

**AGRICULTURAL LAND CLASSIFICATION AND  
SOIL RESOURCES**

*BOSCOBEL QUARRY  
BISHOPS WOOD, STAFFORDSHIRE*

**Resource Planning Team  
ADAS Statutory Group  
WOLVERHAMPTON**

**Job No : 51/93  
MAFF Ref : EL 37/10034**

## **AGRICULTURAL LAND CLASSIFICATION REPORT FOR BOSCOBEL QUARRY, BISHOPS WOOD, STAFFORDSHIRE**

### **1. SUMMARY**

1.1 The Agricultural Land Classification (ALC) survey for this site shows that the following proportions of ALC grades are present.

Grade 2	8.06 ha	(60.24% of the site)
Subgrade 3a	3.98 ha	(29.74% of the site)
Subgrade 3b	1.34 ha	(10.01% of the site)

1.2 The main limitation to the agricultural use of land in Grade 2 is topsoil stone content.

1.3 The main limitation to the agricultural use of land in Sub-grade 3a is soil droughtiness.

1.4 The main limitation to the agricultural use of land in subgrade 3b is soil wetness.

### **2. INTRODUCTION**

2.1 The site was surveyed by the Resource Planning Team in September 1993. An Agricultural Land Classification (ALC) survey was undertaken according to the guidelines laid down in the 'Agricultural Land Classification of England and Wales - Revised Guidelines and criteria for grading the Quality of Agricultural Land'. (MAFF 1988).

2.2 The 13.38 ha site is situated east of the Codsall to Bishops Wood road and lies south of and immediately adjacent to the existing quarry.

2.3 The survey was requested by MAFF in connection with an extension to the existing Boscobel Quarry.

2.4 At LUPU's request this was a detailed survey at a scale of 1 : 10000 with a minimum auger boring density of one per hectare. The attached map is only accurate at the base map scale and any enlargement would be misleading.

2.5 At the time of survey the site was under cereals and set aside.

### **3. CLIMATE**

3.1 The following interpolated data are relevant for the site:

Average Annual Rainfall	712 mm
Accumulated Temperature above 0°C January to June	1330 Day °C

3.2 There is no climatic limitation on the site.

3.3 Other relevant climatic parameters include :

Field Capacity Days	164 days
Moisture Deficit for wheat	90 mm
Moisture Deficit for potatoes	76 mm

### **4. SITE**

4.1 The assessment of site factors is primarily concerned with the way in which topography influences the use of agricultural machinery. These include gradient, micro relief and flooding.

4.2 Gradient, micro-relief and flooding do not impose any limitations on the agricultural use of the land.

### **5. GEOLOGY AND SOILS**

5.1 The solid geology of the area is comprised of Keuper Marl - British Geological Survey Sheet 153, Scale 1 inch. This is overlain by deposits of sand and gravel and alluvium.

5.2 The underlying geology influences the soils which generally have a sandy loam texture over sand. Also included are some more organic soils over sandy clay loams, and sand at depth.

## 6. AGRICULTURAL LAND CLASSIFICATION

- 6.1 Grade 2 - occupies 8.06 ha (60.24%) of the survey area over the southern part of the site.
- 6.1.1 These soils typically have a sandy loam texture overlying fine sand to depth. They have moderate topsoil stone contents.
- 6.1.2 The main limitation to the agricultural use of this land is topsoil stone content.
- 6.2 Sub-grade 3a - occupies 3.98 ha (29.74%) of the survey area and is found in the north of the site.
- 6.2.1 The soils generally have sandy loam textures over medium sands to depth. The topsoils are moderately stony.
- 6.2.2 The main limitation to the agricultural use of this land is droughtiness.
- 6.3 Subgrade 3b - occupies 1.34 ha (10.01%) of the survey area and is found in the east of the site between the two drains.
- 6.3.1 The soils have organic sandy loam textures over sandy clay loams and sand to depth. At the time of survey (September 1993) the water table was within 90 cm, and the soils fall into Wetness Class IV. Local sources report that the land is wet at depth for the majority of the year and for this reason the soils have been down graded from subgrade 3a to subgrade 3b
- 6.3.2 The limitation to the agricultural use of this land is soil wetness.

## 6.4 SUMMARY OF AGRICULTURAL LAND CLASSIFICATION GRADES

Grade/Subgrade	Area in Hectares	% of Survey Area
2	8.06	60.0
3a	3.98	30.0
3b	1.34	10.0
Total	13.38	100.0
Total Agricultural Land	13.38	

## 7. SOIL RESOURCES

7.1 Soils were examined using a Dutch soil auger, at a detailed survey scale of 1 : 10 000, with a minimum auger boring density of one per hectare.

7.2 The soils can be divided into two soil units on the basis of profile description.

7.3 Unit 1 - The soils typically have around 40 cm of a sandy loam topsoil, over a sand subsoil. Over the south of the site the subsoils have a fine sand subsoil overlying medium sand to depth, in the north of the site the subsoil is wholly comprised of medium sand. The topsoils are generally moderately stony with volumes of stones (>2cm) around 7%, the subsoils are only slightly stony and mottled to within 40 cm. A typical soil profile for this unit is given below :

0 - 40 cm	Dark brown 10 YR 3/3. Moderately stony, medium sandy loam, weakly developed medium subangular blocky structure, common roots.
40 - 90 cm	Reddish yellow 7.5 YR 6/8 mottled fine sand, single grain structure, less than 0.5% fine pores, few-rare fine fibrous roots.
90 - 120 cm	Strong brown 7.5 YR 5/6 - 4/6, stoneless medium sand, single grain structure, no roots.

7.4 Unit 2 - These soils are found in the east of the site.. This soil type typically has an organic sandy loam topsoil texture, over a sandy clay loam subsoil and medium sand to depth. The soils are mottled to within 40 cm. A typical soil profile for this unit is given below :

0 - 40 cm	Very dark brown, 10 YR 3/2, slightly stony organic sandy loam, moderately well developed, medium - fine subangular blocky structure, common fine fibrous roots.
40 - 62 cm	Light yellowish brown 10 YR 6/4, mottled, slightly stony, sandy clay loam, weak, medium to coarse subangular blocky structure, few to common roots, less than 0.5% fine pores.
62 - 120 cm	Pale brown 10YR 6/3. Stoneless medium sand, single grain structure, no roots.

7.5 Unit 1 occupies 12.04 ha, (90% of the site)

Unit 2 occupies 1.34 ha (10% of the site)

**Resource Planning Team  
ADAS Statutory Group  
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