

REPORT  
on the  
SILVER BELL-SANDOW-LONE STAR GROUP OF CLAIMS  
NEW DENVER, BRITISH COLUMBIA  
for Swim Lake Mines Ltd.

by: J.W. Murton, B.Sc.,  
J.J. Crowhurst, B.A.Sc., P.Eng.  
Jan. 11/71

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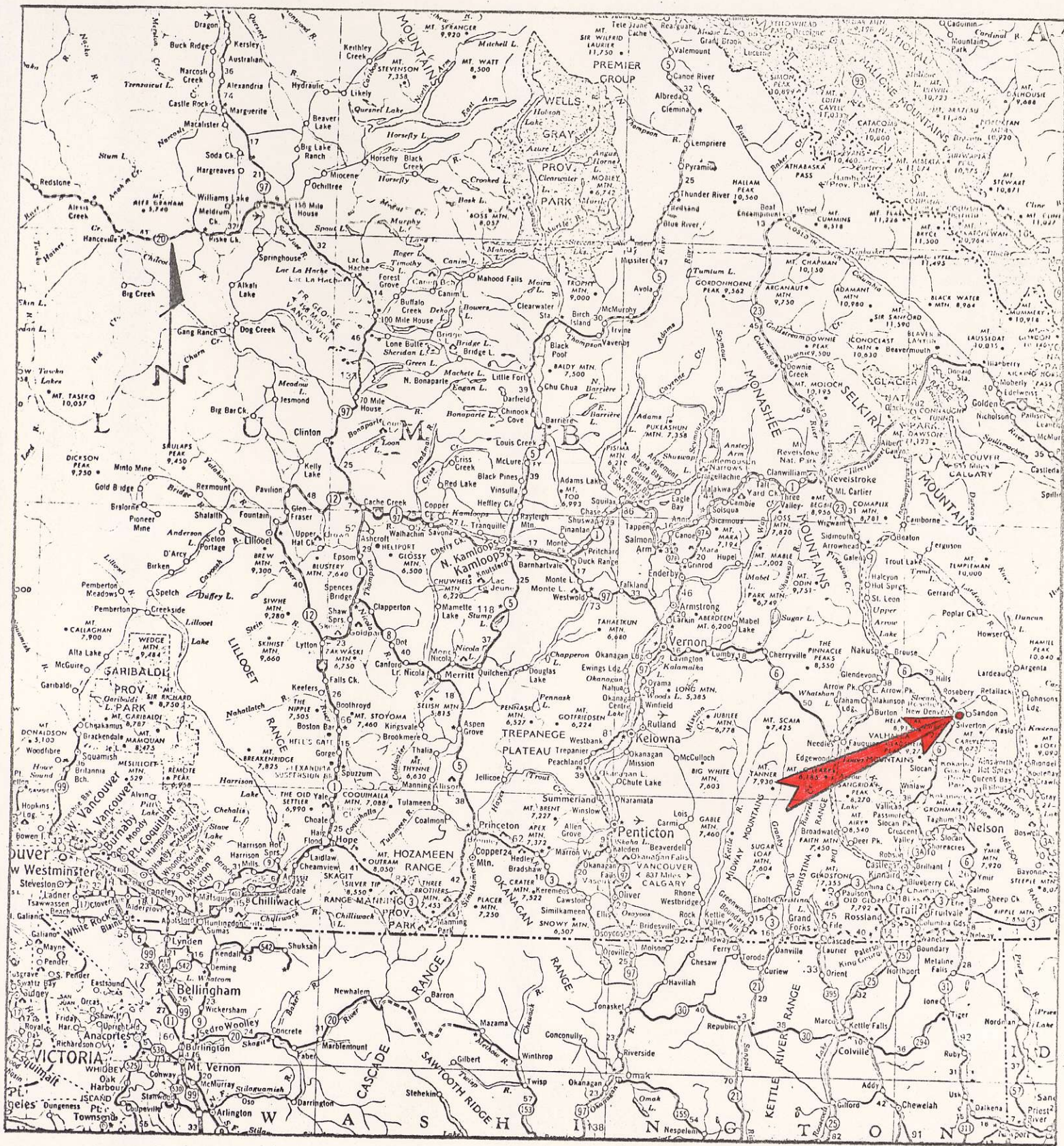
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NEW DENVER, BRITISH COLUMBIA

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SWIM LAKE MINES LTD.

by  
J.W. MURTON, B.Sc.  
J.J. CROWHURST, B.A.Sc., P.Eng.

Vancouver, B.C.

January 11th, 1971.



LOCATION MAP

SCALE 1" = 39 MILES

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SUMMARY AND CONCLUSIONS

The claim group optioned by Swim Lake Mines Ltd. consists of 11 claims (Crown granted and located) in the Slocan Mining Division, approximately 3 miles east of New Denver, British Columbia.

The claims are underlain by mixed argillites, slates, quartzites and limestone of the Slocan series, intruded by dikes of Cretaceous porphyritic syenite. Mining activity in the early 1900's indicated strong fissure zones, up to 20' wide, filled with calcite, quartz, siderite and varying amounts of galena, sphalerite, tetrahedrite and ruby silver. The mineralization is randomly deposited within the fissures, but where concentrations have been located, mining activity has ensued with the recovery of significant amounts of silver and lead.

Very little exploration work was conducted in the period 1940 to 1960. A 40' drift extension driven in the 1960's on the Silver Bell tunnel (6150' elevation), plus sporadic stoping by leasers has indicated continuation of the mineralized fissure. The new drift driven in August 1970, 140' above the old Silver Bell tunnel, disclosed a continuous fissure zone with scattered galena; this represents a vertical extension of the mineralization stoped on the lower level.

A weak indication of the Alamo fissure zone can be traced through the Silver Bell claim and onto the Sandow claim, where recent stripping indicated a non-mineralized section of a brecciated fissure.

A soil sample above the trenching, however, showed anomalous silver (20 ppm) and zinc (1500 ppm) values.

#### RECOMMENDATIONS

It is recommended that a program of underground and surface diamond drilling be initiated to test the continuation of the Idaho zones, along strike and in depth. The depth continuation can be tested from the crosscut SSE of the 6150 level, and a series of 300' holes, northward and southward, will reveal whether parallel structures occur.

A series of holes ahead of both drift faces is warranted to test the fissures. An excellent underground location is available to drill 3 holes to test the Alamo vein system continuation where it crosses the Silver Bell claim. This location is approximately 700' ahead and on strike to the west from the Alamo mine workings. It is easily accessible from the new road constructed in 1970.

Several short surface diamond drill holes should be drilled on the Sandow claim, on the west facing slope, to test the fissure zone exposed in old cuts and on the new road; this is in the area of the anomalous geochemical results.

Dependent upon results of the above program, consideration should be given to a development program to explore further the mineralized fissures at depth in the Silver Bell workings. This could be done advantageously during the drilling program while a compressor and other

equipment is assembled; it should include raising at 50' intervals along the structure to test its vertical extent and continuity.

It is recommended that the sum of \$83,985.00 be provided to carry out the above program.

Cost estimates are as follows:

ESTIMATED COST

Stage 1

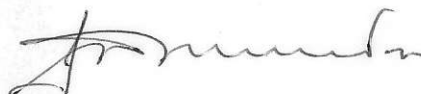
1. Underground Diamond Drilling			
Alamo vein	- 900'		
Silver Bell 6150 level	- 1000'		
Silver Bell 6290 level	- 1000'		
	2900' @ \$8.50/ft.	= \$24,650.00	
2. Surface diamond drilling			
3 holes (600') @ \$12.00/ft.			7,200.00
3. Engineering, core logging, assaying & core storage		2,000.00	
		<u>\$33,850.00</u>	
10% contingencies		<u>3,385.00</u>	\$37,235.00

Stage 2


400' Drifting on 6150 & 6290 levels @ \$60.00/ft.	\$24,000.00	
300' Raising @ \$50/ft.	15,000.00	
Supervision, Engineering, Geology & Mapping	3,000.00	
Sampling & Assaying	500.00	
	<u>\$42,500.00</u>	
10% contingencies	<u>4,250.00</u>	<u>\$46,750.00</u>
<u>Total Estimated Cost, Stages 1 &amp; 2</u>		<u>\$83,985.00</u>

Respectfully submitted,

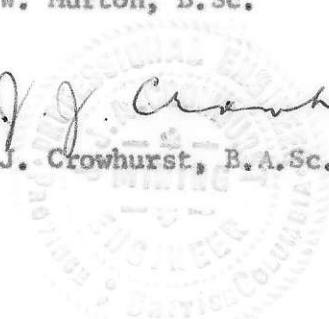
BACON & CROWHURST LTD.



J.W. Murton, B.Sc.



J.J. Crowhurst, B.A.Sc., P.Eng.



INTRODUCTION

Mr. J.J. Crowhurst of Bacon & Crowhurst Ltd. conducted preliminary examination of the optioned claims and underground workings on June 19th-21st, 1970, accompanied by Mr. J.P. Heron, President, Swim Lake Mines Ltd. Subsequently, additional mapping, surveying and geological work was done by J.W. Murton and Colin Campbell during June 30th - July 3rd, 1970, and September 12th and 13th, 1970.

LOCATION AND ACCESS

The property is at an elevation of 5500'-6500', three miles east of and partially overlooking New Denver. This town is 78 miles by paved road, north of Trail.

Access to the claims is by gravel road, through Sandon, and thence by narrow logging and mining roads, a distance of approximately 15 miles. Access to the upper Silver Bell workings and Sandow claim was improved in 1970 by construction of approximately 2 miles of new road from the termination of the existing road at the Silver Bell workings.

PROPERTY AND OWNERSHIP

Swim Lake Mines Ltd. holds under option 9 Crown granted and two located mineral claims in one main group and a second smaller group. The claims are as follows:



	<u>Claim Name</u>	<u>Lot or Record No.</u>
<u>Group 1</u>	Lone Star	L1891
	Sandow	L1890
	Silver Bell	L1887
	Adirondak	L4511
	Hustler	L1888
	Hustler Fr.	13360
	Hustler Fr. #2	13415
<u>Group 2</u>	Hartney	L4864
	August Flower	L4865
	Hunter	L4868
	Kingston	L4871

#### HISTORY AND PAST PRODUCTION

The New Denver-Silverton-Sandon area of the Slocan has been a well known silver-lead-zinc producing area since its discovery in the early 1890's. The Idaho and Alamo mining properties, located immediately east and on strike of the Silver Bell workings, were two of the early producers; although production records are incomplete, it appears that approximately 26,000 tons averaging 50 oz. - 100 oz. silver per ton plus 10%-30% galena were sorted and shipped. This total, to the end of 1926, is taken from B.C. Minister of Mines Reports. It should be noted that the "Idaho" mine actually developed 3 'lodes' or veins, essentially parallel to each other - the Idaho vein, the St. John vein and the Cumberland vein. Because there is no direct underground connection between the Idaho workings and the Silver Bell workings, and continuity is masked by overburden on surface, it is difficult to be sure which vein or lode the Silver Bell has actually exposed. It is believed, however, that it represents the main Idaho vein.

The Silver Bell claim produced approximately 2200 tons of unknown grade. Inspection and check assaying of old stopes indicates grades of 20 oz. to 30 oz. per ton silver with 10% to 40% galena. It could be expected that all production shipped in the early days would be upgraded by careful hand-sorting.

Numerous small caved adits and cuts in the immediate area indicate a thorough degree of surface prospecting for continuation or extension of the producing veins, with apparently negative results. This surface work was conducted intermittently in the years 1926 to 1970, with the bulk of the work being pre-1940. A short 40' extension to the lower Silver Bell tunnel was driven in the 1960's on a narrow section of vein showing in the drift back with a 0.4' galena stringer continuing to the face. Two short caved adits estimated to be 20' long are indicated on surface above and up-dip to the Silver Bell workings; a short caved adit was driven on the Sandow claim, overlooking New Denver, on a barren section of a fissure which is thought to be an extension of the Alamo vein.

#### GEOLOGY AND MINERALIZATION

The rock in the area covered by the claims consists chiefly of Upper Paleozoic quartzites, with quartzitic argillite, some limestone and slaty beds of the Slocan Series. Alteration of the quartzite was noted in the Silver Bell tunnel as well as at several places on surface; this alteration is thought to be due to the proximity of Cretaceous porphyritic syenite dykes and dioritic intrusions.

The mineralization of interest occurs as disseminations and streaks of galena, carrying irregular amounts of sphalerite and tetrahedrite, with some pyrargyrite reported, but not observed. This mineralization occurs within a gangue of quartz, calcite and siderite, which has filled fissures in the quartzitic country rock. The fissures have been called 'lodes' and 'veins' but they essentially are breaks that are filled with a breccia of quartz, calcite and siderite. They vary from a few inches to 20' in width, pinch and swell, and are randomly mineralized by concentrations of solid galena.

#### 1970 EXPLORATION

(a) Sampling & Assaying - Limited sampling and mapping was carried out during the summer of 1970 with assay results as follows:

<u>Sample Description</u>	<u>Width</u>	<u>Au oz./ton</u>	<u>Ag oz./ton</u>	<u>Pb %</u>	<u>Zn %</u>
0.4' vein in face of lower Silver Bell tunnel	0.4'	.009	99.0	26.5	12.6
Vein in face of lower Silver Bell tunnel - channel	2.0'	.003	9.5	4.3	2.8
Silver Bell stope - backfill - random sample	Muck	.003	13.8	4.3	10.0
Vein in face of Silver Bell stope - channel	1.0'	-	21.4	57.0	6.7
Vein 30' back from face in stope - channel	2.0'	-	26.8	49.0	8.7
Selected ore from stope muck pile	Selected	.003	32.1	22.2	15.2
Vein 30' from portal - lower Silver Bell tunnel - channel	2.0'	.003	18.1	15.6	2.1
New '6290' Silver Bell tunnel - face - channel	3.0'	-	4.4	2.8	3.5
New '6290' Silver Bell tunnel - 170' from portal - channel	1.0'	-	4.3	3.6	1.1

<u>Sample Description</u>	<u>Width</u>	<u>Au oz./ton</u>	<u>Ag oz./ton</u>	<u>Pb %</u>	<u>Zn %</u>
New Silver Bell tunnel (6290) - 130' from portal - channel	1.4'	-	6.1	5.0	1.3
New Silver Bell tunnel (6290) - Selected sample 170' from portal	Selected	-	23.9	72.0	3.0
Short tunnel up dip from Silver Bell lower tunnel - channel - elev. 6470	2.0'	.003	5.05	0.57	1.36
Short tunnel up dip from Silver Bell lower tunnel - elev. 6360 - selected on dump	Selected	.034	62.4	2.88	17.40

(b) Drifting

During August and September, 1970, a 250' drift was driven at elevation 6290' on a mineralized fissure which is thought to represent the up-dip continuation of the mineralization mined in the lower Silver Bell tunnel. While no heavy concentrations of mineralization were encountered, interesting values in silver and lead were located within the fissure zone. These values are noted on the accompanying maps and previously in the text.

(c) Geochemical Sampling

A series of soil samples collected during July, 1970, were analyzed for silver and zinc. These samples were taken to locate an extension of the Idaho and/or Alamo structures, thought to continue S.W. on the Sandow and Lone Star claims. No positive evidence of continuation was located by this means on the Lone Star Crown grant. A weak response on the western-most line was indicated by a silver result of 2 ppm and zinc results of 234-307 ppm. A gradual dropping off in values develops downslope to the west.

Background is indicated as silver 0.5 ppm, zinc 150 ppm. Check soil samples taken over known fissure zones (as on the Sandow and Lone Star claims) yielded 5-20 ppm silver and 1500 ppm zinc, with little lateral dispersion of ions.

APPENDIX A

CERTIFICATION

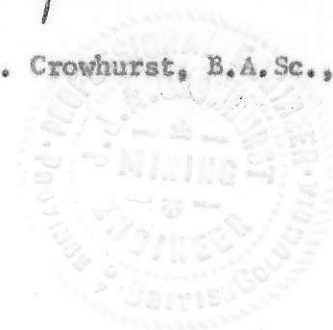
I, John James Crowhurst, DO HEREBY CERTIFY THAT

- (1) I am a practising mining engineer with Bacon & Crowhurst Ltd., Ste. 1720 - 1055 W. Hastings Street, Vancouver, 1, B.C.
- (2) I am a graduate of the University of British Columbia and have been granted the degree of Bachelor of Applied Science.
- (3) I have been practising my profession as a mining engineer for 29 years.
- (4) I am a member of the Association of Professional Engineers of British Columbia, Registration No. 2120.
- (5) On June 19-20-21, 1970, I visited the Silver Bell, Lone Star, Sandow claims group of Swim Lake Mines Ltd. regarding exploration and development plans.
- (6) I nor any member of my firm have directly or indirectly received or expect to receive any interest direct or indirect in the property of the company or any affiliate nor do I nor any member of my firm beneficially own directly or indirectly any securities of the company or any affiliate.

*J. J. Crowhurst*

J.J. Crowhurst, B.A.Sc., P.Eng.

Vancouver, B.C.  
January 11th, 1971.



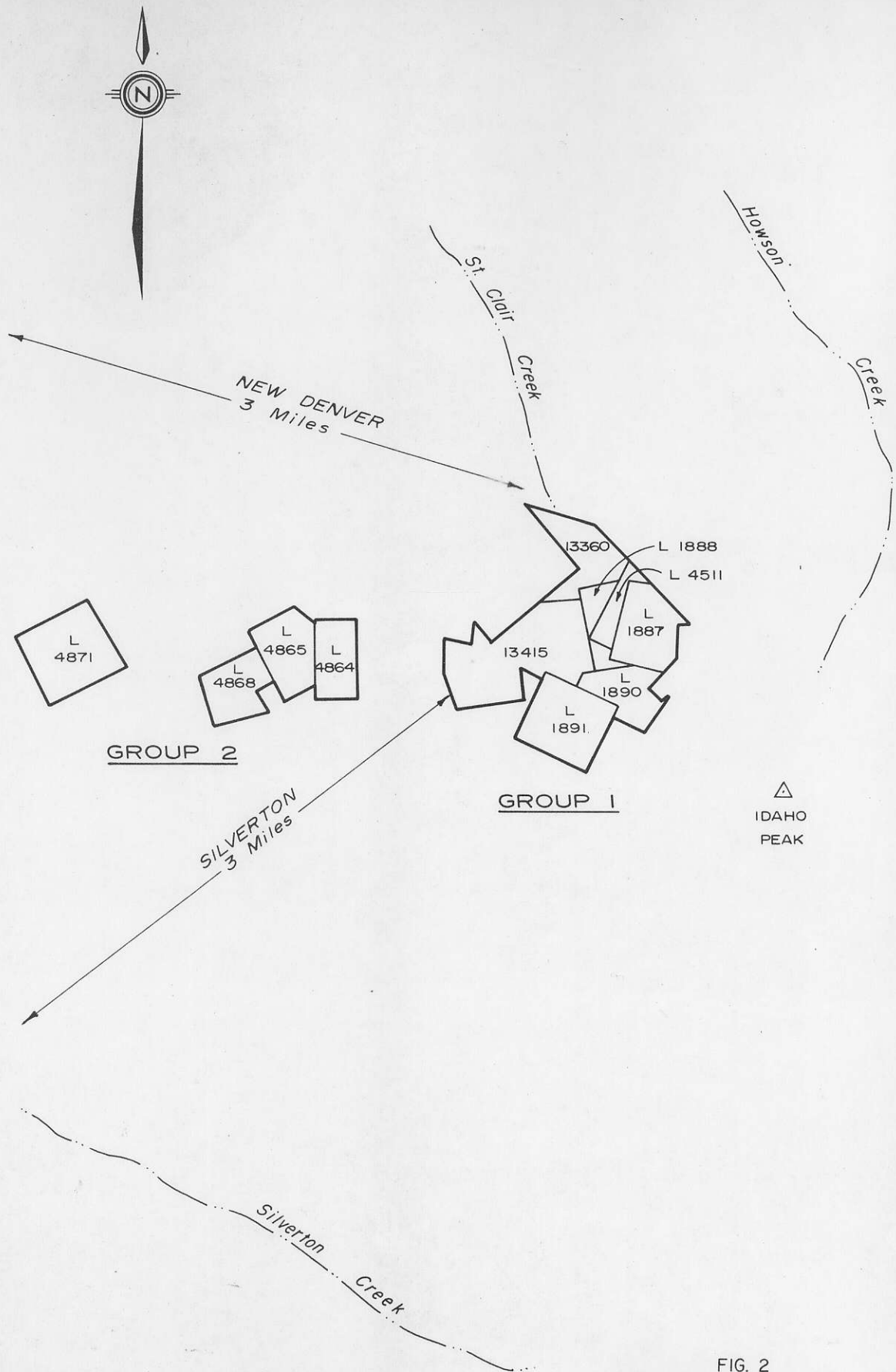


FIG. 2  
 BACON & CROWHURST LTD.  
 SWIM LAKE MINES LTD.  
**CLAIM LOCATION MAP**  
 NEW DENVER, B.C.





6039 LEVEL

ST. JOHN LODE

ST. JOHN

caved areas above Idaho Lode

x Galena float

to Sandon

Approximate location of new roads

ADIRONDACK

Compressor Building

IDAHO

Reference Line for Longitudinal Section

6150 LEVEL

SILVER BELL

Deadend

Breccia & Gouge

Breccia

El. 6360

6290 LEVEL

Raise break thru on surface

HUSTLER

Road to Southwest side and Trenching

Ridge Top

El. 6470'

6410?

6157?

+1700' road @ 14% =

296  
240  
6530?  
guess

17  
14  
68  
17

Soil sampled by J. P. Heron  
Pb. - 5000 ppm.  
Zn. - 4400 ppm.  
Ag. - 100 ppm.

sheared with Breccia

6530 guess

6130 - U-1  
157' @ -10°

157  
174  
628  
1099  
157

6157  
27

LEGEND


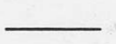


-  Road or Trail
-  Claim Lines
-  Surface Cut
-  Adit

FIG. 3  
 BACON & CROWHURST LTD.  
 SWIM LAKE MINES LTD.  
**PLAN OF SILVER BELL ADITS & SURFACE CUTS**  
 NEW DENVER, BC.  
 Chain and compass survey  
 by C. Campbell Sept. 12, 13, 1970  
 SCALE





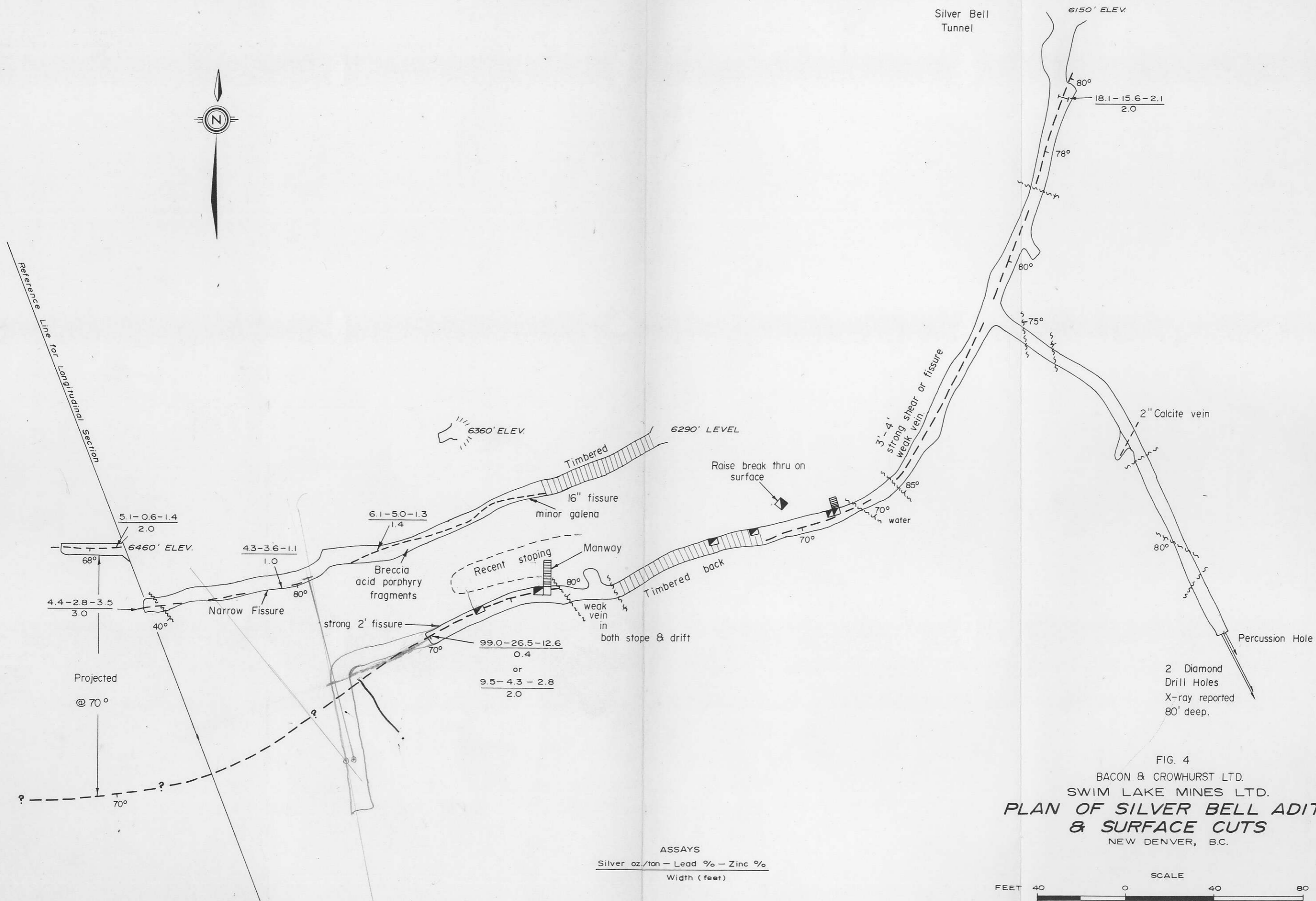
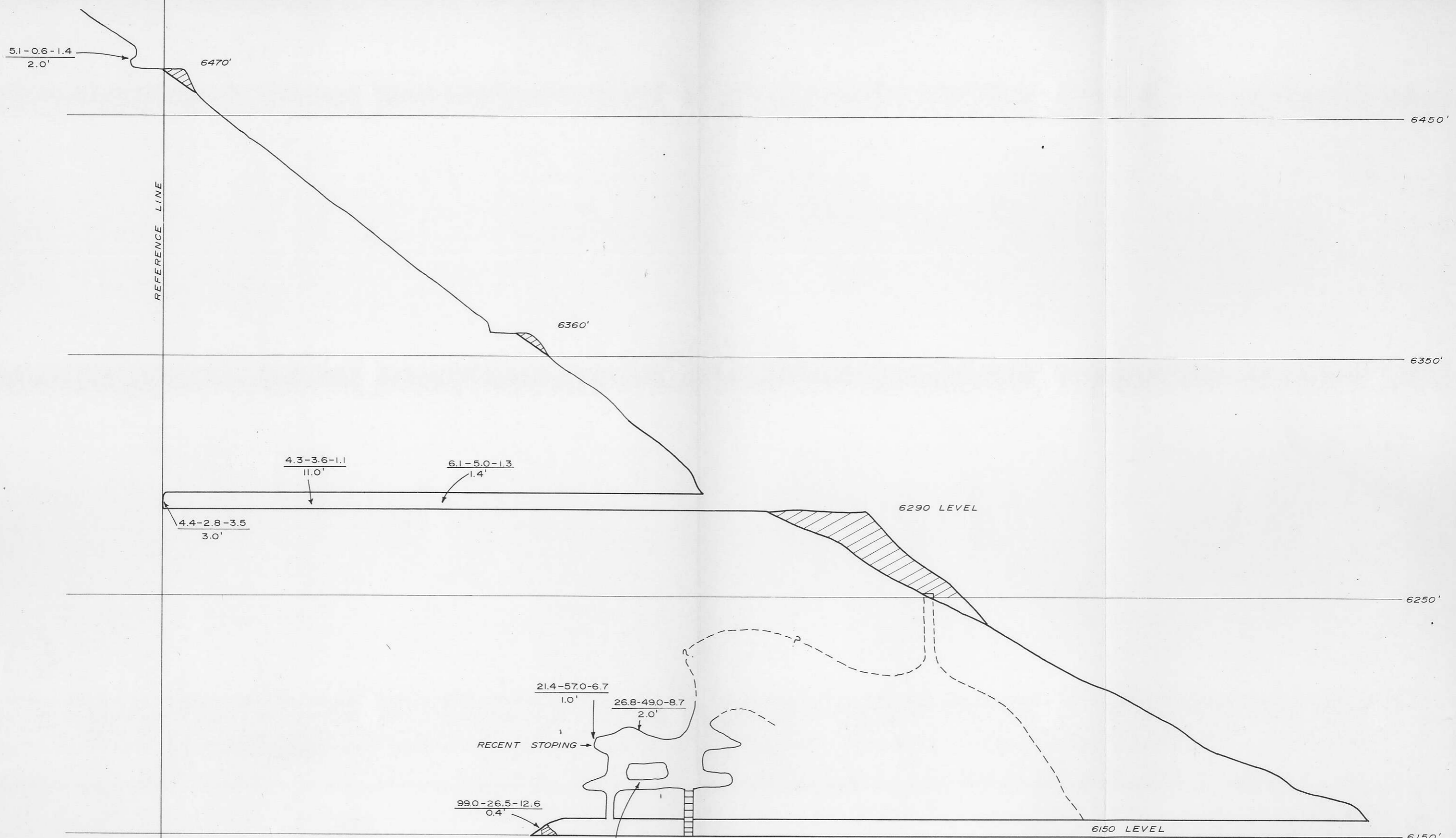


FIG. 4  
 BACON & CROWHURST LTD.  
 SWIM LAKE MINES LTD.  
**PLAN OF SILVER BELL ADITS  
 & SURFACE CUTS**  
 NEW DENVER, B.C.

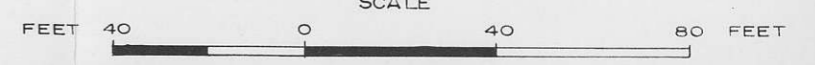
ASSAYS  
 Silver oz./ton - Lead % - Zinc %  
 Width (feet)

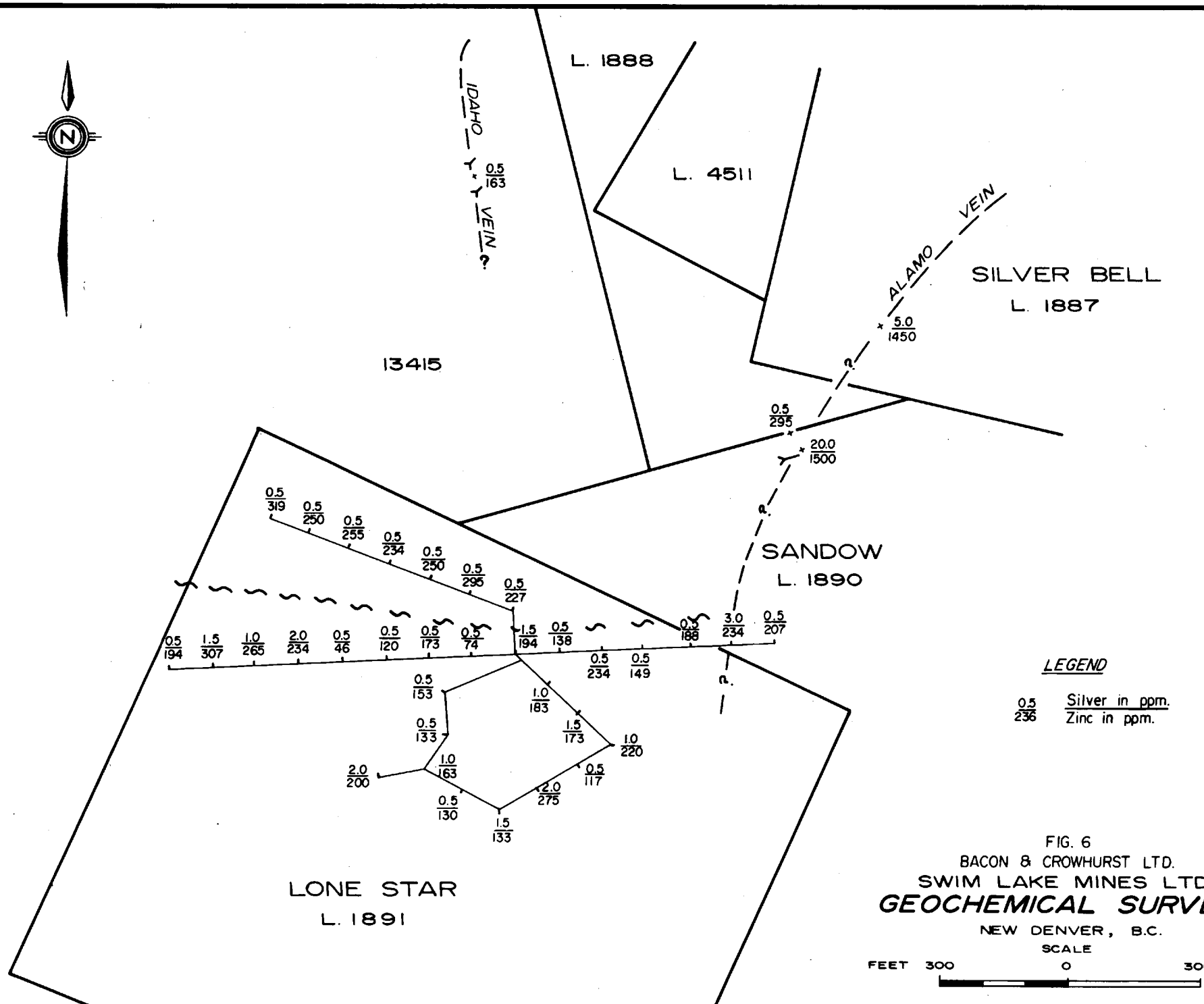


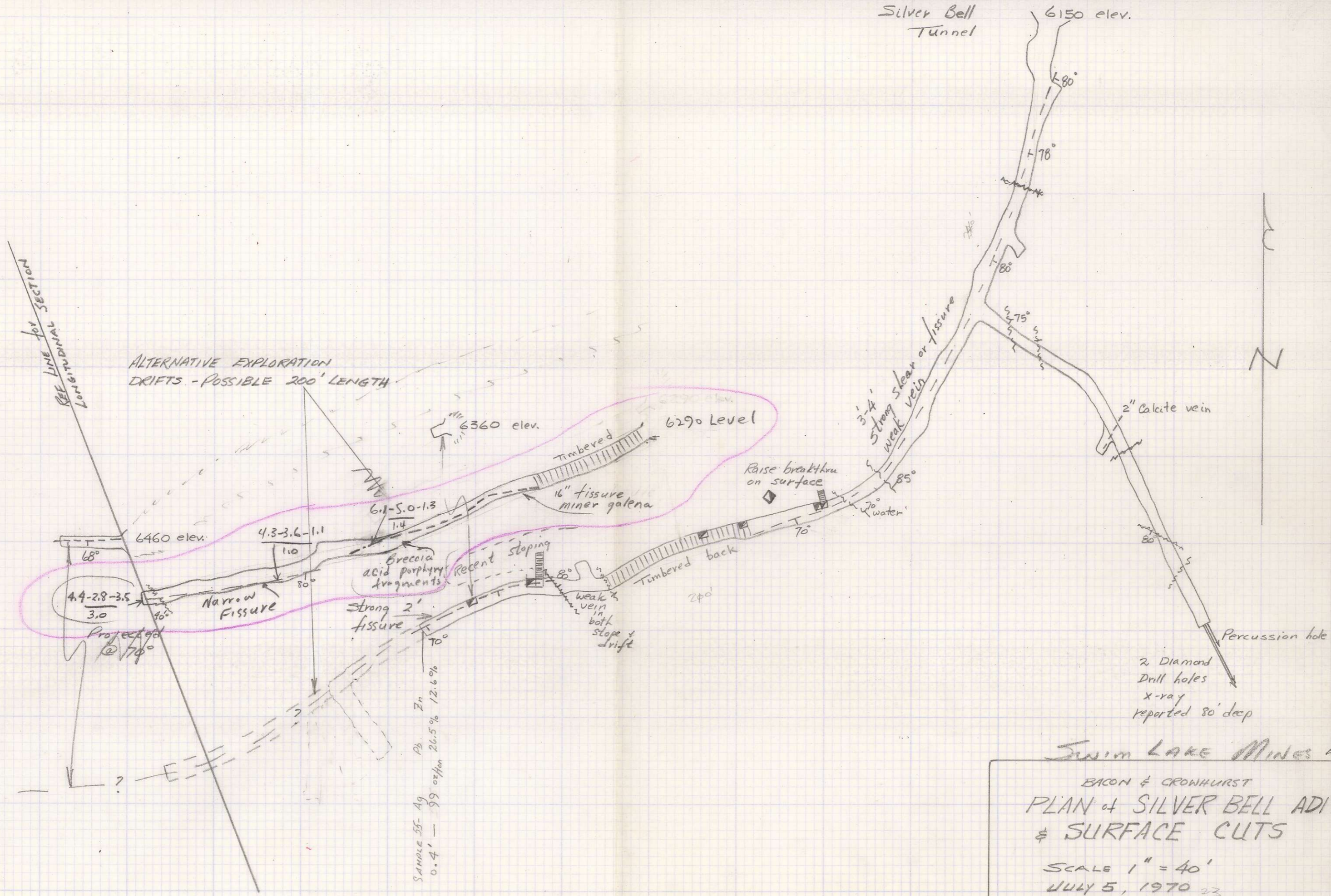


ASSAYS  
 Silver oz./ton—Lead %—Zinc %  
 Width (feet)

FIG. 5  
 BACON & CROWHURST LTD.  
 SWIM LAKE MINES LTD.  
**LONGITUDINAL SECTION**  
 SILVER BELL TUNNELS  
 & SURFACE CUTS  
 NEW DENVER, B.C.







ALTERNATIVE EXPLORATION  
DRIFTS - POSSIBLE 200' LENGTH

SAMPLE 55- Ag Pb Zn  
0.4' - 99 oz/ton 26.5% 12.6%

JUNIOR LAKE MINES LTD  
BACON & CROWHURST  
PLAN of SILVER BELL ADIT  
& SURFACE CUTS

SCALE 1" = 40'  
JULY 5, 1970  
D.V.M. Additions by G. Campbell  
Sept. 16, 1970.

Fig 4