

Appendix 2
Jukes Pty Reconnaissance

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Memorandum to: File

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Re: **Appendix 2 - Jukes Pty Reconnaissance: February, 2004**

The Jukes Pty low-grade mineralised alteration system is the largest obvious target area in the Queenstown – Mt Darwin project area, but past drilling and sampling limit the exploration opportunities, especially to the north where the King River Tunnel and Gorge cut through the system. The most obvious open direction is to the south where the system goes under the Owen Conglomerate at Proprietary Peak and Mt Jukes.

The southern-most exploration work includes rock chip sampling, mapping and the drilling of JP3 by Mount Lyell Mining and Railway (MLMR) in the 1980's. Mapping by C. Eastoe shows the chloritic alteration zone, which seems to be associated with the best grade mineralization, to be widening at a high intensity at the southern edge of exposure where it goes under the Owen Conglomerate. However the MLMR rock chip sample results from the same area were poor. It was decided to investigate this southern-most area to determine whether the MLMR mapping and sampling was reliable, and to take further rock chip samples if necessary. Also drillhole JP3 was inspected at the CMT core yard.

Ken Morrison and I did this work on 10th and 12th February, 2004. Firstly the JP3 drillsite was located (figure 1) and then we traversed across to and up the spine of the kspar-mt/hm (red rock) altered CVC spur to the southernmost edge of the system. There is a significant bench in the topography at this point (figure 2). Outcrop of the red rock in this area is very good and easily sampled. It was determined that the old MLMR grid and rock chip sampling had definitely extended right to the southern limit of exposure and would have been effective. Our random rock chip inspections across the good outcrop did not reveal any evidence of sulphide mineralization.



Figure 1: JP3 drillsite looking downhill (north-eastwards) to the road.

The chloritic alteration mapped by Eastoe occurs in the head of the gully on the south-eastern side of the red rock outcrop, and exposure is reasonable amidst thick scrub. The chloritic alteration zone is wider than further to the north-east, and very intense, but sulphides were located in the zone at only one location despite extensive hammering and hand lens observation. This sample was submitted for assay (sample number A190) with poor results (3ppb Au, 18ppm Cu, 164ppm Zn, 0.175% S and BLD for Pb, As and Mo). It came from a position 5m WNW of the probable CVC – Tyndall contact, which was located at 383,313E/5,330,764N (figure 3 and 4).

It was decided that because of the apparent reliability of the past MLMR rock chip sampling, and the lack of observed sulphides in our own random sampling that it was not worth carrying out new systematic rock chip sampling across the southern-most outcrop of the alteration system.



Figure 2: The southern, highest part of the Jukes Pty alteration exposure. The chloritic alteration zone lies in the head of the gully on the right.



Figure 3: Tyndall Group (left) – CVC contact

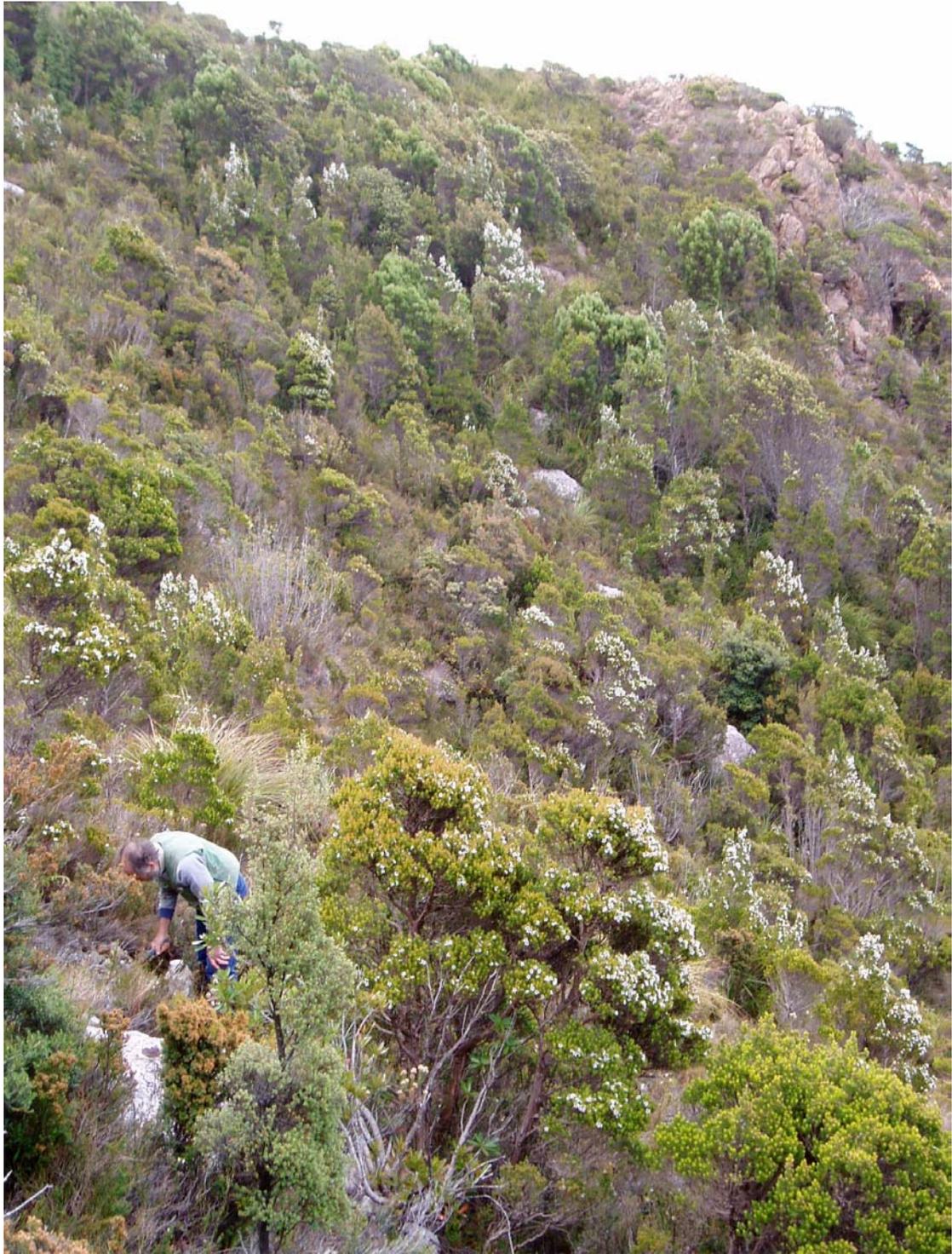


Figure 4: Looking west across the chlorite alteration to the top of the red rock alteration.

JP3 Scan Logging

The JP3 core presently resides in the CMT core yard racks in two portions: the upper, mostly uncut portion in the southern side of the racks and the lower, mineralised and assayed portion in the northern side of the racks. The core is in good condition but is very dirty and requires lots of scrubbing. CMT are keen for us to take the core off their hands.

We scan logged the lower portion only. Generally it was found that the old MLMR log of the core is good. There are three broad units in the hole:

? to 212.2m	Autobx rhyodacitic lavas and pyroclastics; weakly altered; probably Tyndall Group as has quartz phenocrysts.
212.2 to 267.7	Highly chloritised volcanoclastics with minor cpy; sheared upper contact; this corresponds to Eastoe's mapped intense chlorite zone.
267.7-351(eoh)	Autobx rhyodacitic lavas and pyroclastics; strongly hm altered; CVC red rock.

Cu mineralization is fairly persistent throughout the hole below 212.2m with intervals above a 1000 ppm cut-off as follows:

213-234m, 21m at 5,021 ppm
253-254m, 1m at 24,500 ppm
266-268m, 2m at 14,800 ppm
273-293m, 20m at 2,868 ppm
297-305m, 8m at 3,630 ppm

Figures 5-10 show representative parts of the core.

Calculations show that the significant contact at 212.2m was intersected at about 178m depth below the collar RL and about 115m horizontally from the collar. This means the contact dips eastwards. The hole penetrates the alteration system about 150m north of and over 300m lower in RL than the southern-most outcrop. These distances easily explain the difference in the level of mineralization in the hole compared to at the southern-most outcrop.



Figure 5: JP3 showing sheared contact at 212.2m of Tyndall Gp (brown) and highly chloritically altered zone (dark grey)



Figure 6: JP3 showing contact at 267.7m of chlorite alteration and red rock alteration.



Figure 7: JP3, 222-222.3m disseminated copper in the highly chlorite altered zone



Figure 8: JP3, 253m, the one metre at 24,500 ppm Cu



Figure 9: JP3, 274m Kspar-hm altered CVC cut by qtz-kspar veins, with later dissem cpy



Figure 10: JP3, 282m Kspar-hm/mt altered CVC, fractured, dissem cpy.

Conclusions

Rock chip results and observations at the southern-most limits of outcrop of the Jukes Pty alteration do not provide any positive indications that the level of mineralization improves southwards under the Owen Conglomerate cover.

The width of anomalous mineralization and alteration in JP3 is a positive indication that the system is open to the south.

If we extend the area covered by CSAMT to the north into the Mt Huxley to Mt Lyell area during the 2004-05 season then it is recommended that a line also be read across the southern-most exposed part of the Jukes Pty system. If results from this line were positive it would be possible to drill from locations uphill of JP3 or from the bench in the topography that can be seen in figure 2.

John Holliday