

GEOPHYSICAL REPORT

on

HOG CLAIM GROUP

at

ROSE CREEK, YUKON  
(62° 20' N, 133° 33' W)

for

ANVIL MINING CORP LTD

by

EXPLORATION GEOPHYSICS (YUKON) LTD  
WHITEHORSE, YUKON

NOVEMBER 1966

REPORT BY:

D. Hayes, B. Sc.  
Geologist for  
ANVIL MINING CORP. LTD.

APPROVED BY:

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



PROPERTY SURVEYED:

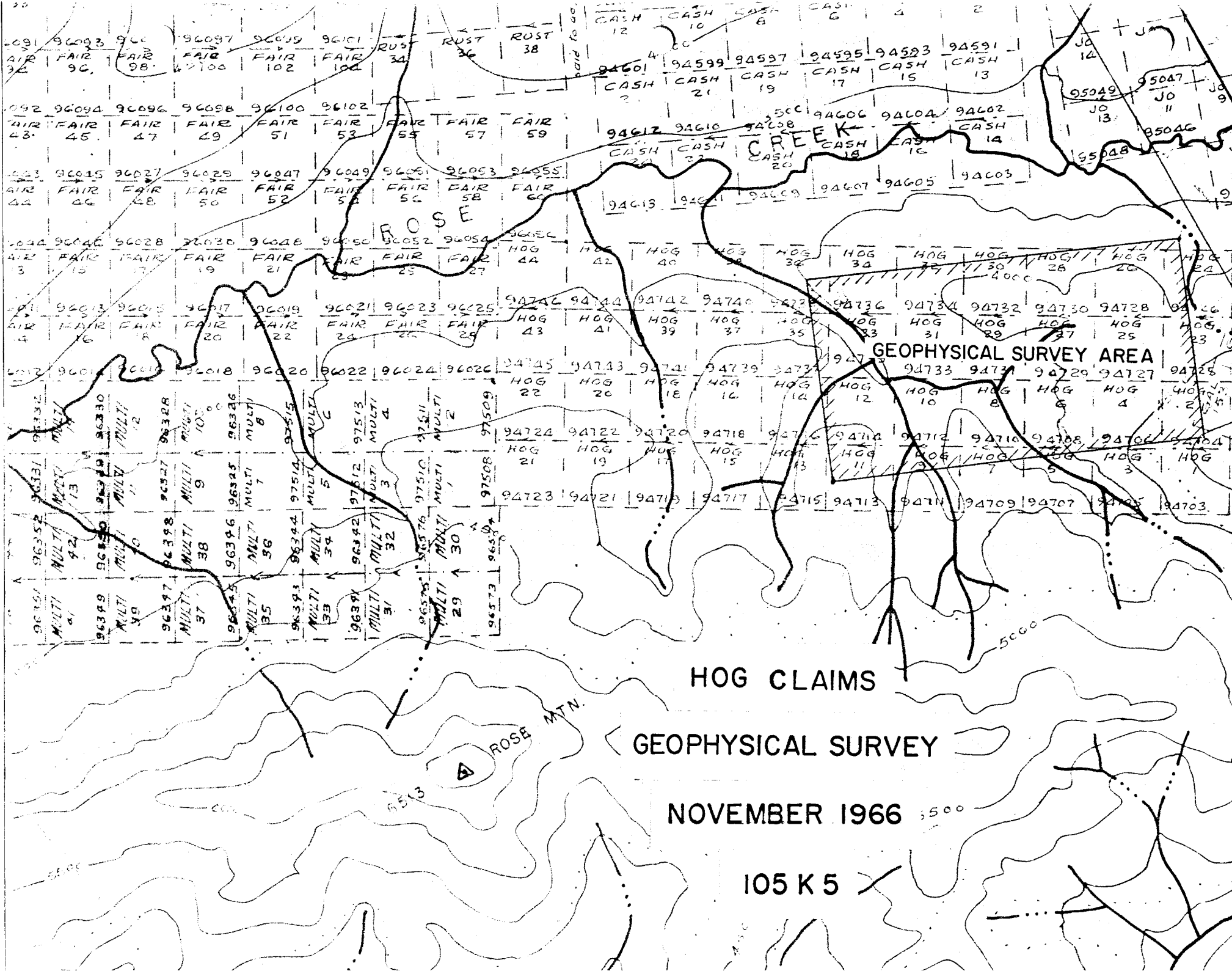
August 12th to August 16th, 1966

GEOPHYSICAL SURVEY

HOG CLAIM GROUP

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Magnetic Profiles	MAP FOLDER
Electromagnetic Profiles	



96091	96093	96095	96097	96099	96101	RUST 34	RUST 36	RUST 38	94601	94599	94597	94595	94593	94591	95049	95047
AIR 32	FAIR 96	FAIR 98	FAIR 100	FAIR 102	FAIR 104				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10	CASH 12	JO 14	JO 16
96092	96094	96096	96098	96100	96102				94602	94600	94598	94596	94594	94592	95048	95046
AIR 43	FAIR 45	FAIR 47	FAIR 49	FAIR 51	FAIR 53				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10	CASH 12	JO 13	JO 11
96093	96095	96097	96099	96101	96103				94603	94601	94599	94597	94595	94593		
AIR 44	FAIR 46	FAIR 48	FAIR 50	FAIR 52	FAIR 54				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96094	96096	96098	96099	96100	96101				94604	94602	94600	94598	94596	94594		
AIR 45	FAIR 47	FAIR 49	FAIR 50	FAIR 51	FAIR 52				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96095	96097	96099	96101	96103	96105				94605	94603	94601	94599	94597	94595		
AIR 46	FAIR 48	FAIR 50	FAIR 52	FAIR 54	FAIR 56				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96096	96098	96100	96102	96104	96106				94606	94604	94602	94600	94598	94596		
AIR 47	FAIR 49	FAIR 51	FAIR 53	FAIR 55	FAIR 57				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96097	96099	96101	96103	96105	96107				94607	94605	94603	94601	94599	94597		
AIR 48	FAIR 50	FAIR 52	FAIR 54	FAIR 56	FAIR 58				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96098	96100	96102	96104	96106	96108				94608	94606	94604	94602	94600	94598		
AIR 49	FAIR 51	FAIR 53	FAIR 55	FAIR 57	FAIR 59				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96099	96101	96103	96105	96107	96109				94609	94607	94605	94603	94601	94599		
AIR 50	FAIR 52	FAIR 54	FAIR 56	FAIR 58	FAIR 60				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96100	96102	96104	96106	96108	96110				94610	94608	94606	94604	94602	94600		
AIR 51	FAIR 53	FAIR 55	FAIR 57	FAIR 59	FAIR 61				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96101	96103	96105	96107	96109	96111				94611	94609	94607	94605	94603	94601		
AIR 52	FAIR 54	FAIR 56	FAIR 58	FAIR 60	FAIR 62				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96102	96104	96106	96108	96110	96112				94612	94610	94608	94606	94604	94602		
AIR 53	FAIR 55	FAIR 57	FAIR 59	FAIR 61	FAIR 63				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96103	96105	96107	96109	96111	96113				94613	94611	94609	94607	94605	94603		
AIR 54	FAIR 56	FAIR 58	FAIR 60	FAIR 62	FAIR 64				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96104	96106	96108	96110	96112	96114				94614	94612	94610	94608	94606	94604		
AIR 55	FAIR 57	FAIR 59	FAIR 61	FAIR 63	FAIR 65				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96105	96107	96109	96111	96113	96115				94615	94613	94611	94609	94607	94605		
AIR 56	FAIR 58	FAIR 60	FAIR 62	FAIR 64	FAIR 66				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96106	96108	96110	96112	96114	96116				94616	94614	94612	94610	94608	94606		
AIR 57	FAIR 59	FAIR 61	FAIR 63	FAIR 65	FAIR 67				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96107	96109	96111	96113	96115	96117				94617	94615	94613	94611	94609	94607		
AIR 58	FAIR 60	FAIR 62	FAIR 64	FAIR 66	FAIR 68				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96108	96110	96112	96114	96116	96118				94618	94616	94614	94612	94610	94608		
AIR 59	FAIR 61	FAIR 63	FAIR 65	FAIR 67	FAIR 69				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96109	96111	96113	96115	96117	96119				94619	94617	94615	94613	94611	94609		
AIR 60	FAIR 62	FAIR 64	FAIR 66	FAIR 68	FAIR 70				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96110	96112	96114	96116	96118	96120				94620	94618	94616	94614	94612	94610		
AIR 61	FAIR 63	FAIR 65	FAIR 67	FAIR 69	FAIR 71				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96111	96113	96115	96117	96119	96121				94621	94619	94617	94615	94613	94611		
AIR 62	FAIR 64	FAIR 66	FAIR 68	FAIR 70	FAIR 72				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96112	96114	96116	96118	96120	96122				94622	94620	94618	94616	94614	94612		
AIR 63	FAIR 65	FAIR 67	FAIR 69	FAIR 71	FAIR 73				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96113	96115	96117	96119	96121	96123				94623	94621	94619	94617	94615	94613		
AIR 64	FAIR 66	FAIR 68	FAIR 70	FAIR 72	FAIR 74				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96114	96116	96118	96120	96122	96124				94624	94622	94620	94618	94616	94614		
AIR 65	FAIR 67	FAIR 69	FAIR 71	FAIR 73	FAIR 75				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96115	96117	96119	96121	96123	96125				94625	94623	94621	94619	94617	94615		
AIR 66	FAIR 68	FAIR 70	FAIR 72	FAIR 74	FAIR 76				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96116	96118	96120	96122	96124	96126				94626	94624	94622	94620	94618	94616		
AIR 67	FAIR 69	FAIR 71	FAIR 73	FAIR 75	FAIR 77				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96117	96119	96121	96123	96125	96127				94627	94625	94623	94621	94619	94617		
AIR 68	FAIR 70	FAIR 72	FAIR 74	FAIR 76	FAIR 78				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96118	96120	96122	96124	96126	96128				94628	94626	94624	94622	94620	94618		
AIR 69	FAIR 71	FAIR 73	FAIR 75	FAIR 77	FAIR 79				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96119	96121	96123	96125	96127	96129				94629	94627	94625	94623	94621	94619		
AIR 70	FAIR 72	FAIR 74	FAIR 76	FAIR 78	FAIR 80				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96120	96122	96124	96126	96128	96130				94630	94628	94626	94624	94622	94620		
AIR 71	FAIR 73	FAIR 75	FAIR 77	FAIR 79	FAIR 81				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96121	96123	96125	96127	96129	96131				94631	94629	94627	94625	94623	94621		
AIR 72	FAIR 74	FAIR 76	FAIR 78	FAIR 80	FAIR 82				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96122	96124	96126	96128	96130	96132				94632	94630	94628	94626	94624	94622		
AIR 73	FAIR 75	FAIR 77	FAIR 79	FAIR 81	FAIR 83				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96123	96125	96127	96129	96131	96133				94633	94631	94629	94627	94625	94623		
AIR 74	FAIR 76	FAIR 78	FAIR 80	FAIR 82	FAIR 84				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96124	96126	96128	96130	96132	96134				94634	94632	94630	94628	94626	94624		
AIR 75	FAIR 77	FAIR 79	FAIR 81	FAIR 83	FAIR 85				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96125	96127	96129	96131	96133	96135				94635	94633	94631	94629	94627	94625		
AIR 76	FAIR 78	FAIR 80	FAIR 82	FAIR 84	FAIR 86				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96126	96128	96130	96132	96134	96136				94636	94634	94632	94630	94628	94626		
AIR 77	FAIR 79	FAIR 81	FAIR 83	FAIR 85	FAIR 87				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96127	96129	96131	96133	96135	96137				94637	94635	94633	94631	94629	94627		
AIR 78	FAIR 80	FAIR 82	FAIR 84	FAIR 86	FAIR 88				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96128	96130	96132	96134	96136	96138				94638	94636	94634	94632	94630	94628		
AIR 79	FAIR 81	FAIR 83	FAIR 85	FAIR 87	FAIR 89				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96129	96131	96133	96135	96137	96139				94639	94637	94635	94633	94631	94629		
AIR 80	FAIR 82	FAIR 84	FAIR 86	FAIR 88	FAIR 90				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96130	96132	96134	96136	96138	96140				94640	94638	94636	94634	94632	94630		
AIR 81	FAIR 83	FAIR 85	FAIR 87	FAIR 89	FAIR 91				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96131	96133	96135	96137	96139	96141				94641	94639	94637	94635	94633	94631		
AIR 82	FAIR 84	FAIR 86	FAIR 88	FAIR 90	FAIR 92				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96132	96134	96136	96138	96140	96142				94642	94640	94638	94636	94634	94632		
AIR 83	FAIR 85	FAIR 87	FAIR 89	FAIR 91	FAIR 93				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96133	96135	96137	96139	96141	96143				94643	94641	94639	94637	94635	94633		
AIR 84	FAIR 86	FAIR 88	FAIR 90	FAIR 92	FAIR 94				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96134	96136	96138	96140	96142	96144				94644	94642	94640	94638	94636	94634		
AIR 85	FAIR 87	FAIR 89	FAIR 91	FAIR 93	FAIR 95				CASH 2	CASH 4	CASH 6	CASH 8	CASH 10			
96135	96137	96139	96141</													

## INTRODUCTION

A combined magnetic and electromagnetic geophysical survey was carried out by Exploration Geophysics (Yukon) Limited for Anvil Mining Corporation Ltd. on HOG mineral claims 2 to 12 incl. and 23 to 36 inclusive during the period August 12th to 16th, 1966.

Preparatory linecutting was done by contract linecutters of White, Hosford and Impy 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 FARGO 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 HOG 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 of the values, three areas of high anomalous magnetics were revealed; one lying on HCG claims 31 to 36 inclusive, another over HCG claims 27 and 28 and the final one over HCG claim 25. There were no areas of significant geochemical values associated with these anomalies.

Geological mapping related to the HCG claim group indicates that the magnetic anomalies occur where volcanics rocks are present. It is postulated that these andesite rocks are the cause of the magnetics. It was also noted that the magnetic anomalies occurred over topographic highs which in the whole area is indicative of 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

There is an unfavourable geological setting associated with the anomalous geophysical areas. As the more favourable quartzites and sericite schist rocks occur higher up the hill from this survey grid further geophysical work is recommended in this area. Also it is indicated that this area is of geochemical interest resulting from the geochemical survey also done on this grid.

Further work on the southern area by magnetics and electromagnetics or induced polarization is recommended if the geochemistry is favourable. A Gravity survey is not feasible because of the terrain.

D. Hayes, B. Sc.  
Geologist for  
ANVIL MINING CO. LTD.

APPENDIX I (1)

STATEMENT OF COSTS

HGG Claim Group

(A) Linecutting - Contract: White, Hoarford & Impey Ltd. already submitted for Geochemical Survey	
(B) Contract Geophysics - Invoice submitted	21,452.75
Exploration Geophysics (YUKON) Limited	
Maintenance 20 man days @ 18.00	160.00
Transportation, helicopter	300.00
(C) Compilation of Report	100.00
(D) Supervision	100.00
	<hr/>
Total:	22,112.75
	<hr/> <hr/>

APPENDIX I (11)

PERSONNEL

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

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

J. Gehring	Party Chief, Magnetometer	Box 1188, Whitehorse, Y.T.			
Gamble	Magnetometer	" " "	"	"	"
V. Lund	Electromagnetic	" " "	"	"	"
F. 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 (111)

A F F I D A V I T

SUPPORTING STATEMENT OF COSTS  
Geophysical Report  
August 12th to 16th, 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 NOG Claim Group", DO MAKE OATH AND SAY AS FOLLOWS:

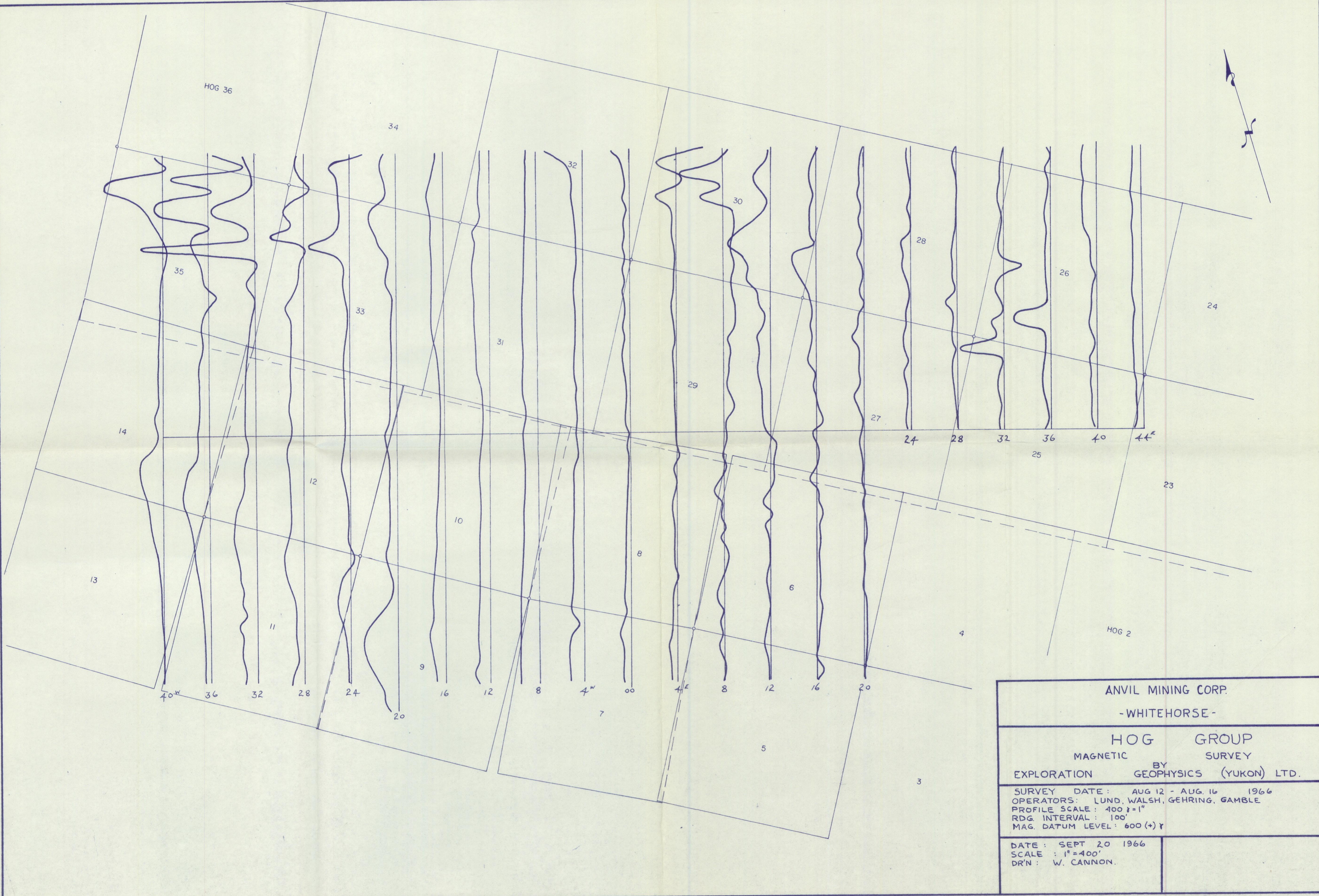
That to the best of my knowledge and belief, the statement of costs as presented is true and an accurate representation of expenditures to be applied as representative work on the NOG claims 1 to 44 inclusive.



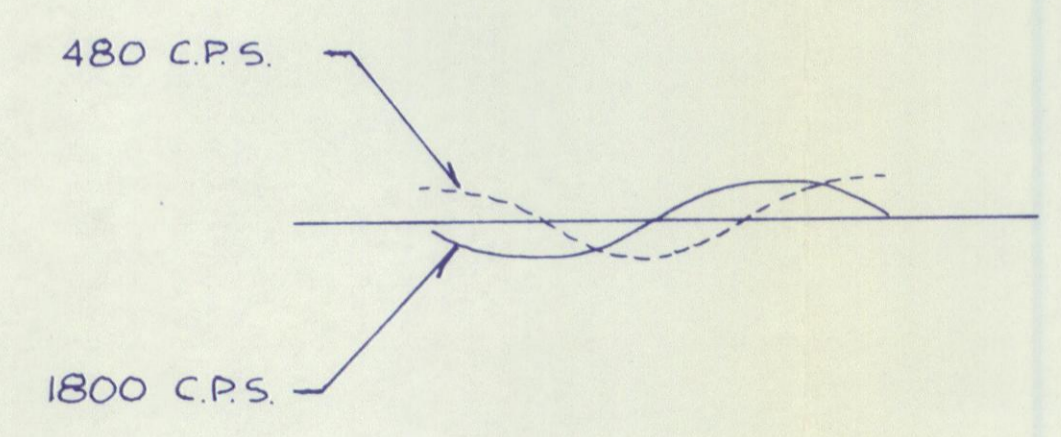
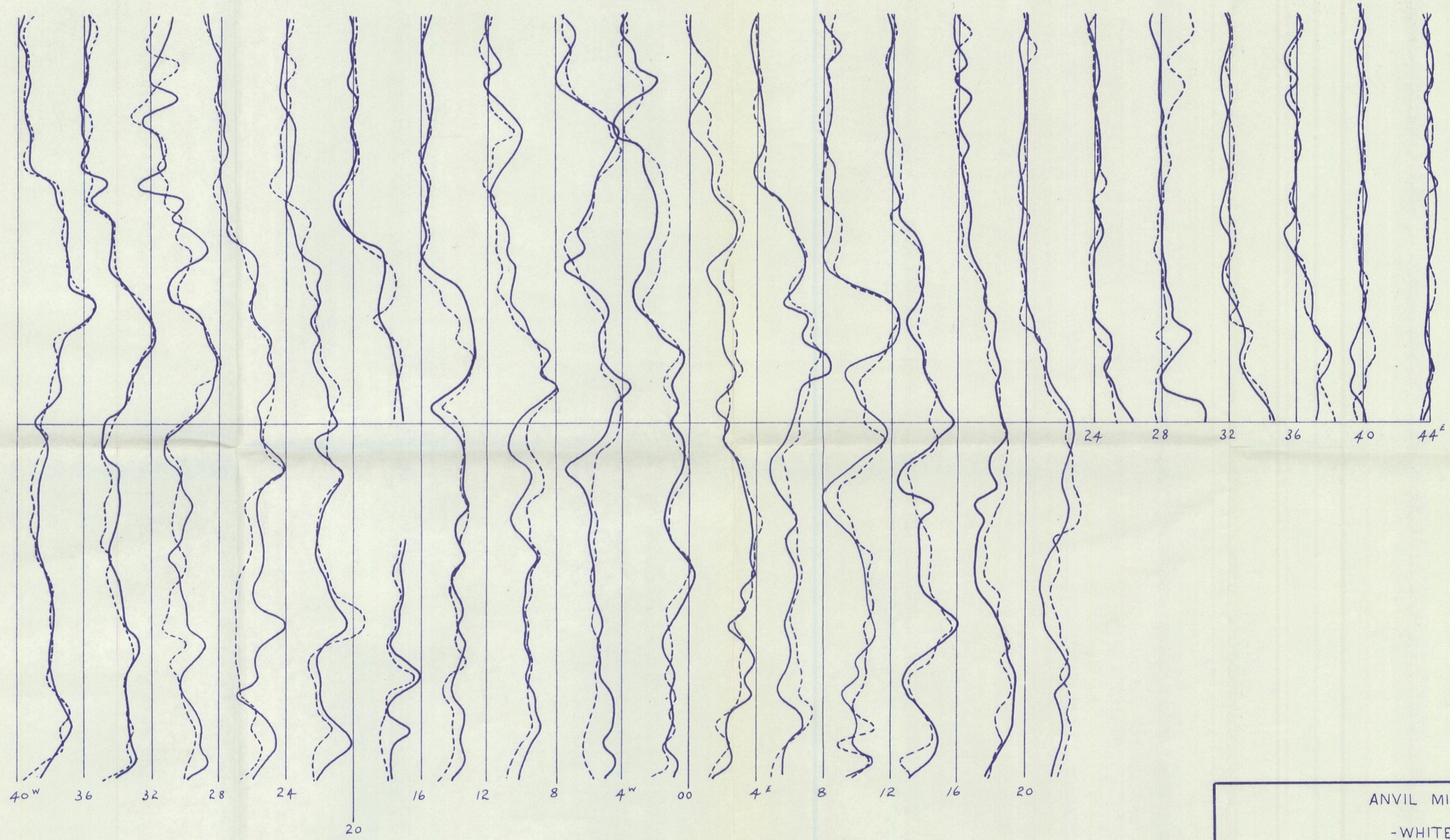
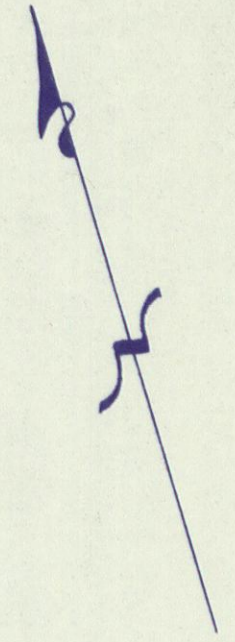
*R.S. Adamson*  
Robert S. Adamson, B.A., S.C.E., P. Eng  
Chief of Exploration for  
ANVIL MINING CORP LTD

SWORN before me in the City of Whitehorse, Yukon Territory  
this... *22* .....day of.... *NOVEMBER* .....1966.

*[Signature]*  
A Commissioner for taking Affidavits  
in and for the Yukon Territory.



ANVIL MINING CORP. - WHITEHORSE -	
HOG GROUP MAGNETIC SURVEY BY EXPLORATION GEOPHYSICS (YUKON) LTD.	
SURVEY DATE: AUG 12 - AUG. 16 1966 OPERATORS: LUND, WALSH, GEHRING, GAMBLE PROFILE SCALE: 400' = 1" RDG. INTERVAL: 100' MAG. DATUM LEVEL: 600 (+) F	
DATE: SEPT 20 1966 SCALE: 1" = 400' DR'N: W. CANNON.	



ANVIL MINING CORP. - WHITEHORSE -	
HOG GROUP ELECTROMAGNETIC SURVEY EXPLORATION BY GEOPHYSICS (YUKON) LTD.	
SURVEY DATE : AUG 12 - AUG 16 1966 OPERATORS : LUND, WALSH, GEHRING, GAMBLE PROFILE SCALE : 1" = 40' DP. RDG. INTERVAL : 100' INST. SPACING : 400'	
DATE : SEPT 20 1966 SCALE : 1" = 400' CRONE HORIZONTAL LOOP SURVEY DRN: W. CANNON.	