

The flood plain of the Mersey River is a large flat area underlain by up to one metre of brown loam and several metres of coarse gravel. Sorting of the gravel material, which includes a relatively small amount of dolerite, is variable. A need for gravel has prompted working of these deposits but since the river has meandered widely in its plain in the recent past the reserves must be established. A means of assessing continuity of the gravels, without auguring, was required. The thickness of gravel present was of secondary importance as, for ease of working, the gravels must be present near or above river level.

SURVEY

Resistivity sounding techniques were applied near the river where the results could be correlated with the section exposed in undercut river banks. The tests were made in late July when the surface soils were damp but not saturated. Water table depth ranged between 2 and 4 m. The sounding shape observed in every case where gravels were present was that of a simple three layer curve.

$$\rho_1 < \rho_2 > \rho_3, \rho_1 > \rho_3(?)$$

Although the depth to gravel, or water, was recorded the shape of the curves was such that precise interpretation was difficult. Qualitatively, however, the curve form was standard. Where the gravels were absent $\rho_2 < \rho_1$, and the curve form was very different. It does appear that a large segment of this flood plain, perhaps all of it, is underlain by gravel. On the basis of this survey; between the Merseylea road on the west, the hillslopes to the east, and the main worked areas, there appears to be a reserve of at least one million cubic metres of gravel above river level. Since these gravels also extend below the water table, and could be worked to shallow depths, the workable reserves in this small section of the Merseylea flood plain could exceed 2-3 million cubic metres.

[2 August 1973]