ANVIL DISTRICT COMPILATION

G.I. HALL

October 21, 1983

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INTRODUCTION

This report includes a compilation of results of work done in the Anvil District Yukon (Fig.1) on ground held by Cyprus Anvil Mining Corporation between the Anvil Mine at Faro and the SEA deposit 32 kms. to the southeast.

In addition, recommendations are proposed for immediate and longer range exploration programs and potential for this area.

DATA COLLECTION

The Cyprus Anvil Mining Corporation exploration office in Vancouver contains compilation maps at scales 1" = 2000 feet and 1" = 1000 feet covering the area of interest. Addition compilation maps to the north and west cover the complete Anvil Batholith and the margins that host the deposits and favourable geological horizons. A list of the maps to cover the area of this report is attached as Appendices I, II, and III. Diamond and rotary drill hole locations are shown on these maps. Detailed drill logs are available in Vancouver.

GEOLOGY

The Anvil Range is underlain by sediments and volcanics ranging in age from upper Precambrian to Mesozoic. The rocks of most economic potential are in the Mt. Mye Formation (Hadrynian - lower Cambrian) and Vangorda Formation (lower Cambrian - early Ordovician) on the southwestern edge of the Selwyn Basin adjacent to the Tintina Fault (extension of the Rocky Mountain Formation).

The Mt. Mye Formation consists of non calcareous phyllites, graphitic phyllites and intermediate volcanics and their higher grade metamorphic equivalents. Metamorphic gradient increases to the northwest from the SEA deposit to Faro.

The Vangorda Formation consists of calcareous phyllites, graphitic phyllites, limy units, and volcanic and tuffaceous rocks, and their metamorphic equivalents. The major difference between the two formations appears to be the calcareous nature of the younger Vangorda Formation.

The transition zone at the base of the Vangorda Formation is up to several hundred meters in thickness and is marked by a variably graphitic phyllite unit and stratiformed Pb-Zn-Ag deposits.

At least five periods of deformation have affected the pelitic sediment in the Anvil Range.

Two major NE trending normal faults cut across the trend of the Pb-Zn-Ag deposits.

ORE DEPOSITS

On the southern side of the Anvil Batholith there are five stratiform Pb-Zn-Ag deposits that have proven geological reserves, including the Anvil mine. (See Fig. 2

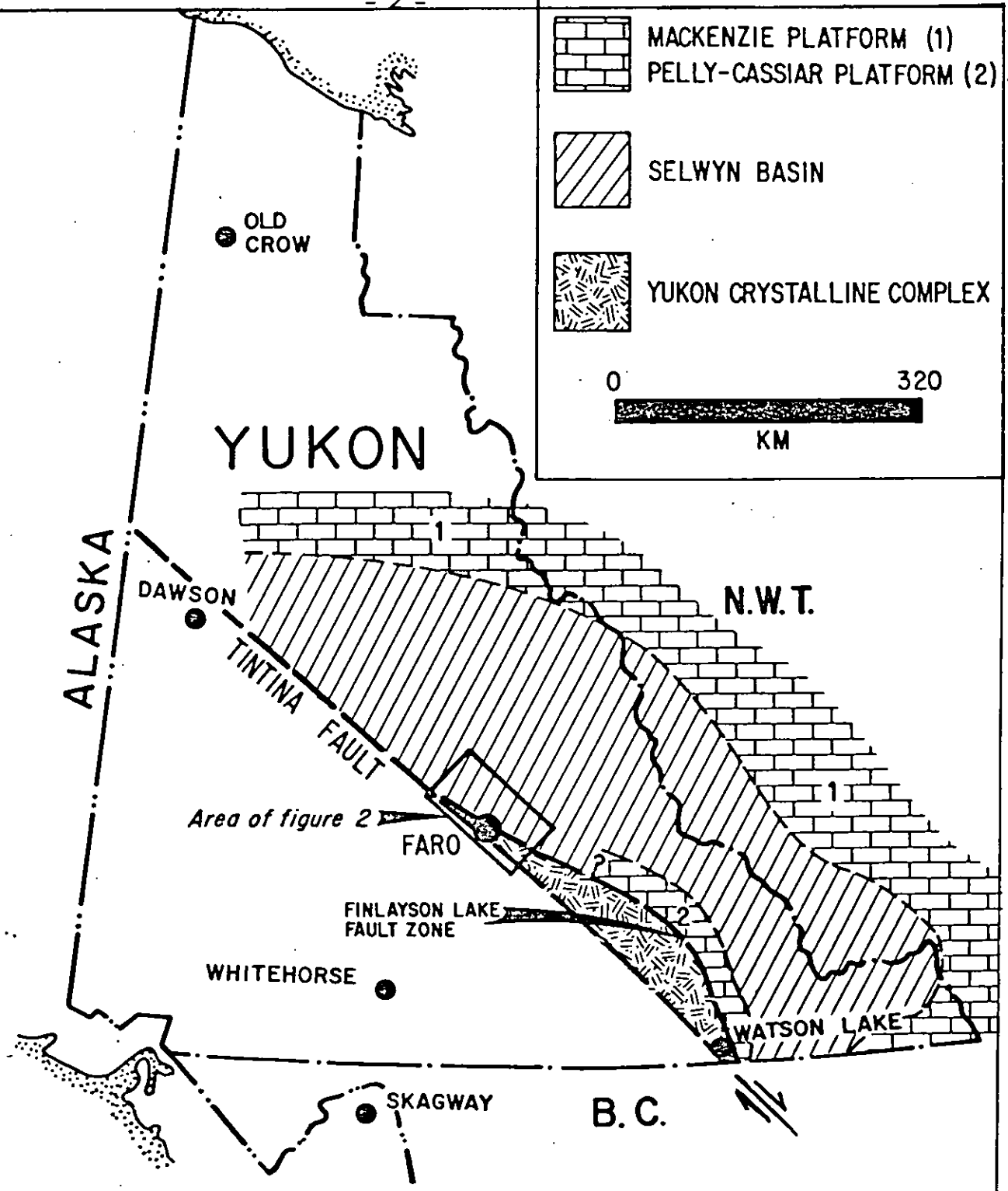
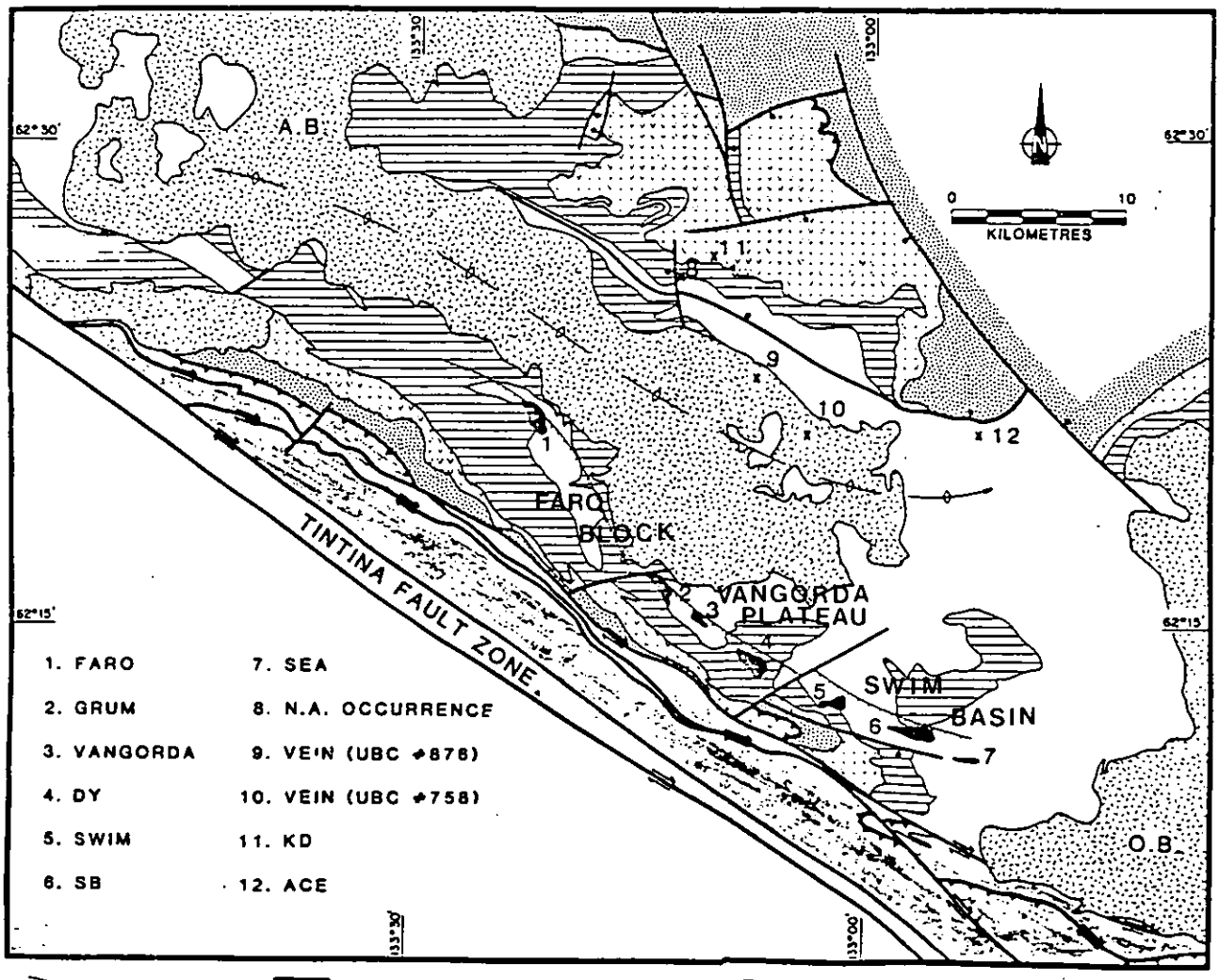


Figure 1

Location of the Anvil Pb-Zn-Ag district with respect to selected Paleozoic and Mesozoic tectonic elements northeast of Tintina fault. Tintina fault is an upper Cretaceous, right lateral strike slip fault with approximately 450 km displacement. Yukon Crystalline Complex (also known as Yukon Cataclastic Complex) is an imbricated sequence of mid Paleozoic magmatic arc related rocks and upper Paleozoic ophiolotic rocks; it is exotic with respect to the Yukon further northeast and was "accreted" in upper Jurassic - lower Cretaceous along the Finlayson Lake fault zone, a major transcurrent fault or an upturned thrust.



- Jennings, D.S., Jilson, G.A. Geology of the Anvil Range and its Ore Deposits. Jan. 1982.

Figure 2

Geologic map of the Anvil Pb-Zn-Ag district showing location of ore deposits. Nos. 1-7 are the main stratiform deposits, of which only Nos. 1-5 contain significant Pb-Zn.

TABLE 1

ANVIL DISTRICT TONNAGE AND GRADE COMPILATION

DEPOSIT	RESERVES (000 Tonnes)	GRADE Lead %	Zinc %	Silver g/mt	Cutoff %Pb+Zn	SOURCE
FARO						
Geological Reserves Before Mining	57,583	3.4	5.7	-	5.0	1
Remaining Geological Reserves	33,000	3.0	4.6	36	4.0	2
Minable Open Pit Reserves	25,200	2.9	4.3	36	4.0	2
Oxide Stockpile	1,363	2.9	4.7	33	n/a	2
GRUM (62W-86W only)						
Geological Reserves *	30,781	3.1	4.9	49	4.0	3
Minable Open Pit Reserves	16,875	3.0	4.9	47	4.0	3
VANGORDA						
Geological Reserves (2W-28E)	7,080	3.4	4.3	48	4.0	5
Minable Open Pit Reserves (2W-18E)	5,189	3.4	4.2	47	4.0	5
DY						
Geological Reserves	20,267	5.7	7.0	82	9.0	6
	11,049	6.7	8.0	100	12.0***	6
SWIM						
Geological Reserves	4,750	3.8	4.7	42	6.0**	7
TOTAL						
Geological Reserves - Before Mining	120,461	3.7	5.6	-	n/a	
- Remaining	95,878	3.7	5.2	51	n/a	
Minable Open Pit Reserves	47,264	3.0	4.5	41	4.0	

* NO REFINED ESTIMATES OF UNDERGROUND GEOLOGICAL RESERVES AVAILABLE.

** INFERRED MINIMUM %Pb+Zn USED IN RESERVE CALCULATIONS.

*** FOR GEOLOGICAL RESERVE TOTAL DY 9% CUTOFF RESERVE USED.

All tonnage figures adjusted for 1981 specific gravity reductions.

All geological and open pit reserves adjusted for dilution.

SOURCES

1) Pennebaker, E.N. (1967) Report to Anvil Mining Corp. dated 3 October, 1967 reported in Cyprus Anvil correspondence to J.F. Olk from J.C. Devitt 4 December, 1975.
2) Purkis, J. (1982) November 19, 1982 Reserve Summary; Cyprus Anvil Mining Corporation in-house report.
3) Clarke, P.I. (1981) October 1, 1981 Reserve Summary; Cyprus Anvil Mining Corporation in-house report.
4) Tolbert, R.S. (1982) November 19, 1982 Reserve Summary: Cyprus Anvil Mining Corporation in-house report.
5) Rollings, R.W. (1982) January 1, 1982 Reserve Summary; Cyprus Anvil Mining Corporation in-house report.
7) Kavanaugh, P.M. (1966) Ore Reserves Calculations, Swim Lakes "A" Group, Yukon dated 27 December, 1966; Kerr-Addison in-house memorandum.

TABLE 2

ANOMALY COMPARISON TABLE

DEPOSIT	Proven Geological Reserves Million Tonnes	GRADE			ANOMALY						
					GEOPHYSICS					SOILS	
		Pb	Zn	Ag	AEM	Gravity	Turam	A Mag	G Mag	Pb	Zn
		%	%	g/t							
FARO	36.9	3.0	4.8	37	Weak	Strong	No survey	No	No Survey	Yes	Yes
GRUM	27.8	3.1	4.9		Weak	Mod.	Mod.	No	No Survey	No	No
DY	18.0	5.6	7.4	83	No	No Survey	No	No	No Survey	No	No
VANGORDA	5.2	3.3	4.3	48	Strong	Mod.	Strong	Yes	No Survey	Yes	Yes
SWIM	4.3	4.7	3.8	47	Strong	Yes	No Survey	No Survey	No Survey	No Survey	No Survey
SB	None	-	-	-	Weak	No Survey	No Survey	No Survey	Yes	Yes	Yes
SEA	None	-	-	-	Mod.	Yes	No Survey	No Survey	Yes	No	No
Firth	None	-	-	-	No	No Survey	Mod	No Survey	No Survey	Yes	Yes

and Table 1). All of these deposits lie in the graphitic phyllite transition zone between the Mt. Mye and Vangorda Formations and define a gentle curvilinear NW-SE trend from Faro to Swim. Three other smaller Pb-Zn occurrences (Firth, SB, Sea) are known in this zone and its trend to the southeast.

PREVIOUS EXPLORATION

Since the mid 1960's, this area has received intense exploration when it was realized there was a possible connection between Vangorda and Faro in terms of lithology, structure, and origin of the metals, i.e. the same geological environment.

The area has been geologically mapped at numerous scales and explored by geophysical and geochemical methods including airborne magnetics, ground magnetics, Turam, gravity and VLF-EM systems (Table 2). Geochemical exploration consisted of detailed soil sampling over all the deposits and up to 1 mile north and south of the line of the deposits. Drilling by rotary and diamond drill rigs was used to investigate many of the geophysical anomalies and to sample basal till and buried bedrock. Many of the recent diamond drill holes were drilled for structural and stratigraphic information so that the third dimension could be ascertained. For example, the DY deposit is too deep to respond to any geophysical or geochemical tool. It was found by projections of the favourable graphitic phyllite after a thorough understanding of the structural geology in drill holes.

Figs. 3 and 4 show geophysical anomalies, drill holes and the favourable geological horizon in the Anvil district. The area has been divided into the Faro Block, Vangorda Plateau and Swim Basin from northwest to southeast and ranked in terms of interest for further exploration.

No attempt has been made to show the location of detailed drill holes associated with the deposits and sulphide occurrences listed in Table 2.

DISCUSSION OF PRIORITY AREAS

1. Vangorda Platea

This area contains the near surface deposits of GRUM and VANGORDA, and the deeply buried DY. Both GRUM and VANGORDA respond to gravity surveys. GRUM did not respond to the airborne EM survey. Both GRUM and VANGORDA have a moderate to strong response to Turam surveys. The DY deposits does not respond to any of the surveys because it is too deeply buried.

(a) The area between GRUM and VANGORDA is anomalous in terms of gravity, and Turam. A modest number of holes have been diamond drilled in this area (not all shown on Fig. 3 and 4) but a re-examination of the area on the ground, and re-logging of the drill holes may indicate areas for further detailed work.

(b) and (c)

A surface pinchout of the favourable horizon (or a thickening of the overlying Vangorda Formation) is marked by a weak gravity anomaly and anomalous Pb-Zn from overburden and bedrock in rotary holes. Further

along the trend to the northeast there is a moderate aeromagnetic anomaly over the Vangorda Formation. Rotary drill holes in this area were shallow and probably did not reach the favourable horizon. Only one hole was diamond drilled in area "b" and it recorded 20 feet of anomalous Pb at 210 feet.

2. Faro Block

(a) The area west and northwest of the mine has the best potential for hosting massive sulphide deposits along the Mt. Mye Vangorda boundary in the Faro Block. The area has not been intensively diamond drilled and there are several previously recorded weak gravity anomalies.

(b) and (c)

Southeast of the mine along the favourable horizon are several AEM/A Mag/gravity anomalies associated with volcanic members of the Vangorda Formation. The southeastern most area (c) has not been drilled.

3. Swim Basin

The Swim Basin is the least attractive of the three areas making up the Anvil District because it is farthest away from the existing facilities and contains the smallest of the sulphide occurrences. In addition, it has had the least amount of drilling.

(a) The area south of SWIM deposit does not appear to have been tested with ground EM. The numerous Turam anomalies to the southeast of SWIM appear to be associated with younger blank clastic units.

(b) and (c)

These areas are of limited interest, but there are some untested Turam anomalies in area C.

EXPLORATION RATIONALE

The objective of the exploration program in the Anvil district is to find additional Pb-Zn-Ag deposits in the order of 20 m.t. with a minimum grade of 10% Pb-Zn and 45 g/t.Ag at a maximum depth of 300m below surface to the top of the deposits. It should be assumed that, considering the amount of surface exploration that has been completed in the last 25 years, such a deposit does not appear at surface in the Anvil district. Therefore, appropriate up-to-date geophysical methods of exploration, guided by geological parameters and the information from previous drilling appears to be the most effective and least expensive method to locate base metal-associated anomalies for diamond drill testing.

RECOMMENDATIONS FOR EXPLORATION: A PRIORITY LISTING

(a) Short Term

1. Complete test case studies from Max-Min. II and detailed magnetometer

surveys over GRUM and VANGORDA. There is detailed geological information about these deposits from surface and drill hole data. Lines should be spaced initially at 100m intervals and multi frequencies recorded. Available core from holes drilled between the deposits should be relogged where possible. Cost : $100,000.

2. Fill in the area between GRUM and VANGORDA with detailed geological mapping, Max-Min II and detailed magnetometer surveys with gravity surveys over significant EM/Mag. anomalies. Cost: $50,000.

3. Investigate anomalies 1b, c with detailed MAX MIN II and magnetometer surveys. Cost: $30,000.

4. Diamond drill best conductors found as a result of exploration in 2 and 3 above. Cost: $500,000.

RECOMMENDATIONS FOR EXPLORATION

(b) Long Term (3-5 years)

1. Remapping and re-interpretation of geology of the Vangorda Plateau, Faro Block, and Swim Basin to recommend areas of detailed geophysical surveys. Estimated cost: $100,000.

2. Completion of relogging all available cores from the areas outside the known deposits, particularly in Vangorda Plateau and Swim Basin. Estimated cost: $100,000.

3. Complete detailed ground geophysical surveys guided by data from 1 and 2 above, over and up to ½ mile south of the the Mt. Mye-Vangorda boundary (grey areas on Figs. 3 and 4) over the Faro Block and Swim Basin. Estimated cost: $750,000.

4. On-going diamond drilling of anomalies. Estimated cost: $1.5 million.

S. Ian Hall.

APPENDIX I

Compilation Maps from Anvil Range in Vancouver Office

E-6 *Sepia copies in Calgary

TITLE	SCALE	DATE
Topography Neg. (CI=100')	1"=2000'	January 1976
Orthophoto Neg. (CI=100')	1"=2000'	January 1976
Orthophoto (CI=100')	1'=2000'	January 1976
Topography	1"=1000'	January 1976
Claim Survey	1"=2000'	
*Claim Survey	1"=1000'	October 29/81
Air Mag	1"=2000'	
*Air Mag	1"=2000'	No date
Airborne EM	1"=2000'	
*Airborne EM	1"=1000'	No date
Grid	1"=2000'	
*Grid	1"=1000'	October 3/78
Geology	1"=2000'	
*Geology	1"=1000'	June 20/80
*Geology-outcrop & sample stns.	1"-1000'	October 5/77
*Geology-structural Do & D1	1"=1000'	
*Geology-structural D2 & post D2	1"=1000'	June 25, 1978
*Geology-Faro pit area	1"=400'	April 25, 1977
*Geology-showing expl.drill grid	1"=1000'	January 1981
Geology	1"=2000'	
Geology-colored	1"=1000'	
Geochem Pb	1"=2000'	
Geochem Zn	1"=2000'	
Geochem Cu	1"=2000'	May 30, 1979
Geochem Cu,Pb,Zn	1"=2000'	June 1977
*Geochem Pb	1"=1000'	May 30, 1979
*Geochem Zn	1"=1000'	May 20, 1979
*Geochem Cu	1"=1000'	May 30, 1979
Geochem Cu,Pb,Zn - transferred to above three maps	1"=1000'	April, 1977

Ground Mag	1"=2000'	November 20/78
Ground Mag (note revised)	1"=2000'	March 25/76
*Ground Mag	1"=2000'	November 20/76
Ground Mag (outdated)	1"=2000'	November 26/76
Turam EM	1"=2000'	October 11/78
CEM	1"=2000'	March 23/76
*Turam EM	1"=1000'	October 11/78
*CEM	1"=1000'	March 13/76
Residual Gravity	1"=2000'	March 29/76
*Residual Gravity	1"=1000'	March 29/76
Mine Area Composite (Orthophoto C.I. = 20')	1"=400'	August 1975

APPENDIX II

Compilation Maps from Anvil Range in Vancouver Office

TITLE	SCALE	DATE
Topography	1"=1000'	January 21/76
Topography	1"=2000'	January 21/76
Orthophoto Neg. (CI=100')	1"=2000'	No date
Orthophoto (CI=100')	1"=2000'	No date
Topo Original	1"=1000'	January 21/76
*Claim Surveys	1"=2000'	November 29/79
*Claim Surveys	1"=1000'	March 1, 1979
Air Mag	1"=2000'	January 21/76
*Air Mag	1"=1000'	January 21/76
Airborne EM	1"=2000'	January 21/76
*Airborne EM	1"=1000'	January 21/76
Grid	1"=1000'	No date
Grid	1"=2000'	No date
*Grid - Originals	1"=1000'	October 3/78
Geology	1"=2000'	April 13/81
Geology	1"=1000'	
*Geology showing expl. drill grid	1"=1000'	January 1981
Geology outcrops & Sample numbers	1"=1000'	June 18/80
*Geology-structural Do-D1	1"=1000'	June 12/78
*Geology-structural D_2Post D_2		
Geochem Pb	1"=2000'	January 21/76
Geochem Zn	1"=2000'	January 21/76
Geochem Cu	1"=2000'	January 21/76
Geochem Cu, Pb, Zn	1"=2000'	January 21/76
*Geochem Zn	1"=2000'	January 21/76
*Geochem Cu	1"=2000'	January 21/76
*Geochem Pb	1"=2000'	January 21/76
Ground Mag	1"=2000'	March 19/76
*Ground Mag	1"=1000'	March 19/76
Turam	1"=2000'	October 11/78
*Turam	1"=1000'	October 11/78
CEM	1"=2000'	March 22, 1976
*CEM	1"=1000"	March 22, 1976
Residual Gravity	1'=2000'	March 30, 1980
*Residual Gravity	1"=1000'	March 30, 1981

APPENDIX III

Compilation Maps for Anvil Range in Vancouver Office

G-6

*Sepia copies in Calgary

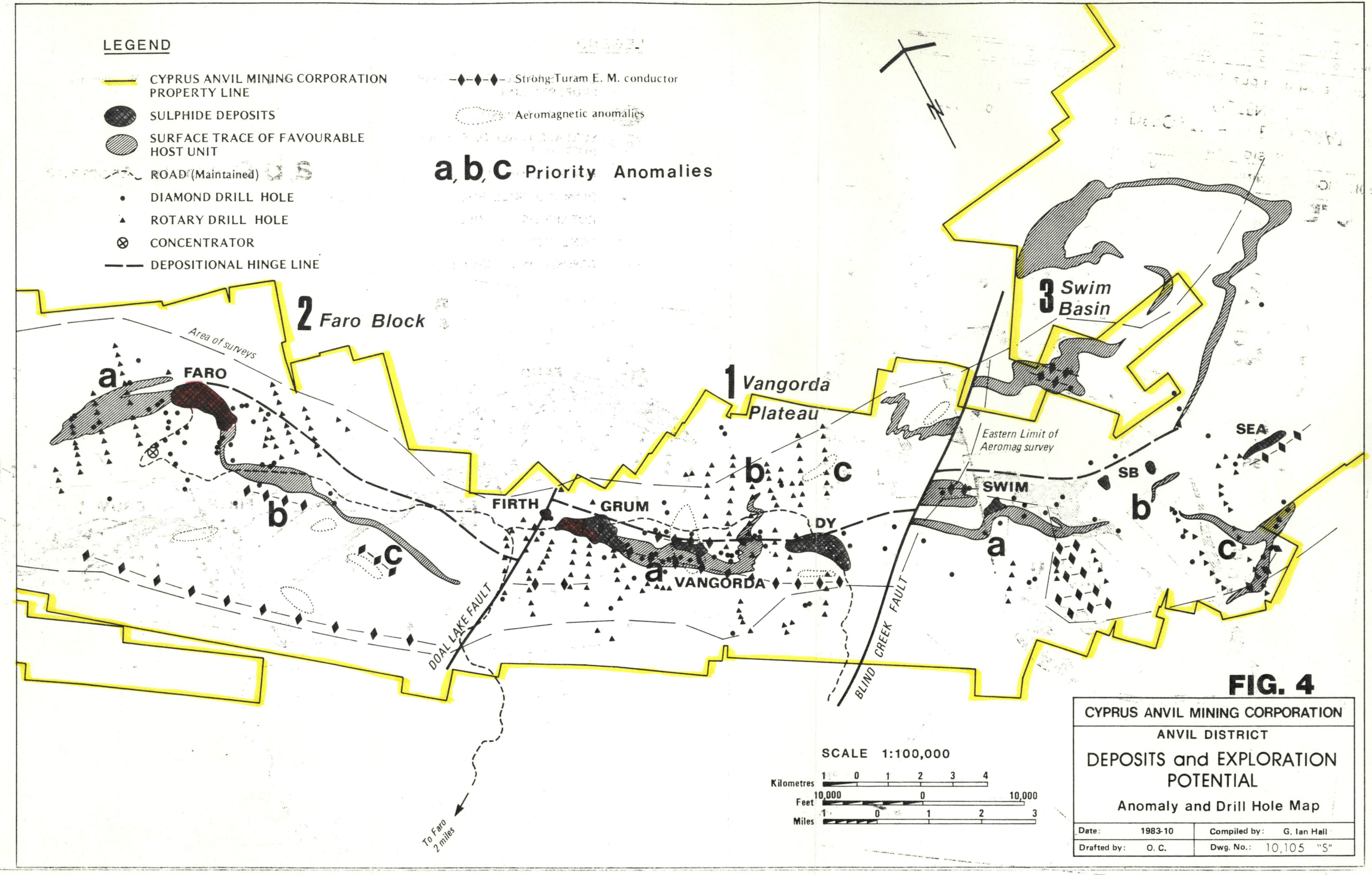
TITLE	SCALE	DATE
Topography	1"=1000'	February 13/76
Orthophoto (CI=100')	1"=2000'	August 1974
Orthophoto Neg. (CI=100)	1"=2000'	August 1974
Topo	1"=2000'	February 13/76
Claims	1"=2000'	September/81
Claims	1"2000'	February 13/76
*Claims	1"=1000'	February 13/76
*Air Mag	1"=2000'	March 1981
*Air Mag	1"=1000'	January 22/76
*Airborne EM	1"=1000'	January 22/76
IP Lines 1961 Swim L. No Data	1"=1000'	February 13/76
Grids	1"=2000'	No date
Grids	1"=1000'	No date
*Grids original	1"=1000'	1978
Blank grid	1"=1000'	No date
Geol. showing expl. grid	1"=2000'	January 1981
*Geol. showing expl. grid	1"=2000'	January 1981
Geology	1"=2000'	April 13/81
Geology	1"=1000'	April 13/81
Geology - Colored	1"=1000'	April 13/81
Topo with drill holes	1"=1000'	February 13/76
Geol. outcrops & sample Nos.	1"=1000'	June 19/80
*Geol. structure Do-D1	1"=1000'	March 6/78
Geol. Structure D2-Post D2	1"=1000'	March 6/78
*Geochem Cu	1"=1000'	1978
*Geochem Pb	1"=1000'	1978
*Geochem Zn	1"=1000'	1978
Geochem Cu,Pb,Zn	1"=2000'	June 1977
Geochem Zn	1"=2000'	
Geochem Pb	1"=2000'	1978
Geochem Cu	1"=2000'	1978
Geochem Cu,Pb,Zn	1"=1000'	June 1977

Ground Mag	1"=2000'	January 13/76
*Ground Mag	1"=1000'	January 28/77
Turam (superseded)	1"=2000'	January 19/76
CEM	1"=2000'	January 19/76
Turam	1"=2000'	January 27/77
*Turam	1"=1000'	January 27/77
*CEM	1"=1000'	January 19/76
Gravity Residual	1"=2000'	March 30/81
*Gravity Residual	1"=2000'	March 30/81

LEGEND

- CYPRUS ANVIL MINING CORPORATION PROPERTY LINE
- SULPHIDE DEPOSITS
- SURFACE TRACE OF FAVOURABLE HOST UNIT
- ROAD (Maintained)
- DIAMOND DRILL HOLE
- ROTARY DRILL HOLE
- CONCENTRATOR
- DEPOSITIONAL HINGE LINE
- Strong Turam E. M. conductor
- Aeromagnetic anomalies

a, b, c Priority Anomalies



SCALE 1:100,000

Kilometres 1 0 1 2 3 4

Feet 10,000 0 10,000

Miles 1 0 1 2 3

FIG. 4

CYPRUS ANVIL MINING CORPORATION

ANVIL DISTRICT

DEPOSITS and EXPLORATION POTENTIAL

Anomaly and Drill Hole Map

Date:	1983-10	Compiled by:	G. Ian Hall
Drafted by:	O. C.	Dwg. No.:	10,105 "S"

LEGEND

- CYPRUS ANVIL MINING CORPORATION PROPERTY LINE
- SULPHIDE DEPOSITS
- SURFACE TRACE OF FAVOURABLE HOST UNIT
- ROAD (Maintained)
- DIAMOND DRILL HOLE
- ROTARY DRILL HOLE
- CONCENTRATOR
- DEPOSITIONAL HINGE LINE

RESIDUAL GRAVITY

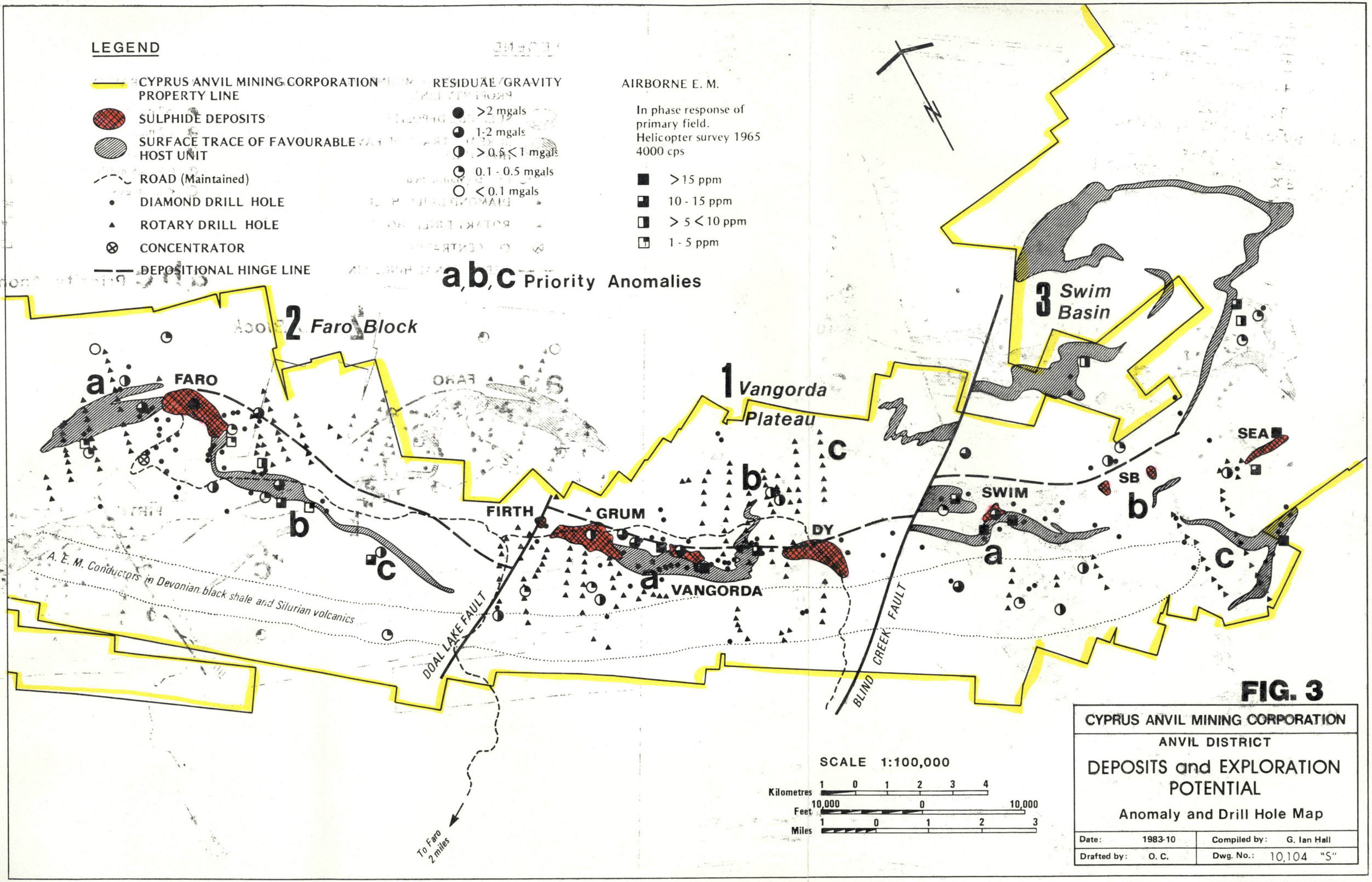
- ● >2 mgals
- ◕ 1-2 mgals
- ◑ >0.5<1 mgals
- ◔ 0.1 - 0.5 mgals
- ○ <0.1 mgals

AIRBORNE E. M.

In phase response of primary field.
Helicopter survey 1965
4000 cps

- ■ >15 ppm
- ▪ 10 - 15 ppm
- ◨ >5<10 ppm
- ◳ 1 - 5 ppm

a,b,c Priority Anomalies



SCALE 1:100,000

Kilometres 1 0 1 2 3 4
Feet 10,000 0 10,000
Miles 1 0 1 2 3

FIG. 3

CYPRUS ANVIL MINING CORPORATION	
ANVIL DISTRICT	
DEPOSITS and EXPLORATION POTENTIAL	
Anomaly and Drill Hole Map	
Date: 1983-10	Compiled by: G. Ian Hall
Drafted by: O. C.	Dwg. No.: 10,104 "S"