

**LAND AT BRANT FARM
STOURPORT-ON-SEVERN**

**Agricultural Land Classification Survey
and Soil Resources Report
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AGRICULTURAL LAND CLASSIFICATION REPORT LAND AT BRANT FARM, STOURPORT-ON-SEVERN

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey on 12ha of land. The land is located to the north of Stourport-on-Severn between Brant Farm and Bewdley Road North. The survey was undertaken by the Resource Planning Team at Wolverhampton (Northern ADAS Statutory Centre) during February 1997.
2. The survey was commissioned by the Ministry of Agriculture, Fisheries and Food (MAFF) from its Land Use Planning Unit in Crewe. The survey was in connection with the proposed extension to Lickhill Quarry for sand extraction. The results of this survey supersede any previous ALC information for this land.
3. The land has been graded in accordance with the publication "Agricultural Land Classification of England and Wales - Revised Guidelines and Criteria for Grading the Quality of Agricultural Land" (MAFF 1988).
4. At the time of the survey the agricultural land on this site had been ploughed.

SUMMARY

5. The findings of the survey are shown on the attached ALC map. At the request of the Land Use Planning Unit this was a detailed grid survey at a scale of 1:10,000 with a minimum auger boring density of 1 per hectare. The ALC map is only accurate at the base map scale and any enlargement would be misleading.
6. The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1 below.

Table 1: Area of Grades and Other Land

Grade/Other Land	Area (Hectares)	% Site Area	% Surveyed Area
2	2.2	18.3	18.3
3a	9.8	81.7	81.7
Total surveyed area	12.0	-	100.0
Total site area	-	100.0	-

7. The agricultural land on this site has been classified as grade 2 (very good quality) and subgrade 3a (good quality), the main limitation being soil droughtiness.
8. The area of very good quality land is located in the centre of the site. The soils commonly comprise a fine sandy loam topsoil overlying loamy fine sand and occasionally sand to depth.

9. Areas of good quality land are found across the rest of the site. These soils comprise a medium sandy loam topsoil overlying a loamy medium sand and sand to depth.

FACTORS INFLUENCING ALC GRADE

Climate

10. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.
11. The key climatic variables used for grading this site are given in Table 2 below and were obtained from the published 5km grade data sets using standard interpolation procedures (Met Office 1989).
12. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

Table 2: Climatic and Altitude Data

Factor	Units	Values
Grid Reference	N/A	SO 795 735
Altitude	m, AOD	47
Accumulated Temperature	day °C	1443
Average Annual Rainfall	mm	700
Field Capacity Days	days	160
Moisture Deficit, Wheat	mm	102
Moisture Deficit, Potatoes	mm	92

13. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.
14. The combination of rainfall and temperature at this site means that there is no overall climatic limitation. Local climatic factors, such as exposure and frost risk, are not believed to significantly affect the site. The site is climatically grade 1.

Site

15. The site lies between 43-55m AOD. The land rises from the south-west of the site towards higher ground in the north-east of the site.
16. Three site factors of gradient, micro-relief and flooding are considered when classifying the land.

17. These factors do not impose any limitations on the agricultural use of this land, however in the north-east of the site where the land rises there could be the risk of topsoil erosion due to the nature of the soil.

Geology and Soils

18. The solid geology of the area is comprised of Triassic Bunter Pebble Beds. No drift deposits overlie this.
19. The soils that have developed on this geology generally have a sandy loam texture.

Agricultural Land Classification

20. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1.

Grade 2

21. Land of very good quality occupies 2.2ha (18.3%) of the site area and occurs as an isolated area in the centre of the site.
22. The soil has a fine sandy loam topsoil texture over a loamy fine sand subsoil and occasionally sand to depth. The moisture balance places these soils in grade 2.
23. The main limitation to the agricultural use of this land is soil droughtiness.

Subgrade 3a

24. Land of good quality occupies the remaining 9.8ha (81.7%) of the site area.
25. The soil has a medium sandy loam texture over loamy medium sand and sand to depth. The moisture balance places these soils in subgrade 3a.
26. The main limitation to the agriculture use of this land is soil droughtiness.

**SOIL RESOURCES REPORT
LAND AT BRANT FARM, STOURPORT-ON-SEVERN**

INTRODUCTION

27. The 12ha site was surveyed by the Resource Planning Team in February 1996. The soils on the site were investigated using a Dutch auger and by examining soil pits to 120cm to identify substructural conditions.
28. Two soil units have been identified across the site and these are described below.

Soil Unit 1

29. Soil Unit 1 comprises 9.8ha (81.7%) of the survey area. The soils generally have sandy loam topsoil textures overlying loamy sand and sand subsoils, the profiles are slightly stony occasionally with a very stony lower subsoil horizon. A typical profile description for Unit 1 is as follows:

0-37cm	Dark brown, 75YR 3/2 medium, sandy loam; 2% hard stone; moderate, medium, subangular, blocky structure; friable; common, fine, fibrous roots.
37-65cm	Brown, 75YR 4/4 loamy, medium sand; 5% hard stone; weak, coarse, angular, blocky structure; very friable; few to common, fine, fibrous roots.
65-85cm	Brown, 75YR 4/4 loamy, medium sand; 40% hard stone, weak, medium, subangular, blocky structure; very friable; few fine, fibrous roots.
85-120cm	Strong brown, 75YR 4/6 medium sand; stoneless; weak, coarse, subangular, blocky structure, with a weak, coarse, platy structure along the sedimentary bedding; very friable; few fine, fibrous roots.

Soil Unit 2

30. Soil Unit 2 comprises 2.2ha (18.3%) of the survey area. The soils are finer textured than those of Soil Unit 1 and generally have a fine sandy loam topsoil texture overlying a loamy fine sand subsoil to depth. The soils are stoneless. A typical profile description for Unit 2 is as follows:
- | | |
|----------|--|
| 0-38cm | Brown, 10YR 4/3 fine, sandy loam; stoneless; moderate, coarse, subangular, blocky structure; friable; common, fine, fibrous roots. |
| 38-62cm | Brown, 75YR 4/4, loamy, fine sand; stoneless; moderate, coarse, platy structure; friable; few fine, fibrous roots. |
| 62-120cm | Strong brown, 75YR 4/6, medium sand; stoneless; weak, coarse, angular, blocky structure; very friable; few fine, fibrous roots. |
31. It is recommended that each soil unit is stripped and stored separately and that the topsoil and subsoil component of each unit is stripped and stored separately.
32. Replacement of the original subsoil and topsoil units without mixing is recommended.

SOURCES OF REFERENCE

British Geological Survey (1976) *Sheet 182, Droitwich 1:50,000 Scale*.
BGS: London.

Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land*.
MAFF: London.

Meteorological Office (1989) *Climatological Data for Agricultural Land Classification*.
Met Office: Bracknell.