

## **AGRICULTURAL LAND CLASSIFICATION FOR THE PROPOSED SAND AND GRAVEL SITE AT BADEN HALL NEAR ECCLESHALL**

### **INTRODUCTION:**

The land was visited by a member of the Resource Planning Group in February 1989, to undertake a detailed Agricultural Land Classification Survey, using the 'Revised' guidelines. Twenty borings were made and three soil pits dug, providing information in sufficient detail to present the maps at a scale of 1:10,000.

### **ALTITUDE AND RELIEF:**

The site is almost level, at an altitude between 90 m and 100m. Minor irregularities occur in the north-west of the site adjoining Meece Brook. These are due to former river meanders.

### **CLIMATE AND RAINFALL:**

The site lies in Agroclimatic Area 15 West. The average annual rainfall is 764mm, with the highest rainfall in August and November, and the lowest between February and April. This produces a moisture deficit in summer of 92 mm for wheat and 80 mm for potatoes. The average length of the growing season is 229 days from early April to late November. The mean date of the last frost is in early May.

### **GEOLOGY AND SOILS**

The area is underlain by Triassic Mudstones, including Keuper Marl, Dolomite Conglomerate and Rhaetic. This has been overlain by Alluvium and River Terrace Sand and Gravel deposits. The associated soils tend to be a mixture of clay loams overlying sand and gravel, or sandy loams onto loamy sands and sands.

At the time of survey, the two fields to the north-west were permanent pasture, with winter cereals in the remaining larger field.

### **AGRICULTURAL LAND CLASSIFICATION**

**Grade 2.** This land accounts for 3.7 hectares and 20% of the site, it is limited to a single area in the south-west of the site adjoining the railway line. Soils are typically sandy loams overlying loamy sands with sand at depth. These soils are slightly or moderately stony below 60 cms. It is the droughty nature of these soils which represents the main limitation to the agricultural use of this land.

Sub-grade 3a. This land accounts for 14.7 hectares and 80% of the site, and covers the remainder of the application area.

In the north-west adjoining the railway line and in the south-east adjoining Meece Brook the soils are typically sandy loams overlying loamy sands with sand and gravel at depth. The subsoil is moderately to very stony, which limits the available water of these soils. Droughtiness is the main limitation to the agricultural use of this land.

In the north-east adjoining Meece Brook the soils are more variable with sandy silt loams, sandy clay loams and clay loams overlying *sandy* loams, clay loams and clays, with sand or sand and gravel below 60 cms. Due to a slowly permeable layer below 35 cms these soils have a wetness limitation with gleying within the profile. Wetness is the main limitation to the agricultural use of this land.

Resource Planning Group  
Wolverhampton RO  
March 1989

JDD

PHYSICAL CHARACTERISTICS REPORT FOR BADEN HALL PROPOSED SAND AND GRAVEL SITE

INTRODUCTION

A detailed survey using a hand-held auger was carried out on the site, with 20 borings being undertaken. In all cases borings were to 100 cms unless prevented from achieving this depth by sand and gravel. In addition three soil pits were dug so that details of the physical characteristics of the soils could be observed and recorded.

Three soil units were identified, which have been separated according to their textures which reflect their different handling characteristics and separate storage needs.

Unit 1

This unit occurs in the south-west of the site adjoining the railway line. Soils are typically sandy loams overlying loamy sands and sands.

Unit 2

This unit occurs in the north-east of the site adjoining Meece Brook. Soils are more variable with sandy clay loams and clay loams, overlying sandy loams, sandy clay loams and clays, with sand or sand and gravel at depth.

Unit 3

This unit occurs in the centre of the site where soils are typically sandy loams over loamy sands with sand and gravel at depth. These soils are more stony than in Unit 1.

Details of the soil pits are attached.

## MINERAL SITE RECORD

## SOIL PIT DETAILS

Site Name: Baden Hall  
Proposed sand and gravel  
extraction

Pit Number: 1  
Land use: Permanent Pasture

Slope: Level  
Aspect:

Depth	Texture	Munsell Colour	Mottles Abundance/ Colour	Structure Grade/Class/Type	Porosity	Stone Abundance/Type	Plant Roots	Comments
0 - 28	CL	7.5 YR 3/2 dark brown	common dis- tinct, rusty root mottles	Moderate, medium sub-angular blocky	Slightly porous	None	Many fine fibrous	
28 - 48	SL high organic content	5 YR 3/2 dark, reddish, brown & bands of 2 - 5/1 black	common distinct rusty & ochreous mottles	Moderate medium to coarse prismatic	Moderately porous	None	common fine fibrous	High organic matter content
48 - 120	Coarse S	5 YR 5/1 grey	None	Single grain/ weak coarse sub- angular blocky	Very porous	2 - 4% rounded quartzite pebbles		

Profile Details:

Plant Roots:

Soil Fauna:

General Comments:

MINERAL SITE RECORD

SOIL PIT DETAILS

Site Name: Baden Hall

Pit Number: 2

Slope: Level

Land use: Winter Cereals

Aspect:

Depth	Texture	Munsell Colour	Mottles Abundance/ Colour	Structure Grade/Class/Type	Porosity	Stone Abundance/Type	Plant Roots	Comments
0 - 36	SL	10 YR 3/3 dark brown		Moderate medium crumb	Very porous			
36 +	SL & bands of clay loam & weathered sandstone	10 YR 5/6 yellowish brown	Few faint ochreous mottles	Single grain/ weakly developed sub angular blocky	Moderately porous	20 - 30% rounded quartzite peb- bles. very stony to stony		Sandstone fragments

Profile Details:

Plant Roots

Soil Fauna:

General Comments:

## MINERAL SITE RECORD

## SOIL PIT DETAILS

Site Name: BADEN HALL

Pit Number: 3

Slope: LEVEL

Land use: WINTER CEREALS

Aspect:

Depth	Texture	Munsell Colour	Mottles Abundance/ Colour	Structure Grade/Class/Type	Porosity	Stone Abundance/Type	Plant Roots	Comments
0 - 35	SL	10 YR 3/2 very dark greyish brown		Moderate fine and medium crumb	Very porous	Slightly stony small and medium rounded quartzite pebbles	Common fine fibrous	
35 - 58	SL/LS	7.5 YR 3/2 dark brown	Bleached quartz grains	Moderate, medium crumb	Very Porous	"		
58 - 120	S	7.5 YR 4/2 Brown		Single grain	Very porous	"		

Profile Details:

Plant Roots

Soil Fauna:

General Comments: