

Monkerton Distct Centre - 7/89

Baker Development - 10/89b

Baker Development, Monkerton, Exeter, Devon
Agricultural Land Classification

Report of Survey

1. Introduction

The Resource Planning Group at Bristol was consulted by Exeter Divisional staff concerning an ad hoc planning application on a 3.18 hectare site adjacent to Hart's Lane, Monkerton, Devon

The site lies on the north-eastern fringe of Exeter, and the proposed development involves the construction of a district shopping centre for Monkerton. Previously, an almost identical application area had been refused permission for development following a public inquiry which examined several alternative locations for a regional shopping centre for Exeter. As part of this earlier consultation process the Resource Planning Group had surveyed the site (and adjacent areas) under the original Agricultural Land Classification (ALC) system in September 1986. The agricultural area of the application site was graded completely as Grade 1 land, with an approximate auger sample density of just under two borings per hectare.

As a result of the introduction in January 1989 of revised guidelines and criteria for grading the quality of agricultural land the Resource Planning Group were asked to re-survey the area and to confirm the classification under the revised system.

Fieldwork was conducted in May 1989 and the results of the survey are outlined below in Table 1 and illustrated in the accompanying ALC map. The results show that the ALC grades are similar but not identical. An area of 3B slope has been identified in part of the site. This alteration is not a result of the revision to the ALC criteria per se, but illustrates a map unit which was in fact overlooked during the original fieldwork.

Table 1; Distribution of Grades and Sub-grades for Monkerton Distct Centre Site

<u>Grade</u>	<u>Area (ha)</u>	<u>% of Survey Area</u>	<u>% of Agricultural Area</u>
1	2.42	76.1	85.8
3B	0.40	12.6	14.2
Non-Agric	0.36	11.3	-
	<u>3.18</u>	<u>100%</u>	<u>100% (2.82 ha)</u>

2. Climate

(Baker Development Site map shows 6.7ha site)

4.6ha Grade 1, 0.4ha Grade 3b, 1.7ha Other)

The climatic interpolation for the site is enclosed in the appendices and illustrates that overall climate is not a limiting factor.

3. Agricultural Land Classification

The detailed soil profile and soil pit descriptions are contained in the appendices and illustrate a typical Medium Sandy Loam topsoil overlying a subsoil of similar texture which grades into lower subsoil of Sandy Clay Loam. The soils are stone-free and show no significant evidence of soil wetness and, as a result of the textures and depths, do not suffer from any droughtiness limitation. The soil pit information indicates "Good" structural conditions throughout. The small area of sub-grade 3B has been delimited on the basis of gradient.

Soil Profile Descriptions: Explanatory Note

Soil texture classes are denoted by the following abbreviations:

Sand **S**; Loamy Sand **LS** Sandy Loam **SL**; Sand Silt Loam **SZL**; Silt Loam **ZL**;
Medium Silty Clay Loam **MZCL**; Medium Clay Loam **MCL**; Sandy Clay Loam **SCL**;
Heavy Silty Clay Loam **HZCL**; Heavy Clay Loam **HCL**; Sandy Clay **SC**;
Silty Clay **ZC**; Clay **C**

For the sand, loamy sand, sandy loam and sandy silt loam classes the predominant size of sand fraction may be indicated by the use of prefixes, thus:

F fine (more than $\frac{2}{3}$ of sand less than 0.2 mm)
C coarse (more than $\frac{1}{3}$ of sand greater than 0.6 mm)
M medium (less than $\frac{2}{3}$ fine sand and less than $\frac{1}{3}$ coarse sand)

The sub-divisions of clay loam and silty clay loam classes according to clay content are indicated as follows:-

M medium (less than 27% clay); **H** heavy (27-35% clay)

Other possible texture classes include:

Peat **P**; Sandy Peat **SP**; Loamy Peat **LP**; Peaty Loam **PL**;
Peaty Sand **PS**; Marine Light Silts **MZ**

The prefix "**Calc**" is used to identify naturally calcareous soils containing more than 1% Calcium Carbonate.

For organic mineral soils, the texture of the mineral fraction is prefixed by "**org**".

Other notation:

st	stones (6 cm)
sst	small stones (2 cm - 6 cm)
vsst	very small stones (2 mm - 2 cm)
Mn	manganese
cdom/cfom	common distinct/feint ochreous mottles
mpom	many prominent ochreous mottles (VMPOM = very many ..)

Few = 1-5%; **common** = 6-15%; **many** = 16-35%; **very many** = +35%

SOIL PROFILE DESCRIPTION

Date of Survey 3/5/89

NO	TEXTURE	COLOUR	DEPTH (CM)	SOIL PROFILE NOTES	TOPOGRAPHY NOT
27	MSL	5YR43	0-25	Surface Mn, <2%	6° slope
	MSL	5YR44	25-40	towards SCL	
	SCL	5YR44	40-60	Mn from 52 cm, <2%	
	SCL	2.5YR54/44	60-110+	>2% Mn; with coarse sand fraction from 90cm	
				No evidence of pale ped faces in auger samples; No SPL	
28	MSZL	7.5YR42	0-26	Surface Mn, >2%	
	MSL	5YR44	26-65	<2% Mn	
	MSL	2.5YR44/54	65-110+		
				No evidence of wetness or SPL	
29	MSZL	5YR43	0-22		
	MSL	5YR44	22-50		
	MSZL	5YR54	50-80	<2% Mn from 70 cm	
	SCL	2.5YR54	80-101	approx 5% stone < 2 cm	
			I	No evidence of wetness or SPL	
30	MSZL	5YR43	0-32		
	MSL	5YR44	32-70		
	MSL	5YR44/54	70-110+	towards MSZL at base	
				No evidence of wetness or SPL	
31	MSL	5YR44	0-30		Bottom of 8° slope
	SCL	2.5YR54	30-60		
	MSL	2.5YR56	60-90	or towards 10R56; very sandy	
	SCL	2.5YR44	90-110+		
35	MSL	5YR43	0-28		5° slope
	MSL	5YR44	28-45		
	SCL	5YR44	45-110+		
				No evidence of wetness or SPL	
52	MSL	5YR43	0-27	<2% Mn	
	SCL	2.5YR54/44	27-45	approx 2% stones < 2 cm	
	MSL	2.5YR54	45-60	or towards 10R56	
	SC	2.5YR54	60-72	> 2% Mn; not thick enough for SPL	
	MSL	2.5YR54	72-90		
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Soil Pit Description

Topsoil 0-22 cm
Medium Sandy Loam
5YR43

Subsoil 1 22-45 cm
Medium Sandy Loam
5YR44 (towards 5YR53)
Weakly Developed, Medium Sub-Angular Blocky; Friable
(ie "Good" Structural Conditions)
Stone-free
No evidence of wetness or slowly permeable layer
Porosity >2% (>0.5 mm)

Subsoil 2 45-120 cm (gradual horizon change from subsoil 1)
Sandy Clay Loam
5YR44/54
Weakly Developed, Medium Sub-Angular Blocky; Friable
(ie "Good" Structural Conditions)
Common large earthworm channels
Porosity approx 2% (>0.5 mm)
Stone-free
No evidence of wetness or slowly permeable layer

AP Wheat	=	184 mm	MD Wheat	=	109 mm	MB Wheat	=	+ 75 mm
AP Potatoes	=	124 mm	MD Potatoes	=	103 mm	MB Potatoes	=	+ 21 mm

Grade According to Droughtiness = Grade 1

1 SITE NAME - BAKER DEVELOPMENT

POINT	ALT	E	N	AAR	LR AAR	ATO
1	84	2950	0950	832	0.6	1502
2	19	2950	0900	857	0.7	1579
3	23	3000	0950	780	0.6	1571
4	23	3000	0950	780	0.6	1571

	MDWHT	MDPOT	FCDAYS
1	103	95	173
2	109	103	178
3	113	107	166
4	113	107	166

SITE DATA	ALT	E	N
1	40	2956	0937

Date: 04/05/89

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 Interpolation of ATO,AAR,FCD,MD variables to obtain a
 site estimate from surrounding grid point data
 (weighted values)

Site name..... BAKER DEVELOPMENT

Site GR easting..... 2956
 northing..... 0937
 Altitude(m)..... 40

ATO..... 1552
 AAR..... 811
 FCD..... 170
 Moisture deficit - WHEAT..... 109
 - POTATOES... 103

Date: 04/05/89
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