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BIN GROUP

PROJECT #117

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The BIN GROUP contains 8 claims comprising a total of 216<sup>116</sup> units. They are located southwest of Benta Lake and north of Getzani Lake (map 93 F/13+14). The property can be reached either by following a gravel (year round) road west from the western end of Fraser Lake, or travelling south from Burns Lake, across the ferry at Francis Lake and following a gravel (year round) road past Uncha Lake. Access within the property is facilitated by two logging trails, the western trail requires a 4x4 all summer; the eastern trail is possible only by mid to late summer.

The geology has been mapped on air photos (1" =  $\frac{1}{4}$  mile).  
Five north-south geochemical soil sample lines are plotted (1" = 200 meters)



## ROCK UNIT DESCRIPTIONS:

### SYENITE

The syenite appears at the southern edge of the BIN group in two ~~types~~ outcrops 77CB 58 and 59. Outcrop 58 <sup>is</sup> ~~forms~~ a ridge trending northeast. Here the rock is medium grained with about 10% quartz crystals and about 30% large (2cm) phenocrysts of orthoclase. Since the matrix probably contains more quartz, this particular outcrop could be better described as a quartz syenite.

Outcrop 59, which is 2000 meters further west, near Ytzeini Lake is much finer grained <sup>and has</sup> much fewer orthoclase phenocrysts. Thus this particular outcrop would better be described as a trachyte.

### RIHYODACITE

This rock unit is fine grained and varies in composition (according to color index) from a rhyolite to a dacite. The actual color varies from a faint greenish to ~~green~~ reddish color. Generally it is relatively massive and homogeneous except near the eastern side of the property (BIN 7, 2E15) where plagioclase phenocrysts are abundant (15%).

Sample 77CB 48 displays abundant ~~the~~ <sup>thin</sup> manganese staining, producing thick, lustrous encrustations.

The rock may be extensively sheared as shown by sample 77CB 46, or brecciated as in sample 77CB 52.



## TUFF (CRYSTAL)

This rock unit is scattered throughout the BIN group, probably between the rhyodacite and tuffaceous rhyodacite units. It is characterized by its massive, earthy texture and whitish to cream color. Within it are small (<1cm) clasts (pyroclasts?) of feldspars(?) and quartz. These are generally well rounded and make up about 5% of the rock.

## TUFFACEOUS RHYODACITE

This rock unit represents a mix of the tuff and rhyodacite units to produce thin, alternating layers. Judging ~~from~~ from the number of outcrops this unit is most voluminous superficially.

Typically the rock is characterized by thin (5mm) bands of reddish rhyodacite and white ash/pyroclasts(?) spherules. These spherules appear to be alterations from a crystalline or glassy substance, and often, appear to amalgamate to form ~~more~~ continuous ash layers.

Occasionally the reddish rhyodacite portions <sup>penetrate</sup> the ~~ash~~ tuffaceous portion (90:10). In these cases the rhyodacite acquires the spherulitic texture; seen in sample 71CB39.

As informed by Dr. Watson, this is probably not a tuffaceous rhyodacite but rather a spherulitic glass unit with layers of devitrified glass representing the white layers.

## CONGLOMERATE

This unit is <sup>for</sup> more complex and variant.

The clasts are of a wide composition; from volcanic, to intrusive, to cherty, to conglomeratic. The proportions vary from clast supported with about 10% matrix to matrix supported with about 80% matrix. The clast vary <sup>in size</sup> from angular to rounded, and ~~from~~ in size from 10cm to about 5mm.

Sample 77CB 8 exhibits subangular to angular clasts that range in size from 3cm to 0.5cm. The matrix is whitish, fine grained and uniform; probably tuffaceous in nature. One hundred meters to the east is outcrop 77CB 38 in which the clasts are similar but slightly smaller and less numerous. The <sup>best</sup> matrix however is quite different. It has 0.5mm size <sup>green</sup> grains in a light green <sup>interst</sup> matrix, probably of the same composition. The origin is as yet unknown, either a felsic volcanic or a greensand.

Sample 77CB 51 is similar but the clasts appear to be more rounded. To the immediate south along the outcrop trend sample 77CB 49 displays no apparent clasts, just green matrix. Elsewhere the green matrix is red; this may be a function of heating or weathering.

Farther northwest at sample 77CB 42 the green rock appears as clasts within a polymictic conglomerate.

Again, as inferred by Dr. Watson, this unit is a volcanic unit, the clasts could either be pseuditic in nature, or clasts as in an agglomerate. The green matrix is glass, the dark green "grains" being centers of devitrification. Pearlitic texture is abundant on the western outcrops. Even some obsidian was found but generally the glass is of a

hyalitic composition

## STRUCTURE:

On a gross scale, it appears as though the lithologies are nearly horizontal with a slight dip to the southeast. However the deformed glass layers in the "tuffaceous rhyolite" horizon and the laminations in the crystal tuff (eg 77CB50) exhibit steeply dipping to vertical dips. Thus, either the gross structure is much more complex than envisaged, or these steep dips are on an outcrop-scale only.



## Mineralization:

No mineralization was observed, however reconnaissance silt samples, follow-up silt samples and scintillometer values suggested abundance of uranium. The silt sample results are plotted on the air photos, the highest value being 110 ppm. U.

A Scintillometer survey was unable to detect any major differences between lithologies, all were approximately 3 times normal background. The range of values for this particular scintillometer are:

normal background	60 cps
BIN background (swamp and overburden)	90-120 cps
BIN outcrops (held at hips)	150 cps
BIN outcrops (held against rock)	150-280 cps

Note that the ~~most~~ majority of the outcrops may have extensive leaching, therefore, a totally fresh outcrop may respond considerably higher.

Hand samples were unable to change the reading, except if quite large. The highest values obtained was at outcrop 77CB 41 which belongs to the tuffaceous rhyolite unit. It is peculiar in that it is brecciated with a purplish coloured matrix. The tuffaceous rhyolite may be sandstone in the ~~red~~ purplish intrusive. Hand samples (about 6cm diameter) are able to motivate the scintillometer about 10-40 cps higher than background.

## DISCUSSION:

These acid volcanics are rich in uranium, not as a host rock, but as a source rock. This property appears to fit a possible leaching model whereby uranium may be leached from the acid volcanics either by circulating groundwater or surface water. The model envisages a possible host rock unit either beneath or around (laterally) the acid volcanics. Ideally the host rock would be high in organics which would absorb the uranium circulated by water.

With this model in mind the following procedures are suggested:

- 1) an investigation of unit 10 (G.S.S. map <sup>H.W. Tipper</sup> 1131A) to the south east of the BIN GROUP. This is a Tertiary unit of volcanics plus some sediments (conglomerate, quartzite, lignite). Thus this could be an ideal host rock.
- 2) A relatively deep valley passes through the central region of the property, in which no outcrop was observed. Further detailed mapping is suggested in attempts to find some underlying rocks, especially in this valley. Geophysics and continued geochemical surveys may be useful.
- 3) investigation of surrounding areas:
  - a) north beyond Binta Lake in unit 9 (G.S.C. map) - the date has not been investigated even on a reconnaissance level
  - b) west and south in the low areas - note 2 high values were obtained south of Getzani Lake.



This would extend as far west as the west end of Ucha Lake, southwest to Ilgiteyug Lake and south to the far side of Ootsanee Lake.

③ unit 11 (GSC map) especially to the south in the general vicinity of Ilgiteyug Mtn and the hills to the east. Note that a high value was obtained south of ~~Atk~~ Slaska Mtn in unit 11. An attempt was made to follow it up but it was unsuccessful in locating the proper(?) drainage and good outcrop. This should be reinvestigated.

