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F I N A L R E P O R T

E L A I N E

M O L Y B D E N I T E S H O W I N G

NORTHERN BRITISH COLUMBIA

VANCOUVER OFFICE
NOVEMBER, 1962

T.J.R. GODFREY

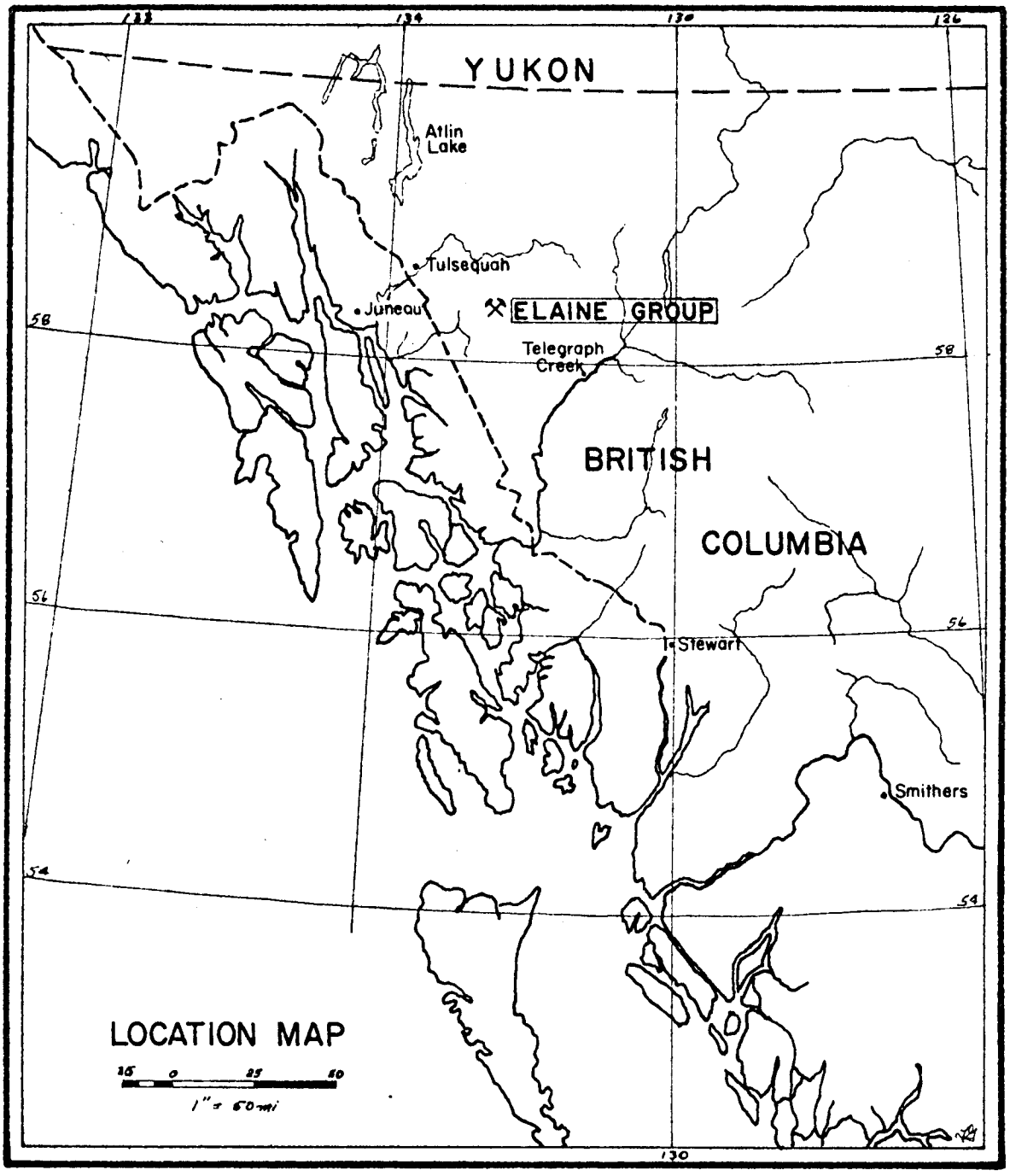

YUKON
Atlin Lake
Tulsequah
Juneau
ELAINE GROUP
Telegraph Creek
BRITISH COLUMBIA
Stewart
Smithers
LOCATION MAP
1" = 60 mi
58
56
54
130
134
126

Figure 1

INTRODUCTION

The Elaine Molybdenite Showing was found on July 16, 1962 during the course of the helicopter-supported Whiting-Iskut Reconnaissance Program. A block of 40 claims was staked for Southwest Potash Corporation to cover the area of molybdenite mineralization.

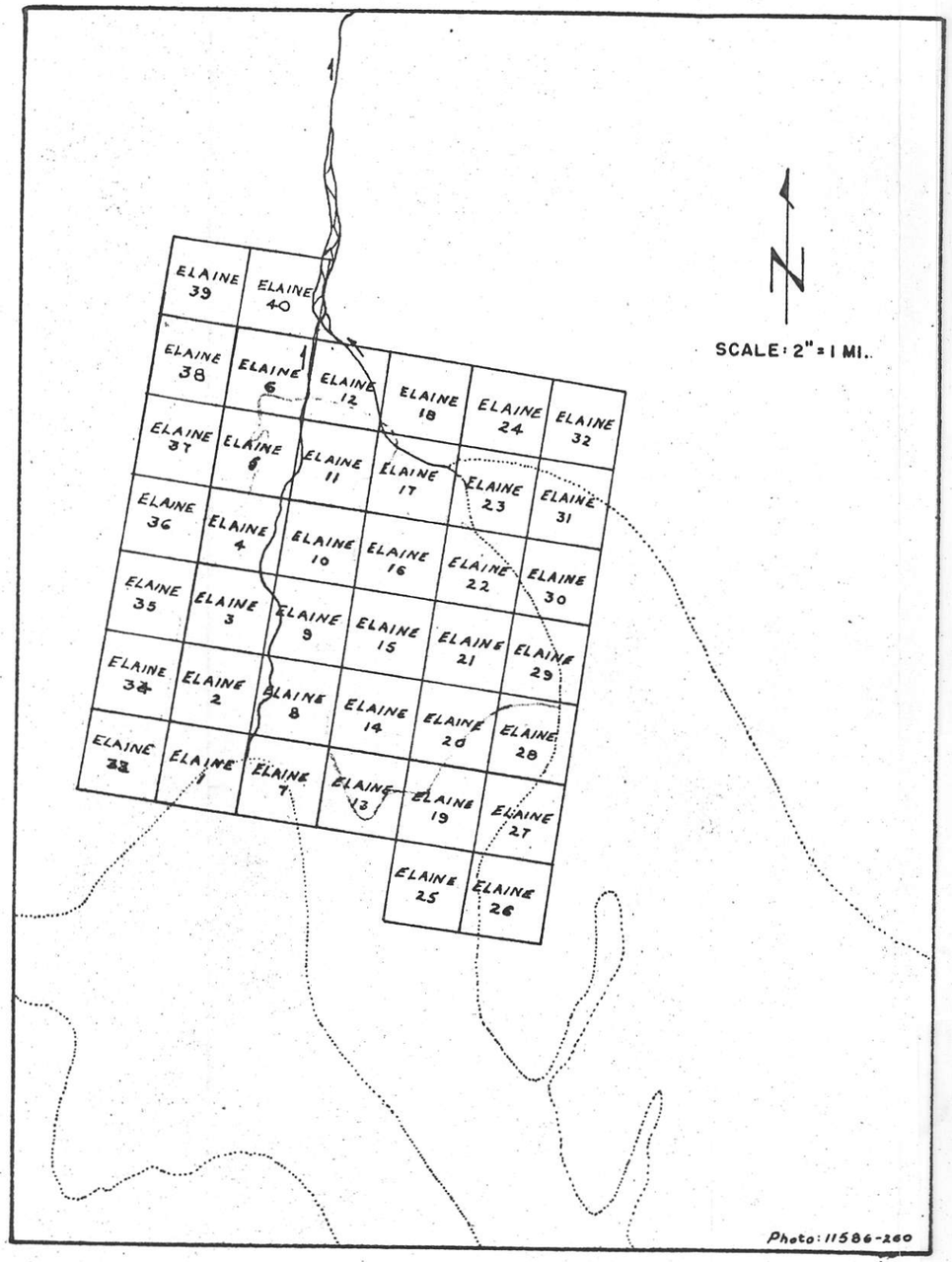
LOCATION AND ACCESS

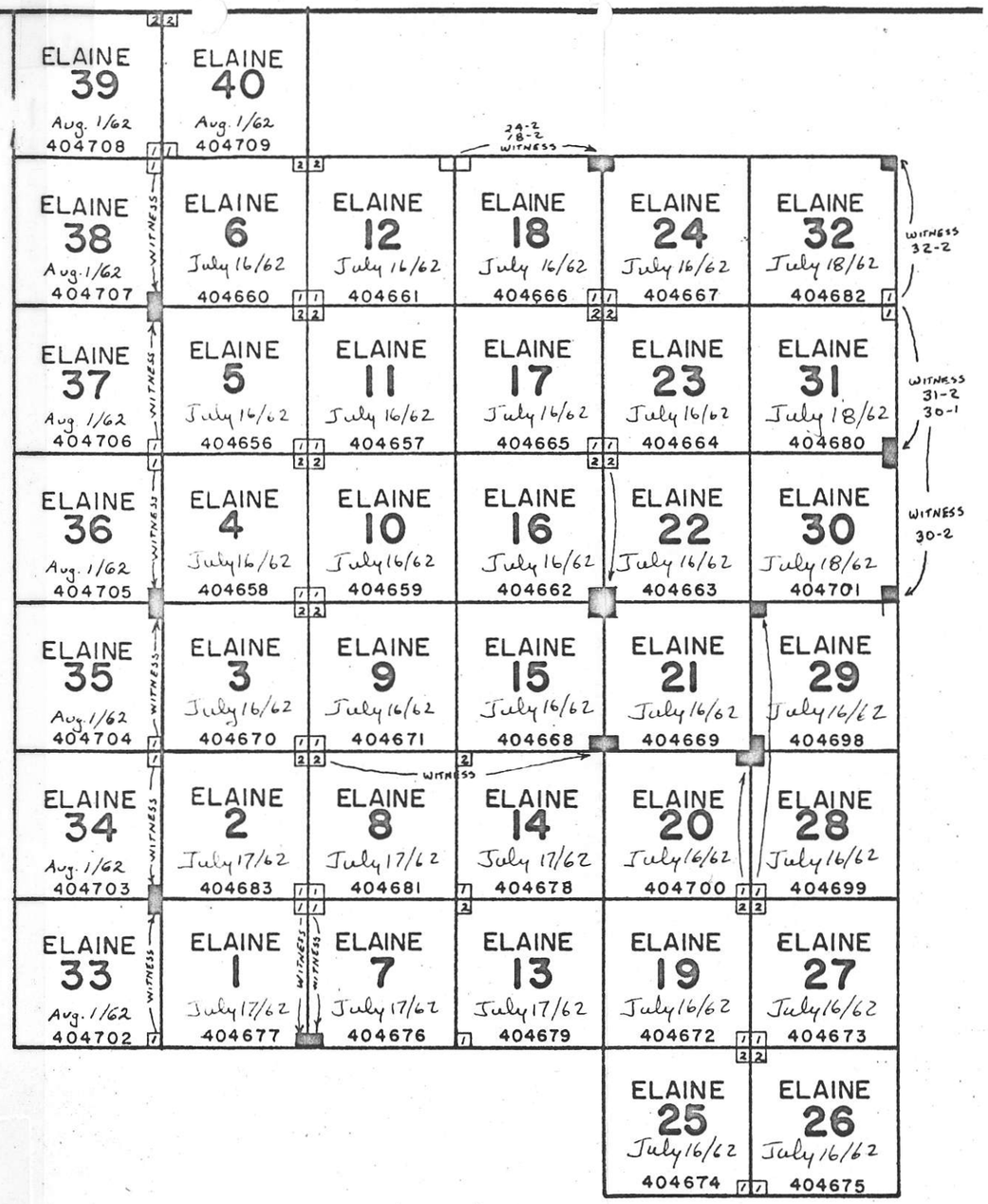
The Elaine Molybdenite Showing is located 60 miles northwest of Telegraph Creek in Northern British Columbia (see Fig. 1).

The showing is at an elevation of 4,000 feet near the bottom of a broad, U-shaped valley 8 miles due south of Trapper Lake at a latitude of 58°19'N., and a longitude of 132°38'W. The showing is accessible by helicopter or by fixed wing aircraft to a small unnamed lake three miles north of the showing and thence by foot up the valley. Due to the late break-up, the lake was frozen over until late in June in 1962.

OWNERSHIP OF CLAIMS

The block of 40 claims (see Fig. 2) named Elaine No. 1 to Elaine No. 40 are 100% owned by Southwest Potash Corporation and are in good standing until August 1, 1963.





ELAINE CLAIM GROUP

Staked by T. Godfrey for SOUTHWEST POTASH CORP.
July 16, 17, 18 ; 1962
& Aug. 1

JN

Figure 2

HISTORY

No previous work on this showing has been recorded although its existence is known by Kennco (C. Ney of Kennco was on the showing the day it was staked by Southwest Potash Corporation) and probably the G.S.C. During August regional and detailed geology, bulk and detailed chip sampling and experimental stream silt sampling were carried out from the Whiting Reconnaissance base camp on Trapper Lake.

GEOLOGY

GENERAL GEOLOGY

The Elaine Group is located four miles inside the eastern contact of the Chechidla Batholith, the name given to this portion of the Coast Range batholithic complex (see Map 1).

In the neighbourhood of the showing, the Chechidla Batholith consists of a dioritic complex of coarse to fine-grained diorite to granodiorite, and includes large areas of granitized volcanics.

Intruding this complex is a series of granitic rocks which vary greatly in composition, and which may all be part of one major acid intrusion. The rock varies from a coarse-grained pinkish-grey granite to white to buff leucogranite.

Cutting both the diorite and the granite is a series of east-trending quartz veins, some of which carry molybdenite.

The best area of mineralization found to date is covered by the Elaine claim group, but other mineralized zones appear to coincide with the line of acid intrusions in the diorite. All the above rock-types are cut by trap dykes.

DETAIL GEOLOGY (see Map 2)

1. Basic Volcanics:

These are believed to be the oldest rocks in the area. They are generally altered by the intrusions and are found as inclusions, roof pendants and as a major rock unit to the east.

2. Dioritic Complex:

These rocks vary from intrusive, coarse to fine-grained diorites and granodiorites, to granitized volcanics. The granitized volcanics have gradational contacts with the diorites. They are fine-grained, dark green rocks with some evidence of feldspathization.

3. Acid Intrusion:

The largest body of granite is in the form of a lobe trending in a northwesterly direction from the Tatsamenie valley. This granite is coarse-grained, siliceous and is greyish-pink in colour. It weathers to a rusty pink colour.

Alteration of the feldspars to clay minerals was noted in small isolated patches.

Smaller acid intrusions off the nose of the lobe vary greatly in composition. It was first thought that they were separate intrusions. However, the composition, although apparently more acid, changes so that it is identical to that of the major intrusion, and would therefore appear to be part of it. The most extreme variation is to a leucogranite composed of 5% white mica, 75% feldspar and 20% quartz.

4. Veining:

a) Carbonate veins cut the diorite in an east-west direction to the south and in a north-south direction in the vicinity of the mineralization. They appear only in the diorite. They consist of calcite in narrow breccia zones, weathered dull brown and crumbly.

b) Pyrite is found as distinct veins, not associated with quartz, in the diorite in the extreme south. They could be highly pyritized shear zones.

c) Pegmatite dykes and granitic stringers in the diorite complex are not mineralized. They appear to be related to the acid intrusion.

d) Quartz veins consist of white quartz varying from small (less than 1/4 inch), unmineralized veinlets in the south, to larger (up to 2 feet), mineralized veins in the north. All veins strike east-west, and dip steeply to the north or are vertical.

e) Trap dykes are the most recent intrusive rock type, cutting all other intrusions and all veins. They average 2 ft. in width.

MINERALIZATION

Molybdenite mineralization is, without exception, associated with quartz veins. Almost all the mineralized quartz veins strike east-west.

i) In the Acid Intrusions:

The granite in the major intrusion around the edge of the east glacier contains vuggy and brecciated quartz veins up to one foot wide. They contain granular pyrite and very finely disseminated molybdenite which acts as a pigment to cause dark streaks in the quartz, parallel to the edges of the veins. The veins are a minimum of 25 ft. apart. In the more acid exposures in the valley the quartz veins are narrower (1 in. to 6 in.) and carry more molybdenite in discontinuous seams and flakes. The veins are a minimum of 5 ft. apart, but the average distance between them is closer to 20 ft. The quartz veining into granite is more prevalent on the east side of the valley.

ii) In the Diorite:

The mineralized quartz veins continue into the diorite, but the molybdenum mineralization appears to die out away from the acid intrusions. The quartz veins range from 1 inch to

6 inches in width, and are widely spaced. They contain granular pyrite which imparts a rusty stain to the rock. On the west side of the creek, two veins (sometimes branching to three and four) 1 ft. and 2 ft. wide, and five feet apart carry very heavy molybdenite mineralization. The pyrite content is also very high. They can be traced for a length of over 100 feet, but disappear under glacial till at both ends. Although continuous, these veins pinch and swell considerably throughout their length. They constitute between 4 and 5 per cent of the rock within 200 feet of the contact.

No mineralized quartz veins were found in the ridges of diorite to the south, or in the ridge of diorite above the west side of the creek. It may be that the vertical distance of these ridges above the acid intrusion is too great for the mineralization to penetrate.

iii) In the Volcanics:

The quartz veins present are not mineralized, however veins of pyrite (70%), up to 4 inches wide were seen. They appear to be pyritized shear zones.

SAMPLING

BULK CHIP SAMPLING

Five bulk samples were taken of the granite and one of the diorite to determine the average MoS_2 content of the rocks

in the Elaine Claim Group which are further away from the showing (see Fig. 3). Chips were taken on 10 foot squares over areas averaging 15,000 square feet.

Results - Assays were very low and varied between 0.03 and 0.07 per cent MoS_2. This indicates that the content of molybdenite in the rock decreases as the veining decreases. The presence of molybdenite where veining is absent is in the form of small isolated rosettes and associated with quartz lenses found sparsely scattered in the granite and diorite.

DETAIL SAMPLING

Detail chip sampling was carried out across the granite-diorite contact and the well mineralized quartz veins on the west side of the stream (see Fig. 4). Lines 1, 2, and 4 were run in a north-south direction across the mineralized veins and line 3 was run parallel to the contact and about 60 feet from it in the granite.

The lines were run by compass and chain and chip samples were taken at 6-inch to 2-foot intervals depending on the mineralization. Forty-eight samples representing from 10 feet to 100 feet were taken for MoS_2 assay.

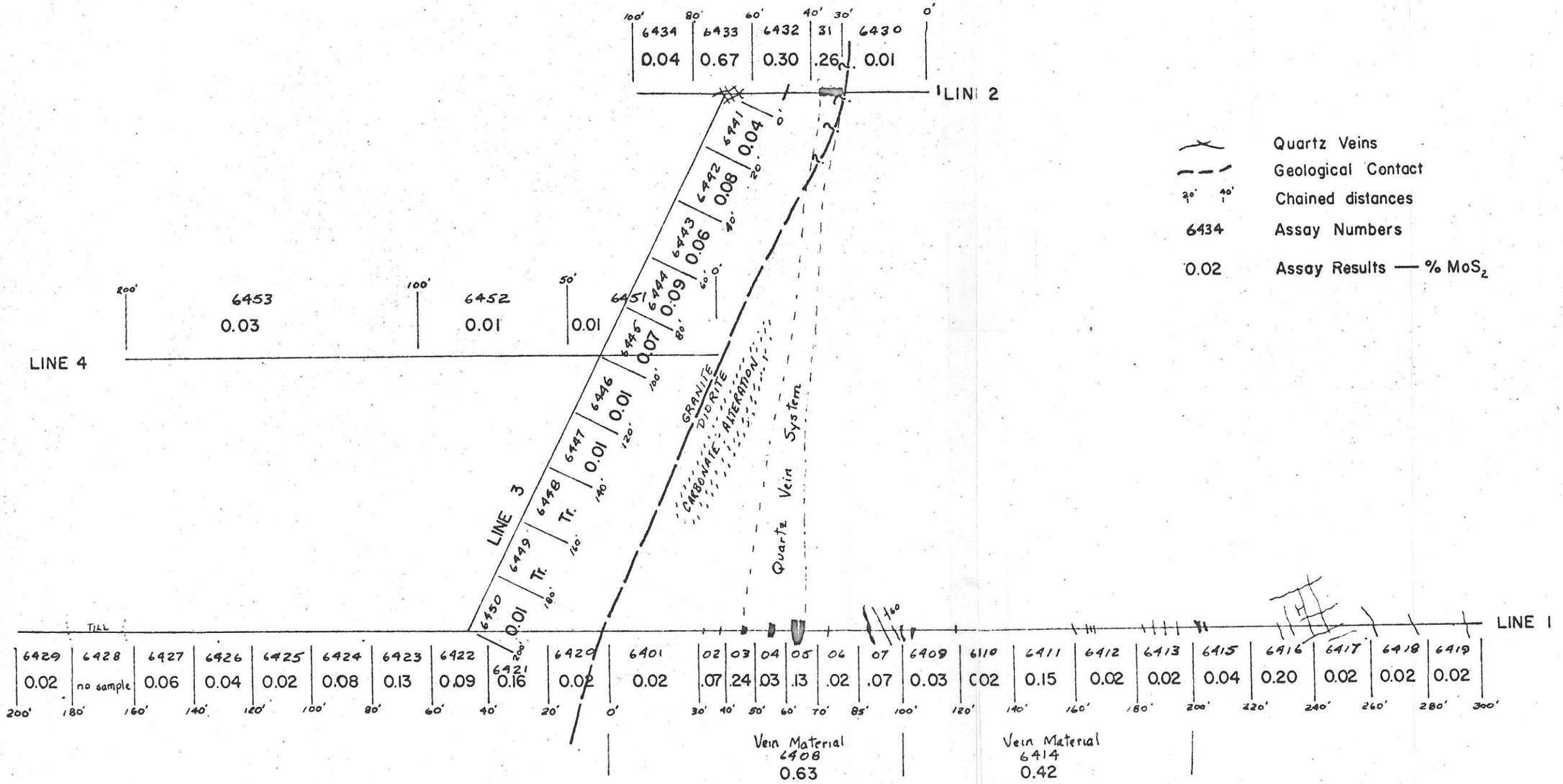
Results

The results are tabulated in the following table:

DETAIL CHIP SAMPLING
ELAINE GROUP

TRUE NORTH

SCALE 1 inch = 40 feet



Quartz Veins

Geological Contact

30' 40' Chained distances

6434 Assay Numbers

0.02 Assay Results — % MoS_2

OCT 1962

Figure 4

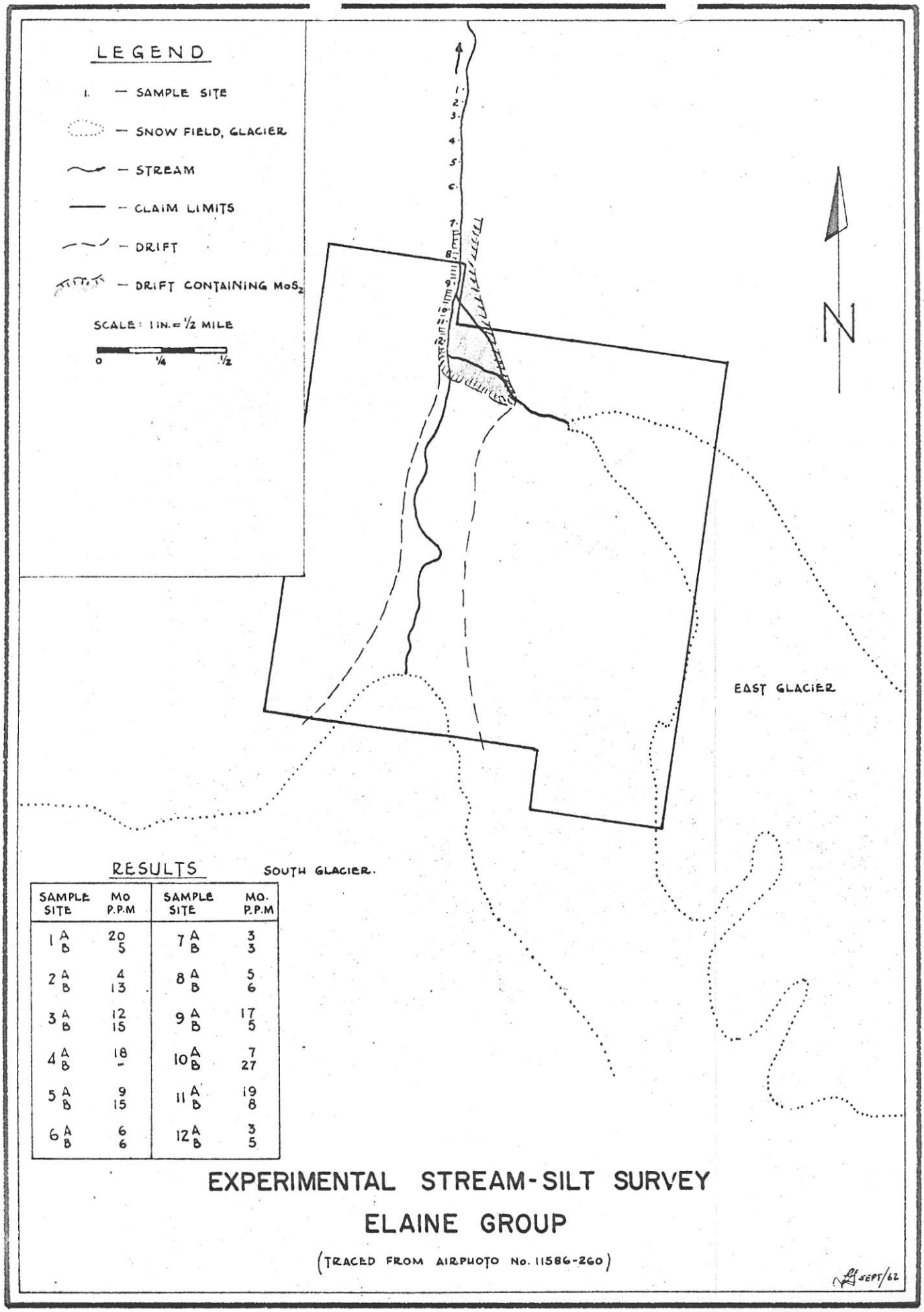
Rock Type	Line	Width	Average MoS_2 Content
Granite	1	0' to 100'	0.10% MoS_2
		100' to 200'	0.03% "
	2	30' to 80'	0.44% "
	3	0' to 200'	0.04% "
	4	0' to 200'	0.02% "
Diorite	1	0' to 100'	0.07%
		100' to 200'	0.05% "
		200' to 300'	0.06% "
	2	0' to 30'	0.01% "
Vein Material	1	5.8'(0' to 100')	0.63% "
		4.9'(100' to 200')	0.42% "
	2	10'(30' to 40')	0.26% "

The higher grade of MoS_2 over 50 feet in line 2 in the granite has no lateral extent as proven by the results of line 3. This high grade assay may be attributed to minor molybdenite filled cross fractures of very limited extent found only on line 2 and also to the presence of the major vein system in the granite between 30 feet and 40 feet.

GEOCHEMICAL SAMPLING

SOIL SAMPLING

Soil sampling was carried out on rusty soils and alluvium where molybdenite mineralization was not apparent in the bedrock. The soil from rusty silicified shear zones containing a dark pigment was also checked. The average values are 10 ppm.Mo



RESULTS

SAMPLE SITE	MO P.P.M	SAMPLE SITE	MO. P.P.M
1 A	20	7 A	3
B	5	B	3
2 A	4	8 A	5
B	13	B	6
3 A	12	9 A	17
B	15	B	5
4 A	18	10 A	7
B	"	B	27
5 A	9	11 A	19
B	15	B	8
6 A	6	12 A	3
B	6	B	5

EXPERIMENTAL STREAM-SILT SURVEY

ELAINE GROUP

(TRACED FROM AIRPHOTO No. 11586-260)

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Figure 5

with one high of 270 ppm.Mo over one of the shear zones.

TRACE ELEMENT SAMPLING

Samples for trace element determination were taken of the quartz veins and silicified shears to determine if the dark grey pigment was molybdenite. Results of up to 1000 ppm.Mo indicate that the dark pigment is fine-grained molybdenite. Other checks were also carried out on the small pods of altered granite, however the highest results were 10 ppm.Mo.

EXPERIMENTAL STREAM SILT SAMPLING

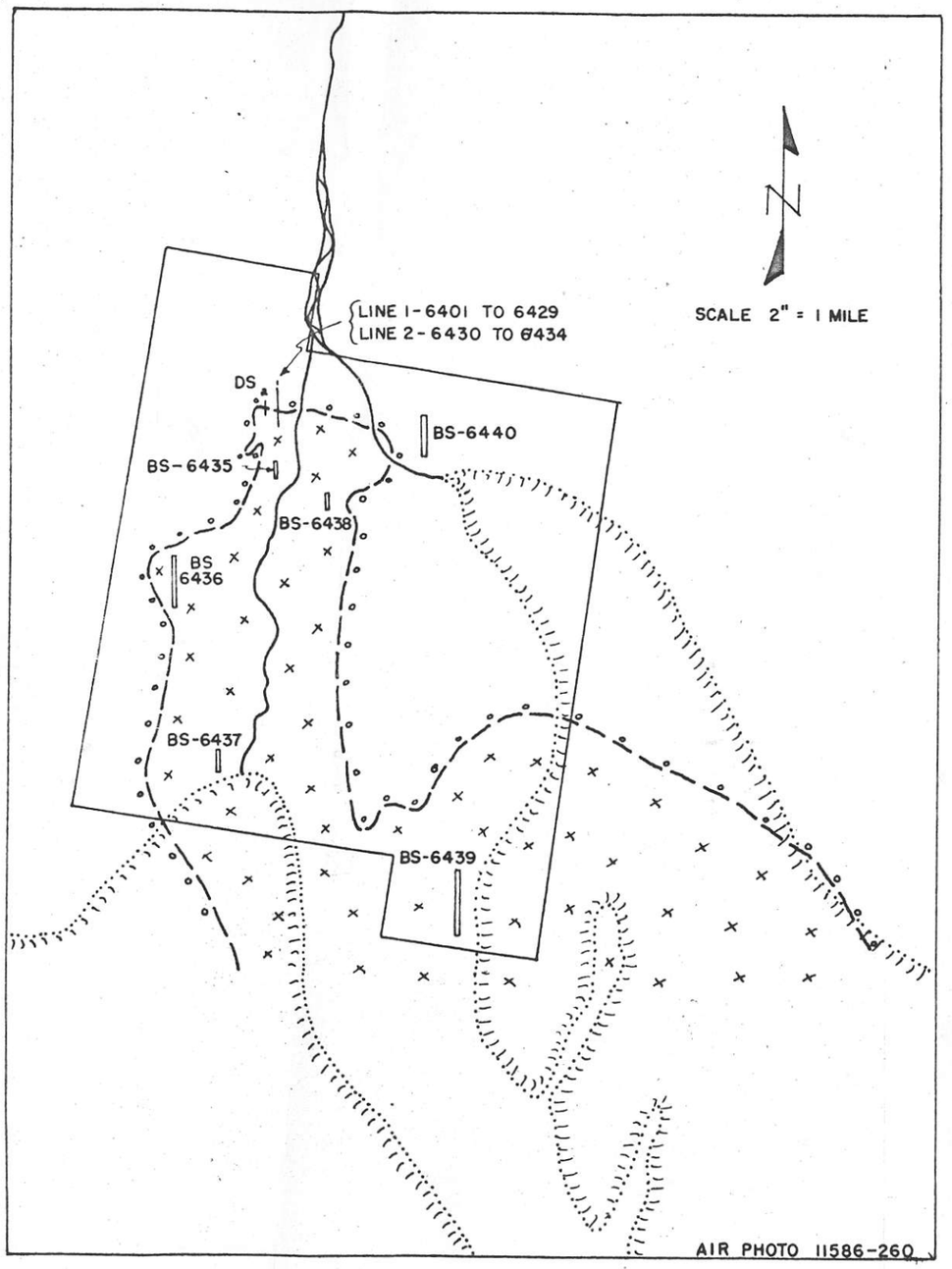
The stream draining north through the Elaine group from the east and south glaciers passes over glacial moraine containing anomalous amounts of molybdenite in the quartz veins and as large rosettes in the boulders (see Fig. 5). The boulders are believed to have been derived from the east glacier. Stream silt results from bars in this stream show an average of 10 ppm. Mo which was considered an anomalous value in stream silt sampling in the Whiting area during the summer of 1962.

ECONOMIC POSSIBILITIES

The overall average grade of less than 0.05 per cent MoS_2 over a restricted area indicates this showing is of no economic interest.

Vancouver Office
November, 1962

T.J.R. Godfrey



ELAINE GROUP SAMPLING

- GEOLOGICAL CONTACT
- GRANITE
- DIORITE COMPLEX
- OUTLINE OF ELAINE CLAIM GROUP
- DS DETAIL SAMPLING
- BS BULK SAMPLING
- 6401, etc. SAMPLE NUMBERS
- GLACIER

RESULTS

SAMPLE NUMBER	TYPE	ROCK TYPE	% MoS_2
6401	DS	Dio	0.02
6402	DS	Dio	0.07
6403	DS	Dio	0.24
6404	DS	Dio	0.03
6405	DS	Dio	0.13
6406	DS	Dio	0.02
6407	DS	Dio	0.07
6408	DS	Q. Veins	0.63
6409	DS	Dio	0.03
6410	DS	Dio	0.02
6411	DS	Dio	0.15
6412	DS	Dio	0.02
6413	DS	Dio	0.02
6414	DS	Q. Veins	0.42
6415	DS	Dio	0.04
6416	DS	Dio	0.20
6417	DS	Dio	0.02
6418	DS	Dio	0.02
6419	DS	Dio	0.02
6420	DS	Gr	0.02

SAMPLE NUMBER	TYPE	ROCK TYPE	% MoS_2
6421	DS	Gr	0.16
6422	DS	Gr	0.09
6423	DS	Gr	0.13
6424	DS	Gr	0.08
6425	DS	Gr	0.02
6426	DS	Gr	0.04
6427	DS	Gr	0.06
6429	DS	Gr	0.02
6430	DS	Dio	0.01
6431	DS	Q. Veins	0.26
6432	DS	Gr	0.30
6433	DS	Gr	0.67
6434	DS	Gr	0.04
6435	BS	Gr	0.05
6436	BS	Gr	0.04
6437	BS	Gr	0.07
6438	BS	Gr	0.03
6439	BS	Gr	0.07
6440	BS	Dio	0.05

Figure_3

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GEOLOGY

- ACID INTRUSIVES – mainly Granite (3) and Leucogranite (3a)
- INTERMEDIATE INTRUSIVES – Granodiorite (2a), Diorite Complex (2b) and Granitized Volcanics (2c)
- BASIC VOLCANICS – partially altered to chlorite schist

SYMBOLS

- CONTOUR LINES (Contour Interval = 500 feet)
- Outline of Permanent Snow (Ice Caps and Glaciers)
- Streams (arrow shows direction of flow)
- Claim Boundaries
- Geological Contact (defined, approximate, assumed)
- GEOCHEMICAL SAMPLE LOCATIONS
  - Stream Silt
  - Soil
  - Trace Element

  } 10-5-8 ppm – Mo, Cu, Heavy Metals

N

SCALE 1" = 1/2 mile (contours from National Topographic Series)

EASTERN CONTACT - COAST RANGE INTRUSIVES

Tertiary Volcs

Paleozoic Limestone

SOUTHWEST POTASH CORPORATION

REGIONAL GEOLOGICAL MAP

– OF THE –

ELAINE CLAIM GROUP

WHITING – ISKUT PROJECT
NORTHERN B.C.

inches / centimetres

This reference scale bar has been added to the original drawing. The scale at the same ratio as the image, therefore it can be used as a reference for the original size.

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LEGEND

ROCK TYPES

VEINS

- Trap Dykes
- Quartz Veins
- Quartz Veins containing MoS
- Silicified Shear Zone
- Carbonate Veins and Alteration Zones

COAST RANGE INTRUSIVES

- 2 Granite and (2a) Leucogranite
- 1 Diorite Complex

SYMBOLS

- Geological Contact - defined, approximate, assumed
- Fault
- Bulk Chip Sample Location & Assay (% MoS_2)
- Claim Boundary
- Glacier
- Glacial Overburden
- Morraine

SOUTHWEST POTASH CORPORATION

GEOLOGY and SAMPLING

OF THE

ELAINE GROUP MOLYBDENITE SHOWING

NORTHERN B.C.

inches
0 1
0 1 2
centimetres

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

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