

**AGRICULTURAL LAND CLASSIFICATION****DORSET MINERALS AND WASTE LOCAL PLAN  
SG1 WEST STAFFORD****REPORT OF SURVEY****SUMMARY**

The site, an area of 57 hectares of land south-east of West Stafford was graded using the Agricultural Land Classification (ALC) system in May 1993. The survey was carried out on behalf of MAFF as part of its statutory role in the preparation of the Dorset Minerals Local Plan. The fieldwork was carried out by ADAS (Resource Planning Team, Taunton Statutory Unit) at a scale of 1:10,000. The information is correct at this scale but any enlargement would be misleading. A total of 58 auger borings and 3 soil profile pits were examined. The distribution of ALC grades identified in the survey area is detailed below and illustrated on the accompanying map.

Distribution of ALC grades: West Stafford

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
1	37.8	66.3	67
3	6.2	10.9	11
3b	12.4	21.7	22
Non agric	0.6	1.1	
TOTAL	57.0	100%	100%
		(57.0 ha)	(56.4 ha)

Much of the site comprises well drained, deep sandy silt loam and sandy loam soils with no long-term limitations and has been assessed as Grade 1. Stone contents increase in the east and northern parts of the site imposing a slight (Grade 2) droughtiness limitation in the south-eastern corner and moderately severe, 3b limitation in the northern part of the site.

## 1. INTRODUCTION

An area of 56 hectares of land at West Stafford, Dorset, was surveyed on behalf of MAFF, as part of its statutory role in the preparation for the Dorset Minerals and Waste Local Plan. The survey was carried out in May 1993 by ADAS (Resource Planning Team, Taunton Statutory Unit) using the Agricultural Land Classification (ALC) system and conducted at a scale of 1:10,000 (approximately one sample point for every hectare of agricultural land). The 58 borings were supplemented by 3 soil inspection pits used to assess subsoil conditions. The information is correct at the scale shown but any enlargement would be misleading.

The published Provisional 1" to the mile ALC map of this area (MAFF 1974) shows much of the site to be Grade 2, with small areas of Grade 3 in the extreme north and south-western parts of the site. A previous survey carried out in 1980, at a scale of 1:25,000, also shows the site to be Grade 2 with a small band of 3a on the northern and eastern edges of the site. The current survey supersedes any previous surveys and was undertaken to provide a more detailed representation of the agricultural land quality using the Revised Guidelines and Criteria (MAFF 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The grading takes account of the top 120 cm of the soil profile. A description of the grades used in the ALC System can be found in Appendix 2.

## 2. CLIMATE

The grade of the land is determined by the most limiting factor present. The overall climate is considered first because it can have an overriding influence on restricting land to lower grades despite other favourable conditions.

Climatic data for the site was interpolated from the published Agricultural Climate Dataset (Meteorological Office 1989). The parameters used for assessing climate are accumulated temperature (a measure of the relative warmth of a locality) and average annual rainfall (a measure of overall wetness). The results shown in Table 1 indicate that there is no overall climatic limitation.

Table 1 Climatic interpolations: West Stafford, Dorset

Grid Reference	SY 733 890
Height (m)	70
Accumulated Temperature (day deg)	1509
Average Annual Rainfall (mm)	980
Overall Climatic Grade	1
Field Capacity (Days)	197
Moisture Deficit, Wheat (mm)	97
Potatoes (mm)	88

No local climatic factors such as exposure were noted in the survey area. Climatic data on Field Capacity Days (FCD) and Moisture Deficits for wheat (MDW) and potatoes (MDP) are also shown. This data is used in assessing the soil wetness and droughtiness limitations referred to in Section 5.

## 3. RELIEF AND LANDCOVER

The site occupies a gentle north facing slope, the highest point being 72 m at Sixpenny Gate, falling to 65 m on the northern boundary. At the time of survey the agricultural land was growing winter cereals, grass ley and two small fields of maize.

## 4. GEOLOGY AND SOILS

The published 1:50,000 scale solid and drift geology map, sheet 328 (Geological Survey of England and Wales 1981) shows the majority of the site to be underlain by plateau gravel. A narrow strip of Bagshot beds occupies the northern margin and Reading beds the western part of the site.

The Soil Survey of England and Wales mapped the soils of the area in 1983, at a reconnaissance scale of 1:250,000. This map shows the soils at the site to comprise the Sonning 1 Association. These soils are described as stony, coarse-textured, well drained (Wetness Class I) droughty soils.

The recent survey indicates there are three soil types in the area. Soil type 1 corresponds to the Grade 1 land. These profiles are deep stone-free medium sandy loam and medium sandy silt loam profiles. The stonier soils on the eastern part of the site comprise two similar types of soils. The Grade 2 land comprises medium sandy loam and medium sandy silt loam topsoils which are moderately stony (15% total hard rock). This overlies 30 cm of very stony (46% hard rock) medium sandy silt loam subsoils. The lower subsoils are heavier in texture (sandy clay loam and clay) which contain decreasing amounts of stone (17% to 80 cm depth then 5% to 120 cm depth).

The north and north-eastern parts of the site comprise the stoniest soil type. Here medium sandy loam topsoils contain 28% hard rock, including up to 18% over 2 cm in some localised areas. Subsoils comprise very stony (between 45% and 56% hard rock) loamy coarse and loamy medium sands. All stone contents were measured by sieving a sample and measuring the stones under 2 cm by displacement in water. The percentage of stones over 2 cm were estimated once sieved.

## 5. AGRICULTURAL LAND CLASSIFICATION

The distribution of ALC grades identified in the survey area is detailed in Table 3 and shown on the accompanying ALC map. This shows nearly all the agricultural land to be best and most versatile land.

Table 2 Distribution of ALC grades: West Stafford

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
1	37.8	66.3	67.0
2	6.2	10.9	11.0
3B	12.4	21.7	22.0
Non Agric	0.6	1.1	
TOTAL	57.0	100%	100%
		(57.0 ha)	(53.4 ha)

### Grade 1

Two-thirds of the agricultural land has been graded 1. This land corresponds to the deep stone-free sandy silt loam profiles described in Section 4. These soils are well drained (Wetness Class I) and easily worked. They experience no or very minor limitations to agricultural use.

### Grade 2

The south-eastern part of the site has been graded 2. These soils experience a minor drought limitation due to the stony subsoils which reduce the water available for plant growth.

### Subgrade 3b

The land graded 3b relates to the stony profiles described in Section 5. Here the high stone contents and coarse textures of the subsoil severely restrict the water available to roots. This imposes a droughtiness limitation on the land

and it is thus graded 3b.

Non-agricultural land

This land comprises a small block of young woodland.

## APPENDIX 1

### REFERENCES

GEOLOGICAL SURVEY OF ENGLAND AND WALES (1981) Solid and Drift edition. Sheet 328, Dorchester, 1:50,000 scale

MAFF (1974) Agricultural Land Classification Map Sheet 178 Provisional 1:63,360 scale

MAFF (1988) Agricultural Land Classification of England and Wales (revised guidelines and criteria for grading the quality of land) Alnwick

METEOROLOGICAL OFFICE (1989) Published climatic data extracted from the agroclimatic dataset, compiled by the Meteorological Office

SOIL SURVEY OF ENGLAND AND WALES (1983) Sheet 5 Soils of South West England 1:250,000 scale