

REPORT ON THE  
GEOCHEMICAL EXPLORATION  
of  
DELL MINERAL CLAIM GROUP  
Beaverdell, B.C.  
NTS 82 E-6

for  
MAHOGANY MINING COMPANY LTD.

by  
E.D. Cruz, P. Eng.

September 1980

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## INTRODUCTION

During April 23 to April 30, 1980, the writer with a crew of three men conducted a geochemical exploration programme on the Dell Mineral Claim Group for Mahogany Mining Company Ltd. The main purpose of the programme was to determine the continuity of the mineralized quartz-sulphide veins previously exposed by trenching and adits towards areas marked by overburden. The programme was conducted also to locate other possible mineralized vein structures. Sampling of the exposed veins and mineralized fractured zones as well as the mineralized rocks from old surface and underground workings were likewise undertaken to verify their economic mineral content.

This report was written in compliance with the B.C. Department of Mines and Petroleum Resources requirement for assesement purposes.

### LOCATION AND ACCESS

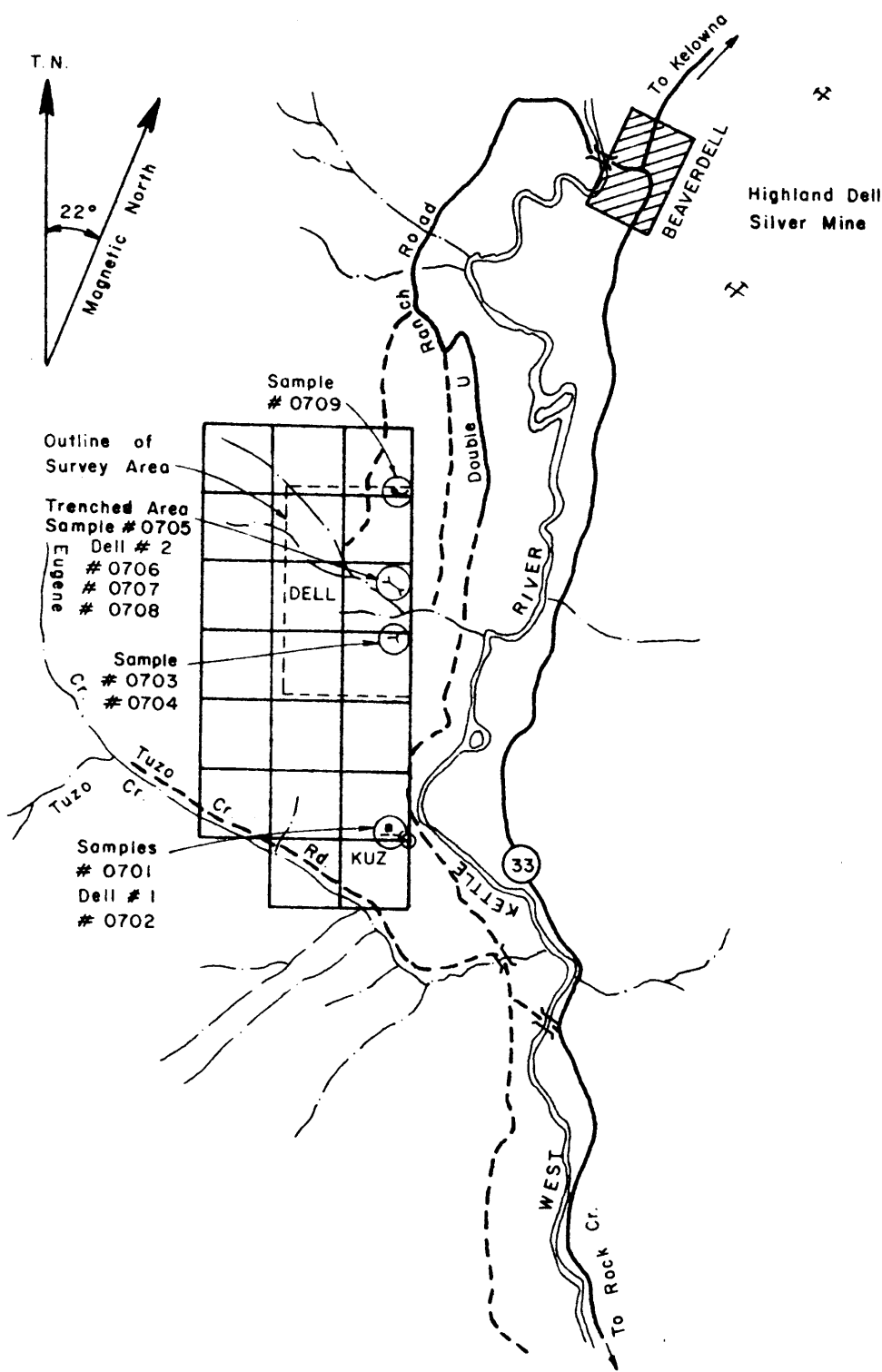
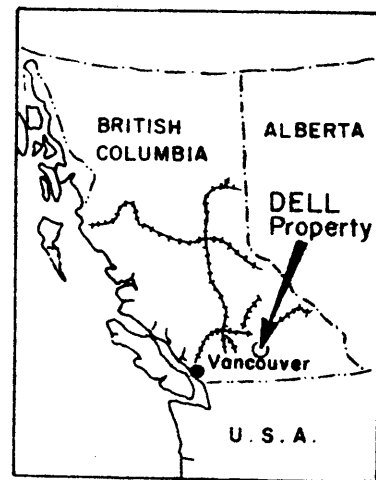
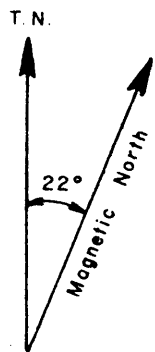
The property, consisting of two contiguous claims of twenty (20) full sized units, is situated near the confluence of Tuzo Creek and West Kettle River about six kilometers southwest of Beaverdell. The latter a small mining community on Highway 33 between Kelowna and Rock Creek, is where Teck Corporation's Beaverdell Silver Mines is located.

The northern part of the property can be reached from Beaverdell via the Double W Ranch road. Access to the southern portion is through the Tuzo Creek road which turns-off west from Highway 33 at a point about six kilometers south of Beaverdell thence by following the old Lorian Mine road turn off just after the Tuzo Creek bridge.

### PHYSIOGRAPHY

The Dell and Kuz Mineral Claims lie on the eastern slopes of the south end of the N-S trending Cranberry Ridge bounded to the east by the West Kettle River and to the south and west by the Tuzo and Eugene Creek valleys. Relief ranges from 750 meters on the valley floor rising steeply to the west to about 1200 meters above sea level.

Water for future exploration and development could be tapped from the Kettle River or from Tuzo Creek.



MAHOGANY MINING COMPANY LTD.  
Vancouver, B.C. Canada

DELL CLAIM GROUP  
GREENWOOD M.D. — BEAVERDELL, B.C.

MINERAL CLAIM MAP

SCALE 1:50 000

FIG. No.

PROPERTY

The mineral property consists of two contiguous claims namely: Dell of 18 units and Kuz of 2 units. The boundaries of the claims are shown in Figure 1, Location and Claim Map. Details are as follows:

<u>Name of Claim</u>	<u>Record Number</u>	<u>Date Recorded</u>
Dell	1864	Nov. 6, 1979
Kuz	2155	Apr. 30, 1980

PROPERTY GEOLOGY AND MINERALIZATION

The Dell claims, where this survey work was conducted, is underlain for the most part by granodiorite of the Nelson Plutonics with contained pendants or inclusions of andesitic volcanics belonging to the Anarchist group. Outcrops of pinkish colored porphyritic rock of monzonitic composition mapped by the Geological Survey of Canada as eocene intrusives occur in the southcentral part of the claim.

Mineralization in the property are observed in the old workings, i.e. trenches, adits, shafts. Location of the above mentioned workings are shown in Figure 1.

The type of mineralization in the property appear to be similar to that of the nearby Beaverdell Silver Mine. It occurs as quartz sulfide veins in granodiorite host rock exhibiting

propylitic alteration of the wall rocks. Mineralogy of the vein consists of sphalerite-galena-pyrite and minor chalcopyrite with associated silver values up to 4.5 oz/ton but with low gold content. This is evident from the vein on the southernmost working (shaft). About 1800 meters to the north, mineralized quartz veins and mineralized fracture zones in granodiorite with volcanic inclusions were exposed by trenches. Visual examination of the fracture zone showed malachite staining over a width of 1.2 meters. Analyses of the sample taken across the whole width (Sample No. 0705) showed 0.58% copper, 0.09 oz/ton silver, and 0.003 oz/ton gold. Previous sampling by Rio Tinto personnel reported a 30 cm quartz vein assaying 5.25-5.83 oz/ton gold, 27.9-29.1 oz/ton Ag and 0.02-1.57% copper. Said quartz vein was not seen during this survey due to sloughing of the trenches however, hand picked sample of some vein material containing chalcopyrite and pyrite taken from the dump (Sample No. Dell No.2) assayed 0.842 oz/ton gold, 4.08 oz/ton silver, 0.29% copper. About 650 meters north of the trenches, a north-south trending quartz vein was exposed at the portal of a flooded shaft but was inaccessible for sampling. The vein, about 30 cm wide, dips about 40° to the west. A grab sample of the vein material from the dump (Sample No. 0709) assayed 0.022% copper, 0.50 oz/ton silver and 0.153 oz/ton gold.

Judging from the surface showings, it is evident that the vertical extent of surface oxidation of mineralized structures

reaches depth of as much as 6 meters to 10 meters.

SURVEY SPECIFICATIONS:

a) Survey Grid:

The survey grid consisted of an E-W central base line from which N-S crosslines were established at 100 meters apart. Stations are marked at 25-meter intervals along the crosslines. The extent of the surveyed grid is 900 meters by 1600 meters.

b) Geochemistry:

A total of 314 soil samples were collected at intervals of 50 meters over the entire grid. Soil samples from the B-horizon, whenever present, were obtained by mattock and placed in soil bags. Samples were delivered to Min-En Laboratory in N. Vancouver where they are sieved to minus 80 mesh, digested by nitric perchloric acid and analysed for copper, silver, lead and zinc by atomic absorption.

DISCUSSION OF RESULTS:

The geochemical data are presented on the accompanying maps.

The geochemical values of copper, silver, lead and zinc are contoured to show significant geochemical trends.

Two significant areas with roughly coincident zinc-lead-copper-silver anomalies and several point anomalies were delimited. These anomalous zones are located between lines 0+00 and 4+00W on the north and south of the base line.



The South anomaly was best outlined by silver, lead and zinc values of 1.5 ppm, 20 ppm and 100 ppm respectively with correspondingly diffused copper anomalous trend outlined by the 20-30 ppm. contour.

The north anomaly, best delineated by zinc values of 100 ppm. coincides with relatively weak silver, lead, and copper values outlined by 1.00 to 1.5, 20 to 25, and 20 to 30 ppm. respectively.

Between the North and South anomalies, a strong copper anomaly outlined by 40 ppm contour with corresponding high silver-zinc and low lead values was indicated. This area is in the vicinity of a copper showing uncovered by previous trenching.

The trend of the anomalous zones appear to be NE to E-W which is in line with the general strike of the vein systems in the area.

#### CONCLUSIONS:

On the basis of the result of this program, the following conclusions were arrived at:

- 1) The mineralization in the property occur as quartz sulfide veins in granodiorite host rock. The mineralogy of the veins consist of sphalerite-galena-chalcopyrite and pyrite with up to 4.5 oz/ton in silver and low gold content as evidenced by the result of the samples of vein material taken from an old shaft located near the southeastern corner of the Dell claim. In the trenches located about 1800

meters to the north of the above mentioned shaft the mineralized quartz vein contain predominantly chalcopyrite with relatively minors lead and zinc with higher gold content (.04 oz/ton to 5 oz/ton).

2) Two Vein System are present in the area. One striking generally E-W and the other almost N-S with dips ranging from 40 to almost vertical.

3) The veins are oxidize from the surface down to about ten meters in places below which fresh galena-sphalerite-chalcopyrite occur. Thickness is very variable from about 1" to 12" or more.

4) The geochemical survey delineated several coincident silver-lead-zinc-copper anomalies indicative of potentially mineralized zones.

#### RECOMMENDATIONS:

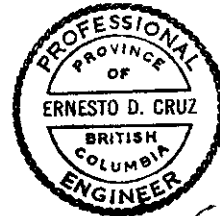
In order to verify the extent of the known mineralization both along strike and dip and also to ascertain the potentially mineralized zones delimited by geochemistry the following work programs are recommended:

- 1) Detailed Geological mapping of the surveyed area as well as extending the geochemical explorations towards the southern limit of the property.
- 2) Trenching of anomalous zones.
- 3) Diamond drilling.

PROGRAM COST:

Wages:

R. Kregoski	5 days @ \$75.00/day	375.00
R. Papa	7 days @ 60.00/day	420.00
M. Boe	3 days @ 75.00/day	225.00
E.D. Cruz	7 days @ 200.00/day	1,400.00
Subsistence & Lodging		376.00
Supplies		15.00
Transportation		206.15
Sample Analysis (Soil Geochem & Rock Assay)		1,668.90
Report Preparation (includes drafting etc)		<u>1,500.00</u>
		6,185.90

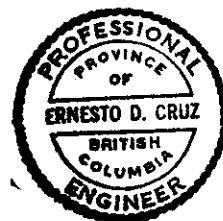


*E. D. Cruz*

CERTIFICATE

I, Ernesto D. Cruz, DO HEREBY CERTIFY AS FOLLOWS:

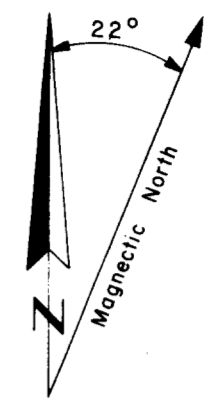
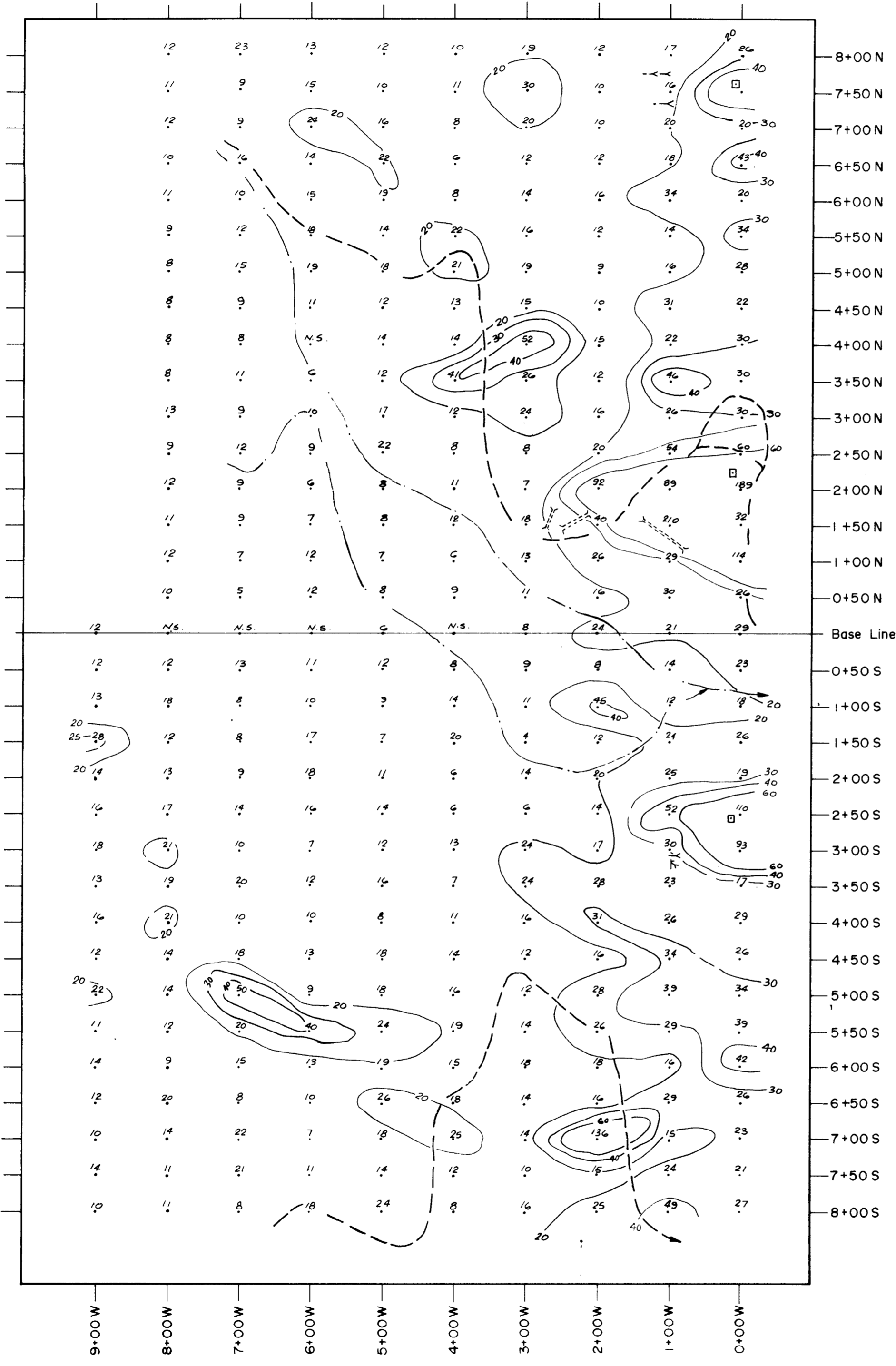
1. That I am a consulting mining engineer-geologist and reside at 7734 Garrett Drive, Delta, B.C.
2. That I am a graduate mining engineer of Mapua Institute of Technology, Philippines (BSEM), Missouri School of Mines and University of Washington (MSEM).
3. That I have been engaged in mineral exploration for the past nineteen years (6 years in the Philippines, 13 years in North America).
4. That I am registered with the Association of Professional Engineers of British Columbia.
5. That this report is based on the fieldwork conducted and supervised by the undersigned.








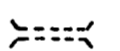

Vancouver, B.C.

September 1980

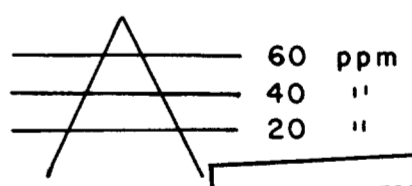
*E. D. Cruz*  
E.D. CRUZ, P. Eng.  
Consulting Engineer



**LEGEND**

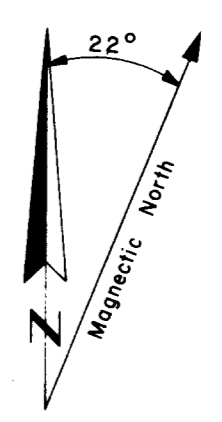
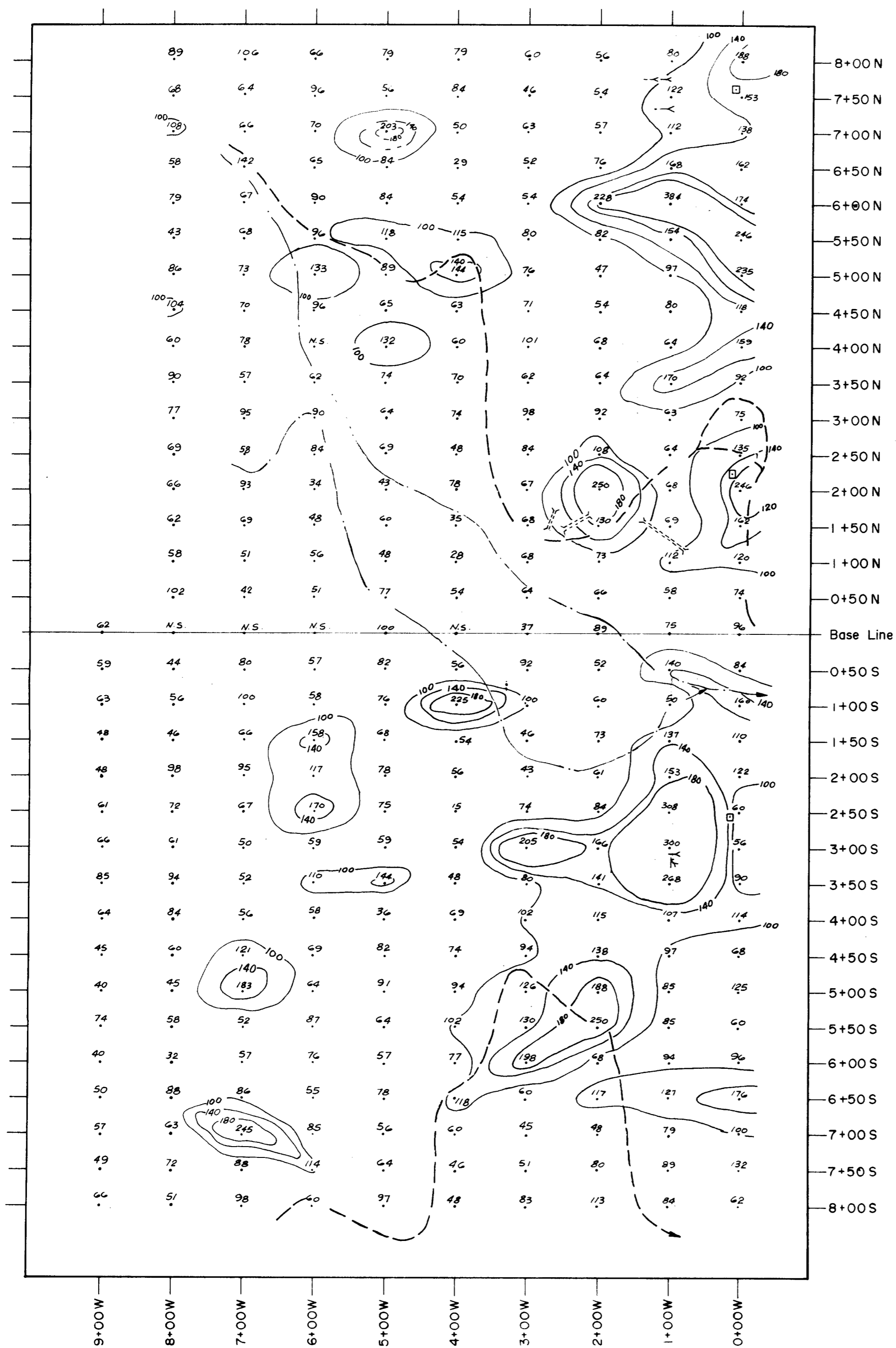
-  Contour Line :
-  Station
-  Claim Post
-  Access Road
-  Creek
-  Trench
-  Adit

**COPPER KEY**



MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**8504**  
NO. \_\_\_\_\_

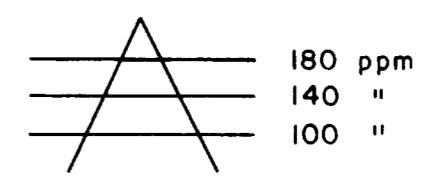
<b>MAHOGANY MINING COMPANY LTD.</b>	
VANCOUVER, B. C. CANADA	
<b>DELL CLAIM GROUP</b>	
GREENWOOD M. D. - BEAVERDELL, B. C.	
<b>GEOCHEMICAL MAP - COPPER</b>	
To Accompany Report of E. D. Cruz, P. Eng.	Interpreted: E. D. Cruz
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Scale: 1 : 5000	FIG. No.: 2



**LEGEND**

- Contour Line
- Station
- Claim Post
- Access Road
- Creek
- Trench
- Adit

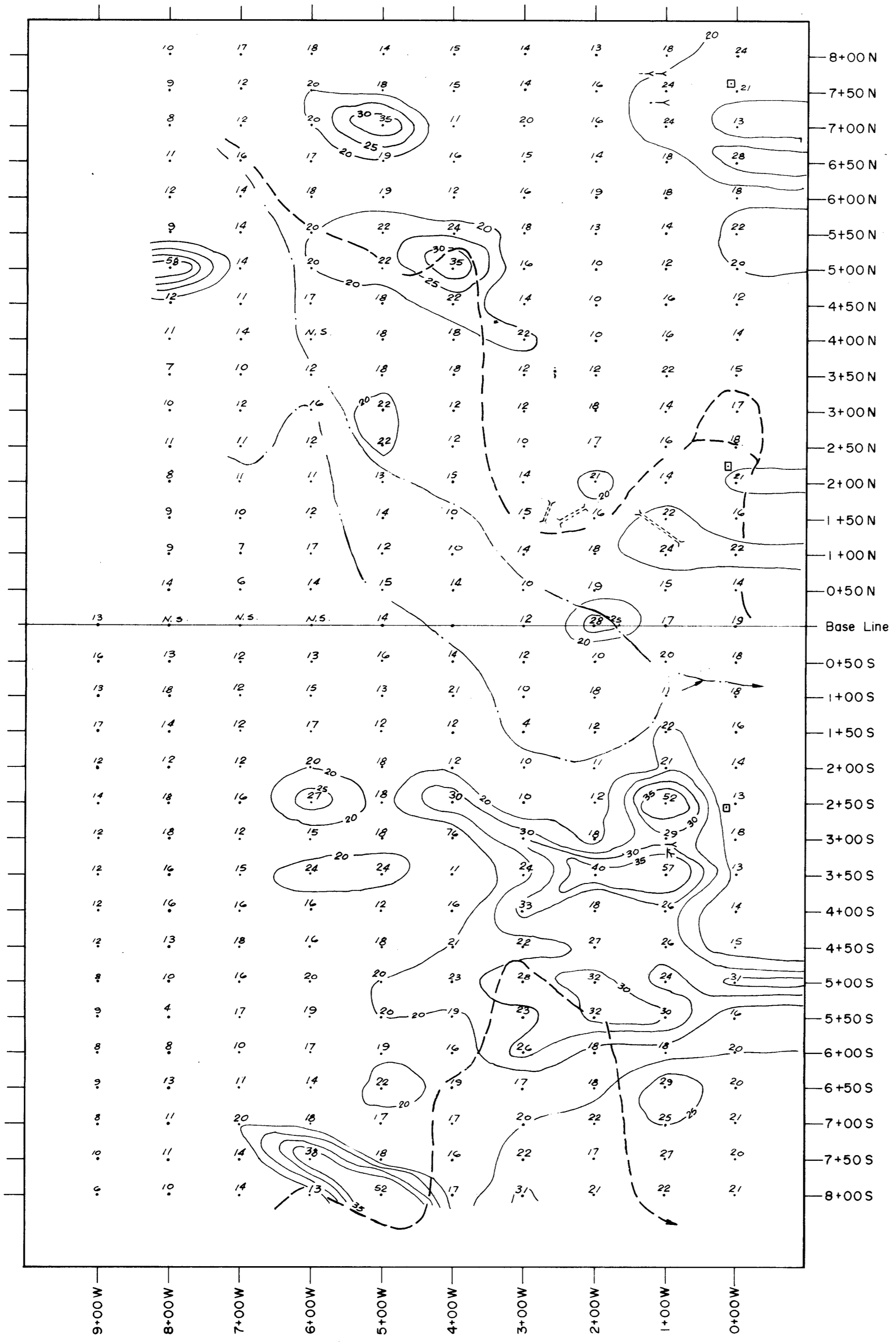
**ZINC KEY**



MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT

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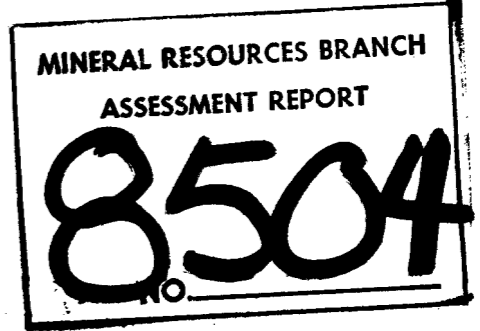
<b>MAHOGANY MINING COMPANY LTD.</b> VANCOUVER, B. C. CANADA	
DELL CLAIM GROUP GREENWOOD M. D. — BEAVERDELL, B. C.	
GEOCHEMICAL MAP — ZINC	
To Accompany Report Of E. D. Cruz, P. Eng.	Interpreted: E. D. Cruz Drawn : Date :
Scale : 1 : 5000	FIG. No.: 3



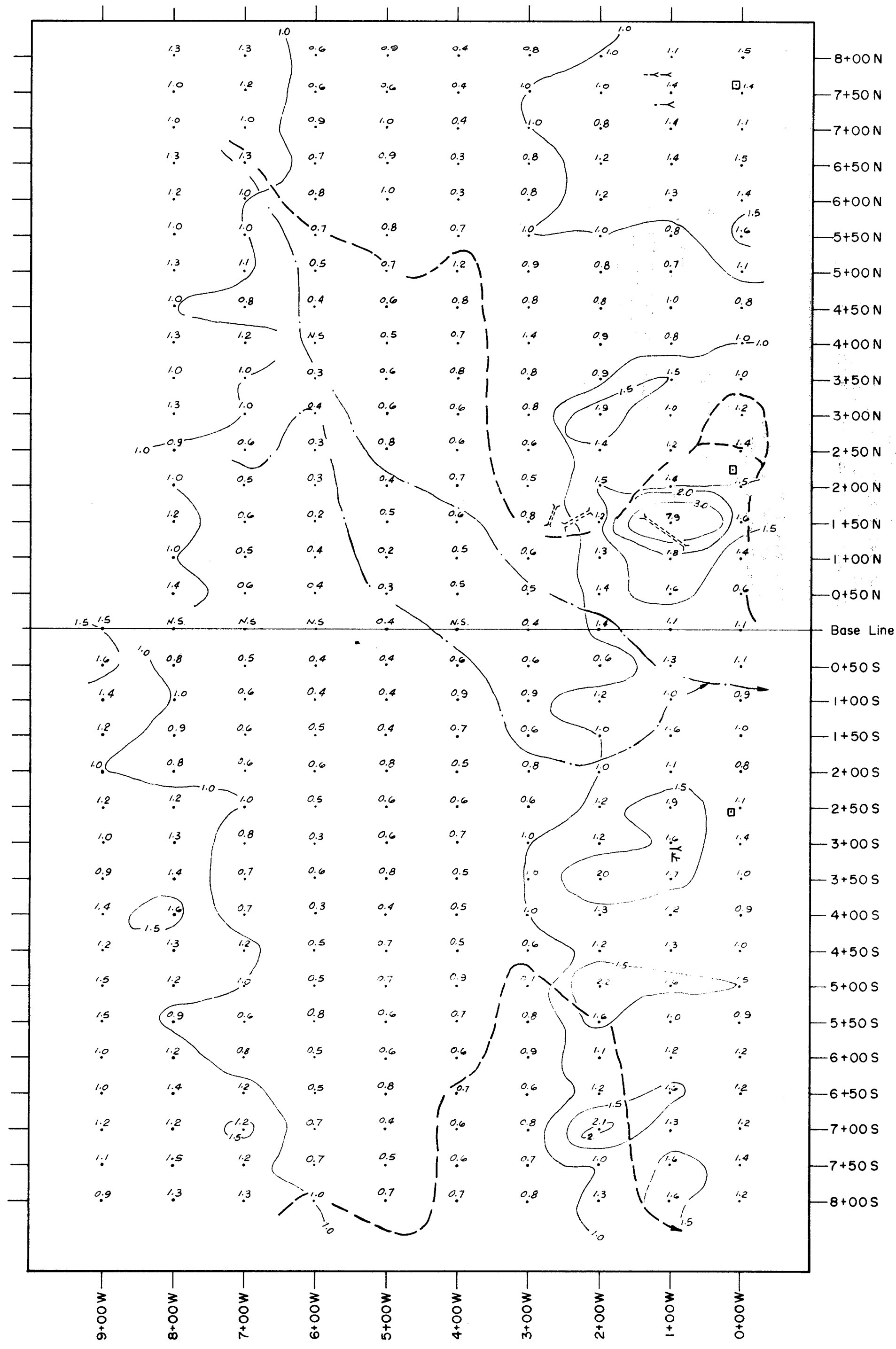
- LEGEND**
- Contour Line
  - Station
  - Claim Post
  - Access Road
  - Creek
  - Trench
  - Adit

**LEAD KEY**






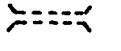

	35 ppm
	30 "
	25 "
	20 "



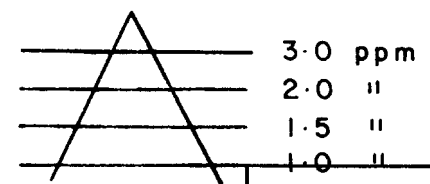
<b>MAHOGANY MINING COMPANY LTD.</b>	
VANCOUVER, B.C. CANADA	
DELL CLAIM GROUP GREENWOOD M.D. — BEAVERDELL, B.C.	
<b>GEOCHEMICAL MAP — LEAD</b>	
To Accompany Report Of E. D. Cruz, P. Eng.	Interpreted: E. D. Cruz
	Drawn: _____
	Date: _____
Scale: 1 : 5000	FIG. No.: 4



**LEGEND**

-  Contour Line :
-  Station
-  Claim Post
-  Access Road
-  Creek
-  Trench
-  Adit

**SILVER KEY**



MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**8504**  
NO.

<b>MAHOGANY MINING COMPANY LTD.</b>	
VANCOUVER, B. C.	CANADA
<b>DELL CLAIM GROUP</b>	
GREENWOOD M. D. — BEAVERDELL, B. C.	
<b>GEOCHEMICAL MAP — SILVER</b>	
To Accompany Report Of E. D. Cruz, P. Eng.	Interpreted: E. D. Cruz
	Drawn:
	Date:
Scale: 1 : 5000	FIG. No.: 5