

TR9-174

R. 402

26. QUEEN TIN MINE, ZEEHAN: VANNER CONCENTRATE

The sample of vanner concentrate received from Mr. Dunkley has been analysed with the following results:—

	%
Tin Oxide	37.9
Lead present as oxide	11.5
Lead present as sulphide	0.5
Total Sulphur	3.02
Sulphate (SO ₄)	5.59
Carbon dioxide	5.0
Acid Insoluble	23.6

The sample contains small quantities of acid soluble salts, amounting to 4.5 per cent. The lead is present substantially as anglesite, and the iron and carbonic acid indicate siderite. The probable mineral composition is—

	%
Cassiterite	37.9
Anglesite	16.8
Siderite	13.2
Pyrite	2.0
Galena	0.6
Acid Insoluble	23.6
Acid Soluble	4.5

The minerals other than tin, lead and iron minerals amounted to 27.4 per cent, and had a mean specific gravity of 2.6.

This grade of concentrate could be investigated for increase in grade with consequent reduction in penalties.

The anglesite (lead sulphate) can be separated by flotation or chemical treatment, and both methods could be investigated. If the light gangue minerals are not present as composites with tin or lead minerals, a fair proportion could be removed without sensible loss of tin.

Our report R.278-9, dated 14th January 1955, showed various grades and recoveries and the optimum financial return.