

## Section 2 - Ceramic Investigations

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TR7-194

### R. 400, R. 401

#### CLAY FROM LAUNCESTON

The samples of clay submitted by McHugh Bros. and stated to be from "old" and "new" deposits of the Company's leases at Glen Dhu, were submitted to de-aired extrusion tests to determine the suitability of different blends for pipe manufacture. Sample of the extruded pipes, fired and salt glazed by McHugh's, together with samples fired by the Mines Department, unglazed at 1100°C, were tested hydraulically at 14 pounds per square inch pressure for 4 minutes. The pressure was then raised to 40 pounds per square inch on those in which no leakage was apparent.

Test results indicated that pipes containing more than 50 per cent of "new clay", leak readily at 14 pounds pressure, both glazed and unglazed. Those pipes, both glazed and unglazed, containing more than 50 per cent of "old clay", sustain a pressure of up to 40 pound per square inch without apparent leakage.

#### Description

R.400—Sample No. 1. New deposit clay containing 42.7 per cent of plus 30 micron material.

R.400—Sample No. 2. New deposit clay containing 46.3 per cent of plus 30 micron material.

R.401—Sample No. 1. Old deposit clay containing 17.2 per cent of plus 30 micron material.

R.401—Sample No. 2. Old deposit clay containing 4.8 per cent of plus 30 micron material.

Blend A 2 Parts R.400 Sample 1, 1 Part R.401 Sample 1.

Blend B 3 Parts R.400 Sample 1, 1 Part R.401 Sample 1.

Blend C 4 Parts R.400 Sample 1, 1 Part R.401 Sample 1.

Blend D 6 Parts R.400 Sample 1, 1 Part R.401 Sample 1.

Blend E 1 Part R.400 Sample 2, 1 Part R.401 Sample 2.

Blend F 1 Part R.400 Sample 2, 2 Parts R.401 Sample 2.

Blend G 1 Part R.400 Sample 2, 3 Parts R.401 Sample 2.

#### Results

Sample	Tempering Water	Drying Contraction	Firing Contraction 1100° C.	
R.400 ....	22.5	7	5	Leak readily both glazed and unglazed at 14 pounds per square inch.
Blend A ....	23.0	7	6	
Blend B ....	23.0	7	6	
Blend C ....	23.0	7	5	
Blend D ....	23.0	7	5	Do not leak at a pres- sure up to 40 pounds per square inch.
Blend E ....	25.5	8	5	
Blend F ....	25.6	7	6	
Blend G ....	26.3	7.5	5.5	

All pipes were extruded with de-airing at 28 inches of mercury vacuum, and could be dried rapidly at 105°C without cracking.

Additional samples were obtained to complete this series of tests and, particularly with R.401 (old sample), considerable variation in clay content was noted.

Such variation could affect the quality of goods unless provision is made for storage and mixing of the clay.