

82G-5

N.T.: 82-G-~~5~~, 82-F-~~4~~

S U M M A R Y

**REPORT**

**ON**

1965 EXPLORATION

IN THE

MOYIE - YAHK AREA

B. C.

**FORT STEELE**

**MINING DIVISION**

**A. BURGÖYNE**  
Geologist

SUMMARY REPORT OF

1965 EXPLORATION IN THE MOYLE - YAHK AREA, B.C.

Vancouver, B. C.  
September 3, 1965

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SUMMARY REPORT OF  
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Through July and August a reconnaissance sediment sampling program, followed by chemical analyses, was completed over 200 square miles completely underlain by quartzites of the Aldridge Formation between Moyie, B.C. and the International Border. Four men were involved in collecting sediment samples and two men operated the laboratory at Moyie. Sediment samples were taken on all streams and their tributaries in the area at 1/4 mile intervals. Closer sampling was done in inaccessible areas and more geologically favourable areas. The sediments were returned to the lab at Moyie and were sieved to -80 mesh and subjected to a hot aqua regia acid digestion. They were quantitatively assayed for Pb, Zn and Cu by the standard dithizone and biquinoline colorimetric methods.

General mean background in the area was approximately 60 ppm Zn, 10 ppm Cu, and 3-6 ppm Pb. However, a background could be calculated for each individual stream drainage basin. Pb content varies little throughout the area. Cu and Zn vary somewhat from one stream drainage basin to another - this is a reflection of severe topography; degree of basic rocks - Purcell dykes and sills (thought to carry slightly higher contents of Cu); amount of pyrrhotite-rich sediments (slightly higher Zn and Cu contents); and contamination.

CONCLUSIONS

Results have been tabulated on Map 1 M-Y 65. A statistical table has also been included (Note Table I) giving the mean background values for the respective metals; the threshold or upper background

values (mean plus two standard deviations); possible anomalous values (any values between mean plus two standard deviations and mean plus three standard deviations); probable anomalous values (any values greater than mean plus three standard deviations). The statistics in the table are broken down for particular drainage basins as well as the complete area.

For the complete area covered by the geochemical survey the mean background for Zn is 57.3 ppm; the threshold value is 99.3 ppm; possible anomalous values 99.3 - 121.8 ppm; and probable anomalous values are greater than 121.8 ppm.

The mean background for Cu for the complete area is 10.2 ppm; the threshold is 19.4 ppm; possible anomalous values 19.4 ppm to 24 ppm; and probable anomalous values are greater than 24 ppm.

The Pb values for the area were not significant enough to be subjected to statistical analyses.

Follow-up work was completed on four distinct locations; (note Map 1 M-Y 65)

1. On Coal Ck. a piece of galena-bearing quartzite was found - reconnaissance geochemical and magnetometer work was done. No significant results were obtained. Note Map 2-M-Y 65.
2. Approximately  $1\frac{1}{2}$  - 2 miles up Canuck Ck. from its confluence with Hawkins Ck. a piece of ilmenite float was found. Reconnaissance magnetometer work failed to give any significant results.
3. Geochemical work was done on a small grid (Quartz grid) approximately 1 mile south of Ryan. No significant results were obtained. Note Map 3 M-Y 65.

4. A piece of tourmaline float was found  $1\frac{1}{2}$  miles up a creek which flows into the Moyie River opposite to Englishman Ck. Subsequent investigations (Bill grid) found the tourmaline to be present in a gabbro sill in a thin (3") conformable layer. Geochemical values obtained were above background for Zn. Further investigation is recommended. Note Map 4 M-Y 65.

Streams draining the adjacent mine area at Moyie were anomalous as expected.

Further follow-up work is recommended on:

1. The northwest tributary of Englishman Ck (Area 10) where above background zinc values were found over a drainage area of 1 square mile.
2. There are several "possible" and "probable" anomalous values throughout the Moyie-Yahk area. All of these values have been re-analyzed in an effort to eliminate analytical errors. There are still some values which remain in the above category after second and third analyses - follow-up work is warranted.
3. On the Bill grid where tourmaline was located.

Vancouver, B. C.  
September 3, 1965

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Geologist.

TABLE 1

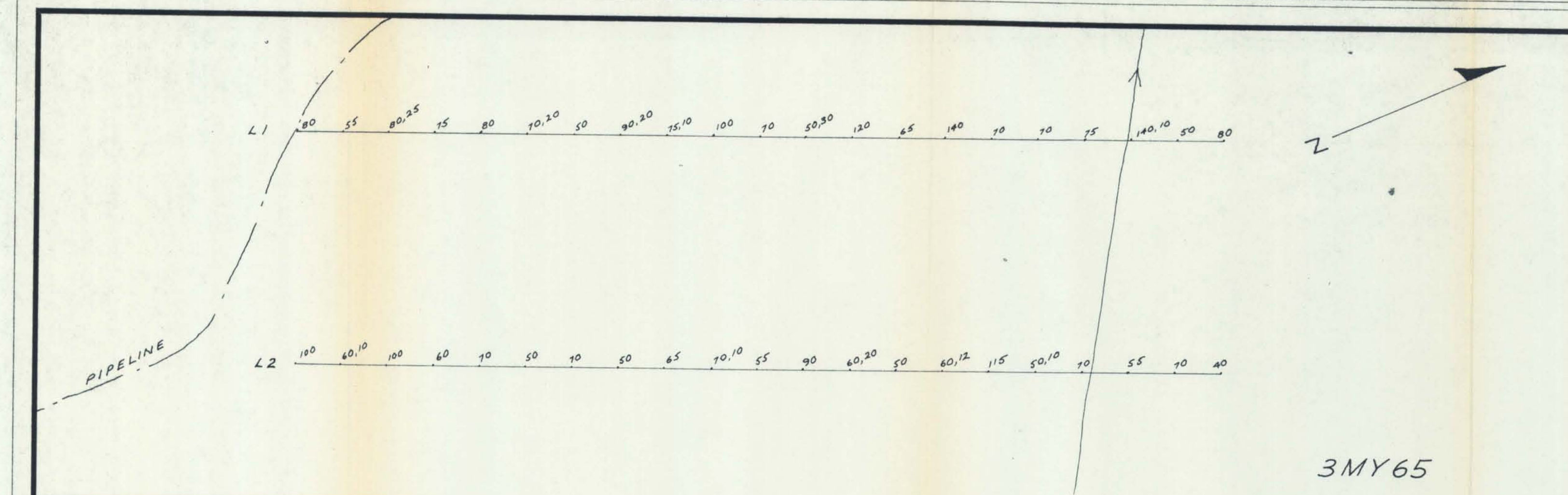
## STATISTICAL TABLE - Zn &amp; Cu VALUES

Area	Drainage Basin	Mean Background ( $\bar{M}$ )		Threshold or Upper Background $\bar{M} + 2SD$		Possible Anomalous Value ( $\bar{M} + 2SD$ to $\bar{M} + 3SD$ )		Probable Anomalous Value ( $\bar{M} + 3SD$ )	
		Zn	Cu	Zn	Cu	Zn	Cu	Zn	Cu
	Overall Sed. Survey	57.3 ppm	10.2 ppm	99.3 ppm	19.4 ppm	99.3-121.6 ppm	19.4-24.0 ppm	> 121.8 ppm	> 24.0 ppm
1 & 2	Sunrise Creek	49.4	10.4	108.8	19.6	108.8-138.5	19.6-24.2	> 138.5	> 24.2
3 & 4	Farrell & Barkshanty Creeks	68.2	12.0	117.8	22.5	117.8-142.6	22.5-27.8	> 142.6	> 27.8
5	Sundown Creek	64.5	14.3	115.3	29.1	115.3-140.7	29.1-35.5	> 140.7	> 35.5
6 & 7	Stone Creek to Tochtly	55.3	9.0	91.0	15.6	91.0-108.9	15.6-18.9	> 108.9	> 18.9
8	Coal Creek Drainage	51.5	13.3	80.3	28.9	80.3-94.7	28.9-36.6	> 94.7	> 36.6
9	Canuck, American, Hawkins, Five Mile, Freeman	48.0	6.8	77.3	10.6	77.3-92.0	10.6-13.9	> 92.0	> 13.9
10	Englishman, Manson, etc.	107.0	8.4	198.0	17.2	198.0-243.5	17.2-21.6	> 243.5	> 21.6
11	Elmer, Elmira, etc.	67.7	6.7	100.0	11.5	100.0-123.3	11.5-13.9	> 123.3	> 13.9

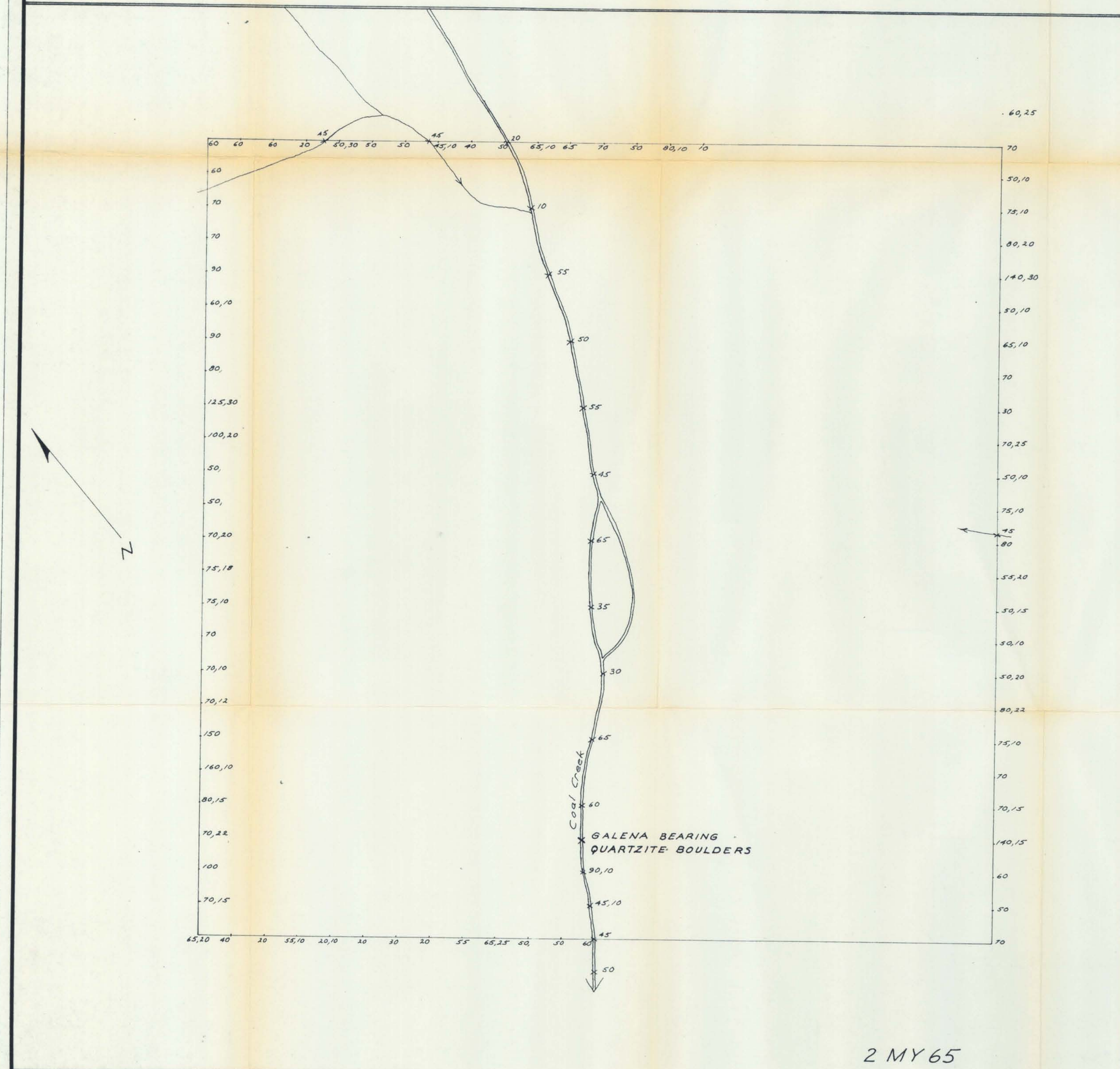
Key:  $\bar{M}$  = Mean  
SD = Standard Deviation  
> = Greater



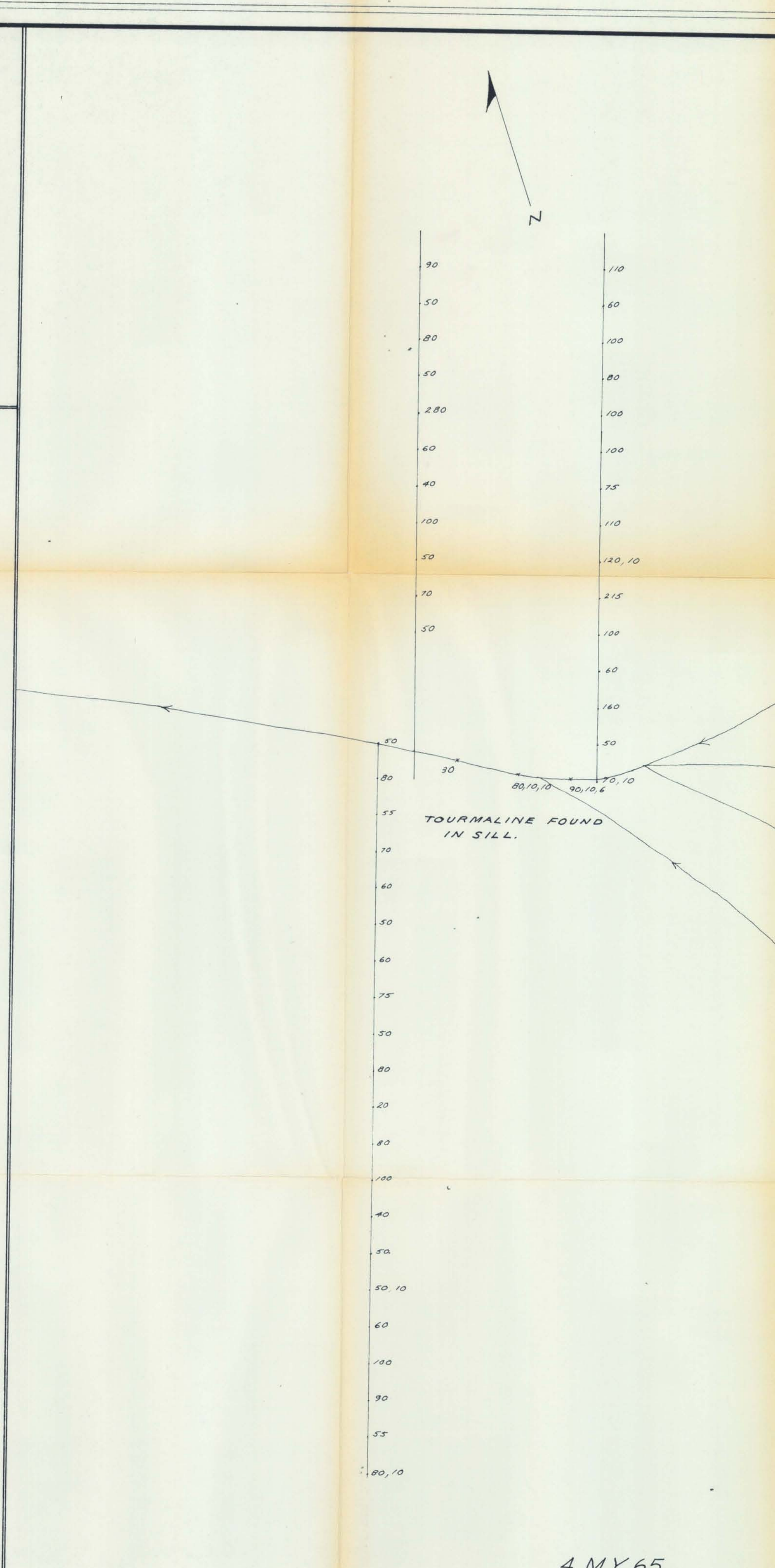
2,3;4 MY-65



3MY65

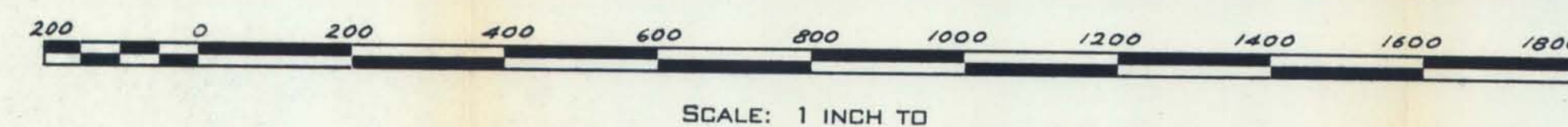


2 MY65



4 MY65

NOTE: VALUES IN PPM.  
ZINC LEFT, COPPER RIGHT  
COPPER VALUES BELOW 10 PPM  
ARE OMITTED.  
SEE MAP 1MY65 FOR LOCATIONS.



SCALE: 1 INCH TO

COMPANY . . FALCONBRIDGE NICKEL MINES LTD.  
PROPERTY . . MOYIE-YAHK  
LOCATION . . YAHK VALLEY

WORKING PLACE . .  
TYPE OF MAP . . SKETCH-PAGE; COMPASS  
BASED ON . . FOLLOW UP WORK TO SEDIMENT  
SAMPLING

DATE . . 2 DEC -65  
DRAWN BY . . D.H. HELGESEN  
DATE OF WORK . . JULY-AUGUST -65



# LEGEND

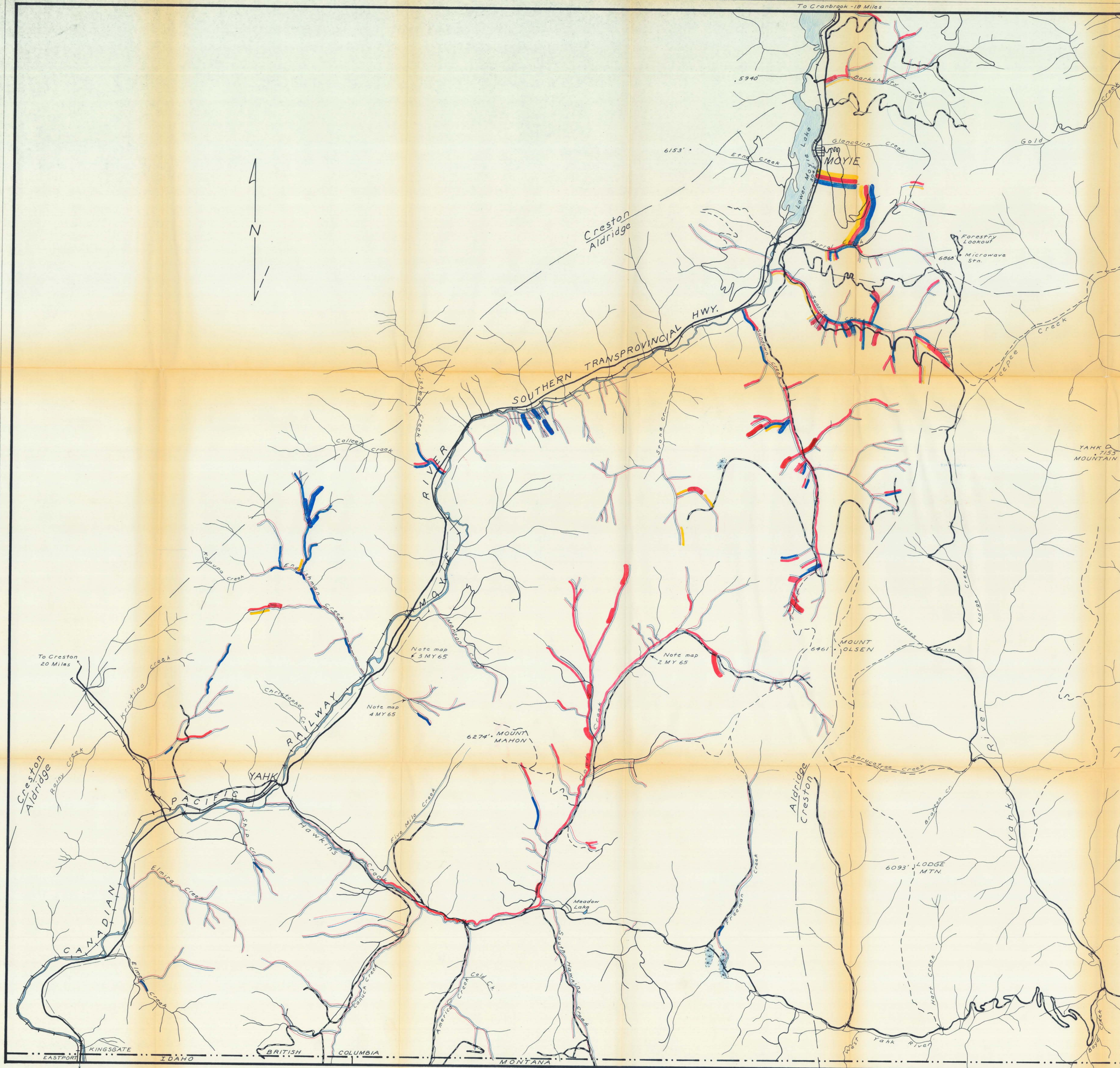
## ROADS

- hard surface: all weather
- loose surface: " " " "
- " " " " may to october only
- " " " " four wheel drive recommended
- skid trail: impassable for vehicles
- railway: normal gauge
- pipeline: route of four wheel drive track
- river
- stream
- marsh
- international boundary

## GEOCHEMICAL DATA

- ZINC
  - over 200 ppm
  - 100-200 "
  - under 100 "
- COPPER
  - over 25 "
  - 15-25 "
  - under 15 "
- LEAD
  - over 10 "

NOTE: The extreme highs immediately south-east of Moyle are due to contamination.



COMPANY.. FALCONBRIDGE NICKEL MINES LTD.

PROPERTY.. MOYLE - YAHK

LOCATION.. YAHK VALLEY

WORKING PLACE.. ALDRIDGE FORMATION

TYPE OF MAP.. SEDIMENT SAMPLES

BASED ON.. B.C. DEPT. OF LANDS 1" = 2 MI. MAP  
ENLARGED TO 1" = 50,000

DATE.. 24 Nov. 65

DRAWN BY.. D.H. HELGESEN

DATE OF WORK.. Jul-Aug 65