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Devon Structure Plan: Exmouth

AGRICULTURAL LAND CLASSIFICATION
REPORT OF SURVEY

Resource Planning Team
Taunton Statutory Unit

January 1994

ADAS

DEVON STRUCTURE PLAN: EXMOUTH

AGRICULTURAL LAND CLASSIFICATION

Report of Surveys

1. SUMMARY

Land in East Devon District in three locations close to Exmouth was surveyed using the Agricultural Land Classification (ALC) system in January 1994. The surveys were carried out on behalf of MAFF as part of its statutory role in the preparation of the Devon Structure Plan. Land around Lympstone, Withycombe and Littleham was surveyed.

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 the scale shown but any enlargement would be misleading.

The distribution of ALC grades and categories identified in the survey areas are detailed below and illustrated on the accompanying maps.

Distribution of ALC grades: Lympstone

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	58.9	33.3	40.5	
3a	31.3	17.7	21.6	
3b	50.9	28.8	35.0	
4	4.2	2.4	2.9	
Urban	22.7	12.8	0.0	
Non-agricultural	5.6	3.2	0.0	
Agric buildings	3.1	1.8	0.0	
TOTAL	176.7	100%	100%	(145.3 ha)

Nearly two-thirds of the Agricultural Land was found to be best and most versatile land. Grade 2 land experiences slight workability and droughtiness limitations and the land graded 3a experiences a moderate workability and drought limitation. The land graded 3b relates to steeper slopes and poorly drained soils.

Distribution of ALC grades: Withycombe

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	9.4	2.7	4.2	
3a	31.8	9.2	14.3	
3b	181.4	52.2	81.5	
Urban	42.1	12.1	0.0	
Non-agricultural	13.6	3.8	0.0	
Woodland	67.3	19.4	0.0	
Agric buildings	2.1	0.6	0.0	
TOTAL	347.7	100%	100%	(222.6 ha)

The majority of the agricultural land surveyed at Withycombe is Subgrade 3b. These soils are poorly drained. Small areas in the north-east are well drained but are stony. These soils experience droughtiness limitations.

Distribution of ALC grades: Littleham

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	25.3	34.9	37.7	
3a	9.6	13.3	14.3	
3b	31.6	43.6	47.0	
4	0.7	1.0	1.0	
Urban	0.9	1.2	0.0	
Non-agricultural	3.0	4.1	0.0	
Agric buildings	1.4	1.9	0.0	
TOTAL	72.5	100%	100%	(67.2 ha)

Over half the agricultural land surveyed at Littleham was found to be of best and most versatile quality. The Grade 2 agricultural land relates to soils with a slight droughtiness limitation, Subgrade 3a soils experience a moderate wetness limitation. Land graded 3b relates to poorly drained soils and steeper slopes.

2. INTRODUCTION

Land in East Devon District in three locations close to Exmouth were surveyed using the Agricultural Land Classification (ALC) system in January 1994. The surveys were carried out on behalf of MAFF as part of its statutory role in the preparation of the Devon Structure Plan. Land around Lympstone, Withycombe and Littleham was surveyed.

The fieldwork was carried out by ADAS (Resource Planning Team, Taunton Statutory Unit) at a scale of 1:10,000 (approximately one auger sample point per hectare). The information is correct at the scale shown but any enlargement would be misleading. The findings of the surveys and distribution of the grades are detailed below for each area surveyed.

The recent surveys supersede any previous work and were undertaken to provide a more detailed representation of the agricultural land quality 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.

3. CLIMATE

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

Estimates of climatic variables were obtained for each site by interpolation from the Agricultural Climate Dataset (Meteorological Office, 1989). The data are shown in later sections.

The parameters used for assessing overall climatic conditions are accumulated temperature (a measure of the relative warmth of a locality) and average annual rainfall (a measure of overall wetness). Climatic data on Field Capacity Days (FCD) and Moisture Deficits for wheat (MDW) and potatoes (MDP) are also shown. These data are used in assessing the soil wetness and droughtiness limitations referred to in later sections. A description of the Wetness Classes used in quantifying the degree of wetness can be found in Appendix 3.

4. LYMPSTONE

4.1 A total of 177 hectares of land between Lympstone and Exmouth were surveyed in January 1994. The only existing ALC information on this area is on the 1" to the mile national ALC map series, sheet 176 (MAFF, 1972). The scale of the map is considered inadequate for local plan purposes and the area has been resurveyed. The recent survey now supersedes any previous ALC information. A total of 125 auger borings and 6 soil profile pits were examined.

4.2 Climate

Climatic data for the site were interpolated as described in Section 3. The results are shown in Table 1 and indicate that there is no overall climatic limitation for the site.

Table 1: Climatic Interpolation - Lympstone

Grid Reference	SY 000 827	SY 001 834	SY 009 836
Altitude (m)	35	45	80
Accumulated Temperature (day °)	1562	1550	1510
Average Annual Rainfall (mm)	781	784	801
Overall Climatic Grade	1	1	1
Field Capacity (days)	165	166	168
Moisture deficit: Wheat (mm)	110	109	105
Potatoes (mm)	105	103	97

4.3 Relief and Landcover

Much of the site slopes to the west overlooking the Exmouth Estuary, with land rising from 3 m to 81 m AOD on the eastern boundary. There are some steep slopes along the line of Watton Brook. At the time of survey much of land was used for grass ley and permanent grazing, with some arable cropping around Courtlands Farm.

4.4 Geology and Soils

The published 1:50,000 scale solid and drift geology map, sheet 339 (Geological Survey of England and Wales, 1976), shows much of the site to comprise Exmouth Mudstones, with narrow bands of Exmouth Sandstone along steeper slopes and alluvium in the valley floor.

The Soil Survey of England and Wales mapped the soils in 1972 at a scale of 1:63,360, and again in 1983 at a scale of 1:250,000. These maps show much of the site to comprise Whimple 3 Association, with a band of Newham Association running from the estuary to Courtlands Cross. The Whimple 3 Association is described as reddish fine loam over clayey soils with slowly

permeable subsoils, and Newham Association is described as well-drained reddish coarse and fine loamy soils over gravel.

The recent survey found similar soils in part to the mapped series. The area mapped as 3b around Higher Halsdown Farm and the very north-eastern corner of the site comprise deep reddish clay profiles with heavy clay loam topsoils. The land mapped as Grade 2 around Courtlands Farm was found to comprise medium sandy silt loam topsoils over moderately stony clay loam upper subsoils and clay lower subsoils. A broad band of soils running across the northern part of the site comprised lighter sandy textured profiles with variable amounts of stones (profiles around Atlantis comprised 55% upper subsoil stones, whilst soils south of Watton Lane comprised only 15% hard rock).

4.5 Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in Table 2 and shown on the accompanying ALC map. The information is correct at the scale shown but any enlargement would be misleading.

Table 2: Distribution of ALC grades: Lympstone

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	58.9	33.3	40.5	
3a	31.3	17.7	21.6	
3b	50.9	28.8	35.0	
4	4.2	2.4	2.9	
Urban	22.7	12.8	0.0	
Non-agricultural	5.6	3.2	0.0	
Agric buildings	3.1	1.8	0.0	
TOTAL	176.7	100%	100%	(145.3 ha)

Grade 2

A total of 40.5 ha of land was found to be Grade 2. This relates to the well-drained slightly stony medium sandy loam profiles found south of Watton Lane. These soils have a slight droughtiness limitation imposed by the light textures. Soils mapped as Grade 2 along Courtlands Lane and Summer Lane have a slight wetness limitation imposed by slowly permeable clay soils from approximately 55 cm. These soils are assessed as Wetness Class III. However, the light medium sandy silt loam topsoils gives good workability throughout a large period of the year. Some of these profiles with a high stone content in the upper horizons also experience a slight drought limitation.

Subgrade 3a

A total of 21.6 ha has been graded as good quality agricultural land. The land around Atlantis and the small area north-west of High Halsdown Farm experience a moderate drought limitation imposed by very stony upper medium sandy loam and sandy silt loam subsoils. These areas are limited to Subgrade 3a. Other areas of Subgrade 3a soils comprise Wetness Class III profiles with medium clay loam topsoils imposing a moderate workability limitation.

Subgrade 3b

A total of 35 ha of moderate quality land was found. This relates to the red clay profiles described in Section 4.4. Shallow slowly permeable subsoils and heavy clay loam topsoils impose a moderately severe wetness limitation. Areas of slope with gradients of 7-11° have also been included in this subgrade due to the limiting nature of these slopes on the safe use of agricultural machinery.

Grade 4

The small areas of Grade 4 land have a slope limitation. The gradients of these slopes were measured to be between 11 and 18°. The versatility of these areas is restricted because few types of agricultural machinery can be safely used.

Other Land

Residential areas, roads and buildings not associated with agriculture are shown as urban. There are several areas of scrub and park land which have been shown as non-agricultural.

5. WITHYCOMBE

5.1 A total of 348 hectares of land to the north-east of Exmouth at Withycombe was surveyed in January 1994. The only existing ALC information is from the 1" to the mile national ALC map series, sheet 176 (MAFF, 1972). The scale of this map is considered inadequate for Local Plan purposes and the area has been resurveyed. The recent survey now supersedes any previous ALC information. A total of 222 auger boring points and 10 soil profile pits were examined.

5.2 Climate

Climatic data for the site was interpolated as described in Section 3. The results are shown in Table 3 and indicate that there is no overall climatic limitation for the site.

Table 3: Climatic Interpolation - Withycombe

Grid Reference	SY 026 824	SY 040 825	SY 024 843
Altitude (m)	40	91	140
Accumulated Temperature (day °)	1556	1497	1441
Average Annual Rainfall (mm)	793	809	833
Overall Climatic Grade	1	1	1
Field Capacity (days)	167	169	173
Moisture deficit: Wheat (mm)	109	103	97
Potatoes (mm)	104	96	87

5.3 Relief and Landcover

The site occupies a dissected hillside sloping towards the south-west. Only small areas have steep slopes, most slopes have gradients less than 7 degrees. At the time of survey much of the agricultural land in the west and south was in grass whereas in the east arable cropping dominated. Large areas of the site are covered by woodland and residential land.

5.4 Geology and Soils

The published 1:63,360 scale solid and drift geology map, sheet 339 (Geological Survey of England and Wales, 1976),shows most of the site to comprise Littleham Mudstones with narrow bands of alluvium along small streams.

The same Soil Survey of England and Wales maps cover this area as Lympstone and show much of the lower slopes to comprise Whimple 3 Association and Brockhurst 1 Association. A very narrow band of Gladstone Association is shown to run along the eastern edge of the site. Whimple 3 soils are described as reddish fine loamy or fine silty over clayey soils with slowly permeable subsoils and seasonally waterlogged. Brockhurst 1

Association is described as slowly permeable, seasonally waterlogged reddish fine loamy over clayey soils. Gladstone Association is described as well drained very acidic very stony sandy soils.

The majority of the soils identified in the survey were poorly drained clay soils. There is an area in the north-east of better drained stony soils.

5.5 Agricultural Land Classification

The distribution of ALC grades identified in the survey area is detailed in Table 4 and shown on the accompanying ALC map. The information is correct at the scale shown but any enlargement would be misleading.

Table 4: Distribution of ALC grades: Withycombe

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	9.4	2.7	4.2	
3a	31.8	9.2	14.3	
3b	181.4	52.2	81.5	
Urban	42.1	12.1	0.0	
Non-agricultural	13.6	3.8	0.0	
Woodland	67.3	19.4	0.0	
Agric buildings	2.1	0.6	0.0	
TOTAL	347.7	100%	100%	(222.6 ha)

Grade 2

A small area of Grade 2 has been mapped. These soils are well drained and are Wetness Class I. The soils are stone-free or only slightly stony. The main limitation in these soils is slight droughtiness, although some of the soils are Grade 1. The soils typically have medium clay loam topsoils with an increasing clay content to depth.

Subgrade 3a

These soils are well drained and are Wetness Class I. The main limitation to these soils is droughtiness. The soils have variable stone contents but these were measured in soil pits and found to be as high as 31% in the topsoil. There are places within this unit where the stone content is low enough for the soil to be Grade 2 but the variability of the soils means that Subgrade 3a is the more appropriate grade.

Subgrade 3b

The majority of the agricultural land is Subgrade 3b. These soils are poorly drained and were found to be Wetness Classes III and IV. The subsoils are slowly permeable. The Wetness Class depends upon the depth at which the slowly permeable layer exists along with the associated gleying. The topsoil texture across these areas was typically heavy clay loam, but there are patches where medium clay loams were found.. The presence of slowly permeable layers was confirmed in several soil profile pits. Within the Subgrade 3b unit there are some slopes where gradients were measured to be between 7 and 11 degrees. The slope limitation here matches the wetness limitation.

Other Land

Much of the survey area is covered by woodland and non-agricultural land. There are also significant residential areas which have been mapped as urban.

6. LITTLEHAM

6.1 A total of 72 hectares of land south of Exmouth was surveyed in January 1994. The only existing ALC information is from the 1" to the mile national ALC map series, sheet 176 (MAFF, 1972). The scale of the map is considered inadequate for Local Plan purposes and the area has been resurveyed. The recent survey now supersedes any previous ALC information. A total of 65 auger borings and 2 soil pits were examined.

6.2 Climate

Climatic data for the site was interpolated as described in Section 3. The results are shown in Table 5 and indicate that there is no overall climatic limitation for the site.

Table 5: Climatic Interpolation - Littleham

Grid Reference	SY 013 802	SY 022 812
Altitude (m)	5	55
Accumulated Temperature (day °)	1597	1539
Average Annual Rainfall (mm)	781	795
Overall Climatic Grade	1	1
Field Capacity (days)	165	167
Moisture deficit: Wheat (mm)	113	107
Potatoes (mm)	109	101

6.3 Relief and Landcover

The site occupies the Littleham Brook Valley, the highest point being 60 m AOD, falling to 3 m AOD at the very western tip of the site. At the time of the survey much of the land was under arable cropping with some grass leys, particularly in the north of the site.

6.4 Geology and Soils

The geology map already quoted in the previous 2 sites shows much of the site to comprise Exmouth Mudstones, with the valley floor alluvium river deposits and soil outcrops of Exmouth Sandstone on the slopes. Similarly the Soil Survey of England and Wales soil maps previously quoted show the entire site to comprise Whimple 3 Association. These soils are described as reddish fine loamy or fine silty over clayey soils with slowly permeable subsoils.

The recent survey found a variation of soils across the site. The southern and northern parts of the site comprise deep reddish clayey soils, whilst the central area deep heavy clay loam profiles with negligible and small amounts of stone.

6.5 Agricultural Land Classification

The distribution of ALC grades identified in the survey area are detailed in Table 6 and shown on the accompanying ALC map. The information is correct at the scale shown but any enlargement would be misleading.

Table 6: Distribution of ALC Grades - Littleham

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	25.3	34.9	37.7	
3a	9.6	13.3	14.3	
3b	31.6	43.6	47.0	
4	0.7	1.0	1.0	
Urban	0.9	1.2	0.0	
Non-agricultural	3.0	4.1	0.0	
Agric buildings	1.4	1.9	0.0	
TOTAL	72.5	100%	100%	(67.2 ha)

Grade 2

A total of 25 ha of land was found to be Grade 2. This relates to the deep heavy clay loam profiles which are well-drained (Wetness Class I). Under the prevailing FC Days these soils are limited to Grade 2 with a slight workability *limitation. Some slightly stonier subsoils in this mapping unit also experience* a Grade 2 drought limitation.

Subgrade 3a

The area of 3a land shown in the southern part of the site experiences a moderate workability limitation imposed by medium clay loam, topsoils and gleyed and slowly-permeable clay subsoils from a depth of 50 cm. These profiles are assessed as Wetness Class III.

Subgrade 3b

A total of 32 ha was found to be Subgrade 3b. Land of this grade has a moderately severe wetness limitation imposed by shallow, slowly-permeable clay subsoils with medium clay loam topsoils. These soils are assessed as Wetness Class IV. There are also small areas of land of gradients between 7 and 11° *which have been included in this grade. The versatility of steep* slopes is reduced because few types of agricultural machinery can safely be used.

Other Land

Residential areas have been shown as urban. The playing fields, areas of woodland and rough land and unmade farm tracks are shown as non-agricultural.

APPENDIX 1

REFERENCES

GEOLOGICAL SURVEY OF ENGLAND AND WALES, 1976, Solid and Drift edition, sheet 339, Newton Abbot, 1:50,000 scale

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, MAFF Publications, Alnwick

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

SOIL SURVEY OF ENGLAND AND WALES (1972), sheets 235 and 339, 1:63,360 scale

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

APPENDIX 2

DESCRIPTION OF ALC 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
Littleham	Pit 2	2° South	Maize stubble	Av Rainfall: 787 ATO: 1568 FC Days: 166 Climatic Grade: 1	Alluvium river deposits
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY		
112/93	25/1/94	ASP 36	N A Done		

Horizon Number	Lowest Av Depth (cm)	Matrix and Ped Face Colours	Texture	Stoniness: Size, Shape, Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Structure: Development Size and Shape	Pores and Fissures	Structural Condition	Consistence	Roots: Abundance, Size and Nature	Calcium Carbonate Content	Mangan Concs etc	Horizon Boundary: Distinctness and form
1	30	7.5YR43	HCL/ MCL	2% Total visual est	-	-	-	-	-	Many fine + v. fine	none	-	Gradual/ smooth
2	90+	7.5YR44	HCL	neg	-	MDCSAB	V. porous >0.5% earthworm	M	Friable	Common	none	none	

No distinguishable lower horizon

Profile Gleyed From: -

Depth to Slowly Permeable Horizon: -

Wetness Class: 1

Wetness Grade: 2

Available Water Wheat: 155

Potatoes: 117

Moisture Deficit Wheat: 110

Potatoes: 105

Moisture Balance Wheat: 45

Potatoes: 12

Droughtiness Grade: 1

Final ALC Grade: 2

Main Limiting Factor(s): Workability

Remarks:

NL336

SITE NAME	PROFILE NO.	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Littleham	Pit 1	2° SW	Winter Wheat	Av Rainfall: 787 ATO: 1568 FC Days: 166 Climatic Grade: 1	Exmouth Mudstone
JOB NO.	DATE	GRID REFERENCE	DESCRIBED BY		
112/93	25 Jan 94	ASP 60	N A Done		

Horizon Number	Lowest Av Depth (cm)	Matrix and Ped Face Colours	Texture	Stoniness: Size, Shape, Type, and Field Method	Mottling Abundance, Contrast, Size and Colour	Structure: Development Size and Shape	Pores and Fissures	Structural Condition	Consistence	Roots: Abundance, Size and Nature	Calcium Carbonate Content	Mangan Concs etc	Horizon Boundary: Distinctness and form
1	30	7.5YR43	MCL	3% Total HR	-	-	-	-	-	Common fine + v fine	-	-	Clear/ smooth
2	70	2.5YR46	C	20% HR visual estimate slight increase in stone content with depth	cdom 5YR66 + 2.5YR44	WD adherent CSAB	<0.5	P	V Firm	Common v. fine	-	Common	-

Profile Gleyed From: 30

Depth to Slowly Permeable Horizon: 30

Wetness Class: IV

Wetness Grade: 3b

Available Water	Wheat:	114
	Potatoes:	95
Moisture Deficit	Wheat:	110
	Potatoes:	105
Moisture Balance	Wheat:	4
	Potatoes:	-10
Droughtiness Grade:		3a

Final ALC Grade: 3b

Main Limiting Factor(s): Wetness

Remarks:

Pit dug to 70cm. Water collecting at 65 cm.