EXCURSION TO GRAYS THURROCK, ESSEX.

SATURDAY, JUNE 20TH, 1891.

Director : F. C. J. SPURRELL, F.G.S.

On arrival at Grays about 3.0 p.m., a short visit was paid first to the great Chalk-pit of the Grays Chalk Quarry Company, for the purpose of looking at the method of obtaining water by the Water Company. The adit communicating with the pumps runs at a short distance below the surface of the pit, at a level somewhat below Ordnance Datum, across a number of fissures from which water continually flows; these are at such regular distances apart that little difficulty is experienced in striking them by the simple process of sinking for them by excavation.

The party then, passing through Grays, again traversed a long series of Brick-earth pits, which have been exhausted and are now largely built over, and came at last to the easternmost one, that at Little Thurrock. The fact that this pit had ceased to be worked, and was being levelled up had caused the Director to urge a visit to the still fine section. This extends from the 100 foot contour line to the Marsh Edge, and is excavated in the Chalk all the way. Thus it was easy to see that the river had formed a temporary gully in the Chalk, which, having been abandoned by the stream soon after the formation, had left a hollow to be filled up by floods and overflows in storms. The band of Chalk which formed the southern boundary of the gully, extending E. and W., was pointed out, but it had been greatly destroyed by subsequent events. The layer of gravel, of fine sand, and of fine grey clay, represented the mode of deposition of these flood *débris*, which were washed over into a kind of lagoon and subsequently covered by a series of gravels and sands of a later date and very different nature. Many shells were found and some bones; while numerous "waster" flint flakes were secured by the party.

After having tea at the King's Arms, the party returned to Fenchurch Street by trains leaving Grays at 6.25 and 8.22 p.m.

REFERENCES.

- Geological Survey Map, Sheet 1, S.W. and S.E. (Drift Edition).
New Ordnance Survey Map, Sheet 271.
1889. WHITAKER, W.—"The Geology of London," *Mem. Geol. Survey*.
1891. JOHNSON, M. H.—"Excursion to Grays, Essex." *Record of Excursions of the Geologists' Association*, p. 175, London.
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