

## 5. SAMPLING PROCEDURE AND TREATMENT

- 5.1 Two pit traverse lines, namely Track 1 and Track 2, were laid out across the valley at locations 800 metres above and 300 metres below the Arthur River/Deep Gulley Creek confluence (refer Plan 2). Six pits were excavated on Track 1 at equal spacing of 40 metres. Along Track 2, which runs diagonally across the valley six pits were also dug but at variable distances of 40-100 metres apart.
- 5.2 Pitting was carried out to bedrock by an International Excavator machine. On the wall of each pit vertical channel samples were taken at 50 cm sections. An amount of 5 000 cubic centimetres of sample was collected in each section.
- 5.3 The section samples were individually dried and screened at  $\frac{1}{2}$  inch mesh. The  $-\frac{1}{2}$  inch fractions were split into two portions of which 50% was sent to Analabs (Aust.) Pty. Ltd. for tin analysis. The remaining 50% was further split, half of which being hand panned to yield heavy concentrates for examination. The second half of the latter together with the  $+\frac{1}{2}$  inch fractions are retained in the office at Waratah. All the sample portions had their weights recorded.
- 5.4 At Analabs the sample treatment involved crushing, pulverizing, splitting and sieving and finally XRF analysis for Sn. The results reported in ppm of Sn are converted into g per cu m after taking into account the  $+\frac{1}{2}$  inch proportion. It is favourably assumed that all the Sn content is present in physically free cassiterite grains.
- 5.5 The pitting method employed is suitable and considered accurate for sampling this type of shallow deposit consisting of coarse pebbles and boulders. Completion of the 12 pits over an average depth of 2.5 m in 2 days is considered satisfactory.
- 5.6 The assay procedure in the above Section 5.4 reports a total tin content, giving no information of the presence of the metal in physically free or locked cassiterite grains or as ionic form in other minerals. The method however provides rather fast assay results useful for this type of preliminary work prior to further drilling commitment. In normal practise it is desirable to treat the ground samples by field panning or laboratory gravity processing (e.g. shaking table, superpanner) for the recovery of the cassiterite concentrates. The concentrates are then subject to mineralogical analysis. The results obtained would yield information on the physical nature of the cassiterite grains and quantities of other economic minerals, which are important for metallurgical considerations.