A REPORT

ON THE

GEOCHEMICAL

SOIL SAMPLING PROGRAMME

ON THE

VERNA AND NUGGET CLAIMS

YEOWARD MOUNTAIN AREA
VERNON MINING DIVISION
PROVINCE OF BRITISH COLUMBIA

for:

MURRAY RANKING DEVELOPMENTS LTD.

by:

C. T. Pesleka, P.Eng.
October 15, 1978

Co-ordinates 50^0 118^0 SE. Map 82L/1W

SUMMARY

A pilot geochemical survey was carried out over some 7.7 km of line grid on the Verna and Nugget claims, Yeoward Mountain area, Vernon Mining Division, Province of British Columbia. The area of the property is underlain by limey argillites and assorted volcanics of Carboniferous age. These rocks are in turn underlain by the metasedimentary members of the Shuswap Metamorphic Complex and in turn have been intruded by a stock or boss of Coast intrusive. Presence of the Coast intrusive is only postulated by the presence of extensive silicification of the argillites present. Mineralization in the form of disseminated to massive knots of arsenopyrite, pyrite, galena and sphalerite have frequently been observed in the quartz veins occuring at several locations within the limits of the property. The geochemical soil sampling survey indicated eight well-developed linears as indicated by the silver profiles and corroborated by values in lead and cobalt. In the NW sector of the grid, one of these linears is corroborated by mineralization observed in the field. In view of the favourable geochemical results derived from a favourable geological environment it is recommended that an exploration programme be instigated and to consist of electromagnetic surveys, bulldozer trenching, and geological mapping and sampling of the trenched areas. Such a programme would entail the initial expenditure of some $25,440.00. Contingent upon the results of this phase of the programme, exploration activity could be continued to include sub-surface sampling by means of diamond drilling.

PROPERTY

The property under discussion consists of the Verna and the Nugget claims comprising 30 contiguous units in all. Verna, #376, (20 units), Nugget, #369, (10 units). The above claims are located in the Yeoward Mountain area, Vernon Mining Division, Province of British Columbia.

LOCATION AND ACCESS

The Verna and Nugget claims are located some 38 miles ESE of the city of Vernon, (63.3 km) on the SW flank of Yeoward Mountain, Vernon Mining Division, Province of British Columbia. Vehicular access to the property is available by means of Highway #6, proceeding in a generally easterly direction from Vernon, B.C. and thence proceeding for 6 miles, (10 km) up the Keefer Lake road, and thence northerly for a distance of 4 miles via a forestry access road to the center of the property itself. The latter road is badly washed out in many places and requires a high clearance 4-wheel drive vehicle for its negotiation.

TOPOGRAPHY AND VEGETATION

The surface presented by the property is that of an inclined plane rising in an easterly direction with approximately a 25% grade. Immediately to the NE of the property lies Yeoward Mountain with a maximum elevation of 6900' ASL. The headwaters of Yeoward Creek to the west and south have an elevation of some 6000' ASL. The surface is frequently cut by sharply incised valleys running normal to the Yeoward Creek drainage system. The higher regions to the west are covered with spruce. To the west the area is generally timber covered with spruce, fir and cedar, improving in quality at the lower elevations. The upper areas are generally boggy and provide a continuous source of water from several freshets for exploration and mining purposes. Abundant timber for mining purposes is available from the lower elevations of the property.

GEOLOGY AND MINERALIZATION

The Verna and Nugget claims overlay in the main, an extensive series of dark argillitic rocks of Carboniferous age. These in turn are underlain by members of the Shuswap Metamorphic Complex of Cambrian age and consist of metasediments, volcanics, and minor acidic intrusive members.

The argillitic rocks are frequently trans-sected by numerous quartz veins of various sizes and attitudes. This dynamic silicification is thought to reflect the nearby presence of a stock or boss of Coast Intrusive of Jurassic age.

The quartz veins mentioned above may vary from minor irregular veinlets varying from 1m in thickness up to 1½ meters. Near the north west margin of the survey grid an area of intense silicification is available for observation, with the 1½ meter thick quartz vein carrying pyrite, arsenopyrite, and what appears to be the relics of pyrite and galena. Random samples taken from this area yielded the following analyses:

1. Gold, .006 ounces per ton; silver, 3.78 ounces per ton; lead, 3.35%.
2. Gold, - trace, silver, - trace, lead, - .05%

Overburden cover in the area is essentially complete and all but precludes the presence of bed-rock surface for geological observation. The depth of overburden is generally limited to very few feet, so that buildozer stripping offers another reasonable exploration method.

HISTORY

The early exploration history of the property is not known, however the presence of three minor pits and trenches indicate past prospecting activity. In 1974, some broad interval geochemical soil sampling was conducted, however this work was of a reconnaisance nature.

Immediately to the south-west of the property, El Paso Exploration Ltd. conducted an exploration programme using geochemistry and geophysics, however the results of this activity are not available.

EXPLORATION PROGRAMME

1978

During the last week in August, 1987, a pilot geochemical soil sampling programme was carried out over a small grid straddeling the boundary between the Verna and the Nugget claims. A baseline was laid out striking 330^0 true with grid lines at intervals of 120 meters and samples extracted at 30 meter intervals along the grid lines.

An attempt was made to sample the top of the B horizon, i.e. the soil layer immediately below the extensive humus cover, proceeding downward from surface. It was found that the humus layer frequently extended to bedrock surface so that mature soil could only be found between course bedrock fragments. Samples were extracted from a depth of 30-50 centimeters and an attempt made to exclude as much humus material as possible.

Individual soil specimens were placed in high strength kraft envelopes and fully catalogued. The samples were then shipped to Kamloops Research and Assay Laboratories, where they were air-dried and screened to -80 mesh. The samples were then weighed and subjected to hot acid extraction and analysed for silver, lead, and cobalt content by means of the atomic absorption method.

DISCUSSION OF RESULTS

In the normal course of events metallic ions derived from solution of sub-surface mineralized zones may migrate to surface or near surface through the overburden by means of capilliary action. Conversely, anomolous concentrations of metallic ions at or near surface in the overburden would indicate the nearby presence of mineralization in the form of an oxide or sulphide, of that particular mineral. The above considerations may be modified by the following variables:

1. Ph of the overburden cover.
2. Depth of the overburden cover.
3. Extreme topography.
4. Excessive rainfall.
5. Character of the overburden cover itself, in particular, particle size.

The above variables are not thought to have played a major part in yielding extraeneous results, however the washing effect of heavy rains would have the effect of lowering the concentration of mettallic ions in the overburden cover. Similarlly, the effects of topography, depth of overburden, and soil character are reasonably consistant so as not offering extraeneous effects.

The mineralization observed on the property consists of disseminated to massive pyrite, arsenopyrite, and galena occuring in quartz veins of various orientation. The observed mineralization was usually highly oxidized so that frequently the mineralization may only be postulated by observing the gossen and relic crystalline structures. The derived samples were analysed by the Atomic absorption method for silver, lead, and cobalt. It was thought that this suite of metals would indicate the presence of mineralization similar to that observed on the property.

The arithmetical averages of the metallic content of the overburden cover are as follows:

Silver, 1.6 ppm; lead, 21ppm; cobalt, 16ppm.

The nature of the overburden cover as discussed would suggest that values above these averages in the particular minerals are anomalous, and valuesapproaching and exceeding twice these averages would be particularly significant.

The silver values are considered to be of greater validity than the lead and cobalt in that they frequently approach four to five times the background values. Several strongly linear trends were indicated, and are designated A to H on the silver geochem profiles. These lineations strike either northeasterly or northerly and probably reflect the underlaying silicified structures. Wherever these silicified structures are observed on surface they invariably carry from trace to obviously visible amounts of galena and arsenopyrite. Further investigation of these linears is warranted and should take the form of a low frequency vertical loop electromagnetic survey in an attempt to detect conductive axis caused by massive sulphide mineralization below the zone of oxidation. In due course this would be followed by bulldozer stripping in view of the consistant limited depth of the overburden cover.

The lead and cobalt profiles almost invariably substantiate the silver profiles though usually in a more subdued manner. These profiles are to be treated simply as corroboration of the silver values experienced and no exotic mathmatical treatment is offered.

CONCLUSIONS AND RECOMMENDATIONS

The pilot geochemical survey carried out with analyses for silver, lead and cobalt must be deemed a success in that eight well-developed linears were detected. Values in silver approach four to five times background and are in major part corroborated by syncronous values in lead and cobalt, nowever the lead and cobalt profiles are somewhat subdued. The linear designated Aon the silver profile plan is coincident with a mineralized quartz vein occuring in the upper NW quadrant of the grid. A random sample of silicious material yielded values of gold, .006 ounces per ton, silver, 3.7b ounces per ton; and lead, 3.35%, thus offering excellent correlation between anomalous values in overburden and mineralization extending from bedrock surface. It would be in order then, to pursue this correlation and to determine the causitive factors of all of the indicated geochemical linears experienced on the property. In view of the favourable geological environment coupled with the several indicated geochemical linears, it is recommended that an agressive exploration programme be instigated and continued. This programme should include geophysical surveying in the form of low frequency vertical loop electromagnetics in an attempt to delineate possible zones of massive sulphide mineralization below the zone of oxidation to be followed by a programme of geological and chemical sampling at and immediately below bedrock surface by means of bulldozer trenching.

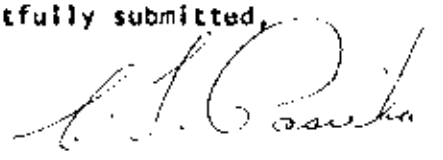
Estimated costs for carrying out the above recommended programme are as follows:

PHASE ONE

1.	10 km EM survey @ $150/per km.....	$ 1,500.00
2.	Bulldozer trenching & road building.....	
	100 hrs. D7 with rippers @ $75/per hr.	7,500.00
3.	Geological mapping of trenches.....	3,500.00
4.	Sampling & assaying.....	1,200.00
5.	Consulting & supervision.....	4,500.00
6.	Travel & accomodation	3,000.00
7.	Contingency @ 20%.....	4,240.00
	TOTAL PHASE ONE	$25,440.00

Contingent upon the results of Phase One of the programme, exploration activity could be continued to include the sub-surface sampling by means of diamond drilling of anomolous conditions experienced during Phase One of the programme.

Respectfully submitted,



C. T. Pasieka, P.Eng.

CERTIFICATION

I, Clemens Terence Pasieka, of the city of Kamloops, Province of British Columbia, hereby certify that:

1. I am a geologist and reside at 130 St. Paul Street, Kamloops, B. C.

2. That I am a graduate of University College, Dublin, B.Sc. 1963.

3. That I have been practicing my profession as a geologist for fifteen years.

4. That I am a member of the Associations of Professional Engineers of Alberta, Saskatchewan, and British Columbia.

5. That I have no interest nor do I expect to receive any such interest in the property of Murray Ranking Developments Ltd., nor in the securities of Murray Ranking Developments Ltd.

6. That this report is based on data derived from work carried out on the property under my supervision, from personal experience in the area, and from government publications relevant to the area.

Dated this 15th day of October, 1978, City of Kamloops, Province of Britisn Columbia.

C. T. Pasieka, B.Sc., P.Eng.

BIBLIOGRAPHY

1. Geological Survey of Canada, Memoir #256
   Vernon Map Area A. G. Jones 1959

2. Geochemical Soil Survey Report by P. P. Nelson
   August 20, 1974 (Private Report)

I hereby certify that the following costs were incurred by, invoiced to and paid by Murray Manking Developments Ltd. in relation to exploration work carried out on the Verna (376) and Nugget (389) claims in the Yeoward Mountain Area, Vernon Mining Division, Province of B. C.

1.	Line cutting, 7.72 km @ $75	$579.00
2.	Soil sampling	360.00
3.	Analysis (atomic absorption) 240 @ $3.20	768.00
4.	Report	600.00
5.	Accomodation & supplies	378.00
6.	Transport, 5 days @ 4 wheel drive	310.00
7.	Assays	28.00
	Total	$3,023.00

Dated this 15th day of October, 1976, in the city of Kamloops, Province of British Columbia.

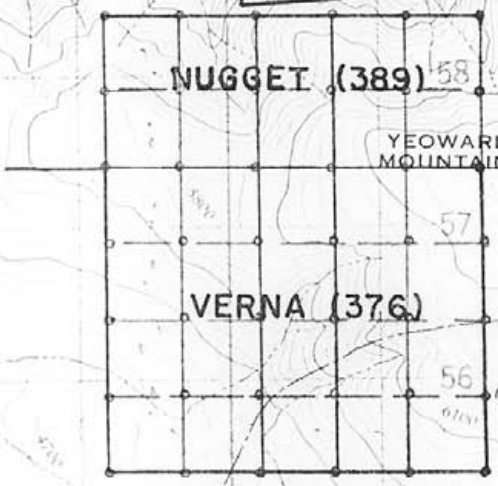
C. T. Pasieka, P.Eng.

PERSONELL

Name	Position	Rate of Pay	Effective dates
C. T. Pasieka	Consultant		Aug. 27-32 incl. Oct. 13-15 incl.
Harold Arnold	Line cutter- soil sampler	$75/day	Aug. 27-31 incl
Glen Greg	Line cutter	$60/day	Aug. 27-31 incl
James Murray	Line cutter	$60/day	Aug. 27-31 incl.

'78-#437-#7005

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7005
NO.



SPALLUMCHEEN

Bell Creek

Monashee

Yeoward Creek

L 4189
L 4188
L 4187
L 4186
Mine

MONASHEE MOUNTAIN

MONASHEE

54

River

Cabins

Ford

94 95 96 97 98 99 00 01 02 03

FOREST

L 193 L 194 L 195

Marsh Creek

Kettle

PROVINCIAL

52

LOCATION SKETCH

NUGGET & VERNA CLAIMS

YEOWARD MOUNTAIN AREA

VERNON MINING DIVISION

BRITISH COLUMBIA

SCALE 1:50 000

SHEET 82L/1

KOOTENAY DISTR

KETTLE

Mine

L 4331

BM 4161

Gravel Pit

L 4249

L 2152
L 2153
L 2154

EUREKA MTN

Fire Lookout

16W 12W 8W 4W 00 4E 8E 12E 16E 20E

20N

16N

12N

8N

4N

00

4S

8S

12S

16S

N

NUGGET

VERNA

LCP

LEAD PROFILES

NUGGET & VERNA CLAIMS

YEOWARD MOUNTAIN AREA

VERNON MINING DIVISION

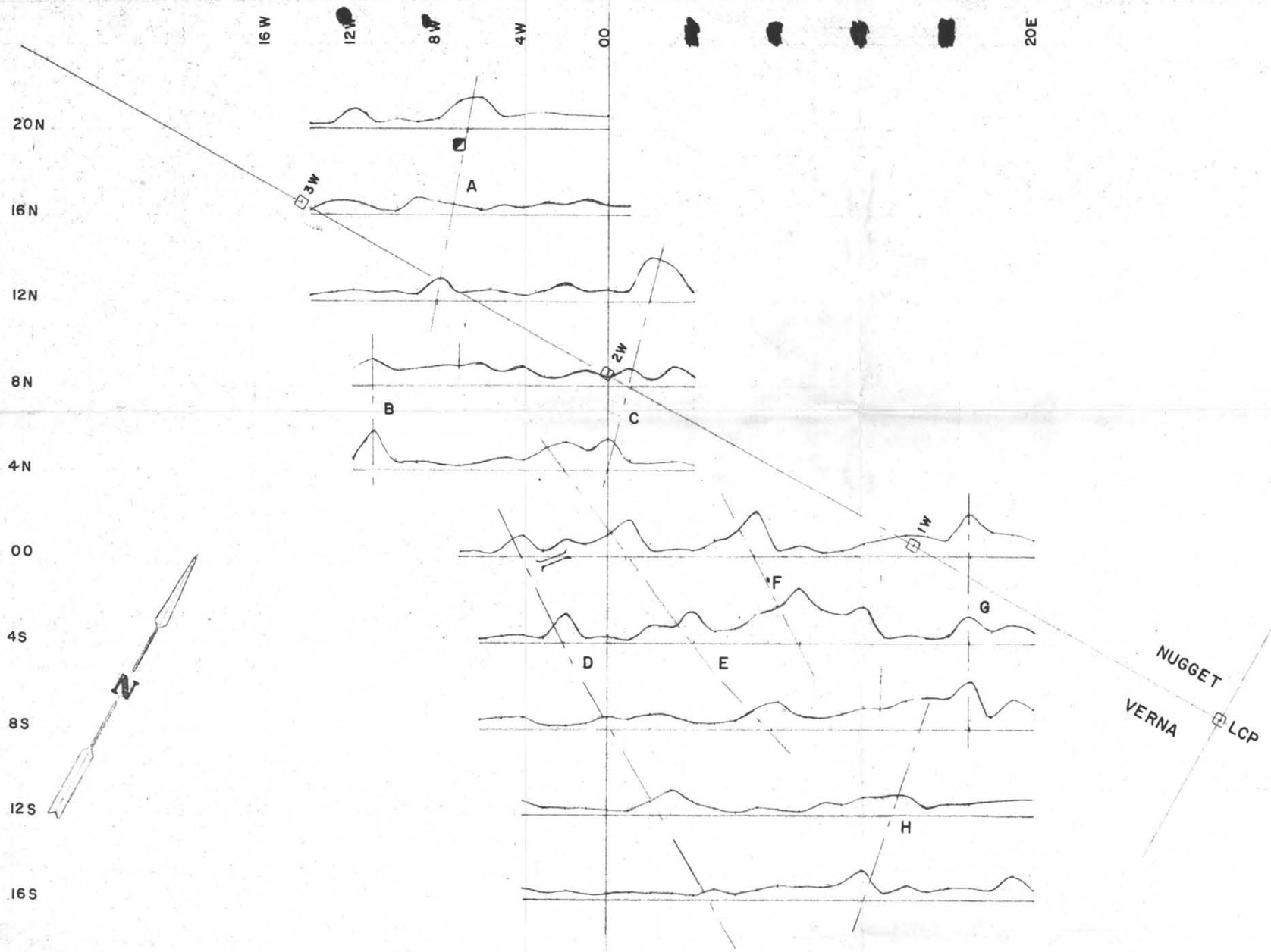
BRITISH COLUMBIA

VERTICAL SCALE 1" = 100ppm

HORIZONTAL SCALE 1" = 120m = 400'

0 400' 800'

0 100 200m



SILVER PROFILES

NUGGET & VERNA CLAIMS

YEOWARD MOUNTAIN AREA

VERNON MINING DIVISION

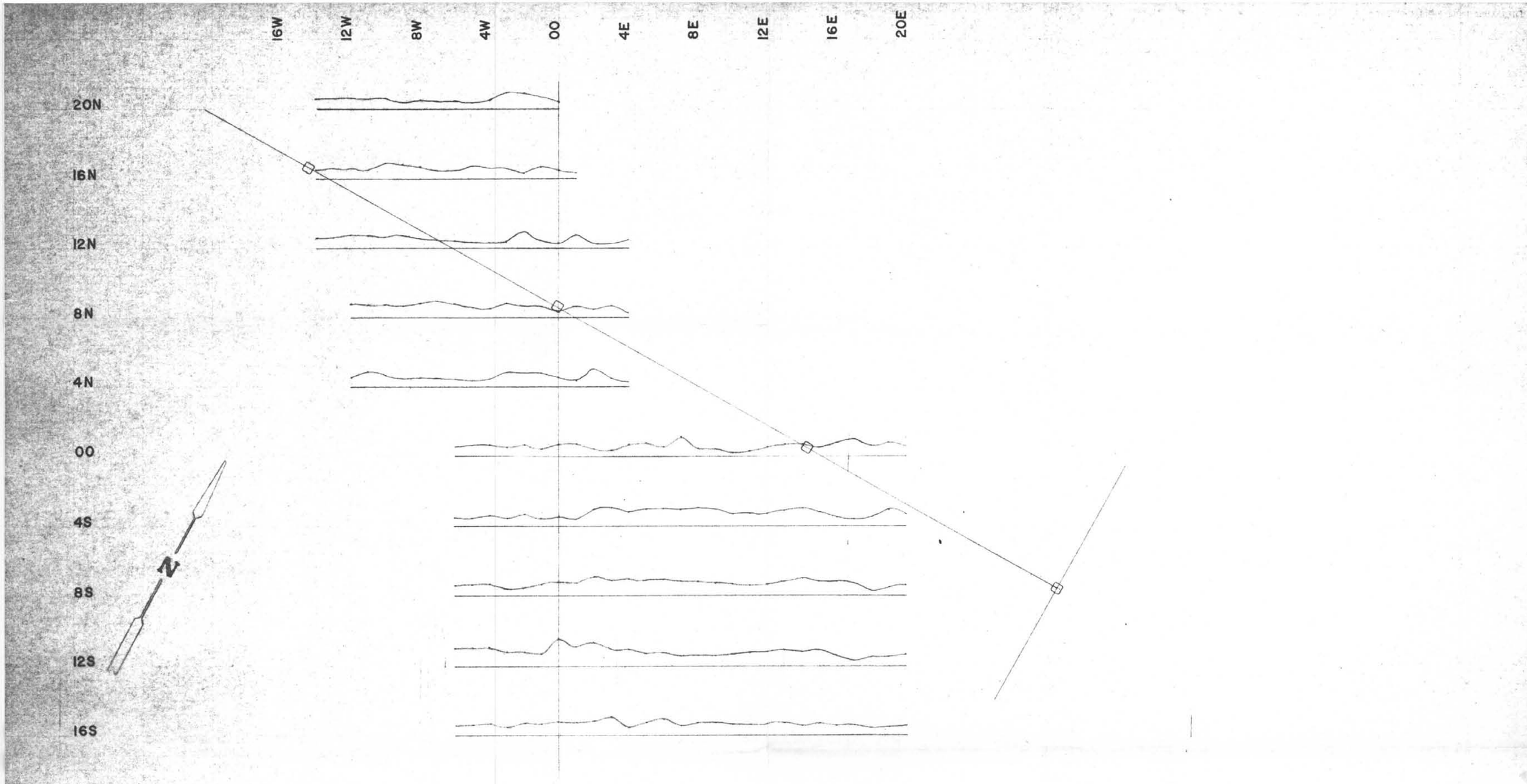
BRITISH COLUMBIA

VERTICAL SCALE 1" = 10ppm

HORIZONTAL SCALE 1" = 120m = 400'

0 400' 800'

0 100 200m



COBALT PROFILES

NUGGET & VERNA CLAIMS

YEOWARD MOUNTAIN AREA

VERNON MINING DIVISION

BRITISH COLUMBIA

VERTICAL SCALE 1" = 100 ppm

HORIZONTAL SCALE 1" = 120m = 400'