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NEWBURY LOCAL PLAN
SITE 17 : WHEATLANDS
AGRICULTURAL LAND CLASSIFICATION
ALC MAP AND REPORT
MARCH 1994

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AGRICULTURAL LAND CLASSIFICATION REPORT

1.0 Summary

1.1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality for a number of sites in the Newbury District of Berkshire. The work forms part of MAFF's statutory input to the preparation of the Newbury Local Plan.

1.2 Approximately 101 hectares of land relating to Site 17, Wheatlands, Newbury was surveyed in February 1994. The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 65 soil auger borings, 3 soil inspection pits and 14 topsoil stone content measurements were described in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land. These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on its use for agriculture.

1.3 Work was conducted by members of the Resource Planning Team in the Guildford Statutory Group.

1.4 At the time of the survey, the land use on the site was a mixture of permanent grass, rough grazing and cereals. Approximately one-half of the site falls into land use categories other than agriculture.

1.5 The distribution of grades and subgrades is shown on the attached ALC map and the areas are given in the table below. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement would be misleading. This map supersedes any previous information for this site.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% of Agricultural Area
1	3.5	3.5	6.6
2	2.8	2.8	5.3
3a	5.5	5.5	10.4
3b	37.3	37.0	70.7
4	3.7	3.7	7.0
			100 (52.8 ha)
Urban	9.9	9.8	
Non-Agricultural	7.1	7.1	
Woodland	21.5	21.3	
Agricultural Buildings	0.1	0.1	
Open Water	0.1	0.1	
Not Surveyed	9.2	9.1	
Total area of site	100.7	100	

1.6 Appendix 1 gives a general description of the grades, subgrades and land use categories identified in the survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

1.7 The majority of agricultural land surveyed has been classified as Subgrade 3b. Areas of Grades 1, 2, and 4 and Subgrade 3a are also present. Subgrade 3b land (moderate quality) is limited by soil wetness, topsoil stoniness and gradient. The higher flatter land

contains hard stones larger than 2cm in the topsoil which act to impede cultivation, harvesting and crop growth. Some mid-slope areas can be graded no higher than Subgrade 3b because of gradients between 7.5 and 9.5 degrees. The remainder of the land is classed as Subgrade 3b on the basis of poor drainage. Clay loam topsoils are underlain by slowly permeable subsoils at shallow depths. Land assessed as Grade 1 (excellent quality) comprises deep clay loams with no limitations to agricultural use. Land which is subject to a slight wetness limitation is classed as Grade 2 (very good quality). Land classed as Subgrade 3a (good quality) is restricted by soil wetness and topsoil stoniness. Profile characteristics are such that these limitations are less severe than for those assigned to Subgrade 3b. Land assessed as Grade 4 (poor quality) is subject to high groundwater and seepage, and is likely to be permanently waterlogged for much of the year, restricting agricultural use to seasonal grazing.

2.0 Climate

2.1 The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

2.2 The main parameters used in the assessment of the overall climatic limitation are average annual rainfall, as a measure of overall wetness, and accumulated temperature, as a measure of the relative warmth of a locality.

2.3 A detailed assessment of the prevailing climate was made by interpolation from a 5km gridpoint dataset (Met. Office, 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site. However, climatic factors do interact with soil factors to influence soil wetness and soil droughtiness limitations.

2.4 No local climatic factors such as exposure or frost risk affect the site.

Table 2 : Climatic Interpolations

Grid Reference :	SU 447 645	SU 450 640
Altitude (m) :	110	120
Accumulated Temperature : (degree days, Jan-June)	1407	1369
Average Annual Rainfall (mm) :	758	768
Field Capacity (days) :	169	171
Moisture Deficit, Wheat (mm) :	100	98
Moisture Deficit, Potatoes (mm) :	90	88
Overall Climatic Grade :	1	1

3.0 Relief

3.1 The highest land on the site occurs to the north and west of the reservoir. This land is virtually flat and lies at approximately 120-125 m AOD. The remainder of the site occupies sloping land. From the plateau the land falls to the west and south to altitudes of approximately 95-100 m AOD along the western and southern boundaries. To the north west of Lushy Gully and to the north of Andover Drove gradients of 7.5-9.5 degrees were measured using optical reading clinometers; this land can be graded no higher than Subgrade 3b. In the remainder of the site, neither gradient nor relief impose any restriction to land quality.

4.0 Geology and Soil

4.1 British Geological Survey (1971), Sheet 267, Hungerford, shows the survey area to be underlain by four different geological deposits. Land along the eastern site boundary, north of Enborne Grange, is mapped as plateau gravel and the mid-slope areas as Bagshot Beds. Reading Beds are indicated in the north-west corner of the site; the remaining lower-lying land as London Clay.

4.2 The published soil survey map, Soils of Berkshire (SSEW, 1975, 1:250,000) shows approximately two-thirds of the site as podzols/brown sands. These soils are described as 'well drained, stony sandy soils, commonly with a subsurface pan, in river-terrace gravel, associated with slowly permeable loamy over clayey soils in head over Eocene clay and occasionally with moderately well drained, loamy soils affected by high groundwater' (SSEW, 1975). The remainder of the site is mapped as stagnogley soils. These are described as 'clayey, or loamy over clayey soils, in Eocene clays and head with drainage impeded at moderate depths by an impermeable layer' (SSEW, 1975).

4.3 Detailed field examination found three broad soil types. Poorly drained profiles occur on the lower lying land and stonier profiles on the highest land. Deep profiles exhibiting no or a slight impedance to drainage occur on the mid-slopes of the site.

5.0 Agricultural Land Classification

5.1 Table 1 provides the details of the area measurements for each grade and the distribution of each grade is shown on the attached ALC map.

5.2 The location of the soil observation points are shown on the attached sample point map.

Grade 1

5.3 Excellent quality agricultural land occurs south west of Lushy Gully. This land has no or very minor limitations to agricultural use. Profiles comprise medium clay loam topsoils over similar textured subsoils which can become heavier at depth. The soils are permeable, stoneless to very slightly stony and are typified by Pit 1. These soils hold good amounts of profile available water and are not droughty at this location. Consequently, this land is capable of producing consistent and high yields from a very wide range of agricultural and horticultural crops.

Grade 2

5.4 Very good quality agricultural land is found on the mid-slopes of the site. The land is limited by soil wetness and workability. Topsoils comprise medium clay loams, which range from being stoneless to slightly stony (0-5% flints >2cm by volume; 0-10% total flints by volume). Similar textured gleyed upper subsoils overlie poorly structured clay horizons at approximately 65-95cm, placing these profiles into Wetness Class II. The interaction between these drainage conditions and topsoil textures at this site means that this land can be graded no better than Grade 2 because of minor restrictions on cultivations and flexibility of cropping and stocking.

5.5 Within this mapping unit free draining profiles with heavy clay loam topsoils also occur. Such land is prone to minor soil workability restrictions.

Subgrade 3a

5.6 Good quality land is limited by soil wetness and workability, soil droughtiness or

topsoil stoniness. The principal limitations are soil wetness and workability. Medium clay loam topsoils are underlain by similar textured upper subsoils and heavier textured lower subsoils. These profiles tend to be gleyed within 40cm but not slowly permeable until approximately 55-65cm, placing them into Wetness Class III. The interaction between these drainage characteristics and topsoil textures at this site means that the land is subject to restricted flexibility of cultivations, cropping and stocking. Land restricted by topsoil stoniness occurs on the higher flatter parts of the site. Medium clay loam topsoils contain between 11-15% flints larger than 2cm by volume which act to impede cultivation, harvesting and crop growth. Pit 2 typifies such soils. The remainder of land is restricted by soil droughtiness. Stoneless or very slightly stony medium clay loam topsoils overlie moderately stony to very stony loamy and clay subsoils, which contain between 25-50% total flints by volume. These profiles proved impenetrable to an auger at approximately 70-80cm. The restricted available water for crops in such profiles will tend to reduce the level and consistency of crop yields, and consequently this land can be graded no higher than Subgrade 3a.

Subgrade 3b

5.7 The majority of the agricultural land surveyed has been classified as Subgrade 3b, moderate quality. The key limitations are soil droughtiness, wetness, workability, topsoil stoniness and gradient.

5.8 The higher flatter land is limited by a combination of topsoil stoniness and soil droughtiness. Topsoils are moderately stony, containing between approximately 16-17% flints larger than 2cm by volume and between 25-35% total flints by volume. The high percentage of large flints acts to impede cultivation, harvesting and crop growth. These overlie similar textured subsoils which become heavier with depth. Subsoils tend to be moderately or very stony, containing between 30-40% total flints by volume. Such profiles proved impenetrable to an auger at varying depths, generally between 30-70cm, though shallower and deeper profiles also exist. The interaction between soil textures and profile stone contents at this site means that the amount of profile available water is also significantly restricted, reducing the level and consistency of crop yields.

5.9 Some of the mid-slopes have gradients of between 7.5 and 9.5 degrees. Such slopes, measured using an optical reading clinometer, restrict the range of farm machinery that may be safely and efficiently used. Such land can be graded no higher than Subgrade 3b.

5.10 The remaining Subgrade 3b, generally the lower lying land, is limited by soil wetness and workability. Medium and heavy clay loam topsoils overlie clay loam and clay subsoils. Profiles are either gleyed from the surface or below the topsoil and are slowly permeable from approximately 22-38cm. These profiles are typified by Pit 3 and are assigned to Wetness Class IV. The interaction between these drainage characteristics and topsoil textures at this site means that this land can be graded no higher than Subgrade 3b. The soil wetness limitation acts to reduce the flexibility of cultivations, cropping and stocking.

Grade 4

5.11 Land assessed as poor quality is restricted by severe soil wetness and workability restrictions. Medium and heavy clay loam topsoils directly overlie permeable and slowly permeable profiles. Given the high groundwater levels and extreme saturation of the land for much of the year the soils were considered to be Wetness Class V. The predominance of hydrophilic vegetation, such as rushes and sedges, across this land is indicative of long periods of waterlogging caused by the seepage of groundwater at the junction of two geological deposits. Such land is unlikely to benefit significantly from artificial drainage. As such it will present severe difficulties in terms of cropping and cultivations and will be best suited to seasonal grazing.

Other land categories

5.12 The Urban marked on the map is occupied by houses, a covered reservoir, a hotel and a school. The Non-Agricultural land shown includes a cricket ground, a playing field and scrubby land. The Woodland marked on the map consists of mature deciduous trees.

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Resource Planning Team
Guildford Statutory Group
ADAS Reading

APPENDIX I

DESCRIPTION OF THE GRADES AND SUB-GRADES

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 includes 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 or horticultural crops can usually be grown but on some land on 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. When more demanding crops are grown yields are generally lower or more variable than on land in grades 1 and 2.

Sub-grade 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.

Sub-grade 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 the 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 moist 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.

Urban

Built-up or 'hard' uses with relatively little potential for a return to agriculture : 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 parkland, 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.

Woodland

Includes commercial and non-commercial woodland.

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, eg. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will be shown.

APPENDIX II

REFERENCES

* British Geological Survey (1971), Sheet No. 267, Hungerford, 1:63,360.

* MAFF (1988), Agricultural Land Classification of England And Wales : Revised guidelines and criteria for grading the quality of agricultural land.

* Meteorological Office (1989), Climatological Data Sets for Agricultural Land Classification.

* Soil Survey of England and Wales (1975), Bulletin No. 8, Soils of Berkshire

* Soil Survey of England and Wales (1975), Soils of Berkshire, 1:250,000.

APPENDIX III

DEFINITION OF SOIL WETNESS CLASSES

Wetness Class I

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

Wetness Class II

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

Wetness Class III

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

Wetness Class IV

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

Wetness Class V

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

Wetness Class VI

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

(The number of days is not necessarily a continuous period. 'In most years' is defined as more than 10 out of 20 years.)

APPENDIX IV

SOIL PIT AND SOIL BORING DESCRIPTIONS

Contents :

* Soil Abbreviations : Explanatory Note
* Soil Pit Descriptions
* Database Printout : Boring Level Information
* Database Printout : Horizon Level Information

SOIL PROFILE DESCRIPTIONS : EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a database. This has commonly used notations and abbreviations as set out below.

Boring Header Information

1. **GRID REF** : national grid square and 8 figure grid reference.

2. **USE** : Land use at the time of survey. The following abbreviations are used.

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

3. **GRDNT** : Gradient as measured by a hand-held optical clinometer.

4. **GLEY/SPL** : Depth in cm to gleying/slight gleying or slowly permeable layers.

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

6. **MB (WHEAT/POTS)** : Moisture Balance.

7. **DRT** : Best grade according to soil droughtiness.

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

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

9. **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** : Soil Erosion Risk **WD** : Combined Soil Wetness/Droughtiness **ST** : Topsoil Stoniness

Soil Pits and Auger Borings

1. **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
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 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)

2. **MOTTLE COL** : Mottle colour

3. **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%+

4. **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

5. **PED. COL** : Ped face colour

6. **STONE LITH** : One of the following is used.

HR : all hard rocks and stones **MSST** : soft, medium or coarse grained sandstone
SI : soft weathered igneous or metamorphic **SLST** : soft oolitic or dolimitic limestone
FSST : soft, fine grained sandstone **ZR** : soft, argillaceous, or silty rocks **CH** : chalk
GH : gravel with non-porous (hard) stones **GS** :gravel with porous (soft) stones

Stone contents (>2cm, >6cm and total) are given in percentages (by volume).

7. **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

8. **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

9. **SUBS STR** : Subsoil structural condition recorded for the purpose of calculating profile droughtiness.

G : good **M** : moderate **P** : poor

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

11. **IMP** : If the profile is impenetrable a 'Y' will appear in this column at the appropiate horizon.

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

13. **CALC** : If the soil horizon is calcareous, a 'Y' will appear in this column.

14. Other notations

APW : available water capacity (in mm) adjusted for wheat
APP : available water capacity (in mm) adjusted for potatoes
MBW : moisture balance, wheat
MBP : moisture balance, potatoes

SOIL PIT DESCRIPTION

Site Name : NEWBURY LP S17 WHEATLAND Pit Number : 1P

Grid Reference: SU44706425 Average Annual Rainfall : 770 mm
Accumulated Temperature : 1390 degree days
Field Capacity Level : 171 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 35	MCL	10YR43 00	0	0		
35- 80	MCL	10YR44 00	0	0		MDCSAB
80-120	MCL	10YR53 00	0	0	C	MDCSAB

Wetness Grade : 1 Wetness Class : I
Gleying :080 cm
SPL : No SPL

Drought Grade : 1 APW : 157mm MBW : 59 mm
APP : 119mm MBP : 32 mm

FINAL ALC GRADE : 1
MAIN LIMITATION :

SOIL PIT DESCRIPTION

Site Name : NEWBURY LP S17 WHEATLAND Pit Number : 2P

Grid Reference: SU44906417 Average Annual Rainfall : 770 mm
Accumulated Temperature : 1390 degree days
Field Capacity Level : 171 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	MCL	10YR42 00	11	16		
30- 50	MCL	25Y 64 00	0	27	C	
50- 75	C	25Y 63 00	0	20	C	
75- 85	SC	25Y 63 00	0	15	C	
85-120	LMS	25Y 62 00	0	15	C	

Wetness Grade : 2 Wetness Class : II
Gleying :030 cm
SPL : No SPL

Drought Grade : 2 APW : 109mm MBW : 11 mm
APP : 96 mm MBP : 9 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Topsoil Stoniness

SOIL PIT DESCRIPTION

Site Name : NEWBURY LP S17 WHEATLAND Pit Number : 3P

Grid Reference: SU44976482 Average Annual Rainfall : 770 mm
Accumulated Temperature : 1390 degree days
Field Capacity Level : 171 days
Land Use : Permanent Grass
Slope and Aspect : 03 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 25	MCL	10YR41 00	0	0	C	
25- 36	MCL	10YR52 00	0	0	M	MDCSAB
36- 70	C	10YR52 00	0	0	M	MDCAB

Wetness Grade : 3B Wetness Class : IV
Gleying : 0 cm
SPL :036 cm

Drought Grade : 3A APW : 95 mm MBW : -3 mm
APP : 107mm MBP : 20 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SU44606480	PGR	S	01	0	032	4	3B		0		0					WE	3B	SPL 32; HCL TS
1A	SU44706477	PGR	W	01	0	038	4	3B		0		0					WE	3B	SPL 38; HCL TS
1P	SU44706425	PGR			080		1	1	157	59	119	32	1					1	
1S	SU45106470	PGR								0		0					ST	3B	TOPSOIL STONES
2	SU44506470	PGR	N	02	065		1	1	129	31	113	26	1					1	IN 3B UNIT
2P	SU44906417	PGR			030		2	2	109	11	96	9	2				ST	3A	TS SIEVED, 10S
2S	SU44926465	PGR								0		0							TOPSOIL SIEVED
3	SU44606470	PGR	W	04	0	035	4	3B		0		0					WE	3B	SPL 35; HCL TS
3P	SU44976482	PGR	S	03	0	036	4	3B		0		0					WE	3B	SPL 36; MCL TS
3S	SU44976455	PGR								0		0					ST	3A	TOPSOIL STONES
4	SU44706470	PGR	S	02	0	028	4	3B		0		0					WE	3B	SPL 28; HCL TS
4S	SU45106450	PGR								0		0					ST	3B	TOPSOIL STONES
5	SU44776472	PGR	S	02	0	030	4	3B		0		0					WE	3B	SPL 30; MCL TS
5S	SU44806450	PGR								0		0							TOPSOIL SIEVED
6	SU45106470	PGR					1	1	72	-26	81	-6	3B				ST	3B	TS SIEVED, 1S
6S	SU44906450	PGR								0		0							TOPSOIL SIEVED
7	SU44506460	PGR	N	04	022	022	4	3B		0		0	3A				WE	3B	SPL 22; HCL TS
7S	SU44836422	PGR								0		0					ST	3B	TOPSOIL STONES
8S	SU44956422	PGR								0		0					ST	3B	TOPSOIL STONES
9S	SU44856419	PGR								0		0					ST	3B	TOPSOIL STONES
10S	SU44906417	PGR								0		0							TOPSOIL SIEVED
11	SU44926465	PGR			030	080	2	2	149	51	125	38	1				WE	2	TS SIEVED, 2S
11S	SU44786412	PGR								0		0					ST	3A	TOPSOIL STONES
12	SU44956455	PGR					1	1	141	43	98	11	1				ST	3A	TS SIEVED, 3S
12S	SU44866408	PGR								0		0					ST	3B	TOPSOIL STONES
13S	SU44956410	PGR								0		0							TOPSOIL SIEVED
14	SU44526450	PGR	N	04	0	033	4	3B		0		0					WE	3B	SPL 33; C TS
14S	SU44856403	PGR								0		0					ST	3B	TOPSOIL STONES
16	SU44706450	PGR	S	04	035	035	4	3B		0		0					WE	3B	SPL 35; HCL TS
17	SU44806450	PGR	S	04			1	1	154	56	116	29	1					1	TS SIEVED, 5S
18	SU44906450	PGR			065	065	2	2	138	40	115	28	1				WE	2	TS SIEVED, 6S
20	SU45106450	PGR					1	1	24	-74	24	-63	4				DR	3B	IMP 20; RE 4S
24	SU44806440	PGR					1	2	156	58	118	31	1				WK	2	
29	SU44606430	PGR			0	065	3	3A		0		0	1				WE	3A	SPL 65; MCL TS
30	SU44706430	PGR					1	1	157	59	119	32	1					1	
31	SU44806430	PGR			020	020	4	3B		0		0					WE	3B	SPL 20;HZCL TS
35	SU44506420	PGR			055	055	3	3A		0		0	1				WE	3A	SPL 55; MCL TS
36	SU44606420	PGR					1	1	155	57	117	30	1					1	
37	SU44706420	PGR					1	1	164	66	117	30	1					1	
38	SU44806420	PGR	NW	02	085	085	1	1	120	22	94	7	2				ST	3B	TS STONE, 7S
38A	SU44856419	PGR					1	1	69	-29	75	-12	3B				ST	3B	TS SIEVED, 9S
39	SU44906420	PGR					1	1	71	-27	71	-16	3B				DR	3A	IMP 50; RE 10S

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
39A	SU44956422	PGR			025		2	2	50	-48	50	-37	3B				ST	3B	TS SIEVED, 8S
40	SU44976420	PGR					1	1	91	-7	100	13	3A				DR	3A	IMPEN 70; WET
43	SU44506410	PGR	SW	02	036	036	4	3B		0		0					WE	3B	
44	SU44606410	PGR			030		2	2	164	66	118	31	1				WE	2	GLEY 30
45	SU44706410	CER	W	01	095	095	1	1	145	47	117	30	1					1	SPL 95
46	SU44806410	CER	W	03	035	035	4	3B		0		0					WE	3B	SPL 35; MCL TS
46A	SU44786412	PGR					1	1	68	-30	70	-17	3B				DR	3B	IMP 55; TS 11S
47	SU44906410	PGR			055	055	3	3A		0		0					WE	3A	SPL 55; MCL TS
47A	SU44956410	PGR			065	065	2	2	116	18	104	17	2				WE	2	TS SIEVED, 13S
48	SU45026412	PGR			0	020	4	3B		0		0					WE	3B	SPL 20; C TS
50	SU44506400	PGR			0	035	4	3B		0		0					WE	3B	SPL 35; HCL TS
51	SU44606400	PGR			0	025	4	3B		0		0					WE	3B	SPL 25; HCL TS
52	SU44706400	PGR	W	02	0	025	4	3B		0		0					WE	3B	SPL 25; HCL TS
53	SU44806400	PGR					1	1	141	43	107	20	1					1	IN DIP
54	SU44906400	PGR			030	030	4	3B		0		0					WE	3B	SPL 30; MCL TS
55	SU44806394	CER	W	03	027		3	3A	81	-17	81	-6	3A				WD	3A	IMPEN 50;SANDY
57	SU44506390	PGR	S	01	0	027	4	3B		0		0					WE	3B	SPL 27; HCL TS
58	SU44606387	PGR			0	030	4	3B		0		0					WE	3B	SPL 30; MCL TS
59	SU44676387	PGR	S	01	0	030	4	3B		0		0					WE	3B	SPL 30; MCL TS
62	SU44976394	PGR	SE	03	035		2	2	127	29	119	32	2				WE	2	SANDY LENSES
64	SU44406380	PGR	E	01	0	030	4	3B		0		0					WE	3B	SPL 30; MCL TS
65	SU44506380	PGR			0	020	4	3B		0		0					WE	3B	SPL 20;MZCL TS
66	SU44606380	PGR			0	028	4	3B		0		0					WE	3B	SPL 28; MCL TS
67	SU44676380	PGR			0	035	4	3B		0		0					WE	3B	SPL 35; MCL TS
70	SU44976482	PGR	SE	03	0	028	4	3B		0		0					WE	3B	SPL 28; MCL TS
73	SU45306380	RGR	E	04	025	095	2	2	148	50	117	30	1				WE	2	
74	SU45406380	RGR	E	03	025	025	4	3B		0		0					WE	3B	SPL 25; MCL TS
75	SU44406470	PGR	W	01	0	028	4	3B		0		0					WE	3B	VERY WET TS
76	SU44506470	PGR	N	01	028	028	4	3B		0		0					WE	3B	SPL 28; MCL TS
81	SU44996472	PGR	SE	02	0	030	4	3B		0		0					WE	3B	
83	SU45206370	PGR	E	02	025	025	4	3B		0		0					WE	3B	SPL 25; WET
84	SU45306370	PGR	SE	03	000	045	4	3B		0		0					WE	3B	SEEPAGE
85	SU44406460	PGR	W	01	0	028	4	3B		0		0					WE	3B	SPL 28; MCL TS
86	SU44506460	PGR	E	01	028	038	3	3A		0		0					WE	3B	SPL 38; MCL TS
92	SU45216360	PGR	NE	03	070	070	2	2	119	21	117	30	2				WE	2	Q WC3 GRADE 3A
93	SU45306360	PGR	NE	04	0		2	2	95	-3	95	8	3A				DR	3A	IMPEN 77
94	SU44906450	PGR	W	02	0	065	4	3B		0		0					WE	3B	WT 40 - WC IV
95	SU44996450	PGR	S	03	0	025	5	4		0		0					WE	4	RUSHES
96	SU45106450	PGR	S	03	0	030	5	4		0		0					WE	4	RUSHES
99	SU45496450	PGR			0	060	3	3A		0		0					WE	3A	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
1	0-32	hcl	10RY41 00	10YR46 00	C			Y	0	0		0						
	32-48	hcl	10YR63 00	10YR56 00	M			Y	0	0		0		P	Y		Y	
	48-80	c	25Y 53 00	10YR58 00	M			Y	0	0		0		P	Y		Y	
1A	0-38	hcl	10YR41 00	10YR46 00	C			Y	0	0		0						
	38-70	c	10YR51 52	75YR56 00	M			Y	0	0		0		P			Y	
1P	0-35	mcl	10YR43 00						0	0		0						
	35-80	mcl	10YR44 00						0	0		0	MDCSAB FR	M				
	80-120	mcl	10YR53 00	10YR58 61	C			Y	0	0		0	MDCSAB FR	M	Y			
1S	0-25	mcl	10YR42 00						15	0	HR	30						
2	0-32	mcl	10YR43 00						0	0		0						
	32-50	mcl	10YR44 00						0	0		0		M				
	50-65	msl	10YR63 00	10YR66 00	F				0	0		0		M				
	65-120	lms	10YR63 64	10YR66 00	C			Y	0	0		0		M				
2P	0-30	mcl	10YR42 00						11	0	HR	16						
	30-50	mcl	25Y 64 00	75YR56 00	C			Y	0	0	HR	27		M				
	50-75	c	25Y 63 00	75YR56 00	C			Y	0	0	HR	20		M				
	75-85	sc	25Y 63 00	75YR56 00	C			Y	0	0	HR	15		M				
	85-120	lms	25Y 62 00	75YR56 00	C			Y	0	0	HR	15		M				
2S	0-25	mcl	10YR43 00						5	0	HR	10						
3	0-35	hcl	10YR41 42	10YR46 00	C			Y	0	0	HR	2						
	35-40	c	10YR41 51	10YR46 00	M			Y	0	0		0		P	Y		Y	
	40-80	c	10YR51 53	75YR56 00	M	00MN00	00	Y	0	0		0		P	Y		Y	
3P	0-25	mcl	10YR41 00	75YR56 00	C			Y	0	0		0						
	25-36	mcl	10YR52 00	10YR58 00	M			Y	0	0		0	MDCSAB FR	M				
	36-70	c	10YR52 00	10YR58 00	M			Y	0	0		0	MDCAB FM	P	Y		Y	
3S	0-25	mcl	10YR42 00						12	0	HR	20						
4	0-28	hcl	25Y 41 00	75YR46 00	C			Y	0	0		0						
	28-70	c	10YR51 52	10YR56 00	M			Y	0	0		0		P	Y		Y	
4S	0-25	mcl	10YR42 00						17	0	HR	35						
5	0-30	mcl	10YR32 42	10YR56 00	C			Y	0	0		0						
	30-70	c	10YR41 00	75YR46 00	M			Y	0	0	HR	3		P	Y		Y	
5S	0-25	mcl	10YR43 00						0	0	HR	5						
6	0-25	mcl	10YR42 00						15	0	HR	30						
	25-55	mcl	10YR43 00						0	0	HR	35		M				
	55-70	mcl	10YR43 00						0	0	HR	35		M				IMPEN 70

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
6S	0-25	mcl	10YR42 00						3	0	HR	5						
7	0-22	hcl	10YR43 00	10YR46 56	F				0	0		0						
	22-70	c	25Y 52 53	75YR56 00	M			Y	0	0		0		P	Y		Y	
7S	0-25	mcl	10YR42 00						17	0	HR	30						
8S	0-25	mcl	10YR32 00						16	0	HR	25						
9S	0-25	mcl	10YR43 00						16	0	HR	30						
10S	0-25	mcl	10YR42 00						11	0	HR	16						
11	0-30	mcl	10YR43 00						5	0	HR	10						
	30-45	mcl	10YR52 00	10YR58 61	C			Y	0	0		0		M				
	45-80	fszl	10YR52 00	10YR58 61	C			Y	0	0		0		M				
	80-110	c	10YR62 00	10YR58 61	M			Y	0	0		0		P	Y		Y	
11S	0-25	mcl	10YR43 00						13	0	HR	25						
12	0-30	mcl	10YR42 00						12	0	HR	35						
	30-50	mcl	10YR54 00						0	0		0		M				
	50-95	msl	10YR56 00						0	0		0		M				
	95-120	scl	10YR56 00						0	0	HR	5		M				
12S	0-25	mcl	10YR42 00						15	0	HR	25						
13S	0-25	mcl	10YR43 00						3	0	HR	15						
14	0-33	c	25Y 41 00	10YR58 00	C			Y	0	0		0						
	33-70	c	25Y 52 51	75YR56 00	M	00MN00	00	Y	0	0		0		P	Y		Y	
14S	0-25	mcl	10YR42 00						16	0	HR	30						
16	0-35	hcl	25Y 42 00						0	0		0						
	35-60	c	25Y 62 00	10YR58 00	M			Y	0	0		0		P	Y		Y	
17	0-35	mcl	10YR43 00						0	0	HR	5						
	35-60	mcl	10YR44 00						0	0		0		M				
	60-120	hcl	10YR56 00						0	0		0		M				
18	0-35	mcl	10YR42 00						3	0	HR	5						
	35-65	hcl	10YR54 42						0	0		0		M				
	65-120	c	25Y 52 00	75YR58 00	M			Y	0	0		0		P	Y		Y	
20	0-20	mcl	10YR42 00						17	0	HR	35						IMPEN 20
24	0-29	hcl	10YR43 00	10YR56 00	F				0	0		0						
	29-45	hcl	10YR44 00	10YR56 00	C				0	0		0		M				
	45-120	mcl	10YR44 00	10YR56 00	C				0	0		0		M				

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
29	0-40	mcl	10YR42 00	10YR58 00	C			Y	0	0		0						
	40-65	mcl	10YR43 00	10YR58 61	C			Y	0	0		0		P	Y		Y	
	65-120	hcl	10YR42 00	75YR58 51	M			Y	0	0		0		M				
30	0-35	mcl	10YR44 00						0	0		0						
	35-70	mcl	10YR54 00						0	0		0		M				
	70-120	hcl	10YR56 00						0	0		0		M				
31	0-20	hzcl	10YR43 00						0	0		0						
	20-55	zc	25Y 63 00	75YR58 61	M			Y	0	0	HR	5		P	Y		Y	
35	0-35	mcl	10YR42 00						0	0		0						
	35-55	mcl	10YR43 00						0	0		0		M				
	55-70	hcl	25Y 63 00	10YR58 00	C			Y	0	0		0		P	Y		Y	
	70-120	c	25Y 62 00	10YR58 61	M			Y	0	0		0		P	Y		Y	
36	0-35	mcl	10YR42 00						0	0	HR	1						
	35-120	mcl	10YR56 44						0	0	HR	2		M				
37	0-35	mcl	10YR42 00	10YR56 00	F				0	0	HR	2						
	35-55	hcl	10YR43 56						0	0	HR	2		M				
	55-90	hcl	10YR56 00						0	0	HR	1		M				
	90-120	fsl	10YR54 00						0	0		0		M				
38	0-35	mcl	10YR43 00						16	0	HR	35						
	35-48	mcl	10YR43 56						0	0	HR	5		M				
	48-85	hcl	10YR56 00						0	0	HR	10		M				
	85-120	c	25Y 63 00	75YR56 00	C			Y	0	0	HR	5		P	Y		Y	
38A	0-25	mcl	10YR43 00						16	0	HR	30						
	25-40	mcl	10YR56 00						0	0	HR	40		M				
	40-70	scl	10YR54 00						0	0	HR	40		M				
39	0-36	mcl	10YR42 00						11	0	HR	16						
	36-50	msl	10YR56 00						0	0	HR	25		M				IMPEN 50
39A	0-25	mcl	10YR32 00						15	0	HR	25						
	25-40	scl	10YR52 54	10YR58 00	C			Y	0	0	HR	35		M				IMPEN 40
40	0-30	mcl	10YR42 00						0	0	HR	5						
	30-70	mcl	10YR43 00						0	0	HR	25		M				
43	0-36	mcl	10YR43 00						0	0		0						
	36-70	hcl	25Y 51 00	10YR56 00	M			Y	0	0		0		P	Y		Y	
	70-120	c	25Y 51 00	10YR58 68	M			Y	0	0		0		P	Y		Y	
44	0-30	mcl	10YR43 00	10YR56 00	F				0	0		0						
	30-40	mcl	10YR42 00	10YR46 00	C			Y	0	0		0		M				
	40-65	mcl	25Y 42 00	10YR46 00	C			Y	0	0		0		M				
	65-95	mcl	10YR53 00	10YR56 00	C			Y	0	0		0		M				
	95-120	fsl	10YR53 00	10YR58 00	M			Y	0	0		0		M				

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
45	0-35	mcl	10YR42 00						0	0	HR	3						
	35-60	mcl	10YR43 00						0	0	HR	2		M				
	60-80	mzcl	10YR44 00						0	0	HR	2		M				
	80-95	mzcl	10YR44 54						0	0	HR	15		M				
	95-120	c	10YR53 00	75YR56 00	M			Y	0	0		0		P				Y
46	0-35	mcl	10YR43 00						0	0	HR	10						
	35-80	c	25Y 53 00	75YR58 00	M			Y	0	0	HR	10		P	Y			Y
46A	0-30	mcl	10YR43 00						13	0	HR	25						
	30-55	hcl	10YR52 00						0	0	HR	30		M				
47	0-35	mcl	10YR42 00						7	0	HR	15						
	35-55	mcl	10YR43 00						0	0	HR	5		M				
	55-85	hcl	10YR52 62	10YR66 00	M			Y	0	0	HR	5		P	Y			Y
	85-120	mcl	10YR72 00	10YR66 76	M			Y	0	0	HR	5		M				
47A	0-30	mcl	10YR43 00						7	0	HR	15						
	30-65	mcl	10YR54 00						0	0	HR	10		M				
	65-75	scl	10YR51 00	10YR58 00	C			Y	0	0	HR	10		P	Y			Y
	75-100	sc	10YR62 00	10YR58 61	M			Y	0	0	HR	10		P	Y			Y
48	0-20	c	10YR42 00	10YR56 00	C			Y	0	0	HR	5						
	20-60	c	25Y 52 00	10YR58 00	M			Y	0	0	HR	10		P				Y
	60-65	c	25Y 52 00	10YR58 00	M			Y	0	0	HR	30		P				Y
50	0-35	hcl	25Y 42 00	75YR46 00	C			Y	0	0		0						
	35-50	hcl	10YR53 00	10YR56 52	M			Y	0	0	HR	1		P	Y			Y
	50-70	c	10YR53 00	10YR56 00	M		00MN00 00	Y	0	0	HR	1		P	Y			Y
51	0-25	hcl	10YR42 00	10YR56 00	C			Y	0	0		0						
	25-60	hcl	10YR42 00	10YR56 00	M			Y	0	0		0		P	Y			Y
52	0-25	hcl	25Y 42 00	75YR46 00	C			Y	0	0	HR	2						
	25-50	hcl	10YR63 52	10YR56 00	M			Y	0	0	HR	2		P	Y			Y
	50-60	hcl	10YR63 52	10YR56 00	M			Y	0	0	HR	25		M				
53	0-20	mcl	10YR42 00						0	0	HR	5						
	20-120	mcl	10YR42 00						0	0	HR	10		M				
54	0-30	mcl	25Y 42 00						0	0	HR	5						
	30-40	hcl	10YR53 00	10YR56 00	C			Y	0	0	HR	10		P	Y			Y
	40-70	c	10YR53 00	10YR68 56	M			Y	0	0		0		P	Y			Y
55	0-27	hcl	25Y 42 00	75YR46 00	F				0	0	HR	5						
	27-40	hcl	10YR53 00	10YR56 68	M			Y	0	0	HR	5		M				
	40-50	hcl	10YR42 00	10YR56 00	C			Y	0	0	HR	5		M				

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
57	0-27	hcl	25Y 42 00	75YR46 00	M			Y	0	0	HR	1						
	27-60	c	10YR51 52	10YR58 68	M			Y	0	0	HR	1		P	Y		Y	
58	0-30	mcl	10YR41 00	75YR56 00	C			Y	0	0	HR	1						
	30-35	hcl	10YR62 00	10YR58 00	M			Y	0	0	HR	2		M				
	35-60	c	10YR62 00	10YR58 00	M			Y	0	0	HR	1		Y	Y		Y	
59	0-25	mcl	25Y 52 00	75YR56 00	C			Y	0	0	HR	1						
	25-30	mcl	10YR71 00	75YR56 00	C			Y	0	0	HR	2		M				
	30-50	hcl	10YR71 00	10YR58 00	M			Y	0	0	HR	2		P	Y		Y	
	50-70	c	10YR71 00	10YR58 00	M			Y	0	0		0		P	Y		Y	
62	0-35	mcl	10YR42 00						0	0		0						
	35-45	mcl	10YR53 00	75YR58 00	C			Y	0	0		0		M				
	45-100	c	10YR53 00	75YR58 00	C			Y	0	0		0		M				
64	0-30	mcl	25Y 41 00	75YR46 00	C			Y	0	0	HR	2						
	30-60	c	10YR61 00	10YR58 00	M			Y	0	0	HR	4		P	Y		Y	
65	0-20	mzcl	25Y 41 00	75YR46 00	C			Y	0	0		0						
	20-35	hcl	10YR51 00	10YR58 00	M			Y	0	0		0		P	Y		Y	
	35-60	c	10YR61 00	10YR58 00	M			Y	0	0		0		P	Y		Y	
66	0-28	mcl	25Y 63 00	75YR56 00	C			Y	0	0		0						
	28-55	hcl	10YR63 00	75YR56 00	M			Y	0	0		0		P	Y		Y	
	55-70	c	10YR71 00	75YR56 00	M			Y	0	0	HR	2		P	Y		Y	
67	0-25	mcl	25Y 52 00	75YR52 00	C			Y	0	0	HR	0						
	25-35	mcl	10YR71 00	75YR56 00	M			Y	0	0	HR	2		M				
	35-45	hcl	10YR71 00	75YR56 00	M			Y	0	0	HR	2		P	Y		Y	
	45-70	c	10YR71 00	75YR56 00	M			Y	0	0		0		P	Y		Y	
70	0-28	mcl	10YR52 00	75YR56 00	C			Y	0	0		0						
	28-70	c	10YR71 00	75YR68 78	M			Y	0	0		0		P			Y	
73	0-25	mcl	10YR32 00						0	0		0						
	25-55	mcl	10YR53 54	75YR58 00	C			Y	0	0		0		M				
	55-85	mcl	10YR53 00	75YR58 00	C			Y	0	0		0		M				
	85-95	mcl	10YR53 00	75YR58 00	C			Y	0	0		0		M				
	95-120	c	10YR72 00	75YR58 00	M			Y	0	0		0		P	Y		Y	
74	0-25	mcl	10YR31 00						0	0		0						
	25-75	c	10YR52 00	53YR58 00	M			Y	0	0	HR	3		P	Y		Y	
75	0-28	mcl	10YR41 00	75YR46 00	C			Y	0	0		0						
	28-55	hcl	25Y 71 00	10YR58 00	M			Y	0	0		0		P	Y		Y	
	55-60	c	25Y 71 00	10YR58 00	M			Y	0	0		0		P	Y		Y	
	60-80	c	25Y 71 00	10YR58 00	M			Y	0	0		0		P	Y		Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
76	0-28	mcl	10YR53 00	10YR58 00	F				0	0		0						
	28-40	c	10YR63 00	75YR58 00	M			Y	0	0		0		P	Y		Y	
	40-60	c	10YR71 00	75YR58 00	M			Y	0	0		0		P	Y		Y	
81	0-30	mcl	10YR52 00	75YR56 00	C			Y	0	0		0						
	30-60	scl	10YR52 00	75YR46 00	C		10YR71 00	Y	0	0		0		P	Y		Y	
	60-70	hcl	10YR71 00	75YR58 00	M			Y	0	0		0		P	Y		Y	
	70-90	c	10YR52 51	75YR58 00	M			Y	0	0		0		P	Y		Y	
83	0-25	mcl	25Y 32 00						0	0		0						
	25-45	c	10YR53 00	75YR58 00	C			Y	0	0		0		P	Y		Y	
	45-80	c	10YR51 00	75YR58 00	M			Y	0	0	HR	5		P	Y		Y	
84	0-30	mcl	10YR52 00	75YR46 00	C			Y	0	0		0						
	30-45	mcl	10YR62 00	75YR58 00	M			Y	0	0		0		M				
	45-70	c	10YR62 00	75YR58 00	M			Y	0	0		0		P	Y		Y	
85	0-28	mcl	25 Y42 00	10YR58 00	C			Y	0	0		0						
	28-35	c	10YR53 00	10YR58 00	C			Y	0	0		0		P	Y		Y	
	35-60	c	10YR53 00	10YR58 00	C			Y	0	0		0		P	Y		Y	
	60-90	fsl	10YR63 00	75YR58 00	M			Y	0	0		0		M				
	90-100	scl	10YR53 00	75YR58 00	C			Y	0	0		0		P	Y			
86	0-28	mcl	10YR43 00	10YR58 00	F				0	0		0						
	28-38	fsl	10YR53 00	10YR58 00	C			Y	0	0		0		M				
	38-48	scl	10YR53 00	10YR58 00	C			Y	0	0		0		P	Y		Y	
	48-60	c	10YR63 00	75YR58 00	M			Y	0	0		0		P	Y		Y	
	60-90	c	10YR63 00	75YR58 00	M			Y	0	0		0		P	Y		Y	
92	0-27	mcl	10YR44 00						0	0		0						
	27-50	hcl	10YR44 00						0	0		0		M				
	50-70	c	10YR54 00	75YR58 00	C				0	0		0		M				
	70-95	c	10YR53 00	75YR58 00	M			Y	0	0		0		P	Y		Y	
93	0-25	mcl	10YR53 00	10YR56 00	C			Y	0	0		0						
	25-45	mcl	10YR64 00	75YR58 00	C		75YR58 00	Y	0	0		0		M				
	45-77	c	10YR64 00					Y	0	0	HR	50		P				
	77-120	gh	00ZZ00 00						0	0		0		P				
94	0-20	mzcl	10YR52 00	75YR56 00	M		10YR61 00	Y	0	0		0						
	20-65	mcl	10YR63 00	75YR58 00	M		10YR71 00	Y	0	0		0		M				
	65-90	c	10YR62 00	75YR68 00	M			Y	0	0		0		P			Y	
95	0-25	hcl	10YR51 00	75YR56 00	C			Y	0	0		0						
	25-60	c	10YR71 00	75YR58 68	M			Y	0	0		0		P			Y	
96	0-30	mcl	10YR51 00	75YR46 00	C			Y	0	0		0						
	30-60	c	10YR61 00	75YR68 00	M			Y	0	0		0		P			Y	

				----MOTTLES-----			PED		----STONES----			STRUCT/	SUBS			
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL.	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
99	0-28	mcl	10YR32 00	75YR46 00	C			Y	0	0		0						
	28-60	mcl	10YR53 00	75YR58 00	M			Y	0	0		0		M				
	60-80	c	10YR51 52	75YR58 00	M			Y	0	0		0		P	Y		Y	