



**REPORT OF WORK
GEOPHYSICAL SURVEYS
(MAGNETIC, HLEM and VLF-EM)**

**WAYNE OPTION
N.T.S.: 105 M/13**

FEBRUARY 5, 1996

**GERRY BIDWELL
ROGER SHARPE**



REPORT OF WORK

GEOPHYSICAL SURVEYS
(MAGNETIC, HLEM and VLF-EM)

WAYNE OPTION
(DOUG, MARY, JARRET & LAKEHEAD CLAIMS)

KENO HILL AREA

MAYO MINING DISTRICT

N.T.S.: 105M/13

February 5, 1996

Gerry Bidwell
Roger Sharpe

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1.0 INTRODUCTION

The Wayne Property located in the Mayo area near Keno Hill in central Yukon hosts several gold-tungsten bearing, calc-silicate horizons associated with early-mid Cretaceous age intrusives of the Tombstone Suite.

Hemlo gold Mines Inc. optioned the Wayne property from Mr. Bernie Kreft of Whitehorse, Yukon in March, 1995. Work covered in this report includes linecutting carried out in May-June and October, 1995 and geophysical surveys undertaken in October, 1995.

2.0 LOCATION AND ACCESS

The Wayne property located in the Keno Hill Mining District is located approximately 40 kilometers north of Mayo, Yukon (see Figure 1). The property is accessible by all weather gravel road that runs between Mayo and the communities of Elsa and Keno Hill.

3.0 CLAIMS STATUS

The Wayne Property consists of 27 quartz claims and two fractions all of which are situated in the Mayo Mining District, Yukon Territory (see Figure 2). A list of the claims is given below in Table I. See Figure 4 for the disposition of the claims in relation to the grid.

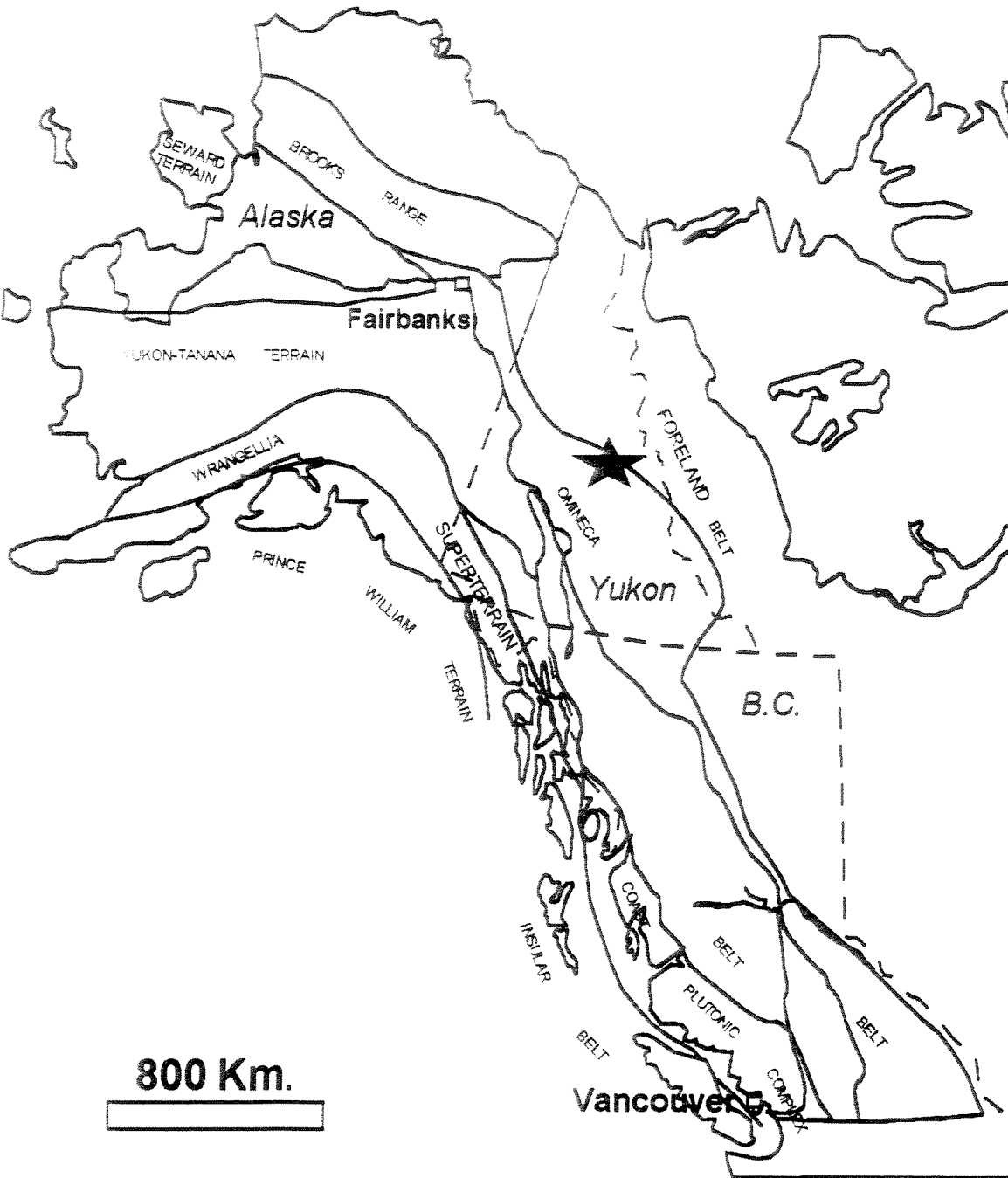
TABLE I

WAYNE OPTION CLAIMS LISTING

<u>CLAIM NAME</u>	<u>GRANT NUMBERS</u>	<u>EXPIRY DATE</u> *
Doug 1	YB 28942	March 4, 1997
Doug 2	YB 28943	March 4, 1997
Doug 3	YB 28944	March 4, 1997
Doug 4	YB 28945	March 4, 1997
Doug 5	YB 28998	March 4, 1997
Doug 6	YB 28999	March 4, 1997
Doug 7	YB 29000	March 4, 1997
Doug 8	YB 29001	March 4, 1997
Mary 1	YB 29002	March 4, 1997
Mary 2	YB 29003	March 4, 1997
Mary 3	YB 29004	March 4, 1997
Mary 4	YB 29005	March 4, 1997

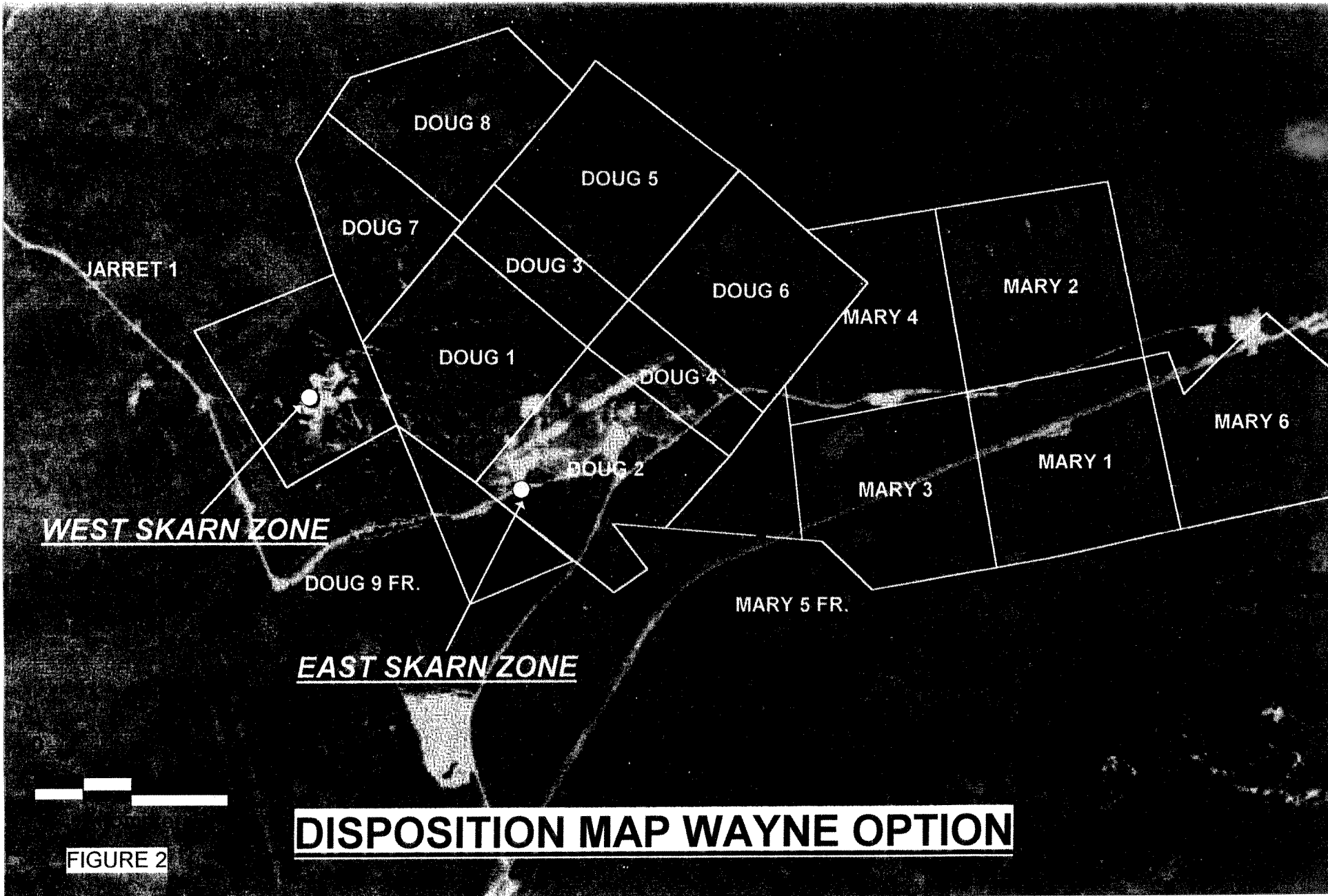
CORDILLERA REGION

Wayne Property Location



**HEMLO
GOLD**

FIG.1



HPS
MAGE

<u>CLAIM NAME</u>	<u>GRANT NUMBERS</u>	<u>EXPIRY DATE</u> *
Mary 5 FR	YB 29393	March 4, 1997
Mary 6	YB 29394	March 4, 1997
Doug 9 FR	YB 29395	March 4, 1997
Jarret 1	YB 29440	March 4, 1997
Lakehead 1	YB 64184	June 30, 1997
Lakehead 2	YB 64185	June 30, 1997
Lakehead 3	YB 64192	June 28, 1997
Lakehead 4	YB 64193	June 28, 1997
Lakehead 5	YB 64186	June 28, 1997
Lakehead 6	YB 64187	June 28, 1997
Lakehead 7	YB 64188	June 28, 1997
Lakehead 8	YB 64189	June 28, 1997
Lakehead 9	YB 64190	June 28, 1997
Lakehead 10	YB 64191	June 28, 1997
Lakehead 11	YB 64194	June 30, 1997
Lakehead 12	YB 64195	June 30, 1997
Lakehead 13	YB 64196	June 30, 1997

* contingent upon the acceptance of this assessment report

4.0 PREVIOUS WORK

- 1955: Claims staked on present Wayne Property to cover Pb, Zn, Ag veins.
- 1967: Fort George's Mining Exploration drilled 76 m on Pb-Zn vein and shipped 5.5 tons to Trail Smelter.
- 1970: Silver Spring - Canadian Reserve Oil and Gas carried out geophysical surveys, drilled two holes testing for Pb-Zn-Ag mineralization.
- 1974-75: Adjoining Snowdrift Property explored by United Keno Hill, 80 percussion holes 3200.0 meters.
- 1980-83: Property optioned to Island Mining and Exploration Co. Ltd. who drilled 14 holes (1212 m) in 1982 on Pb-Zn-Ag vein structure and in process discovered gold bearing calc-silicate horizons. (West Skarn Zone). Drilled additional 7 holes on East Skarn Zone.
- 1982: United Keno Hill re-examined Snowdrift property for its gold potential intersecting several gold bearing zones.

1992: Current property staked by Bernie Kreft.

5.0 REGIONAL GEOLOGY

Most of the Keno Hill District is underlain by metamorphosed sedimentary rocks of Late Precambrian Paleozoic age. Nomenclature as well as age estimates for the metasedimentary units within the Keno Hill District have varied considerably over time which has led to some confusion in correlating rock types.

Since Pb-Zn-Ag mineralization was first discovered in the Keno Hill area the sedimentary sequence has been divided into three basic units. The distinctive Keno Hill Quartzite (or Central Quartzite) host for most of the mineralized vein structures and what early workers called the Lower Schists and the Upper Schists to describe the apparent structural position of rocks with respect to the Keno Hill Quartzite. The latest geological interpretation places the lower Schists within the Devonian-Mississippian Earn Group while the Upper Schists are believed to belong to the late Precambrian-Cambrian Hyland Group in thrust contact with the Keno Hill Quartzites.

The Lower Schists outcrop along the central portion of the McQueen Valley and along the northern point of Mount Haldane. They structurally underlie the Keno Hill Quartzite and are comprised predominantly of dark grey graphitic phyllites with lesser amounts of phyllitic quartzite.

The Keno Hill Quartzite (Central Quartzite) is a distinct marker and is easily recognizable in the field. It is the host for most of the Pb-Zn-Ag mineralization in the Keno Hill-Elsa Mining Camp. Keno Hill Quartzites also outcrops in the central portion of Mount Haldane. It consists of massive to poorly bedded, grey to blue-grey quartzite with minor graphitic phyllite.

Rocks of the Upper Schist (Hyland Group) comprise a thick assemblage of graphitic phyllite, quartz-mica schists, phyllitic quartzites with local limestone. The entire sequence has been thrust over the Keno Hill Quartzite during the early-mid Cretaceous along the Robert Service Thrust.

Intruded into the metasediments are a series of altered, lens shaped bodies of diorite to gabbro composition. These major bodies are quite common in the Lower Schist and Keno Hill Quartzite, but rarely found in the Upper Schists.

Felsic plugs, sills and dikes of mid-late Cretaceous age also intrude the entire sequence. Two intrusive suites are recognized not only in the Mayo area but throughout the Yukon and Alaska. The first (Tombstone Suite) is between 90-95 ma while the second (McQuesten Suite) aged between 60 - 64 ma. Of the two groups, the Tombstone Suite is the most significant as far as gold mineralization occurs and includes the Fort Knox, Brewery Creek and Dublin Gulch intrusives.

6.0 1995 WORK PROGRAM

6.1 Introduction

In May-June, 1995 linecutting was carried out on the Doug, Mary and Jarret claims. A total of 2.8 km of baseline and 18.8 km of section line was cut. Line spacing is 100 meters in the vicinity of the West Zone and 200 meters on the remainder of the grid. On the Lakehead claims portion 2.0 km of baseline and 6.6 km of section line was cut in the period October 1 to 8, 1995.

During October, 1995 ground geophysics was undertaken on the Wayne grid. A total of 25.3 line kilometers of magnetic and VLF-EM surveys (two stations) was completed by Hemlo personnel and 23.3 line kilometers of HLEM was carried out by Amerok Geophysics of Whitehorse. The HLEM survey was undertaken with Max-Min at a 100 meter coil separation and reading 440, 1760 and 7040 Hz with four readings per cable (25 m). VLF was collected using transmitting stations at Cutler, Maine and Seattle, Washington. Magnetic and VLF stations were at 12.5 m intervals.

6.2 Results

Although some strong HLEM conductors exist on the grid there is no response over the known occurrences. Similarly the magnetic response over the zones is very narrow and weak. The VLF response over the West Zone is weak, but poorly defined due to insufficient coverage. The response over the East Zone is well defined in the Fraser filter contours and is part of a trend that extends from 9300 E to 10000E. Profiles of the Seattle transmitter data indicate the anomaly is a poor conductor. Topographic effects are known to occur in VLF data and the location of the conductor should be carefully screened for changes in relief or conductive drainages. In general it is better to use the HLEM data as an absolute measure of conductivity and the VLF data, like the magnetic data, as an indication of fault offsets.

A conductive area occurs at 10700N to 10800N on lines 9700E to 10000E. This is within an area of magnetic highs that probably reflect a lithologic change. The lithologic change is best mapped by the magnetics and occurs from 10300N on 9200E to 10600N on 10000E with magnetic highs plotting north of this line.

The most interesting HLEM anomaly occurs between 9900N on 10400E and 10100N on 11200E. The strongest part of this zone occurs at the baseline on 10600E and 10800E. On the VLF maps the location of a powerline is noted in this area, but the sharp response on the VLF can probably be used to identify its actual position quite well and the HLEM response does not seem to be influenced by it, still a ground check prior to planning any more work would be wise.

The next most interesting group of HLEM conductors occurs from 9850N and 9700N on 12000E to 10050N and 9850N on line 12600E. This pair of conductors is part of a relatively consistent trend that flows across the grid with a generally east strike. At this location the conductors are both more conductive and wider suggesting the presence of a larger volume of conductive material.

There are several areas on the grid where potentially strong conductors were not completely covered by the survey. These include the south end of lines 10800E, 11200E and 11400E; and the north end of 13400E.

Finally, the strong magnetic highs that occur at from 10150N on 9300E to 10300N on 10200E, but particularly at 10250N on 9700E and 9800E should be explained. There is another curious magnetic high anomaly at 10475N on lines 9800E through 1000E that may also be of interest. None of these magnetic highs is conductive.


7.0 CONCLUSIONS

The HLEM and VLF-EM conductors discussed above should be field checked to ensure they do not have a cultural origin, e.g. power lines, buried wire. Upon confirmation of anomalies having a bedrock source detailed prospecting and trenching is recommended in areas of shallow cover followed by drilling.

STATEMENT OF QUALIFICATIONS

I, Gerald E. Bidwell hereby certify that:

1. I received a B.A. degree in Geology from the University of Saskatchewan, Saskatoon in 1967 and have been involved in mineral exploration continuously since that time.
2. I reside at 5186 - 4th Avenue, Delta, B.C., V4K 1C3.
3. I have been employed by Hemlo Gold Mines Inc. since January, 1995.
4. I am a member in good standing of the Geological Association of Canada.
5. I supervised the work carried out on the property described in this report.



Gerald E. Bidwell

February 1996

STATEMENT OF COSTS

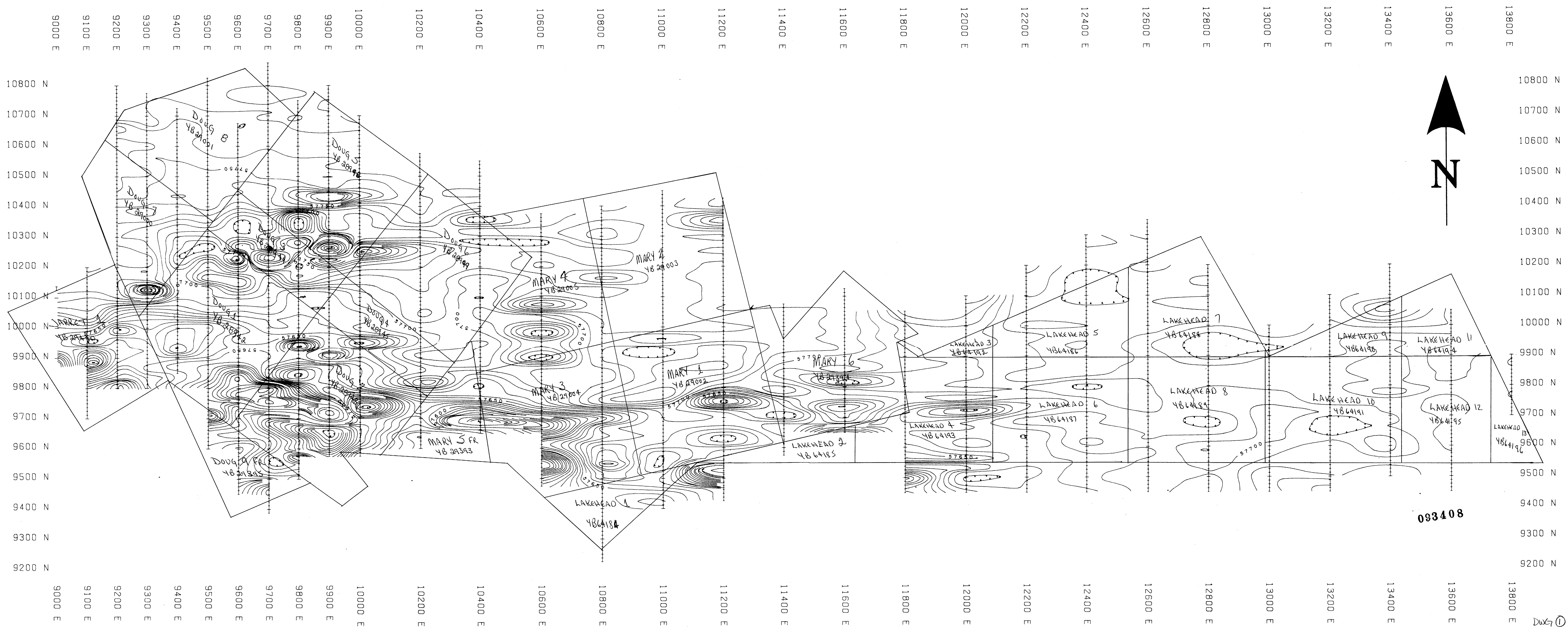
In the period May 25 to June 30, 1995 contractor Mark Lafreniere carried out 21.6 km of linecutting on the Doug, Mary and Jarret claims. Invoiced charges for the work was \$2,850.00.

In the period October 1-8, 1995 Hemlo employees Carl Schultz and Gord MacIntosh carried out 8.6 km of linecutting on the Lakehead claims portion of the Wayne property. Total linecutting costs were:

May-June, 1995 linecutting (invoiced cost)	\$2,850.00
October, 1995 linecutting	
Salaries: 2 men x 6 days x \$200/day	\$2,400.00
Accommodation: 12 mandays X \$80.00/day	<u>\$ 960.00</u>
	\$3,360.00
 LINECUTTING COST:	 \$6,210.00



Gerald E. Bidwell
Senior Geologist
Hemlo Gold Mines Inc.



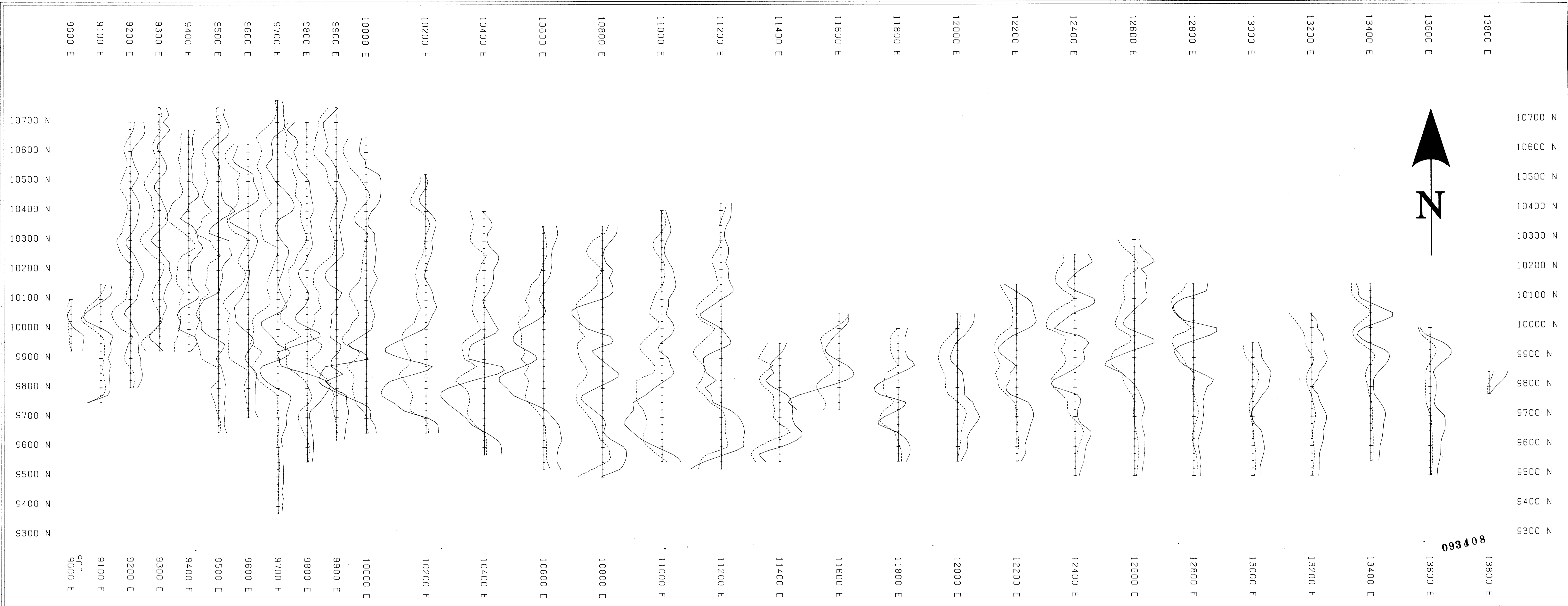
093408

CONTOUR INTERVAL: 10 nT



HEMLO GOLD MINES INC.	WAYNE PROPERTY	
TOTAL MAGNETIC FIELD CONTOUR MAP	MINING DISTRICT: MAYO, Y.T.	NTS: 105 M 13 SCALE: 1:5,000
AMEROK GEOSCIENCES LTD.	OPERATOR: M.P. / P.C.	DATE: 15OCT95
	FIGURE:	

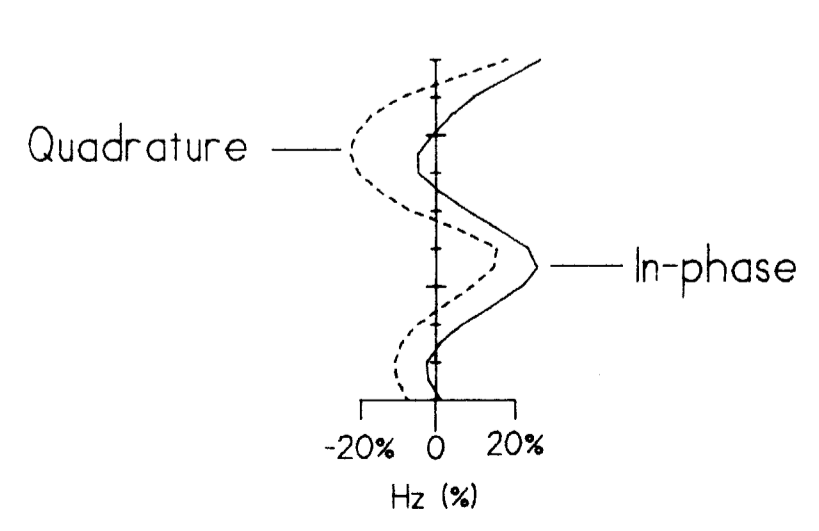
DWG ①
Fig 4



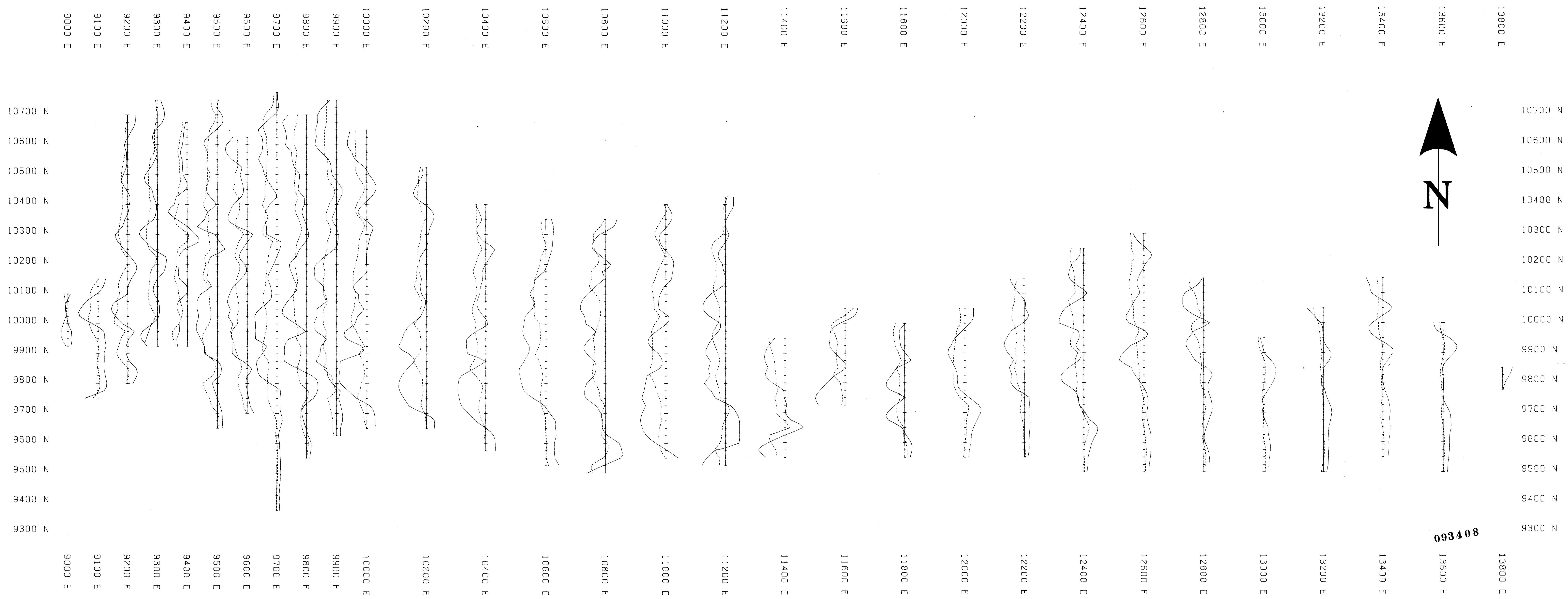
093408



DWG @
Fig. 5



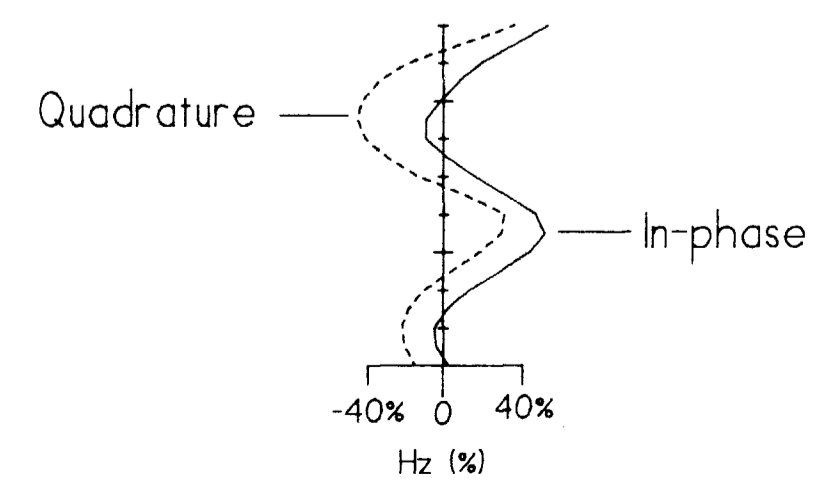
HEMLO GOLD MINES INC.	WAYNE PROPERTY
MAXMIN I-10 SURVEY	MINING DISTRICT: MAYO, Y.T.
440 Hz - STACKED PROFILES	NTS: 105 M 3 SCALE: 1:5,000
AMEROK GEOSCIENCES LTD.	OPERATOR: M.P. / P.C.
	DATE: 15OCT95
	FIGURE:



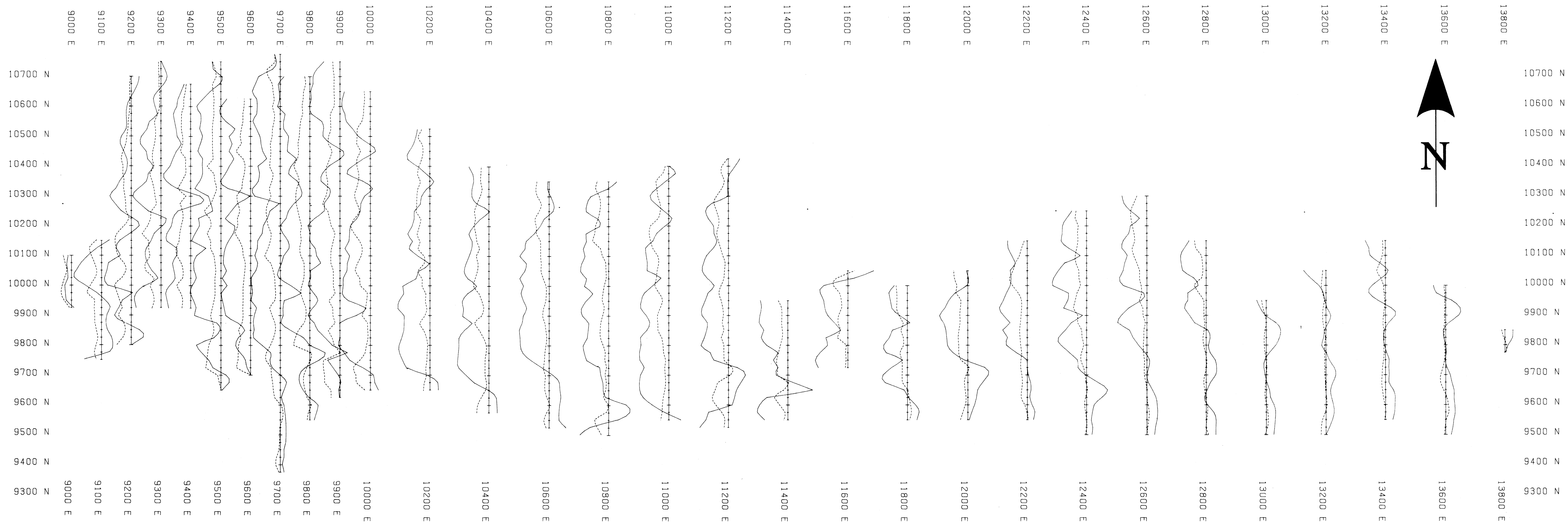
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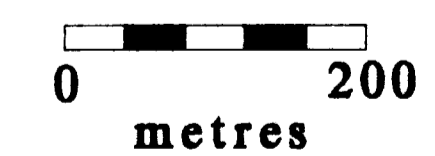
DWG ③
Fig. 6



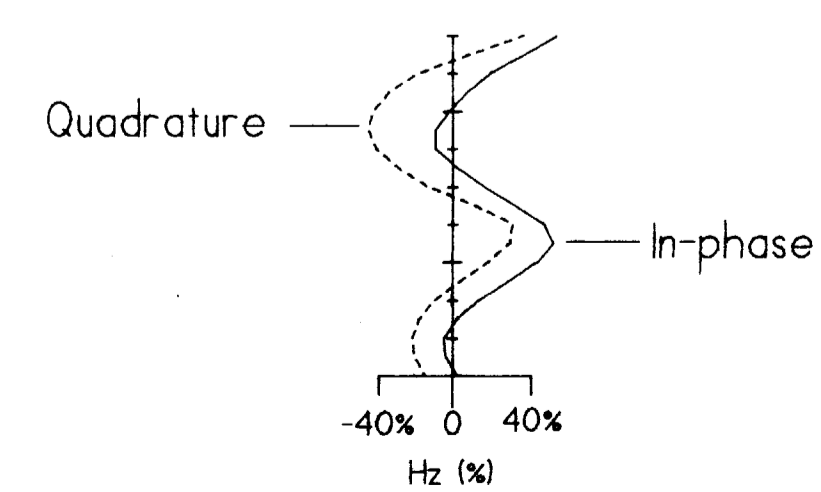
HEMLO GOLD MINES INC.		WAYNE PROPERTY	
MAXMIN I-IO SURVEY		MINING DISTRICT: MAYO, Y.T.	
1760 Hz - STACKED PROFILES		NTS: 105 M 1:3 SCALE: 1:5,000	
AMEROK GEOSCIENCES LTD.		OPERATOR: M.P. / P.C.	
DATE: 15OCT95		FIGURE:	



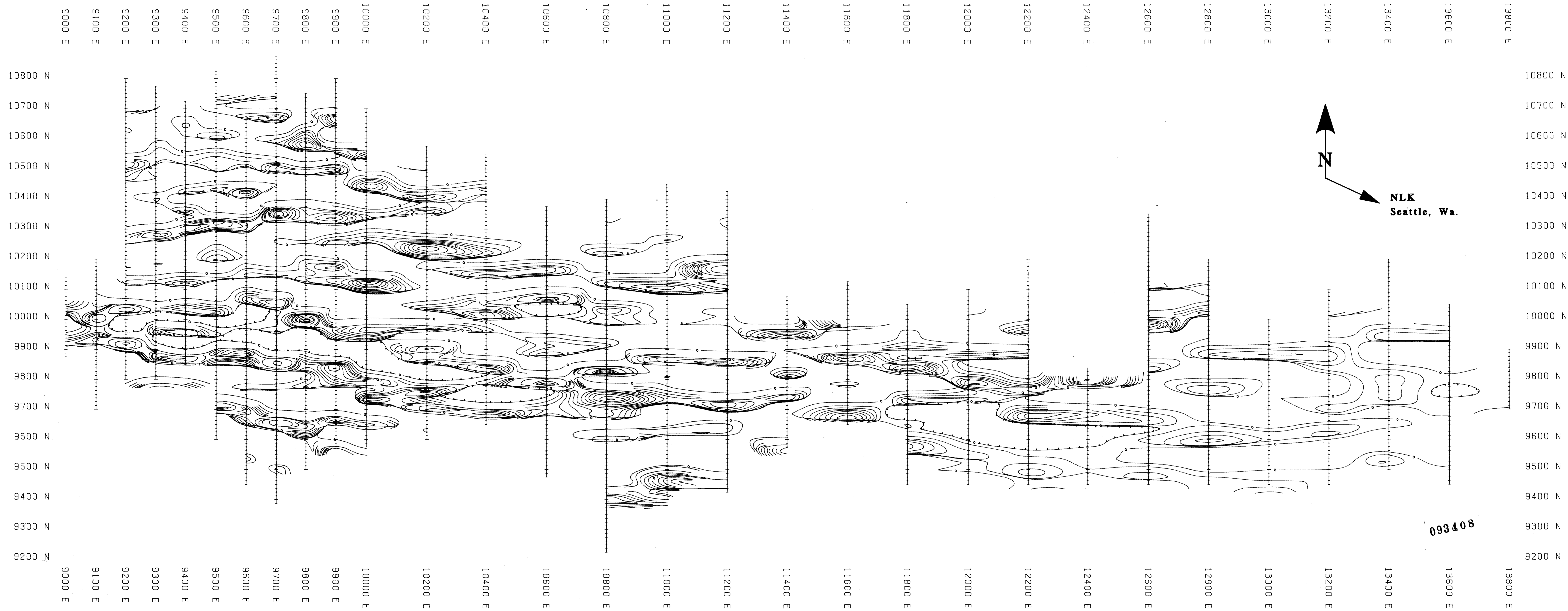
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Dox 4
Fig. 1



HEMLO GOLD MINES INC.		WAYNE PROPERTY	
MAXMIN I-10 SURVEY		MINING DISTRICT: MAYO, Y.T.	
7040 Hz - STACKED PROFILES		NTS: 105 M 1:3	SCALE: 1:5,000
AMEROK GEOSCIENCES LTD.		OPERATOR: M.P. / P.C.	
DATE: 15OCT95		FIGURE:	



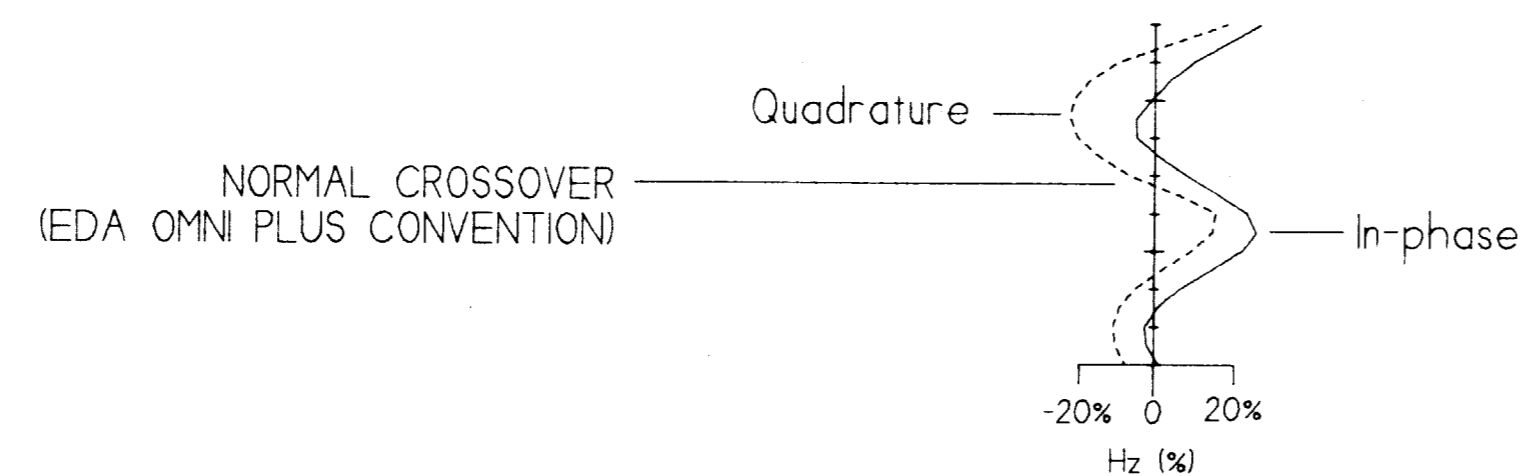
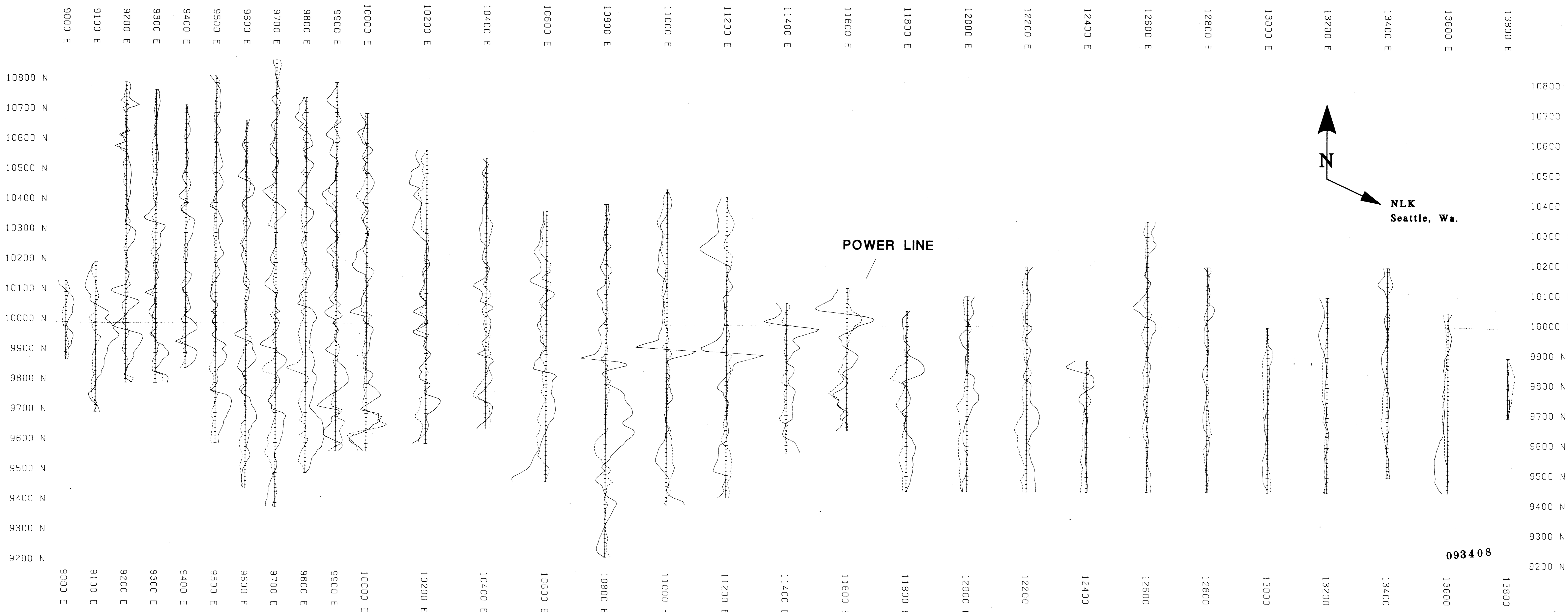
093408

DWG 5
R. G.



CONTOUR INTERVAL: 2% Hz

HEMLO GOLD MINES INC.		WAYNE PROPERTY	
VLF-EM SURVEY		MINING DISTRICT: MAYO, Y.T.	
FRASER FILTER MAP - SEATTLE		NTS: 105 M 13 SCALE: 1:5,000	
AMEROK GEOSCIENCES LTD.		OPERATOR: M.P. / P.C.	
DATE: 15OCT95		FIGURE:	



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Dwg 6
Pg. 9

HEMLO GOLD MINES INC.	WAYNE PROPERTY
VLF-EM SURVEY	MINING DISTRICT: MAYO, Y.T.
STACKED PROFILES - SEATTLE	NTS: 105 M SCALE: 1:5,000
AMEROK GEOSCIENCES LTD.	OPERATOR: M.P. / P.C.
	DATE: 15OCT95
	FIGURE: