7.2.2 Discussion

The performance of superpanning tests conducted on the sulphide middling and tailing products of Composites PC1, PC2, SC1 and SC2 is shown in Figs 8 to 11 respectively. Some of the features observed in these plots are outlined below.

For PC1 and PC2 the tin distribution in the five sized fractions was very similar having the maximum and minimum occurring in -53 and -75 +53 µm fractions respectively. The superpanning recovery of tin for the two samples was also similar throughout the size range and the best was attained in the -150 +75 and -75 +53 µm fractions. The highest grade of superpanner concentrate was obtained in the -150 +75 µm (16.7% Sn) and -53 µm (13.4% Sn) for PC1 and PC2 respectively. PC2 showed a progressive improvement in superpanning concentration with the finer size fractions.

For SC1, the maximum tin distribution occurred in the +250 and -53 µm fractions while the minimum was in the -75 +53 µm fraction. The superpanning recovery of tin was very poor throughout the five sized fractions with this sample and the best, of 54.2% (absolute), was also attained in the -75 +53 µm fraction. The highest grade superpanner concentrates of 53.5 and 65.4% Sn were obtained in -75 +53 and -53 µm fraction respectively.

For SC2, the maximum and minimum tin distributions occurred in the +250 and -75 +53 µm fractions respectively. The highest superpanning recovery of tin was 83.4% (absolute) obtained in the -75 +53 µm fraction. The grade of superpanner concentrates obtained was generally much higher than that of the previous three samples throughout the five sized fractions. High grade superpanner concentrates in excess of 55% Sn were produced from 150 µm size downward.

7.3 Tabling/Superpanning

7.3.1 Test Procedures and Results

The middling and tailing products of the bulk sulphide flotation test on each composite sample (refer to Section 7.1 above) were combined in proportions by weight. A 10 kg sub-sample was riffled out from each set and then wet and dry sized to obtain 250, 150, 75, 53 and minus 53 µm fractions for tabling tests. Each sized fraction was individually treated on a laboratory Wilfley concentration table to produce concentrate, middling and tailing products. In addition, all the table concentrates