

TR 11-159-162

R. 518

28. RENISON LTD: EXAMINATION OF MILL PRODUCTS

Samples of five mill products were submitted by the above company. The samples were described as follows:—

1. Flotation "Float" (Sulphides).
2. Table Tailing.
3. Vanner Tailing.
4. Combined Tailing.
5. Mill Feed.

The examinations required on each of samples 1, 2 and 3 were:—

- (a) Tin recoverable by vanning.
- (b) Sizing analyses, including cyclosizing, and tin distributions.
- (c) Superpanner concentration tests on all screen fractions, C.S. fraction 1, and a composite of C.S. fractions 2, 3 and 4, to indicate the presence or otherwise of free tin or composites rich in tin.

On samples 4 and 5 sizing analyses were requested.

In the superpanner tests, where the quantity of free tin appeared to be significant a separate high grade concentrate was collected. This type is designated conc. No. 1 where occurring.

Test Results

Vanning	Per Cent		
	Total Tin	Van Tin	Recovery
Flotation "Float"	0.35	0.31	88.6
Table Tailing	0.93	0.72	77.4
Vanner Tailing	0.76	0.17	22.4

SIZING ANALYSES

Flotation "Float"—

Fraction	Per Cent		Per Cent Distribution	
	Weight	Tin	Tin	Tin Cum.
+150	10.2	0.21	5.6	
+200	8.8	0.26	6.0	11.6
+300	12.5	0.28	9.2	20.8
C.S. 1	22.0	0.64	37.0	57.8
2	17.7	0.20	9.3	67.1
3	8.9	0.21	4.9	72.0
4	4.5	0.10	1.2	73.2
5	5.1	0.15	2.0	75.2
Overflow	(10.3)	(0.91)	24.8	100.0
Composite	100.0	0.38	100.0	

Table Tailing—

Fraction	Per Cent		Per Cent Distribution	
	Weight	Tin	Tin	Tin Cum.
+ 60	5.7	0.37	2.3	
+ 100	26.9	0.53	15.3	17.6
+ 150	22.2	0.74	17.7	35.3
+ 200	8.0	0.54	4.6	39.9
+ 300	16.0	1.13	19.4	59.3
C.S. 1	7.5	2.94	23.7	83.0
2	9.4	1.15	11.6	94.6
3	2.5	1.47	4.0	98.6
4	0.9	1.02	1.0	99.6
5	0.3	0.61	0.2	99.8
Overflow	(0.6)	(0.27)	0.2	100.0
Composite	100.0	0.93	100.0	

Vanner Tailing—

Fraction	Per Cent		Per Cent Distribution	
	Weight	Tin	Tin	Tin Cum.
+ 200	2.9	0.51	1.9	
+ 300	7.7	0.46	4.6	6.5
C.S. 1	6.4	0.58	4.8	11.3
2	12.3	0.24	3.8	15.1
3	19.1	0.45	11.1	26.2
4	15.3	0.75	14.8	41.0
5	6.2	0.89	7.1	48.1
Overflow	(30.1)	(1.33)	51.9	100.0
Composite	100.0	0.77	100.0	

Mill Feed—

Fraction	Per Cent		Per Cent Distribution	
	Weight	Tin	Tin	Tin Cum.
+ 72	5.8	0.67	3.3	
+ 100	12.9	0.62	6.9	10.2
+ 150	19.1	0.79	12.9	23.1
+ 200	12.5	1.23	13.2	36.3
+ 300	11.8	1.60	16.2	52.5
C.S. 1	13.2	2.80	31.7	84.2
2	5.9	0.88	4.5	88.7
3	5.5	0.87	4.1	92.8
4	4.2	0.86	3.1	95.9
5	1.9	0.23	0.4	96.3
Overflow	(7.2)	(0.60)	3.7	100.0
Composite	100.0	1.17	100.0	

Combined Tailing—

Fraction	Per Cent		Per Cent Distribution	
	Weight	Tin	Tin	Tin Cum.
+ 72	1.6	0.41	1.7	
+100	6.0	0.45	6.7	8.4
+150	10.4	0.41	10.9	19.3
+200	12.3	0.34	10.7	30.0
+300	17.0	0.34	14.8	44.8
C.S. 1	19.4	0.47	23.3	68.1
2	8.9	0.24	5.5	73.6
3	7.8	0.22	4.4	78.0
4	5.4	0.22	3.0	81.0
5	2.6	0.21	1.4	82.4
Overflow	(8.6)	(0.80)	17.6	100.0
Composite	100.0	0.39	100.0	

N.B.: Values shown in parentheses are derived.

SUPERPANNER CONCENTRATION

Flotation "Float"—

No.	Size Fraction	Per Cent Tin	Concentrate Per Cent		
			Weight	Tin	Tin Recovery
+150		0.21	6.4	0.70	21.3
+200		0.26	8.5	1.24	40.5
+300		0.28	4.9	3.42	59.9
C.S. 1		0.64	8.0	5.99	74.9
2	}	0.19	3.3	4.36	75.7
3					
4					

Table Tailing—

No.	Size Fraction	Per Cent Tin	Concentrate Per Cent			
			Weight	Tin	Tin Recovery	
+ 60		0.37	20.7	1.07	59.9	
+100		0.53	17.2	1.73	56.1	
+150		0.74	4.9	6.33	41.9	
+200		0.54	3.3	11.8	72.1	
+300		1.13	(1) 1.4	46.0	57.0	65.0
			(2) 3.5	2.60	8.0	
C.S. 1		2.67	(1) 4.2	66.2	94.6	98.2
			(2) 3.6	2.92	3.6	
2	}	1.20	(1) 1.5	65.3	81.6	84.6
3						
4			(2) 1.9	1.91	3.0	

Vanner Tailing—

<i>No.</i>	<i>Size Fraction</i>			<i>Concentrate Per Cent</i>			
		<i>Per Cent Tin</i>		<i>Weight</i>	<i>Tin</i>	<i>Tin Recovery</i>	
+200	0.51		4.8	2.33	21.9	
+300	0.46		7.0	4.04	61.5	
C.S. 1	0.58	{ (1)	1.1	46.8	88.8	93.2
				{ (2)	2.6	0.97	
2	0.49	{ (1)	0.7	39.2	56.0	77.9
				{ (2)	2.1	9.73	
3						
4						