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INTERIM REPORT & RECOMMENDATIONS
MT. SICKER EXPLORATION PROJECT
Duncan, B.C. - VICTORIA MINING DIVISION

W. M. Sharp, P. Eng. January, 1971

TEL: BUS. 987-5322
RES: 987-9520

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

171 WEST ESPLANADE
NORTH VANCOUVER, B.C.

January 29, 1971

President & Directors,
Mount Sicker Mines Ltd. (N.P.L.),
P.O. Box 576,
Victoria, B.C.

Gentlemen:

INTERIM REPORT & RECOMMENDATIONS
MT. SICKER EXPLORATION PROJECT
DUNCAN, B.C. - VICTORIA MINING DIVISION

GENERAL

The property centres at about 5 air-miles north of Duncan. It is readily accessible from the main Island Highway, at 7 miles north of Duncan, via 8 miles of paved and gravelled roads. The adequate exploration camp situates on an extensive flat area at an elevation of about 1350 feet. Average ground slopes are moderate - the exception to this being the north slopes of the mountain within, and on which the old mine workings and principal prospect zones situate. The area is well forested; local areas of dense, low underbrush do not constitute a serious obstacle to general surface exploration.

PROPERTY

This consists of 34 Crown-granted claims and 64 'located' claims - all within and adjacent to the perimeter of the Canpac option block with areal extent of approximately 2540 acres. The above-noted groups, comprising one block of contiguous claims and leases, variously lie within the Chemainus, Seymour, and Somenos Districts.

Continued.....

Pages 2+3 here inserted into March 28/72 report.

(16) cont'd.

DETAILED

GEOLOGY & MINERALIZATION

At the Mt. Sicker property ~~is underlain by an assemblage of variably sheared and altered sedimentary-volcanic and intrusive rocks.~~ the gross exploration cross-section includes massive and foliated diorites, chloritic tuff, quartzose-to-sericitic schists, ~~graphic-to-sericitic gneiss~~ graphitic-to- schists, quartz porphyry, and quartz-feldspar porphyry. Diorites (loc. gabbro) and porphyries function as competent ribs within the section; the schist units, for the most part derived from the softer and more plastic sedimentary-volcanic components, represent zones of weakness in respect to intra-formational adjustments to close folding. Lithologic and structural trends are predominantly to the west and west-northwest, on near-vertical dips. There is, however, some indirect evidence of pronounced strike-wise flexuring and/or transverse faulting within some areas of the property.

Former mining and exploratory operations at the property were principally concerned with more-or-less massive Fe-Cu-Zn-Pb sulphide fillings and (banded) replacements within panels of sheared, folded, and crumpled ~~quartz-talc~~ quartz-sericite and graphitic schists. Ore occurred as large and small lenses, irregular masses, stringers and more-or-less tabular bodies. Within the Lenora-Tyee workings ore was mined from two parallel zones separated by 100-150 feet of ~~gneiss~~ sericitic and graphitic schist; these were designated the 'North' and 'South' orebodies. Quartz and barite, in varied proportions, comprised the principal gangues - the latter often occurring in economically-significant amounts. Both orebodies could be described as structurally-controlled relatively massive replacements of fault-paired, complex, strike-attenuated drag-folds. The North ore zone has strike and dip dimensions of 1700' and 120' respectively; those for the South ore zone are 2100' and 150'. Within both, ore widths ~~locally~~ commonly ranged up to 20 feet ~~or more~~, and locally to 30-40 feet. Through the Lenora-Tyee workings the average strike and dip of the schist panel are N70°W and 70°S, respectively

Continued.....

The Tyee shaft, sunk to a depth of about 1450 feet, provided geological indications of the persistence of the mine-panel to at least this general depth-range. However, development and exploratory operations were generally concerned with the one established fold complex extending to a depth of 400 feet below the (Tyee) outcrop. In the writer's opinion, the geological characteristics of the mine panel are such that other favourable fold structures ~~may be expected to occur at markedly greater depths~~ at depth below this general 400-foot horizon. That the productive section is only part of a through-going W. N. W. — trending regional structure of several miles strike-extent is supported by geophysical, geologic, and photogeologic evidence.

Copied for March/72 report

In the course of the 1969-70 fieldwork minor, but potentially significant occurrences of Fe-Cu-Zn sulphides were noted within sheared, chloritic diorites and tuffs exposed via roads cut near the west end of the grid. Locally silicified and pyritized bands of white ~~talc~~ sericitic schist also occur within this generally dark dioritic assemblage. Initial soil-sampling traverses along parts of the access road cutting this section furnished strong 'copper indications'. The fact that these occurrences - admittedly sparse - occur within a section well north of, and significantly different from the mine panel implies that there are additional ore possibilities (other than those within) ~~outside of the~~ through-going schist belt which contains the Mt. Sicker ore zones and its immediate extensions.

A general reconnaissance of the southerly-contiguous ground disclosed a 500-foot cross-sectional width of Sicker Group volcanic-sedimentary rocks situating at some 3000 feet south of the Richard III mine workings. Other similar panels probably exist. This particular section includes diorites, andesites, (tuffs?), argillites, quartzites, and greywackes. At least locally, these have been sheared and altered to produce siliceous, chloritic, and ~~talcose~~ sericitic schists; some massive, relatively more competent sections have been simply bleached and/or

Continued.....

silicified. The average trend of rock units and schistosity is N 70° W, with near-vertical dips - generally parallel to the Lenora-Richard III trends. As with the 'Mt. Sicker' section, the local lithologic-structural features suggest repetitive close-folding on near-vertical axial planes. Mild pyritization of some schist bands comprises the only visible evidence of sulphide mineralization; however, the short time available for the examination allowed the writer to cover only a relatively small area of scattered, unequally-distributed outcrops. Twelve soil-samples taken in the course of the reconnaissance disclosed marked variations in the levels of geochemical copper, lead, and zinc.

HISTORY

The oxidized ore outcrops of the South ore zone were discovered in 1897. Underground development and mining on the then-separately owned Tyee and Lenora claims commenced during 1897 and 1898, respectively. The properties were amalgamated into the Lenora-Mount Sicker Mining Company in 1900, with production continuing until about 1907. Between 1926-29 Ladysmith Tidewater Smelters Ltd. operated the property. Sheep Creek Mines Ltd. optioned the group during 1939-40, and carried out further development and exploratory drilling (scanty records). Between 1943-47 Twin-J Mines Ltd. operated the mine, producing copper and zinc concentrates for Wartime Metals Corp. and, latterly, the open market. Vancouver Island Base Metals Ltd. undertook further exploration and mining between 1949-52.

The gross production from 1898-1952 is given as: 305,787 tons @ 0.127 oz./ton Au; 2.75 oz./ton Ag; 3.3% Cu, and plus 5% Zn - the latter not recovered from the 252,700 tons of ore mined between 1898-1907.

The present group became interested in the property in 1964 and subsequently formed Mount Sicker Mines Ltd. (N.P.L.). Since 1967 this Company has actively explored their ground during such periods as funds were available.

EXPLORATION DETAILS, 1969-70

The following exploration was carried out over a 12000 ft. E-W by 7200 ft. N-S area:

1. ~~Line cutting~~ Brushing by E.P.S.
2. ~~Soil sampling~~
3. Grid preparation totalling 32½ miles.
4. Geochemical soil sampling over the full grid and portions of access roads.
5. Geological mapping over most of the grid.
6. Magnetometer surveying over 29.2 miles of the grid.
7. General-to-detailed V.L.F.-Electromagnetic surveying over 30.6 grid-miles.
8. Shallow X-Ray drill tests of V.L.F.-E.M. anomaly at one cross-section; 1 hole completed, 2 abandoned; gross 250'.

EXPLORATION RESULTS

Data from the above program revealed two panels of favourable host rocks (~~talc~~ sericite schist and (talc?)-chlorite schist) apart from that comprising the mine panel. Extensive coincident geochemical-E.M. anomalies related to these schist panels provide several highly interesting drilling targets - particularly as subsequent field investigations have revealed the presence of stringer-type and disseminated chalcopyrite in local outcrops of pyritized, silicified ~~talc~~ sericite schists situating within two of these anomalous zones. Prior to embarking on a major drilling

Continued.....

program, the current anomalies should be further investigated by low-frequency, vertical-loop E.M. and/or I.P. surveys - the selection of the appropriate method being based on data concerning the type-mineralization of specific zones.

Hole X-1, drilled for a shallow test of one composite V.L.F.-E.M./geochemical anomaly corresponding with a wide band of favourable talc schists, reached a depth of 149.5'. The hole effectively tested about 15-20% of the gross width of the panel to a mean depth of only 70 feet. The minus -35° south hole intersected a succession of banded cherts, silty argillites, chlorite-~~talc~~ Ser schists, and ~~talc~~ Ser. schists. Total core recovery was 54.2%.

Specks, small clots, and beaded veinlets of chalcopyrite, locally with sphalerite, occur over most of the section tested. Massive-type mineralization tends to associate with quartz veinlets and lenses. Silicification of ~~talc~~ sericite schists and other rock types is general - locally to chert with only faint traces of the original bedding or schistosity. The several narrow, steeply-dipping sections with much disseminated, and occasional veining pyrite account for the V.L.F.-E.M. anomaly; however, copper assays in the range of 0.12 - 0.21% correspond to a lower level of copper mineralization than would be expected to relate to the strong geochemical anomaly present. The local geological-geochemical relationships suggest that the strong soil-anomaly ~~is the result of artesian-type groundwater circulation involving deeper, more strongly mineralized zones of copper mineralization.~~ relates to sporadic occurrences of conc. Cu mineralization the gross effect being accentuated by the rel. thin cover of overburden.

Oct/71 0.12 - 1.43 Cu low high 3 to 4.95 Cu.

The 1970 work expenditure is reported as $84,000 - not including the cost of summary compilations and evaluations of the accrued data.

Continued.....

SUMMARY & CONCLUSIONS:

Exploration accomplished to date comprises a systematic surface reconnaissance of one 7200' x 12000' area of the property. The combined data indicate several good possibilities for the occurrence of massive and/or dispersed Cu-Zn sulphide mineralization within three distinct belts of favourable ~~talcose~~ sericitic to chloritic schist host rocks striking with the longer dimension of the exploration block. The following recommendations are for follow-up detailed exploration of specific target zones:

RECOMMENDATIONS & ESTIMATED COSTS

1.	Low-frequency vertical-loop E.M. Survey		
	(a) Grid rehabilitation, 10 Mi. @ $100.00	$ 1,000.00	
	(b) Survey, 10 Mi. @ $300.00	$ 3,000.00	$ 4,000.00
2.	I.P. Surveys, 7.5 K.W. Pulse-type		
	(a) Grid preparation, 15 Mi. @ $150.00	$ 2,250.00	
	(b) Survey, reconn. & detail, 20 Mi. @ $650.00 (incl. detail)	$13,000.00	$ 15,250.00
3.	Diamond drilling, B.Q. core & sludges, 7500' @ $15.00		$112,500.00
4.	Rotary drill-sampling, 'I.P.' zones, 5000' @ $6.00		$ 30,000.00
5.	Provision, supervision, engineering, assaying, etc		$ 15,000.00
6.	Provision for access roads, transportation, etc		$ 5,000.00
7.	Provision for omissions & contingencies @ 15% approx		$ 26,750.00
		TOTAL	$204,500.00

Respectfully submitted,

W. M. Sharp, P. Eng.

Lost Lake 1971 - Explor. Int. Sicker Lake qu. 5 - 1971.

Low frequency vert-loop E.M. survey:

E-W anom (a) 56E, 60E, 64E, 68E, 72E, 76E, 84E - between 18N (1600') - 34N - 7 @ 1600' - - - - - - - - - - 11,200'

(b) 70E, 74E, 78E, 82E, 86E, 88E @ 18N - 28N - 6,000'

S.W. anom

(c) 48W, 46W, 44W, 42W, 40W, 38W, 36W, 34W, 32W, 28W, 24W, 20W, 16W, 12W, 8W @ 10S - 6N = 15 lines @ 1600' - - 24,000'

(d) 4W, 8W, 12W, 16W, 20W, 24W, 28W, 32W, 36W @ 26N - 34N = 9 lines @ 800' - - - 7,200'

Total - - - 48,400'
= 9.2 mile.

Say 10 mi. @ $250/mi - - $2500

April 18/70.

GEOPHYSICAL SURVEYS - ESTIM. GROSS LINE MILES.
(mag. & V.L.F. E.M are geol. supplements)

MAG. & V.L.F-E.M.

Line 44W - 12S - 20N	3,200'
Lines 40W - 12S - 29N	4,100
Line 36W & 32W @ 12S - 34N = 4600' x 2	9,200'
Lines 28W & 24W @ 0N - 34N = 3400' x 2	6,800'
Lines 20W - 16E incl @ 12S - 34N = 4600' x 10	46,000'
Lines 20E - 52E, incl @ 8S - 34N = 4200' x 10	42,000'
Lines 56E - 64E incl @ 0N - 60N = 6000' x 3	18,000'
Lines 68E - 76E and @ 18N - 60N = 4200' x 3	12,600'
Lines 80E & 84E @ 18N - 36N = 1800' x 2	3,600'

TOTAL MAG. & V.L.F. E.M. --- 145,500' = 27½ line mi.
(for approp. 12 days mag.
" " 14 " VLF EM.)

I.P. Surveys (partly contingent on Mag-E.M results):
(The following to cover currently-delin. geoch-anom. zones.)

Line 44W @ 8S - 20N	2,800'
" 40W @ 8S - 29N	3,700'
Lines 36W & 32W @ 8S - 34N = 4200' x 2	8,400'
Lines 28W - 16W incl. @ 0N - 34N = 3400' x 4 =	13,600'
Lines 12W - 16E incl @ 2N - 12S = 1400' x 8 =	11,200'
Lines 12W - 16E incl @ 20N - 34N = 1400' x 8 =	11,200'
Lines 20E - 32E, incl @ 12N - 8S = 2000' x 5 =	10,000'
Lines 60E - 84E, incl. @ 16N - 36N = 2000' x 7 =	14,000'
	74,900' = 14.2 line miles
Say	15.0 " - " .
allow detail	5.0 " "
	6 from 20,000 line mile

RECONN. GEOCHEM. & GEOLOGY

(a) Lines 8W, 8E, 24E, 40E @ 34N - 60N. = 4 x 26 = 104 samples.
for Cu/Zn

(b) Fill-in grid-lines contingent on results (a).

TEL: BUS. 987-5322
RES: 987-9520

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

171 WEST ESPLANADE
NORTH VANCOUVER, B.C.

FEBRUARY 2. 1971

MR. C. B. FIELD, PRES.,
MT. SICKER MINES LTD. (N.P.L.),
P.O. BOX 576,
VICTORIA, B.C.

DEAR CHARLES:

WITH THIS 3 REPORTS RE. THE MOUNT SICKER PROJECT FOR YOUR ATTENTION. PLEASE COMMENT AS YOU SEE FIT.

YOU MAY DECIDE TO SEND ONE DIRECTLY TO DONALDSON SECURITIES; HOWEVER, IF YOU CHOSE TO RETURN ONE TO ME-WHICH I WOULD PASS JERRY & DON, PLEASE ACCOMPANY IT WITH ~~A~~ THE NECESSARY AUTHORIZATION.

PLEASE INFORM JACK BROOKS THAT THE REQUESTED CLAIM SKETCH IS NOT URGENT.

YOUR SINCERELY,

W. M. Sharp, P.ENG.

Note Feb 23 – letter accompanied report (w. photographs), with revisions including all mention of Tetrahedrite ground & relevant recommendations & cost estimates.

ENCL.

May/71

MOUNT SICKER MINE PROPERTY

EXPLORATION RECOMMENDATIONS & COSTS.

Take these for year/72 upt

STAGE I

A. LOW FREQUENCY, HI-POWER VERT-LOOP E.M. SURVEYS:
(a) GRID REMAKE. 10 MI. @ $100.00 — — — $ 1,000
(b) SURVEY, 10 MI. @ 300 — — — — — — — 3,000
(c) MOB'N. & RELATED EXPENSE — — — — — 1,000 $ 5000

B2. I.P. SURVEYS, 7.5 KW, PULSE-TYPE:
(a) GRID-PREP. 20 MI. @ 150 — — — — — — 3,000
(b) SURVEY, INCL. RECONN & DETAIL, 20 @ 650 — 13,000 16,000 +

C3. GEOLOGICAL MAPPING & EVAL. OF GEN. ANOM. AREAS — — — 1,000

D4. BULLDOZER TRENCH EXPLORATION, WHERE FEASIBLE, 20 DAYS @ 250 (enlarged No. 3 cut to 10 days $2500 ?) 5,000 + 27,000 8,000

E5. PRELIMINARY DIA. DRILLING (B.Q.W.L.)
2500' @ $13 GROSS — — — — — — — — 32,500

F6. PROVISION, ASSAYING, SUPERVISION, ETC. — — — — — — — 2,500

G7. CONTINGENCIES & OVERHEAD @ 15% APPROX. — — — 9,500

TOTAL, STAGE I — — $ 71,500

STAGE II

(a) DIAMOND DRILLING, 5000' @ $13 — — — — — $ 65,000
(b) PROVISION - ASSAYING, SUPERVISION, ETC. — — — — 5,000
(c) CONTINGENCIES & OVERHEAD @ 15% APPROX 10,500

TOTAL, STAGE II — — $ 80,500

STAGE III

(A)1. ROTARY-DRILL SAMPLING I.P. ZONES,
7500' @ $5 — — — — — — — — $ 37,500

B2. DIA. DRILLING (B.Q.W.L.) FOR DETAIL & CHECK,
2500' @ $13 — — — — — — — — $ 32,500

C3. PROVISION, PRELIM. FEASIBILITY STUDIES — — 5,000

D4. CONTINGENCIES & OVERHEAD @ 15% APPROX. — — 10,500

TOTAL, STAGE III — — $ 85,500

TOTAL STAGES I, II, & III — — — $ 237,500
(SAY $ 250,000)

STAGE IV

(a) PROVISION FOR DETAILED FEASIBILITY STUDIES - INCL. ORE DELINEATION, METALLURGY & MINING ECONOMICS } 250,000 / $ 500,000 TOTAL.

(This part in only to best of present knowledge for Survey, Claims, etc. decisions).

W. M. Sharp, P. Eng
April 22/71.
May 5/71.

File 1970-71

MOUNT SICKER MINE PROPERTY

CURRENT EXPLORATION TARGETS

E-1: ~~3500' x 600'~~ 2500' x 300' - 500' GEOCHEM. ANOM. IN FAVOURABLE HOST ROCKS; COINCID. MAJOR EM-16 RESPONSE; ACTUAL EVIDENCE CU-ZN MINL'N. BY VERY MINOR DRILL & TRENCH.

E-2: ~~2600 x 600~~ 1800 x 100 - 350' GEOCHEM-ANOM. W. COINCID. MAJOR E.M.-16 RESPONSE & SIMILAR FAVOURABLE (MINE PANEL-TYPE) HOST ROCKS; NO EXPOSURES OR INTERSECTS. TO DATE.

M-1: MAJOR ZONE OF HIGH GEOCHEM.-E.M.16 RESPONSE OVER 5200' LENGTH OF MINE PANEL FROM 1000' E. OF RICHARD III SHAFT TO 500' W. OF KEY CITY SHAFT; INCL. 2100' LENORA-TYEE INTERVAL.

M-2 - Possible fold structures below bottom main levels of productive part of mine panel

W-1: STRONG LINEAR E.M.16 ANOM. ON PROB. SOUTH BRANCH OF WEST EXTENSION OF MINE PANEL & STRUCTURE; 1000' STRIKE-LENGTH INDICATED & 'OPEN.'. HOST ROCKS ARE MINE-TYPE PYRITIF. CHLORITE SCHISTS & DIORITE W. BANDS OF PYRITIF, SILIC, TALC & CHLOR. SCHIST. ONE POORLY SITED DRILL HOLE RETURNED ACTUAL EVIDENCE OF CP.-ZN-BN. MINL'N.

W-2: GENERAL COMPLEX OF LARGE CU-ZN GEOCHEM. ANOM'S. TOWARDS W. END OF CLAIM BLOCK ASSOC. W. COMPLEX. OF LOW TO FAIR E.M.16 ANOM'S; ROCKS COMPRISE SHEARED, CHLOR. DIORITES, CHLOR. SCHISTS & VARI'Y. SILIC. TALC SCHISTS - SOME STRONGLY PYRITIZED. GEN. O.B. PRECLUDES ADEQUATE EXPOSURES; HOWEVER, SOME EVIDENCE OF FRACT-FILL & DISSEM. CU-ZN SULPHIDES. THIS AREA SELECTED, PRIMARILY FOR I.P. EXPLOR.

M-3: NUMEROUS LESSER E.M.-16 & GEOCHEM. ANOMS. WITHIN BELT OF SCHISTS & DIORITES NORTH OF MINE PANEL AND BETWEEN E. & W. TARGET AREAS. MAINLY O.B., W. VERY MINOR % B.R. EXPOSURES.

M-1.

M. Mx.
April 22/71
May 3/71

Mt Archer Property Preliminary Report dated Jan. 29/71

SUMMARY & CONCLUSIONS:

Exploration accomplished to date comprises a systematic surface reconnaissance of one 7200' x 12000' area of the property. The combined data indicate several good possibilities for the occurrence of massive and/or dispersed Cu-Zn sulphide mineralization within three distinct belts of favourable talcose to chloritic schist host rocks striking with the longer dimension of the exploration block. The following recommendations are for follow-up detailed exploration of specific target zones:

RECOMMENDATIONS & ESTIMATED COSTS

1.	Low-frequency vertical-loop E.M. Survey		
	(a) Grid rehabilitation, 10 Mi. @ $100.00	$ 1,000.00	
	(b) Survey, 10 Mi. @ $300.00	$ 3,000.00	$ 4,000.00
2.	I.P. Surveys, 7.5 K.W. Pulse-type	3,000	
	(a) Grid preparation, ~~15~~ 20 Mi. @ $150.00	$ ~~2,250.00~~	16,000.00
	(b) Survey, reconn. & detail, 20 Mi. @ $650.00	$13,000.00	$ 15,250.00
3.	Geol. mapping of anomalous areas		
4.	Trenching		
3.	Diamond drilling, B.Q. core & sludges, incl sampling + assays		105,000.00
	7500' @ $15.00 14.00		$112,500.00
4.	Rotary drill-sampling, I.P. zones,		
	5000' @ $6.00 incl. sampling + assaying		$ 30,000.00
5.	Provision, supervision, engineering, & geological assaying, etc		7,500 $ 15,000.00
6.	Provision for access roads, transportation, etc. (incl. camp, mill, mob charges)		$ 5,000.00
	gen. admin., head office, legal		S.T. - 167,500
7.	Provision for omissions & contingencies @ 15% approx		25,125.00 $ 26,750.00
	TOTAL		$204,500.00
			# 192,625

Respectfully submitted,

W. M. Sharp, P. Eng.

original

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B. **Patriarche Option**

1.	Option payment	$ 10,000.00
2.	Line-cutting & geochemical survey	$ 20,000.00
3.	Detailed geologic mapping + compilation	$ 5,000.00
4.	V.L.F.-E.M. recon. survey, 400' x 50' spacing	$ 2,500.00
5.	Provision for supplementary geophysical surveys	$ 7,500.00
6.	Provision for omissions & contingencies	$ 5,000.00
	TOTAL, B	$ 50,000.00
	Gross Direct Expense, A & B	$254,500.00

Respectfully submitted,

W. H. Sharp

W. H. Sharp, P. Eng.