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FIRE IN RIVER BANK AT BRENT CRESCENT, WEMBLEY, 19th AND 21st APRIL, 1952

by

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Summary

A small fire occurred in factory waste on the banks of the river Brent at the rear of factories built on made-up ground bordering the river. Over a period of years the bank, which was about 20 ft. high, had become extended beyond its original line by the dumping of waste which, at the site of the fire, consisted mainly of steel swarf and contained coal and coke. The danger to the factories lay in the possibility of the original made-up ground containing combustible material and of the fire extending to this. It was recommended that the progress of the fire should be watched carefully, any digging-out should be done cautiously and the holes sealed with lime or cement slurry; any tendency for the fire to spread towards the factories should be checked by injecting slurry between the fire and the factories. The tipping and burning of combustible waste in situations of this kind should be avoided.

Introduction

The incident occurred at the rear of factories occupied by Messrs. Diamond Blower Co. Ltd., and Messrs. Schori Metallising Process Ltd., Brent Crescent, North Circular Road, Wembley, N.W.10. It was visited by the authors on 24th April, 1952, with Mr. Moss and Mr. Squires, Fire Protection Officers, Middlesex Fire Brigade.

Site

The site consisted of made-up ground on the banks of the river Brent; Fig. 1 is a sketch of the site in vertical section, as far as this can be deduced from observations and information given. It was understood that the ground had been made up about 18 years previously and that the course of the river had been altered at the same time. The present ground level was about 20 ft. above the river level. The depth of made-up ground was not known but the opposite bank appeared to be virgin soil and was about 10 ft. above the river. The composition of the made-up ground was not known but would presumably have been approved by the Borough Council responsible.

The factories extended to within 15 - 25 ft. of the top of the river bank, and it is understood that they were built on concrete piles. Cycle sheds etc. built at the rear of the factories extended almost to the edge of the bank.

The bank of the river was steep and had been used, evidently for a number of years, for dumping factory waste. At the site of the fire this consisted mainly of steel swarf and scrap; coal and coke were present and rags were embedded in the mass. The mass was closely consolidated on the surface but was loose below. A row of vertical steel pipes, parallel to the bank, was disclosed during digging-out operations; this had probably formed a retaining fence and suggested that the refuse extended for a considerable distance beyond the original line of the bank.

Incident

The incident occurred in the bank at the rear of the Diamond Blower Company's premises. The Fire Brigade were first called at 12.00 hours on Saturday, 19th April. They dug out red hot material from a pocket of fire on the edge of the bank at the rear of a cycle shed and about 15 ft. from the factory itself. Water was used and the fire was judged to be out by 16.00 hours. It is understood that the bank had been steaming or smoking for some days before the Brigade were called. The Brigade were called to a second outbreak in the same place on Monday, 21st April, 1952. It was agreed that the second outbreak was most probably due to incomplete extinction of the first.

When visited by the authors on 24th April, an irregular hole had been dug out to a depth of 3 - 4 ft. and roughly 5 ft. x 10 ft. in extent. Steam was issuing slowly from the bottom and material raked out at this point, consisting mainly of rusted swarf and a few pieces of coke, was warm.

The source of ignition was not known but, in spite of statements to the contrary which had been made to Mr. Squires, it appeared to be the practice to burn combustible rubbish on the bank, both in bins and in the loose state; two examples were seen.

Conclusions and recommendations

It appeared likely that the combustible material was confined to the layer of refuse on that part of the site between the river and the factory and that the made-up ground on which the factory was built might be considered as not being liable to take fire. This was supported by evidence (communicated later by 'phone by Mr. Squires) from bore-holes made by engineers on behalf of the Schori Metallising Company. These bore-holes, which were drilled at intervals of 3 ft. down the bank, indicated that the depth of the layer containing combustible material became thinner near the top of the bank. A bed of clay was struck at the depth indicated in Fig. 1 below this layer of rubbish.

As the fire was small and might well burn out naturally without causing any immediate hazard it was recommended that it should be watched; preferably it should be dug out cautiously and the hole sealed with lime or cement slurry. The position should be kept under close observation in case the layer of combustible material extended further and into the made-up ground underneath the factory. If, therefore, the fire showed signs of extension towards the factory it would be necessary to start injecting slurry into the ground between the fire and the factory to prevent its extension in this direction.

Finally, the tipping and burning of combustible refuse in the land between the factory and the river should be stopped.

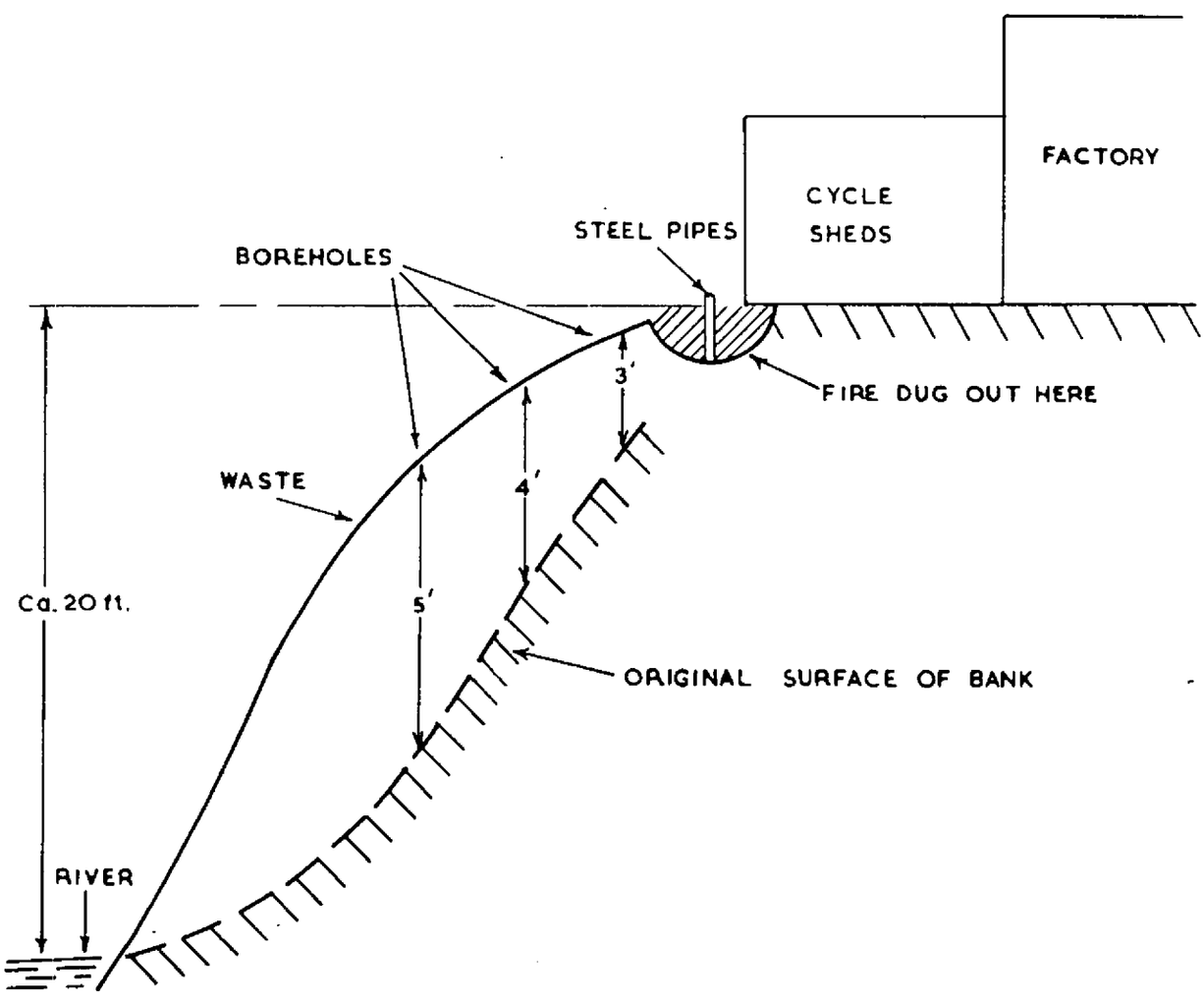

FIG. 1. PROBABLE CROSS SECTION OF SITE.