

019758

PROGRESS REPORT - 1977-1978

NORTHEAST OPTIONS - FARO BLOCK  
COVERING  
PATTY, LA, ZA - MIAMI - KO CLAIM GROUPS

By:

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CYPRUS ANVIL MINING CORPORATION  
November, 1978

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(In pockets)

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INTRODUCTION

The above claim groups form part of the northeast flank or overturned limb of the Faro antiform and abut to the northeast on the Anvil Batholith with a relatively shallow inflexion line between intrusive and sedimentary envelope. About 30% of the above claim blocks are either entirely underlain by granite or, at best, covered by a very thin shingle or roof pendent of Anvil belt metasediments. Thus claims KO 3, 5-7, 9, 11, 13-16, 35 and 36, and PATTY 1, 3-6, 8 and 10-12 are entirely underlain by granite and are of no economic interest. During 1977-78, these claim blocks were mapped in detail at scales of 1" to 1,000' and in parts at 1" to 400'. Cut line grids spaced at 800' intervals were sited to cover the area underlain by metasediments and not previously included in the Faro block survey area, and TURAM electromagnetic and ground magnetic surveys completed. Further evaluation rests in deeper search spectral I.P. surveys or stratigraphic drill tests of favourable horizons. Claim summary sheets and a claim map are included with this report as Appendix I and Map No. 1 respectively.

GEOLOGY

1. General

Table 1 shows the complete stratigraphic sequence in the Faro area. It should be noted that two separate productive horizons are identified. The Lower, or Faro horizon, lies within carbonaceous andalusite schist (1D) of the Faro Formation (unit 1), while the Vangorda-Grum-DY-Swim deposits are younger and lie either within



or close to the Vangorda graphitic-phyllite horizon (unit 5A). The syngenetic sulphide deposits are considered to be linked to a hinge line of anomalous heat flow operative from the time of deposition of the Faro Formation to post-Vangorda Formation times, and can be classified as syn-sedimentary exhalative deposits. Exploration is therefore centered on the identification of favourable stratigraphic horizons, i.e. graphitic-phyllites and schists, originally basinal carbonaceous shales, and the location of the major depositional hinge line. The upper or Vangorda horizon is not present under the option claim groups which lie on the northeast flank of a complex major  $F_1 - F_4$  fold, intruded by the Lower Upper Cretaceous Anvil Batholith.

The claim groups cover the contact of the Faro and Mt. Mye Formations and lie dominantly within the Mt. Mye Formation on the lower, overturned limb of an overall Z symmetry (looking northwest), northeasterly vergent, first phase ( $F_1$ ) antiform. The contact of the Faro and Mt. Mye Formations is an important stratigraphic boundary in the Anvil Range, as the Faro deposit occurs 100 - 200 feet below it. Consequently, considerable attention is paid to areas exposing this contact.

In the mine area, a diagnostic, carbonaceous, muscovite-biotite-andalusite schist forms the upper member (unit 1D) of Faro Formation and is the host of the Faro deposit. Unit 1D is underlain by quartzofeldspathic, biotite-muscovite gneisses and schists (unit 1C) of the Faro Formation, the oldest recognizable unit in the district. Calc-silicate phyllites and non-calcareous muscovite-chlorite ± biotite-phyllites (units 3D and 3G) of Mt. Mye Formation overlies unit 1D with gradational and, apparently, conformable contact.

Detailed investigations of stratigraphic relationships around the Faro orebody suggest unit 1D "pinches out" approximately along the northeastern edge of the deposit. This observation, in conjunction with similar relationships for host units of other Anvil District sulphide deposits, suggests these deposits are localized along a syn-sedimentary fault controlling the distribution of the host units. This fault or "hinge line" also localizes or "ponds" syn-sedimentary exhalative brines in local depressions adjacent to the "hinge line". Base metals in the brines are fixed either through biogenic or thermal reduction of coeval sea water sulfate forming H<sub>2</sub>S, which reacts with the chloride-rich brines to form the base metal sulphides of the deposits.

These stratigraphic relationships and this genetic model define the following parameters as diagnostic of a "favourable" exploration situation in map units equivalent to the Faro mineralized horizon:

1. presence of unit 1D stratigraphically beneath unit 3,
2. termination of unit 1D against a probable "hinge line" now recognizable as a lateral facies boundary between units 1C and 1D.

Each of the claim groups covered by this report is evaluated below in terms of these parameters.

## 2. Miami Claims

The Miami claims are underlain mainly by calc-silicate phyllites (unit 3D) of Mt. Mye Formation (Map No. 2). To date, no sulphide deposits of significance have been found in this unit in the

district. The northwestern portion of the block straddles the unit 1/ unit 3 boundary (Faro horizon). Surface exposure here and along strike in both directions suggest the absence of unit 1D. In summary, the claim block is underlain by an overturned sequence of Faro Formation gneisses (unit 1C) stratigraphically overlain/structurally underlain by Mt. Mye Formation calc-silicates. Unit 1D (host to Faro deposit) does not appear to be developed. The section lies on the lower limb of, and is overturned by, a macroscopic  $F_1$  antiform. The exploration potential of the claim group, by analogy to the setting of the Faro deposit, is not encouraging.

3. Patty, LA, ZA Claims

The Patty and ZA claims are largely underlain by quartz monzonites and marginal granodiorite phases of the Anvil Batholith. Since none of the Anvil District sulphide deposits occurs within, or is genetically related to, the batholith, these claims need not be explored further. Minor amounts of scheelite were found in calc-silicate phyllites/schists adjacent to parts of the batholith during field mapping in 1972. No follow-up work was done on this occurrence.

The LA group covers dominantly unit 1C with no associated 1D. By analogy to the Miami group, because unit 1D and related "hinge line" are not developed, the exploration potential of the LA claims is low.

4. KO Claims

The eastern and northern margins of the KO claim group are underlain by granitoid rocks of Anvil Batholith. The remainder of the block is underlain by a thin sheet of calc-silicates (3D) and non-calcareous phyllites (3G) of Mt. Mye Formation. To date, no tungsten

mineralization has been found in the calc-silicate phyllites near the batholith contact. For reasons given above, little encouragement is seen in this claim group.

### GEOPHYSICS

Except for the area underlain by abundant outcrop of the Anvil Batholith, various grids have covered the claim areas with ground magnetic and deep search TURAM electromagnetic surveys. The early Lockwood E.M./Mag. airborne system covered the entire claim blocks, including the margins of the granitic intrusive. Maps 3 - 6 inclusive show the contoured results of these various surveys and are included with this report.

#### 1. Airborne Magnetic Survey

This survey shows a low amplitude background response over most of the area. An east-west elongated 60 gamma high on the northern K0 claims parallels a porphyritic dyke system containing minor magnetite. A broad, 40 gamma high overlying the batholith on the Patty 4 - 7 claims is almost certainly a response to minor pyrrhotite in the marginal phase of the batholith which is a common phenomena along its southern edge.

#### 2. Ground Magnetic Surveys

As might be expected, the ground survey shows slightly higher amplitude of magnetic response, but still with a low background, generally less than 100 gammas variation, and a general lack of steep contours. The airborne high on the K0 claims is reflected by a similar ground magnetic pattern removed to the west on the ROC claims, giving a closer fit to the known intrusive porphyry dyke. This shift reflects the general inaccuracy in plotting the airborne response.

3. Airborne E.M. Survey

Two airborne E.M. anomalies are indicated, one of which is a combination of two indicated responses on Miami 4 - 6 claims with an inphase to quadrature ratio of between 1 - 2 and 1 - 4, probably responding to a weak graphitic content in underlying unit 3 phyllites. The rest of the claim areas are singularly devoid of E.M. response.

4. TURAM E.M. Surveys

The primary objective of the 1977-1978 surveys was to cover all areas underlain by metasediments with deep search TURAM to identify possible graphitic horizons as these are primary ore indicators in the district. The results show a moderate response trending northeasterly on the K0 claims coincident with mapped chloritic-phyllite (unit 3G) containing minor amounts of graphite, with a similar weak response trending slightly north of east on the Miami 4 - 6 claims paralleling the airborne E.M. trend. Again, this response is typical of unit 3G chloritic-phyllite with minor graphitic partings. Neither response is typical of true graphitic horizons, of which there is an extensive verified file in the Anvil area.

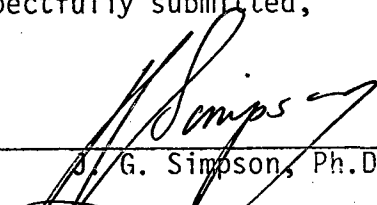
PROPOSED FURTHER WORK

In the normal course of events, gravity profiles will be run over the weak TURAM responses in the K0 and Miami claims to check for excess mass response. However, extensive work in the Anvil area with terrain-corrected gravity data suggests that this method is not sufficiently accurate to distinguish low order, i.e. 10 - 20 millitons mass, given the present inaccurate topographic control and lack of information on the overburden profile. Recent experimental work with multi-spectral I.P. in the Anvil area indicates that this method distinguishes clearly between graphitic

and sulphide response and is capable of picking up a sulphide horizon up to 2,000 feet below surface, as evidenced by test results on the new DY deposit. However, it is unlikely that a portable production field unit will be available before the late summer of 1979 and, even then, it would be prudent to carry out further tests on known graphite-sulphide combinations before clearing the method for general fieldwork. The cost of this research is being carried by Cyprus Anvil and it is our belief that this will prove the most useful tool in making a final evaluation of the option claims.

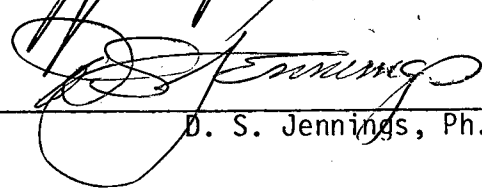
A single drillhole is planned on the Tie claims just east of the Patty claims in 1979, and should also be of help in establishing the best stratigraphic-structural interpretation of the northeast flank of the Faro anticline. Further drill tests, including holes on both the KO and Miami/Patty blocks, could be drilled in 1980 on the basis of the I.P. results or, in any event, as a confirmatory stratigraphic test before abandoning the areas.

Respectfully submitted,



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J. G. Simpson, Ph.D., P.Eng.



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D. S. Jennings, Ph.D.

APPENDIX I

Claim Summary Sheets

COMPANY ..... CYPRUS ANVIL ..... CLAIM .....

PROPERTY OWNERSHIP

Cyprus Anvil 70%  
Golden Gate 30%

M.D. .... N.T.S. ....

Claim No.	Grant No.	No. of Claims	Staked by	Recording Date	Transfer Information		Due Date	Assessment Work and Remarks
					To	Date		
OPTION AGREEMENT - GOLDEN GATE EXPLORATIONS (Mr. Abraham -5814515)								
PATTY CLAIMS - 105-K-6 - Whitehorse Mining District								
3-6	Y59823-Y59826	4					Dec. 8, 1982	Assess. Work Filed Date: Dec. 1, 1977 Type: DDH 77-10 & 11 (Kerr Addison work) (Patty 3-6) * * * * *
8	Y59828	1					Dec. 8, 1981	
10	Y59830	1					Dec. 8, 1981	
L.A. CLAIMS - 105-K-6 - Whitehorse Mining District								
1-4	Y67794-Y67797	4					Dec. 5, 1981	Assess. Work Filed Date: Sept. 15, 1978 Amt. \$200.00 Type: Linecutting CERTIFICATES OF WORK NOT RECEIVED
5-6	Y67798-Y67799	2					Dec. 5, 1981	
Z.A. CLAIMS - 105-K-6 - Whitehorse Mining District								
1	Y78034	1					Nov. 27, 1981	

COMPANY ..... CYPRUS ANVIL ..... CLAIM ..... PROPERTY OWNERSHIP Cyprus Anvil 70% Renniks Res. 30% M.D. .... N.T.S. ....

Claim No.	Grant No.	No. of Claims	Staked by	Recording Date	Transfer Information		Due Date	Assessment Work and Remarks
					To	Date		
<u>OPTION AGREEMENT - RENNIKS RESOURCES LTD (Mr. Maycock - 738-3144)</u>								
<u>MIAMI CLAIMS -105-K-6 - Whitehorse Mining District</u>								
1-6	Y79354-Y79359	6					July 2, 1981	Assess. Work Filed Date: Dec. 1, 1977 Amt. \$2,400 Type: DDH 77-10 & 11 (Kerr Addison work) (Miami 7-12) * * * * * Assess. Work Filed Date: Sept. 15, 1978 Amt. \$700.00 Type: Linecutting CERTIFICATES OF WORK NOT RECEIVED
7-12	Y79360-Y79365	6					July 2, 1982	
13	Y79366	1					July 2, 1981	





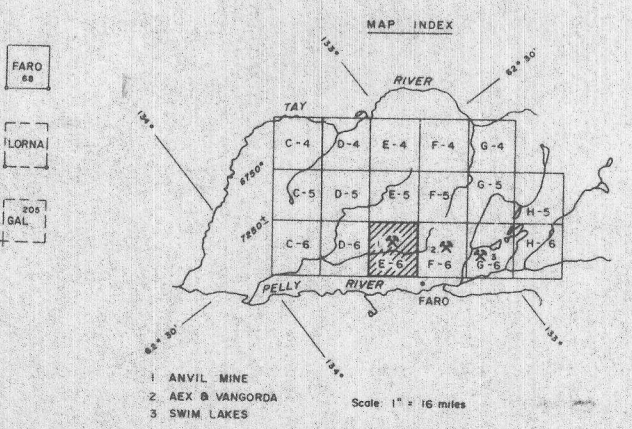
**LEGEND**

CLAIM POSTS AND LEGAL SURVEYS  
(Located in the field)

PRELIMINARY CLAIM POST AND LINE SURVEYS  
(Located in the field)

APPROXIMATE PLAN OF CLAIM POST LOCATIONS  
(Not located in the field)

Note: Claim areas with the hatched pattern have been located in the field, plotted with the photography and transferred to the worksheet.



- ALL WEATHER ROADS
- SECONDARY ROADS
- TOTE TRAILS
- BRIDGES
- PRIMARY STREAMS
- SECONDARY STREAMS
- SWAMPS
- CAMP LOCATIONS
- DIAMOND 'D' H. SITES
- ROTARY DRILL SITES
- TRIANGULATION STATIONS
- SPOT ELEVATION IN FEET

Map No. 1

**CYPRUS ANVIL MINING CORPORATION**

**CLAIM SURVEYS**

REVISED BY: \_\_\_\_\_

SCALE: 1" = 1000'

N 15 105 N-6  
DRAWN BY: C.L.C.  
DATE: \_\_\_\_\_

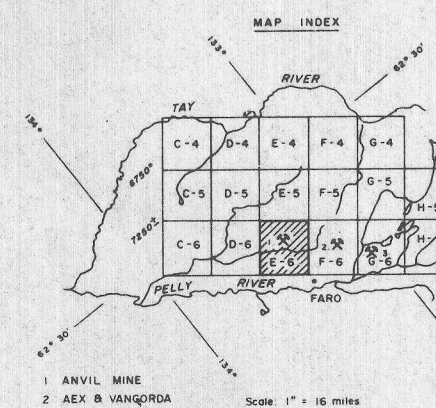




**LEGEND**

CONTOUR INTERVAL 20 GAMMAS  
 MEAN FLIGHT LINE SPACING 1000 FEET  
 MEAN TERRAIN CLEARANCE 400 FEET  
 500 GAMMA CONTOUR 2000  
 20 GAMMA CONTOUR 2000  
 MAGNETIC LOW

NOTE: Plan and compiled by HURTHS SURVEY CORPORATION LIMITED TORONTO CANADA 1954 at 1" = 1200'  
 DATA: Enlarged 1" = 1000' and plotted onto magnetic map by comparison of photometric details by S. K. BUDZIS May 13, 1977.



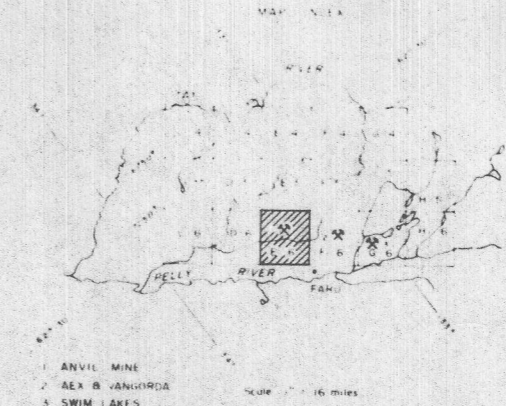
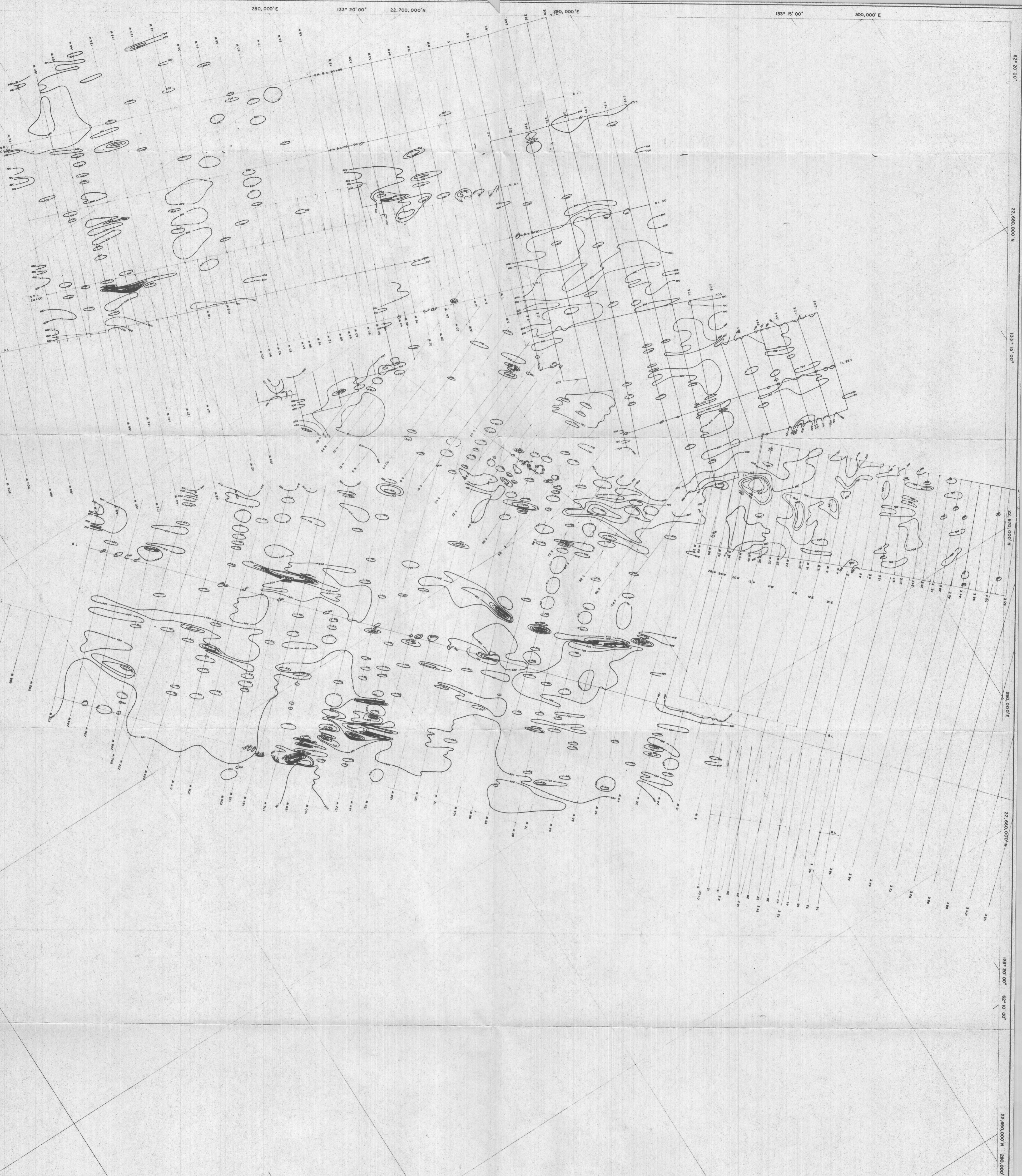
- ALL WEATHER ROADS
- SECONDARY ROADS
- TOTE TRAILS
- BRIDGES
- PRIMARY STREAMS
- SECONDARY STREAMS
- SWAMPS
- CAMP LOCATIONS
- DIAMOND G. H. SITES
- MILITARY DRILL SITES
- TRIANGULATION STATIONS
- SPOT ELEVATION IN FEET

Map No. 3

CYPRUS ANVIL MINING CORPORATION

AIRBORNE MAGNETIC

REVISED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 Scale 1" = 1000'



- 1. MAIN ROAD
- 2. SECONDARY ROAD
- 3. TIE ROAD
- 4. BRIDGE
- 5. PRIMARY STREAM
- 6. SECONDARY STREAM
- 7. SWAMP
- 8. CAMP LOCATIONS
- 9. DIAMOND CLAIMS
- 10. ROTARY DRILL SITES
- 11. TRANSLATION STATIONS
- 12. SPOT ELEVATION IN FEET

Map No. 4

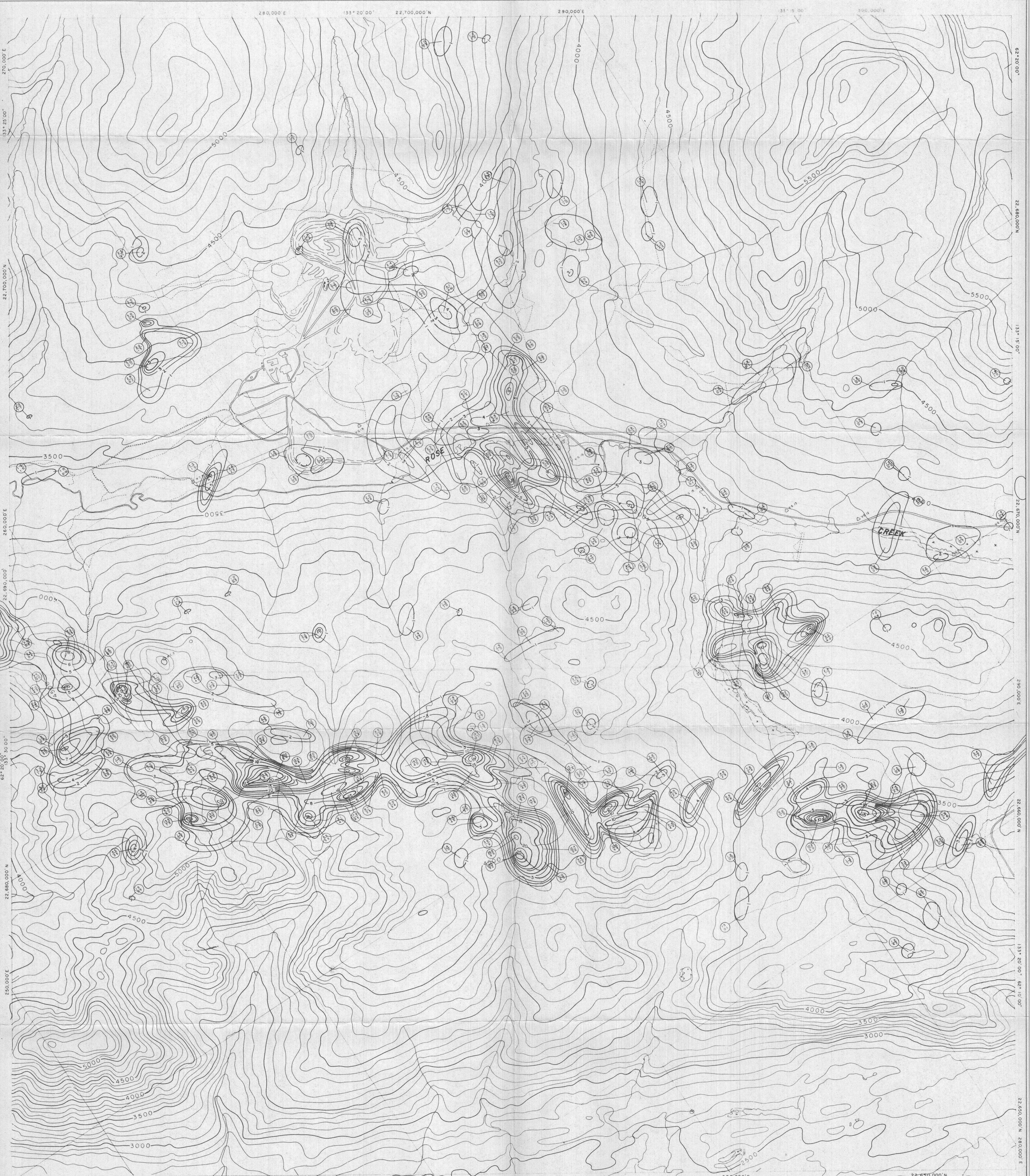
CYPRUS ANVIL MINING CORPORATION

GROUND MAG. COMPILATION

REVISED BY  
C.L.C. JUNE 30, 1978  
C.L.C. NOV 20, 1978

Scale 1" = 1000'

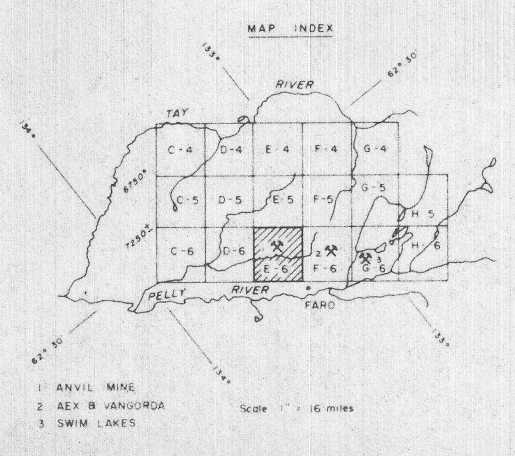
NTS 105X-6  
DRAWN BY C.L.C.  
DATE JUNE 30, 1978



MEAN FLIGHT LINE SPACING ..... 1000 FEET  
 MEAN TERRAIN CLEARANCE ..... 200 FEET  
 ELECTROMAGNETIC CONTOURS ..... 1, 2, 3, 4 M.C.

The contours represent elevations of 100-foot response of the resultant field coverage in north-south direction of the primary.  
 The figures (10) represent amplitude in 1000 cycles per second.  
 The frequency of the primary current is 4000 cycles per second.

NOTE: Plans were compiled by LOCKWOOD SURVEY CORPORATION LIMITED TORONTO CANADA 1945, at 1" = 1500'.  
 DATA: Derived 1" = 1000' and plotted into topographic map by conversion of photometric data by S. K. BULJAK Map 20, 1977.



- ALL WEATHER ROADS
- SECONDARY ROADS
- TOTE TRAILS
- BRIDGES
- PRIMARY STREAMS
- SECONDARY STREAMS
- SWAMP
- CAMP LOCATIONS
- DIAMOND D.H. SITES
- ROTARY DRILL SITES
- TRIANGULATION STATIONS
- SPOT ELEVATION IN FEET

Map No. 5

**CYPRUS ANVIL MINING CORPORATION**

**AIRBORNE E. M. SURVEY**

REVISED BY: \_\_\_\_\_  
 DRAWN BY: C. L. C.  
 DATE: \_\_\_\_\_

N.T.S. 105-A-6  
DATE



Map No. 6

CYPRUS ANVIL MINING CORPORATION

TURAM ELECTROMAGNETIC COMPILATION

REVISED BY: J.C.C. MAR 21, 1977 J.C.C. MAR 28, 1978 J.C.C. OCT 11, 1978	<p>SCALE IN FEET</p>	DRAWN BY: C.C.C. DATE: MARCH 11, 1976 MADE: F1450141
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