



WEST--CENTRAL BRITISH COLUMBIA

BABE GOLD PROSPECT QUEEN CHARLOTTE ISLANDS (103F/9E)

By A. Sutherland Brown and T. G. Schroeter

The Babe prospect, that now consists of approximately 102 claims and fractions including BABE, RIC, and BEE, was visited independently by the writers for brief visits. The showings are on a hill overlooking the lowlands of the Yakoun River, 17.6 kilometres south of Port Clements.

It was discovered by Efreem Specogna and Johnny Trico while prospecting along the trace of the Sandspit fault zone. They were attracted to the locality by a visible jarositic-coated bluff in which veins were visible but sulphides were sparse. Fortunately, they sampled veins and wallrocks which had some gold values. They located the property in 1971 and optioned it first to Kennco Explorations, (Western) Limited who conducted silt and soil surveys and geological mapping, and drilled two packsack diamond-drill holes totalling 55.2 metres. The geochemical surveys (Assessment Reports 2890 and 3517) reveal a considerable mercury anomaly as well as weak gold and arsenic anomalies of crudely annular shape. Since the Kennco work the property has been optioned repeatedly – to Cominco Ltd., Canex Placer Limited, Silver Standard Mines Limited, and from the latter to Quintana Minerals Corporation. In 1972 Cominco drilled nine holes shown on Figure 12, totalling 500 metres. Quintana drilled four packsack diamond-drill holes totalling 57 metres and 16 percussion holes totalling 623 metres in 1974 (Assessment Report 5284) and also undertook a considerable program in 1975.

REGIONAL GEOLOGY

The Babe property is situated at the boundary between the Skidegate Plateau and the Charlotte Lowlands – the locus of the Sandspit fault. The precise location of the main strand of the fault is not obvious in the vicinity of the property. West of the fault is an area underlain by gently west-dipping rhyolite ash flows of the basal Masset Formation of Early Tertiary age, which unconformably overlie folded argillites of the Queen Charlotte Group of Cretaceous age. East of the main strand of the fault is a lowland largely covered by Pleistocene and Recent deposits with some exposures of poorly consolidated sands of Mio-Pliocene Skonun Formation along the Yakoun River.

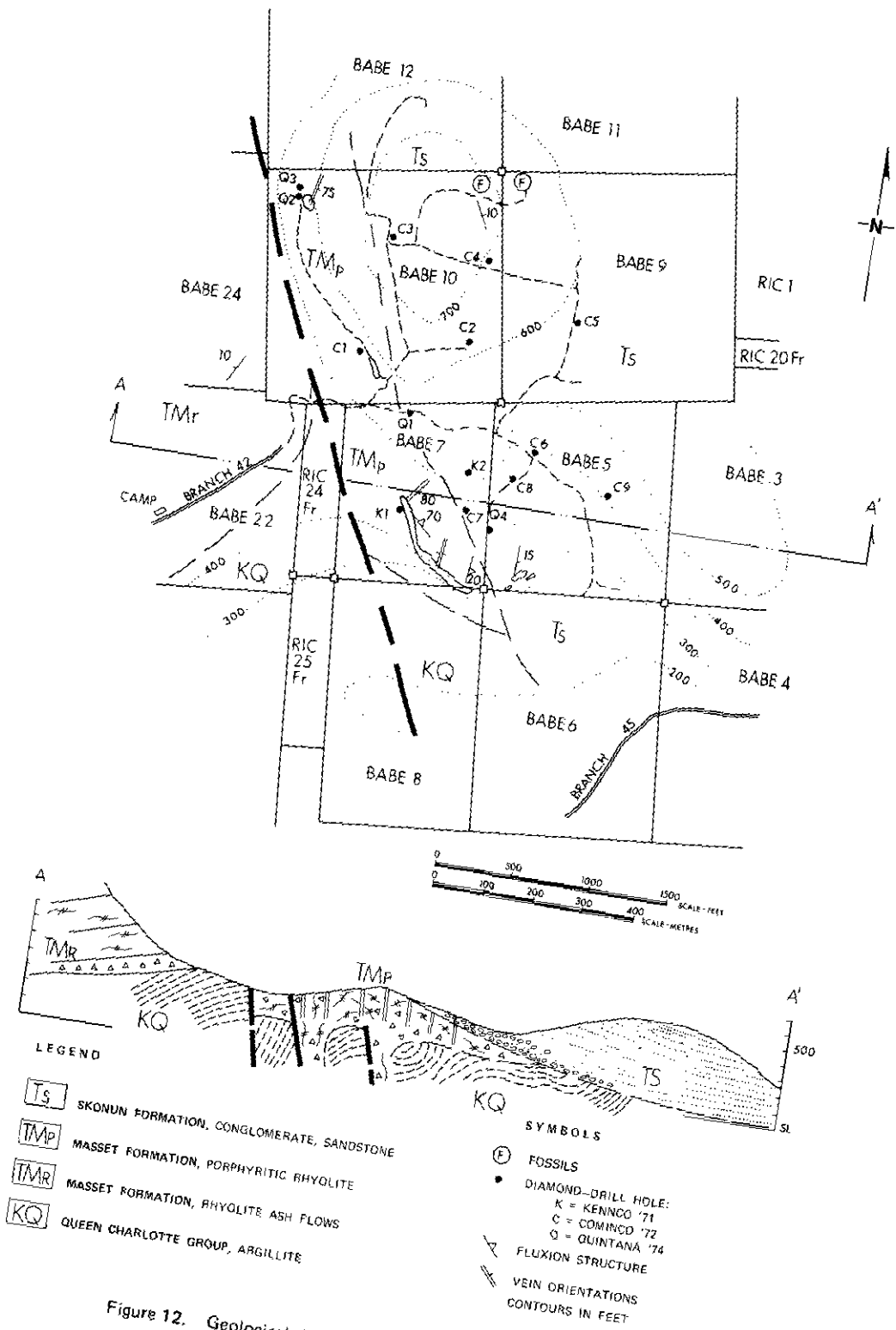


Figure 12. Geological sketch map and section, Babe gold prospect.

GEOLOGY OF THE CORE CLAIMS

The units previously described all occur within the core of the Babe claims shown on Figure 12. Outcrop is sparse in hills east of the scarp of Masset Formation, and virtually non-existent in the lowlands. Exposure on the well-forested hills is limited to the bluff along which a trench has been blasted south of Kennco DDH 1, some bulldozed trenches, and rare natural outcrops. No drill core was available for either writer to see.

The bluff outcrop is freshly exposed and is the most revealing exposure of the rhyolite porphyry body within which the deposit occurs. The exposure on the Babe 7 claim is about 210 metres long and the rhyolite here exhibits a highly varied character. The least modified rock is a very fine-grained porphyritic rhyolite which is composed of about 5 per cent phenocrysts of partly resorbed quartz up to 4 millimetres in diameter together with fewer and smaller, completely kaolinized and silicified feldspars. Primary fluxion structures are evident in some specimens which resemble the eutaxitic textures of collapsed pumice fragments in ash flows. These laminae now consist of streaks of fine mosaic quartz. Commonly the rhyolite porphyry is brecciated with fragments as large as 15 centimetres across contained in a white to black siliceous matrix. Exotic fragments of argillite or charred wood may be present and even abundant.

Along the bluff most of the rhyolite is brecciated, and exhibits both primary and secondary fluxion structures in fine breccia. In general primary fluxion structures are oriented northwestward and dip steeply, but at the southeast end of the bluff they strike northward and dip about 20 degrees eastward. In this vicinity there are abundant flattened clasts of wood that have been charred in place and infilled on dessication by cherty mosaic quartz. Throughout the length of this trench there are numerous multiple quartz veins that strike northward and dip steeply. These veins are true fissures up to 1 metre wide with outer white crystalline quartz and inner cherty quartz that exhibits cockade structure and patterned combs coated with spongy chalcedony. The lineations of the patterns in the comb structures tend to be either vertically or horizontally oriented. Relatively minor sulphides occur in the veins but adjacent silicified breccias particularly the dark matrix breccias carry fine pyrite and marcasite. In addition to the major veins a fine quartz stockwork is commonly evident that merges in places into zones of complete silicification. Gold mineralization is not visible but is present principally in the dark silicified breccias where it occurs with marcasite rather than within the veins.

To the northwest a few exposures of porphyritic rhyolite occur. The largest outcrop, called the Marino showing by Specogna, is at the northwest part of the Babe 10 claim. Here buff-coloured, rusty weathering rhyolite porphyry that is relatively unsilicified or textured is cut by a stockwork of very fine cherty quartz veinlets. The larger veinlets are commonly about 2 centimetres wide and these strike north 20 degrees east and dip about 75 degrees eastward. Smaller veinlets are randomly oriented. The main stockwork veinlets have margins of fine sugary quartz that have visible fine spongy gold in interstices. The inner part of the vein consists of fine clear quartz some of which is chalcedonic.

On the Babe 5 claim nearly 100 metres to the east of the end of the bluff trench are some other blasted outcrops that superficially resemble the rhyolite since they consist largely of clasts of rhyolite, many of which however are rounded. The rocks are crudely bedded, striking northward and dipping 15 to 20 degrees to the east. They may be compact with the clasts cemented with silica or very much less lithified. Exotic granitic clasts as well as argillite occur. Veinlets are very rare and appear to be mostly chalcedonic. No large multiple veins were observed. Cubic pyrite grains up to 2 millimetres on an edge are relatively common in the siliceous matrix and as replacements of certain clasts. The writer interprets these rocks as belonging to the Skonun Formation.

Along strike on the hilltop scattered outcrops and trenches expose siliceous sandstones identical in petrographic character to those of the Skonun Formation at the type locality although they have a siliceous matrix. In a number of localities these contain casts of clams mixed with leaf fossils that resemble alder leaves. Good specimens could not be collected but the assemblage closely resembled those typical of the Skonun Formation (Sutherland Brown, 1968, pp. 118-127). Rare small cherty veins occur in these sandstones.

TENOR OF MINERALIZATION

The mineralization observed has been described previously with the rocks. In the bluff area mineralization is contained within the brecciated wallrocks. It is highly variable in tenor, ranging from trace to 50.7 ppm gold and 245 ppm silver in selected samples by the writers. At the Marino showing where the wallrock is virtually barren, Specogna has hand-cobbed vein material and shipped it to the Tacoma smelter. One shipment this year of selected vein material weighing 0.59 tonne assayed: gold, 559.3 ppm; silver, 228.5 ppm. Another weighing 2.43 tonnes assayed: gold, 115.6 ppm; silver, 51.68 ppm.

CONCLUSION

The Babe prospect is of interest from several aspects. The structural section shown on Figure 12 is the writers' interpretation. In our view the rhyolite porphyry and breccia is part of the Masset Formation of Paleocene age that formed a flow dome at the base of the unit and which is consanguineous with the rhyolite ash flows in the scarp to the plateau to the west.

The Skonun Formation overlapped the eroded flow dome at some later date. The age of mineralization appears to predate the Skonun onlap but it is not known whether it is closely related to the rhyolitic volcanism, or is younger, perhaps related to siliceous hot springs emerging from the regional fault. Some geologists feel that the rhyolite breccia intrudes the Skonun Formation. If this is the case the Babe prospect represents one of the youngest mineralizing events known in the Province.

REFERENCES

Assessment Reports 2890, 3517, 5284.

Sutherland Brown, A. (1968): *Geology of the Queen Charlotte Islands, British Columbia, Dept. of Mines & Pet. Res., Bull. 54.*