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AND ASSOCIATES LTD.
CONSULTING GEOLOGICAL ENGINEERS

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GEOLOGY AND GEOCHEMISTRY

H Claim Group
H 1-48; Y42550 - Y42597 inclusive
105-B-3

Watson Lake Mining District

Wolf Lake Joint Venture

1772.90

This report has been examined by the Geological Evaluation Unit and is recommended to be received and taken to be considered as assessment work to the amount of $ 1772.90

D.B. Craig
Mining Engineer

Considered as assessment work under Section 53 (1) Yukon Quartz Mining Act

Commissioner of Yukon Territory

R.J. Cathro, B.A.Sc.,

August 20, 1971

060881

CONTENTS

ILLUSTRATIONS

CONCLUSIONS AND RECOMMENDATIONS

Skarns and veins containing silver-lead-zinc sulfides have been found on the H claim group. The mineralization occurs in a low grade metamorphic sequence of Lower Cambrian(?) to Mississippian sediments and carbonates which have been intruded by a Jurassic-Cretaceous stock of porphyritic granodiorite. The skarn also contains minor scheelite. The narrow widths and lack of continuity of the sulfides and scheelite are discouraging and further work is not recommended.

The area southeast of the claims contains weak to moderate anomalous geochemical values in copper, molybdenum, zinc and tungsten. Further geological mapping, geochemical surveys and prospecting may be warranted in this area. It is possible that the source of the anomaly is on staked ground.

INTRODUCTION

This report covers geological and geochemical surveys carried out during the period July 15 to August 10, 1971, by the Wolf Lake Joint Venture, on the H 1-48 claims.

LOCATION AND ACCESS
(see Figures 1 & 2)

The closest all weather road is the Alaska Highway, 15 miles southeast of the H claim group. The closest settlement is Watson Lake, 96 miles east. The claim group is roughly T-shaped and is centered on Hidden Lake. Access to the property is by fixed wing to Hidden Lake or by helicopter. A 15-mile

tote trail built by Boswell River Mines from Daughney Lake ends at Crescent Lake some 3 miles southeast of Hidden Lake.

CLAIM DATA

The H 1-48 claims, record numbers Y42550-Y42597 inclusive, form a contiguous block and are recorded in the Watson Lake Mining District. The claims are jointly owned by A. Arsenault, P. Versluce and H. Versluce, all of Whitehorse and W. McKinnon of Teslin.

HISTORY

The claims were located in 1970 to cover lead-zinc sulfide and skarn float found southwest and south of Hidden Lake by McKinnon a number of years ago. Fresh flagging was found in a few locations indicating recent work by unknown parties.

The Wolf Lake Joint Venture, managed by Archer, Cathro & Associates Ltd., optioned the property and from July 15 to August 10, 1971, carried out geological mapping, prospecting and geochemical sampling.

PHYSIOGRAPHY

Elevation ranges from 4200 to over 5500 feet. Glacial till with thick willow and spruce covers the valleys. The slopes are covered with talus and outcrop is common only at higher elevations.

GEOLOGY

The claims cover a Lower Cambrian (or earlier) to Mississippian sequence of low grade metamorphosed clastic sediments and carbonates which have been intruded by the Ram Stock, a Jurassic-Cretaceous granodiorite. The rock types are described below:

Lower Cambrian and (?) Earlier

GSC Unit 1 - Quartzite - massive grey white metaquartzite.

GSC Unit 2 - Muscovite Chlorite Schist - greenish muscovite chlorite schist with narrow calcareous and quartzite bands sometimes present. One 18 foot band of skarn-like rock composed of calcite and dark green chlorite was found. The phyllite contact is sharp.

Cambrian to Silurian

GSC Unit 3(a) - Phyllite and Marble - weakly quartz veined black phyllite containing bands of grey clean marble up to 1000 feet thick. The contact between marble and phyllite is gradational.

Devonian and Mississippian(?)

GSC Unit 7 - Quartz Feldspar Chlorite Schist - light coloured, containing quartz and chlorite feldspar. Zones of orange weathering gossans in which the feldspars have been kaolinized and muscovite altered to chlorite are sometimes present in this unit.

GSC Unit 8 - Hornfels - massive to banded blue grey in colour generally containing hornfels, pyrrhotite and pyrite up to 2%. Chalcopyrite is sometimes observed. Slightly calcareous and varying in colour from pink to green near skarns.

Jurassic and/or Cretaceous

GSC Unit 13 - Ultra Basic Dyke - dark green fine grained pyroxenite.

GSC Unit 15(b) - Ram Stock - pink to white, fine to medium grained porphyritic biotite granodiorite.

Lower Cambrian and (?) Earlier to Devonian

Skarn - the skarns are generally better developed in or near, and conformable in attitude to the hornfels. Maximum skarn thickness is 18 feet and can be traced for at least a mile in length. The skarn varies from a white to green coloured diopside often with calcite crystals to a weakly developed skarn containing calcite and dark green chlorite.

MINERALIZATION
(see Figures 2 & 3)

Skarn and sulphide float found by the property owners during staking/was analyzed at Whitehorse Assay Office and found to have interesting lead, zinc, silver, gold and tungsten values. Tungsten values were restricted to the skarn samples.

The following are the assay results from five selected float samples.

Sample No	Cu%	MoS_2%	Pb%	Zn%	WO_3%	oz/ton Au	oz/ton Ag
10001	.02	.003	.33	7.5	.25	Tr	2.06
10002	.10	Tr	2.30	8.8	.01	.005	3.72
10003	.07	Tr	2.65	11.3	>.01	Tr	1.44
10004	.07	Tr	.03	.02	>.01	.40	.03
10005	.02	Tr	.06	9.6	>.01	.44	.06

> = less than

A 2.0 foot wide vein of black sphalerite and pyrite with a strike length of 20 feet was found on the southern boundary of the claim group. The vein appears to be roughly concordant with the banding in the silicious hornfels. The source of the skarn and massive sulfide float found by the property owners was not located. A number of skarns were found but only a few specks of scheelite were found in one sample. These skarn samples were sent for geochemical analysis. The highest value was 2 ppm tungsten for one sample. Orange coloured gossans are often present within the quartz feldspar chlorite schist unit. The feldspars are strongly kaolinized and muscovite is altered to chlorite, probably as a result of pyritic zones oxidizing and forming acids. Weak to moderate anomalous geochemical values southeast of Hidden Lake are probably due to minor chalcopyrite in these pyritic zones.

GEOCHEMISTRY
(see Figure 1)

Traverses were carried out mainly within the hornfels unit. A total of 40 soil, silt and rock samples were taken and sent to Acme Analytical Laboratories Ltd., Burnaby, B.C.

for copper, molybdenum, nickle, iron, manganese, lead, zinc, tungsten and silver analysis.

The following is a summary of the results:

(A) Tungsten

Twelve weak to moderate anomalous values were found in four separate areas:

(1) Southeast of Munson Lake - seven soil and silt samples were moderately anomalous, with values ranging from 5 to 30 ppm and averaging 17 ppm. The source of the anomalous values was not found, but is outside the claim group, possibly on staked ground.

(2) West of Hidden Lake - three samples had threshhold values of 2 ppm. The source is a diopside skarn and altered limestone found on the top of the ridge. Lamping of the skarn indicated no significant scheelite was present.

(3) Northwest of Munson Lake - one threshhold sample of 2 ppm was found in a skarn. Two other silt samples from the creek gave no response.

(4) North of Munson Lake - about one half mile north of Munson Lake a rock sample had a threshhold value of 2 ppm. Other skarns in this area gave no tungsten response.

(B) Copper

Copper values ranged from a low of 12 to a high of 164 ppm. Five weak to moderately anomalous values exceeded the threshhold of 100 ppm. The anomalous values are found in three areas:

(1) Southeast of Munson Lake - one weakly anomalous silt value of 108 ppm was found in a small creek draining an overburden covered area. The source of the anomaly is unknown. Hornfels which often contains pyrrhotite and chalcopyrite is thought to underly the overburden and probably caused the anomaly.

(2) Southeast of Hidden Lake - one sample taken near a gossan had a weak-moderately anomalous value of 160 ppm and two values on either side of the quartz-feldspar-chlorite schist - phyllite contact had weak to moderate values of 120 and 130 ppm.

The gossans are generally restricted to zones in the quartz feldspar chlorite schist in which the feldspars have been kaolinized and muscovite altered the chlorite. These are thought to represent pyrite zones containing small amounts of chalcopyrite within the schist that have oxidized to form acids which alter feldspar and chlorite.

(3) West of Hidden Lake - one weak to moderate anomalous value of 164 ppm was found in a phyllite. The cause of the anomaly is probably copper in pyrite which is common in the phyllite.

(C) Molybdenum

Molybdenum values range from 1 to 13 ppm. Anomalous values are found in two areas:

(1) Southeast of Munson Lake - values range from a low

of 2 ppm to a high of 13 ppm. This area is also weak to moderately anomalous in tungsten. Sulphides in skarn zones in the hornfels often contain minor amounts of molybdenum which provides the most probable explanation of this anomaly.

(2) Southeast of Hidden Lake - one weakly anomalous value of 5 ppm in the quartz feldspar muscovite schist and one value of 14 ppm in the phyllite near the contact with the schist. The value in the schist also has a weakly anomalous value in copper. The source is probably a gossan zone.

(D) Zinc

Zinc values ranged from 42 to 1400 ppm. Background is high and appears to be about 300 ppm. Anomalous value were found in three areas:

(1) Southeast of Munson Lake - two weakly anomalous soil samples with corresponding anomalous tungsten values. The source of the values is not known.

(2) North of Munson Lake - two strongly anomalous rock geochemical values of 1600 and 1400 ppm were from a skarn.

(3) West of Hidden Lake - one moderately anomalous value was found in a sample at the headwaters of the creek which flows into the west side of Hidden Lake. A small gossan and massive sulfide float in the creek explains this anomaly.

(E) Lead

Values ranged from a low of 20 to a high of 104 ppm, average about 40 ppm. The weakly anomalous value of 140 ppm

at the headwaters of a creek 1 1/2 miles north of Munson Lake also has a moderately anomalous value in zinc. Low lead and zinc values downstream indicate the anomaly is only very local.

(F) Nickle

Values ranged from a low of 22 to a high of 130 ppm. A weakly anomalous value of 130 ppm at the headwaters of a creek 1/2 mile northwest of Munson Lake was due to an ultra-basic dyke.

(G) Silver, Manganese and Iron - none of the values are significant.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES LTD.

R.J. Cathro

Association of Professional Engineers of the Yukon Territory
R. J. CATHRO
GEOLOGICAL
ENGINEER

FIG. 1

ARCHER, CATHRO & ASSOCIATES LTD.

LOCATION PLAN

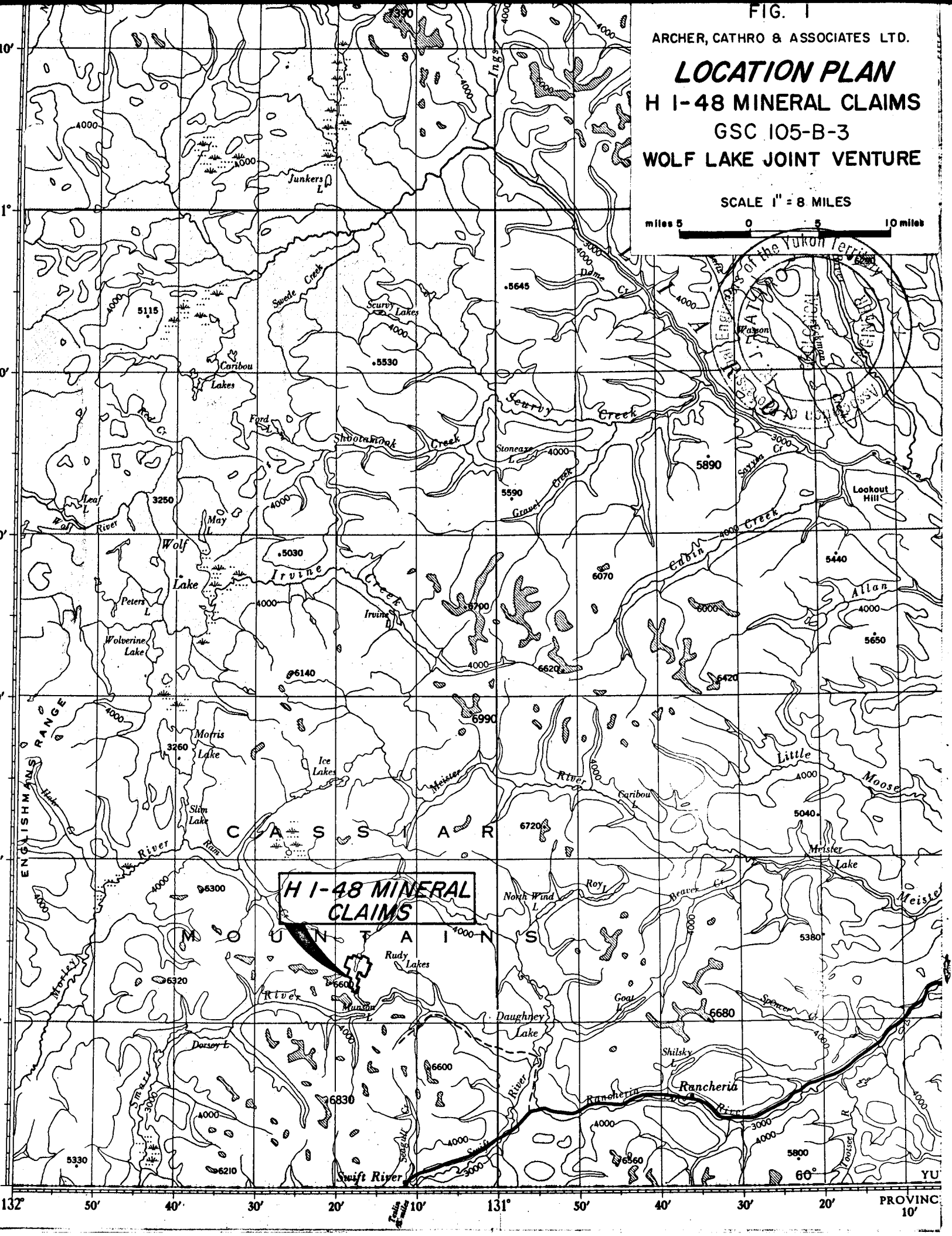
H 1-48 MINERAL CLAIMS

GSC 105-B-3

WOLF LAKE JOINT VENTURE

SCALE 1" = 8 MILES

miles 5 0 5 10 miles



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GEOLOGY

GSC UNIT	JURASSIC and/or CRETACEOUS
15b	Ram stock - granodiorite porphyritic biotite
	Skarn
13	Ultra basic dyke

GSC UNIT	CAMBRIAN and EARLIER
2	Schist - muscouite chlorite
1	Quartzite

DEVONIAN and MISSISSIPPIAN

8	Hornfels
7	Schist - quart - feldspar chlorite

CAMBRIAN to SILURIAN (?)

3a	Marble
3a	Phyllite

Contact - approximate

Foliation - strike & dip

Gossan

PR - float pyrrhotite
PB - float galena
CC - float chalcocite
TU - float scheelite
SP - float sphalerite

LEGEND

Creek

5000 Contour

Boundary of H - claims 1 - 48

Boundary of other mineral claims

FIG. 2

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GEOLOGY MAP

H 1-48 MINERAL CLAIMS

GSC 105-B-3

WOLF LAKE JOINT VENTURE

SCALE IN MILES

1/2 0 1/2

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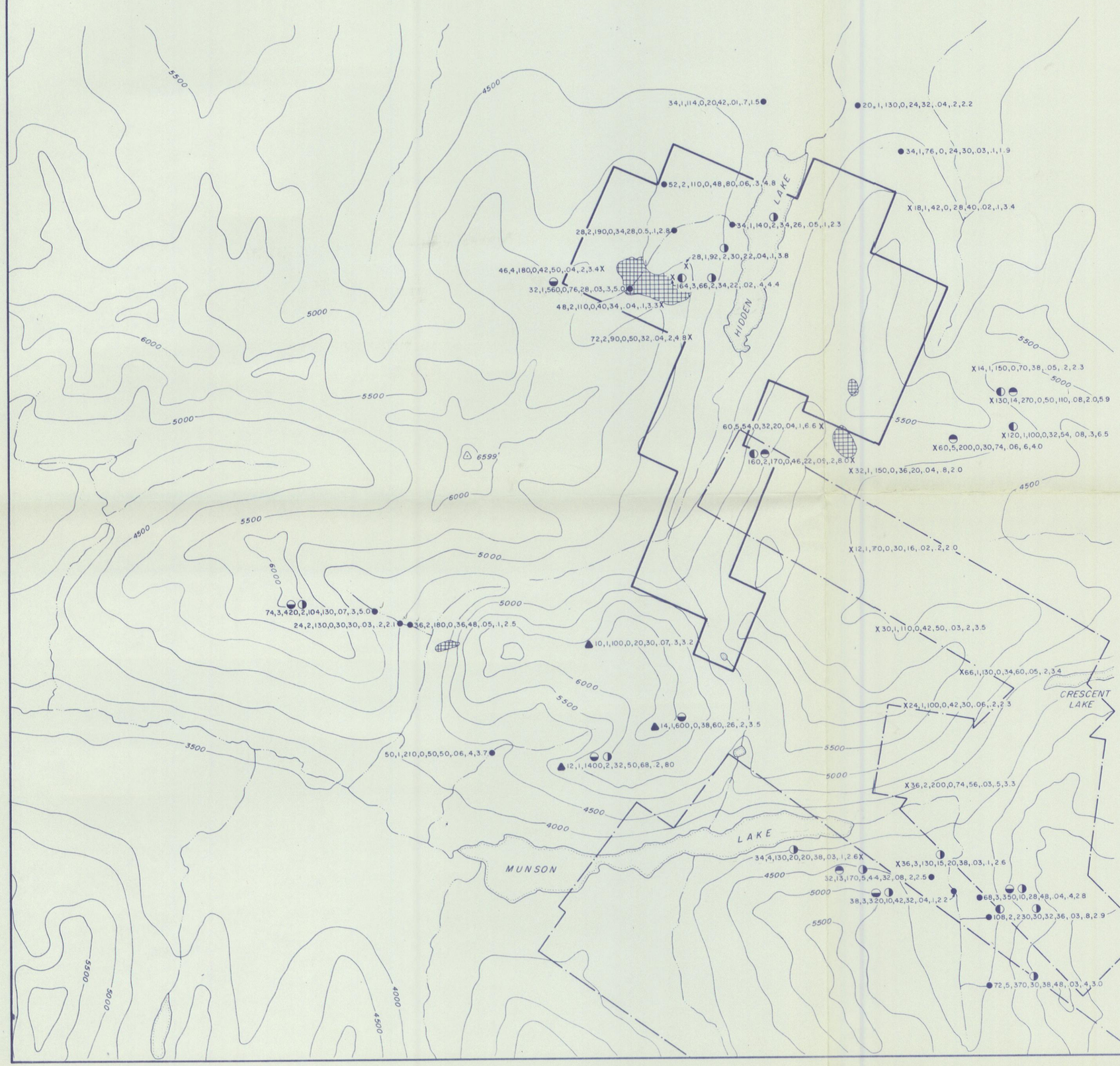

LEGEND

- X — Soil sample
- ● — Silt sample
- ▲ — Rock sample

} Cu.ppm, Mo.ppm, Zn.ppm, W.ppm, Pb.ppm, Ni.ppm, Mn%, Ag.ppm, Fe%

- Copper anomalous
- Molybdenum anomalous
- Zinc anomalous
- Tungsten anomalous
- Gossan
- Creek
- 5000 Contour
- Boundary of H-claims 1-48
- Boundary of other mineral claims

FIG. 3

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GEOCHEMICAL SURVEY

H 1-48 MINERAL CLAIMS

GSC 105-B-3

WOLF LAKE JOINT VENTURE

SCALE IN MILES

1/2 0 1/2 1