92I/6E6E

2920

REPORT ON THE GEOCHEMICAL SURVEY

ON THE P.H. CLAIM GROUP

OF

AMBER RESOURCES LTD.

REPORT ON THE GEOCHEMICAL SURVEY

ON THE P.H. CLAIM GROUP

OF

AMBER RESOURCES LTD.

October 8, 1970

Vancouver, B.C.

AGILIS EXPLORATION SERVICES LTD.
CONSULTING ENGINEERS & GEOLOGISTS
201 - 714 W. HASTINGS ST., VANCOUVER 1, B.C.

TABLE OF CONTENTS

MAPS

STATISTICAL ANALYSIS

STATISTICAL ANALYSIS (EAST HALF)

GRAPH

GRAPH (EAST HALF)

#1 BASE MAP.....1 inch = 400 feet

#2 GEOCHEMICAL SURVEY.....1 inch = 400 feet

#3 Contour Map

#4 Mag. Survey

REPORT ON THE GEOCHEMICAL SURVEY

ON THE P.H. CLAIM GROUP

INTRODUCTION:

The P.H. claim group consists of 58 contiguous mineral claims located 13 miles northwest of Merritt, British Columbia.

Located near the southern edge of the Guichon Batholith, the claims have received preliminary exploration consisting of gridding and bulldozer trenching.

During the latter part of August, 1970 a reconnaissance soil sampling program was conducted by Agilis Exploration Services Ltd. on the major part of the claim group to outline more favorable exploration targets.

LOCATION AND ACCESS:

The claims lie approximately 13 miles northwest of Merritt and 17 miles southeast of Spences Bridge in southwestern British Columbia. Co-ordinates at the centre of the property are 121° 02' west longitude, 50° 15' north latitude.

Access is by approximately 3 miles of secondary dirt roads from the Spences Bridge - Merritt highway. Both these centers are accessible by highway from Vancouver, British Columbia.

PHYSIOGRAPHY:

Topographic relief is moderate with the claims mainly occupying westerly facing slopes along Abbott and Gordon Creeks. Elevations range from about 2,800 to 4,800 feet above sea level.

Forest cover, consisting of jackpine with lesser fir and spruce is generally present at these elevations, while underbrush is either sparse or absent.

PROPERTY:

The property consists of the following 58 contiguous mineral claims:

Claim	Record Number
P.H. 1 - 54	77846 - 77899
P.H. 55 - 56	87625 - 87626
P.H. 59	87627
P.H. 61	87628

HISTORY:

The presence of copper mineralization in rocks of the Guichon Batholith has been known of since the first part of the century, and in earlier years production was recorded from a few small high-grade deposits.

In recent years exploration has been directed toward the areas potential for large, low-grade copper deposits amenable to low-cost open-pit mining methods. The first deposit of this nature to be brought to production was that of Bethlehem Copper Corporation which commenced production in 1962 at a rate of 3,500 tons per day. Since then the production rate has been increased to 14,000 tons per day.

Numerous other copper deposits have been investigated and several other major deposits explored in detail. These include the Trojan, Krain, Highmont, Lornex and Valley Copper deposits. The Lornex deposit is scheduled for production and a feasibility report is being completed on the Valley Copper deposit, a portion of which is held by Bethlehem.

The Craigmont Mine, lying 4 miles southeast of the P.H. claims, was brought into production during the summer of 1961 with a mill capacity of 4,000 tons per day.

Considerable exploration was conducted in the Highland Valley region during the past year following announcement of the Valley Copper discovery.

A grid had been established over approximately one-half of the P.H. claims and preliminary trenching and road building conducted prior to the recent work.

GEOLOGY:

Regional geological mapping for the area has been conducted by the Geological Survey of Canada and published at a scale of 1 inch = 4 miles as Map 1010A, Ashcroft. More detailed mapping of the Guichon Batholith is available at a scale of 1 inch = 2 miles in B.C. Department of Mines Bulletin No. 56, Geology and Geochronology of the Guichon Creek Batholith by K.E. Northcote.

Based on Northcotes mapping and the claims location as supplied to the writer, the property lies near the southern end of the Guichon Batholith, overlain in part by volcanics and/or sediments of the Spences Bridge Group.

The Guichon Batholith is a complex intrusive mass measuring approximately 40 miles in a north-south direction by an average of 16 miles wide. Lower Jurassic in age the intrusive mass is mainly acid to intermediate in composition with occasional more basic sections near the margins.

Copper mineralization is widespread throughout the Batholith, occuring as disseminations, coating fracture planes and in quartz veins and stringers. Concentrations generally accompany zones of intense shearing and alteration, K-feldspar, chlorite and sericite are the most abundant alteration products.

Overburden cover is extensive throughout the P.H. claims. However, available mapping indicates the group is underlain by two, and possibly three, phases of the intrusive, overlain in the western portion by volcanics and/or sediments of the Spences Bridge Group. Based on Northcotes mapping the most extensive unit shown is the Guichon Variety of the Highland Valley Phase, with the Hybrid Phase in the northwest and southeast corners of the groups. The Chataway Variety of the Highland Valley Phase, may underlie the northeast corner of the claim block. The various phases have been mapped as quartz-diorite, granodiorite and quartz-monzonite.

Contacts between the Hybrid and Highland Valley Phases are irregular and largely unmapped within the claims area. No major structural features have been mapped within the claims area. To the north, Skuhoost Creek forms a distinct north-south topographic linear feature which, if projected, would pass through the claim group.

GEOCHEMICAL SURVEY:

The geochemical survey was conducted under the supervision of the writer.

The grid, cut and re-established, consists of a north-south baseline and east-west crosslines, 400 feet apart. The lines have been cut and pickets at 200 foot intervals mark the stations. A total of 8,000 feet of baseline and 23 line miles of old lines have been reflagged and sampled and an additional 7 line miles of new lines have been sampled, for a total of 30 line miles.

Field Procedure:

The old lines were followed and reflagged and blazed where badly marked, missing pickets to mark the stations were re-established and remarked where necessary. If the lines were short or missing, they were filled in as flagged and chained compass lines.

Samples were taken at the station with a shovel, special care being taken to reach the first oxidized layer below the humus (B-horizon).

Notes were taken on vegetation, soil type, topography to help in the interpretation of the results.

Testing Procedures:

Samples were packaged in Kraft envelopes and sent to Chemex Labs Ltd. in North Vancouver for analysis. Here they were dried in an electric oven at 150°F, screened to -80 mesh, digested in a perchloric-nitric acid mixture and analyzed for total copper content by the atomic absorption method.

Interpretation:

The background value for copper was established by statistical analysis. The copper values were grouped at 5 parts per million (ppm) intervals, frequency, the percent frequency and accumulated

percent frequency were calculated and plotted on arithmetic frequency paper. From the plotted data the range of background, mixed zone and anomalous zone was read.

Background: less than and including 35 ppm copper

Mixed Zone: from 35 to 60 ppm copper

Anomalous: greater than 60 ppm copper

A frequency versus ppm copper plot gives a strong positive skewed multinomial curve, indicating that the sample consists of several populations.

Since the property is underlain by several different rock units, this was expected, but it seems to be strongly accentuated by the presence of heavy glacial till cover.

A breakdown of the sampled area into eastern and western sections and a statistical analysis of samples from the eastern section only, produced a strong positive skewed plot, but it is only a binomial curve, which is characteristic of geochemical data.

The anomalous range is nearly the same as for the total population; namly 70 ppm copper.

Results:

The most conspicuous feature of the contoured geochemical data is a strong north northeast trend of nearly all contours. This trend appears to be related to the direction of glacial ice movement.

Although several erratic highs above 70 ppm copper are outlined, nearly all are spot highs only.

WESTERN SECTION:

Spot highs in this part of the surveyed area are isolated and most likely due to glacial erratics.

The strongest high on lines 28 N and 32 N at 22 W consist of two readings of 173 ppm and 178 ppm copper respectively, but all surrounding samples are background.

EASTERN SECTION:

Anomaly 1 - The best geochemical high is located between lines 56 N, 16 E to 52 N, 20 E, but it is not completely outlined. This anomaly is indicated by four readings ranging from 74 ppm to 200 ppm copper.

Anomaly 2 - Anomaly 2 centered on line 24 N, 22 E is outlined by three readings slightly above 100 ppm and lies within a northwest trending zone slightly above ground.

Anomaly 3 - A spot high of 230 ppm copper lies on line 32 N, 48 E. Line 30 N does not extend this far east, but a high of 74 ppm copper exists on line 20 N, 44 E, the next line sampled to the south.

CONCLUSIONS:

1. The geochemical program conducted over the P.H. claim group outlined several spot highs in the western section, which are most likely produced by glacial erratics.

2. Two anomalies of possible interest have been outlined in the eastern section.

3. Anomaly 1 has not been completely outlined and hence cannot be evaluated.

4. Anomaly 2, although not a spot high could be caused by glacial erratic and hence should be checked out.

5. No detailed geological information is available to allow a more precise interpretation of the geochemical data.

RECOMMENDATION:

1. Extension of grid lines to the eastern boundary of claims.

2. Soil sampling of new lines on 400 x 200 foot grid.

3. Geological mapping of all claims plus a soil profile survey in the indicated anomalous areas.

4. Magnetometer survey of at least the eastern portion of grid to help in projection of geology into overburden covered area.

5. Detail geochemical and geological survey over anomalous areas outlined by above work.

6. Trenching and/or diamond drilling as warranted.

Respectively Submitted

F. Holcapek, Geologist

Endorsed by: R.H.D. Philp, P. Eng.

October 8, 1970
Vancouver, B.C.

ADDENDUM TO
THE GEOCHEMICAL REPORT
ON THE P H CLAIM GROUP
DATED OCTOBER 8, 1970
FOR
AMBER RESOURCES LTD.

REPORT ON
THE MAGNETOMETER SURVEY
CONDUCTED ON THE P H CLAIM GROUP
EAST HALF

INTRODUCTION:

During the period of December 9, 1970 to December 26, 1970, a three man crew under supervision of the writer conducted a magnetometer survey over the eastern half of the P.H. claim group.

Heavy snow conditions made it necessary to re-establish by chain and compass large sections of the geochemical grid, put in during August 1970.

The purpose of the Magnetometer survey was to possibly outline the contact between the Guichon Batholith and the Cache Creek volcanics.

A total of sixteen line miles have been surveyed.

INSTRUMENT USED:

The instrument used was a Sharpe Model MF-1 fluxgate magnetometer. It is self-orienting, requires only coarse leveling, and has built-in temperature compensation. The Magnetometer can be read to five gammas on the lowest scale range and scale ranges vary from a minimum of plus or minus 1,000 gammas to plus or minus 100,000 gammas on the highest scale. A high latitude adjustment permits zeroing of the magnetometer at any location.

FIELD PROCEDURE:

The grid established for the geochemical survey during August 1970 was used for ground control. Heavy snow conditions made it necessary to re-establish a large section of the grid.

The grid consists of lines 400 feet apart and stations marked at 200 foot intervals. The Magnetometer was zeroed for the property and base stations established at 400 foot intervals along the North-South baseline. In establishing the base station, each loop was started and ended at the same station and the average of three readings taken at each station, half an hour apart, was used in subsequent calculations.

Following this, magnetometer readings were taken at 200 foot intervals along all crosslines. Maximum time elapsed in surveying the individual loops was never more than 45 minutes.

CORRECTIONS:

Compensation built into the instrument eliminates any need for temperature corrections being applied to the field readings. Short term and long term time correction have been applied to all readings and were determined by the difference from the corrected reading between the initial and final base stations of each traverse.

This variation is assumed to be linear and the correction for any one reading in a traverse is the diurnal variation multiplied by the ratio, time elapsed when reading taken, divided by total time elapsed in the loop.

If:

V_c = corrected value
B_c = corrected base station reading
B_i = initial base station value when loop is started
B_f = final base station value when loop is finished
V_t = reading of station at time t when loop is run
t_i = time of initial base station value

t_f = time of final base station value
t = time when station is read

then the corrected value for a station read at time t is:

$$V_c = V_t + [B_c - B_i] + [B_i - B_f] \cdot \frac{t - t_i}{t_f - t_i}$$

INTERPRETATION AND RESULTS:

The magnetometer survey in general shows little relief. Although a maximum relief of 4500 gammas exists, it occurs in isolated spots only.

The overall trend is not clearly developed, but a rough northwesterly trend is indicated by a series of magnetic lows. The writer feels that the final interpretation of both surveys, magnetometer and geochemical, will have to wait till the geological mapping of the few outcrops exposed on the property has been completed.

RECOMMENDATION:

Any further recommendation will depend on the results of the interpretation of the geochemical, magnetometer survey in conjunction with the geological information gained by a mapping program.

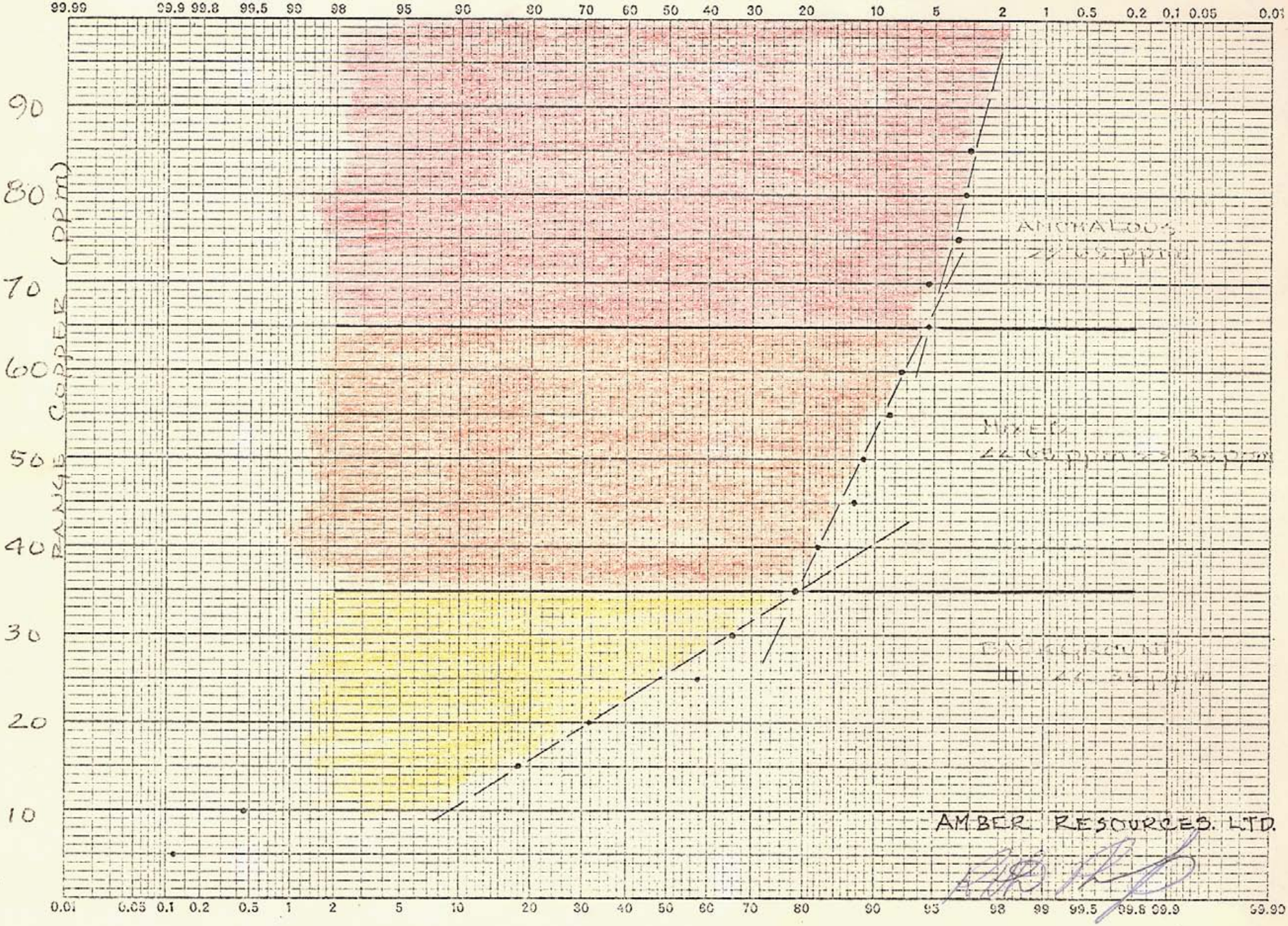
Respectfully submitted,

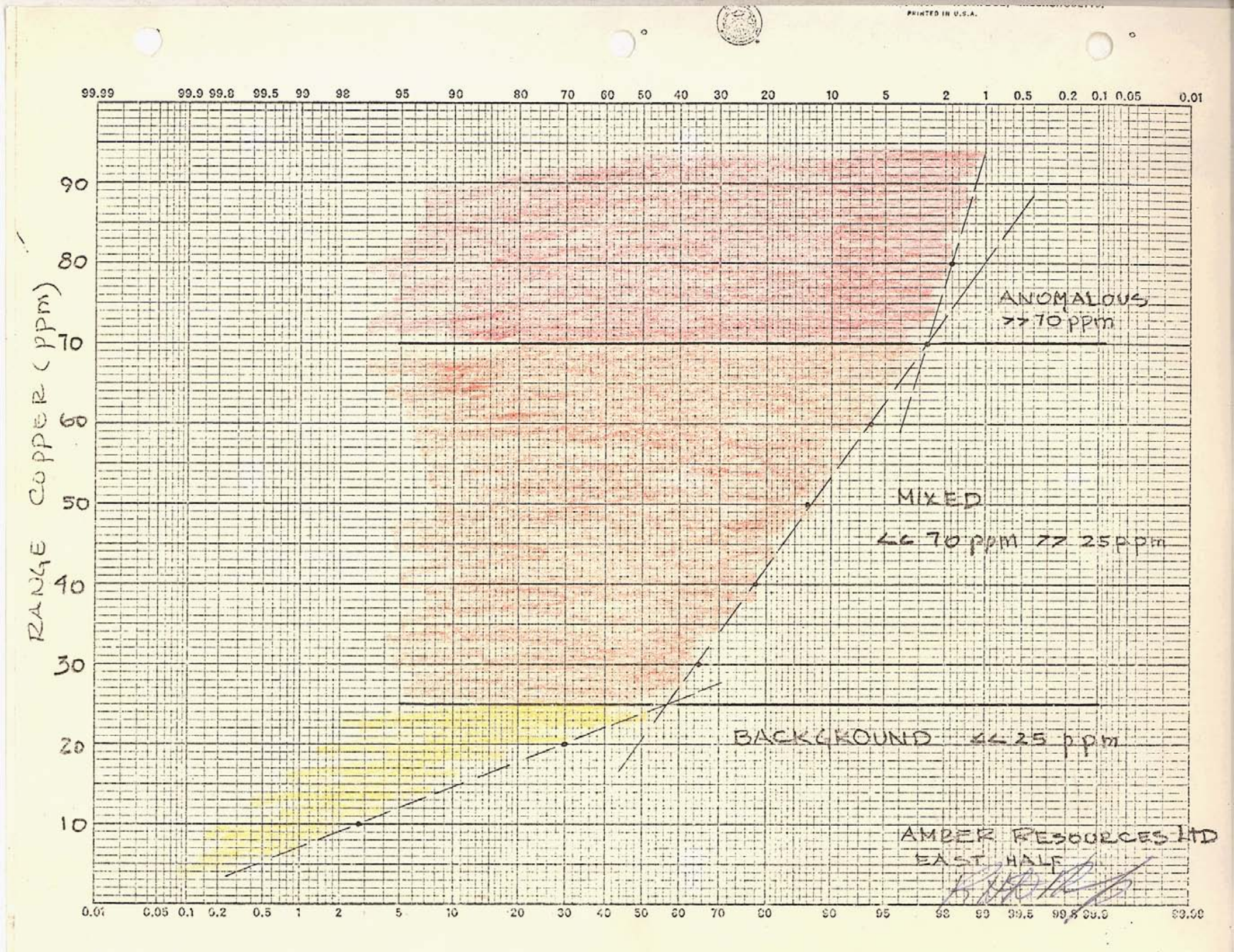
F. Holcapek

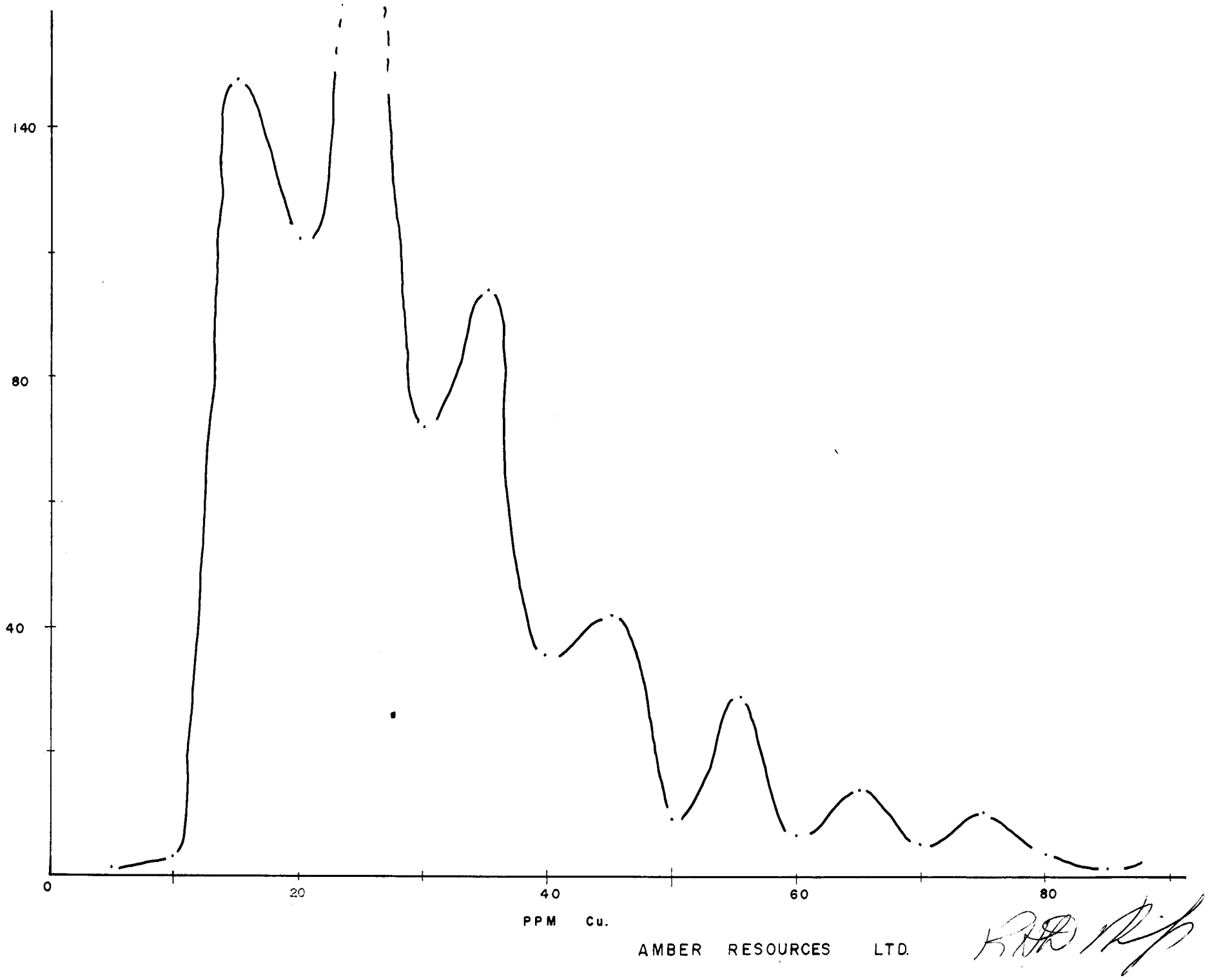
F. Holcapek
Geologist

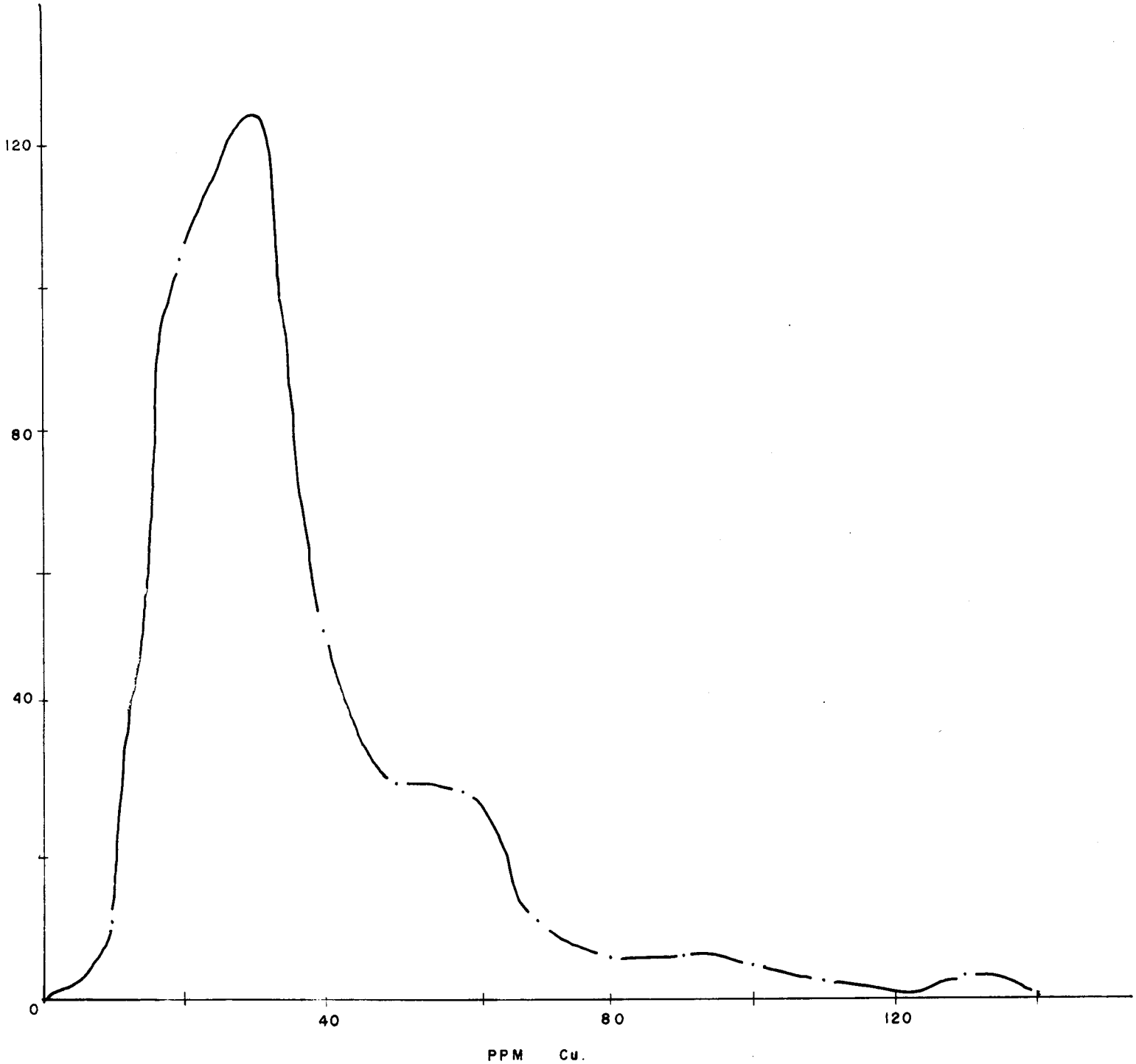
Endorsed by:

NO. 3127 ARITHMETIC PROBABILITY. DESIGNED BY NAZEN, WHIPPLE & FULLER.
COLEX BOOK COMPANY, INC. NORWOOD, MASSACHUSETTS.
PRINTED IN U.S.A.




99.99 99.9 99.8 99.5 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 0.5 0.2 0.1 0.05 0.01
RANGE COPPER (PPM)
90
80
70
60
50
40
30
20
10
ANOMALOUS
>> 70 ppm
MIXED
<< 70 ppm >> 25 ppm
BACKGROUND << 25 ppm
AMBER RESOURCES LTD
EAST HALF
0.01 0.05 0.1 0.2 0.5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.5 99.8 99.9


140
80
40
0
20
40
60
80
PPM Cu.
AMBER RESOURCES LTD.



AMBER RESOURCES LTD.

east half

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
TO WIT:

In the Matter of the geochemical and magnetometer survey on the PH claim group, Merritt, B.C. for Amber Resources Ltd.

I, ~~W. B. Hardy~~ R. Philp

of 201-714 West Hastings St., Vancouver 1, B. C.

in the Province of British Columbia, do solemnly declare that the following personnel were employed and costs incurred in conducting the above survey:

PERSONNEL:

F. Holcapek- Field- Geologist- Layout and supervision of program	6 days @	$100.00	600.00
Office- report and data correlation	2 days @	100.00	200.00
W. Bain - Soil sampler	14 days @	40.00	560.00
W. Singer- Party chief - Soil sampling	14 days @	45.00	630.00
O. Graf- Helper-Magnetometer survey	14 days @	40.00	560.00
J. Hunyadi- Linecutter	14 days @	40.00	560.00
R. Turner- Magnetometer operator	14 days @	5050.00	700.00
			$3,810.00

DISBURSEMENTS:

Truck rental	$ 414.88	
Supplies, materials	87.80	
Camp costs (August)	60.00	
Motel (December)	96.00	
Groceries	388.04	
Travel expenses	325.10	
Magnetometer rental	150.00	
Chemex - 771 samples analysis	832.68	
Typing, prints, telephone	80.60	
Drafting	415.60	
	$ 2,850.70	
10 % Overhead on disbursements	$ 285.07	$ 3,135.77
Total costs		$ 6,945.77

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City of Vancouver, in the Province of British Columbia, this 18 day of March 1971, A.D.

R. Philp

Jill Turner

A Commissioner for taking Affidavits within British Columbia or *A Notary Public in and for the Province of British Columbia.*

Sub-mining Recorder

80+00 N.
72+00 N.
64+00 N.
56+00 N.
48+00 N.
40+00 N.
32+00 N.
24+00 N.
16+00 N.
8+00 N.
baseline 0+00

PH NO. 13
PH. NO. 14
PH NO. 16
PH NO. 15
PH NO. 44
PH NO. 43
PH NO. 18
PH NO. 17
PH NO. 11
PH NO. 12
PH NO. 41
PH NO. 42
PH NO. 9
PH NO. 10
PH NO. 20
PH NO. 19
PH NO. 39
PH NO. 40
PH NO. 46
PH NO. 45
PH NO. 22
PH NO. 21
PH NO. 7
PH NO. 8
PH NO. 37
PH NO. 38
PH NO. 48
PH NO. 47
PH NO. 24
PH NO. 23
PH NO. 5
PH NO. 6
PH NO. 35
PH NO. 36
PH NO. 50
PH NO. 49
PH NO. 26
PH NO. 3
PH NO. 4
PH NO. 25
PH NO. 33
PH NO. 34
PH NO. 52
PH NO. 51
PH NO. 1
PH NO. 28
PH NO. 2
PH NO. 27
PH NO. 31
PH NO. 32
PH NO. 54
PH NO. 53
PH NO. 29
PH NO. 30

40+00 W
32+00 W
24+00 W
16+00 W
8+00 W
baseline 0+00
8+00 E.
16+00 E.
24+00 E.
32+00 E.
40+00 E.
48+00 E.
56+00 E.

LEGEND
Claim post
Road

2920 M-1

AGILIS EXPLORATION SERVICES LTD.

AMBER RESOURCES LTD.

P. H. GROUP

Base Map

DRAWN BY: L. M.	SCALE: 1" = 400'
CHECKED BY: R. P.	DATE: September, 1970

80+00N.
72+00N.
64+00N.
56+00N.
48+00N.
40+00N.
32+00N.
24+00N.
16+00N.
8+00N.
baseline 0+00

40+00W. 32+00W. 24+00W. 16+00W. 8+00W. baseline 0+00 8+00E. 16+00E. 24+00E. 32+00E. 40+00E. 48+00E. 56+00E.

N

LEGEND

Copper value (p.p.m.)

Copper contour

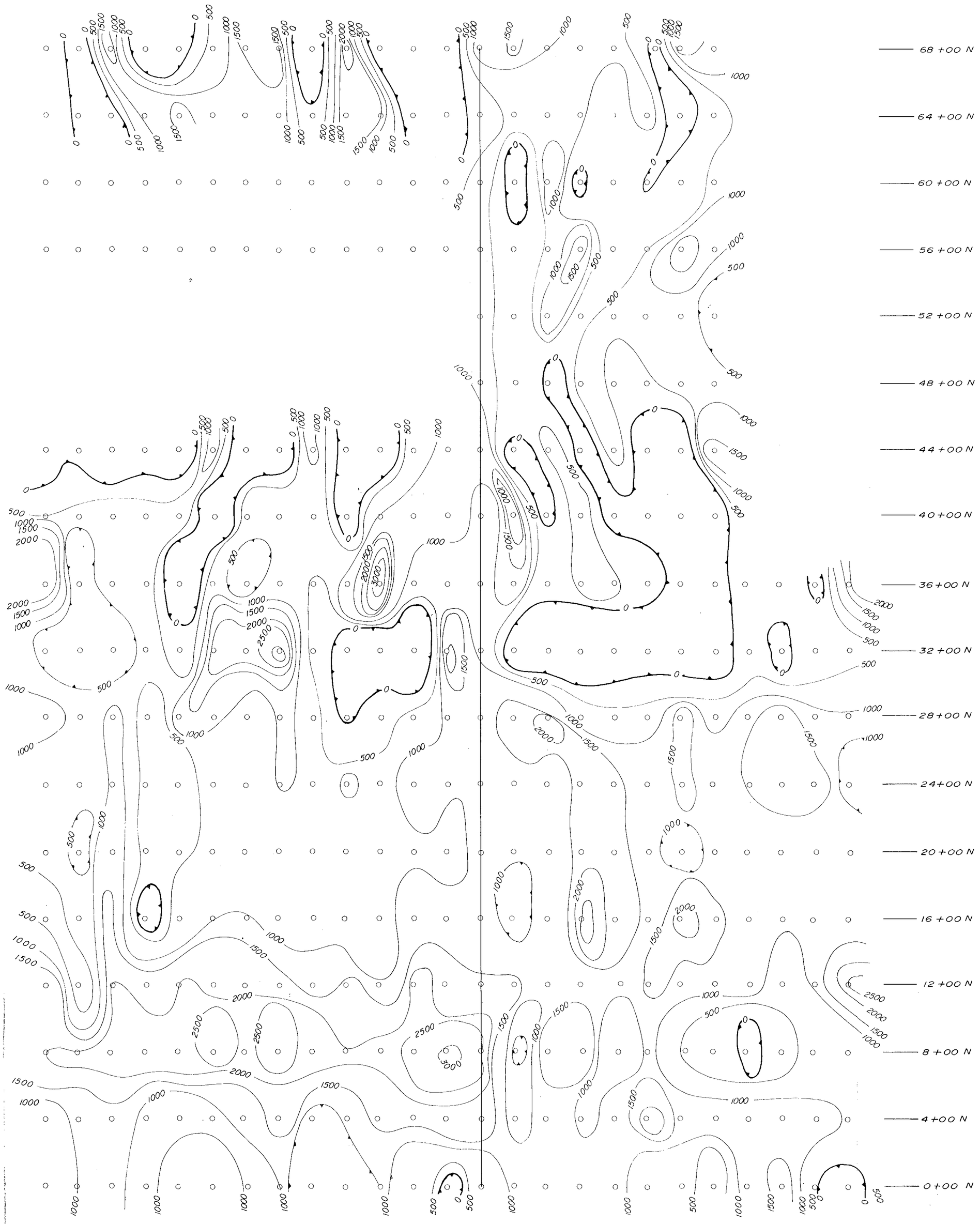
AGILIS EXPLORATION SERVICES LTD.

AMBER RESOURCES LTD.

P. H. GROUP

Geochemical Survey

DRAWN BY: L. M.	SCALE: 1" = 400'
CHECKED BY: R. P.	DATE: September, 1970



Department of Mines and Petroleum Resources
ASSESSMENT REPORT #3
NO. 2920 MAP

LEGEND

1000 — Magnetometer contour - interval 500 gammas.

AGILLIS EXPLORATION SERVICES LTD.

AMBER RESOURCES. LTD.

MAGNETOMETER SURVEY

CONTOUR MAP

DRAWN: M.K.	SCALE: 1" = 400'
CHECKED: F. H.	DATE: JAN. 1971

0+00	2+00 E	4+00 E	6+00 E	8+00 E	10+00 E	12+00 E	14+00 E	16+00 E	18+00 E	20+00 E	22+00 E	24+00 E	BASELINE 26+00 E	28+00 E	30+00 E	32+00 E	34+00 E	36+00 E	38+00 E	40+00 E	42+00 E	44+00E	46+00 E	48+00 E	
681	1018	1076	974	1142	1220	898	1035	554	881	1008	787	-85	710	1103	1292	1281	1060	892	522	245	1314	1513	-208	-155	0+00 N
838	1255	1378	880	692	995	1380	1625	885	1375	1670	1591	1825	1809	969	1230	936	1396	2702	1354	1330	1236	1241	1152	964	4+00 N
2001	2100	2151	2289	2227	3277	2403	2623	2424	2034	2265	2695	3225	2766	442	1916	1954	593	1031	314	369	-765	483	921	771	8+00 N
2005	245	2039	1773	2124	1908	1997	1967	1201	1676	1006	2265	1643	1551	1531	1311	1247	1221	1591	1251	1331	1145	916	1035	2669	12+00 N
487	680		-655	801	1006	1059	665	557	570	556	1229	1284	1115	921	1139	2973	1871	1467	2061	1659	1175	1033	1349	1125	16+00 N
626	448	1437	534	698	787	759	833	-767	661	709	915	474	1443	1037	1299	1803	1557	1033	857	1371	1145	1377	1431	1233	20+00 N
614	634	1183	632	411	781	889	1029	579	1127	925	1325	1134	1324	1438	843	1796	1674	1327	1531	1407	1538	1766	1696	988	24+00 N
1210	666	1180	446	1451	1018	699	1024	750	0	211	807	1287	1348	1694	2395	966	569	989	1880	952	1454	1732	1478	1080	28+00 N
1393	-151	-199	1395	1692	1231	1221	1432	197	1790	1835	-100	-399	250	620	740	578	219	1000	-544	420					64 +00 N
388	-471	1514	-171	-369	627	1553	1564	-1198	2512	-562	-47	-725	1166	1506	1026	682	549	-40	1605	1404					68 +00 N
													900	-371	1483	-50	176	-25	110	601					60 +00 N
													560	309	523	1637	79	521	1614	1363					56 +00 N
													535	154	1458	452	751	929	969	247					52 +00 N
													928	78	-381	-880	308	443	539	565					48 +00 N
-643	-37	-860	-443	-727	1137	-840	-687	1220	-593	-867	840	1103	1317	-700	635	-470	675	-652	-942	1736					44 +00 N
538	597	780	733	807	-880	913	861	860	-327	1170	1190	1177	920	2453	-215	778	-258	-1272	317	-458					40+00 N
2276	406	765	564	-1226	902	203	880	494	1213	3242	718	617	628	1342	335	670	504	329	-1025	-100	254	339	-185	2530	36+00 N
2	354	69	650	225	2581	2346	3056	170	-392	-292	-2741	2259	780	-2	-1242	-1388	-573	-510	-544	-873	282	-147	279	365	32 +00 N

LEGEND

1060 — Magnetometer reading in gammas

AGILLIS EXPLORATION SERVICES LTD.

AMBER RESOURCES. LTD.

MAGNETOMETER SURVEY

DRAWN: M.K.	SCALE: 1" = 400'
CHECKED: F.H.	DATE: JAN. 1971