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REPORT
ON THE
SILVER REEF CLAIM
OF
GRANADA EXPLORATION CORPORATION
TOODOGGONE RIVER AREA
OMINECA MINING DIVISION
BRITISH COLUMBIA
BY
N.C. CARTER, PHD. P. ENG.

VICTORIA, B.C.

JULY 9, 1981

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INTRODUCTION

Granada Exploration Corporation (formerly Skidagate Exploration Ltd.), holds, by option, the Silver Reef mineral claim comprising five full and seven partial units in the Toodoggone River area, Omineca Mining Division of British Columbia.

This report, written at the request of Granada Exploration Corporation, is based on the writer's previous experience in the area and on a personal examination of the property June 14, 1981, in the company of Charles F. Kowall, original locator of the Silver Reef mineral claim.

The writer recommends a preliminary program of geological mapping and geochemistry to be followed by a more comprehensive program if warranted by the results of the initial investigation.

LOCATION AND ACCESS

The Silver Reef mineral claim is situated in the Toodoggone River area of Northern British Columbia (Figure 1). The claim is in NTS Map area 94E at Latitude $57^{\circ}15'$ North and Longitude $126^{\circ}15'$ West.

Access to the area is by a 170 mile fixed wing aircraft flight from Smithers to the Sturdee River airstrip, and from there by helicopter to the claim which is situated northeast of Black Lake, 6 miles from the airstrip. (Figure 2.)

MINERAL PROPERTY

Granada Exploration Corporation holds the following mineral claim by way of an option agreement with Charles F. Kowall of Millers Landing, B.C.

<u>NAME OF CLAIM</u>	<u>RECORD NO.</u>
Silver Reef	2275

The mineral claim was recorded November 15, 1979, and is in good standing until November 15, 1981.

The claim was located as a 16 unit block to cover ground surrounding the SHA and SHAS mineral claims of International Shasta Resources Ltd. and as such consists of approximately five full and seven partial units (Figure 3).

The writer observed the Legal Corner Post of the Silver Reef claim during the course of the property examination June 14, 1981, and the claim is believed to have been located in accordance with the Mineral Act Regulations of the Province of British Columbia.

PHYSICAL FEATURES

Elevations in the area of the Silver Reef claim range from 4,300 to more than 5,000 feet. The eastern claim units are in alpine terrain while parts of the southern and western units are in an old burn area below tree line.

HISTORY OF MINERAL EXPLORATION AND DEVELOPMENT

The Toodoggone River area is British Columbia's newest precious metals district. The area was first investigated for gold in the early 1930's when placer claims were worked on McClair Creek north of Toodoggone River. Sporadic base metal exploration took place in subsequent years culminating in intense activity for porphyry-type deposits in the late 1960's.

The Chappelle (Baker Mine) gold-silver deposit was recognized in 1969 and the Lawyers property was discovered in 1971 (see Figure 2). Several other gold-silver showings have undergone investigation in recent years, including the SHA, McClair, Metsantan and Saunders properties.

Baker Mine of DuPont of Canada Exploration recently commenced production at a daily milling rate of 100 tons per day, and the Lawyers property, operated by S.E.R.E.M. Ltd., is currently undergoing development drilling. Some 4,000 claim units in the area are being actively explored by several companies.

REGIONAL GEOLOGY

The general Toodoggone area is underlain principally by Early Mesozoic volcanic rocks, intruded locally by Omineca intrusion granitic rocks.

Oldest rocks recognized in the immediate area are Permian (Asitka Group) limestones which are commonly in thrust fault contact with Triassic Takla Group volcanic flows and pyroclastics near Baker mine. Overlying, or in fault contact with Takla Group rocks, are a unique suite of Lower Jurassic volcanic rocks of the Toodoggone Formation.

These are comprised of andesitic to dacitic crystal and lithic tuffs, flows and porphyritic intrusions which may be divided into at least three distinct units. Lavender to maroon Hazelton Group pyroclastic rocks have also been noted; their relationship to Toodoggone Formation is not clear.

Omineca granitic rocks intrude all the aforementioned layered rocks. Late Cretaceous to Early Tertiary continental sedimentary rocks of the Sustut Group unconformably overlie older rocks in the western part of the area. The eastern edge of the Sustut basin lies several miles southwest of the Silver Reef claim.

MINERAL DEPOSITS

Toodoggone River area is host to a number of gold-silver deposits and occurrences. The most important type recognized to date includes fissures and veins developed principally in Toodoggone volcanic rocks. The Baker mine deposit is within a quartz vein system in Takla volcanic rocks. Mineable reserves are in the order of 100,000 tons containing 0.9 ounces of gold and 19 ounces of silver per ton. Precious metal mineralization is in the form of argentite, electrum and native gold. The Lawyers property, several miles northwest of Baker mine (Figure 2), includes several brecciated and silicified zones which are host to very fine-grained electrum, argentite, native silver and minor base metal sulfides.

The SHA property, around which the Silver Reef claim units are situated, is underlain by altered brown to orange crystal and lapilli tuffs with disseminated pyrite (Meyer, 1974).

Northwest-trending quartz veins and stockworks in the southwest part of the claims have yielded values in rock chips ranging from 33 - 100 ppm (parts per million) silver and 0.45 - 27.0 ppm gold (Meyer and Folk, 1975). Soils from the same general area were considered anomalous if containing greater than 1.0 ppm gold and 3.0 ppm silver. (Meyer, 1974).

GEOLOGY OF THE SILVER REEF CLAIM

Overburden obscures bedrock over most of the Silver Reef mineral claim. Adjacent to the southwestern part of the claim the writer noted grey to lavender coarse fragmental volcanic rocks which may be part of the Hazelton Group. North and west of the Legal Claim Post of the Silver Reef claim, silicified and feldspathized Toodoggone volcanic rocks were seen to contain quartz stringers and brecciated zones. Some rhyolitic rocks with quartz eyes were observed in felsenmeer in the same general area. Many of the outcrops observed exhibited manganese oxide and iron staining due to very fine-grained pyrite.

CONCLUSIONS AND RECOMMENDATIONS

The Silver Reef mineral claim is situated in the Toodoggone River precious metals district, an area currently undergoing mine development and extensive mineral exploration. The claim is underlain by Toodoggone Formation volcanic rocks, which are known to host the majority of known gold-silver mineralization in the area. In addition, the Silver Reef claim adjoins most of the

SHA property, on which coincident gold and silver geochemical anomalies have been identified.

Consequently, the writer recommends a preliminary exploration program for the Silver Reef claim consisting of geological mapping and soil geochemistry, estimated to cost \$10,000.00.

Second and third phases, involving expenditures estimated to be \$75,000.00, might consist of more detailed bedrock trenching and sampling, followed by diamond drilling. The latter program would be dependent on the results of the preliminary phase.

RECOMMENDED PROGRAM

PHASE 1

- (1) The exact location of the Silver Reef Legal Corner Post should be determined relative to the SHA and SHAS mineral claims in order to determine the extent of the Silver Reef claim.
- (11) Collection of soil samples at 100 metre spacings, coupled with chip sampling and mapping of all available rock outcrops. Since known quartz veins and structures in the immediate area are known to trend north to northwesterly, a north-south baseline along the eastern boundary, with 100 metre spaced east-west lines is recommended. Sampling at 100 metre intervals could be carried out at the same time, with sample stations flagged at lower elevations and wooden laths used to

denote sample sites in alpine areas.

Soil and rock samples collected should be analyzed for gold and silver and for copper, lead and zinc in view of the base metal association with precious metals noted at Baker mine (Barr, 1978).

PHASE 11

- (1) A program of blasting and trenching of bedrock in any anomalous areas defined by Phase 1 work.

PHASE 111

- (1) A 2,000 foot diamond drilling program if warranted by the results of Phase 1 and Phase 11.

COST STATEMENT

PHASE 1 Soil and Rock Geochemistry

Wages - 2 men - 10 days	\$ 3,500
Food and Supplies	400
Helicopter support - 2 hours	900
Travel - Vancouver - Toadoggone (return)	1,460
Sample preparation and analysis - 250 samples	2,500
Contingencies @ 15%	<u>1,300</u>
	<u>\$10,060</u>

PHASE 11

Bedrock trenching of anomalous area defined by Phase 1 work	<u>\$15,000</u>
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PHASE 111

A 2,000 foot diamond drilling program dependent on positive results from Phase 1 and 11 work	<u>\$60,000</u>
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N.C. Carter, PhD. P. Eng.

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CERTIFICATE

I, NICHOLAS C. CARTER, of Victoria, B.C., do hereby certify that:

1. I am a geologist registered with the Association of Professional Engineers of British Columbia since 1966;
2. I am a graduate of the University of New Brunswick with B.Sc. (1960), Michigan Technological University with M.S. (1962) and the University of British Columbia with PhD. (1974).
3. I have practiced my profession in eastern Canada and the United States and in British Columbia over the past 21 years.
4. This report is based on my past and present knowledge of the Toodoggone River area and on an examination of the Silver Reef claim June 14, 1981.
5. I have no interest, direct or indirect, in the Silver Reef mineral claim, or in Granada Exploration Corporation.
6. I represent another company, Great Western Petroleum Corporation, with extensive claims holdings elsewhere in the Toodoggone River area.

N.C. CARTER, PHD. P. ENG.

August 17, 1981

Granada Exploration Corporation,
Suite 401-134 Abbott Street,
VANCOUVER, B.C.,
V6B 2K4

Dear Sirs:

I, N.C. Carter, Ph. D., P. Eng., hereby consent to the use of my report dated July 9, 1981 on the Silver Reef Claim, Omineca Mining Division, British Columbia, in any Filing Statement, Statement of Material Facts, or Prospectus to be issued by Granada Exploration Corporation.

Dated at Vancouver, British Columbia this 17th day of August, 1981.

N.C. Carter, Ph. D., P. Eng.

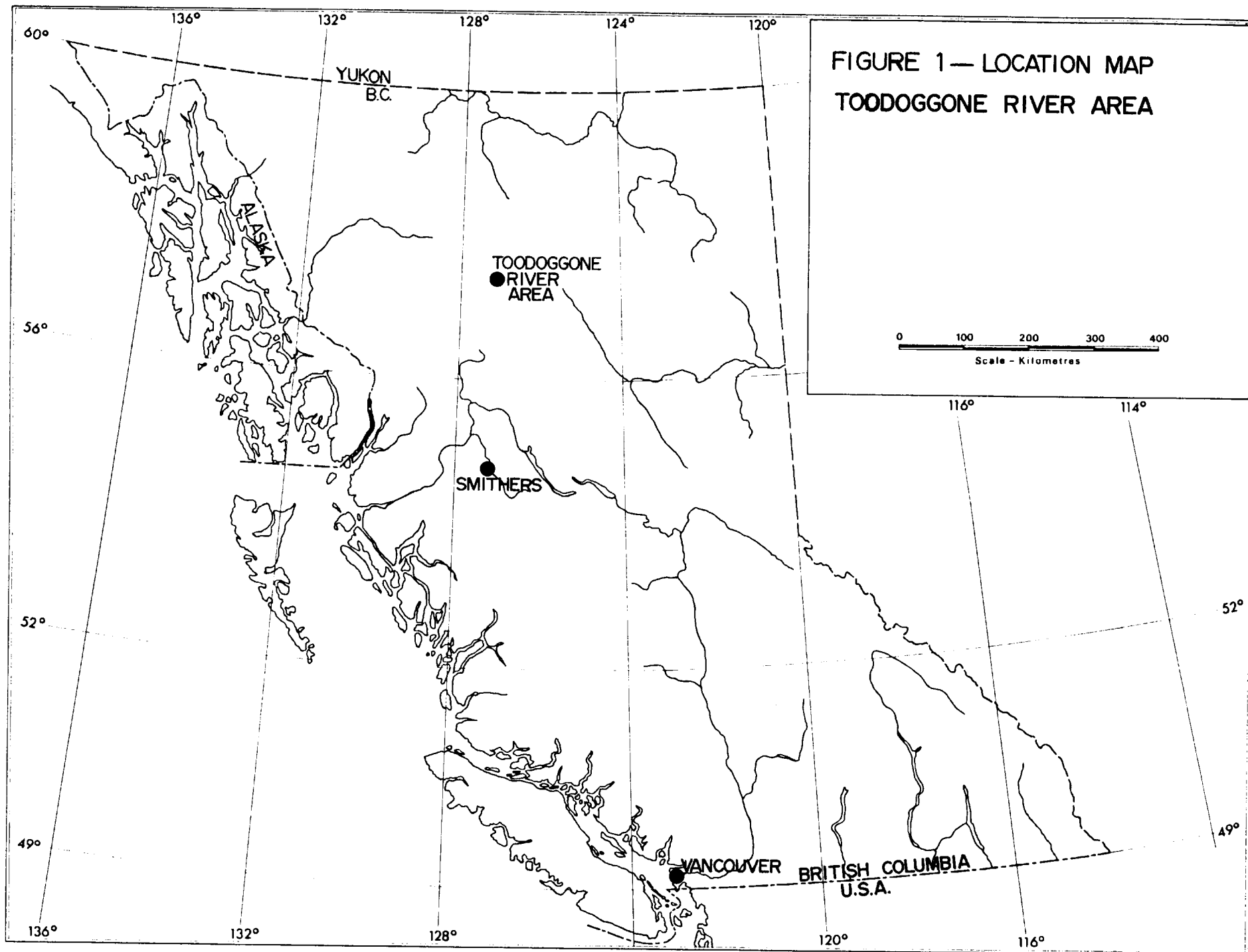


FIGURE 1— LOCATION MAP
TOODOGGONE RIVER AREA

0 100 200 300 400
Scale - Kilometres

116° 114°

52°

49°

60°

56°

52°

49°

136°

132°

128°

124°

120°

120°

116°

YUKON
B.C.

TOODOGGONE
RIVER
AREA

SMITHERS

VANCOUVER

BRITISH COLUMBIA
U.S.A.

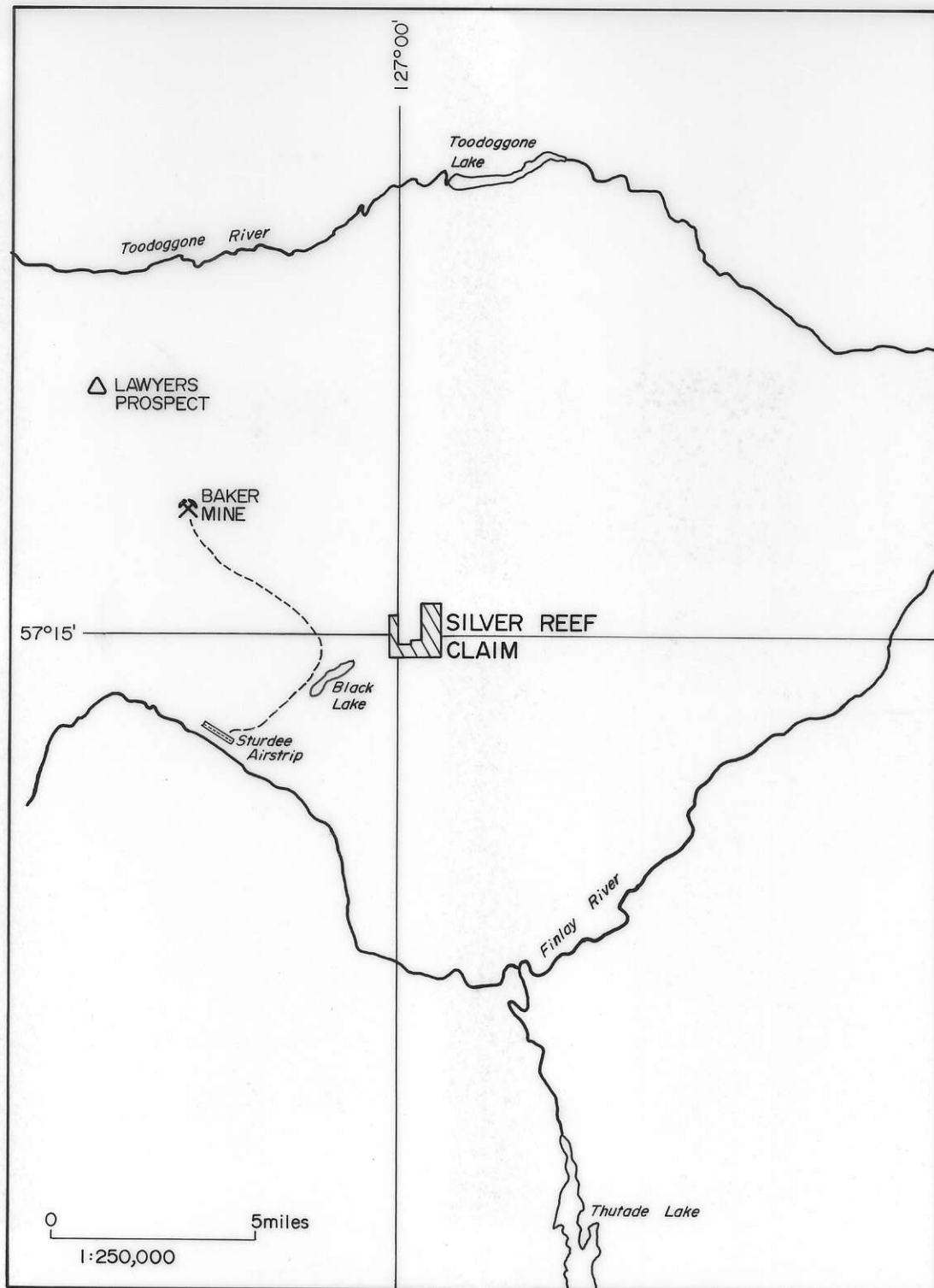


FIGURE 2—LOCATION MAP—SILVER REEF CLAIM

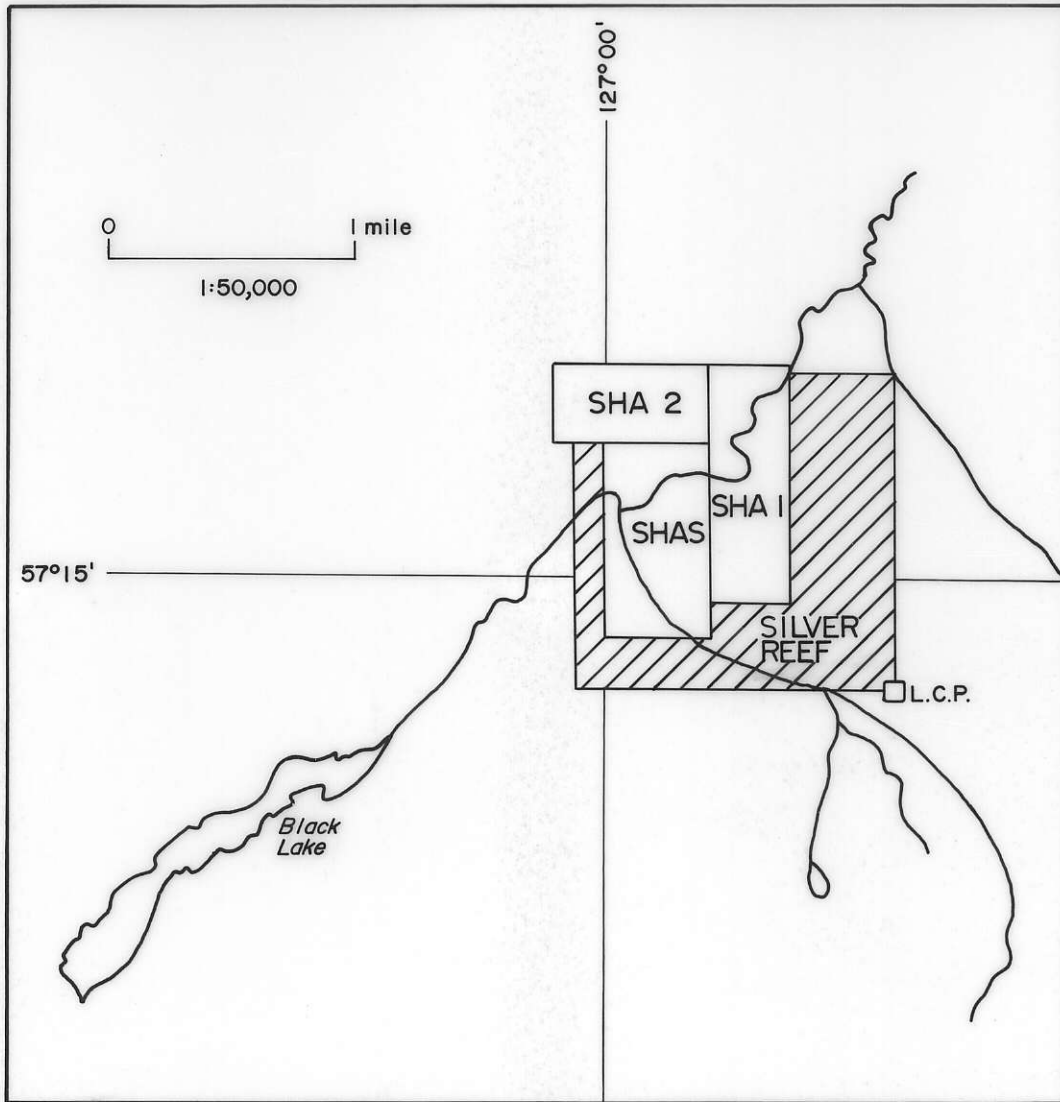


FIGURE 3—SILVER REEF CLAIM