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No cores are available of this material due to the difficulties in coring deposits containing gravel bands. However, the experience of the railway bridge together with a study of the available exposures suggests that this deposit has adequate bearing capacity for the purposes required. Care will be necessary to ensure that footings are placed deep enough so as not to be affected by scouring. No positive evidence as to the likely depths of scouring is available but the suggested figure of 6' to 8' appears reasonable.

#### TERTIARY BASALT

Fresh vesicular basalt was encountered between 36 feet and the bottom of Hole No. 9 at 51 ft. 10 ins. In other holes the basalt was completely decomposed. However the resulting stiff clay retains all the structure of the original rock. It is expected to have adequate strength to carry any loads transmitted from the overlying Quarternary deposits.

As may be expected, the upper and lower surfaces of the basalt layer is uneven but no large scale irregularities have been detected. However, the possibility exists of a buried Quarternary river channel in the vicinity of piers 1 and 2.

#### SUB-BASALTIC TERTIARY DEPOSITS

These consist of highly micaceous silts and sands containing quartz pebbles and occasional bands of stiff red clay. In Hole No. 3 the contact of these sediments and the overlying basalt was intersected. It consisted of baked red claystone, sands, grit and conglomerate which have been irregularly cemented with iron oxides forming a tough compact rock at least 2' thick.

This deposit proved difficult to sample effectively by drilling on account of the presence of waterlogged sands and pebbly bands. However a few sections of good core was obtained in the bands of stiff clay. The deposit appears to be made up mainly of the weathering products of Precambrian quartzite and phyllite which occur in this vicinity. The micaceous silts and clays being derived from the phyllites and the coarse sands and pebbles from the quartzite. The clay bands are well compacted, thinly bedded and firm but the samples of the remaining large portion of the deposit, were inadequate to form any opinion as to their original nature.



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BORE LOGS - FORTH BRIDGE.

Hole No. 8a.

0	-	6'	Coarse wash.
6'	-	12'	Wash and sand.
12'	-	20'	Sand and wash.
20'	-	26'	Gravel wash.
26'	-	50'	Clay (weathered basalt?)
51'	-	51'6"	Sandstone boulder,
51'6"	-	60'	Sand.
60'	-	61'	Shingle.
61'	-	63'	Sand with quartz pebbles.
63'	-	64'	Yellow micaceous silt.
64'	-	64'6"	White, poorly sorted micaceous sand.
64'6"	-	75'	Ditto with quartz pebbles.
75'	-	81'4"	Stiff red clay becoming silty and micaceous at depth.
81'6"	-	85'	Sand.
85'	-	90'	Poorly sorted micaceous. Silty sand.
90'	-	95'	Ditto with Pebbles.
95'	-	100'	Sand.

Hole No. 9.

0	-	1'	Sand.
1	-	30'	Gravel wash.
30'	-	36'	Cemented wash with some Clay.
36'	-	51'10"	Fresh vesicula/basalt.

Hole No. 8.

0	-	20'	Gravel.
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Hole No. 1.

0	-	22'	Gravel wash.
22'	-	26'	Firm grey silty clays.
26'	-	49'	Gravel wash.

Hole No. 3.

0	-	8'	Water.
8'	-	20'	Sand and Shingle.
20'	-	28'	Gravel wash.
28'	-	47'3"	Decomposed basalt.
47'3"	-	47'5"	Hard red claystone.
47'5"	-	5'	Hard sandstone, grit and conglomerate irregularly cemented with limonite.

Hole No. 4a.

0	-	16'	Water.
16'	-	28'	Sand and Shingle.
28'	-	49'	Decomposed basalt.
49'	-	53'	Micaceous salt with quartz pebbles.
53'	-	95'	Poorly sorted light grey micaceous sand with some pebbles.

Hole No. 6.

0	-	11'	Water.
11'	-	28'	Gravel.
28'	-	45'6"	Decomposed basalt.
45'6"	-	57'	Sand and Gravel.

Hole No. 5.

0	-	11'	Water.
11'	-	27'	Shingle and Sand.
27'	-	31'	Cemented Shingle and sand.
31'	-	48'	Compact clay (decomposed basalt).
48'	-	60'	Compacted sand.