

921/70

GEOLOGICAL REPORT

Sahara, Lee and File Claims  
(New Group, Highpoint Mines Ltd.)

16 mi. NW of Merritt, 50°120' SW

By: H.C.Gunning, P. Eng.

Work done by H.C.Gunning

Aug.15 to Sept.15, 1967

10227

1227

GEOLOGICAL REPORT

SAHARA-LEE-FILE CLAIMS

(NEW GROUP)

50°            120°            SW

16 miles northwest of Merritt, B. C.

92 I/700  
50° 16' - 17'  
120° 57' - 59'  
add reference  
to MOI card  
for Ferris Lk  
property

September, 1967

H. C. Gunning, P. Eng.

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## GEOLOGY OF THE NEW GROUP, KAMLOOPS MINING DIVISION, B.C.

### INTRODUCTION

Surface workings and outcrops on the Sahara claims 7 to 12 inclusive and on parts of the adjoining File and Lee claims were examined in August, 1967. The claims, as shown on the official claim map of the B.C. Department of Mines and Petroleum Resources, are shown on Map 1. They are held by location in the name of Highpoint Mines, Limited, Room 1500, 355 Burrard Street, Vancouver, B.C., and have not been surveyed. Location posts of Sahara claims 7 to 14 inclusive were identified in the field, but only one post for the File, and one for the Lee claims, was found. Survey control was available from a base line running north-south along the central location line of the Sahara claims and from east-west grid lines running therefrom. These lines had been bulldozed, measured and pegged at 100 ft. intervals in 1966 for a soil sampling project under the direction of William M. Sharp, P. Eng. They were not resurveyed in 1967. Map 2 shows the results of the 1967 work and indicates the positions of the base and grid lines and the claim posts that I identified.

The grid lines shown on Map 2 were traversed by the writer and subsidiary pace and compass traverses were made from them on to the File claims and along the roads. One subsidiary traverse was made north from the main workings to the north end of the Sahara claims, but no outcrops were encountered. In addition, a compass and chain survey, tied to the grid lines and claim posts was made of the surface workings on Sahara claims 7 to 10.

Elevations range from about 4350 feet at Sahara Pond to about 5000 feet above sea level in the southeast corner of Map 2.

Access is either from Craigmont by driving 6½ miles north on a good gravel road west of Guichon Creek, thence 7½ miles on a very rough road barely suitable for a car with good clearance, to the workings; or by an equally bad road that runs south for 2½ miles to Tyner Lake from a point on the Skuhun Creek road 14 miles above its departure from the Nicola Valley highway 14 miles southeast of Spences Bridge. There are no buildings and no underground workings at the property. Drinking water is available during the summer in one or two of the intermittent streamlets that drain northward across the claims to Sahara pond.

The area is one of generally gentle slopes of the western part of the Interior Plateau of British Columbia. Except for the numerous lakes and swamps, the surface is covered with a heavy growth of lodgepole pine, with local small stands of fir and considerable valuable spruce in the damper sections. As can be seen from Map 2, outcrops are not abundant. Most of the surface is underlain by a cover of glacial drift consisting of till, sand or gravel and boulders.

The New Group includes 39 claims held by location as follows:

Sahara Claims	1 to 16	. . . . .	Numbers	50009 to 50024
Lee Claims	1 to 12	. . . . .	"	50029 to 50040
Lee Claims	22 to 26	. . . . .	"	56500 to 56504
File Claims	1 to 6	. . . . .	"	58646 to 58651

The group is in good standing until May <sup>14</sup>~~12~~, 1968. See Map No. 1.

HISTORY

In October, 1957, Noranda Exploration Company Limited optioned the Farr Lake property from Midnight Consolidated Mines Limited after examining an altered zone, showing sparse copper staining, that had been exposed in 1956 by trenching. The western part of the property covered the area now embraced by the Sahara and Lee claims. A road was extended from Tyner Lake to the present Sahara showings and a dip needle survey made of about half the claim area. In 1958, the surface geology was mapped on a scale of 400 feet to the inch. The option was dropped late in 1958.

Ass. Pgt  
223

In 1961, North Merritt Mines Limited worked on the same ground, then known as the KW Group and, under Alfred R. Allen, P. Eng., carried out a soil sampling survey using cold extraction and analysis for copper in the field. Early in 1966, Highpoint Mines acquired 80 claims: Sahara 1 to 20, Lee 1 to 20, Farr 1 to 20 and Rock 1 to 20. The Farr and Rock groups lie east and southeast of the Lee claims. During the year the Company, with William M. Sharp acting as consultant, did extensive bulldozing and ripping at the main showing on Sahara claims 7 to 10 and conducted the soil sampling survey referred to later in this report. In May 1967, Highpoint Mines reduced its holdings to the 39 claims of the New Group listed above.

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407

The present writer examined the property from August 18th to 22nd inclusive and has had access to a report written by Mr. Sharp on May 28, 1966, based on one day at the property and to maps of some of the work done by Noranda Exploration and North Merritt Mines.

GEOLOGY

The New Group lies in the south-central part of the Guichon batholith 13 miles due south of Bethlehem Copper. It is 6 miles north of the southern edge of the batholith and approximately 5 miles from the east and the west contacts.

The predominant rock exposed on the claims is quartz diorite with black to green hornblende grains from one-eighth to one-quarter inch in length set in a pale grey to white aggregate of quartz and feldspar with accessory amounts of biotite, sphene and magnetite. In a number of places this grades irregularly but rapidly into a finer grained phase, grain size seldom exceeding one-eighth inch, in which quartz is more abundant and biotite is the main dark mineral. Small amounts of pink, presumably potash feldspar, were noted at many places in both varieties, but this mineral appears to be slightly more abundant in the quartz-rich phases. At several places in the main workings, but particularly in two of the ripped areas south of the road, irregular to tabular bodies a few inches to two feet in width were noted. They are fine to medium grained, pink in colour and essentially lacking in dark minerals. Pink feldspar and abundant quartz are the chief constituents. They appear to be aplitic differentiates of the quartz diorite with sharply gradational contacts. There is some evidence in the main workings that the more siliceous, biotite-rich phases of the quartz diorite are due, in part at least, to contamination of the magma by inclusions.

The large outcrop areas west of the Sahara claims are massive, hornblende-rich quartz diorite with only very minor amounts



of the biotite-rich phase and here and there a few small, barren quartz veinlets.

The more prominent joints and faults observed are shown on Map 2. Most joints and faults are accompanied by some degree of alteration to epidote and chlorite and carbonate coatings are common. However, apart from areas in the trenches of the main workings, there is little or no pervasive alteration of the quartz diorites by hydrothermal action.

The base line and the grid lines for the soil sampling were run by bulldozer. For about 50% of their total length the bulldozer disturbed the soil cover to depths of a foot or two, affording good opportunity for study of the overburden. It is surprisingly uniform, rich in boulders, pebbles and sand derived from the Guichon batholith, with relatively minor amounts of buff to brown weathered soils. Fragments of iron gossan are very rare. No copper stains were observed away from the surface workings.

#### SURFACE WORKINGS ON CLAIMS SAHARA 7 AND 9

These workings were examined by W. M. Sharp in May, 1966 shortly after the excavations were made and are described in his report of May 28, 1966. They are on the original showings of the property, as known to Midnight Consolidated and Noranda Exploration. The zone of the bleaching and alteration at the south end of the trenches, at and just north of the road, appears to be at least 200 feet wide, but its eastern limit has not been exposed unless it be in an easterly trench that crosses the road and is now caved. Apparent control is by a shear or fracture zone trending west of north and dipping very steeply and the western border



appears to be irregular against outcrops of fresh quartz diorite. Weathering of the rocks in the zone makes it difficult to determine the precise composition of the quartz diorite there. Brown to red stains of iron oxides are irregularly distributed, but no heavy gossan is present. Minute green to blue copper stains are present in several places, but one has to look very carefully to find any. In the ripped area bordering the east side of the road 300 feet south of the main trenching a few minute grains of chalcocite, accompanied by green stain, were observed in siliceous, biotite-rich phases of the quartz diorite, as disseminated particles. Most of the rock there, however, is barren. Weak copper staining is present along a fracture trending west of north in the long trench that crosses the boundary of claims 7 and 9, and again on a similar fracture in the short trench at grid line 4 south, 600 feet east of the west boundary of Sahara 9. Chlorite and some epidote line the fractures.

The trenching at the southwest corner of Sahara 7 exposes part of a fracture or shear zone about 100 feet in width that trends south of west and appears to dip at a moderate angle to the south. A moderately heavy iron gossan at its west end shows no copper stain, but minor stains are present in the bleached and altered quartz diorite to the east.

#### TRENCHES ON CLAIMS SAHARA 8 AND 10

The workings here, five trenches, were made in June, 1966. They partially expose, as shown on Map 2, a zone or area in which the quartz diorite, apparently the hornblende-rich variety, is deeply weathered and in part bleached and softened as at the easterly

trenches. The trench has been done in and along the east side of a small stream in a sharp draw running west of north. It marks the site of a distinct lineament on aerial photographs and may well be underlain by a fault of some continuity. The westerly limit of the altered and bleached rocks is not determined, but relatively unaltered quartz diorite is exposed in the southern trench and in the centre of the middle trench. The rocks are well fractured and several narrow fault zones were observed, trending west of north. Very minor copper stains were observed in three of the trenches and, in the trench on line 4 south, a vein of quartz and calcite, not over an inch thick, carries considerable chalcocite. Except in one trench, iron staining is weak. Additional excavation in the low, wet ground to the west would be difficult.

#### SOIL SAMPLING

In the summer of 1966 the soils of Sahara claims 7 to 12 and the Lee claims to the east were sampled at 200 ft. intervals on east-west grid lines 400 feet apart as shown on Map 2. The area covered is approximately 3600 feet north to south and 1 mile east to west, Samples were analyzed by TSL Laboratories of Vancouver; copper and molybdenum being extracted by hot HCl solution, copper determined by atomic absorption and molybdenum by dithiol titration. Two hundred and thirty-eight samples were analyzed.

No sample contained more than 0.05 ppm molybdenum.

Copper content ranged from 5 ppm to 155, the highest, and only two samples contained over 100 ppm. Shown on Map 2 in circles are all analyses that ran 60 ppm. or over and it will be observed

that there are only seven and that they are of random distribution. The average of all samples is 24 parts per million. The soil sampling does not indicate anomalies of sufficient size and intensity to justify additional investigation for copper. The highest value, 155 ppm., is on the north slope of a knoll below an old trench showing weak copper mineralization.

### CONCLUSIONS

The New Group is underlain by rocks of the Guichon Batholith, a major intrusive body that, 5 miles and more to the north, has been shown to contain a number of commercially attractive copper or copper-molybdenum deposits, including the producing mine of Bethlehem Copper Corporation. Several thousands of feet of trenching, surface stripping and ripping has shown that there are two or three areas in which the host rock is well fractured across widths up to at least 200 feet and bleached and otherwise altered in a manner similar to that near some of the northern properties that have been or are being developed. No major, persistent fault structures have been indicated to exist, though they may. No evidence of worthwhile copper or molybdenum mineralization has been found to date. Only very minute amounts of copper sulphides have been reported by earlier workers or seen by the present writer.

To the north, at Bethlehem Copper and other properties, the geological setting is much more complex than it is known to be at the New Group. The Guichon or "older" quartz diorite there is invaded by a younger complex that includes the Bethlehem porphyritic quartz diorite, various porphyry dykes and a very

distinctive intrusive breccia that is closely associated with much of the known ore. South of Bethlehem Copper there is a striking quartz-rich porphyritic granodiorite.\*

Faulting and intense fracturing over wide areas is a major ore control. None of these younger rocks has as yet been identified at New Group, although some of the more siliceous phases of the quartz diorite, noted above in the description of the New Group workings, may bear some relation to them. No breccia has been found at the New Group. Bleaching and softening of the quartz diorite, and random development of pink (potash) feldspar such as have been noted at the New Group and are known at several of the northern properties, are not necessarily accompanied by worthwhile copper or molybdenum mineralization.

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Footnote references:

\*Carr, J. M. "Preliminary Map, Highland Valley, B. C."  
B.C. Department of Mines & Petroleum Resources, 1966 (2 sheets)

----- "Geology of the Bethlehem and Craigmont Copper Deposits". Canadian Institute of Mining & Metallurgy, Special Volume No. 8, 1966, p. 321.

Coveney, C.J. "The Bethlehem Copper Property". Western Miner and Oil Review, 1962, p. 42.

RECOMMENDATIONS

Neither the surface work that has been done, the known geologic setting as indicated by this study of the claims, nor the preliminary soil sampling survey, give sufficient promise of worthwhile copper or molybdenum deposits on the New Group to warrant further work. If any credits for assessment are available now, and it is desired to hold any ground in the hope that work on nearby properties might suggest some new potential, it is suggested that they be applied to placing Sahara claims 7 to 10 in extended good standing.

September 15, 1967.



Tel. 266-2958.

125/4800 Arbutus St.  
Vancouver 9, B. C.

STATEMENT OF COSTS

IN ACCOUNT WITH:

Highpoint Mines Limited  
Room 1500  
355 Burrard St.,  
Vancouver, B. C.

(Re New Group, Kamloops Mining Division, B.C.)

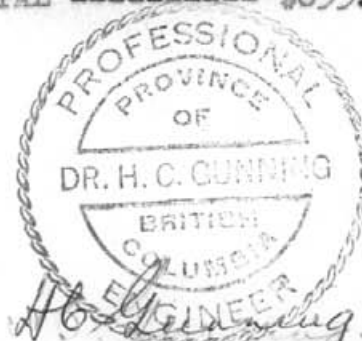
Transportation - 538 miles @ 10¢ ----- 53.80

Food and lodging - 5½ days ----- 29.60

Professional Services:

5 days fieldwork Aug. 18<sup>th</sup> to 22<sup>nd</sup> 1967 ----- 500.00 @ 100.00 per day.  
Office work - maps and report ----- 250.00 > 1/2 day @ 100.00

TOTAL ----- \$833.40



H. C. Gunning, P. Eng.

Declared before me at the City  
of Vancouver, in the  
Province of British Columbia, this 9th  
day of May, 1968, A.D.

H. C. Gunning

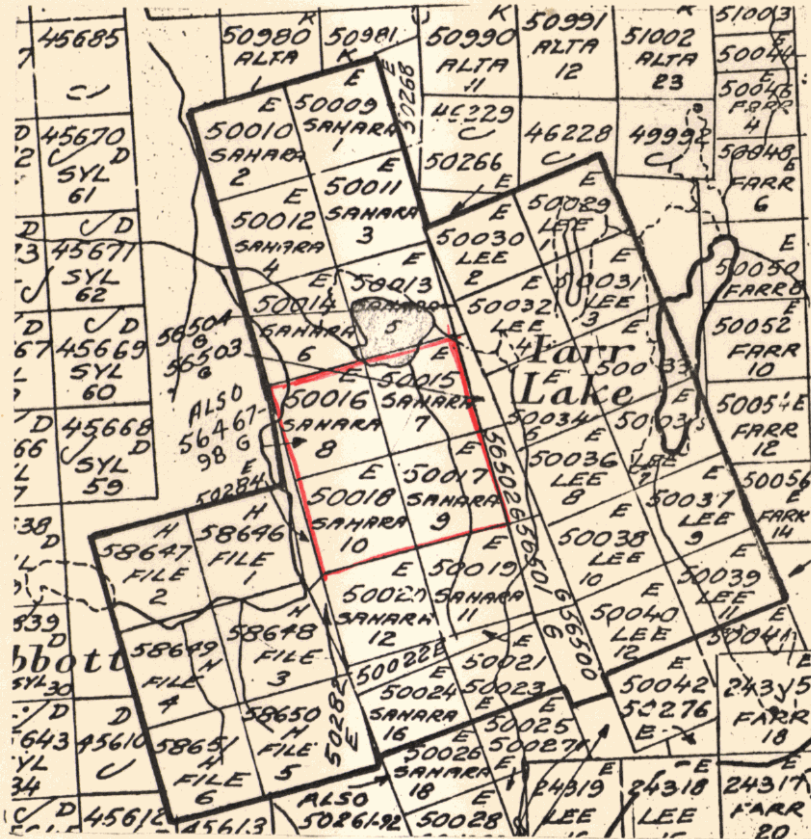
L. Jennette  
A Commissioner for taking Affidavits within British Columbia or  
the Province of British Columbia.

SUB - MINING RECORDER



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 1227 MAP 1



NEW GROUP - KAMLOOPS MINING DIVISION, BRITISH COLUMBIA.

One inch =  $\frac{1}{2}$  mile approx.

MAP No.1

To accompany geological report  
on the New Group by H.C. Gunning, P.Eng.  
September, 1967.



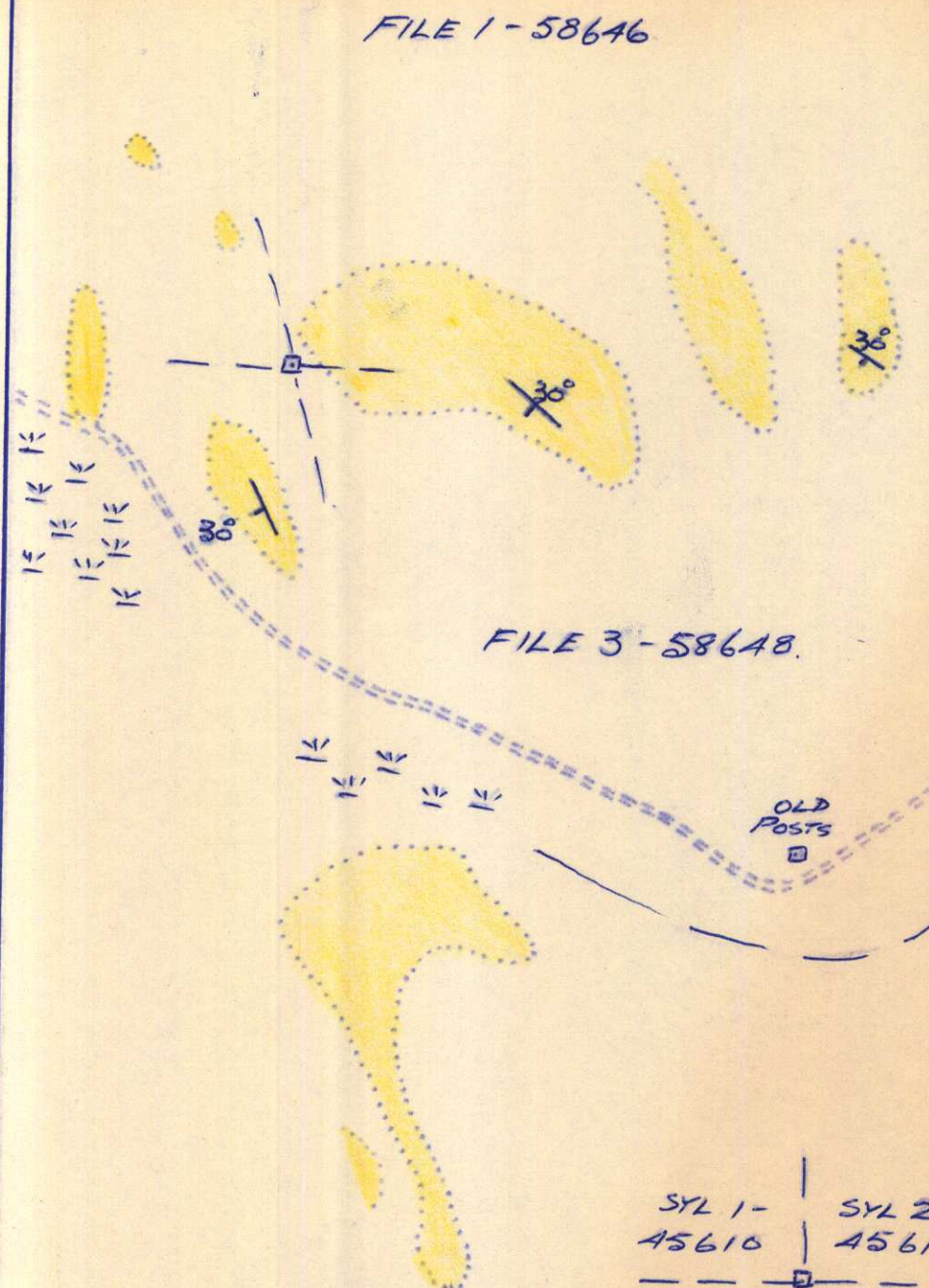
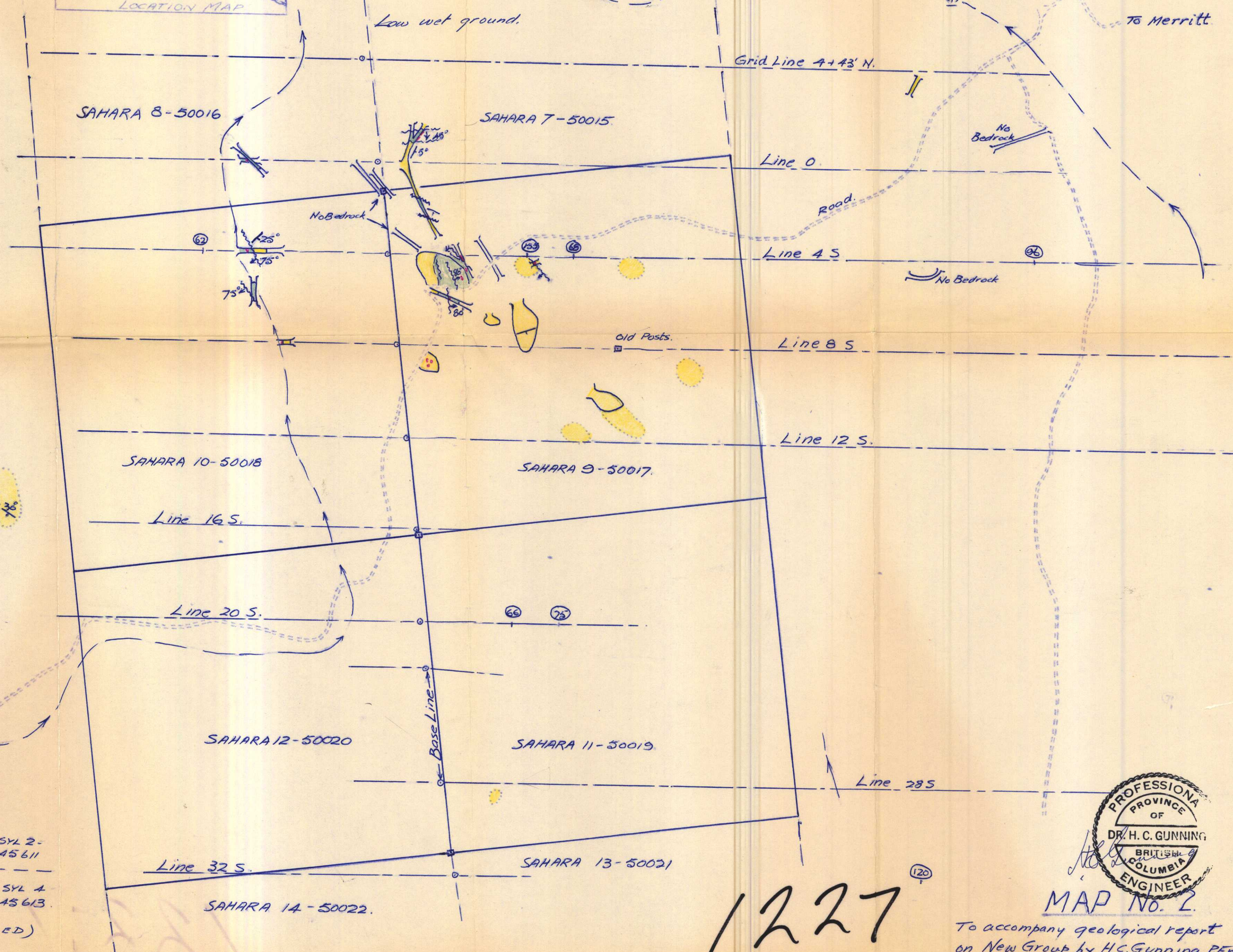
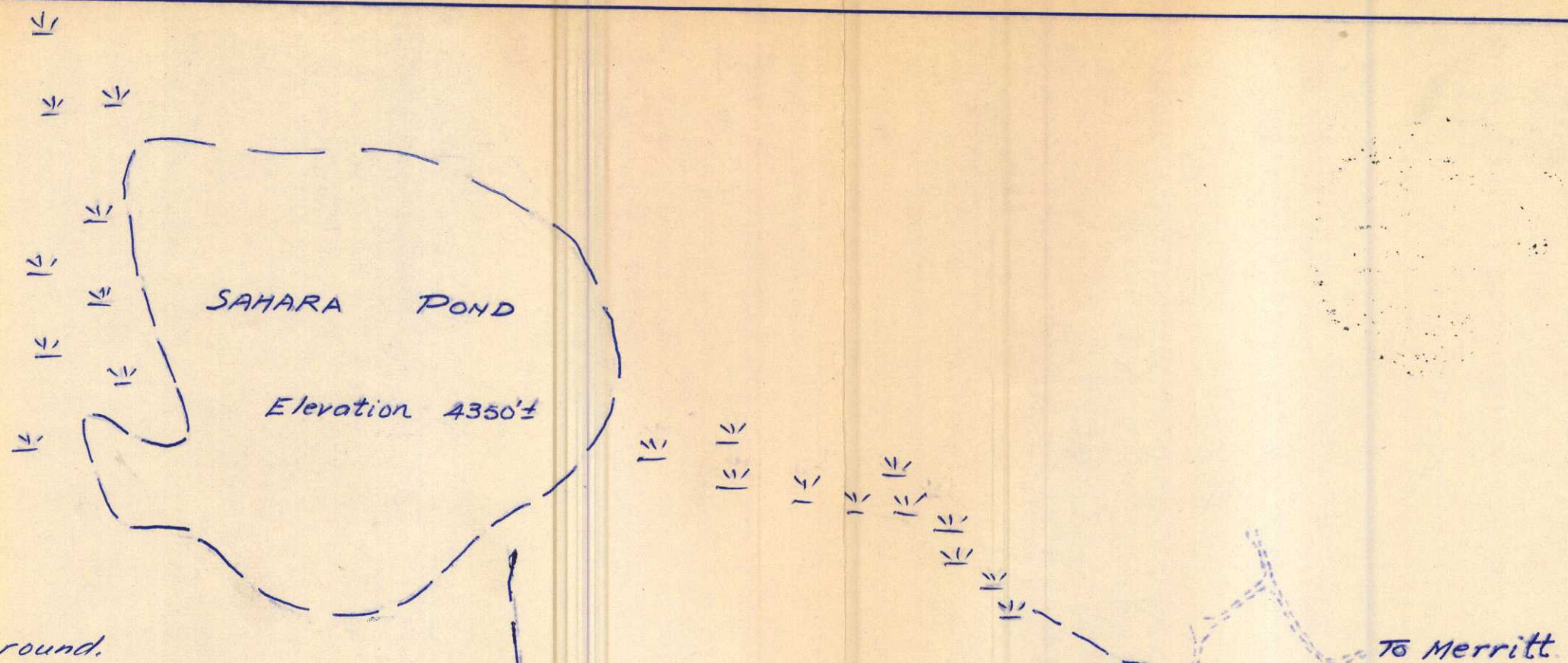
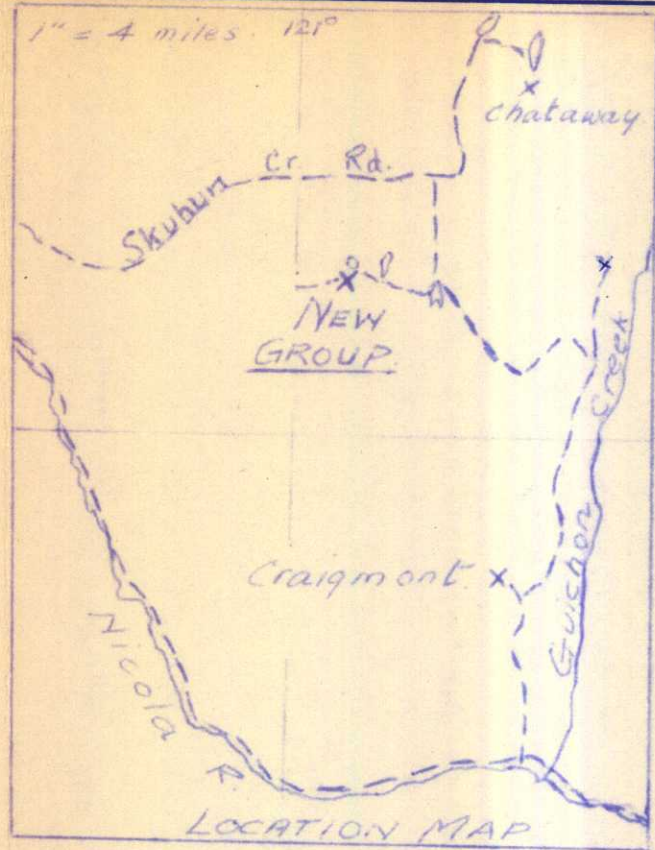
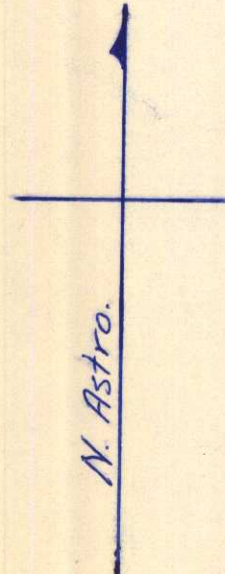
HIGHPOINT MINES LTD.

NEW GROUP

Highland Valley, B.C.

Scale 1" = 300'

- Area with outcrops.
- ⊃ Trench or bulldozed area.
- 30° Prominent Jointing with dip.
- ⚡ Fault, shear zone, with dip.
- Ⓢ Copper, ppm. in soil sample.
- Yellow = fresh quartz diorite (Guchon)
- Green = altered (bleached) quartz diorite
- Red = copper stains observed.



SYL 1 - 45610	SYL 2 - 45611
SYL 3 - 45612	SYL 4 - 45613

(ABANDONED)

1227



MAP No. 2

To accompany geological report  
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