TR14_52_56

10. Prospecting for cream clay at Kingston

V. M. THREADER

A series of 21 Proline auger holes was drilled on the property of A. G. Kemp at the entrance to Spring Farm, Kingston. The property has an area of 15 acres and was drilled for the purpose of assessing its reserves of cream clay similar to the clay which has previously been extracted from neighbouring pits.

The land has a gentle fall to the NNW and outcrops of Triassic sandstone occur in the NE corner of the block. The area was drilled to a maximum depth of 20 ft on a 200-foot grid and all samples collected have been tested for sand content in the Department's laboratory. These results are shown on the Table 1 and Figure 14.

The material drilled consists of Triassic clay and sandy clay beds which have weathered *in situ* and the variation in colour is attributable to the effects of weathering and ground water percolation which has resulted in the formation of leached and iron enriched zones.

It is considered that materials containing more than 50% sand are of marginal quality for economic brick manufacture—sand is here defined as particles larger than 20μ (0.02 mm).

The shaded portions of the profiles represent cream clay or sandy clay of material averaging 50% sand or less and is therefore the only material on which the following estimate is based. After allowance is made for protecting the roads bounding the property and for the water main which crosses the property, it is estimated that there are 100,000 yd^3 of cream clay in the area investigated. This is sufficient for the manufacture of 33 million bricks. The overburden varies from 0-6 ft and averages 3 ft.

Two ceramic tests have been carried out by D. Clements in the Department's laboratory on two composite samples with sand contents averaging 46% and 67%. Both samples fabricated well and fired well.

TABLE 1. SAND CONTENT AND COLOUR OF PROLINE SAMPLES

Proline/Sample No.	Depth (ft)	Colour	Sand content %
1/1	0– 3	White	43.5
2	3– 6	Pale brown	46.0
3	6– 9	Reddish brown	72.8
4	9–12	Red	69.7
5	12–15	Deep red	60.8
2/1	0– 6	White	60.0
2	6– 9	White (contaminated)	70.2
3	9–12	White	69.6
4	12–15	White	34.7
5	15–18	White	47.7
3/1	0.5– 3	Red	59.2
2	3– 6	White	49.8
3	6– 8	Orange	77.0
4/1	4–10	White	66.0
2	10–18	Brown	74.4
5/1	0– 3	Black	65.7
2	3– 5	White	61.1
3	5– 7	Brown and white	67.8
4	7– 9	Brown and white	65.7
5	9–11	Brown	73.5
6	11–13	Red	60.9
7	13–14	Reddish brown	57.3
6/1	0– 3	Black	....
2	3– 5	Greyish white	64.8
3	5– 6	White (contaminated)	73.9
4	6– 8	White	75.5
5	8–10	White	53.0
6	10–12	White	35.3
7	12–14	White (contaminated)	44.5
8	14–18	Pale brown	48.3
7/1	0– 3	Yellowish brown	51.7
2	3– 6	White (contaminated)	61.5
3	6– 9	White (contaminated)	59.7
4	9–12	White	72.8
5	12–15	White (contaminated)	70.6

TABLE 1. SAND CONTENT AND COLOUR OF PROLINE SAMPLES—*continued*

Proline/Sample No.	Depth (ft)	Colour	Sand content %
8/1	0– 3	Dark brown	87.8
2	3– 6	Mottled	51.8
3	6– 9	Brown	60.7
4	9–10	Brown	57.5
5	10–12	Brown	48.1
6	12–14	Red	70.6
7	14–16	Reddish brown	70.7
8	16–18	Reddish brown	39.8
9/1	0– 3	2 ft sand, then brown clay	54.6
2	3– 6	Greyish white	44.6
3	6– 9	Greyish white	47.1
4	9–12	Greyish white	53.4
5	12–13	Light brown	53.2
6	13–14	Sandstone	61.2
10/1	0– 3	Brown	50.0
2	3– 5	Greyish white	52.2
3	5– 7	Sandstone	63.0
11/1	3– 5	Light grey	59.0
2	5– 7	Light grey	37.6
3	7– 9	Light grey	29.3
4	9–12	Reddish brown	46.1
5	12–15	Yellowish grey	73.0
6	15–18	Light brown	76.1
12/1	2– 3	Brown	67.7
2	3– 6	Brown	56.0
3	6– 8	Greyish white	31.7
4	8–10	Brown	48.5
5	10–11	Light brown	57.6
13/1	0– 3	Light brown	35.4
2	3– 6	Greyish brown	29.8
3	6– 7	Greyish white	26.3
4	7– 9	Yellowish brown	34.4
5	9–11	Brown	30.9
14/1	2– 3	Reddish brown	64.0
2	3– 6	Greyish white	22.0
3	6– 9	Light brown	34.0
4	9–11	Yellowish grey	28.3
15/1	0– 3	Light brown	51.1
2	3– 6	Reddish brown	58.6
3	6– 9	Greyish white	11.2
4	9–12	Greyish white	30.3
5	12–15	Light brown	34.6
6	15–18	Light brown	46.3
16/1	1– 5	Greyish white	58.5

TABLE 1. SAND CONTENT AND COLOUR OF PROLINE SAMPLES—*continued*

Proline/Sample No.	Depth (ft)	Colour	Sand content %
17/1	0– 1	Black	56.0
2	1– 3	Brown	36.0
3	3– 7	Greyish white	32.1
4	7– 8	Grey	49.8
18/1	1– 3	Brown	35.5
2	3– 6	Grey and brown	43.7
3	6– 7	Greyish white	48.9
4	7– 8	Grey	61.3
19/1	1– 3	Brown	34.1
2	3– 5	Brown	50.4
20/1	1– 3	Brown and grey	64.8
2	3– 4	Brown and grey	74.8
21/1	1– 3	Brown	81.7
2	3– 4	Brown	73.6

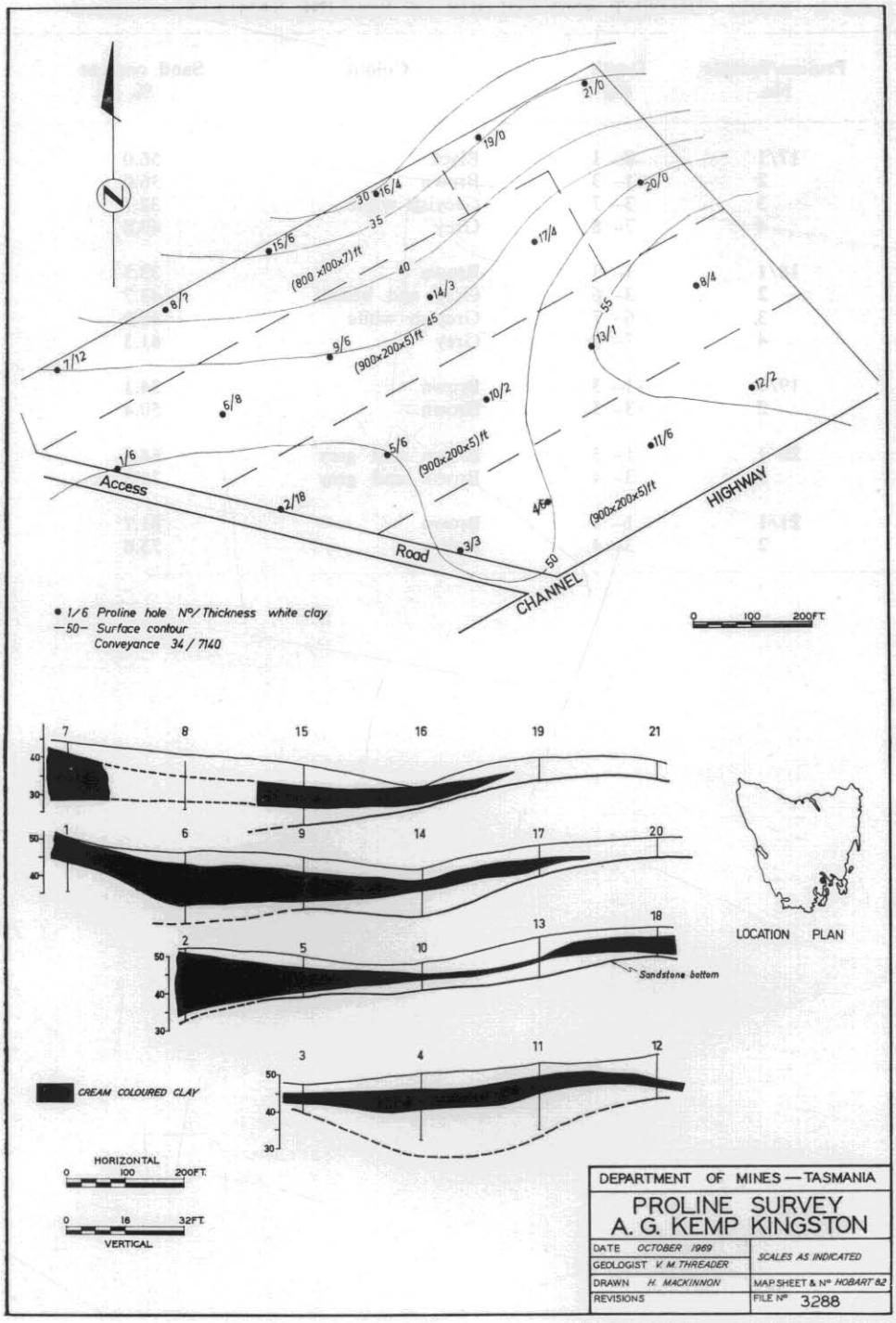
5 cm
N
Access
Road
HIGHWAY
CHANNEL
(800 x100x7) ft
(900x200x5) ft
(900x200x5) ft
(900x200x5) ft
• 1/6 Proline hole N°/ Thickness white clay
—50— Surface contour
Conveyance 34 / 7140
0 100 200FT
LOCATION PLAN
Sandstone bottom
CREAM COLOURED CLAY
HORIZONTAL
0 100 200FT
0 16 32FT
VERTICAL
DEPARTMENT OF MINES — TASMANIA
PROLINE SURVEY
A. G. KEMP KINGSTON
DATE OCTOBER 1969
SCALES AS INDICATED
GEOLOGIST V. M. THREADER
DRAWN H. MACKINNON
MAP SHEET & N° HOBART 82
REVISIONS
FILE N° 3288

FIGURE 14