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ATLAS EXPLORATIONS LIMITED  
(N. P. L.)

330 MARINE BUILDING  
355 BURRARD STREET  
VANCOUVER 1, B.C.

REPORT ON THE TAGISH PROJECT  
AN ATLAS-NIPPON JOINT VENTURE

The Tagish Project involved a geological-geochemical reconnaissance of three areas in the Taku Arm Region of Tagish Lake, B.C. The areas of interest were:

- (a) Approximately 2 miles SW of the mouth of Wann River,
- (b) Brownlee Lake Area - the west side of Taku Arm,
- (c) Edgar Lake Region.

This reconnaissance took place during the period August 14-25 and involved geologist K. Kirkland and samplers N. Newsom and J. Harper. The plan was for soil and silt sampling to be carried out over as extensive an area as possible. In the region SW of Wann River no soil sampling was accomplished as the ground was unsuitable for good sampling, but the other areas were both soil and silt sampled.

Soil samples were taken on a contour line basis at the Brownlee Lake area and along regional lines in the Edgar Lake area. Sample interval 500 ft.

Silt samples were taken at 500 ft. intervals up all creeks. Samples were also taken where soil lines or geology traverses crossed the streams.

A total of 125 soil samples and 259 silt samples were taken in the three areas.

Outcrop was less than 5% (overall) in the three areas so structure interpretation is almost nil.

All moves were accomplished with GNA Beaver aircraft based in Atlin.

SOUTH TAGISH AREA - Aug.14- Aug.19

A three man camp was set up on the south shore Taku Arm, Tagish Lake, in a large bay approximately 2 miles west of the mouth of the Wann River. Originally it had been planned that the camp be set up at the mouth of the Wann River, but the area was occupied by Idaho Silver Mines Ltd. so an alternate base was chosen. It was later learned the alternate area was also on the Idaho Silver property (Zuk mineral claims).

The purpose of the camp was to do a geological-geochemical reconnaissance of the area.

Geochemistry

All creeks in the area were silt sampled at 500 ft. intervals. All creeks draining into Tagish Lake within 1½ miles east, and 2 miles west of camp were sampled.

A total of 143 silt samples were taken during the 5 day period. The locations of all samples were plotted on vellum air photo overlays at a scale 1" = ½ mile.

The area was not soil sampled as the ground was unsuitable (little soil and usually very high organic content).

Geology

The major lithologies in the area are: coarse grained Biotite Granite (granodiorite), Biotite-Felspar Gneiss and Biotite schist. Minor meta-quartzite and limestone are also present.

The intrusive occurs as a NW-SE trending body approximately one mile in width. The gneiss and schist flank the intrusive to the west, gneissosity generally conforming to the trend of the intrusive but in places folding was noted in the metamorphic rocks so attitudes do vary somewhat. Minor meta-limestone and meta-quartzite were present with schist to east of camp.

Two small outcrops of Biotite schist were noted on the west side of the granitic body. These may mark the intrusive-metamorphic boundary or may only be outliers of metamorphic rock surrounded by intrusive.

Pyrite was present in all lithologies, occurring in quartz veins and as disseminations within the host rock.

An old prospect pit one mile east of camp contained a 4" wide quartz vein with minor (< 1%) galena and pyrite, but no other mineralization of economic significance was noted in the area.

#### BROWNLEE LAKE AREA - Aug.20 - Aug.21

Two days were spent on a geology-geochemical program working out of a camp at the east end of Brownlee Lake.

#### Geochemistry

The area around Brownlee Lake has few creeks so that silt sampling program was hampered. Most of the eighteen silts obtained came from the region east of camp, near Lowry Lake. Drainage on the north side of Brownlee Lake was poor, so soil samples were taken on a contour-line basis; 22 soil samples obtained.

### Geology

Outcrop exposure is poor in the area but three lithologies: siltstone, calcareous conglomerate (matrix and many fragments are partially calcareous) and green-grey andesite were noted. The andesite is usually homogeneous and fine grained but in places small feldspar phenocrystals are present.

No geologic contacts were observed but the outcrop pattern suggests a NW-SE trend of the lithologies.

Minor dissemination occurred in the siltstones and andesite and a pyrrhotite-bearing silicified zone occurred on the south side of Brownlee Lake but no mineralization of economic significance was noted.

A large fault just west of the camp trends NW-SE, the type and amount of displacement are unknown. Due to the short time available, no geology traverses were made to the west side of the fault.

### EDGAR LAKE AREA - Aug.22 - Aug.25

Work in this area was completed from a camp on the west side of Edgar Lake, just south of the Wann River outlet. Three and one-half days were spent on geochem and geology traverses.

### Geochemistry

Both soil and silt sampling programs were carried on in the region.

Eight regional soil sampling lines were completed. These lines ran east-west and were sampled at 500 ft. intervals. The lines were 1000 ft. apart. 103 soil samples were obtained.

Silt samples were taken at 500 ft. intervals up creeks and tributaries and samples were also taken where soil sample lines or geology traverses crossed the streams. 98 silt samples.

### Geology

The main lithology in this area is a reddish-grey augite-feldspar andesite (?) porphyry. This rock type was present throughout most of the area west of Edgar Lake. Alteration and mineralization were not seen in the andesite.

A dark grey, impure limestone with 10-15% coarse white calcite as pods and veinlets occurred as a series of outcrops along the west side of the Wann River and the northwestern margin of Edgar Lake. No mineralization or alteration noted.

Two small outcrops of hornblendite were observed in the area. Both of these occurred more than one mile northwest of camp. One of the outcrops contained only minor disseminated pyrrhotite, less than 1%.

A prospect pit had been sunk on the other outcrop. Abundant pyrrhotite, in places massive, with minor disseminated chalcopryrite were present in the hornblendite. Mineralization appeared to be local, centred around a 6" wide shear zone. No other mineralization was noted.

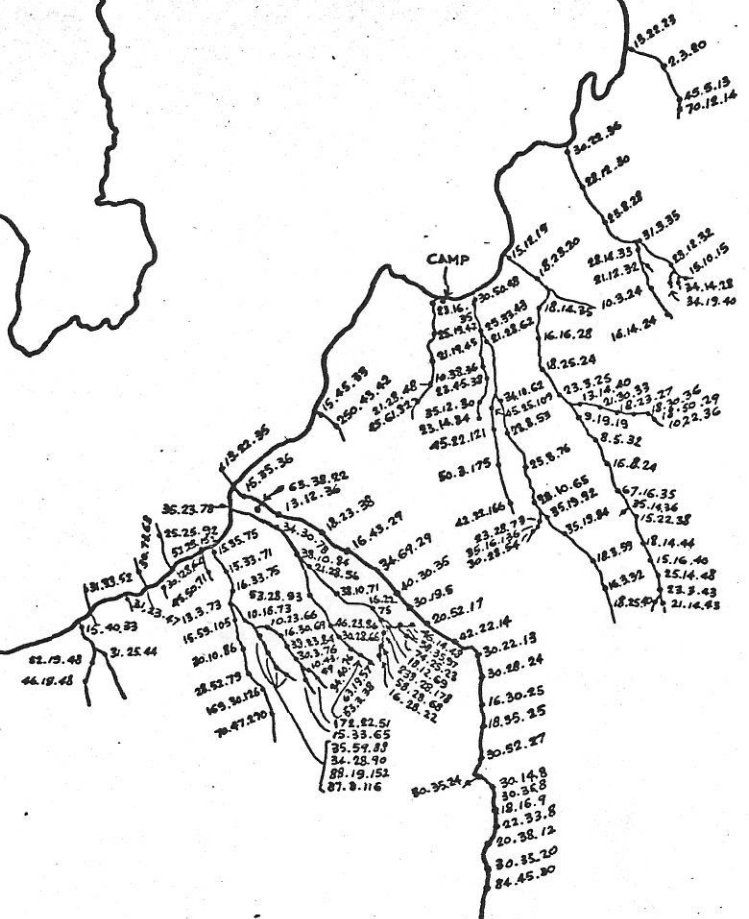
K. Kirkland

Aug. 30, 1968

TAKU ARM

WANN RIVER

CAMP



ATLAS EXPLORATIONS LIMITED

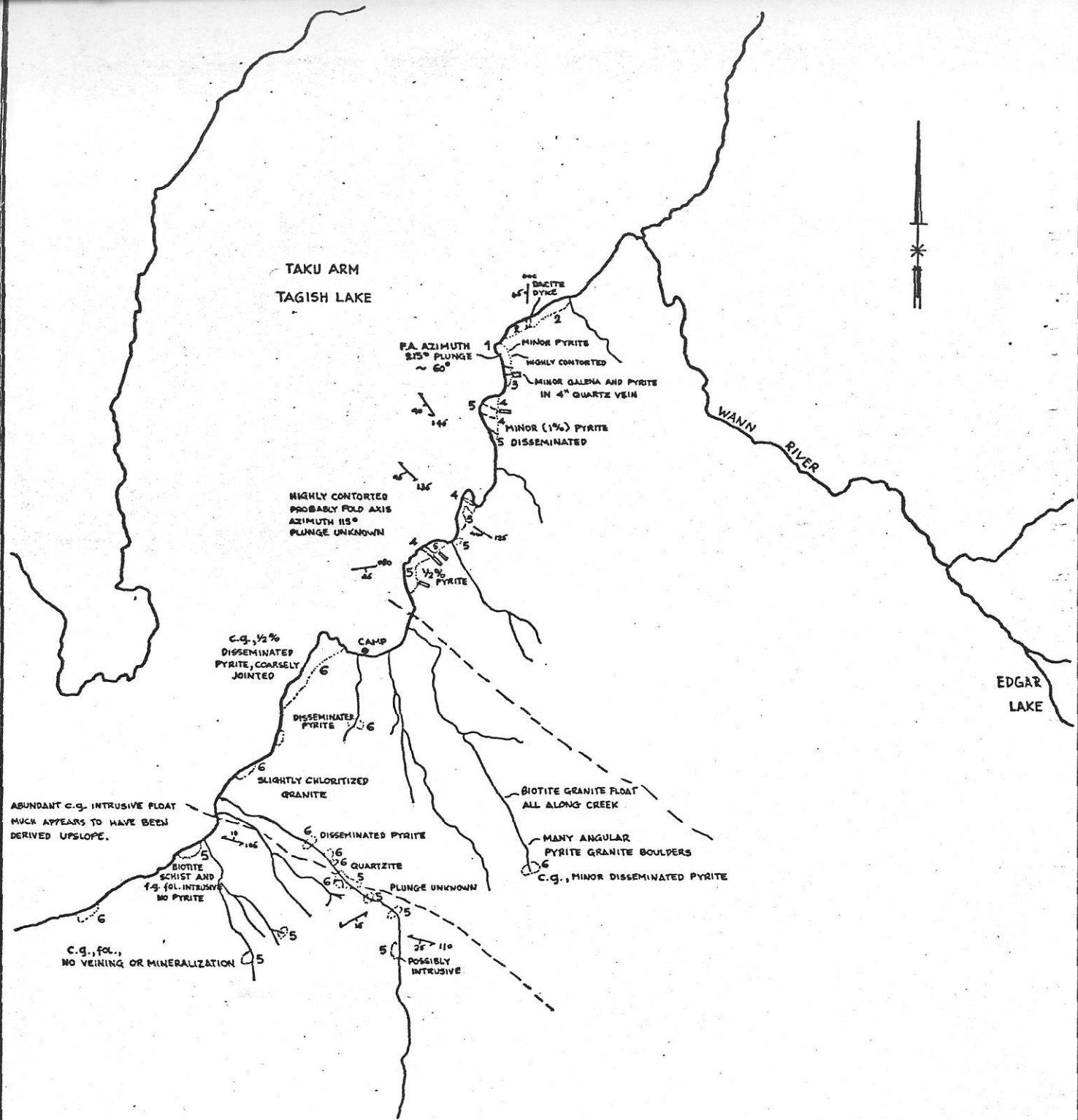
ROSS RIVER (Y.T.)

SOUTH TAGISH LAKE AREA (B.C.)

GEOCHEMICAL SILT SAMPLE SURVEY  
VALUES



N. NEWSOM  
SILT SAMPLERS: J. HARPER  
K. KIRKLAND

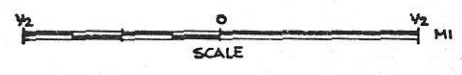


LEGEND

- |  |   |                             |
|--|---|-----------------------------|
| POST LOWER JURASSIC<br>CONST. INTRUSIONS | 6 | BIOTITE GRANITE             |
|  | 5 | BIOTITE SLIST               |
|  | 4 | BIOTITE FELDSPAR GNEISS     |
| PRE-PERMIAN                              | 3 | META LIMESTONE              |
|  | 2 | QUARTZITE(?)                |
|  | 1 | FINE GRAINED META-SEDIMENTS |

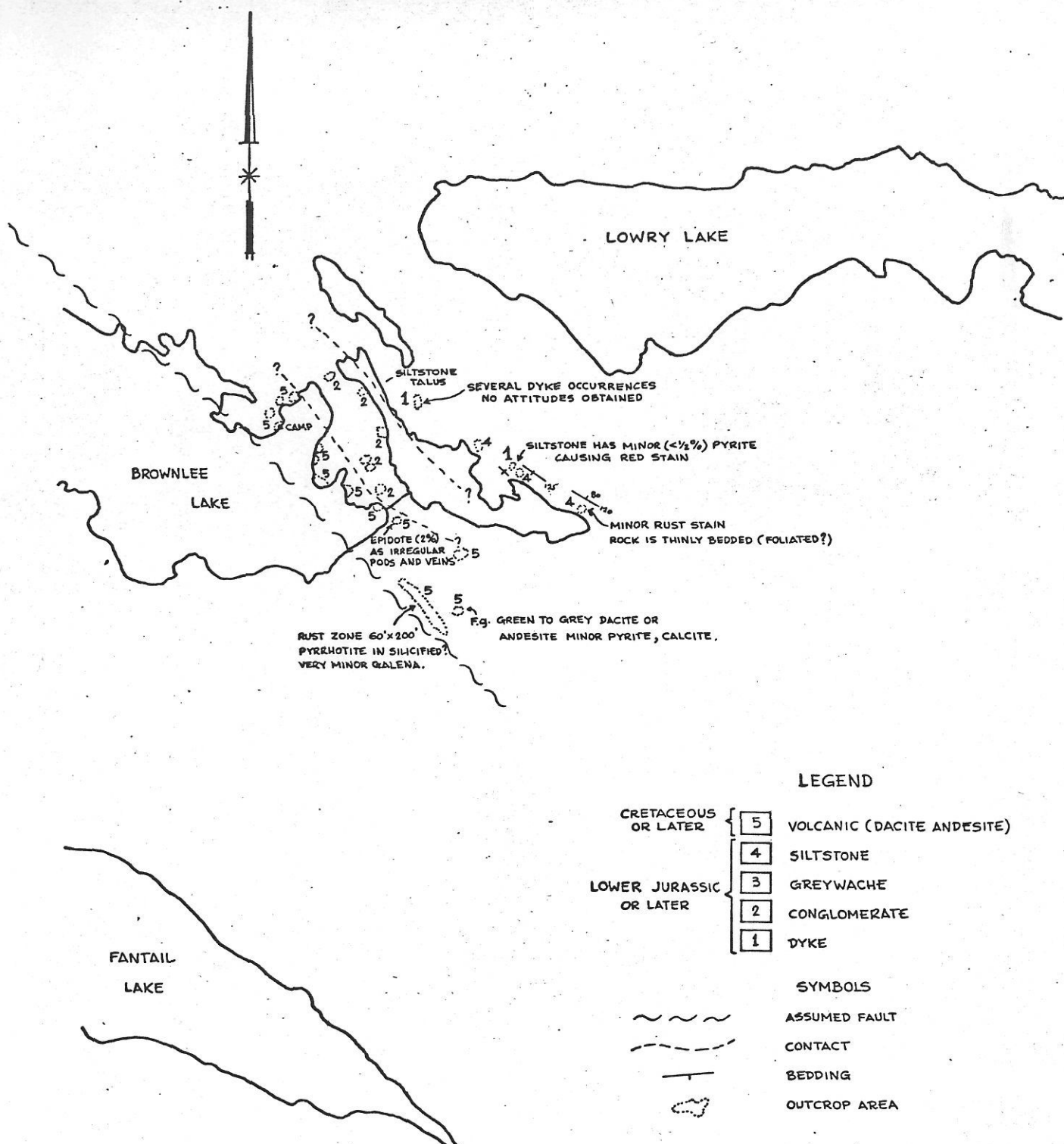
- SYMBOLS
- OUTCROP LIMIT
  - FOLIATION
  - BEDDING
  - CONTACT
  - PROSPECT PIT

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 SOUTH TAGISH LAKE AREA (B.C.)  
**GEOLOGY**



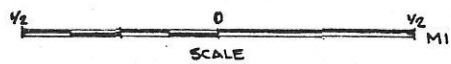


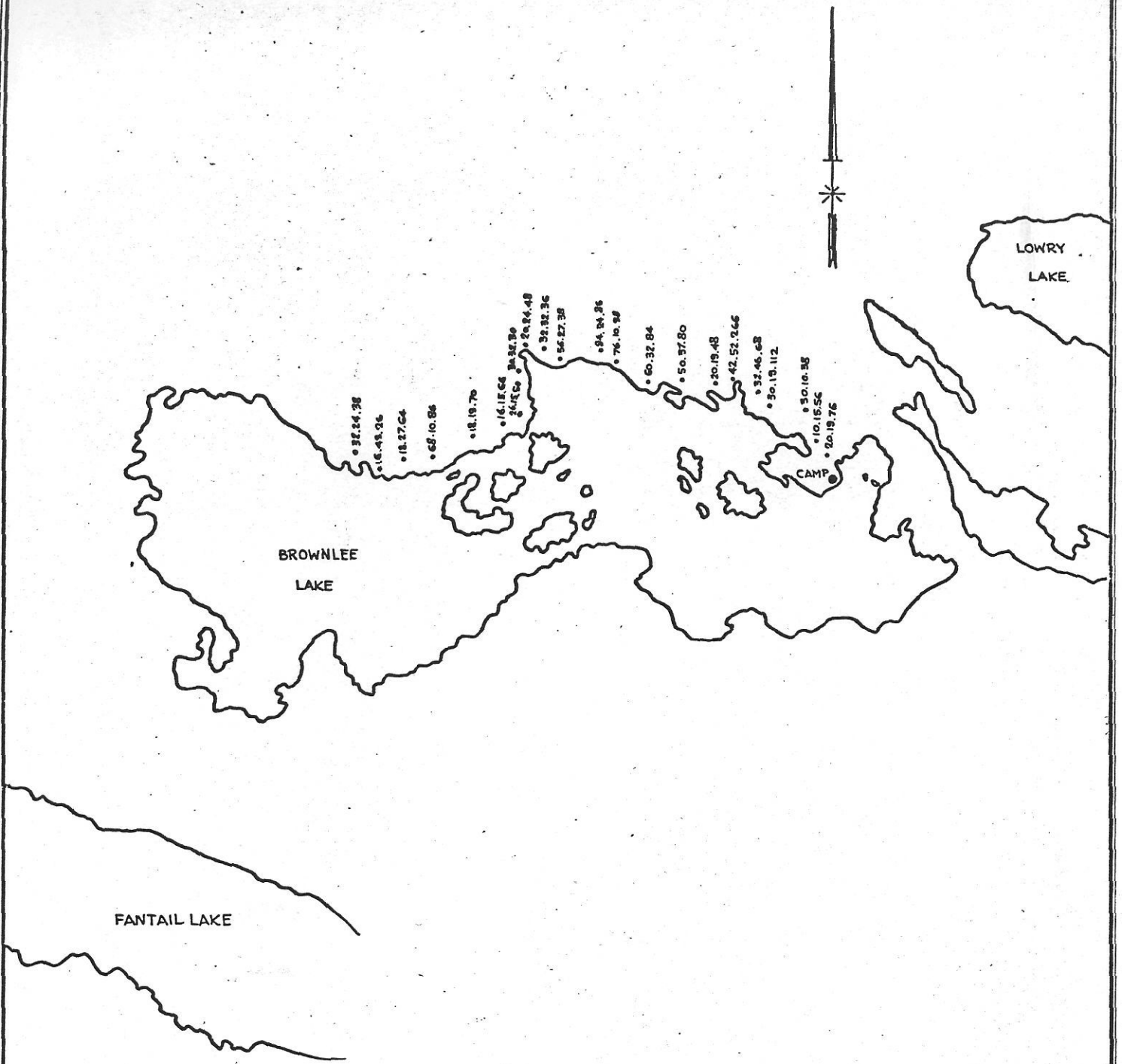




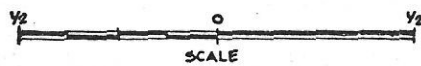
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GEOLOGY





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 GEOCHEMICAL SOIL SAMPLE SURVEY  
 VALUES



SOIL SAMPLER: N. NEWSOM  
 DATE: AUGUST 21, 1968

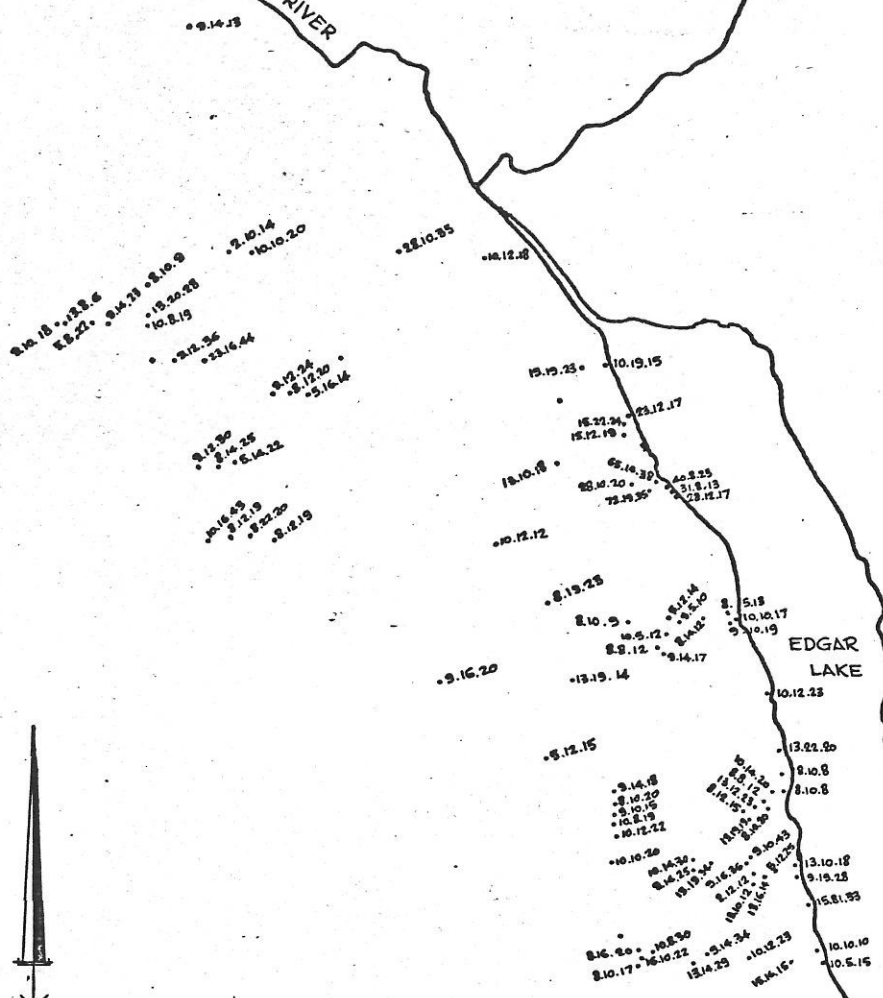


TAGISH LAKE

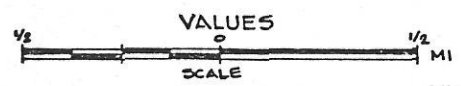
WANN RIVER

EDGAR LAKE

NELSON LAKE



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 ROSS RIVER (Y.T.)  
 EDGAR LAKE AREA (B.C.)  
 GEOCHEMICAL SILT SAMPLE SURVEY

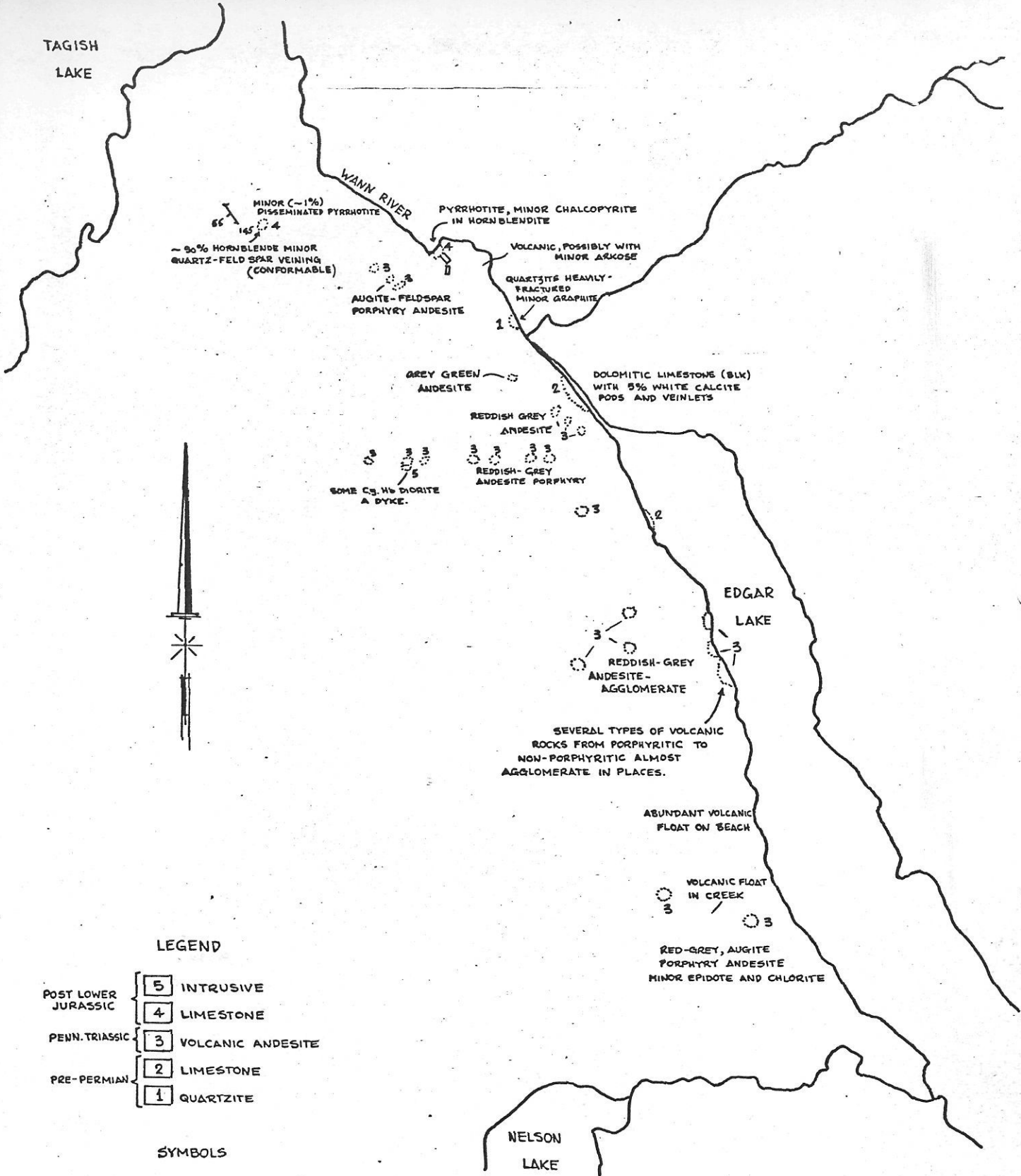


SAMPLERS: J. HARPER  
 N. NEWSOM  
 K. KIRKLAND

DATE: AUGUST 25, 1968



TAGISH LAKE



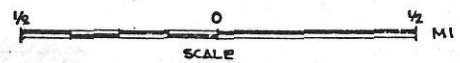
LEGEND

POST LOWER JURASSIC	}	5	INTRUSIVE
		4	LIMESTONE
PENN. TRIASSIC	}	3	VOLCANIC ANDESITE
		2	LIMESTONE
PRE-PERMIAN	}	1	QUARTZITE

SYMBOLS

	PROSPECT PIT
	GNEISSOSITY
	OUTCROP AREA

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GEOLOGY



GEOLOGY BY: K. KIRKLAND  
DATE AUGUST 22, 1968