SHROPSHIRE STRUCTURE PLAN
BROSELEY, DARK LANE (east)

Agricultural Land Classification
ALC Map and Report

June 1999

Resource Planning Team
Northern Region
FRCA Wolverhampton

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AGRICULTURAL LAND CLASSIFICATION REPORT
SHROPSHIRE STRUCTURE PLAN
BROSELEY, DARK LANE (west)

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 3.3 ha of land at Broseley. The site is situated immediately to the north of Broseley town centre and to the west of Dark Lane. The survey was carried out during April 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). The 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 land on the site was under grass. It is understood that the site was previously worked for coal.

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)	% surveyed area	% site area
1	-	-	-
2	-	-	-
3a	-	-	-
3b	-	-	-
4	3.3	100	100
5	-	-	-
Agricultural land not surveyed	-	N/A	-
Other land	-	N/A	-
Total surveyed area	3.3	100	-
Total site area	3.3	-	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 one soil pit and four borings were described on the site.

8. The agricultural land on this site has been classified as Grade 4 (poor quality). The key limitations to the agricultural use of this land are gradient and microrelief.

9. The area of poor quality land is mapped on the moderately steeply sloping land and where there are complex changes of slope angle and direction over short distances due to previous mining activities. The soils have a clay loam texture over clay and mineral spoil.

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 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	SJ 675 020	SJ 679 021
Altitude	m, AOD	155	150
Accumulated Temperature	day°C (Jan-June)	1314	1320
Average Annual Rainfall	mm	768	765
Field Capacity Days	days	181	181
Moisture Deficit, Wheat	mm	83	83
Moisture Deficit, Potatoes	mm	67	68
Overall climatic grade	N/A	Grade 2	Grade 2

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.

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. The site is climatically limited to Grade 2.

Site

14. The site ranges in altitude from 145 to 155 metres AOD, with the highest land in the north of the site.

15. The three site factors of gradient, microrelief and flooding are considered when classifying the land.

16. In the north of the site there are moderately steep slopes of between 11° and 15°. Here gradient limits the agricultural use of the land to Subgrade 3b and Grade 4.

17. Across the site there are many complex changes in slope angle and direction over short distances due to previous mining activities, which can severely limit the use of agricultural machinery. Here microrelief limits the land to Grade 4.

18. Flooding does not impose any limitations on the agricultural use of this land.

Geology and soils

19. The solid geology of the area is comprised of Lower Coal Measures and Coalport Formation mudstones and siltstones. This is overlain with deposits of boulder clay - British Geological Survey (1978).

20. The soils that have developed on this geology are generally of clay loam texture overlying clay (SSEW 1984).

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.

Grade 4

22. Land of poor quality occupies 3.3 hectares (100%) of the site area.

23. The main limitations to the agricultural use of this land are gradient and microrelief.

24. The soils have a clay loam texture over clay and mineral spoil. These soils are found either on moderately steep slopes of between 11° and 15° or in areas where there are many complex changes in slope angle and direction over short distances due to previous mining activities.

Martin Wood
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SOURCES OF REFERENCE

British Geological Survey (1978) *Sheet No. SJ 60, 61, 70, 71* Telford *Solid and Drift Edition Scale 1: 25 000.*
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 (1984) *Sheet 3, Map of Midland and Western England.*
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.

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SJ67500190	PGR	S	05	028	035	4	3B	107	24	115	47	2				MR	4	
1A	SJ67470197	PGR	S	06	027	035	4	3B	108	25	116	48	2				MR	4	
1P	SJ67600185	PGR	S	06	022	022	4	3B	069	-14	069	1	3A				MR	4	STRUCTUR
2	SJ67600190	PGR	SW	12	000		4	3B	054	-29	054	-14	3B				GR	4	QU GLEY
3	SJ67600180	PGR	S	04	025	025	4	3B	091	8	099	31	2				MR	4	QU GLEY

				MOTTLES			PED		STONES				STRUCT/	SUBS			
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL.	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
1	0-28	mcl	10YR21 00						2	0	HR	5						
	28-35	hcl	05PB41 00	10YR56 00	C			Y	0	0	HR	1		M				
	35-80	c	05PB41 00	75YR58 00	M			Y	0	0	HR	1		M			Y	
1A	0-27	mcl	10YR42 00						0	0	HR	2						
	27-35	mcl	10YR53 54	10YR56 00	C			Y	0	0	HR	2		M				
	35-80	c	05PB41 00	75YR58 00	M			Y	0	0	HR	1		M			Y	
1P	0-22	mcl	10YR31 00						5	0	HR	10						
	22-45	c	05PB41 00	10YR58 00	M		00MN00	00 Y	0	0	HR	10	WKCPR	VM	P		Y	
2	0-30	mszl	10YR21 32						2	0	HR	5						
3	0-25	mszl	10YR21 00						2	0	HR	5						
	25-60	c	05PB41 00	10YR56 00	C			Y	0	0	HR	5		M			Y	

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PROFILE/
HORIZ DATA

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