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SUMMARY REPORT

on the

MT. ROOSEVELT PROPERTY

of

COPPERLINE MINES LTD (N.P.L.)

July 8, 1972
Vancouver, B.C.

Laurence Sookochoff, P.Eng.,
Consulting Geologist

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SUMMARY

Copperline Mines Ltd. (N.P.L.) owns a total of 158 contiguous mineral claims situated 125 miles due west of Fort Nelson and 6 miles southeast of Mt. Roosevelt in northeastern British Columbia. Churchill Copper's Magnum mine is 11.5 miles northwest and the Davis Keays property 15 miles northwest of the Copperline group of claims.

Sufficient water for exploration or mining purposes is available from Churchill Creek.

Diesel electric power would be required as commercial sources of power are not available.

The thin bedded Proterozoic sequence of sedimentary rocks of the area contain many northerly-trending, steeply dipping, quartz-carbonate veins, some of which contain sufficient copper mineralization to be considered ore grade material.

In the Racing River-Toad River area of northeastern British Columbia there exists potentially economic quartz-carbonate. Two such veins in this area have been developed to a stage where approximately a million tons of potential ore has been blocked out.

The Magnum Mine of Churchill Copper located on the Magnum vein commenced production on July 1, 1970 but has since been shut down. The Eagle vein on the Davis-Keays property has had extensive development on it. These deposits contain 1.2 and .96 million tons of proven ore grading 3.50% copper and 4.48% copper respectively.

The John vein on the Copperline property contain a 50 foot mineralized zone averaging 4.09% copper. The Howard vein contains a 300 foot and a 350 foot section grading 3.95% copper and 2.94% copper respectively. Two other 300 foot sections grade slightly less than 2.00% copper.

CONCLUSIONS

From the preliminary results of the exploration of the John and Howard veins, it is concluded that the exploration programme on

the Mt. Roosevelt property should be concentrated on developing the potential ore zones of the Howard vein.

The grade of ore required for economic production would be directly related to the ultimate tonnage, extraction rate and the prevailing price of copper. A grade of 3% to 3 1/2% copper could be considered potential ore at this time. However, if custom milling were available at the Churchill mill the economic grade could be lowered.

RECOMMENDATIONS

It is recommended that the Howard vein be sampled at 20 foot intervals along its 2,400 foot exposure. A limited amount of trenching to expose fresh material of the vein should also be done.

The property also warrants geological mapping and prospecting the Proterozoic rocks of the claim block.

It is recommended that Copperline Mines Ltd (N.P.L.) allocate the sum of $29, 400.00 to implement the first stage of a two-stage exploration programme.

Respectfully submitted,

Laurence Sookochoff, P.Eng.,

June 8, 1972

INTRODUCTION

This report is based on information acquired by the writer while supervising a trenching programme on the Mt. Roosevelt property of Copperline Mines Ltd. from January to August of 1970. The trenching was done on the John vein - a mineralized quartz-carbonate vein located in the centre of the property.

This report deals with an assessment of two mineralized quartz-carbonate veins - the Howard vein located on Goat Mountain, and the John vein located two miles west of the Howard vein.

The Howard vein was examined by the writer in July of 1970.

In July of 1970 A.D. Wilmott, P.Eng., sampled the Howard vein at 100 foot intervals over its exposed length of 2,400 feet.

The John and associated veins were sampled by the writer.

PROPERTY

The property consists of 158 contiguous mineral claims most of which are directly south of Goat Creek and west of Churehill Creek.

All were acquired by location. The claim block is comprised of the following recorded mineral claims, all of which are presently in good standing.

Claim Name	Record No.	Expiry Date
L1 - L36	44476-44511	May 13, 1973
John 10-17	31689-31696	September 5, 1975
John 18-23	31833-31838	September 10, 1975
John 24-34	32007-32017	September 26, 1975
John 35-77	35438-35480	February 25, 1976
John 78-99	38655-38676	June 23, 1974
John 1A-10A, 12A 16A, 17A Fr., 19A Fr. M1, M2, Fr. M3 M4 Fr., M5-M7 M8 Fr., M9 Fr., M10, M11, M12 Fr. M14 Fr.	38677-38686, 38688, 38692-38693, 38695	June 23, 1974
M15, M16.	49906-49922	November 5, 1972

LOCATION (58^{o} 21'N, 125^{o} 10'W)

The property is located 125 miles due west of Ft. Nelson in the Rocky Mountains of British Columbia. The claims are situated south of Goat Creek, an easterly flowing tributary of Churchill Creek.

The Magnum Mine of Churchill Copper Corp. Ltd. is 11.5 miles to the northwest and the Davis-Keays property 15 miles to the northwest.

ACCESS

Access to the property is by a 7 mile tote road south from Churchill Copper's millsite, at the mouth of Delano Creek. The millsite is accessible by a 10-mile all-weather gravel road from Mile 401 of the Alaska Highway. Fort Nelson is at Mile 300 of the Alaska Highway.

Working access to the Howard vein would have to be provided by helicopter.

TOPOGRAPHY AND TIMBER

The topography is relatively steep with peaks in the area reaching 9000 feet from base elevations at 3,500 feet.

To the tree line at 4,500 feet elevation, the slopes are moderately covered with lodgepole pine with lesser amounts of alpine fir and brush.

WATER AND POWER

Water is plentiful in Churchill Creek during the summer months but may become restricted during the colder winter months. Diesel electric units would be required as sources of power as commercial power is not available.

CLIMATE

The area is in a sub-Arctic climate belt characterized by long cold winters and short cool summers. Temperatures average $-10^{o}F$ from December to February and the mean monthly temperature for July is only $60^{o}F$.

In the valleys the snow is usually melted by mid-April but may prevail to mid-July at the higher elevations.

HISTORY OF THE AREA

Chalcopyrite bearing quartz-carbonate veins have been known in the Racing River area since the early 1940's. The first occurrence to be explored was the Magnum vein which was first drilled in 1958. Subsequent exploration and development of the Magnum vein by

Churchill Copper Corp. Ltd proved up 1.2 million tons of ore averaging 3.50% copper. The property was placed into production on July 1, 1970. Production was temporarily suspended on October 1, 1971 due to low copper prices.

The Churchill vein, located on Goat Mountain on claims held by Churchill Copper was diamond drilled in 1966. The writer has checked the Churchill vein and found it to contain significant chalcopyrite mineralization.

Since 1967 Davis-Keays Mining Co. Ltd has explored and developed the Eagle vein to a stage where 966,000 tons of potential ore averaging 4.48% copper have been blocked out.

Other veins in the local area - namely the Neil veins of Copper Keays Mines - are being explored.

PROPERTY HISTORY

In 1968 Copperline Mines acquired a group of claims which were staked to cover a mineralized quartz-carbonate vein (John vein).

In 1969 additional claims were staked around the original property and a preliminary exploration programme along with the construction of a road to the John vein was completed.

From January to August of 1970 a bulldozer trenching programme was undertaken on the John vein. The trenching disclosed a total of four veins - one of which averaged 3.4 feet wide and 4.09% copper over a strike length of 50 feet.

During the same period additional claims were staked to the east of the claim block to cover a mineralized quartz-carbonate vein (Howard vein) 1, 500 feet northwest of the Churchill vein. The Howard vein was sampled at 100 foot intervals.

No work was done on the property in 1971.

GENERAL GEOLOGY

The Rocky Mountains in this general region are underlain by a thick succession of unmetamorphosed sedimentary rocks ranging in age from Ordovician to Proterozoic, Cambrian and younger rocks predominate although "inliers" of Proterozoic strata several miles in wdith do outcrop. The Proterozoic rocks are generally comprised of argillaceous, arenaceous and calcereous thin bedded units which

in exposed sections are gently dipping and locally contorted. Intrusive rocks are absent however numerous steeply dipping north to north-westerly trending gabbroic dykes are common in the Proterozoic rocks.

Quartz-carbonate veins found in the Proterozoic rocks are pre and post dyke in age and appear to be controlled by strong northerly trending faults or tensional zones of weakness - similar structures to those occupied by the dykes.

LOCAL GEOLOGY

The claims cover an area of Proterozoic sedimentary rocks containing steeply dipping gabbroic dykes and quartz-carbonate veins. An irregular westerly dipping contact between the Proterozoic rocks and a reddish Cambrian conglomerate trends northerly through the western part of the property and locally caps the peak of Goat Mountain. It is along a shear zone of this contact that the John and associated veins occur.

Two northerly trending dykes outcrop on and are truncated by the Cambrian conglomerate on Goat Mountain. The Howard vein is adjacent to one of these dykes.

MINERALIZATION

Chalcopyrite occurs as disseminations, pods and discontinuous stringers in a quartz-carbonate gangue. Bornite rarely occurs. Precious metal content is negligible. Pyrite is uncommon.

Mineralization in the wall rock was not detected.

HOWARD VEIN

The Howard vein outcrops for 2,400 feet at an elevation of from 6,400 to 7,150 feet in a north-facing cirque of Goat Mountain. The vein is northerly striking, dipping at 75° to the west and varies from 2 to 10 feet in width. The northern section of the vein parallels a gabbroic dyke and for 700 feet splits into two subparallel veins each of comparable width and tenor to the southern section. The vein feathers out into quartz stringers to the south and is covered by overburden to the north.

A northerly trending vein outcrops approximately 1,000 feet north along strike of the Howard vein. It is exposed in a narrow canyon at the mouth of a cirque at an elevation of 4,300 feet. Precipitous slopes and snow conditions deterred any other examination of the vein than at one place. The vein at the one location is 3.5 feet wide and is estimated to grade 1 to 1.5% copper.

JOHN VEIN

The John vein and associated veins outcrop in and adjacent to a shear zone contact between the Proterozoic and the Cambrian rocks. The veins are up to 5 feet wide, however, one exposure was of a 20 foot vein outcrop. Up to four separate veins have been exposed but only the John vein carries significant copper values.

SAMPLING AND RESULTS

A.D. Wilmott, P.Eng., chip sampled the Howard Vein at 100 foot intervals over its exposed length of 2, 400 feet. The two veins that split from the main vein for the northern 700 feet were termed the Howard East and Howard West veins and were sampled separately.

The writer sampled the John and associated veins during the trenching programme in 1969.

The results of the sampling on the Howard vein are as follows:

Location		Width (feet)	Grade (% Cu)
Howard	0+50S (ele 6400')	4.0	1.85
West	3+50S	10.0	2.81
	5+00S	6.0	1.77
	6+00S	5.0	4.23

Location		Width (feet)	Grade (% Cu)
Howard	0+00	6.0	3.25
East	3+00S	6.0	1.96
	4+00S	9.0	1.55
	5+00S	8.0	1.67
	6+00S	6.0	0.05
Main	7+00S	9.0	0.49
Vein	8+00S	3.0	2.50
	9+00S	5.0	6.58
	10+00S	10.0	2.77
	11+00S	4.0	0.39
	12+00S	4.0	0.70
	13+00S	3.0	0.06
	14+00S	2.0	0.66
	15+00S	12.0	1.24
	16+00S	7.0	2.82
	17+00S	8.0	1.82
	18+00S	2.0	0.45
	19+00S	8.0	0.38
	21+00	5.0	0.18
	22+00	2.0	0.06
	23+00 (Elev 7150')	3.0	0.23

Sampling results on the John and associated veins are as follows:

Location	Width (feet)		Grade (% Cu)
Trench A (separate veins)	4.0		0.5
	2.0		0.21
Trench 1 (separate veins)	0.9		0.03
	1.2		0.09
Trench 2	4.2)		4.28
	)	vein 9.2' wide	
	5.0)		1.40
	3.5		1.27
Trench 3 (separate veins)	3.1		0.30
	1.7		0.98
	2.5		0.40
John Vein	6.0		0.09
	2.4		1.60
	2.5		0.35
	4.0		1.70
	4.7		1.52
	1.6		3.80
	7.8		1.96
	1.6		2.95
	2.4		1.09
	2.7		4.75
	1.6		4.77

Location	Width (feet)	Grade (% Cu)
	2.0	6.70
	6.2	1.84
	4.3	1.88
	4.9	8.25
	3.6	3.76
	2.9	6.70
Trench 4 (one vein)	5.0	0.65
	5 0	0.44
	5.0	0.28
	5.0	0.26
Trench 6	4.0	Tr.

EXPLORATION PROGRAMME

Two stages in the exploration programme of the Howard vein and the claim group are recommended.

The first stage would include:

1. Sampling of the Howard vein at 20 foot intervals to fully assess its potential.

2. Trenching and sampling fresh portions of the Howard vein in order to determine any values lost through weathering.

3. Geologic mapping and general prospecting of the Proterozoic rocks on the claim block.

The second stage would be implemented upon favourable results from the first stage. This stage would be a diamond drilling programme to test the vertical continuity of the ore zones.

FIRST STAGE

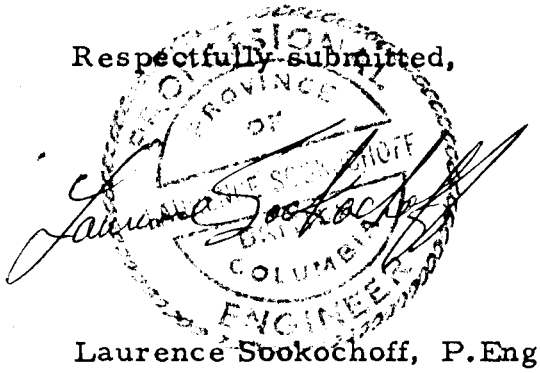
Geological Mapping and Prospecting	$ 3,500.00
Trenching	2,000.00
Sampling, assaying, engineering	5,000.00
Helicopter expenses	6,500.00
Supervision	3,000.00
Camp expenses and accommodation	2,000.00
Travel, communications	2,500.00
	$24,500.00
Contingency (20%)	4,900.00
	$29,400.00

SECOND STAGE

Diamond drilling, 2,500 feet at $15/foot (include all costs except helicopter charges)	$37,500.00
Helicopter charges	12,500.00
	$79,400.00

$50,000.00

Respectfully submitted,



Laurence Sookochoff, P.Eng.,

Vancouver, B.C.
June 8, 1972

CERTIFICATE

I, Laurence Sookochoff, do hereby certify that:

1. I am a practising geologist with residence at 3812 West 16th Avenue, Vancouver 8, British Columbia.

2. I am a graduate of the University of British Columbia and have been granted a degree of Bachelor of Science.

3. I have been practising my profession for six years.

4. I am a member of the Association of Professional Engineers of British Columbia.

5. This report is based on information obtained while I was working on the Mt. Roosevelt property from January to June of 1970.

6. I have no direct or indirect interest nor to I expect to receive any interest in the property or securities of Copperline Mines Ltd. (N.P.L.)

Laurence Sookochoff, P.Eng.,

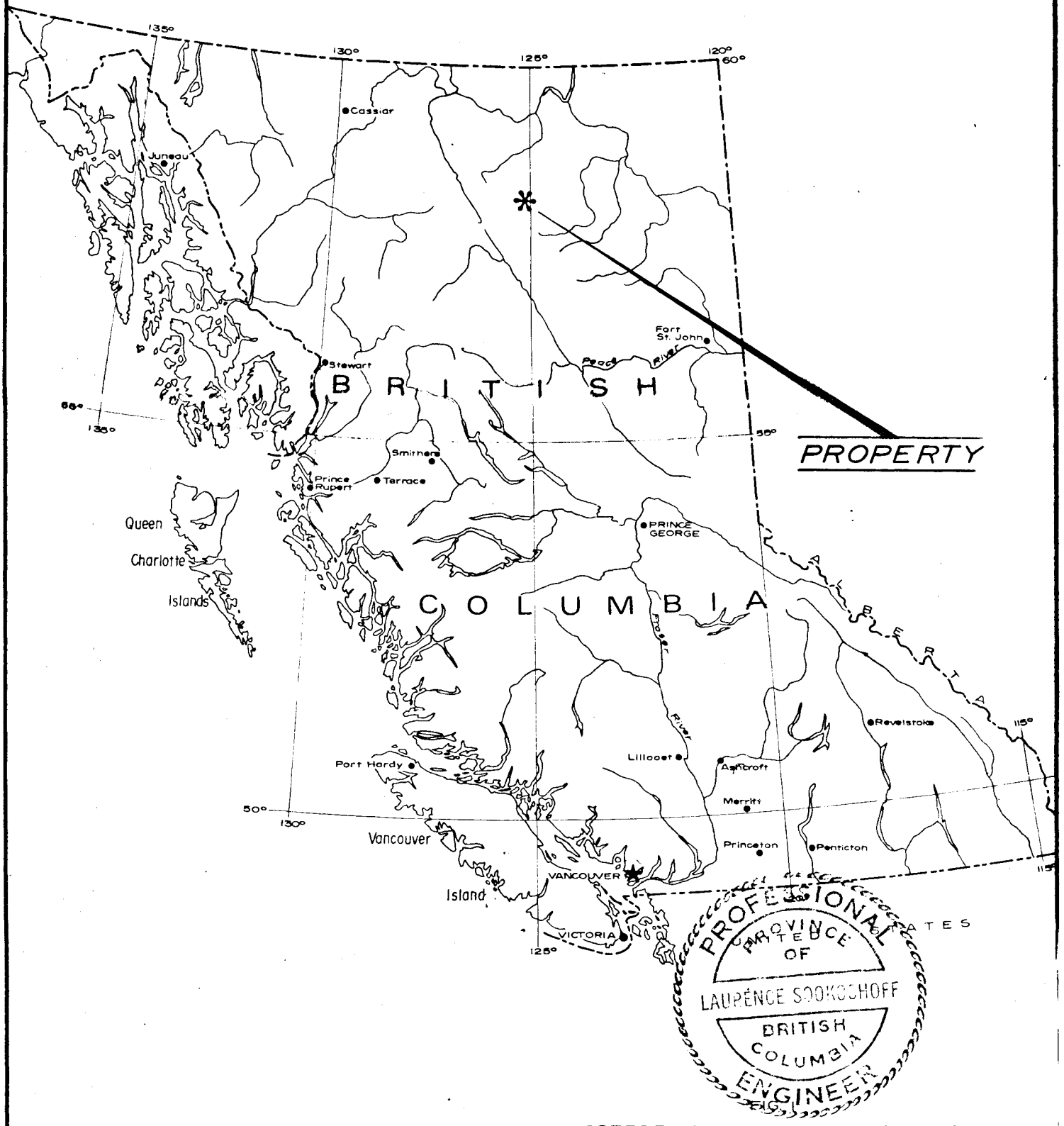
June 8, 1972
Vancouver, B.C.

REFERENCES

Taylor, G.C. et al. Tuchodi Lakes, British Columbia; Geological Survey of Canada, Department of Energy, Mines and Petroleum Resources, 1970.

Davis-Keays Mining Co. Ltd (N.P.L.) 1971 Annual Report.

Churchill Copper Corp. Ltd. (N.P.L.) 1970 Annual Report.



PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
LAURENCE SOOKOCHOFF

COPPERLINE MINES LTD. (N.P.L.)

MT. ROOSEVELT PROPERTY

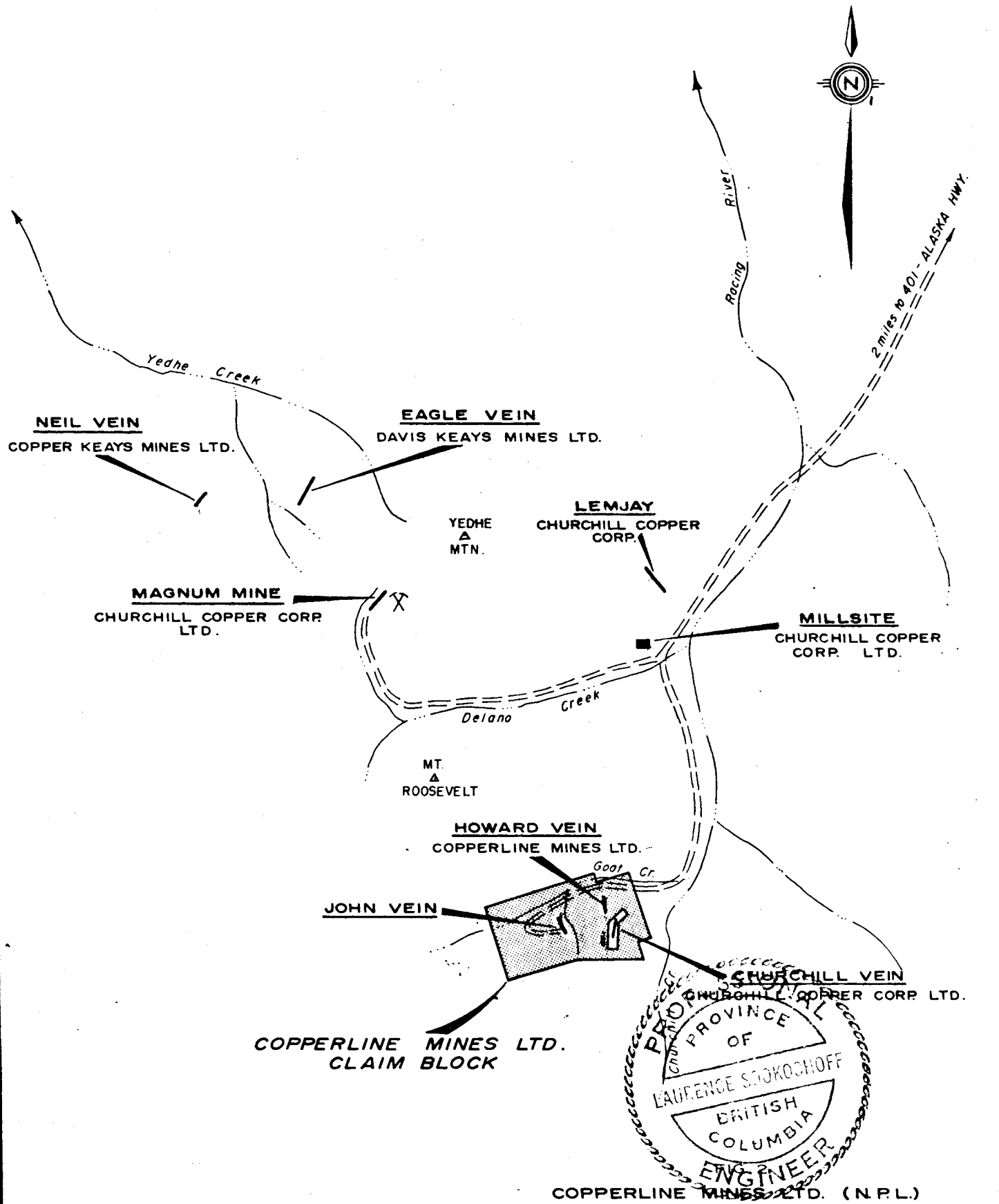
LOCATION MAP

SCALE
1" = 136 Miles

L. SOOKOCHOFF, CONSULTING GEOLOGIST

June, 1972

ALTAIR drafting services ltd.



COPPERLINE MINES LTD. (N.P.L.)

MT. ROOSEVELT PROPERTY

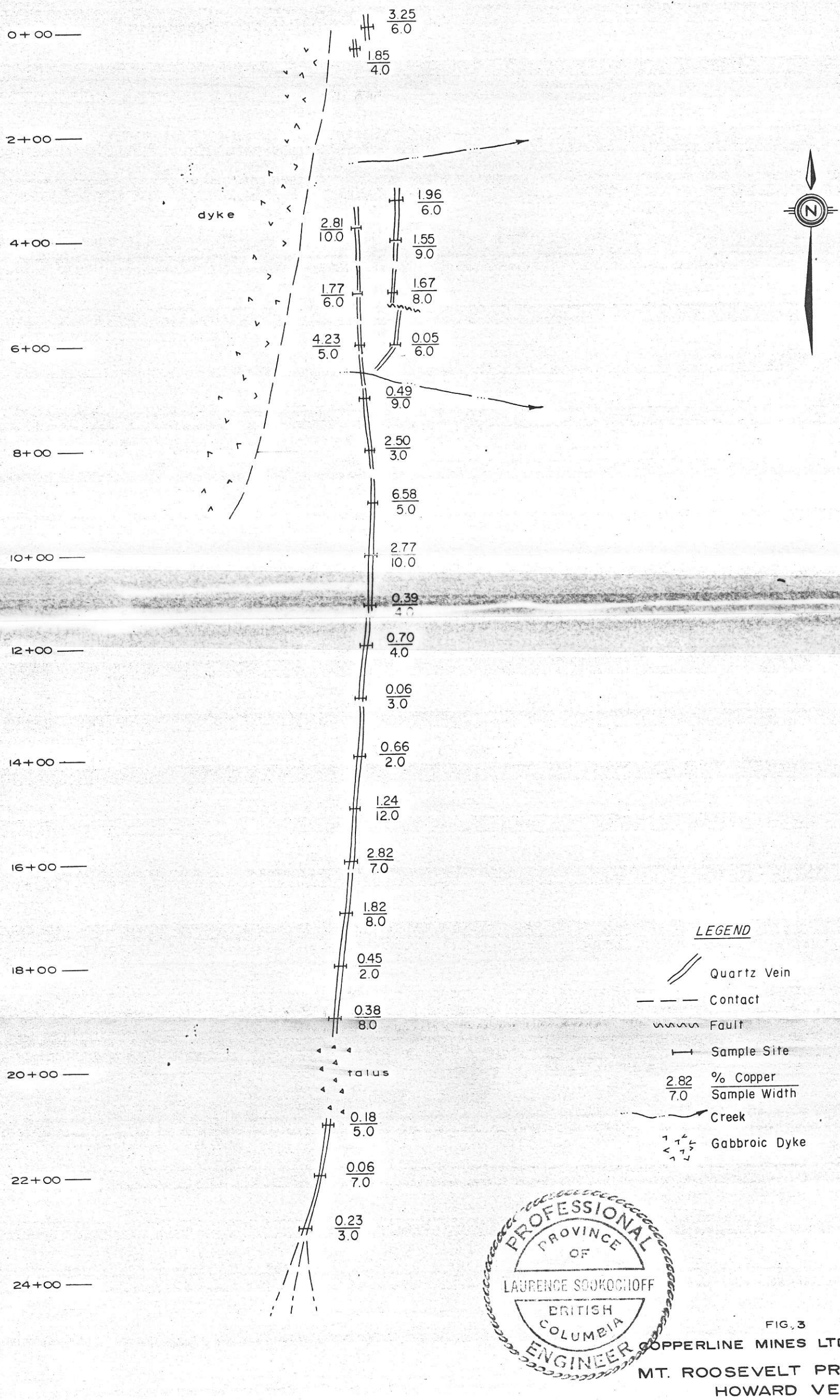
CLAIM LOCATION MAP

SCALE

MILES 4 2 0 4 MILES

L. SOOKOCHOFF, CONSULTING GEOLOGIST

June, 1972



PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
LAURENCE SOOKOCHOFF

FIG. 3

COPPERLINE MINES LTD. (N.P.L.)

MT. ROOSEVELT PROPERTY

HOWARD VEIN

ASSAY PLAN

SCALE

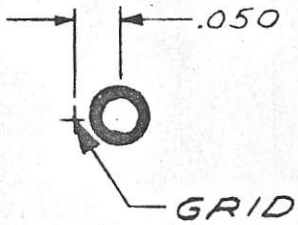
FT. 200 0 200 FT.

L. SOOKOCHOFF, CONSULTING GEOLOGIST

Mapped & Sampled By D. Wilmott, P. Eng.

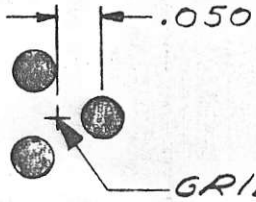
MULTIPLE PAD PATTERN

329



SINGLE NEGATIVE :
VOLTAGE SUPPLY &
GROUND PLANE
O.D. .060
I.D. .044
(.075 X .0433 GRID)

330



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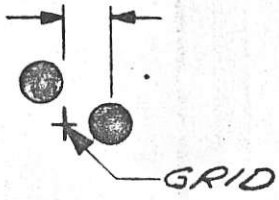

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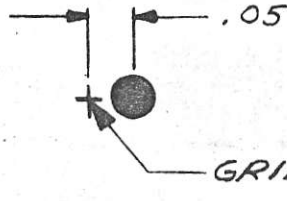

SINGLE PAD :
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(.075 X .0433 GRID)

TRENCH 8

TRENCH 7

TRENCH 6

TRENCH 5

TRENCH 4

TRENCH 3

TRENCH 2

TRENCH 1

TRENCH 1A

38°

72°

39°

40'- Tr, Tr, 0.08

60°

80° 47° 59°

70° 82° 62°

5.0'-0.65,10.10,Tr.
5.0'-0.44,0.10,Tr.
5.0'-0.28,0.15,Tr.
5.0'-0.26,0.10,Tr.

55°

31'-0.30,0.15,Tr

76° 20°

4.2'-4.28,0.65,0.01

5.0'-1.40,0.65,0.01

54°

2.9,6.70
3.6,3.76
4.9,8.25
4.3,1.88
6.2-1.84,0.25,0.005
1.6'-4.77,2.15,0.01
2.4'-1.09,0.35,Tr
7.8'-1.96,0.15,0.005
4.7'-1.52,0.10,0.005
2.5'-0.35,0.20,Tr.

Samples taken 5' above lower samples

2.0'-6.70,1.70,0.01
2.7'-4.75,0.95,0.01
1.6'-2.95,0.55,0.005
1.6'-3.80,0.50,0.005
2.4'-1.60,0.30,0.005
6.0'-0.09,Tr.,Tr

1.7'-0.98,0.20,0.005

80°

3.5'-1.27,0.10,0.0005

74° 75°

2.5'-0.40,Tr,Tr

4.0'-1.70,0.10,0.005

55°

60° 60°

54°

60°

72°

0.9'-0.03,0.10,0.005

63°

4.0',0.15,Tr. Tr.

59°

2.0'-0.21,0.10,Tr

47°

32°

1.2'-0.09,0.05,0.005

60°

LEGEND

PROTEROZOIC

/// ARGILLITE – Including Siltstone, Sandstone, Slate – light grey to black-thin bedded

CAMBRIAN

xxx SANDSTONE – Grading to Conglomerate – red bedding indistinct.

40° Bedding – strike and dip

80° Fracture – strike and dip

70° Contact – strike and dip

Sample Site

3.5'-2.95,0.55,0.01 Sample width – % Cu, Ag oz/ton, Au. oz/ton

Test Hole

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA LAURENCE SOOKOCHOFF

inches 0 1
centimetres 0 1 2

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

COPPERLINE MINES LTD. (N.P.L.)
MT ROOSEVELT PROPERTY
JOHN VEIN
GEOLOGY & ASSAY PLAN

SCALE

Ft 40 0 40 80 Ft

L. SOOKOCHOFF, P. Eng.

June, 1972