

TR1-64-65

R. 296

STOREY'S CREEK—VANNER CONCENTRATE

This report details sizing analysis of a trial vanner concentrate produced by treatment of jig middlings by rod mill grinding, classification, and the finer product concentrated on a vanner.

The sulphide content was stated to be very high and was removed by flotation prior to obtaining this sample for sizing.

A complete assessment of the operation of a vanner cannot be made without correct samples of feed and tailings, together with measurements of feed and water rates.

This sample has been sized to give some indication of the sizings and relative quantities which were concentrated. Wolfram is a very fragile mineral and, because of this, the sizing was performed by elutriation in water instead of air by infrasizer.

Fraction	Rising Velocity mm./sec.	Nominal Grain Size microns	Wght.	Per cent	
				WO ₂	Distn.
+ 200 mesh	....	+ 76	2.6	60.0	3.4
E.F. 1	6.17	— 76 + 40	1.4	61.0	1.9
E.F. 2	3.05	— 40 + 28	20.6	55.9	25.4
E.F. 3	1.54	— 28 + 20	34.7	44.4	34.0
E.F. 4	0.61	— 20 + 13	33.6	40.4	29.9
E.F. 5	0.19	— 13 + 10	1.4	44.6	1.4
E.F. 6	O/F	— 10	15.7	32.3	4.0
Composite	....	....	100.0	45.4	100.0

Fractions 1 to 5 settle at the velocities shown opposite the fractions and fraction No. 6 is the suspended solids at a rising velocity of 0.19 mm./sec.

It is noted that major quantities report in elutriated fractions 2 to 4 and for comparative interest the micron sizings shown are equivalent to hypothetical Tyler mesh sizes as follows:—

Hypothetical Mesh Range

Elutriated fraction 2	....	— 400 + 560
Elutriated fraction 3	....	— 560 + 700
Elutriated fraction 4	....	— 700 + 1300