GEOPHYSICAL REPORT

on

MULTI CLAIM GROUP

at

ROSE CREEK, YUKON
(62° 20' N, 133° 35' W)

for

ANVIL MINING CORP LTD

by

EXPLORATION GEOPHYSICS (YUKON) LTD.
WHITEHORSE, YUKON

DECEMBER, 1966

REPORT BY: R.S. Adamson, P. Eng.
Exploration Chief for
ANVIL MINING CORP. LTD.

PROPERTY SURVEYED: August 3rd to 11th, 1966

GEOPHYSICAL SURVEY

MULTI CLAIM GROUP

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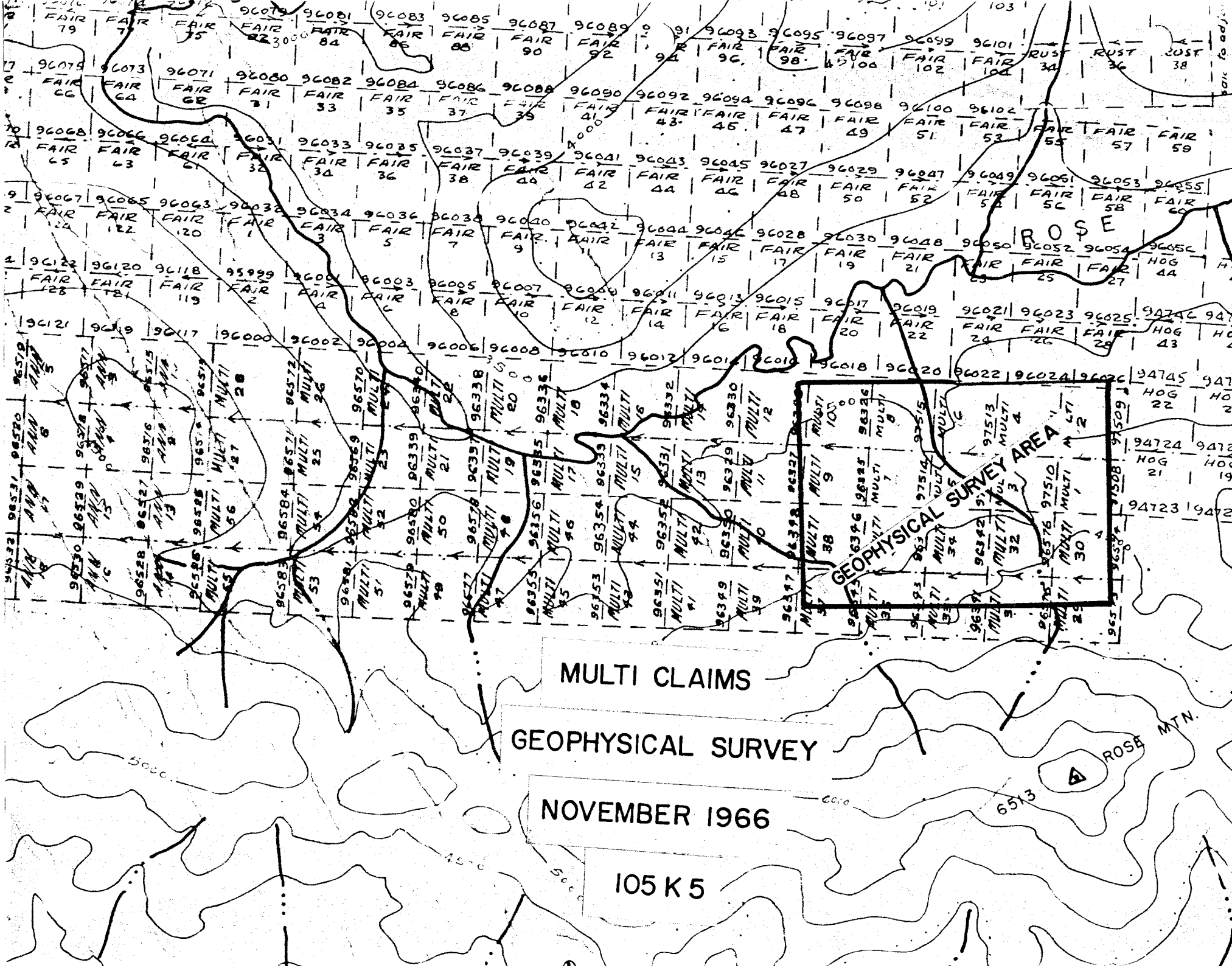

GEOPHYSICAL SURVEY AREA
ROSE
ROSE MTN.
MULTI CLAIMS
GEOPHYSICAL SURVEY
NOVEMBER 1966
105 K 5

INTRODUCTION

A combined magnetic and electromagnetic geophysical survey was carried out by Exploration Geophysics (Yukon) Limited for Anvil Mining Corporation Ltd. on MULTI mineral claims 1 to 10 inclusive and 29 to 38 inclusive during the period August 3rd to August 11th, 1966.

Preparatory linecutting was done by contract linecutters of White, Hosford and Impey Ltd. of Whitehorse. All of the linecutting costs were submitted for assessment purposes with a geochemical survey.

Access to the property by all people involved with the property was by helicopter from FARO Camp.

The object of the ground survey was to follow up anomalies, both magnetic and electromagnetic, detected from an airborne geophysical survey done in 1965.

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 400 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 Dr. J.A. Roddick and Dr. L.H. Green of the Geological Survey of Canada. Rocks in the immediate area of the MULTI group are metamorphosed sediments of Mississippian (?) age, the same age of the sediments where previous ore bodies have been found.

SURVEY SPECIFICATIONS

Grid System

A base line was laid out with a transit and picket lines turned off at 400 foot intervals along the base line by transit. Stations were established along the picket lines at 100 foot intervals by line of picket site and chaining.

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 1000 gamma range and a readability of 5 gammas per scale division.

Readings were taken at 400 foot intervals along the base line 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 base line. These stations were looped and re-read every two hours as a means of controlling drift and diurnal variations.

Electromagnetic Survey

For the electromagnetic survey a CRONE JEM unit (18 volts) 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 300 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 base line 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.

RESULTS and INTERPRETATION

Magnetometer Survey

After each gamma value was corrected for diurnal variation they 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 plotting the values, three areas of high anomalous magnetics were revealed:

1) MULTI mineral claim 6, anomaly is broad with some locally high values, east-west trending.

2) MULTI mineral claim 9 North corner, anomaly is very sharp and narrow, near surface, has an east west trend with a low southwest dip.

3) MULTI mineral claim 3, anomaly is moderately broad with some very high localized readings, trends northwest with a moderate southwest dip.

Geological mapping on the MULTI claim group indicates that the magnetic anomalies occur where volcanic rocks are present. It is postulated that these andesite rocks are the cause of the

magnetics. It is also noted that the magnetic anomalies occur over topographic highs which in this area reflect resistant volcanic rocks.

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).

The whole area that was run resulted in values that indicated electromagnetic conductors throughout the survey area.

Geological mapping of the survey area indicated that there was a large band of graphite schist associated with the volcanic rocks, probably interbedded in places. The graphite schist is an electromagnetic conductor.

CONCLUSIONS and RECOMMENDATIONS

The geological setting associated with the geophysically anomalous areas is generally considered unfavourable for ore deposition in the Anvil district. Further work should be concentrated higher up the hill and southerly from the magnetically and electromagnetically active area.

It may be that the favourable arenaceous rocks are intimately interbedded with the generally graphitic argillaceous rocks so that further EM work will not be able to delineate massive sulphide bodies. On this basis and also because disseminated ore bodies may occur in this environment further geophysical work on this

terrain should make use of induced polarization techniques.

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

APPENDIX I (i)

STATEMENT OF COSTS — MULTI Claim Group

(A) Linecutting - Contract: White, Homford & Impey Ltd.
already submitted for Geochemical Survey.

(B)	Contract Geophysics		$2,007.00
	Exploration Geophysics (Yukon) Ltd.,		
	Invoice submitted	$1,491.00	
	Maintenance 27 man days @ $8.	216.00	
	Transportation, helicopter	300.00	
	3 hrs @ $100., Faro to Multi,ret.		
		$2,007.00	
(C)	Compilation of Report		$ 100.00
(D)	Supervision		$ 100.00
	Total:		$2,207.00

APPENDIX I (ii)

PERSONNEL

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

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

J. Gehring	Party Chief, Magnetometer	Box 1188,	Whitehorse,	Y.T.
Gamble	Magnetometer	"	"	"	"
V. Lund	Electromagnetic	"	"	"	"
P. Walsh	Electromagnetic	"	"	"	"

(C) Compilation of Report

D. Mayes	Geologist	Box 2470,	Whitehorse,	Y.T.

(D) Supervision

R.S. Adamson	Exploration Chief	"	"	"	"
D. Mayes	Geologist	"	"	"	"

APPENDIX I (iii)

A F F I D A V I T

SUPPORTING STATEMENT OF COSTS
Geophysical Report
August 3rd to 11th, 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 MULTI Claim Group", DO MAKE OATH 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 MULTI claims 1 to 10 inclusive and 29 to 38 inclusive.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA R. S. ADAMSON

R. S. Adamson

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

SWORN before me in the City of Whitehorse, Yukon Territory

this 2nd day of December 1966.

A Commissioner for taking Affidavits
in and for the Yukon Territory.

BOX 2494 PHONE 667-2797

EXPLORATION GEOPHYSICS (Yukon) LTD.

WHITEHORSE, Y.T.

18 Aug. 1966

Statement of Account

With: Anvil Mining Corporation
Whitehorse, Y.T.

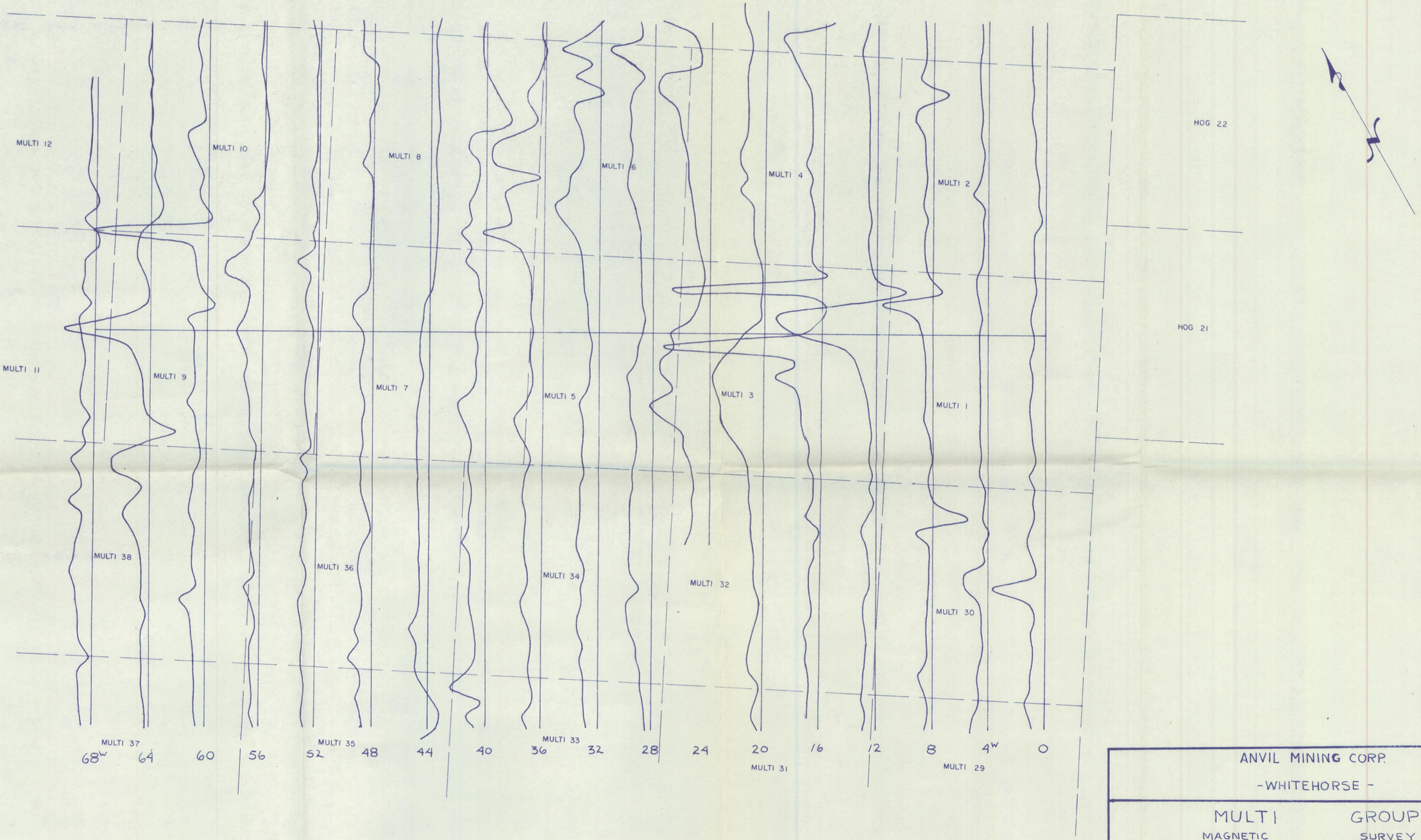
For: Magnetic and Electromagnetic Surveys performed.

Location: Multi Claim Group

E.M. Survey

Date	Lines	Footage	Operator	
Aug. 4	0W 28S-22N	5000	Lund	
	4W 28S-22N	5000	Walsh	
	8W 00 -22N	2200		
	12W 00 -22N	2200		
		14400'		14,400
Aug. 5	8W 28S-00	2800	Lund	
	12W 28S-00	2800	Walsh	
	16W 28S-22N	5000		
	20W 28S-22N	5000		
		15600'		15,600
Aug. 6	24W 15S-22N	3700	Lund	
	28W 28S-22N	5000	Walsh	
	32W 00 -22N	2200		
	36W 00 -22N	2200		
		13100'		13,100
Aug. 7	32W 28S-00	2800	Lund	
	36W 28S-00	2800	Walsh	
	40W 28S-22N	5000		
	44W 28S-22N	5000		
		15600'		15,600
Aug. 9	48W 28S-22N	5000	Lund	
	52W 28S-22N	5000	Walsh	
	56W 28S-00	2800		
	60W 28S-00	2800		
		15600'		15,600
Aug. 10	56W 00 -22N	2200	Lund	
	60W 00 -22N	2200	Walsh	
	64W 28S-22N	5000		
	68W 28S-18N	4600		
		14000'		14,000

Total footage of E.M. survey---------- 88,300
Total mileage of E.M. survey---------- 16.8 miles
@ $47.50 per line mile.
Total charges for E.M. Survey ---------- $798.00



ANVIL MINING CORP.

-WHITEHORSE -

MULTI GROUP

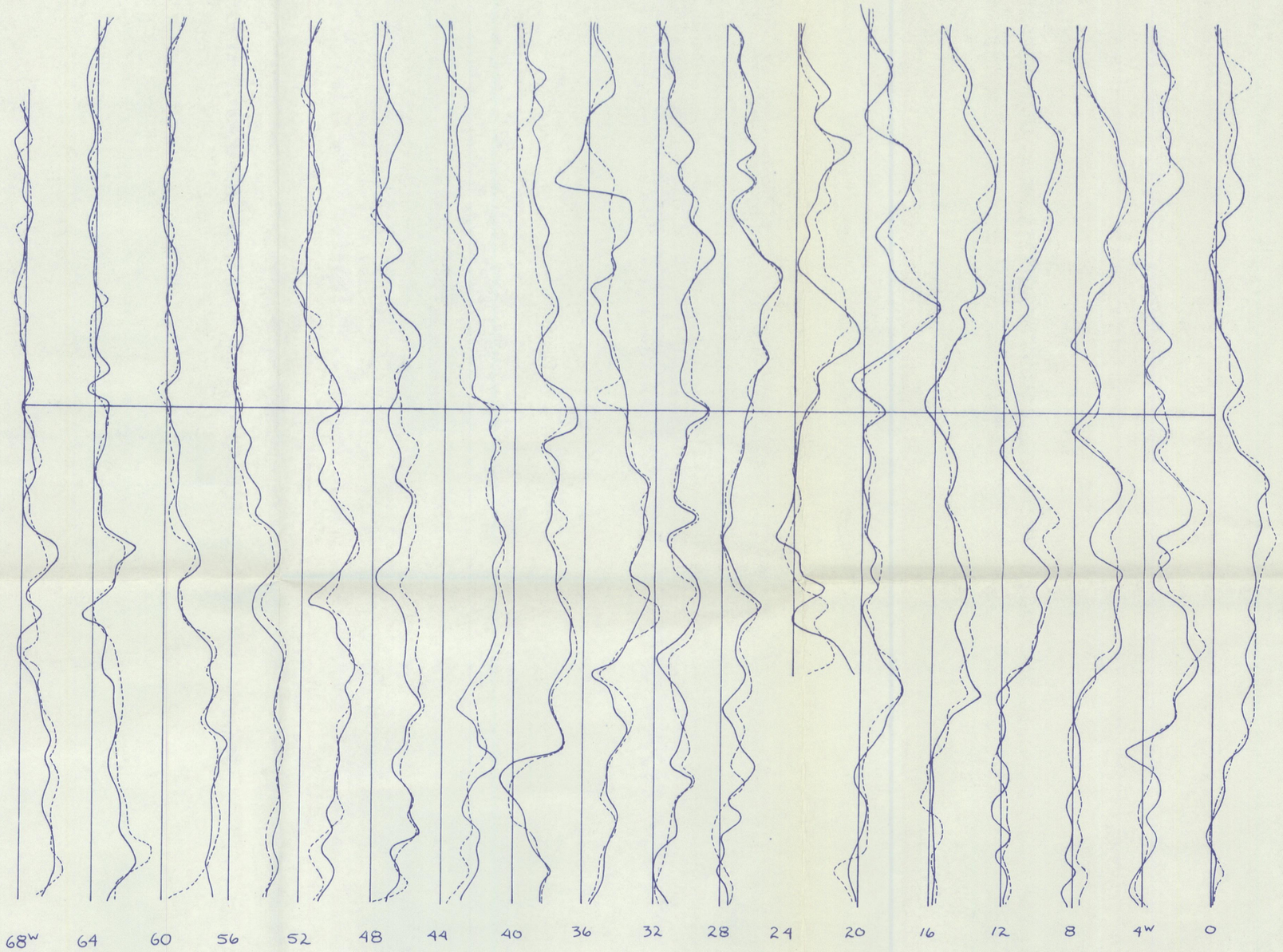
MAGNETIC SURVEY

BY

EXPLORATION GEOPHYSICS (YUKON) LTD.

SURVEY DATE : AUG 3 - AUG 11 1966
OPERATORS : LUND, WALSH, GEHRING
PROFILE SCALE : 400 γ = 1"
MAG. DATUM LEVEL : 7000 (+) γ
RDG. INTERVAL : 100'

DATE : SEPT 20 1966.
SCALE : 400' = 1"
DRN : W. CANNON.



ANVIL MINING CORP.

-WHITEHORSE-

MULTI GROUP ELECTROMAGNETIC SURVEY

EXPLORATION BY GEOPHYSICS (YUKON) LTD.

SURVEY DATE : AUG 3 - AUG 11 1966
OPERATORS : LUND, GEHRING., WALSH
PROFILE SCALE : 40° DIP = 1"
RDG. INTERVAL : 100'
INST. SPACING. : 400'

DATE : SEPT 20 1966
SCALE : 1"=400'
CRONE HORIZONTAL LOOP SURVEY
DR'N : W CANNON.

GEOCHEMICAL REPORT

on

MULTI CLAIM GROUP

at

ROSE CREEK, YUKON
(62° 20' N, 133° 35' W)

for

ANVIL MINING CORP. LTD.

DECEMBER, 1966

REPORT BY: R.S. Adamson, P. Eng.
Exploration Chief for
ANVIL MINING CORP. LTD.

Property Sampled: August 5-10, 25-28, 1966

GEOCHEMICAL SURVEY

MULTI CLAIM GROUP

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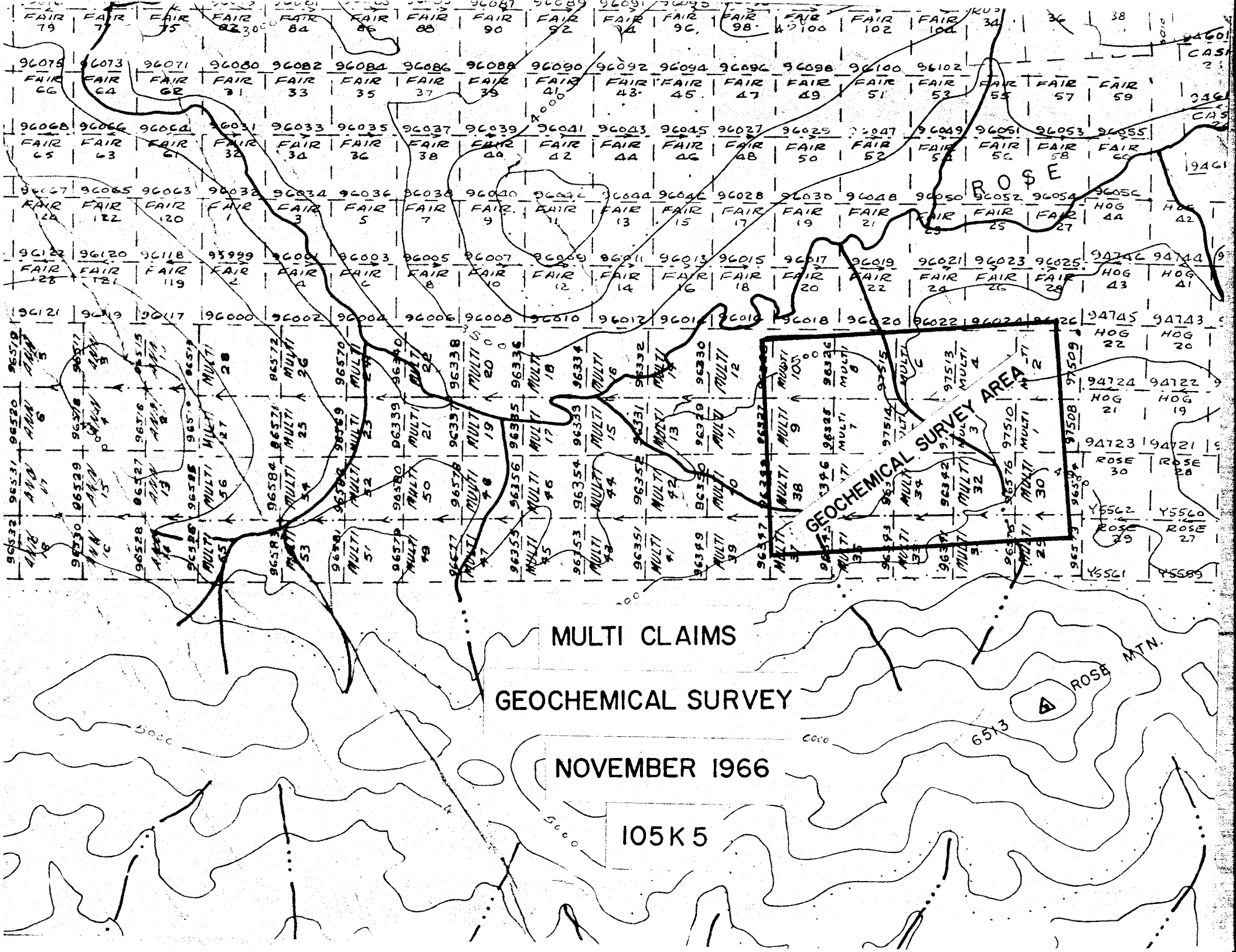

GEOCHEMICAL SURVEY AREA
ROSE MTN.
6513
5000
MULTI CLAIMS
GEOCHEMICAL SURVEY
NOVEMBER 1966
105K5

INTRODUCTION

A geochemical survey was carried out on part of the MULTI Claim Group during the period August 5th to 10th and 25th to 28th, 1966. The claim group is wholely owned by ANVIL MINING CORP. LTD. The sampling and analysis was done by Anvil Mining personnel.

Linecutting was done by contract linecutters of White Hosford & Impey Ltd., of Whitehorse, Y.T.

Access to the property was by helicopter for both the geochemical and linecutting crews.

The object of the survey was to follow up the geochemistry done by Dynasty Explorations in the autumn of 1965, to delineate possible areas of anomalous Cu, Pb, and Zn values. Any geochemical anomalies located within a larger general geochemical anomaly would provide the necessary finer definition for diamond drilling.

Further, the geochemical survey is a method to establish whether airborne magnetic and electromagnetic anomalies which often in the Rose Creek area are caused by basic flows, intrusives, and graphitic sediments respectively, could be massive sulphides carrying Cu, Pb, or Zn.

SOIL SAMPLING SURVEY TECHNIQUES

A baseline was laid out with a transit and picket lines turned off at 400 foot intervals along the base line by transit. Stations were established along the picket lines at 100 foot intervals.

Soil sampling was done on 400 foot centres. Where possible

the B horizon was sampled. However, no time was wasted obtaining the B horizon in the event perma frost prevailed or an organic soil was thicker than one foot. In the latter case the organic soil would be analysed in the lab where possible. In that the target area was a large near surface sulphide deposit it was felt that a generally defined as opposed to a well defined geochemical anomaly was sufficient.

LABORATORY ANALYSIS

Test methods used involved a hot aqua regia extraction of heavy metal ions from the soil sample, followed by reaction with dithizone or biquinoline to give coloured products. The coloured reaction products were then matched with solutions of known metal content, which had been reacted with dithizone or biquinoline, to determine the metal content of the soil sample.

Separate and specific tests for each of the three metals, copper, lead, and zinc were carried out on each soil sample.

RESULTS and INTERPRETATION

Of the metals analyzed for, copper over 60 parts per million, lead over 40 parts per million, and zinc over 200 parts per million might be considered anomalous.

Of the 469 samples taken in the field, 463 were analyzed in the lab for copper, lead and zinc. A few sites were not sampled because of permafrost.

Considerable anomalous copper values occur on the MULTI

Claim group. No significant lead or zinc values were revealed. A broad area elongated northeasterly occurs on MULTI claims 1,3, 30,32, and 34. This area contains a number of samples which analyzed in excess of 100 ppm copper.

Mapping the bedrock underlying the anomalous area was limited by extensive overburden. However with what outcrop was exposed coupled with magnetic and electromagnetic surveys it is possible to map a northwest striking gently southwest dipping sequence of interbedded volcanic and metamorphosed sedimentary rocks. The sediments consist of both argillaceous and arenacous members. The latter are considered the most favourable for ore deposition in the ANVIL district.

CONCLUSIONS

The origin of the anomalous copper is postulated to have its source generally southerly and uphill in these favourable sericitic quartz schist rocks.

On this basis further work in this general area is definitely warranted.

An induced polarization survey is recommended over this geochemically anomalous area and extending well up hill. A gravity survey is not warranted in view of the relatively rugged "cuesta" terrain in addition to the possibility of a disseminated ore body.

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

APPENDIX I (i)

STATEMENT OF COSTS — Geochemical Survey MULTI Group

(A)	Linecutting (Invoice submitted)		$1,919.25
	Base line 1.3 miles	$ 325.00	
	Picket lines 16.7 miles	1,294.25	
	Transportation, helicopter	300.00	
	3 hrs @ $100. Faro to Multi, and return	$1,919.25	
(B)	Soil Sampling		$ 760.00
	Wages 20 man days @ $15.	$ 300.00	
	Maintenance 20 man days at $8.	160.00	
	Transportation, helicopter	300.00	
	3 hrs @ $100. Faro to Milti, and return	$ 760.00	
(C)	Laboratory Analysis		$ 768.58
	463 samples @ $1.66		
(D)	Compilation of Report		$ 200.00
(E)	Supervision		$ 150.00
		Total	$3,797.83

APPENDIX I (ii)

PERSONNEL

(A) Line cutting - Contract: White, Hosford & Impey Ltd.
Box 1188, Whitehorse, Y.T.

(B) Soil Sampling

R. Beaumont	Soil Sampler	Box 2470,	Whitehorse,	Y.T.	
R. Raaflaub	"	"	"	"	"

(C) Laboratory Analysis

J. Kirkland	Geochemist	"	"	"	"
L. Olsen	Lab. Assistant	"	"	"	"
R. Pringle	Lab. Assistant	"	"	"	"
W. Rundle	Sample Preparation	"	"	"	

(D) Compilation of Report

R.S. Adamson	Exploration Chief	"	"	"
P. Byers	Draughtsman	"	"	"

(E) Supervision

R.S. Adamson	Exploration Chief	"	"	"
D. Mayes	Geologist	"	"	"
P. Byers	Lead Soil Sampler	"	"	"

APPENDIX I (iii)

A F F I D A V I T

SUPPORTING STATEMENT OF COSTS
Geochemical Survey
August 5 to 10 , 25 to 28, 1966

I, Robert S. Adamson, Chief of Exploration for ANVIL MINING CORPORATION LIMITED, have compiled the statement of costs as presented in this report "Geochemical Survey of MULTI Claim Group", DO MAKE OATH 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 MULTI 1 to 10 inclusive and MULTI 29 to 38 inclusive mineral claims.

R. S. Adamson

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

SWORN before me in the City of Whitehorse, Yukon Territory

this 2nd day of December, 1966.

A Commissioner for taking Affidavits
in and for the Yukon Territory.

BOX 1188
RM. 103 POLARIS BLDG.

TELEPHONE 667-2483

White, Hosford & Impey Limited

LEGAL SURVEYS :: ENGINEERING

Whitehorse, Yukon

Paul S. White, P.Eng., A.L.S., D.L.S.
A. Denis Hosford, A.L.S.
Hugh E. Impey, A.L.S., S.L.S., M.L.S., D.L.S.

13 July, 1966

Statement of Account

With: Anvil Mining Corporation
Box 2470
Whitehorse, Y.T.

To: Cut Grid Lines, Multi, Ace, Laurel.

Multi Grid:

Base Line: 6800' = 1.3/m @ $250.00-----------------$ 325.00 OK
Picket Line: 5000'x18= 90000'-1700'=88,300'=16.7/m
16.7/m @ $77.50--------------------$1,294.25 OK

Sub Total--------------------------$1,619.25 OK

Ace Grid Extenion:

Picket Line: 2500'x15=37,500'=7.1/m @ $77.50-----$ 550.35 550.25

Laurel Grid:

Base Line: 37,500'= 7.1/m @ $250.00-------------$1,775.00
Picket Line: 170,800= 32.35/m @ $77.50=----------$2,507.13

Sub Total ---------------------------------$4,282.13

TOTAL THIS INVOICE---------------------------------$6,451.73

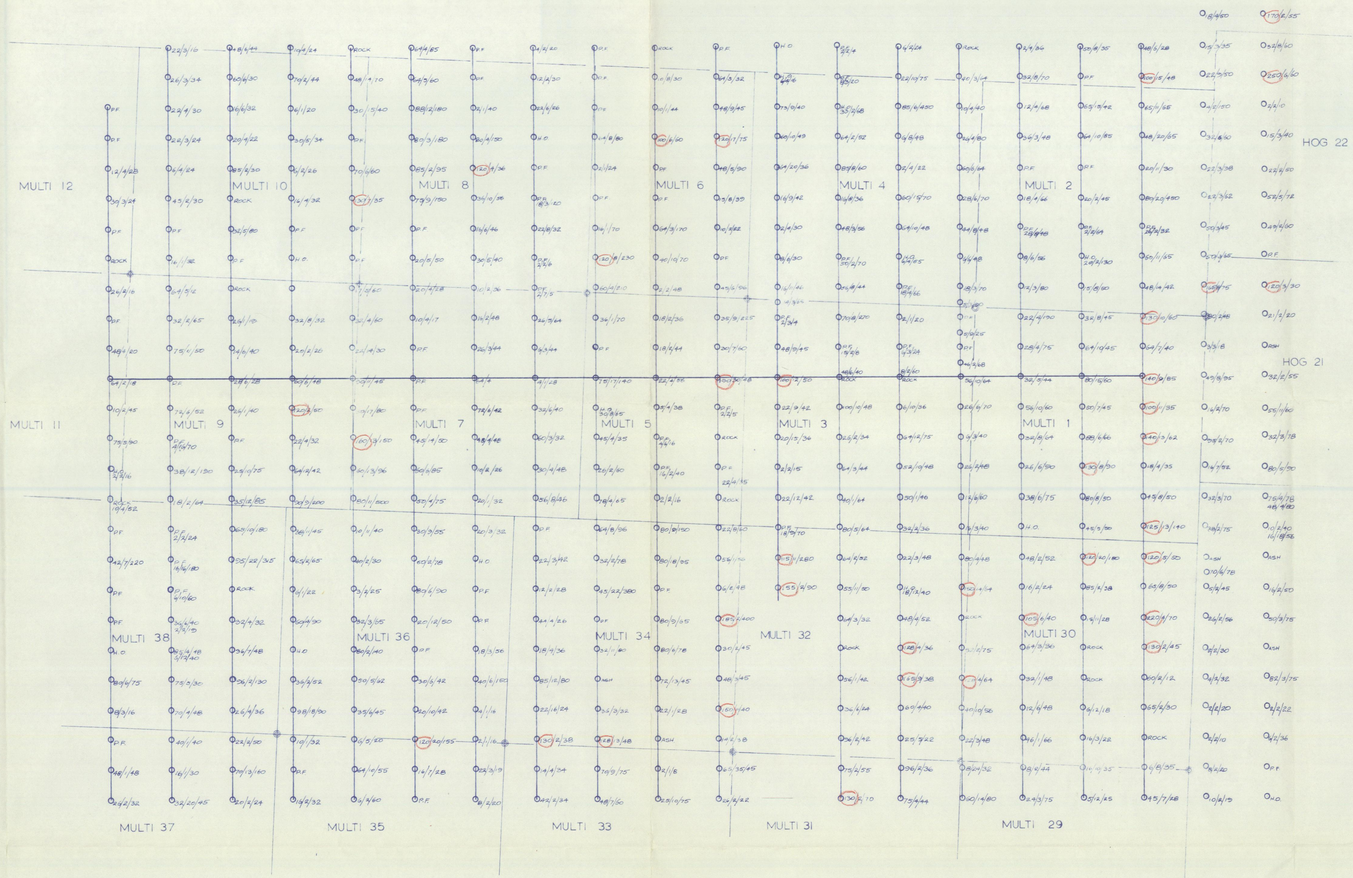
Less Deduction for ... lines, ... Grid 300.00
(See Explanation, Geoph... invoice dated July 19 '66 for Dy-... Grid)

$ 6151.73

PAY

P. O. NUMBER	
PRICE CHECKED	
QUANTITY CHECKED	
COMPUTATIONS CHECKED	[signature]
ACCOUNT NUMBER	1403 Line 3 / P96
CHECK NUMBER	
APPROVED FOR PAYMENT	[signature]

RECEIVED
JUL 14 1966
WHITEHORSE



N

LEGEND
- O SAMPLE LOCATION
- 1/2/3 SAMPLE ANALYSIS Cu/Pb/Zn
- H.O. HIGH ORGANIC
- ASH VOLCANIC ASH
- PF PERMA FROST
- ® CLAIM POST

ANVIL MINING CORP.
FARO
MULTI GEOCHEMISTRY
SCALE: 1"=400'
SAMPLES TAKEN: 469
SAMPLES ANALYSED: 463
BY: BEAUMONT, OLSEN, PRINGLE, RAAFLAUB.
DATE SAMPLED: AUG. 5-10 & 25-28, 1966.
DRAWN BY: P.L.O.