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ADUR DISTRICT LOCAL PLAN
LANCING COLLEGE ESTATE
AGRICULTURAL LAND CLASSIFICATION
ALC MAP AND REPORT
MARCH 1994

ADUR DISTRICT LOCAL PLAN
LANCING COLLEGE ESTATE
AGRICULTURAL LAND CLASSIFICATION REPORT

1 0 Introduction

1 1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality on an area of land at Lancing West Sussex The work forms part of MAFF's statutory input to the preparation of the Adur District Local Plan

1 2 Approximately 131 hectares of land relating to Lancing College Estate West Sussex was surveyed during March 1994 The survey was undertaken at a detailed level of approximately one boring per hectare A total of 110 soil auger borings and 9 soil inspection pits were assessed in accordance with MAFF s revised guidelines and criteria for grading the quality of agricultural land (MAFF 1988) These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on its use for agriculture

1 3 The survey 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 set-aside permanent grass oilseed rape cereal and cereal stubble

1 5 The distribution of grades and subgrades is shown on the attached Agricultural Land Classification (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 Land immediately north of Old Shoreham Road (A27T) formed part of a previous detailed survey (ADAS 1993) which was included as part of this more recent work

Table 1 - Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% of Agricultural Area
2	7 5	5 7	6 6
3a	20 7	15 8	18 1
3b	78 6	60 1	68 7
4	7 2	5 5	6 3
5	0 4	0 3	0 3
			100 (114 4 ha)
Urban	3 2	2 5	
Non-Agricultural	3 8	2 9	
Woodland	8 2	6 3	
Agricultural Buildings	0 9	0 7	
Open Water	0 1	0 7	
Total area of site	130 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 on the site has been classified as Subgrade 3b moderate quality land The predominant limitation is soil droughtiness though some of the land is also restricted by soil workability and gradient Where soil droughtiness is a problem medium silty clay loam and heavy clay loam topsoils are underlain by chalk This restricts crop rooting and moisture availability which affects crop growth and yields Soil wetness and workability restrict agricultural use on the flatter lower lying land Silty clay loam

topsoils are underlain by poorly structured clay and silty clay subsoils at shallow depths which significantly impair drainage Some of this flatter land can be graded no higher than Subgrade 3b because of high groundwater levels In parts of the site land can be classified as no better than Subgrade 3b or Grades 4 and 5 because of increasingly severe slope limitations Gradients of 7 5 to 26 degrees were measured using optical reading clinometers Land in the dry valley bottom has been classified as Grade 2 very good quality This land is slightly limited by soil droughtiness The remainder of agricultural land surveyed has been classified as Subgrade 3a moderate quality The key limitations are soil droughtiness (with deeper profiles over chalk) and soil workability

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 At this locality the large variation in altitude results in a correspondingly large range in crop adjusted moisture deficits (MD's) and field capacity days (FCD) As the land becomes lower generally along a west to east transect MD s increase and the FCD's decrease Thus the risk of soil droughtiness increases and the risk of soil wetness decreases along this transect from west to east The highest land found in the west of the site falls within a wetter FCD climatic regime than the remainder of the site Thus similar profiles will have a different soil wetness limitation according to the FCD climatic regime

2 4 No local climatic factors such as exposure or frost risk affect the site

Table 2 _ Climatic Interpolations

Grid Reference	TQ 180 067	TQ 192 066	TQ 198 060
Altitude (m)	100	55	15
Accumulated Temperature (days)	1427	1479	1524
Average Annual Rainfall (mm)	854	816	774
Field Capacity (days)	176	170	163
Moisture Deficit Wheat (mm)	103	111	119
Moisture Deficit Potatoes (mm)	96	106	116
Overall Climatic Grade	1	1	1

3 0 Relief

3 1 The topography and altitude range across the site The highest land is found in the west of the site and lies at approximately 110m AOD Land drops moderately steeply from 3-6 degrees to the central valley bottom around Hoe Court Farm which lies at approximately 15-30m AOD Land falls relatively steeply from 7-12 degrees along the northern boundary such that gradient is a limiting factor South of Hoe Court Farm land occupies a gently sloping hillside falling from 25m AOD to 10m AOD along the southern boundary through gradients of 1 6 degrees To the east of College Farm and adjacent to Ladywell Stream the land is flat and lies at approximately 5m AOD To the west of Ladywell Spring the agricultural land quality is limited by land sharply rising through gradients of 10-26 degrees

4 0 Geology and Soil

4 1 British Geological Survey (1984) Sheet 318/333 Brighton and Worthing shows the survey area to be underlain by four different geological deposits the predominant being Upper and Middle Chalk Adjacent to Ladywell Stream and south-west of College Farm the underlying geology is alluvium A thin strip of head is shown to extend along the valley bottom from College Farm to Hill Barn Farm An area of head is also shown south of the Anglo Saxon burial ground Areas of clay with-flint geology are shown to the north-west of Hill Barn Farm and surrounding the college buildings

4 2 The published soils information for this site as shown on the Soil Survey map of Worthing (SSEW 1967 1 25 000) shows the site to comprise five soil series The Coombe Series is generally shown as being developed over the head geology These soils are described as 'fine silty typical brown calcareous earth in which the brown subsoil merges downwards into thick flinty chalky drift' (SSEW 1984) The Arundel Complex is mapped in the alluvium These soils occur 'where clayey and silty soils form complex patterns in marine alluvium in recently silted estuaries' (SSEW 1967) A small area of the Icknield Series occurs immediately south of the college sports pavillions These soils are described as 'humic rendzinas which have a thin loamy topsoil rich in organic matter (SSEW 1967) The Winchester Series is shown to occur north east of Hill Barn Farm and on the eastern slope of Lancing Hill This series is described as being 'similar to the Carstens series but is clayey throughout as it is developed wholly in clay-with-flints and is generally shallower to chalk' (SSEW 1984) The predominant soil type for this site however is the Charity Series specified as deep brown flinty fine silty typical argillic brown earths (SSEW 1984)

4 3 Detailed field examination found four broad soil types the predominant being shallow profiles over chalk Heavy textured soils over chalk at depth were found around Hill Barn Farm and in the south of the site Deep chalky profiles were found in the valley bottom Wet soils were confined to the flat low-lying alluvial deposits

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 2

5 3 A small strip of land along the dry valley bottom has been assessed as Grade 2 very good quality agricultural land The key limitation is a minor soil droughtiness restriction which may slightly reduce yield potential Topsoils comprise medium silty clay loams which are occasionally heavier containing between 2-30% v/v chalk (and some flint fragments) Subsoils comprise medium silty clay loams in the upper valley which become heavy silty clay loams in the lower valley Subsoils extend to depth and are generally moderately to very stony containing a total between 20 50% v/v chalk (and some flint) though occasional less stony profiles also exist This mapping unit is typified by Pit 6

Subgrade 3a

5 4 Land classed as good agricultural quality Subgrade 3a is principally limited by soil droughtiness with some of the land also having soil workability or topsoil stone content restrictions Topsoils typically comprise heavy clay loams around Hill Barn Farm they are slightly to moderately stony containing between 0-14% v/v flints greater than 2cm and a total

between 5-25% v/v flint whilst the remainder of the land tends to have less stony topsoils containing between 3 12% v/v total flints Subsoils generally comprise heavy clay loams and clays and range from being very slightly stony to moderately stony and contain a total between 2-35% v/v flints Many profiles overlie very hard and compact chalk at approximately 60-85 cm which sometimes proved impenetrable to a soil auger Such profiles are typified by Pits 2 5 and 8 In these profiles rooting depths were observed to range from 92-110 cm The effect of this slightly restricted rooting heavy textures profile stone contents and moderate subsoil structural conditions acts reduce the flexibility of cropping and stocking

5 5 In the most southern block of land classed as Subgrade 3a some profiles have lower subsoils containing high chalk percentages (between 20 50% v/v total chalk) Such profiles can be typified by Pit 9 Some profiles comprise slightly stony clays which extend to depth All of these profiles have slightly more profile available water and as such are eligible to be allocated to Grade 2 However such land does not constitute a large enough unit to be mapped separately and consequently has been incorporated into the Subgrade 3a unit

Subgrade 3b

5 6 Land classed as moderate agricultural quality Subgrade 3b has been so graded on the basis of moderate soil droughtiness wetness and workability limitations and/or restrictions imposed by gradient

5 7 The majority of land classed as Subgrade 3b is subject to a significant soil droughtiness risk These typically comprise heavy clay loam and medium silty clay loam topsoils underlain by chalk from approximately 25-30 cm though slightly shallower and deeper topsoils also occur Topsoils range from slightly to moderately stony containing a total of 5-25% v/v chalk and flint fragments Such profiles are typified by Pits 1 3 and 7 In these pits rooting depths were seen to vary between 73-80 cm The effect of this restricted rooting is to reduce the available water for crops and grass thereby reducing yield potential

5 8 The low-lying alluvial land on the site is classed as Subgrade 3b because of soil wetness and workability restrictions Silty clay loam topsoils are underlain by poorly structured clay and silty clay subsoils at shallow depths This acts to significantly impair drainage placing such profiles into Wetness Class IV Such profiles are typified by Pit 4 Some of the land to the south-east of College Farm lies adjacent to a tidal stream and as such is subject to fluctuating groundwater levels This land has also been assigned to Wetness Class IV This soil wetness adversely affects crop growth and yields and restricts cultivations grazing by livestock and trafficking by machinery

5 9 Along the northern site boundary and on parts of the valley sides land can be graded no better than Subgrade 3b due to a significant gradient limitation Slopes of 7 to 11 degrees were recorded using an optical reading clinometer Such slopes restrict the range of farm machinery that can be safely and efficiently operated

Grades 4 and 5

5 10 Land classed as poor and very poor agricultural quality is associated with severe and very severe slope limitations Gradients of 11 5 to 18 degrees (Grade 4) and 19-26 degrees (Grade 5) were measured with an optical reading clinometer As before these slopes would severely restrict or preclude mechanised farm operations and such land is best suited to grazing

Other Land Categories

5 11 The Urban marked on the map includes metalled roads gravel tracks and houses

The land marked as being in Non-Agricultural use comprises mud tracks playing fields and an excavated area being used as the hotel car park The Woodland mostly comprises mature deciduous trees The Agricultural Buildings marked are those at Hoe Court Farm and College Farm The Open Water marked comprises a pond south of College Farm

ADAS Ref 4201/37/94
MAFF Ref EL 42/309

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

* ADAS (1993) Adur District Local Plan Land at Lancing College 1 10 000 (ADAS Reference 4201/125/93)

* British Geological Survey (1984) Sheet No 318/333 Brighton and Worthing 1 50 000

* 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 (1967) Sheets TQ00 and TQ10 Worthing Soil Maps of the West Sussex Coastal Plain 1 25 000

* Soil Survey of England and Wales (1984) Soils and their Use in South East England

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 ADUR LP LANCING COLLEGE Pit Number 1P

Grid Reference TQ18020664 Average Annual Rainfall 816 mm
Accumulated Temperature 1479 degree days
Field Capacity Level 170 days
Land Use
Slope and Aspect 02 degrees NE

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	MOTTLES	STRUCTURE
0- 23	HCL	10YR54 00	8	22		
23- 73	CH	10YR81 74	0	0		

Wetness Grade 3A Wetness Class I
Gleying cm
SPL No SPL

Drought Grade 3B APW 76 mm MBW -29 mm
APP 80 mm MBP -18 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name ADUR LP LANCING COLLEGE Pit Number 2P

Grid Reference TQ18290632

Average Annual Rainfall	816 mm
Accumulated Temperature	1479 degree days
Field Capacity Level	170 days
Land Use	Permanent Grass
Slope and Aspect	05 degrees NE

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	MOTTLES	STRUCTURE
0- 25	HCL	10YR43 00	5	10		
25- 40	HCL	10YR44 00	0	10		MDCSAB
40- 60	C	75YR56 00	0	25	C	MCSAB
60-110	CH	10YR81 56	0	15		

Wetness Grade 2

Wetness Class	I
Gleying	cm
SPL	No SPL

Drought Grade 3A

APW	111mm	MBW	1 mm
APP	96 mm	MBP	-10 mm

FINAL ALC GRADE 3A

MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name ADUR LP LANCING COLLEGE Pit Number 3P

Grid Reference TQ18950644 Average Annual Rainfall 816 mm
Accumulated Temperature 1479 degree days
Field Capacity Level 170 days
Land Use
Slope and Aspect 07 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	MOTTLES	STRUCTURE
0- 26	MZCL	10YR53 00	3	10		
26- 80	CH	10YR81 00	0	3		

Wetness Grade 1 Wetness Class I
Gleying cm
SPL No SPL

Drought Grade 3B APW 88 mm MBW -26 mm
APP 88 mm MBP -22 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name ADUR LP LANCING COLLEGE Pit Number 4P

Grid Reference TQ19600683 Average Annual Rainfall 816 mm
Accumulated Temperature 1479 degree days
Field Capacity Level 170 days
Land Use Permanent Grass
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	MOTTLES	STRUCTURE
0- 18	HZCL	10YR41 00	0	2	C	
18- 60	ZC	10YR51 00	0	1	M	MDCAB

Wetness Grade 3B Wetness Class IV
Gleying 0 cm
SPL 018 cm

Drought Grade APW mm MBW 0 mm
APP mm MBP 0 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Wetness

SOIL PIT DESCRIPTION

Site Name ADUR LP LANCING COLLEGE Pit Number 5P

Grid Reference TQ19580640 Average Annual Rainfall 816 mm
Accumulated Temperature 1479 degree days
Field Capacity Level 170 days
Land Use Cereals
Slope and Aspect 04 degrees SE

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	MOTTLES	STRUCTURE
0- 26	HZCL	10YR43 00	3	15		
26- 58	HZCL	10YR54 00	0	15		MDCSAB
58- 70	HZCL	10YR53 00	0	25		WKCSAB
82- 92	CH	10YR81 00	0	0		

Wetness Grade 2 Wetness Class I
Gleying cm
SPL No SPL

Drought Grade 3A APW 115mm MBW -4 mm
APP 112mm MBP -4 mm

FINAL ALC GRADE 3A
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name ADUR LP LANCING COLLEGE Pit Number 6P

Grid Reference TQ19070620

Average Annual Rainfall	816 mm
Accumulated Temperature	1479 degree days
Field Capacity Level	170 days
Land Use	Oilseed Rape
Slope and Aspect	02 degrees E

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	MOTTLES	STRUCTURE
0- 28	MZCL	10YR53 00	3	10		
28- 55	MZCL	10YR64 00	0	25		WCSAB
55-120	MZCL	10YR64 00	0	30		WCSAB

Wetness Grade 1

Wetness Class	I
Gleying	cm
SPL	No SPL

Drought Grade 2

APW	148mm	MBW	29 mm
APP	114mm	MBP	-2 mm

FINAL ALC GRADE 2
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name ADUR LP LANCING COLLEGE Pit Number 7P

Grid Reference TQ19180603 Average Annual Rainfall 816 mm
Accumulated Temperature 1479 degree days
Field Capacity Level 170 days
Land Use Arable
Slope and Aspect 02 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	MOTTLES	STRUCTURE
0- 28	HZCL	10YR53 63	0	10		
28- 75	CH	10YR81 00	0	3		

Wetness Grade 2 Wetness Class I
Gleying cm
SPL No SPL

Drought Grade 3B APW 87 mm MBW -28 mm
APP 89 mm MBP -22 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name ADUR LP LANCING COLLEGE Pit Number 8P

Grid Reference TQ19400599

Average Annual Rainfall	816 mm
Accumulated Temperature	1479 degree days
Field Capacity Level	170 days
Land Use	Arable
Slope and Aspect	03 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	MOTTLES	STRUCTURE
0- 28	HCL	10YR43 00	0	3		
28- 65	C	10YR43 54	0	20		WKCSAB
65-105	CH	10YR82 00	0	5		

Wetness Grade 2

Wetness Class	I
Gleying	cm
SPL	No SPL

Drought Grade 3A

APW	114mm	MBW	-7 mm
APP	102mm	MBP	-17 mm

FINAL ALC GRADE 3A
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name ADUR LP LANCING COLLEGE Pit Number 9P

Grid Reference TQ19400590

Average Annual Rainfall	816 mm
Accumulated Temperature	1479 degree days
Field Capacity Level	170 days
Land Use	Arable
Slope and Aspect	02 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	MOTTLES	STRUCTURE
0- 29	HCL	10YR42 43	0	7		
29- 52	C	10YR44 00	0	10		MDCSAB
52- 60	C	10YR54 00	0	20		MDCSAB
60-120	HZCL	10YR86 00	0	50		WKCSAB

Wetness Grade 2

Wetness Class	I
Gleying	cm
SPL	No SPL

Drought Grade 2

APW	138mm	MBW	17 mm
APP	107mm	MBP	-12 mm

FINAL ALC GRADE 2
MAIN LIMITATION Droughtiness

SAMPLE NO	GRID REF	ASPECT USE		GRDNT	--WETNESS-- GLEY SPL	CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M REL DRT	EROSN FLOOD	FROST EXP	CHEM DIST	ALC LIMIT		COMMENTS
1	TQ17700690	SAS	NE	06		1	3A	87	-18	90	-8	3A				DR	3B	IN 3B UNIT
1P	TQ18020664	SAS	NE	02		1	3A	76	-29	80	-18	3B				DR	3B	ROOTS 73
2	TQ19900690	PGR			0 030	4	3B		0		0					WE	3B	PLASTIC 30
2P	TQ18290632	PGR	NE	05		1	2	111	1	96	-10	3A				DR	3A	TRENCH CUTTING
3	TQ17800680	SAS	N	06		1	2	87	-18	89	-9	3A				DR	3B	IN 3B UNIT
3P	TQ18950644	STB	S	07		1	1	88	-26	88	-22	3B				DR	3B	ROOTS 80
4P	TQ19600683	PGR			0 018	4	3B		0		0					WE	3B	WATER TABLE 55
5P	TQ19580640	CER	SE	04		1	2	115	-4	112	4	3A				DR	3A	ROOTS 92
6P	TQ19070620	OSR	E	02		1	1	148	29	114	-2	2				DR	2	HEAD
7	TQ19200680	PGR	N	02		1	1	145	26	112	-4	2				DR	2	RE PIT 6
7P	TQ19180603	ARA	S	02		1	2	87	-28	89	-22	3B				DR	3B	ROOTS 75
8P	TQ19400599	ARA	S	03		1	2	114	-7	102	-17	3A				DR	3A	ROOTS 105
9	TQ19400680	PGR			0 025	4	3B		0		0					WE	3B	
9P	TQ19400590	ARA	S	02		1	2	138	17	107	-12	2				DR	2	IN 3A UNIT
11	TQ19600683	PGR			0 025	4	3B		0		0					WE	3B	PLASTIC 30
12	TQ19680678	PGR	N	03		1	2	76	-43	76	-40	3B				DR	3A	IMP 50 PROB 3A
13	TQ19800679	PGR	N	03		1	2	52	-67	52	-64	4				DR	3B	IMP 32 PROB 3B
14	TQ17800670	SAS	NE	02		1	3A	89	-16	92	6	3A				DR	3B	IN 3B UNIT
19	TQ18800670	STB	N	06		1	2	83	-27	85	-21	3B				DR	3B	ROOTS 75
20	TQ18900670	STB	E	06		1	2	91	-19	94	-12	3A				DR	3B	IN 3B UNIT
26	TQ18020664	SAS	NE	04		1	3A	86	-19	88	-10	3A				DR	3B	IN 3B UNIT
27	TQ18100660	SAS	NE	05		1	3A	80	-25	83	-15	3B				DR	3B	ROOTS 75
28	TQ18200660	CER	NE	04		1	1	85	-20	88	-10	3A				DR	3B	IN 3B UNIT
29	TQ18300660	CER	NE	03		1	2	82	-23	85	-13	3B				DR	3B	ROOTS 75
30	TQ18400660	CER	NE	04		1	2	85	-20	88	-10	3A				DR	3B	IN 3B UNIT
31	TQ18500660	CER	NE	07		1	2	86	-24	89	-17	3B				DR	3B	ROOTS 75
32	TQ18600660	CER	NE	06		1	2	85	25	88	-18	3B				DR	3B	ROOTS 75
33	TQ18700660	STB	S	06		1	1	88	22	90	-16	3B				DR	3B	ROOTS 75
34	TQ18800660	STB	S	06		1	1	114	4	103	-3	3A				DR	3B	IN 3B UNIT
35	TQ18900660	STB	S	04		1	2	87	-23	89	-17	3B				DR	3B	ROOTS 75
36	TQ19000660	STB	E	06	028	2	3A	117	7	98	-8	2				DR	3B	IN 3B UNIT
37	TQ19100660	STB	E	06		1	2	89	-21	92	-14	3B				DR	3B	ROOTS 75
38	TQ19200660	STB	E	04		1	2	80	-30	83	-23	3B				DR	3B	ROOTS 75
39	TQ18100650	STB	SE	03		1	3A	114	9	106	8	2				DR	3A	WK ALSO
40	TQ18200650	CER	E	05		1	1	121	16	106	8	2				DR	3A	IN 3A UNIT
41	TQ18300650	CER	E	04		1	2	86	-19	96	-2	3A				DR	3A	IMP 95 PROB 3A
42	TQ18400650	CER	SE	06		1	2	75	-30	76	-22	3B				DR	3A	IMP 52 PROB 3A
43	TQ18500650	CER	SE	05		1	2	69	-41	71	-35	3B				DR	3A	IMP 55 PROB 3A
44	TQ18600650	CER	SE	06		1	1	86	-24	89	-17	3B				DR	3B	ROOTS 75
45	TQ18700650	STB	S	05		1	1	86	-24	88	-18	3B				DR	3B	ROOTS 75
46	TQ18800650	STB	S	06		1	2	90	-20	93	-13	3A				DR	3B	IN 3B UNIT
47	TQ18900650	STB	S	06		1	1	88	-22	91	-15	3B				DR	3B	ROOTS 75

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
48	TQ19000650	STB	S	07			1	1	83	-27	85	-21	3B				DR	3B	ROOTS 75
49	TQ19100650	STB	SE	06			1	2	85	-25	88	-18	3B				DR	3B	ROOTS 75
50	TQ19200650	CER	S	05			1	1	88	26	91	-15	3B				DR	3B	ROOTS 75
51	TQ19300650	CER	S	06			1	2	87	-27	89	-21	3B				DR	3B	ROOTS 75
52	TQ19700650	PGR	SE	06			1	2	90	-29	92	-24	3B				DR	3B	ROOTS 75
53	TQ19800650	PGR	SE	03			1	2	109	-10	100	-16	3A				DR	3A	RE 8P AND 5P
54	TQ18200640	SAS	E	06			1	2	101	-9	105	-1	3A				WK	3A	IMPEN 85
55	TQ18270640	STB	E	06			1	2	75	-30	82	-16	3B				DR	3A	IMP 60 PROB 3A
56	TQ18360643	CER	SE	06			1	2	71	-39	74	-32	3B				DR	3A	IMP 55 PROB 3A
58	TQ18600640	CER	SE	07			1	1	86	-24	89	-17	3B				DR	3B	ROOTS 75
59	TQ18700640	STB	S	06			1	2	84	-26	86	-20	3B				DR	3B	ROOTS 75
60	TQ18800640	STB	S	06			1	1	90	-24	93	-17	3B				DR	3B	ROOTS 75
61	TQ18900640	STB	S	06			1	1	90	-24	93	-17	3B				DR	3B	ROOTS 75
62	TQ19000640	STB	S	06			1	2	89	-25	91	-19	3B				DR	3B	ROOTS 75
63	TQ19100640	STB	S	06			1	2	87	-27	90	-20	3B				DR	3B	ROOTS 75
64	TQ19200640	CER	S	07			1	2	88	-26	92	18	3B				DR	3B	ROOTS 75
65	TQ19290638	CER	S	04			1	2	89	-25	91	-19	3B				DR	3B	ROOTS 75
66	TQ19400640	CER	S	07			1	2	87	-27	89	-15	3B				DR	3B	ROOTS 75
67	TQ19500640	CER	S	06			1	1	86	-33	89	-27	3B				DR	3B	ROOTS 75
68	TQ19580640	CER	E	04			1	1	102	-16	113	3	3A				DR	3A	RE PIT 5
69	TQ19700640	PGR	SE	04			1	2	104	-15	115	-1	3A				DR	3A	RE PIT 5
70	TQ19800642	PGR	SE	03			1	1	86	-33	88	28	3B				DR	3B	IMPEN 45
72	TQ18330633	PGR	NE	05			1	2	49	-61	49	-57	4				DR	3B	IMP 30 PROB 3B
73	TQ18400634	PGR	E	04			1	1	64	-46	64	-42	4				DR	3B	IMP 38 PROB 3B
74	TQ18500630	PGR	E	03			1	1	51	-59	51	-55	4				DR	3B	IMP 30 PROB 3B
76	TQ18700630	PGR	S	07			1	2	45	-69	45	-65	4				DR	3B	IMP 30 PROB 3B
77	TQ18800630	CER	S	05			1	1	87	-27	90	-20	3B				DR	3B	ROOTS 75
78	TQ18900630	CER	S	05			1	1	90	-24	93	-17	3B				DR	3B	ROOTS 75
79	TQ19000630	CER	S	05			1	1	92	-24	93	-17	3B				DR	3B	ROOTS 75
80	TQ19100630	CER	S	05			1	2	90	-24	93	-17	3B				DR	3B	ROOTS 75
81	TQ19200630	OSR	SE	06			1	1	83	-27	85	-21	3B				DR	3B	ROOTS 75
82	TQ19300630	CER	SE	06			1	1	136	26	103	-3	2				DR	2	HEAD
82A	TQ19330628	CER	S	06			1	1	86	-24	89	-17	3B				DR	3B	ROOTS 75
87	TQ19800630	PGR	E	02			1	2	118	8	111	5	2				WK	2	IMPEN 90
88	TQ19900630	PGR			028	028	4	3B		0		0					WE	3B	WATER TABLE
89	TQ20000630	PGR			028		4	3B		0		0					WE	3B	GROUNDWATER
90	TQ18690627	PGR	E	03			1	1	141	27	109	-1	2				DR	2	HEAD
91	TQ18810625	OSR	E	02			1	1	140	26	105	-5	2				DR	2	HEAD
92	TQ18950622	OSR	E	02			1	1	144	30	110	0	2				DR	2	HEAD
93	TQ19070620	OSR	E	02			1	1	84	-35	85	-31	3B				DR	2	IMP 52 RE 6P
94	TQ19150623	OSR	S	05			1	1	153	34	121	5	2				DR	2	HEAD
95	TQ19200620	OSR	E	01			1	1	157	38	123	7	2				DR	2	HEAD

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
96	TQ19300620	OSR	E				1	1	150	31	117	1	2				DR	2		HEAD
97	TQ19400620	CER	E				1	1	153	34	121	5	2				DR	2		HEAD
98	TQ19490621	CER	N	02			1	1	150	31	119	3	2				DR	2		HEAD
99	TQ19590624	CER	N				1	1	146	27	114	-2	2				DR	2		HEAD
100	TQ19790625	PGR	E		020	035	4	3B		0		0		Y			WE	3B		GROUNDWATER
101	TQ19900620	PGR	E				4	3B		0		0					WE	3B		
102	TQ20000620	PGR			032	032	4	3B		0		0					WE	3B		GROUNDWATER
103	TQ19200610	ARA	S	01			1	2	88	-30	91	-20	3B				DR	3B		ROOTS 75
104	TQ19300610	CER					1	2	87	-32	89	-27	3B				DR	3B		ROOTS 75
105	TQ19400610	CER					1	2	88	-31	91	-25	3B				DR	3B		ROOTS 75
106	TQ19500610	CER	E	01			1	1	89	-30	92	-24	3B				DR	3B		ROOTS 75
107	TQ19600610	CER					1	2	89	-29	93	-23	3B				DR	3B		ROOTS 75
108	TQ19700610	CER	E	01			1	2	90	-29	92	-24	3B				DR	3B		ROOTS 75
109	TQ19800610	CER	E	02			1	2	89	-30	92	-24	3B				DR	3B		ROOTS 75
110	TQ19900610	CER	E	01			1	1	90	-29	93	-23	3B				DR	3B		ROOTS 75
111	TQ18900600	STU	S	05			1	1	86	-29	90	-21	3B				DR	3B		ROOTS 75
112	TQ19000600	STU	S	06			1	2	86	-29	92	-19	3B				DR	3B		ROOTS 70
113	TQ19100600	STU	S	02			1	2	142	27	115	4	2				DR	2		WK ALSO
114	TQ19200600	ARA	S	03			1	2	81	-34	87	-24	3B				DR	3B		ROOTS 70
115	TQ19300600	ARA	S	02			1	2	88	27	90	-21	3B				DR	3B		ROOTS 70
116	TQ19400600	ARA	S	02			1	2	135	20	101	-10	2				DR	2		WK ALSO
117	TQ19500600	ARA	S	02			1	2	102	-13	98	-13	3A				DR	3A		ROOTS 85
118	TQ19600600	ARA	S	04			1	2	134	19	108	-3	2				DR	2		
119	TQ19700600	CER	S	02			1	3A	81	-30	84	-32	3B				DR	3A		IMPCH 60 Q 3A
120	TQ19800600	CER	S	02			1	2	137	26	114	-2	2				WD	2		
121	TQ19900600	CER	S	01			1	3A	137	26	113	-3	2				WK	3A		
122	TQ18900590	STU	S	06			1	2	100	-21	112	-7	3B				DR	3A		
124	TQ19200590	ARA	S	02			1	2	90	-31	93	-26	3B				DR	3B		
125	TQ19300590	ARA	S	04			1	2	78	-43	78	-41	3B				DR	3B		PROB 3A
126	TQ19400590	ARA	S	02			1	2	133	12	112	7	2				DR	2		IMPEN 80
127	TQ19500590	ARA					1	2	141	20	111	-8	2				DR	3A		RE PIT9
128	TQ18900580	STU	S	05			1	2	135	14	112	7	2				DR	2		
129	TQ19000580	STU	S	02			1	2	97	-42	108	-40	3B				DR	3A		
130	TQ19100580	STU	S	02			1	2	132	11	108	-11	2				DR	3A		IMPEN 80
131	TQ19200580	ARA	SW	01			1	2	90	-31	98	-21	3B				DR	3A		IMP60-3A

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
1	0-30	hcl	10YR53 00						0	0	CH	17					Y		HIGHER FCD
	30-75	ch	10YR81 00						0	0		0		M			Y		ROOTS 75
1P	0-23	hcl	10YR54 00						8	0	HR	22					Y		
	23-73	ch	10YR81 74						0	0		0		M			Y		
2	0 20	mzcl	10YR42 00	75YR46 00	M			Y	0	0		0							
	20-30	hcl	10YR41 00	75YR46 00	M			Y	0	0		0		M					
	30 60	c	10YR52 00	10YR58 00	M		00MN00 00	Y	0	0		0		P	Y		Y		
2P	0-25	hcl	10YR43 00						5	0	HR	10							
	25 40	hcl	10YR44 00						0	0	HR	10	MDCSAB	FR M					VARY 10-30% HR
	40 60	c	75YR56 00	75YR68 00	C		00MN00 00		0	0	HR	25	MCSAB	FM M	Y				VARY 10-30% HR
	60-110	ch	10YR81 56						0	0	HR	15		M			Y		CHALK 60-91 CM
3	0-30	mcl	10YR54 00						0	0	CH	20					Y		HIGHER FCD
	30 55	ch	10YR81 00	10YR56 00	F				0	0		0		M			Y		
	55-75	ch	10YR81 00						0	0	HR	1		M			Y		ROOTS 75
3P	0-26	mzcl	10YR53 00						3	0	HR	10					Y		
	26-80	ch	10YR81 00						0	0	HR	3		M			Y		
4P	0-18	hzcl	10YR41 00	75YR46 00	C			Y	0	0	HR	2							
	18-60	zc	10YR51 00	10YR58 00	M		00MN00 00	Y	0	0	HR	1	MDCAB	FM P	Y		Y		
5P	0-26	hzcl	10YR43 00						3	0	HR	15					Y		13% HR 2% CH
	26-58	hzcl	10YR54 00						0	0	CH	15	MDCSAB	FR M			Y		PLUS 3% HR
	58-70	hzcl	10YR53 00						0	0	CH	25	WKCSAB	FR M			Y		
	70-92	ch	10YR81 00						0	0		0		M			Y		
6P	0-28	mzcl	10YR53 00						3	0	CH	10					Y		
	28-55	mzcl	10YR64 00						0	0	CH	25	WCSAB	FR M			Y		PLUS 10% HR
	55-120	mzcl	10YR64 00						0	0	CH	30	WCSAB	FR M			Y		PLUS 5% HR
7	0-28	mzcl	10YR44 00						3	0	CH	8					Y		
	28-40	mzcl	10YR53 00						0	0	CH	25		M			Y		
	40-120	mzcl	10YR64 00						0	0	CH	40		M			Y		
7P	0-28	hzcl	10YR53 63						0	0	HR	10					Y		
	28-75	ch	10YR81 00						0	0	HR	3		M			Y		
8P	0-28	hcl	10YR43 00						0	0	HR	3					Y		
	28-65	c	10YR43 54						0	0	HR	20	WKCSAB	FR M	Y		Y		
	65-105	ch	10YR82 00						0	0	HR	5		M			Y		
9	0-25	hzcl	10YR42 00	10YR58 00	C			Y	0	0		0							
	25-60	c	10YR52 00	75YR58 00	M		00MN00 00	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	
9P	0-29	hcl	10YR42 43						0	0	HR	7						Y	
	29 52	c	10YR44 00						0	0	HR	10	MDCSAB FR	M	Y			Y	
	52-60	c	10YR54 00						0	0	CH	20	MDCSAB FR	M				Y	
	60-120	hzcl	10YR86 00						0	0	CH	50	WKCSAB VF	M				Y	
11	0 25	hzcl	10YR42 00	75YR46 00	C			Y	0	0		0							
	25 60	c	10YR52 00	10YR58 00	M			Y	0	0		0		P	Y		Y		
12	0-25	hcl	10YR43 00						0	0	HR	3							
	25-50	c	10YR56 00						0	0	HR	2		P					
13	0 28	hcl	10YR43 00						0	0	HR	5							
	28 32	c	75YR56 00						0	0	HR	20		P					
14	0-32	hcl	10YR53 00						0	0	CH	15						Y	HIGHER FCD
	32-40	ch	10YR81 84	10YR53 00	C				0	0		0		M				Y	
	40 75	ch	10YR81 84						0	0		0		M				Y	ROOTS 75
19	0-25	hcl	10YR43 00						5	0	CH	25						Y	
	25-75	ch	10YR81 00						0	0		0		M				Y	
20	0-34	hcl	10YR44 00						4	0	CH	12						Y	
	34-75	ch	10YR81 00						0	0		0		M				Y	ROOTS 75
26	0-20	hcl	10YR53 00						0	0	CH	15						Y	HIGHER FCD
	20-30	hcl	10YR53 00						0	0	CH	25		M				Y	
	30-75	ch	10YR81 00						0	0		0		M					ROOTS 75
27	0-20	hcl	10YR54 00						0	0	CH	20						Y	HIGHER FCD
	20-75	ch	10YR81 00	10YR56 00	F				0	0		0		M					
28	0-28	mcl	10YR44 00						12	0	CH	20						Y	
	28-75	ch	10YR81 00	10YR83 00	C				0	0		0		M				Y	ROOTS 75
29	0-25	hcl	10YR43 00	10YR58 00	F				8	0	HR	12						Y	
	25-75	ch	10YR81 00						0	0		0		M				Y	
30	0-20	hcl	10YR43 00						6	0	HR	10						Y	
	20-30	hcl	10YR43 00						0	0	CH	15		M				Y	HARD CHALK 55
	30-75	ch	10YR81 00						0	0		0		M				Y	ROOTS 75
31	0-30	hcl	10YR43 00						6	0	HR	10						Y	
	30-75	ch	10YR81 00						0	0		0		M				Y	
32	0-28	hcl	10YR53 00						0	0	CH	20						Y	
	28-75	ch	10YR81 00						0	0		0		M				Y	
33	0-32	mzcl	10YR43 00						2	0	HR	15						Y	
	32-75	ch	10YR81 00						0	0		0		M				Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
34	0-28	mzcl	10YR43 00						2	0	CH	15					Y		
	28-45	ch	10YR81 00						0	0		0		M			Y		
	45-65	c	10YR58 00	10YR68 00	M		00MN00 00		0	0	HR	1		M	Y		Y		
	65-105	ch	10YR81 00						0	0		0		M			Y		
35	0-34	hcl	10YR43 00						2	0	CH	15					Y		
	34-75	ch	10YR81 00						0	0		0		M			Y		
36	0 28	hcl	10YR44 00						4	0	HR	15					Y		
	28 40	c	10YR58 00	10YR68 00	C		00MN00 00		0	0	HR	2		M	Y				
	40-50	c	10YR58 00	10YR68 00	M				0	0		0		M	Y				
	50-105	ch	10YR81 00						0	0		0		M			Y		
37	0-30	hcl	10YR43 00						2	0	CH	10					Y		
	30-75	ch	10YR81 00						0	0		0		M			Y		
38	0 18	hcl	10YR43 00						2	0	CH	10					Y		
	18-75	ch	10YR81 00						0	0		0		M			Y		
39	0-25	hcl	10YR44 00						0	0	HR	5					Y		HIGHER FCD
	25-38	c	10YR46 00						0	0	HR	25		M			Y		
	38 60	c	75YR56 00	10YR68 00	C		00MN00 00		0	0	HR	10		M	Y		Y		
	60 70	c	75YR56 00	10YR68 00	C		00MN00 00		0	0	CH	10		M	Y		Y		
	70-85	c	75YR58 00	10YR68 00	C				0	0	CH	5		M	Y		Y		
	85-100	ch	10YR81 00						0	0	HR	2		M			Y		
40	0-28	mcl	10YR44 00						5	0	HR	10							TS SIEVED 2CM
	28-60	c	75YR56 00	00MN00 00	C		75YR68 00		0	0	HR	8		M	Y				
	60-70	c	75YR56 00						0	0	CH	50		M	Y		Y		
	70-110	ch	10YR81 54						0	0		0		M			Y		
41	0-28	hcl	10YR43 00	10YR68 00	F				11	0	HR	18							
	28-38	hcl	10YR58 00	00MN00 00	M				0	0	HR	25		M					
	38-55	hcl	10YR58 00	75YR68 00	M		00MN00 00		0	0	HR	25		M					
	55-75	c	75YR58 00	75YR56 00	M		00MN00 00		0	0	HR	15		M					
42	0-38	hcl	10YR43 00	10YR58 00	F				8	0	HR	15							
	38-52	hcl	10YR58 00	75YR68 00	M		00MN00 00		0	0	HR	25		M					
43	0-25	hcl	10YR43 00						12	0	HR	25							
	25-55	hcl	10YR44 00						0	0	HR	25		M					
44	0-28	mzcl	10YR54 00						14	0	CH	25					Y		
	28-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK 55
45	0-25	mzcl	10YR53 00						13	0	CH	20					Y		
	25-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK 60

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	
46	0-30	hzcl	10YR53 00						9	0	CH	15					Y		
	30-75	ch	10YR81 00						0	0		0		M			Y		ROOTS 75
47	0-25	mzcl	10YR53 00						4	0	CH	8					Y		
	25-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK 60
48	0-20	mzcl	10YR53 00						7	0	CH	15					Y		
	20-75	ch	10YR81 00						0	0		0		M			Y		
49	0-28	hcl	10YR54 00						8	0	CH	20					Y		
	28-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK 55
50	0-30	mzcl	10YR53 00						3	0	HR	12					Y		
	30-75	ch	10YR81 00						0	0		0		M			Y		
51	0-34	hzcl	10YR53 00						3	0	CH	15					Y		
	34-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK 45
52	0-38	hcl	10YR44 00						0	0	CH	3					Y		
	38-75	ch	10YR81 00						0	0		0		P			Y		HARD CHALK 50
53	0-29	hcl	10YR43 00						0	0	HR	8					Y		
	29-49	c	75YR56 00						0	0	HR	15		M			Y		
	49-60	c	10YR54 00						0	0	CH	50		M			Y		
	60-95	ch	10YR81 00						0	0		0		M			Y		
54	0-20	hcl	10YR44 00						4	0	HR	10							
	20-35	hcl	10YR44 00						0	0	HR	20		M					
	35-45	hcl	10YR56 00						0	0	HR	10		M					
	45-70	c	75YR46 00	00MN00 00	M		75YR56 00		0	0	HR	5		M	Y				
	70-85	c	75YR56 00	00MN00 00	M		05YR56 00		0	0	CH	10		M	Y		Y		IMPEN 85
55	0-25	hcl	10YR44 54						8	0	HR	15							
	25-45	c	10YR46 00						0	0	HR	35		M					
	45-60	c	75YR56 00	75YR68 00	C		00MN00 00		0	0	CH	20		M			Y		
56	0-25	hcl	10YR43 00						14	0	HR	25							TS SIEVED 2CM
	25-42	hcl	10YR46 00						0	0	HR	25		M					
	42-55	hcl	10YR58 00	75YR68		M			0	0	CH	25		M			Y		
58	0-28	mzcl	10YR53 00						13	0	CH	25					Y		
	28-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK 60
59	0-30	hcl	10YR43 00						5	0	HR	15					Y		
	30-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK
60	0-28	mzcl	10YR43 00						1	0	CH	10					Y		
	28-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK

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	
61	0-28	mzcl	10YR43 00						1	0	CH	10					Y		
	28-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK
62	0-35	hcl	10YR43 00						1	0	CH	8					Y		
	35-40	hcl	10YR53 00						0	0	CH	15		M			Y		
	40-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK
63	0-28	hcl	10YR43 00						2	0	CH	12					Y		
	28-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK 55
64	0-34	hzcl	10YR53 00						3	0	CH	12					Y		
	34-75	ch	10YR81 00						0	0		0		M			Y		
65	0-28	hzcl	10YR43 00						4	0	CH	15					Y		
	28-38	hzcl	10YY53 00						0	0	HR	15		M			Y		
	38-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK
66	0-28	hcl	10YR43 00						5	0	HR	15					Y		
	28-38	hcl	10YR44 00						0	0	HR	15		M			Y		
	38-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK 50
67	0-30	mzcl	10YR43 00						5	0	HR	15					Y		
	30-75	ch	10YR81 00						0	0		0		M			Y		
68	0-28	mzcl	10YR53 00						1	0	CH	10					Y		PLUS 3% HR >2CM
	28-40	hzcl	10YR54 00						0	0	CH	20		M			Y		
	40-68	hzcl	10YR64 00						0	0	CH	30		M			Y		
	68-90	ch	10YR81 00						0	0		0		M			Y		HARD CHALK
69	0-30	hcl	25Y 43 00						0	0	CH	1					Y		
	30-45	c	10YR44 00						0	0	CH	10		M			Y		
	45-70	c	75YR46 00						0	0	CH	15		M			Y		
	70-90	ch	10YR81 00						0	0		0		P			Y		
70	0-28	mcl	10YR43 00						4	0	HR	20					Y		HR AND CHALK
	28-38	hzcl	10YR53 00						0	0	CH	25		M			Y		
	38-75	ch	10YR81 00						0	0		0		M			Y		
72	0-25	hcl	10YR43 00						3	0	HR	5							
	25-30	hcl	10YR44 00						0	0	HR	30		M					
73	0-28	mzcl	10YR43 00						1	0	HR	2							
	28-38	mzcl	10YR44 00						0	0	HR	30		M					15% HR 15% CH
74	0-20	mzcl	10YR43 00						3	0	HR	5							
	20-30	mzcl	10YR43 00						0	0	CH	25		M			Y		
76	0-25	hzcl	10YR54 00						8	0	HR	20					Y		
	25-30	hzcl	10YR53 00						0	0	HR	25		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	
77	0-30	mcl	10YR53 00						1	0	HR	8						Y	
	30-75	ch	10YR81 00						0	0		0		M				Y	HARD CHALK 50
78	0-30	mcl	10YR43 00						2	0	CH	5						Y	
	30-75	ch	10YR81 00						0	0		0		M				Y	HARD CHALK
79	0-35	mcl	10YR53 00						3	0	CH	10						Y	
	35-75	ch	10YR81 78						0	0	HR	2		M				Y	HARD CHALK 60
80	0-28	hzcl	10YR53 00						3	0	CH	10						Y	
	28-75	ch	10YR81 00						0	0		0		M				Y	HARD CHALK 42
81	0-28	mzcl	10YR53 00						4	0	HR	20						Y	HR AND CHALK
	28-75	ch	10YR81 00						0	0		0		M				Y	HARD CHALK 50
82	0-25	mzcl	10YR53 00						7	0	HR	25						Y	20% HR 5% CH
	25-38	mzcl	10YR53 00						0	0	CH	25		M				Y	
	38-55	mzcl	10YR64 00						0	0	CH	30		M				Y	
	55 120	mzcl	10YR64 00						0	0	CH	40		M				Y	
82A	0 28	mzcl	10YR54 00						6	0	CH	25						Y	
	28 75	ch	10YR81 00						0	0		0		M				Y	HARD CHALK 60
87	0-20	hzcl	10YR32 00						0	0		0							
	20-50	hcl	10YR42 00						0	0	HR	10		M				Y	
	50-90	hcl	10YR42 00						0	0	HR	10		M				Y	
88	0 28	hzcl	10YR41 42						0	0		0						Y	
	28-50	c	10YR62 63	10YR58 00	C			Y	0	0		0					Y		
89	0 28	hzcl	10YR42 00						0	0		0							
	28 33	c	10YR72 00	75YR58 00	M			Y	0	0		0							
	33 55	scl	05Y 61 00	75YR58 00	F			Y	0	0		0							
	55 100	zl	05Y 61 00	75YR58 00	C			Y	0	0		0							
90	0-25	mzcl	10YR53 00						6	0	CH	20						Y	
	25-60	mzcl	10YR63 00						0	0	CH	30		M				Y	
	60-120	mzcl	10YR63 00						0	0	CH	45		M				Y	
91	0-30	mzcl	10YR53 00						0	0	HR	20						Y	10% HR 10% CH
	30-60	mzcl	10YR54 00						0	0	CH	30		M				Y	
	60-80	mzcl	10YR54 00						0	0	CH	35		M				Y	
	80-120	mzcl	10YR63 00						0	0	CH	25		M				Y	
92	0-25	mzcl	10YR53 00						4	0	CH	30						Y	1% HR 3% CH
	25-45	mzcl	10YR53 00						0	0	CH	5		M				Y	
	45-60	mzcl	10YR63 00						0	0	CH	35		M				Y	
	60-90	mzcl	10YR63 00						0	0	CH	40		M				Y	
	90-120	mzcl	10YR64 00						0	0	CH	30		M				Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
93	0-25	mzcl	10YR53 00						4	0	CH	20						Y	
	25-45	mzcl	10YR53 00						0	0	CH	20		M				Y	
	45-52	mzcl	10YR64 00						0	0	CH	25		M				Y	IMPEN - FLINT
94	0-38	mzcl	25Y 52 00						0	0	CH	8						Y	5% HR 3% CH
	38-75	mzcl	25Y 52 62						0	0	CH	15		M				Y	
	75-120	hzcl	25Y 63 00						0	0	CH	30		M					
95	0-35	mzcl	25Y 52 00						0	0	CH	3						Y	
	35-60	hzcl	25Y 53 00						0	0	HR	3		M				Y	
	60-120	hzcl	25YZ63 00						0	0	CH	15		M				Y	
96	0-35	mzcl	25Y 52 00						0	0	CH	2							
	35-55	hzcl	25Y 63 00						0	0	CH	30		M				Y	
	55-120	hzcl	25Y 63 00						0	0	CH	40		M				Y	
97	0-35	mzcl	25Y 42 00						0	0	CH	3						Y	
	35 60	hzcl	25Y 63 00						0	0	CH	15		M					
	60 90	hzcl	25Y 62 00						0	0	CH	25		M				Y	
	90-120	hzcl	25Y 62 00						0	0	CH	40		M				Y	
98	0-38	mzcl	25Y 42 00						0	0	CH	5						Y	
	38 70	hzcl	25Y 63 00						0	0	CH	25		M				Y	
	70-120	mzcl	25Y 62 00						0	0	CH	50		M				Y	
99	0-35	mcl	25Y 42 00						0	0	HR	3						Y	
	35-55	hzcl	25Y 53 00						0	0	CH	10		M				Y	
	55-120	hzcl	25Y 62 00						0	0	CH	50		M				Y	
100	0-20	mzcl	25Y 42 00						0	0		0							
	20-35	hcl	25Y 42 00	10YR66 00	C			Y	0	0		0							
	35-75	c	10YR52 53	75YR56 00	C			Y	0	0		0					Y		
101	0-20	mzcl	10YR32 33		C			Y	0	0		0							
	20-30	mzcl	10YR53 00	75YR58 00	C			Y	0	0		0							
	30-75	zc	10YR52 53	75YR58 00	C			Y	0	0		0		M					
102	0-32	hzcl	10YR42 00						0	0		0							
	32-90	zc	10YR61 00	75YR58 00	C			Y	0	0		0					Y		
103	0-30	hzcl	10YR53 63						0	0	HR	10						Y	
	30-75	ch	10YR81 00						0	0	HR	3		M				Y	
104	0-25	hzcl	25Y 62 00						0	0	CH	15						Y	
	25-75	ch	10YR81 00						0	0		0		M				Y	HARD CHALK 30
105	0-33	hzcl	25Y 62 00						2	0	CH	15						Y	
	33-75	ch	10YR81 00						0	0		0		M				Y	HARD CHALK 50

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	
106	0-32	mzcl	25Y 62 00						5	0	CH	25					Y		
	32-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK 45
107	0-32	hzcl	25Y 52 62						0	0	CH	8					Y		
	32-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK 38
108	0-30	hzcl	25Y 62 00						3	0	CH	18							
	30-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK 40
109	0-30	hzcl	25Y 62 00						0	0	CH	10					Y		
	30-75	ch	10YR81 00						0	0		0		M			Y		HARD CHALK
110	0-30	mzcl	25Y 62 00						0	0	CH	15					Y		
	30-75	ch	25Y 62 00						0	0		0		M			Y		HARD CHALK 60
111	0-29	mcl	10YR52 53						0	0	HR	5					Y		
	29-33	hzcl	10YR74 64						0	0	CH	60		M			Y		
	33-75	ch	10YR81 00						0	0	HR	3		M			Y		
112	0-25	hzcl	10YR53 63						0	0	HR	3					Y		
	25-30	hzcl	10YR64 74						0	0	CH	50		M			Y		
	30-75	ch	10YR81 00						0	0	HR	3		M			Y		
113	0-26	hcl	10YR42 00						0	0	HR	2					Y		
	26-60	c	10YR54 44						0	0	HR	2		M			Y		
	60-78	hcl	10YR54 44				00MN00	00	0	0	HR	2		M			Y		
	78-120	c	10YR54 44	000C00	00	F			0	0	HR	2		M			Y		
114	0-28	hcl	10YR53 54						0	0	HR	10					Y		
	28-33	hcl	10YR54 00						0	0	CH	95		M			Y		
	33-70	ch	10YR81 00						0	0	HR	3		M			Y		
115	0-28	hcl	10YR53 54						0	0	HR	5					Y		
	28-42	hcl	10YR54 00						0	0	CH	90		M			Y		
	42-75	ch	10YR81 00						0	0	HR	3		M			Y		
116	0-28	hcl	10YR53 54						0	0	HR	3					Y		
	28-50	c	10YR54 00						0	0	CH	50		M			Y		
	50-72	hzcl	10YR74 64						0	0	CH	75		M			Y		
	72-88	hzcl	10YR64 00						0	0	CH	5		M			Y		
	88-120	hzcl	10YR74 64						0	0	CH	80		M			Y		
117	0-25	hzcl	10YR53 00						0	0	HR	12					Y		
	25-45	c	10YR54 64						0	0	CH	5		M			Y		
	45-85	ch	10YR81 00						0	0	HR	3		M			Y		
118	0-29	hcl	10YR53 00						0	0	HR	6					Y		
	29 90	zc	10YR53 54						0	0	CH	15		M			Y		
	90-120	zc	10YR53 54						0	0	CH	20		M			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	CALC
119	0-30	c	25Y 42 00						0	0	HR	5						Y
	30-42	c	10YR46 56	00MN00	00	F			0	0	HR	5		M				Y
	42-60	ch	10YR64 81						0	0	HR	3		M				Y
120	0-25	hcl	10YR43 00						0	0	HR	3						
	25-35	c	10YR46 00	10YR42	00	F			0	0	HR	2		M				
	35-120	c	10YR56 00	10YR53	00	C	00MN00	00	0	0	HR	3		M				
121	0-35	c	10YR44 00	10YR56	00	F			0	0	HR	3						
	35-45	c	75YR56 00	75YR52	00	F			0	0	HR	2		M				
	45-120	c	75YR56 66	75YR53	00	C	00MN00	00	0	0	HR	1		M				
122	0-30	hcl	10YR42 00						0	0	HR	2						Y
	30-55	c	10YR54 64						0	0	CH	6		M				Y
	55-70	zc	10YR66 00						0	0	CH	35		M				Y
124	0-27	hcl	10YR43 00						0	0	HR	5						Y
	27-35	c	10YR54 00						0	0	HR	3		M				Y
	35 75	ch	10YR81 00						0	0	HR	3		M				Y
125	0-28	hcl	10YR43 00						0	0	HR	5						Y
	28-50	hzcl	10YR74 00						0	0	CH	50		M				Y
126	0-27	hcl	10YR43 00						0	0	HR	3						Y
	27-70	c	10YR54 44						0	0	CH	15		M				Y
	70-80	hzcl	10YR74 00						0	0	CH	50		M				Y
	80-120	ch	10YR81 00						0	0	HR	3		M				Y
127	0-29	hcl	10YR42 43						0	0	HR	5						Y
	29-52	c	10YR44 00						0	0	HR	3		M				Y
	52-60	c	10YR54 00						0	0	CH	20		M				Y
	60-120	hzcl	10YR86 00						0	0	CH	50		M				Y
128	0-35	hcl	10YR42 00						0	0	HR	6						Y
	35-120	c	10YR54 44	000C00	00	F			0	0	HR	6		M				Y
129	0-30	hcl	10YR42 00						0	0	HR	8						Y
	30-50	c	10YR44 54						0	0	HR	10		M				Y
	50-70	hcl	10YR44 54						0	0	HR	10		M				Y
130	0-32	hcl	10YR42 32						0	0	HR	8						
	32-75	c	10YR44 54						0	0	HR	10		M				
	75-120	c	10YR66 00						0	0	CH	25		M				Y
131	0-28	hcl	10YR42 32						0	0	HR	3						
	28-60	c	10YR56 00						0	0	HR	5		M				