

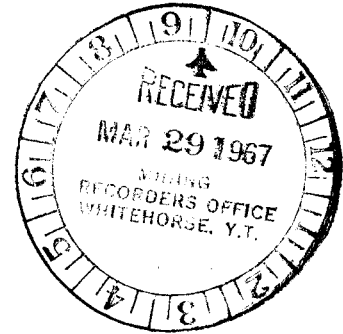
WHITEHORSE TEL.: 667-4343, 667-7114  
AREA CODE: 403, TELEX: 049-834  
CABLE ADDRESS: ANVLMINE

VANCOUVER TEL.: 683-9304  
AREA CODE: 604, TELEX: 04-50237  
CABLE ADDRESS: ANVLZINC

**ANVIL MINING CORPORATION LIMITED**

P.O. BOX 2470  
103 POLARIS BLOCK  
WHITEHORSE, YUKON TERRITORY  
CANADA

VANCOUVER OFFICE:  
510 WEST HASTINGS STREET  
VANCOUVER 2, B.C.  
CANADA



March 17, 1967

Mr. G. McIntyre  
Chief Mining Recorder  
Federal Building  
Whitehorse  
Yukon Territory

Dear Mr. McIntyre:

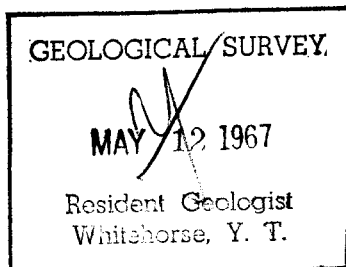
The accompanying report is submitted to apply as assessment work on the DEA claim group.

The area covered is on claim map sheet 105 K2 and 3.

Yours truly,

R.S. Adamson, P. Eng.  
Chief of Exploration for  
ANVIL MINING CORP. LTD.

ACA/ew



This report has been examined by the Geological Evaluation Unit. Approved as to technical worth by:  RESIDENT GEOLOGIST
Approved as to cost in the amount of: \$ 12,814.78  RESIDENT MINING ENGINEER
Accepted as representation work under Section 28(1), Yukon Quartz Mining Act.  COMMISSIONER OF YUKON

**GEOPHYSICAL REPORT**

**ON**

**DEA CLAIM GROUP**

**at**

**SWIM LAKES, YUKON  
(62°10'N, 133°00'W)**

**for**

**ANVIL MINING CORP. LTD.**

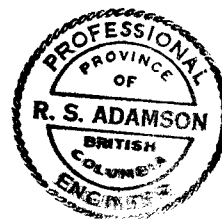
**by**

**EXPLORATION GEOPHYSICS (YUKON) LTD.  
WHITEHORSE, YUKON**

**MARCH 1967**

**REPORT BY:**

**R.S. Adamson, B.A. Sc., P. Eng.  
Chief of Exploration for  
ANVIL MINING CORPORATION LIMITED**



**PROPERTY SURVEYED:**

**April 25th to May 31st, 1966**

**GEOPHYSICAL SURVEY**

**DEA CLAIM GROUP**

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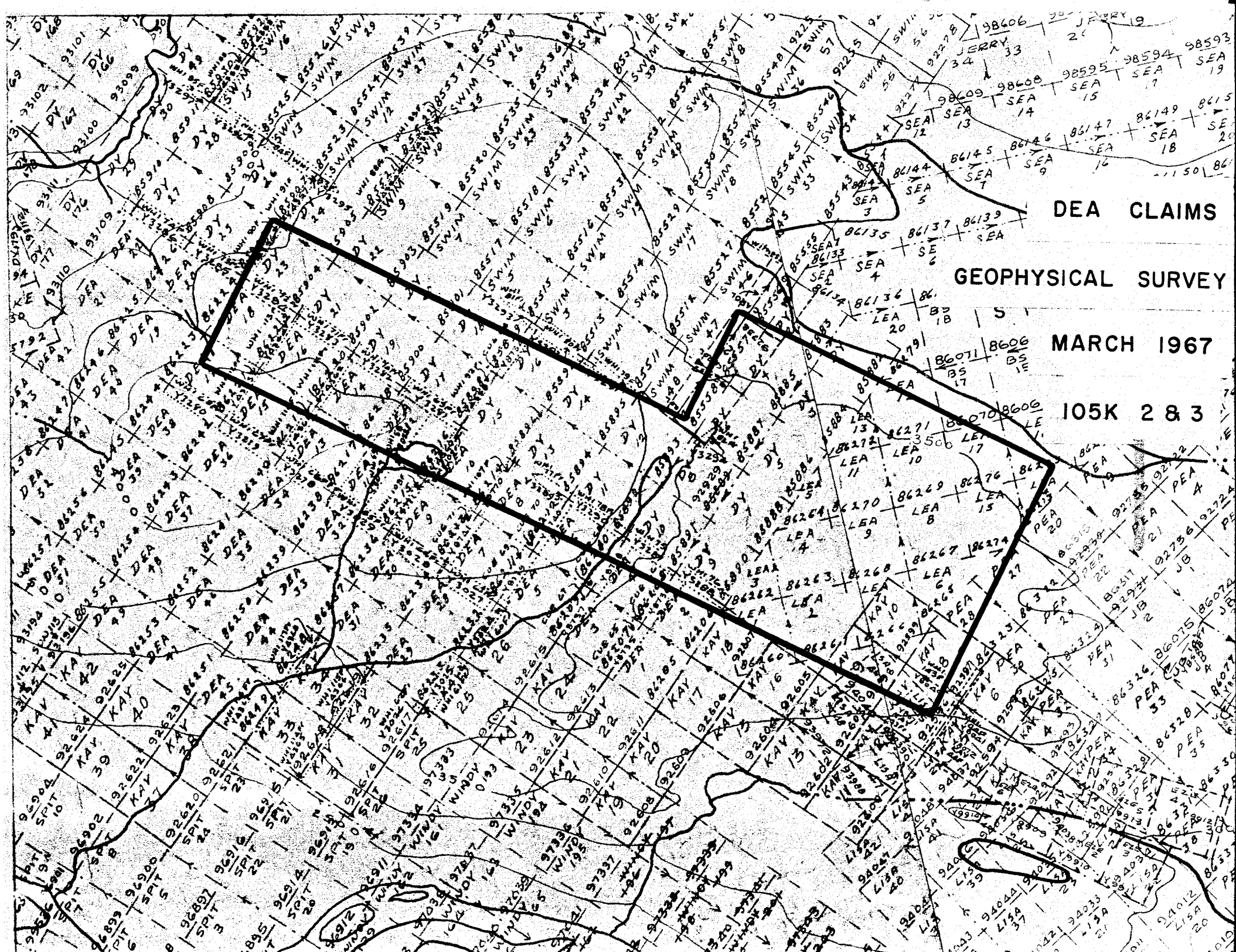
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DEA CLAIMS

GEOPHYSICAL SURVEY

MARCH 1967

105K 2 & 3

## INTRODUCTION

An electromagnetic geophysical survey was carried out by Exploration Geophysics (Yukon) Limited for Anvil Mining Corporation Limited on a portion of the DEA Group of mineral claims during the period April 25<sup>th</sup> to May 31st, 1966. Included within the DEA Group are DEA, DY, CAROL, LEA, PEA mineral claims as well as WHI and CUE fractional mineral claims.

Preparatory linecutting was done by contract linecutters of White, Hosford and Impey Limited of Whitehorse.

Subsequent to and in conjunction with the electromagnetic survey, a magnetic survey was undertaken over selected electromagnetic anomalies.

Access to the property by all people involved with the survey including linecutters was by helicopter based at FARO camp 16 miles northwest of the DEA property. A bombardier tracked vehicle was used for both linecutting and geophysical crews to move about the property which during the project was covered with soft wet snow.

The object of the survey was to followup electromagnetic anomalies detected from an airborne geophysical survey done in late 1964. The area was not flown magnetically. Known massive sulphide bodies in the Anvil district, including the Swin deposit located approximately a mile north of the DEA property, ideally express a coincident magnetic and electromagnetic response.

Although a good portion of the DEA claim group was known to be underlain by conductive graphitic phyllites, the hoped for target as a result of the ground geophysical surveys was a more highly conductive anomaly within conductive graphitic terrain that revealed some positive magnetic expression.

All geophysical data is presented in the form of profiles, using a distance scale of 1 inch to 400 feet. Vertical scales are 1 inch to 40 degrees and 1 inch to 200 gammas for electromagnetics and magnetics respectively.

The only available published data of the Anvil Range area is a preliminary 4 mile to the inch map of the regional geology of the Tay River map sheet done by Drs. J.A. Roddick and L.H. Green of the Canadian Geological Survey.

## SURVEY SPECIFICATIONS

### Grid System

Three baselines were laid out with a transit. The central baseline trending northwesterly is flanked on the northeast by a parallel baseline 3200 feet away. To the southwest another parallel baseline 4000 feet away was cut and surveyed by transit and chain. Two transit surveyed northeast trending tie lines totalling 6200 feet long, perpendicularly intersect all three baselines.

Picket lines were turned off at 400 foot intervals along the baselines by transit. Stations were established along the picket lines at 100 foot intervals by line of picket site and chainage.

### Electromagnetic Survey

For the electromagnetic survey a CRONE JEM unit (18 volt) was employed. The instrument is a modification of the original JEM unit designed by Crone in 1963; the power supply has been increased thus increasing effective depth penetration to approximately 500 feet under normal operating conditions using the horizontal loop method. The CRONE measures resultant dip angles of the primary and secondary field, is dual frequency (480 and 1800 c.p.s.) and may be used either as a vertical or horizontal loop system.

In contrast to the magnetometer survey which was run along the baseline as well as the picket lines, only the picket lines were run with the EM. A 400 foot separation of the coils was used and readings were taken at 100 foot station intervals.

### Magnetometer Survey

A Sharpe's MF-1 Fluxgate type vertical component magnetometer was used during the entire magnetic survey. This instrument is hand held and needs only coarse levelling and no orientation. The magnetometer has a maximum sensitivity of 20 gammas per scale division on the 1000 gamma range and a readability of 5 gammas per scale division.

Readings were taken at 400 foot intervals along the baseline and 100 foot intervals along picket lines. Prior to the actual survey, readings were taken at the intersection points of each picket line with the baseline. These stations were looped and reread every two hours as a means of controlling drift and diurnal variations.

## RESULTS and INTERPRETATION

### Electromagnetic Survey

Both high and low frequency electromagnetic readings were plotted on a plan of the survey grid (1 inch = 400 feet). Profiles of each line were drawn to a standard scale (see map in folder).

Upon examination of the profiled electromagnetic results, two thirds of the surveyed area is revealed to be underlain by conductive terrain. This is consistent with the airborne survey. The largest nonconductive area lies on the eastern part of the surveyed grid. The conductive-nonconductive contact trends southerly from the northeast end of line 24 East to line 84 East where it is sharply truncated, possibly by a northeast striking fault structure. The contact is characterized by a conductive embayment in the nonconductive terrain. The highly conductive embayment measures 1000 feet by 3000 feet in area.

The remaining non-conductive area lies between lines 12 west and 40 west and from the central baseline southwest for approximately 800 feet.

Regional mapping and limited diamond drilling carried out subsequent to this geophysical survey has indicated that the broad conductive area represents underlying graphitic sediments with a regional southwest dip.

### Magnetic Survey

Magnetometer surveying was undertaken on a selective basis over those parts of the grid which were considered to be either geologically unique or else highly conductive.

Analysis of the magnetic results reveal three distinct areas of positive magnetic expression, one apparently related to the smaller non-conductive area, a second extending south from the SWM property of Kerr-Addison Mines Ltd., and a third located between lines 24 East and 44 East immediately northeast of the south baseline.

The first magnetic area is very localized, occurring essentially on one line, line 20 West. The second area has residual values up to 200 gammas. This anomaly has not been fully defined in view of its location primarily on ground belonging to parties other than Anvil Mining Corporation. The third area has a residual anomaly of 100 gammas within a partially defined area of 1500 feet by 2400 feet. The broad nature of this third anomaly is suggestive of a flat lying body lying within or beneath graphitic sedimentary rocks.

## CONCLUSIONS and RECOMMENDATIONS

Massive sulphide replacement bodies in the Anvil district typically respond both magnetically and electromagnetically in view of their texture and pyrrhotite or magnetite content. On the geophysical surveyed part of the 238 mineral claim group, because of the relatively large area of conductivity, isolation of a unique conductor which could reflect an underlying flat lying sulphide body is not possible by electromagnetic means only. Hence advantage must be taken of possible associated magnetite and/or pyrrhotite by use of the magnetometer.


An electromagnetic target worthy of drilling consideration would have been the conductive embayment because of its apparent geological uniqueness. However, it has no magnetic response. Subsequent to the geophysical survey a single diamond drill hole penetrated graphitic phyllites at station 300 north on line 44 east. In addition an induced polarization survey was carried out over this line and across the embayment with no response.

Only one of the magnetic anomalies has sufficient areal extent to possibly represent a flat lying sulphide body of some economic significance. Hence, the third magnetic anomaly embraced by lines 24 east and 44 East presents the only target worthy of further investigation as a result of the geophysical survey.

On this basis, an induced polarization survey is recommended over lines 28 East and 36 East from the Central baseline to the south baseline.



Robert S. Adamson, P. Eng.  
Chief of Exploration for  
ANVIL MINING CORP. LTD.



APPENDIX I (4)

STATEMENT OF COSTS

DEA CLAIM GROUP

(A) Linecutting		\$ 6,557.28
Contract: White Rosford & Inpay Ltd.		
Invoice	\$ 5,957.28	
Transportation, helicopter	<u>\$ 600.00</u>	
Fare to Swim Lakes, return 6 hours at \$100 per hour	\$ 6,557.28	
(B) Contract Geophysics		\$ 6,047.50
Exploration Geophysics (Yukon) Ltd. - Invoices		
Invoice submitted	\$ 3,797.50	
Maintenance 125 man days @ \$8	\$ 1,000.00	
Transportation, helicopter	\$ 600.00	
Fare to Swim Lakes, return 6 hours at \$100 per hour		
Transportation, bombardier 26 days @ \$25 per day	<u>\$ 650.00</u>	
	\$ 6,047.50	
(C) Compilation of Report		
Writing (R.S. Adamson)	\$ 45.00	\$ 110.00
Typing, draughting, etc.	<u>\$ 65.00</u>	
	\$ 110.00	
(D) Supervision		
R.S. Adamson 1 day @ \$45	\$ 45.00	\$ 105.00
D. Mayes 2 days @ \$30	<u>\$ 60.00</u>	
	\$ 105.00	

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\$12,814.78

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APPENDIX I (11)

PERSONNEL

(A) Linecutting - White, Mosford & Impey Ltd.  
Contract

(B) Geophysics - Exploration Geophysics (YUKON) Ltd.  
Contract

W. Cannon	Party Chief	Box 1188	Whitehorse, Yukon
D. Gamble		" "	" "
J. Gehring		" "	" "
V. Lund		" "	" "
S. Milne		" "	" "
J. Rollins		" "	" "
B. Shillington		" "	" "
G. Cannon		" "	" "
G. Grady		" "	" "
A. Salston		" "	" "

(C) Compilation of report

K. J. Adamson, Exploration Chief, Box 2470, Whitehorse, Yukon

(D) Supervision

K. J. Adamson, Exploration Chief, Box 2470, Whitehorse, Yukon  
D. Hayes, Geologist, Box 2470, Whitehorse, Yukon

APPENDIX I (111)

A F F I D A V I T

SUPPORTING STATEMENT OF COSTS  
Geophysical Report  
April 25<sup>th</sup> to May 31st, 1966

I, Robert S. Adamson, Chief of Exploration for ANVIL MINING CORPORATION LIMITED, have compiled the statement of costs as presented in this report, "Geophysical survey of D&A Claim Group", DO MAKE CATH AND SAY AS FOLLOWS:

That to the best of my knowledge and belief, the statement of costs as presented is true and an accurate representation of expenditures to be applied as representative work on the D&A Group of mineral claims.



*R. S. Adamson*  
Robert S. Adamson, B.Sc., P. Eng.  
Chief of Exploration for  
ANVIL MINING CORP. LTD.

DATED this.....*29<sup>th</sup>*.....day of.....*March*.....1967,

in the City of Whitehorse in the Yukon Territory.

*William*  
A Commissioner for taking Affidavits  
in and for the Yukon Territory. - 10 -

4 May 1966

PROGRESS INVOICE FOR LINE CUTTING CONTRACT

WITH: ANVIL MINING CORPORATION LIMITED  
BOX 2470  
WHITEHORSE Y.T.

TO: LINECUTTING CONTRACT 1 April - 30 April 1966

<u>AREA</u>	<u>BASE LINE</u>	<u>PICKET LINE</u>	<u>PRICE</u>	<u>EXTENSION</u>
GAL	-----m	127,000- 24.05 mi.	\$ 77.50	\$ 1863.88
SWIM LAKE	51,161'- 9.69 mi.		\$250.00	2422.50
K X	<del>XXXXXXXXXXXXXX</del>			
SWIM LAKE		240,800- 45.61 mi.	\$ 77.50	3534.78

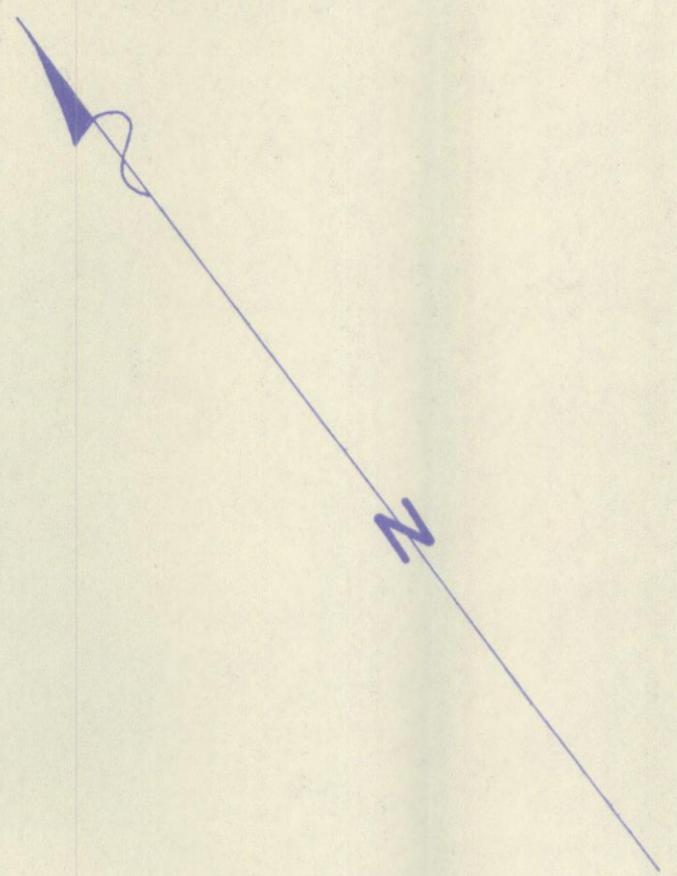
} DY -  
LEA  
(DEA)

TOTAL DUE AT PAR IN WHITEHORSE \$ 7821.16

*Paid By Anvil in full  
Paul White*



NORTH BASE LINE



CENTRAL BASE LINE

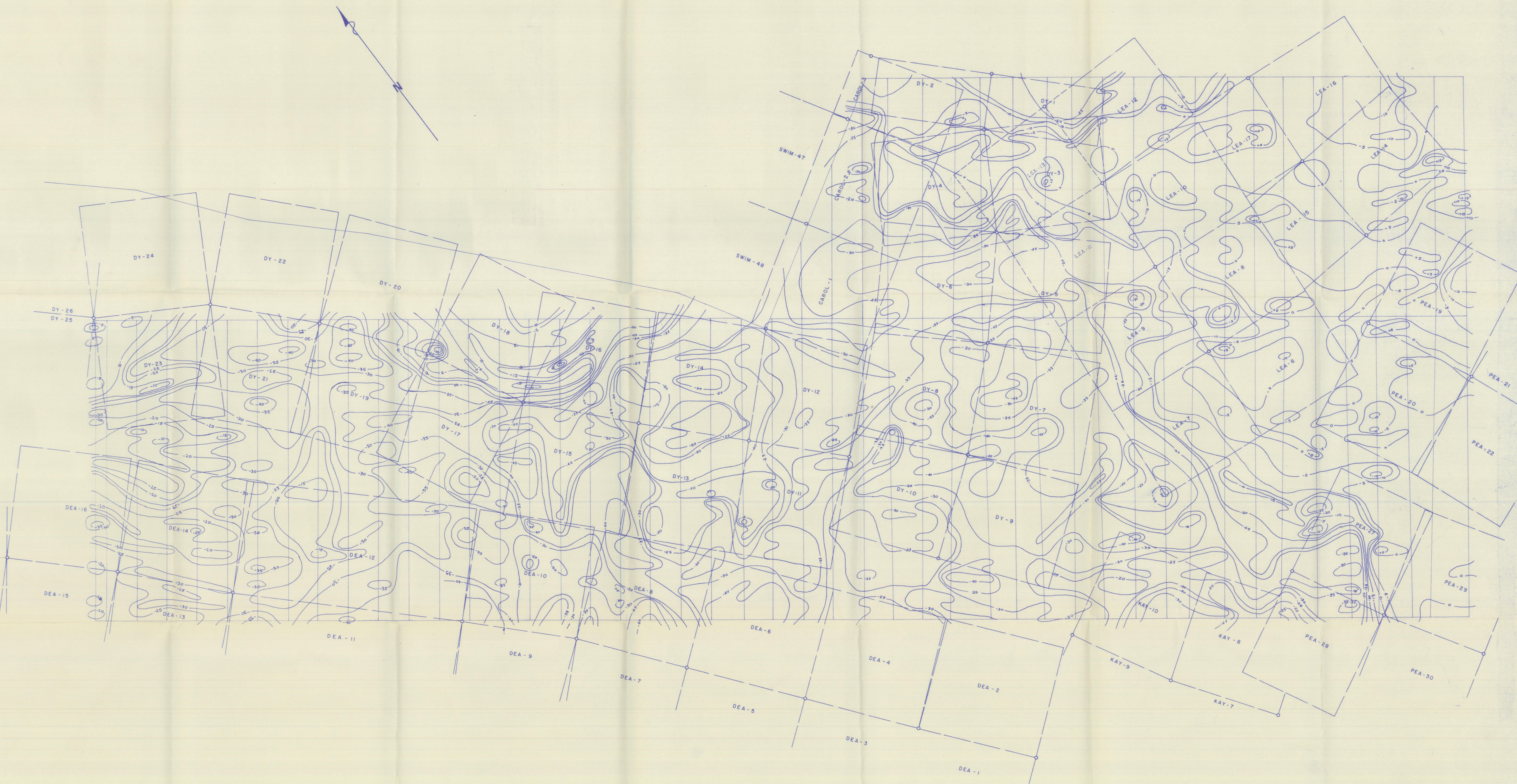
SOUTH BASE LINE



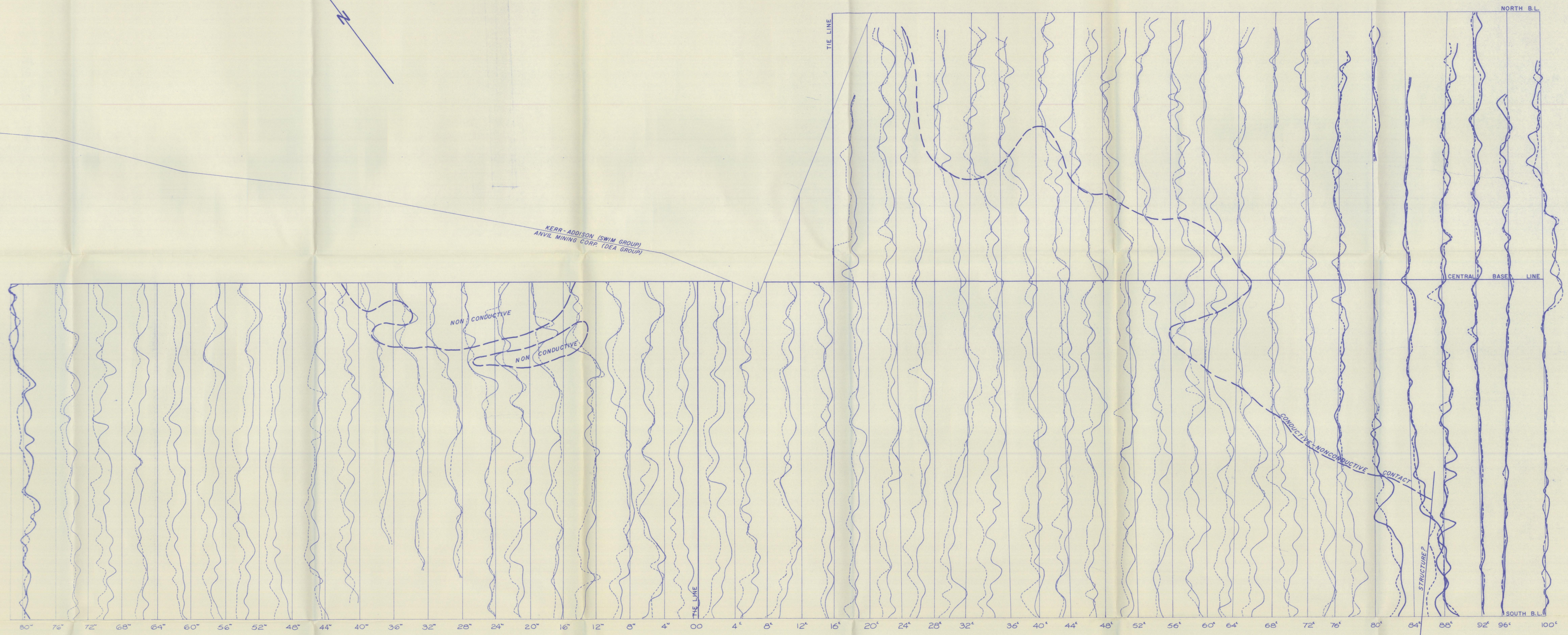
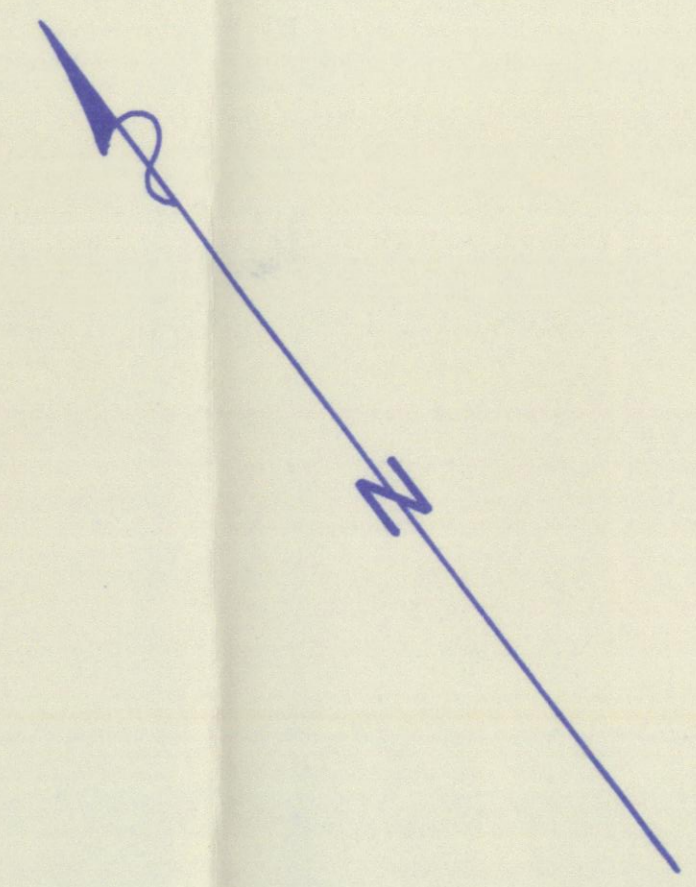
EXPLORATION GEOPHYSICS (YUKON) LTD.	
DEA GROUP MAGNETIC CONTOURS	
MAGNETIC DATUM LEVEL	500 ɳ
CONTOUR INTERVAL	100 ɳ
HORIZONTAL SCALE: 1" = 400'	
DRAWN BY: W. CANNON	
SURVEY: APRIL 25. - MAY 31, 1966	
DATE: MARCH 1967	EWB-37

32W 28W 24W 20W 16W 12W 8W 4W 0 4E 8E 12E 16E 20E 24E 28E 32E 36E 40E 44E 48E 52E 56E

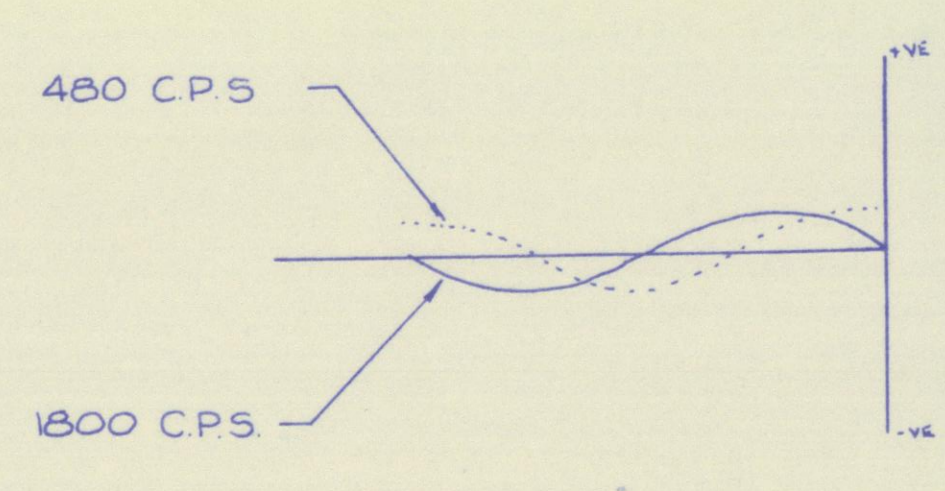
60E 64E 68E



ANVIL MINING CORP.	
WHITEHORSE	
DY - LEA GROUP	
ELECTROMAGNETIC EXPLORATION	SURVEY BY GEOPHYSICS (YUKON) LTD.
DATE	APRIL 25 <sup>th</sup> - MAY 31 <sup>st</sup> 1966
OPERATORS	GRADY, ROLLINS, BILLINGTON, GAMBLE
INST. TYPE	CRONE DUAL FREQUENCY 12.818 V.
RDG. SPACING	100 FT.
CONTOUR INTERVAL	5 FEET
DATE	AUG. 18, 1966
SCALE	1" = 400 FT.
DRAWN	D.J.G.
PLOTTED	W. CANNON
INTERPRETED	
DWG. NO.	EWX-34
CONTOURS	



KERR-ADDISON (SWIM GROUP)  
ANVIL MINING CORP. (DEA GROUP)



ANVIL MINING CORP.	
WHITEHORSE	
DY - LEA	GROUP
ELECTROMAGNETIC	SURVEY
EXPLORATION	By GEOPHYSICS (YUKON) LTD.
SURVEY DATE:	APRIL 25 - MAY 31, 1966
OPERATORS:	GAMBLE, LUND, CANNON, MILNE
PROFILE SCALE:	1" = 40'
RDG. INTERVAL:	100'
INST. SPACING:	400'
DATE:	AUG. 25, 1966
SCALE:	1" = 400'
DRN:	W. CANNON
PLOTTED:	W. CANNON
INTERPRETED:	W. CANNON
DWG. N°	EWX-35
	PROFILES