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KENNCO EXPLORATIONS, (WESTERN) LIMITED

2 parts

REPORT ON 104I/11E#6E

GEOLOGICAL AND GEOCHEMICAL SURVEYS

SNOWDRIFT EXAMINATION

Joy 1-32 M.C.'s, Liard M.D., B.C.

58° 129° S.E.

Page # 585

A. Panteleyev, C.S. Ney

October 14, 1964

KENNCO EXPLORATIONS, (WESTERN) LIMITED

SNOWDRIFT EXAMINATION  
JOY CLAIM GROUP

Dease Lake Area  
British Columbia

58° 129° S.E.

REPORT

ON

GEOLOGICAL AND GEOCHEMICAL SURVEYS

by

A. Panteleyev - Author  
C. S. Ney - Supervisor

Situated 28 miles east of Dease Lake, B.C.  
Liard Mining Division

August 10 to August 25, 1964

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Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 585 MAP

KENNCO EXPLORATIONS, (WESTERN) LIMITED

SNOWDRIFT EXAMINATION

INTRODUCTION

In the course of geochemical reconnaissance during July 1963, chalcopyrite was observed in granitic float at the mouth of a creek draining northerly into Eaglehead Lake, 32 miles east of Dease Lake, B. C. The creek was followed five miles up to an apparent source area of the observed float and the Joy Group of 32 claims located.

The work done during August was by A. Panteleyev, K. Baynon and J. Hamilton under the supervision of C. S. Ney. This included geological mapping, trenching and sampling, and geochemical sampling of sediments from all drainages in the claim area. The work was completed on August 25, 1963.

FIELD METHODS

The claim lines and a tie line between them were layed out by a Compass and Stadia Survey, which provided sufficient control for the geology and geochemistry on a scale of 400 feet to one inch. Pace-compass traverses were made between points on the tie lines mainly along the principal creeks and outcrop areas, and geological observations were recorded on these and the control lines.

Geochemical sample sites were located by pace-compass surveys likewise tied into the points on the stadia lines.

A more detailed study of the rocks outcropping along the main creek through the claims was controlled by stadia stations. This work was plotted on a scale of 100 feet to one inch and subsequently incorporated in the 400-foot scale map.

Geochemical samples consisted mainly of sediment in drainages. The main creeks were sampled at a few wide-spaced points, sufficient to indicate outoffs in contributing mineralization. A fairly thorough sampling was attempted of drainages down to the smallest detectable seepages in areas shown to be anomalous by the creek samples, and in areas not represented by outcrop.

Samples were analyzed in a field laboratory at Telegraph Creek, British Columbia for Exchangeable Copper (Holman Test) total copper and total molybdenum. For total metals, the sample was dried, screened, and a volumetrically measured portion digested in perchloric acid for six hours. Copper was determined by biquinoline visual colorimetry and molybdenum by thiocyanate on aliquots of the same assay.

## GEOLOGY

Regional Setting: The Joy Claims follow a west to northwest trending zone along the west contact between a granitic lobe six miles wide projecting from the Cassiar Batholith and a bedded Lower Jurassic sequence, as shown on the Cry Lake Sheet, G.S.C. Map 29 - 1962. The stream flowing northwest diagonally across the property marks the approximate contact. The rocks forming the ridge to the north of the creek are intrusive and those to the south, bedded sediments and pyroclastics.

Outcrop Distribution: Good rock exposure is seen only along the ridges on the north and south sides of the property. The slopes leading to the ridges are gentle and covered with talus and

much felsensmeer. The valley bottom is almost entirely covered by a thin but continuous mantle of glacial drift and outcrop is sparsely exposed only where there has been downcutting by the major streams.

Geology of Claims:

Lower Jurassic Formation: This formation consists of a bedded series of greywacke, pyroclastics, shale, phyllite and limestone which outcrop within Claims 7, 8, 15, 16, 17, 18, 24, 25 and 26 and form the ridge to the south of the entire Joy Group.

Greywacke: Greywacke is an abundant member of the succession. It is in thick, bedded units which vary slightly in composition from greywacke to arkosic greywacke. The rock is massive to slightly sheared, except along the contact where shearing is prominent and the rock shows foliation with associated traces of chalcopyrite.

Shale and Phyllite: These rocks are above the greywacke in the series and form most of the outcrops along the southern border of the property. The outcrops are of thin, slightly graded beds which locally show minor fold structures.

Agglomerate: The agglomerate is a massive to slightly sheared single unit of andesitic rock containing fragments of augite porphyry. It lies between the main bodies of greywacke and shale in the stratigraphic succession, and forms a thick band of resistant rock which forms a massive ridge along the south border of the property.

Limestone: Limestone is a minor member of the series and occurs close to the agglomerate but above in section. It is a fairly thinly bedded, fresh blue limestone which forms a few small outcrops lying in a single band within the sediments.

Intrusive Rocks: Granitic rocks are found throughout the northern part of the property. The outcrops and talus are of fresh-looking coarse grained leuco quartz monzonite that seems to be part of a homogeneous western extension of the Cassiar Batholith. Closer to the contact the rock becomes seriate and porphyritic with well developed quartz phenocrysts and laths of plagioclase and potash feldspar.

Dykes are rare in the claim area. A few fresh-looking, fine grained andesitic dykes intrude both the granitic and the sedimentary rocks. The dykes are usually only one to three feet wide but in two locations had a maximum width of about twenty feet. The dykes are believed to represent a Tertiary igneous activity.

Metagreywacke: In a few outcrops along the contact where no shear foliation has formed, the greywacke shows thermal effects suggesting remobilization to form a metagreywacke. The original clastic texture is almost totally destroyed so that the rock takes on the appearance of a quartz porphyry.

Structure: The dominant structural trend in the claim area is in a northwesterly direction. The sediments and intrusives form a sheared, partly conformable, contact which trends in a west to northwest direction.

The bedding attitudes also trend northwesterly and have varying dips to the south and southwest. The few folds observed also had a northwesterly trend to their axes.

Shearing and fracturing which control the mineralization are apparent in the granitic rocks and greywackes along the contact. Shear foliation strikes W to N 70° W and generally dips steeply southward. Shearing in the quartz monzonite and its porphyritic contact phase have formed a strongly foliated rock with large quartz augen.

Dykes in the area are not sheared nor do they follow the shear direction. They have a generally northerly trend with vertical dips.

Mineralization: Mineralization is mainly low grade disseminated chalcopyrite, minor specularite and molybdenite in sheared and fractured granitic rock along the contact. Traces of bornite and tetrahedrite were found locally in small quartz and calcite veins. Minor chalcopyrite occurs in the sheared greywacke and metagreywacke immediate to the contact.

GEOCHEMISTRY

The geochemical sampling programme indicated an anomalous area approximately 10,000 feet long and 2000 feet wide, lying diagonally across the length of the claims. The anomalous zone is mainly along the intrusive side of the contact. Within the anomalous area there are two smaller areas of highest metal values, one at the northwest and the other at the south-east end, which were used as centres for further investigation. The anomaly lies in an area almost totally covered by overburden. However, the small amount of rock exposure does indicate that the anomalous zone follows the sheared contact within the granitic rock.

A geophysical survey spotted on the basis of these geochemical results outlined the same anomalous area with corresponding areas of maximum intensity.

The stream sediment and soil sample metal values are shown on Plate 63N-D-02.

CONCLUSIONS

Copper mineralization in this area seems to be localized in areas of more intense shearing and fracturing within the quartz monzonite body.

A comparison of geochemical copper values obtained in the two strongly anomalous areas with those in areas of exposed mineralized bedrock indicates that these two areas have a strong copper potential.

Vancouver, B. C.

October 14, 1964

A. Panteleyev  
A. Panteleyev - Author

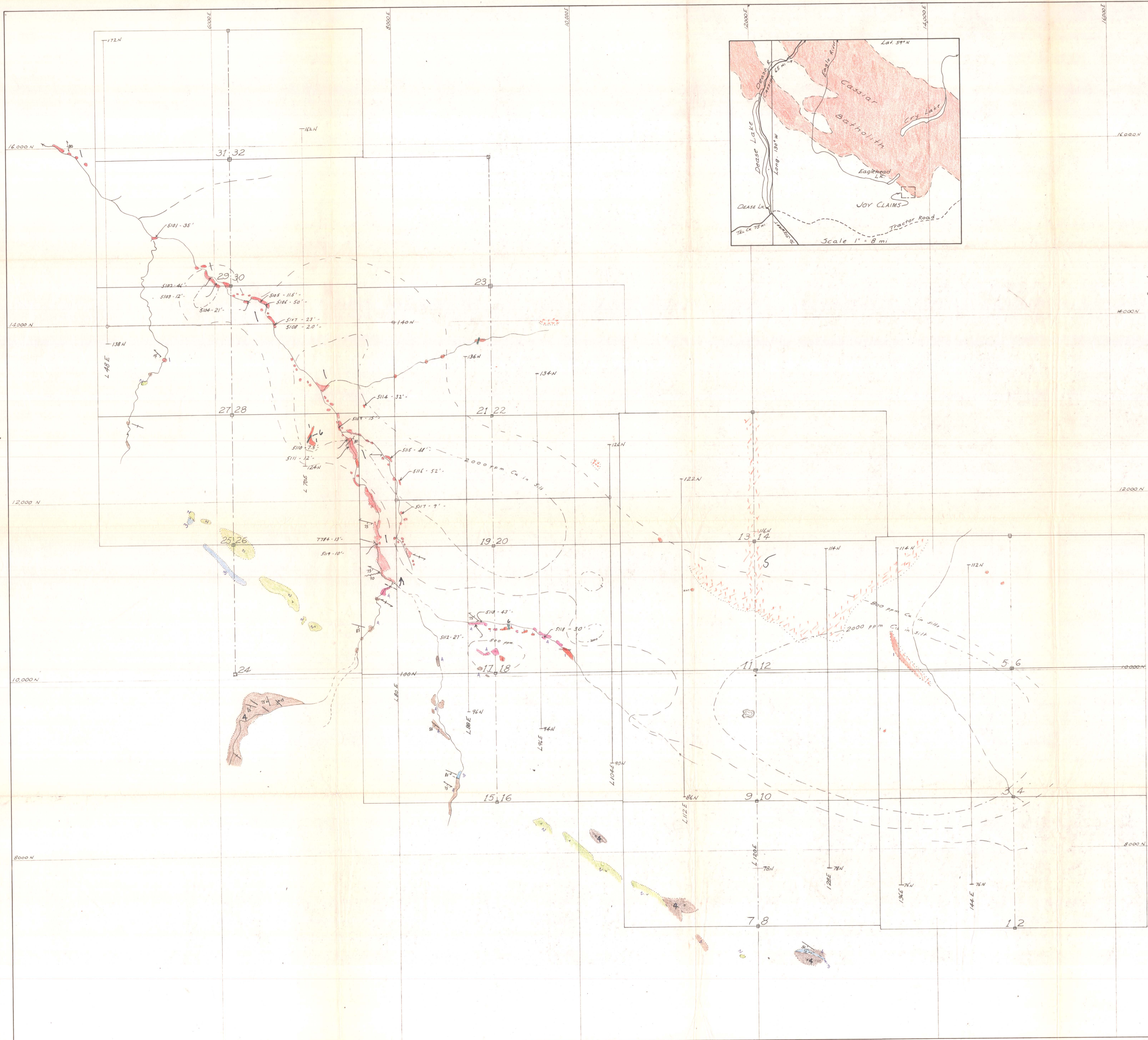
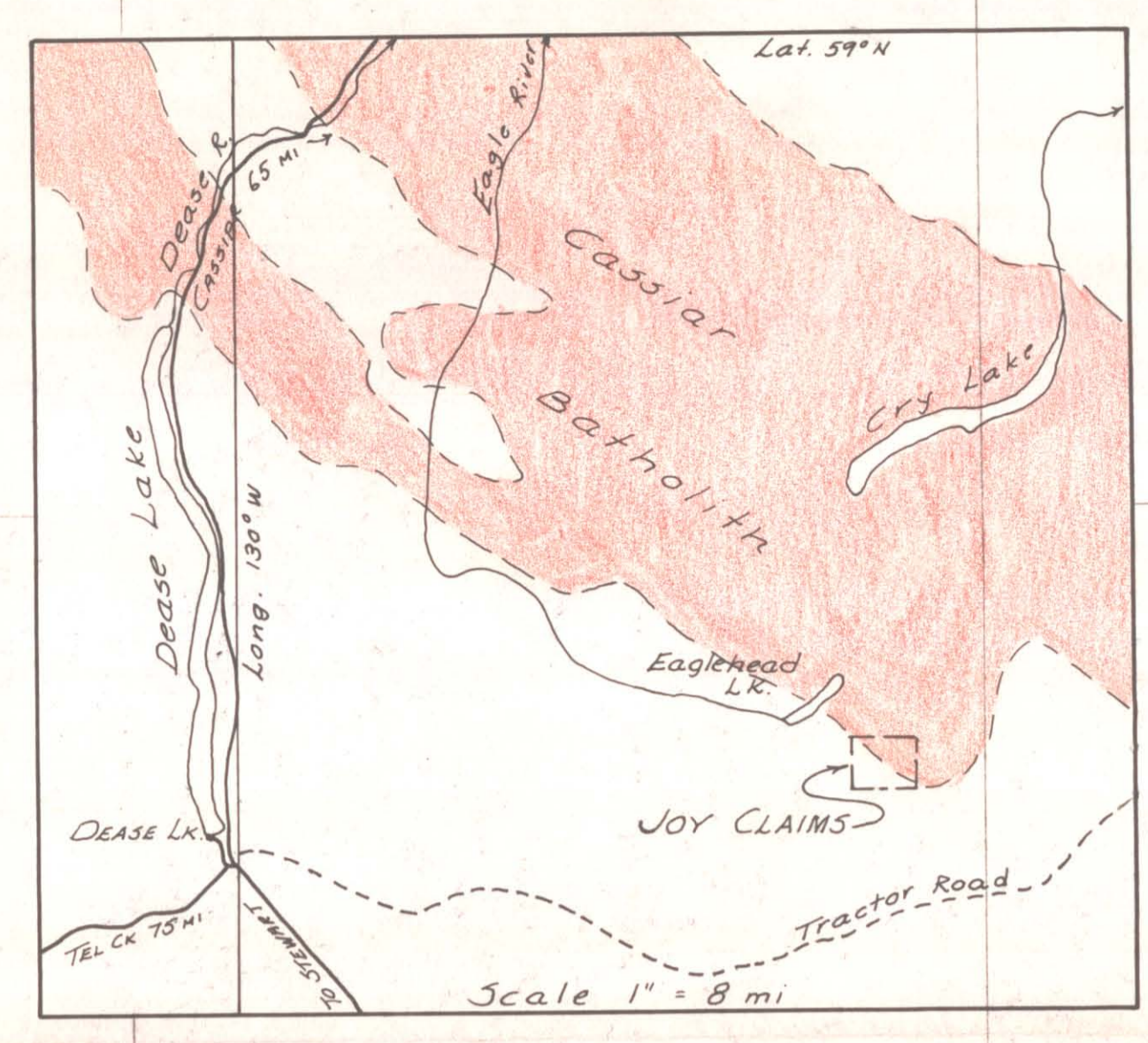
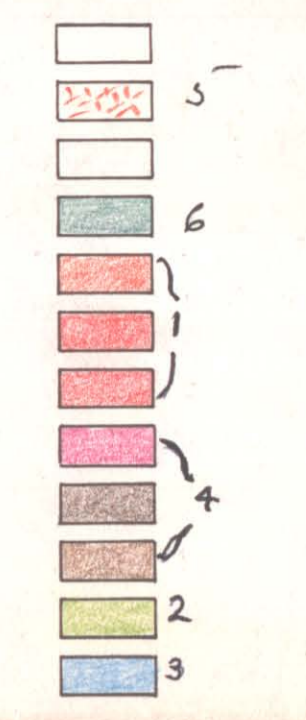
Charles E. Ney P. Eng.  
C. E. Ney - Supervisor



↑  
two #1  
maps

LEGEND

- Overburden
  - Local debris
  - Mineralization
  - Andesite dykes
  - Quartz Monzonite
    - sheared
    - massive
  - Metagraywacke
  - Graywacke
  - Shale + phyllite
  - Pyroclastics
  - Limestone
- 
- Bedding
  - Schistosity
  - Chip Sample

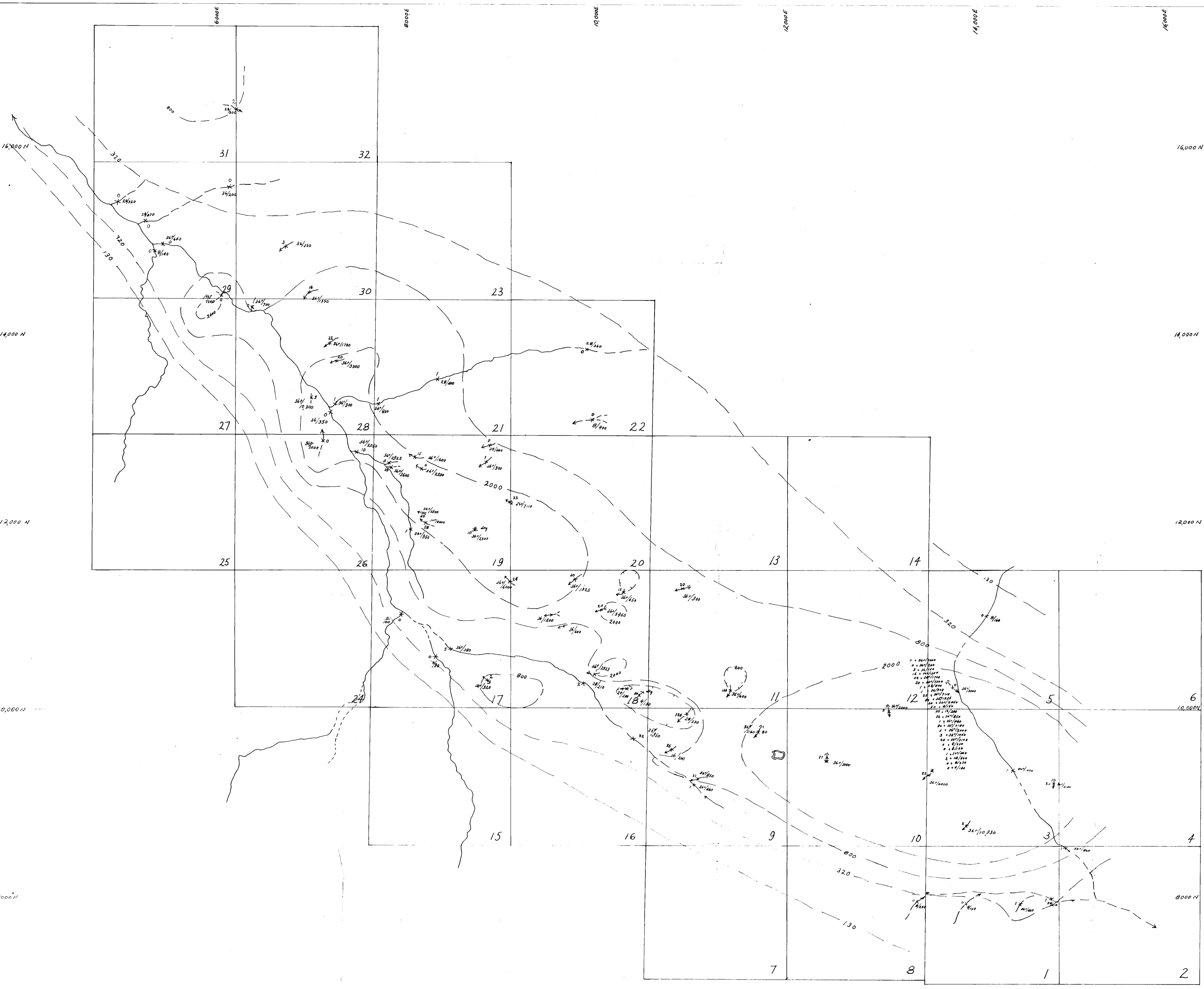


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KENNCO EXPLORATIONS (WESTERN) LIMITED  
 SNOWDRIFT RIVER AREA  
 JOY PROSPECT  
 LIARD MD., B.C.  
 JOY CLAIMS - #1 - #32  
 GEOLOGY


DATE: Oct. 25, 1963	DRAWN BY: C.S.N.	PLATE NO: 69N-D-02
REVISED BY: C.S.N.	DATE: Oct. 15, 64	SCALE: 1" = 400'

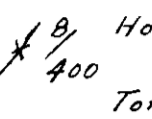
Checked by: P.D.G.  
 Report 585



LEGEND

Copper and Molybdenum in stream and seepage sediment samples

Sample site - stream 

seepage 

Total Mo  $\frac{2}{400}$  By Holman Cu ppm.  
Total Cu ppm.

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NO. 585 MAP 2

KENNCO EXPLORATIONS (WESTERN) LIMITED

JOY PROSPECT  
LIARD M.D., B.C.

DRAINAGE SAMPLE DATA

DATE: Dec 25 1962 DRAWN BY: C.S.M. PLATE NO: 824-D-224

REVISED BY	DATE	SCALE:
		1" = 400'

Charles D. King, P. Eng.

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