

Daplease

N^o 130INVESTIGATION NO. 565/14BATTERY SANDS FROM MIDDLE ARM - BEACONSFIELD.Table ConcentrationPreliminary Investigation.Investigation:

A sample of sands weighing 12 K. G. was received from Mr. A. C. Matthews for concentration tests by tabling. The sample was sized by screening to plus and minus 60 mesh screen size and the products tabled separately. In addition a portion of the plus 60 mesh material was stage ball mill ground to minus 85 mesh size and tabled.

No responsibility is taken for the results given in this report except in so far as they apply to the sample tested.

Table 1.

<u>B.S.</u> <u>Mesh Size</u>	<u>Sizing Analysis.</u>		
	<u>Percent Weight</u>	<u>Gold</u> <u>Dwts./L. Ton</u>	<u>Gold Distribution</u> <u>Percent.</u>
+ 60	72.45	2.1	67.3
- 60	27.55	2.68	32.7
Composite	100.00	2.25	100.00

The percentage of minus 200 mesh size in the sample amounted to 0.34 percent.

Table Concentration Tests.Plus 60 mesh product. Rougher and Cleaner Tabling.Table 2.

<u>Product.</u>	<u>Weight</u> <u>Percent</u>	<u>Gold</u> <u>Dwts./Ton.</u>	<u>Percent Distribution</u>
Cleaner Concentrate	3.16	13.3	20.27
" middling	5.07	4.3	10.51
" Tailing	13.65	2.5	16.46
Rougher Tailing	78.12	1.4	52.76
Composite	100.00	2.07	100.00

Cleaner Table Concentration Of +60 Mesh Product After Stage Ball Mill Grinding To Minus 85 Mesh Size By Wet Screening.

Table 3.

Sizing Analysis Of Ground Product

<u>Mesh Size</u>	<u>Weight</u>	
	<u>Percent</u>	<u>Percent Cum.</u>
+ 85	0.4	0.4
+100	3.7	4.1
+120	12.4	16.5
+150	6.5	23.0
+200	29.2	52.2
-200	47.8	100.0

Results.

Table 4.

<u>Product.</u>	<u>Weight Percent</u>	<u>Dwts/Ton</u>	<u>Gold</u>
			<u>Percent Distribution</u>
Cleaner Concentrate	2.5	52.2	61.28
" Middling	1.96	3.9	3.59
" Tailing	4.18	2.6	5.10
Rougher Tailing	91.36	0.7	30.03
Composed to	100.00	2.13	100.00

Minus 60 Mesh Product.

Cleaner Table Concentration

Table 5.

<u>Product</u>	<u>Weight Percent</u>	<u>Dwts/Ton</u>	<u>Gold</u>
			<u>Percent Distribution</u>
Cleaner Concentrate	1.25	45.9	21.39
" Middling	1.95	21.8	15.85
" Tailing	12.14	5.5	24.89
Rougher Tailing	84.66	1.2	37.87
Composite	100.00	2.68	100.00
Composite of Cleaner Cons. & Middling.	3.2	31.2	37.24

Sulphur Distribution of - 60 Mesh Product.

Head value 2.24% Sulphur
Cleaner Table Conc. 34.36% " or 19% of the total

SUMMARY.

This preliminary investigation indicates the grades and recoveries obtainable by rougher and cleaner concentration.

The recovery of 20.27 percent in a concentrate containing 13.3 dwts/ton was obtained with the plus 60 mesh product and on grinding as detailed in the report to minus 85 mesh size the recovery was increased to 61.28 percent on a concentrate assaying 52.2 dwts per ton.

Sizing and cleaner table concentration of the plus and minus 60 mesh products resulted in an overall recovery of 20.4 percent or 0.46 dwts per ton.

Sizing and grinding the plus 60 mesh product to minus 85 mesh and table concentration of same and the minus 60 mesh product resulted in an overall recovery of 48.9 percent or 1.1 dwts per ton.

CHIEF CHEMIST & METALLURGIST.