

2254

REPORT ON GEOLOGICAL AND GEOCHEMICAL SURVEYS

ON THE CREAM LAKE PROPERTY

of

CREAM SILVER MINES LTD (NPL)

by

F. Holcapek, Geologist

Endorsed by:

R. H. D. Philp, P. Eng.

January 14, 1970

Vancouver, B. C.

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GEOCHEMICAL SURVEY ZINC CONTOURS (2) #4	1 Inch = 500'

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **2254** MAP.....

REPORT ON GEOLOGICAL AND GEOCHEMICAL SURVEYS

ON THE CREAM LAKE PROPERTY

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CREAM SILVER MINES LTD. (NPL)

INTRODUCTION

The Cream Silver Cream Lake Property consists of 75 contiguous plus 25 recently staked mineral claims situated south of Buttle Lake on central Vancouver Island, B. C. During the period of August to September, 1969 a program of soil sampling, prospecting and geological mapping was carried out on part of the claims held by Cream Silver Mines Ltd (NPL) under the supervision of the writer.

LOCATION

The claims lie between Thelwood and Price creeks, from 3 to 6 miles south of Buttle Lake on central Vancouver Island.

Coordinates near the centre of the claim group are $125^{\circ} 33'$ west longitude, $49^{\circ} 30'$ north latitude.

Access is by road from Campbell River to the south end of Buttle Lake then by foot trail, a long and difficult trip. Preferably, access can be gained by helicopter from Campbell River, a distance of approximately 40 miles, to the centre of the claim group, or by fixed wing aircraft to Bedwell Lake, one mile west of the claims. From there they are reached by foot trail which climbs approximately 1000 feet to the centre of the claims.

The northeast corner, on which the recent program was completed, is accessible from the south end of Buttle Lake by an old logging road for approximately two miles and then by foot trail for a distance of one mile.

PHYSIOGRAPHY

Topography in the area is rugged, with elevations varying from 1500 to 5000 feet above sea-level.

The high part of the claims consists of rock outcrops or rubble. The low part of the claims is covered by dense forest. In this section outcrops are limited to creeks or areas of sudden change in slope. Slide areas are common along the western tributaries of Price Creek, covering large sections of the main valley with boulders and rock rubble. These sections are nearly impassable due to the thick growth of alders and brush.

The work completed was done between Price Creek and approximately the 3800 foot elevation contour, in the heavily timbered part of the claims.

CLAIM STATUS

The following 75 contiguous plus 25 recently staked mineral claims, all situated in the Alberni Mining Division, form the Cream Lake Property of Cream Silver Mines Ltd (NPL)

Cream 1 - 2	11497- 11498
Cream 3 - 12	9418-9427
Cream 13, 14	10394, 10395
Cream 15-18	11574-11577
Cream 1E-2E	11499, 11500
Cream 3E-6E	11570-11573
Bear 1 - 30, 31 Fr. 33-36, 37Fr. 38Fr., 39 Fr., 40, 41 Fr. 42 Fr.	10352-10393
Elk 1 - 9	12326-12334
X 1 - 25	recently staked

The writer has not conducted a title search of the above claims.

The recent program covered the following claims:

Bear 25, 27, 29, 31 partly

Bear 33-38

Bear 39-42

GEOLOGY

General:

Regional mapping by government sources shows the area occupied by the Cream Silver claims to be underlain mainly by volcanics and lesser sediments of Permian Age. Karmutsen volcanics of Triassic Age outcrop to the southeast and east of the claims, with a distinct limestone band of Permian age lying between the two volcanic series. Remnants of this limestone band and minor Karmutsen volcanics outcrop between Cream and Sugar lakes.

To the west, the Permian volcanics are in contact with granitic intrusives belonging to the Coast Intrusions of Jurassic Age.

The stratigraphic sequence of the area is as follows:

Jurassic and (?) Cretaceous - Coast Intrusion:

Granodiorite, minor quartz diorite

Triassic and (?) Jurassic - Vancouver Group - Karmutsen volcanics:

Massive, partly amygdaloidal, basalt, pillow basalt, pillow breccia, minor tuff, volcanic breccia.

Permian and (?) Earlier - Sicker Group

Limestone, in part with cherty nodules
 Greywacke, argillites, conglomerates
 Porphyritic banded tuff and volcanic breccia, chlorite schist.

The structure within the area consists of block faulting, tilting and folding. The latter is best expressed within the Permian volcanics south and west of Buttle Lake. Here, a north westerly trending anticline is cut by block faulting.

Several directions of faulting are present within the area, the most prominent trending northwesterly. Other directions are east-west and north-south.

Mineralization found within the area consists of complex sulfides, silver-gold in veins associated with quartz and carbonates, and minor disseminated chalcopyrite with pyrite within the Vancouver Group.

The complex sulfide mineralization following northwesterly shears within the Permian rocks is the most important type (Western Mines approximately 4 miles northwest of the claim group).

Local Geology:

The gridded area is underlain by rocks belonging to the Sicker Group of Permian age. Nearly all outcrops investigated are greenstones showing the occasional volcanic feature.

Green schist float has been found in several locations in the lower to central parts of the grid. Minor pyrite was nearly walways observed.

Thin bands of chert and argillaceous chert varying from green to reddish in colour but never more than six inches thick occur interbedded with the greenstones.

Along the higher elevations the rocks change to more greyish in color and a decrease in chlorite is evident. This could be altered greywacke but this could not be determined in the field.

A pronounced northwest trend of the outcrops is present, interspaced by gently to moderately sloping areas of overburden. This special arrangement of outcrop to overburden appears to be structural controlled but more detailed work is necessary to clarify this.

Where attitude measurements were possible a general northwest strike was obtained. Dips are from 25 to 35 degrees southeast, indicating a north-west trending fold.

At two locations east-west trending faults were observed. Both appear to be tight and no alteration is present. Both dip steeply to the south.

On Price Creek, a short distance northeast from the grid, a wide northwest trending shear zone is exposed in a canyon. The wallrock is completely altered to a green schist and strongly foliated. Minor sulfides are present.

GEOCHEMICAL SURVEY

Control Grid:

A total of approximately thirteen miles of base lines and cross-lines were established by using a Brunton compass. The lines were spaced at 400 foot intervals and stations marked by flagging at 200 foot intervals.

Field Procedure:

Soil samples were collected with an auger along the grid lines at 200 foot stations and care was taken to sample the residual soil directly underlying the organic soil horizon (B-horizon). Average sample depth was 6 - 12 inches. At each sample location information regarding soil type, slope, sample depth and vegetation was recorded and used to interpret the results.

A total of 280 samples were taken.

GEOCHEMICAL TESTING

The samples were tested by Chemex Laboratories Ltd. All samples were tested for total copper, zinc and lead content by spectrographic analysis and values recorded in parts per million. Samples were packaged in kraft envelopes then sent to the lab where they were dried in an electric oven and screened to -80 mesh.

INTERPRETATION OF RESULTS

The background value for copper was established by statistical analysis. The copper values were grouped at 10 parts per million (ppm) intervals, the percent frequency and accumulated percent frequency were calculated and plotted on arithmetic probability paper. From the plotted data the range of background, mixed zone, and anomalous zone was read.

Background	up to and including 40 ppm copper
Mixed zone	from 41 to 65 ppm copper
Anomalous zone	above 65 ppm copper

Zinc and lead data was not statistically evaluated, but instead directly compared to the copper data to locate any coincidence of high copper-zinc or copper-lead values. The comparison showed a direct relationship between copper and zinc, e. g., high zinc values coincide with high copper values. Lead was found to have too narrow a range to be of any interpretational help.

Several areas of anomalous copper-zinc values were outlined by the survey.

AREA 1

This area lies between lines 8 SE, 6SW and 16SE, 6SW and is open to the northeast and southeast. The anomalous zinc area is broader and not as sharply defined as the copper area. The long axis of this anomaly trends northwesterly which is nearly parallel to the regional structural trend.

Copper values range from 65 to 145 ppm.

AREA 2

This is also a copper-zinc anomaly. It lies between lines 16NW, 8 SW and 32NW, 12 SW, in the centre of the gridded area. This anomaly is also nearly parallel to the regional structural trend.

Copper values range from 65 to 148 ppm.

A smaller zone of anomalous copper values lies 400 feet NE of Area 2, values here range from 80 to 360 ppm copper.

Although copper shows two individual zones, zinc data shows only one large area of anomalous values.

AREA 3

Along the southwest limits of the grid an irregular area of copper highs is indicated. The sampling has to be extended before any interpretation of this anomaly can be made. Copper values range from 65 ppm to 115 ppm.

AREA 4

A highly irregular copper-zinc anomaly was outlined between line 16NW, 4NE and 4NW, 20NE. Peak values of up to 480 ppm copper are present. If the 100 ppm contour is followed on the contour map, a clear northwest trend becomes evident. The irregularities below the 100 ppm contour are mainly due to change in slope, and hence changes in the rate of dispersion of copper in the soil.

CONCLUSION

The geochemical survey outlined four areas of anomalous copper and zinc. The coincidence of high copper and zinc values combined with the north-westerly trend of these anomalous areas, which is parallel to the most favourable structural direction, makes these parts of the claim group a very good target for further investigation.

RECOMMENDATION

1. Detail soil sampling of anomalous areas at a 200 by 100 foot pattern
2. Delineate anomalous areas not completely outlined
3. Electromagnetic survey with an instrument which is least effected by topography, using the broadside method at 400 foot line spacing
4. Follow up detail E. M. surveys if warranted.
5. Trenching
6. Drilling.

Respectfully submitted,

F. Holcapek, Geologist



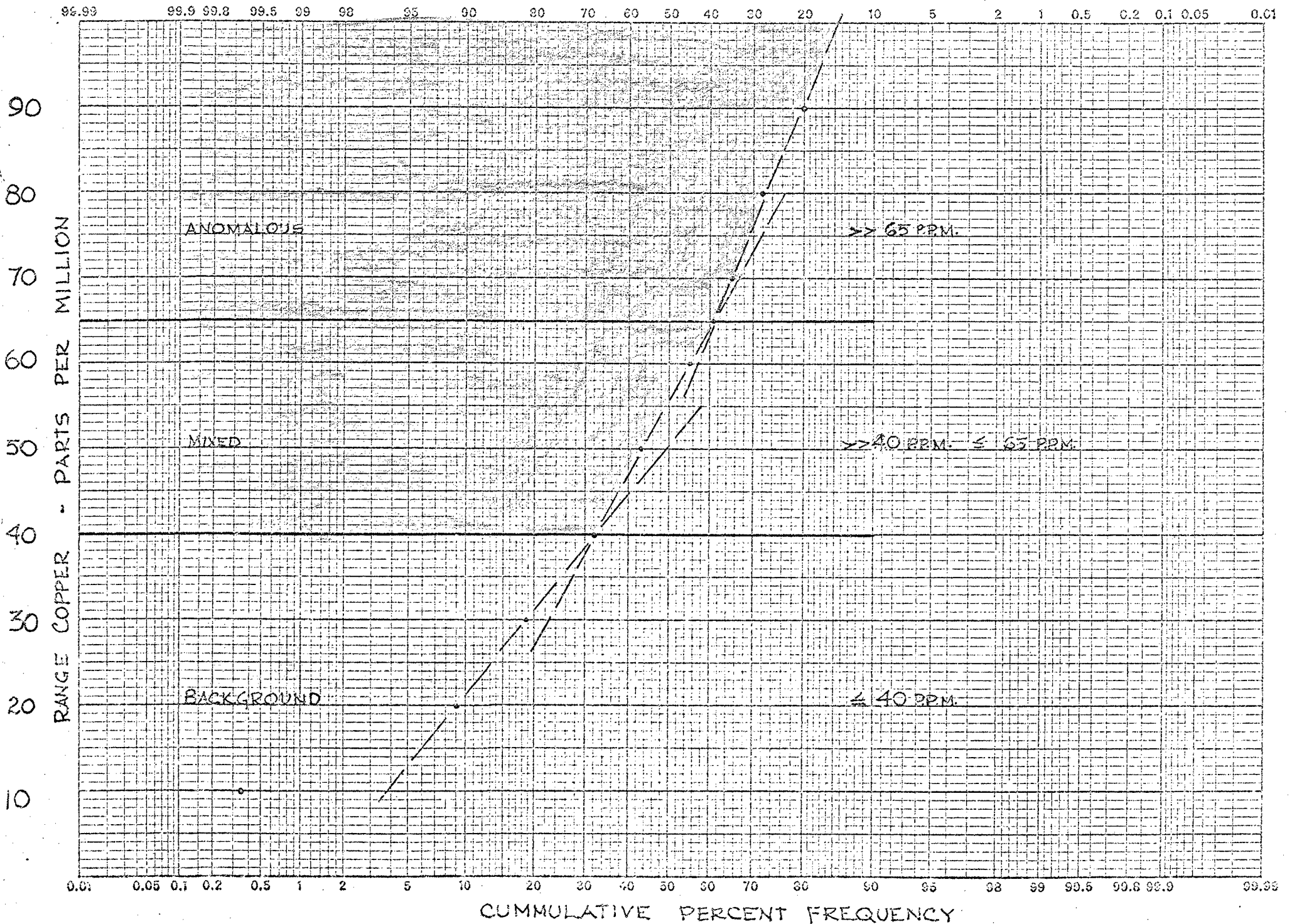
Endorsed by



R. H. D. Philp, P. Eng.,

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Legend

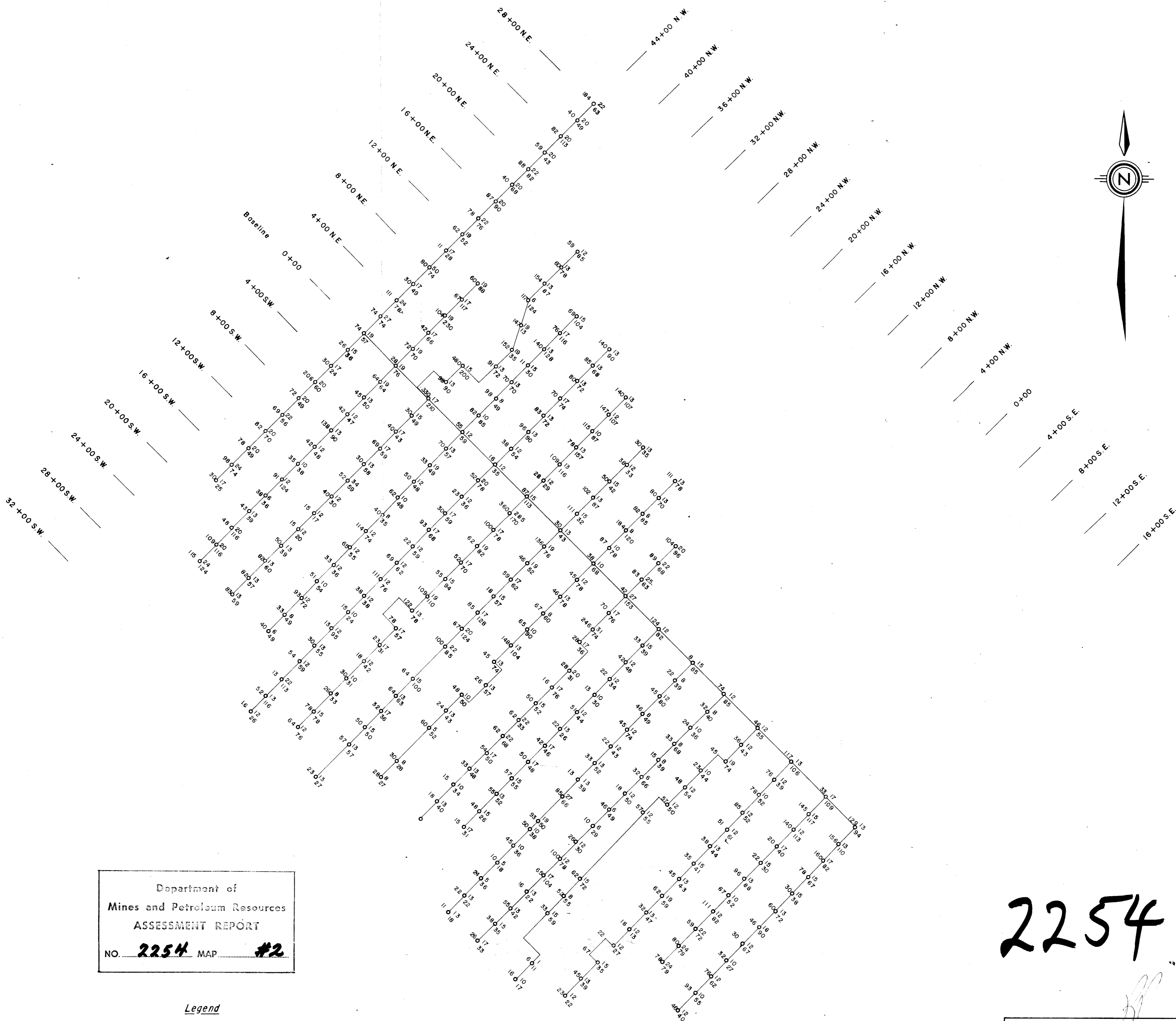
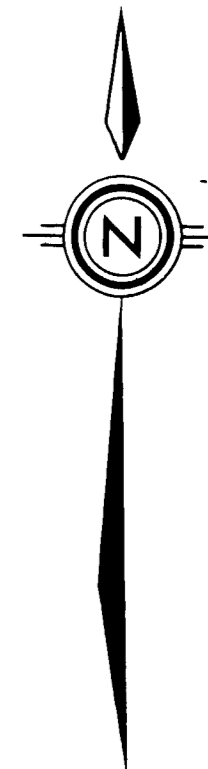
PERMIAN VOLCANICS
SICKER GROUP

- | | | | | |
|---|--|---|--|-----------------------------------|
| 4 | | MASSIVE DENSE, PARTLY CHLORITIZED
LIGHT TO DARK GREY VOLCANICS (?)
POSSIBLE GREYWACKE | | ELEVATION CONTOURS |
| 3 | | STRONGLY CHLORITIZED VOLCANICS -
GREENSTONE - IN PART CLOSE TO
FAULTING STRONGLY FOLIATED | | FAULTS - OBSERVED
OR INDICATED |
| 2 | | GREEN SCHIST | | OUTCROP |
| 1 | | CHERTY-ARGILLACEOUS CHERTY
GREENISH TO REDDISH IN COLOR | | DIP & STRIKE |
| | | | | FOLIATION |

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AGILIS EXPLORATION SERVICES LTD.
CREAM SILVER MINES LTD. (N.P.L.)
PRICE CREEK
Surface Plan
DRAWN BY : L. M. SCALE : 1" = 500 feet.
CHECKED BY : R. P. DATE : October, 1969





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Legend
COPPER 100 22 LEAD
85 ZINC
(values in ppm)

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AGILIS EXPLORATION SERVICES LTD.
CREAM SILVER MINES LTD. (N.P.L.)
PRICE CREEK
Geochemical Survey
DRAWN BY : L. M. SCALE : 1" = 500 feet.
CHECKED BY : R. P. DATE : October, 1969



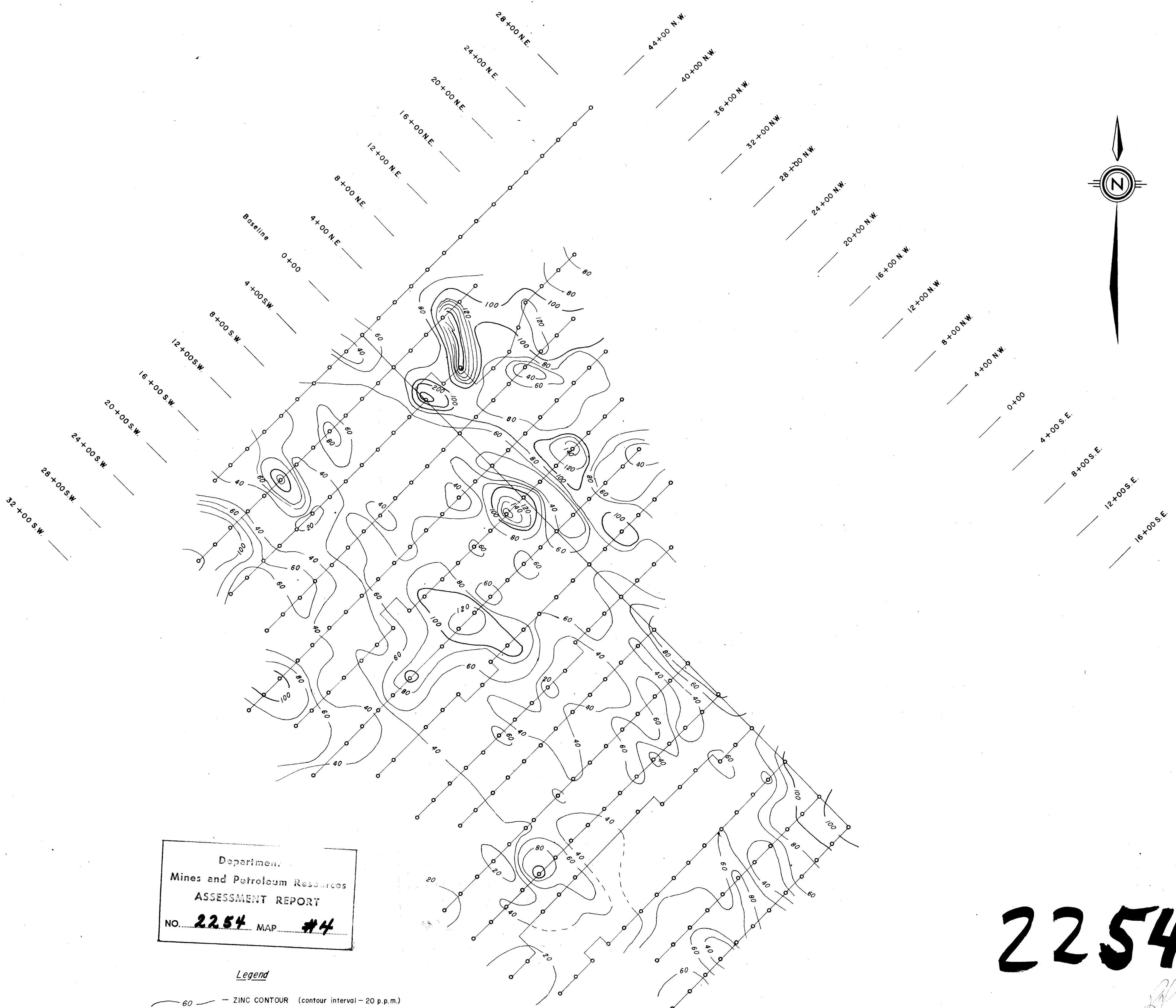
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Legend

— 120 — — COPPER CONTOUR (Contour interval — 20 p.p.m.)

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CREAM SILVER MINES LTD. (N.P.L.)	
PRICE CREEK	
Geochemical Survey	
COPPER CONTOURS	
DRAWN BY : L. M.	SCALE : 1" = 500 feet.
CHECKED BY : R. P.	DATE : October, 1969



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Legend

— 60 — ZINC CONTOUR (contour interval — 20 p.p.m.)

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AGILIS EXPLORATION SERVICES LTD.	
CREAM SILVER MINES LTD. (N.P.L.) PRICE CREEK	
Geochemical Survey ZINC CONTOURS	
DRAWN BY : L. M.	SCALE : 1" = 500 feet.
CHECKED BY : R. P.	DATE : October, 1969