S. W. MEMOIRS OF THE GEOLOGICAL SURVEY. ENGLAND AND WALES. THE GEOLOGY OF THE NEIGHBOURHOOD OF COLCHESTER

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W. H. DALTON

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Trieste

48 S. W.

MEMOIRS OF THE GEOLOGICAL SURVEY.

ENGLAND AND WALES.

THE GEOLOGY

OF THE

NEIGHBOURHOOD OF COLCHESTER.

Old Series

(EXPLANATION OF QUARTER SHEET 48 S. W. OF THE GEOLOGICAL SURVEY MAP.)

BY

W. H. DALTON, F.G.S.

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NOTICE.

Quarter Sheet 48 S.W. was almost entirely surveyed in the years 1873–75 by Mr. W. H. Dalton, under the superintendence of Mr. Whitaker. The exceptions consist of some small areas (amounting altogether to about five square miles) along the eastern edge, and at the south-western corner, of the Map, which were done by Mr. Whitaker and Mr. H. B. Woodward respectively in surveying the adjoining Maps to the East and South.

This explanation has been written by Mr. Dalton. Mr. Whitaker has, however, written the Introduction and made some additions, besides arranging and editing the whole.

The Lists of Fossils have been revised by Mr. Etheridge, F.R.S., the Palæontologist to the Survey.

H. W. Bristow,
Senior Director.

Geological Survey Office,
28, Jermyn Street, London, S.W.
1st December 1879.

L 486. Wt. 15989.

CONTENTS.

WOODCUTS.

THE GEOLOGY

OF THE

NEIGHBOURHOOD OF COLCHESTER.

INTRODUCTION.

THE greater part of this district, which is about 190 square miles in area and forms part of the London Basin, is drained by the Colne and tributaries, the chief of which is the Roman River, with its feeder the Layer Brook (rising respectively in the neighbourhood of the Teys and the Layers); the S.W. corner by the tributaries of the Blackwater, the East by the brook descending by Tendring and Thorpe to Little Holland, and the N.E. corner by tributaries of the Stour.

The area for the most part forms a plateau, the highest points of which are on the western edge, at Great Tey and Tiptree Heath, 196 and 193 feet above the sea. From these the ground falls eastward with comparative regularity (except for the valleys) to 100 feet near Wicks, on the N.E., and to 50 feet on the cliffs of Mersea and Clacton, on the south. The alluvial flats of the estuaries of the Colne and of the Blackwater are below high-water mark.

The geological interest of the district lies in the Post-Glacial Drift, which, though occupying only small areas, has not only yielded nearly all the fossils of the district, but is known to geologists from the sections of Copford and Clacton.

The following is a list of the beds shown on the map:—

Recent - -	Blown Sand. Shingle. Alluvium.
Post-Glacial Drift -	Loam, or Brickearth. Gravel.
Glacial Drift -	Boulder Clay. Loam. Gravel and Sand.
Pliocene - -	Red Crag.
Eocene - -	London Clay.

The underlying Woolwich and Reading Beds (with probably a trace of the Thanet Beds) and the Chalk are touched in deep wells, (see Appendix I.) From the well at the Colchester Waterworks numerous minute fossils have been obtained by carefully washing the fragmentary chalk and examining it under a lens. These consist of small Serpulæ, ossicles of Apiocrinites, and remains of Amorphozoa, Foraminiferæ, Bryozoa, and Entomostraca; such as