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Devon Structure Plan: East Devon
Land at Clyst Honiton
Agricultural Land Classification

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DEVON STRUCTURE PLAN: EAST DEVON

LAND AT CLYST HONITON

AGRICULTURAL LAND CLASSIFICATION

CONTENTS

DEVON STRUCTURE PLAN: EAST DEVON

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AGRICULTURAL LAND CLASSIFICATION SURVEY

SUMMARY

The semi-detailed survey was carried out by ADAS on behalf of MAFF as part of its statutory role in the preparation of the Devon Structure Plan. The fieldwork at Clyst Honiton was completed in July and October 1994 at a scale of 1:20,000. Data on climate, soils, geology and previous ALC Surveys was used and is presented in the report. The distribution of grades is shown on the accompanying ALC map and summarised below. Information is correct at this scale but could be misleading if enlarged.

Distribution of ALC grades: Clyst Honiton

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	148.3	20.8	24.7	
3a	301.2	42.3	50.2	
3b	150.8	21.2	25.1	
Urban	64.2	9.0	0.0	
Non Agricultural	39.9	5.5	0.0	
Agricultural Buildings	8.2	1.2	0.0	
TOTAL	712.6	100.0	100.0	(600.3 ha)

Three quarters of the agricultural land surveyed is mapped as best and most versatile land. The main limitations are wetness and droughtiness. The Grade 2 land was found on light textured, well drained soils which are slightly droughty. Much of the Subgrade 3a land shows evidence of impeded drainage in the lower parts of the light textured profile. The Subgrade 3b land is found on slowly permeable clayey soils and has a moderately severe wetness limitation.

1. INTRODUCTION

A semi-detailed Agricultural Land Classification (ALC) Survey was carried out in July and October 1994 around Exeter Airport from Clyst Honiton in the west to Rockbeare in the east, on behalf of MAFF as part of its statutory role in the preparation of the Devon Structure Plan. The fieldwork covering 712.6 ha of land was conducted by ADAS at a scale of 1:20,000 (approximately one boring per two hectares of agricultural land). A total of 298 auger borings were examined and 15 soil profile pits used to assess subsoil conditions.

The published provisional one inch to the mile ALC map of this area (MAFF 1972) shows the grades of the site at a reconnaissance scale. The majority is mapped as Grade 3 with a small area of Grade 1 around Clyst Honiton. The Airport is shown as non-agricultural.

A small area of land bounded by the A30, Treasbeare Lane and the Airport perimeter was surveyed at 1:5,000 scale in 1987. This survey using the original guidelines shows small areas of Grades 1, 2, and 3c with most of the area as 3b and 3a.

The recent survey supersedes these maps having been carried out at a more detailed level and using the Revised Guidelines and Criteria for grading the quality of agricultural land (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 a lower grade despite other favourable conditions.

Estimates of climatic variables were interpolated from the published agricultural climate dataset (Meteorological Office 1989). The parameters used for assessing overall 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 there is no overall climatic limitation.

Table 1: Climatic Interpolations: Clyst Honiton

Grid Reference		SX 995 932	SY 009 944
Altitude (m)		30	50
Accumulated Temperature (day °)		1564	1540
Average Annual Rainfall (mm)		791	796
Overall Climatic Grade		1	1
Field Capacity Days		168	167
Moisture deficit (mm):	Wheat	112	109
	Potatoes	106	102

Climatic data on Field Capacity Days (FCD) and Moisture Deficits for wheat and potatoes are also shown. These data are used in assessing the soil wetness and droughtiness limitations referred to in later sections.

3. RELIEF AND LANDCOVER

The site gently undulates with the highest points being 50 m AOD near Treasbeare Farm and 45 m AOD near Beautiport Farm. The lowest areas are at 15 m AOD. At the time of survey much of the land was in grass with some arable fields. The land at the airport was not in agricultural use.

4. GEOLOGY AND SOILS

The geology of the site is shown on the published 1:50,000 scale drift geology map, sheet 325, (Institute of Geological Sciences 1986). The geology of the area is dominated by Marls and sandstones of the Permian and Triassic eras. There are bands of alluvium across the site. There are also patches of valley gravels across the site. There is an area of lower sandstone in the North West.

The soils were mapped by the Soil Survey of England and Wales in 1983 at a reconnaissance scale of 1:250,000 and in 1972 at a scale of 1:63,360. The site is predominantly overlain by soils of the Whimple 3 Association. These are described as reddish fine loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging. Compton Association tends to be mapped in the lower lying areas. These are described as stoneless mostly reddish clayey soils affected by groundwater. Bridgnorth Association soils are mapped in the west of the site, described as well drained sandy and coarse loamy soils over soft sandstone with occasionally deeper soils. An area of Brockhurst 1 Association soils occurs in the south east around Marwood and Southwood Crosses. These soils are described as slowly permeable seasonally waterlogged reddish fine loamy over clayey soils.

The soils found during the recent survey can be described as several types. In the south west and west the soils are generally light textured and well drained sandy loams which have variable stone contents in the profile. The soils mainly derived from the Marl and Alluvium comprise reddish clayey often stoneless profiles with clay and heavy clay loam topsoils. Towards the north and west of the site similar soils with lighter topsoil textures with slightly stony upper horizons are present. Much of the eastern parts of the site are stony but in a matrix of clayey material in the north and lighter clay loams in the south.

5. AGRICULTURAL LAND CLASSIFICATION

The distribution of ALC grades is shown in Table 2 and on the accompanying ALC map. The information could be misleading if shown at a larger scale.

Table 2: Distribution of ALC grades: Clyst Honiton

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	148.3	20.8	24.7	
3a	301.2	42.3	50.2	
3b	150.8	21.2	25.1	
Urban	64.2	9.0	0.0	
Non Agricultural	39.9	5.5	0.0	
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TOTAL	712.6	100.0	100.0	(600.3 ha)

Grade 2

Several areas of Grade 2 have been identified. Around Tillhouse Farm, Blue Hayes Lane and Treasbeare Farm the lighter textured, slightly stony profiles show some evidence of wetness as indicated by gleying and occasionally a slowly permeable layer is found at depth. These soils are Wetness Class II (Appendix 3) which imposes a slight wetness limitation where the soils have medium clay loam and sandy clay loam topsoils. The area of Grade 2 land just north of the Airport relates to slightly droughty deep sandy loam profiles. These soils continue to the south of the Airport. The stone content of these soils is variable, but imposes no greater drought limitation than Grade 2.

Subgrade 3a

The main northern block of Subgrade 3a comprises moderately drained Wetness Class III clayey profiles. These red soils have a very slightly stony (4-5% hard rock) medium clay loam topsoil. The upper clay subsoil is poorly structured and slowly permeable. However, this overlies a horizon of undeveloped reddish Marl parent material which indicates a slightly better drainage status.

The isolated block of Subgrade 3a around Parsons Bridge has better drained profiles (Wetness Classes I and II) but clay and heavy clay loam topsoils impose a moderate workability limitation. The southern part of this block has lighter textured soils but again poorer drained profiles.

The large southern area of 3a land has stony soils with medium clay loam topsoils. The stone contents in the subsoil were measured at two soil pits to be about 30% in the upper subsoil and increasing with depth. These soils have a moderate droughtiness limitation. There is some evidence of impeded drainage, but it is not significant in terms of final grade.

Subgrade 3b

These areas have a moderate wetness limitation. The soils comprise deep clayey profiles which are slowly permeable to depth. These soils are Wetness Class III and IV with clay topsoils although towards Woodhouse Farm they become lighter. Small areas are downgraded to 3b where the slope gradient exceeds 7°.

Other Land

The built up area of the Airport, roads, residential and industrial areas are shown as urban. The grassed areas of the Airport are shown as non-agricultural and small areas of other non-agricultural land and agricultural buildings are also identified on the map.

Resource Planning Team
Taunton Statutory Unit
October 1994

APPENDIX 1

REFERENCES

INSTITUTE OF GEOLOGICAL SCIENCES (1986) Drift Edition, Sheet 325, Exeter, 1:50,000.

MAFF (1972) Agricultural Land Classification Map, Sheet 176, Provisional 1:63,360 scale.

MAFF (1988) Agricultural Land Classification of England and Wales (Revised Guidelines and Criteria for grading the quality of agricultural land), Alnwick.

METEOROLOGICAL OFFICE (1989) Climatological Data for Agricultural Land Classification.

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

SOIL SURVEY OF ENGLAND AND WALES (1972), Sheet 325/339, Exeter and Newton Abbott, 1:63,360 scale.

APPENDIX 2

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 (eg 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.

Descriptions of other land categories used on ALC maps

Urban

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture, including: private park land, public open spaces, sports fields, allotments and soft-surfaced areas on airports/airfields. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Agricultural buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg polythene tunnels erected for lambing) may be ignored.

Open water

Includes lakes, ponds and rivers as map scale permits.

Land not surveyed

Agricultural land which has not been surveyed.

Where the land use includes more than one of the above landcover types, eg buildings in large grounds, and where may be shown separately. Otherwise, the most extensive cover type will usually be shown.

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

APPENDIX 3

DEFINITION OF SOIL WETNESS CLASSES

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 (in preparation), Soil Survey Field Handbook (revised edition).

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Clyst Honiton	Pit 1	2° NW	PGR	Av Rainfall: 791 mm ATO: 1564 day °C FC Days: 168 Climatic Grade: 1 Exposure Grade: 1	Marl with occasional sandstone
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY		SOIL SAMPLE REFERENCES
109/94	20/9/94	(ASP 209) SX 989 928	HLJ/PB		PB/166 and HLJ/69

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	24	MSL	05YR43	1% >2cm (S) 1% <2cm (S) 2% HR Total	none	none	-	-	-	Good	MF+VF	none	Clear/ smooth
2	37	MSL	05YR43	9% >2cm (S) 16% <2cm (S+D) 25% HR Total	none	Few	WCSAB	Friable	Good	Good	MF+VF	none	Gradual/ smooth
3	85	MSL	05YR53	12% >2cm (S) 19% <2cm (S+D) 31% HR Total	CDMO (7.5YR58)	Common (hard concretions)	WMSAB	Friable	Good	Good	CF+VF	none	Gradual/ smooth
4	110	MSL	2.5YR54	1% (vis)	FDFO (7.5YR56)	Common (Concretions)	MCSAB	Friable	Moderate	Good	FVF	none	Clear/ smooth
(Augered) 5	120+	C	2.5YR44	0% (vis)	FFFO	Common	-	-	P (assumed)	Poor	None	None	

Profile Gleyed From: 37 cm

Depth to Slowly Permeable Horizon: 110 cm

Wetness Class: I

Wetness Grade: 1

Available Water Wheat: 139 mm

Potatoes: 97 mm

Moisture Deficit Wheat: 112 mm

Potatoes: 106 mm

Moisture Balance Wheat: 27 mm

Potatoes: -9 mm

Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 2

Main Limiting Factor(s): Droughtiness

Remarks:

H_2 fairly heavy - texture has 18% clay ie on border of MSL and SCL. Likewise for H1 - H_4 patches of pale/light MS.

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SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Clyst Honiton	Pit 2	0°	PGR	Av Rainfall: 791 mm ATO: 1564 day °C FC Days: 168 Climatic Grade: 1 Exposure Grade: 1	Alluvium
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY		SOIL SAMPLE REFERENCES
109/94	20/9/94	ASP 89 SX 9865 9350	PB/HLJ		HLJ 68

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	18	MCL	7.5YR44	1% HR Total (vis)	RRC	none	-	-	-	Good	MF+VF	-	Clear smooth
2	42	C	7.5YR54 (0.5YR54)	0% HR (vis)	MFMO 05YR56	Common	MC Prismatic	Friable	Moderate	Good	CF+VF	-	Gradual smooth
3	55	C	7.5YR54 (05YR53)	0% HR Total (vis)	MDMO 7.5YR58	Common (concretions)	MC Prismatic	Friable	Moderate	Good	CF+VF	-	Clear smooth
4	90+	SC	05YR56 (05YR53)	0% HR Total (vis)	MDMO 7.5YR58	Common (concretions)	WDCSAB	Firm	Poor	Poor	FVF	-	-

Profile Gleyed From: 42 cm

Depth to Slowly Permeable Horizon: 55 cm

Wetness Class: III

Wetness Grade: 3a

Available Water Wheat: 133 mm

Potatoes: 111 mm

Moisture Deficit Wheat: 112 mm

Potatoes: 106 mm

Moisture Balance Wheat: 21 mm

Potatoes: 5 mm

Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 3a

Main Limiting Factor(s): Wetness

Remarks:

H_4 some large pores between peds but poor porosity within peds. Top 25 cm assessed as being MCL. RRC = Rusty root channels.

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SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Clyst Honiton	Pit 3	0°	Ploughed	Av Rainfall: 791 mm ATO: 1564 day °C FC Days: 168 Climatic Grade: 1 Exposure Grade: 1	Valley Gravel
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY		SOIL SAMPLE REFERENCES
109/94	23/9/94	ASP 111 SY 0103 9335	GMS		GMS/439 and GMS/438

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	28	MCL	7.5YR42	1% HR >2cm 4% HR >2mm Total 5% HR	none	none	-	-	-	Good	CVF	-	Clear smooth
2	50+	MCL	7.5YR42	8% HR >2cm 17% HR >2mm Total 25% HR	none	none	Too stony to assess	V Friable	Assumed good	Good	FVF	-	-

Profile Gleyed From: Not gleyed

Depth to Slowly Permeable Horizon: No SPL

Wetness Class: I

Wetness Grade: 1

Available Water	Wheat:	104 mm
	Potatoes:	115 mm
Moisture Deficit	Wheat:	112 mm
	Potatoes:	106 mm
Moisture Balance	Wheat:	-8 mm
	Potatoes:	-9 mm

Droughtiness Grade: 3A (Calculated to 70 cm)

Final ALC Grade: 3a

Main Limiting Factor(s): Droughtiness

Remarks:

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SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Clyst Honiton	Pit 4	0°	OSR	Av Rainfall: 791 mm ATO: 1564 day °C FC Days: 168 Climatic Grade: 1 Exposure Grade: 1	Valley Gravels
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY		SOIL SAMPLE REFERENCES
109/94	28/9/94	ASP 201 SY 0132 9292	PB/HLJ		HLJ/71

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	38	MCL	7.5YR32 (dark brown)	0% >6cm 2% HR >2cm (S) 4% HR <2cm (S+D) 6% HR Total	none	none	-	-	-	Good	Common fine	-	Clear wavy
2	56	HCL	10YR32	18% HR >2cm (S) 12% HR <2cm (S+D) 30% HR Total	CDMO (7.5YR56)	none	WCSAB	Friable	Moderate	Good	Common fine	-	Abrupt smooth
3	95+	MSL	7.5YR53	28% HR >2cm (S) 42% HR <2cm (S+D) 70% HR Total	MDMO (7.5YR58)	Many	Too stony to assess	Too stony to assess	Moderate (Assumed)	Good	none	-	-

Profile Gleyed From: 56 cm

Depth to Slowly Permeable Horizon: N/A

Wetness Class: I

Wetness Grade: 1

Available Water	Wheat:	106 mm
	Potatoes:	93 mm
Moisture Deficit	Wheat:	112 mm
	Potatoes:	106 mm
Moisture Balance	Wheat:	-6 mm
	Potatoes:	-13 mm
Droughtiness Grade:		3a (Calculated to 120 cm)

Final ALC Grade: 3a

Main Limiting Factor(s): Droughtiness

Remarks:

Iron pen/conglomerate at top of Horizon 3.

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SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Clyst Honiton	Pit 5	0°	PGR	Av Rainfall: 791 mm ATO: 1564 day °C FC Days: 168 Climatic Grade: 1 Exposure Grade: 1	Alluvium
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY		SOIL SAMPLE REFERENCES
109/94	28/9/94	ASP 130 SX 9879 9322	HLJ/PB		PB/169

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	10	MCL	7.5YR44	0	MRRC	0	-	-	-	Good	MVF	0	Clear/ smooth
2	25	C	7.5YR72	0	CDMO and MRRC	0	MM Prismatic breaking to MCSAB	Firm	Poor	Poor	MVF	0	-
3	80+	C	10YR72	0	ADMO (10YR68)	0	MC Prismatic	Firm	Poor	Poor	MVF	0	-

Profile Gleyed From: 10 cm

Depth to Slowly Permeable Horizon: 10 cm

Wetness Class: IV

Wetness Grade: 3b

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Available Water	Wheat:	91 mm
	Potatoes:	96 mm
Moisture Deficit	Wheat:	112 mm
	Potatoes:	106 mm
Moisture Balance	Wheat:	-21 mm
	Potatoes:	-10 mm
Droughtiness Grade:		3B (Calculated to 80 cm)

Final ALC Grade: 3b

Main Limiting Factor(s): Wetness

Remarks:

Texture of top 25 cm of soil (H1 + H2) is clay (see PSD results).

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Clyst Honiton	Pit 6	2° North	PGR	Av Rainfall: 791 mm ATO: 1564 day °C FC Days: 168 Climatic Grade: 1 Exposure Grade: 1	Alluvium
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY		SOIL SAMPLE REFERENCES
109/94	19/10/94	ASP 13 SY 0217 9447	HLJ/GMS		GMS/444 and GMS/445

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	7.5YR44	1% HR Total (visual)	none	none	-	-	-	Good	MVF	-	Clear/ smooth
2	35	MCL	05YR53 (05YR53)	2% HR >2cm (S) 18% HR <2cm (S+D) 20% HR Total	CDFO 7.5YR46	Few	WCSAB	Friable	Moderate	Good	CVF	-	Clear/ smooth
3	65	HCL	7.5YR53 (7.5YR53)	12% HR >2cm (S) 16% HR <2cm (S+D) 28% HR Total	MDMO/G 7.5YR56/72	Common	WCSAB	Friable	Moderate	Good	FVF	-	Clear/ smooth
4	80+	C	2.5YR46 (05YR53)	15% HR Total (vis)	CDMO 2.5YR48	Few	WCSAB	Friable	Moderate	Poor	FVF	-	-

Profile Gleyed From: 14 cm

Depth to Slowly Permeable Horizon: 65 cm

Wetness Class: III

Wetness Grade: 3a

Available Water Wheat: 119 mm

Potatoes: 95 mm

Moisture Deficit Wheat: 112 mm

Potatoes: 105 mm

Moisture Balance Wheat: 7 mm

Potatoes: -11 mm

Droughtiness Grade: 3a (Calculated to 120 cm)

Final ALC Grade: 3a

Main Limiting Factor(s): Wetness

Remarks:

Augered to 120 cm.

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SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Clyst Honiton	Pit 7	3° West	PGR	Av Rainfall: 791 mm ATO: 1564 day °C FC Days: 168 Climatic Grade: 1 Exposure Grade: 1	Marls + Sandstones/Alluvium (pit located at Junction of 2 Geologies)
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY		SOIL SAMPLE REFERENCES
109/94	19/10/94	ASP 41 SY 0175 9405	HLJ/GMS		HLJ/77

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	20	MZCL	7.5YR44	<1% HR Total (vis)	none	none	-	-	-	Good	MF+VF	-	Clear/wavy
2	50	C	05YR54 (05YR54)	<1% HR Total (vis)	FFFO 05YR56	Common	MCAB (tending to prismatic)	Firm	Moderate	Poor	FF+VF	-	Clear/ smooth
3	80+	C	2.5YR46 (2.5YR54)	none	CFDO 05YR58	Few	MC Prismatic	Very firm	Poor	Poor	none	-	-

Profile Gleyed From: Not gleyed

Depth to Slowly Permeable Horizon: 20 cm

Wetness Class: IV

Wetness Grade: 3b

Available Water Wheat: 135 mm

Potatoes: 112 mm

Moisture Deficit Wheat: 112 mm

Potatoes: 105 mm

Moisture Balance Wheat: 23 mm

Potatoes: 6 mm

Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 3b

Main Limiting Factor(s): Wetness

Remarks:

Augered to 120 cm

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SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Clyst Honiton|	Pit 8	1° SE	PGR	Av Rainfall: 791 mm ATO: 1564 day °C FC Days: 168 Climatic Grade: 1 Exposure Grade: 1	Sandstone
JOB NO.	*DATE*	*GRID REFERENCE*	*DESCRIBED BY*		*SOIL SAMPLE REFERENCES*
109/94	19/10/94	ASP 137 SX 9977 9321	GMS/HLJ		HLJ/76

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	28	MSL	7.5YR44	<1% HR >2cm (S) 4% HR <2cm (S+D) 5% HR Total	none	none	-	-	-	Good	F+VF	Not tested	Clear wavy
2	52	MSL	05YR44	<1% HR >2cm (S) 4½% HR <2cm (S+D) 5% HR Total	none	Few	MCSAB	Friable	Moderate	Good	FVF	Not tested	Clear wavy
3	73	SC	2.5YR46 (2.5YR54)	Negligible	CDFO 05YR58	Common	MC Prismatic	Friable	Moderate	Boarderline Low	FVF	Not tested	Clear smooth
4	100	SCL	10R48	Negligible	none	Common	MMAB	Friable	Moderate	Low	none	Not tested	Clear smooth
5	120	C	2.5YR36	none	none	none	Not assessed	Not assessed	Not assessed	Low	none	Not tested	-

Profile Gleyed From: Not gleyed

Depth to Slowly Permeable Horizon: 52 cm

Wetness Class: III

Wetness Grade: 2

Available Water Wheat: 143 mm

Potatoes: 107 mm

Moisture Deficit Wheat: 112 mm

Potatoes: 106 mm

Moisture Balance Wheat: 31 mm

Potatoes: 1 mm

Droughtiness Grade: 2 (Calculated to 120 cm)

Final ALC Grade: 2

Main Limiting Factor(s): Wetness

Remarks:

NL336k