

A REPORT ON THE HALL CLAIM BLOCK

Western Portion of North Barriere Lake  
-Kamloops Mining District

including a

GEOLOGICAL AND GEOCHEMICAL REPORT

By: B. V. HALL

CYPRUS ANVIL MINING CORPORATION  
July 11, 1980.

and

A GEOPHYSICAL REPORT

By: PETER E. WALCOTT, P. Eng.

PETER E. WALCOTT & ASSOCIATED LIMITED  
July, 1980.

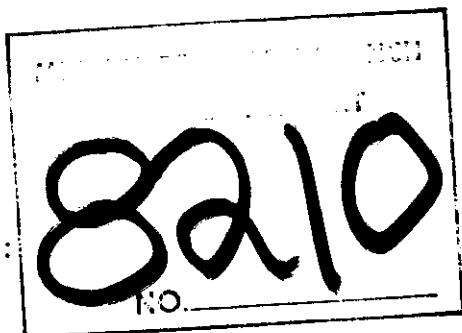
for

CYPRUS ANVIL MINING CORPORATION

N.T.S.

Latitude:

Longitude:



82-M-5 W

51° 19' N

119° 52' W

Field Work Done During the Period: May 6 - July 9, 1980.

GEOLOGICAL AND GEOCHEMICAL REPORT

on the

HALL CLAIM BLOCK - 2009 (8)

Western Portion of North Barriere Lake  
Kamloops Mining District

N. T. S. 82-M-5 W

Latitude: 51<sup>0</sup> 19' N

Longitude: 119<sup>0</sup> 52' W

by:

B. V. HALL

CYPRUS ANVIL MINING CORPORATION

July 11, 1980

Field Work Done During the Period: May 6 - July 9, 1980.

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LIST OF CLAIMS --- HALL CLAIM BLOCK

<u>Claim No.</u>	<u>Record Number</u>	<u>No. of Units</u>	<u>Expiry Date</u>
1	2009	20	August 14, 1980

GEOLOGICAL AND GEOCHEMICAL REPORT

on the

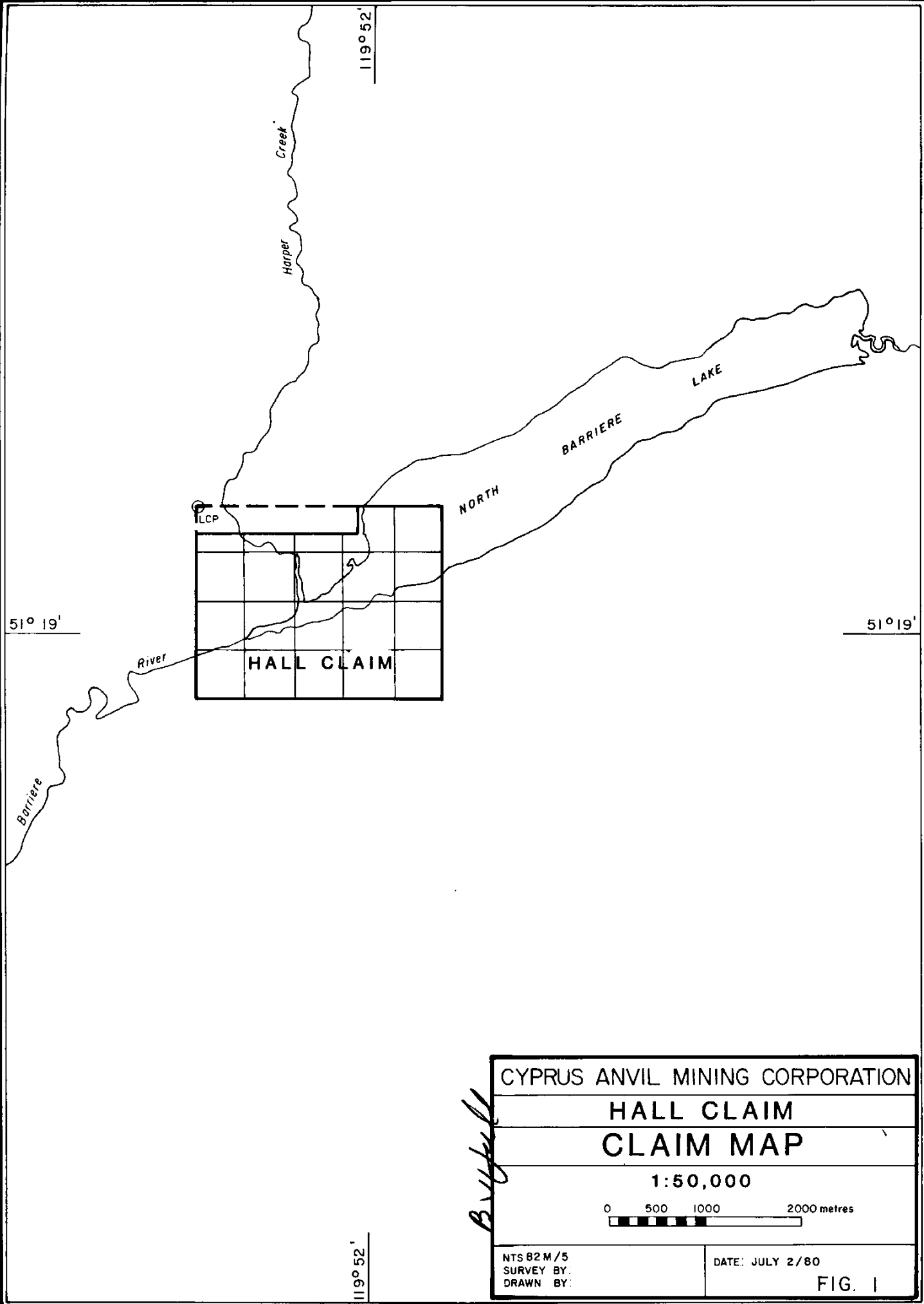
HALL CLAIM BLOCK - 2009 (8)

1. SUMMARY

Geological mapping, soil sampling, and silt sampling were conducted over the HALL Claim Block to determine its base metal potential. During the course of the surveys two zones of interest were outlined. The first consisted of a small showing of massive pyritic mineralization. The second consisted of a large (200 x 150m) soil anomaly for copper, lead, zinc, and silver.

2. LOCATION AND ACCESS

The HALL Claim Block is located at the mouth of the Harper Creek on the western end of North Barriere Lake (Figure 2). Access to the northwestern portion of the claim block is via the North Barriere Lake logging road, which originates in the town of Barriere 33 kilometres to the southwest. The remainder of the claim block can be reached by boat across North Barriere Lake, or by rough logging roads along Barriere Ridge.

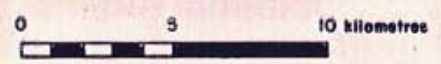


30°  
0  
9  
15  
8  
7  
Tp 25  
Tp 24  
Tp 23  
51°00'

120°00'  
9 R 15  
R 1430000m E  
45'  
R 13  
1



**CYPRUS ANVIL MINING CORPORATION**  
**HALL CLAIM**  
**LOCATION MAP**  
**1:250,000**



NTS 82M  
SURVEY BY:  
DRAWN BY:  
DATE: JULY 2/80  
Figure 2



### 3. PHYSIOGRAPHY

The claim block covers a portion of the northern slope of the Barriere Ridge, and the valley bottoms of Barriere River and Harper Creek.

Outcrop exposure is sparse and restricted for the most part to stream valleys draining Barriere Ridge. Twenty year old secondary growth of a dense tangle of immature fir, poplar, cedar, and devil's club occupies the bulk of the claim block. Other portions of the claim block are covered by a more mature, but equally dense growth of similar type.

### 4. PROPERTY HISTORY

The first staking activity over what is now the southeastern portion of the claim block occurred in the early 1900's. In 1963, the area was restaked as the JOE Claim Group by J. MacDonald, an independant prospector. The area was restaked in the winter of 1969 by L. Bloomfield and G. Bloomfield as the C & G Claim Group. Ducanex Resources Ltd. optioned this claim group from the Bloomfields in 1971 and contracted out linecutting and soil sampling to J. R. Woodcock Consultants Ltd. of Vancouver (Price, 1971). In 1978 Beth-Canada Mining Company restaked a portion of the old C & G Claim Group and an area to the west as the CATHY 1 Claim Block. This claim block was restaked the following year by Cyprus Anvil Mining Corporation and is currently held by them.

### 5. GEOLOGY

For the most part, the HALL Claim Block is underlain by metamorphosed volcanics and sediments of the Eagle Bay Formation. Exceptions are two felsic dykes, or plugs which intrude the Eagle Bay Formation. Metamorphism to greenschist facies has transformed the volcanics into

chloritic and sericitic schists. Stratigraphically these rock types underlie a thick sequence of variably calcareous graphitic argillites. Dips are generally flat lying due to the isoclinal recumbant nature of the first phase of deformation. Later, weak deformational events ( $F_2$  and  $F_3$ ) have warped the stratigraphy (Map No. 1).

## 5.1 LITHOLOGY

Five rock types occur within the claim block. Oldest and stratigraphically lowest is a quartzite (Unit 1). This rock type is a well sorted, medium-grained quartz arenite. Overlying the quartzite is a chloritic phyllite (Unit 2). Originally these chloritic phyllites were flows and tuffs. The flows, despite the pervasive  $S_1$  schistosity, still retain their massive nature. In addition amygdules have been observed in a few instances. The tuffs on the other hand have a very pronounced schistosity and are very similar in appearance to tuffaceous material observed along strike. This unit has a true thickness of approximately 200 metres.

Situated at the contact between the chloritic and graphitic phyllites in the vicinity of L20E 11+50N is a thin (1.0 metre thick) horizon of pyritic quartzite (Unit 3). Quartzite exhibiting cherty laminations hosts the pyrite, which constitutes approximately 50% of this rock type. The pyrite grains are for the most part porphyroblastic and arranged in a crude banded texture, indicating a sedimentary origin.

Above the tuffs is a rather thick unit of graphitic phyllites. Intercalated within this unit are thin bands (less than 10cm thick) of carbonate. In general these carbonate bands become more abundant towards the eastern portion of the claim block. Also characterizing this unit are concretions up to 1 metre in length.

Overlying the graphitic phyllite is another quartzite (Unit 5). Unlike the lower quartzite (Unit 1) this rock type contains about

20% sericite.

The youngest unit in the claim block are felsic intrusives, (Unit 6). This rock type is distinctive as it lacks the regional schistosity ( $S_1$ ) that is developed in the Eagle Bay Formation.

Disseminated pyrite (less than 2%) occurs sporadically throughout the claim block (Map No. 1). Chalcopyrite has been observed in only one outcrop (Unit 5).

## 5.2 STRUCTURE

Although three phases of deformation have affected the claim block, no large scale fold structures have been observed. The stratigraphy is essentially flat lying, although minor warping has occurred in conjunction with the  $F_2$  deformation.

The  $F_1$  fold style is considered to be isoclinal recumbant, with the axial planes parallel to the schistosity and compositional layering (Preto, 1979). An average orientation for  $S_1$  schistosity is N18E/5NW.

The second phase of deformation has produced a prevalent crinkle crenulation ( $L_2$ ). This feature has an average orientation of N73W/5NW, although a relatively broad cluster of points is observed. Minor warps in the  $S_1$  orientations appear to be the product of this deformational event.

The third phase of deformation has produced a second crinkle crenulation ( $L_3$ ). This feature is not as pronounced as the  $L_2$  crenulation, and has an average orientation of 56E/14SE.

## 6. GEOCHEMISTRY

A total of 426 soil and silt samples were collected over the HALL Claim Block. The soil samples were taken at 50 metre intervals over the entire grid (Map No. 2). Silt samples were collected wherever a stream intersected a grid line. All samples were analyzed for lead, zinc, copper, and silver. The results are presented in Appendix IV, and plotted on Map Nos. 3 to 6.

### 6.1 PROCEDURE

The silt samples were collected from the active portions of the streams and consisted of silt to sand size material. Organic material within the stream beds was minimal and was avoided where possible.

The soil samples were all taken from the B horizon, and consisted of brown to orange sandy loam. A grub hoe was used to obtain the samples, with the sample depth varying between 5 and 25 centimetres.

Both the soil and silt samples were placed in kraft high-strength paper envelopes and air dried for one week before being sent to Kamloops Research and Assay Laboratory Ltd., 2095 West Trans Canada Highway, Kamloops, B. C. for analysis.

The analytical procedure was as follows:\*

a) The samples were dried in a geochemical drying oven and then screened through a stainless steel 80 mesh sieve. The minus 80 fraction was reserved for analysis and the plus 80 mesh fraction discarded.

b) The samples were then weighed into test tubes, nitric acid added, and placed in a hot water bath for thirty minutes at 90°C.

Hydrochloric acid was added at this time and the samples digested for a further 2 hours and then diluted with distilled water.

c) The samples were then mixed to insure homogeneity and read, upon settling, on a Varian Techtron AA 5 atomic absorption spectrophotometer using an air-acetylene flame.

d) All additions of reagents were from Oxford Model S-A pipettors.

e) Standards and re-assay checks were carried along with each run of 35 samples.

Means and standard deviations were calculated for all the geo-chemical values, and are listed in Table I. Values in excess of one standard deviation were considered to be anomalous. Highly anomalous values were two standard deviations removed.

MEANS AND STANDARD DEVIATIONS

TABLE I

	<u>Mean</u>	<u>Standard Deviation</u>	<u>Anomalous</u>		<u>Highly Anomalous</u>
Ag	0.75 ppm	0.37	1.1	1.5	1.5
Cu	46 ppm	35	81	115	115
Pb	60 ppm	100	100	260	260
Zn	165 ppm	185	351	536	536

6.2 RESULTS

The soil samples revealed the presence of three anomalous zones. The largest of the two is elongate in shape trending roughly north-south and is centered about L17N, 2+00E (Maps 3 to 6 ). Approximate lateral dimensions are 200 metres by 150 metres. Lead, zinc, and copper are the best indicators of this anomaly. Associated with this anomaly is a rather substantial Max-Min conductor (Walcott, 1980).

The second anomalous zone is rather diffuse and best defined on the basis of copper (Map No. 3). It is centered about L21E, 11+00N. Scattered anomalous values for lead, zinc, and silver also occur within this zone. On the basis of copper this anomalous zone is elongate in an east-west direction, and is approximately 800 metres long x 400 metres wide. In the center of this anomaly is the

outcrop of pyritic quartzite (L20E, 11+50N). Mineralization related to this showing may be responsible for this anomaly.

The third anomalous zone is rather small (less than 150 metres in diameter) and consequently not as significant as the first two. However, contained within this zone are some highly anomalous samples (eg Pb 851 and 432 ppm; Zn 754 ppm). Geologically this zone is situated at the contact between the chloritic phyllites and a felsic intrusive. Consequently, this zone may be a reflection of vein mineralization, related to the intrusive.

The silt samples for the most part were of background values. One sample situated at 19+25E, 12+00N was anomalous for lead, copper and silver. This sample probably reflects the presence of the pyritic quartzite found in outcrop upstream. The other anomalous zone was centered about 5+50N, 8+50E and consisted of two anomalous silver values.

## 7. CONCLUSIONS

The HALL Claim Block meets all the conditions necessary for significant massive sulphide mineralization. The geological environment of waning volcanic activity succeeded by black clastic sedimentation is considered classic and almost inherent to the development of massive sulphide mineralization. The chert unit which encloses the massive mineralization may be interpreted as representing a period of quiescence within the stratigraphic section and possibly fumarolic activity. Integration of the geology and geochemistry indicates that the mineralization occurs at two distinct locations within the claim block and at roughly the same stratigraphic level.

Another feature which enhances the attractiveness of the HALL Claim Block is the relative lack of previous exploration activity in the northwestern portion. In other words the soil and geophysical

anomaly located in that sector can be considered a new discovery for the Barriere Lakes area. On this basis diamond drilling is warranted.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "B V Hall". The signature is fluid and cursive, with the letters "B" and "V" being particularly prominent and stylized.

B. V. Hall  
CYPRUS ANVIL MINING CORPORATION

July 11, 1980.



BIBLIOGRAPHY

- Preto, V. A. (1979): Barriere Lakes - Adams Plateau Area (82L/13E; 83M/4W, SW; 92P/1E, 8E), B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork, 1978, Paper 1979-1, pp 31-37.
- Price, B. J. (1971): Geochemistry of Bloomfield Option and adjacent claims, North Barriere Lake, B. C. Assessment Report 3350, B. C. Department of Mines.
- Walcott, P.. (1980): Geophysical Report on the Hall Claim Group. (filed for Assessment).

STATEMENT OF QUALIFICATIONS

I, BRIAN V. HALL, geologist, with business and residential address in Vancouver, British Columbia, do hereby certify that:

1) I am a geologist residing at 99-1915 Haro Street, Vancouver, B. C. and employed by Cyprus Anvil Mining Corporation of 330-355 Burrard Street, Vancouver, B.C.

2) I am a graduate of the University of British Columbia with a BSc majoring in Geology (1975) and of the University of Waterloo with a MSc in Geology in 1978.

3) I have practised my profession for two years.

4) I have no beneficial interest in the property discussed in this report, nor do I expect to receive any in the future.

  
\_\_\_\_\_  
BRIAN V. HALL

## APPENDIX II

SUMMARY OF COSTSCYPRUS ANVIL MINING CORPORATIONHALL CLAIM BLOCK Expenditure Summary  
May 6 - July 9, 1980

## SALARIES AND WAGES - Field Work

B. Hall	May 6 - 8, 26 - 31, June 1 - 6, July 8 - 9	17 days @ \$92.50/day	\$1,572.50
G. Jefferies	May 26 - 31 June 1 - 6	12 days @ \$40.00/day	480.00

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 \$2,052.50

## GEOCHEMICAL ANALYSIS

426 Soil and silt samples @ \$3.66/sample	1,559.16
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## LINECUTTING

28 km @ \$250.00/km	7,000.00
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## FIELD EQUIPMENT, supplies, maps

275.09

## TRANSPORTATION

3 round trips Faro to Kamloops (truck rental, gas)	2,104.48
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## REPORT PREPARATION

43.70

## TOTAL COSTS

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 \$13,034.93
 

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AFFIDAVIT SUPPORTING SUMMARY OF COSTS

I, BRIAN V. HALL, Geologist, Cyprus Anvil Mining Corporation, of Vancouver, British Columbia, do hereby state that, to the best of my knowledge and belief the Statement of Costs in this report (GEOLOGICAL AND GEOCHEMICAL REPORT ON THE HALL CLAIM BLOCK - 2009 (8)) is a true account of expenditures incurred from exploration on the HALL property.

B V Hall  
BRIAN V. HALL

July 16, 1980  
DATE

APPENDIX IV

GEOCHEMICAL VALUES

Kamloops Research  
&  
Assay Laboratory  
LTD.



B.C. CERTIFIED ASSAYERS

2095 West Trans Canada Highway — Kamloops, B.C. V1S 1A7

Phone: 372-2784

Telex: 048-8320

GEOCHEMICAL LAB REPORT

Cyprus Anvil Mining Corporation  
330 - 355 Burrard St.  
Vancouver, B.C.  
V2C 2C8

DATE June 16, 1980

ANALYST SN

FILE NO G-36D

Attention: Mr. B. Hall

KRAL NO	IDENTIFICATION	Cu	Pb	Zn	Ag				
1	H 1	116	47	249	1.1				
2	2	31	19	119	.7				
3	3	90	34	154	.7				
4	4	60	100	219	.8				
5	5	59	33	122	.6				
6	6	120	147	290	.6				
7	7	24	34	146	.8				
8	8	17	21	60	.4				
9	9	84	37	138	.8				
10	10	96	178	299	2.1				
11	11	81	288	207	2.0				
12	12	67	85	182	.7				
13	13	49	111	275	.6				
14	14	18	59	149	.8				
15	15	80	98	187	1.6				
16	16	50	40	133	.7				
17	17	113	66	129	.8				
18	18	73	79	154	1.1				
19	19	11	53	115	.5				
20	20	47	38	113	.7				
21	21	40	28	60	.6				
22	22	68	41	136	.5				
23	23	222	43	80	.8				
24	24	94	101	174	2.1				
25	25	123	124	265	.5				
26	26	39	40	181	.6				
27	27	16	25	110	.5				
28	28	27	33	123	.5				
29	29	10	34	121	.7				
30	30	40	15	104	.5				

# Kamloops Research & Assay Laboratory Ltd.

## GEOCHEMICAL LAB REPORT

FILE NO.           C-360          

PAGE           2          

SAL No.	IDENTIFICATION	Cu	Pb	Zn	Ag				
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33	33	42	47	114	.6				
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35	35	25	28	148	.5				
36	36	53	43	184	.9				
37	37	48	47	127	.6				
38	38	10	15	63	.3				
39	39	72	42	114	.6				
40	40	126	65	152	.7				
41	41	43	38	114	.7				
42	42	190	116	183	2.3				
43	43	96	100	146	2.2				
44	44	85	83	196	.7				
45	45	83	101	200	.8				
46	46	69	51	110	.7				
47	47	133	59	115	.7				
48	48	152	97	219	.8				
49	49	89	41	129	.6				
50	50	58	85	304	.8				
51	51	77	1463	2102	1.9				
52	52	55	256	273	.7				
53	53	31	41	146	.8				
54	54	125	233	234	2.3				
55	55	85	93	150	.7				
56	56	50	63	178	.6				
57	57	106	61	126	.5				
58	58	78	43	136	.6				
59	59	50	32	118	.4				
60	60	49	29	90	.6				
61	61	81	78	173	.7				
62	62	111	62	112	.7				
63	63	126	87	141	.7				
64	64	95	101	101	.5				

# Kamloops Research & Assay Laboratory Ltd.

## GEOCHEMICAL LAB REPORT

FILE NO.     L-560    

PAGE     2    

RAL No.	IDENTIFICATION	Cu	Pb	Zn	Ag				
65	H 65	41	44	74	.4				
66	66	30	19	27	.6				
67	67	113	94	159	.9				
68	68	81	102	190	.6				
69	69	31	36	117	.5				
70	70	64	51	96	.5				
71	71	25	25	42	.3				
72	72	41	41	92	.4				
73	73	47	38	95	.3				
74	74	41	46	86	.5				
75	75	22	27	45	.4				
76	76	35	27	48	.5				
77	77	68	32	81	.5				
78	78	44	41	81	.4				
79	79	63	39	86	.4				
80	80	38	28	69	.5				
81	81	14	25	48	.3				
82	82	51	41	141	.4				
83	83	80	46	81	1.8				
84	84	110	72	123	.7				
85	85	76	61	135	.6				
86	86	78	40	106	.6				
87	87	74	44	91	.5				
88	88	64	61	120	.6				
89	89	24	37	50	.4				
90	90	72	37	93	.8				
91	91	14	23	26	1.4				
92	92	105	53	86	.9				
93	93	40	39	67	.7				
94	94	53	50	74	.7				
95	95	63	53	94	.7				
96	96	58	46	75	.4				
97	97	51	43	80	.4				
98	98	75	46	112	.4				



# Kamloops Research & Assay Laboratory Ltd.

## GEOCHEMICAL LAB REPORT

FILE NO.     360    

PAGE     4    

RAL No.	IDENTIFICATION	Cu	Pb	Zn	Ag				
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101	101	48	54	253	1.9				
102	102	80	86	124	1.0				
103	103	76	85	157	.7				
104	104	66	57	113	.6				
105	105	124	70	110	.7				
106	106	35	44	113	.6				
107	107	26	68	104	.7				
108	108	36	31	98	.5				
109	109	26	20	75	.4				
110	110	17	22	65	.3				
111	111	102	36	105	.7				
112	112	63	34	75	.6				
113	113	44	30	84	.6				
114	114	55	32	89	.4				
115	115	43	41	66	.6				
116	116	22	21	44	.4				
117	117	30	18	45	.6				
118	118	20	15	63	.4				
119	119	50	13	49	.5				
120	120	16	11	42	.3				
121	121	16	15	48	.4				
122	122	18	20	80	.5				
123	123	14	15	52	.4				
124	124	46	23	64	.6				
125	125	29	30	110	.5				
126	126	55.9	62	78	.9				
127	127	143	47	86	.6				
128	128	62	24	83	.6				
129	129	23	30	100	.7				
130	130	41	22	67	.6				
131	131	40	25	62	.6				
132	132	87	34	60	.6				

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## GEOCHEMICAL LAB REPORT

FILE NO. 1-2-11

PAGE 2

SERIAL No.	IDENTIFICATION	Cu	Pb	Zn	Ag					
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135	135	35	48	127	.5					
136	136	66	156	192	.8					
137	137	68	34	71	.8					
138	138	56	119	275	.9					
139	139	88	108	281	1.2					
140	140	34	200	181	.8					
141	141	48	66	113	1.2					
142	142	44	55	135	.8					
143	143	127	48	101	.8					
144	144	50	36	89	.8					
145	145	55	36	79	.7					
146	146	45	28	59	1.0					
147	147	25	23	58	.8					
148	148	35	13	55	.8					
149	149	19	21	67	.8					
150	150	45	24	57	.7					
151	151	43	57	101	1.3					
152	152	21	34	75	.9					
153	153	6	21	47	.7					
154	154	23	36	60	.7					
155	155	29	26	62	.8					
156	156	68	56	113	.6					
157	157	41	35	88	.7					
158	158	51	81	84	.7					
159	159	70	46	88	.8					
160	160	62	36	69	.6					
161	161	80	48	96	.5					
162	162	156	51	99	.8					
163	163	95	36	87	.6					
164	164	38	19	70	.3					
165	165	24	15	48	.4					
166	166	66	26	43	.8					

# Kamloops Research & Assay Laboratory Ltd.

## GEOCHEMICAL LAB REPORT

FILE NO. G-360

PAGE 1

RAL No.	IDENTIFICATION	Cu	Pb	Zn	Ag				
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170	170	22	13	95	.5				
171	171	74	23	74	.6				
172	172	54	27	98	.5				
173	173	103	24	72	.8				
174	174	29	25	42	.3				
175	175	26	17	58	.5				
176	176	12	11	40	.2				
177	177	113	8	53	.4				
178	178	57	27	74	.4				
179	179	13	18	754	1.1				
180	180	153	432	448	1.0				
181	181	97	851	75	.5				
182	182	30	41	50	.4				
183	183	62	21	57	.5				
184	184	30	27	67	.4				
185	185	30	17	51	.3				
186	186	28	18	50	.2				
187	187	17	13	6	1.2				
188	188	22	15	56	.3				
189	189	122	33	108	.4				
190	190	67	29	69	.5				
191	191	12	19	48	.5				
192	192	27	21	17	1.7				
193	193	68	15	56	.4				
194	194	42	20	76	.6				
195	195	50	13	53	.6				
196	196	66	19	79	.9				
197	197	40	21	56	.8				
198	198	167	58	83	.9				
199	199	51	56	302	1.3				
200	200	57	52	147	.7				



# Kamloops Research & Assay Laboratory Ltd.

## GEOCHEMICAL LAB REPORT

FILE NO. G-360

PAGE 2

RAL No.	IDENTIFICATION	Cu	Pb	Zn	Ag				
235	H 235	9	12	53	.8				
236	236	15	14	72	.6				
237	237	7	12	62	.6				
238	238	12	16	64	.6				
239	239	13	28	135	.7				
240	240	14	53	270	.7				
241	241	43	64	249	.9				
242	242	35	57	451	2.2				
243	243	19	45	209	1.1				
244	244	36	51	280	1.0				
245	245	22	98	842	1.0				
246	246	27	42	471	1.0				
247	247	16	34	126	.4				
248	248	35	35	109	.4				
249	249	77	73	227	.8				
250	250	21	50	135	.6				
251	251	40	52	143	.4				
252	252	37	53	144	.4				
253	253	24	51	186	.5				
254	254	54	66	115	.5				
255	255	25	43	132	.4				
256	256	52	51	123	.5				
257	257	48	56	135	.5				
258	258	26	59	225	1.0				
259	259	31	41	91	.4				
260	260	12	14	65	.5				
261	261	12	23	35	1.8				
262	262	28	68	122	.5				
263	263	9	33	76	.7				
264	264	52	90	175	.5				
265	265	51	61	135	.4				
266	266	34	70	149	.4				
267	267	30	70	169	.4				
268	268	50	98	263	.4				

# Kamloops Research & Assay Laboratory Ltd.

## GEOCHEMICAL LAB REPORT

FILE NO. C-360

PAGE 9

CRAL No.	IDENTIFICATION	Cu	Pb	Zn	Ag					
269	H 269	26	71	709	1.0					
270	270	34	75	216	.3					
271	271	55	91	467	.6					
272	272	38	67	637	.9					
273	273	8	25	105	.7					
274	274	17	21	66	.9					
275	275	9	20	73	.9					
276	276	10	16	55	.8					
277	277	16	17	67	.8					
278	278	7	17	60	.7					
279	279	8	15	98	.6					
280	280	9	15	41	.8					
281	281	11	15	50	.7					
282	282	7	16	46	.6					
283	283	11	15	46	.7					
284	284	15	18	49	.6					
285	285	10	17	53	.6					
286	286	21	17	77	.5					
287	287	10	14	81	.6					
288	288	29	48	225	1.0					
289	289	9	20	172	.9					
290	290	81	97	1303	.8					
291	291	27	70	310	.5					
292	292	36	70	485	1.3					
293	293	40	89	467	1.3					
294	294	60	91	463	.9					
295	295	71	101	445	1.1					
296	296	6	10	45	.6					
297	297	50	17	85	1.0					
298	298	25	37	206	.5					
299	299	10	41	110	.5					
300	300	12	17	56	.9					
301	301	9	15	67	.6					
302	302	10	14	49	.7					

# Kamloops Research & Assay Laboratory Ltd.

## GEOCHEMICAL LAB REPORT

FILE NO. L-260

PAGE 10

KRAL No.	IDENTIFICATION	Cu	Pb	Zn	Ag					
303	H 303	9	14	64	.7					
304	304	11	13	41	.7					
305	305	28	15	38	.4					
306	306	21	15	54	.7					
307	307	16	18	56	.7					
308	308	13	15	46	.7					
309	309	14	16	34	.8					
310	310	12	15	37	.6					
311	311	10	14	55	.5					
312	312	8	12	64	.4					
313	313	15	18	87	1.0					
314	314	14	15	65	.8					
315	315	14	15	132	.7					
316	316	11	18	176	.7					
317	317	77	289	597	1.1					
318	318	32	40	285	.5					
319	319	92	222	681	1.1					
320	320	93	228	602	.7					
321	321	50	87	349	.8					
322	322	48	61	362	.7					
323	323	43	75	166	.7					
324	324	50	54	165	.6					
325	325	47	50	167	.5					
326	326	35	50	115	.3					
327	327	37	67	135	.5					
328	328	25	28	72	.3					
329	329	22	47	162	.7					
330	330	55	52	117	.7					
331	331	42	56	176	.9					
332	332	11	16	56	1.1					
333	333	12	17	89	.9					
334	334	11	15	62	1.0					
335	335	10	13	68	.8					
336	336	15	13	51	.9					





# Kamloops Research & Assay Laboratory Ltd.

## GEOCHEMICAL LAB REPORT

FILE NO C-360

PAGE 12

KRAL No.	IDENTIFICATION	Cu	Pb	Zn	Ag					
371	H 371	70	150	433	.7					
372	372	10	13	48	.7					
373	373	9	15	57	.7					
374	374	8	18	45	.7					
375	375	25	19	48	.4					
376	376	10	15	56	.7					
377	377	12	14	54	.3					
378	378	10	21	62	.6					
379	379	14	20	56	.6					
380	380	8	20	52	.5					
381	381	18	13	61	.7					
382	382	12	14	47	.9					
383	383	11	16	49	1.0					
384	384	13	15	71	1.0					
385	385	9	16	60	1.0					
386	386	8	15	60	.7					
387	387	11	16	51	.8					
388	388	14	16	45	.8					
389	389	5	13	24	.6					
390	390	8	16	62	.6					
391	391	9	15	46	.6					
392	392	13	16	49	.5					
393	393	15	17	104	.8					
394	394	7	13	45	.7					
395	395	11	13	55	.7					
396	396	42	13	41	.3					
397	397	45	14	47	.3					
398	398	31	11	32	.2					
399	399	39	17	85	.8					
400	400	36	14	61	.3					
401	401	45	16	112	.4					
402	402	29	15	50	.3					
403	403	45	18	70	.4					
404	404	39	18	65	.5					



A GEOPHYSICAL REPORT

on the

HALL CLAIM BLOCK - 2009 (8)

Western Portion of North Barriere Lake  
Kamloops Mining District

N.T.S.

82-M-5 W

Latitude:

51<sup>0</sup> 19' N

Longitude:

119<sup>0</sup> 52' W

by:

PETER E. WALCOTT, P. Eng.

PETER E. WALCOTT & ASSOCIATES LIMITED

July, 1980

Field Work Done During the Period: May 6 - July 9, 1980.

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DISCUSSION OF RESULTS . . . . .	3
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## APPENDICES

Appendix i	Personnel Employed on Survey
Appendix ii	Cost of Survey
Appendix iii	Certification

## MAPS

W-279-1	Profiles of In-Phase and Quadrature Response f=1777 Hz	1:5,000
W-279-2	Profiles of In-Phase and Quadrature Response f=444 Hz	1:5,000
W-279-3	Profiles of In-Phase and Quadrature Response f=1777 Hz	1:5,000
W-279-4	Profiles of In-Phase and Quadrature Response f-444 Hz	1:5,000
W-279-5	Contours of Relative Vertical Intensity	1:5,000

A GEOPHYSICAL REPORT

on the

HALL CLAIM BLOCK - 2009 (8)

INTRODUCTION

Between May 16th and 30th, 1980, Peter E. Walcott & Associates Limited carried out a horizontal loop electromagnetic (E.M.) and ground magnetometer survey over the HALL Claim Block for Cyprus Anvil Mining Corporation.

Readings of the in-phase and quadrature response of the secondary field were made every 25 metres along the lines using a Max-Min E.M. system. In addition the relative vertical intensity of the earth's field was measured using a fluxgate magnetometer.

The progress of the survey was considerably slowed by the rough terrain and by the fact that the geophysical crew's progress caught up to that of the linecutter's.

The data are presented on Maps W-279-1 to 5 that accompany this report.

## SURVEY SPECIFICATIONS

The basic principle of any electromagnetic survey is that when conductors are subjected to primary alternating fields secondary magnetic fields are induced in them. Measurements of these secondary fields give indications as to the size, shape and conductivity of conductors. In the absence of conductors no secondary fields are obtained.

The electromagnetic survey was carried out using a Max-Min II electromagnetic unit with the coils in the horizontal plane i.e. maximum coupled.

Readings of the in-phase and quadrature components of the secondary field were made every 25 metres along the picket lines at frequencies of 444 and 1777 Hz respectively. A coil separation of 150 metres was used on the east-west grid, while that of 100 metres was used on the north-south grid where the extremely rough terrain precluded using the deeper separation i.e. had to use the 150 metre cable to obtain the 100 metre separation.

All stations were equally spaced on the horizontal plane by using the secant method of chaining so as to have low inphase noise.

Readings of the relative vertical intensity of the earth's magnetic field were also obtained using a McPhar M-700 fluxgate magnetometer.

Corrections for diurnal variations were made by tying-in to previously established base stations at intervals not exceeding two hours.

## DISCUSSION OF RESULTS

The E.M. survey showed most of the area covered to exhibit an essentially low background response over which several conductors are clearly discernible.

The majority of these occur on Maps W-279-1 and 2, appear to exhibit moderate conductivity, and all lie within the underlying Unit 4, the graphitic argillite.

These appear to be offset by northwesterly trending faulting.

They are not associated with any anomalous geochemical results and presumably have only graphite as their causative source.

The presence of a strong conductor with its axis to the west of the survey area can clearly be seen by the responses on Lines 16 to 18N on Maps W-279-3 and 4.

This conductor would seem to have good conductivity and appears to be associated with the multi element soil anomaly centred at 17N, 2E and open to the north and west respectively.

Further work would be necessary to properly investigate this anomaly.

The magnetic survey exhibited a fairly uniform background throughout with the exception of an area to the south where a series of magnetic highs appear to be associated with the intrusive.

No magnetic response was obtained over the E.M. conductors.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Between May 16th and 30th Peter E. Walcott & Associates Limited undertook a ground magnetic and horizontal loop E.M. Survey over the HALL Claim Block held by Cyprus Anvil Mining Corporation.

Several parallel conductors of moderate conductivity were found underlying the area covered by graphitic argillites.

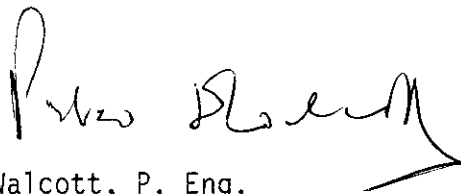
Another more interesting anomaly was indicated to the immediate west of the Survey area and this appears to be associated with the best geochemical response on the property.

No magnetic response was obtained or indicated over any of these conductors.

As a result the writer concludes that the anomalous response in the centre of the property is probably due to the presence of graphite in the underlying rocks, whereas the anomaly to the west has a good chance to be associated with sulphide mineralization in view of the geochemical results and the known presence of sulphide showings further to the west.

He therefore recommends that the property be held in abeyance until the surrounding land package can be investigated.

Respectfully submitted,



Peter E. Walcott, P. Eng.  
Geophysicist

PETER E. WALCOTT & ASSOCIATES LIMITED



PERSONNEL EMPLOYED ON SURVEY

<u>Name</u>	<u>Occupation</u>	<u>Address</u>	<u>Date</u>
P. Walcott	Geophysicist	Peter E. Walcott & Associates Limited. 605 Rutland Court, Coquitlam, B. C.	July 20-22/80
G. MacMillan	Geophysical Operator	same as above	May 16-30, June 2-5/80
G. Mandryk	Geophysical Operator	same as above	May 16-30/80
D. Borso	Helper	same as above	May 16-30/80

COST OF SURVEY

Peter E. Walcott & Associates Limited undertook the survey on a daily basis. Mobilization, draughting and reporting costs were extra so that the total cost of services provided was \$10,190.93.

**PETER E. WALCOTT & ASSOC. LTD.**

605 RUTLAND COURT, COQUITLAM, B.C. V3J 3T8 • TEL. 939-0383

**I N V O I C E**

**NO. 1480**

Date: June 2nd, 1980

Terms: NET 30 DAYS

To: CYPRUS ANVIL MINING CORPORATION  
355 Burrard St.,  
Vancouver, B.C.

Re: H.E.M. Survey, Barriere, B.C.

1.	Provision of H.E.M., Mag, 2 operators & helper period May 16th - 30th = 15 days at \$460.00 per day	\$6,900.00	
2.	Provision of wire pickets - 1200 at \$8.00/100	96.00	
3.	Provision of truck - 15 days at \$45.00 per day	\$675.00	
	1040 miles at 18¢ per mile	187.20	
	gasoline	<u>200.96</u>	1,063.16
4.	Room and Board - 15 days	1,180.08	
5.	Shipping charges H.E.M.	<u>226.69</u>	
		\$9,465.93	
		=====	

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PROJECT W-279

INVOICE NO. 1480

300206 9465.93

Interest charged at the rate of 2% per month on overdue accounts.

9465.93

(P)

*Barriere, 3000-06*  
*OK*  
*COPY TO HANG RE: ASSESSMENT INVOICES.*

**PETER E. WALCOTT & ASSOC. LTD.**

605 RUTLAND COURT, COQUITLAM, B.C. V3J 3T8 • TEL. 939-0383

I N V O I C E

NO. 1489

Date: July 24th, 1980

Terms: NET 30 DAYS

To: CYPRUS ANVIL MINING CORPORATION  
355 Burrard St.,  
Vancouver, B.C.

Re: E.M. & Mag survey, Hall claims

1. Food - expense account Mandryk	\$14.85	
2. Draughting	400.00	
3. Report writing	300.00	
4. Telephone i.e. linecutter's absence	<u>10.15</u>	
	\$725.00	
	<u>=====</u>	

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PROJECT W-279  
=====

INVOICE NO. 1489  
=====

Interest charged at the rate of 2% per month on overdue accounts.

CERTIFICATION

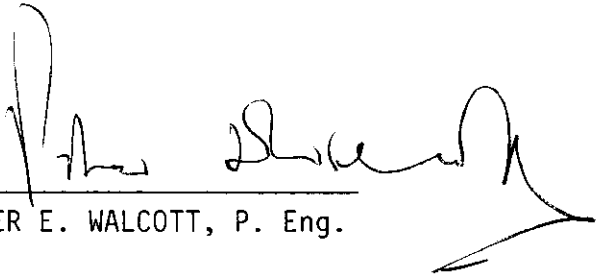
I, PETER E. WALCOTT, of the Municipality of Coquitlam, B. C., hereby certify that:

1) I am a Graduate of the University of Toronto in 1962 with a BASc in Engineering Physics, Geophysics Option.

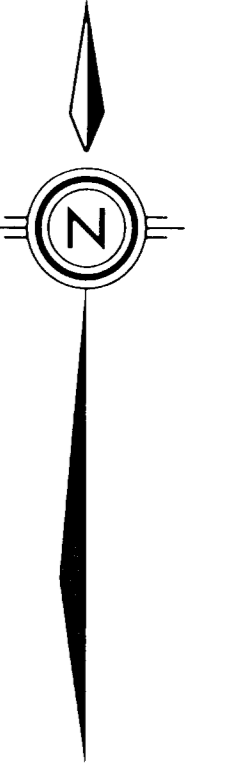
2) I have been practising my profession for the last eighteen years.

3) I am a member of the Association of Professional Engineers of British Columbia, Ontario and the Yukon Territory.

4) I hold no interest, direct or indirect, in the securities or properties of Cyprus Anvil Mining Corporation, nor do I expect to receive any.

  
\_\_\_\_\_  
PETER E. WALCOTT, P. Eng.

Vancouver, B. C.  
July, 1980.



MINERAL SERVICES BRANCH  
 8210  
 NO.

LEGEND

<table border="0"> <tr><td>1</td><td>QUARTZITE</td></tr> <tr><td>2</td><td>CHLORITE SCHIST</td></tr> <tr><td>3</td><td>PYRITIC QUARTZITE</td></tr> <tr><td>4</td><td>GRAPHITIC ARGILLITE</td></tr> <tr><td>5</td><td>SERICITE QUARTZITE</td></tr> <tr><td>6</td><td>FELSIC INTRUSIVE</td></tr> </table>	1	QUARTZITE	2	CHLORITE SCHIST	3	PYRITIC QUARTZITE	4	GRAPHITIC ARGILLITE	5	SERICITE QUARTZITE	6	FELSIC INTRUSIVE	<table border="0"> <tr><td></td><td>S<sub>1</sub> FOLIATION</td></tr> <tr><td></td><td>L<sub>2</sub> LINEATION</td></tr> <tr><td></td><td>L<sub>3</sub> LINEATION</td></tr> <tr><td></td><td>F<sub>2</sub> ANTIFORMAL AXIAL TRACE</td></tr> <tr><td></td><td>F<sub>2</sub> SYNFORMAL AXIAL TRACE</td></tr> <tr><td></td><td>FAULT</td></tr> </table>		S <sub>1</sub> FOLIATION		L <sub>2</sub> LINEATION		L <sub>3</sub> LINEATION		F <sub>2</sub> ANTIFORMAL AXIAL TRACE		F <sub>2</sub> SYNFORMAL AXIAL TRACE		FAULT
1	QUARTZITE																								
2	CHLORITE SCHIST																								
3	PYRITIC QUARTZITE																								
4	GRAPHITIC ARGILLITE																								
5	SERICITE QUARTZITE																								
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	L <sub>3</sub> LINEATION																								
	F <sub>2</sub> ANTIFORMAL AXIAL TRACE																								
	F <sub>2</sub> SYNFORMAL AXIAL TRACE																								
	FAULT																								

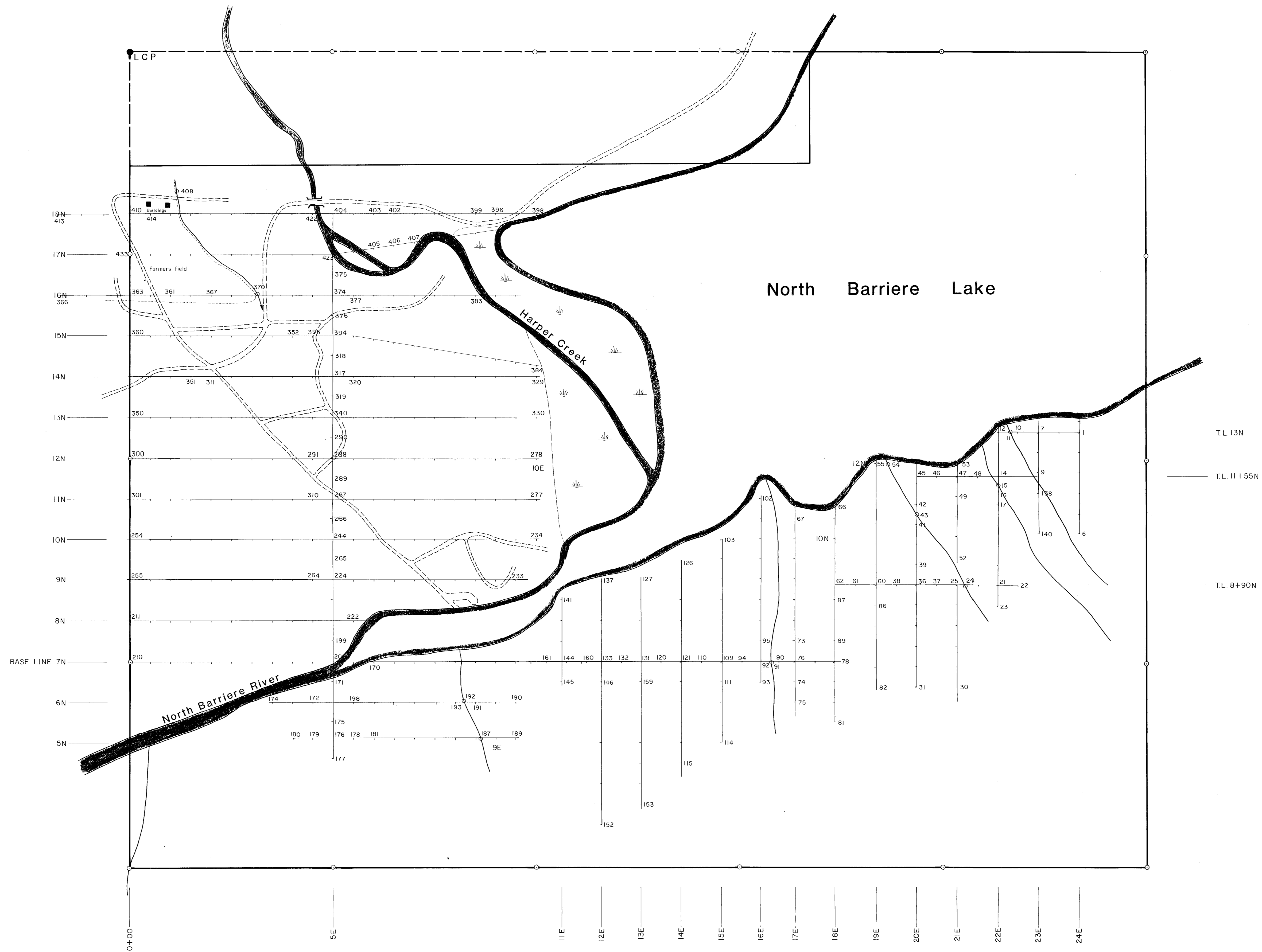
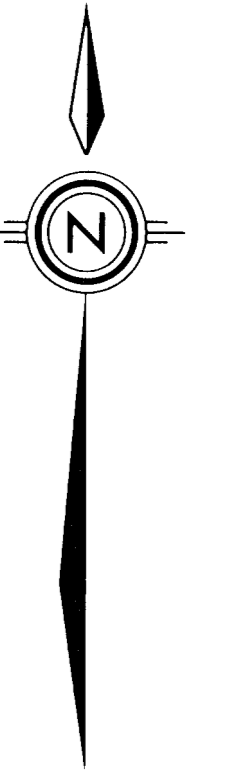
Note: Claims staked by pace and compass

CYPRUS ANVIL MINING CORPORATION  
**HALL CLAIM**  
 KAMLOOPS MINING DIVISION-B.C.  
**GEOLOGY MAP**

1:5000

100 0 100 200 300 400 metres

NTS: 82M/5 SURVEY BY: B.V.H. DRAWN BY: C.L.C.	DATE: JULY 3, 1979 MAP No. 1
---	---------------------------------



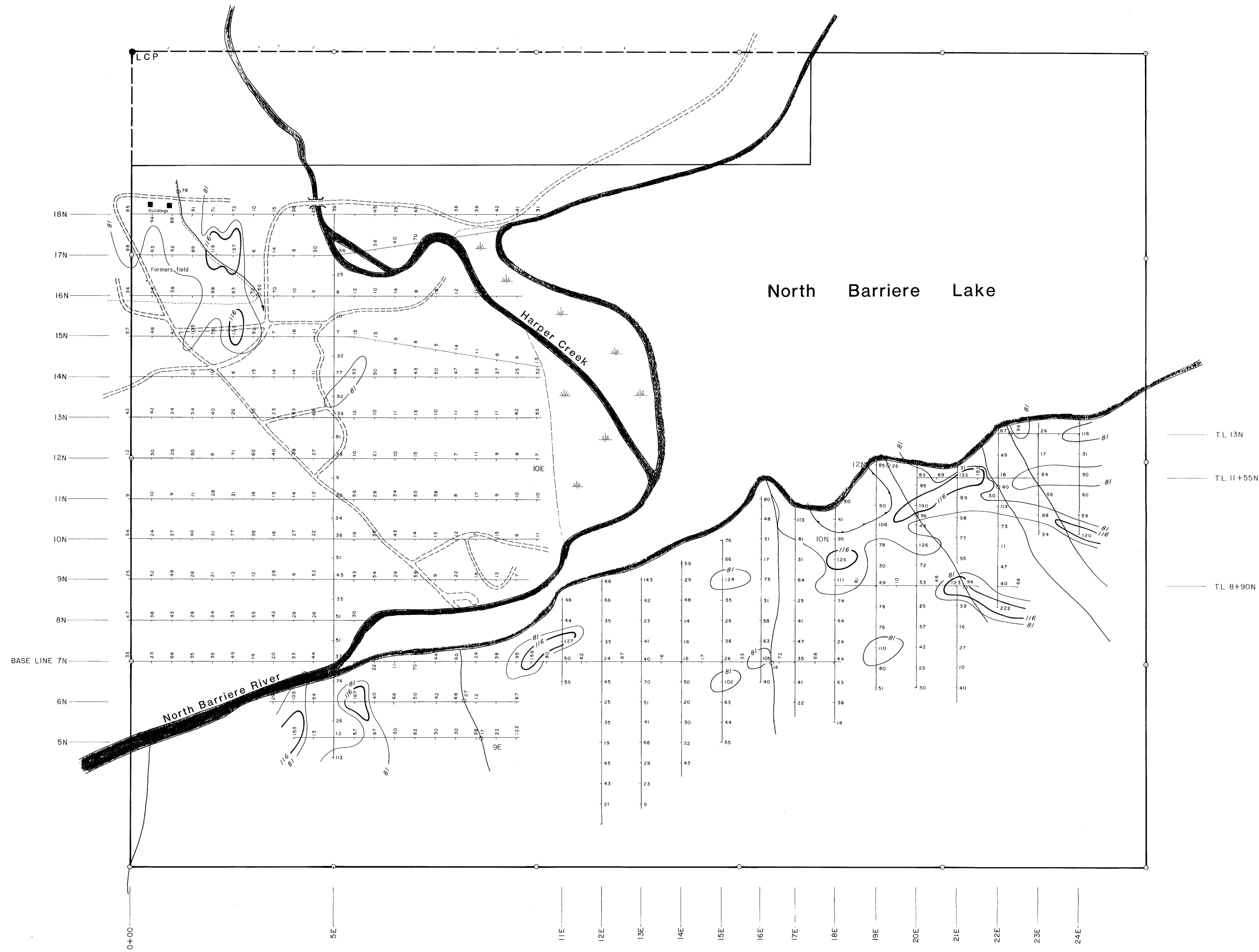
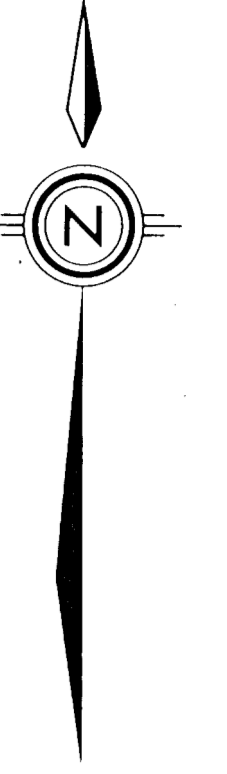
8210  
NO.

LEGEND  
□ SOIL SAMPLE LOCATION  
○ STREAM SAMPLE LOCATION

CYPRUS ANVIL MINING CORPORATION  
**HALL CLAIM**  
KAMLOOPS MINING DIVISION-B.C.  
**SAMPLE LOCATION MAP**

1:5000  
0 100 200 300 400 metres

SURVEY BY: B.V.H. DATE: JULY 3, 1979  
DRAWN BY: C.L.C. MAP No. 2



TL 13N  
TL 11+55N  
TL 8+90N

MINING DIVISION BRANCH  
**8210**  
NO.

LEGEND

- 81 PPM COPPER CONTOUR
- 116 PPM COPPER CONTOUR

CYPRUS ANVIL MINING CORPORATION

HALL CLAIM

KAMLOOPS MINING DIVISION-B.C.

COPPER RESULTS IN PPM

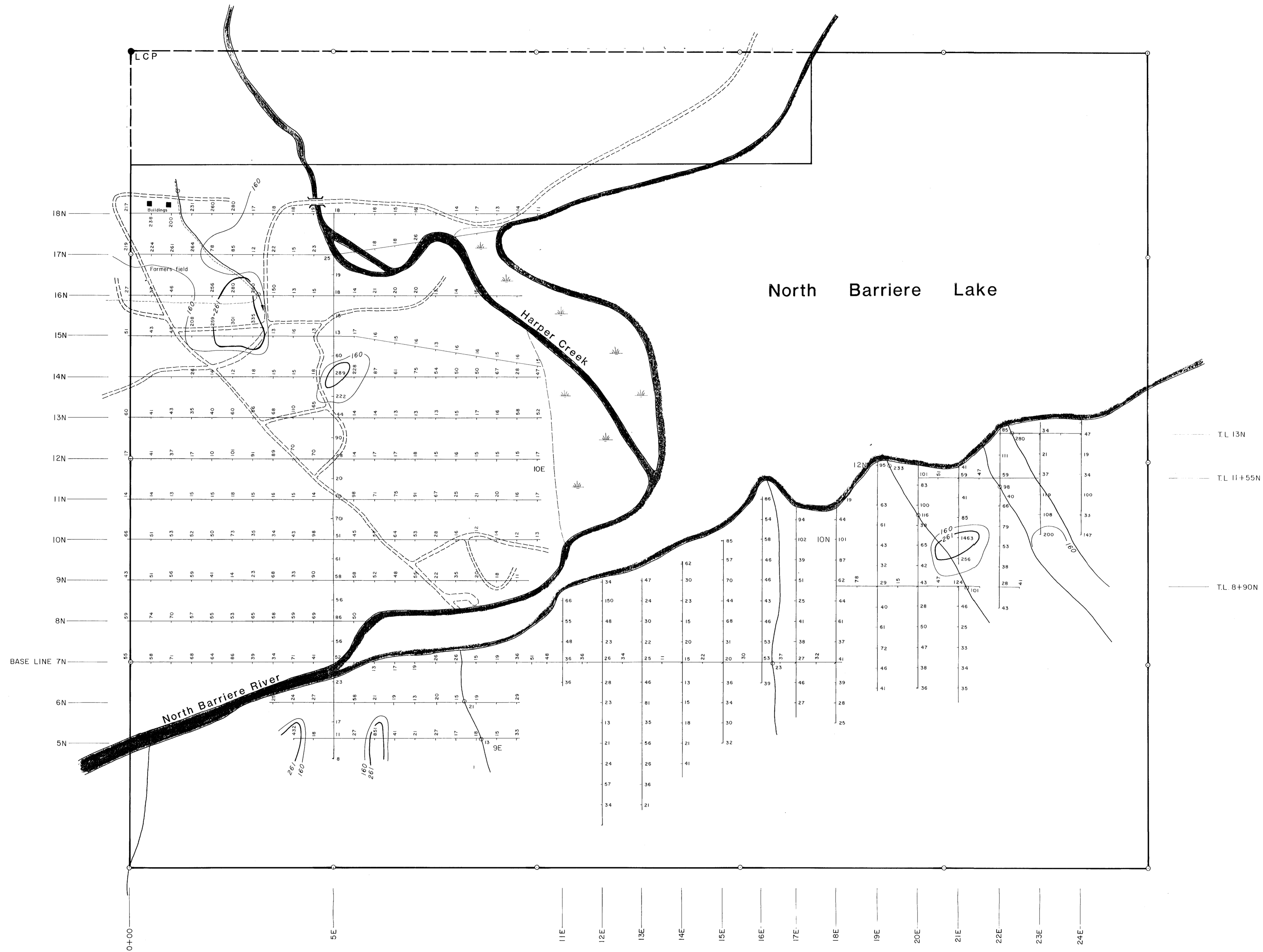
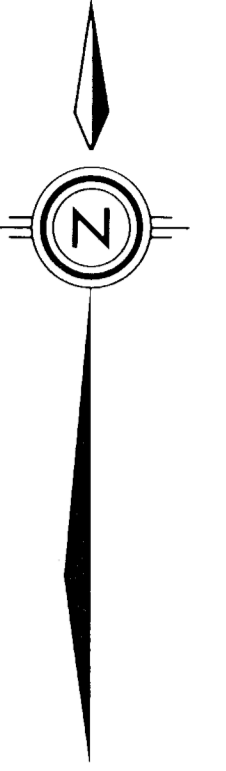
1:5000

0 100 200 300 400 metres

NTS 82M/S  
SURVEY BY: B.V.H.  
DRAWN BY: C.L.C.

DATE: JULY 2, 1980  
MAP No. 3





LEGEND

- 160 PPM LEAD CONTOUR
- 261 PPM LEAD CONTOUR

CYPRUS ANVIL MINING CORPORATION

HALL CLAIM

KAMLOOPS MINING DIVISION-B.C.

LEAD RESULTS IN PPM

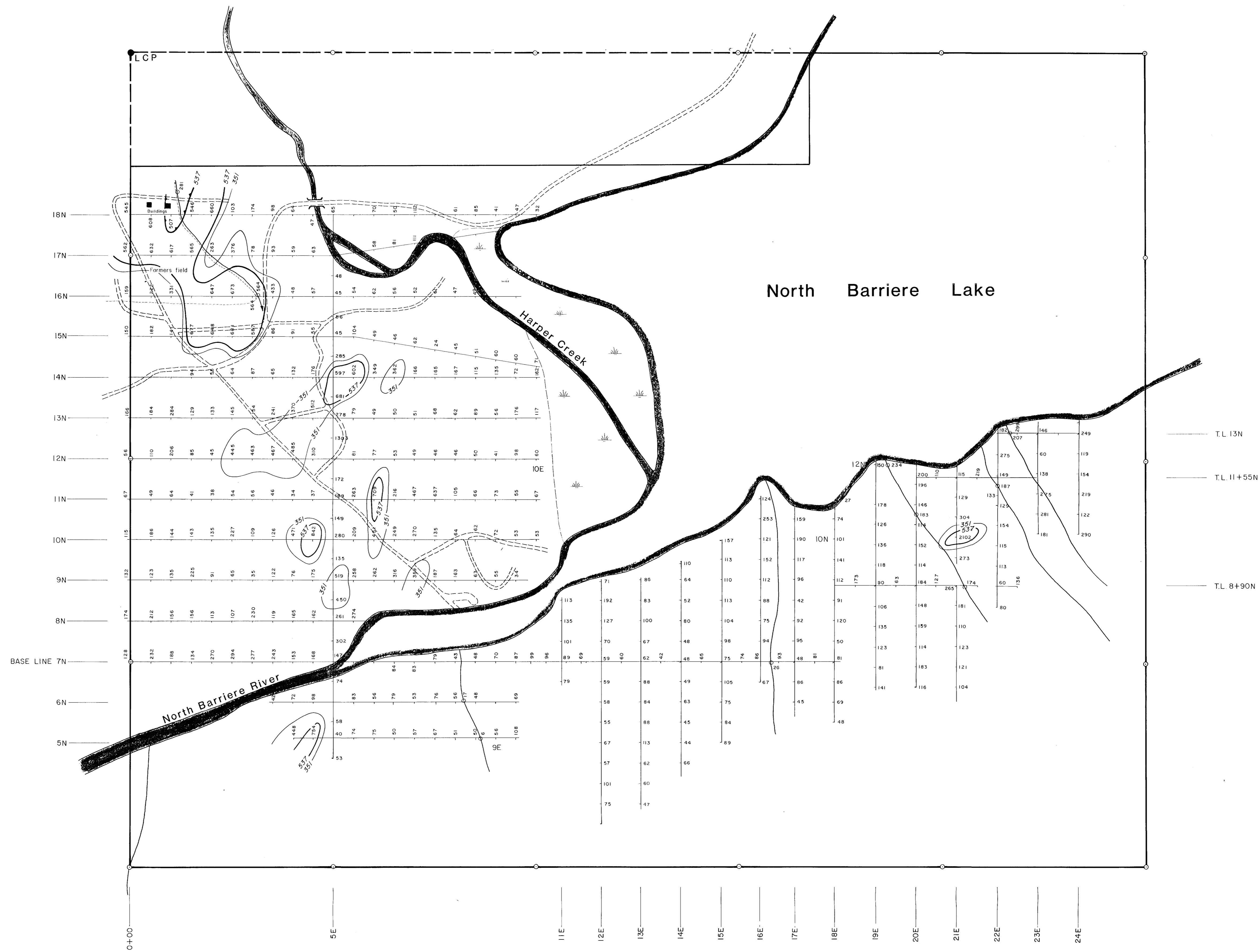
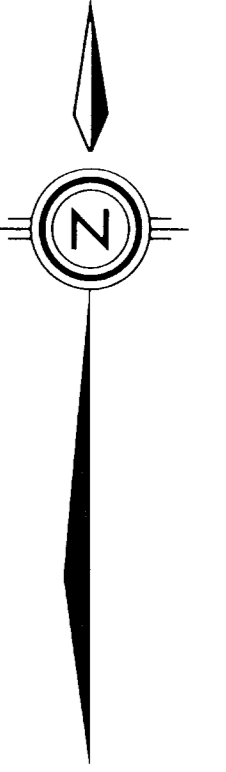
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*BY HAND*

NTS: 82M/5  
SURVEY BY: B.V.H.  
DRAWN BY: C.L.C.

DATE: JULY 2, 1980  
MAP No. 4



TL 13N  
TL 11+55N  
TL 8+90N

LEGEND

- 351 PPM ZINC CONTOUR
- 537 PPM ZINC CONTOUR

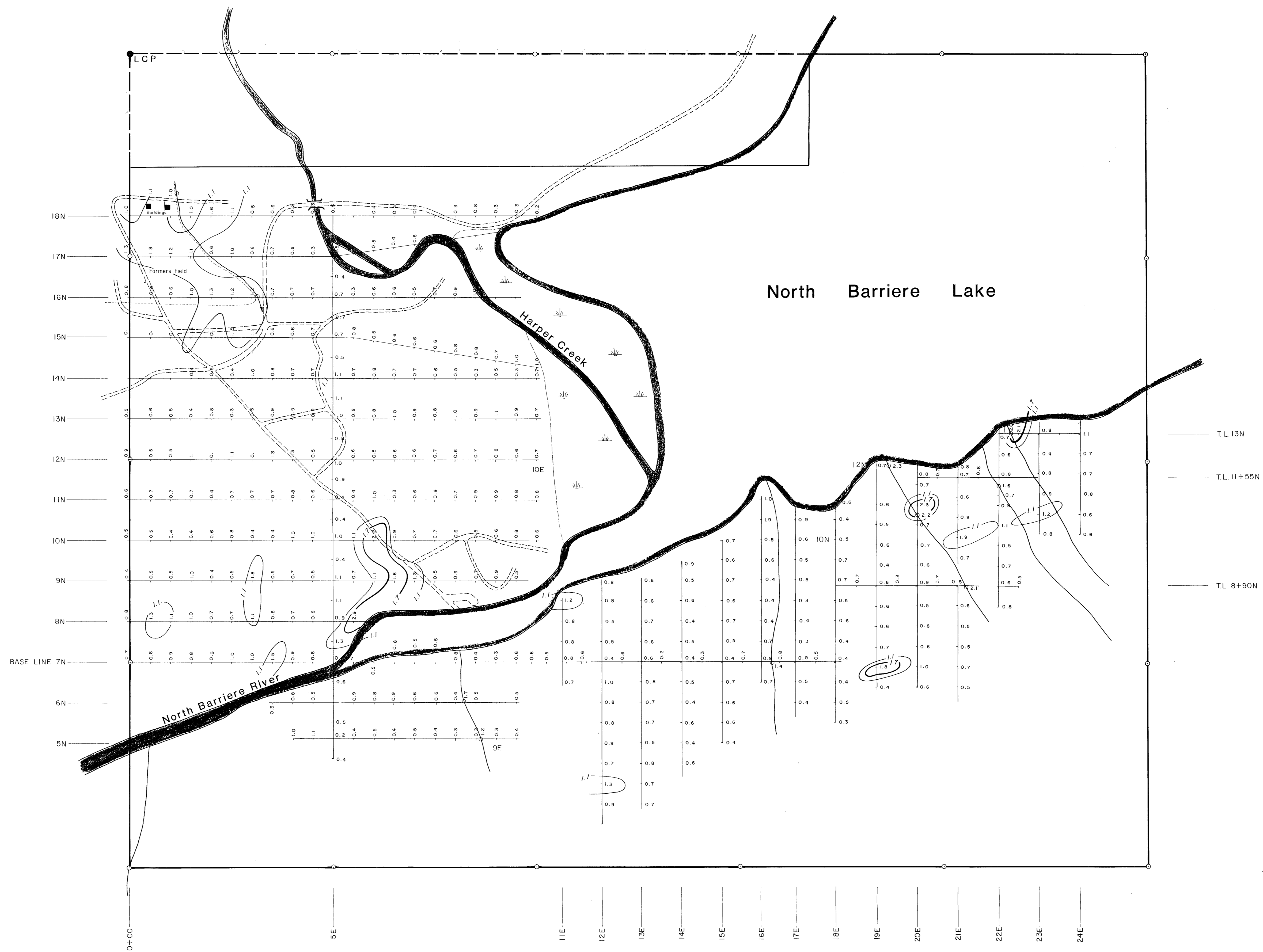
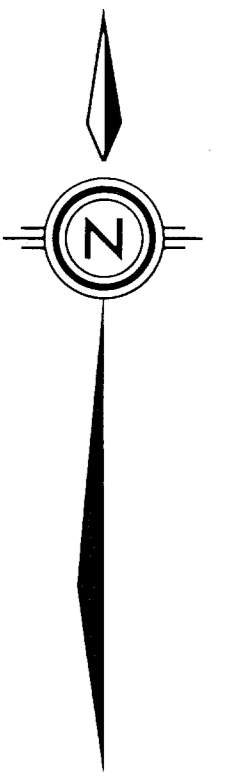
CYPRUS ANVIL MINING CORPORATION  
**HALL CLAIM**  
KAMLOOPS MINING DIVISION-B.C.  
**ZINC RESULTS IN PPM**

1:5000



NTS. B2M/5  
SURVEY BY: B.V.H.  
DRAWN BY: C.L.C.

DATE: JULY 2, 1980  
MAP No. 5



8210  
NO.

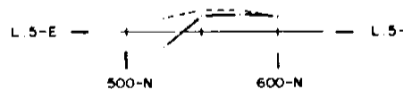
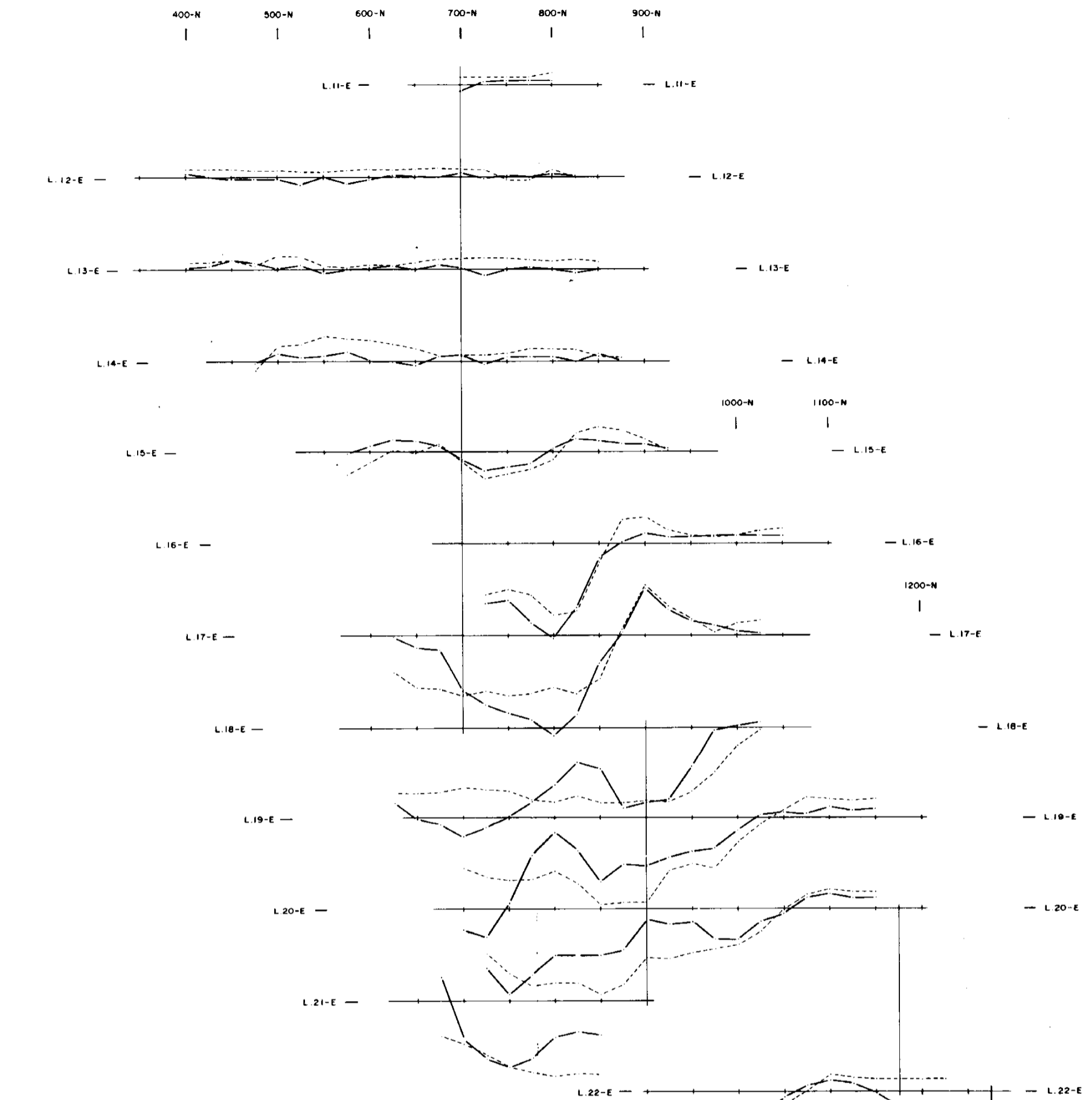
LEGEND

- 1.1 PPM SILVER CONTOUR
- 1.7 PPM SILVER CONTOUR

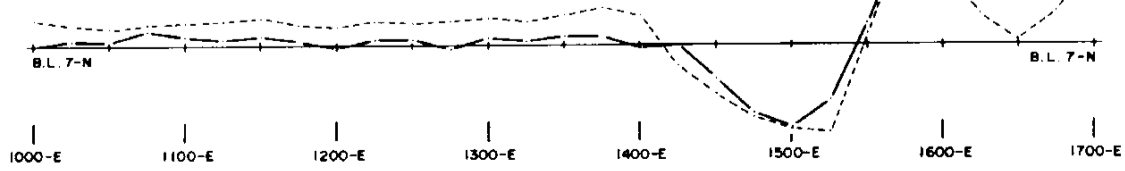
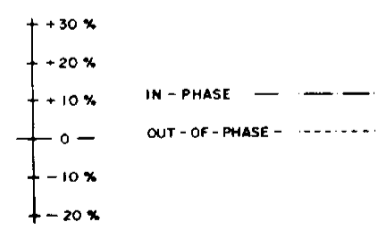
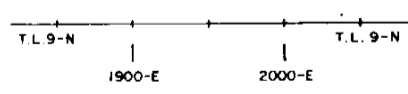
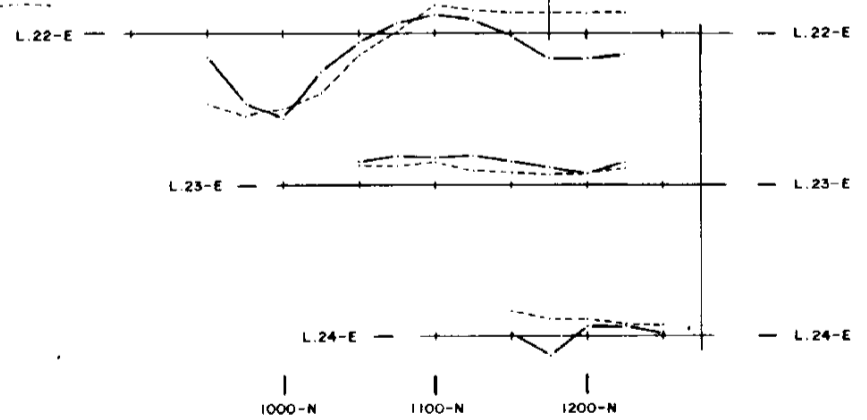
CYPRUS ANVIL MINING CORPORATION  
**HALL CLAIM**  
KAMLOOPS MINING DIVISION-B.C.  
**SILVER RESULTS IN PPM**

*Sydney*

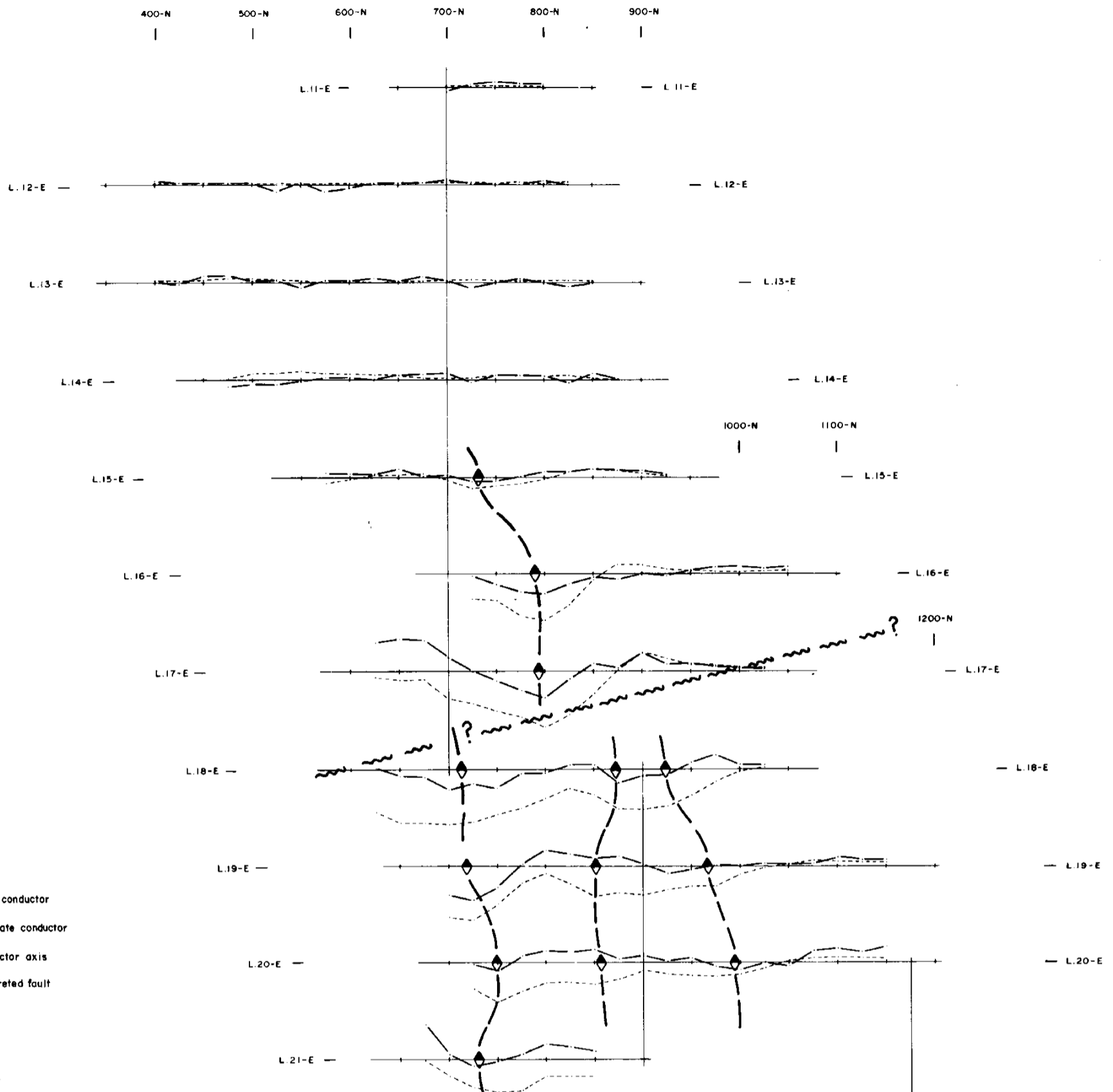
1:5000  
100 0 100 200 300 400 metres  
NTS 82M/5  
SURVEY BY: B.V.H.  
DRAWN BY: C.L.C.  
DATE: JULY 2, 1980  
MAP No. 6



MINERAL RESOURCES BRANCH  
 ANNUAL REPORT  
**8210**  
 NO. \_\_\_\_\_

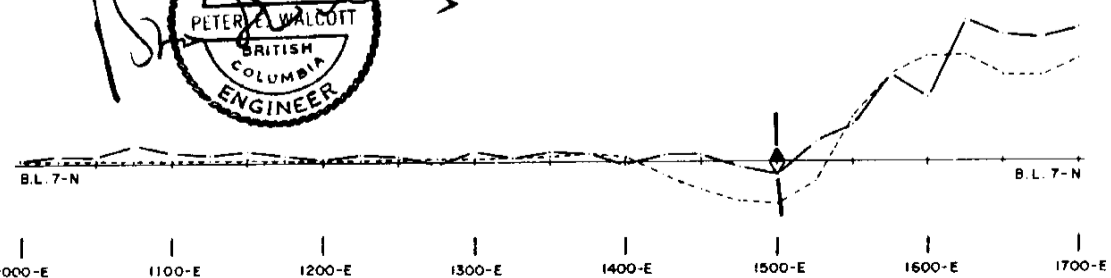
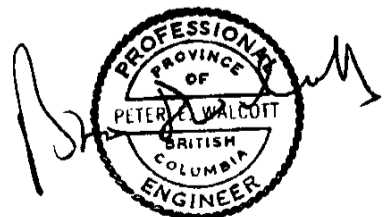
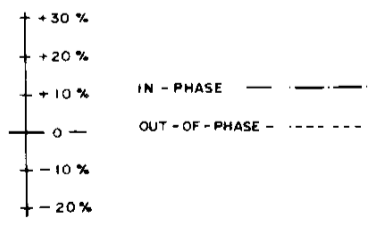
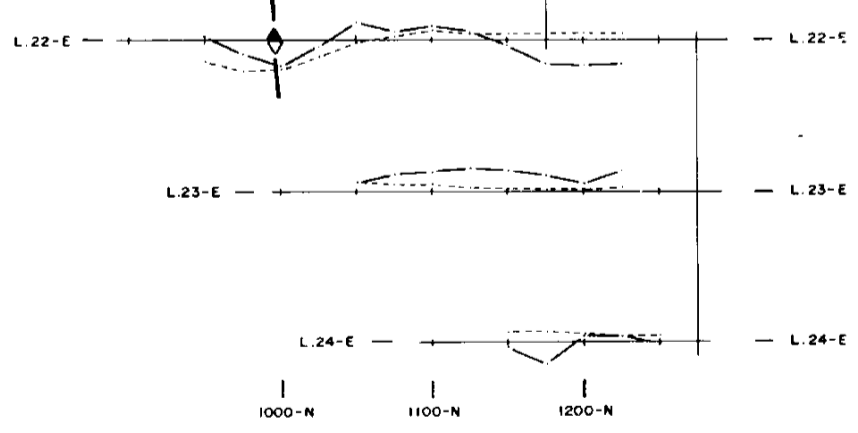
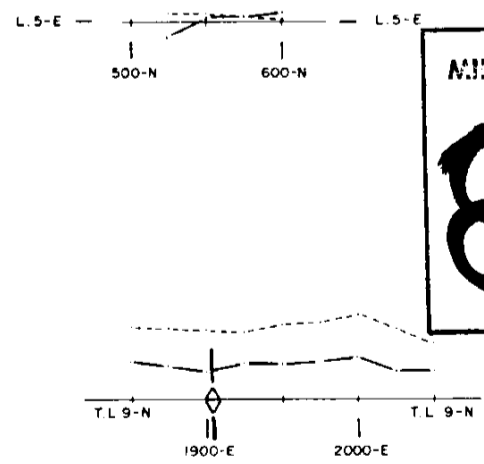


**CYPRUS ANVIL MINING CORP.**  
 HALL CLAIM GROUP; KAMLOOPS M.D., B.C.  
 MAXMIN II E.M. SYSTEM  
**ELECTROMAGNETIC SURVEY**  
 IN-PHASE & OUT-OF-PHASE PROFILES  
 COIL SEPARATION - 100 METRES; FREQUENCY - 1777 Hz  
 SCALE 1:5000  
 MAP No W-279-1  
 TO ACCOMPANY A REPORT BY  
 PETER E. WALCOTT, P. Eng.  
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 MAY - 1960



- LEGEND**
- Poor conductor
  - Moderate conductor
  - Conductor axis
  - Interpreted fault

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
**8210**  
 NO. \_\_\_\_\_



**CYPRUS ANVIL MINING CORP.**  
 HALL CLAIM GROUP; KAMLOOPS M.D., B.C.

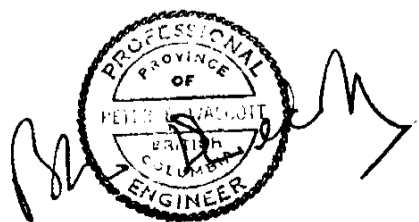
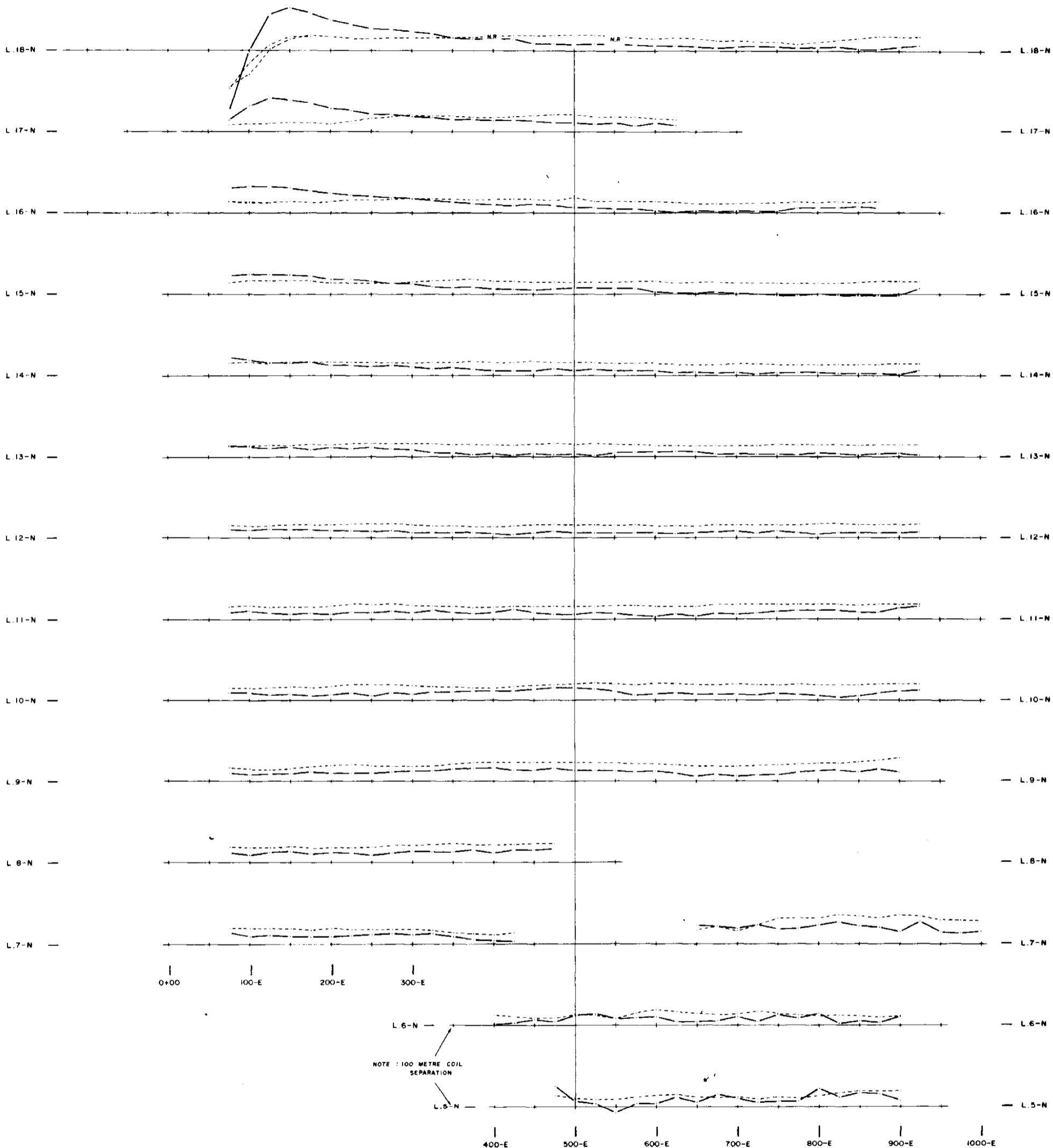
MAXMIN II E.M. SYSTEM  
**ELECTROMAGNETIC SURVEY**  
 IN-PHASE & OUT-OF-PHASE PROFILES  
 COIL SEPARATION - 100 METRES; FREQUENCY - 444 HZ

SCALE 1:5000

MAP No. W-279-2  
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 MAY - 1980

100-W 0+00 100-E 200-E 300-E 400-E 500-E 600-E 700-E 800-E 900-E 1000-E



+30%  
+20%  
+10%  
0%  
-10%  
-20%

IN-PHASE ———  
OUT-OF-PHASE - - -

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT

**8210**  
NO.

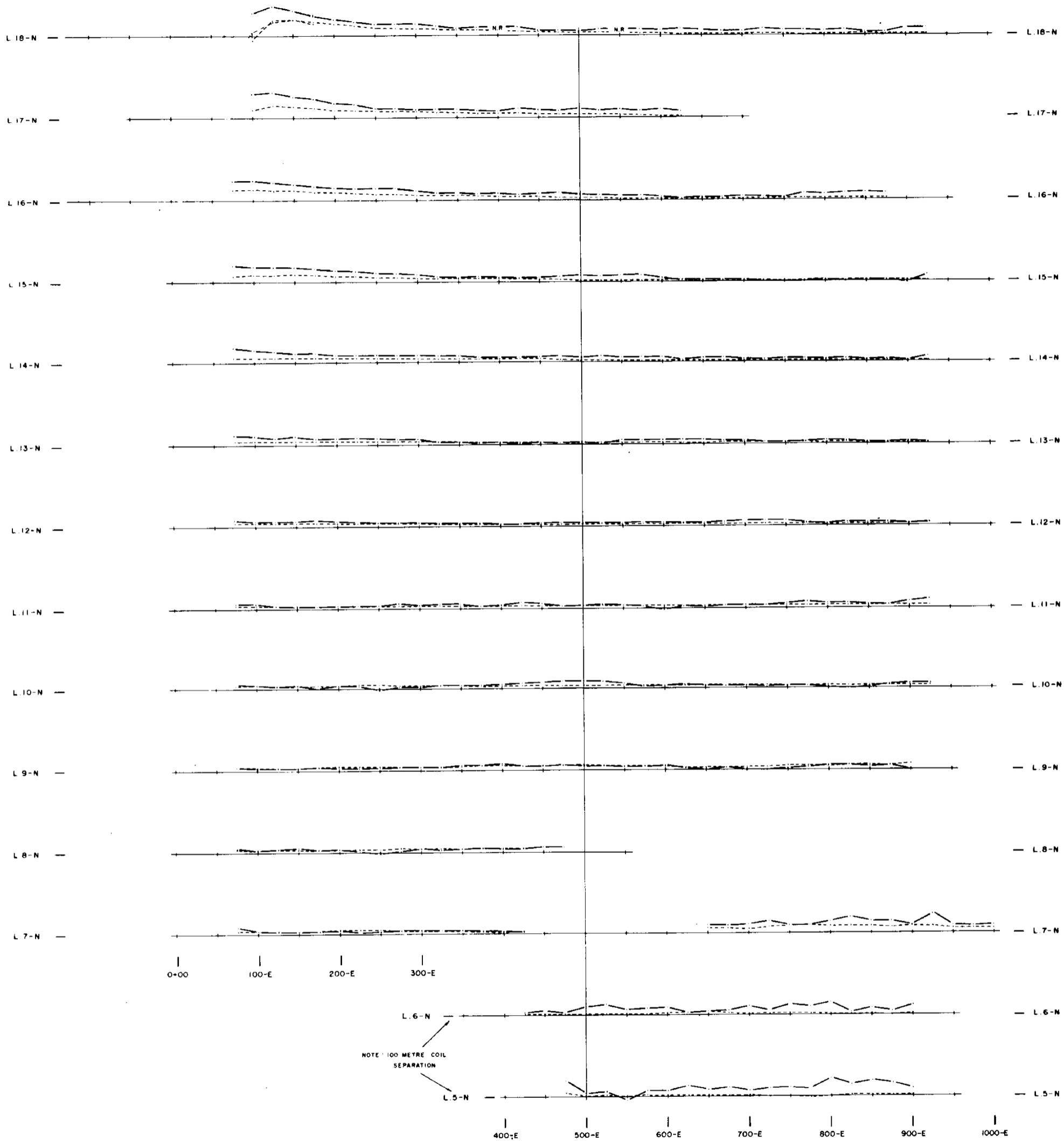
**CYPRUS ANVIL MINING CORP**  
HALL CLAIM GROUP; KAMLOOPS M.D., B.C.

MAXMIN II E.M. SYSTEM  
**ELECTROMAGNETIC SURVEY**  
IN-PHASE & OUT-OF-PHASE PROFILES  
COIL SEPARATION - 150 METRES; FREQUENCY - 1777 Hz  
SCALE 1:5000

MAP No. W-279-3  
TO ACCOMPANY A REPORT BY  
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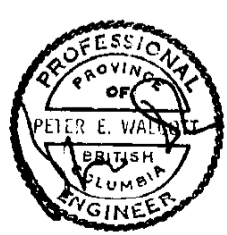
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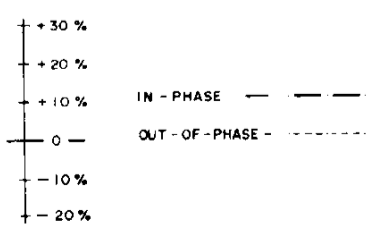
NOTE: 100 METRE COIL SEPARATION

L. 6-N

L. 5-N



*Handwritten signature*



MINERAL RESOURCES BRANCH

ASSESSMENT REPORT

**8210**

NO.

CYPRUS ANVIL MINING CORP

HALL CLAIM GROUP, KAMLOOPS M.D., B.C.

MAXMIN II E.M. SYSTEM

ELECTROMAGNETIC SURVEY

IN-PHASE & OUT-OF-PHASE PROFILES

COIL SEPARATION - 150 METRES ; FREQUENCY - 444 Hz

SCALE 1:5000

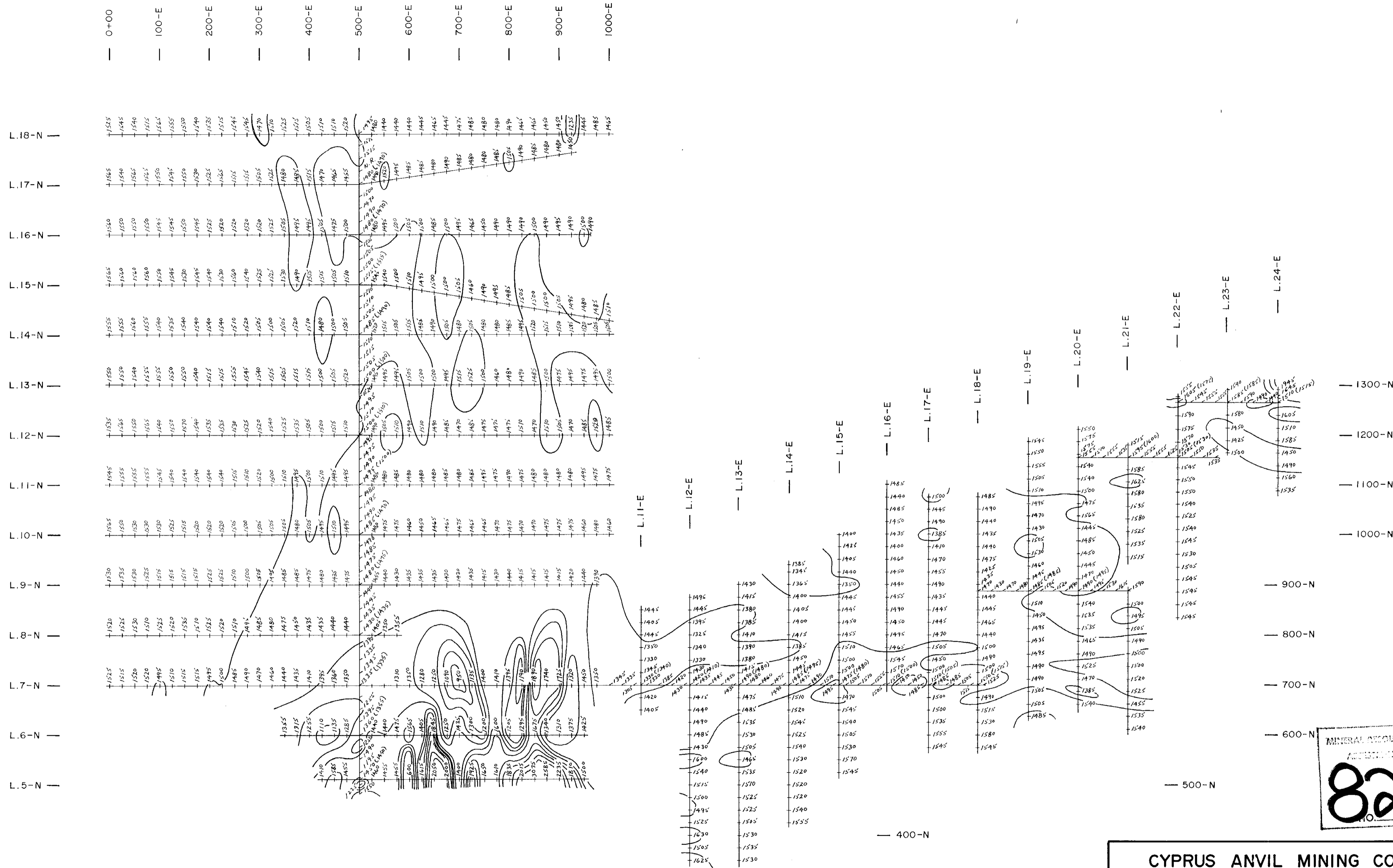
MAY 20 W-279-4

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MINERAL RESOURCES BRANCH  
 ACTING SUPERVISOR  
**8210**  
 NO.

**CYPRUS ANVIL MINING CORP.**  
 HALL CLAIM GROUP; KAMLOOPS M.D., B.C.

**MAGNETOMETER SURVEY**  
 CONTOURS OF RELATIVE VERTICAL INTENSITY  
 (IN GAMMAS)

SCALE 1:5000

MAP No W-279-5  
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