521260

HART LAKE PROJECT

PHASE 1 EXPLORATION REPORT

N.T.S.: 92L/5,6

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Commodities: Au, Ag, Cu, Fe

SUMMARY

Geological and geochemical evaluations of the precious and base metal occurrences on the Iron Cop and Wilf Showings on the Hart Lake property have been completed.

Results of the investigation confirm the presence of gold at the Iron Cop in narrow, structurally controlled zones. A preliminary 3 hole drill program should be conducted to test the grades and widths of these zones at depth. In addition, one hole should be allotted to probe beneath a significant soil geochemical As, Co, Hg, Cu anomaly in the eastern part of the grid. The Iron Cop area holds the best potential, known to date, on the claims for the discovery of a feasible precious metal deposit.

Low lithogeochemical and soil geochemical results from the Wilf Zone indicate that, even though hydrothermal activity was intense producing a large silica-epidote-chlorite alteration zone with pyrite mineralization, solutions contained low concentrations of precious metals. Consequently the potential for discovering a viable precious metal deposit at the Wilf is low and no further work is recommended at this time.

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1.0 INTRODUCTION

1.1 Location

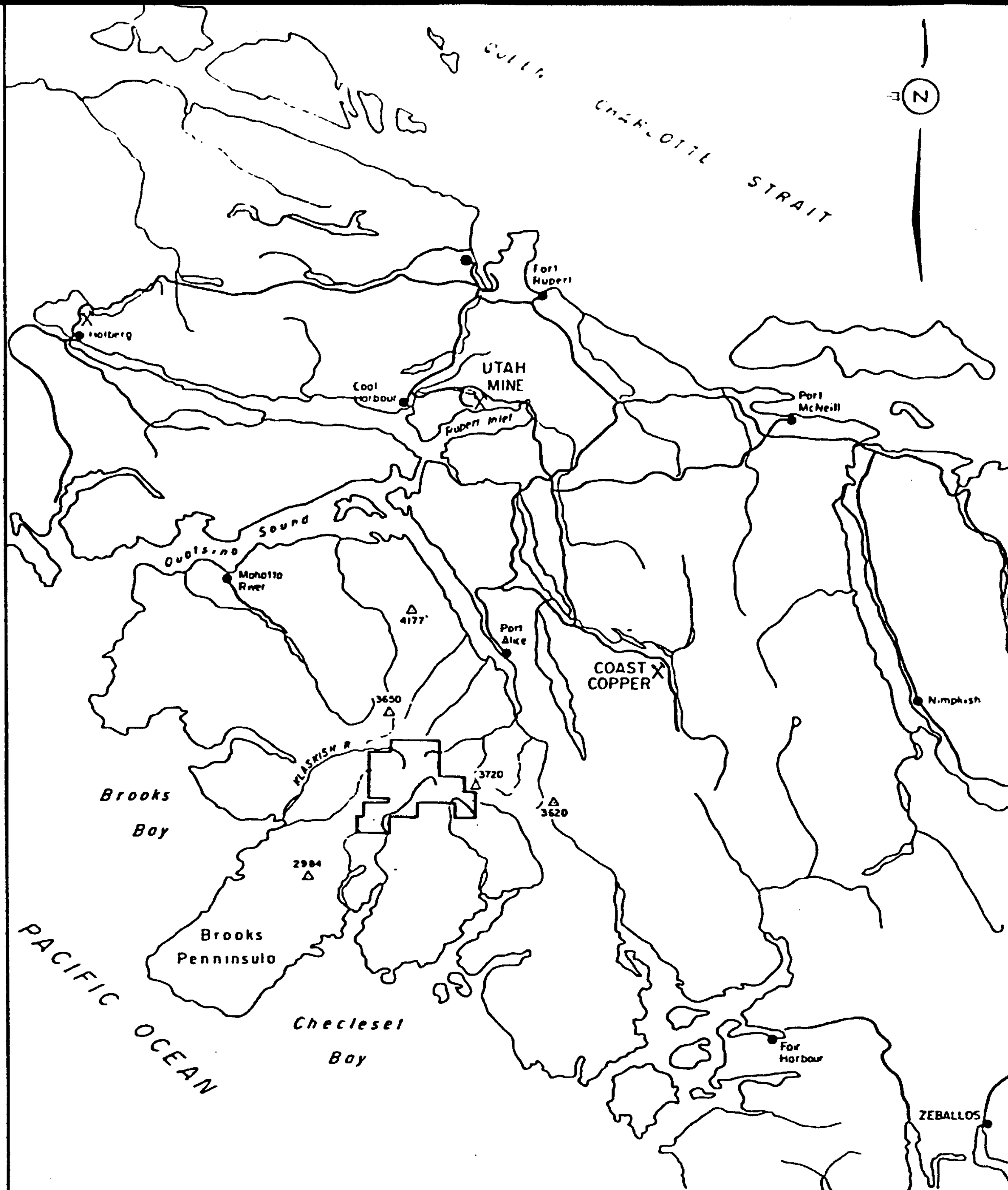
The Hart Lake property is located near Brooks Peninsula on the northwest end of Vancouver Island. Port Alice is located 13 km to the northeast and Port Hardy 50 km to the north. The claims straddle the height of land between Klaskish River to the northwest and Colonial Creek to the northeast as shown on topographic map NTS 92L (Fig. 1).

Topography is very steep rising from 1000 feet to 3000 feet asl with sections impassable on foot. Primary forest cover is cedar, fir, and hemlock. Lakes and swamps are sparse. Subsidiary creeks cut deep ravines through mountain slopes; major creeks form relatively broad flat valleys between mountains.

Access to the property is currently by helicopter from Port Hardy. Port Alice may be used as a staging centre to ferry equipment and supplies to the property.

Logging roads from Quatsino Sound reach to within 5 km of the property and although not connected to major roads, would be of importance for transporting heavy equipment to the site. Equipment could be barged to Mahatta River on Quatsino Sound and, if the logging roads are extended a few kilometers, traversed directly to the property.

The Hart Lake property is situated 10 to 25 km from tidewater in virtually any direction. The most feasible route for future roads is probably using the logging roads mentioned above.



Brinco MINING LIMITED	
HART LAKE PROJECT LOCATION MAP	
DRAWN	FIGURE 1
SCALE 1:500,000	DATE Aug./84

1.2 Property

The Hart Lake property comprises 236 units in 15 claims for an area of approximately 6,500 ha (16,250 acres). Mineral rights are

secured from the owners by an agreement dated October 18, 1983 which calls for annual cash payments of $15,000 (paid), $30,000, $40,000 and $60,000; a work program of $50,000 before October 1984, and aggregate expenditures of $150,000, $200,000, $300,000 and $400,000 annually thereafter until 1988. Upon meeting these payments and program schedules, the property will be held 100% by Brinco subject to a 20% Net Profits Interest payable to the owners. Brinco may elect to purchase up to 15% of the Net Profits Interest at $100,000 per percent.

Description of the Claims

Colonial Group			Power Group			Nasparti Group		
Name	Number	Units	Name	Number	Units	Name	Number	Units
Reg 1	1637(12)	20	London 2	1852(9)	20	London 1	1850(9)	20
Reg 2	1638(12)	20	Spanish	1851(9)	20	Bozo 3	1876(10)	20
Reg 3	1639(12)	12	Voodoo	1853(9)	12	Bozo 4	1877(10)	20
Bev	1758(6)	4	Kyuquot	1854(9)	20	Bozo 5	1878(10)	18
Patch	2259(6)	10						
Bozo 1	1595(11)	8						
Bozo 2	1596(11)	12						
		86			72			78

2.0 HISTORY

Riocanex optioned claims containing magnetite-copper showings from two prospectors in 1962 and over the following two years conducted geological mapping, soil and silt geochemical and geophysical surveys and diamond drilling. Numerous showings were found although the most interesting include the Wilf, Iron Cop and Hart Lake.

The targets sought by Riocanex were volcanogenic massive sulphide and porphyry-type mineralization. They routinely assayed samples for gold and silver when copper was abundant. Some rich copper samples were high in gold and a grab of pyritiferous material assayed over 1 oz/t Au but generally, gold values were low. Silver on the other hand was often anomalous, just under 1 oz/t, and long intersections of these values were obtained in core. At the time of drilling (1964) the silver and gold values were uninteresting so no further work was undertaken.

When assessment credits expired in 1969 Riocanex allowed the claims to lapse. Kaiser restaked the area for the copper-magnetite showings and did not explore the Wilf, Iron Cop or Hart showings. They subsequently allowed the claims to expire in 1979.
Between 1979 and 1983 the ground was controlled by principals attempting to form syndicates and/or public companies. Discouraged by the recession the property was placed into a syndicate which then signed a deal with Brinco.

3.0 REGIONAL GEOLOGY

Regional geology obtained from Geological Survey of Canada Map 1552A shows dark green basalt of the Karmutsen Formation which trends northwesterly through the claims and is bounded to the northwest by a northeast fault which is part of a major system cutting right across Vancouver Island.

Overlying basalt is the Parson Bay Formation including calcareous siltstone and limestone. These rocks form narrow bands on either side of the Karmutsen suggesting an antiform through the region.

Exposed along the eastern and western margin and through the northern half of the property are andesites and rhyodacites of the Bonanza Group.

The Karmutsen and Parson Bay Formations are Upper Triassic in age; the Bonanza Group is Lower Jurassic.

Intruding the sequence and exposed as small plugs on the west, north and east sides of the claims is quartz diorite of Jurassic age. These plugs are part of the Island Intrusives representing a belt of intermediate intrusives, some hundreds of square kilometres in size, throughout Vancouver Island.

Numerous mineral occurrences occur on the north end of Vancouver Island. The most economic is the large porphyry deposit, Island Copper, owned by Utah Mines, which produces Cu, Mo, Au and Re. Fe deposits similar to the Cu-Fe deposit of Westfrob Mines (Falconbridge) on Moresby Island are also near Hart Lake and in fact were the target of original exploration on the claims. Gold-silver with or without Pb and Zn occur in similar rock types to Hart Lake in the Zeballos gold camp 55 km to the southeast.

4.0 EXPLORATION INCENTIVE

Previous exploration of the Hart Lake property outlined numerous mineral showings of differing types. Initial work and most effort has been directed towards magnetite-chalcopyrite showings just southeast of the current claims. Lenses of magnetite with sporadic sections rich in copper were found but continuity is lacking. The Wilf showing, located on the north-central portion of the Hart claims, is of this type and is a zone of bands of magnetite interspersed with epidote and basalt. Splashes of coarse chalcopyrite are present giving grades as high as 1% Cu over 13 feet. Diamond drilling in 1964 returned low values for copper and gold. Samples were also assayed for silver and were surprisingly anomalous.

Two drill holes with azimuths at 180° to each other were drilled on the Wilf showing. They intersected epidotized basalt with numerous references in the drill logs to stringers of chalcopyrite, magnetite, and pyrite. Not all core from the two holes was assayed but the weighted average of 87.8 feet of core assayed from one hole is 0.28% Cu and 0.33 oz/t Ag and of 99.5 feet of samples from the second hole is 0.15% Cu and 0.78 oz/t Ag. These samples were assayed on the basis of abundance of visible chalcopyrite. Examination of assay values in the drill logs show there is not a 1:1 correlation between copper and silver and values in the range of 1.0 or 0.70 oz/t Ag are frequently present with trace Cu. At the time of drilling (1964) the silver values were not significant and no effort was made to assay more core for a possible bulk tonnage silver deposit. The control for the silver mineralization is still not known.

A second showing worked by previous owners is the Iron Cop, located on the western side of the claims. High concentrations of copper with gold occur in a narrow zone within chloritized basalts exposed in a number of trenches. Grades of 6.04% Cu, 0.13 oz/t Au and 1.30 oz/t Ag over 4.5 feet and 5.74% Cu, 0.09 oz/t Au and 0.53 oz/t Ag over 7.0 feet and grab samples of 1.14 and 0.32 oz/t Au have been reported.

Economic mineralization on the Iron Cop showing is apparently restricted to narrow shear zones. Previous workers routinely assayed for precious metals but did not design an exploration program to search for precious metals. Geochemical surveys were repeated to reanalyze for gold and silver. The presence of up to 1.1 oz/t Au in samples indicates the presence of gold in the environment.

5.0 WORK DONE - IRON COP

5.1 Surveying

A total of 11.0 line km of grid (datum trench #3 - 5000N/5000E) with the baseline bearing 130° have been surveyed. The baseline extends from 4450 E to 5350 E and crosslines extend from 4750 N to 5250 N except between lines 4450 E and 4650 E where the crosslines were only generated south of the baseline. Existing trenches, claim posts and drill sites have been tied into the grid.

5.2 Sampling

The grid has been soil sampled at 25 meter intervals along crosslines 50 meters apart. In addition, fill-in lines have been sampled in order to further delineate anomaly limits and/or close off open-ended anomalies. Sample numbers are simply the grid coordinates (datum 5000N/5000E).

Rock chip and channel samples were collected from existing trenches and outcrops in the field. Representative samples from all lithotypes were taken to obtain their respective background metal concentrations.

Table 1 outlines sampling statistics.

TABLE 1

IRON COP SAMPLING RECORD

Sample Type	No. of Samples	Analyzed in	Location
Soil	244	Cu,Pb,Ag,As,Co,Au,Hg	Grid
	128	Cu,Ag,As,Au,Co	Grid
Fill in soil	133	Cu,Au,As,Ag	Grid
Rock chips	75	Cu,Au,Ag,As	Grid Outcrops
Channel	4	Cu,Au,Ag,As	Trenches
Total	584		

5.3 Geology

The grid was mapped in detail and data plotted at 1:1000 scale. Geological follow-up investigations were conducted in the vicinity of soil anomalies as well as in the areas of the trenches. The outcrop source of a high grade boulder (2.75 oz/t Au) was located and sampled.

5.4 Geophysics

Magnetometer surveys have covered the gridded area and data plotted on 1:1000 plans.

5.5 Photogeology and Structural Analysis

Air photo examination was conducted to discern the main structural features of the area. Structural reading from outcrops were recorded and plotted on equal area nets[1].

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1 The method used for recording the attitudes of planes on the net is as follows:

1) Plot the strike of the plane on the perimeter of net (on overlay)

2) Rotate the overlay until this point is on an E-W or N-S line and plot the dip of the plane on the horizontal or vertical line (vertical dip plots in the centre of the net - flat lying planes on the perimeter)

3) Re-orientate the overlay to its original position and there remains a point on the net for the respective plane. (Dips are always recorded as being in a direction to the right of the strikes direction, i.e. 45° strike implies a SE dip)

4) Analysis was by means of simple cluster and point density frequency occurrence

6.0 RESULTS - IRON COP

6.1 Sampling

6.1.1 Soil (Plans 601-2 to 601-9 inclusive)

Soil geochemical data from the Iron Cop grid has been treated statistically in order to determine background and threshold values. Both cumulative percent frequency and mean/standard deviation data was calculated. Results are presented in Appendix 1 and are summarized in Table 2.

TABLE 2

SUMMARY OF SOIL GEOCHEMICAL STATISTICS - IRON COP

(ppm unless otherwise stated)

Element	Range	Possible Anomaly	Probable Anomaly
Au (ppb)	<10 - 380	>10	>20 ppb
As	1 - 800	133	225
Cu	1 - 1050	168	280
Pb	1 - 37	7	12
Co	1 - 162	29	46
Hg (ppb)	30 - 680	195	285
Ag	.1 - 2.6	.5	1.0

Contouring of the greater than 10, 30 and 50 ppb gold (Plan 601-2) response in the soils revealed three anomalous zones which lie coincident with an E - W trending structural lineament and gold mineralization in outcrop samples.

In the vicinity of Trench #3 (5000 N/ 5000 E) three spot anomalies (>200 ppb Au) occur within a 125 m long WNW - ESE trending zone of >40 ppb Au which is bounded by a narrow halo of >10 ppb Au values. A zone with an area of approximately 12,500m^2 is defined by the 10 ppm Au contour in this area. This zone is separated from an area of anomalous Au (70 ppb to 180 ppb) to the east by a single non-anomalous value and thus may, in fact, be an expression of a continuously mineralized zone underneath.

A significant Au anomaly exists in the SW corner of the grid where values up to 1300 ppb were obtained in tha soil. This zone occurs along a steep slope and is possibly a downslope dispersion anomaly originating from the area, with which it is connected by >80 ppb Au of known gold mineralization at 4850 E/4900 N (soil - 160 ppb Au). Fill in sampling has enlarged the downslope portion of the anomaly and is as yet open to the southwest.

Spot gold soil anomalies occur in the vicinity of the multi-element zone and represent spotty mineralization or a masking of mineralization by overburden.

Anomalous <u>arsenic</u> (Plan 601-7) response in soils occurs over a large ENE-WSW trending zone on the eastern end of the grid at Iron Cop and contains values ranging from 220 ppm to 800 ppm As. The limits of the anomaly in general appear to follow/outline a lithological contact between finer grained extrusive basalts and intrusive coarser grained equivalents of the basalts. Five spot high arsenic values (>480 ppm) occur within the above zone. The peak value of 800 ppm occurs on the ridge top and is therefore residual and may indicate Au mineralization at depth. Totally silicified and moderately pyritic (1-5%) rock occurs as float directly over the peak anomalous value.

Anomalous <u>cobalt</u> (Plan 601-5) geochemistry is coincident with the As response in the southeastern edge of the grid, but in addition has revealed numerous other anomalous zones from within the grid. It is interpreted that these additional cobalt anomalies are a result of elevated primary cobalt contents within intrusive mafic volcanics. Cobalt values are high along the SW limit of sampling and may represent proximity to a larger cobalt anomaly beyond the range of sampling.

Mercury (Plan 601-6) geochemistry displays a similar widespread erratic pattern as cobalt with spot anomalies occurring throughout the grid. A zone of anomalous mercury does occur coincidentally with the arsenic highs in the eastern fringe of the grid.

Known copper (Plan 601-3) mineralization is surrounded by anomalous copper in the soils around Trench #3 (5000 N/5000 E) and, in addition, soil copper anomalies occur in the SW corner of the grid (coincident As, Co and Hg anomalies). A number of other isolated spot highs and small zones (coincident with anomalies in the east) occur within the grid.

Total lead and silver (Plan 601-4) concentrations in the soils is quite low <10 ppm and <.5 ppm, respectively); nonetheless weak anomalies in i) the composite geochemical anomaly in the east, ii) Pit #3 mineralization, and iii) the southeast corner gold anomaly, are evident. This further enhances the potential of the least known area, namely, the multi-element anomalous zone on the ridge top in the east and supports other element anomalies over the grid.

Multiplicative composite halos (Plan 601-8) were calculated for soil data by simply multiplying the elemental values together. This technique has been employed by the Russians to enhance anomalies in rocks and was utilized here purely as an experiment to test its applicability to this specific area. Plotted and contoured results show high composite anomalies over:

1) Trench #3,

2) the SW corner of the grid, and

3) on the eastern fringe of the grid.

Smaller isolated zones are reflected by multiplicative values along the E - W structural trend described for the Au soil geochemistry.

Interestingly the highest composite value for the grid occurs over the area of the 800 ppm As value on the eastern part of the grid. This location is also anomalous in Cu, Co and Hg, and may signify mineralization at depth. Silicified and pyritic rock float is also noted from the area and thus a short diamond drill hole over this anomaly may be worthwhile.

A correlation matrix for all elements (Cu, Pb, Ag, Co, As, Au, and Hg) is presented in Table 3.

TABLE 3

CORRELATION MATRIX - SOILS - IRON COP

	Cu	Pb	Ag	Co	As	Au	Hg
Cu	1.000	0.143	0.538	0.304	0.272	0.528	0.181
Pb		1.000	0.041	0.261	-0.120	0.050	0.068
Ag			1.000	0.135	0.046	0.392	0.380
Co				1.000	0.227	0.363	0.220
As					1.000	-0.049	0.107
Au						1.000	-0.028
Hg							1.000

A positive correlation (>.3) exists between Cu and Ag, Cu and Co, Cu and Au, Ag and Hg, Ag and Au, and Co and Au. A negative correlation between As and Au (-0.028), Pb and Au (-0.120) and Au and Hg (-0.028) exists. This indicates that Cu, Co and Ag are the best indicators of Au mineralization.

I.C.P. treatment of 50 soil samples was performed from the Iron Cop grid and results are presented per memo dated May 23, 1984 in Appendix 2.

6.1.2 Lithogeochemistry

A total of 60 rock samples were analyzed for their Cu, As, Ag, and Au concentrations.

Table 4 summarizes the lithogeochemical expression of the various locales and lithotypes on the Iron Cop. Sample locations are presented on Plan 601-1.

TABLE 4

SELECTED LITHOGEOCHEMISTRY - IRON COP

(ppm unless otherwise stated)

Sample	Location	Cu	Ag	As	Au oz/ton	Lithological Description
grab float	4850E/4900N	2.88%	6.5	15	2.758	quartz vein & sulphides (py ± chalocpyrite)
grab	trench 1	6.89%	26.0	19	6500 ppb	massive py in chloritic basalt
grab	trench 3	5.75%	12.7	35	1900 ppb	quartz vein & semi-massive sulphides ± chlorite and epidote
grab	5010N/5075E	2200	1.7	94	160 ppb	silicified andesite ± chlorite - cp and py
grab	5150N/5200E	273	0.3	7	<5 ppb	banded cherty andesite disseminated py along fractures
grab	5075N/5250E	23	0.3	30	<5 ppb	quartz diorite
grab	4820N/4840E	423	0.5	1	35 ppb	basaltic lithic tuff(s) chlorite, py
grab	4825N/5050E	83	0.1	1	5 ppb	andesite(s), epidote, chlorite
grab	5000N/4970E	38	0.3	2	5 ppb	basalt
grab	4825N/5145E	82	0.3	2	<5 ppb	fine grained andesite

Lithogeochemistry indicates that payable Au values exist only associated with quartz ± sulphides and that peripheral volcanics to quartz-sulphide impregnated rocks contain uneconomic concentrations of gold. A complete list of sample descriptions, locations and geochemistry is provided in Appendix 2.

Two mineralized trends have been noted, both are narrow and tabular. Chip samples have given variable results but consistently contain values of precious metals. The following outlines values obtained for samples collected by both Brinco and the previous owner, Riocanex.

TABLE 5

TRENCH GEOCHEMISTRY - IRON COP

TRENCH	WIDTH(m)	Cu(%)	Au(oz/t)	Ag(oz/t)	COMPANY
1	2.5	12.2	0.128	1.27	BRINCO
	2.1	5.74	0.09	0.53	RIOCANEX
2	0.5	10.90	0.02	0.60	RIOCANEX
3	1.05	4.15	0.105	0.508	BRINCO
	1.68	5.06	0.127	1.26	RIOCANEX
4	GRAB	2.57	0.42	1.00	RIOCANEX
5	0.3		0.118	0.155	BRINCO
	GRAB		2.758		BRINCO
	GRAB		1.14	1.25	RIOCANEX
6	1.3	0.26	0.118	0.152	BRINCO

Although mineralization on surface is narrow, gold and silver contents are appreciable. Testing by previous owners has been inadequate to determine continuity along strike or to depth. Thickening of or grade variations within the mineralized zones are highly likely.

6.2 Geology

6.2.1 Lithology and Alteration

The east and south portions of the grid are dominated by andesitic volcanics with intercalated chert horizons which are weakly to moderately chlorite-epidote-silica altered. The presence of interbanded chert within andesitic flows indicates exhalative submarine volcanism was active in the area. Thin quartz-carbonate veining is also noted in the andesites.

Also in the SE of the grid outcrops of microdiorite and quartz diorite (weakly chlorite altered) either intrude the sequence or are coarser fractions of the flows. No distinct cross-cutting relationships with the flow volcanics have as yet been observed.

To the north of trench #3 a coarser basaltic/gabbroic volcanic occurs within fine grained basalts. Weak chlorite veins and epidote blebs have been developed within both these coarser and fine grained mafic volcanics.

In the vicinity and west of 5000 N/5000 E rocks display a marked increase in propylitic alteration; epidote becomes pervasive and epidote vein density and width increase. Pervasive alteration increases with proximity to shear zones, inferred faults and known mineralization in the area.

6.2.2 Mineralization

Massive and semi-massive sulphide mineralization ± Au and Ag occurs in structurally controlled silicified, propylitically, ± carbonate altered veins in basalts (Trenches 1, 2, 3, 4). Strikes vary from 155° - 172° and dip moderately (approximately 40°) to the southwest.

Table 6 summarizes the data on behavior and styles of mineralization on the property.

TABLE 6

SUMMARY OF MINERALIZATION - IRON COP

Location	Control to Mineralization	Au Values (oz/ton)	Attitude		Geology
			Strike	Dip	
Trench 1	Structural	0.216	155°	45°	H/W and F/W are sheared, crumbly chloritic basalts - mineralization precipitated in open spaces (euhedral pyrite), vugs - associated with quartz, chlorite epidote gangue.
Trench 3	Structural (?) bedded (?)	0.06	155° 100°	38° 40°	associated with quartz, carbonate, epidote, chlorite gangue - large bleb and euhedral banded sulphides - chloritic basalt H/W and F/W - the two reported attitudes may represent a plunging zone or variable dip and strikes to the controlling structure.
Trench 4	fault/shear zone	float 2.75	285°	54°	quartz gangue as in trench #3 - bounded by sheared chloritic basalts - weaker sulphide content than trench #3
4930 E/ 4975 N	shear zone	0.12	150° (approx.)	45°	silica/chlorite gangue contains pyrite ± chalcopyrite ± galena (0.3 m wide) within sheared chloritic basalts - basalts are foliated

The character of the mineralization is relatively consistent; bleb and semi-massive bands of pyrite-chalcopyrite within a quartz-rich gangue bounded by foliated and sheared chloritic basalts ± moderate epidote. Trench #1 contains more sulphides and less silica than the other showings whereas trench #4 1(4850 E/4900 N) contains less sulphides and apparently more gold.

The indications are that the mineralization was injected into one long (+250 m) continuous structural zone which was subsequently chopped up by vertical and horizontally displacing faults and shear zones.

The presence of massive interbedded carbonate in trench #3 leads one to consider the possibility that the mineralization was exhalative and is bedded at this locale. Structural evidence contradicts this hypothesis and more evidence is needed to verify the mode of formation of the prospective zone.

6.3 Geophysics

Magnetometer data has been plotted in plan and values contoured. Interpretation is difficult due to the scattered nature of the magnetometer highs, however, a general an E - W trend (concident with mineralization) is noted.

6.4 Photogeology and Structure

Airphoto interpretation shows a dominant N - S trending set of linears intersecting a NE trending set of structures in the prospect area. An apparent vegetation anomaly (i.e. stunted tree growth) overlies the Iron Cop area. This feature shows up weakly on the air photos and is an observable factor on the ground.

Plotting of structural readings collected during mapping on an equal area net (Fig. 2) reveal the dominant trend is a NE - SW striking steeply dipping (SE to NW) set of linears.

Numeroue other points and clusters on the net indicate subsidiary faulting and shearing has taken place within structural weaknesses in the volcanics.

7.0 WORK DONE - WILF ZONE

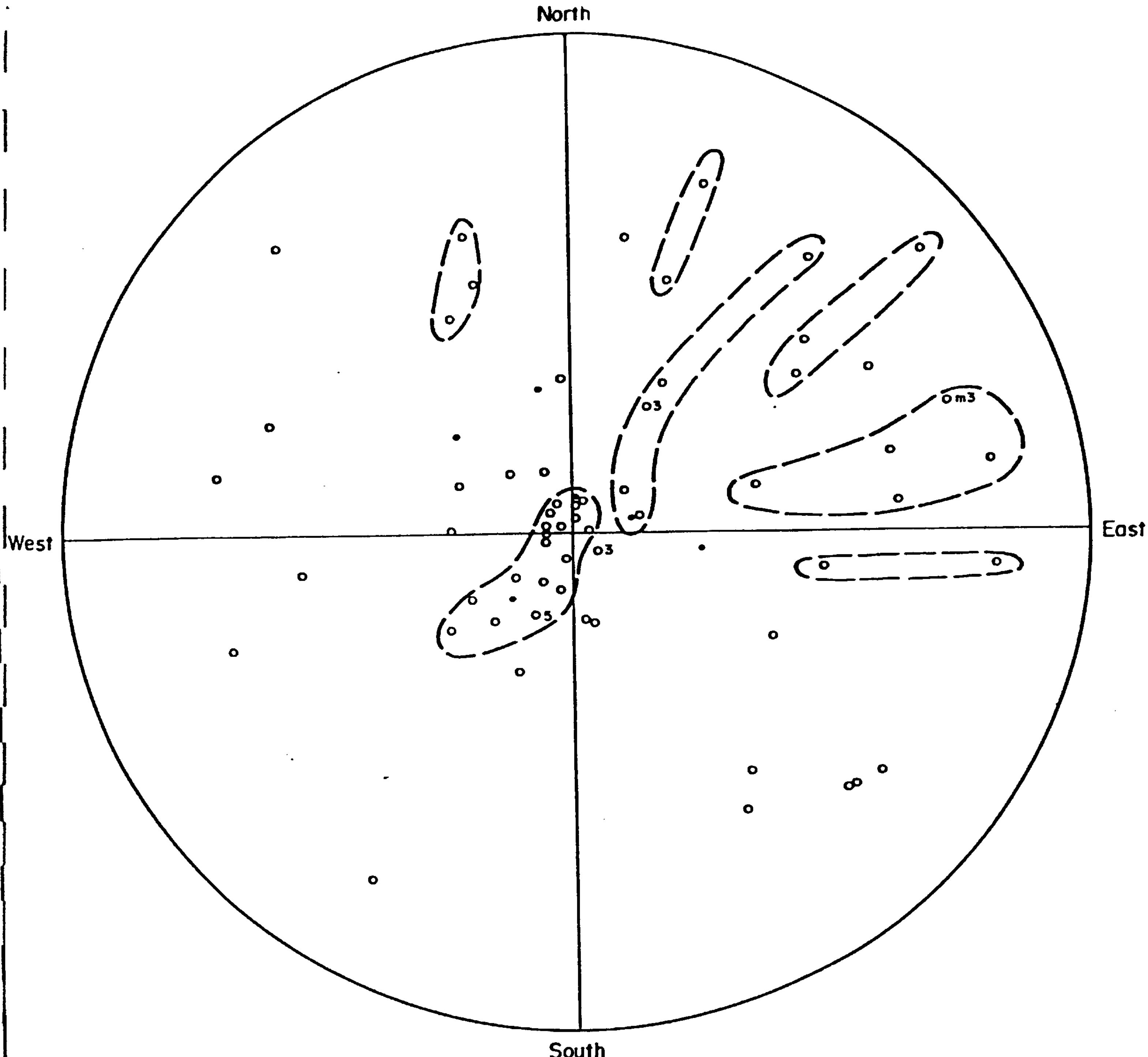
7.1 Surveying

A total of 8.2 line km of grid (baseline bearing 330^{o} true) has been surveyed with stations along crosslines (bearing 60^{o}) occurring every 25 meters. Crosslines lie 50 meters apart and extend 250 meters on either side of the baseline.

The grid serves the purpose of providing control for soil sampling, geological mapping and geophysical surveying and of tying-in conspicuous features such as helipads, trenches, drill sites and drainage channels.

7.2 Sampling

Table 7 outlines details regarding samples collected from the area of the Wilf showings and submitted to Chemex Labs, Vancouver for analysis.



EQUAL AREA NET

LEGEND

- o Joint
- • Fracture
- m Major

Brinco MINING LIMITED		
HART LAKE IRON COP GRID STRUCTURAL PLOTS		
AUG. 1984		Drawn B. EPP

TABLE 7

WILF - SAMPLING RECORD

Type	No. of Samples	Analysed For	Location
Soil	305	Cu,Ag,Au,As,Sb	Grid
Rock Chip	65	Cu,Ag,As,Au	Grid + environs
*1 Stream Silt	20		Peripheral drainages distal from grid
Channel	17	Cu,Au,Ag	Trench #3
*2 Chip Channel	28	Cu,Au,Ag	Trench #1 plus other showings within grid - Trench #2

Rock chip sample locations have been plotted.

Cobalt analysis may be done on pulps at a later date.

*1 These have not been submitted as yet for analyses.

*2 The Chip Channel method consists of taking five or six equally spaced and sized chips across a designated interval and is considered as effective, within reason, as a true channel yet much more time efficient.

7.3 Geology

The grid was mapped in detail and results are plotted at 1:1000 scale. A number of trenches and blasted exposures were mapped in detail and section plans produced. Table 8 outlines their locations.

TABLE 8

TRENCH LOCATIONS - WILF

Type and No.	Location
Trench 1	5000N/4950E
Trench 2	4850N/4975E
Trench 3	4825N/5025E
Exposure 4	5105N/5020E
Exposure 5	5100N/5045E
Exposure 6	5090N/4975E
Exposure 7	5060N/5068E

In addition, reconnaissance traverses were conducted along drainages and slopes to the NW, NE and south of the showings (covering Reg 2, London 2 claim blocks).

7.4 Geophysics

Magnetometer surveys covering the grid are plotted on 1:1000 scale plans.

8.0 RESULTS - WILF ZONE

8.1 Sampling

8.1.1 Soil

Soil geochemical response is low in Cu, Ag, As and Au over the Wilf grid; mean and standard deviations were calculated for Cu and As in order to determine background and threshold values. The copper mean is 24.05 ppm and standard deviation is 37.25. Two S.D. plus the mean adequately defines a definite anomaly which in the case of copper is any value over 98 ppm. Only 4.8% of the samples collected appear to be anomalous in copper and these are located in proximity to known mineralization.

Arsenic soil geochemical thresholds calculate at (mean + S.D.) 35 ppm. Table 9 sommarizes further information regarding the soil data.

Gold and silver (Plan 601-17) response in the soils over the Wilf grid is low with peak Au values at 140 ppb (single point anomaly) plus only two other samples which were greater than 20 ppb Au and peak Ag value at .7 ppm. Gold greater than 10 ppb is coincident with mineralized trenches and no new significant zones are outlined.

Copper (Plan 601-15) soil geochemical possible anomalies more widespread than the gold and also reflect known Fe and Cu sulphide occurrences, however Cu response in the soils is generally low and reflects primary contents in the enclosing volcanics. A peak single point anomaly of 1050 ppm copper occurs over quartz ± pyrite material; 1900 ppm Cu lies adjacent to Trench 2. Copper soil geochemistry has indicated no new high priority follow-up targets.

Elevated arsenic (Plan 601-18) (>20, ≤ 150 ppm As) response in the soils is isolated and sporatic and does not reflect definite anomalies over the Wilf grid.

TABLE 9

SUMMARY OF SOIL GEOCHEMICAL STATISTICS - WILF

(ppm unless otherwise stated)

Element	Range	Anomalous	No. Anomalous	% of Pop. Anomalous
Cu	1 - 1900	>98 ppm	15	4.8%
Ag	.1 - .7	>.2	12	3.8%
As	1 - 150	>35	13	4.1%
Au	<10 ppb-140 ppb	>10	7	2.2%

Population = 312 samples

8.1.2 Lithogeochemistry

Peak Ag values in rocks on the Wilf was 3 ppm and peak Au was 285 ppb. Both of the above samples were taken from siliceous pyritic zones and indicate that economic quantities of precious metals are not present in altered and mineralized zones exposed on surface. A representative of all rock types and altered variables was submitted for Au, Ag, Cu,As analysis.

Arsenic in rocks is similarly low (peak value 100 ppm) with the majority of values being less than 20 ppm (only 3 samples registered >20 ppm from a population of 110 samples).

Sample locations and lithotype descriptions are presented in Appendix 3.

Results from channel sampling from the Wilf trenches are low with only two samples containing greater than 1% Cu from trench #3. This trench recorded a peak value of 3.0 ppm Ag and 145 ppb Au.

Trench #2 contained one sample >1% Cu which also contained the peak Ag value of 2.9 ppm. The peak Au value from trench #2 is 285 ppb.

Trench #1 similarly contains low quantities of base and precious metals. Two samples reported >1% Cu, peak Ag value is 1.3 ppm and maximum Au concentrations of 60 ppb.

In summary, channel sampling of mineralized trenches on the Wilf zone indicate uneconomic grades of base metal and precious metal mineralization.

Rock chip sampling over the Wilf grid showed that economic grades of base or precious metals does not exist in this area.

8.2 Geology (Plan 601-10)

8.2.1 Lithology and Alteration

Interpretative geology has been plotted at 1:2500.

The immediate prospect area contains two dominant lithotypes; basaltic volcanics and a leucogranite intrusive. Each of the two have undergone variable degrees of hydrothermal alteration/pneumatolysis and differentiation producing the following:

1) Leucogranite - this fine grained, quartz-rich rock characteristically has less than 5% mafic minerals which are invariably chloritized. White feldspars predominate (plagioclase). Granites of this type are prone to alteration and differentiation by late stage pneumatolysis processes (P. 207 "Petrology of Igneous Rocks" 13th Edition, Hatch, F., 1972).

2) Granodiorite - abundant stubby hornblende/pyroxene phenocrysts (approx. 40% of rock) characterize this lithotype as well as an epidotized matrix. These rocks are spatially confined and appear to be either later stage dykes or differentiated apophyses to the leucogranite. They occur proximal to mineralized area.

3) Porphyritic Andesite/Basalt - K-feldspar phenocrysts are present in a dark aphanitic (hornfelsed?) matrix and are interpreted to be formed by metasomatism. They conspicuously occur near mineralization/magnetite.

4) Propylites - these rocks display total pervasive epidote ± silicification alteration and often have semi-massive pyrite-silica veins ± chalcopyrite blebs. Occasionally basaltic fragments have escaped total alteration.

5) Epidotized Basalt - a less altered equivalent of the above. Gradational contacts between the two occur.

6) Hydrothermal Breccia - epidote flooding has brecciated basaltic rock. Often greater than 80% matrix epidote and often accompanied by silicification.

7) Basic Hornfels - Typically very competent and aphanitic dark rock, proximally located to mineralized veins.

8) Chloritic Basalt - Regionally widespread dark, fresher looking volcanic ± epidote microveins and epidote - Si microveins. Degree of alteration depends on proximity to granitic(?) mass. Some euhedral disseminated pyrite usually present.

Spatially the leucogranite trends in a NNW direction and bounds the eastern side of the prospect. The contact, where exposed, is brecciated and contains adjacent granodiorite bodies/dykes(?).

A zone of propylite and epidotized basalt, breccias ± the other lithotypes approximately 300 meters by 200 meters trends north-westerly and contains abundant occurrences of mineralization of various styles (to be discussed). Mineralization is predominantly vein/fracture filling and dip steeply to the east.

Regional reconnaissance traverses encountered widespread chloritic basalts which in places have been significantly altered to epi-dotized basalts and propylites. These zones are small and lithogeo-chemical results have not resulted in future follow-up to these areas being planned.

8.2.2 Mineralization (Plans 601-11 to 601-14, inclusive)

Mineralization occurs in a number of different styles and with a number of different rock and mineral associations as outlined by the following:

1) pyrite ± chalcopyrite in grey mottly quartz veins,

2) pyrite ± chalcopyrite veins in totally silicified/ bleached basic volcanics - contains some disseminated epidote and may contain argentite,

3) pyrite ± chalcopyrite within magnetite-epidote veins within dark hornfelsed basic volcanics,

4) massive pyrite - quartz veins,

5) disseminated pyrite in totally epidote-silica altered rocks,

6) fine disseminated pyrite in matrix of granodiorite,

7) pyrite + silicification in pinch and swell shear zones,

8) azurite, pyrite, malachite and disseminated magnetite in porphyritic andesite/basalts.

The precious metal content of the above styles is uneconomic in 1984 terms.

8.2.3. Structure

Outcrop in the area is very poor and structural information is limited. Mineralization is consistently striking between 310° - 330° and invariably dips steeply to the east. Shear zone occurrences bear the same attitudes. Air photo examination does not display a prominent NW structural fabric but rather a northerly to NE trend (NE Iron Cop trend persists through the Wilf Area). Local fracturing and alteration patterns accompanied by consistent vein attitudes does, however, suggest that mineralizing and hydrothermal fluids did follow structural weakness in the volcanics.

8.3 Geophysics

Plotting of magnetometer profiles (Fig. 3 to 14, inclusive) has revealed that the area suffers from intense magnetic variations and disruptions as traverses cross alteration contacts, lithological changes, variations in magnetite content of the country basaltic volcanics and lenses and stringers of massive magnetite in the prospective zones. Interpretation of the profiles is thus enigmatic.

Despite complexities the following (Table 10) are preliminary interpretative comments and correlations between the profile geometries and surface geology.

TABLE 10

MAGNETOMETER RESULTS AND INTERPRETATION - WILF

Line	Station	Magnetometer Response	Interpretation
4500N) 4600N) 4700N)	whole line	- multitude of peaks and troughs - erratic profiles	- possible anomaly at 5075E/4500N - steeply dipping to E?
4750N	5113E	- high amplitude sharp	- indicates a steeply easterly dipping source - occurs near an interpretive alteration contact between moderate to strong propylites - shallow source?

Line	Station	Magnetometer Response	Interpretation
4800		- a number of broad peaks and troughs	- regional gradient? or deep sources?
4850N	4963E	- sharp high amplitude peak	- Trench 2 vicinity where massive magnetite veins observed
	5125E	- smaller broader response	- moderately altered volcanics - surface expression does not adequately explain response.
4900N	5100-5175	- broad distinct profile	- suggests a deeper easterly dipping zone
4950N	4900E 5075 5187E	- sharp peak) - sharp peak, moderate) - sharp peak, high amplitude)	- All three suggest shallow, narrow, vertical? sources 4900E near exposure with massive magnetite
5000N	4925-5100	- broader elevated profile	- area of trenches, possibly deeper source - high peak at 5100E, area of hydrofracturing and brecciation - easterly dip
5000N	5225E	- level profile begins	- occurs in proximity of interpreted granite contact
5060N	5000E-5200E	- broad elevated zone sharp drop and levelling at 5213E	- prospective zone as indicated by alteration in rocks 5213E may demarcate the granite contact (relatively coincident with surface observations)

Line	Station	Magnetometer Response	Interpretation
5100	5000E-5100E	- broad elevated values	- zone of many trenches ±massive magnetite in some - may indicate larger, deeper source
	5200E	- apparently levelling off	- area of granite contact
5150E	5125-5175	- broad elevated zone	- potential deeper easterly dipping source near contact with granite (5175E)
	5175	- apparent levelling	- granite?

The magnetometer appears to be successful in demarcating the altered volcanic/intrusive contact as well as indicating a number of highs within the prospective zone which may represent lenses or masses of magnetite. It is not known if the profile lows represent major structures or not as limited outcrop has prevented detailed structural interpretation of the area.

Trenching of magnetic highs which appear close to surface may reveal mineralized zones such as in Trench No. 3 and future work of this nature is warranted.

9.0 DISCUSSION

9.1 Iron Cop Zone

Field evidence suggests that mineralization at the Iron Cop was emplaced in a NE trending zone of structural weakness within basalts and this zone has been subjected to vertical and horizontal displacement by later faulting. The results may be a series of en-echelon lenses and vertically displaced blocks which outcrop at various levels within the overall NE trending zone. This denotes that the mineralization may be termed structurally controlled vein-type mineralization.

9.2 Wilf Zone

It is envisaged that the following events occurred which lead to mineralization at the Wilf Zone:

1) intrusion of the granitic mass causing widespread hydro-fracturing, fracturing and shattering of the overlying basalts, especially in:

    i) the contact zone with the volcanics,

    ii) in areas of thin basaltic skin over the intrusive;

2) the granitic mass acted as a heat engine for leaching, remobilization and re-precipitation of metals into structurally favorable zones; and

3) differentiated apophyses and de-gassing injected into the structurally prepared zone produced:

    i) granodiorite dykes,

    ii) pophyritic intermediate rocks/dykes? metasomatically formed phenocrysts,

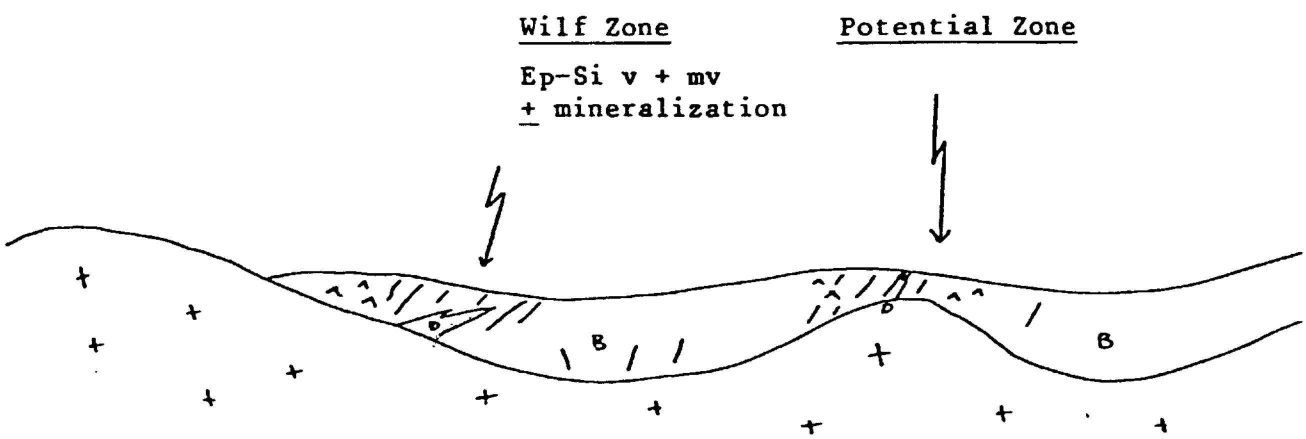
    iii) a wide epidote-silica-chlorite alteration halo,

iv) quartz-epidote veins ± massive pyrite ± chalcopyrite ± magnetite ± precious metals?

A decrease in alteration/mineralization with distance from the granitic mass is observed but this does not preclude that the granite may be only a short distance below the surface at any given point (Fig. 16). Thus regional lithogeochemical and geological work has its value in the overall exploration approach.

FIGURE 16

Schematic Diagram Showing Possible Intrusive/Volcanic Relationships



^ - Breccia
D - Dyke
/ - Veining
mv - Microvein
v - Vein
\+ - Leucogranite
B - Basalts

Not to Scale

Indications are that the system of mineralization and alteration was multiphase producing high and low temperature veins. At least 3 generations of quartz veins have been recognized in a single speciman.

The low precious metal content in rocks and soils at the Wilf discourages large future expenditures at this time. Geologically, however, the mineralization/alteration at the Wilf may be described as being a contact metasomatic skarn-type of mineral occurrence.

10.0 ECONOMIC POTENTIAL

10.1 Iron Cop Zone

Substantial gold values in rocks from the mineralized zone and the soils indicates there is a good potential for the discovery of a high grade moderate tonnage precious metal deposit at the Iron Cop.

Further trenching of known exposures and soil geochemical anomalies plus diamond drilling is warranted on the showings to test the behavior and grade of mineralization at depth.

10.2 Wilf Zone

Hydrothermal activity at the Wilf was intense producing a wide alteration and pyrite mineralized zone, however, the rock and soil geochemistry indicates that the system was devoid of economic concentrations of Ag and Au and was predominantly Si-Fe rich (producing magnetite and quartz veins ± pyrite). This factor substantially reduces that prospectivity of discovering a viable precious metal deposit at the Wilf.

11.0 EXPLORATION STRATEGY AND RECOMMENDATIONS

11.1 Iron Cop Zone

A number of areas on the Iron Cop grid warrant drilling to test the behaviour and grade of surface mineralization at depth. Recommendation for future work in this area is as follows:

1) * diamond drilling of the exposed mineralized utcrops should be done,

2) diamond drilling under Trench #3 to test the down dip behavior of exposed mineralization,

3) a short diamond drill hole to penetrate ground below the high Au and composite geochemical anomaly at 5250 E/4900 N in order to adequately explain the anomaly, and

4) trenching of other Au anomalies elsewhere on the grid to gain a better understanding of their cause.

5) Continuation of magnetometer and grid soil sampling to close off existing anomalies in the southwest.

---

* At least a 30 - 40 meter down dip "bite" should be considered for a projected intersection.

11.2 Wilf Zone

Due to the discouraging analytical results from both soils and rock chips at the Wilf, no further work is recommended at this time.

12.0 CONCLUSIONS

Evaluation work on the Iron Cop and Wilf Zone has been completed and as a result a number of drill targets have been identified on the Iron Cop property.

Structurally controlled vein-type precious and base metal mineralization at Iron Cop requires subsurface testing to determine grades and widths at depth. A 3 - 4 hole program collared to drill under exposed mineralization along the proposed structure as well as probe beneath a high As/composite geochemical soil anomaly should adequately determine if further drilling is warranted.

At the Wilf, hydrothermal activity was intense but solutions were relatively barren of precious metals as indicated by rock, channel, and core assays (from previous drilling - FANG 74-1). No further work is recommended at this time in the Wilf Zone.

APPENDIX 1

IRON COP SOIL GEOCHEMISTRY - Statistics

APPENDIX 1

IRON COP SOIL GEOCHEMISTRY - Statistics

(ppm unless otherwise stated)

Element	N	$\overline{x}$	σ	Range
As	244	40.54	92.21	1-800
Cu	244	56.90	111.52	1-1050
Pb	244	3.06	4.31	1-37
Co	244	11.8	17.19	1-162
Hg(ppb)	244	107.21	88.72	30-680

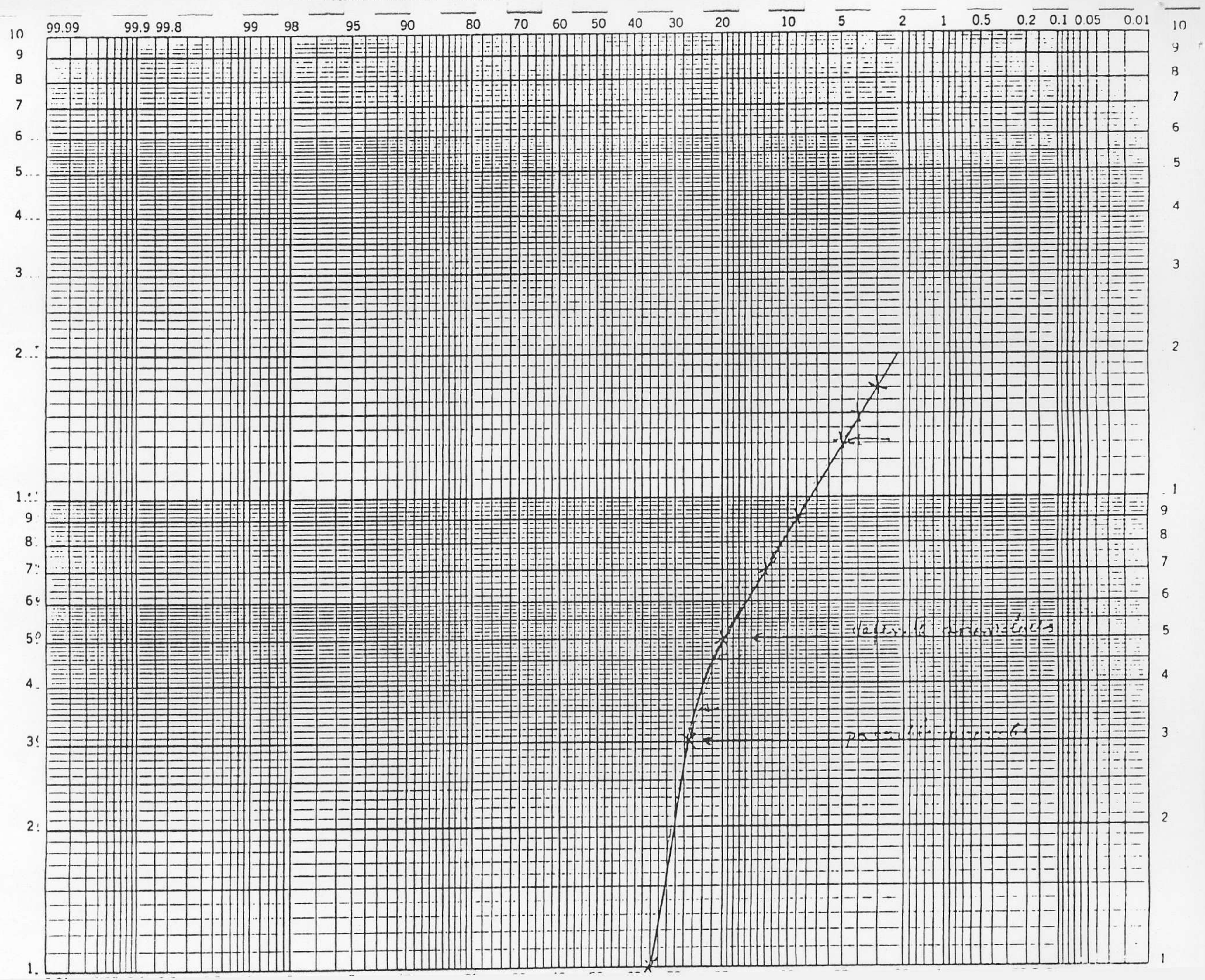
As	x + 1 x S.D.	=	132.75
	x + 2 x S.D.	=	224.96
Cu	x + 1 x S.D.	=	168.42
	x + 2 x S.D.	=	279.94
Pb	x + 1 x S.D.	=	7.37
	x + 2 x S.D.	=	11.69
Co	x + 1 x S.D.	=	28.99
	x + 2 x S.D.	=	46.18
Hg(ppb)	x + 1 x S.D.	=	195.93
	x + 2 x S.D.	=	284.65

$\overline{x}$ = arithmetic mean

σ = standard deviation

As

Range	Frequency	Cumulative Frequency	Cumulative % Frequency	Relative Frequency
1-20	157	157	64	64.0
21-40	22	179	73	9.0
41-60	18	197	80	7.3
61-80	15	212	87	6.1
81-100	10	222	91	4.1
101-120	6	228	93	2.4
121-140	4	232	95	1.6
141-160	2	234	96	.82
161-180	2	236	97	.82
>180	8	244	100	3.2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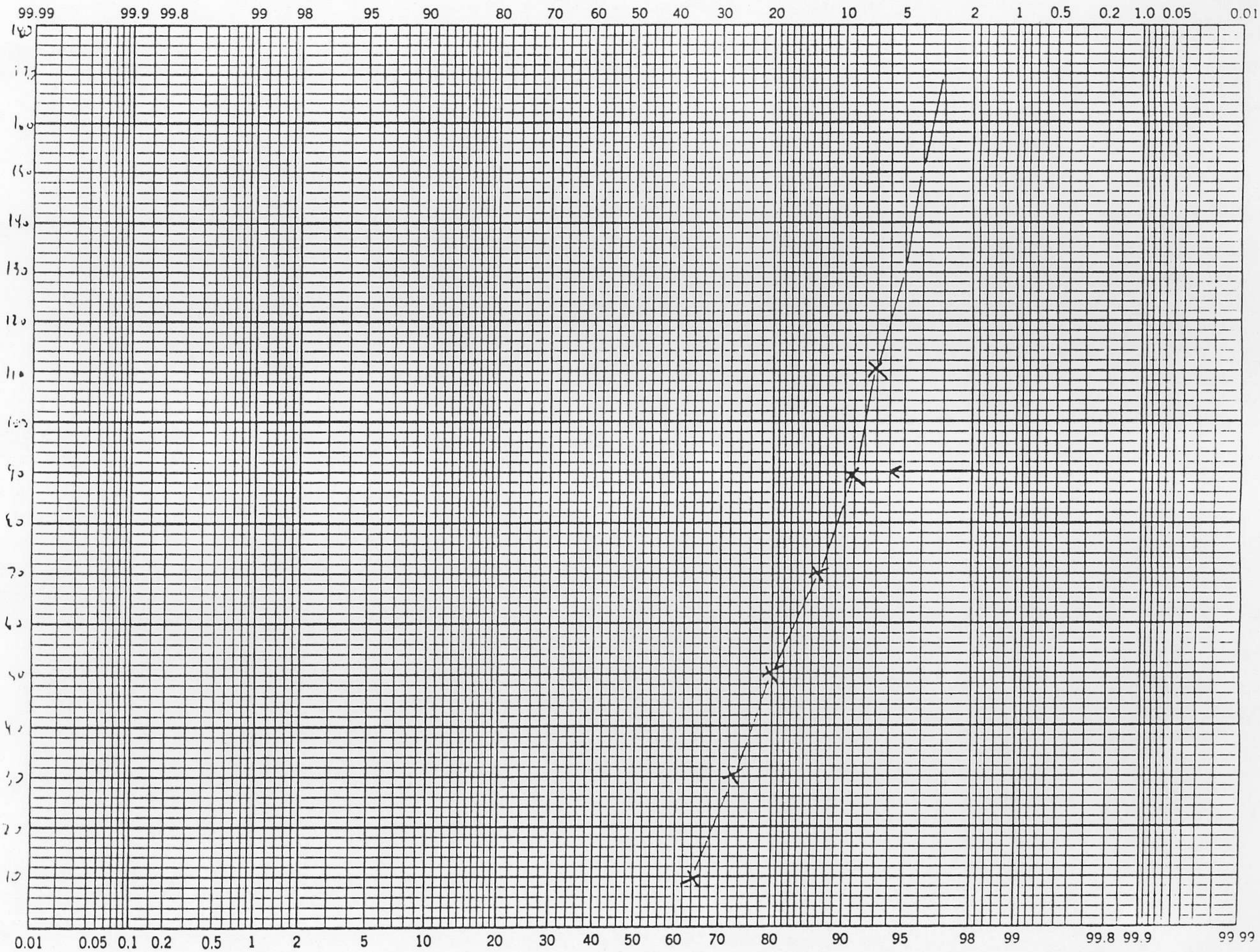
As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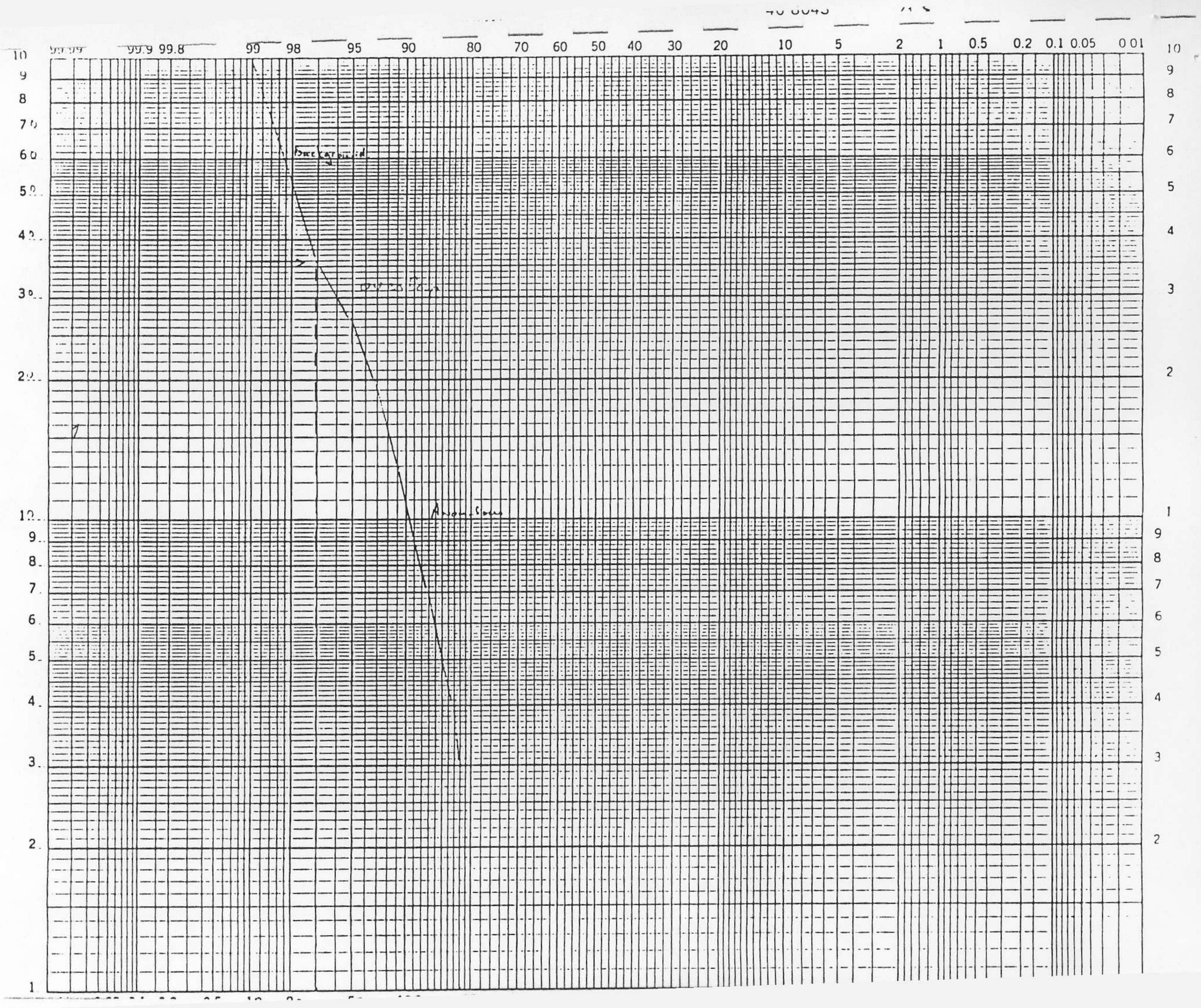

Background
Anomalous

Co

Range	Frequency	Cumulative Frequency	Cumulative % Frequency	Relative Frequency
1-5	107	107	44	43.8
6-10	52	159	65	21.0
11-15	36	195	80	14.7
16-20	16	211	86	6.5
21-25	12	223	91	4.9
26-30	2	225	92	0.8
31-35	5	230	94	2.0
36-40	3	233	95	1.2
41-45	0	233	95	0
46-50	4	237	97	1.6
51-55	0	237	97	0
56-60	1	238	98	0.4
61-65	1	239	98	0.4
66-70	1	240	99	0.4
71-75	0	240	99	0
>75	4	244	100	1.6

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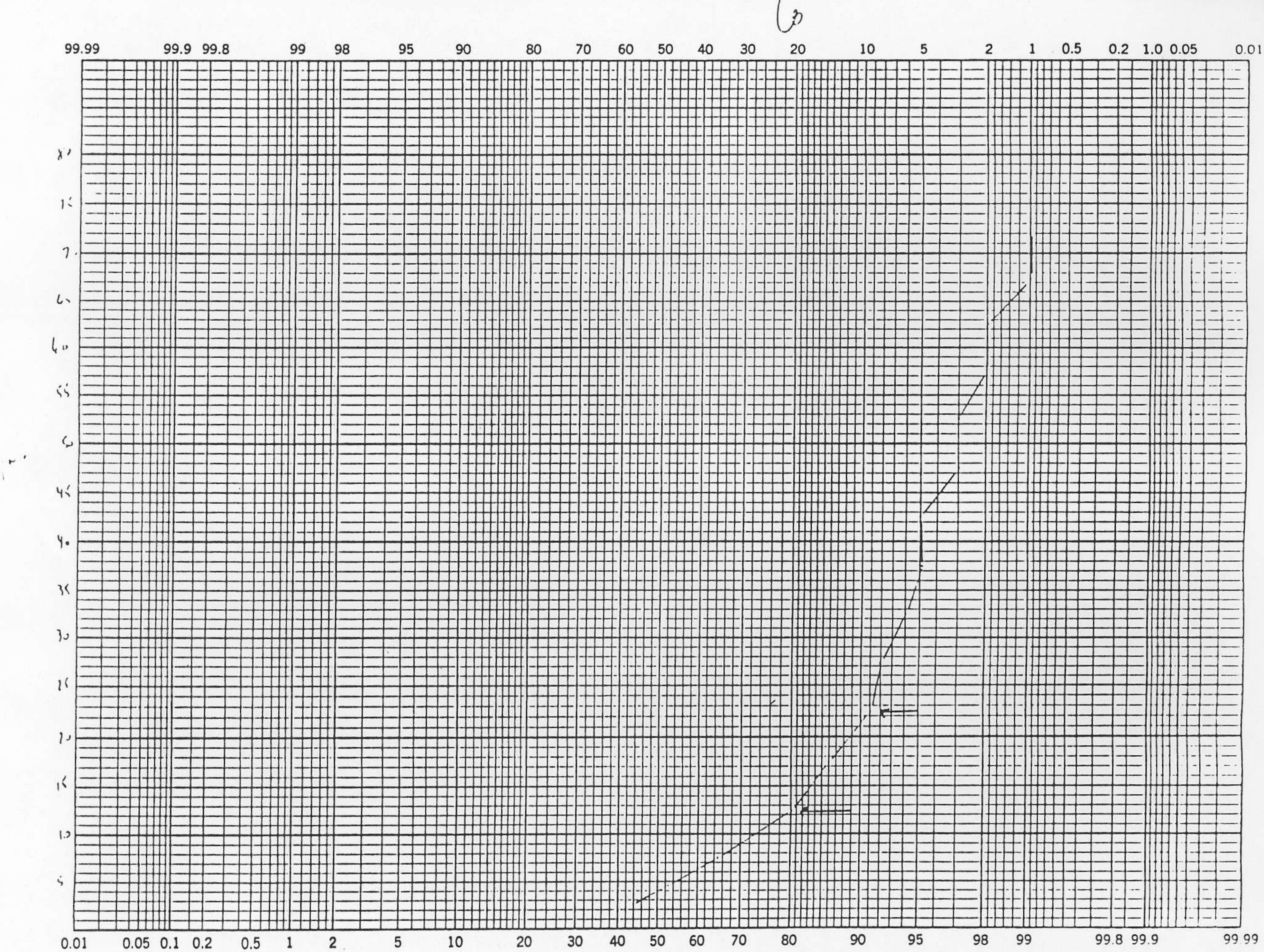

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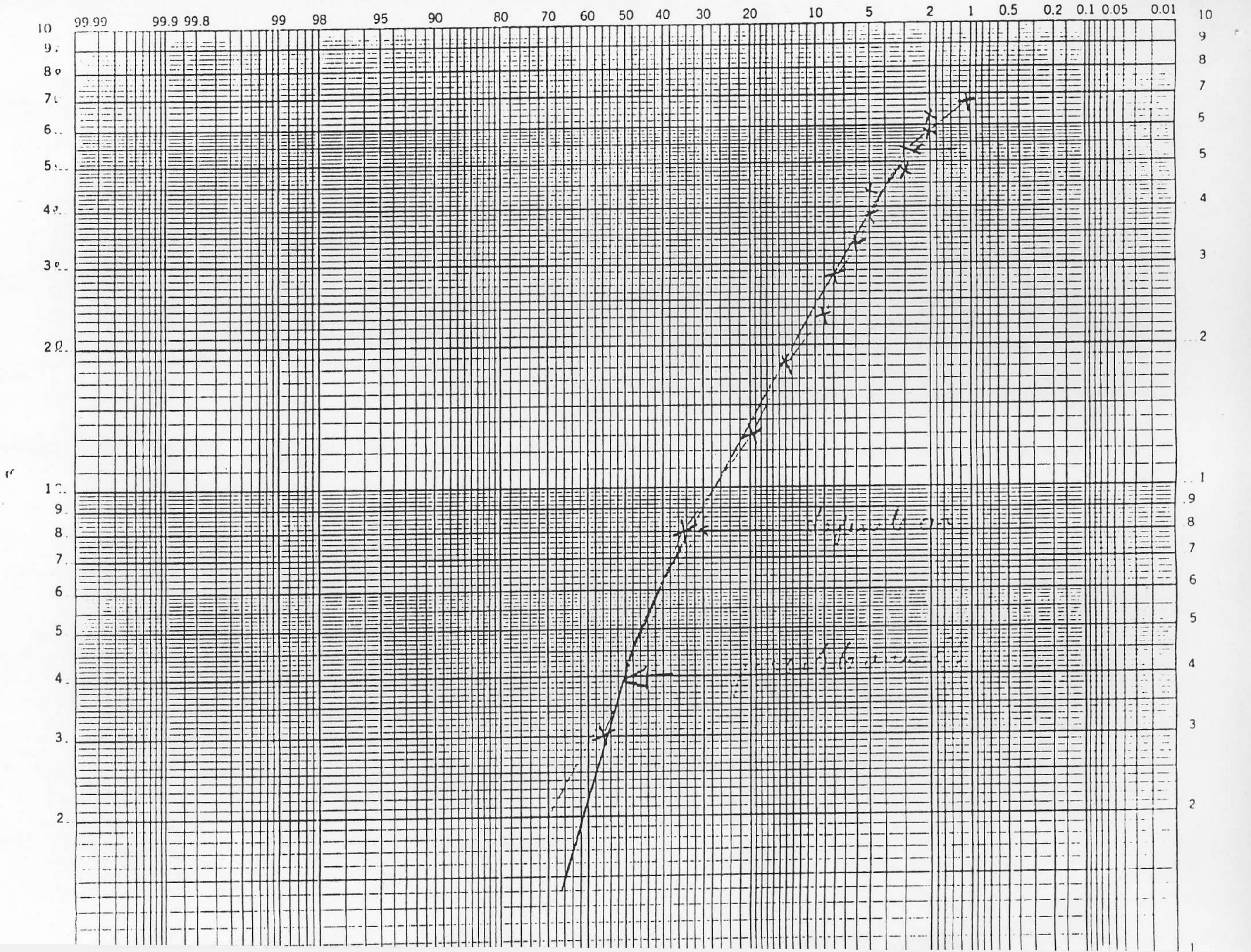

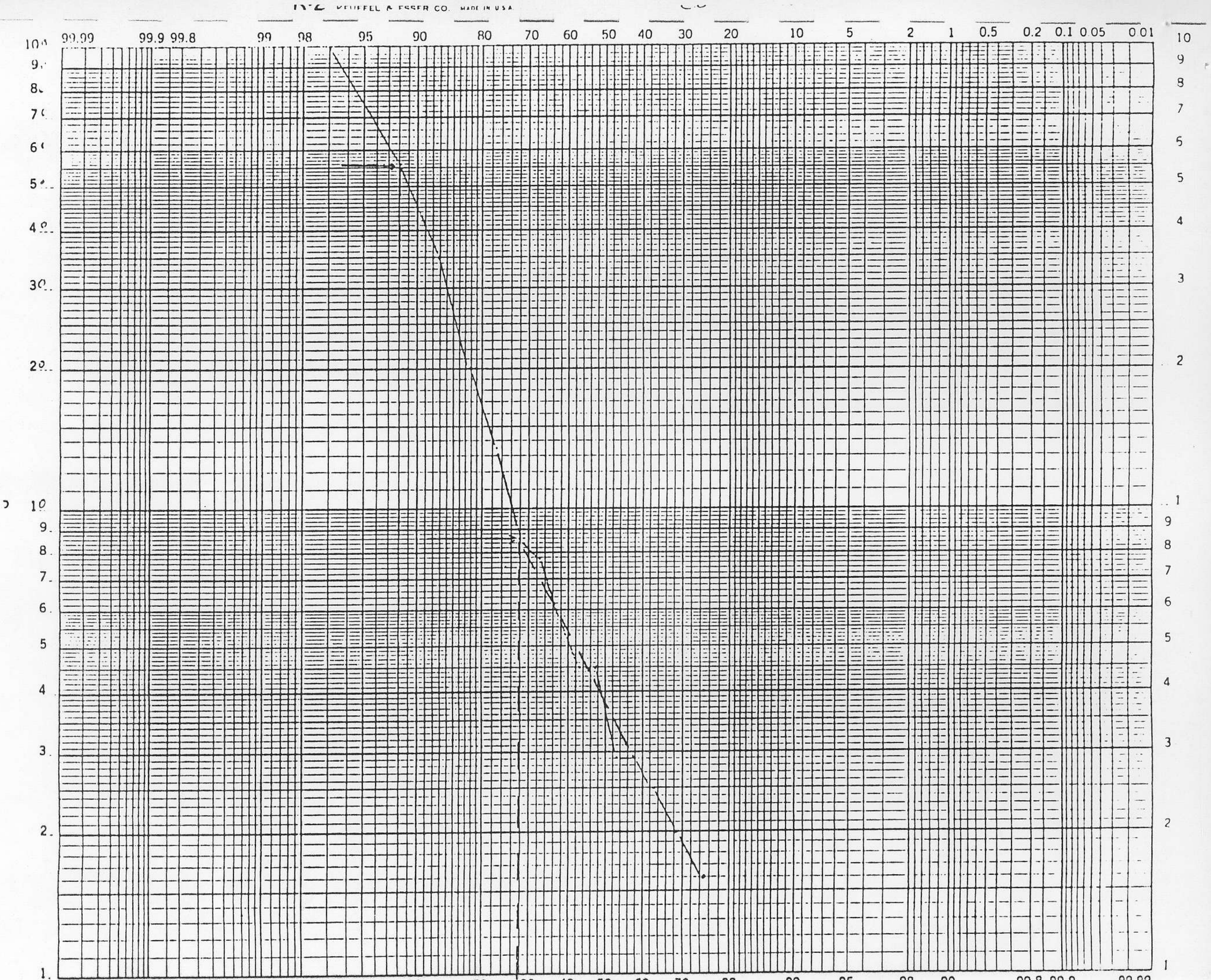
KEUFFEL & ESSER CO. MADE IN U.S.A.
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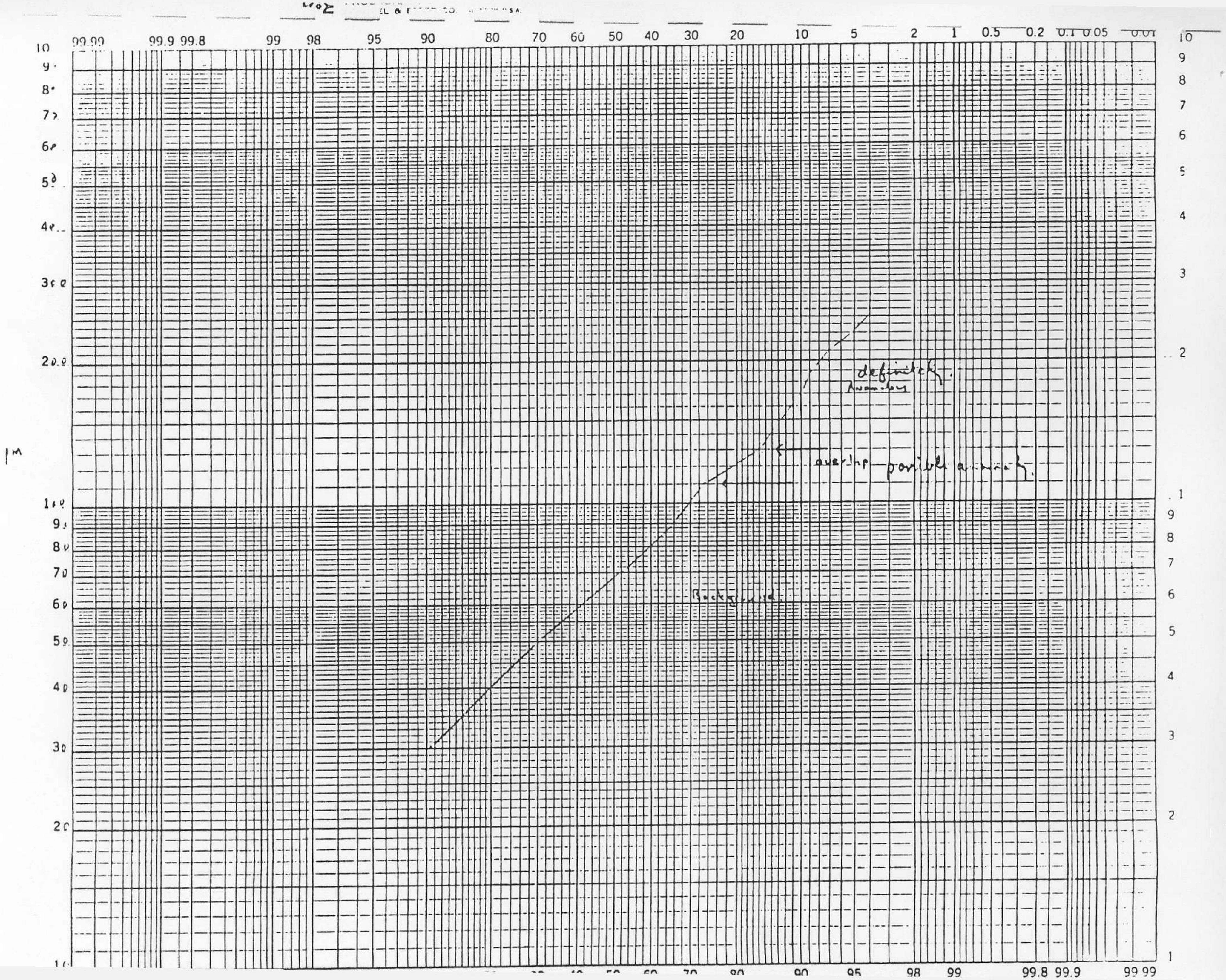
Hg

Range	Frequency	Cumulative Frequency	Cumulative % Frequency	Relative Frequency
21-40	26	26	10.6	10.6
41-60	48	74	30	19.6
61-80	54	128	52	22.1
81-100	32	160	66	13.1
101-120	19	179	73	7.8
121-140	27	206	84	11.0
141-160	6	212	87	2.4
161-180	7	219	90	2.8
181-200	2	221	91	.82
201-220	6	227	93	2.4
221-240	6	233	95	2.4
241-260	2	235	96	.82
261-280	0	235	96	0
281-300	0	235	96	0
>300	9	244	100	3.6



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PROBABILITY X 90 DIVISIONS

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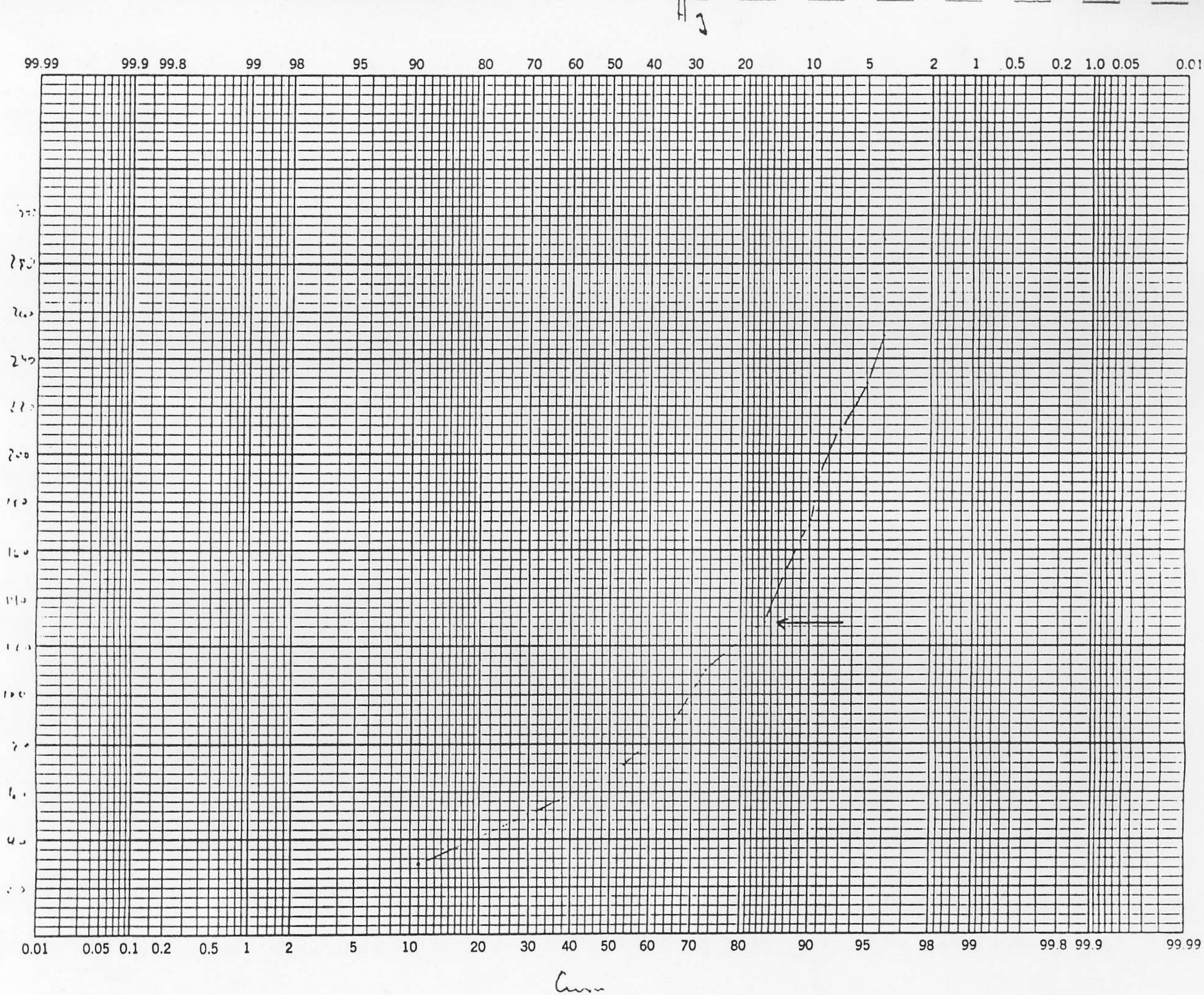
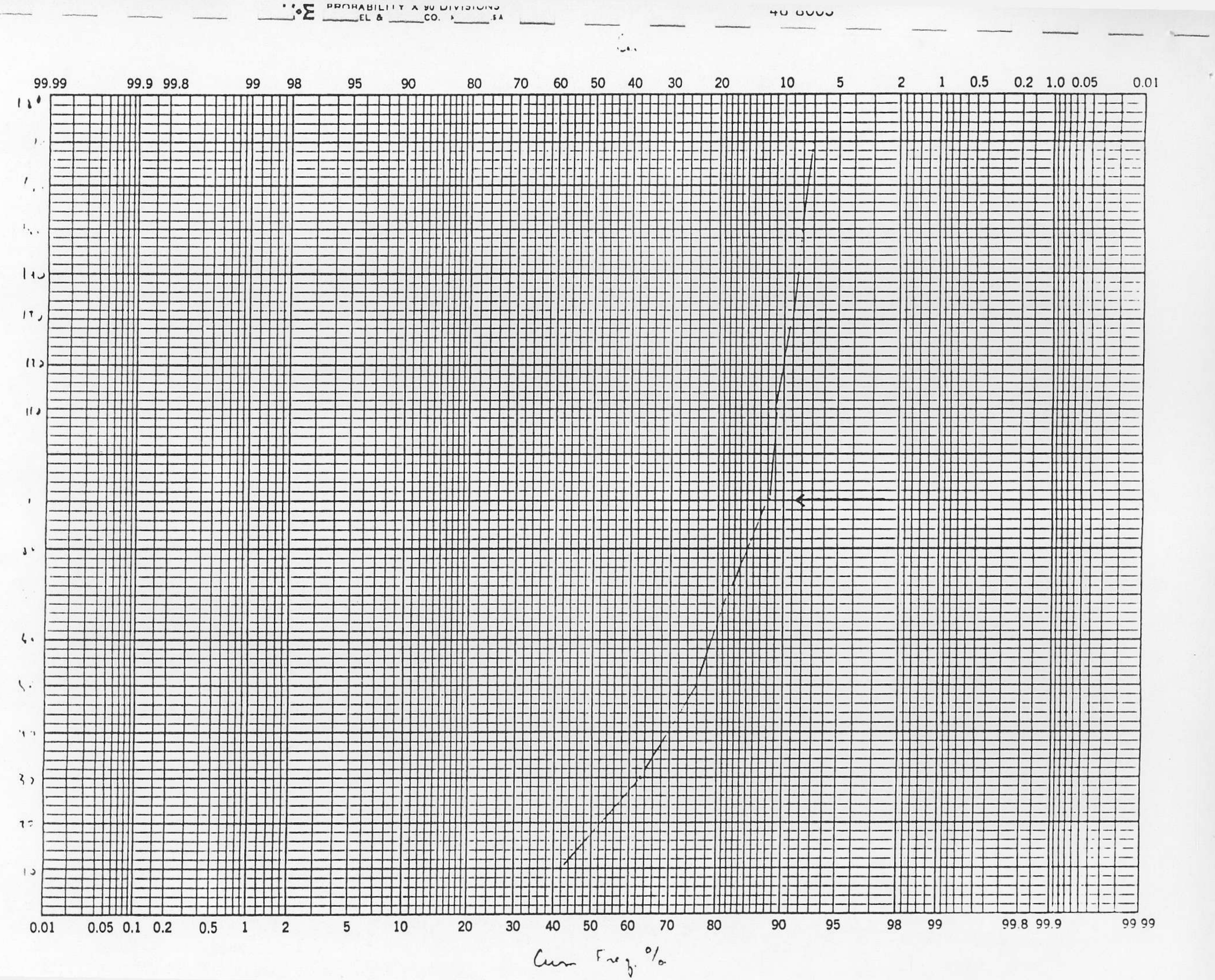


Cu

Range	Frequency	Cumulative Fequency	Cumulative % Frequency	Relative Frequency
1-20	103	103	42	42.2
21-40	50	153	63	20.5
41-60	33	186	76	13.5
61-80	15	201	82	6.1
81-100	14	215	88	5.7
101-120	4	219	89	1.6
121-140	4	223	91	1.6
141-160	2	225	92	.82
161-180	3	228	93	1.2
181-200	2	230	94	.82
201-220	1	231	95	.4
221-240	1	232	95	.4
>240	12	244	100	4.9



PROBABILITY X 90 DIVISIONS
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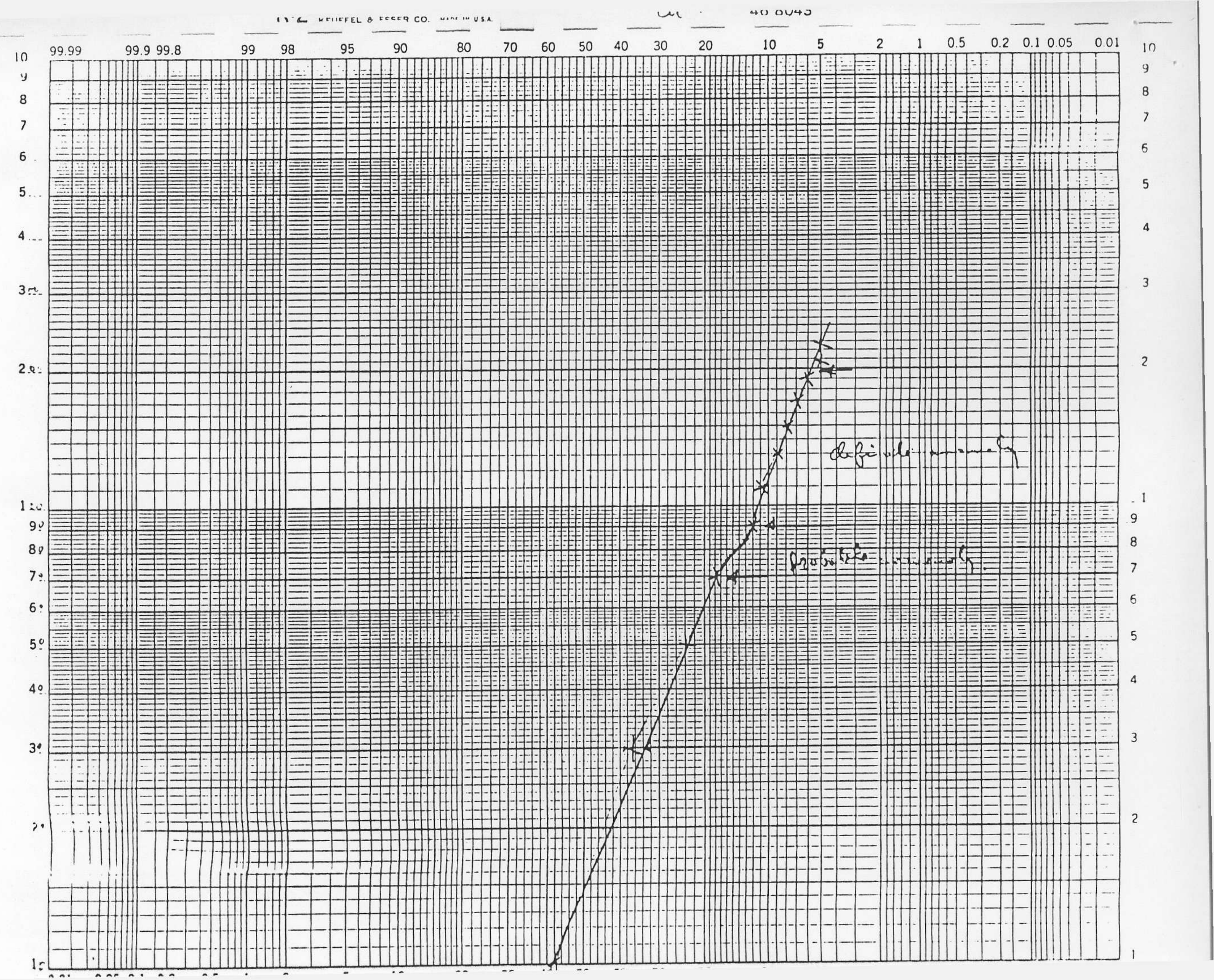
Cum Freq %



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10 9 8 7 6 5 4 3 2 1

Brinco
GROUP

INTER-OFFICE MEMORANDUM

To: R.S. Hewton Date: May 23, 1984

From: W.R. Epp File No.

Subject: A.A. GEOCHEMICAL ANALYSIS vs I.C.P. TREATMENT OF IRON COP GRID SOILS

Copies: A.A. Burgoyne

A total of 50 soil sample pulps from the Iron Cop grid originally analysed by Chemex Labs for Cu, Pb, Ag, Co, As and Au by the A.A. method were re-submitted to Acme Labs for I.C.P. multi-element analysis.

The aim of the re-submittal was to determine if the substantially cheaper I.C.P. method would produce similar data as the A.A. analysis and also whether I.C.P. would be effective in detecting the same anomalies in detailed grid soil geochemical programs.

Twenty-five samples were discriminantly selected and twenty-five were randomly selected from a batch of 244 soil samples.

The attached Table 1 illustrates the criteria used for discriminant selection.

RESULTS

Copper

I.C.P. results were consistently lower than the A.A. data, however the average ratio of values was only 1.15:1 (A.A. : I.C.P.). The range of ratios was 1 : 1 to 2 : 1, however the higher ratios tended to occur within the lower range of non-anomalous values.

Lead

Lead response from I.C.P. was more erratic and less predictable than for other elements. Non-anomalous Pb values obtained by A.A. lay within the 1 - 5 ppm range. The same samples yielded I.C.P. results ranging from 2 - 15 times the A.A. value. Employment of Pb geochemistry in exploration has always been somewhat spurious and is perhaps more so with I.C.P. Anomalous Pb (A.A. method) samples, however, yielded relatively similar ppm values using the I.C.P. method (Ex. 5050E/4775N) indicating its possible usefulness in dealing with samples containing known elevated lead concentrations.

A.A. Geochemical Analysis vs I.C.P. Treatment of Iron Cop Grid Soils

Silver

Silver A.A. to I.C.P. result ratios ranged from 1 : 1 to 1 : 6 (.1 ppm to .6 ppm), however results were mostly within .2 ppm of each other. The one definitely A.A. anomalous value of 2.6 ppm (5000N/5000E) yielded 2.4 ppm by the I.C.P. method.

Cobalt

Cobalt geochemical values for both methods lie within reasonable ranges of each other; the mean ratio of A.A. : I.C.P. was 1.35 : 1. Analysing for cobalt by I.C.P. likely would not have missed anomalies on the Iron Cop grid.

Arsenic

Arsenic values obtained from I.C.P. analysis upon eyeball examination were similar to A.A. results. If the four high A.A. : I.C.P. ratios were eliminated (9.5 : 1, 5.5 : 1, 4.5 : 1, 3.5 : 1) then the average ratio was 1:15 : 1. The higher A.A./I.C.P. ratios occurred within the lower range values (i.e. 1 - 20 ppm) whereas the higher anomalies produced ratios of 1.01 to 1.1 : 1.

CONCLUSIONS

Results of this pilot study indicates that based upon a 50 sample population from the Iron Cop grid, values for Cu, Ag, Co and As obtained by A.A. analysis were reproduced (within reasonable ranges) by the I.C.P. technique and anomalies detected by the A.A. method would also be detected by I.C.P. Pb results did not correlate as well as the other elements.

The results are therefore positive and indicate that orientation work of this nature is useful in future exploration strategies. If, on a particular property, I.C.P. techniques adequately produce similar data as A.A. methods then use of I.C.P. techniques can save exploration dollars for utilization elsewhere.

In addition, interesting results in the other elements have been highlighted on enclosed I.C.P. data sheets.

W.R. Epp

WRE/bc

TABLE 1

SAMPLES DISCRIMINANTLY SELECTED FOR I.C.P. TREATMENT

Sample Nos. E	Sample Nos. N	No. of Population	Conditions	Individual Sample
4750	4750	10	all high Au	anomalous Co
4750	4825			anomalous Cu, Pb
4750	4875			weak anomalous Cu
4900	4950			all other low
4950	4850			high Cu
4950	5000			high Cu
4950	5250			all low
5000	5000			high Cu, Ag, low As, Co
5050	5025			all low
5150	5075			all low
5300	5225	3	all non-anomalous in all elements	
5250	5025B			
5300	5150			
5050	4825	4	all high As - low to moderate others	
5300	5025			
4950	4750			
5150	4750			
4750	4950	4	high Cu - low others (possible As - 81 ppm)	
4950	5025			
5300	4775			
4900	4850			
5050	4775	1	anomalous Pb - low others except Co - 92 ppm	
4750	5150	3	high Hg	
4900	5000			
5300	4925			
		25		

ACME ANALYTICAL LABORATORIES LTD. 852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-3 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK CHIPS

DATE RECEIVED: MAY 4 1984 DATE REPORT MAILED: May 9/84 ASSAYER. D. Toye. .DEAN TOYE. CERTIFIED B.C. ASSAYER

BRINCO PROJECT # 8116-HART LAKE FILE # 84-0666

SAMPLE#	MO PPM	[redacted]	ZN PPM	[redacted]	NI PPM	[redacted]	MN PPM	FE %	[redacted]	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM
4750E 4725N	3	[redacted]	51	[redacted]	18	[redacted]	1927	5.93	[redacted]	2	ND	2	9	2	2	2	147	.15	.07	2	35	.28	31	.04	4	2.61	.01	.02	2
4750E 4750N	3	[redacted]	46	[redacted]	59	[redacted]	2060	8.29	[redacted]	2	ND	2	18	1	2	2	124	.47	.05	2	[redacted]	[redacted]	31	.09	2	3.14	.01	.03	2
4750E 4825N	6	[redacted]	107	[redacted]	38	[redacted]	3056	5.37	[redacted]	2	ND	2	20	2	2	2	92	.95	.16	2	56	.69	62	.02	3	3.17	.01	.04	2
4750E 4875N	1	[redacted]	43	[redacted]	30	[redacted]	603	11.26	[redacted]	4	ND	2	4	3	2	7	169	.08	.07	21	[redacted]	.98	12	.10	[redacted]	[redacted].13	.01	.06	2
4750E 4950N	2	[redacted]	41	[redacted]	33	[redacted]	1337	8.64	[redacted]	2	ND	2	24	1	2	2	139	.73	.10	2	91	.77	52	.02	2	4.33	.01	.04	2
4750E 5125N	1	[redacted]	12	[redacted]	9	[redacted]	185	5.34	[redacted]	2	ND	2	9	1	2	2	180	.13	.03	2	29	.11	6	.17	4	1.08	.01	.02	2
4750E 5150N	1	[redacted]	42	[redacted]	[redacted]	[redacted]	2727	6.84	[redacted]	2	ND	2	8	2	6	2	104	.16	.08	2	[redacted]	[redacted]	17	.03	3	3.69	.01	.03	2
4800E 5200N	1	[redacted]	25	[redacted]	27	[redacted]	238	3.77	[redacted]	2	ND	2	8	1	2	2	174	.13	.02	2	74	.70	7	.23	2	2.68	.01	.03	2
4850E 4925N	1	[redacted]	14	[redacted]	4	[redacted]	111	7.57	[redacted]	2	ND	2	4	1	2	2	226	.05	.03	2	29	.07	10	.15	2	1.27	.01	.03	2
4850E 4950N	1	[redacted]	13	[redacted]	5	[redacted]	30	.94	[redacted]	2	ND	2	24	1	2	2	51	.17	.04	2	33	.12	6	.08	4	.65	.01	.03	2
4850E 5250N	1	[redacted]	39	[redacted]	11	[redacted]	433	10.04	[redacted]	3	ND	2	4	1	6	3	72	.06	.11	2	9	.13	11	.01	7	1.55	.01	.03	2
4900E 4850N	8	[redacted]	31	[redacted]	9	[redacted]	246	8.83	[redacted]	2	ND	2	4	1	4	2	[redacted]	.02	.05	3	31	.25	8	.01	5	1.35	.01	.03	2
4900E 4950N	1	[redacted]	15	[redacted]	8	[redacted]	114	1.75	[redacted]	2	ND	2	7	1	3	2	83	.08	.04	2	41	.34	8	.05	3	1.49	.01	.04	2
4900E 4975N	2	[redacted]	15	[redacted]	15	[redacted]	104	7.38	[redacted]	2	ND	2	5	1	2	2	[redacted]	.20	.02	2	48	.27	7	.27	2	1.71	.01	.03	2
4900E 5000N	2	[redacted]	37	[redacted]	13	[redacted]	755	8.12	[redacted]	2	ND	2	5	1	4	2	134	.16	.08	2	38	.15	33	.01	2	4.07	.01	.04	2
4900E 5125N	1	[redacted]	33	[redacted]	48	[redacted]	234	4.81	[redacted]	2	ND	2	17	1	2	2	103	.24	.04	2	34	[redacted]	11	.14	2	1.66	.01	.07	2
4950E 4750N	7	[redacted]	17	[redacted]	13	[redacted]	182	6.73	[redacted]	2	ND	2	7	1	2	2	[redacted]	.12	.11	2	50	.15	7	.29	2	.95	.01	.02	2
4950E 4850N	8	[redacted]	30	[redacted]	13	[redacted]	993	9.38	[redacted]	2	2	2	6	1	[redacted]	2	199	.09	.05	2	43	.30	14	.13	2	1.69	.01	.05	2
4950E 4975N	1	[redacted]	23	[redacted]	38	[redacted]	178	6.96	[redacted]	2	ND	2	8	1	2	2	228	.28	.03	2	82	.78	7	.22	2	2.29	.01	.04	2
4950E 5000N	[redacted]	[redacted]	19	[redacted]	13	[redacted]	183	10.39	[redacted]	2	ND	2	6	1	2	4	[redacted]	.04	.03	2	63	.39	12	.05	10	1.89	.01	.03	2
4950E 5025N	4	[redacted]	24	[redacted]	12	[redacted]	205	7.63	[redacted]	2	ND	2	7	1	2	2	215	.08	.04	2	72	.55	20	.04	2	3.12	.01	.04	2
4950E 5050N	2	[redacted]	14	[redacted]	10	[redacted]	115	6.12	[redacted]	2	ND	2	6	1	2	2	[redacted]	.08	.02	2	37	.27	8	.15	3	1.62	.01	.03	2
4950E 5250N	1	[redacted]	18	[redacted]	4	[redacted]	47	1.27	[redacted]	2	ND	2	6	1	2	2	80	.09	.06	2	30	.13	7	.10	3	1.46	.01	.03	2
5000E 4825N	1	[redacted]	43	[redacted]	1	[redacted]	40	.08	[redacted]	2	ND	2	28	1	2	2	3	.44	.06	2	3	.08	14	.01	6	.08	.01	.06	2
5000E 5000N	1	[redacted]	45	[redacted]	29	[redacted]	474	8.62	[redacted]	3	2	2	10	1	2	2	165	.17	.04	2	57	.92	12	.20	2	2.98	.01	.04	2
5000E 5175N	1	[redacted]	19	[redacted]	20	[redacted]	154	8.76	[redacted]	2	ND	2	4	2	2	3	[redacted]	.23	.03	4	25	.45	4	.22	10	1.94	.01	.03	2
5050E 4775N	1	[redacted]	50	[redacted]	14	[redacted]	2361	.58	[redacted]	2	ND	2	20	1	2	2	11	[redacted]	.16	5	6	.06	30	.02	9	2.02	.01	.07	2
5050E 4825N	1	[redacted]	87	[redacted]	35	[redacted]	1949	6.64	[redacted]	2	ND	2	11	2	6	2	99	.42	.12	2	38	.69	37	.06	3	2.21	.01	.04	2
5050E 4950N	1	[redacted]	15	[redacted]	6	[redacted]	114	1.67	[redacted]	2	ND	2	9	1	2	3	120	.15	.03	2	33	.32	6	.33	2	.90	.01	.03	2
5050E 5025N	1	[redacted]	11	[redacted]	3	[redacted]	63	2.54	[redacted]	2	ND	2	3	1	2	2	119	.03	.02	2	18	.11	16	.06	2	1.76	.01	.05	2
5050E 5100N	1	[redacted]	16	[redacted]	17	[redacted]	91	4.23	[redacted]	2	ND	2	7	2	2	2	159	.16	.04	2	71	.63	8	.20	3	1.25	.01	.06	2
5100E 4825N	1	[redacted]	39	[redacted]	20	[redacted]	455	6.47	[redacted]	2	ND	2	7	2	2	2	161	.16	.06	2	36	.88	8	.19	4	2.17	.01	.02	2
5100E 4900N	1	[redacted]	19	[redacted]	1	[redacted]	14	.07	[redacted]	2	ND	2	27	1	2	2	2	.48	.06	2	3	.09	5	.01	4	.10	.01	.03	2
5100E 4950N	1	[redacted]	11	[redacted]	2	[redacted]	15	.04	[redacted]	2	ND	2	34	1	2	2	2	.19	.05	2	3	.14	8	.01	5	.11	.01	.04	2
5100E 5075N	1	[redacted]	29	[redacted]	30	[redacted]	312	11.02	[redacted]	2	ND	2	21	3	2	[redacted]	[redacted]	.14	.03	[redacted]	83	1.04	4	.31	[redacted]	2.94	.01	.02	2
5150E 4750N	1	[redacted]	24	[redacted]	18	[redacted]	336	9.72	[redacted]	2	ND	2	4	2	2	5	[redacted]	.05	.08	13	40	.14	6	.29	[redacted]	1.21	.01	.02	2
5150E 5075N	1	[redacted]	22	[redacted]	16	[redacted]	162	5.52	[redacted]	5	ND	2	3	2	2	2	205	.04	.04	2	110	.25	5	.15	5	1.22	.01	.01	2
5150E 5100N	1	[redacted]	13	[redacted]	3	[redacted]	33	.40	[redacted]	2	ND	2	9	1	2	2	25	.13	.06	2	18	.05	18	.03	3	.79	.01	.01	2
STD A-1	1	[redacted]	183	[redacted]	36	[redacted]	953	2.78	[redacted]	2	ND	2	36	1	2	2	56	.63	.10	7	66	.64	253	.10	8	2.22	.01	.20	2

SAMPLE#	MO PPM	[redacted]	[redacted]	ZN PPM	[redacted]	NI PPM	[redacted]	MN PPM	FE %	[redacted]	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM
5150E 5150N	1	[redacted]	[redacted]	21	[redacted]	11	[redacted]	103	3.07	[redacted]	2	ND	2	7	1	7	2	100	.10	.07	6	26	.26	17	.04	4	1.93	.01	.02	2
5150E 5200N	1	[redacted]	[redacted]	22	[redacted]	3	[redacted]	22	.32	[redacted]	2	ND	2	31	1	2	2	13	.67	.07	2	4	.11	13	.02	6	.26	.02	.02	2
5200E 5025N	1	[redacted]	[redacted]	14	[redacted]	12	[redacted]	140	6.53	[redacted]	2	ND	2	7	1	4	2	124	.16	.04	12	20	.31	15	.17	4	1.55	.01	.02	2
5250E 5025N	1	[redacted]	[redacted]	24	[redacted]	7	[redacted]	109	4.72	[redacted]	2	ND	2	7	1	4	2	161	.12	.05	8	43	.18	9	.21	5	1.24	.01	.02	2
5250E 5050N	1	[redacted]	[redacted]	14	[redacted]	5	[redacted]	53	.55	[redacted]	2	ND	2	6	1	2	2	70	.15	.03	3	37	.13	11	.21	4	.41	.02	.03	2
5300E 4775N	1	[redacted]	[redacted]	31	[redacted]	16	[redacted]	306	10.84	[redacted]	3	ND	2	6	1	2	5	199	.12	.15	92	51	.25	18	.24	3	1.02	.01	.02	2
5300E 4925N	1	[redacted]	[redacted]	115	[redacted]	25	[redacted]	789	11.87	[redacted]	2	ND	2	6	1	2	4	144	.43	.09	[illegible]	40	.51	11	.04	6	3.22	.01	.02	2
5300E 4975N	[illegible]	[redacted]	[redacted]	113	[redacted]	9	[redacted]	84	1.83	[redacted]	3	ND	2	3	1	2	2	[illegible]	.06	.02	3	14	.04	4	.12	8	.24	.01	.01	2
5300E 5025N	3	[redacted]	[redacted]	19	[redacted]	11	[redacted]	815	9.94	[redacted]	5	ND	2	6	1	2	3	[illegible]	.16	.13	59	60	.05	7	.13	5	.35	.01	.01	2
5300E 5150N	1	[redacted]	[redacted]	32	[redacted]	1	[redacted]	12	.29	[redacted]	2	ND	2	35	1	2	2	2	.23	.03	2	2	.12	23	.01	10	.14	.02	.01	2
5300E 5200N	1	[redacted]	[redacted]	19	[redacted]	2	[redacted]	10	.56	[redacted]	2	ND	2	4	1	2	2	10	.04	.08	2	6	.02	10	.02	5	.70	.01	.02	2
5300E 5225N	1	[redacted]	[redacted]	11	[redacted]	2	[redacted]	12	.16	[redacted]	2	ND	2	11	1	2	2	3	.03	.04	2	4	.05	8	.01	2	.33	.01	.02	2
STD A-1	1	[redacted]	[redacted]	188	[redacted]	35	[redacted]	939	2.77	[redacted]	2	ND	2	36	1	2	2	55	.62	.10	7	64	.63	249	.10	7	2.00	.02	.19	2

APPENDIX 2

LITHOGEOCHEMISTRY - IRON COP

APPENDIX 2

LITHOGEOCHEMISTRY - IRON COP

Sample Desc.	Location	Prep Code	Cu ppm	Ag ppm	AS ppm	Au ppb FA+AA	Lithological Description
E 84-1	5000N/5000E	205	>10000	12.7	35	1,900	qtz v + semi mx sulphide + chl + cp
E 84-2		205	>10000	26.0	19	6,500	mx py in chl bs
E 84-3	5000N/5075E	205	1530	1.1	4	75	bs + chl, pv ep. + silic
E 84-4	5010N/5175E	205	2200	1.7	94	160	Ax + Sil. + Chl.(w) py
E 84-5	5020N/5275E	205	110	0.4	16	5	Ax + chl + qtz v (w) py
E 84-6	} overridge to E.	205	128	0.3	4	5	float Ax + chl (w) py (w) ep
E 84-8		205	35	0.1	3	5	weath, felsic - gr. Hg
E 84-9		205	55	0.2	2	5	bs bx + (s) chl, ep
E 84-10	5175N/5260E	205	23	0.3	5	5	f/gr int→bs qtz-eb v + (w) ep, + (w) chl
E 84-11	Float "	205	260	0.5	12	10	banded cherty Ax
E 84-12	5075N/5250E	205	23	0.3	30	<5	qtz diorite
E 84-13	4960N/5300E	205	17	0.4	2	5	m/gr Ax→bs + ep-qtz v
E 84-16	5150N/5200E	205	273	0.3	7	<5	banded cherty Ax - din py along fract
E 84-17	4970N/5200E	205	21	0.4	5	5	diorite/gabbro
E 84-18	4870N/5200E	205	220	0.5	5	<5	f/gr Ax→bs - rel abund fract py
E 84-19	4840N/5200E	204	61	0.4	3	< 5	f/gr Ax (w) chl, f/gr py
E 84-20	4825N/5145E	205	82	0.3	2	<5	f/gr Ax
E 84-21	5100N/5040E	205	6	0.1	2	5	Ax/Dec- qtz eyes?
E 84-22	5010N/5050E	205	25	0.3	1	<5	Ax→bs pv, ep, chl
E 84-23	4925N/5050E	205	83	0.1	1	5	Ax (s) ep, chl
E 84-24	4925N/4995E	205	433	0.1	3	15	Bs + epv ± qtz v + (w) mal
E 84-25	5050N/5000E	205	>10000	1.3	3	425	Bs + (s) sil, (s) ep, (s) chl + py + mal
E 84-26	5275N/4990E	205	390	0.3	6	< 5	Bs + (w) ep
E 84-27A	5000N/4980E	205	197	0.2	2	10	Bs + mag + chl

(Cont'd.)

Sample Desc.	Location	Prep Code	Cu ppm	Ag ppm	AS ppm	Au ppb FA+AA	Lithological Description
E 84-27B	5000N/4970E	205	38	0.3	2	5	Bs
E 84-28		205	70	0.2	2	5	Bs f/gr + qtz-ep v
E 84-29	4975N/4970E	205	440	0.3	2	40	Bs + chl + ep + sil + py, mal. in qtz v
E 84-30	4960N/4960E	205	>10000	18.7	15	4,000	Semi mx sulph, in qtz-chl -hem matrix
E 84-31	5100N/4950E	205	1300	0.7	2	20	Bs→Diabase (s) chl fol. + dim py
E 84-32	4960N/4850E	205	460	0.3	4	100	Bs - f/gr (s) ep v (m) chl (m) Sil + py
E 84-33	4900N/4850E	205	>10000	6.5	15	+10,000	qtz v sulphides
E 84-34	4890N/4850E	205	314	0.5	1	475	Bs - f/gr green + qtz - ep v
E 84-35	5150N/4870E	205	170	0.4	1	130	Bs frag + (m) chl + (w) ep + cb
E 84-36	4890N/4890E	205	41	0.4	1	30	Ax→Bs + chl + (w) ep
E 84-37	4820N/4840E	205	423	0.5	1	35	Bs lithic frag (s) chl (w) py
E 84-38A	4775N/4755E	205	82	0.1	3	20	Bs Sil (s) py in fract ep-pv-Stringers
E 84-38B		205	15	0.3	3	20	?
E 84-39A		205	9	0.5	2	15	?
E 84-39B	5000N/4750E	205	14	0.3	1	10	Bs f/gr spot ep qtz v - diss mag
E 84-40	4974N/4800E	205	152	0.4	2	10	qv + mal stains
E 84-41	4925N/4800E	205	127	0.2	1		Diabase + py + chl alf + (w) qtz v
E 84-42A	5125N/4770E	205	40	0.3	1		Bs + pv ep, pv chl pv Sil + py

APPENDIX 2

(Cont'd.)

Sample Desc.	Location	Prep Code	Cu ppm	Ag ppm	AS ppm	Au ppb FA+AA	Lithological Description
E 84-42B	4972E/4977N	205	5500	2.9	6		Qtz + sulphides
E 84-43	4875N/4750E	205	41	0.4	1	?	Bs - f/gr, mag
E 84-44	4800N/4750E	205	22	0.3	1	?	Bs + chl, f/gr, ep clots
2951D	Highway 2 km N of Seyward	205	40	0.3	1		propylite, green qtz eye paph

APPENDIX 2

(Cont'd.)

Sample Desc.	Location	Prep Code	Cu %	Au FA oz/T
E 84-1		214	5.75	--
E 84-2		214	6.89	--
E 84-25		214	1.05	--
E 84-30		214	10.00	--
E 84-33		214	2.88	2.758

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2
TELEPHONE (604) 984 0
TELEX 043-525

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : BRINCO MINING LIMITED

704 - 602 WEST HASTINGS STREET,
VANCOUVER, B.C.
V6B 1P2

ATTN: BOB HEWTON & W. EPP

CERT. # : A8411306-00
INVOICE # : I8411306
DATE : 16-APR-84
P.O. # : NONE
8116-HARTLAKE

Sample description	Location	Prep code	Cu ppm	Ag ppm	AS ppm	Au ppb FA+AA
E 84-1	5000N/5000E	205	>10000	12.7	35	1950
E 84-2		205	>10000	26.0	19	6500
E 84-3	5000N/5075E	205	1530	1.1	4	75
E 84-4	5010N/5175E	205	2200	1.7	94	160
E 84-5	5020N/5275E	205	110	0.4	16	5
E 84-6		205	128	0.3	4	5
E 84-8	? over ridge	205	35	0.1	3	5
E 84-9	to E.	205	55	0.2	2	5
E 84-10	5175N/5260E	205	23	0.3	5	5
E 84-11	FLOAT "	205	260	0.5	12	10
E 84-12	5075N/5250E	205	23	0.3	30	<5
E 84-13	4960N/5300E	205	17	0.4	2	5
E 84-16	5150N/5200E	205	273	0.3	7	<5
E 84-17	4770N/5200E	205	21	0.4	5	5
E 84-18	4870N/5200E	205	220	0.5	5	<5
E 84-19	4840N/5200E	205	61	0.4	3	<5
E 84-20	4825N/5145E	205	82	0.3	2	<5
E 84-21	5100N/5040E	205	6	0.1	2	5
E 84-22	5010N/5050E	205	25	0.3	1	<5
E 84-23	4925N/5050E	205	83	0.1	1	5
E 84-24	4975N/4975E	205	433	0.1	3	15
E 84-25	5050N/5000E	205	>10000	1.3	3	<25
E 84-26	5275N/4990E	205	390	0.3	6	[illegible]
E 84-27A	5000N/4950E	205	197	0.2	2	[illegible]
E 84-27B	5000N/4970E	205	38	0.3	2	5
E 84-28	?	205	70	0.2	2	[illegible]
E 84-29	4975N/4170E	205	440	0.3	2	<10
E 84-30	4960N/4960E	205	>10000	18.7	15	4000
E 84-31	5100N/4950E	205	1300	0.7	2	[illegible]
E 84-32	4960N/4850E	205	460	0.3	4	[illegible]
E 84-33	4900N/4850E	205	>10000	6.5	15	+10,000
E 84-34	4890N/4850E	205	314	0.5	1	475
E 84-35	5150N/4870E	205	170	0.4	1	130
E 84-36	4810N/4850E	205	41	0.4	1	20
E 84-37	4820N/4840E	205	423	0.5	1	75
E 84-38A	4775N/4755E	205	82	0.1	3	20
E 84-38B	"	205	15	0.3	3	20
E 84-39A	"	205	9	0.5	2	15
E 84-39B	5000N/4750E	205	14	0.3	1	10
E 84-40	4974N/4800E	205	152	0.4	2	10

Lithological Description
- qtz v + [illegible]
- mx py in chl bs
- bs + cil, py ep + silica
- Ax + Sil. + chl (w) py
- Ax + chl + qtz v (w) py
- float Ax + chl (w) py [illegible]
- weak felsic - gritty
- bs bx + si cil, ep
- f/gr [illegible] bs qtz-cb v + (w) ep + [illegible]
- banded [illegible] to Ax
- qtz diorite
- m/gr Ax -> bs - ep-qtz v
- banded [illegible] - dis py [illegible]
- diorite/gabbro
- f/gr [illegible] - [illegible]
- f/gr Ax [illegible], f/gr py.
- f/gr Ax
- Ax / Dac - qtz eyes.
- Ax -> bs py ep, chl
- Ax (s) ep, cil.
- Bs + ep v ± qtz v + [illegible] mal.
- Bs + [illegible], (s) ep, Sil [illegible]
- Bs + (w) ep
- Bs + mag + chl.
- Bs
- Bs f/gr + qtz-ep v
- Bs + cil + ep + Sil. + py, mal
- Sem. mx sulph. in qtz-[illegible]
- Bs -> Diabase S) cil. fd.
- Bs - f/gr (s) ep v (m) cil [illegible]
- qtz v + sulphides.
- Bs - f/gr green + qtz-[illegible]
- Bs frag + (m) [illegible] + (w) ep [illegible]
- Ax -> Bs + chl + (w) ep.
- Bs lithic frag (s) cil (w) [illegible]
- Bs Sil (s) py fract. [illegible]
- ?
- ?
- Bs - f/gr [illegible] ep. qtz v - [illegible]
- qv + mal stains

CTA MEMBER CANADIAN TESTING ASSOCIATION

Certified by .

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

2?2 BROOKSBANK A
NORTH VANCOUVER
CANADA V7J

TELEPHONE (604) 984-
TELEX 043 52

CERTIFICATE OF ANALYSIS

TO : BRINCO MINING LIMITED

704 - 602 WEST HASTINGS STREET,
VANCOUVER, B.C.
V6B 1P2

ATTN: BOB HEWTON & W. EPP

CERT. # : A8411306-0
INVOICE # : I8411306
DATE : 16-APR-84
P.O. # : NONE
8116-HARTLAKE

Sample description		Prep code	Cu ppm	Ag ppm	AS ppm	Au ppb FA+AA	
E 84-41	4925N/4800E	205	127	0.2	1	--	Diabase + py + chl [illegible]
E 84-42A	5925N/4770E	205	40	0.3	1		Bs + pu ap, [illegible]
E 84-42B	4972E/4977N	205	5500	2.9	6		qtz + sulphides.
E 84-43	4875N/4750E	205	41	0.4	1		Bs - f[illegible], mag
E 84-44	4800N/4750E	205	22	0.3	1		Bs + chl, f[illegible], ep [illegible]
2951D	HIGHWAY 2Km N of SEYWARD.	205	40	0.3	1		propylite [illegible] qtz [illegible]

Certified by ..

CHEMEX LABS LTD.

212 BROOKSBANK AV[illegible]
NORTH VANCOUVER, B.[illegible]
CANADA V7J 2C[illegible]
TELEPHONE: (604) 984-02[illegible]
TELEX: 043-525[illegible]

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

BRINCO MINING LIMITED

704 - 602 WEST HASTINGS STREET,
VANCOUVER, B.C.
V6B 1P2

ATTN: R. HEWTON & W. EPP

CERT. # : A8411443-00[illegible]
INVOICE # : I8411443
DATE : 3-MAY-84
P.O. # : NONE
8116-HARTLAKE

Sample description	Prep code	Cu %	Au FA oz/T				
E 84-1	214	5.75	--	--	--	--	--
E 84-2	214	6.89	--	--	--	--	--
E 84-25	214	1.05	--	--	--	--	--
E 84-30	214	10.00	--	--	--	--	--
E 84-33	214	2.88	2.758	--	--	--	--

Registered Assayer, Province of British Colum[illegible]

MEMBER
CANADIAN TESTING
ASSOCIATION

APPENDIX 3

LITHOGEOCHEMISTRY - WILF AREA

APPENDIX 3

LITHOGEOCHEMISTRY - WILF AREA

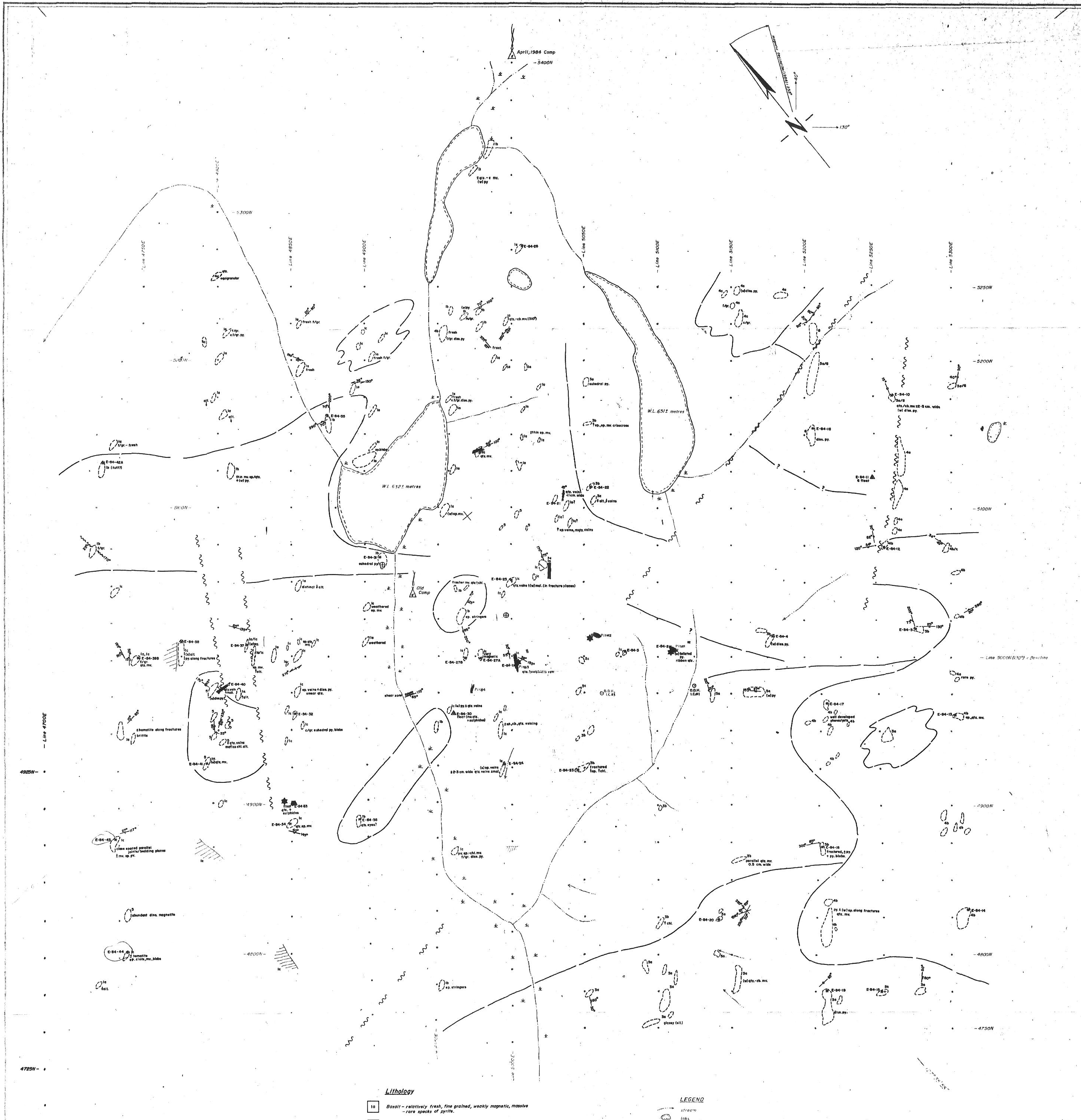
Sample No.	Location	Field Description
E-84-50	5000N/5015E	- intensely altered (Si-ep) basaltic volcanic + (s) chlorite
E-84-51	5000N/5015E	- qtz diorite - large abundant horn/bio planes in ep-Si chl matrix
E-84-52	5010N/5060E	- (s) ep alt fg bs - veined- shows 3 generations of veining
E-84-53	downstream - RL400m recvy	- totally si-alt volc band in propylitic basalt
E-84-54	adjacent to 53	- cherty, totally si-alt banded rock and diss py
E-84-55	30 m downstream from 53 recvy	- totally silicified (dirty qtz) - increase in py from 54
E-84-56	RL350m downstream	- basaltic volcanic + (m) chlorite + ep mv
E-84-57	RL325m downstream	- leucogranite - <5% chloritized mafics
E-84-58	RL315m downstream	- (s) ep + (s) chl (8) sheared basic rock
E-84-59	RL300m	- leucocratic granite?/massive qtz?
E-84-60	RL365m	- leuco-granite
E-84-61	5260N/5150E	- basalt near contact with granite (s) ep/Si/chl
E-84-62	5170N/5130E	- hydro fractured/brecciated bs by Ep-Si-chl ±(w) py
E-84-63	5090N/5135E	- polymictic lapilli tuff
E-84-64	4700N/5000E	- float - ep-chl-alt intermediate volc - smear malachite
E-84-65	4700N/5163E	- chloritic basalt Ep-mv decrease in sil, increase in chl
E-84-66	4750N/5150E	- (s) alt basic - Ep-Si-mv - pervasive (w) diss. py
E-84-67	4690N/4785E	- fg dark magnetic basalt - rel. abund. diss. py - small mv ep
E-84-68	4800N/5150E	- qtz-ep-py veins in silicified ep-chl alt. volc ± hem
E-84-69	4800N/5200E	- propylite
E-84-70	4875N/5125E	- prophyrite - a metasomatic fracture? flow rock - qtz eyes? K spar abundant
E-84-71	4875N/5050E	- mg bs with 2 cm wide ep alt bands crosscut by later qtz veins
E-84-72	4900N/5060E	- totally silicified band in propylite
E-84-73	4900N/5025E	- granite differentiate - qtz diorite
E-84-74	4950N/4750E	- float - totally si-alt volc
E-84-75	4970N/4910E	- massive magnetite, abundant epidote, oxid, lim, py
E-84-76	5700N/5162E	- semi mx py in silicified zone bounded by propylite
E-84-77	5700N/5162E	- fg dark bs rock + pv diss ep + (w) py
E-84-78	5060N/5068E	- 0.8 m channel across shear zone ± semi mx py
E-84-79	5060N/5068E	- rock adjacent to shear (w side) propylitic bs

APPENDIX 3 (cont'd)

Sample No.	Location	Field Description
E-84-80	5060N/5068E	- rock adjacent to shear (E side) propylitic bs
E-84-81	5100N/5045E	- chip channel over 6 m - rel fresh bs hornfels? ± cpy, mal, py
E-84-82	5105N/5020E	- channel (0.4 m) across mx magnetite/epidote ± cpy
E-84-83	5105N/5020E	- F/W chl-ep-alt fg bs
E-84-84	5105N/5020E	- H/W porphyritic rock (as E-84-70)
E-84-85	?	- ?
E-84-86	5045N/4875E	- fg chl bs Ep-Si veins ± (w) pyrite
E-84-87	5045N/4875E	- 0.7 m alt zone - total Si-ep V + mal, cpy, py
E-84-88	5075N/4900E	- dirty qtz - total Si + py + argentite?
E-84-89	5075N/4900E	- dirty qtz - total Si sil + py
on creek adjacent	5075N/4900E	
E-84-90	5090N/4890E	- hydro breccia - epidote - magnetite + diss and bleb py
E-84-91	5100N/4900E approx.	- mx py + ep chl matrix
E-84-92	5005N/5000E	- chip channel over 2 m totally Si - pale grey aphanitic rock
E-84-93	5000N/4940E	- Trench #1 - porphyritic rock - as E-84-70
E-84-94-105	5000N/4940E	- chip channels over 2 m each - Trench #1
E-84-106	5020N/4975E	- total silicif + semi mx py zones in basic hornfels
E-84-107	5090N/4975E	- Trench #6 - total sil + py + ep - poss argentite?
E-84-108	below Trench #6	- total sil + py + ep - poss argentite?
E-84-109	5170N/4765E	- purplish ep bx + (s) silicif - dense network of crisscross ep mv
E-84-110	5185N/4775E	- aphanitic mag bs + silicified zone 0.1 - 0.3 m wide
E-84-111	5250N/4825E	- ep v in bs + silicif (w) bx (w-m) diss py
E-84-112	5225N + river	- silicified propylite
E-84-113	uphill from 112	- poss native silver - silic-ep-(propylite)
E-84-114	5700N/5175E	- propylite + diss py
E-84-115	5100N/5115E	- totally Si-ep alt rock oxid ± (w) hem
E-84-116	Recvy RL 470m uphill	- bs rock? - hybrid
E-84-117	Recvy RL 515m	- silicified hybrid (x with granite)
E-84-118	4500N/5230E	- py in propylitically alt bs
E-84-120-135	Trench #2	- 2 m chip channel each

APPENDIX 3 (cont'd)

Sample No.	Location	Field Description
HW-84-1	5075N/4850E	-)
HW-84-2	5079N/4850E	-) slide area - rusty qtz
HW-84-3	4975N/4860E	- by creek - mag; py
HW-84-4	5086N/4961E	- small pit - qtz + py
HW-84-5	5112N/4942E	- 0.2 m py vein
HW-84-6	5054N/4981E	- 0.01 m py + ep + qtz
HW-84-7	5060N/5010E	- 0.06 m smokey qtz v
HW-84-8	4963N/4906E	
CH-1-17	Trench #3	- channels x 1 m



Lithology

1a	Basalt – relatively fresh, fine grained, weakly magnetic, massive – rare specks of pyrite.
1b	Chloritized Basalt – pervasive dark chloritic alteration of mafic minerals – usually non-magnetic
1c	Propylitic Basalt – differentiated from 1b by the presense of pale green pervasive epidote, strong epidote clotting and veining, ± silicification. – often contains micro qtz. veins ± weak copper mineralization.
2	Basaltic Pyroclastics – fine grained tuff and lithic tuff – calcite, silicate matrix.
3a	Andesite – relatively fresh and fine grained – weakly disseminated pyrite.
3b	Chloritic Andesite
3c	Propylitic Andesite – bleached pale green epidote/chlorite altered, ± quartz veins, ± silicification.
4a	Microdiorite/Diorite – coarse grained equivalent of Andesite. – often has stubby feldspar + hornblende + pyroxene phenocrysts. – contains rare specks of pyrite.
4b	Chloritized Microdiorite/Diorite.
4c	Epidotized Microdiorite/Diorite.
5	Diabase/Gabbro – coarse grained equivalent of basaltic volcanics. – mafic phenocrysts often altered to chlorite. ± disseminated pyrite.
6	Cherty Andesite – laminated, banded, fine grained, silicified Andesite with chert interbands. – often glassy and with weakly disseminated pyrite.

LEGEND

- stream
- lake
- cliffs
- swamp
- helicopter pad
- outcrop
- float rock
- pit or vein
- E-84-5 rock chip sample + nomenclature.
- foliation.
- joint
- fault

alt.	alteration
chl.	chlorite
diss.	disseminated
ep.	epidote
f/gr., c/gr.	fine grain, coarse grain
mv.	microvein
pv.	pervasive
qtz.	quartz
sil.	silicification
(s),(m),(w)	strong, medium, weak
↑	increasing
↓	decreasing

BRINCO MINING LIMITED

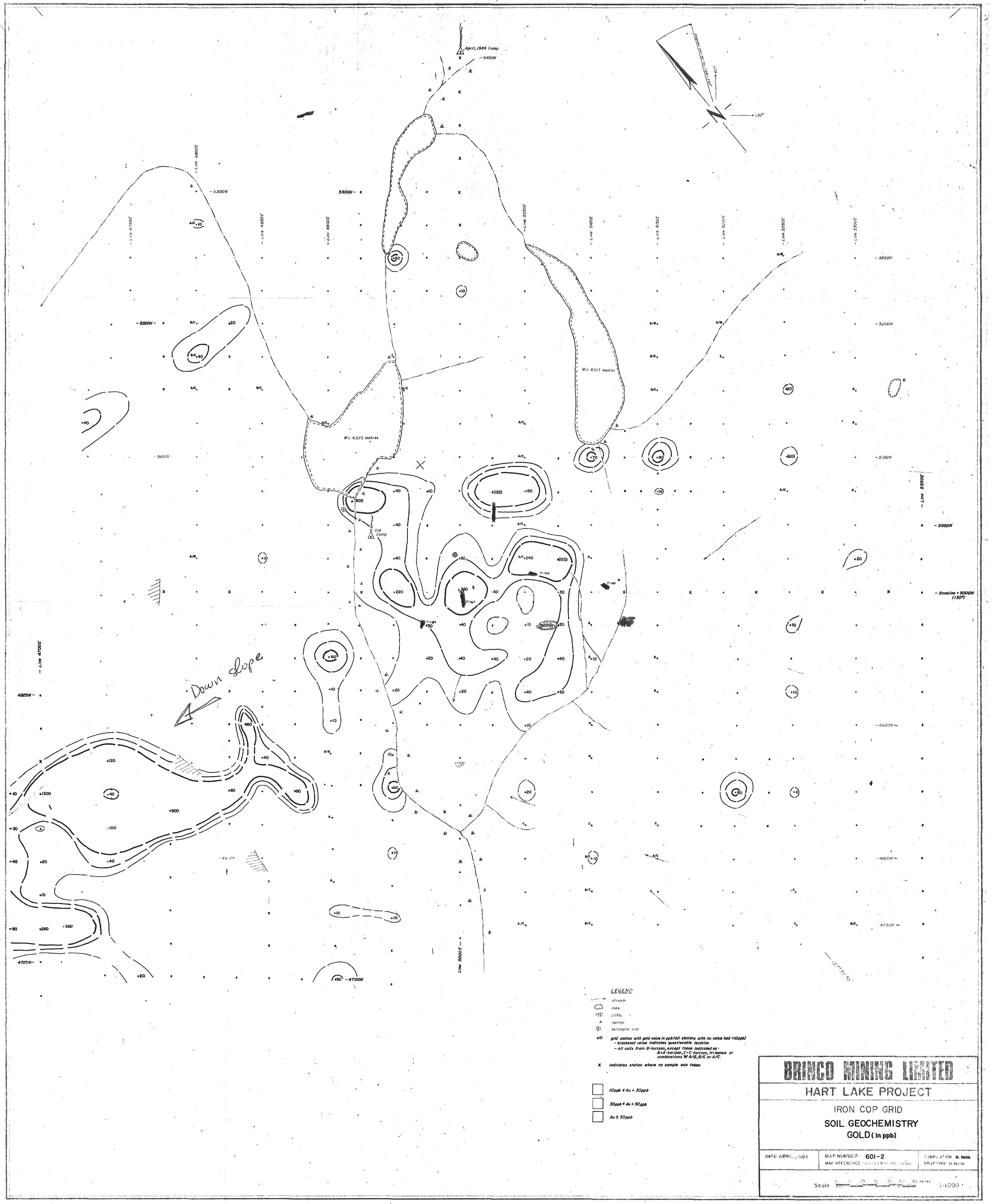
HART LAKE PROJECT

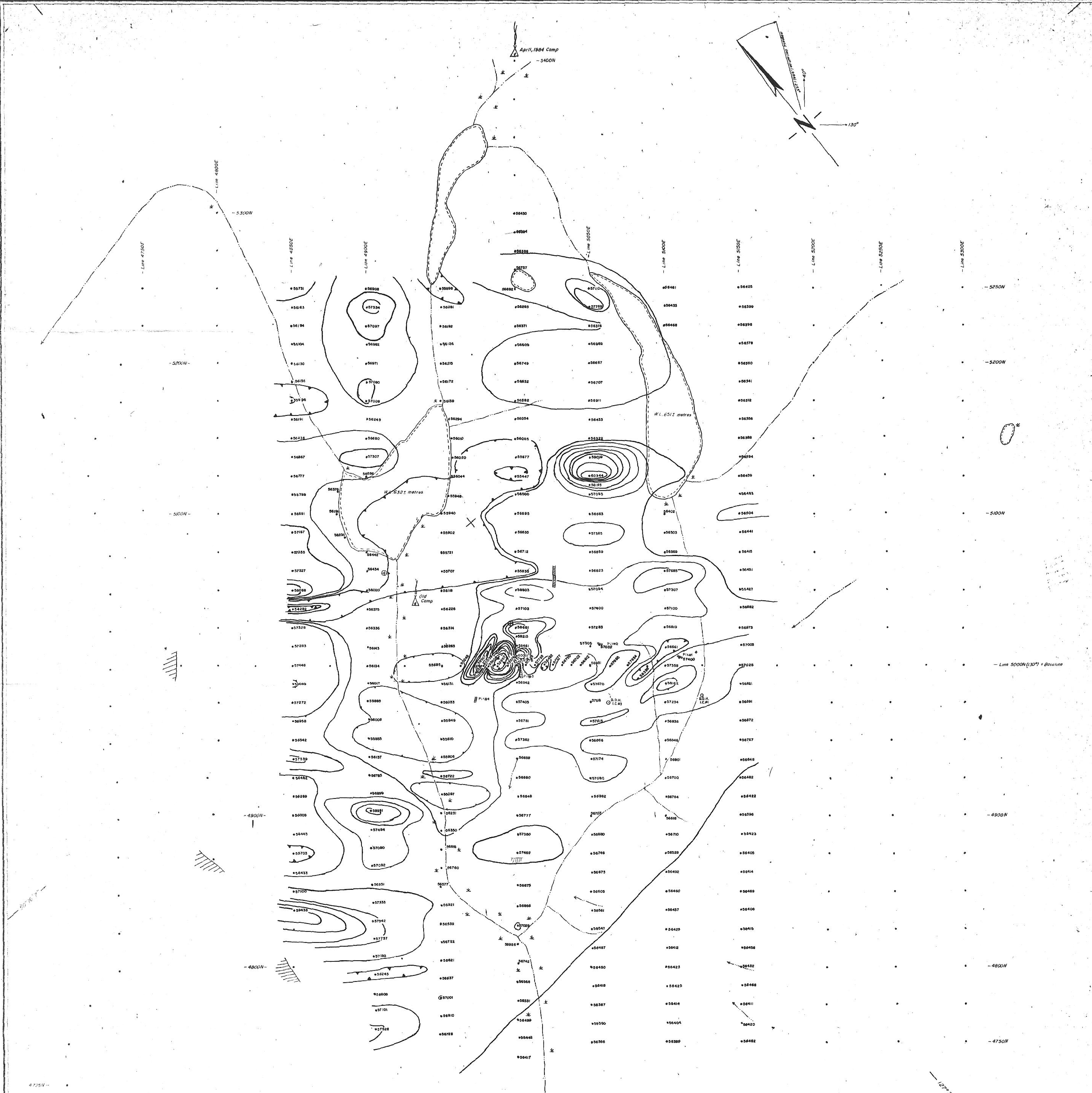
IRON COP GRID

INTERPRETATIVE GEOLOGY

DATE: APRIL, 1984	MAP NUMBER: 601-1 MAP REFERENCE: 92 L/5 (Mahatta Creek)	COMPILATION: B. Epp DRAFTING: H. Holm

Scale 0 10 20 30 40 50 60 metres 1:1000


April, 1984 Camp
5400N
5300N
Line 4800E
Line 4750E
Line 4850E
Line 4900E
Line 5050E
Line 5100E
Line 5150E
Line 5200E
Line 5250E
Line 5300E
Line 5350E
Line 4700E
Line 5000E
5250N
5200N
5100N
5050N
5000N
4925N
4900N
4800N
4750N
4725N
4700N
Baseline = 5000N (130°)
W.L. 6321 metres
W.L. 6313 metres
Old Camp
Down slope
130°
LEGEND
stream
lake
cliffs
swamp
helicopter pad
grid station with gold value in ppb (all stations with no value had <10ppb)
- bracketed value indicates questionable location
- all soils from B-horizon, except those indicated as: A=A-horizon, C=C-horizon, H=humus or combinations of A/B, B/C or A/C.
indicates station where no sample was taken.
10ppb ≤ Au < 30ppb
30ppb ≤ Au < 50ppb
Au ≥ 50ppb
BRINCO MINING LIMITED
HART LAKE PROJECT
IRON COP GRID
SOIL GEOCHEMISTRY
GOLD (in ppb)
DATE: APRIL, 1984
MAP NUMBER: 601-2
COMPILATION: H. Holm
DRAFTING: H. Holm
Scale 0 10 20 30 40 50 60 metres
1:1000



LEGEND

- stream
- lake
- cliffs
- swamp
- helicopter pad

•56462 grid station with magnetometer reading (total field) in gammas.

Contoured at 55,000, 56,000, 57,000, 58,000 and 59,000 gamma intervals.

Note: Instrument — Geometrics Model G816 Proton Magnetometer.

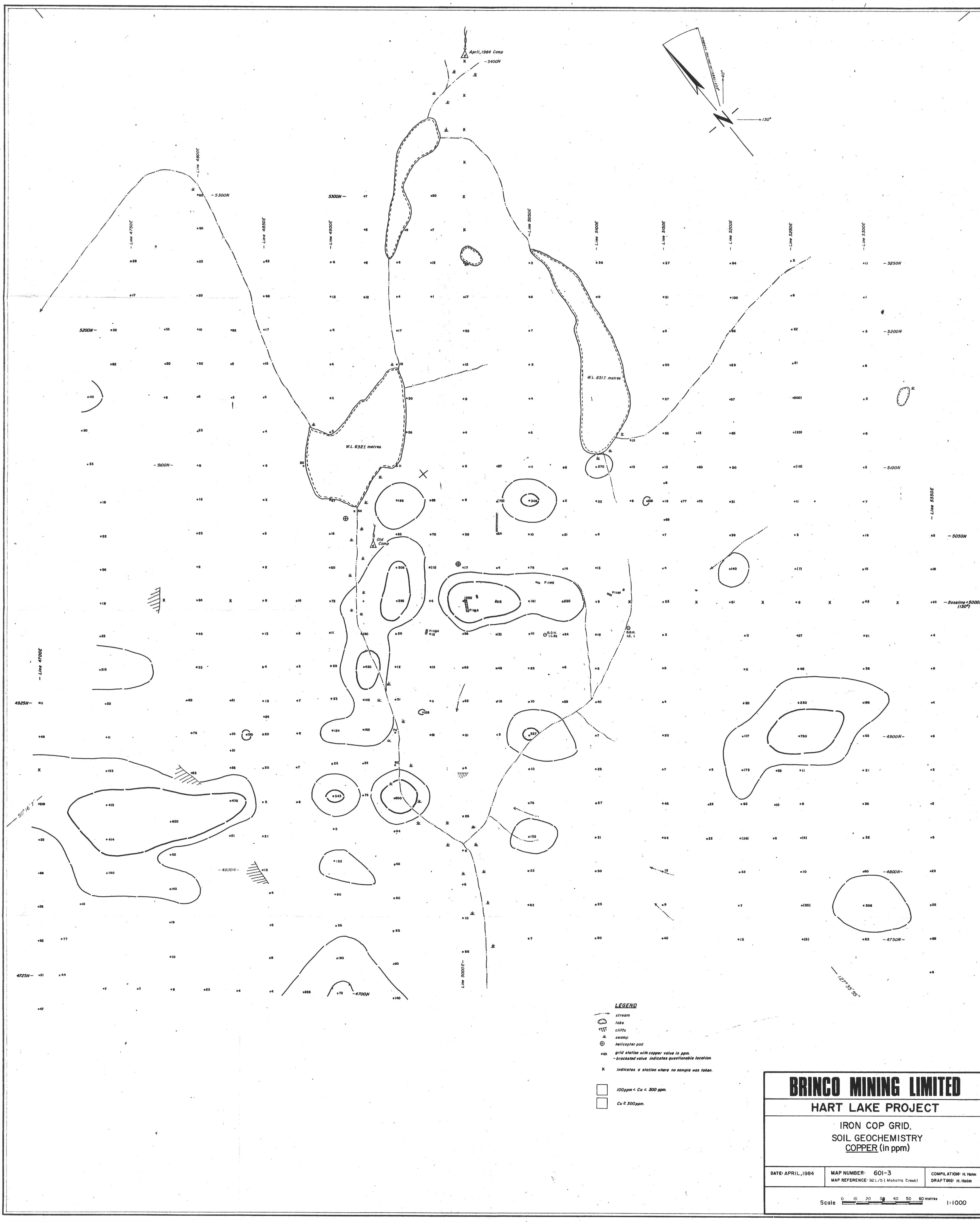
BRINCO MINING LIMITED

HART LAKE PROJECT

IRON COP GRID
GROUND MAGNETICS

DATE: APRIL, 1984	MAP NUMBER: 601-9 MAP REFERENCE: 92 L/5 (Mahatta Creek)	COMPILATION: H. Holm DRAFTING: H. Holm

Scale 0 10 20 30 40 50 60 metres 1:1000


BRINCO MINING LIMITED
HART LAKE PROJECT
IRON COP GRID,
SOIL GEOCHEMISTRY
COPPER (in ppm)
DATE: APRIL, 1984
MAP NUMBER: 601-3
MAP REFERENCE: 92 L/5 (Mahatta Creek)
COMPILATION: H. Holm
DRAFTING: H. Holm
Scale 0 10 20 30 40 50 60 metres
1:1000
LEGEND
stream
lake
cliffs
swamp
helicopter pad
grid station with copper value in ppm.
- bracketed value indicates questionable location.
indicates a station where no sample was taken.
100ppm < Cu < 300 ppm.
Cu ≥ 300ppm.
April, 1984 Comp
Old Camp
W.L. 632± metres
W.L. 651± metres
Baseline = 5000N (130°)
127°35'55"
130°