

TR3-70-72

Sampling of Nickeliferous Clay From Beaconsfield

by M. Z. Stefanski

During September, 1958, at the request of the Ben Lomond Mining Co., sampling of nickel-cobalt was carried out at the prospect near Beaconsfield. A small section of the laterite and the underlying clays were examined and sampled.

As the nickel deposits have been described already by the Senior Geologist, Mr. T. D. Hughes (1, 2, and 3) and tested and mapped by Consolidated Zinc Pty. Ltd., only a brief description will be given in this report.

The serpentine, which is the nickel-bearing rock in this locality, decomposes to form dark-blue and yellowish clays capped by chocolate-coloured laterites. A similarity with the New Caledonian nickel deposits has been observed. At Beaconsfield the nickel enrichment took place in the highly decomposed serpentines close to the "solid" serpentine, and the laterites overlying the decomposed serpentines (clays) become increasingly impoverished towards the surface where the nickel content drops to as low as 0.03 per cent.

Sampling was carried out in a 300 ft. trench recently excavated west of peg F25 and located on the Beaconsfield municipal water supply race from Anderson's Creek at its deepest cutting on the south-eastern flank of Barnes Hill (see accompanying map).

The samples were taken from the north-western face of the trench, from three spots over a length of approximately sixty feet. Samples were taken from two distinct types of rocks, namely the chocolate-coloured laterites and the well-weathered in situ serpentines forming blackish-blue and greenish clays. The two-foot overburden above the samples consists of lateritic soil with only traces of nickel.

As can be seen from the accompanying chemical analyses, the nickel is concentrated in the clay at the bottom of the trench. The most recent borings of Consolidated Zinc Pty. Ltd. have shown that the clay containing a little more than 1 per cent nickel is only 8-10 feet thick.

An analysis of the samples from three separate places in the trench showed:—

BEACONSFIELD NICKEL PROSPECT ANDERSON CREEK AREA

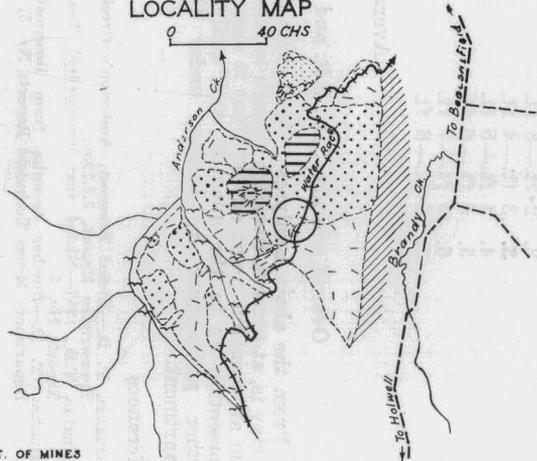
0 200 400 FT

Alluvium 
 Pleistocene Alluvium 
 Serpentine 

Quartzite 
 Laterite 
 Ferro-Chromiferous Laterite 

LOCALITY MAP

0 40 CHS



DEPT. OF MINES



SB 9"
 SA 8"
 SC 6"

F25

F24

g
 xB
 B
 E
 F

Water Race

M. Z. STEFANSKI
 REG. GEOLOGIST
 1958

5 cm

Figure 18

Chemical Analyses from Beaconsfield (Pitulej's Project)

Reg. No.	Description	Nickel %
		soil
957	1. 0 ft.—2 ft.	0.21
956	2. 2 ft.—3 ft.	0.39
955	3. 3 ft.—4 ft.	0.71
954	4. 4 ft.—5 ft.	0.66
	5. 5 ft.—6 ft.	
953	6. 6 ft.—7 ft.	1.17
952	7. 7 ft.—8 ft.	1.04
951	8. 8 ft.—9 ft.	1.17
950	9. 9 ft.—10 ft.	1.04
Average S.A.		0.69%

Reg. No.	Description	Nickel %
		soil
966	1. 0 ft.—2 ft.	0.03
965	2. 2 ft.—3 ft.	0.06
964	3. 3 ft.—4 ft.	0.33
963	4. 4 ft.—5 ft.	0.44
962	5. 5 ft.—6 ft.	0.60
961	6. 6 ft.—7 ft.	0.92
960	7. 7 ft.—8 ft.	1.28
959	8. 8 ft.—9 ft.	1.12
958	9. 9 ft.—10 ft.	1.22
	10. 10 ft.—11 ft.	
Average S.B.		0.64%

Reg. No.	Description	Nickel %
		soil
972	1. 0 ft.—2 ft.	0.38
971	2. 2 ft.—3 ft.	0.52
970	3. 3 ft.—4 ft.	0.45
969	4. 4 ft.—5 ft.	0.60
968	5. 5 ft.—6 ft.	1.15
967	6. 6 ft.—7 ft.	1.36
	7. 7 ft.—8 ft.	
Average S.C.		0.73%

Overall average S.A., S.B. and S.C. 6.69%

From the above analyses it is obvious that the nickel content in the clay is, at present, not high enough to justify further developments from an economic point of view, but it may be desirable to get more information as to the quantity and quality of the above field by further prospecting by boring, under the supervision of this Department.

References

1. Hughes, T. D.—Nickel Prospect, Anderson's Creek Area, Department of Mines Typewritten Report, 3.8.1956.
2. Hughes, T. D., 1957—Nickel near Beaconsfield, Tas. Department Mines Technical Reports No. 1.
3. Hughes, T. D.—Further Samples from Beaconsfield Nickeliferous Clay, Tas. Department Mines Technical Reports No. 3, 1959.