

**RUGELEY  
Power Station (17)**

**Agricultural Land Classification  
ALC Map and Report  
November 1998**

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**AGRICULTURAL LAND CLASSIFICATION REPORT  
RUGELEY  
Power Station (17)**

**INTRODUCTION**

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey on 41.3 hectares of land. The results of this survey supersede any previous ALC information for this land. The land is located to the south east of Rugeley, between the Power Station and Armitage. The survey was in connection with the Staffordshire Structure Plan Development Study.
2. The survey was undertaken on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF) in October 1998 by the Resource Planning Team of the Farming and Rural Conservation Agency (FRCA)- Northern region of FRCA.
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 survey the agricultural land on this site was under grass, linseed and potatoes.

**SUMMARY**

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10000 with an average auger boring density of 1 per hectare. The ALC map is only accurate at this 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.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
1	-	-	-
2	-	-	-
3a	2.7	12	7
3b	13.4	61	32
4	5.8	27	14
5	-	-	-
Agricultural land not surveyed	-	N/A	-
Other land	19.4	N/A	47
<b>Total surveyed area</b>	<b>21.9</b>	<b>100</b>	<b>-</b>
<b>Total site area</b>	<b>41.3</b>	<b>-</b>	<b>100</b>

7. The agricultural land on this site has been classified as Subgrade 3a (good quality), Subgrade 3b (moderate quality) and Grade 4 (poor quality). The key limitations to the agricultural use of this land are soil droughtiness, soil wetness and flooding.

8. The area of good quality land is located in the centre of the site. The soils have a sandy loam topsoil overlying loamy sand and sand to depth.

9. The area of moderate quality land is mapped towards the middle of the site. The majority of the soils in this area have a sandy loam topsoil overlying loamy sand and sand to depth. In the south of the site these soils have sandstone bedrock at depths of between 35 to 90cm.

10. The area of poor quality land is mapped in the east of the site in the floodplain of the River Trent. Here the soils have a clay loam texture over clay to a depth of 60cm where gravel is encountered.

## FACTORS INFLUENCING ALC GRADE

### Climate

11. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

12. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using standard interpolation procedures (Meteorological Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SK 072 165
Altitude	m, AOD	70
Accumulated Temperature	day°C (Jan-June)	1395
Average Annual Rainfall	mm	722
Field Capacity Days	days	171
Moisture Deficit, Wheat	mm	96
Moisture Deficit, Potatoes	mm	86
Overall climatic grade	N/A	Grade 1

13. 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.

14. 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.

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

### **Site**

16. The site lies at an altitude of 65 to 75 metres AOD. The highest part of the site is found in the south, adjacent to Hawkesyard Lane and the Trent and Mersey Canal. From here the land descends towards the floodplain of the River Trent in the north and east of the site.

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

18. In the south of the site adjacent to the highest land (near Hawkesyard Lane and the Trent and Mersey Canal) there are slopes of between 7° and 11°. Such strongly sloping land limits the agricultural use of the land to Subgrade 3b.

19. In the floodplain of the River Trent, the duration, frequency and season of flooding limit the agricultural use of the land to Grade 4.

20. Microrelief does not impose any limitations on the agricultural use of the land.

### **Geology and Soils**

21. The solid geology of the area is comprised of Bunter Pebble Beds and Lower Keuper Sandstone. This is overlain with First River Terrace deposits and alluvium - British Geological Survey (1954 & 1982).

22. The soils that have developed on this geology are generally of a sandy loam texture on the River Terraces and a clay loam texture in the floodplain.

### **Agricultural Land Classification**

23. The details of the classification of the site are shown on the enclosed ALC map and the area statistics of each grade are given in Table 1, page 1.

#### *Subgrade 3a*

24. Land of good quality occupies 2.7 hectares (7%) of the site area and is located in the centre of the site.

25. The soil has a sandy loam topsoil texture over loamy sand and sand to depth, with common stones within the profile. The moisture balance places these soils in Subgrade 3a.

26. The main limitation to the agricultural use of this land is soil droughtiness.

### *Subgrade 3b*

27. Land of moderate quality occupies 13.4 hectares (32%) of the site area and extends across a large part of the site.
28. The majority of the soil profiles in this area have a sandy loam topsoil texture over loamy sand and sand to depth. Generally, the topsoils are slightly stony with the subsoils becoming very stony. In the south of this unit (adjacent to Hawkesyard Lane and the Trent and Mersey Canal) the soil profiles have either a sandy loam or a loamy sand topsoil texture over loamy sand and sand to depths of between 35 and 90cm, where sandstone is encountered. The moisture balance places these soils in Subgrade 3b.
29. On the River Terrace there were isolated borings of Grade 4 quality where the topsoil stone content (greater than 2cm in size) exceeded 40%. These very stony topsoils cannot be shown separately at this scale of mapping.
30. The main limitation to the agricultural use of this land is soil droughtiness.

### *Grade 4*

31. Land of poor quality occupies 5.8 (14%) of the site area and is found in the floodplain of the River Trent.
32. The soil profiles have a clay loam topsoil texture over heavy clay loam and clay to a depth of at least 60cms where gravel is often encountered. The depths to gleying and the slowly permeable layer place these soils in Wetness Class IV.
33. The duration, frequency and season of flooding place this land in Grade 4.
34. In the south west of this unit a low lying hollow was waterlogged and rush infested at the time of survey. The soils have been assessed as Wetness Class V.
35. The main limitations to the agricultural use of this land are flooding and soil wetness.

### *Other Land*

36. Other land occupies 19.4 hectares (47%) of the site area and includes land associated with the Power Station, the River Trent, Hawkesyard Lane, trackways, woodland and scrub along the Trent and Mersey Canal.

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## **SOURCES OF REFERENCE**

British Geological Survey (1954) Sheet 154, Lichfield Solid and Drift Edition.  
1:63 360 Scale.  
BGS: London.

British Geological Survey (1982) Sheet 140, Burton upon Trent Solid and Drift Edition.  
1:50,000 Scale.  
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