Summary Geological Report WIMS Copy

ROSCOE LAKE EXPLORATION PROJECT

STELLAKO MINING CO. LTD. (N.P.L.)

W. M. Sharp, P.Eng. December, 1966.

WILLIAM M. SHARP, P. ENG.
CONSULTING GEOLOGICAL ENGINEER

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STE. 808, 900 WEST HASTINGS ST.
VANCOUVER 1, B. C.

December 15th, 1966.

President and Directors,
Stellako Mining Co. Ltd. (N.P.L.),
c/o Mr. J. R. Trepanier,
Managing Director,
716 - 602 West Hastings Street,
Vancouver 2, B. C.

page 1.

Gentlemen:

The accompanying "Summary Geological Report, "ROSCOE LAKE EXPLORATION PROJECT, STELLAKO MINING CO. LTD., (N.P.L.)" has been compiled in accordance with your preliminary authorization and request to furnish the Company with a comprehensive summary of the considerable amount of general and detailed exploration accomplished to date at your Highland Valley property. In addition to this, and pursuant to a detailed summary of the most recent soil sampling - magnetometer investigations, the writer presents his detailed recommendations, with estimated costs, for the exploration of the several presently-indicated target zones.

The writer thankfully acknowledges the general information and cooperation provided by Company principals, and the detailed information and personal cooperation provided by Mr. L. Hachey, the Company's field manager.

Respectfully submitted,

W. M. Sharp, P.Eng.

SUMMARY GEOLOGICAL REPORT

on the

ROSCOE LAKE EXPLORATION PROJECT

of

STELLAKO MINING CO. LTD. (N.P.L.)

in the

CENTRAL HIGHLAND VALLEY AREA,

KAMLOOPS MINING DIVISION, B. C.

by

W. M. SHARP, P. ENG., CONSULTANT

DECEMBER, 1966.

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Fig. 2: Roscoe Lake Claim Group; 1 inch = 1/2 mi.

Drawing No. 1: Current Geochemical-Magnetometer Data; 1 inch = 200 ft.

Drawing No. 2: Diamond Drill & Bulldozer Trench Exploration; 1 inch = 50 ft.

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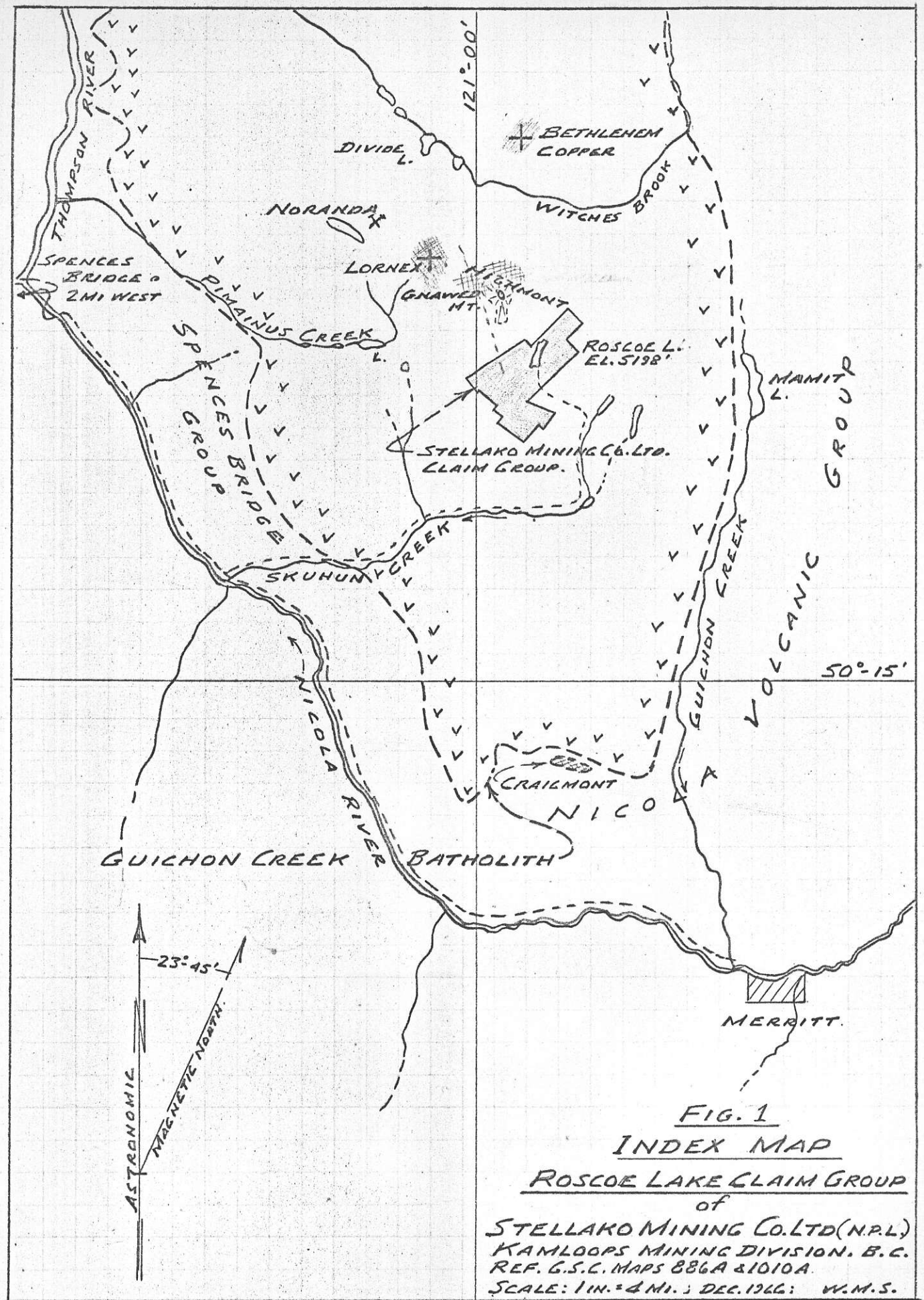


FIG. 1

INDEX MAP

ROSCOE LAKE CLAIM GROUP

of

STELLAKO MINING CO. LTD (N.P.L.)

KAMLOOPS MINING DIVISION. B.C.

REF. G.S.C. MAPS 886A & 1010A

SCALE: 1 IN. = 4 MI.; DEC. 1966: W.M.S.

current data

Gentlemen:

SUMMARY & RECOMMENDATIONS

The 98-claim Roscoe Lake property of Stellako Mining Co. Ltd. (N.P.L.) is situated within the actively-developing central section of the Highland Valley copper camp. The Company's property lies within two and 4 miles, respectively, of the Highmont and Lornex properties on which exploration of major zones of low-grade Cu-Mo mineralization is in progress. In view of the relative south-easterly position of the Roscoe Lake group, and present inferences concerning the nature and trend of controlling structures within the above properties, the Stellako group appears to be geologically well situated for similar occurrences of mineralization.

Since July, 1965, Stellako Mining Co. has accomplished a considerable program of reconnaissance exploration over the general extent of its property.

The program of closely-spaced, or detailed trenching and diamond drilling accomplished over a 1600-foot interval of the above Central zone disclosed two mineralized sections of small, to fair lateral extent. The northerly, or high-grade "discovery" section proved to be a shallow elliptical block, with an indicated NNE-length of 250 feet and a central width of 57.5 feet. The cut-average grade of surface mineralization was estimated at 2.25% copper; included higher-grade quartz-bornite sections assaying as high as 9.6% Cu over a 12 foot width. Subsequent diamond drilling indicated a marked reduction of width and mineral content at a depth of less than 100 feet.

Exploration within the southerly part of this 1600-foot interval of the Central structure also disclosed a 600' x 100' section, with an indicated average grade of 0.25 - 0.30% copper and minor associated, but erratic molybdenite. Mineralization extends to a depth of at least 400 feet. Strong talc-carbonate alteration of the aplitic host rocks, and frequent occurrences of sparse mineralization were noted over a locally-exposed 600 foot cross-section. A strong geochemical anomaly in this area indicates a considerable southerly extension of the easterly, unexplored section of the zone.

Geophysical (I.P.) exploration of a central N-S interval of the property delineated pronounced anomalous zones at 1200' and 3800' east and west, respectively, of the Central zone. Subsequent drill exploration indicated that these

anomalies were caused by concentrations of secondary alteration minerals; however, other less-pronounced anomalies could be positively related to disseminated sulphide mineralization.

The recently-completed geochemical survey of the group disclosed six major copper anomalies and several zones of lesser strength and extent. Each of the major anomalies exceeds 1500 feet in length, and is from a few, to several hundreds of feet in width. The principal anomalies are so distributed as to lie within a single broad zone trending NNW through the north half of the claim group. This zone also closely parallels major westerly topographic lineaments striking through the Highmont-Larnex (westerly Gnawed Mt.) section of the camp. Recent diamond drill intersections (S18-S21 incl.) indicate a strong system of fracturing, aplite dyke intrusion, and hydro-thermal alteration within the general vicinity of the lineament - these being fundamentally associated with mineralization within the Rascoe Lake group and the northerly properties of the camp. In view of the rather close relationship of the current zone of geochemical anomalies and an apparent major controlling lineament, this zone has an apparently real mineral potential.

A plot of the currently-pending magnetic data for the area west of Knight Lake and above 46N will most probably indicate the presence of paralleling, related zones of alteration.

Recommendations for further physical exploration follow:

PRELIMINARY:

1. Construct access roads.

2. Investigate feasibility of detailed I.P. coverage and provide for this. — this entails trial tests via single lines for comparison w previous data; ie. may or may not be applicable in rel unbroken N.W part of prop - but probably not.

STAGE I

Percussion-drill exploration of geochemical (etc?) anomalies:

(a) 52-66N; 29W
(b) 42-54N; 20-29W
(c) 58N; 22.5-26.5W
(d) 50-58N; 0-14W
(e) 38-42N; 0-9.5W
(f) 58-64N; 26-36E
(g) 10-16S; 0-6E

STAGE II

Provide for diamond drill exploration at depth of possible occurrences of surface mineralization.

ESTIMATED COSTS:

PRELIMINARY:

1.	Access roads, estimate 3 miles	2,500.00
2.	Provision for detailed I.P. survey and/or trenching	5,000.00

STAGE I: *Roy Carlson*

2(a)	20,000 lineal ft. @ 3.00/l.f.	60,000.00
(b)	Provision sampling, supervision, etc.	7,500.00
)c)	Allowance for omissions and contingencies	7,500.00
	Sub-total, Stage I -	82,500.00

STAGE II:

Estimate 5,000 l.f. @ $10/l.f.	50,000.00
Provision for sampling, supervision, etc.	12,500.00
Allowance for omissions and contingencies	7,500.00
Total, Preliminary, Stage I and Stage II:	**$152,500.00**

Respectfully submitted,

Noranda Explor'n recommends - saturation prospecting for conclusive evaluation

W. M. Sharp, P.Eng.

1/ Rehabilitate existing grid
2/ Extend existing grid.
3/ Complete coverage V.L.F - EM-16 survey.
4/ Complete " /re/mo geochem soil + silt sampling. @ 400' x 100'
5/ Complete " / Hg - geochem fumes or bore-hole sampling.
6/ Complete " / mag. survey - (consid. nuclear proton total field.)
7/ Trenching - superficially mineralized areas.
8/ Dia - percussion drill explor' sampling.

INTRODUCTION

Following the receipt of the final geochemical determinations of soil samples accruing from the Roscoe Lake soil-sampling program, Company principals advised the writer to prepare a comprehensive summary report of work accomplished to date - with particular emphasis on the most recent geochemical-magnetometer phase of the general exploration program. The suggestion was made that the report should also include the writer's detailed recommendations for follow-up exploration of any newly-indicated mineralized areas, or of previously-indicated target areas further substantiated as a result of the recent investigations.

The writer has made frequent visits to the property, as the Company's geological consultant, since his initial examination of the prospect on May 31- June 1, 1965 - followed by his initial recommendations for acquisition of the primary claim group, and exploration of the original float-indicated target area. Consequently the writer has a complete record of all phases of exploration since its inception.

Successive field managers, Messrs. J. E. White and L. Hachey, respectively, have provided the writer with periodic progress reports and general exploration data; the writer is particularly appreciative of this productive assistance and cooperation.

The writer also thankfully acknowledges the general observations and recommendations of Dr. A. C. Skerl, Consulting Geologist, accruing from his May 26-27, 1966 visit to the property and his considerable knowledge of Highland Valley geology. This was transmitted to the writer by the Company via his report dated May 31, 1966.

Of the material comprising the current report, the principal emphasis has been directed to the accompanying detailed drawings; the text is supplementary to these.

The principal supplementary references are listed:

1. G.S.C. Memoirs 243, 249 and 262, and accompanying 1 inch = 4 mile maps, for general and detailed descriptions of Highland Valley camp geology and mineral occurrences.

2. Annual Reports of the Minister of Mines of B.C. for the years 1955-1965 inclusive.

3. "Report on I.P. Survey, Roscoe Lake Area", by McPhar Geophysics Limited, dated April 12, 1966.

4. Report, "Stellako Mines Limited", by Dr. A. C. Skerl, P.Eng., dated 31st May, 1966.

PROPERTY

The property consists of a unit block of 98 claims and fractions extending approximately 2 miles N.E. and S.W. of the south end of Roscoe Lake.

The original 8-claim "Yubet" group, containing the "discovery" mineral zone was augmented by the surrounding "Price" claims, acquired shortly after the option-acquisition of the basic group.

Fig. 2 of the text is a plan of the Company's Roscoe Lake Group; it also embodies the general location and ownership of adjoining ground and features of the areal drainage pattern - the latter pertaining to features of the general geology and of the geochemical explorations later discussed in this report.

The original Yubet claims were staked and recorded by Mr. W. T. Curnow, Spences Bridge, B.C. on Jan. 10th and 11th, 1965, respectively, on a joint-participation venture with Mr. M. Mooney, Osoyoos, B.C. Stellako Mining Co. Ltd. secured an option on the property in June, 1965.

A formal claim schedule, with details of names, locators, location and record dates, place of recording, and ownership - to supplement Fig. 2 -

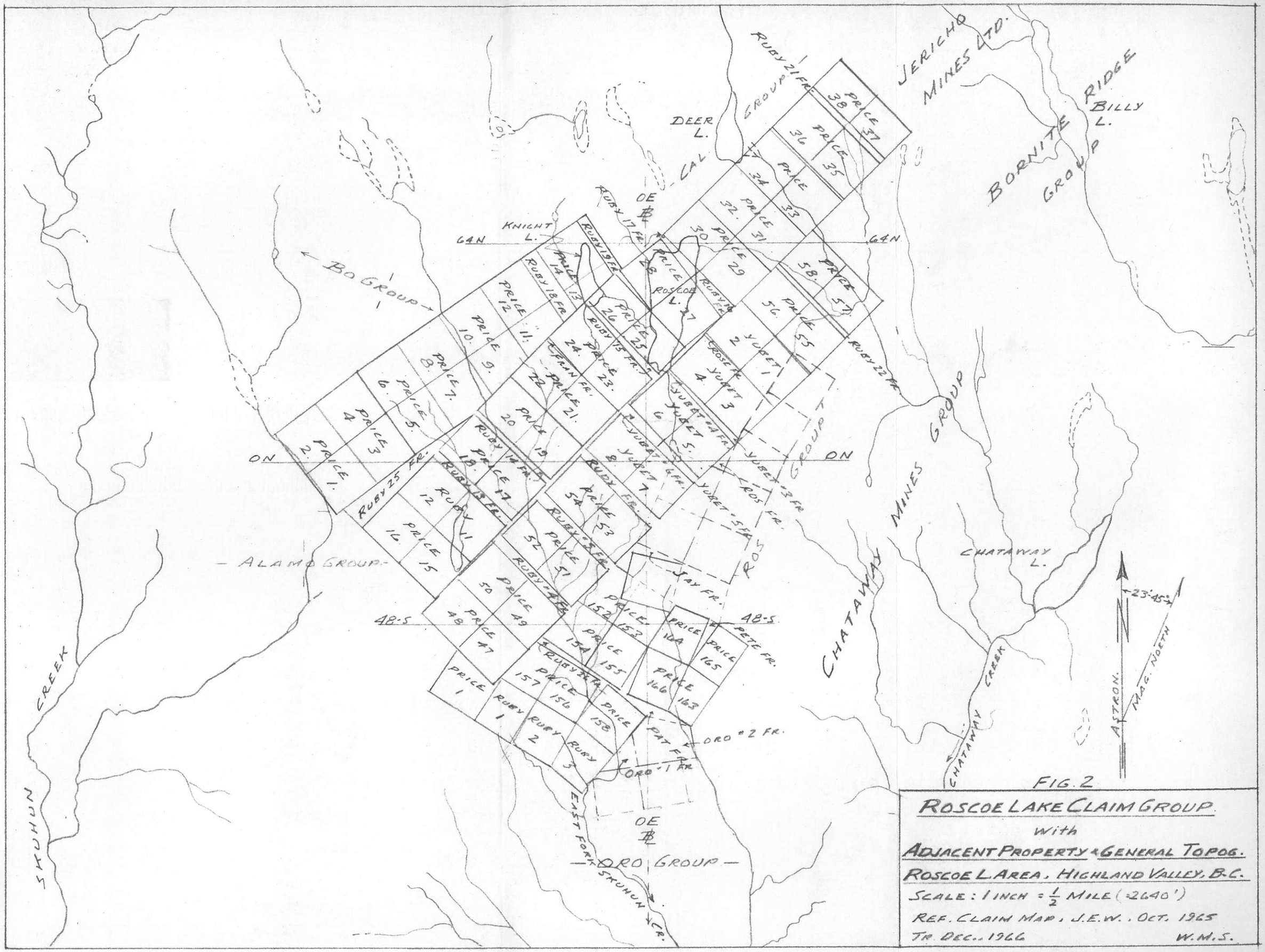


FIG. 2

ROSCOE LAKE CLAIM GROUP.
with
ADJACENT PROPERTY & GENERAL TOPOG.
ROSCOE L. AREA, HIGHLAND VALLEY, B.C.

SCALE: 1 INCH = $\frac{1}{2}$ MILE (=2640')

REF. CLAIM MAP, J.E.W., OCT. 1965

JR. DEC., 1966 W.M.S.

may be obtained, if specifically required, from the Company's attorney and/or the writer.

As of the most recent filing, the total dollar-value of work thus far submitted is sufficient to maintain the three current sub-groups in good standing for 2, 5, and 7 years respectively.

LOCATION AND ACCESSIBILITY

Fig. 1 of the text shows the geographic-geologic location of the property and its situation with respect the producing mines and more important prospects of the region.

The Roscoe Lake exploration camp and main showings are reached via 21 miles of well-graded gravel road from Skuhun Cr. bridge on the Spences Bridge-Merritt highway; some 14 miles of this was constructed by Stellako Mines Ltd. in 1965. The Stellako prospect zone lies 5 miles southeast of the Lornex deposit, and 7 miles south of the Bethlehem mine; it is also 12 miles NNW of the Craigmont mine - the latter in a different geologic setting.

GENERAL FEATURES

The local terrain is flat, gently rolling, frequently swampy, and covered by thick stands of lodgepole pine and occasional spruce- all typical of the lake section of the central Highland Valley region.

A few exposures of granitic bedrock occur along the typically-low, glaciated northerly-trending ridges. In general overburden is not excessively deep - typically ranging from a few inches to about 15 feet in depth.

Within the flat areas the water table lies closely below the ground surface; this provides a favourable water supply situation, but locally restricts bulldozer trench exploration.

Overburden consists essentially of the normal glacial drift of the region.

A typical vertical section consists of:

1. A basal section of compact silty clay containing cobbles, boulders, and frost-heaved bedrock fragments;

2. A crudely-stratified principal section of alternating fluvio-glacial clay, silts, gravels, boulders, and intergradations of the foregoing;

3. An upper layer of variably weathered drift or raw, sandy soil;

4. A near-surface layer of mineral soil;

5. A surface layer of forest humus or decomposed swamp vegetation or "muck".

The local permeability of the overburden to possible metal-bearing solutions or dispersions from the underlying (mineralized) bedrock is primarily influenced by the density, structure, and thickness of the basal clay layer. Where the overburden is not excessively deep, a degree of permeability has been achieved through the disruptive effect of frost action and root penetration. Consequently, soil-sampling, for the purposes of geochemical investigation, is generally practicable over non-swampy areas.

HISTORY

Prior to the detailed exploratory work commenced in July, 1965, the area comprising the existing claim group was included within a general geological, magnetometer, and geochemical reconnaissance investigation of this section of the camp, conducted some ten years earlier. Subsequent physical exploration within the present claim group was confined to manual excavation of a few small pits - possibly on specific geochemical anomalies within the southerly part of the present "discovery" area. There is no evidence or record of other exploratory work within the present group. Intensive exploration commenced upon the Company's recent acquisition of the initial 8-claim group, and has consisted of geological geophysical and geochemical surveys - followed by bulldozer trenching and diamond drilling of specific targets. The foregoing initial exploration phase, completed in March, 1966, has been followed by a comprehensive geochemical-magnetometer survey of the whole property. This and the preceding exploratory work are summarized in subsequent sections of the report.

REGIONAL GEOLOGY (Fig. 1)

The property is situated within the central interior part of the regional Guichon Creek batholith, which is host to the more significant copper-molybdenum deposits of the Highland Valley area.

The batholith is a complex intrusive, essentially consisting of granitic, granodioritic, quartz dioritic, and dioritic phases; locally more acidic and/or basic differentiates and "granitized" inclusions occur. The principal mineral deposits are typically associated with a more intricate complex of magmatic differentiates consisting of younger quartz diorites, alkaline to acidic porphyries, aplites, "felsites", and related "breccias" - these zones providing specific foci for the intensive pre-mineral fracturing necessary for economic concentrations of ore minerals. The dispersed (fracture-filling and replacement), or "porphyry copper" type of mineralization comprises the principal exploration target of the camp.

The principal zones of fracturing within the batholith have a general N-S trend; however, the more significant mineral occurrences appear to be localized to areas containing distinct sets of acutely-intersecting (conjugate) N-S and S.W.-N.E. trending fracture zones. The latter or transverse fracture systems are typically less apparent than those of the general N-S (formational) group (air photo lineaments). NNW-SSE.

Specific types of host-rock alteration assist in the exploration for potentially mineralized zones. These are characterized by occurrences of introduced silica, sericite, (pink) orthoclase-albite, greenish talc and chlorite, kaolin (?) and calcite, or of conspicuous amounts of disseminated magnetite, and, occasionally, pyrite.

Typical mineralization consists of disseminated and veining chalcopyrite and bornite, with occasional minor molybdenite, in single veins and/or more extensive stockworks and breccias. The vein deposits are typified by conspicuous amounts of associated quartz.

LOCAL GEOLOGY (Drawing No. 2)

The principal exposures of mineralization so far delimited occur within the several trenches along the discovery zone, and in drill cores derived from it.

The Roscoe Lake group is predominantly underlain by the "Bethsaida granite" facies of the Guichon batholith. This is a medium, to coarse-grained granodiorite which is characterized by the presence of roughly cubic books of biotite and rounded quartz eyes - the latter frequently sufficiently well developed to locally produce porphyritic gradations.

The general drainage pattern over and about the claim group suggests that the controlling fractures or lineaments occur in two distinct sets, - the principal one lying within a N-NNW zone, and the subordinate set within a NNE-NE zone. The Central zone mineralization occurs within a locally prominent NNE-trending set of fractures, locally joined by ENE, to NE-trending (shear) strands.

Dr. Skerl notes that zones of intersection of the above fracture systems provide a marked degree of structural control of the Lornex and Bethlehem mineralization; hence, indications of similar structural facil within the Stellako group should be investigated. The writer notes, additionally, that the prominent N, to NNW-trending lineament (with minor NNE branches) situated within the westerly half of the property may be projected into the Highmont-Lornex mineralized area (Fig. 1) - these projections amounting to only 2-4 miles.

Mineralization of the Central, or "discovery" zone, which lies largely within Yubet #7 M.C., occurs within a younger, NNE-trending, variably-altered aplitic granite body. In detail, it appears to be preferentially localized to its westerly margin and zone of contact with the older Bethsaida granite. A general NNE-trending system of fractures within this zone provide the apparent structural control for the local occurrences of chalcopyrite-bornite (and erratic minor molybdenite) mineralization; minor transverse shears and localized zones of random, or "boxwork" fracturing provide further structural control. To date, the "Central" zone has been explored by drilling and trenching, with locally encouraging results, over a strike-length of 1600 feet. A considerable SSE extension of

the zone is suggested by the pattern of the corresponding geochemical anomaly; NNE extensions into the swampy terrain extending south of Roscoe Lake and along the east shore of Roscoe Lake have been explored only by preliminary geochemical-geophysical methods. The generally unfavourable conditions of overburden along the NNE projection of the "Central" zone greatly reduces the effectiveness of these exploratory methods. The southerly continuation of the corresponding geochemical anomaly passes into neighbouring property at section 22S.

MINERALIZATION

The typical copper sulphide mineralization occurs in distinct veins, boxwork- and irregularly-veined zones and, to a minor extent, as fine-grained disseminations, generally spatially associated with the usual fracture-filling occurrences. Mineralization is largely restricted to quartz veins or otherwise silicified zones of fracturing.

The normal fresh aplite host rock is hard, coarsely jointed, and of a pale reddish-brown colour. Within mineralized areas it has been variably altered to a talc-carbonate aggregate, which may also be silicified and/or veined by quartz. Mineralization appears to favour the more intensively fractured and silicified masses of aplite. Similar conditions of alteration and mineralization exist within a coarser-grained talc-carbonate altered rock - presumably originating from alteration of the general Bethsaida country rock. This has been termed "Stellako rock". The relationship of the latter rock type to either the older Bethsaida, or younger aplitic granites so far has not been clearly indicated.

Spectacular occurrences of bornite-chalcopyrite mineralization were exposed by ripper-'dozer exploration within the more northerly exposures of the Central zone. Assays of this mineralization, contained in representative cross-sectional chip-samples (Drawing No. 2), were as follows:

(A) "Trench No. 2", 10.0'@ tr. Ag; 0.90% Cu

(B) "Trench No. 9", 18.0' @ 0.40 oz/t. Ag; 1.45% Cu
28.0' @ 0.20 oz/t. Ag; 1.05% Cu
12.0' @ 0.20 oz/t. Ag; 9.6% Cu

Main Excavation: 35.0' @ 2.1 oz/t. Ag; 6.15% Cu
The weighted average of (b) and (c) =
57.5' @ 0.77 oz/t. Ag; 3.35% Cu

To allow for a possible 1/3 inclusion of "float", the "cut average" of the above was re-estimated at: 57.5' @ 0.5 oz/t. Ag; 2.25% Cu; this roughly-elliptical body has a strike-length of approximately 250'. Subsequent diamond drilling indicated that this particular high-grade composite zone of mineralization decreases rapidly in width and grade between the surface and the 100-foot horizon.

Subsequent drilling and trenching between sections 6S - 12S delimited a more extensive, but rather sparsely mineralized zone within the most southerly-explored interval of the "Central" zone. This is a zone of multiple quartz-veining and minor replacement which has so far been traced over a length of 600 feet, and with an indicated average width of about 100 feet. The indicated average grade is between 0.25 and 0.30% copper and minor molybdenite. As with the northerly occurrence, the better mineralization is localized by fracturing along the general westerly contact of the aplite body.

EXPLORATION PROGRESS

1. Geological Mapping (Drawing No. 2):

This was generally limited to detailed (50-scale) mapping of the geology over the 2000 foot length and the full exposed width of the Central zone structures, host rocks, and mineralization. More remote exposures of alteration and mineralization have been mapped, to very local extents, in general accordance with the extent of the particular exposures.

Noranda Exploration's plans for mapping the complete claim group did not materialize.

2. Trenching:

The extent of this, as shown on Dwg. No. 2, roughly corresponds to that of the detailed geological mapping. This was done, in a thorough manner, by ripper-equipped D8 and D7 "Cats". The depth of trenching within the heaviest sections of overburden approached 20 feet, a considerable amount of the earlier stripping required the removal of only 2-4 feet of overburden. Ripping of stripped exposures facilitated detailed geological examination.

3. Electromagnetic Survey:

This was accomplished over the full width of the Central grid (Dwg. No. 1) from approximately 40 N to 8 S, at 100' separations on cross-lines at 800' N-S intervals. No anomalous zones were detected by this method; the conclusion that it was wholly inapplicable was reached after the equipment showed a negative response over the most obviously-conductive mineralization of the high-grade discovery zone.
1968 - V.L.F-E.M.16 could provide signif. info. re. metallic or geol. conductors

4. I.P. Survey:

This was carried out in two phases by different contractors, using the pulse-type and frequency-type equipment respectively.

During the first I.P. contract, terminating December 31, 1965, 9.54 and 1.34 miles of reconnaissance and detailed survey, respectively, were completed. Major anomalies roughly centering about 4S, 38W and about oN, 12E were indicated. Additional less significantly-anomalous zones were partly delineated. Drilling of these did not disclose appreciable amounts of disseminated mineralization. The effectiveness of the initial I.P. survey was greatly reduced by the contractors faulty equipment - organization.

The second program was carried out, under more difficult weather conditions, during January-February, 1966, and was efficiently performed with better serviced equipment and by more experienced personnel. It accomplished approximately 5 1/2 miles of reconnaissance and 2 miles of detailed I.P. survey - mainly as checks and extensions of previously-indicated anomalous zones.

Diamond drill exploration of the two principal "ON, 16E" and 4S, 38W anomalous zones disclosed only very minor sulphide occurrences. The anomalously-high "metal factors" (rel. "chargeability") and low "resistivities" are most apparently related to zones of host-rock alteration - containing significant proportions of talc-kaolin-sericite-chlorite, with generally minor dispersions of Fe-oxide minerals. The presence of significantly altered zones could effectively mask possible responses from coincident zones of sparsely-disseminated sulphides.

However, certain anomalies may be directly related to dispersed chalcopyrite-bornite mineralization. These occur within the south-central mineralized zone, where host-rock alteration is less intense than in the above "East" and "West" I.P. zones. From the above, it may be concluded that application of the I.P. method is practicable in certain geological situations, but that the mineralogical

character of the prospective exploration areas should be ascertained, if possible prior to inaugurating local I.P. investigations; also the local mineralogy should be considered in the evaluation of preliminary diamond drill intersections. In general, I.P. investigation in the Roscoe Lake area should be preceded by geochemical-magnetometer surveys. these cautions contained in prior preliminary recommendations + cost estimate.

5. Diamond Drilling:

All drilling accomplished within the Central mineralized zone is plotted on Drawing No. 2; holes no's. S-8 and S-12 to test the easterly I.P. anomaly, and no's. S-18, S-19, S-20, on the westerly I.P. anomaly are not included.

Diamond drilling was done in two successive phases by seperate contractors, using different equipment. Holes S-1 to S-12 were drilled with "BX" wireline equipment; however poor crews and equipment resulted in frequent delays and poor core and sludge recovery. S13 - S24 were drilled with "BQ" wire-line equipment, employing more efficient crews and better equipment. Higher core-sludge recoveries were obtained during the latter phase. The total amount of drilling accomplished was 9505 lineal feet. Assays of the more significant drill intersections are listed as follows:

Hole No.	Total Length (ft.)	Gross Core Recovery	Sample Interval, ft.	Core/sludge Cu%	
S-1	221	83	100-109	9'	0.26
			160-190	30'	0.19
S-2	248	86	60-110	50'	1.44 } 100' @ 0.80+
			110-160	50'	0.15 }
S-3	401	89	80-92	12'	0.87
S-4	249.5	88	200-240	40'	0.12
			240-249.5	9.5'	0.10
S-5	446.7	77	140-190	50'	0.27
			280-290	10'	0.85
			330-340	10'	1.06
			340-400	60'	0.10
S-6	204.8	70	245-246	1'	0.36
S-7	352	73	- -		traces.
S-8	291	-	- -		"
S-9	301	-	16.5- 22.5	6'	4.67
S@10	400	82	190-220	30'	0.07

Hole No.	Total Length (ft.)	Gross Core Recovery	Sample Interval, ft.	Core/sludge	Cu%	
S-11	300	45	120-130	10'	0.10	50' @ 0.10
			140-180	40'	0.10	
S-12	314	90.5	- -		traces	
S-13	450	87.	110-140	30'	0.18	
			150-250	100'	0.35	250' @ 0.37% Cu
			250-300	50'	0.66	
			300-400	100'	0.25	
S-14	235.5	93.5	80-120	40'	0.19	
			130-160	30'	0.15	
S-15	301.0	93.5	10-140	130'	0.04 avg.	
S-16	429.0	77.2	150-170	20'	0.29	80' @ 0.285% Cu
			170-190	20'	0.07	
			190-230	40'	0.39	
			270-300	30'	0.16	
			380-390	10'	0.23	
S-17	399	80.3	- -		trace	
S-18	392	97	(W-I.P. anom.)		trace	
S-19	268	96.7	"		"	
S-20	383	95.2	"		"	
S-21	427	72.1	40-60	20'	1.6	
			296-297	1'	0.42 MoS_2	
S-22	460	85.2	- -	-	trace	
S-23	253	82	(E-I.P. anom)		-	
			69-75	6'	0.10	
			60-90	30'	0.07 avg.	
S-24	455	82	50-90	40'	0.41	
			incl. (82-85)	(3')	3.06	
				&	0.13% MoS_2	
			102-136	34'	0.28	
			160-210	50'	0.45	
	True Width 110'; S24 avg. -		50-210	160'	0.32 ←	

Molybdenite mineralization is very erratic in distribution; hence the early-established practice of only assaying visibly-mineralized cores. Possibly minor concentrations have been missed in following this procedure, but these would not influence general economic evaluations to the same extent as variations of average copper content. from viewpoint of 1966 metal prices!).

6. Magnetometer Survey (Drawing No. 1)

This has been performed at each soil-sample station; however, data from that section of the general grid corresponding to the most recent soil-sampling is currently pending.

The instrument employed i s the highly-portable, fast and accurate Sharpe MF-1 flux-gate magnetometer; this was continually standardized to the preliminary datum-survey on the various grid base-lines - thus obviating minor instrumental and/or diurnal changes,

The object of the magnetometer survey was the delineation of magnetically low, or negative areas - these probably being related to zones of marked hydrothermal alteration and, possibly, mineralization.

The resulting data are plotted on Drawing No. 1. Readings considered anomalous are those exceeding -680 gammas (I.e. -700 gammas) on a "negative" setting of the instrument. The resulting anomalies ranged from 0 to 300 gammas below this arbitrary magnetic norm - the average variation being only 30-40 gammas. Hence several zones may be related to either weak hydrothermal alteration and/or thick accumulations of overburden. A conspicuous feature of the plotted results is the general lack of coincidence between magnetic "lows" and geochemical "highs"; therefore, in most instances, each exists as a unique anomaly, and would have to be tested as such. logical relation if weak geochem. + low mag. intensities related to thick tongues or lenses of overburden. (w.s.)

The over-all distribution of magnetic lows indicates a splitting of the Central zone "low" at the south end of Roscoe Lake into two branches, with each extending northerly past the east and west sides of the lake. The principal branch, or zone is the easterly one, which corresponds to the assumed NNE extension of the Central zone of alteration and mineralization. or Roscoe L. Soquet zone.

7. Geochemical Survey (Drawing No. 1)

Exploration during the summer and fall months of 1966 has been directed towards the geochemical investigation of most of the property. This program has resulted in the delineation of six zones of major areal extent and numerous zones of local extent. Each of these six major zones is over 1500' long, with widths ranging from a few, to several hundreds of feet. Copper concentrations with soil anomalies range from a 100 to, usually, 500 parts per million, and occasionally higher.

All significant anomalies occur within the general Roscoe Lake section of the property, and occur within the area covered by Drawing No. 1. In strength, they range, on the average, from 2X, to 10X "background". Each is of sufficient strength and magnitude to warrant considerable physical exploration by 'dozer stripping and/or diamond, or percussion-drilling.

The writer would assign most priority to the exploration of the indicated anomalous areas lying to the east and west of Knight Lake; this would be closely followed by exploration of the southerly-trending anomaly indicating a southerly extension of easterly elements of the better-known Central zone.

The significant feature of the general pattern of anomalies is their distribution within a general NNW-trending zone. The axis of this zone (Dwg. No. 1) runs from 16S, 4E through the S.W. corner of Knight Lake. This closely parallels the main easterly branch of Skuhun Creek - suggesting a general NNW lineament-control of mineralization. The NNW continuation of this axis, for a distance of 2 miles or less, intersects the summit section of Gnawed Mt., or the easterly parts of Highmont Mines ground- currently the second most important exploration-development project within the camp. Of equal significance is the NNW-trend of the easterly Skuhun Creek lineament into westerly Highmont and/or easterly Lornex ground. From these correlations there is a strong suggestion that the source of the Cu, Mo-bearing stream silts of the above lineaments lies, in part, within Stellako ground, and, to a probably greater extent, within the Gnawed Mt. area and the interval between Gnawed Mt. and Stellako ground.

The determination of 'total copper' content of soil samples submitted to the testing laboratory was done by the method of hot acid extraction, followed by quantitative analysis by means of an absorption spectrometer.

W. M. Sharp

W. M. Sharp, P.Eng.

CERTIFICATE

I, William M. Sharp, with business address in Vancouver, British Columbia and residential address in North Vancouver, British Columbia, do hereby certify that:

1. I am a consulting geological engineer.

2. I am a graduate of the University of British Columbia with B.A.Sc. (1945) and M.A. Sc. (1950) degrees in Geological Engineering.

3. I am a registered Professional Engineer in the Province of British Columbia.

4. I have practiced my profession since 1946, in both geological and managerial capacities, with Canadian mining companies until 1964, when I established my own consulting practice.

5. I have personally investigated the Roscoe Lake property mineral occurrences and have examined all available technical data, reports, and correspondence pertaining to it; in addition, I have discussed current developments with Stellako Mining Co. Ltd. (N.P.L.) resident staff and principals.

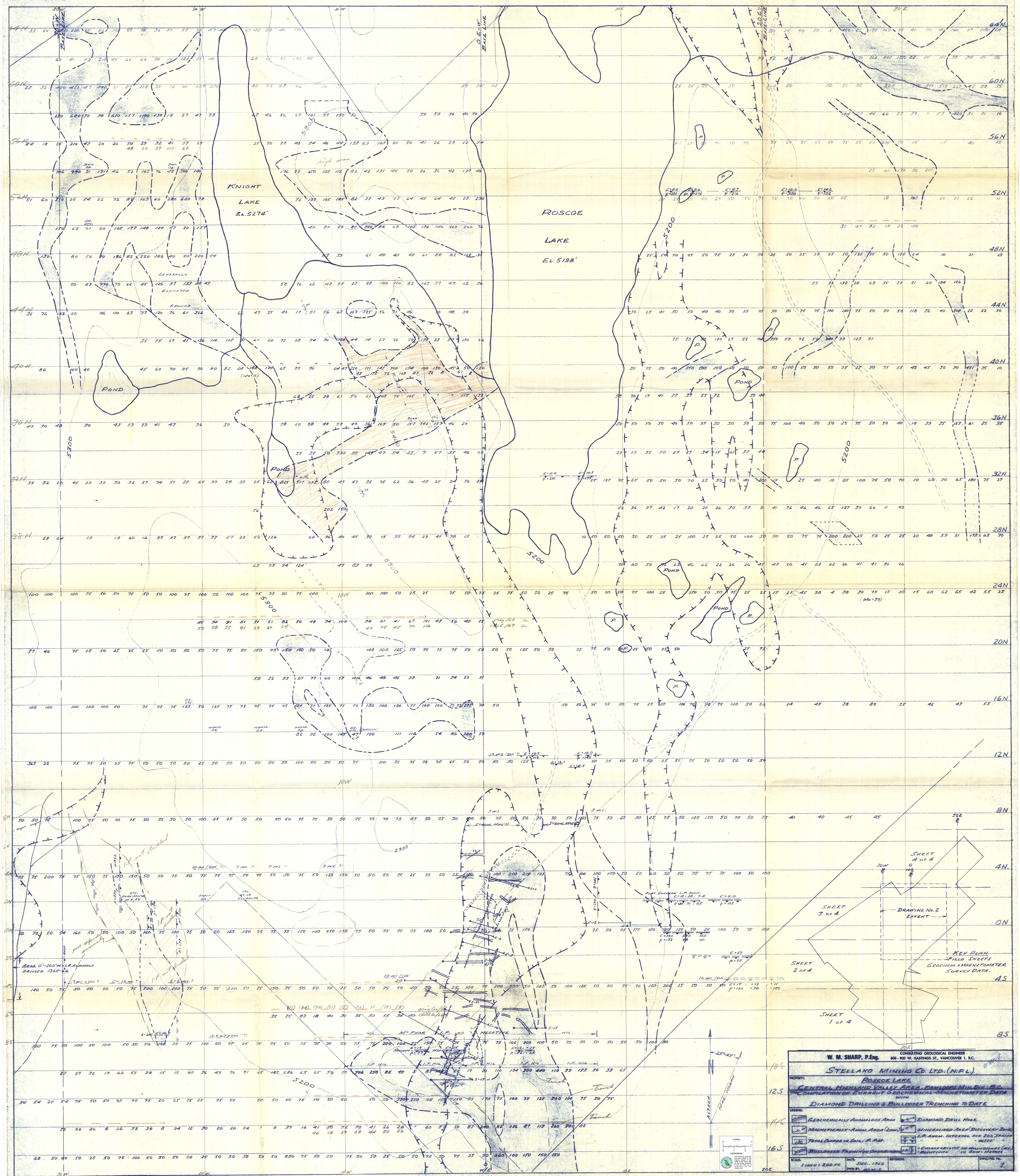
6. I have no interest, direct or indirect, in the properties or securities of the above Company, nor do I expect to acquire any such interest.

Respectfully submitted,

W. M. Sharp

W. M. Sharp, P.Eng.

Vancouver, Canada.
December, 1966.



KNIGHT LAKE
EL. 5274'
ROSCOE LAKE
EL. 5198'
POND
GENERALLY ELEVATED GROUND
0 E-W BASE LINE
20 E BASE-LINE
30W BASE LINE
AREA 0'-200'W. I.P. ANOMALY DRILLED 1965-66
I.P. not drilled
STRONG MAG(-)
McPHAR I.P. NIL NEGATIVE
FLAT. SHALLOW I.P. ANOM.
KEY PLAN FIELD SHEETS GEOCHEM. & MAGNETOMETER SURVEY DATA.
SHEET 1 OF 4
SHEET 2 OF 4
SHEET 3 OF 4
SHEET 4 OF 4
DRAWING No. 2 EXTENT
ASTRON
MAG. NORTH
23°45'
W. M. SHARP, P.Eng.
CONSULTING GEOLOGICAL ENGINEER
808 - 900 W. HASTINGS ST., VANCOUVER 1, B.C.
STELLAKO MINING CO. LTD. (N.P.L.)
PROPERTY: ROSCOE LAKE
CENTRAL HIGHLAND VALLEY AREA, KAMLOOPS MIN. DIV. B.C.
TITLE: COMPILATION OF CURRENT GEOCHEMICAL-MAGNETOMETER DATA WITH DIAMOND DRILLING & BULLDOZER TRENCHING TO DATE
LEGEND:
GEOCHEMICALLY ANOMALOUS AREA
MAGNETICALLY-ANOM. AREA (LOW)
TOTAL COPPER IN SOIL: P.P.M.
BULLDOZER TRENCH (IN OVERBURDEN)
DIAMOND DRILL HOLE
MINERALIZED AREA (DISCOVERY ZONE)
I.P. ANOM. INTERVAL PER 200' SPREAD
" " " " =100' "
I.P. C = CHARGEABILITY IN MILLISECONDS (MS.)
ρ = RESISTIVITY IN OHM-METRES.
SCALE: 1 INCH = 200 FT.
DATE: DEC., 1966
DWN BY: W.M.S.
REVISION:
DWG/FIG. No. 1.

W. M. SHARP, P.Eng.
CONSULTING GEOLOGICAL ENGINEER
808 - 900 W. HASTINGS ST., VANCOUVER 1, B.C.
STELLAKO MINING CO. LTD. (N.P.L.)
PROPERTY:
ROSCOE LAKE
CENTRAL HIGHLAND VALLEY AREA, KAMLOOPS M.D.
TITLE:
DIAMOND-DRILL & BULLDOZER TRENCH EXPLORATION ON INITIAL PROSPECT ZONE - TO MARCH, 1966.
LEGEND:
TRENCH / FAULT
DIAMOND-DRILL HOLE
BETHSAIDA GRANITE
APLITIC GRANITE
D.D.H. MINERALIZATION:
% Cu ≥ 0.40 ; 0.20 - 0.39
% Cu < 0.20
% Cu / LENGTH, FT.
I.P.; C = ms. ρ = ohm-m
RECONN./DETAIL
SCALE: 1 INCH = 50 FT.
DATE: DEC. 1966
DWN BY: W.M.S.
DWG/FIG. No. 2.
SUPPLEMENTARY LEGEND:
I.P. - ANOMALOUS AREA.
GEOCHEM. TOTAL Cu, P.P.M.
OVERBURDEN: IN TRENCH; IN D.D.H.
ASTRON.
MAG. NORTH
23°-45'
ACCESS ROAD TO DRILL & TRENCH EXPLORATION
YUBET No. 6 FR.
YUBET No. 5 FR.
YUBET
No. 8 M.C.
No. 7 M.C.
APPROX. SOUTH BOUNDARY YUBET No. 7 M.C.
"HIGH-GRADE" (DISCOVERY) ZONE
(BORNITE, CHALCOPYRITE, C'BTS. IN QUARTZ)
35' @ 2.1 oz/T Ag; 6.15% Cu (SURF.)
ASSOC. QZ. & SILIC'N.
28' @ 0.2 Ag; 1.05 Cu
18' @ 0.4 Ag; 1.45 Cu
12' @ 0.20 Ag; 9.6 Cu
SPARSE Cu CBTS.
SP. BORN. & Cu CBTS.
SP. Cu C'B'T.
MINOR Cu C'B'T.
MAL. IN RIP-EXCAV. MAT'L.
FREQ. QZ. FRAGS. W. MAL., CP. BORN.
GOOD BORNITE FLOAT OVER DISSEM. IN PLACE
QZ-BORN. VEIN
SP. MAL.
POSS. TREND
COL. #S-1 -40°
COL. #S-2 -40°
COL. #S-3 -40°
COL. #S-4 -45°
COL. #S-5 -45°
COL. #S-6 -45°
COL. #S-7 -45°
COL. #S-10 -55°
COL. #S-11 -50°
COL. #S-13; -50°
COL. S-14 -50°
COL. #S-15 -41°
COL. #S-16 -40°
COL. #S-17 -40°
COL. #S-21 -40°
COL. #S-22 -40°
COL. #S-24 -75°
ρ = 130
ρ = 78
ρ = 150
ρ = 158
ρ = 156
ρ = 260
ρ = 145
ρ = 200
ρ = 160
6W 4W 2W 0 W.E. 2E
4N 2N 0N 2S 4S 6S 8S 10S 12S