

**SHROPSHIRE STRUCTURE PLAN
BROSELEY
LAND SOUTH OF COALPORT ROAD**

**Agricultural Land Classification
ALC Map and Report**

June 1999

Resource Planning Team
Northern Region
FRCA Wolverhampton

RPT Reference: 25/RPT/0954 & 094/98
MAFF Reference: EL35/11859

AGRICULTURAL LAND CLASSIFICATION REPORT

SHROPSHIRE STRUCTURE PLAN BROSELEY, LAND SOUTH OF COALPORT ROAD

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 2.9 ha of land south of Coalport Road, to the east of Broseley. The survey was carried out in May 1999.
2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)¹ on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF). This survey was carried out in connection with MAFF's statutory input to the Shropshire Structure Plan. This survey supersedes any previous ALC information for this land.
3. The work was conducted by members of the Resource Planning Team in the Northern Region of FRCA. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.
4. At the time of survey the site was under grass.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10 000. It is accurate at this scale but 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.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% Total agricultural land area	% Total survey area
1	-	-	-
2	-	-	-
3a	1.5	52	52
3b	1.2	41	41
4	0.2	7	7
5	-	-	-
Agricultural land not surveyed	-	-	-
Other land	-	-	-
Total agricultural land area	2.9	100	-
Total survey area	2.9	-	100

¹ FRCA is an executive agency of MAFF and the Welsh Office

7. The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land. In total 3 borings were described.
8. The agricultural land on this site has been classified as Subgrade 3a (good quality), Subgrade 3b (moderate quality), and Grade 4 (poor quality). The main limitation to the agricultural use of this land is soil wetness.
9. Land of good quality (Subgrade 3a) occurs in the west of the site. Soil wetness is the main limitation to the agricultural use of this land.
10. Land of moderate quality (Subgrade 3b) occurs in the east of the site. Soil wetness is the main limitation to the agricultural use of this land.
11. Land of poor quality (Grade 4) occurs in the south east corner of the site. Soil wetness is the main limitation to the agricultural use of this land.

FACTORS INFLUENCING ALC GRADE

Climate

12. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.
13. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SJ685014
Altitude	m, AOD	140
Accumulated Temperature	day°C (Jan-June)	1331
Average Annual Rainfall	mm	744
Field Capacity Days	days	177
Moisture Deficit, Wheat	mm	85
Moisture Deficit, Potatoes	mm	70
Overall climatic grade	N/A	Grade 1

14. 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.
15. 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.

16. The combination of rainfall and temperature at this site means that there is no overall climatic limitation. The site is climatically Grade 1.

Site

17. The site lies at an altitude of 133-141m AOD, and slopes gently towards a small stream in the east of the site.

Geology and soils

18. The underlying solid geology for this area comprises Carboniferous mudstones and siltstones of the Coalport Formation. Drift geology is present in the south east of the site, in the form of boulder clay (BGS 1978).
19. The most detailed published soils information for this area (SSEW, 1983) shows the site to comprise the 'typical stagnogley' soils of the Clifton association. (SSEW 1984).
20. Upon detailed field examination, soil profiles closely matching the description of soils belonging to the Clifton association (Pinder series) were found.

AGRICULTURAL LAND CLASSIFICATION

21. 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, page 1.

Subgrade 3a

22. Land of good quality occupies 1.5 ha (52%) of the total survey area, and occurs in the west of the site. The main limitation to the agricultural use of this land is soil wetness.
23. Within the Subgrade 3a mapping unit, soils are comprised of a very slightly stony medium clay loam topsoil, which overlie a very slightly stony medium clay loam upper subsoil and silty clay lower subsoil. Depths to the gleying and slowly permeable layer in relation to the local climatic regime, place these soils into Wetness Class II and Subgrade 3a.

Subgrade 3b

24. Land of moderate quality occupies 1.2 ha (41%) of the total survey area, and occurs in the east of the site. The main limitation to the agricultural use of this land is soil wetness.
25. Within the subgrade 3b mapping unit, soils are comprised of a stoneless medium clay loam topsoil overlying a stoneless heavy clay loam upper subsoil and clay lower subsoil. Depths to gleying and the slowly permeable layer in relation to the local climatic regime, place these soils into Wetness Class IV and Subgrade 3b.

Grade 4

26. Land of poor quality occupies 0.2 ha (7%) of the total survey area, and occurs in the south east, on slightly lower land close to a small stream. The main limitation to the agricultural quality of the land is soil wetness.
27. Within the Grade 4 mapping unit natural drainage is restricted. Evidence of seasonal waterlogging was found within the topsoil, and at the time of surveying the profile was waterlogged within 40 cm. The land fulfils the criteria for Wetness Class V, which imposes a soil wetness limitation consistent with land of Grade 4.

**William Fearnough
Resource Planning Team
Northern Region
FRCA Wolverhampton**

SOURCES OF REFERENCE

British Geological Survey (1978) *Sheet SJ61/70/71 Solid and Drift, Telford (1:25000)*.
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.

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

Soil Survey of England and Wales (1983) *Sheet 3, Soils of Midland and Western England (1:250 000)*.
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their use in Midland and Western England*.
SSEW: Harpenden.

APPENDIX I

DESCRIPTIONS OF THE GRADES AND SUBGRADES

Grade 1: Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2: Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a: Good Quality Agricultural Land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b: Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4: Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5: Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

Site F.

SAMPLE NO.	GRID REF	USE	ASPECT		---WETNESS---		-WHEAT-		-POTS-		M. REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
			GRDNT	GLEYSPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD					
1	SJ68500140	PGR	E	02	040 065	2	3A	115	30	113	43	1			WE	3A	MOVED FROM GAS PIPE
2	SJ68600140	GRA			028 045	4	3B	105	20	110	40	2			WE	3B	
2A	SJ99999999	PGR	N	01	000 035	4	3B	123	38	105	35	1			WE	4	WET SPOT

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES---			PED COL.	---STONES---			STRUCT/ CONSIST	SUBS					
				COL	ABUN	CONT		GLY	>2	>6		LITH	TOT	STR	POR	IMP	SPL
1	0-30	mc1	10YR32 00					1	0	HR	3						
	30-40	mc1	10YR53 54					0	0	HR	3		M				
	40-65	mc1	10YR53 00 10YR58 00 C					Y	0	0	HR	3		M			
	65-90	zc	25 Y53 00 25 Y58 00 M					Y	0	0	HR	1		P			Y
2	0-28	mc1	10YR32 00					0	0		0						
	28-45	hc1	25Y 61 00 10YR68 00 C					Y	0	0	0		M				
	45-80	c	25Y 61 00 10YR68 00 M					Y	0	0	0		P	Y			Y
2A	0-35	mc1	25Y 41 00 75YR46 00 C				00MN00 00	Y	0	0	0						
	35-110	hc1	25Y 63 00 25Y 58 00 M					Y	0	0	0		P	Y			Y