BARWICK, YEOVIL

AGRICULTURAL LAND CLASSIFICATION SURVEY

CONTENTS

074/97

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SUMMARY

1. This report presents the findings of a semi-detailed Agricultural Land Classification (ALC) survey of 285.1 ha of land at Barwick, Yeovil Field survey was based on 129 auger borings and 4 soil profile pits, and was completed in February 1998. During the survey 8 samples were analysed for particle size distribution (PSD).

2. The survey was conducted by the Resource Planning Team of FRCA Western Region on behalf of MAFF in its statutory role in the preparation of South Somerset Local Plan.

3. Information on climate, geology and soils, and from previous ALC surveys was considered and is presented in the relevant section. The published regional ALC map (MAFF, 1977), shows the site at a reconnaissance scale as mainly Grade 1 on the higher ground with Grade 3 on the steeper slopes and on the flood plain. The site was previously surveyed in 1981 at a scale of 1:25 000 (ADAS 1981). This survey also shows mainly Grade 1 on the higher ground with considerable areas of Grade 2 around the edge and mainly Subgrade 3c in the flood plain. No boring data is available for this survey and it was carried out to guidelines for classification which have now been superseded whereas the current survey uses the Revised Guidelines and Criteria for Grading the Quality of Agricultural Land (MAFF 1988) and supersedes the previous survey. Grade descriptions are summarised in Appendix 1.

4. A recent survey of land to the west of the A37 and adjacent to the current site (ADAS 1995) found almost all Grade 1.

5. At the time of survey land cover was mainly grass for dairying, beef or horses, depending on ownership.

6. The distribution of ALC grades is shown on the accompanying 1: 15 000 scale ALC map. The detail of information shown at this scale is appropriate to the intensity of field survey but could be misleading if enlarged or applied to small areas. Areas are summarised in Table 1.

Table 1: Distribution of ALC grades: Barwick

Grade	Area (ha)	% Surveyed Area (243.4 ha)
1	158.2	65
2	15.8	6
3a	13.9	6
3b	39.6	16
4	12.9	5
5	3.0	1
Other land	40.00	
Total site area	285.1	

7. This shows that 77 % of the area surveyed was found to be best and most versatile. This is mainly Grade 1 which has no significant limitation with smaller areas of Grade 2 and Subgrade 3a on the lower lying land. Subgrade 3b and small areas of lower grades were found on the steeper slopes and Subgrade 3b was also found in the wettest areas of the flood plain.

P Barnett
Resource Planning Team
FRCA Bristol
10 February 1998

BARWICK, YEOVIL
AGRICULTURAL LAND CLASSIFICATION SURVEY

INTRODUCTION

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7. This shows that 77% of the area surveyed was found to be best and most versatile. This is mainly Grade 1 which has no significant limitation with smaller areas of Grade 2 and Subgrade 3a on the lower lying land. Subgrade 3b and small areas of Grades 4 and 5 were found on the steeper slopes and Subgrade 3b was also found in the wettest areas of the flood plain.

CLIMATE

8. Estimates of climatic variables for this site were derived from the published agricultural climate dataset "Climatological Data for Agricultural Land Classification" (Meteorological Office, 1989) using standard interpolation procedures. Data for key points around the site are given in Table 2 below.

9. Since the ALC grade of land is determined by the most limiting factor present, overall climate is considered first because it can have an overriding influence by restricting land to a lower grade despite more favourable site and soil conditions. Parameters used for assessing overall climate are accumulated temperature, a measure of relative warmth and average annual rainfall, a measure of overall wetness. The results shown in Table 2 indicate that there is no overall climatic limitation.

10. Climatic variables also affect ALC grade through interactions with soil conditions. The most important interactive variables are Field Capacity Days (FCD) which are used in assessing soil wetness and potential Moisture Deficits calculated for wheat and potatoes, which are compared with the moisture available in each profile in assessing soil droughtiness limitations. These are described in later section. A critical boundary of 175 FC Days was found to follow the 35 metre contour.

Table 2: Climatic Interpolations: Barwick, Yeovil

Grid Reference		ST 571152	ST 557147
Altitude (m)		30	82
Accumulated Temperature (day °C)		1540	1482
Average Annual Rainfall (mm)		801	852
Overall Climatic Grade		1	1
Field Capacity Days		173	180
Moisture deficit (mm):	Wheat	108	99
	Potatoes	102	91

RELIEF

11. Altitude ranges from 30 metres below Newton House to 83 metres at the top of the showground site. Slopes are mainly gentle and moderate but areas of steeper slopes are found particularly on the north west and north east sides of the site, but short strong slopes also occur on the south and east sides of the site and within the area of Grade 1 around Barwick House.

12. The Yeovil Sands deposits have a remarkably consistent particle size distribution within the bands of fine sand and silt. This makes the soil susceptible to water erosion, more notably in other areas. There is some evidence of slight sheet erosion within the fields at this site and some slight deposition in the road below fields of maize. However, in terms of ALC the risk is considered to be slight and not limiting. Any significant erosion limitation is confined to land with an overriding primary limitation due to gradient.

GEOLOGY AND SOILS

13. The underlying geology of the site is shown on the published geology map (IGS 1973) as mainly Yeovil Sands with alluvium in the flood plain of the River Yeo. This was entirely borne out by the current survey which found most borings to be penetrable to auger depth with soft sandstone encountered in only very few borings.

14. Soils were mapped by the Soil Survey of England and Wales at a reconnaissance scale of 1:250 000 (SSEW, 1983) as mainly South Petherton association which is described as comprising deep well drained silty soils, some over soft rock, with a risk of water erosion. The current survey found such soils consistently over the higher ground but with variable soils, including clay, in the alluvial deposits of the flood plain. These are not distinguished in the published soils map.

AGRICULTURAL LAND CLASSIFICATION

15. The distribution of ALC grades found by the current survey is shown on the accompanying 1: 15 000 scale map and areas are summarised in Table 1. The detail of information shown at this scale is appropriate to the intensity of field survey but could be misleading if enlarged or applied to small areas.

Grade 1

16. The large area shown as Grade 1 was found to have mainly fine sandy loam topsoil at Wetness Class I with no evidence of wetness. Over most of the area subsoils tended to become lighter with depth, loamy fine sand or even fine sand as the boring approached weathered bedrock. Even in the lightest areas, which tended to be at the brows of hills where weathering rock was close to the surface, no significant droughtiness limitation was identified, and textures in these areas were was confirmed by PSD samples at ASP 30 and ASP 89. This large mapping unit is illustrated mainly by Pit 1, which showed generally good structural condition in the subsoil horizons.

Grade 2

17. The lowest slopes and valley bottom around Barwick House clearly receive large quantities of water by lateral flow and occasional borings show gleying within the upper subsoil or even within the topsoil, even in the absence of a slowly permeable layer. This is illustrated by Pit 2 which is strictly classified as Grade 1 with fine sandy loam topsoil at Wetness Class I despite being gleyed from the surface. This is considered to represent the several auger borings in the valley bottom where conspicuous surface poaching indicates a significant wetness limitation but the area is shown as Grade 1 on the evidence of Pit 2.

18. A larger area of Grade 2 is found in the south end of the flood plain where medium or sandy clay loam topsoils are found at Wetness Class II or heavy clay loam topsoil at Wetness Class I, indicating a minor limitation due to wetness or workability. This is illustrated by Pit 4, which was borderline to Subgrade 3a.

Subgrade 3a

19. The north end of the flood plain within this site is significantly wetter than the south end, Wetness Class III or possibly IV with a slowly permeable layer in the middle or upper subsoil and generally medium clay loam topsoil. This is illustrated by Pit 3. This pit found porosity to be critical in the identification of a slowly permeable layer with the middle subsoil in this case being conspicuously porous and therefore not slowly permeable.

20. A small area of Subgrade 3a is shown to the north of Newton Farm, mainly with medium clay loam topsoil at Wetness Class II with a slowly permeable layer in the lower subsoil and illustrated also by Pit 4.

Subgrade 3b

21. Most of the area shown as Subgrade 3b is found on the steeper slopes all round the site, but a small area of Subgrade 3b limited by wetness is identified around ASP 34 and 35.

Grades 4 and 5

22. The steepest slopes are found at the north west edge of the site where Grade 4 (12-18 degrees) and Grade 5 (gradients over 18 degrees) are found together in the same area.

Other Land

23. Areas shown as other land in this survey are mainly woodland, roads and amenity land around Barwick House and Newton House with smaller areas of residential land and one set of farm buildings. The areas of non-agricultural land shown at the north west edge of the site include the Yeovil ski slope but are mainly scattered areas of woodland and dense scrub. Much of this is potentially grazed as it is not fenced from adjoining fields but the evidence of vegetation suggests that grazing pressure in those areas shown as non-agricultural is virtually nil. However, dense scrub also exists on the steepest slopes which are shown as agricultural.

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10 February 1998

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APPENDIX I

DESCRIPTION OF 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 include 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 and horticultural crops can usually be grown but on some land in the 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.

Grade 3 - good to moderate quality agricultural land

Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where 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 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 most 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 very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

Source: MAFF (1988) Agricultural Land Classification of England and Wales Revised Guidelines and Criteria for Grading the Quality of Agricultural Land, MAFF Publications, Alnwick.

APPENDIX II

DEFINITION OF SOIL WETNESS CLASSES

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile.

Wetness Class I

The soil profile is not wet within 70 cm depth for more than 30 days in most years.

Wetness Class II

The soil profile is wet within 70 cm depth for 31-90 days in most years or, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but not wet within 40 cm depth for more than 30 days in most years.

Wetness Class III

The soil profile is wet within 70 cm depth for 91-180 days in most years or, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31 and 90 days in most years.

Wetness Class IV

The soil profile is wet within 70 cm depth for more than 180 days but not within 40 cm depth for more than 210 days in most years or, if there is no slowly permeable layer within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.

Wetness Class V

The soil profile is wet within 40 cm depth for 211-335 days in most years.

Wetness Class VI

The soil profile is wet within 40 cm depth for more than 335 days in most years.

Notes: The number of days specified is not necessarily a continuous period.

'In most years' is defined as more than 10 out of 20 years.

Source: Hodgson, J M (Ed) (1997) Soil Survey Field Handbook. Soil Survey Technical Monograph No 5, SSLRC, Cranfield.

APPENDIX III

ABBREVIATIONS AND TERMS USED IN SURVEY DATA

Soil pit and auger boring information collected during ALC survey is held on a computer database and is reproduced in this report. Terms used and abbreviations are set out below. These conform to definitions contained in the Soil Survey Field Handbook (Hodgson, 1997).

1. **Terms used on computer database, in order of occurrence.**

GRID REF: National 100 km grid square and 8 figure grid reference.

LAND USE: At the time of survey

WHT:	Wheat	**SBT:**	Sugar Beet	**HTH:**	Heathland
BAR:	Barley	**BRA:**	Brassicas	**BOG:**	Bog or Marsh
OAT:	Oats	**FCD:**	Fodder Crops	**DCW:**	Deciduous Wood
CER:	Cereals	**FRT:**	Soft and Top Fruit	**CFW:**	Coniferous Woodland
MZE:	Maize	**HRT:**	Horticultural Crops	**PLO:**	Ploughed
OSR:	Oilseed Rape	**LEY:**	Ley Grass	**FLW:**	Fallow (inc. Set aside)
POT:	Potatoes	**PGR:**	Permanent Pasture	**SAS:**	Set Aside (where known)
LIN:	Linseed	**RGR:**	Rough Grazing	**OTH:**	Other
BEN:	Field Beans	**SCR:**	Scrub		

GRDNT: Gradient as estimated or measured by hand-held optical clinometer.

GLEY, SPL: Depth in centimetres to gleying or slowly permeable layer.

AP (WHEAT/POTS): Crop-adjusted available water capacity.

MB (WHEAT/POTS): Moisture Balance. (Crop adjusted AP - crop potential MD)

DRT: Best grade according to soil droughtiness.

If any of the following factors are considered significant, 'Y' will be entered in the relevant column.

MREL:	Microrelief limitation	**FLOOD:**	Flood risk	**EROSN:**	Soil erosion risk
EXP:	Exposure limitation	**FROST:**	Frost prone	**DIST:**	Disturbed land
CHEM:	Chemical limitation				

LIMIT: The main limitation to land quality: The following abbreviations are used.

OC:	Overall Climate	**AE:**	Aspect	**EX:**	Exposure
FR:	Frost Risk	**GR:**	Gradient	**MR:**	Microrelief

FL:	Flood Risk	**TX:**	Topsoil Texture	**DP:**	Soil Depth
CH:	Chemical	**WE:**	Wetness	**WK:**	Workability
DR:	Drought	**ER:**	Erosion Risk	**WD:**	Soil Wetness/Droughtiness
ST:	Topsoil Stoniness				

TEXTURE: Soil texture classes are denoted by the following abbreviations:-

S:	Sand	**LS:**	Loamy Sand	**SL:**	Sandy Loam
SZL:	Sandy Silt Loam	**CL:**	Clay Loam	**ZCL**	Silty Clay Loam
ZL:	Silt Loam	**SCL:**	Sandy Clay Loam	**C:**	Clay
SC:	Sandy clay	**ZC:**	Silty clay	**OL:**	Organic Loam
P:	Peat	**SP:**	Sandy Peat	**LP:**	Loamy Peat
PL:	Peaty Loam	**PS:**	Peaty Sand	**MZ:**	Marine Light Silts

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

F: Fine (more than 66% of the sand less than 0.2mm)
M: Medium (less than 66% fine sand and less than 33% coarse sand)
C: Coarse (more than 33% of the sand larger than 0.6mm)

The clay loam and silty clay loam classes will be sub-divided according to the clay content: **M:** Medium (< 27% clay) **H:** heavy (27 - 35% clay)

MOTTLE COL: Mottle colour using Munsell notation.

MOTTLE ABUN: Mottle abundance, expressed as a percentage of the matrix or surface described.

F: few <2% **C:** common 2 - 20% **M:** many 20 - 40% **VM:** very many 40%+

MOTTLE CONT: Mottle contrast

F: faint - indistinct mottles, evident only on close inspection
D: distinct - mottles are readily seen
P: Prominent - mottling is conspicuous and one of the outstanding features of the horizon.

PED. COL: Ped face colour using Munsell notation.

GLEY: If the soil horizon is gleyed a 'Y' will appear in this column. If slightly gleyed, an 'S' will appear.

STONE LITH: Stone Lithology - One of the following is used.

HR:	All hard rocks and stones	**SLST:**	Soft oolitic or dolimitic limestone

CH:	Chalk	**FSST:**	Soft, fine grained sandstone
ZR:	Soft, argillaceous, or silty rocks	**GH:**	Gravel with non-porous (hard) stones
MSST:	Soft, medium grained sandstone	**GS:**	Gravel with porous (soft) stones
SI:	Soft weathered igneous or metamorphic rock		

Stone contents are given in % by volume for sizes >2cm, >6cm and total stone >2mm.

STRUCT: The degree of development, size and shape of soil peds are described using the following notation

Degree of development	**WA:**	Weakly developed Adherent	**WK:**	Weakly developed
	MD:	Moderately developed	**ST:**	Strongly developed
Ped size	**F:**	Fine	**M:**	Medium
	C:	Coarse	**VC:**	Very coarse
Ped Shape	**S:**	Single grain	**M:**	Massive
	GR:	Granular	**AB:**	Angular blocky
	SAB:	Sub-angular blocky	**PR:**	Prismatic
	PL:	Platy		

CONSIST: Soil consistence is described using the following notation:

L: Loose **VF:** Very Friable **FR:** Friable **FM:** Firm
VM: Very firm **EM:** Extremely firm **EH:** Extremely Hard

SUBS STR: Subsoil structural condition recorded for the purpose of calculating profile droughtiness: **G:** Good **M:** Moderate **P:** Poor

POR: Soil porosity. If a soil horizon has poor porosity with less than 0.5% biopores >0.5mm, a 'Y' will appear in this column.

IMP: If the profile is impenetrable to rooting a 'Y' will appear in this column at the appropriate horizon.

SPL: Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.

CALC: If the soil horizon is calcareous with naturally occurring calcium carbonate exceeding 1% a 'Y' will appear this column.

2. Additional terms and abbreviations used mainly in soil pit descriptions.

STONE ASSESSMENT:

VIS: Visual **S:** Sieve **D:** Displacement

MOTTLE SIZE:

EF:	Extremely fine <1mm	**M:**	Medium 5-15mm
VF:	Very fine 1-2mm>	**C:**	Coarse >15mm
F:	Fine 2-5mm		

MOTTLE COLOUR: May be described by Munsell notation or as ochreous (OM) or grey (GM).

ROOT CHANNELS: In topsoil the presence of 'rusty root channels' should also be noted.

MANGANESE CONCRETIONS: Assessed by volume

N:	None		**M:**	Many	20-40%
F:	Few	<2%	**VM:**	Very Many	>40%
C:	Common	2-20%			

POROSITY:

P:	Poor	- less than 0.5% biopores at least 0.5mm in diameter
G:	Good	- more than 0.5% biopores at least 0.5mm in diameter

ROOT ABUNDANCE:

The number of roots per $100cm^2$:		Very Fine and Fine	Medium and Coarse
F:	Few	1-10	1 or 2
C:	Common	10.25	2 - 5
M:	Many	25-200	>5
A:	Abundant	>200	

ROOT SIZE

VF:	Very fine	<1mm	**M:**	Medium	2 - 5mm
F:	Fine	1-2mm	**C:**	Coarse	>5mm

HORIZON BOUNDARY DISTINCTNESS:

Sharp:	<0.5cm	**Gradual:**	6 - 13cm
Abrupt:	0.5 - 2.5cm	**Diffuse:**	>13cm
Clear:	2.5 - 6cm		

HORIZON BOUNDARY FORM: Smooth, wavy, irregular or broken.*

* See Soil Survey Field Handbook (Hodgson, 1997) for details.

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Barwick, Yeovil	Pit 1 (ASP 96)	1°	PGR	Av Rainfall: 852 mm ATO: 1482 day °C	Sandstone
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY	FC Days: 178 Climatic Grade: 1 Exposure Grade: 1	PSD SAMPLES TAKEN TS 0-23 cm FSL (S69:Z22:C9%) H4 98-120 cm LFS (S76:Z21:C3%)
74.97	3/2/98	ST 55741453	V P Redfern		

Horizon No.	Lowest Av. Depth (cm)	Texture	Matrix (Ped Face) Colours	Stoniness: Size,Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Mangan Concs	Structure: Ped Development Size and Shape	Consistence	Structural Condition	Pores (Fissures)	Roots: Abundance and Size	Calcium Carbonate Content	Horizon Boundary: Distinctness and form
1	23	FSL	10YR43	0	0	0	-	-	-	-	CF, VF	-	Clear Wavy
2	42	FSL	10YR56	0	0	0	MDFSAB	FR	Good	G	FF	-	Clear Smooth
3	98	FSL	10YR68	0	0	0	MDMSAB	FR	Good	G	FF	-	Abrupt Smooth
4	120	LFS	10YR66	0	0	0	MDMSAB	FR	Good	G	-	-	-

Profile Gleyed From: Not gleyed

Slowly Permeable Horizon From: No spl

Wetness Class: I

Wetness Grade: 1

Available Water Wheat: 211 mm

Potatoes: 145 mm

Moisture Deficit Wheat: 103 mm

Potatoes: 96 mm

Moisture Balance Wheat: 108 mm

Potatoes: 49 mm

Droughtiness Grade: 1 (Calculated to 120 cm)

Final ALC Grade: 1

Main Limiting Factor(s):

Remarks:

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Barwick, Yeovil	Pit2 (Nr ASP124)	1° S	Permanent Grass	Av Rainfall: 852 mm ATO: 1482 day °C	Soft Sandstone
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY	FC Days: 178 Climatic Grade: 1 Exposure Grade: 1	PSD SAMPLES TAKEN
74.97	5/2/98	ST 56171431	VR/PB		TS 0-25 cm FSL (S59:Z31:C10%)

Horizon No.	Lowest Av. Depth (cm)	Texture	Matrix (Ped Face) Colours	Stoniness: Size,Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Mangan Concs	Structure: Ped Development Size and Shape	Consistence	Structural Condition	Pores (Fissures)	Roots: Abundance and Size	Calcium Carbonate Content	Horizon Boundary: Distinctness and form
1	12	FSL	10YR41	0	MDFO 10YR46	0	-	-	-	G	MF, VF	-	Clear Smooth
2	35	FSL	10YR63,54	0	MDFO,G 7.5YR46 5Y61	0	WKCPR	FR	M	P*	CVF	-	Grad Smooth
3	55	FSL	10YR53,54	0	MDMO,G 5Y61	0	M	FR	M	P*	FVF	-	Grad Smooth
4	100	FSL	10YR63 5Y61	0	CDMO 75YR46	0	WKCPR	FR	M	G	FVF	-	Clear Smooth
5	*120*	*C*	*25Y64*	0	*CDFO 10YR66*	*0*	-	*FM*	(P)	P	-	-	

Profile Gleyed From: 0 cm

Slowly Permeable Horizon From: 100 cm

Wetness Class: I

Wetness Grade: 1

Available Water	Wheat:	171 mm
	Potatoes:	126 mm
Moisture Deficit	Wheat:	103 mm
	Potatoes:	96 mm
Moisture Balance	Wheat:	+68 mm
	Potatoes:	+ 30 mm

Droughtiness Grade: 1 (Calculated to 120 cm)

Final ALC Grade: 1

Main Limiting Factor(s):

Remarks: Close 3a because H3 almost an SPL. H2, H3 few large pores (worms) and many very fine < 0.5 mm. Surface poaching. Augered to 120. Water in pit at 90 cm.

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Barwick, Yeovil	Pit 3 (ASP 9)	0°	PGR	Av Rainfall: 801 mm ATO: 1540 day °C	Alluvium
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY	FC Days: 173 Climatic Grade: 1 Exposure Grade: 1	PSD SAMPLES TAKEN
74.97	6/2/98	ST 56441579	PB		TS 0-25 cm MCL (S33:Z44:cC3%)

Horizon No.	Lowest Av. Depth (cm)	Texture	Matrix (Ped Face) Colours	Stoniness: Size,Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Mangan Concs	Structure: Ped Development Size and Shape	Consistence	Structural Condition	Pores (Fissures)	Roots: Abundance and Size	Calcium Carbonate Content	Horizon Boundary: Distinctness and form
1	14	MCL	10YR32	0	CRRC	0	-	-	-	-	MF,VF	-	Clear Smooth
2	45	HZCL	10YR52	0	CDFO 7.5YR58	0	WKCPR	FR	M	G	CF,VF	-	Grad Smooth
3	65	ZC	5Y62	0	MDMO 7.5YR46	0	WACAB	FR	M	G	CVF	-	Grad Smooth
4	100+	ZC	5Y62	0	MDMO 7.5YR46	0	WACAB	FR	M	P	FVF	-	

Profile Gleyed From: 0 cm

Slowly Permeable Horizon From: 65 cm

Wetness Class: III

Wetness Grade: 3A

Available Water Wheat: 135 mm

Potatoes: 109 mm

Moisture Deficit Wheat: 103 mm

Potatoes: 96 mm

Moisture Balance Wheat: +32 mm

Potatoes: +13 mm

Droughtiness Grade: 1 (Calculated to 120 cm)

Final ALC Grade: 3A

Main Limiting Factor(s): We

Remarks: H3 porous therefore not SPL

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Barwick, Yeovil	Pit 4 (ASP 37)	0°	PGR	Av Rainfall: 801 mm ATO: 1540 day °C	Alluvium
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY	FC Days: 173 Climatic Grade: 1 Exposure Grade: 1	PSD SAMPLES TAKEN
74.97	6/2/98	ST 57251525	VR/PB		TS 0-25 cm MCL(S43:Z37:C20%)

Horizon No.	Lowest Av. Depth (cm)	Texture	Matrix (Ped Face) Colours	Stoniness: Size,Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Mangan Concs	Structure: Ped Development Size and Shape	Consistence	Structural Condition	Pores (Fissures)	Roots: Abundance and Size	Calcium Carbonate Content	Horizon Boundary: Distinctness and form
1	21	MCL	10YR43	0	FRRC	0	-	-	-	-	MF,VF	-	Grad Smooth
2	41	HCL	10YR54	0	FFFO 10YR56	0	MDCSAB	FR	M	G(low)	CF,VF	-	Grad Smooth
3	62	C	2.5Y63	0	CDFO 10YR58	F	MDCPR	FM	P	G	FF,VF	-	Grad Smooth
4	80+	C	5Y62	0	CDFO 10YR58	C	MDCPR	FM	P	P*	FVF	-	

Profile Gleyed From: 41 cm

Slowly Permeable Horizon From: 62 cm

Wetness Class: II/III

Wetness Grade: 2/3a

Available Water Wheat: 131 mm

Potatoes: 108 mm

Moisture Deficit Wheat: 103 mm

Potatoes: 96 mm

Moisture Balance Wheat: +28 mm

Potatoes: +12 mm

Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 2/3a

Main Limiting Factor(s): We

Remarks: H3 Few large pores (earthworm)