

DINGLE BANK QUARRY, CHELFORD**STATEMENT OF PHYSICAL CHARACTERISTICS**

The site, which comprises three separate areas, was surveyed by the Resource Planning Team in August and September 1992. It is situated to the south of Chelford and east of the A535 road. The three areas together cover about 70 hectares, most of which was in agricultural use at the time of survey with grassland, cereals and maize. Existing quarries are situated to the south of the site.

Climate

Average annual rainfall - 799mm.

Accumulated temperature above 0°C January to June - 1366 day °C.

Field capacity days - 196 days.

Moisture deficit wheat - 85mm.

Moisture deficit potatoes - 71mm.

There is no overall climatic limitation to the agricultural use of this land.

Site

The site is level or only gently sloping and lies at an altitude of 76m-84m.

Soil

The soil geology in this area comprises Keuper Marl, but this is overlain by fluvio-glacial drift deposits. These have given rise to sandy soils with occasional clay rich subsoils and stoney or gravelly subsoil horizons.

Agricultural land classification**Grade 2**

Four areas of Grade 2 land have been mapped, to the east and west of Lapwing Hall, between the A535 and Colt Hovel Wood and east of Lapwing Cottage. Soils are mainly sandy loams over loamy sands and sands, with few or no stones and having some horizons enriched with organic matter. In the area to the east of Lapwing Cottage particularly, finer textured subsoils with clay, sandy clay loam and sandy silt loam are found. Droughtiness is the main limiting factor on these soils.

Grade 3a

Most of the remainder of the site has been mapped as Grade 3a. Soils are similar in texture to those above but with greater depths of sand subsoils and often having stoney or gravelly subsoil horizons. Within the area mapped as Grade 3a, augur borings of Grade 2 uality do occur but over areas too small to be mapped separately

Non-agricultural

Land mapped as non-agricultural includes woodland and the existing quarry around Lapwing Cottage.

Area of land in each Grade

Grade	Hectares	% of Total Area	% of Agricultural Area
2	17.3	24	27
3a	46.8	66.4	73
Non-agricultural	6.4	9.1	-
Total	70.5	100	100

Soil units

Soils were examined using a Dutch soil auger, with borings on a 100m x 100m grid based on the OS grid. Borings were to a depth of 100cm unless prevented by stoney layers. Soil pits were dug to obtain further details on factors such as subsoil structure and stone volumes.

Type 1

The soils are similar over most of this site and typical profiles have 35cm-40cm sandy loam topsoil over loamy sand and sand subsoils. A shallow horizon enriched with organic matter often occurs between the sandy loam and loamy sand. Topsoils have few or no stones, but stoney layers with 10%-15% by volume of small stones and gravel are found in many profiles at depths below about 50cm. In the area just north of The Mosses, these stoney layers were found to be forming iron pans. A typical profile for this soil type is given below.

Pit 4

0-30cm 10YR3/3 medium sandy loam, well developed fine granular structure, few hard rounded stones, common roots.

30-50cm 7.5YR4/6 loamy medium sand, moderately well developed fine granular structure, very friable, porous, few hard stones, common roots.

50-75cm 7.5YR5/6 medium sand, single grain, 14% small stones and gravel, common roots. 75-120cm 7.5YR5/6 medium sand, single grain, no stones.

Type 1a

A variant of this soil type has been mapped in two areas, one immediately south of The Mosses and the other to the east of Lapwing Hall. These differ in having more variable and mixed subsoils with fine textures including sandy clay loam, clay and sandy silt loam, together with loamy sand and sand. A typical profile is given below.

Pit 3

0-30cm 10YR3/2 medium sandy loam, moderately well developed fine granular structure, no stones, common roots.

30-50cm 10YR5/4 fine sandy loam, moderately well developed medium granular structure, friable, few roots.

50-73cm Mixed 7.5YR4/6 and 10YR6/1 fine sandy silt loam, weakly developed fine subangular blocky structure, firm, porous, few roots.

73-120cm 5YR3/4 clay with 5YR6/1 medium sand, common ochreous mottles, weakly developed medium angular blocky structure, firm, no stones, no roots.