

3650

GEOLOGICAL AND GEOCHEMICAL REPORT

on the

LUCKY JIM GROUP

located on Seaton Creek

at

8 air-miles E.N.E. of New Denver, B.C.

Lat. $50^{\circ}-02'N.$, Long. $117^{\circ}-13'W.$

82 K / 3E

in the

SLOCAN MINING DIVISION

by

W.M. SHARP, P.Eng., B.C.

for

SWIM LAKE MINES LTD. (N.P.L.)

VANCOUVER, B.C.

between

July 1st and December 31st, 1971.

William M. Sharp, P.Eng.,
Consulting Geological Engineer,

171 West Esplanade,
North Vancouver, B.C.

May 10th, 1972.

President & Directors,
Swim Lake Mines Ltd. (N.P.L.),
534 - 789 W. Pender St.,
Vancouver, 1, B.C.

Gentlemen:

The accompanying "GEOLOGICAL AND GEOCHEMICAL REPORT,
LUCKY JIM GROUP, SLOCAN MINING DIVISION, B.C." has been prepared,
as requested, for submission to the Mining Recorder/Chief Gold
Commissioner.

The report provides documentary evidence that the
stated value of acceptable exploratory work, being filed as an
assessment, has been accomplished.

Respectfully submitted,

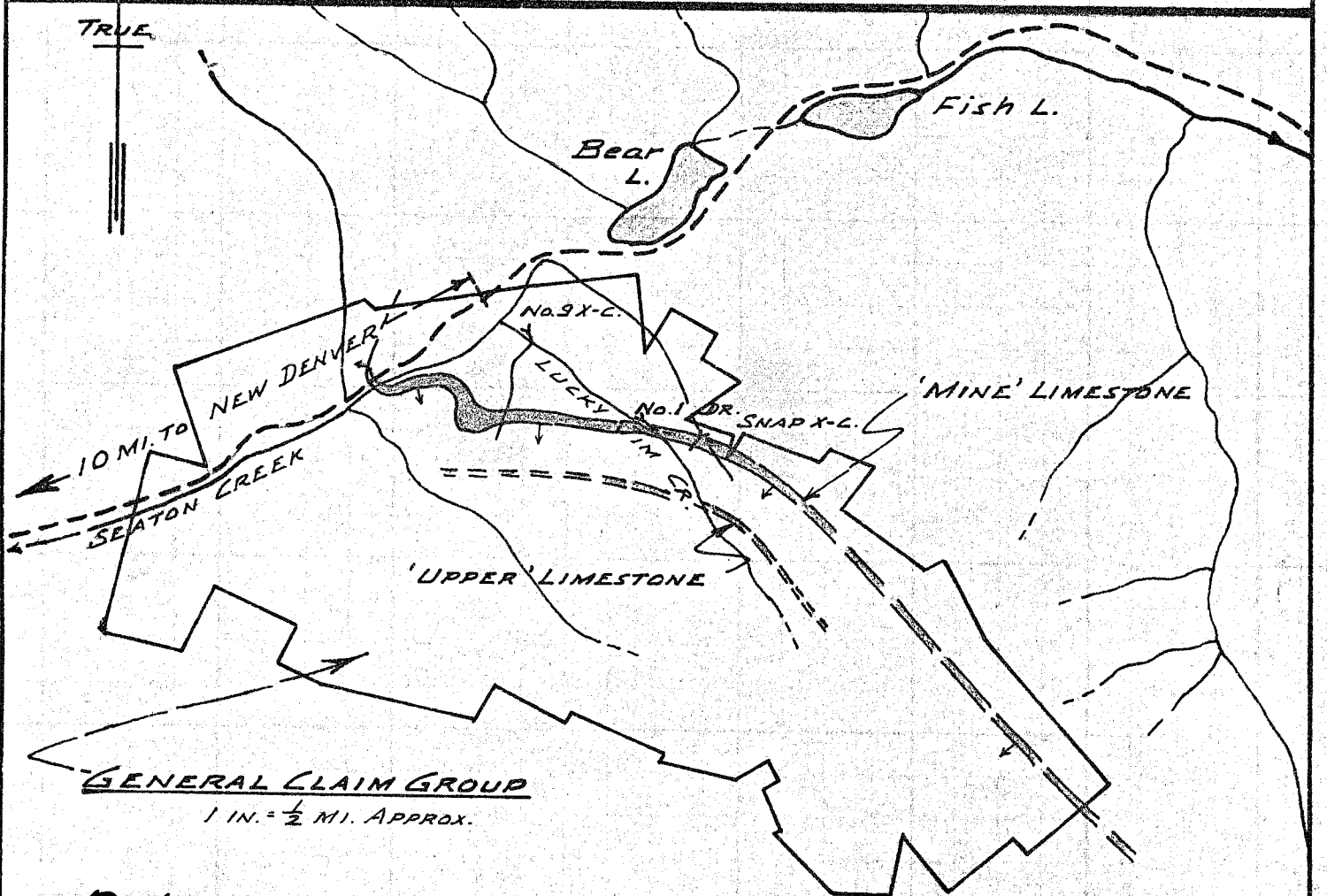
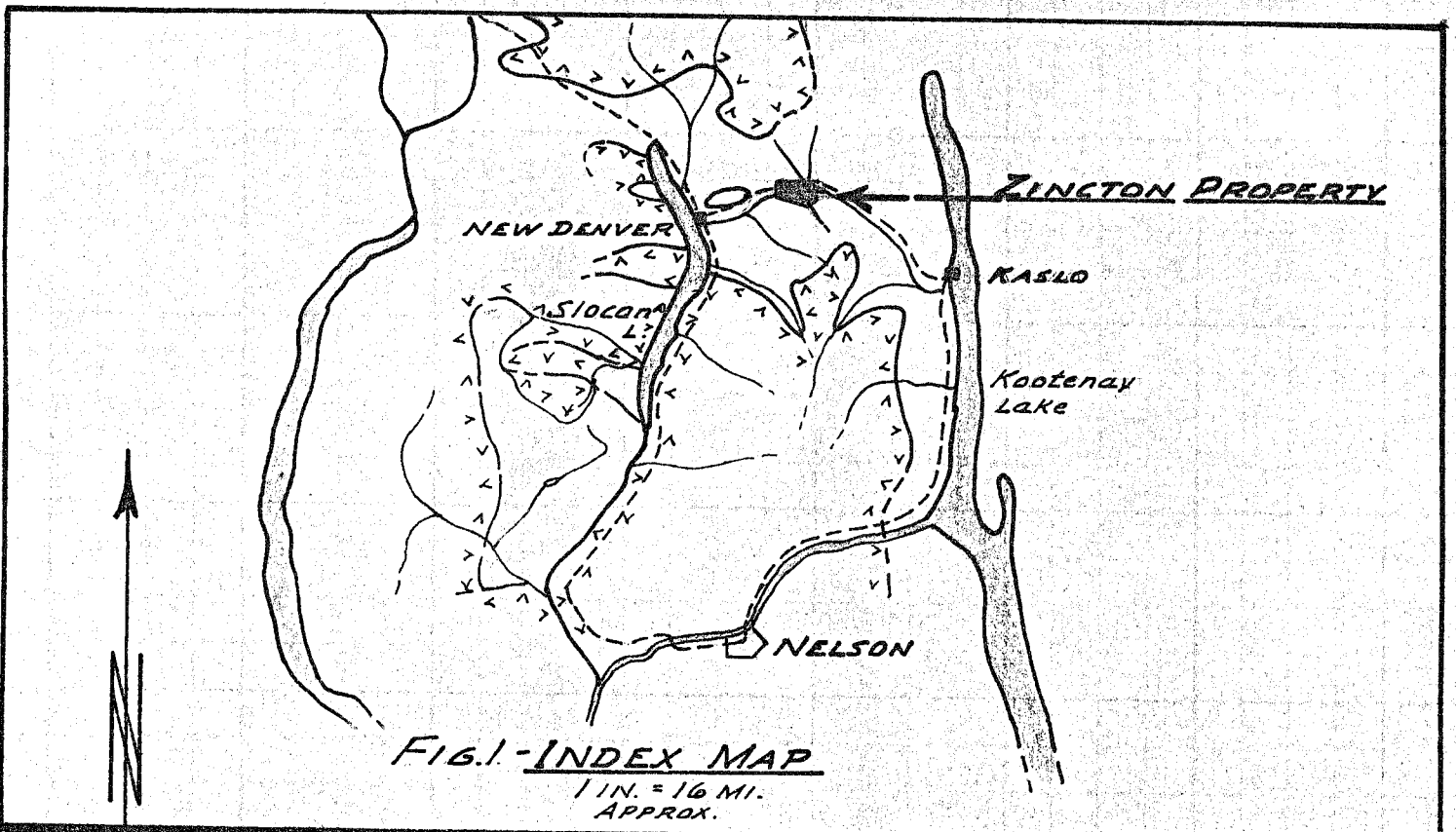
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 3650 MAP

W.M. Sharp

W.M. Sharp, P.Eng.

WMS/ic



3650

M-1

FIG. 1 - ZINGTON PROPERTY

SWIM LAKE MINES LTD. (N.P.L.)

SLOCAN MINING DIVISION, B.C.

SCALE: AS NOTED

MAY, 1972.

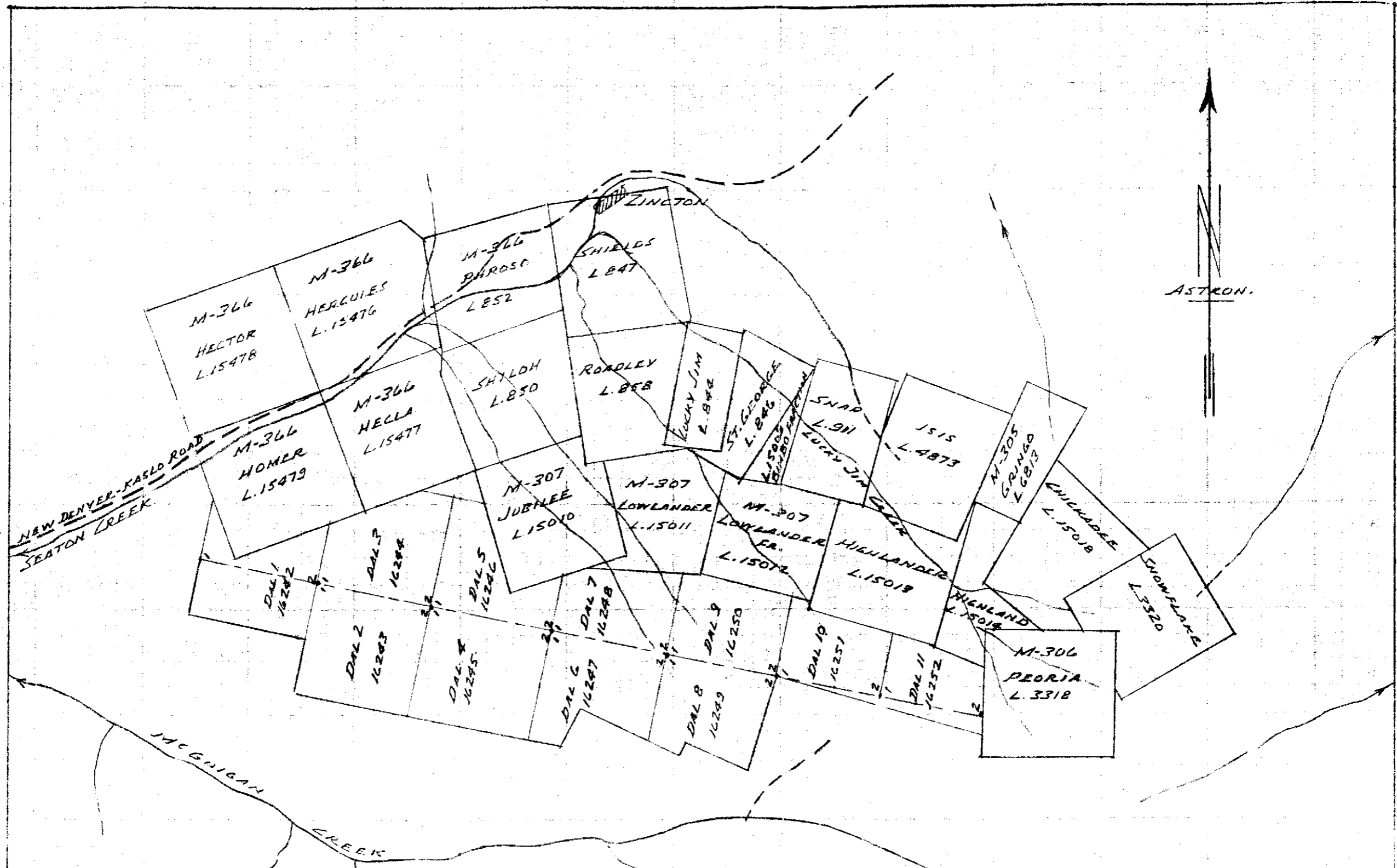
W.M. Sharp W.M.S.

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
FIELD WORK	
1. Control Surveys	2
2. Geological Surveys	2
3. Geochemical Surveys & Analyses	3
4. Bulldozer Trenching	4
OFFICE WORK	4
GENERAL GEOLOGY	5
DETAILED GEOLOGY	5
GEOCHEMISTRY RESULTS	6
CONCLUSIONS	7
APPENDIX:	
SUMMARY OF COSTS OF GEOLOGICAL & GEOCHEMICAL WORK - LUCKY JIM GROUP, 1971.	

ILLUSTRATIONS

#1	Fig. 1	INDEX MAP & ZINCTION PROPERTY, 1 in. = 16 mi./½ mi.	Bound in text
#2	Fig. 2	CLAIM MAP, 1 in. = 1200 ft.	" " "
#3	Dwg. 1-A	LOWER ZONE, GEOLOGY & GEOCHEMISTRY, 1"=100'	In pocket
#4	Dwg. 1-B	UPPER ZONE, GEOLOGY & GEOCHEMISTRY, 1"=100'	" "
#5	Dwg. 2	WORKINGS & GEOLOGY, N.W. SECTION OF LUCKY JIM MINE, 1"=40'	" "



3650 M-2

FIG. 2

CLAIM MAP - LUCKY JIM GROUP

ZINTON PROPERTY

SWIM LAKE MINES LTD. (N.P.L.)

SCALE: 1" = 1200' DWN MAY 1972

INTRODUCTION

The Zincton property lies within a northerly part of the Slocan silver-lead-zinc mining district. Locally, the claim block straddles the headwaters area of Seaton Creek, with the major part of it lying southeast of it; its long (N.W.-S.E.) dimension generally parallels the local formational trend.

Between Seaton Creek and the southeast end of the property, elevations range from about 3400 to 7400 feet. In general, the surface slopes moderately to steeply towards Seaton Creek and tributary drainages. Within the claim block, most parts of the surface are readily accessible via a mining road to about the 5100-foot elevation; thence via a network of tractor roads -trenches and foot-trails. However, some steeper and/or more sharply incised intervals of tributary creeks are relatively inaccessible.

Of the Lucky Jim mine workings, No's 1 and 9-level and parts of contiguous stopes and raises are quite, or reasonably accessible. Currently, access to the intervening workings is either difficult or impossible. Workings below No. 9 level are flooded.

Surface geological mapping and geochemical soil-sampling described in this report were accomplished at successive periods between August 1 and October 28, 1971. The related underground geological mapping was done between December 14-20, 1971.

FIELD WORK

1. Control Surveys

During July, 1971, Douglas Survey and Development Co. Ltd. ran transit-chain surveys southward and eastward, via roads and trails of Lucky Jim No. 1 adit. These, basing on old survey points within this adit, extended the original Lucky Jim survey control from No. 1 level station D-1 to surface hub No. D-38 at the upper end of the old main access road. The writer's Brunton-tape surveys were tied to the Douglas traverse.

2. Geological Surveys

Reconnaissance mapping was controlled by a pair of photogrammetrically-produced (McElhanney Surveying & Engineering Ltd.) topographic maps at a scale of 1"=200' and contour interval of 25 feet and an air-photo print of the south (main) map area at an approximately similar scale.

Brunton-tape traverses provided adequate survey control for the extent of geological mapping and soil-sampling accomplished during 1971. The map position of successive 'Brunton' stations was determined via true-bearings, vertical angles, and slope distances and a graph for the conversion of slope, to horizontal and vertical distances. Traverse courses and station elevations were plotted at a scale of 1"=100', after each shot, on 8½" x 11" squared field sheets. On this the local detail, pertaining to geology, exploration workings, roads, trails, drainages, etc., was subsequently plotted.

The related underground detail was also plotted on 8½" x 11" squared tracing paper sheets on which the workings and traverse points had been previously traced from the 1"=40' mine hard-plan. In most cases, details were located with reference to a survey tape hung between survey stations, or to chainage points previously marked out, at 'waist height', on a wall of the workings.

3. Geochemical Surveys & Analyses

Soil-sample locations were plotted on the above-noted, or similar 100-scale field mapping sheets.

Soil samples were taken near, or between survey stations (Dwgs. Nos. 1-A, 1-B) by means of a standard light mattock. The dark-brown to red-brown layer, occurring within a general range of 4"-18" below the significantly more organic surface soil layer, was sampled by means of a clear plastic spoon. The resulting samples were packaged in standard high wet-strength kraft paper bags on which the sample number was marked by felt pen.

All soil samples were taken to the North Vancouver laboratory of Bondar-Clegg & Company Ltd. for preparation and analysis. For this, the samples were dried in infra-red ovens on contamination-free aluminum shells, and then screened through an 80-mesh stainless steel sieve - with only the natural under-size fraction being reserved for analysis. Standard portions of each sample were digested in hot aqua-regia. The resulting solution was then bulked to 20 per cent total acid, and analyzed by atomic absorption - this being controlled by comparison with matrix and synthetic standards. The results were reported as parts-per-million (p.p.m.) of total lead and zinc.

The above geochemical lead and zinc values are shown on Dwgs. No's 1-A and 1-B. Lead values in the 100-plus p.p.m. range and zinc values in the 250-plus p.p.m. range are considered to be anomalous.

The principal 'zinc anomaly', overlying parts of the Snap and Isis Crown-granted claims, is partly delineated on Dwg. No. 1-A.

4. Bulldozer Trenching

This is shown on Dwgs. No's 1-A and 1-B.

Heavy trenching was done with a ripper-equipped Caterpillar D-8 tractor-'dozer. Supplementary and light trenching was done with a standard Cat. D-6 machine. All trenching is indicated on Dwgs. 1-A and 1-B.

Three deep trenches, to a maximum depth of 16 feet, were excavated to explore the large geochemical anomaly previously noted; however, none reached bedrock, and it is assumed that they overlie a pre-existing drainage channel. Bedrock was exposed at several places within other less heavily drift or talus-covered areas.

OFFICE WORK

This includes the preparation of the maps accompanying this report, auxiliary maps and sections on various scales, and a series of cross-sections depicting the geology, workings, and diamond drill hole detail within the northwesterly part of the Lucky Jim mine.

GENERAL GEOLOGY

The Seaton Creek headwaters area is underlain by rocks of the Triassic Slocan Series. Locally, these lie within the designated (M.S. Hedley, Bull. No. 22) 'slate belt' - a basal, more fissile, argillaceous part of the general Slocan geologic section. The general cross-section includes many relatively thin granitic sills and sill-dykes, and several thin and thick bands of limestone and calcareous argillite. The prevailing strike is northwesterly; dips range from steep to flat southwesterly. The limy host rocks within the area of the Lucky Jim mine include a major west-plunging cross-fractured fold structure. The bulk of the past production of Zn-Pb-Ag replacement ore was derived from orebodies occurring within the more closely fractured parts of this structure.

DETAILED GEOLOGY

The 1971 surface mapping indicated that the Lucky Jim (main) limestone bed is essentially continuous from the inner (S.E.) end of No. 1 level for 1400' southeastward to traverse station S-6. Over the next 1400 foot strike interval between S-6 and S-28 (Chickadee bluff) the limestone has not been exposed; other evidence, however, suggests thinning and partial obliteration of the 'lime bed' within this particular section of soft, highly fissile slates.

Surface mapping within the general area of the main geochemical soil anomaly disclosed a zone of relatively thin, locally contorted limestone bands, limy argillites, and granitic sills - locally

brecciated and/or silicified and pyritized. A S.W.-N.E. vertical section through this zone and the 'Snap' workings indicates that it lies at some 700-1000 feet stratigraphically above (S.W.) of the Lucky Jim limestone.

The 1971 underground mapping within Lucky Jim No. 9 level indicated probable extensions of the favourable brecciated limestone structure down-dip (S.W.) of the existing stopes. Subsequent office correlations of tunnel exposures and drill-hole intersections of the limestone structure revealed a pronounced flattening and warping from the northwesterly to a westerly strike-trend within the lower northwesterly part of the mine, which, at present, is only fractionally explored by the 9, 10, and 11-level tunnels and relatively few diamond drill holes.

GEOCHEMISTRY RESULTS

The 1971 soil-sampling was restricted to one geologically important part of the claims area. However, as the sampling only covers about one-sixth of the total accessible surface area of the property and about $\frac{1}{4}$ of the gross formational width, the results do not warrant a statistical analysis. A visual appraisal of the plotted data suggests 'threshold' values of 100 and 250 p.p.m. for Pb and Zn, respectively. It also suggests that Pb values are generally low and erratic, and can be safely excluded from the current interpretation.

On the basis of the above considerations, the writer interprets an approximate 600' (S.W.-N.E.) by 1000' (N.W.-S.E.) geochemical

zinc anomaly situated within the south halves of the adjoining Snap (L.911) and Isis (L.4873) claims; to date, this has not been closed to either the N.W. or S.E. Other 'spot' and 'linear' anomalies are indicated, but do not appear to be sufficiently important to warrant delineation on the maps.

CONCLUSIONS


A. Geological

1. Mineable ore, on extensions into the walls of existing stopes or as discrete orebodies, probably occurs within the relatively unexplored limestone structure in the lower, northwesterly section of the Lucky Jim mine.
2. Favourable (ore) controlling structures possibly exist within dip-extensions of the limestone band beyond the presently-delineated productive section of the mine.
3. An ore block is indicated (drill holes) within the easterly, up-dip extension of the fracture zone above the 1-level stope. Similar favourable fold-fracture situations possibly occur within the No. 1 Snap interval of the mine limestone band.

B. Geochemical

The 600' x 1000' unclosed anomaly may, or may not indicate the presence of significant zinc mineralization within an 'upper' limestone band or banded zone of limestone, limy argillite, and granitic sills.

May 10, 1972.
North Vancouver, B.C.


W.M. Sharp, P.Eng.

A P P E N D I X

SUMMARY OF COSTS
OF GEOLOGICAL & GEOCHEMICAL WORK,
LUCKY JIM GROUP, 1971

<u>Invoice Date</u>	<u>Invoice Name & Detail</u>	<u>Amount</u>	<u>Totals</u>
Aug. 31, 1972	Douglas Survey & Development Co. 95 hrs. @ \$4.00/hr. July/71 surveys 8 " " " Aug.2/71 " 6 days @ \$85/day, Aug.15-20 Travel, room & board, equip.	\$380.00 32.00 510.00 <u>240.00</u>	\$1,162.00
Sept. 20, 1971	W.M. Sharp, 13 days geol.eng. @ \$125/day S. Fegan, asst., 7 days @ \$37.14+/day Travel, motel, meals, supplies Laboratory analyses (soil)	1,625.00 260.00 242.84 <u>63.50</u>	2,191.34
Sept. 30, 1971	W.M. Sharp, 10 days geol. @ \$125/day S. Fegan, asst., 9 days @ \$37.37+/day Travel, motel, meals, supplies Laboratory analyses (soils)	1,250.00 340.00 294.39 <u>141.10</u>	2,025.49
Oct. 31, 1971	W.M. Sharp, 10 days geol. @ \$125/day Travel, motel, meals	1,250.00 <u>56.11</u>	1,306.11
Dec. 10, 1971	W.M. Sharp, 3 days geol. @ \$125/day Supplies Laboratory analyses (soils)	375.00 3.13 <u>30.60</u>	408.73
Dec. 31, 1971	W.M. Sharp, 12 days geol. @ \$125/day W.C. Wingert, asst. wages & equip. 1 day Travel, motel, meals, supplies G.V. Dyer, asst., 7 days @ \$50/day	1,500.00 67.00 <u>254.50</u> <u>350.00</u>	1,821.50
	Sub-Total		\$9,265.17
May 10, 1972	W.M. Sharp, P.Eng. 3-1/5 days @ \$125/day Re: report map preparation and estimates		<u>400.00</u>
	Total		\$9,665.17

(over)

W.M. Sharp
W.M. Sharp, P.Eng.

Declared before me at the *City*
of *Vancouver*, in the
Province of British Columbia, this *12*
day of *May*, 1972, A.D.

W. M. Sharp, P. Eng.

S. Gerrold

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

REG-RECORDING RECORDER



LEGEND:

- SLATES: WITH INCLINED VERTICAL CLEAVAGE SHOWN
- ARGILLITES: " " & " BEDDING "
- LIMESTONE: " " & " "
- 1. DOLOMITIZED LIMESTONE
- 2. ARGILLITE: WITH CLEAVAGE, SHOWING DIP.
- 1. CALCIFICATION & QUARTZ
- 2. MINERALIZATION: 1. SPALERITE-CALCINE W ARSENIC PYRITE AND/OR Fe-Oxide
- 1. FAULT, WITH DIP
- 2. DRAG FOLD AXIS WITH PLUNGE
- 1. BEDDING TRACE: DIRECTION OF TOPOGRAPHIC GROUND-SLOPE DIRECTION.

GEOPHON SOIL SAMPLE: P.P.M. Pb / P.P.M. Zn.

NOTE: ANOMALOUS Pb \approx 100 P.P.M. ANOMALOUS Zn \approx 250

SOIL SAMPLE W. RED HEAVY ORGANIC CONTENT

GEOPHONOLOGICAL-Zn SOIL ANOMALY

ACCESS ROAD TO SHA. D-22; TRACTOR ROAD & TRENCHES ABOVE SHA. D-22.

3650 M-3

W. M. SHARP, P.Eng. CONSULTING GEOLOGICAL ENGINEER
NORTH VANCOUVER, B.C.

SWIN LAKE MINES LTD. (N.L.)

ZINGTON EXPLORATION PROJECT
LOWER ZONE
GEOLOGY & GEOCHEMISTRY

MAP TO ACCOMPANY GEOLOGICAL AND GEOCHEMICAL REPORT ON THE LOWER ZONE SECTION ON CLAYTON CREEK, SWIN LAKE MINES DIVISION, DATED MAY 10, 1972.

W. M. SHARP, P.Eng. 1/1/1972

Scale: 1" = 100' Date: 10/1/72

NO. 320 M-4
 11/11/72
 11/11/72
 11/11/72



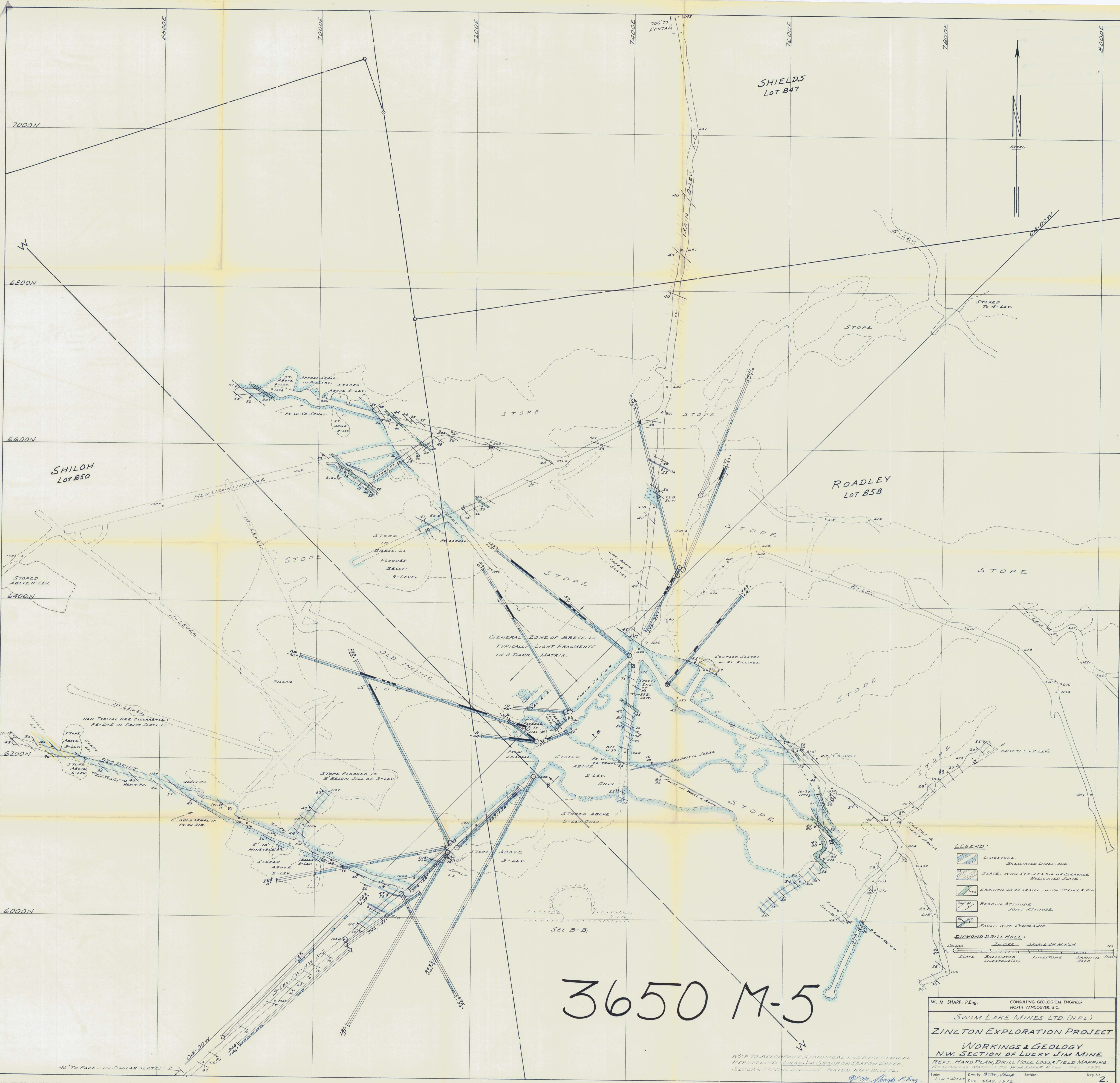
MAP TO ACCOMPANY GEOLOGICAL AND GEOCHEMICAL REPORT ON THE LUCKY JIM GROUP ON SEATON CREEK, SLOCAN MINING DIVISION, DATED MAY 10, 1972.

W. M. Sharp, P. Eng.
 May 12, 1972

NOTE:
 FOR LEGEND, SEE ADJOINING DWG. No. 1-A.

PEORIA
 L.3318

W. M. SHARP, P. Eng.		CONSULTING GEOLOGICAL ENGINEER NORTH VANCOUVER, B.C.	
SWIM LAKE MINES LTD. (M.P.L.)			
ZINCTION EXPLORATION PROJECT			
UPPER ZONE			
GEOLOGY & GEOCHEMISTRY			
Scale: 1" = 100'	Dwn. by: Date: JUL-DEC. 1971	Revision:	Dwg. No. 1-B



3650 M-5

LEGEND:

- LIMESTONE
- BRECCIATED LIMESTONE
- SLATE, WITH STRIKE & DIP OF CLEAVAGE
- BRECCIATED SLATE
- GRANITE DIKE OR SILL, WITH STRIKE & DIP
- BEDDING ATTITUDE
- JOINT ATTITUDE
- FAULT, WITH STRIKE & DIP

DIAMOND DRILL HOLE:

COLLAR IN DRE SPARK IN MINE NO.

SLATE BRECCIATED LIMESTONE(S) LIMESTONE GRANITE INCL. ROCK

W. M. SHARP, P.Eng. CONSULTING GEOLOGICAL ENGINEER
NORTH VANCOUVER, B.C.

SWIM LAKE MINES LTD. (N.P.L.)

ZINTON EXPLORATION PROJECT

WORKINGS & GEOLOGY
N.W. SECTION OF LUCKY JIM MINE

REF.: HARD PLAN, DRILL HOLE LOGS, & FIELD MAPPING
GEOLOGICAL MAP OF W.M. SHARP P.Eng., DEC. 1971.

Scale: 1" = 400' Drawn by: W.M. Sharp Date: MAY, 1972 Revision: Dep. No. 2.

MAP TO ACCOMPANY GEOLOGICAL AND MINERAL
REPORT TO THE LUCKY JIM GEOLOGICAL SECTION, B.C.M.P.
(SICRAN 811) DATED MAY 10, 1972.

W.M. Sharp, P.Eng.
May 12, 1972