

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,799

GEOCHEMICAL SOIL SURVEY REPORT

ON THE

BEAR CLAIM GROUP

CARIBOO MINING DIVISION

NTS 93 A / 12

(Longitude 52 deg 32', Latitude 121 deg 47')

OWNER AND OPERATOR
GIBRALTAR MINES LTD.
McLEESE LAKE, B.C.

Author: G. D. Bysouth

Submitted: 27 July 1985

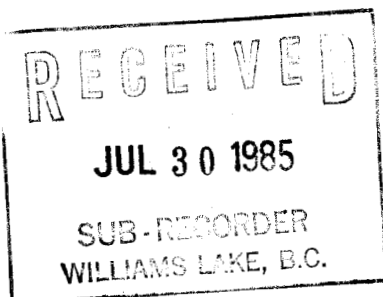


TABLE OF CONTENTS

1.0	INTRODUCTION
2.0	MINERAL CLAIMS
3.0	TOPOGRAPHY AND GEOLOGY
4.0	SOIL SURVEY
4.1	FIELD METHODS
4.2	ANALYTICAL METHODS
4.3	RESULTS AND INTERPRETATION
5.0	STATEMENT OF EXPENDITURES
6.0	CONCLUSIONS

FIGURES

Figure 1	LOCATION AND CLAIM MAP	(In Text)
Figure 2	SAMPLE LOCATIONS	(In Pocket)
Figure 3	COPPER DISTRIBUTION	(In Pocket)
Figure 4	MOLYBDENUM DISTRIBUTION	(In Pocket)

APPENDICES

A.	Statement of Qualifications
B.	Assay Sheets

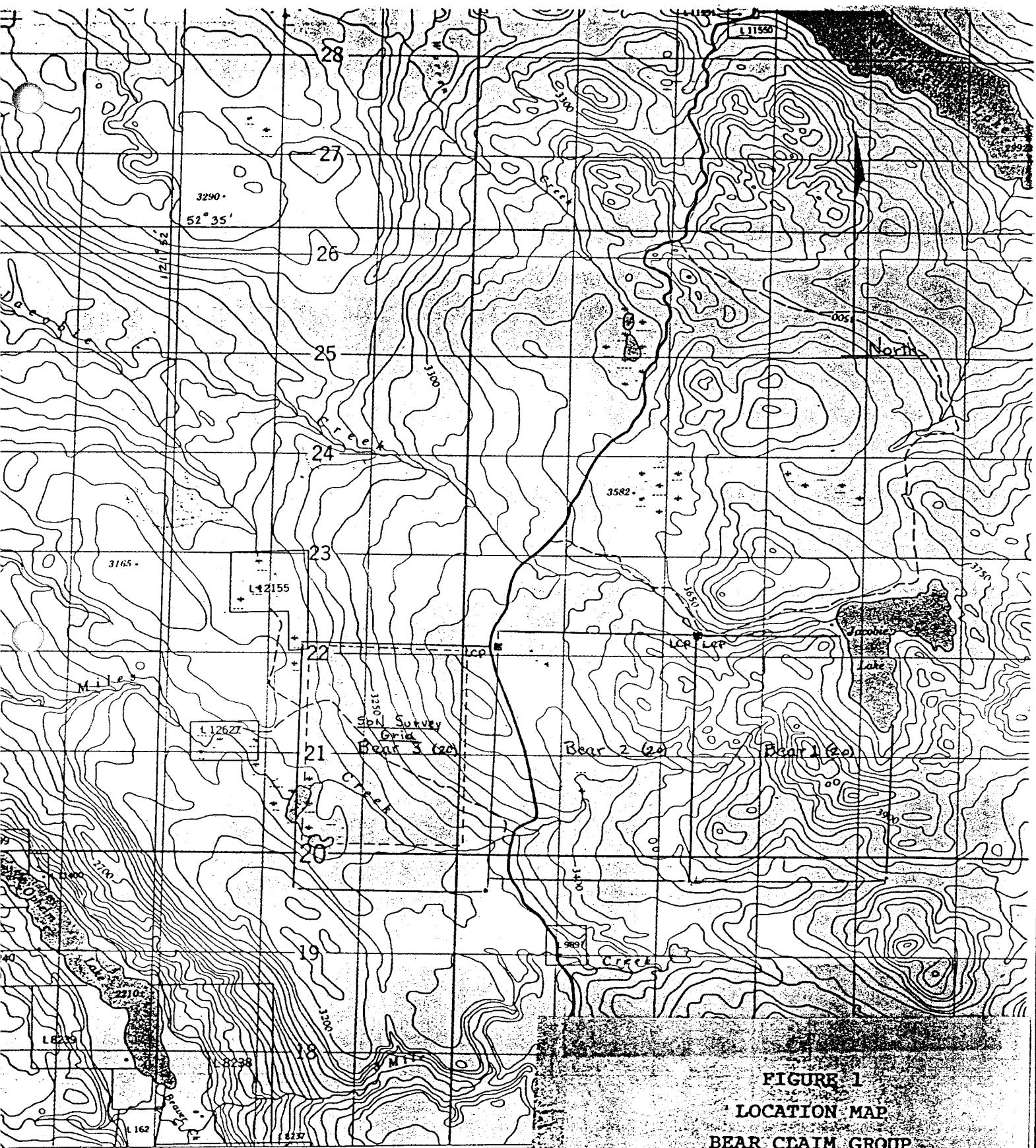
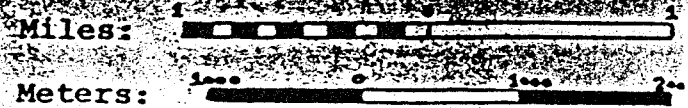


FIGURE 1
LOCATION MAP
BEAR CLAIM GROUP
93A/12
Scale 1: 50,000

76 77 78 79 80

Routes:
 paved surface, all weather... gravier aggloméré, toute saison... 2 lanes or more 2 voies ou plus less than 2 lanes moins de 2 voies
 dry weather and de gravier, temps sec et



1.0 INTRODUCTION

The Bear Claim Group is located about 4 miles (6.4 km) west of Bootjack Lake and its northeastern corner includes part of Jacobie Lake. The nearest settlement is Likely, B.C. which lies about 14 miles (22.5 km) to the northeast. Access is via the Likely road which runs through the claim block and links Likely with Highway 97 at 150 - Mile House.

The bear claims were staked in 1981 by Gibraltar Mines Limited to cover several regional geochemical anomalies outlined earlier in the year. This report covers a grid - type geochemical soil survey carried out over one of these regional anomalies. The objective of this project was to obtain a more detailed evaluation of trace metal dispersion in order to identify areas of highest ore-bearing potential. Similar soil surveys were carried out in 1982 and 1984 east of present grid and have been applied as assessment work.*

Field work was completed during the period July 5-26, 1985. A total of 305 samples were collected and analysed for copper and molybdenum.

2.0 MINERAL CLAIMS

The mineral claims of the Bear Group are shown in Figure 2, and claim information is tabulated below:

<u>CLAIM NAME</u>	<u>RECORD NO.</u>	<u>NO. OF UNITS</u>	<u>ANNIVERSARY DATE</u>
Bear 1	3848	20	July 30
Bear 2	3849	20	July 30
Bear 3	3881	20	August 6

All claims are owned by Gibraltar Mines Limited.

*

- (1) G. D. Bysouth.
Geochemical Soil Survey Report, Bear Claim Group, Gibraltar Mines Limited, Cariboo Mining Division July 15, 1983
- (2) G. D. Bysouth.
Geochemical Soil Survey Report, Bear Claim Group, Gibraltar Mines Limited, Cariboo Mining Division July 27, 1984

3.0 TOPOGRAPHY AND GEOLOGY

The bear claims are located in a poorly drained hilly terrain typical for this part of the Interior Plateau. As shown in Figure 1, the soil sampling grid covers a southwest-sloping hillside and a small portion of the adjoining valley bottom. The hillside slopes at about 10 degrees, is moderately well-drained and is covered by open jackpine and alder. In contrast, the valley bottom hosts a broad area of swampy ground covered by swamp grass and various clumps of spruce, alder and willow. This area was difficult to sample but fortunately comprised only a small part of the grid.

Of the soils collected, about 94% could be classified as normal immature soils typical for this region. The remainder were either hydromorphic or bog soils. The normal soils lack strong horizon development but generally show a distinctive rusty coloration below the organic layer, which considered to be an immature B- horizon. All the normal soil samples should be considered mixtures of both the B- and C- horizons. Parent material in all cases appears to be glacial till. No bedrock exposure was observed within the grid or adjacent areas. The soils classified as hydromorphic were those developed within permanently wet zones, and as a result lack any horizon development. Most were collected in small drainages. Soils classified as bog were also formed in a permanently wet environment but consist predominately of organic material. These were collected in swampy ground where the thickness of the organic cover preventing sampling of the underlying overburden.

4.0 SOIL SURVEY

4.1 FIELD METHODS

Soil samples were collected along north trending lines spaced 500-feet apart. An attempt was made to maintain a 200-foot sample space and collect only B- or C- horizon samples but due to the abundant seepage zones and swamps, some hydromorphic soils, and bog soils, had to be collected. Each sample site was evaluated and pertinent information recorded. Sample depth ranged between three-and seven-inches except over swampy ground where depths of eight to ten-inches were common. All samples were collected in standard kraft bags. Survey control was by chain and compass.

4.2 ANALYTICAL METHODS

All samples were analysed at the Gibraltar Mines Assay Laboratory. The procedure for the determination of copper and molybdenum is as follows:

1. Samples are oven dried and sieved to -20 mesh.
2. 5 g of sample is weighed out and placed in a beaker.
3. 30 ml. of concentrated nitric acid containing 5% potassium chlorate is added.
4. The sample is digested under heat until all brown fumes disappear.
5. 20 ml. of concentrated hydrochloric acid is then added and the sample is further digested under heat for three minutes.
6. 25 ml. of 1% aluminum chloride is added and the solution made up to 200 ml. with water then filtered.
7. A 50 ml. sample is taken and copper and molybdenum determined using a Varian Techatron AA6 Atomic absorption Spectrometer.

4.3 RESULTS AND INTERPRETATION

Copper and molybdenum distributions are shown in Figures 3 and 4. All concentrations are in ppm. Of the 305 samples collected, 287 have been classified as normal soils, 9 as hydromorphic soils and 9 as bog soils.

The copper distribution shows a wide dispersion of anomalous values. The threshold value appears to be about 80 ppm which is higher than previously encountered in grids to the east where 60 ppm seemed to be the norm. A 120 ppm contour is used in Figure 3 to outline concentrations which we would classify as definitely anomalous. These anomalies lack any high concentration peaks however, and consequently, provide little indication of nearby source areas. Instead they appear as a northwesterly trending scatter of similar values with slightly higher concentrations along the southern and southeastern edge of the grid. This possibly indicates a dispersion in glacial till from a source area to the southeast. The highest concentration in normal soils was 221 ppm. Higher values occur in the bog and hydromorphic soils due very likely to some enrichment processes. In this case, concentrations above 180 ppm are considered definitely anomalous.

In contrast to copper, the molybdenum distribution shows less scatter of anomalous values. A large area of molybdenum enrichment occurs at the western part of the grid along lines 16w to 19w, and within this area, a large definite anomaly can be outlined; this is shown in Figure 4 by a 12 ppm contour line. The anomaly contains higher concentration peaks, but these are not high enough to define specific target areas for trenching. The highest value is 46 ppm which was found in a bog sample; enrichment is an obvious possibility here, but this sample is on the strike of several other highs obtained in normal soils. Of interest is the northern branch of the anomaly which in form and distribution is suggestive of some sort of downhill dispersion followed by accumulation and enrichment in the swampy ground below the hillside. Several other small but very significant molybdenum anomalies occur along the eastern edge of the grid. These appear to be related to the copper anomalies and are probably from the same source area.

5.0 STATEMENT OF EXPENDITURES

GEOCHEMICAL SOIL SURVEY - BEAR CLAIMS 1985

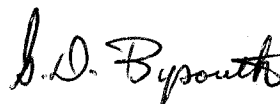
1. Field Work		
E. Oliver		
4, 5 July	16hrs @ 19.64/hr	\$ 314.24
G. Bains		
5,8-11,15-18 July	88hrs @ 16.67/hr	\$1466.96
D. Exshaw		
5,8-11,15-18 July	88hrs @ 14.29/hr	\$1257.52
2. Supervision and Report Preparation		
G.D. Bysouth		
5-26 July	40hrs @ 31.00/hr	\$1240.00
3. Vehicle Costs		
1983 GMC 4X4 Rental		
9 days @ \$36.00/day	\$324.00	
Fuel	<u>\$180.00</u>	
		\$ 504.00
4. Trailer Rental		
12 days @ \$33.00/day		\$ 396.00
5. Supplies		
(soil bags, topo. string, ribbon...)		\$ 300.00
6. Assay Costs		
305 samples assayed for Cu and Mo @ \$6.00/sample		\$1830.00

	TOTAL COSTS	\$7308.72

b.D.B.

6.0 CONCLUSIONS

No obvious bedrock source area appears evident within the grid area for the copper anomalies and associated molybdenum anomalies. The large molybdenum anomaly outlined along the western part of the grid however, does appear to have a source within the grid. More sampling should be done here to provide a more detailed expression of distribution trends in order to establish trenching targets.



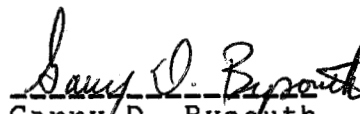
G.D. Bysouth
Senior Geologist
Gibraltar Mines Limited

APPENDIX A

STATEMENT OF QUALIFICATION

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

1. I am a geologist
2. I am a graduate of the University of B.C., with a B.Sc. degree in geology in 1966.
3. From 1966 to the present I have been engaged in mining and exploration geology in B.C.
4. I personally supervised this soil sampling program and interpreted the results.


Garry D. Bysouth

GIBRALTAR MINES LIMITED
ASSAY CERTIFICATE

R " Appendix B
 Page 1 of 12

Exploration - soil

PPM
~~PPM~~ PPM

Date July 19, 1985

Sample No.	% Ox. Cu.	Total Cu.	% MoS ₂
85-150		55 ✓	3 ✓
51		24 ✓	4 ✓
52		28 ✓	6 ✓
53		18 ✓	5 ✓
54		28 ✓	3 ✓
55		23 ✓	4 ✓
56		50 ✓	6 ✓
57		64 ✓	7 ✓
58	✓	316 ✓	11 ✓
59	✓	188 ✓	11 ✓
60		62 ✓	7 ✓
61		61 ✓	8 ✓
62		20 ✓	8 ✓
63		53 ✓	7 ✓
64		53 ✓	6 ✓
65		41 ✓	9 ✓
66		48 ✓	10 ✓
67		35 ✓	9 ✓
68		26 ✓	14 ✓
69	✓	34 ✓	37 ✓
70		70 ✓	11 ✓
71		29 ✓	3 ✓
72		44 ✓	5 ✓
73		32 ✓	10 ✓
74		45 ✓	8 ✓
75		106 ✓	7 ✓
76	✓	58 ✓	18 ✓
77	✓	60 ✓	32 ✓
78		35 ✓	10 ✓
79		37 ✓	7 ✓
80	✓	101 ✓	12 ✓
81		78 ✓	14 ✓
82		72 ✓	11 ✓

GIBRALTAR MINES LIMITED
ASSAY CERTIFICATE

Exploration Soil

Date July 19, 1985

ppm ppm

Sample No.	% Ox. Cu.	Total Cu.	% MoS ₂
85-188	✓	198 ✓	8 -
89	✓	221 -	10 -
90	✓	103 -	9 -
91	✓	116 -	19 -
92		38 -	5 -
93		50 -	4 -
94		28 -	5 -
95		34 -	4 -
96		39 -	5 -
97	✓	146 -	5 -
98		24 -	4 -
99		26 -	4 -
200		32 -	9 -
01		40 -	7 -
02		28 -	4 -
03		68 -	3 -
04		13 -	28 -
05		41 -	6 -
06		25 -	5 -
07		16 -	4 -
08		61 -	3 -
09		31 -	4 -
10	✓	29 -	27 -
11		28 -	7 -

24

GIBRALTAR MINES LIMITED
ASSAY CERTIFICATE

Exploration Soil
 PPM

Date July 19, 1985

Sample No.	% Ox. Cu.	Total Cu.	% MoS ₂			
85-212		26 -	5 -			
212B		15	4			
13		85 -	9 -			
14		44 -	6 -			
15		17 -	5 -			
16		11 -	3 -			
17		13 -	2 -			
18		240 -	4 -			
19		24 -	3 -			
20		57 -	10 -			
21		62 -	7 -			
22		77 -	7 -			
23		17 -	4 -			
24		28 -	5 -			
25		37 -	7 -			
26		48 -	15 -			
27		17 -	6 -			
28		60 -	4 -			
29		45 -	6 -			
30		150 -	7 -			
31		15 -	4 -			
32		30 -	4 -			
33		67 -	6 -			
34		28 -	6 -			

GIBRALTAR MINES LIMITED
ASSAY CERTIFICATE

Exploration

Date 19th July, 1985

Sample No.	% Ox. Cu.	<u>APM</u> Total Cu.	<u>APM</u> % MoS ₂
85-235		139-	2-
26		35-	3-
37		56-	1-
38		58-	2-
39		12-	3-
40		112-	2-
41		32-	2-
42		45-	3-
43		195-	6-
44		121-	5-
45		113-	4-
46		79-	2-
47		30-	5-
48		85-	3-
49		27-	3-
50		52-	4-
51		18-	4-
52		33-	4-
53		28-	8-
54		51-	7-
55		30-	3-
56		76-	9-
57		21-	3-
58		18-	16-

GIBRALTAR MINES LIMITED
ASSAY CERTIFICATE

Exploration Soil

Date July 19, 1985

Sample No.	% Ox. Cu.	ppm Total Cu.	ppm % MoS ₂			
85-183		20 /	10 /			
84	✓	115 /	10 /			
85	✓	165 /	9 /			
86		57 /	13 /			
87	✓	188 /	42 /			
85-280		213 /	4 /			
81		89 /	4 /			
82		27 /	7 /			
83		42 /	3 /			
84		187 /	14 /			
85		81 /	8 /			
86		48 /	10 /			
87		89 /	7 /			
88		73 /	9 /			
89		45 /	7 /			
90		48 /	10 /			
91		67 /	11 /			
92	✓	92 /	25 /			
93		46 /	6 /			
94		127 /	6 /			
95		38 /	4 /			
96		58 /	8 /			
97		28 /	7 /			
98		39 /	4 /			
99		32 /	6 /			
300	✓	105 /	10 /			
01		60 /	5 /			

GIBRALTAR MINES LIMITED
ASSAY CERTIFICATE

Exploration

Date July 22, 1985

Sample No.	% Ox. Cu.	Total Cu.	% MoS ₂
85-302		152-	3-
03		163-	4-
04		160-	3-
05		42-	2-
06		40-	2-
07		32-	1-
08		53-	41-
09		33-	2-
10		56-	2-
11		68-	1-
12		74-	2-
13		74-	4-
14		70-	2-
15		50-	2-
16		19-	3-
17		32-	41-
18		127-	2-
19		81-	3-
20		29-	2-
21		79-	13-
22		58-	2-
23		78-	2-
24		222-	3-
25		46-	1-
26		24-	1-
27		82-	2-
28		146-	3-
29		99-	1-
30		32-	4-
31		53-	2-
32		37-	2-
33		72-	1-
34		26-	1-

GIBRALTAR MINES LIMITED
ASSAY CERTIFICATE

Page 9 of 12

EXPLORATION SOILS

Date 23 JULY....., 19.85.

Sample No.	% Ox. Cu.	Total Cu.	% MoS ₂			
		ppm	ppm			
85- 351		52 -	5 -			
352		39 -	6 -			
353		47 -	8 -			
354		42 -	5 -			
355		81	5 -			
356		53 -	6 -			
357		57 -	8 -			
358		46 -	6 -			
359		41 -	4 -			
360		137 -	11 -			
361		44 -	5 -			
362		33 -	5 -			
363		33 -	5 -			
364		146 -	10 -			
365		61 -	3 -			
366		136 -	9 -			
367		52 -	17 -			
368		66 -	8 -			
369		35 -	6 -			
370		33 -	5 -			
371		45 -	4 -			
372		48 -	7 -			
373		56 -	7 -			
374		50 -	11 -			
375		47 -	15 -			
376		30 -	8 -			
377		48 -	9 -			
378		55 -	7 -			
379		93 -	9 -			
380		53 -	20 -			
381		162 -	11 -			
382		46 -	10 -			

cc: Assay Lab.

33

Assayer D. A. W.

GIBRALTAR MINES LIMITED
ASSAY CERTIFICATE

EXPLORATION SOILS

Date23...JULY...19.85.

Sample No.	% Ox. Cu.	Total Cu.	% MoS ₂			
		ppm	ppm			
85-383		34 -	12 -			
384		52 -	10 -			
385		39 -	8 -			
386		113 -	10 -			
387		32 -	12 -			
388		82 -	18 -			
389		34 -	12 -			
390		29 -	10 -			
391		61 -	10 -			
85-395		26 -	15 -			
396		15 -	12 -			
397		34 -	13 -			
398		153 -	15 -			
399		54 -	10 -			
85-400		51 -	13 -			
401		50 -	9 -			
402		49 -	14 -			
403		81 -	9 -			
404		99 -	10 -			
405		79 -	12 -			
406		56 -	17 -			
407		81 -	12 -			
408		119 -	11 -			
409		52 -	10 -			
410		62 -	9 -			
411		127 -	10 -			
412		98 -	11 -			
413		54 -	8 -			
414		39 -	8 -			
415		47 -	8 -			
416		92 -	12 -			

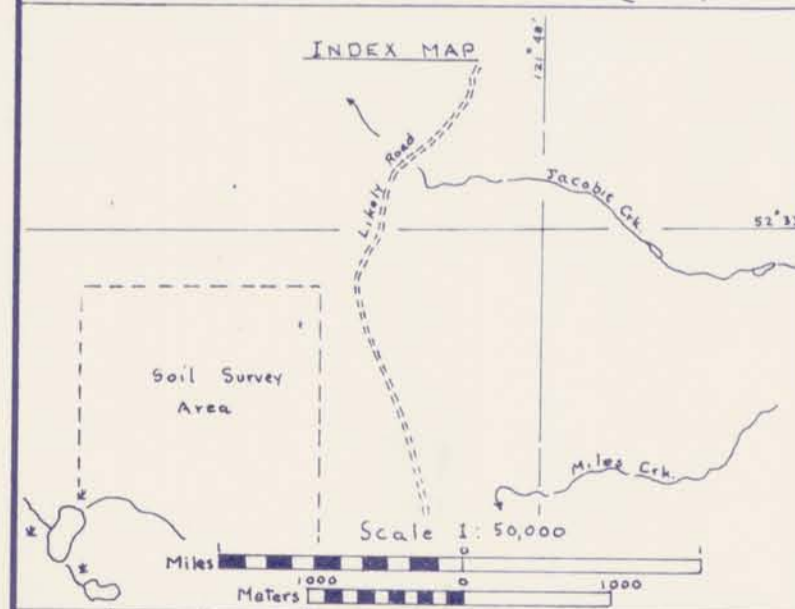
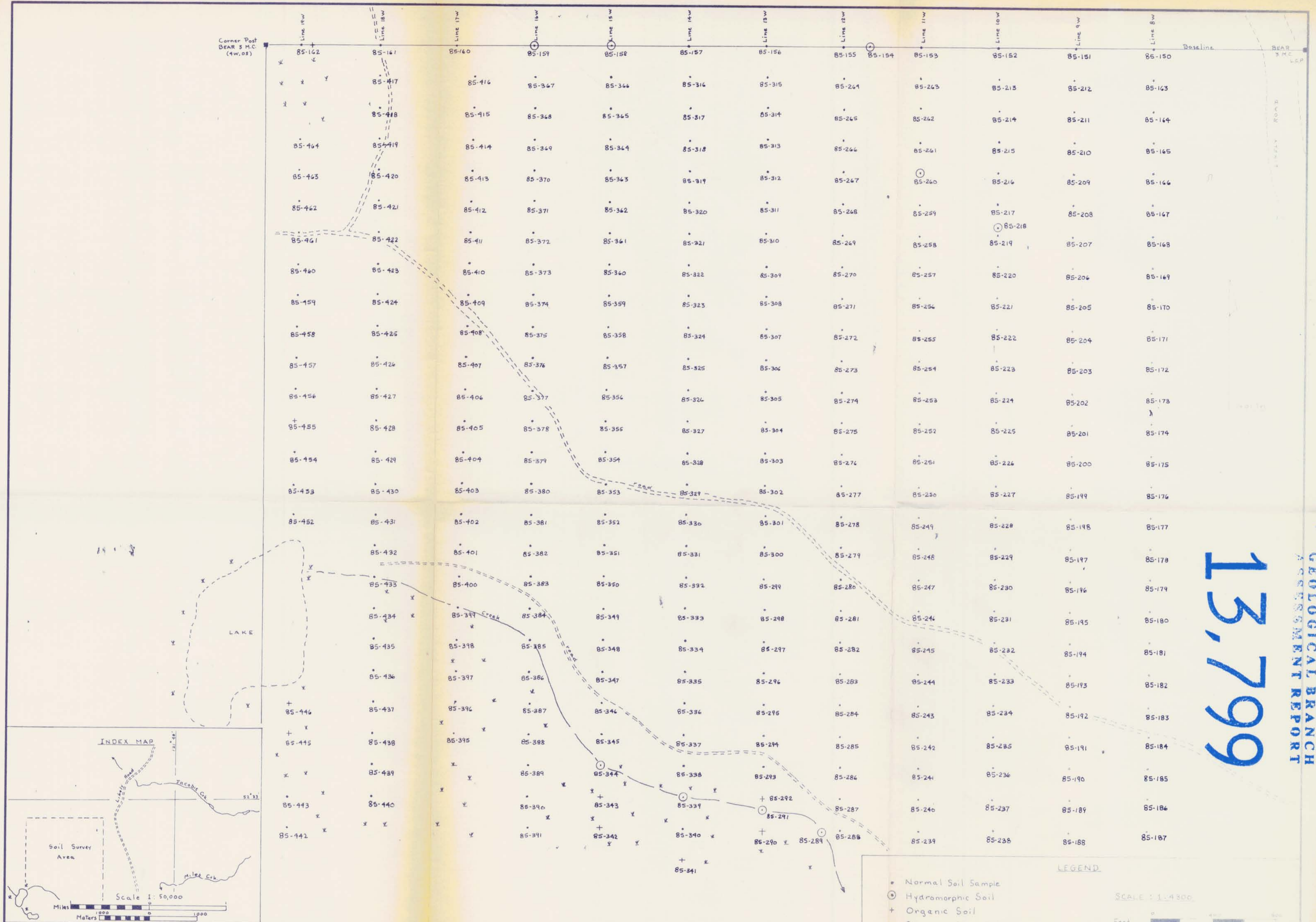
GIBRALTAR MINES LIMITED
ASSAY CERTIFICATE

EXPLORATION SOILS

Date 25 JULY, 1985.

Sample No.	% Ox. Cu.	Total Cu.	% MoS ₂			
		ppm	ppm			
85-417		51	7			
418		47	8			
419		40	7			
420		50	9			
421		29	9			
422		45	8			
423		25	10			
424		31	8			
425		27	8			
426		45	9			
427		76	12			
428		150	14			
429		51	13			
430		66	18			
431		173	15			
432		38	13			
433		71	10			
434		27	15			
435		23	15			
436		14	10			
437		112	26			
438		28	13			
439		32	12			
440		35	9			
85-442		55	12			
443		89	11			
85-445		33	19			
446		22	46			

13,799



LEGEND

- Normal Soil Sample
- ⊙ Hydromorphic Soil
- + Organic Soil
- ⊗ Swampy Area
- Metal Concentration in ppm.

SCALE: 1:4800

Feet

Meters

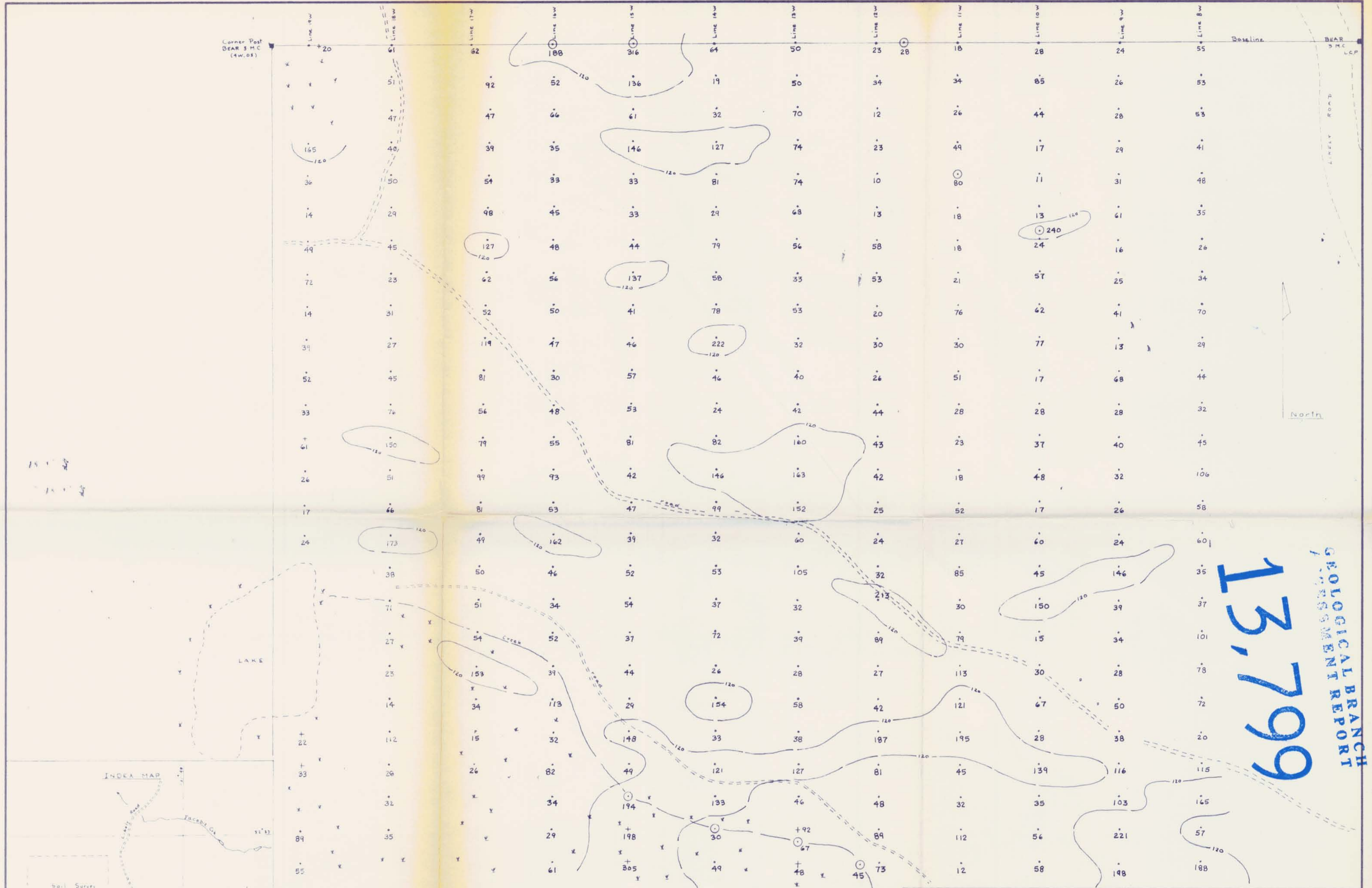
Control by Spain and Canada

DWN.	CHECK	APPR.	ISSUED FOR	DATE	REV.	DESCRIPTION	SCALE	REFERENCE No.	DWG. No.
							1 inch = 400 feet		July 23, 1985

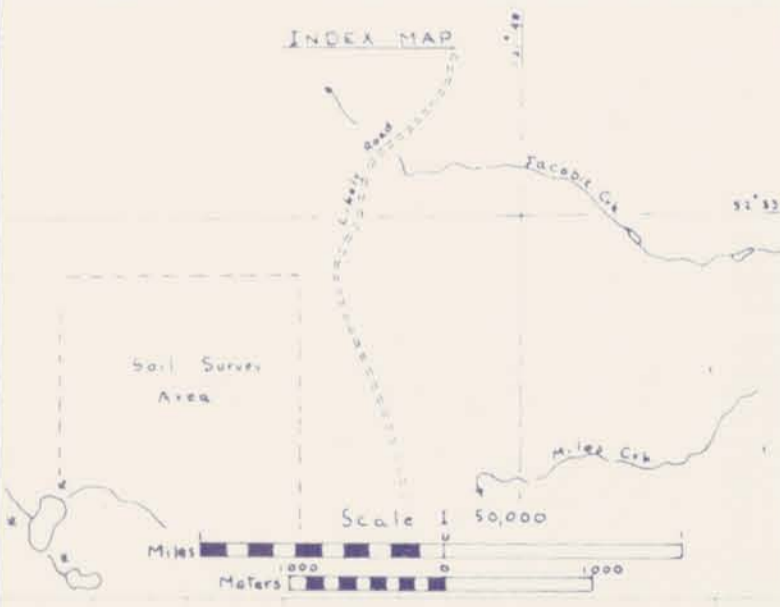
GIBRALTAR MINES LIMITED		SAMPLE LOCATION	
GEOCHEMICAL SOIL SURVEY BEAR CLAIM GROUP		FILE No.	FIGURE 2

NCI-210-G.M.L.

SDP



13,799
 GEOLOGICAL BRANCH
 GEOREGISTRATION REPORT



LEGEND

- Normal Soil Sample
- ⊙ Hydromorphic Soil
- + Organic Soil
- ✕ Swampy Area
- Metal Concentration in ppm.

SCALE: 1:4800

Feet 0 400 800

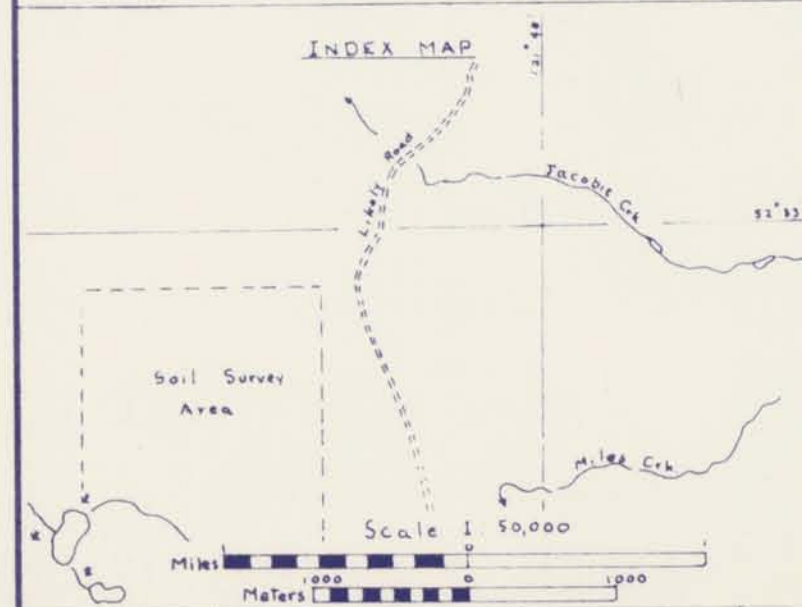
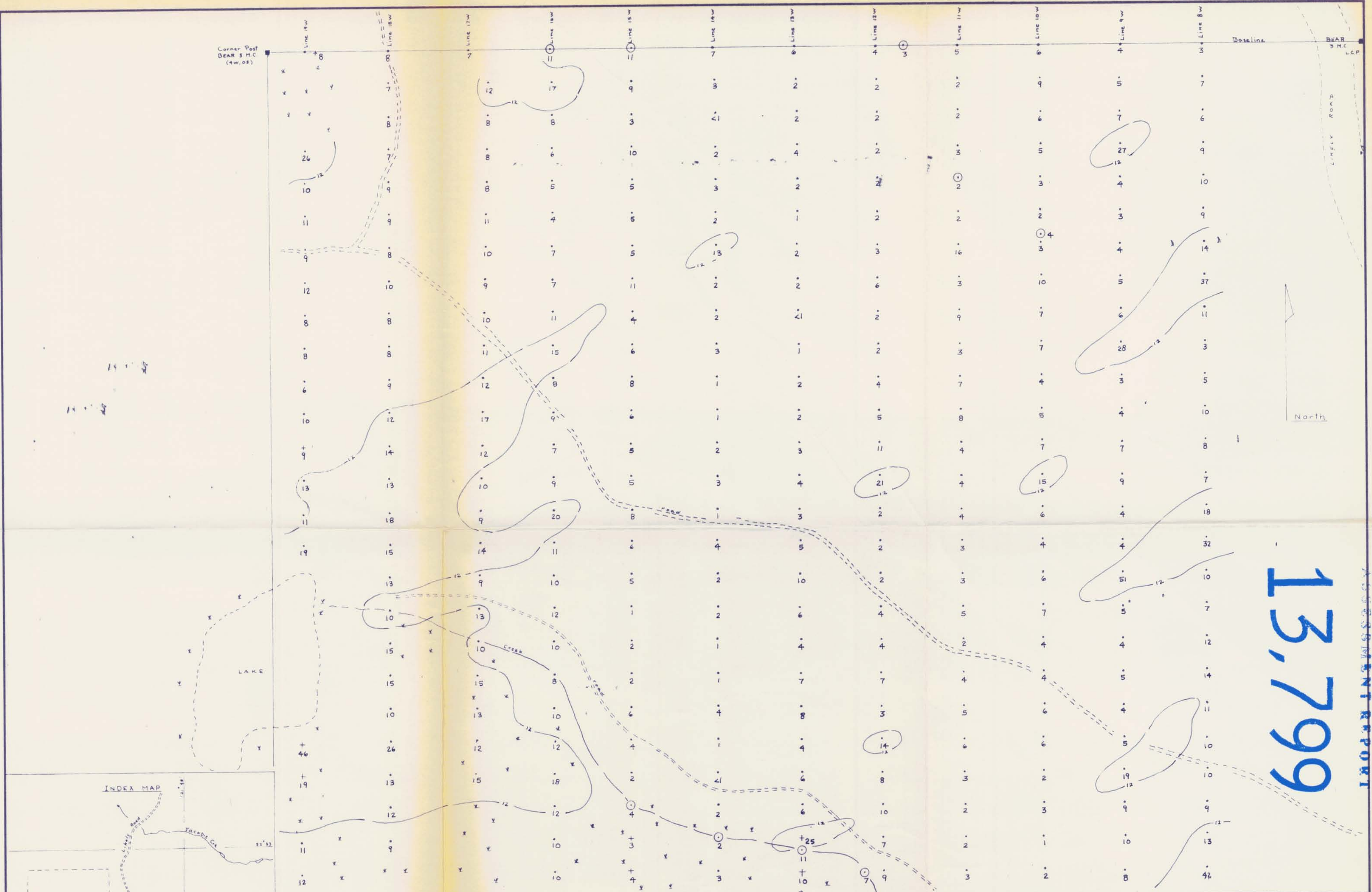
Meters 0 100 200

Control by Chain and compass

DWN.	CHECK	APPR.	ISSUED FOR	DATE	REV.	DESCRIPTION	SCALE
							1 inch = 400 feet
						REFERENCE	No.
							DWG. No.
						GIBRALTAR MINES LIMITED GEOCHEMICAL SOIL SURVEY BEAR CLAIM GROUP	
						FILE No. FIGURE 3	

103

13,799



LEGEND

- Normal Soil Sample
- ⊙ Hydromorphic Soil
- + Organic Soil
- ✕ Swampy Area
- Metal Concentration in ppm.

SCALE : 1:4800

Feet

Meters

Control by chain and compass

DWN.	CHECK	APPR.	ISSUED FOR	DATE	REV.	DESCRIPTION	SCALE	REFERENCE	No.	DWG. No.
							1 inch = 400 feet			July 23, 1985

GIBRALTAR MINES LIMITED

GEOCHEMICAL SOIL SURVEY
BEAR CLAIM GROUP

MOLYBDENUM DISTRIBUTION

FILE No. FIGURE 4

b.o.b.