

83-#813 - 11651

REPORT OF WORK  
GEOPHYSICAL SURVEYS  
ON THE  
HENK MINERAL CLAIM  
N.T.S. 93L/2,3  
( 126 49' , 54 05' )  
Omineca Mining Division

10/84

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**11,651**

Submitted by : L. Bradish  
Division Geophysicist  
Western Division  
Vancouver, B.C.  
November 1983

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REPORT OF WORK  
GEOPHYSICAL SURVEYS  
ON THE  
HENK MINERAL CLAIM  
N.T.S. 93L/2  
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1.0 INTRODUCTION

During the period September 1982 and July 1983 geophysical surveys consisting of Pulse EM, Horizontal Loop EM (SE-88) and Magnetometer were completed on the Henk claim. This claim was staked in October 1982 in order to protect a number of Airborne INPUT EM anomalies.

2.0 LOCATION, ACCESS AND CLAIMS

The HENK claim is located at the southeast corner of Nadina Mt., approximately 38 Kilometers south west of Houston B.C. (fig 1). Access to the claim requires the use of a helicopter.

The Henk claim (record # 4811) was recorded on the 13th of October, 1982 and consists of 9 units.

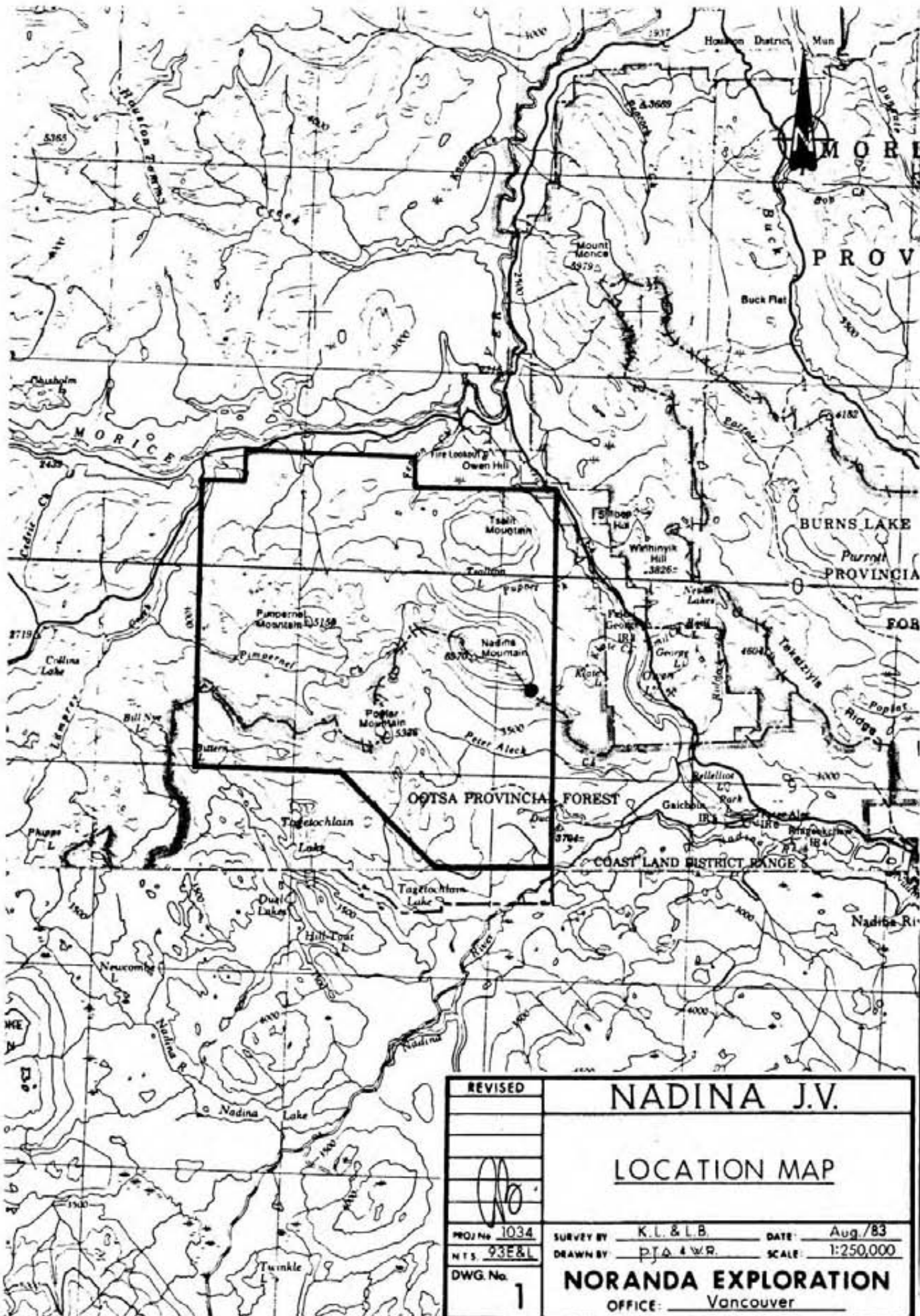
3.0 PERSONNEL

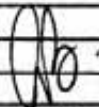
The 1983 Geophysical crew consisted of the following personnel :

|            |                        |
|------------|------------------------|
| M. Seyward | Field Assistant        |
| J. Moore   | Field Assistant        |
| K. Lillie  | Geophysical Supervisor |

and assisting during the 1982 recon surveys were R. Swire and E. Sargent.

The crew was supervised on a daily basis by Kevin Lillie while the overall supervision of the Geophysical program was by L. Bradish. Crew accomodation was obtained at the Pleasant Valley Motel in Houston.



|                                                                                     |                                |                                |
|-------------------------------------------------------------------------------------|--------------------------------|--------------------------------|
| REVISED                                                                             | NADINA J.V.                    |                                |
|                                                                                     | LOCATION MAP                   |                                |
|  | SURVEY BY <u>K.L. &amp; B.</u> | DATE <u>Aug/83</u>             |
|                                                                                     | PROJ No <u>1034</u>            | DRAWN BY <u>PJA &amp; W.R.</u> |
| NTS <u>93E&amp;L</u>                                                                | NORANDA EXPLORATION            |                                |
| DWG. No <u>1</u>                                                                    | OFFICE: <u>Vancouver</u>       |                                |

## 4.0 INSTRUMENTATION

### 4.1 PULSE E.M.

The Pulse E.M. system was manufactured by Crone Geophysics of Ontario. This transient time domain E.M. system measures at eight discrete time intervals the time derivative of the secondary magnetic field which is generated by the induced current flow following the application of a strong primary E.M. pulse. The survey parameters were :

|                  |              |
|------------------|--------------|
| Loop size        | : 13 meters  |
| Coil separation  | : 75 meters  |
| Timebase         | : 10 ms      |
| Synchronization  | : radio link |
| Reading interval | : 50 meters  |

### 4.2 GENIE SE-88

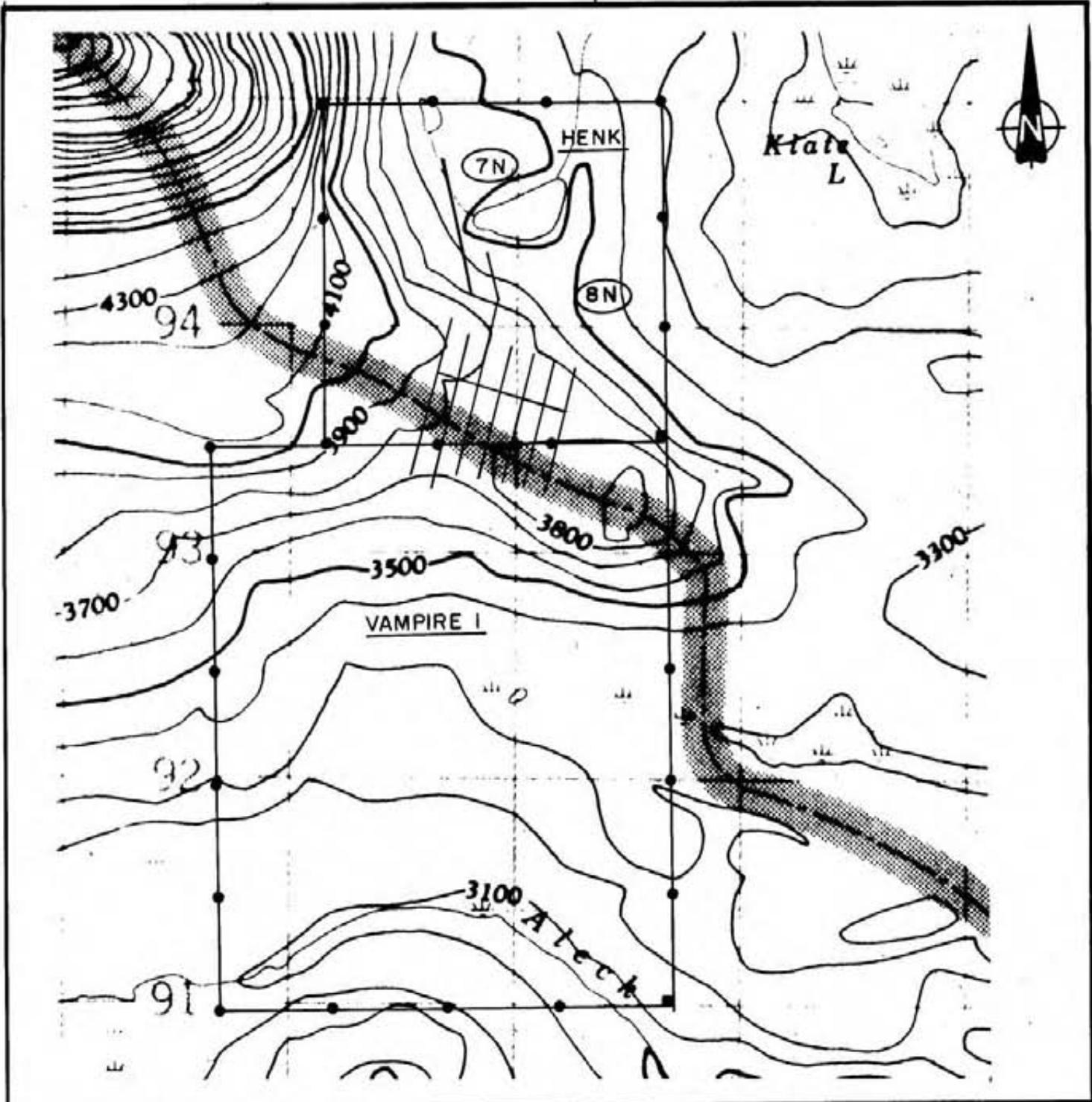
The SE-88 unit differs from the normal HLEM systems such as MaxMin II in that it measures without regard to phase, the difference in signal amplitude between two frequencies which are transmitted and recieved simultaneously. A low frequency of 112 Hz is used as a reference frequency. The signal difference is integrated or averaged over a period of time in order to improve the signal to noise ratio thus giving a sensitivity that rivals the normal HLEM methods.

The survey parameters employed on the follow-up program are as follows :



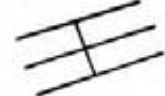


|                     |                                                                               |
|---------------------|-------------------------------------------------------------------------------|
| Coil separation     | : 100 meters                                                                  |
| Frequencies         | : 3037, 1012, 337 Hz.                                                         |
| Reference frequency | : 112 Hz.                                                                     |
| Integration period  | : 16 seconds                                                                  |
| Reading interval    | : 25 meters                                                                   |
| Measurement         | : difference in amplitude<br>between reference and<br>signal frequencies (%). |

### 4.3 MAGNETOMETER

"UNIMAG" G.836 Proton Precession magnetometers manufactured by Exploranium Geometrics of Ontario were utilized on this program. The Total Field measurement is read with a resolution of 10 gammas and all values recorded on grids were corrected for diurnal and day to day variations. Correction values were determined from repeat readings taken at control stations which were established at the intersection of wing lines and the Baseline. All readings were recorded at 25 meter intervals and are plotted in plan. The field datum is 57,000 nT.



**LEGEND**

-  Claim Line
-  LCP
-  Geophysics Grid
-  Grid/Anomaly Number
-  Claim Group

REVISED

*Ab*

PROJ.No. 1034

N.T.S. 93L

DWG.No.

Fig. 2

**NADINA J.V**

**GRID AND CLAIM  
LOCATION MAP**

**HENK CLAIM**

SURVEY BY: \_\_\_\_\_ DATE: August - 1983

DRAWN BY: W.M.R. SCALE: 1:25,000

**NORANDA EXPLORATION**

OFFICE: Vancouver

## 5.0 GEOLOGY

Due to an extensive cover of glacial till no geological information on the property is available. The target sought after is a massive sulphide or vein type deposit.

## 6.0 DISCUSSION OF RESULTS

Two areas were surveyed, namely Anomaly #7N and anomaly #8N whose relative locations are as shown on figure 2. Anomaly #7N was surveyed with a single line of PEM ( 0.500 line Km. ) and the results indicate the area to be underlain by an expansive zone of low conductivity material at depth.

Anomaly #8N, a 4 to 6 channel INPUT EM anomaly grouping ( 7 to 17 Siemens ) was first detected by a recon Pulse EM line in 1982 and was subsequently detailed and extended during a 1983 program. The single line of PEM was 0.675 Km long, the Mag survey consisted of 3.575 line-Km and the HLEM survey consisted of 3.525 line-Km of data. The HLEM (SE-88) survey defined the source to be 700 meters in length and striking at approximately 125 degrees. The conductivity of the source appears to be low ( 5 Siemens by the PEM data and approximately 10 S by the HLEM data) with the Mag survey recording a distinct low directly over the zone. A steep dip, grid south (relative to the ground slope) is indicated from the EM profiles.

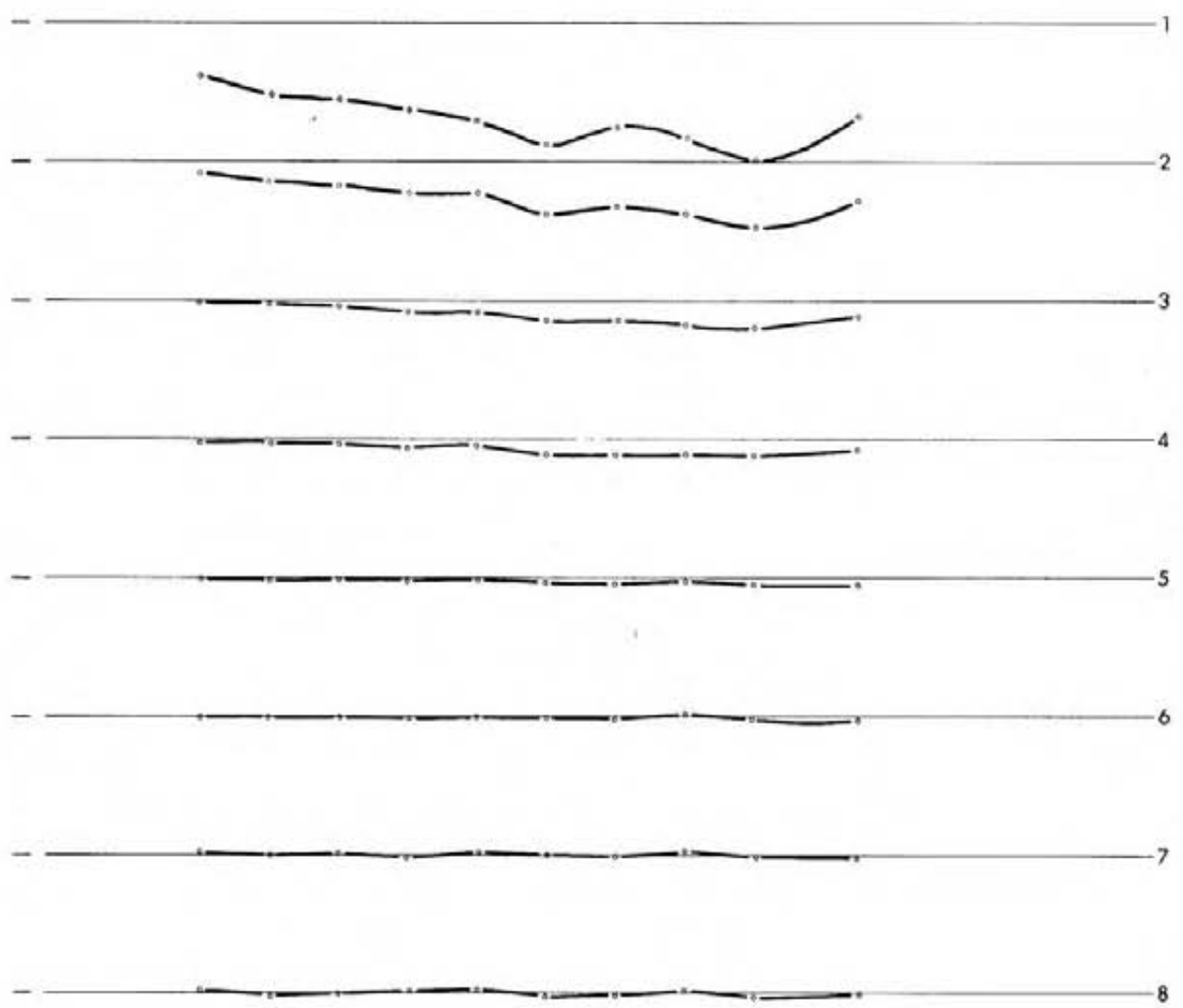
The surveyed area is underlain by a broad conductive source ( 4 Siemens) at an interpreted depth of 40 to 50 meters.

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

The results obtained from anomaly #7N indicate the source of the INPUT EM anomaly to be caused by the conductive background. This is also evident from the shape of the INPUT EM profile.

Anomaly #8N does appear to be sourced by a zone at depth however it cannot be classified as a high priority target. The survey area is underlain at a 40 to 50 meter depth with a conductive sheet or block. The HLEM anomaly could very well be modelled by a simple change in the geometry of this sheet i.e a flexure, break or significant change in the thickness of the sheet. Had a near-vertical, high conductivity source occurred within the survey area and was within a depth of 50 meters or less the HLEM survey would have been capable of detecting it.

— 105+00N  
— 104+00N  
— 103+00N  
— 102+00N  
— 101+00N  
— 100+00N  
— 99+00N  
— 98+00N



CHANNELS

NADINA J.V.  
ANOMALY 7N (HENK CL)  
RECONNAISSANCE  
PEM SURVEY *AB.*

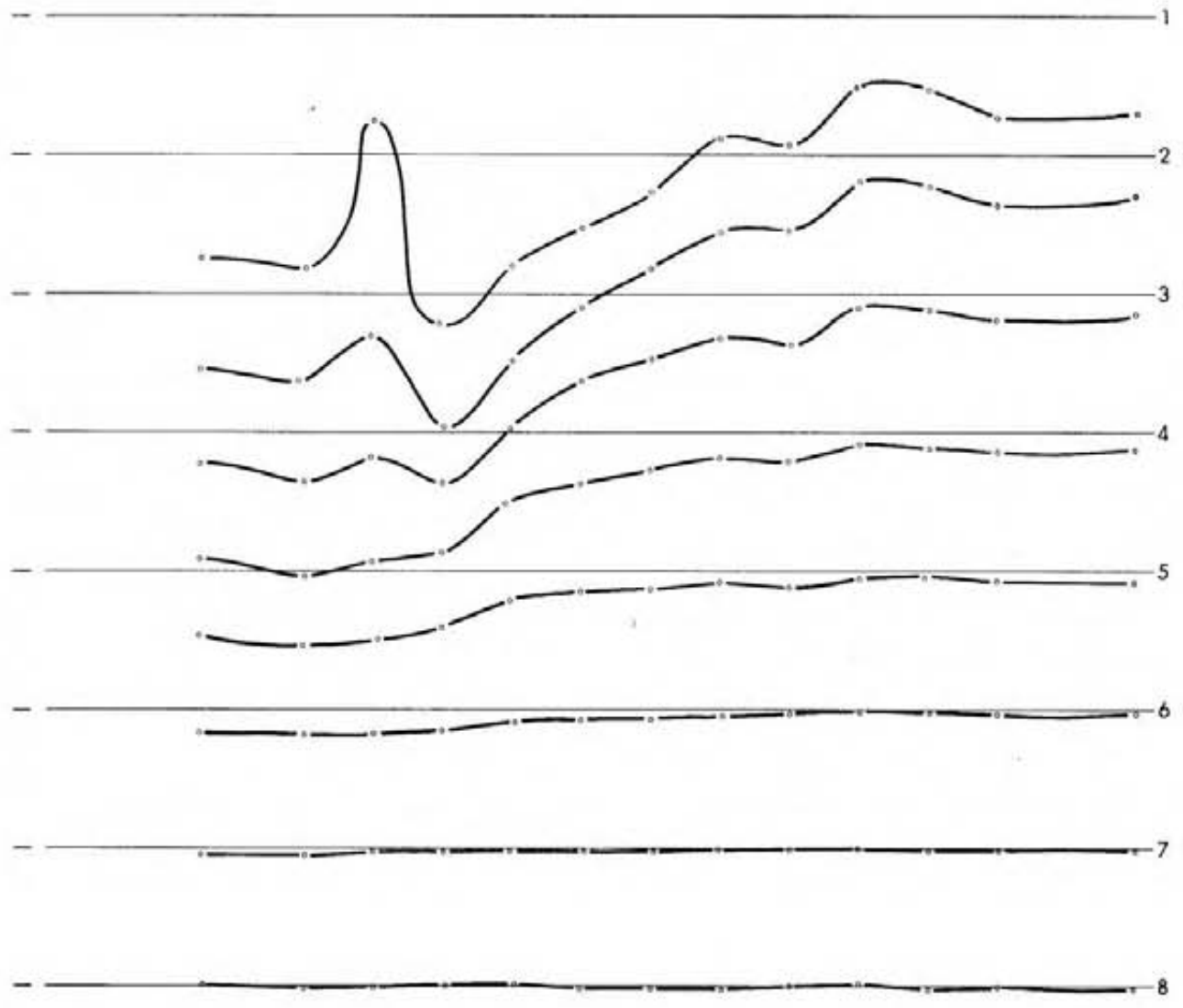
$a = 75m$   $t_b = 10ms.$

Profile Scale: 1cm = 20ppk  
1: 5000

Fig. 3



— 197+00N  
— 198+00N  
— 199+00N  
— 200+00N  
— 201+00N  
— 202+00N  
— 203+00N  
— 204+00N



CHANNELS

**NADINA J.V.**  
ANOMALY 8N (HENK CL.)  
RECONNAISSANCE  
PEM SURVEY

$a = 75m$   $t_b = 10ms.$

Profile Scale: 1cm = 20ppk  
1: 5000

Fig. 4

From the Geophysical results this area would warrant no further geophysics unless some encouragement were found by other means .

Respectfully submitted,



.....  
L. Bradish,  
Division Geophysicist.

APPENDIX I  
STATEMENT OF COSTS  
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NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT - Henk Claims  
TYPE OF REPORT - Geophysics

DATE: October 12, 1983

a) Wages:

No. of Days - 12 mandays  
Rate per Day - \$120.00  
Dates From - October 1982 - October 1983  
Total Wages - 12 X \$120.00 \$1,440.00

b) Food and Accommodation:

No. of Days - 12  
Rate per Day - \$22.00  
Dates From - October 1982 - October 1983  
Total Cost - 12 X \$22.00 \$ 264.00

c) Transportation:

No. of Days - 12  
Rate per Day - \$166.67  
Dates From - October 1982 - October 1983  
Total cost 12 X \$166.67 \$2,000.00

d) Cost of Preparation of Report:

Author \$ 120.00  
Drafting \$ 120.00  
Typing \$ 120.00

e) Other:

-----  
Total Cost \$4,064.00  
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UNIT COSTS

Unit Costs for - Geophysics

No. of Days - 12

No. of Units - 8.450 Line Kilometres

Unit Costs - \$480.95/Line Km

Total Cost 8.450 X \$480.95

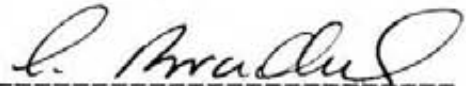
\$4,064.00

APPENDIX II  
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STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS  
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I, Lyndon Bradish of Vancouver, Province of British Columbia, do hereby certify that:

1. I am a Geophysicist residing at 1826 Trutch St. Vancouver, B.C.
2. I am a graduate of the University of British Columbia with a B.Sc. (geophysics).
3. I am a member in good standing of the Society of Exploration Geophysicists, Canadian Institute of mining and the Prospector's and Developer's Association.
4. I presently hold the position of Division Geophysicist with Noranda Exploration Co. Ltd. and have been in their employ since 1973.



\_\_\_\_\_  
L. Bradish.