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PRELIMINARY SOIL REPORT ON THE CUCKMERE VALLEY PROJECT

R I Macphail - August 1982

In the spring of 1982 three days were spent making a soil reconnaissance of areas of the Cuckmere. This was to provide some basis to the environmental background of the Cuckmere Valley Project (Sussex Archaeol Field Group, Director Peter Drewett) and in the first instance aid a field walking campaign proposed for the forthcoming Autumn (1982).

The area under scrutiny, in the South-West of the Weald is at present only covered by the 1:1,000,000 soil map of England and Wales but geological information is available (Geological Survey of England and Wales, Sheets 319 and 334), and the "Soils of Kent" (Fordham and Green, 1980) gives information on soils from a comparable region (ie. the North-East Weald). Soon more information on the soils of the Cuckmere area should be available as the new soil survey map at 1:250,000 is in press, and a mapping campaign of the Weald at the detailed 1:50,000 scale commences this year (Peter Bullock, pers. comm.).

Methods and Areas Investigated: It is very important to understand the sequences of solid geology and their distribution, together with the cover of drift deposits. It is also useful to realise the variations of lithology within particular geological units as these can give rise to different soil types. The reconnaissance was carried out by auger survey and included the following areas, which were selected on the basis of geology - and often access:

a) High Weald: Waldron Down (Ashdown Sand) and Park Wood (Tunbridge Wells Sand and Wadhurst Clay).

b) Low Weald: Abbots Wood, Milton Hide (Weald Clay) and Selmeston (Lower Greensand, Gault).

c) South Downs: Alfriston (Chalk, Superficial Deposits).

Geology (Gallois, 1965)

Lower Cretaceous

Ashdown Sand - fine grained, silty sandstones and siltstones with subordinate amounts of shale and mudstone. Outcrop marked by massive, fine grained, quartzose sandstone.

Wadhurst Clay - dark grey shales, mudstones with subordinate beds of silt, sandstone, shelly limestone and clay ironstone.

Tunbridge Wells Sand - silts, silty mudstones and sandstones, separated by shales and mudstones (Grinstead Clay).

Weald Clay - shales, mudstones and subordinate siltstones, sandstones, limestones and clay ironstones.

Lower Greensand - sands and sandstone with subordinate calcareous and limestone beds.

Upper Cretaceous

Gault and Upper Greensand - mudstones and clay, marl; sands and marl.

Lower Chalk - soft friable limestone with much argillaceous (marl) and arenaceous material - becoming more pure 50-90%.

Middle Chalk - hard Melbourne rock, soft friable limestone and few flints.

Upper Chalk - hard Chalk Rock, soft friable limestone with flints.

Pleistocene and Recent

Clay - with - flints, Coombe Deposits, Brickearth, Dry Valley Deposits, Alluvium and Blown Sand.

Soils

High Weald Waldron Down (near Possingworth Park), 544216, 120 metres O.D. on Ashdown Sand, under coniferous woodland. Sands with clay bands give rise to podzols (Hothfield Series) or stagnogley - podzols (Holiday's Hill Series). Elsewhere, on Ashdown Sand fine sands and siltstones have produced more poorly drained cambic stagnogley soils (Cranbrook Series) and stagnogleyic brown earths (Curtisden Series).

Park Wood (near Hellingly) 605137, 46 metres O.D. on Tunbridge Wells Sand under arable and coppice woodland. Silts and mudstones have produced stagnogleyic brown earths (Curtisden Series) with some weak podzolic brown earths on some interfluves. Local streams are deeply incised cutting down through narrow deposits of alluvium/ colluvium to the Wadhurst Clay. The shales of the latter commonly carry pelo-

Soils on the Clay - with - flints - Moderately difficult, class 2 to 3; occasionaly wet, slowly permeable; stoney.

Soils on Alluvium - Difficult, class 4, commonly wet, slowly permeable; high groundwater, short term flooding in some years.

Summary: As a generalisation soil types can be related to geology, as long as physiography, variations within geological units and the occurrence of drift deposits are taken into consideration. In the archaeological context, the easily worked soils of the lower Greensand makes them immediately attractive, while the easily worked soils of the Chalk suffer from moderately steep slopes and nutrient deficiencies, although dry valley evidence indicates a long continuous agricultural history (Bell, 1981). A thin loess cover on the Lower Greensand as at Selmeston tends to offset such problems as acidity and droughtyness of soils on a pure Lower Greensand substrate. On the wetter, more difficult soils geological ironstone was possibly a greater attraction than agricultural potential. On the high Weald valley colluvium may be a result of deforestation produced by the Wealden iron industry. Where the Wealden Clay is offset by a lighter drift or interbedded sandstone, such as at Abbots Wood, it may be interesting to speculate whether the area was used for arable before being turned into permanent woodland.

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