

TR5-94-95

GRAVEL DEPOSITS—HOUSING ESTATE, RISDON (2nd Report)

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On the 3.4.59, a report was prepared on certain gravel deposits on an area at East Risdon, acquired by the Housing Department. These deposits were grouped into certain categories but no estimate of quantities available was made, except they were stated to be "very large". It is not proposed, in this report to comment on the quality of the material or its possible utilization but some attempt will be made to define the limits, and hence quantities available of a certain class of material. The rocks occurring here are of two types, Permian siltstone and Triassic sandstone, separated by a fault which strikes about 230° in the vicinity of the old house. The sandstones weather to a coarse sand and are of no interest in this investigation. The Permian rocks break into small pieces when weathering and where these pieces become water-worn and mixed with silt in old stream beds, form a type of gravel. This is the material investigated here. To determine the boundaries of this material a series of holes was dug by the Housing Department. The boundaries were limited to the south by clay and rock and to the west by sand. A brief description of the material in the holes is as follows:—

- No. 1. Weathered rock—five feet.
2. Weathered rock—five feet.
3. Five feet clay overburden then gravel.
4. Weathered rock—four feet.
5. Clay—seven feet.
6. Weathered rock—three feet.
7. Sandy clay—little gravel—four feet six inches.
8. Sandy clay—little gravel—four feet six inches.
9. Sandy clay—only one foot gravel—six feet.
10. Sandy clay—few inches gravel—three feet.
- 10A. Two feet six inches sandy clay—then sandy clay and pebbles—five feet.
11. Sand—few pebbles—three feet six inches.
12. Sandy gravel.
13. Sandy overburden one foot six inches—then gravel with sub-angular pebbles.

This material is not constant in composition and in all holes put down in it, as well as along the banks of the stream, can be seen bands of unsorted water-worn pebbles of siltstone alternating with layers of sandy clay. In estimating quantities all this material is taken into account and an area 2000 feet by 400 feet is considered

to be underlain by it. A depth of 10 feet, which is the average depth from the surface to the creek bed, is assumed. Thus reserves of this material should be:—

$$\frac{2000 \times 400 \times 10}{27} \text{ cubic yards} = 300,000 \text{ cubic yards.}$$

Assuming that half of this material can be classified as gravel, then the quantity available should be 150,000 cubic yards.

The second class of material mentioned in the previous report is simply the detrital rock fragments occurring in the steep hillside to the north of the gravel area. Although this has been used on roads, it makes very poor road material as it quickly powders to a fine dust. It is quite impossible to estimate reserves of this material as the ground surface of the hill is large and the material is very patchy, varying in depth from one to several feet with some sections quite useless.