STATEMENT OF PHYSICAL CHARACTERISTICS
LONGBRIDGE, WARWICK

The site at Longbridge was surveyed by the Resource Planning Group in November 1989. Most of the site had been surveyed previously in September 1986 using the old Agricultural Land Classification system. The site is situated about 2 miles south west of the centre of Warwick and is bounded by the M40 motorway to the north, the A46(T) road to the east and the B4463 road to the south, with agricultural land to the west. It covers just over 16ha and at the time of survey was in agricultural use, namely winter cereals.

Climate

Average annual rainfall in this area is 635mm and the accumulated temperature above 0°C for the period January-June (a measure of the relative warmth of a locality) is 1435 day °C. The combination of rainfall and accumulated temperature indicates that there is no overall climatic limitation to the use of the land. The balance between summer rainfall and evapotranspiration creates moisture deficits of 108mm for winter wheat and of 100mm for potatoes. The median duration of field capacity is 141 days. The growing season extends to about 250 days from late March until the end of November and the mean date of the last frost is late April.

Topography

The land is level and lies at the an altitude of about 51m. Topography does not impose any limitations on the agricultural use of the land.

Geology

The solid geology in this area comprises deposits of the Mercia Mudstone Group but in the vicinity of the site these are overlain by 2nd River Terrace deposits. Soils derived from these parent materials are typically clay loams or sandy clay loams over clay with gravel at varying depths within the profile.

Agricultural Land Classification

Grade 3a. A small area of Grade 3a land has been mapped in the field adjacent to the A46 road. In this area the soils have a lighter topsoil texture than elsewhere on site and in some profiles the clay if present is deeper, below 40-45cm. In most of this area also gravel was encountered at about 50cm depth. Although these soils may have slowly permeable layers at or just below 30cm, the lighter topsoils permit their inclusion in Grade 3a. Soil wetness is the main factor limiting these soils.

Grade 3b. The remainder of the site has been mapped as Grade 3b. Soils are typically clay loams over clay with gravel at variable depths from about 45cm to below 90cm. Heavier topsoils on slowly permeable layers at about 30cm restrict these soils to wetness class IV and thus Grade 3b.

Area of land in each Grade

		ha	%
Grade 3a	3.5	3.5	21
Grade 3b	12.7	1287	78
Non ag		0.1	1
Total		100	100

SOIL RESOURCES

The soil resources on site were surveyed using a 1m Dutch soil auger. Soil borings were made on a 100mx 100m grid and were to 100cm unless prevented from reaching this depth by gravel or stony layers. In addition 2 soil pits were dug to obtain a better assessment of subsoil structure and to collect samples for analysis. Although two soil units have been identified there is very little difference between them and the soils are very variable in terms of stoniness and depth to impenetrable stony or gravel layers. The soil units have been differentiated by topsoil texture and depth to gravel.

Soil Unit I

In this unit soils have a generally lighter topsoil texture, sandy loam to sandy clay, although some profiles with clay loam topsoils have been included. The topsoils overlie very mixed subsoils of sandy clay loam, clay with lenses of loamy sand and gravel and gravel at about 50cm. Stone content varies from less than 5% to about 10% and the stones are mainly small and medium in size with very few greater than 6cm. The profile at Pit 1 indicates some of the variability found in these soils.

0-30cm 10YR 4/3 sandy loam/sandy lay loam; well developed crumb structure; porous; 5% rounded, hard stones of medium size; abundant plant roots.

30-50cm 10YR 5/2 sandy clay loam; common ochreous mottles; moderately to well developed coarse angular blocky structure, tending to prismatic; about 0.5% porosity; stones as above.

50-95cm 5 YR 4/4 and 10YR 7/1 clay; common ochreous mottles; massive; < 0.5% porosity; few stones; between 65 and 85cm lens of 10YR 6/4 loamy sand/sand, common ochreous mottles; weakly developed granular structure, porous, no stones. 95cm + moist impenetrable gravel.

Gleyed, slowly permeable layer at 30cm. Wetness Class IV.

Soil Unit II

In this unit the soils are generally heavier and deeper with clay loam over clay and gravel if it occurs below about 65cm. However, it should be noted that there are profiles within this unit where stony layers were encountered higher up within the profile. As with Unit I stone content is variable Pit 2.

0-35cm 10 YR 4/1 clay loam; few ochreous mottles; moderately developed granular structure; porous; 5% stones, rounded medium, few roots.

35-65cm 10YR 5/2 (but also 10 YR 6/2, 10YR 6/4 and redder colours) clay; common ochreous mottles; weakly developed medium angular blocky structure to massive in places; <0.5% porosity; few roots.

65cm+ clay as above with gravel.

Gleyed, slowly permeable layer at 35cm. Wetness Class IV.

Resource Planning Group
Wolverhampton
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