

7R5-238-239

Reg. Nos. 96 to 102

CLAYS FOR CERAMIC TESTS

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SUMMARY

Six materials from Bronte Park and one from Trevallyn have been tested for the Director of Mines, to determine possible uses in the manufacture of ceramic ware. On considerations of colour, fusibility, and locality, it is unlikely that any of the Bronte Park clays could be utilised economically. Three would be sufficiently refractory for use as bond clay in low grade refractories, but materials of at least equivalent grade are fairly readily available, and the demand for such materials is small. The Trevallyn clay, although rather sandy and susceptible to drying cracks, would probably be suitable for brickmaking.

DESCRIPTION

Reg. No.	Label Marking		Material
	Outside	In Bag	
96	No. 1	B.P. No. 1	Moderately sandy yellow clay with some ironstone gravel.
97	No. 2	B.P. No. 4	Moderately sandy yellow clay with brown staining.
98	No. 3	B.P. No. 3	Moderately sandy yellow clay with some dark quartzite, gravel and plant roots. Several pieces of wood hand picked out.
99	No. 4	B.P. No. 2	Moderately sandy blue clay with yellow and brown staining.
100	No. 5	B.P. No. 5 2½/3½	Moderately sandy light yellow clay with brown staining and some quartz pebbles.
101	No. 6	No. 6 3½/4½	Slightly sandy yellow grey clay with brown staining.
102	No. 7	Very sandy yellow clay with grey, brown and purple staining.

Numbers 96 to 101 stated to have been obtained from Bronte Park, and No. 102 from Pomona Road, Trevallyn.

PREPARATION AND TESTING

All materials were reduced to minus one-eighth of an inch by roll crushing, and water was added to produce sufficient plasticity for the hand moulding of test briquettes. After drying in an oven at 40°C, briquettes were fired at 1050°C for two hours.

Cones for the refractoriness test were prepared from material ground to pass a 100 mesh B.S. sieve.

RESULTS: PLASTICITY, DRYING AND FIRING

Reg. No.	Water of Plasticity %	Plasticity	Workability	Drying Contraction %	Firing Contraction %	Ignition Loss %	Fired Colour
96	21	Very high	Poor	9½	4½	6.3	Red
97	21	High	Poor	10	5½	6.2	Red
98	18	Fair	Fair	6	2	4.4	Red
99	20	Fairly high	Good	6½	3	5.1	Pinkish Buff
100	18	High	Fair	6½	0	4.7	Salmon Pink
101	20	Very high	Poor	8	1	6.1	Light Salmon Pink
102	20	Fairly high	Good	6½	½	5.6	Light Red

Nos. 97 and 102 cracked during drying.

REFRACTORINESS

Reg. No.	Bloating Temperature	Initial Softening Point	Fusion Point	Segar Cone Equivalent
96	1,220°C	1,320°C	1,340°C	Between 11 and 12
97	Did not bloat	1,340°C	1,360°C	Between 12 and 13
98	Did not bloat	1,270°C	1,310°C	Between 10 and 11
99	Did not bloat	1,430°C	1,490°C	Between 17 and 18
100	Did not bloat	1,420°C	1,420°C	Between 14 and 15
101	Did not bloat	1,450°C	1,470°C	Between 16 and 17
102	Did not bloat	1,360°C	1,450°C	Between 15 and 16