THE
QUARTERLY JOURNAL
OF
THE GEOLOGICAL SOCIETY OF LONDON.

PROCEEDINGS
OF
THE GEOLOGICAL SOCIETY.

JANUARY 3, 1849.

The following communications were read :—

1. *Notice on the Occurrence of Eocene Freshwater Shells at BEAULIEU, LANGLEY, &c., in HAMPSHIRE.* By J. C. MOORE, Esq., Secretary Geol. Soc.

BEING lately in the neighbourhood of Beaulieu, on the eastern boundary of the New Forest, I had opportunities of ascertaining that the fluvio-marine beds of the Isle of Wight and of Hordwell Cliff extend further eastward than has hitherto been noticed.

From the Beaulieu river to the Southampton Water, a distance of about four miles, the country is a low flat moor covered with heather : by following the coast from the mouth of the Beaulieu river to Eaglehurst, it will be seen that the lowest bed is a purplish clay covered by a grey sandy clay, both of which are nearly concealed at high-water ; on these repose yellow sands, interstratified with pebbly beds, the whole being covered by a diluvium of flint shingle. The beds rise gently to the west, and more perceptibly to the north.

The yellow sands are without fossils, but the clays in the following localities contain them.

1st. On the west side of the Beaulieu river, between St. Leonard's and Bucklershard, I found casts of *Lymnaeus longiscatus* in a grey clay, reposing on purple clay.

2nd. Across the river, in a brick-field about one mile above Exbury, I found fragments of shells in a similar grey clay, reposing on purple clay.

3rd. Close to Beaulieu, on the east side of the river, in a brick-field, I obtained the following section:—

Soil and diluvium; brown clay, 2 feet; sandy clay, 3 or 4 feet; yellow and light-coloured sand.

The sandy clay contained a seam, three or four inches thick, of very perfect specimens of *Cyrena obovata* and *Melania costata*, together with a few broken specimens of *Cytheræa incrassata* and an *Ostrea*. About a foot below this seam of shells was a very thin seam of broken fragments of the same *Ostrea* and *Cytheræa*.

4th. About one mile and a half eastward, near the village of Langley, a brook running parallel to the Beaulieu river affords the following section:—

Diluvium; ferruginous clay, 2 or 3 inches; greenish clay with vegetable impressions, 2 or 3 feet; sandy loam with vegetable impressions; stiff clay without fossils, 6 or 7 feet; bed of nodules of ferruginous clay containing casts of *Lymnæus longiscatus*, *Melania costata*, a *Natica*, *Cyrena*? and a *Nucula*? The lowest bed seen was a greenish marl with very perfect specimens of *Cytheræa incrassata*.

5th. About half a mile to the north, on the same brook, I found in an old marl-pit the same green marl with the *Cytheræa*.

Still further east, about one mile and a half from Hythe, on the road to Eaglehurst, a grey clay used for brick-making is seen covered by a considerable depth of the yellow sand; but I could not find any fossils in it.

I suspect these fluvio-marine beds do not extend much further to the north; for on the opposite side of the Southampton Water, half a mile below Netley Abbey, I found a low cliff consisting of grey sandy clay with marly concretions like septaria, abounding in shells of the genera *Turritella*, *Corbula*, *Pecten*, *Pinna*, *Rostellaria*?, *Fusus*?, *Voluta*?, *Pholadomya*?, and no mixture of freshwater shells,—a group which, by consulting Mr. Prestwich's lists of fossils, seems to belong to some part of the Bracklesham Bay series.

I have thought it worth while to mention the occurrence of these fluvio-marine beds over this tract, as it might otherwise have been referred to the upper and middle beds of the Bracklesham series, to which, judging by Mr. Prestwich's description, they have great resemblance. Both consist of a series of yellow sands overlying purplish clay and greenish sand: and as that geologist has shown that the lower and middle divisions of the series come to the surface at Southampton with a southerly dip, it might have been believed that the district to the south, which I have tried to describe, was part of the middle and upper members of that formation. The fossils, however, indicate that these beds are higher in the series, and make it probable that the upper Bracklesham beds crop out at some intermediate point; and of this there seem to be indications in the marine beds near Netley Abbey.