

172

KRAIN COPPER LTD.

FARWEST TUNGSTEN COPPER MINES LIMITED (NPL)

BEAVER LODGE URANIUM MINES LTD. (NPL)

Magnetometer Survey

Krain and D. W. Groups of Claims

120

16 Miles S.E of ASHCROFT : 50° 12' N.W

By

GEORGE E. APPS, B.A. Sc. (Mining)
Engineer in Charge

for.

W. M. SIROLA P. ENG.

JULY 1956 to APRIL 1957

FARWEST TUNGSTEN COPPER MINES LIMITED

(NON-PERSONAL LIABILITY)

SUITE 303-1075 MELVILLE STREET
VANCOUVER 5, B.C.

April 25th, 1957

Chief Gold Commissioner,
Department of Mines,
VICTORIA, B.C.

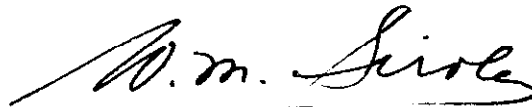
Dear Sir:

I hereby state that I am a
Professional Geological Engineer registered in the
Province of British Columbia.

The Krain and D.W. Groups
of Claims magnetometer survey was carried out under
my supervision, and the results as outlined in
Mr. Apps' report are accurate and correct.

Yours truly,

FARWEST TUNGSTEN COPPER MINES LTD. (NPL),



W. M. Sirola, P. Eng.,
Chief Geologist.

WMS:DMB

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MAPS IN POCKET

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- #2 MAGNETOMETER MAP - CONTOURED

KRAIN COPPER LTD.

FARWEST TUNGSTEN COPPER MINES LIMITED (NPL)

BEAVER LODGE URANIUM MINES LTD. (NPL)

Magnetometer Survey

Krain and D.W. Groups of Claims

Introduction

The Krain group is a group of 21 claims and fractions held by location on the eastern slope of Forge Mountain. This group was staked in 1955 to cover known showings of copper mineralization on the Krain Copper claim. The D.W. group consists of 8 claims adjoining and south of the Krain group. These were staked to cover showings of copper mineralization along a northerly trending gully.

A programme of exploration by diamond drilling was carried out on the Krain property during the winter of 1955 - 1956 and several intersections of low-grade copper sulphide mineralization were obtained. Further drilling during the winter of 1956-57 has succeeded in roughly outlining a large low-grade mineralized zone. The drill programmes have been supplemented by bulldozer trenching, prospecting, mapping and some soil sampling.

The D.W. group has been prospected and several thousand feet of bulldozer trenching has been done on the showings found. One diamond drill hole was drilled on the D.W. 4 claim.

The limited amount of rock outcropping on the properties makes a thorough examination by ground prospecting and geological mapping impossible. A limited area was covered by a

geochemical (soil sampling) survey, but the amount of overburden and the variable overburden conditions made this impractical. Geophysical prospecting methods were tested in the Highland Valley by McPhar Geophysics Ltd., to determine the effectiveness of ground electromagnetic, self-potential, and magnetometer surveys in the search for copper deposits of the type known to exist in the area. The tests showed a close correlation between low magnetic values and the mineralized zones and the ground magnetometer survey was recommended as an exploration tool.*

A magnetometer survey was planned to cover part of the Krain and D.W. groups. The northern and northwestern Krain claims are known to be underlain by Tertiary volcanics and were not included in the survey.

Survey Procedure

A north-south base line was surveyed approximately down the centre of the property and east-west lines were turned off at 400 foot intervals and 200 foot intervals in the vicinity of the known mineralized zone. These lines were run as picket lines with stations established at 100 foot intervals by chaining.

Magnetometer readings were first taken on the base line stations to establish them as base stations relative to a magnetometer base station on the Northlodge property. Readings were then taken at the 100 foot stations on the picket lines. The operator checked back to a base station every 2 or 3 hours to minimize the effect of diurnal variation.

* McPhar Geophysics Ltd. "Report on the Experimental Geophysical Survey" for Northlodge Copper Mines Limited by R. A. Bell and F. W. McCamus, June, 1956.

Magnetometer readings were converted to gammas and plotted on a base map at 300 feet to the inch. From this map a contoured magnetometer map was drawn.

A "Radar" magnetometer was used for the first part of the survey and the work was completed with a Sharpe model A-2 magnetometer.

Results

Magnetic values range from 1100 to 1700 gammas over most of the property. A northerly trending series of low (~1000 gamma) anomalies was found west of the base line. Other small low anomalies have been found on the D.W. 4 claim and low values were found at the east end of some of the lines on Krain 14 and Krain 4 and 5 Fractional claims. Lineation of the variations in magnetic intensity trends northerly with deflections from N. 20° E. to N. 25° W.

Interpretation

Magnetometer test work over known mineralized zones on the Bethlehem and Trojan properties has shown a correlation between low magnetic values and the mineralized zones. This is attributed to destruction of magnetite, which is an accessory mineral in the quartz diorite, by the alteration accompanying the mineralization, and to the presence of porphyritic intrusives which have a susceptibility lower than the quartz diorite.

Diamond drilling has shown the existence of porphyries under three of the anomalies on the Krain Copper and Krain No. 1 claims and under the small anomaly on the D.W. 4 claim. The mineralized zone on the Krain Copper claim is in and on the sides of the porphyry bodies with the major part of the zone extending out from the west

side of the porphyry. Magnetic values over the major part of this zone range from 1000 to 1250 gammas. No significant copper mineralization was found associated with the two porphyries under the two anomalies drilled on the Krain 1 claim. Drill hole K-26 failed to penetrate to the west side of the porphyry body.

Magnetic conditions over the mineralized area are roughly duplicated on the western part of the D.W. 1 Fraction in that a low anomaly is flanked on the west by an area of magnetic values below 1300 gammas.

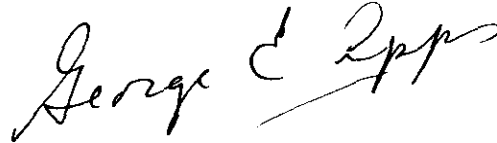
Trenching on the eastern part of the D.W. 2 and 4 claims has exposed a strong shear zone striking about N. 25° E. The extension of this shear to the north would correspond with the low magnetic values obtained on the east side of the Krain property and may indicate that porphyritic intrusions or altered zones inhabit the shear zone in this area.

Low magnetic values on the south-eastern part of the D.W. 4 claim and on the northern part of the Krain 2 claim are in areas underlain by Tertiary volcanics.

Conclusions

The magnetometer survey of the Krain and D.W. properties shows a series of low anomalies in a northerly trending belt approximately 1000 feet wide, west of the base line. Diamond drilling in this belt has shown the presence of porphyry bodies under three of these anomalies. A large low-grade body of copper mineralization is associated with the porphyry intrusions on

the Krain Copper claim. Other mineralized zones of this type may exist in this belt.

A handwritten signature in cursive script that reads "George E. Apps". The signature is written in black ink and is positioned above the typed name.

GEORGE E. APPS, B.A. Sc. (Mining)

Engineer in Charge.

April 18, 1957.

RECAPITULATION OF LINE CUTTING COSTS

KRAIN, D.W, NORTHLODGE, BEAVER, OUTRIDER & HAT GROUPS

JUNE 1, 1956 to MARCH 15, 1957

June 1956	<u>Base Line Survey:</u>	Surveyor	9 shifts @	\$15.00	\$135.00
		Helper	9 "	14.00	126.00
	<u>Line Cutting:</u>	Labour	43 "	14.00	602.00
July 1956	<u>Base Line Survey:</u>	Surveyor	14 "	15.00	210.00
		Helper	14 "	14.00	196.00
	<u>Line Cutting:</u>	Labour	79 "	14.00	1106.00
Aug. 1956	<u>Line Cutting:</u>	Labour	27 "	14.00	378.00
Sept. 1956	<u>Base Line Survey:</u>	Surveyor	5 "	15.00	75.00
		Helper	5 "	14.00	70.00
	<u>Line Cutting:</u>	Labour	8 "	14.00	112.00
Oct. 1956	<u>Base Line Survey:</u>	Surveyor	3 "	15.00	45.00
		Helper	3 "	14.00	42.00
Nov. 1956	<u>Line Cutting:</u>	Labour	16 "	14.00	224.00
Mar. 1957	<u>Line Cutting:</u>	Labour	2 "	14.00	28.00

Contracted Line Cutting:

F. Cooke Jr.	Aug., Sept., 1956	783.49
Scheuerman & Karhoffer	Aug., Sept., 1956	2118.99
G. Haddrell	Nov. '56 to Jan. '57	1472.04

Engineering & Supervision: 20 days @ 30.00 600.00

TOTAL COST \$8547.52

Total Line Cut 457,000 ft.
 Cost per 1000 ft. \$18.70)
 Cost per Mile \$99.00) Includes Base Line Surveys.

DISTRIBUTION OF COST TO PROPERTIES & CLAIMS

<u>Property</u>	<u>Footage Cut</u>	<u>Cost</u>	<u>Claims Covered</u>	<u>Cost per Claim Covered</u>
Northlodge	153,600	\$2,872.	39	\$73.60
Krain	39,600	741.	8	92.60
D.W.	19,100	357.	5	71.40
Beaver	130,200	2,435.	45	54.20
Outrider	97,000	1,814.	41	44.25
Hat	10,000	187.	6	31.20
Trojan	7,000	122.	-	-

Handwritten signature

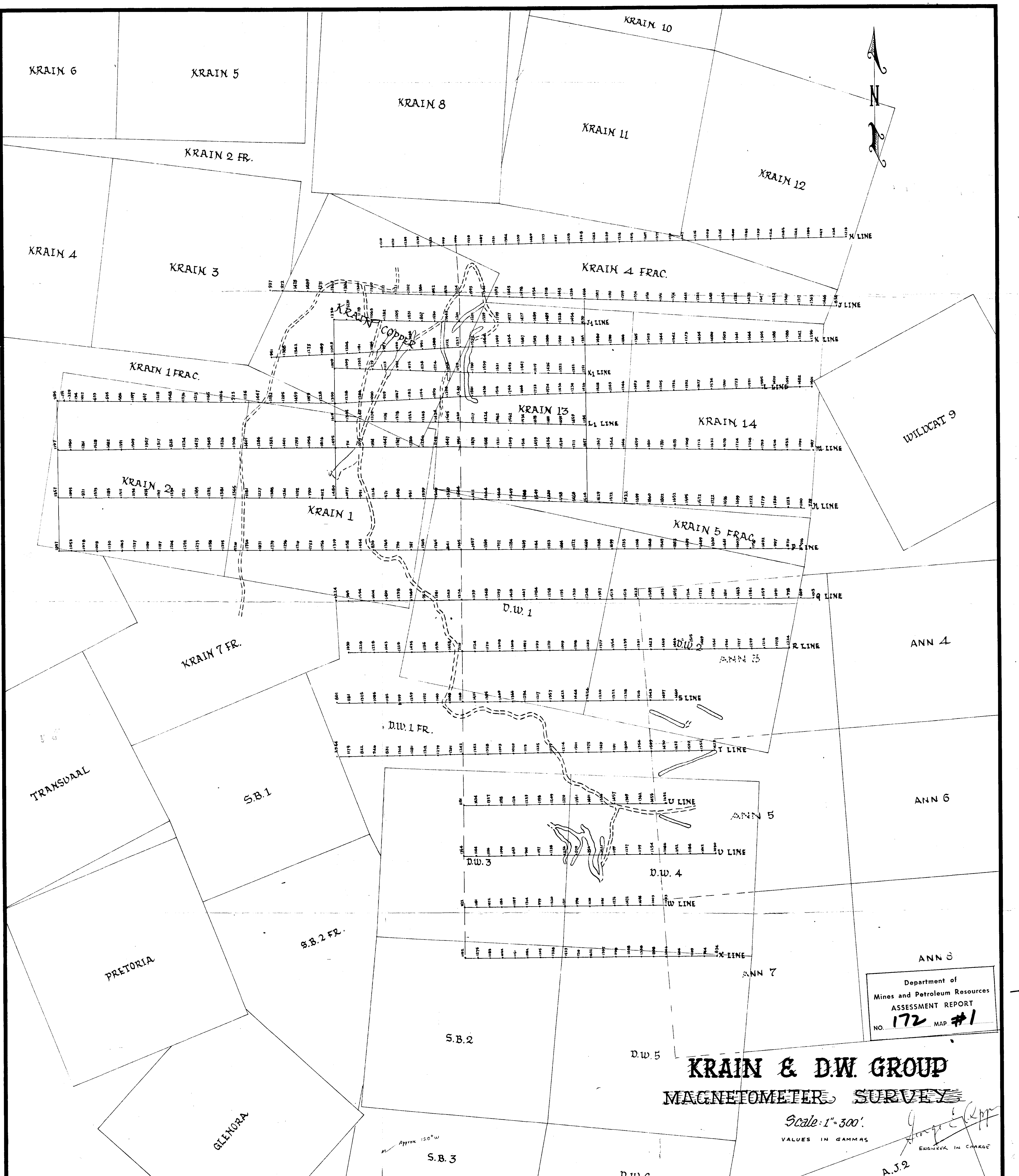
MAGNETOMETER SURVEY COSTS

KRAIN AND D.W. GROUPS

Line Cutting (as preceding			\$1,098.00
Magnetometer Field Work			
15 shifts	@	\$14.00	210.00
Calculations & Plotting			
6 shifts	@	\$14.00	84.00
Drafting			
4 shifts	@	\$15.00	60.00
Engineering & Supervision			
3 shifts	@	\$30.00	90.00
			<hr/>
		TOTAL	<u>\$1,542.00</u>

COST PER CLAIM (13 CLAIMS) \$118.00

gpc



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 172 MAP #1

KRAIN & D.W. GROUP
MAGNETOMETER SURVEY

Scale: 1" = 300'
VALUES IN GAMMAS

George E. App
ENGINEER IN CHARGE

A.J.2

APRIL 1957

Approx 120°W
S.B. 3

D.W. 6

KRAIN 6

KRAIN 5

KRAIN 8

KRAIN 10

KRAIN 11

KRAIN 2 FR.

KRAIN 12

KRAIN 4

KRAIN 3

KRAIN 4 FRAC.

KRAIN 1 FRAC.

KRAIN 13

KRAIN 14

KRAIN 2

KRAIN 5 FRAC.

KRAIN 7 FR.

D.W. 1 FR.

ANN 3

TRANSVAAL

S.B. 1

ANN 5

PRETORIA

S.B. 2 FR.

D.W. 3

D.W. 4

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 172 MAP #12

- 1000 Gammas or less
- 1000 - 1100
- 1100 - 1500
- 1500 - 2000
- 2000 +

Trenching.
o o Diamond Drill Holes.

KRAIN & D.W. GROUP Magnetometer Survey

Scale - 1" = 300'

CONTOURS IN HUNDREDS OF GAMMAS

George E. Opp
ENGINEER IN CHARGE
A.J.2

APRIL 1957



132,000.0

131,000.0

130,000.0

129,000.0

128,000.0

127,000.0

126,000.0

125,000.0

124,000.0

123,000.0

122,000.0

X LINE

J LINE

K LINE

L LINE

M LINE

N LINE

P LINE

Q LINE

R LINE

S.W. 2

S LINE

T LINE

U LINE

V LINE

W LINE

X LINE

ANN 4

ANN 6

ANN 8

WILDCAT 9

S.B. 2

D.W. 5

S.B. 3

D.W. 6

GLENORA

116,000.0

117,000.0

118,000.0

119,000.0

120,000.0

121,000.0

122,000.0

123,000.0