

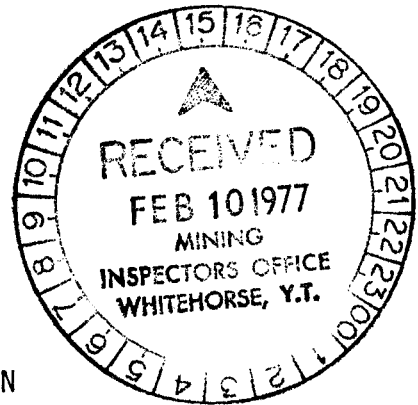
GEOCHEMICAL REPORT ON THE

PIG GROUP



N. T. S. 105 - J - 2

for



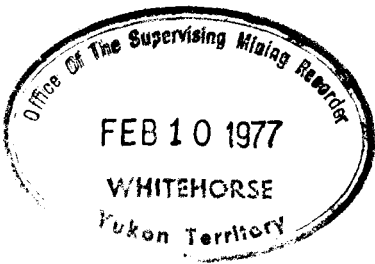
CYPRUS ANVIL MINING CORPORATION

by

W. Roberts

December, 1976

090176



This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of
\$ 20,000.00

W.D. Sinclair

Resident Geologist or
~~Resident Mining Engineer~~

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

B.R. Baxter

B.R. BAXTER
Supervising Mining Recorder

4/12/77
Commissioner of Yukon Territory

GEOCHEMICAL REPORT ON THE

PIG GROUP

N. T. S. 105 - J - 2

Latitude: 62° 14' N

Longitude: 130° 36' W

for

CYPRUS ANVIL MINING CORPORATION

by

W. Roberts

December, 1976

Field Work Done During the Period:

August 15, 1976 - October 1, 1976

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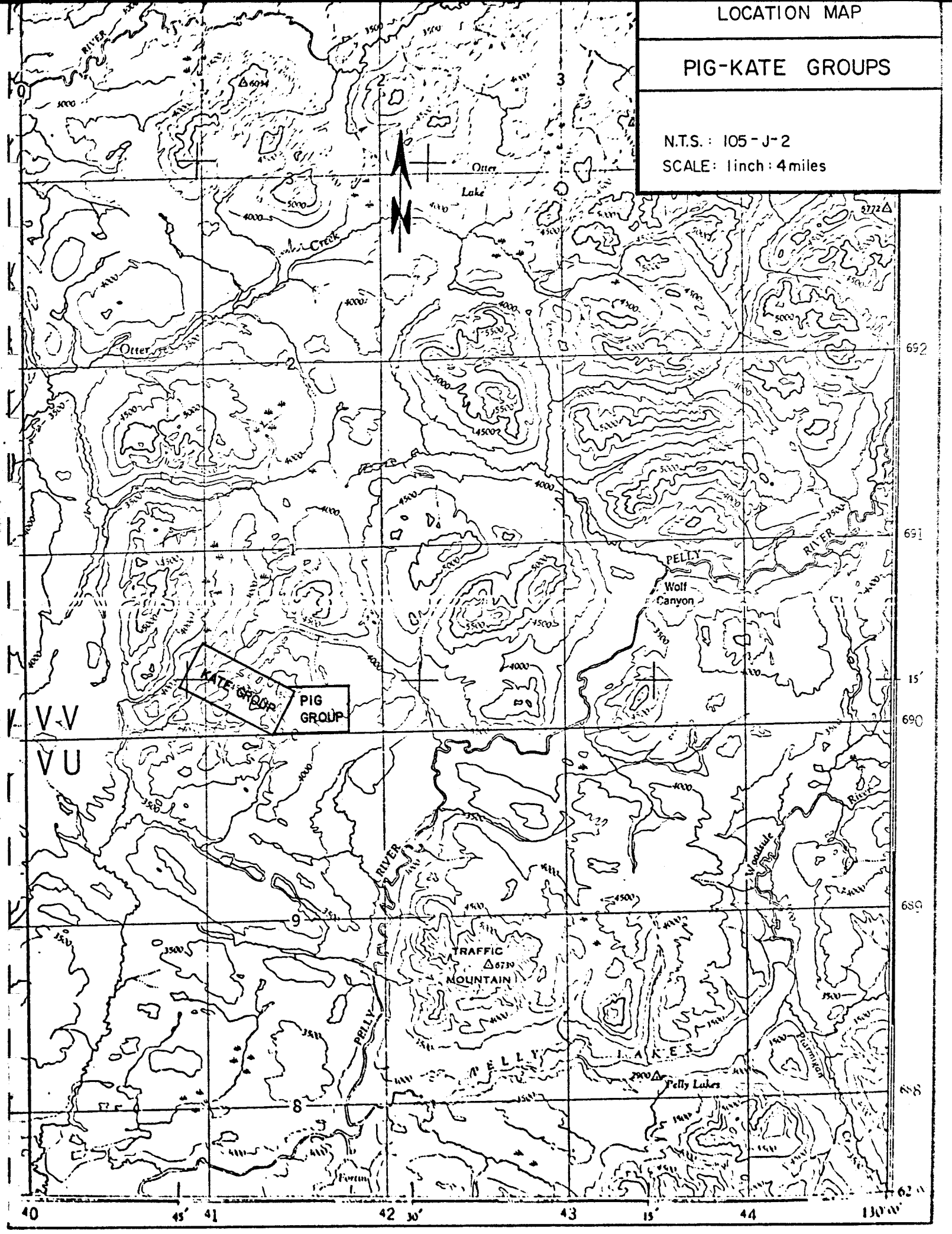
ILLUSTRATIONS

	<u>Scale</u>
Geochemical Values Map	1" = 400 feet
Lead Geochemical Contour Map	1" = 400 feet.

PIG-KATE GROUPS

N.T.S. : 105-J-2

SCALE: 1inch : 4miles



GEOCHEMICAL REPORT ON THE

PIG GROUP

INTRODUCTION

Regional geochemical silt sampling programs conducted in regions of favourable geology in the Selwyn Basin outlined areas of possible lead and zinc mineralization. Streams draining the previously staked Kate Group and the area immediately to the east were found to be highly anomalous in lead. The PIG 1 to 50 claims were staked in July to cover the eastern source of the anomalies. During August, the hand cut grid established over much of the claim group, was used as the base for the soil sampling program. Preliminary prospecting, to date, has not yielded any mineralization.

LOCATION AND ACCESS

The PIG claims are located approximately 11 miles northwest of Traffic Mountain on claim sheet 105-J-2. The longitude and latitude of the centre of the claim group is $130^{\circ} 36' W$ and $62^{\circ} 14' N$ respectively.

Access is by helicopter from Ross River roughly 60 miles to the southwest or by a combination of helicopter and float equipped fixed wing from Pelly Lakes approximately 18 miles to the southeast of the property.

LIST OF CLAIMS

<u>Claims</u>	<u>Grant Nos.</u>	<u>Recording Date</u>
Pig 1 - 50	YA 106 - YA 155	July 15, 1976

REGIONAL GEOLOGY

The majority of the Macmillan project area occurs within the Selwyn Basin. This negative basinal feature, defined during Cambrian time, was located between the Mackenzie Arch to the east and the Pelly-Cassiar platform on the west. Basinal sedimentation consisted of deep water cherts with facies changes to black shales, siltstones and finally carbonates approaching the shallow platforms. This pattern of sedimentation occurred from the Cambrian to mid-Devonian, before the area was uplifted. Alternating periods of uplift and quiescence, evidenced by interbedded black shales and conglomerates to siltstones, is typical of the depositional environment during the Upper Devonian to Triassic. Various lithologic units within the Selwyn Basin, with the exception of the deeper water chert, are highly variable and difficult to trace laterally because of extreme facies changes due to changing depositional environments. Units on either side of the basin are distinct and are difficult to correlate.

Major stratiform lead-zinc mineralization discovered to date occurs in black shales along the eastern and western edge of the basinal structure. Mineralization along the eastern edge occurs in restricted euxinic depressions in black shale. No such depressions have been identified, to date, along the western extremity of the basin.

The PIG claims cover interbedded black to grey cherts with black shales and minor carbonates of Ordovician to Silurian age that occur along the eastern margin of the Pelly-Cassiar platform. Favourable host rocks for stratiform lead-zinc deposits of the "Howards' Pass" type combined with known stratiform galena float discovered on the adjoining Kate Group, make the PIG Group an excellent target for continued exploration.

GEOCHEMICAL SURVEYS

Approximately 22 miles of hand cut as well as 13 miles of compass and chain grid lines were completed over most of the PIG Group during August. All lines were chained and stations were established every 100 feet. Slope

corrections were made on all hillsides.

A total of 750 soil samples were taken every 200 feet along the 400 and 800 foot spaced grid lines. Roughly, one quarter pound of 'B' or 'C' horizon soil was packed in kraft sample bags and sent to Acme Analytical Laboratories in Ross River for analysis. Each sample was dried, sieved to -80 mesh, weighed to 0.5 grams, digested in nitric per chloric and analysed for total trace element content of copper, lead, and zinc by atomic absorption. All tabulated results are in parts per million (ppm).

Results are shown on Cumulative Frequency Plots which may be noted in Appendix (i). Data points for lead values outline a smooth curve indicating a portion of a bi-modal density distribution with an inflection point at 50 ppm lead. The background population was calculated from the curve using the method described by Sinclair (1973). Threshold was calculated to be 98 cumulative percent of the background population.

Data points for zinc values also indicate 2 or more distinct populations with the inflection point at the 97 cumulative percentile. All values over 350 ppm zinc are considered anomalous.

Comparing the two curves, one can see that the lead anomalous population is predominant. Stratiform galena mineralization with minor zinc in siliceous shale, similar to float found on the adjoining Kate Property, is hopefully the source of the anomalies.

The 1976 soil sampling program outlined two strong east-west trending irregular lead anomalous zones at the western boundary of the claim group. The southern zone, traced for over 2000 feet and open to the west, is roughly 200 to over 600 feet in width and ranges from 200 to over 4500 ppm lead. Sporadic zinc values up to 800 ppm zinc occur throughout the anomalous zone. The northern zone is very irregular and not as intense but can be traced for over 5000 feet. Both anomalies, noted on the geochemical maps in the accompanying pocket, straddle the boundary of the Kate - PIG Groups. In an attempt to correlate various geochemically

responsive horizons, the soil sample values and lead anomalous zones on the adjoining Kate claims have been included on the 400 scale geochemical maps. Narrow elongate discontinuous lead anomalies on the Kate also appear to indicate narrow lead rich horizons.

Preliminary prospecting on the PIG Group has shown that the anomalous zones overlie interbedded Ordovician to Silurian black to grey chert with black shale. An outcrop on line 8E at 200 N occurs within the southern anomaly but was found to be barren of sulphides. Prospecting of the main creek draining the northwest corner of the PIG Group was also found to be barren of mineralized float.

CONCLUSIONS AND RECOMMENDATIONS

The soil sampling survey was successful in outlining lead rich horizons in interbedded black shale and chert within the PIG claims. The anomalies are sub-parallel to bedding and appear to be reflecting strataform mineralization in black shales. Unlike the Howards' Pass deposit with a lead-zinc ratio of roughly 1:3, float and strength of the PIG - Kate anomalies suggest very lead rich mineralization.

Further work is definitely warranted and should involve continuation of the PIG soil sampling grid to the west as well as detailed geologic mapping and prospecting. A ground electromagnetic survey should be run over selected lines attempting to outline black shales and banded sulphides. Coincident geochemical and geophysical anomalies could possibly be hand trenched as overburden depths are minimum in the northwestern portion of the PIG Group.

Respectfully submitted,



A handwritten signature in black ink, appearing to read 'W. Roberts', is written over a circular stamp. The stamp contains the text 'W. J. ROBERTS' and other illegible markings.

W. Roberts.

December, 1976.

STATEMENT OF QUALIFICATIONS

I, WAYNE ROBERTS, of 124 Mundy Street, Coquitlam, British Columbia, state that:

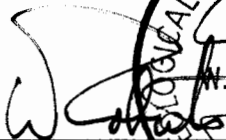
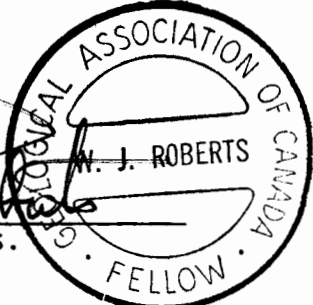
I graduated in 1968 with a BSc degree, majoring in geology, from the University of British Columbia;

I have been working in the Yukon for the past 9 years with Spartan Explorations, Atlas Explorations, Dynasty and Cyprus Anvil Mining Corporation;

I have been employed by the Cyprus Anvil - Dynasty organization since 1970;

I personally supervised all field work on the PIG CLAIMS;

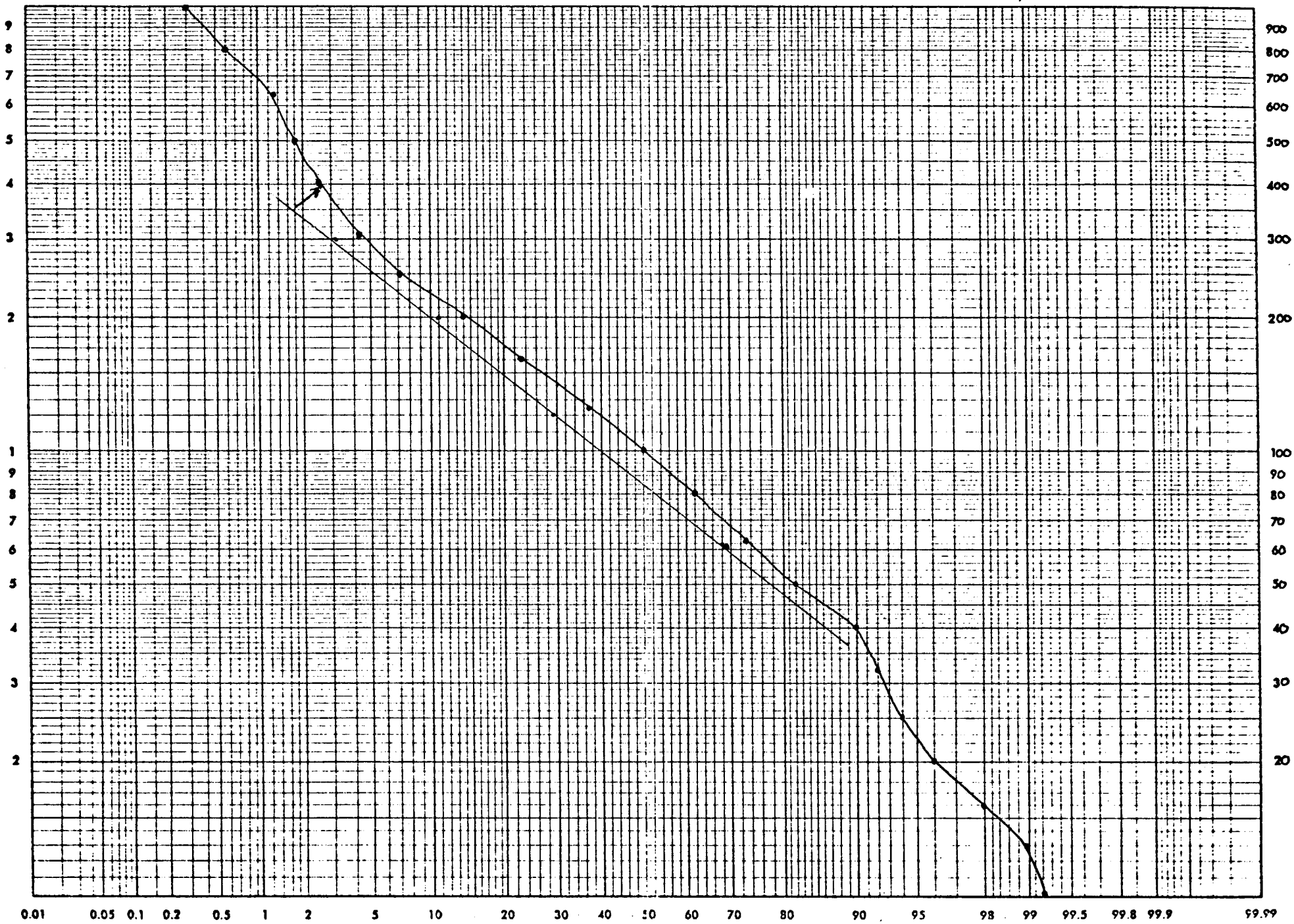
I am a Fellow of the Geological Association of Canada.


Wayne Roberts. 

Cumulative Percent

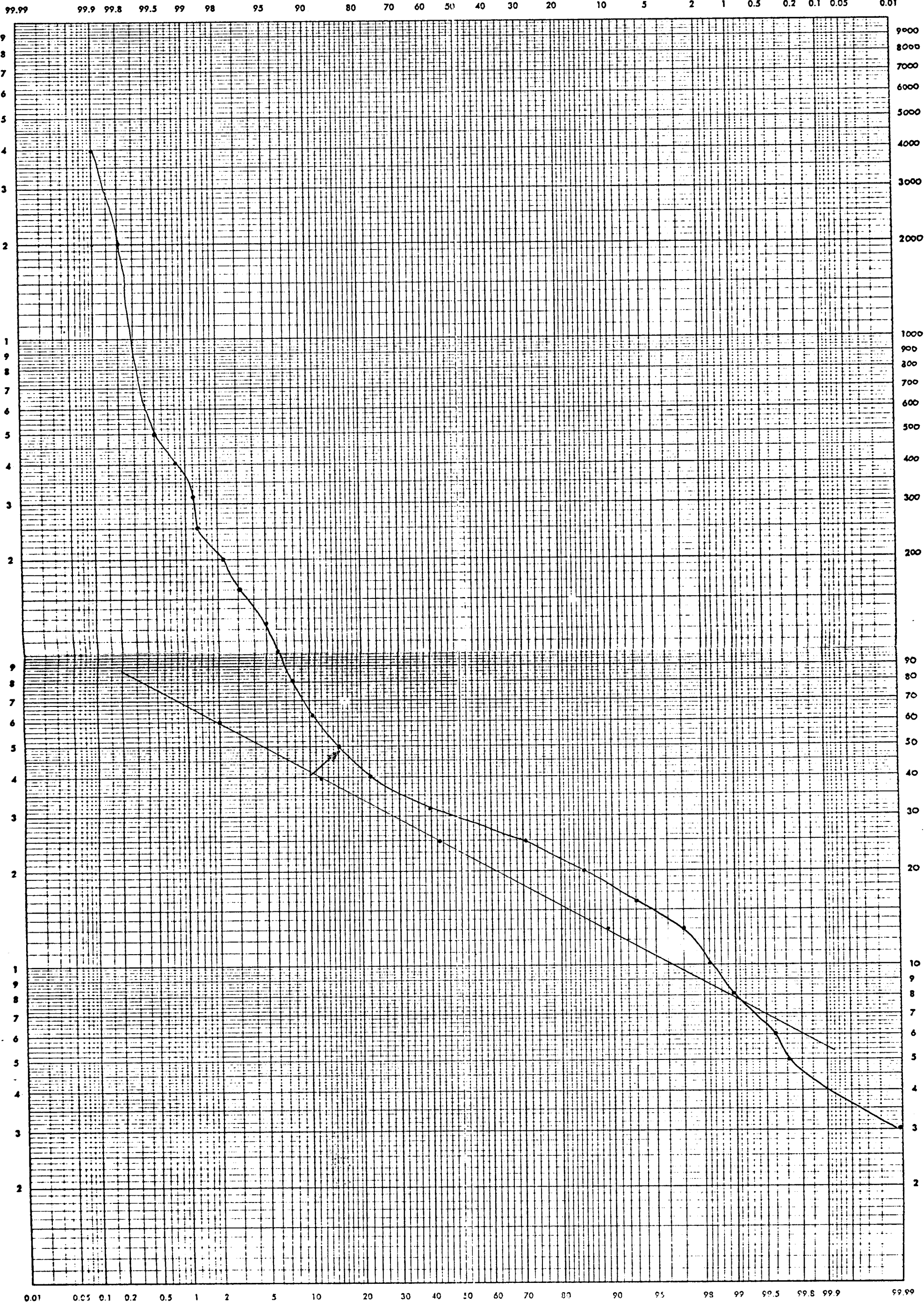
PIG GROUP Appendix (15)

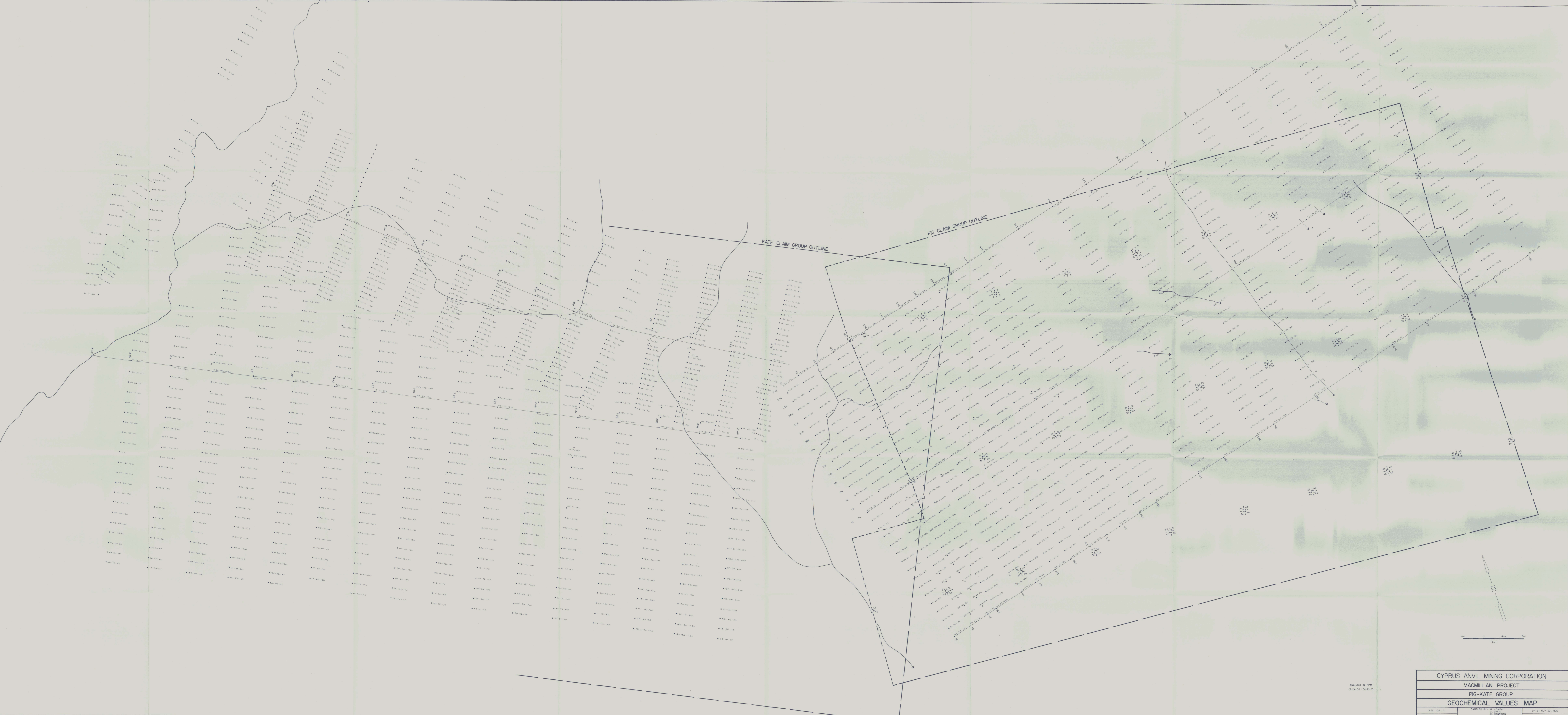
99.99 99.9 99.8 99.5 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 0.5 0.2 0.1 0.05 0.01



Cumulative Percent

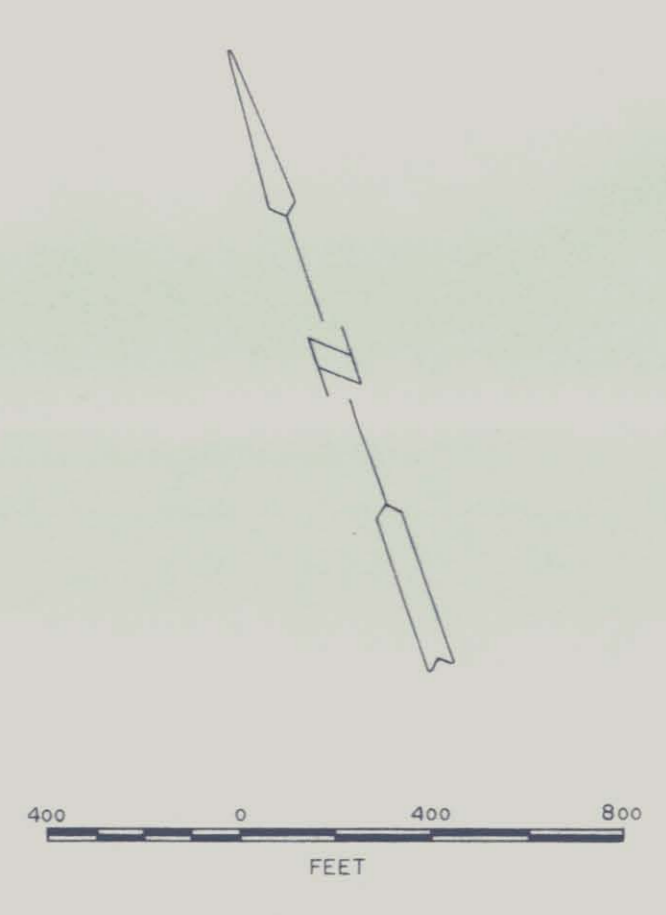
PIG GROUP
APPENDIX (i)





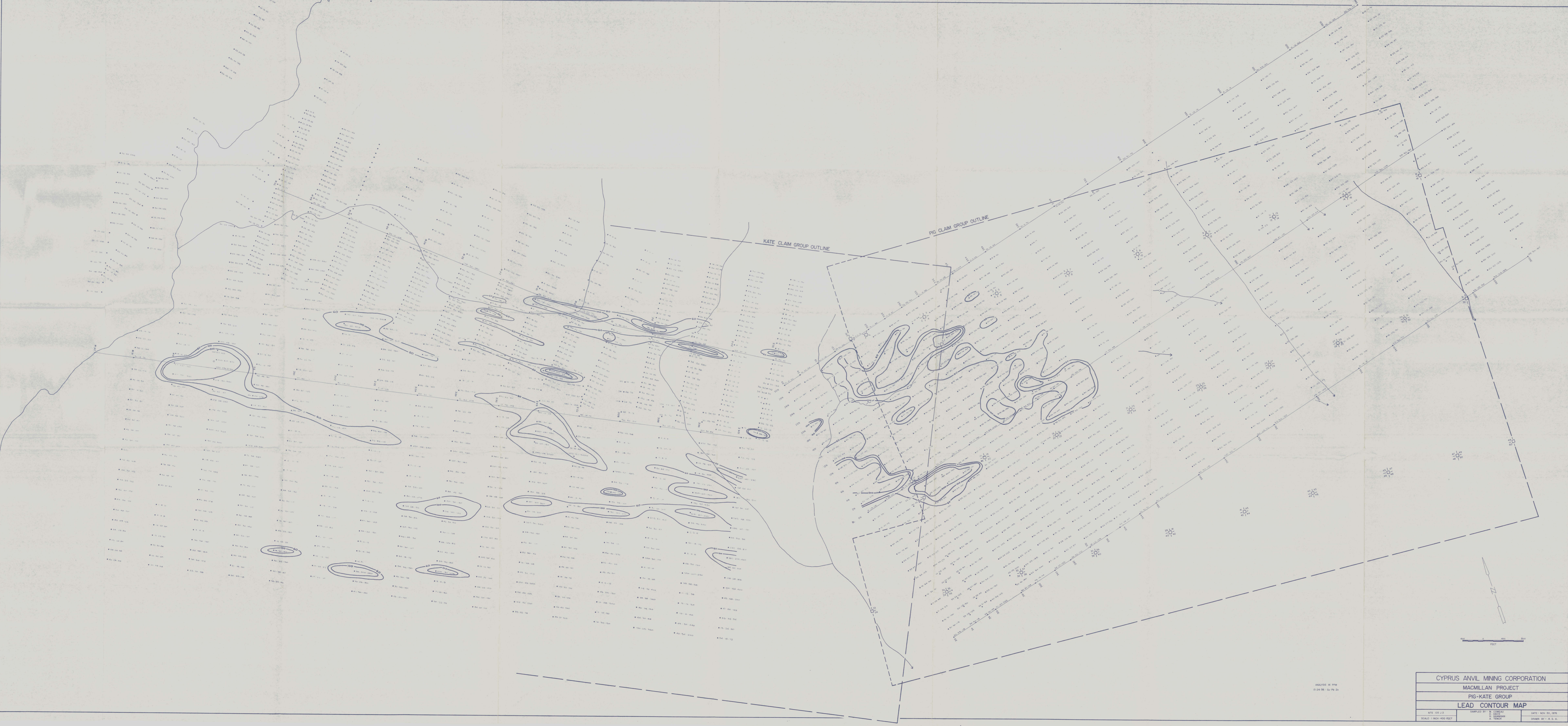
KATE CLAIM GROUP OUTLINE

PIG CLAIM GROUP OUTLINE



ANALYSIS IN PPM
13 24 36 Ca Pb Zn

CYPRUS ANVIL MINING CORPORATION	
MACMILLAN PROJECT	
PIG-KATE GROUP	
GEOCHEMICAL VALUES MAP	
NTS 105 J 2	SAMPLED BY W. J. COOPER P. HANCOCK
DATE: NOV 30, 1974	



ANALYSIS IN PPM
0.24.96 Cu/79.24

CYPRUS ANVIL MINING CORPORATION	
MACMILLAN PROJECT	
PIG-KATE GROUP	
LEAD CONTOUR MAP	
NTS 1:50,000	DATE: NOV. 30, 1976
SCALE: 1 INCH=400 FEET	DRAWN BY: R. D. B.