ser-Py.	274.5	95%	52%	85593	.10	.002		.10
	QUARTZ CARBONATE SERICITE-CHLORITE	Mod.	280		?	6"	qtz (Mo)										3275	
	ZONE alternating bands of chl and ser. rich material + some "host rock" - very hard, compact zone (275-312')	70-80° WK. to Mod	290		80 70 + 30 90 20?	3" 1/20 x 2 1 1/2 4"	qtz (chl) (carb) chl-py-cp x 2 qtz-carb-chl chl-ser-py		2.0	Qtz-Chl-Ser- ± <PY>	285	99%	90%	85594	.08	.004		.12

GRID _____ GIBRALTAR MINES LTD. HOLE No. 83-04 SHEET No. 1 of 10

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG Foliation / Alteration / Fracture / Structure	Vein ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	BOTTOM DEPTHS: LEACH CAP / LIM. ZONE / SUPERGENE / REMARKS	Footage Block	Estimated Core Recovery %	R Q D	ASSAY RESULTS: Sample Number	% Cu	% Mo		Estimated Grade
- Core becoming very hard with no sign of bleaching -	N.D.	180	35 25 40 15 x 3 25 x 2	1/10 1/4 1/20 hle x 3 1/20 x 2	qt3-chl-py qt3-chl-py (gg) (lim) qt3-chl-py qg-carb x 3 qt3-chl-py x 2	0 10 20 30 40 50 60 70 80 90	.5	Qtz - Chl - <Carb>	176	99%	92%	85583	.03	002		.08
	N.D.	190	15 x 2 + 45 20 + 40 x 2 40 20	1/10 x 2 + 1/4 1/10 x 3 1/10 hle	qt3-chl-py x 3 qt3-chl-py x 3 qt3-chl-py qg-carb	0 10 20 30 40 50 60 70 80 90	1.0	Qtz - Chl ± <carb> ± Lim	186.5'	95%	88%	85584	.05	006	3365'	.05
	N.D.	200	30 30 x 2 50	1/20 1/4 + 1/10 1"	qt3-chl-py qt3-chl-py-qg-hem x 2 qt3 broken hem stained core	0 10 20 30 40 50 60 70 80 90	.5	Qtz - Chl. Lim ± <Carb> ± <hem>	195	95%	40%	85585	.10	.006		.05
Fault 80° dk zone WK. to Sh.		210	? 90 x 3 5 60	36" 1/20 x 3 1/10 1/20	qg-bx-hem (± 3' lost core) qt3-chl-py x 3 qt3-chl-carb-py-cp qt3-chl-py	0 10 20 30 40 50 60 70 80 90	.5	Hem to 204' Qtz. Chl. Py. Cp. Carb.	204 207	22% Fault Zone 70%	40%	85586	.05	.002		.08
60 - 70° WK.		220	30 30 - 80 5 60 70 x 3	1/8 1/10 x 3 1/10 2" 1/20 x 3	qt3-carb-cp qt3-chl-py x 2 qt3-chl-py qt3-chl-carb ((cp)) qt3-chl-py x 3	0 10 20 30 40 50 60 70 80 90	.5	Chl - qtz - ser - py	217	98%	74%	85587	.05	.002		.05
60° WK. to Crea.		230	30 30 60 - 45 x 10 5 (crea) 40 x 2	1/4 1/4 1/20 - 1/10 x 10 4' 1/20 + 1/10	qt3 qt3-chl-py qt3-chl-py x 10 qt3-ser-carb (chl) - py (cp) zone qt3-chl-py x 2	0 10 20 30 40 50 60 70 80 90	4.0	Qtz - Chl - Carb ± py - <Cp>	227	98%	80%	85588	.08	.026		.20

GRID _____ GIBRALTAR MINES LTD. HOLE No. 83-04
SHEET No. 3 of 10

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG: Foliation Alteration	Footage	Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	BOTTOM DEPTHS: LEACH CAP / LIM. ZONE / SUPERGENE / REMARKS	Footage Discr.	Estimated Core Recovery %	R Q D	ASSAY RESULTS: Sample Number	% Cu	% Mo		Estimated Grade
	60-70° WK.		120	50 50 x 2 40 25 80 x 3 45 + 60 70 x 6	½ ½ x 2 ¼ ¼ 1/20 x 3 ¼ + ⅛ 1/20 x 6	qtz-ser-py (lim) qtz-ser-py (lim) x 2 qtz-ser-py (lim) qtz qtz-chl-py x 3 qtz-chl-py x 2 qtz-chl-py x 6		1.5	qtz - Chl - Ser - Py	115	98%	78%	85577	.04	.003		10
	60-70° WK.		130	20 x 2 50 x 2 ? 60 x 15 20 x 4 15 x 4 50 ? 50 + 30 70	hlex 2 6" h/c 1/20 - hlex 15 1" + ½ + 1" x 2 ½ x 4 12" 1" x 2 ½	qq x 2 qtz-ser-chl-py lim qtz-chl-py x 15 qtz-chl-py (cc) x 4 qtz-chl-py (cc) x 4 qtz-chl-ser-py((cc)) zone qtz-chl-carb-py-(cc) x 2 qtz-chl-py-cc		2.5	qtz - Chl-Ser-py ± (Cc)	125	95%	60%	85578	.13	.002		.20
	45° WK.		140	45 + 5 + 10 70 20 45 x 2 45 x 4 45 + 50 x 4 20 45 x 3 40 50 x 4	1" + hlex 2 3° ¼ ⅛ + ½ 1/10 x 4 1" + 1/10 x 4 2" 1/10 + 1" x 2 1½" ¼ + 1/10 + 1/20 x 2	qtz (cc) + lim x 2 qtz - (cp)(cc)) qtz-ser-py-(cc) qtz-chl-py (lim) x 2 qtz-chl-py x 4 qtz-chl-ser-py (cc) x 5 qtz-(py) qtz-chl-py (cc) x 3 qtz-(py) qtz-chl-py (cc) x 9		3.0	Qtz-Chl-Ser-py.	135	95%	63%	85579	.17	.006		.20
	60° WK.		150	40 + 60 60 60 60 x 10 50 x 2 30 70	1/8 x 2 1/8 + ¼ x 2 ¼ 1/20 x 10 1/20 x 3 1/10 1"	qtz-chl-py x 2 qtz-chl-py x 3 qtz-chl-py qtz-chl-py x 10 qtz-chl-py x 3 qtz-ep qtz-chl-carb-py-cc		2.5	qtz. Chl - Ser. Py ± (ep)	145.5	95%	80%	85580	.04	.002	31ppb	12
	60-70° WK.		160	55 50 x 3 60 x 2 60 x 2 + 50 70 80 50-60 x 3 60?	¼ 1/10 x 3 2" + ½ 1/10 x 3 ½ ½ 1/10 x 3 4"	qtz-ser-py (cc) qtz-chl-py x 3 qtz-ser-py-cc x 2 qtz-chl-py x 3 qtz-ser-py ((cc)) qtz-ser-py-cc qtz-chl-py x 3 qtz-ser-carb-(chl)-py		3%	qtz. chl. Ser. ± Py ± Lim ± cc.	156	98%	65%	85581	.12	.060		.15
	60° V. Weak.		170	70 ? 45 x 2 15 x 2 15 45 x 2	10" 1/10 x 2 hlex 2 ¼ 1/10 x 2	qtz-ser-cp-py zone qtz-chl-py x 2 qq-hem x 2 qtz-chl-py-cc qtz-chl-py x 2		1%	One tract has (carb)-hem qtz-Chl-Ser-Py	166	99%	75%	85582	.04	.080		.12

GRID _____

GIBRALTAR MINES LTD.

HOLE No. 83-04
SHEET No. 2 of 10

ROCK TYPES & ALTERATION	∠ to Core Foliation	GRAPHIC LOG: Foliation Alteration	Footage	Structure	Veins ∠ to Core Axis	Width of Vein	Mineralization	FRACTURE ANGLE TO CORE AXIS -FREQUENCY-	ESTIMATED % PYRITE	BOTTOM DEPTHS: LEACH CAP / LIM. ZONE / SUPERGENE	REMARKS	Footage Diesel	Estimated Core Recovery %	R O D	ASSAY RESULTS: Sample Number	% Cu	% Mo	% OX Cu	Estimated Grade
Core soft & bleached to ~100'	15° WK.		60	80 30+20 60 10 60+70 5 45+60 45 30×2+40×2 40+20×2	2" ½×2 2" 1" 1/10×2 ½ ¼+½+¼ 1/20-1/10×4 1/10×3	qt3-chl (vug) qt3-chl-py + qt3-ser-py qt3-(chl) qt3-ser-py qt3-chl-py×2 qt3-chl-ser-py qt3-chl-py qt3-chl-py (cc) qt3-chl-py×4 qt3-chl-py×3		2.0	Chl-Ser-lim ± py	55		45%	85571	.07	.002	≥500 .01	.15
	N.D		70	45?+50 45+30 60 20×2+30 45 40×2 30×3+30 60	2"+hle ½×2 1" 1/8×3 1/10 1"+2" 1/8×3+2" ½	qt3-chl-py (vug)+hem qt3-ser-py (cp)×2 qt3-chl-py (cc) qt3-chl-py×3 qt3-chl-py qt3-ser-py ((cc))×2 qt3-chl-py (cc)×2+qt3-ser-py(cc) qt3-ser-py (cc)		2.0	Qtz-Chl-Ser-lim ±(py)	65	78% 82%	48%	85572	.15	.004	.01	.20
	60° WK to Str		80	60 60+70×3 70 60 45 45×2 45×4 5 45+70	0° ½-1"×3 3" 10° 4° 1/10×2 ½+⅛+1/10 hle 1/10×3	qt3-ser-py (cc) qt3-chl-py (cc)×3 qt3-ser-carb-cp-py(cc)(Mo) qt3-ser-carb-py-chl (cc) 30×2 qt3 qt3-ser-py (cc)×2 qt3-chl-py(cc)×3 hem qt3-chl-py (cc)		2.5	Chl-Ser-py ±(Cc)	73 77	100%	46%	85573	.60	.010	.03	.25
	70-80 WK		90	70 60+70 5 45-50×4 15×3 40×2+5 5×2+70×3 50 45 70+90+60	1/10 1/10×2 hle 1/10-⅛×4 ⅛+¼×2 ½+1"×2 hle×2+1"+1/10×2 ⅛ 1/10×3	qt3-chl-py qt3-chl-py×2 hem qt3-chl-py×4 qt3-chl-py×3 hem×2 qt3-chl-py×2+hem qt3-chl-py-cc×3 qt3-ff-cc qt3-chl-py-cc qt3-chl-py-cc×3		2.0	⟨Gg⟩-⟨hem⟩-⟨lim⟩ Ser-Chl-py ±⟨Cc⟩	87	86%	38%	85574	.39	.008	.03	.30
qtz Porp.	60° V. WK.		100	45×2 60×3 70 60+5 70×6 60×2 50 30 ?	1/8×2 1/10×3 1" ¼+hle 1/20×6 1/10×2 ¼ 3"	qt3-chl-ser-py (cc)×2 qt3-chl-py×3 qt3 (cc) qt3-chl-py (cc)+hem qt3-chl-py×6 qt3-chl-py×2 qt3-chl-ser-py gg		1.5	Ser-Chl-Py-Lim-⟨Cc⟩	96	98% 88%	40%	85575	.36	.010	.03 3455	.15
	70° V. WK.		110	60×2 30? 45 45+70×4 50×2 60×3 60+30×3 60	¼+1/10 ½ ? 1/10 ¼+1/20×4 ½×2 1/10×3 1/20-1/10×4 1/10	qt3-cc+qt3-chl-py (cc) qt3-cc qt3-gg-cc qt3-chl-cp-Mo-cc+qt3-chl-py(cc)×4 qt3-chl-py (lim)×2 qt3-chl-py×3 qt3-chl-py×3 qt3-py		2.0	Ser-Chl-Py-⟨Cc⟩	105	99%	70%	85576	.14	.006	.01	.20

GRID ______

GIBRALTAR MINES LTD.

HOLE No. 83-05
SHEET No. 9 of 10

ROCK TYPES & ALTERATION	∠ to Core Foliation	Graphic Log (Footage)	Veins ∠ to Core Axis	Width of Vein	Mineralization	Fracture Angle to Core Axis - Frequency -	Estimated % Pyrite	Remarks	Footage	Estimated Core Recovery %	R Q D	Sample Number	% Cu	% Mo	OX Cu	Estimated Grade
hem staining	N.D. to Cren. to 70° W.K. to Mod.	500	30-40 × 5 70-40 30° 45 10+30 50 45	1/16-1/4 × 5 2" 2" 1/2-1" 1/20+1/10 1/4 1/10	qtz-carb × 5 qtz(cp) qtz-ser-carb-py qtz-ser-carb-cp qtz-chl-py (cp) × 2 qtz-cp qtz-chl-py	0 I 10 I 20 II 30 ++++ I 40 ++++ I 50 IIII 60 III 70 II 80 II 90	.5	Mainly Qtz-Ser-Chl some w/ carb-hem.	495	100%	[illegible]%	85560	.29	.002	<.01	.12
	70-80° wk. str.	510	30 45 × 2 80 5	2" 1/8-1/16 1/2 1/4	qtz-ser-py qtz-chl-carb-py × 3 qtz(py) qtz-chl-py	0 III 10 II 20 II 30 II 40 I 50 60 I 70 II 80 ++++ IIII 90	.5	Qtz-chl-carb ± <gg>	505	95%	[illegible]%	85561	.03	.002	<.01	.08 3005
	N.D. to 70-80° WK. to Mod.	520	5 45 × 2 50 ?	1/20 1/8-1/16 1/16 14"	qtz-chl-py qtz-chl-(py) × 2 qtz-chl-(py)-carb qtz-ep zone	0 I 10 II 20 IIII 30 III 40 50 60 I 70 III 80 ++++ 90	<.5	Qtz-chl-ser-carb- ± <hem>	515	100% 98%	58%	85562	.01	.002	<.01	.05
	N.D. to 70° WK.	530	5 × 3 5 80 70° 5 80 + 45 60 + 70	hle < 3 12" 2" 2" hle 2" + 3" 1/2 + 1/2	hem-carb × 3 hem-bx qtz qtz hem qtz-chl (vug) × 2 qtz × 2	0 III 10 III 20 ++++ 30 III 40 50 I 60 I 70 ++++ 80 ++++ I 90	<.5	Qtz-chl-carb ± hem.	525		72%	85563	.05	.004	<.01	.05
	N.D. to Cren.	540	5+50 5-20 30 80 40	1/10 × 2 1/8 3" 1/2 1/10	qtz-chl-py × 2 qtz-chl-carb-py qtz-chl-carb-py chl qtz-chl-py (Finely diss. py)	0 ++++ I 10 ++++ I 20 ++++ 30 IIII 40 ++++ II 50 III 60 ++++ II 70 ++++ II 80 III 90	2.0	Qtz-chl-ser ± carb Badly broken 535-536	535	100%	7?%	85564	.09	.004	<.01	.10
dk alt'n zone	Cren.	550	60 80 × 2 15 45-60 × 3 60 ? cren	1/10 1/2-1 1" 1/10 × 3 5" 9"	qtz-chl-py qtz-carb × 2 qtz qtz-chl-py × 3 qtz-chl (py) (vug) qtz-chl-py zone	0 10 I 20 II 30 I 40 II 50 60 ++++ 70 ++++ II 80 ++++ II 90	1.0	Qtz-chl-carb.	545	94% 92%	82%	85565	.07	.002	<.01	.10

Bottom depths: LEACH CAP ______ LIM. ZONE ______ SUPERGENE ______

HOLE No. 83-04
SHEET No. 1 of 10

GIBRALTAR MINES LTD.

GRID ______

LOCATION: GIBRALTAR EAST (W. wall) BEARING: —
DATE COLLARED: April 6, 1983 LENGTH: 555'
DATE COMPLETED: April 8, 1983 DIP: -90°

LATITUDE: 50,407.05 N
DEPARTURE: 45,629.03E
ELEVATION: 3,552.60'

CORE SIZE: N.Q. Wireline.
SCALE OF LOG: 1" = 10'
REMARKS: Mainly cc-type ore; cp occurs mainly as coarse blebs in "bull quartz" veins (py >>> cp)

LOGGED BY: G.D.B., MKS.
DATE: May 9-10, 1983

BOTTOM DEPTHS	
LEACH CAP	25'
LIM. ZONE	68'
SUPERGENE	170'

GEOLOGICAL BRANCH ASSESSMENT REPORT

11,363

Rock Types & Alteration	∠ to Core Foliation	Footage	Veins ∠ to Core Axis	Width of Vein	Mineralization	Fracture Angle to Core Axis - Frequency -	Estimated % Pyrite	Remarks
Cased to 10'.		0–10						
MINE PHASE QUARTZ DIORITE (10'-275')		10–20	80 x 12 5 x 2 80 x 5 70-90 x 6 5 x 3	hle x 12 hle x 2 hle x 5 hle x 6 hle x 3	lim x 12 lim x 2 lim x 5 lim x 6 lim x 3 } ser. zone	0: 𝍸 𝍸; 10: II; 30: I; 60: 𝍸 I; 70: 𝍸 𝍸; 80: 𝍸 𝍸 𝍸 𝍸 III; 90: 𝍸 𝍸 𝍸 III	0	lim very strong to 35' and mod. to 50' all lim. stained
55% saus. 15% chl. 30%? qtz - qtz as small inconsp. grains	70 WK	20–30	5 x 2 20 + 40 40 + 45 + 60 60 45 + 55 45 + 50 x 3	1/4 x 2 1/2 + 1/10 1/10 - 1/20 x 3 1/10 1/4 + 1/2 1/10 - hle x 3	lim x 2 lim x 2 } ser. zone lim x 3 qtz-chl-lim qtz-lim (py) x 2 qtz-lim x 3	0: 𝍸 I; 10: II; 20: IIII; 30: 𝍸 II; 40: IIII; 50: I; 60: 𝍸 III; 70: 𝍸 𝍸 I; 80: 𝍸 𝍸 I; 90: IIII	.5	all lim + MnO2 stained 6
- med grn rx ~ finer grn than Gib. W.	80-90 WK.	30–40	50 x 6 45 + 60 50 + 45 + 40 + 30 45 70 + 5 40 + 50 60 - 80 x 6	1/20 - 1/10 x 6 1/10 + 1/2 1/8 x 4 1/4 3" + 1/10 1/4 + 1/8 1/10 - 1/20 x 6	qtz-chl-py-lim x 6 qtz-lim + qtz-chl-py-lim qtz-chl-lim x 4 qtz-chl-py qtz-ser-py-lim + lim qtz-chl-py-lim x 2 qtz-chl-lim (py) x 6	0: IIII; 20: II; 30: 𝍸 III; 40: 𝍸; 50: I; 60: 𝍸 II; 70: 𝍸 𝍸; 80: 𝍸 III; 90: 𝍸 𝍸	1.0	all lim + MnO2 stained
	60-90 WK-Mod	40–50	20 60 5 90? 5 50 5 + 45 + 20 + 30	1" 1" 2" 1" 1" 6" 1/10 - 1/8 x 4	qtz-chl (vug) qtz-ser-lim-py qtz-chl (vug) qtz qtz-chl-(vug) qtz-ser-py (lim) qtz-chl-py (cc) x 4	0: 𝍸 I; 10: II; 20: II; 30: 𝍸 I; 40: III; 50: IIII; 60: 𝍸 𝍸 II; 70: 𝍸 𝍸 III; 80: 𝍸 IIII; 90: III	1.0	all lim

Footage Block	Core Rec. %	R.Q.D. %	Sample No.	T.Cu %	Mo %	Ox Cu %	Estimated Grade
10–16	42%	0%	85567	.04	.010	.01	.05
16–26	75%	8%	85568	.05	.008	.01	.05
26–30	90%						
30–37	89%	12%	85569	.03	.004	.01	.10
37–45	90%	17%	85570	.03	.004	.01	.10
45–	92%						

LEGEND

Diamond Drill Hole 83-04

Scale: 1:12,000

Feet 0 1,000 2,000

Meters 0 100 200 300 400 500

FIG 3 DRILL HOLE LOCATION MAP

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,363

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,363

GREY GROUP

Scale: 1:24000

Feet 0 2000 4000

Meters 0 200 400 600 800 1000

FIG. 2 GREY GROUP CLAIM LOCATION MAP

DRAWN CCJ	SCALE 1in. = 2000ft.	GIBRALTAR MINES LTD. (N.P.L.)	Gibraltar Mineral Claims
TRACED	DATE 20/10/80	Mineral Claims and Leases	
APPROVED	CHECKED		FILE No. E-10-107-10000

REVISED - 05/10/81 - CCJ