

STATEMENT OF PHYSICAL CHARACTERISTICS, LAND AT ICKHAM, KENT1. Background

- 1.1 The site was surveyed on the 8th June 1989, in connection with proposals to extract sand and gravel by the Ickham Gravel Company Ltd. The site lies approximately a mile north of Wickhambreaux Village, to the east of the road. Wickhambreaux is on the river Stour, a mile downstream of Littlebourne, to the west of Canterbury. The site covers 4.2 hectares of agricultural land, and is of elongated shape, running SE-NW. The site was surveyed using Dutch augers (1.1 & 1.2m), at ten locations (about half of a hectare per augers boring), and a pit was also dug to provide additional soil data. At the time of survey (8.6.1989), the entire site was under potatoes.

2. Physical Factors Affecting Land Quality

- 2.1 RELIEF: The site lies at approximately 4m A.O.D, falling very gently to the west. The highest part of median tidal flow is about 3m A.O.D. The site is surrounded by a network of drains. Gradient is not significant in limiting land quality.
- 2.2 CLIMATE: Site interpolated average annual rainfall (Met. Office 1989), gives a value of 663mm for the site, which is low by national standards. Field capacity days, a measure of climatic wetness, is correspondingly low at 136 days (Met. Office 1989). Accumulated temperatures, an indication of the relative warmth of the site is relatively high at 1489 day degrees above 0°C (Jan-June). (Met. Office 1989) Moisture deficits are 125mm for wheat and 122mm for potatoes. (Met. Office 1989). Climatic factors per place no limitation on agricultural land classification grade but do affect interactive limitations between soil and climate, namely soil wetness and droughtiness.
- 2.3 GEOLOGY & SOILS: The British Geological Survey Sheet 289, (Canterbury), shows the site to be underlain by Head Brickearth over the Loamy Thanet Beds. The soils derived from this Brickearth, are shown by the soil survey of England & Wales (soils of Kent) (Fordham & Green 1980), as gleyic argillic brown earths of the Hamble I association, and examination of the site indicates the presence of only one soil type. The soils typically comprise silt loam, stoneless topsoils, overlying a permeable subsoil which becomes heavier with depth, usually being a stoneless silty dry loam.

The subsoil is mottles and gleyed, reflecting the influence of past high groundwater levels.

3. Agricultural Land Classification

- 3.1 The land has been graded in accordance with the revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988). Only ALC Grade 2 has been mapped, reflecting the considerable uniformity of land quality over the site. Appendix 1, gives the general description of the ALC grades.

3.2 Grade 2 The chief limitation of the soils on this site is that of a minor soil wetness and workability constraint. Although there is no slowly permeable layer present, the low lying situation of the site would cause the soil to be slightly wet in the winter due to ground water. Given the silt loam topsoil texture, this is enough to reduce all the site to grade 2 on wetness and workability. Soils affected by groundwater are graded on the assumption that they can be drained, and evidence from drainage records, cropping and the examination of free board indicate this to be the case. A few of the soils with heavier subsoils also have minor drought limitations which would restrict some of the land to a maximum of grade 2, however the majority of the samples indicated deep, stoneless, loamy soils, able to hold and release large amounts of water to the growing crop. Droughtiness is therefore not a limitation over most of the site.

4. Soil Resources

4.1 The soils covering the site are of one unit. Typically the soils are a silty clay loam or silty loam topsoil of 29cm depth, varying from 25-30cm. The chief colour is a dark greyish brown (10yr4/2), with soils higher in topsoil organic matter being darker (10yr3/x2). Subsoils are mottled and gleyed with a 10yr 5/2 matrix. An upper subsoil of silt loam texture, with a lower subsoil beginning at 55cm depth of silty clay loam is usual. The subsoils have a moderately well developed coarse subangular blocky and friable structure containing 0.5 - 1.0% biopores, and so are permeable.

A number of the soil have a lower subsoil of fine sandy silt loam found below 70cm, the colours and mottling being similar to that above. The topsoil (29cm), should therefore be considered as a separate resource from the subsoil, and useful soil forming material may be found below the 120cm depth to which the soils were sampled.

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Sources of Reference:

BRITISH GEOLOGICAL SURVEY (1982). Sheet 289, Canterbury.
MAFF, (1988) Agricultural Land Classification on England & Wales, Revised guidelines & criteria for grading the quality of agricultural land.
SOIL SURVEY OF ENGLAND & WALES. Soils of Kent (1980). Fordham & Green.