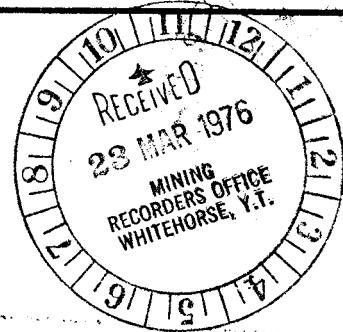




WELCOME NORTH MINES LTD. (N.P.L.)
1027-470 Granville St., Vancouver, B.C. V6C 1V5 Telephone (604) 687-1658

VANGORDA '75 PROJECT



GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT

ON THE

BEV 1-28 CLAIM GROUP

Latitude 62°26'N

Longitude 133°50'W

N.T.S. 105K-5

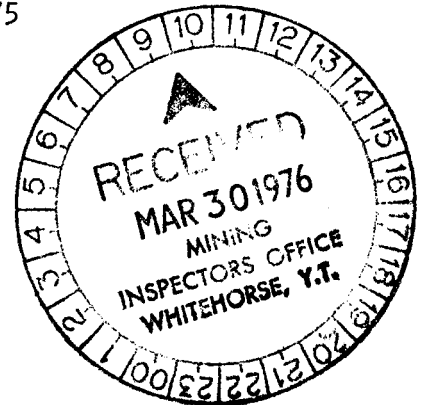
WHITEHORSE MINING DISTRICT

YUKON TERRITORY

During the Period July 3 - August 12, 1975
and
October 5 - October 10, 1975

by

F. Foster
and
J.S. Brock



February 3, 1976

061506..



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 \$ 14,000

14,000

M. Sinclair
a Resident Geologist or
~~Resident Mining Engineer~~

Considered as representation work under Section 33 (4) Yukon Quartz Mining Act.

B. R. Baxter
B. R. BAXTER
Supervising Mining Recorder
for Commissioner of Yukon Territory

TABLE OF CONTENTS

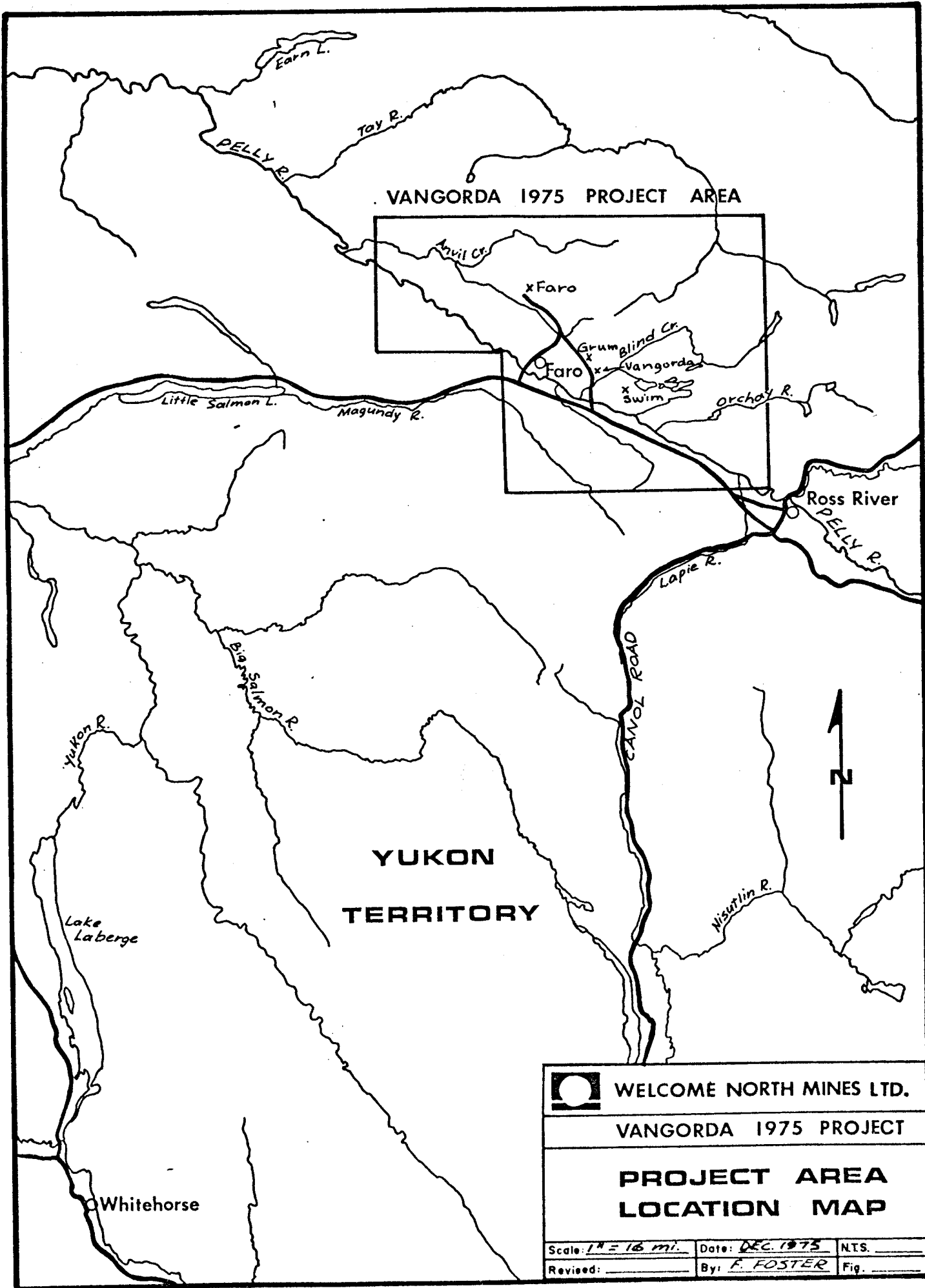
	<u>Page</u>
INTRODUCTION	1
MINERAL CLAIMS	2
SUMMARY AND CONCLUSIONS	4
LOCATION AND ACCESS	5
REGIONAL GEOLOGY	7
PREVIOUS WORK	11
GEOLOGY	12
Lithology	12
Structure	12
LINECUTTING	14
GEOCHEMICAL SURVEYS	16
1. Method of Survey	16
2. Method of Analysis	17
3. Treatment of Data	18
4. Interpretation of Results	18
GEOPHYSICAL SURVEYS	30
Instruments Used	30
Method of Survey	30
a) Magnetometer Survey	30
b) Electromagnetic Survey	30
Treatment of Data	31
a) Magnetic Results	31
b) Electromagnetic Results	32
Interpretation of Results	32
a) Magnetic Survey	32
b) Electromagnetic Survey	32
RECOMMENDATIONS	33
BIBLIOGRAPHY	34
TABLE I LITHOLOGIC SECTION, ANVIL DISTRICT	10

FIGURES

	<u>Page</u>
1. BEV 1-28 claims	3
2. Property Location Map	6
3. Geology of the Anvil District	8
4. Grid Location Map	15
5. Logarithmic Probability Graph: Copper Geochemistry in soils of the Anvil District	19
6. Logarithmic Probability Graph: Copper Geochemistry in silts of the Anvil District	20
7. Logarithmic Probability Graph: Lead Geochemistry in soils of the Anvil District	21
8. Logarithmic Probability Graph: Lead Geochemistry in silts of the Anvil District	22
9. Logarithmic Probability Graph: Zinc Geochemistry in soils of the Anvil District	23
10. Logarithmic Probability Graph: Zinc Geochemistry in silts of the Anvil District	24
11. Logarithmic Probability Graph: Copper Geochemistry in rocks of the Anvil District	25
12. Logarithmic Probability Graph: Lead Geochemistry in rocks of the Anvil District	26
13. Logarithmic Probability Graph: Zinc Geochemistry in rocks of the Anvil District	27

MAPS - IN POCKETS

PLATE 1	GRID LOCATION MAP
PLATE 2	GEOCHEMISTRY - COPPER
PLATE 3	GEOCHEMISTRY - LEAD
PLATE 4	GEOCHEMISTRY - ZINC
PLATE 5	COMPILATION MAP
PLATE W-202-14	MAGNETOMETER SURVEY Gamma Values - Contoured
PLATE W-202-15	CRONE ELECTROMAGNETIC SURVEY Dip Angles - Contoured



VANGORDA 1975 PROJECT AREA

YUKON
TERRITORY



WELCOME NORTH MINES LTD.

VANGORDA 1975 PROJECT

PROJECT AREA
LOCATION MAP

Scale: 1" = 16 mi.	Date: DEC. 1975	NTS.
Revised:	By: F. FOSTER	Fig.

INTRODUCTION

The BEV 1-28 claims were staked by Welcome North Mines in February, 1975. The property was located over what was considered to be a favourable geologic environment for Anvil-Vangorda type massive sulphide deposits.

The BEV claims were subsequently joint ventured to Getty Mining Pacific Ltd. in March, 1975 as part of the Vangorda 1975 Project. Under the joint venture agreement, Getty Mining Pacific currently holds a 60 per cent working interest in the property, with Welcome North as partner with a 40 percent carried interest.

Welcome North, as operator, during the period July 3, 1975 to August 12, 1975, and October 5, 1975 to October 10, 1975 carried out an exploration program consisting of geological mapping, soil and silt geochemistry surveys and electromagnetic and magnetic surveys.

MINERAL CLAIMS

The BEV 1-28 claim group consists of the following 28 contiguous mineral claims located in the Whitehorse Mining District of the Yukon Territory (see Fig. 1).

<u>CLAIMS</u>	<u>GRANT NUMBERS</u>	<u>RECORDING DATE</u>
BEV 1-28	Y92491-Y92518	Feb. 18, 1975.

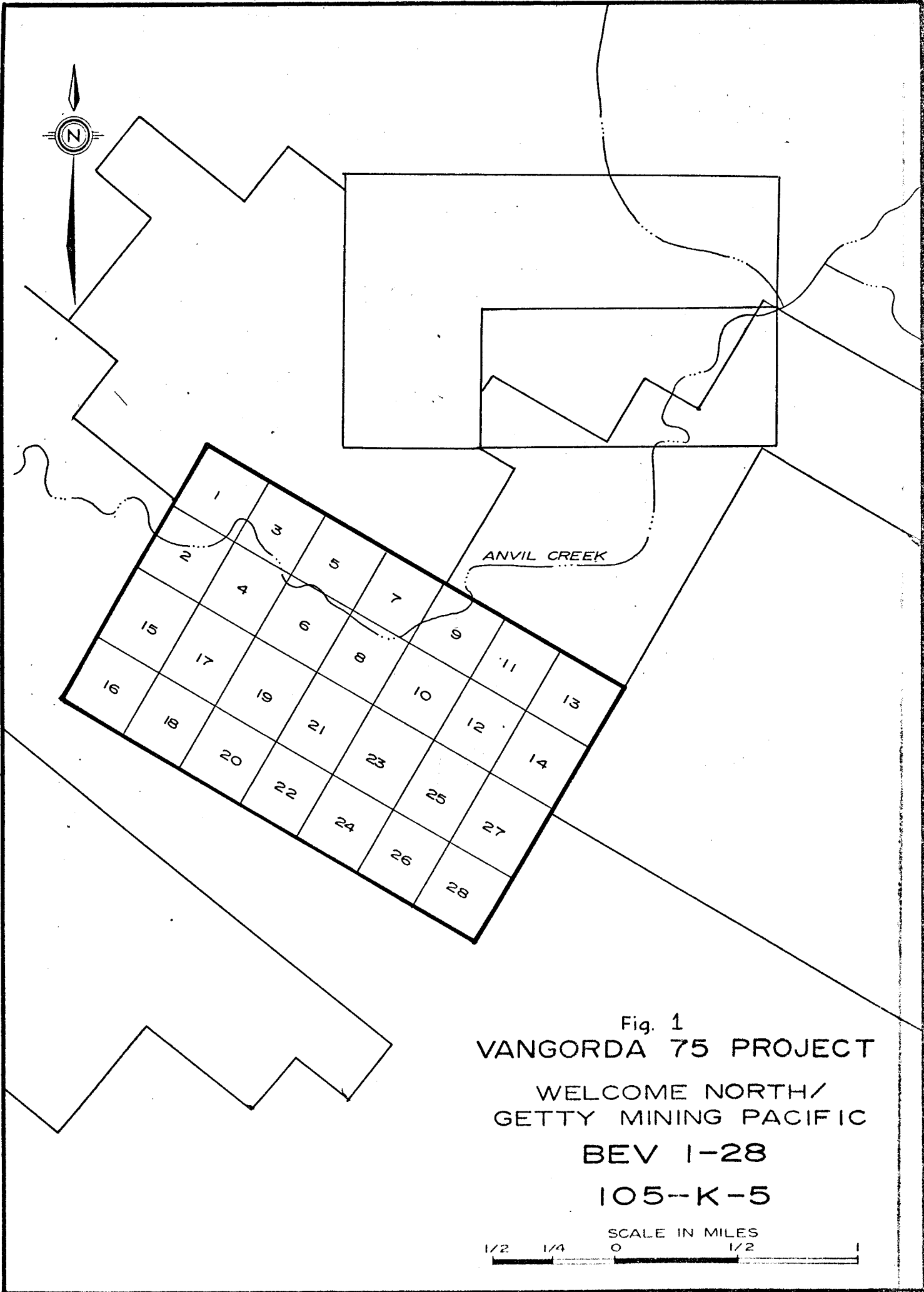


Fig. 1
VANGORDA 75 PROJECT
WELCOME NORTH/
GETTY MINING PACIFIC
BEV 1-28
105-K-5



SUMMARY AND CONCLUSIONS

Lack of outcrop on the BEV claims prohibits any detailed geological interpretation. However, through on-strike geological extrapolation coupled with examination of limited outcrop existing along the southern boundary of the property, it appears that the BEV claims are favourably located over rocks [Units (1c) and (3a)] that elsewhere host both the Faro type and the Grum type massive sulphide deposits.

Geophysical and geochemical surveys carried out over the claim group have not provided any high priority targets indicative of a massive sulphide deposit. Only one low priority geophysical target consisting of a low magnitude electromagnetic conductor and a coincident low magnitude magnetic response was delineated in the southeast corner of the property over rocks of Unit (3a). This geophysical target did not coincide with either of the two anomalous zones of copper and zinc which were found along the southern boundary of the property and in the north-east corner of the property over what is believed to be Unit (3a).

Further work is not recommended on this property until which time further results have been obtained and evaluated from adjoining properties in the area.

LOCATION AND ACCESS

The BEV 1-28 claims are located in the Whitehorse Mining District of the Yukon Territory (N.T.S. 105K-5) at latitude $62^{\circ}26'N$ and longitude $133^{\circ}50'W$, 125 miles northeast of Whitehorse, Yukon Territory and 21 miles northwest of the town of Faro, Yukon Territory (see Fig. 2).

Access to the property is by helicopter from Faro. A gravel bar on Anvil Creek which passes through the property provides a good landing spot on the property.

The property is located in the Anvil Creek valley on a north slope of Rose Mountain ridge 5.5 miles west of the junction of Rose Creek and Anvil Creek. All the property is below treeline and most of the property is covered by muskeg. Anvil Creek, which flows through the northern portion of the property, isolates its northern extent since the creek is too deep and too wide to be forded, or bridged by a tree.

No outcrop occurs on the property. Several cliffs and talus slopes on Rose Creek ridge to the south provide the only outcrop in the vicinity of the property.



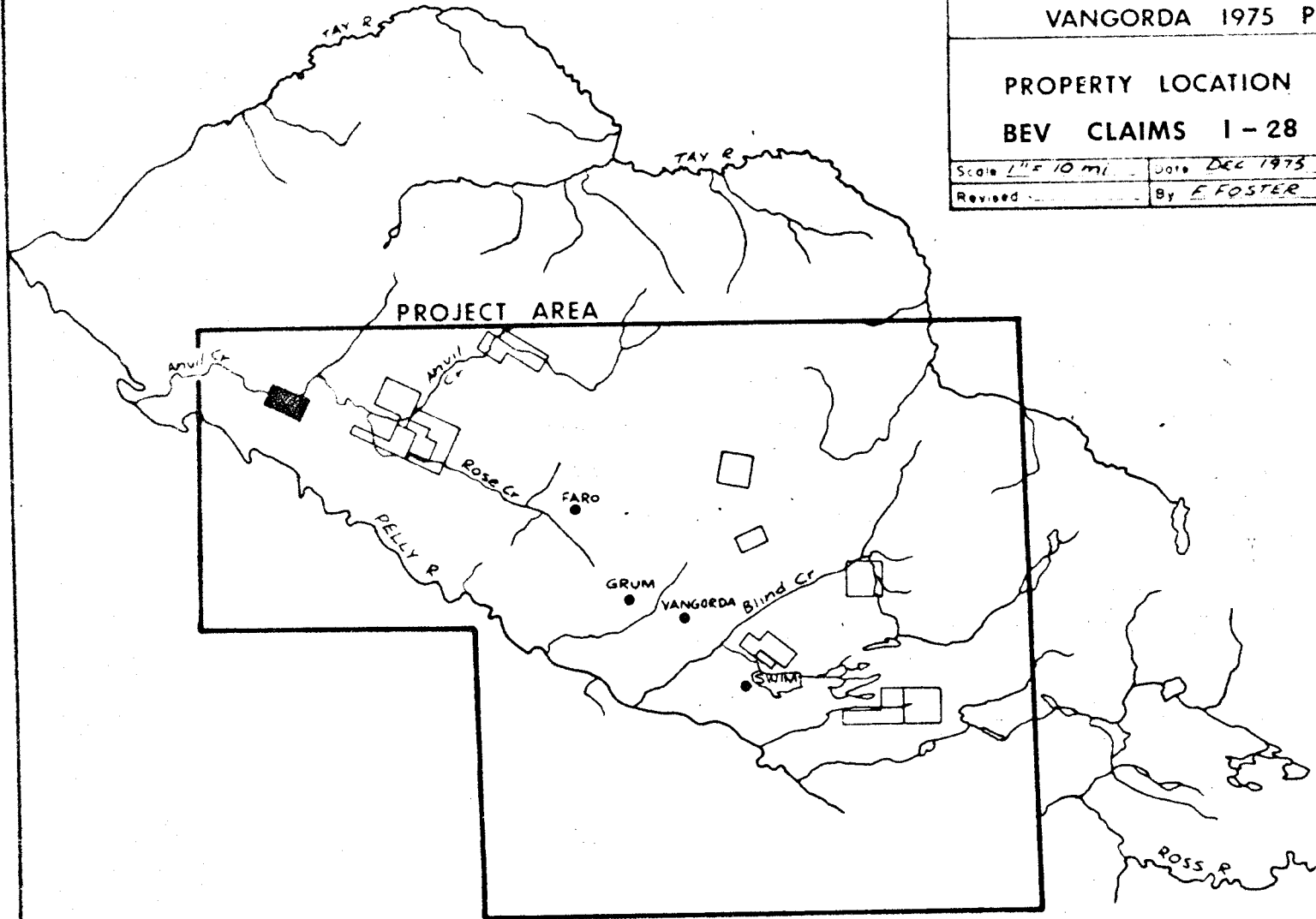
WELCOME NORTH MINES LTD.

VANGORDA 1975 PROJECT

PROPERTY LOCATION MAP

BEV CLAIMS 1-28

Scale 1" = 10 mi	Date DEC 1975	NTS 105K
Revised	By F FOSTER	Fig 2



REGIONAL GEOLOGY

The Anvil District, as outlined in Fig. 3, lies immediately northeast of the Tintina Trench, the probable locus of a major zone of northwest-southeast transcurrent faulting.

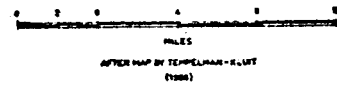
The central part of the district is formed by the Anvil Range, the dominating structure being a doubly plunging arch-like feature around the Anvil batholith. The core of the Anvil Range is underlain by granitic rocks for which potassium-argon age determinations suggest an age of 80 - 90 million years. The Anvil Arch is flanked on the southwest and northeast by phyllites, calc-silicate gneisses and schistose rocks thought to be of Cambrian (?) to Ordovician age; these metasediments which have undergone at least three phases of deformation are host to the known massive sulphide deposits of Faro, Vangorda, Grum and Swim.

The schistose quartz rich host rocks of the Faro sulphide deposits are confined to the lower part of a unit of muscovite-biotite schist whose lower sections are sometimes graphitic. Small greenstone lenses are often found in the upper part of this sequence. This section constitutes the lower member of a 6,000 foot thick sequence of biotite-muscovite schist, calc-silicate gneiss and skarn, phyllite, chloritic greenstone bodies, and tuffaceous phyllite.

The phyllitic host rocks of the Grum, Vangorda and Swim sulphide deposits are confined to graphitic quartz-rich sections of phyllite situated close to relic volcanic complexes of greenstone, chloritic phyllite, limestone, and pyroxenite in the lower part of an estimated 3,000 foot thick unit of phyllite. The phyllite unit is separated from the lower schist unit in many areas by thick sections of calc-silicate gneiss.

The sulphide bodies of the Anvil district are tabular and lie in the plane of the crenulation foliation developed during the first phase of deformation. Their long axes coincide with the intersection of primary and secondary foliation. The sulphide deposits appear to have been only slightly affected by the regional metamorphism of phyllite host rocks.

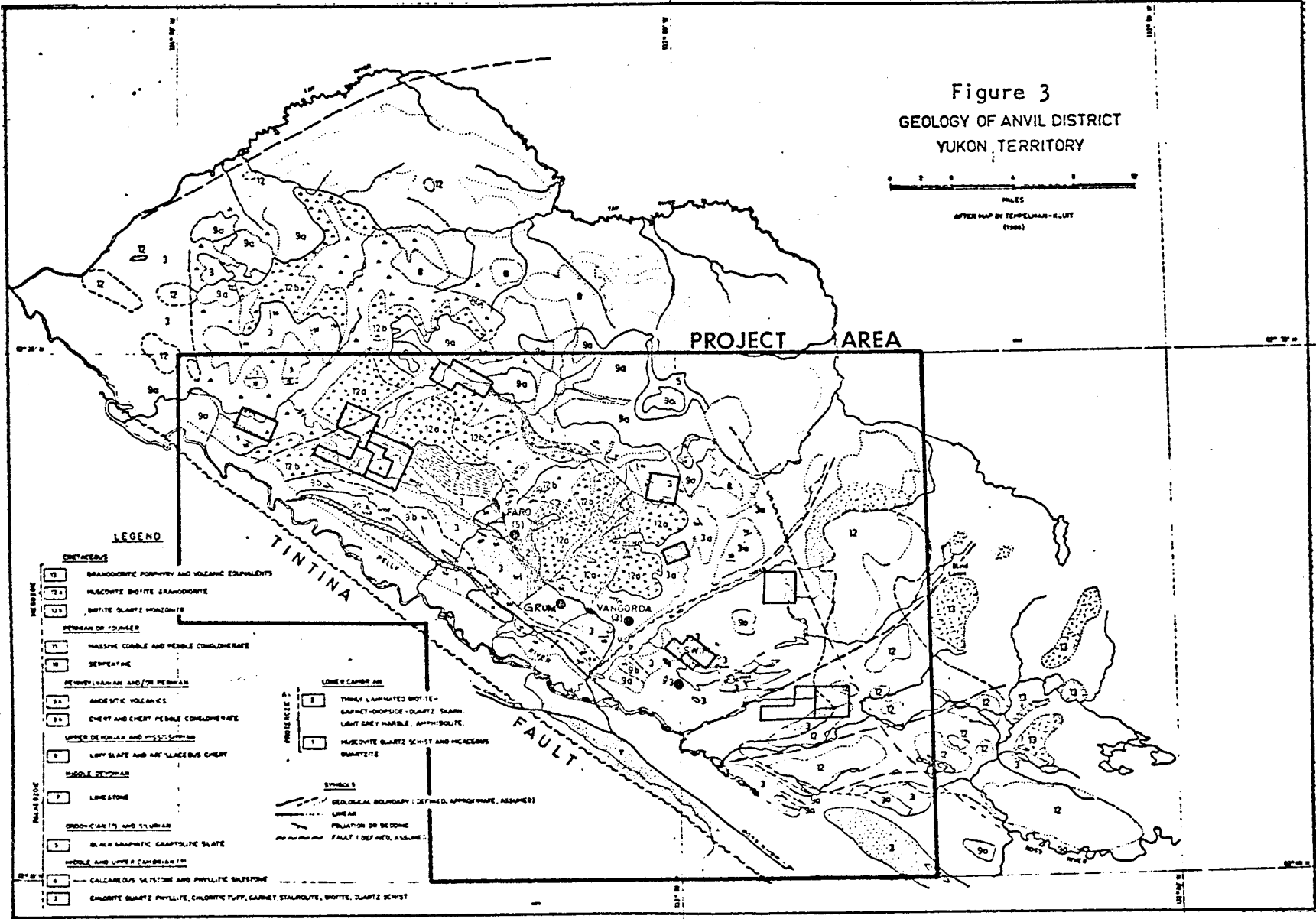
Figure 3
GEOLOGY OF ANVIL DISTRICT
YUKON TERRITORY



PROJECT AREA

LEGEND

- | | |
|---|--|
| CONTACTS | |
| 10 | BRANCOHITE PORPHYRY AND VOLCANIC EQUIVALENTS |
| 11 | MUSCOVITE BIOTITE BRANCOHITE |
| 12 | BIOTITE QUARTZ MONZONITE |
| PERMAN OR YOUNGER | |
| 1 | MASSIVE CONGLOMERATE AND PEBBLE CONGLOMERATE |
| 2 | SEPIENTINE |
| PERMIAN AND/OR PERMAN | |
| 3 | ANDESITIC VOLCANICS |
| 4 | CHERT AND CHERT PEBBLE CONGLOMERATE |
| LOWER DEVONIAN AND MISSISSIPPIAN | |
| 5 | LAMP SLATE AND ARGILLACEOUS CHERT |
| MIDDLE DEVONIAN | |
| 6 | LIMESTONE |
| OROVICAN TO STUBBORN | |
| 7 | BLACK GRANITIC GRANULITE SLATE |
| MIDDLE AND LOWER CAMBRIAN TO | |
| 8 | CALCAREOUS SLATES AND PHYLLITE SLATES |
| 9 | CHLORITE QUARTZ PHYLLITE, CHLORITE PUFF, GARNET STAUROLITE, BIOTITE, QUARTZ SCHIST |
-
- | | |
|----------------|--|
| SYMBOLS | |
| 1 | THINLY LAMINATED BIOTITE-GARNET-DIOPSIDE-QUARTZ SLAN; LIGHT GRAY MARBLE, AMPHIBOLITE |
| 2 | MUSCOVITE QUARTZ SCHIST AND MICACIOUS QUARTZITE |
-
- | | |
|----------------|---|
| SYMBOLS | |
| --- | GEOLOGICAL BOUNDARY (DEFINED, APPROXIMATE, ASSUMED) |
| --- | LINEAR |
| --- | PLANATION OR BEDDING |
| --- | FAULT (DEFINED, ASSUMED) |



However, a distinct average grain size increase from the Swim northwest to the Faro deposits reflects a thermal metamorphic gradient caused by the intrusion of the Anvil Batholith. The base metals have been introduced into the phyllite prior to its metamorphism and deformation.

It appears that two units, the pelitic schists and phyllites, are host rocks for the four economically important sulphide masses and are also host to several smaller, presently non-economic deposits in the area.

Chloritic tuffaceous greenstone outcrops are close to all four deposits but are nowhere immediately against ore. Graphite is present in host rocks around all four deposits, but it is far more prevalent around the Swim body than near the Vangorda, Grum or Faro deposits.

A description of the rocks that make up the stratigraphic section of the Anvil Arch, and their tentative ages is listed on the following page. The description has been taken from Templemen-Kluit (1968) and modified by field observations and by information obtained from Cyprus-Anvil Mining Company.

ERA	PERIOD OR EPOCH	FORMATION	MAP UNIT	LITHOLOGY	
Cenozoic	Tertiary		14b	Rhyolitic tuff	
			14a	Quartz-feldspar porphyry	
RELATIONS NOT KNOWN					
Mesozoic	Cretaceous or Tertiary		13	Saussuritized porphyritic hornblende diorite	
	INTRUSIVE INTO UNITS 2, 3, AND 11				
	Age unknown			12b	Hornblende diorite, gabbro
				12a	Pyroxenite, sometimes cataclastic and serpentized
	INTRUSIVE INTO UNITS 2 AND 3				
	Cretaceous	Anvil Batholith		11	Porphyritic biotite-quartz monzonite and granodiorite; muscovite-biotite granodiorite; foliated equivalents
	INTRUSIVE INTO UNITS 2, 3, AND 8				
Lower or Middle Triassic			10	Massive, well indurated cobble and pebble conglomerate with fragments of mica quartz schist (Unit 1), basalt (Unit 8), chert (Unit 8a), limestone (Unit 8c) and serpentinite (Unit 9); brown sandstone slate and argillaceous limestone	
Upper Permian or Lower Triassic			9	Serpentinite and serpentized peridotite	
FAULT BOUNDED					
Paleozoic	Upper Permian	Anvil		8c	Light grey, massive resistant recrystallized limestone
	Lower Permian	Range		8b	Massive green basalt, commonly amygdaloidal, includes common pyroclastic and less common pillowed varieties, metamorphosed equivalents near granitic bodies
	Lower Permian and Upper Permian		Group		8a
	UNCONFORMABLE ON UNITS 3, 4, 5, 6, 7				
	Upper Devonian			7	Grey slate, chert, greywacke, chert pebble conglomerate and limestone
	UNCONFORMABLE ON UNITS 3 AND 4				
	Middle Devonian			6	Limestone and dolomite
	Silurian and Devonian			5	Light grey, medium bedded, medium-grained orthoquartzite
	CONFORMABLE				
	Middle Ordovician Lower Silurian			4	Dark grey and black graptolitic slate, minor thin-bedded black chert
	UNCONFORMABLE ?				
	Ordovician-Silurian			3d	Rhyolitic quartz-feldspar porphyry, sometimes pyritic
				3c	Medium green foliated actinolite schist, andesitic greenstone, foliated fine grained amphibolite, amygdaloidal chlorite phyllite
3b				Sulphide horizon; muscovite phyllite and quartzite, siliceous graphitic phyllite, massive and banded pyrite and pyrrhotite	
3a				Dark grey biotite-chlorite schist and phyllite, medium greenish grey lustrous chlorite-muscovite-quartz phyllite, locally calcareous or graphitic	
GRADATIONAL CONTACT					
Cambro-Ordovician			2b	Foliated amphibolite, pale green chloritic phyllite, greenstone, chlorite	
			2a	Calc-silicate schist, phyllite, and gneiss with interbedded biotite and calc-silicate rich layers, can contain 2b	
GRADATIONAL CONTACT					
Cambrian			1d	Chloritic schist and phyllite, and greenstone	
			1c	Muscovite schist, muscovite-biotite schist, muscovite-andalusite schist ± graphite, biotite-andalusite-muscovite schist ± garnet and staurolite, graphitic schist	
			1b	Fero sulphide horizon, muscovite quartzite ± sulphides, massive and banded pyrite and pyrrhotite	
			1a	Quartz-feldspathic biotite-muscovite schist and gneiss, in part bleached and hornfelsed	

TABLE 1 LITHOLOGIC SECTION, ANVIL DISTRICT

PREVIOUS WORK

The first work to be carried out in the area of the BEV claims was by Dynasty Explorations, who flew helicopter-borne EM and magnetic surveys as part of a regional exploration program conducted in 1965. As a result of this work, the JEAN claims, presently re-staked as the BEV 1-28 claims, and the GRAN, ARO and LORNA claims, located east of the BEV claims, were staked over aeromag and EM anomalies in August, 1970.

Dynasty conducted ground geophysical surveys, including a gravity survey over the JEAN claims and gravity, electromagnetic and magnetic surveys over the LORNA and GRAN claims in 1970. Following geochemical surveys and geological mapping, one diamond drill hole (600 feet) was drilled on the LORNA claims in December, 1970. Dynasty conducted Turam and magnetic surveys over the claims to the east of the BEV claims in 1973.

The MARK and LEE claims were staked to the north of the BEV claims by the Anvil Range Syndicate (Canadian Reserve Oil and Gas, Occidental Metals Ltd., Aquitaine Co. of Canada Ltd., Canadian Southern Petroleum Ltd., and Husky Oil Ltd.) in July, 1970 and July, 1971. Following ground geophysical surveys, mainly gravity, one hole was drilled 300 feet late in 1971. Geological mapping, geochemistry surveys, and an I.P. survey were conducted prior to diamond drilling (2 holes) in 1972.

GEOLOGY

Due to deposits of extensive overburden cover, exposed outcrop is extremely limited on the property. However, based on outcrops found along the southern boundaries of the claim group and information from previous work in the area, rocks underlying the property have been interpreted as phyllites tentatively assigned to Unit (3a).

Lithology

Granodiorites of a southern extension of the Anvil Batholith crop out 600 feet south of line 64E and line 72E as well as on the ridge lying to the south of the property. The contact between Unit (3a) and the batholith passes diagonally across the extreme southeast corner of the property.

Subcrops of siliceous, gritty phyllite are characterized by one-half to one-eighth inch bands of dark grey, gritty phyllitic rock interbanded with pale-grey crystalline rock. This unit is not typical of (3a) but has been tentatively assigned to it because of the predominance of dark grey phyllite bands and the lack of carbonate. Carbonate content would suggest a similarity to underlying Unit (2a).

Pyritiferous greenstone of Unit (3b) subcrops in a small area just west of station L56E 28S.

Outcrops of calcareous phyllite with a much lower silica content occur as cliffs at the ends of lines 8E, 32E, and 40E. These rocks are more typical of Unit (3a), as found throughout the Anvil district.

Structure

Rocks underlying the property are affected by at least three periods of deformation. Three axial plane cleavages and related schistosity have been developed in the area. The cleavage and schistosity associated with the first period of deformation (called S_1) has destroyed any bedding relationships in the rocks. This cleavage and schistosity is dominant near the crests of folds produced by the second period of deformation.

The second period of deformation is represented by a very strong axial plane cleavage and schistosity (S_2) which strikes WNW where exposed on the property. S_2 completely transposes S_1 on the flanks of second deformation folds such that only remnants of S_1 can be seen between major S_2 surfaces but S_2 is much less dominating over S_1 at crests of these folds.

The third period of deformation is represented by a very weak cleavage and schistosity (S_3) which is related to northeast trending folds that gently warp the S_2 surfaces.

Intersections of S_1 , S_2 and S_3 produce crenulations which are best observed on phyllitic partings.

Along the southern boundary of the property wrinkled S_1 surfaces are observed with vertical to steeply northerly dipping attitudes between less dominant gently southerly dipping S_2 planes. The tiny folds are symmetrical and, supported by the fact that the S_2 cleavage is very poorly developed in this area, this implies that the nose of a major S_1 fold (overturned to the north) occurs along the southern boundary of the property. Sufficient evidence cannot be presented, but it is postulated that this fold nose is that of a northwesterly trending, overturned syncline and that the property is underlain by gently southerly dipping rocks of the lower limb of this syncline.

LINE CUTTING

Grid lines were cut on the property by line cutters of Eastern Associates, hired on a contractual basis from Whitehorse. The grid system consists of an 8,800 foot long base line trending at 120° with perpendicular crosslines of varying length spaced 800 feet apart along the base line. Survey control was maintained by picket and chain methods with periodic line bearing checks by Sylva compass. Picket stations were established on the cross lines at 100-foot intervals.

A total of 13.71 miles of line were cut on the property (see Fig. 4).

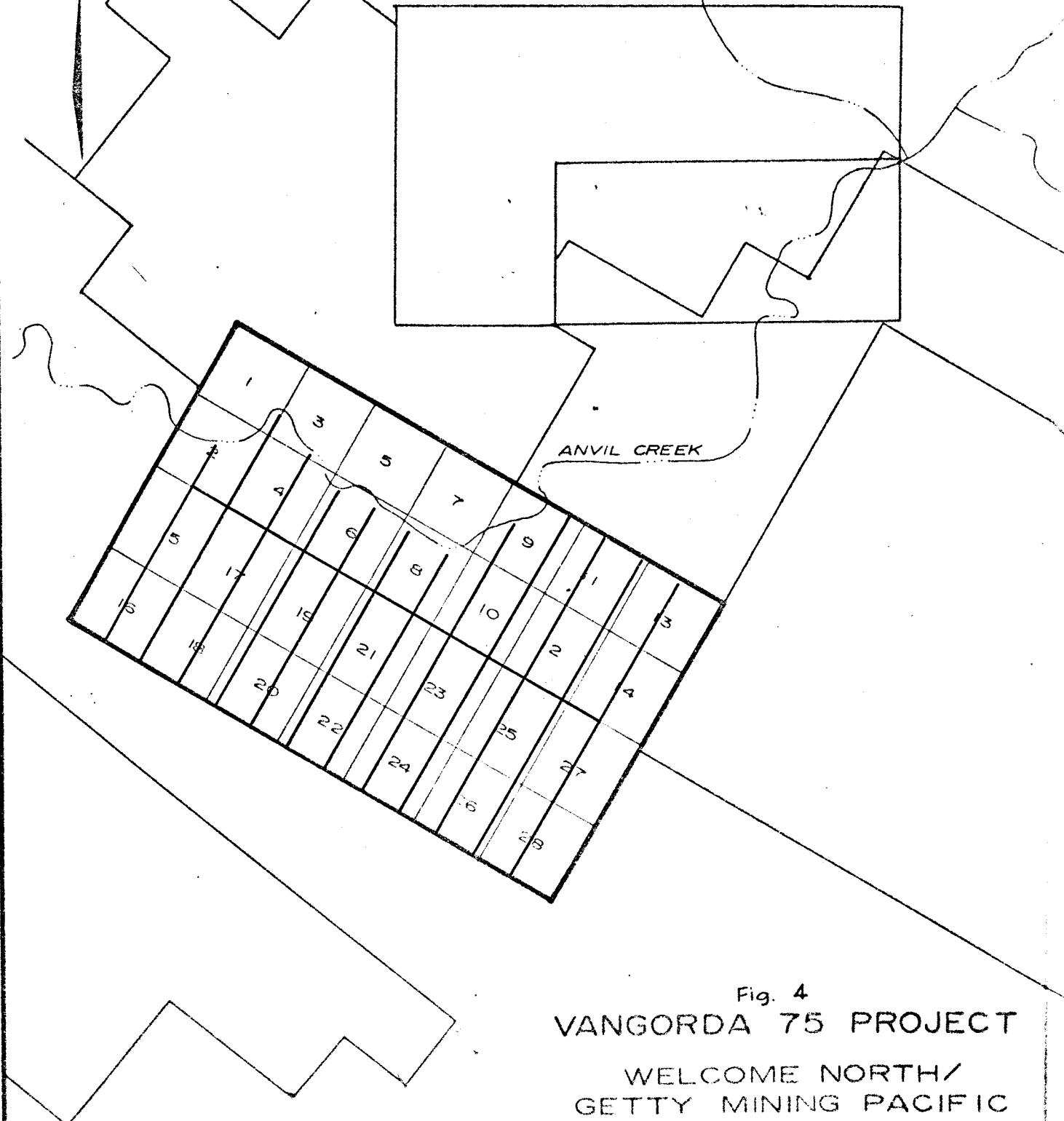
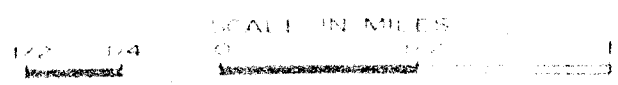


Fig. 4
VANGORDA 75 PROJECT
WELCOME NORTH/
GETTY MINING PACIFIC
BEV 1-28
105-K-5



GEOCHEMICAL SURVEYS

1. Method of Survey

After close study of geochemical evidence leading to the discovery of the Anvil massive sulphide deposit, it was decided to modify the geochemical sampling method to better adapt to the search for deep-seated sulphide deposits.

Sampling was confined to the base of slope contours, sidehill silt seepages, stream sediments and frost boils in order to tap possible drainage emergence from deep-seated sources.

Previous results from other 'grid controlled' geochemical surveys were available for review and revised interpretation.

All soil samples were obtained with a prospector's grub hoe, which was found adequate as a tool for cutting through heavy layers of organic material overlying the soil.

Certain areas determined as being anomalous in lead, zinc, and copper from previous surveys were further investigated with rock geochemistry to determine if the geochemical anomalies in soils were either in situ or transported. All geochemical samples were collected in Kraft brown paper bags and shipped for testing to Acme Analytical Laboratories in Ross River, Yukon.

2. Method of Analysis

All samples were analysed by Acme Analytical Laboratories Ltd. at Ross River. When the samples were received, each was dried while in its Kraft bag, then screened to 80 mesh, weighed out to 0.5 grams and digested in hot aqua regia. Rock samples were crushed and pulverized before undergoing this process. Samples were then diluted, clarified for 20 hours and then tested for copper, lead and zinc content on an

atomic absorption spectrophotometer. The 'AA' unit used was a Perkins Model 290 and accuracy of the instrument ideally is 1% of the amount of metal present. Individual cathode lamps were used for each element determination, a direct readout being given in parts per million of the element being tested.

3. Treatment of Data

All results of geochemical tests were returned to the field where results were plotted on field maps kept by the party chief for aid in carrying out preliminary follow up of anomalous areas while still in the field.

All results were grouped under soil, silt, rock analyses for each of Cu, Pb and Zn. Data for each of these categories was plotted later onto graphs of trace element quantity (ppm) versus cumulative percent.

A partitioning procedure (see A.J. Sinclair 1973) was used to separate two populations, one being anomalous and the other being background. The overlap of these two populations was determined and thresholds chosen arbitrarily to isolate three priority populations. The population of first priority consists of only anomalous values. Of second priority is a population consisting mainly of anomalous values and a small percentage of background values. Finally, of third priority is a population consisting only of background values. Where only two priority populations are shown, the partitioning procedure could not be applied or no overlap of populations existed.

Separate maps were prepared using a scale of 1" = 400', showing values obtained for copper, lead and zinc. Values were color coded to aid in distinguishing areas anomalous in copper, lead, and zinc.

4. Interpretation of Results


Study of the statistical analysis for copper content in soils sampled during the 1975 season by the Vangorda project in the Anvil District reveals that an anomalous population whose threshold value is 41 ppm (arbitrarily chosen) overlaps with a lower background population as illustrated in Fig. 5. The overlap of these two populations, again arbitrarily chosen, occurs between 41 ppm and 55 ppm. Samples obtained with values in this range (41-55 ppm) are considered to be anomalous only if other samples collected in the immediate vicinity of these yield distinctly anomalous values; otherwise samples with values in the 41-55 ppm range are considered as samples in areas of high background geochemistry.

Inspection of the statistical analysis for copper content in silts sampled in the Anvil District (Fig. 6) reveals that three geochemical populations, such as those outlined above for copper in soils, exist and that the overlap between the anomalous and background populations ranges between 30 to 34 ppm.

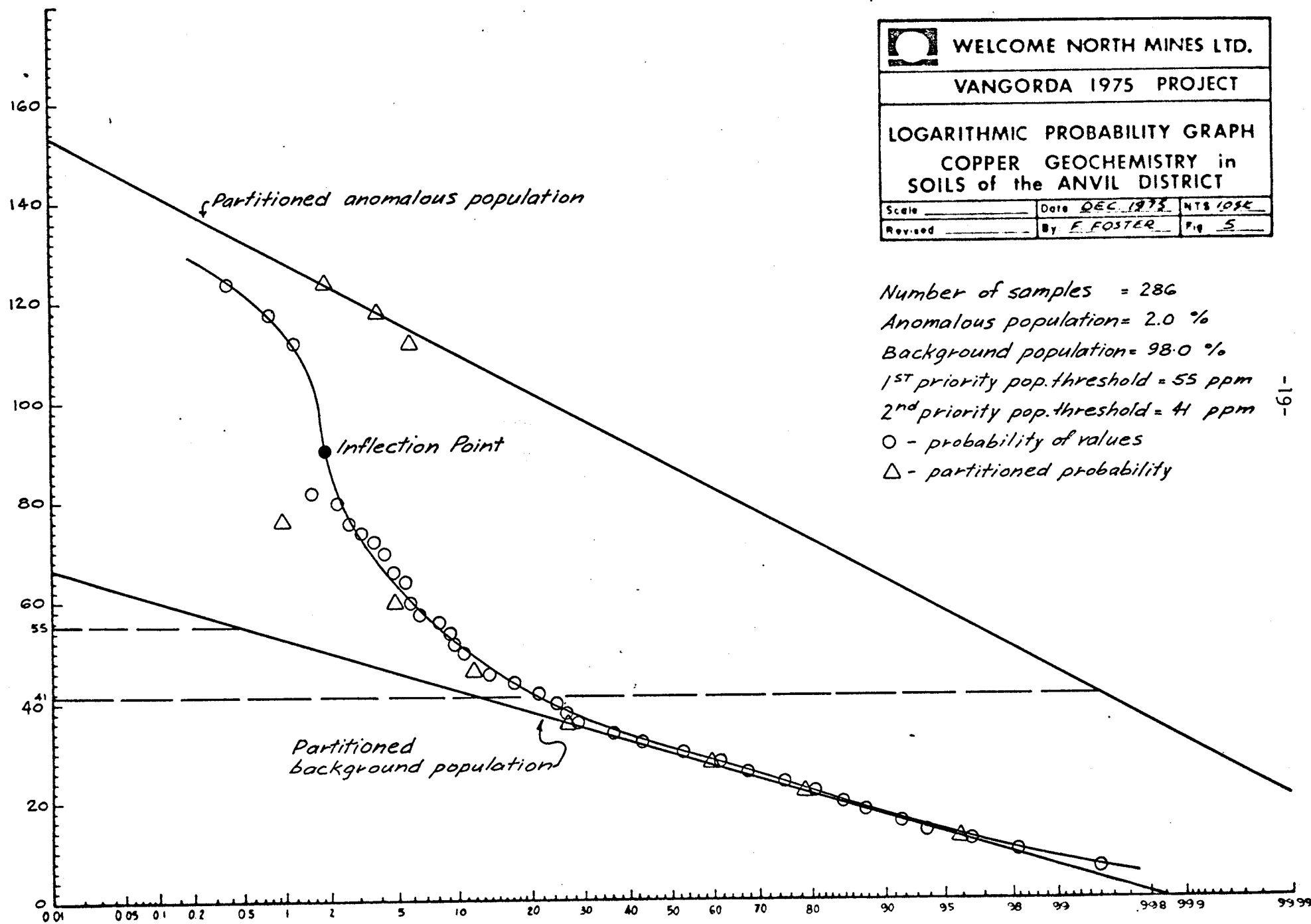
Inspection of statistical analysis for lead content in soils (Fig. 7) reveals that as above three populations exist and that the overlap between the anomalous and background populations ranges between 38 to 49 ppm.

With reference to lead content in silts, the statistical analysis for this (Fig. 8) reveals three populations exist such as described above for copper in soils and silts and lead in soils. Values greater than 34 ppm are anomalous, values in the range 26 to 33 ppm are either anomalous or high background, and values less than 25 ppm are background.

The statistical analysis for zinc content in soils (Fig. 9) shows three populations as well. Values greater than 100 ppm are anomalous, values in the range 90 to 100 ppm are either anomalous or high background, and the values less than 89 ppm are background.


 WELCOME NORTH MINES LTD.		
VANGORDA 1975 PROJECT		
LOGARITHMIC PROBABILITY GRAPH COPPER GEOCHEMISTRY in SOILS of the ANVIL DISTRICT		
Scale _____	Date <u>DEC. 1975</u>	NTS <u>105E</u>
Revised _____	By <u>F. FOSTER</u>	Fig <u>5</u>

PARTS PER MILLION COPPER

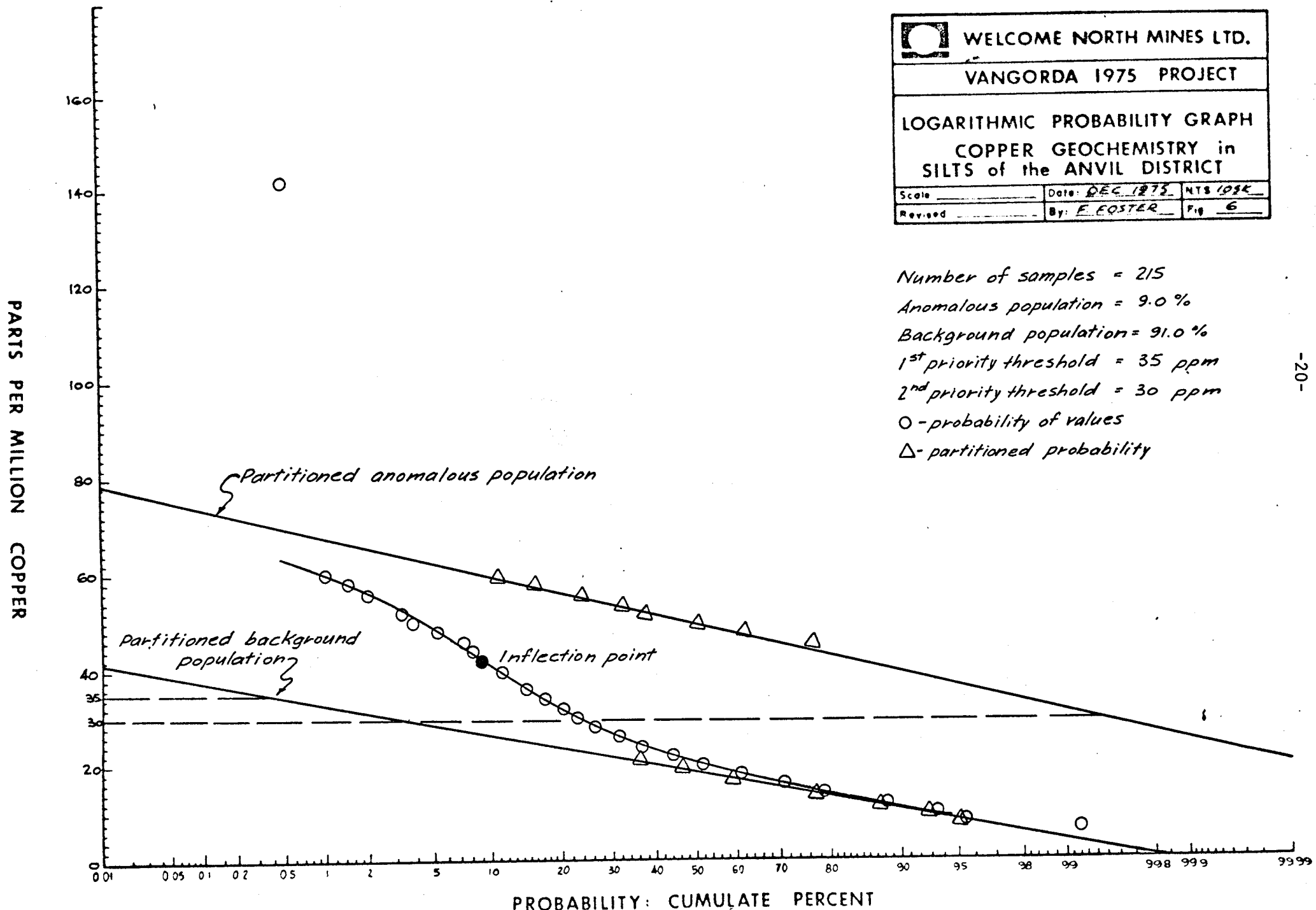



Number of samples = 286
 Anomalous population = 2.0 %
 Background population = 98.0 %
 1st priority pop. threshold = 55 ppm
 2nd priority pop. threshold = 41 ppm
 ○ - probability of values
 △ - partitioned probability

PROBABILITY: CUMULATE PERCENT

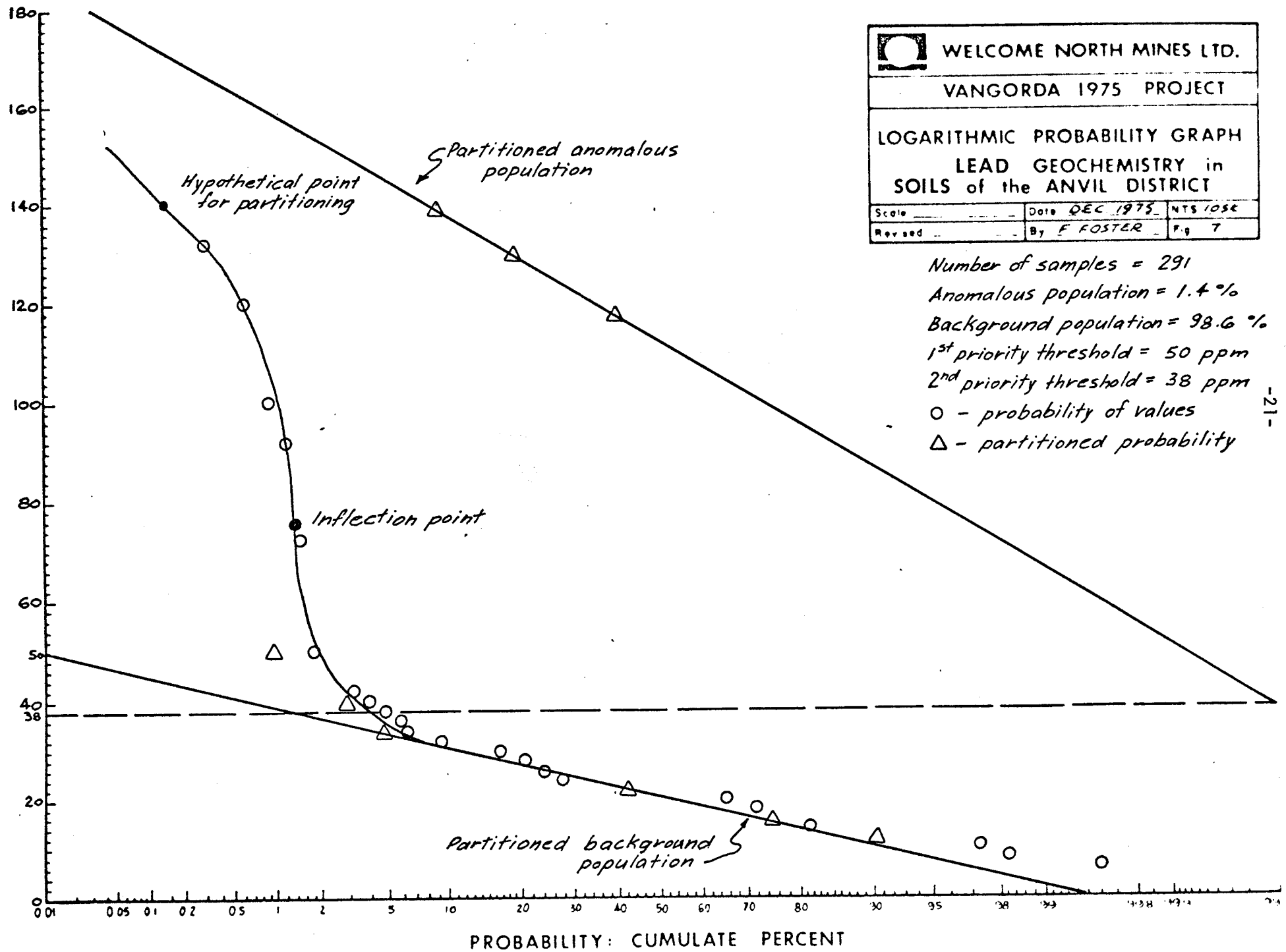
 WELCOME NORTH MINES LTD.		
VANGORDA 1975 PROJECT		
LOGARITHMIC PROBABILITY GRAPH COPPER GEOCHEMISTRY in SILTS of the ANVIL DISTRICT		
Scale _____	Date: <u>DEC. 1975</u>	NTS <u>108K</u>
Revised _____	By: <u>F. EOSTER</u>	Fig <u>6</u>

Number of samples = 215
 Anomalous population = 9.0 %
 Background population = 91.0 %
 1st priority threshold = 35 ppm
 2nd priority threshold = 30 ppm
 ○ - probability of values
 △ - partitioned probability




 WELCOME NORTH MINES LTD.		
VANGORDA 1975 PROJECT		
LOGARITHMIC PROBABILITY GRAPH LEAD GEOCHEMISTRY in SOILS of the ANVIL DISTRICT		
Scale _____	Date DEC 1975	NTS 105x
Revised _____	By F FOSTER	P. 7

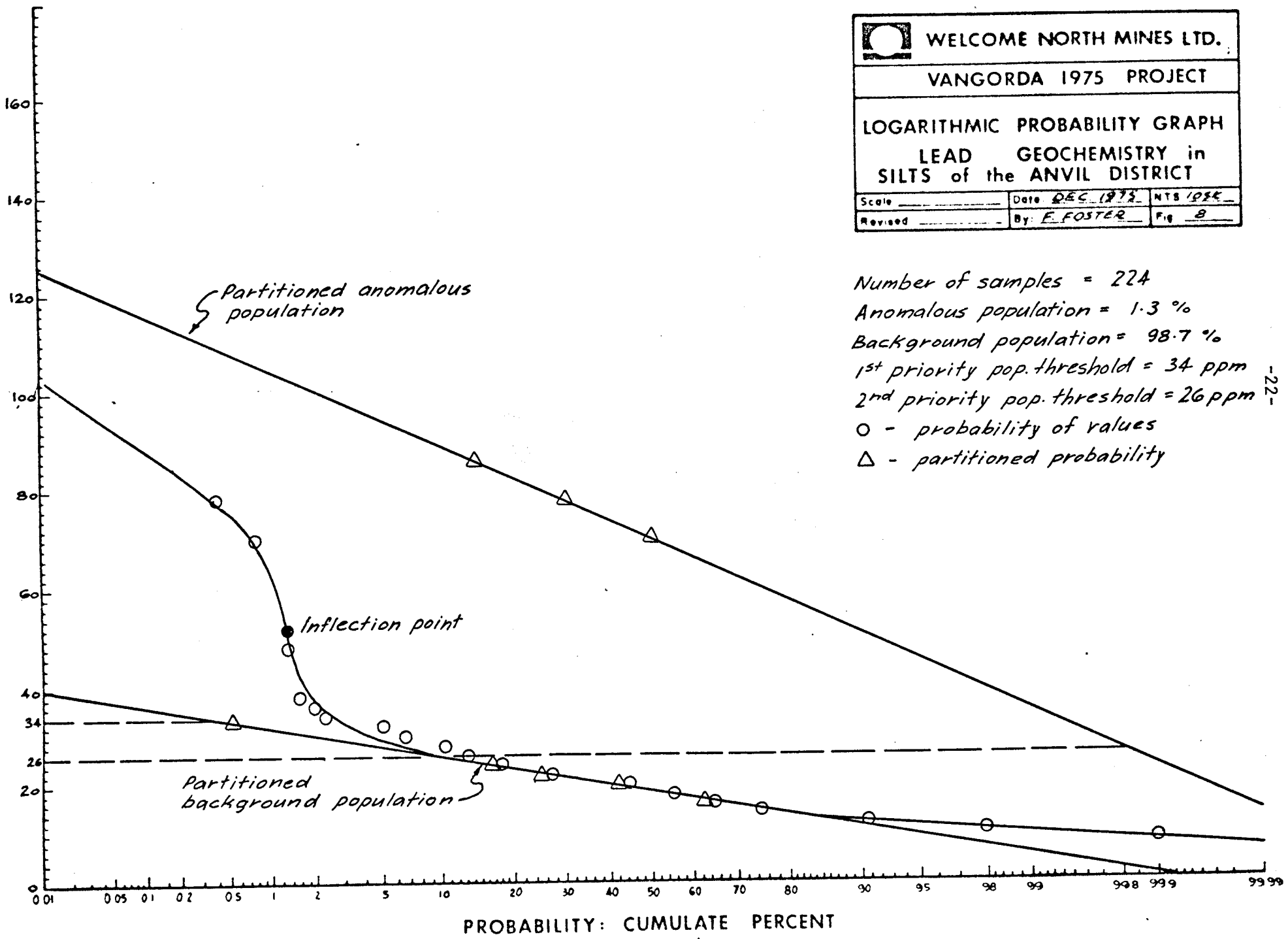
PARTS PER MILLION LEAD




PROBABILITY: CUMULATE PERCENT

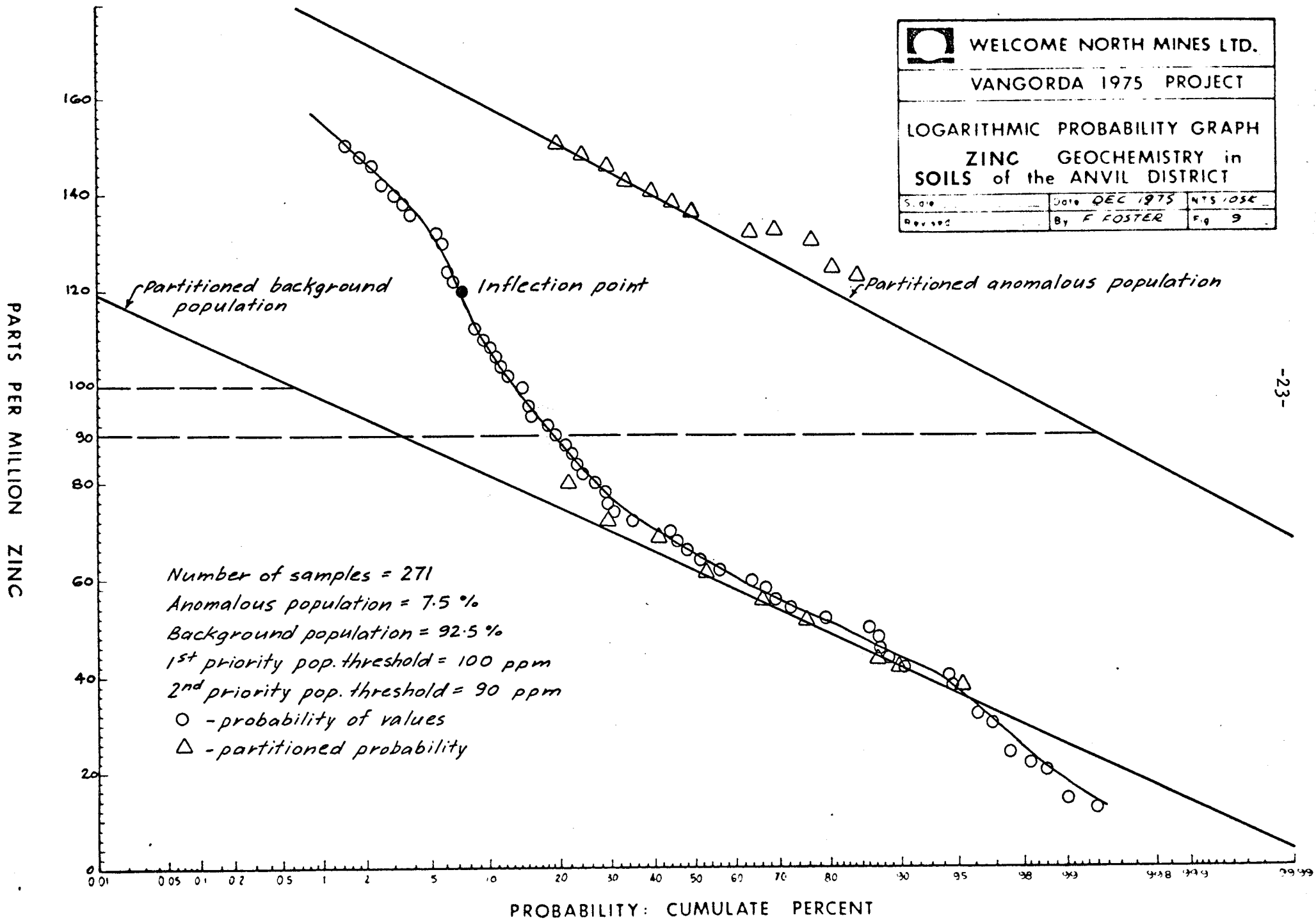
 WELCOME NORTH MINES LTD.		
VANGORDA 1975 PROJECT		
LOGARITHMIC PROBABILITY GRAPH LEAD GEOCHEMISTRY in SILTS of the ANVIL DISTRICT		
Scale _____	Date <u>DEC 1975</u>	NTS <u>105K</u>
Revised _____	By: <u>F. FOSTER</u>	Fig <u>8</u>


PARTS PER MILLION LEAD



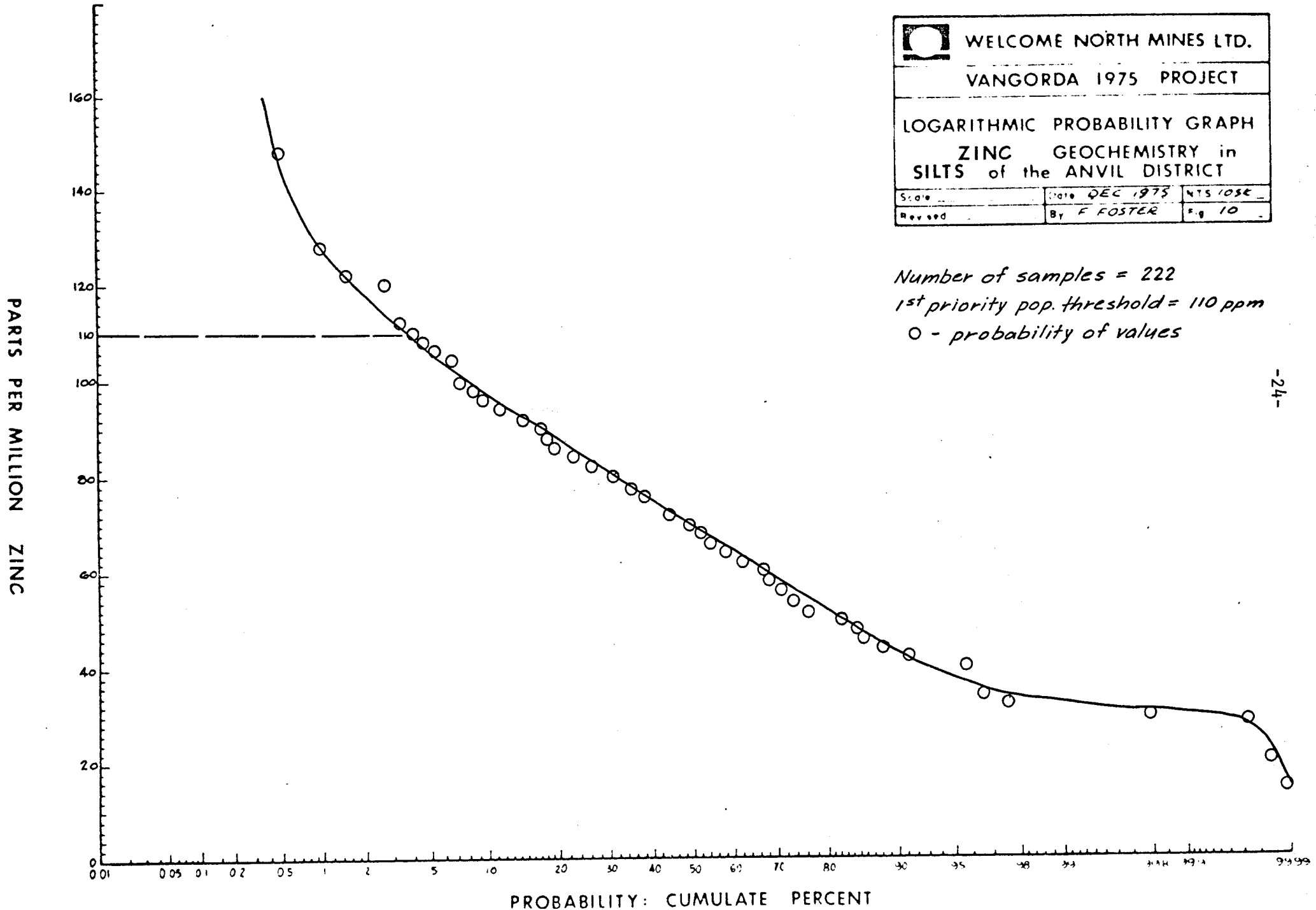
Number of samples = 224
 Anomalous population = 1.3 %
 Background population = 98.7 %
 1st priority pop. threshold = 34 ppm
 2nd priority pop. threshold = 26 ppm
 ○ - probability of values
 △ - partitioned probability


 WELCOME NORTH MINES LTD.		
VANGORDA 1975 PROJECT		
LOGARITHMIC PROBABILITY GRAPH ZINC GEOCHEMISTRY in SOILS of the ANVIL DISTRICT		
Scale	Date DEC 1975	NTS 1:05K
Revised	By F FOSTER	Fig 9



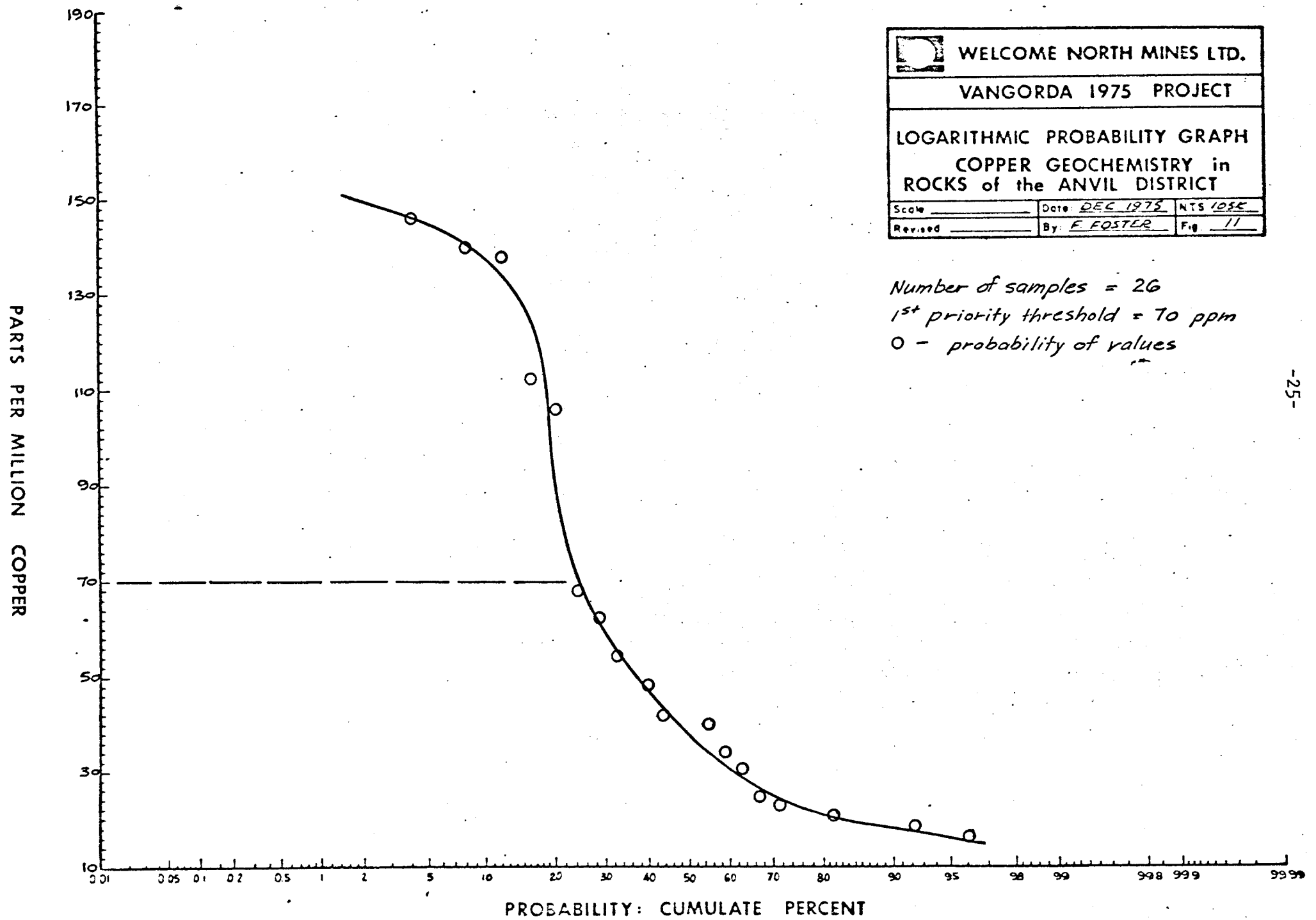
 WELCOME NORTH MINES LTD.		
VANGORDA 1975 PROJECT		
LOGARITHMIC PROBABILITY GRAPH ZINC GEOCHEMISTRY in SILTS of the ANVIL DISTRICT		
Scale	Date DEC 1975	NTS 1:50K
Revised	By F FOSTER	Fig 10


Number of samples = 222
 1st priority pop. threshold = 110 ppm
 O - probability of values



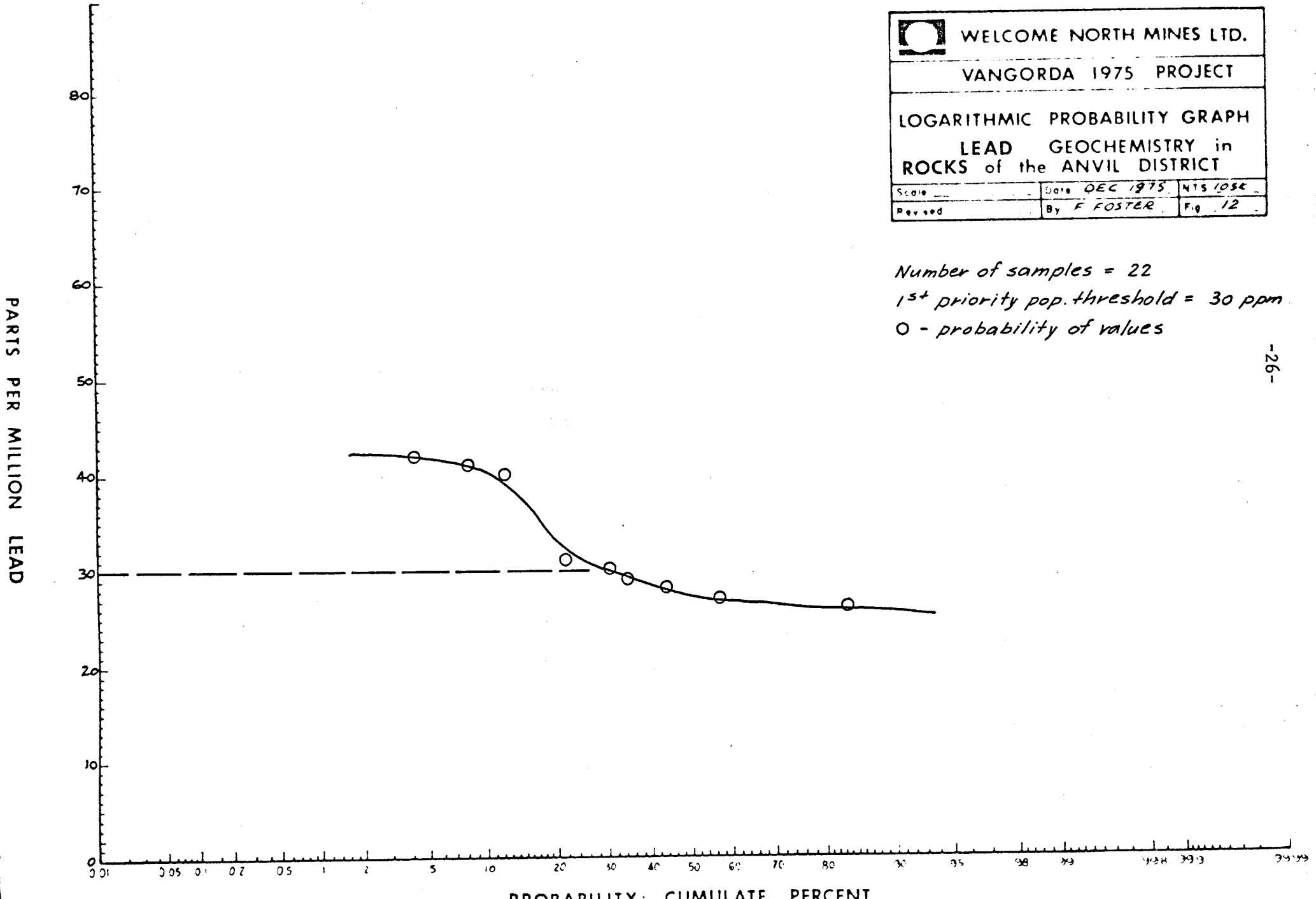
		
WELCOME NORTH MINES LTD.		
VANGORDA 1975 PROJECT		
LOGARITHMIC PROBABILITY GRAPH		
COPPER GEOCHEMISTRY in		
ROCKS of the ANVIL DISTRICT		
Scale _____	Date: <u>DEC 1975</u>	NTS <u>105K</u>
Revised _____	By: <u>F. FOSTER</u>	Fig. <u>11</u>

Number of samples = 26
 1st priority threshold = 70 ppm
 O - probability of values

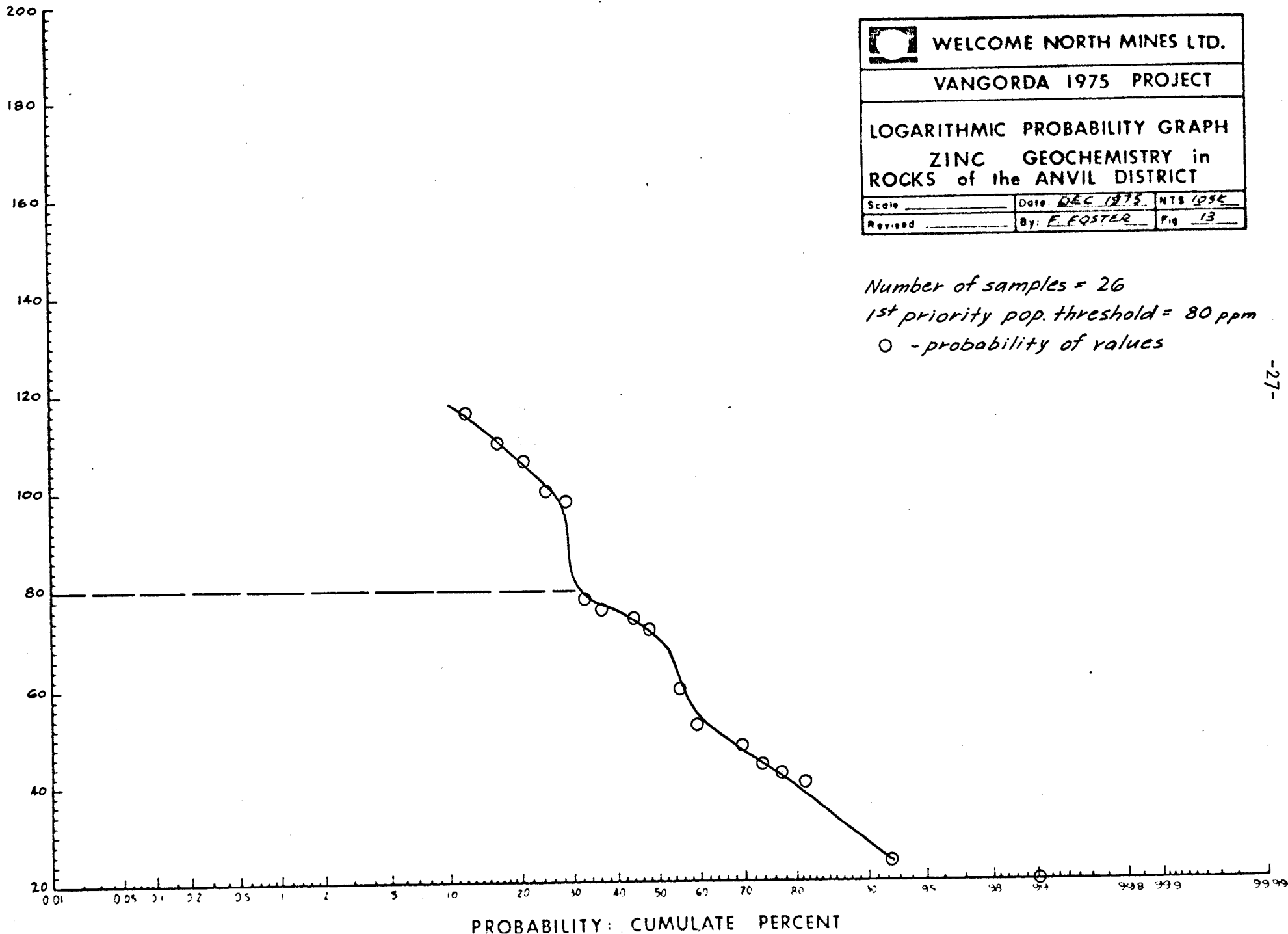



 WELCOME NORTH MINES LTD.		
VANGORDA 1975 PROJECT		
LOGARITHMIC PROBABILITY GRAPH LEAD GEOCHEMISTRY in ROCKS of the ANVIL DISTRICT		
Scale	Date DEC 1975	NTS 105C
Revised	By F FOSTER	Fig 12

Number of samples = 22
 1st priority pop. threshold = 30 ppm
 O - probability of values



PARTS PER MILLION ZINC



 WELCOME NORTH MINES LTD.		
VANGORDA 1975 PROJECT		
LOGARITHMIC PROBABILITY GRAPH ZINC GEOCHEMISTRY in ROCKS of the ANVIL DISTRICT		
Scale _____	Date: DEC 1975	NTS 1054
Revised _____	By: F. FOSTER	Fig 13

Number of samples = 26
1st priority pop. threshold = 80 ppm
○ - probability of values

Examination of the statistical analysis for zinc content in silts (Fig. 10) shows that a major background population exists. The partitioning procedure cannot be applied in this case due to there being such a small percentage of anomalous samples. The configuration of the logarithmic probability plot shown in Fig. 10 suggests that the values greater than the arbitrarily chosen threshold of 110 ppm contain high background values as well as anomalous values. Unfortunately there is insufficient data to distinguish the highest possible background value and all values greater than 110 ppm are thus considered as anomalous.

Insufficient data was collected for a proper statistical analysis of the copper, lead, and zinc content in rocks sampled in the Anvil District, therefore threshold values of 70, 30, and 80 ppm for copper, lead, and zinc, respectively were arbitrarily chosen by visual inspection of the logarithmic probability plots (Fig. 11, 12, and 13).

Geochemical surveys on the BEV claims have been restricted to sampling of frost boils, "side-hill" seeps of groundwater emergence and active silts from local drainage features. Analysis of material sampled has revealed little in the way of anomalous copper, lead and zinc values, however this weak response might be anticipated from most of the areas investigated as the region is blanketed with deep overburden.

Copper

Moderately anomalous copper response is found at isolated sample sites generally in proximity to the southern boundary of the property where siliceous gneiss and phyllite is mapped as Unit (3a). One weakly anomalous silt sample (58 ppm Cu) was collected at station 56E 17N on the northern portion of the property.

The highest copper value recorded is 140 ppm and was obtained from a rock geochem sample site located at grid location 60E-30S.

Lead

No anomalous lead geochemical expressions were obtained from any

of the areas sampled on the property.

High background values, up to 32 ppm Pb, were obtained from silts in the northeast corner of the property in an area coincidentally anomalous in copper.

Zinc

Moderately anomalous zinc values (100 ppm to 140 ppm) have been obtained from two restricted areas of the property, both of which have previously been described as being moderately anomalous in copper.

The first area is represented by anomalous zinc, reaches maximum values of 140 ppm in silts. This zone, located in the northeast corner of the property, is overburden covered but it is believed to be underlain by Unit (3a).

Stations sampled in the second area, near the southern boundary of the claims, yielded maximum values of up to 132 ppm Zn. It should be noted that soil conditions in this area are unstable, as characterized by side-hill slumping.

In summary, sampling of available frost boils and groundwater drainage emergence has been of a sporadic nature and weakly anomalous results as derived from this restricted survey are of limited extent. Two zones, believed to be underlain by phyllites of Unit (3a), located in the northeast and southern portions of the BEV claims are weakly anomalous in copper and zinc. Without further supporting geophysical or geochemical data they are of little interest.

GEOPHYSICAL SURVEYS

The geophysical surveys were carried out on a contract basis by geophysical crews of Peter E. Walcott and Associates Ltd. hired out of Vancouver, B.C.

1. Instruments Used

For the magnetometer survey, A McPhar M700 fluxgate magnetometer with additional help from a Scintrex MF-1 magnetometer was used. Both instruments are hand-held and measure the vertical magnetic component by use of an oil-dampened fluxgate which automatically levels itself in the direction of the vertical field. The magnetometers are of light weight and a direct read-out of gamma values can be obtained quickly.

The electromagnetic survey was carried out with a Crone CEM dual frequency unit. The Crone is of the inductive type and may be used either as a horizontal or vertical loop apparatus. Measurements are made of the resultant dip-angle of the field and the width of null or out of phase component. It is designed to be operated with a maximum coil spread of 600 feet on frequencies of 390 and 1830 cycles per second with no interconnecting cables. The effective depth penetration is 300 feet for a horizontal conductor with maximum coil spread (no skin effect allowance) and 100 feet for a vertical conductor. The effective lateral coverage is a direct function of the spread under ideal conditions. The equipment was chosen in order to give reliable information on the attitude and configuration of a conductor, the physical properties of the host rock, dimensions of the conductor, and results free from error due to topographic relief.

2. Method of Survey

a) Magnetometer Survey

Prior to the actual magnetometer survey, readings were taken along the central base line at cross line intersection points. These stations were looped and re-read every hour as a means of controlling drift and diurnal variations. With base stations of an established value serving as a means of controlling drift and diurnal variations, a rapid and

precise check was kept on magnetic variations and the entire survey was thus kept on a relative basis during day to day operation. Each cross line was read with re-checks at the base station within every hour, this method provided an internal control for detecting diurnal and drift variations. The survey was done by one operator using the same instrument.

b) Electromagnetic Survey

All surveys were run with horizontal loop configuration and 300 foot coil spacing in order that highest response could be obtained from flat lying sulphide bodies. Readings at 1830 cps were taken at each station. The coil configuration was not adaptable to conditions of conductive overburden and maximum response from such was expected. All traverses were made by the "in line method" and done over the same grid as used for the magnetometer surveys. In some cases a lower frequency (390 cps) was adopted for better resolution of conductors, within areas of more specific interest. The two-man EM crew did all their ground work in coincidence with the magnetometer crew.

3. Treatment of Data

a) Magnetic Results

Magnetic results were corrected in the field for diurnal and drift variations by the field operator. The final gamma values were then plotted on a grid plan using scale of 400 feet to 1 inch. This data was presented to the party chief who profiled and contoured the data on overlay material in order that he could remain familiar with day to day results and progress of the survey, direct its course, and have results available for the project geologist when he carried out geochemical surveys and geological mapping on the property. Magnetic data is presented in this report on a map of 1" = 400' scale showing gamma values and contoured results (see Appendix). The map shows major drainage features and locations of mineral claim posts.

b) Electromagnetic Results

All results as derived in the field were plotted each night by the EM operators on a grid plan using a scale of 1" = 400'. Results were presented to the party chief for inspection, profiling and preliminary contouring in order that this data be compared with the magnetometer survey and the results be available to the project geologist when he carried out geochemical and geological surveys on the property. Final plotting was done on a map of 1" = 400' scale similar to that used for the magnetic map. Electromagnetic data is presented in this report showing values contoured.

4. Interpretation of Results

a) Magnetometer Survey

The magnetic response over the claim group is of uniform gradient with no significant anomalies (see Plate W-202-14). A large, low magnitude aero-magnetic anomaly lying over the central region of the property was confirmed by a slightly higher (less than 100 gammas) response spread out over most of the central region of the property. This magnetic expression may be due to an underlying greenstone body, previously documented (Dynasty Explorations Ltd., 1970) as being found on strike to the southeast and northwest.

b) Electromagnetic Survey

A weak electromagnetic conductor, "A", is discernible above the otherwise small resultant dip-angles obtained on the survey (see Plate W-202-15). This east-west trending conductor, whose axis passes through stations 64E-17S and 88E-10S is partially coincident with a narrow, 50 gamma magnetic response. Conductor "A" is situated over siliceous, banded gneisses with phyllitic partings that have been assigned to Unit (3a).

RECOMMENDATIONS

As mentioned in the section "Summary and Conclusions" in this report, no priority geochemical or geophysical targets have been outlined on the property.

Since the geophysical expressions on the property are very weak and no anomalous geochemical responses are obtained in the vicinity of the latter, it is recommended that the claims be kept in good standing but that no further work be carried out on them until which time encouraging results from future developments on the nearby EVA, MABEL, and ALICE claim groups be obtained.

BIBLIOGRAPHY

Archer, Cathro & Associates Ltd., Northern Cordillera Mineral Inventory: Yukon and Northwest Territories, 1975.

Dept. of Indian and Northern Affairs; Mineral Industry Reports, 1965 to 1973.

Sinclair, A.J., Selection of Threshold Values in Geochemical Data Using Probability Graphs: Journal of Geochemical Exploration, V. 3, p. 129-149, 1974.

Templeman-Kluit, D.J.; Geology and Origin of the Faro, Vangorda and Swim Concordant Zinc-Lead Deposits, Central Yukon Territory: Geological Survey of Canada Bulletin 208, 1972.

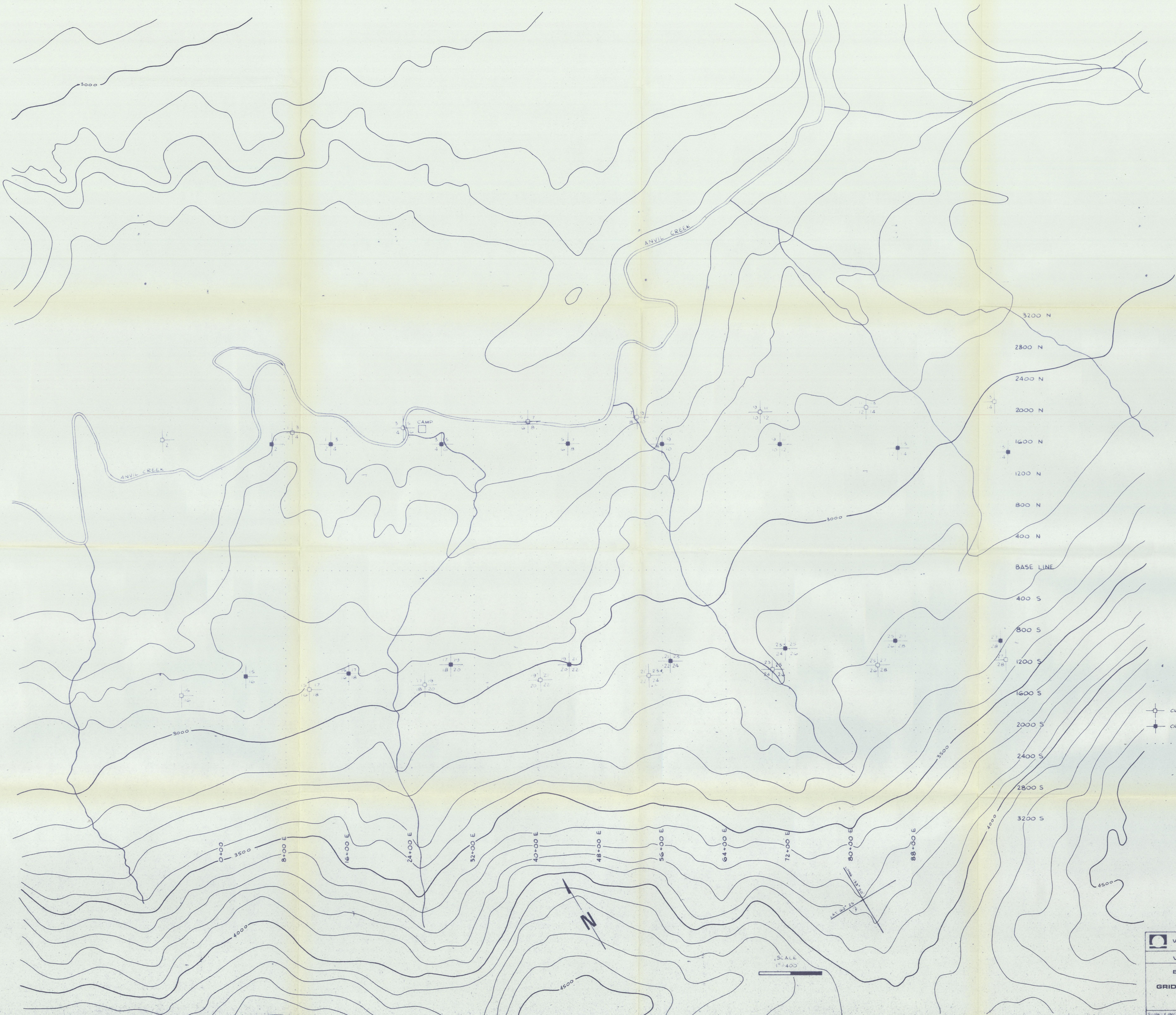
Dynasty Exploration Ltd., Roto claims, 105K-5, Geological, Geochemical, and Geophysical Report, 4 maps, W.J. Roberts, 1971.

Map: Dynasty Exploration Ltd., Anvil District, 105K, Airborne Magnetometer Survey, scale 1" = 1 mile, Lockwood Survey Corp., 1965.

Map: Dynasty Exploration Ltd., Anvil District, 105K, Airborne Electromagnetic Survey, Lockwood Survey Corp., 1965.

Dynasty Exploration Ltd., Jean Claims, 105K-5, Geophysical Report, 5 maps, W.J. Roberts, 1971.

Dynasty Exploration Ltd., Gran Claims, 105K-5, Gravity Survey, 2 maps, R.B. Galeski, 1971.



LEGEND
 □ Claim Posts, as located on gov't claim maps
 ■ Claim Posts, as located in the field
 Grid Lines

VANGORDA 1975 PROJECT		
BEV CLAIMS 1-28		
GRID LOCATION MAP		
Scale: 1 INCH = 400 FT	Date: August 1975	NTS 125.A.2
Revised:	By: FOSTER	Date:



3200 N
2800 N
2400 N
2000 N
1600 N
1200 N
800 N
400 N
BASE LINE
400 S
800 S
1200 S
1600 S
2000 S
2400 S
2800 S
3200 S

0+00 8+00 E 16+00 E 24+00 E 32+00 E 40+00 E 48+00 E 56+00 E 64+00 E 72+00 E 80+00 E 88+00 E

LEGEND

- Claim Posts, as located on gov't claim maps
- Claim Posts, as located in the field
- Grid Lines

○ - SOIL	○ - SILT	△ - ROCK
□ 55+ ppm	□ 35+ ppm	□ 70+ ppm
□ 41-54 ppm	□ 30-34 ppm	□ 0-60 ppm
□ 0-40 ppm	□ 0-29 ppm	

WELCOME NORTH MINES LTD.
VANGORDA 1975 PROJECT
BEV CLAIMS 1-28
GEOCHEMISTRY - COPPER

Scale: 1"=400' FT. Date: AUGUST 1975. NTS 125.56
 Revised: By: F. FOSTER Page: 2



LEGEND

Claim Posts, as located on gov't claim maps
 Claim Posts, as located in the field
 Grid Lines

O - SOIL		O - SILT	Δ - ROCK
50+ ppm	34-49 ppm	34+ ppm	30+ ppm
38-49 ppm	26-33 ppm	0-29 ppm	0-29 ppm
0-37 ppm	0-25 ppm		

WELCOME NORTH MINES LTD.
 VANGORDA 1975 PROJECT
 BEV CLAIMS 1-28
 GEOCHEMISTRY - LEAD

Scale 1 inch = 400 feet Date August 1975 NTS 05.5.6
 Revised By F. PASTER Plate 3

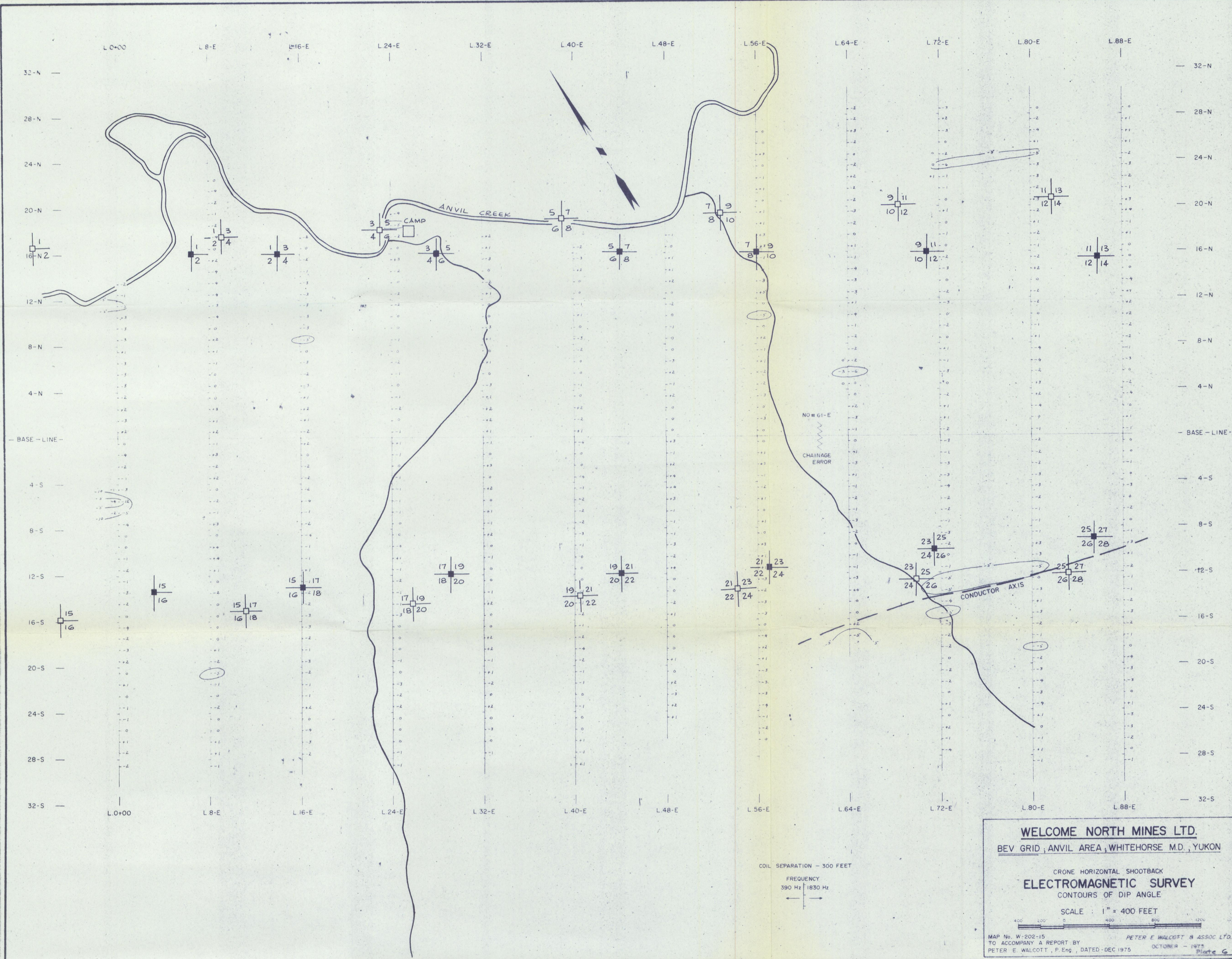


WELCOME NORTH MINES LTD.
 BEV GRID, ANVIL AREA, WHITEHORSE, M.D., YUKON

MAGNETOMETER SURVEY
 CONTOURS OF RELATIVE VERTICAL INTENSITY
 (IN GAMMAS)
 SCALE 1" = 400 FEET

MAP No W-202-14
 TO ACCOMPANY A REPORT BY
 PETER E. WALCOTT, P. Eng., DATED DEC 1975

PETER E. WALCOTT & ASSOC. LTD.
 OCTOBER - 1975
 Plate 5



WELCOME NORTH MINES LTD.
 BEV GRID, ANVIL AREA, WHITEHORSE M.D., YUKON

CRONE HORIZONTAL SHOOTBACK
ELECTROMAGNETIC SURVEY
 CONTOURS OF DIP ANGLE

SCALE : 1" = 400 FEET

400 200 0 200 400 800 1200

MAP No. W-202-15
 TO ACCOMPANY A REPORT BY
 PETER E. WALCOTT, P. Eng., DATED - DEC 1975

PETER E. WALCOTT & ASSOC. LTD.
 OCTOBER - 1975
 Plate G

COIL SEPARATION - 300 FEET

FREQUENCY
 390 Hz | 1830 Hz

← ————— →



LEGEND

MESOZOIC

11 Cretaceous
Porphyritic biotite-quartz monzonite & granodiorite, foliated equivalents

PALEOZOIC

3c Ordovician-Silurian
Andesitic greenstone, foliated fine-grained amphibolite

3a? Quartz rich dark grey phyllite with some calc-silicate bands, can contain 3c

Geological boundary (defined, approx, gradational, assumed) wavy line

Limit of geological mapping dashed line

First foliation (S₁) dashed line with arrows

Second foliation (S₂) dashed line with arrows

Third foliation (S₃) dashed line with arrows

Lineation dashed line with arrows

Minor fold axis related to S₂ dashed line with arrows

Joints (inclined, vertical) dashed line with arrows

Fault (defined, approximate, assumed) zigzag line

Anticline (approx, assumed) curved line with arrow indicating direction of plunge

Syncline (approx, assumed) curved line with arrow indicating direction of plunge

Anticline, Syncline overturned curved line with arrow indicating direction of plunge

Outcrop irregular outline

Subcrop irregular outline

Claim Posts, as located on gov't claim maps square with cross

Claim Posts, as located in the field solid square

Grid Lines dotted line

CEM Conductor circle with 'C'

CEM Conductor Axis line with 'C'

Magnetic Anomaly irregular outline