

A PRELIMINARY GEOLOGICAL REPORT

ON THE

SEABEE CLAIMS

As held by SPES EXPLORATIONS LIMITED,

VANCOUVER 2, B.C.

Claims held are in the Skeena Mining Division; $129^{\circ}29'$,
 $55^{\circ}40'$; at the south end of Kinskuch Lake, 85 miles north of
Terrace, B.C.

August, 1956

Examined by R.B. Elver
A.R. Watt

Supervisor: J. Soles

INTRODUCTION

Spes Explorations Limited holds a group of four mineral claims, known as the Seabee Group. This group is in the Skeena Mining Division, 85 miles north of Terrace, B.C., at the south end of Kinskuch Lake. These claims are at a longitude of $129^{\circ} 23'$ and a latitude of $55^{\circ} 40'$.

The area is accessible by Pacific Western Airline's float planes from Terrace or Prince Rupert. These towns may be reached by daily flights from Vancouver by Canadian Pacific Airlines. If necessary equipment may be shipped by boat to Alice Arm, and flown in from there.

The claims are bounded on the south and west by the newly staked Ruby claims, held by Spes Explorations. The north and east limits of the claims are bounded by claims held by North-Western Exploration, a subsidiary company of Kennecott Copper. North-Western has at present two drills on their property and expect to have them there till freeze-up.

The purpose of the investigation was to make a preliminary geological survey and consider the economic possibilities of the claim group.

With the aid of a Brunton compass and tripod, a line was run south, up the location line, with stone cairns being placed every 100 feet. Pace and compass traverses were run at right angles to the location line to 1500 feet, where possible. These traverses were from 200' to 400' apart, depending on the topography and snowfields for their spacing. After this mapping was completed, favourable areas were sampled. The magnetic declination used was $28^{\circ} 30'$ to the east.

INTRODUCTION (Contd.)

At this point, I would like to acknowledge the good work done by Mr. A.B. Watt, who assisted me in the field. Technical supervision was provided by Mr. James A. Soles, geological engineer.

SUMMARY AND CONCLUSIONS

Spes Explorations hold a group of four mineral claims known as the Seabee group. These are located 85 miles north of Terrace, B.C. at the south end of Kinskuch Lake, in the Skeena Mining Division. The area is accessible by P.W.A. float planes from Terrace and Prince Rupert, B.C. The property is strategically located, being bound on the north and east by North-Western Exploration, who are now drilling their property.

The ground was mapped, by pace and compass traverses at right angles to the location line, and then sampled by both chip and channel methods.

The area has been well scrubbed by glaciers that have left much glacial debris in the area. The property is bound on the south, east and west by permanent glaciers. The ground rises sharply to the south, from Kinskuch Lake, up a slope of about 30°. Vegetation is lacking in the area, except for scant moss.

The rocks are igneous ones of the Hazelton Group as described by G. Hanson. Pyrite mineralization with minor chalcopyrite and gold has a widespread occurrence. It is found finely disseminated in two main rock types of the area as a replacement type of deposit. Mineralization also occurs in gossan shear zones and in some quartz-calcite-barite veins. Assay results showed that no mineral occurrences of economic interest are in the property.

SUMMARY & CONCLUSIONS (Contd.)

The strategic location to North Western Explorations property would make the Seabee group, of economical interest, if North Western were able to prove up an orebody. (1)

RECOMMENDATIONS

On having examined and sampled the property I do not believe that the property should have any more work done on it by Spes Explorations Limited. In view of its strategic location, I propose that the assessment work be recorded, and that the Seabee group be held, pending news from the North Western camp.

GEOGRAPHY

The elevation of Kinskuch Lake is about 3900 feet above M.S.L. From the S.E. shore there is a sharp rise to Lavender Peak at an elevation of over 7000 feet. Although less extreme, the south and west shores rise well above 5500 feet. At the north end of the claims, the ground rises up a 30° to 35° slope to the south. Both the east and west boundaries of the claims are bordered by permanent glaciers. Patches of permanent snow abound on the claim group, mainly in Seabee #1 and #2. The area has many glacier fed streams flowing down to the lake at the north. Glaciers have had a marked effect on the topography, having left much glacial debris, of polygenetic boulders, scoured the visible outcrops and leaving typical terminal and lateral moraines. However, there is abundant outcrop. There is very little vegetation in the area except for scanty patches of moss and a few low shrubs.

(1) See Economic Considerations, P. 9

GEOLOGY

LITHOLOGY AND MINERALOGY

The rocks of this claim area are all igneous rocks of the Hazelton Group, as described by G. Hanso, and are Middle Mesozoic in age. These igneous rocks are extrusive in nature and may be broken down into two main groups. One is a dark green, aphanitic rock often bearing finely disseminated sulphides, mainly pyrite. This rock type tends to show more evidence of shearing, and weathers down relatively faster than the second type. Alteration to epidote and the introduction of carbonates from fissure veins makes this rock type hard to classify down any further. Several rusty shear zones, weathering to a gossan, tend to show more pyrite mineralization as well as some minor chalcopyrite, finely disseminated.

The other main rock type is a dark to mainly light gray, and often nearly white, volcanic rock. It seems more sodic. In both types the individual mineral constituents, texture and structure can not be observed megascopically. In this light gray type, the sulphide mineralization is much more constant and chalcopyrite is more evident. Outcrops of this type are usually much harder, but often have a good, widespread gossan on the outside, due to the abundance of the sulphides. On the accompanying map, gossan zones have been indicated, but these are more widespread in this area, and tend to appear irregularly over a large area.

I believe that this second type approaches a rhyolite, with a minimum of quartz, in composition. This type will be referred to as V₁. The other type is approximately a dacite or andesite and will be referred to as V₂.

GEOLOGY (Contd.)

In the area south of the fault, in Seabee #4 and into Seabee #2, the V_1 rocks have many calcite-barite-quartz veins striking in an east-west direction. These are widespread, but not concentrated and may be up to 5 inches in width. These are barren of mineralization. However, the host rock contains constant, disseminated sulphides over a large area. In the most easterly outcrops of Seabee #3, quartz, calcite, barite veins often contain pods of pyrite, with chalcopyrite and minor traces of galena, both in V_1 and V_2 . The veins are up to $\frac{1}{2}$ " wide, but are very much more profuse and form regular networks. The veins tend to lens out and reappear very irregularly. Good evidence of the sequence of vein material was observed with barite, after calcite, after quartz. These veins do not always carry sulphides and do not always contain all three vein minerals at once. Pyrite and minor chalcopyrite is also abundant in the host, rock of these veins especially where the veins are barren of sulphides.

It appears from evidence accumulated that mineralization occurs in three main types, all influenced by hydrothermal processes. They are as follows:-

- (i) fissure veins
- (ii) shear zones
- (iii) disseminated by replacement.

Also in the area are two dikes. The one in Seabee #3 is dark green, aphanitic and appears to be of diabasic composition. The dike in Seabee #1 is a light green, quite fine with hornblende crystals up to 3 m.m. in length. Both dikes strike about $N 70^\circ E$.

GEOLOGY (Contd.)

In Seabee #4, running N 40° E and dipping 80° to the west is a rock type, which I believe to be a volcanic flow, although positive identification would have to be microscopically. The rock weathers a dark chocolate brown, is hard, shows augite crystals in a greeny matrix, and feldspar crystals, much smaller, in a pyroxene matrix. The augite is as long as 8 m.m. Amygdules of quartz are also abundant. In one place these tended to accumulate at the top of one of the foot wide flows. The almost continuous outcrop is about 40' wide and has several layers of separate flows on top of one another. Evidence of assimilation of V₂ by this flow casts a shadow of doubt on whether it is a flow, since the piece of V₂ being assimilated would lie on top of the flow unless the flow was the limb of an overturned fold.

STRUCTURE

Evidence of structure in the area is very sparse, making it difficult to come to any sound conclusions on the problem. In Seabee #4, flowage was observed to strike N 60°W and dip 70° to the east. This structure was not traceable for any length.

Similar type of flowage banding was found at the south end of the property, 300 feet beyond the claims. This is striking due North and dipping 75° to the west. Correlation is impossible without further information, which wasn't available.

Evidence of much faulting and shearing was found. The faults are in a N 70° E direction, as well as much of the

STRUCTURE (Contd.)

shearing and vein filling in Seabee #2 and #4. In general the shearing directions are quite variable making assumptions rather doubtful. Common shearing directions are N 20° - 30° W and N 60° - 90° E, but this is rather general

SAMPLING

Fifteen samples in all were taken from the property, and brought to Vancouver for assaying by Mr. J.R. Williams. Time and poor weather did not permit the party to take more samples. In spite of this, I believe that sufficient samples were taken over a great enough area, and that these samples will be indicative of possibly, economic mineral occurrences.

Sampling was done in two ways. If a trend in the attitude of the mineralized zone was definable, a combination chip-channel sampling was done across strike. This method prevailed in Seabee #3. Where no attitude was distinguished, a combination chip-bulk sample was taken at random over favourably outcrops. For the location of samples, see the accompanying map. The following is a list of samples taken and brief descriptions on the outcrop area from which they were taken.

<u>FIELD NO.</u>	<u>ASSAY NO.</u>	<u>DESCRIPTION</u>	<u>Au oz/T.</u>	<u>%Cu</u>
A ₁	7451	Chip-Channel across 15' in E-W direction. Same mineralization extends from 30' - 40' on both sides of sample, and then becomes covered by glacial drift.	Tr.	0-20 ? 0.20
A ₂	7452	Chip-channel across 25', striking N 70° E across strike.	Tr.	0-12

<u>Field No.</u>	<u>Assay No.</u>	<u>Description</u>	<u>Au oz/T.</u>	<u>%Cu</u>
A ₃	7453	Continuation to east of A ₂ for 20'. Both A ₂ and A ₃ have been overlain by glacial debris on their boundaries	Tr.	0.1
A ₄	7454	Chip-channel sample across 20' striking E-W across strike. $\frac{1}{4}$ " to $\frac{1}{2}$ " quartz fissures with pyrite and chalcopyrite visible. Host rock appears fairly barren.	0.015	0.7
A ₅	7455	Chip-channel sample continuing to the east of A ₄ , for 10'.	0.015	0.7
A ₆	7456	Chip-channel sample across 18' striking N 70° E	Tr.	0.1
A ₇	7457	A random chip sample over 1000 sq. feet. Several pyrite stringers, but no control.	Tr.	0.1
A ₈	7458	Random Chip sample over an area of 500 sq. feet. Host consists of light coloured volcanics.	Tr.	0.1
A ₉	7459	As A ₈ , but the host is of a darker, more aphanitic volcanic	Tr.	0.0
A ₁₀	7460	Chip sample across 25'. Altitude poorly defined but sample E-W across strike. Mineralization extends into walk.	Tr.	0.1
A ₁₁	7461	Chip sample across 15' at N 45° E across strike. Highly rusty zone and light coloured volcanic. No boundaries to mineralization. Covered by drift.	Tr.	0.1
A ₁₂	7462	Chip sample, 40' south of A ₁₁ , across 20' at N 80°. Taken across schistosity.	Tr.	0.1
A ₁₃	7463	Chip sample, across 15' at about N 80° E. Altitude poorly defined. Large outcrop area with mineralization widely scattered in light coloured volcanic.	Tr.	0.1
A ₁₄	7464	Random chip sample over 500 sq. feet. Whole immediate area is very similar. Altitude was not defined.	Tr.	0.0

<u>Field No.</u>	<u>Assay No.</u>	<u>Description</u>	<u>Au oz/T</u>	<u>%Cu</u>
A ₁₅	7465	Random chip samples over 1200 sq. feet. Very poor for altitude. In a light coloured volcanic and similar to A ₁₄	Tr	0.12

ECONOMIC CONSIDERATIONS

The Seabee claim group contains two types of volcanic rocks, both of which have widespread pyrite mineralization with minor chalcopyrite and gold. This mineralization is finely disseminated, throughout the rocks. Mineralization also occurs in some of the quartz-calcite-barite fissure veins and in gossan shear zones.

The assay results, from fifteen samples taken over a representative area, show that Cu, Au has a widespread occurrence. However, the values from the assay results indicate that these values are too low to be of economic interest. The best assay was a combination of A₄ and A₅ which returned 0.70% Cu and 0.015 oz. per ton of Au over a width of 30 feet. The remaining assays showed a trace of Au in all, with the Cu values averaging about 0.15 per cent.

The low grade of the mineralization, and the remoteness of the area would not make it possible, for Spes Explorations Limited, to think in terms of ore.

The Seabee group is bounded on the north and west by North West Explorations. They have been doing extensive drilling across the lake to the east. If this company was able to prove up an orebody, it would have to be mined, by open pit. In this

ECONOMIC CONSIDERATIONS (Contd.)

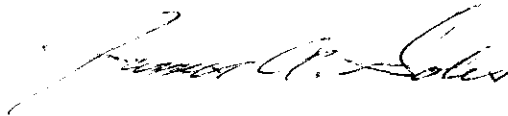
case the position of the Seabee claims might be strategic with regards to their mining methods, especially the angle of repose for any open pit. In this light the Seabee claims might possibly become economical.

Respectfully Submitted,



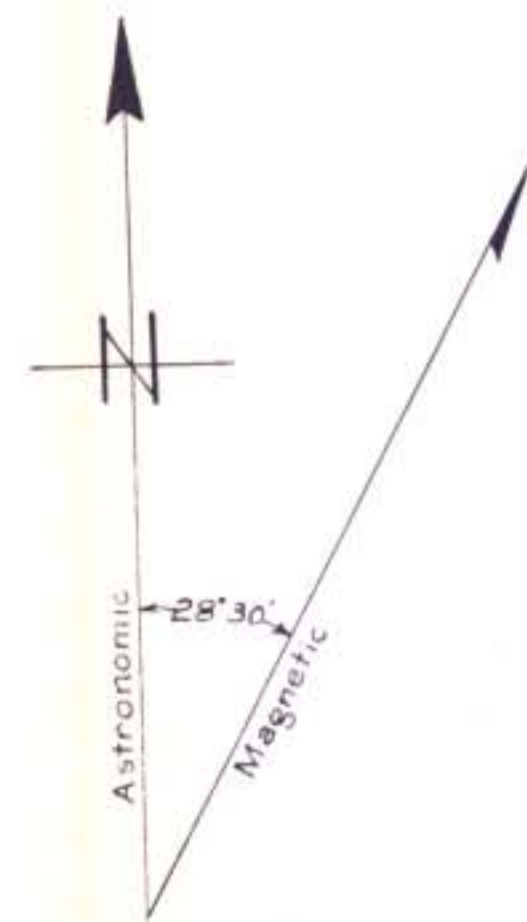
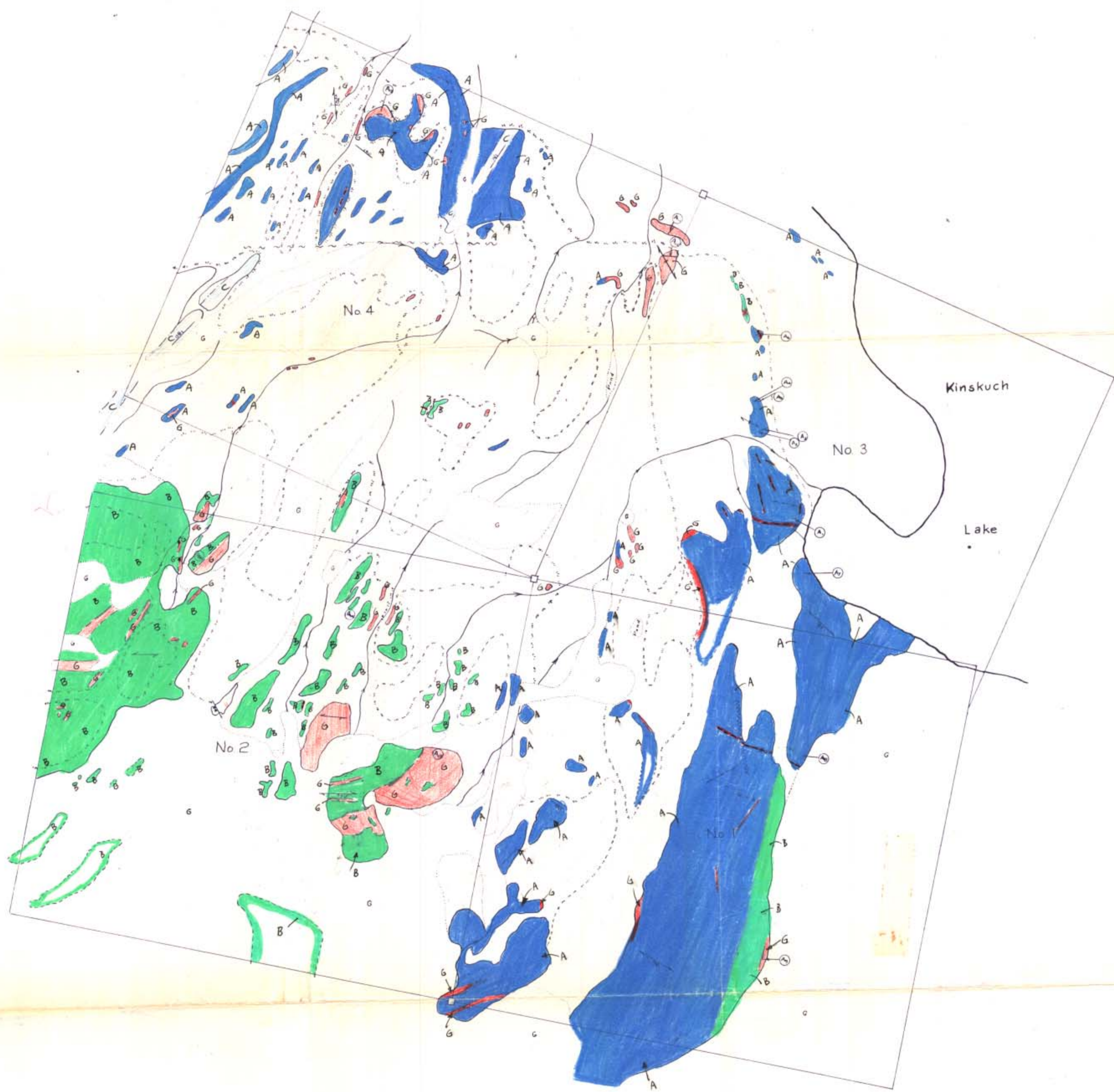
(R.B. Elver)

Supervised by:



James A. Soles
Registered Prof. Geological Engineer
Province of British Columbia

- - -



LEGEND

- Recent Glacial and Alluvial Deposits
- Dikes
- Flows
- HAZELTON GROUP**
- Rhyolite-Dacite Series
- Light grey aphinitic extrusive
- Dark green aphinitic extrusive
- Gossan
- Fault Assumed
- Shear
- Flowage
- Rock Outcrop
- Inaccessible
- Rock Contact
- Glacier and snow
- Stream
- Ridge
- Sampled Area

Draughted by ARWatt
 Report by R.B. Elver
 August 1956

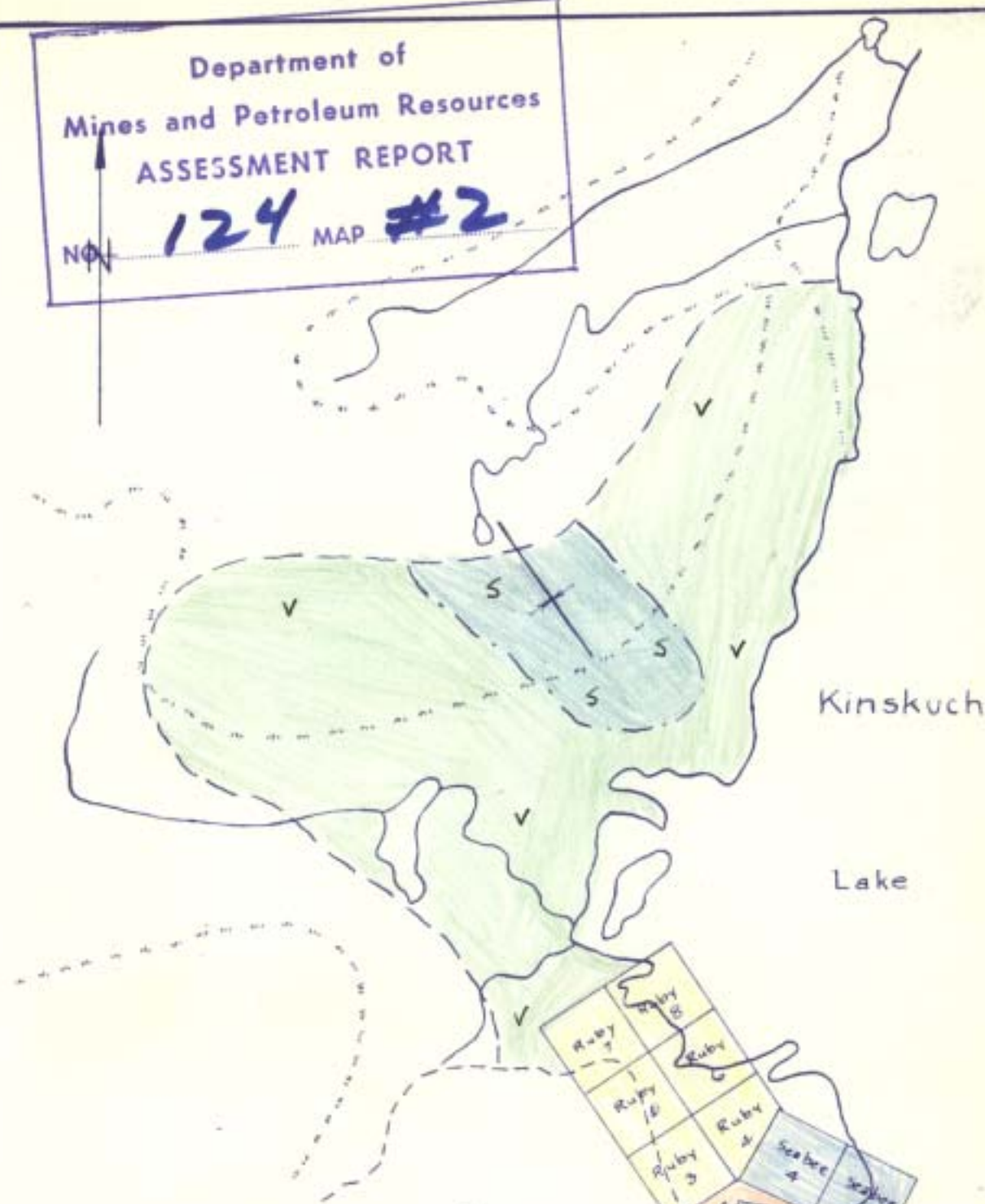
SPES EXPLORATIONS LIMITED
 PRELIMINARY GEOLOGY
 OF THE
SEABEE CLAIMS
 KINSKUCH LAKE B.C.
 Scale. 1 inch = 200 feet

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. **124** MAP **#1**

#124
 MAP 1

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. **124** MAP **#2**



Reconnaissance Geology
Scale 1 inch = 3000 ft Aug 1956

- Hazelton Group
- Volcanics Area Prospected
 - Sediments Contact