Mendip District Local Plan
Street

Agricultural Land Classification
July 1996

Resource Planning Team
Taunton Statutory Group
ADAS Bristol

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Ministry of Agriculture Fisheries and Food
Land Use Planning Unit

MENDIP LOCAL PLAN STREET

AGRICULTURAL LAND CLASSIFICATION SURVEY

CONTENTS

MENDIP LOCAL PLAN STREET

AGRICULTURAL LAND CLASSIFICATION SURVEY

INTRODUCTION

1 This report presents the findings of a semi-detailed Agricultural Land Classification (ALC) survey of 560 9 ha of land in two sites at Walton and Street Field survey was based on 240 auger borings and 13 soil profile pits and was completed in June 1996 Although the two sites were surveyed separately and at different times, the text of this report covers both without distinction as the sites are contiguous and the soils were found to be similar

2 The survey was conducted by the Resource Planning Team of ADAS Taunton Statutory Group on behalf of MAFF Land Use Planning Unit in its statutory role in the preparation of Mendip Local Plan

3 Information on climate geology and soils and from previous ALC surveys was considered and is presented in the relevant section Apart from the published regional ALC map (MAFF 1977) which shows the sites at a reconnaissance scale as Grade 3 the site was previously surveyed in the 1980 s at a scale of 1 25 000 (ADAS 198?) However, the current survey uses the Revised Guidelines and Criteria for grading the quality of agricultural land (MAFF 1988) and supersedes any previous ALC survey Grade descriptions are summarised in Appendix I

4 The previous ALC survey completed on uncertain date in the 1980 s, was carried out to the previous guidelines which are now superseded This shows mainly Subgrade 3a with some Subgrade 3b and a smaller area of Subgrade 3c A more recent survey under the current guidelines was carried out at Walton (ADAS 1994) for two alternative routes for the proposed A39 Bypass This found mainly Subgrade 3b with a small area of Subgrade 3a in the northern route

5 At the time of survey land cover was mainly grass with some winter cereals and small areas of field beans and potatoes A considerable area, particularly around Eastmead Farm was noted to be green fallow, presumably set aside Other land which was not surveyed included mainly urban land residential and roads with some woodland and a larger area of sports fields at Millfield School One field at Walton (ASP11) although apparently agricultural, was reported to have been recently dedicated under long lease as the village sports and recreation field and therefore will not be in agricultural use for the foreseeable future and was not surveyed

SUMMARY

6 The distribution of ALC grades is shown on the accompanying 1 20 000 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 the Table 1

Table 1 Distribution of ALC grades Street

Grade	Area (ha)	% Surveyed Area (435 2 ha)
3a	7 7	1 8
3b	427 5	98 2
Other land	125 7	
Total site area	560 9	

7 Only 2% of the survey area was found to be best and most versatile This was mapped as Subgrade 3a, a continuation of the small area found in the previous survey for the northern route of the proposed Walton Bypass (ADAS 1994) The remainder of the site although containing occasional borings which may have been borderline to Subgrade 3a, were all found to be Subgrade 3b mainly due to wetness Even the more obviously stony or shallow soils which had been impenetrable to the auger were found to have a slowly permeable layer within rooting depth when a pit was dug to penetrate the rock

CLIMATE

8 Estimates of climatic variables for this site were derived from the published agricultural climate date set 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 (FAD) 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 sections

Table 2 Climatic Interpolations Street

Grid Reference		ST470367	ST480346	ST499360
Altitude (m)		12	75	18
Accumulated Temperature (day °C)		1554	1483	1548
Average Annual Rainfall (mm)		760	793	760
Overall Climatic Grade		1	1	1
Field Capacity Days		163	168	164
Moisture deficit (mm)	Wheat	110	102	109
	Potatoes	104	93	103

RELIEF

11 Altitude ranges from 10 metres near Asney Farm to 75 metres at Marshall's Elm Farm with mainly level to moderate slopes which are not limiting

GEOLOGY AND SOILS

12 The underlying geology of the site is shown on the published geology map (IGS, 1973) as Lower Lias clay with limestone The limestone occurs in slabs or bands of varying thickness with clay between and the current survey found most evidence of the limestone, and the shallower soils, towards the higher ground at the south of the site

13 Soils were mapped by the Soil Survey of England and Wales at a reconnaissance scale of 1 250 000 (SSEW 1983) as mainly Evesham and Sherborne associations, with the Sherborne association found on the shallower soils mainly on the higher ground at the south of the site and also around Walton village

14 Evesham 1 association is described as slowly permeable calcareous clayey soils associated with shallow well drained brashy calcareous soils over limestone, whereas Sherborne association is described as shallow well-drained brashy calcareous clayey soils over limestone, associated with slowly permeable calcareous clayey soils

15 This description and distribution was largely borne out by the current survey

AGRICULTURAL LAND CLASSIFICATION

16 The distribution of ALC grades found by the current survey is shown on the accompanying 1 20 000 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

Subgrade 3A

17 A small area of Subgrade 3a is shown at the north side of Walton This is a continuation of the Subgrade 3a mapping unit found in the previous survey of the northern route of the proposed Walton Bypass (ADAS 1994) Of the six auger borings within this area in the current survey, only two were proved to be Wetness Class I by augering Of the remainder one was shown to be Subgrade 3b and three were impenetrable and therefore inclusive However the borings record does at least show that Subgrade 3a can be found in this area The two borings which were assessed as Subgrade 3a show clay topsoil which at Wetness Class I implies a less serious moderate limitation due workability

Subgrade 3b

18 The vast majority of the two sites was found to be Subgrade 3b with mainly clay or occasionally heavy clay loam topsoil textures and mainly Wetness Class III or IV with a slowly permeable layer and gleying found, generally in the upper subsoil All 13 pits dug on the two

sites found a slowly permeable layer generally between 25cm and 50cm depth Only Pit 9 and possibly Pit 5 were found to be borderline to Wetness Class II

19 The pits were sited particularly to investigate auger borings found to be impenetrable and without exception these found bands of clay acting as a slowly permeable layer below the first layer of rock and within 80cm In some cases, the slowly permeable layer was observed to start a few cm above a band of limestone and to continue below it In these cases, the limestone was considered to be set within the slowly permeable layer and not interrupting the effect of it

20 The widespread distribution of slowly permeable layers in the subsoil as found by the many pits which penetrated the first layer of rock is thought to explain the main difference the previous survey (ADAS 198?) which was carried to guidelines which are now superseded and which did not recognise the existence or significance of a slowly permeable layer

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ADAS Bristol
12 July 1996

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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 (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

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 (In preparation) Soil Survey Field Handbook Revised Edition

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, 1974)

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	**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%			

STRUCTURE Ped Development *

WA	Weakly adherent	**M**	Moderately developed
W	Weakly developed	**S**	Strongly developed

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 1974) for details

SITE NAME	PROFILE NO	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Street (Walton)	Pit 1 (ASP 2)	2° S	Maize	Av Rainfall 760 mm ATO 1554 day °C FC Days 163 Climatic Grade 1 Exposure Grade	Lower Lias
JOB NO	DATE	GRID REFERENCE	DESCRIBED BY		SOIL SAMPLE REFERENCES
15 96	19/06/96	ST 4647 3664	PW PB		PB 380

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	22	C	10YR43	2%HR VIS	0	0				G	CF VF	Y	Clear Wavy
2	30	C	10Y54 63	35%HR VIS	FDFO 10YR56	0	WCPI	Fm	P	P	FF VF	Y	Ab Smooth
3	69	C	2 5Y63 54	80%HR VIS	CDMO 10YR56	0	Too Stoney	Fm	(M)	P	FF VF	Y	Ab Smooth
4	95	C	2 5Y63	0	CDMO 10YR56	0	(Augered only)	Fm	(P)	P		Y	

Profile Gleyed From 30cm

Depth to Slowly Permeable Horizon 69cm

Wetness Class III

Wetness Grade 3b

Available Water Wheat 94 mm

Potatoes 61 mm

Moisture Deficit Wheat 106 mm

Potatoes 99 mm

Moisture Balance Wheat 32 mm

Potatoes 38 mm

Droughtiness Grade 3b (Calculated to 95 cm)

Final ALC Grade 3b

Main Limiting Factor(s) We Dr

Remarks H4 probed and augered to 95cm (HR)
H3 may be SPL but fissures between stones presumed porous

SITE NAME	PROFILE NO	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Street (Walton)	Pit 2 (ASP 32)	1° S	PGR	Av Rainfall 760 mm ATO 1554 day °C FC Days 163 Climatic Grade 1 Exposure Grade	Lower Lias
JOB NO	DATE	GRID REFERENCE	DESCRIBED BY		SOIL SAMPLE REFERENCES
15 96	19/06/96	ST 4613 3611	PW PB		PRW 144

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	C	10YR33	3%HR VIS	None	None			Mod	Good	MF VF	Y	Gradual Smooth
2	34	C	10YR54	50%HR (S)	None	None	Too Stony		(Mod)	Good	CF VF Between stones	Y	Abrupt Smooth
3	39	C	2 5Y63	None	CDFO	None	WCPI	Firm	Poor	Good	FF VF	Y	Abrupt Smooth
4	52	C	2 5Y64	65% HR (S)	CDFO	None	Too Stony		(Mod)	Good	None Seen	Y	Abrupt Smooth
5	85+	C	2 5Y73 (2 5Y62 at bottom)	None	CDMO	None	WCSAB	Firm	Poor	Poor	None Seen	Y	

Profile Gleyed From 34cm

Depth to Slowly Permeable Horizon 52cm

Wetness Class III

Wetness Grade 3b

Available Water	Wheat	96 mm
	Potatoes	87 mm
Moisture Deficit	Wheat	106 mm
	Potatoes	99 mm
Moisture Balance	Wheat	10 mm
	Potatoes	-12 mm

Droughtiness Grade 3a (Calculated to 100 cm)

Final ALC Grade 3b

Main Limiting Factor(s) Wetness

Remarks

SITE NAME	PROFILE NO	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Street (Walton)	Pit 3 (ASP 89)	6° N	PGR	Av Rainfall 779 mm ATO 1478 day °C	Lower Lias
JOB NO	DATE	GRID REFERENCE	DESCRIBED BY	FC Days 165 Climatic Grade 1	SOIL SAMPLE REFERENCES
15 96	20 06 96	ST 4646 3526	PW/PB	Exposure Grade	PRW 145

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	19	C	10YR42	10% HR VIS	None	None				G	MF VF		Abrupt Smooth
2	26	C	10YR54	30% HR VIS	None	None	MM,FSAB (prismatic tendency)	Firm	Moderate	G	CF VF		Clear Smooth
3	35	C	2 5Y63 (10YR54)	30%HR VIS	FFO CMG	None	MM,FSAB	Firm	Moderate	G	CF VF		Clear Wavy
4	56 over rock 13cm thick	C	2 5Y63	20% HR VIS +SLST	CFO MMG	None	MC FSAB	Friable	Moderate	Poor	CF VF		Abrupt Smooth

Profile Gleyed From 35cm

Depth to Slowly Permeable Horizon No SPL

Wetness Class II

Wetness Grade 3b

Available Water Wheat 81 mm

Potatoes 78 mm

Moisture Deficit Wheat 106 mm

Potatoes 99 mm

Moisture Balance Wheat 25 mm

Potatoes 21 mm

Droughtiness Grade 3b (Calculated to 80*cm)

* Clay layer beneath rock band was probed, and a second band of rock encountered at 80cm

Final ALC Grade 3b

Main Limiting Factor(s) Wetness drought

Remarks H4 not SPL due to moderate structure with fine peds
Pit probed to 80cm but rock at 56cm tightly packed and represents effective bottom of profile

SITE NAME	PROFILE NO	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Street (Walton)	Pit 4 (ASP 99)	5° N	Fallow	Av Rainfall 779 mm ATO 1478 day °C FC Days 165 Climatic Grade 1 Exposure Grade	Lower Lias
JOB NO	DATE	GRID REFERENCE	DESCRIBED BY		SOIL SAMPLE REFERENCES
15 96	20/06/96	ST 4701 3497	PW PB		PB 381

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	C	10YR44	10 %HR VIS	0	0					MF VF	Y	Clear Smooth
2	33	C	10YR54	10%HR VIS	CDMG 10YR53	0	MMSAB	Fm	G	G	CF VF (In Ped)	Y	Clear Wavy
3	46	C	2 5Y53	35 %HR VIS	CDFO 10YR56	0	MCPr Br into MCAB	Fm	P	P	FF VF (Ex Ped)	Y	Grad Smooth
4	74+	C	10YR64	40% HR VIS	CDFO 10YR58	0	MCAB	Fm	P	P	FF VF	Y	

Profile Gleyed From 33cm

Depth to Slowly Permeable Horizon 33cm

Wetness Class IV

Wetness Grade 3b

Available Water	Wheat	93 mm
	Potatoes	87 mm
Moisture Deficit	Wheat	106 mm
	Potatoes	99 mm
Moisture Balance	Wheat	-13 mm
	Potatoes	12 mm

Droughtiness Grade 3a (Calculated to 100 cm)

Final ALC Grade 3b

Main Limiting Factor(s) We

Remarks