

TK6-203-204

R. 378

CORNWALL COAL WASHERY

EXAMINATION OF TWO SAMPLES OF COAL MIDDLING
DISCARDS**Sample**

Two specimens of washery middling discard coal, each approximately 2 lbs. weight, were submitted by Cornwall Coal Company. The company considered that the specimens contained saleable coal, and requested a preliminary investigation to determine the possibility of obtaining further coal by crushing and re-jigging the jig middlings, which now go to waste.

Sample R.378/A consisted of layers of "bright" coal and a duller coal. Specific gravity of the piece was 1.48.

Sample R.378/B consisted of a comparatively uniform coal of rather stony appearance. Specific gravity of the piece was 1.61.

Summary

Crushing to one inch size and sink-float tests show the quantities and ash contents of coal which could be recovered. Both specimens appear to be marginal discards, with ash contents of 25.8 and 35.9%. Specimen A showed 81.5% floating at Sp.G. 1.6 with an ash content of 23.3%. Specimen B similarly gave 47.8% floating at Sp.G. 1.6, with an ash content of 27.4%.

Crushing and Heavy Liquid Separations

Both samples were broken with a hammer to minus one inch size, care being taken to minimize production of fines. The broken samples were screened on a 4 mesh screen. The plus 4 mesh fractions were successively tested in liquids with densities of 1.6, 1.7 and 1.8. Ash contents of the various fractions were then determined.

Sample R.378/A: Specific Gravity 1.48

Fraction	Percent Weight	Percent Ash Moisture Free Basis	Percent Distribution: Ash
Float at density 1.6	81.5	23.3	73.6
Float at density 1.7	9.4	42.9	15.6
Float at density 1.8	2.2	48.2	4.1
Sink at density 1.8	0.0
Fines	6.9	24.9	6.7
Composite	100.0	25.8	100.0

Sample R.378/B: Specific Gravity 1.61

Fraction	Percent Weight	Percent Ash Moisture Free Basis	Percent Distribution: Ash
Float at density 1.6	47.8	27.4	36.5
Float at density 1.7	22.9	37.7	24.0
Float at density 1.8	12.1	44.5	15.0
Sink at density 1.8	11.1	58.9	18.2
Fines	6.1	35.7	6.3
Composite	100.0	35.9	100.0