520087
82K/7W

PROPERTY EXAMINATION REPORT

JUNIPER, GLADYS 1 and 2 CLAIMS (TALC)

AND

STEP CLAIM (ZN, PB)

SLOCAN MINING DIVISION

N.T.S. 82K/7W, 82F/15W

Latitude 52°25'N Longitude 116°57'W

and

Latitude 49°57'N Longitude 116°50'W

OWNED BY

W. STEPEHENS, D. CURRIE

EXAMINATION FOR: ESPERANZA EXPLORATIONS LTD.

September, 1979 John Jenks

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INTRODUCTION

The following report describes the examination of two properties in the Kootenay Lake/Duncan Lake area held jointly by Messrs. W. Stephens and D. Currie.

The first, a talc prospect, is a bedded deposit, sub-vertically dipping, having tonnage potential in excess of 18,000,000 short tons. It would be easily mineable via a system of underground adits from surface.

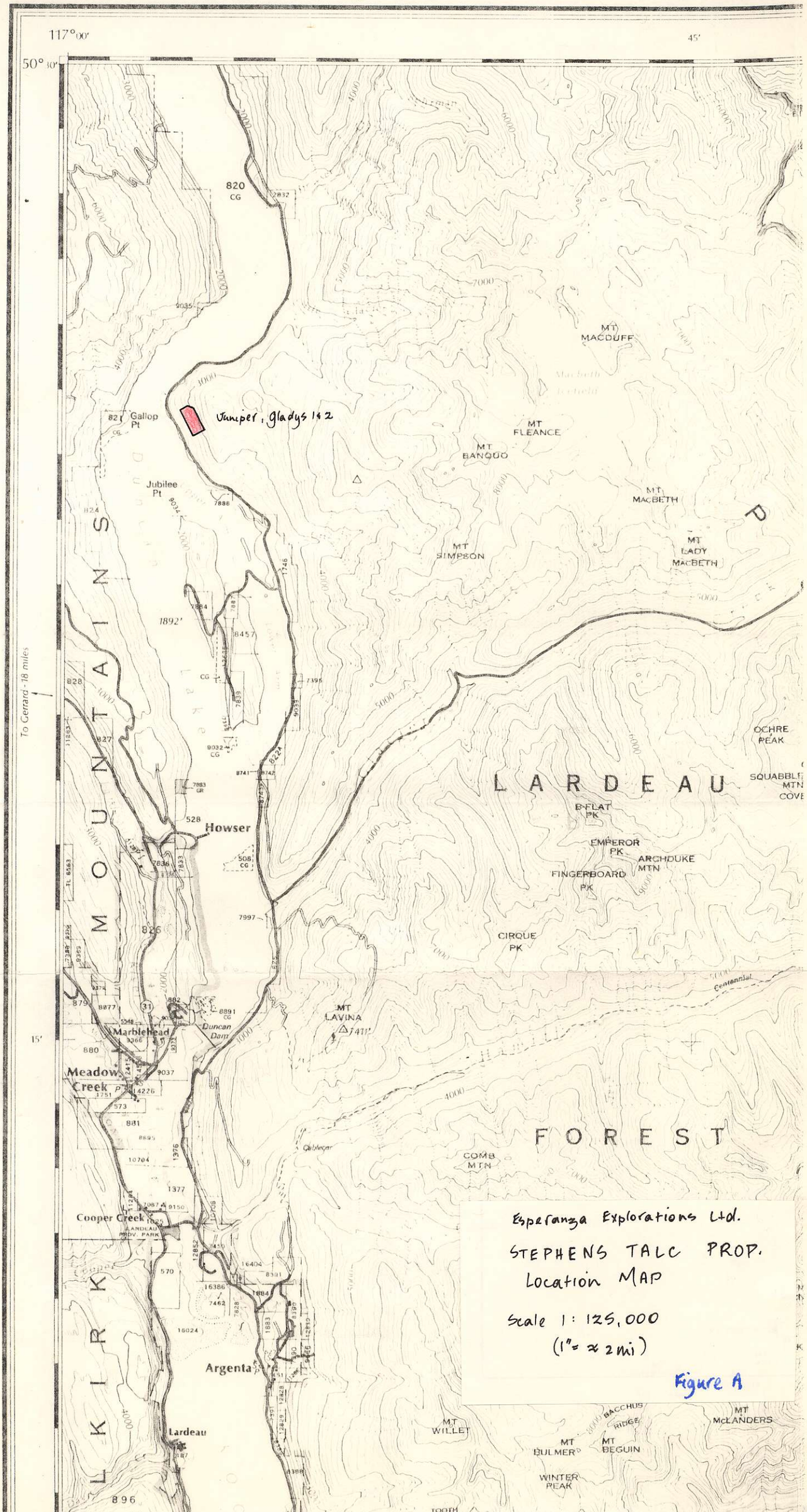
Metallurgical and laboratory testing is required to fully determine the chemical and physical properties inherent to the talc and to ascertain the various end products that can be produced from the deposit. Assuming positive test results and marketable co-products it is felt the deposit has considerable potential.

The second property has many of the features common to the Kootenay Arc type of lead-zinc deposits, however the galena-sphalerite mineralization occurring in carbonate-quartz stringers, fracture fillings, veins and lenses appears to have limited potential. Two samples taken of sulphide-rich layers of the more quartzitic horizons suggestive of Big Ledge type of mineralization must await favourable assay results before further attention can be directed to the property.

TALC PROPERTY

Location and Access

The JUNIPER and the GLADYS 1 and 2 claims are located on the east side of Duncan Lake approximately four miles north of the Duncan mine held by Cominco.



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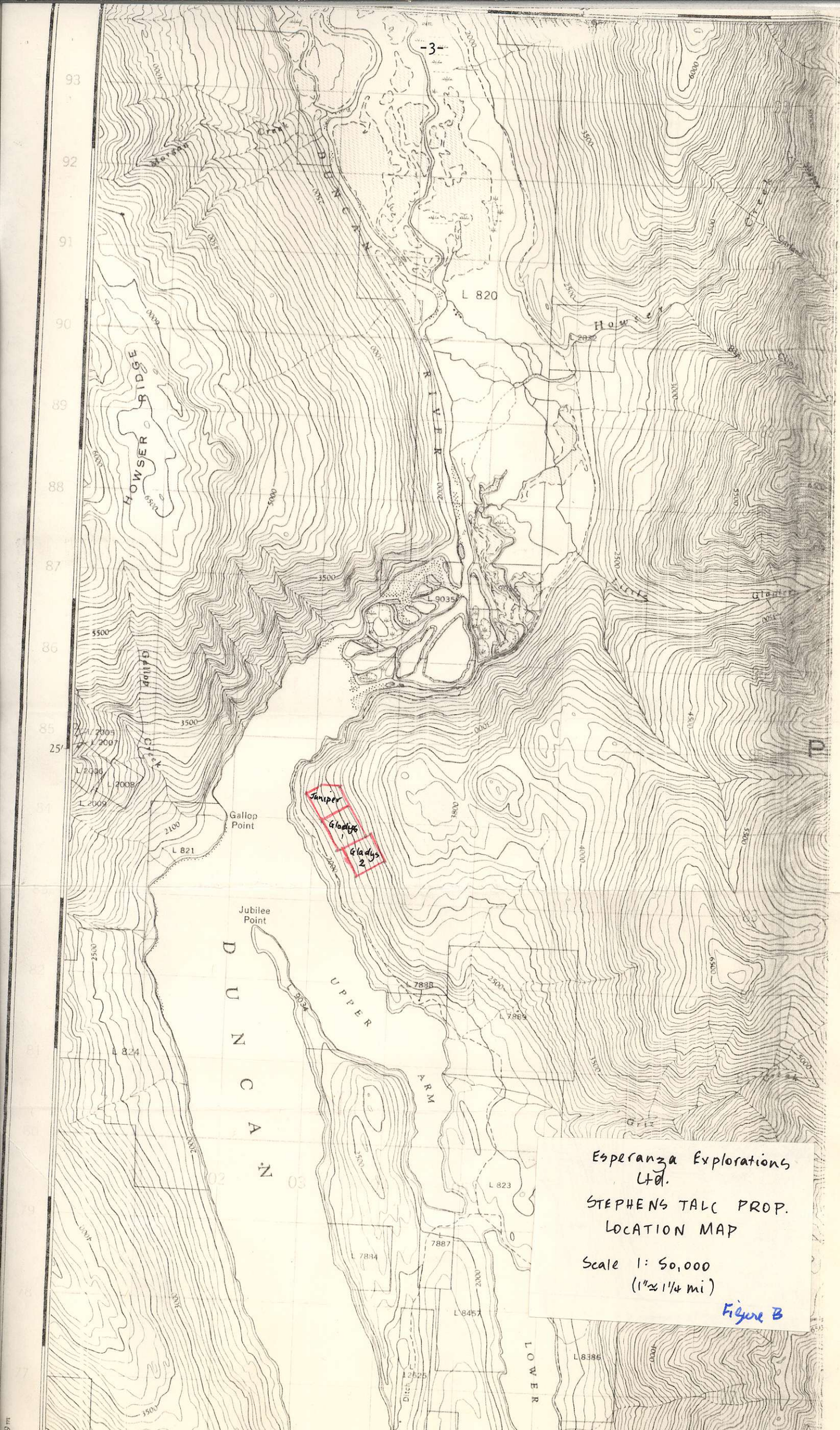
STEPHENS TALC PROP.

Location MAP

Scale 1 : 125,000

(1" = ≈ 2 mi)

Figure A



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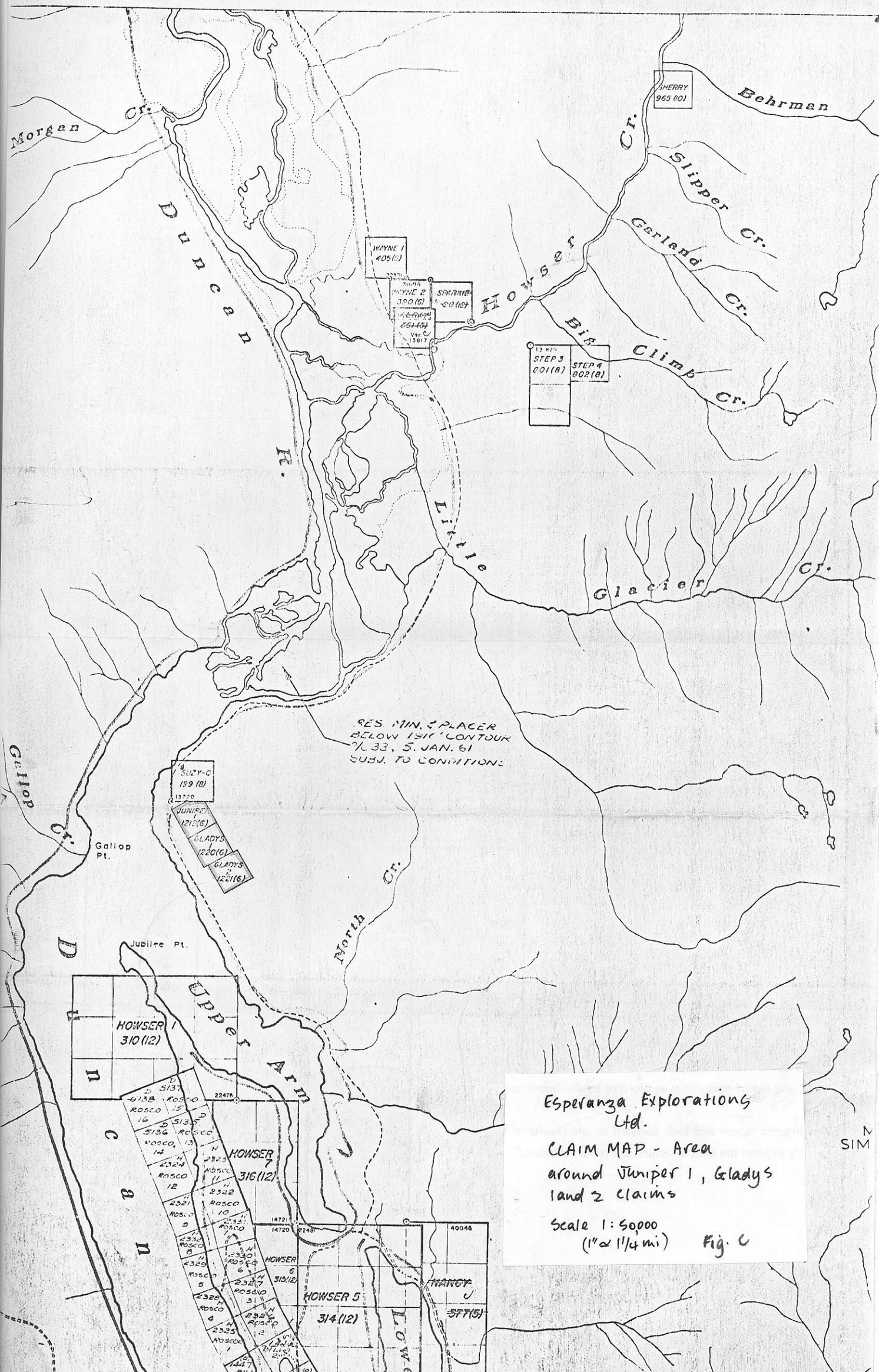
STEPHENS TALC PROP.

LOCATION MAP

Scale 1: 50,000
(1" ≈ 1¼ mi)

Figure B

TO NORTH SEE MAP 131



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CLAIM MAP - Area around Juniper 1, Gladys 1 and 2 claims

Scale 1:50,000 (1" ≈ 1¼ mi) Fig. C

The prospect may be reached via the Duncan Lake logging road from Lardeau 21 road miles to the south. Just after the 35-kilometer marker, the North Creek logging road is followed for a couple of miles to the claim area.

All roads are in good condition and may be driven by car with due caution accorded to the considerable logging traffic on the main road.

Topography

Situated on a moderate northwesterly-facing slope, the claims are covered by cedar, hemlock, and lodgepole pine some of which has been logged off. Relief becomes considerable within one quarter mile of the shore of Duncan Lake. Elevations range from 1892 feet at the lake surface to 3200 feet at the southeastern end of the claims.

Property Definition

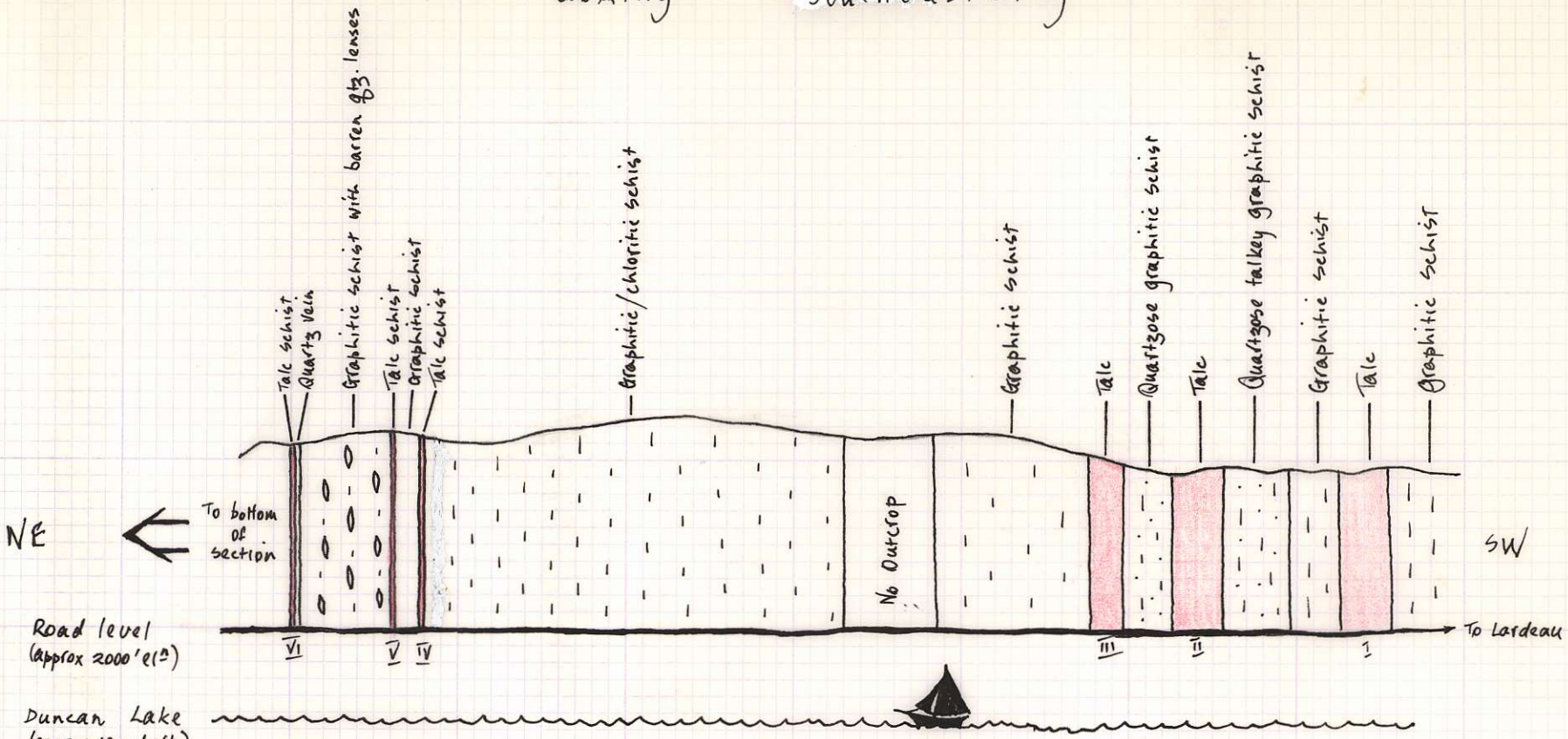
The prospect is jointly owned by Walter Stephens and Dennis Currie of Balfour and Ainsworth, B.C. respectively. It is covered by three two-post claims - JUNIPER 1 and GLADYS 1 and 2.

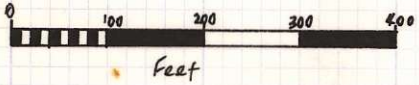
Adjoining these three claims to the north is a one-unit claim owned by Mrs. Joan Willford, Box 1039, Revelstoke, B.C. First acquired in 1976, this claim, designated the SUZY-Q, has an expiry date of August 1, 1980. Mrs. Willford utilizes the soapstone from the deposit in her own carvings.

History

Aside from Mrs. Willford's minor excavations, there is no known history of

Looking Southeasterly





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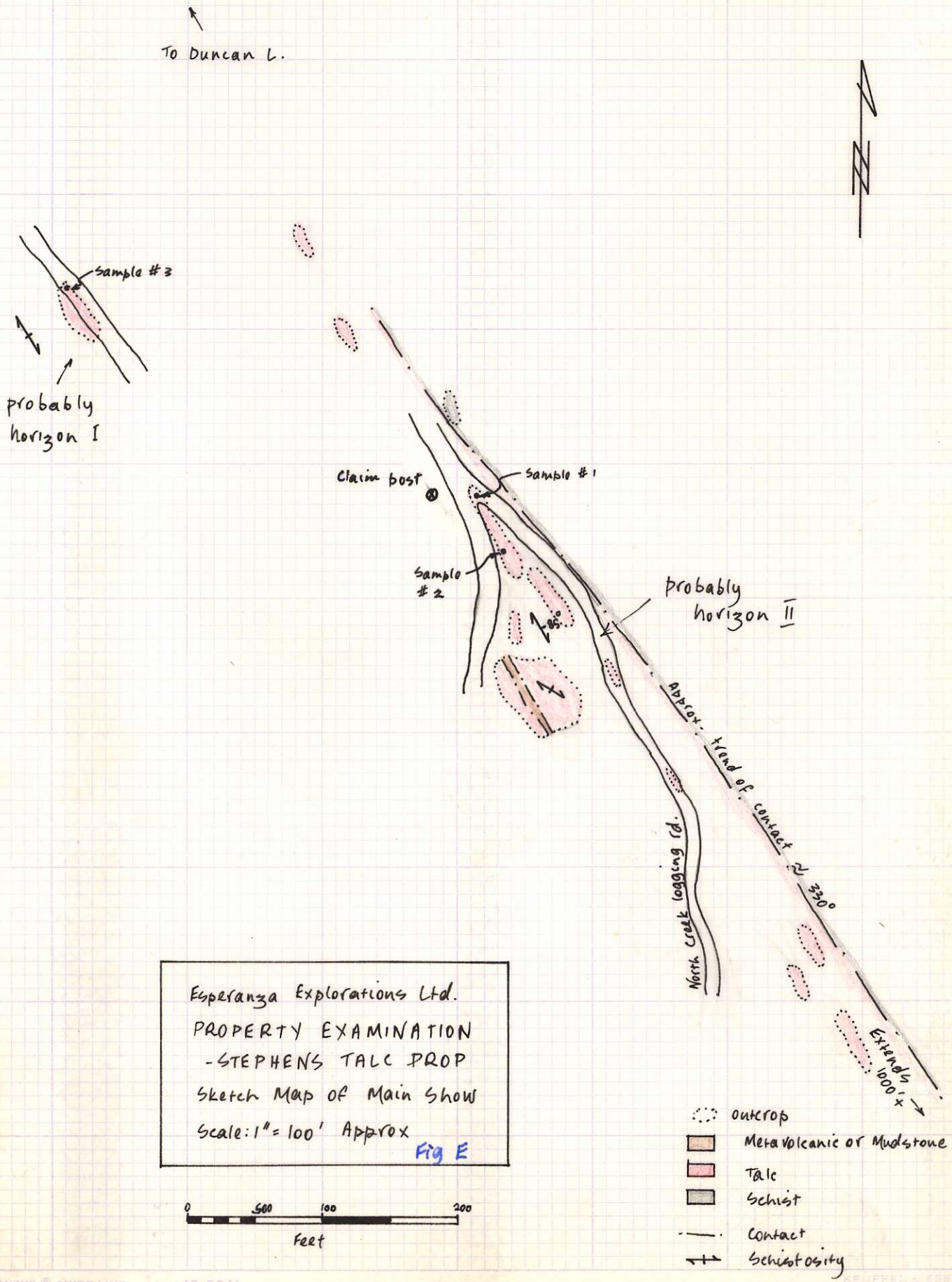
Duncan Lake Talc Property
SECTION ALONG MAIN LOGGING ROAD
Scale 1" = 200'

Fig D



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PROPERTY EXAMINATION
-STEPHENS TALC PROP
Sketch Map of Main Show
Scale: 1" = 100' Approx

Fig E

work activity on any part of the deposit. Stephens, a relative newcomer to the prospecting scene and fresh from the B.C.D.M. prospecting course in Nelson, investigated the area to the south of Mrs. Willford's showing, discovered and staked the southeastern extension.

To date he has also shown the property to Du Pont and Cominco. He maintains that the Cominco representative, in particular, was impressed with it.

The claim bloc is included in the area mapped by J.T. Fyles as part of B.C.D.M. Bulletin 49.

Geology and Mineralization

Stratabound talc occurs within subvertical units of fine-grained chloritic and graphitic schists assigned by Fyles to the Index Formation, a late Paleozoic member of the Lardeau Group.

Despite the softness of the talc units they seem, in many cases, to form positive relief areas, slightly more prominent than the enclosing schists. Accordingly, a fair amount of outcrop exposure within Stephen's claim area permits the tracing of the talc units over a lateral strike length of at least 2000 feet with a high degree of certainty that a strike distance in the order of 6000 feet is involved. From exposure on Stephen's claims at least two different talc horizons are present.

Over thirteen hundred feet of sub-vertical section is well exposed along the Duncan Lake logging road close to the shoreline on Mrs. Willford's claim. Within this section six different talc horizons occur, two of which are felt to correspond to those exposed on Stepehen's ground. Three of

these sub-vertical horizons (60 feet, 60 feet and 40 feet) total 160 feet in thickness over an interval of 360 feet.

On exposed surfaces the talc units weather to a whitish-buff colour. Fresh exposures reveal the talc rock to be highly foliated, flakey-textured, and medium green in colour. In places, what appears to have originally been pyrite has weathered to a light brown powdery material. According to thin-section examination from samples taken by Du Pont, talc (55-60 percent) and magnesite (30-40 percent) comprise the chief components of the rock.

In all likelihood, at least one other unit may be present within the talc members although these would seem to be thin and lacking persistence. In one location, what appears to be an iron-rich, fine-grained dark reddish-brown metamorphosed volcanic or mudstone forms a minor horizon less than four feet thick within what is probably talc unit II.

Wallrocks enclosing unit II consist of fairly competent chlorite-quartz-graphitic schists with minor garnet. Elsewhere they consist primarily of very fine grained graphitic-chloritic schists.

Bedding is generally subvertical with the bottom of the section located to the east. Faulting may plan a minor role in the disruption of the talc units.

Talc units were traced for approximately 2000 feet along strike on Stephen's claims. At least two members were present (probably I and II). A strike length in the order of 4000-6000 feet appears probable. There is an excellent possibility of the units extending to the northwest across Duncan Lake.

The units are noted at different elevations representing approximately 650 feet of relief. There is no reason to suppose they could not extend to at least an equal distance at depth.

As indicated, the talc members are stratigraphically controlled. Originally laid down as magnesium-rich sediments or volcanics, or possibly even intruded as ultrabasic sills, these horizons have been regionally metamorphosed and upgraded to talc-rich members. As such, a fair degree of lateral and depth persistence would be expected.

Visually, the talc units appear to show little mineralogical variation laterally and between different horizons.

Size Potential

Assume - strike length of 5000 feet
- total thickness 160 feet
  unit I (60 feet) + unit II (60 feet) + Unit III (40 feet)
- elevation difference to lake level 650 feet
  (chances are excellent of extensions pas this depth)
- Specific Gravity of talc 2.8

Therefore, tonnage potential is in the order of 45,000,000 short tons of talc rock in situ with a high probability of increasing this figure.

Taking a safety factor of 40 percent, there still remain some 18,000,000 short tons.

Economic Considerations

The prospect appears to have adequate tonnage potential to support a sizeable underground mining operation. This could be carried out by adit mining and would probably be a relatively straight forward, fairly low cost operation. The width of the units and their sub-vertical attitudes are positive factors in addition to others such as easy access, available water supply, and favourable climatic conditions. Should Cominco ever bring into production the Duncan deposit two miles to the south, the additional infrastructure would also be to great advantage.

The real crux of any economic consideration of the deposit must lie in the marketability of the products yielded and their general acceptability to industrial applications.

Valuation of the end product can only be determined through testing of such features as the degree of whiteness of the ground product, the presence of any detrimental impurities, the fineness of grind of the end product, and the ease with which the raw talc schist can be beneficiated. Price variance can range anywhere from $10.50 to $174.00 U.S. per ton (see Appendix 2) depending upon the attributes of the end products.

The deposit would have to be thoroughly evaluated not only from the tonnage and mineability viewpoint, which would seem fairly straight forward, but also from the aspect of end product which would involve considerable metallurgical and mineralogical testing.

Attendant to the foregoing would be a careful study of the marketability and market status of any possible end products.

Conclusions and Recommendations

From the property examination conducted on the JUNIPER and the GLADYS 1 and 2 claims it is concluded that a talc deposit with potential in excess of 18,000,000 short tons is present. Such tonnage would include that on the SUZY-Q claim to the north.

Six sub-vertical stratabound talc horizons are exposed, three of which total 160 feet in thickness over a 360-foot interval. From an underground mining consideration it is felt the horizons could be adit mined with relative ease.

To further evaluate the deposit the following steps should be taken:

a) Complete mineralogical (thin section), chemical, and metallurgical testing should be made of the three samples submitted. Particular attention should be paid to

   1. Degree of whiteness of the ground product;
   2. mineralogical content;
   3. chemical content;
   4. ease of beneficiation, and
   5. possible end products produceable.

   Further samples could be taken if necessary.

b) A preliminary study of the marketability of any produceable end products.

c) Assuming positive results of a) and b), the procurement of an option on Stephens' claims as well as the SUZY-Q claim held by Mrs. Willford. Further staking to fully cover all ground of interest.

d) A reconnaissance of the northwestern or opposite shore of Duncan Lake to verify continuity of the talc units.

e) Complete mapping, prospecting and possibly magnetometer work to trace their continuity.

f) Drill testing to test continuity, depth persistence, and possible variance of the talcose material.

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APPENDIX 1

PETROGRAPHIC THIN SECTION EXAMINATION OF TWO SAMPLES EXAMINED BY VANCOUVER PETROGRAPHIC LTD. AS SUBMITTED BY DU PONT OF CANADA EXPLORATION LIMITED FROM THE STEPHEN'S TALC PROPERTY.

APPENDIX I.

PETROGRAPHIC THIN SECTION EXAMINATION OF TWO SAMPLES EXAMINED BY VANCOUVER PETROGRAPHIC LTD. AS SUBMITTED BY DU PONT OF CANADA EXPLORATION LIMITED FROM THE STEPHEN'S TALC PROPERTY

%	Sample Box-1	Box-2
Talc	55-60%	60-65%
Magnesite	35-40%	30-35%
Chromite	2	
Pyrite	1-1/2	
Chlorite		3-5
Opaque minerals		0.5-1
(pyrrhotite, minor py partly alt'd. to hematite)		
Pyrrhotite	1/2	
Epidote		0.2
Zircon		trace

APPENDIX 2.

TALC PRICE QUOTATIONS

APPENDIX 2.

TALC PRICE QUOTATIONS IN U.S. DOLLARS

FROM: ENGINEERING AND MINING JOURNAL
VOL. 180, No. 7, July 1979

Talc: st, (c), (d), containers included unless otherwise specified

New Jersey	
mineral pulp, ground (bags extra)	$10.50-12.50
Vermont	
98% through 325 mesh, bulk	$58-60
99.99% through 325 mesh, dry processed, bags	$100
99.99% through 325 mesh, water beneficiated, bags	$158-170
New York	
96% through 200 mesh	$43-46
98-99.25% through 325 mesh	$50-68
100% through 325 mesh (fluid energy ground)	$114
California	
Standard	$69.50
Fractionated	$37-71
Micronized	$62-104
Cosmetic/steatite	$44-65
Georgia	
98-200 $24.20	99-325 $35
100-325 (fluid energy ground)	$85

STEP CLAIM (Lead/zinc)

Location and Access

The STEP claim is situated on the east side of Kootenay Lake directly across from the town of Kaslo, B.C. A ten-unit claim occupying part of the northern slope of Mount Kaslo, access may be gained by barge or boat to a road southwest of Leviathan Lake. From there the claim may be reached by four-wheel drive fire road along Campbell Creek, a distance of 2.6 miles from the lakeshore.

Cost of the return trip by barge, carrying a vehicle, is approximately $235.00.

Topography

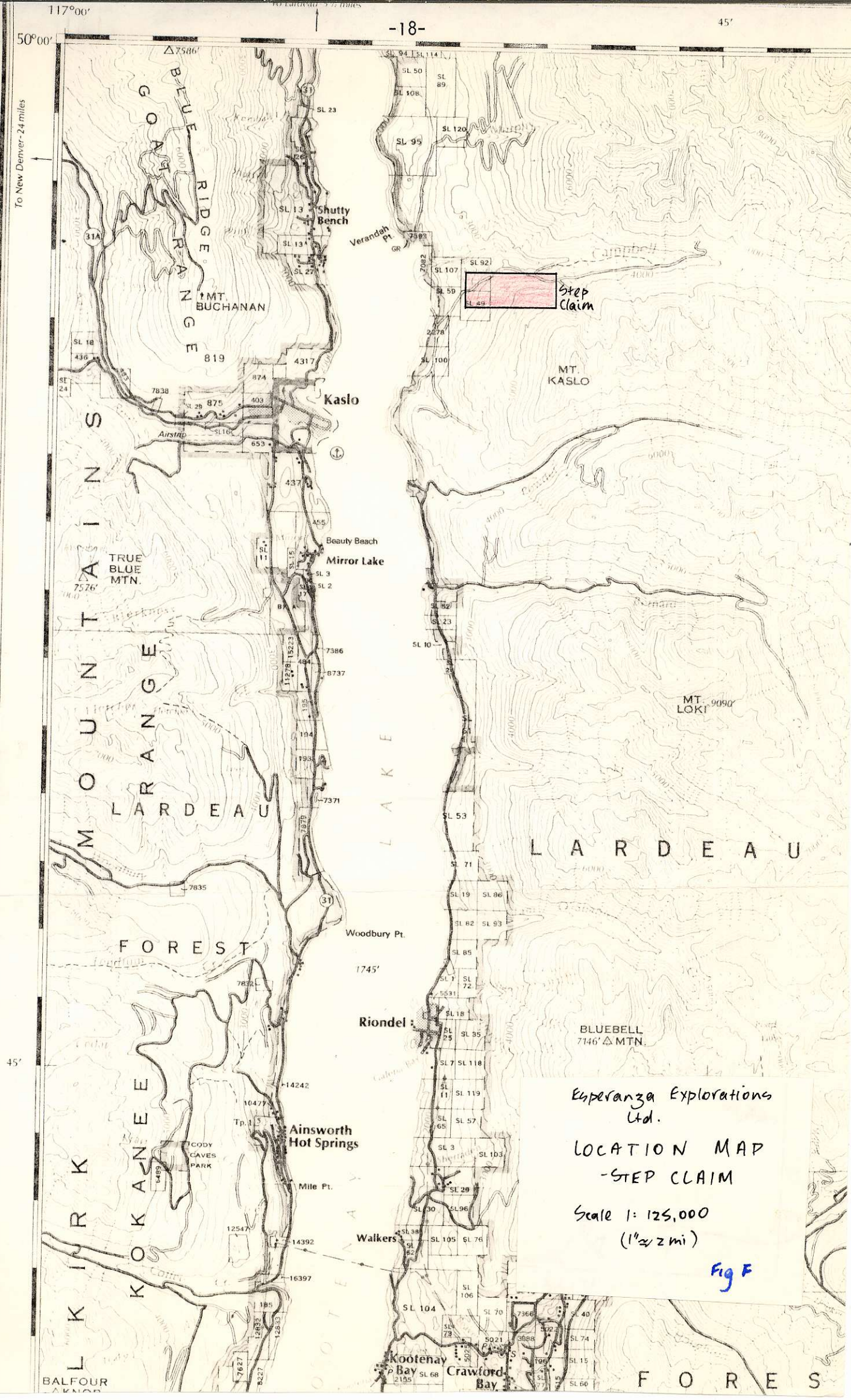
Located on a moderate northern slope of Mount Kaslo, the STEP claim is heavily wooded with cedar, birch, and lodgepole pine. Elevation ranges between 2500 and 5500 feet. Relief is greatest toward the eastern portion of the claim.

Property Definition

The STEP claim is a 10-unit claim jointly owned by W. Stephens of Balfour and Dennis Currie of Ainsworth, B.C. The anniversary date is mid-September, 1979 and the partners are considering reducing the claim size or dropping it altogether.

History

The ground was staked by Stephens in 1978. Previously it had been held for a number of years by Mr. Jim Welden, a Kaslo, B.C. prospector.



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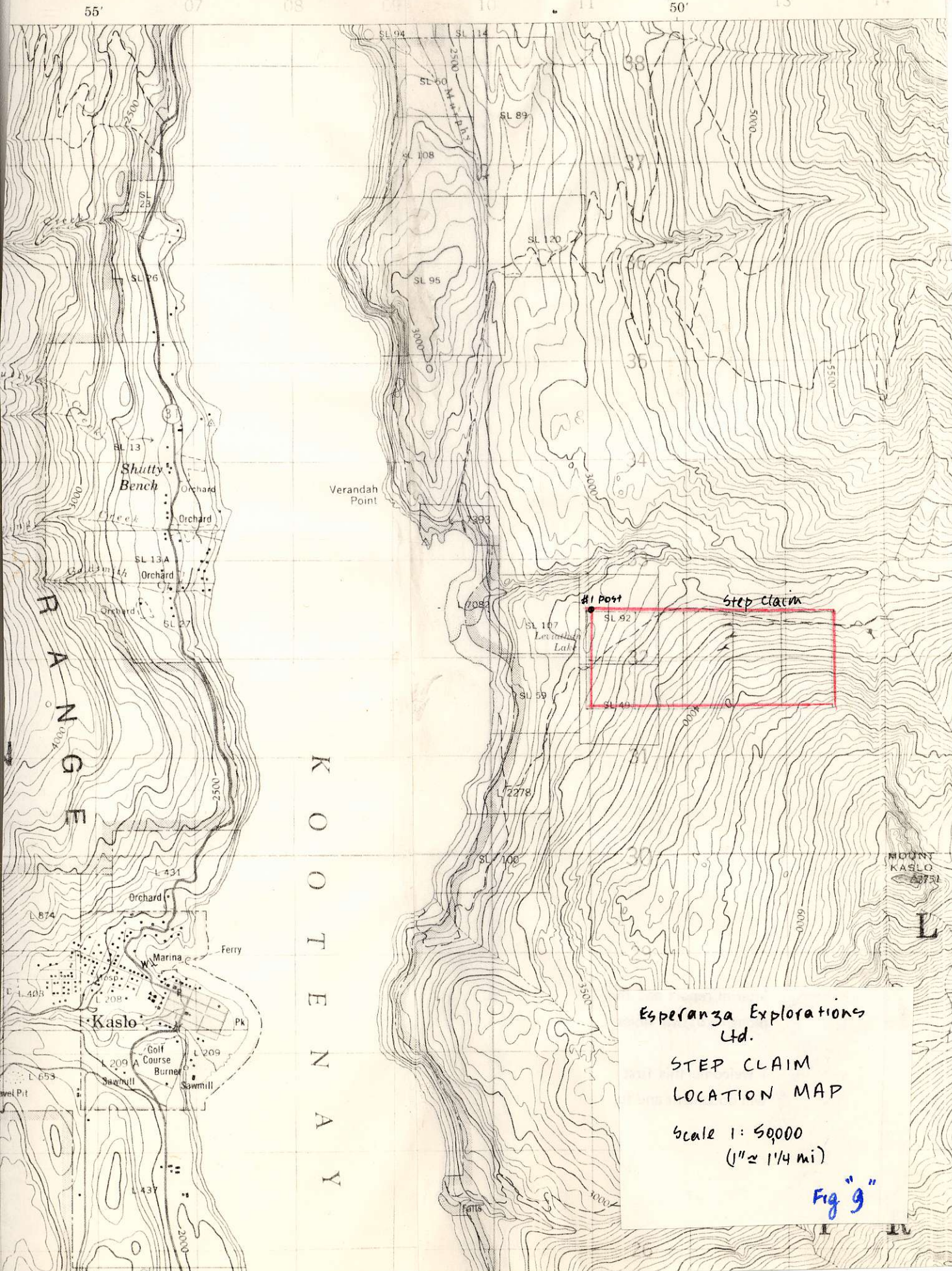
LOCATION MAP
-STEP CLAIM

Scale 1: 125,000
(1" ≈ 2 mi)

Fig F



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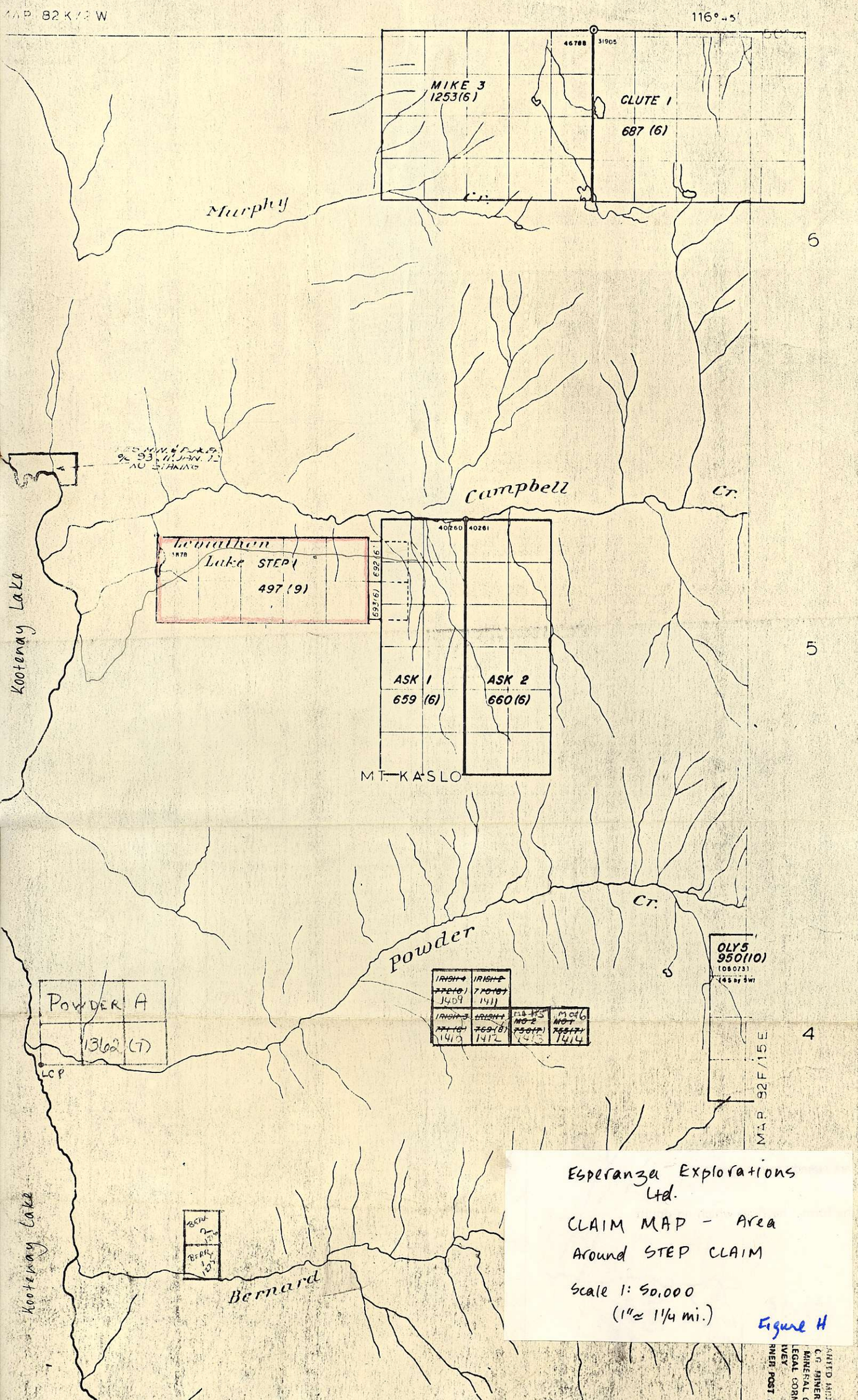
STEP CLAIM LOCATION MAP

Scale 1: 50,000 (1" ≈ 1¼ mi)

Fig "9"

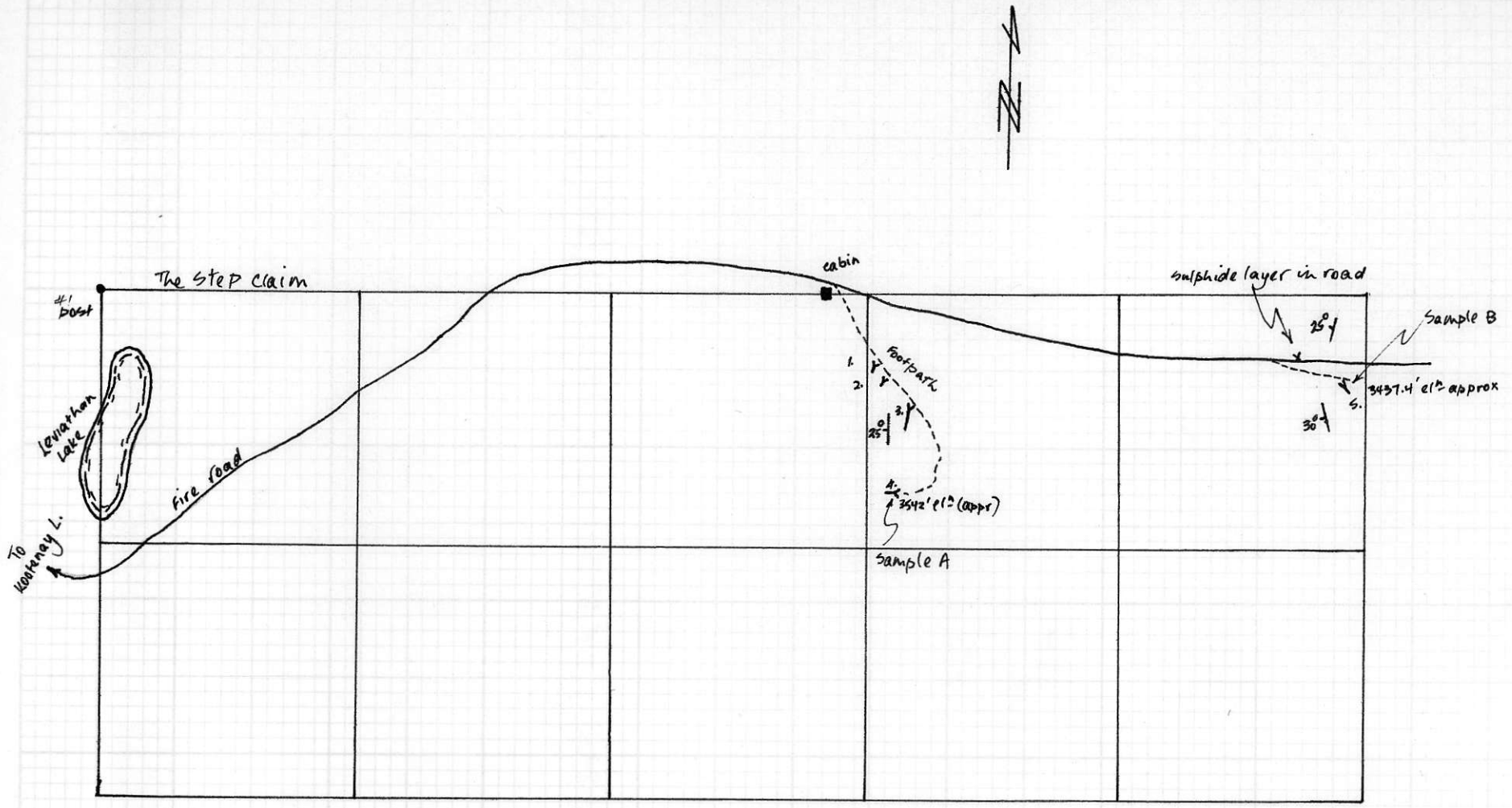


Esperanza Explorations Ltd.

CLAIM MAP - Area Around STEP CLAIM

Scale 1: 50,000
(1" ≈ 1¼ mi.)

Figure H



Adit 1: 1' tunnel in re-crystallized limestone. Rusty-stained stringers and patches of pyrrotite + pyrite. Some sphaleritte.

2: Collapsed tunnel

3: 90' tunnel in recryst. coarse carbonate with faint dark banding. Occasional pegmatitic ~~layers~~ veining. Small inconsistant gn/sph. seam 1/3" - 6" wide. Leasey, varies in grade with some 1" - 2" massive sections.

4: Collapsed tunnel. 10' thick sulphide layer. Highly Fe-stained with po/py, disseminated sp. Possible bedded deposit although could be a faulted zone. (Sample A: 10' channel for assay)

5: 200' tunnel. Impure quartzitic limestones and white, re-cryst. limestone. Included 4' thick sulphide layer with po, py and possible sp. (Sample B: 4' channel for assay)

Esperanza Explorations Ltd.

SKETCH MAP - STEP CLAIM

1" = 1000'

Fig I

Canex acquired an option on the ground during the early 1970's. Assessment Report No. 3803 dated May 25, 1972 describes the results of their work - a soil geochemistry survey performed by lead/zinc. They concluded that the anomalous areas delineated coincided with known mineralization as exposed in old tunnels. Accordingly, no further exploration was attempted.

At least five horizontal exploratory tunnels were excavated during the 1920's, the longest of which extended for 200 feet into the hillside near the eastern section of the property. Details of the programme are not available at the present time.

Geology and Mineralization

Although not specifically covered by detailed government mapping, the STEP claim is part of the Kootenay Arc system, a northerly-trending sequence of Paleozoic carbonates, argillites and argillaceous sediments and schists notable for their considerable lead-zinc content.

Scarcity of outcrop and heavy forest cover does not make the claim readily amenable to geologic interpretation. Most exposures seen occurred within or in near proximity to old tunnels.

None the less , at least four different rock types are present on the property. The prospect is underlain by meta-sedimentary rocks striking roughly northerly and dipping 20° to 30° to the west. Within the sequence limestones and dolomites predominate. These are generally massive, light-buff coloured, invariably recrystallized to a fairly coarse texture, and are probably members of the Badshot or Mohican Formations.

Dark coloured, biotitic metaquartzite horizons also make up part of the sequence although in apparently lesser quantities than the carbonates.

Also noted within the above mentioned units is the presence of irregularly distributed light-coloured, coarse-grained granitic pegmatites in veins and sills.

There appear to be two types of mineralization worthy of note:

The first type consists of thin veins, seams, and stringers of carbonate/quartz containing pyrite, pyrrhotite, galena, siderite and iron-rich sphalerite. These veins and seams generally range in thickness from one-half to six inches, averaging one to two inches, and are not continuous laterally much over ten feet. The host rock is a light-coloured recrystallized carbonate with faint lines of dark banding. Elements of both fracture and lithological control are seen in this type of mineralization which would appear to offer rather limited economic potential.

The second type occurs within the more quartzitic members and may be in fact a mineralized bedded unit, however lack of exposure may result in a subsequent interpretative change, should further work ever be undertaken. In this instance a fine-grained sulphide-rich layer contains pyrrhotite, probable iron-rich sphalerite, limonite and siderite exposed in two different tunnels (one of which was completely collapsed); this type of mineralization could offer some tonnage potential should assays prove positive. There do appear to be certain similarities between the zinc-rich sulphide layers in the Shuswap metamorphic terrain and those seen on the STEP claim.

Conclusions and Recommendations

Further recommendations should await the results of assays on samples "A" and "B", which are possible sulphide-rich layers within quartzitic members of the sedimentary sequence.

Should these prove negative, no further interest in the property would be recommended. Positive results would require subsequent prospecting, reconnaissance mapping and additional sampling as a first step.