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Frome South

Agricultural Land Classification

March 1997

Resource Planning Team
Taunton Statutory Group
ADAS Bristol

Job Number 20/97
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Ministry of Agriculture Fisheries and Food
Land Use Planning Unit

MAFF

FROME SOUTH

AGRICULTURAL LAND CLASSIFICATION SURVEY

CONTENTS

FROME SOUTH

AGRICULTURAL LAND CLASSIFICATION SURVEY

INTRODUCTION

1 This report presents the findings of a semi detailed Agricultural Land Classification (ALC) survey of site area 199 ha of land to the south of Frome Field survey was based on 101 auger borings and 5 soil profile pits and was completed in March 1997

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 site at a reconnaissance scale as mainly Grade 3 with Grade 4 in the valley of the River Frome the site was previously surveyed in 1985 at a scale of 1 25 000 (ADAS 1985) 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 current survey is an extension to that completed in 1996 (ADAS 1996 Job No 9 96) taking the area surveyed to the new bypass where this runs around the south and east sides of Frome town

5 At the time of survey land cover was mainly grass for dairy and other stock with small areas of winter cereals and maize Most of the land was in productive agricultural use with only a small area around Blatchbridge devoted to pony paddocks An area of 5 ha of agricultural land within the survey area was not surveyed because the owner refused permission for access He was opposed to any development near his property and did not wish to co operate Other land which was not surveyed included various roads residential buildings agricultural buildings the new supermarket site at Little Keyford and an area of derelict land in the north of the site

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 Frome South

Grade	Area (ha)	% Surveyed Area (168 ha)
3a	4	3
3b	36	21
4	123	73
Agricultural land not surveyed	5	3
Other land	31	
Total site area	199	

7 This shows only 3% of the survey area as best and most versatile This is a small area of Subgrade 3a around Little Keyford a continuation of a larger area of Subgrade 3a shown in the adjacent 1996 survey The rest of the land is mainly Grade 4 and Subgrade 3b limited mainly by wetness and workability

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 sections

Table 2 Climatic Interpolations Frome South

Grid Reference		ST 765459	ST 786475	ST 778455
Altitude (m)		125	70	75
Accumulated Temperature (day °C)		1414	1476	1471
Average Annual Rainfall (mm)		929	839	857
Overall Climatic Grade		1	1	1
Field Capacity Days		197	185	188
Moisture deficit (mm)	Wheat	84	96	95
	Potatoes	71	86	85

RELIEF

11 Altitude ranges from 66 metres at Well Bridge to 125 metres at Marston Road roundabout with mainly gentle and moderate slopes which are not limiting A small area of stronger and moderately steep slopes on the valley sides south of Southfield Farm limit these short slopes to Grade 4

GEOLOGY AND SOILS

12 The underlying geology of the site is shown on the published geology map (IGS 1965) as mainly Forest Marble with alluvium in the valley of the River Frome a small patch of Oxford clay around Blatchbridge and a small patch of Cornbrash east of Southfield Farm This was largely borne out by the current survey However all parent materials except the Cornbrash showed clay subsoils mainly with a slowly permeable layer within the depth of profile examination

13 Soils were mapped by the Soil Survey of England and Wales at a reconnaissance scale of 1 250 000 (SSEW 1983) as mainly Wickham 2 and Evesham 1 associations with a smaller area of Wickham 3 association in the west of the site

14 Wickham 2 association is described as slowly permeably seasonally waterlogged fine loamy and fine silty over clayey soils and clayey soils with small areas of slowly permeable calcareous soils on steeper slopes Evesham 1 association is described as slowly permeable calcareous clayey soils associated with shallow well drained brashy calcareous soils over limestone Wickham 3 association is described as similar to Wickham 2 but slightly more coarse textured and with other more permeable soils with only slight waterlogging

15 Although the current survey found soils matching these descriptions the distribution of the various types was less clearly related to ALC criteria

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 This small mapping unit is shown mainly to be compatible with the adjacent 1996 survey which shows a large block of Subgrade 3a running through Little Keyford This mapping unit in the current survey contains 4 auger borings 2 of which are Subgrade 3a limited by wetness and workability 1 is Subgrade 3b and the other Grade 4 This mapping unit is clearly variable and at detailed survey intensity could well be broken down into other ALC grades

Subgrade 3b

18 Soils within this mapping unit were found to have heavy clay loam or clay topsoils at Wetness Class I with no slowly permeably layer evident or Wetness Class II with a slowly permeably layer starting in the lower subsoil Such profiles are illustrated by Pits 3 4 and 5 Auger borings in the area of Pit 4 were mainly found to be impenetrable and all pits showed considerable stone content up to 50 or 60% in the middle subsoil increasing at Pit 4 to 76% and more in the lower subsoil Depending on the depth to which the profile is taken for droughtiness calculation such stone contents can also give rise to a droughtiness limitation to Subgrade 3b

19 The area of Subgrade 3b along Birchill Lane although variable in stone content and depth to slowly permeably layer was considered on the basis of observations in this survey to be consistently Subgrade 3b with occasional borings of Subgrade 3a or even of Grade 2 The previous survey in 1996 shows an adjacent mapping unit of Grade 4 although this contains a range of borings both Subgrade 3b and Grade 4 In the light of both surveys it may be considered that the area of Grade 4 could be confined to the top of Felton Lane with the remainder being shown as Subgrade 3b

Grade 4

20 The extensive areas shows Grade 4 include not only the alluvial flood plan of the River Frome but also the area around Blatchbridge developed on Oxford clay and extensive areas of clay soils developed on deposits of Forest Marble Such profiles have mainly clay or heavy clay loam topsoils at Wetness Class IV with a slowly permeably layer in the upper subsoil or Wetness Class III with a slowly permeable layer starting in the middle subsoil These are illustrated by Pits 1 and 2 where Pit 1 is a soil developed on alluvial clay while Pit 2 is a calcareous clay with limestone typical of the Evesham 1 association

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13 March 1997

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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
Frome South	Pit 1 (ASP 96 97)	1 E	Ley	Av Rainfall 857 mm ATO 1471 day C	Alluvium
JOB NO	DATE	GRID REFERENCE	DESCRIBED BY	FC Days 188 Climatic Grade 1 Exposure Grade 1	PSD SAMPLES TAKEN
20/97	18/2/97	ST 7721 4556	PB		TS 0 25 cm C (S11 Z35 C54%)

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	C	10YR41	0	0	0					MF VF		Ab wavy
2	35	C	2 5Y63	0	CDFO 10YR56	0	MCAB	Fm	P	G	CF VF		Grad smooth
3	60+	C	5Y62	0	MDFO 10YR56	F	WVCPr Br to MCAB	VM	P	P	CVF		

Profile Gleyed From 21 cm

Depth to Slowly Permeable Horizon 35 cm

Wetness Class IV

Wetness Grade 4

Available Water	Wheat	123 mm
	Potatoes	100 mm
Moisture Deficit	Wheat	95 mm
	Potatoes	85 mm
Moisture Balance	Wheat	+28 mm
	Potatoes	+15 mm
Droughtiness Grade	2	(Calculated to 120 cm)

Final ALC Grade 4

Main Limiting Factor(s) We

Remarks

SITE NAME	PROFILE NO	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Frome South	Pit 2 (ASP 76)	4 S	PGR	Av Rainfall 929 mm ATO 1414 day C FC Days 197 Climatic Grade 1 Exposure Grade 1	Forest marble
JOB NO	DATE	GRID REFERENCE	DESCRIBED BY		PSD SAMPLES TAKEN
20/97	19/2/97	ST 7702 4589	PB		TS 0 25 cm C (S20 Z33 C47%)

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	C	2 5Y42	0	0	0					MVF		Clear smooth
2	41	C	2 5Y63	20%HR (VIS)	0	0	WMSAB	Fr	G	G	CVF	Y	Clear wavy
3	50	C	5Y71	0	MDMO 10YR56	0	WCPr	VM	P	G (low)	FVF	Y	Grad smooth
4	85+	C	5Y71	0	MDMO 10YR56	0	WCPr	VM	P	P	FVF	Y	

Profile Gleyed From 41 cm

Depth to Slowly Permeable Horizon 50 cm

Wetness Class III

Wetness Grade 4

Available Water	Wheat	110 mm
	Potatoes	108 mm
Moisture Deficit	Wheat	95 mm
	Potatoes	85 mm
Moisture Balance	Wheat	+15 mm
	Potatoes	+23 mm
Droughtiness Grade	2	(Calculated to 90* cm)

Final ALC Grade 4

Main Limiting Factor(s) We

Remarks Depth of profile is critical to droughtiness calculation Very few roots seen at bottom of pit

SITE NAME	PROFILE NO	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
South Frome	Pit 3 (ASP 36)	2 S	PGR	Av Rainfall 857 mm ATO 1471 day C FC Days 188 Climatic Grade 1 Exposure Grade 1	Forest marble
JOB NO	DATE	GRID REFERENCE	DESCRIBED BY		PSD SAMPLES TAKEN
20/97	5/3/97	ST 7816 4642	PB		TS 0 25 cm SC/HCL (S46 Z20 C34%)

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	HCL	10YR42	0	0	0					MVF		Clear smooth
2	32	C	2 5Y43	30% HR (VIS)	0	0	MC MSAB	Fr	M	G	CVF	Y	Clear Irreg
3	60	C	5Y63	50% HR (VIS)	CDFO 2 5Y66	0	Too stony	Fm	(P)	P*	FVF	Y	Grad wavy
4	90+	SC (variable)	2 5Y54 5Y63	20% HR (VIS)	FDFO 2 5Y66	0	M	Fm	P	P*	FVF	Y	-

Profile Gleyed From 32 cm

Depth to Slowly Permeable Horizon

Wetness Class II

Wetness Grade 3b

Available Water	Wheat	104 mm
	Potatoes	79 mm
Moisture Deficit	Wheat	95 mm
	Potatoes	85 mm
Moisture Balance	Wheat	+9 mm
	Potatoes	6 mm

Droughtiness Grade 2 (Calculated to 120 cm)

Final ALC Grade 3b

Main Limiting Factor(s) We

Remarks H4 clay lenses finely interbedded in LMS therefore not SPL
H3 stone content provides drainage root plates around stones

SITE NAME	PROFILE NO	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
South Frome	Pit 4 (ASP 16)	2 S	PGR	Av Rainfall 839 mm ATO 1476 day C FC Days 185 Climatic Grade 1 Exposure Grade 1	Cornbrash
JOB NO	DATE	GRID REFERENCE	DESCRIBED BY		PSD SAMPLES TAKEN
20/97	5/3/97	ST 4670 4714	PB		TS 0 25 cm C (S21 Z37 C42%)

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	10YR42	2%> 2 m (S) 2% 2cm (S+D) 4% HR	0	0					MVF	Y	Clear smooth
2	36	C	10YR53	30% > 2cm (S) 18% < 2cm (S+D) 48% HR	0	0	MFSAB	Fr	G	G	CVF	Y	Clear wavy
3	75	C	2 5Y64	50% 2 m (S) 10% < 2cm (S+D) 66% HR	FDFO	0	Too stony	Fr	M	G	FVF	Y	Grad smooth
4	92+	C	5Y72	60% 2cm (S) 16% < 2cm (S+D) 76% HR	FDFO	0	Too stony	Fm	P	P	None seen	Y	

Profile Gleyed From

Depth to Slowly Permeable Horizon 75 cm

Wetness Class II

Wetness Grade 3b

Available Water	Wheat	71 mm
	Potatoes	70 mm
Moisture Deficit	Wheat	95 mm
	Potatoes	85 mm
Moisture Balance	Wheat	24 mm
	Potatoes	15 mm
Droughtiness Grade	3b	(Calculated to 100 cm)

Final ALC Grade 3b

Main Limiting Factor(s) We Dr

Remarks Water held in pit in H4

SITE NAME	PROFILE NO	SLOPE AND ASPECT	LAND USE		PARENT MATERIAL
Frome South	Pit 5 (ASP 72)	4 S	Ley	Av Rainfall 929 mm ATO 1414 day C FC Days 197 Climatic Grade 1 Exposure Grade 1	Forest Marble
JOB NO	DATE	GRID REFERENCE	DESCRIBED BY		PSD SAMPLES TAKEN
20/97	5/3/97	ST 7646 4589	PB		TS 0 25 cm C (S30 Z33 C37%)

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	10YR42	6% HR (VIS)	0	0					CM VF	Y	Clear wavy
2	80+	C	2 5Y63	60% HR (VIS)	FDFO	0	Too stony	Fm	P	P	FVF	Y	

Profile Gleyed From

Depth to Slowly Permeable Horizon

Wetness Class I

Wetness Grade 3b

Available Water	Wheat	67 mm
	Potatoes	63 mm
Moisture Deficit	Wheat	95 mm
	Potatoes	85 mm
Moisture Balance	Wheat	28 mm
	Potatoes	22 mm
Droughtiness Grade	3b	(Calculated to 100 cm)

Final ALC Grade 3b

Main Limiting Factor(s) Wk Dr

Remarks H2 clay virtually massive but many large stones with weathered faces provide permeability