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Canterbury District Local Plan
CAN 26: Land near Ridlands Farm, Thanington
Agricultural Land Classification
ALC Map and Report
April 1995

AGRICULTURAL LAND CLASSIFICATION REPORT

CANTERBURY DISTRICT LOCAL PLAN
CAN 26: LAND NEAR RIDLANDS FARM, THANINGTON

1. 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 Canterbury district of Kent. The work forms part of MAFF's statutory input to the Canterbury District Local Plan.

1.2 CAN 26 comprises 85.8 hectares of land to the east of the A2 and either side of Stuppington Lane at Thanington, south-west of Canterbury, Kent. An Agricultural Land Classification (ALC) survey was carried out during April 1995. The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 82 borings and six soil inspection pits were described 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 a long term limitation on its use for agriculture.

1.3 The work was carried out by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.

1.4 At the time of survey the agricultural land use was mostly cereals and orchards, with smaller areas of ploughed land and permanent pasture. Areas mapped as urban include metalled roads and recreation areas, residential dwellings and gravel tracks. Land mapped as non-agricultural comprises a disused chalk quarry, allotment gardens, recreational facilities and footpaths.

1.5 The distribution of grades and subgrades is shown on the attached ALC map and the areas and extent 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.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% of Agricultural Land
2	47.8	55.7	64.5
3a	8.5	9.9	11.5
3b	17.8	20.8	24.0
Urban	3.7	4.3	100.0 (74.1 ha)
Non-agricultural	8.0	9.3	
Total area of site	85.8	100.0	

1.6 Appendix I 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 has been classified as Grade 2, very good quality, because of minor soil droughtiness limitations. This land typically occurs where the soils are derived from drift deposits of head brickearth. Profiles comprise deep, well drained silty and loamy textured soils. Profiles are generally slightly flinty, becoming flintier at depth to the south of Merton Cottages. The interaction between these soil properties and the prevailing local climate, which is relatively dry in a regional context, acts to impart a slight soil droughtiness limitation. This may lead to the soil available water being insufficient to fully meet crop needs. Consequently this land will suffer from slightly lower and less consistent crop yields.

1.8 Land classified as Subgrade 3a, good quality, occurs on the higher flatter land on the site, and is restricted by moderate soil droughtiness limitations. The soils are derived from head deposits and consequently this mapping unit is of a varied nature. In comparison to land classified as Grade 2, these profiles contain more flints and thus less soil water available for uptake by crop roots.

1.9 Land classified as Subgrade 3b, moderate quality, is mostly restricted by significant soil droughtiness limitations. These profiles either overlie chalk immediately below the topsoil or at shallow depths within the soil profile. Rooting by crops into the hard and compact chalk is very restricted. Given this shallow rooting and the relatively dry local climate this land will be subject to low and inconsistent crop yields. A small area at Stuppington Hill Cottages is restricted by soil wetness and workability limitations. Slowly permeable clay subsoils act to impede soil drainage, and thus reduce the flexibility of cropping, stocking and cultivations.

1.10 Land to the west of Stuppington Hill Cottages and again south of the quarry can be classified as no better than Subgrade 3b because of slope limitations. Gradients within the range of greater than 7° to 11° act to restrict the range of agricultural machinery that may be safely and efficiently used.

2. 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 an 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 droughtiness limitations. The soil moisture deficits are relatively high, in a regional

context, at this locality. High soil moisture deficits increase the likelihood of soil droughtiness limitations.

Table 2 : Climatic Interpolations

Grid Reference	TR 142 566	TR 145 564	TR 150 555
Altitude (m)	22	35	50
Accumulated Temperature (degree days, Jan-June)	1473	1458	1441
Average Annual Rainfall (mm)	674	688	708
Field Capacity (days)	142	144	148
Moisture Deficit, Wheat (mm)	119	117	114
Moisture Deficit, Potatoes (mm)	116	113	109
Overall Climatic Grade	1	1	1

2.4 No other local climatic factors, such as exposure or frost risk, are believed to affect the site.

3. Relief

3.1 The site occupies a broad dry valley, running approximately from the south-east to the north-west. This dry valley is dissected by two narrow ridges in the extreme east and south of the site. The lowest land lies to the north-east at approximately 20-25 m AOD; the highest land at approximately 50-55 m AOD adjoining the A2. Land surrounding Stuppington Hill Cottages is flatter and lies at approximately 50 m AOD. To the west of Stuppington Hill Cottages and again south of the quarry gradients of >7° to 11° act to restrict the agricultural land quality.

4. Geology and Soil

4.1 The relevant geological sheet (BGS, 1982) shows most of the site to be underlain by Upper Chalk. Land immediately to the east of the disused chalk quarry is shown as Thanet Beds. Approximately half of the Upper Chalk, roughly equating to the valley bottoms, is shown to be overlain by drift deposits of head brickearth. The higher, flatter land around Stuppington Hill Cottages is shown to be overlain by drift deposits of head.

4.2 The most recent published soils information (SSEW, 1983) shows the extreme north of the site as Urban. Elsewhere the site is shown to comprise soils of the Coombe 1 Association. These soils are described as 'well drained calcareous fine silty soils, deep in valley bottoms, shallow to chalk on valley sides in places'. The soils for this area are similarly described in the Soils of Kent (SSEW, 1980).

4.3 Detailed field examination found four broad soil types: deep well drained silty and loamy textured soils across most of the site, probably associated with the head brickearth geology; flinty loamy soils or poorly drained heavy textured soils in association with the head deposits; shallow profiles over chalk on the remaining higher lying land on the site.

5. 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 The majority of land surveyed has been classified as Grade 2, very good quality, because of minor soil droughtiness limitations. Topsoils comprise medium silty clay loams, medium sandy silt loams and medium clay loams. These overlie similarly textured, but most commonly medium silty clay loam, subsoils. The topsoils tend to be slightly stony, containing 0-3% of flints larger than 2 cm and 2-10% total flints by volume. Across most of the site, the subsoils are similarly flinty and in addition often contain traces of chalk. Profiles are well drained (Wetness Class I) and are typified by Pit 6. Occasionally, profiles were found to be gleyed below 40 cm depth, due to fluctuating groundwater. These profiles, represented by Pit 1, have permeable subsoils and thus are also assigned to Wetness Class I.

5.4 To the south of Merton Cottages, the topsoils and upper subsoils of profiles were found to be similar to those described in paragraph 5.3. However, borings within this area proved impenetrable to a soil auger between 40 and 65 cm depth. Consequently a soil inspection pit (Pit 5) was dug to assess conditions at depth. It was found that the lower subsoils are moderately stony, containing approximately 20-25% total flints by volume. These profiles are also well drained (Wetness Class I).

5.5 All of the subsoils from Pits 1, 5 and 6 were found to be moderately structured. The interaction between the soil properties (textures, stone contents and structures) with the relatively dry local climate means that all of the land typified by Pits 1, 5 and 6 is likely to have a profile available water which is not quite sufficient to fully meet crop demands. Consequently there is a minor risk of drought stress for those crops which are grown. This will result in slightly lower yield potential and less consistent crop yields, such that this land can be classified as no higher than Grade 2.

Subgrade 3a

5.6 Land classified as Subgrade 3a, good quality, occurs on the higher, flatter land on the site. The soils within this area are derived from head deposits and consequently are of a varied nature. This land is restricted by moderate soil droughtiness limitations. Topsoils comprise medium sandy silt loams or medium clay loams, which overlie medium clay loam upper subsoils. Topsoils are slightly stony, containing about 2-5% flints >2 cm and 5-15% total flints by volume. Upper subsoils are moderately stony, containing approximately 25-30% total flints by volume. The dry subsoil conditions at the time of survey caused these profiles

to be impenetrable to a soil auger between 35 and 50 cm depth. Consequently a soil inspection pit (Pit 2) was dug to assess soil properties at depth.

5.7 From Pit 2, it could be seen that the lower subsoils comprise medium clay loams which are moderately stony, containing about 25% total flints by volume. In comparison to land classified as Grade 2, the higher flint content and loamy textures of these soils results in reduced levels of profile available water. This moderate soil droughtiness limitation may reduce the level and consistency of crop yields, meaning that this land can be classified as no better than Subgrade 3a.

5.8 Land in the east of this mapping unit is also limited by soil droughtiness, arising from soils which overlie chalk at depth. Very slightly stony calcareous medium sandy silt loam topsoils overlie similarly stony medium silty clay loam upper subsoils. These pass into very stony heavy silty clay loam lower subsoils which contain approximately 50% chalk. Very hard chalk occurs at about 70 to 80 cm. As observed from Pit 4, which represents soils overlying chalk at moderate depths, rooting by crops into the chalk was found to extend approximately 10 cm. This figure was used to assess rooting in these deeper chalky soils. The interaction of the soil properties (soil textures and restricted rooting into the chalk) with the dry prevailing climate results in the amount of soil available water being inadequate to fully meet crop needs. The resultant soil droughtiness limitation may cause crops to suffer drought stress and thereby adversely affect yield potential.

Subgrade 3b

5.9 Land classified as Subgrade 3b, moderate quality, is mostly limited by soil droughtiness. However, discrete areas are restricted by either soil wetness or slope limitations. Profiles limited by soil droughtiness arise from shallow profiles over chalk. Calcareous medium silty clay loam topsoils either overlie similarly textured upper subsoils or directly overlie chalk. The topsoils tend to be slightly stony, containing about 1-6% flints >2 cm and 4-15% total flints by volume, plus fragments of chalk. Occasionally topsoils contain larger amounts of chalk, typically 10-20% by volume. Subsoils are generally slightly to moderately stony, containing about 10-20% total chalk fragments. Occasionally the subsoils are very chalky, containing 50% total chalk fragments.

5.10 At depths ranging from 25-55 cm these profiles pass into solid chalk. The chalk is very hard, compact and contains about 2% total flints by volume. As observed from Pit 3, which represents the shallower soils over chalk (chalk at 35 cm), rooting by crops into the chalk was found to extend approximately 15 cm. Pit 4 typifies profiles where the chalk occurs slightly deeper (chalk at 55 cm). This pit found rooting by crops into the chalk to be severely restricted, with penetration of 10 cm observed. The interaction of these shallow soils (with restricted rooting into the chalk) and the dry prevailing climate results in the amount of soil available water being inadequate to meet crop requirements in most years. The resultant soil droughtiness limitation means that this land will suffer from lower yield potential and inconsistent crop yields.

5.11 A small area at Stuppington Hill Cottages is restricted by soil wetness and workability limitations. These soils, which are derived from the drift deposits of head, comprise medium textured topsoils which are directly underlain by clay subsoils. These subsoils are slowly permeable, resulting in poor soil drainage conditions (Wetness Class IV). The interaction between the medium textured topsoils and the impeded soil drainage with the regionally dry prevailing climate acts to significantly restrict the flexibility of cropping, stocking and cultivations.

5.12 Land to the west of Stuppington Hill Cottages and again south of the quarry can be classified as no better than Subgrade 3b because of slope limitations. Gradients within the range of greater than 7° to 11° act to restrict the range of agricultural machinery that may be safely and efficiently used.

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Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1982), Sheet No. 289, Canterbury, 1:50,000 Series (solid and drift edition).

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 for Agricultural Land Classification.

Soil Survey of England and Wales (1980), Bulletin No. 9, Soils of Kent and accompanying maps at 1:250,000.

Soil Survey of England and Wales (1983), Sheet 6, Soils of South East England, 1:250,000 and accompanying legend.

APPENDIX I

DESCRIPTION OF THE GRADES AND SUBGRADES

Grade 1 : Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly 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 of this 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 land.

Grade 3 : Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the 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.

Subgrade 3a : Good Quality Agricultural Land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b : Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4 : Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or 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 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 including: housing, industry, commerce, education, transport, religous buildings, cemetries. 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. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Woodland

Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm 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

FIELD ASSESSMENT OF SOIL WETNESS CLASS

SOIL WETNESS CLASSIFICATION

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile. Six soil wetness classes are identified and are defined in the table below.

Definition of Soil Wetness Classes

Wetness Class	Duration of Waterlogging[1]
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years.[2]
II	The soil profile is wet within 70 cm depth for 31-90 days in most years **or**, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but only wet within 40 cm depth for 30 days in most years.
III	The soil profile is wet within 70 cm depth for 91-180 days in most years **or**, if there is no slowly permeable layer present within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31-90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years **or**, if there is no slowly permeable layer present within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

Soils can be allocated to a wetness class on the basis of quantitative data recorded over a period of many years or by the interpretation of soil profile characteristics, site and climatic factors. Adequate quantitative data will rarely be available for ALC surveys and therefore the interpretative method of field assessment is used to identify soil wetness class in the field. The method adopted here is common to ADAS and the SSLRC.

[1]The number of days specified is not necessarily a continuous period.

[2]'In most years' is defined as more than 10 out of 20 years.

APPENDIX III

SOIL PIT AND SOIL BORING DESCRIPTIONS

Contents :

SOIL PROFILE DESCRIPTIONS : EXPLANATORY NOTE

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

Boring Header Information

1. **GRID REF** : national 100 km 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	**FLW** : Fallow
PGR : Permanent Pasture	**LEY** : Ley Grass	**RGR** : Rough Grazing
SCR : Scrub	**CFW** : Coniferous Woodland	**DCW** : Deciduous Wood
HTH : Heathland	**BOG** : Bog or Marsh	**FLW** : Fallow
PLO : Ploughed	**SAS** : Set aside	**OTH** : Other
HRT : Horticultural Crops		

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

4. **GLEY/SPL** : Depth in centimetres (cm) to gleying and/or slowly permeable layers.

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

6. **MB (WHEAT/POTS)** : Moisture Balance. (Crop adjusted AP - crop adjusted MD)

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

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

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

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** : Erosion Risk	**WD** : 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
ZL :	Silt Loam	**SCL** :	Sandy Clay Loam	**C** :	Clay
SC :	Sandy Clay	**ZC** :	Silty Clay	**OL** :	Organic Loam
P :	Peat	**SP** :	Sandy Peat	**LP** :	Loamy Peat
PL :	Peaty Loam	**PS** :	Peaty Sand	**MZ** :	Marine Light Silts

For the sand, loamy sand, sandy loam and sandy silt loam classes, the predominant size of sand fraction will be indicated by the use of the following prefixes:

F : Fine (more than 66% of the sand less than 0.2mm)
M : Medium (less than 66% fine sand and less than 33% coarse sand)
C : Coarse (more than 33% of the sand larger than 0.6mm)

The clay loam and silty clay loam classes will be sub-divided according to the clay content: **M** : Medium (<27% clay) **H** : Heavy (27-35% clay)

2. **MOTTLE COL** : Mottle colour using Munsell notation.

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 using Munsell notation.

6. **GLEY** : If the soil horizon is gleyed a 'Y' will appear in this column. If slightly gleyed, an 'S' will appear.

7. **STONE LITH** : Stone Lithology - One of the following is used.

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

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

8. **STRUCT** : the degree of development, size and shape of soil peds are described using the following notation:

degree of development	**WK** : weakly developed **ST** : strongly developed	**MD** : moderately developed
ped size	**F** : fine **C** : coarse	**M** : medium **VC** : very coarse
ped shape	**S** : single grain **GR** : granular **SAB** : sub-angular blocky **PL** : platy	**M** : massive **AB** : angular blocky **PR** : prismatic

9. **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

10. **SUBS STR** : Subsoil structural condition recorded for the purpose of calculating profile droughtiness : **G** : good **M** : moderate **P** : poor

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

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

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

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

15. 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 : CANTERBURY LP CAN26 Pit Number : 1P

Grid Reference: TR14205660 Average Annual Rainfall : 708 mm
Accumulated Temperature : 1441 degree days
Field Capacity Level : 148 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 30	MSZL	10YR32 00	0	5	HR					
30- 62	MZCL	10YR54 00	0	0		F			M	
62-120	MZCL	10YR53 54	0	0		C			M	

Wetness Grade : 1 Wetness Class : I
Gleying :062 cm
SPL : No SPL

Drought Grade : 2 APW : 158mm MBW : 41 mm
APP : 122mm MBP : 9 mm

FINAL ALC GRADE : 2
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : CANTERBURY LP CAN26 Pit Number : 2P

Grid Reference: TR14405620 Average Annual Rainfall : 708 mm
Accumulated Temperature : 1441 degree days
Field Capacity Level : 148 days
Land Use :
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 16	MCL	10YR32 00	2	10	HR					Y
16- 40	MCL	10YR43 32	0	25	HR			FR	M	Y
40- 65	MCL	10YR44 00	0	25	HR			FR	M	
65-120	MCL	10YR44 56	0	25	HR			FR	M	

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

Drought Grade : 3A APW : 121mm MBW : 4 mm
APP : 92 mm MBP : -21 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : CANTERBURY LP CAN26 Pit Number : 3P

Grid Reference: TR14855642
Average Annual Rainfall : 708 mm
Accumulated Temperature : 1441 degree days
Field Capacity Level : 148 days
Land Use : Permanent Grass
Slope and Aspect : 03 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 20	MZCL	10YR42 00	2	8	HR					Y
20- 35	MZCL	10YR43 00	0	20	CH		MDCSAB	FR	M	Y
35- 50	CH	10YR81 00	0	1	HR				P	Y

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

Drought Grade : 3B
APW : 73 mm MBW : -44 mm
APP : 73 mm MBP : -40 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : CANTERBURY LP CAN26 Pit Number : 4P

Grid Reference: TR14865642 Average Annual Rainfall : 708 mm
Accumulated Temperature : 1441 degree days
Field Capacity Level : 148 days
Land Use : Permanent Grass
Slope and Aspect : 03 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 20	MZCL	10YR42 00	2	8	HR					Y
20- 45	MZCL	10YR43 00	0	20	CH		MDCSAB	FR	M	Y
45- 55	MZCL	10YR54 00	0	50	CH		WKCSAB	FR	M	Y
55- 65	CH	10YR81 00	0	1	HR				P	

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

Drought Grade : 3B APW : 92 mm MBW : -25 mm
APP : 98 mm MBP : -15 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : CANTERBURY LP CAN26 Pit Number : 5P

Grid Reference: TR15005590
Average Annual Rainfall : 708 mm
Accumulated Temperature : 1441 degree days
Field Capacity Level : 148 days
Land Use : Wheat
Slope and Aspect : 01 degrees N

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 35	MZCL	10YR43 00	1	4	HR					
35- 50	MZCL	10YR54 00	0	2	HR		WVCSAB	FR	M	Y
50-120	MZCL	10YR56 00	0	20	HR			FR	M	Y

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

Drought Grade : 2
APW : 146mm MBW : 29 mm
APP : 117mm MBP : 4 mm

FINAL ALC GRADE : 2
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : CANTERBURY LP CAN26 Pit Number : 6P

Grid Reference: TR14505640 Average Annual Rainfall : 708 mm
Accumulated Temperature : 1441 degree days
Field Capacity Level : 148 days
Land Use :
Slope and Aspect : 03 degrees W

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 32	MCL	10YR32 00	1	5	HR					
32- 50	MZCL	10YR44 00	0	2	HR		MDCSAB	FR	M	
50-120	MZCL	10YR56 00	0	0			MDCSAB	FR	M	

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

Drought Grade : 2 APW : 155mm MBW : 38 mm
APP : 119mm MBP : 6 mm

FINAL ALC GRADE : 2
MAIN LIMITATION : Droughtiness

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	DRT	M.REL FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	TR14205670	PGR			050		1	1	156	39	120	7	2				DR	2	Pots limit Ap
1P	TR14205660	PGR			062		1	1	158	41	122	9	2				DR	2	Pots limit Ap
2P	TR14405620	ORC					1	1	121	4	92	-21	3A				DR	3A	Pit dug to 80
3	TR14405670	OTH	W	03			1	1	106	-11	120	7	3A				DR	2	I70flinty Q 2
3P	TR14855642	PGR	S	03			1	1	73	-44	73	-40	3B				DR	3B	Trench cutting
4	TR14505670	OTH	W	03			1	1	79	-38	79	-34	3B				DR	3B	Chalk 35
4P	TR14865642	PGR	S	03			1	1	92	-25	98	-15	3B				DR	3B	Trench cutting
5	TR14605670	OTH					1	1	60	-57	60	-53	4				DR	4	Chalk 25
5P	TR15005590	WHT	N	01			1	1	146	29	117	4	2				DR	2	Pit dug to 75
6	TR14205660	PGR			050		1	1	156	39	121	8	2				DR	2	Pots limit Ap
6P	TR14505640	ORC	W	03			1	1	155	38	119	6	2				DR	2	Pots limit Ap
8	TR14405660	OTH	S	03			1	1	127	10	119	6	2				DR	2	Impen 92 flnty
9	TR14505660	OTH	S	03			1	1	156	39	120	7	2				DR	2	Pots limit Ap
10	TR14605660	PLO	S	06			1	1	128	11	120	7	2				DR	2	Chalk 85
11	TR14705660	PLO	S	06			1	1	78	-39	80	-33	3B				DR	3B	Chalk 40
14	TR14305650	ORC	N	01	060		1	1	152	35	116	3	2				DR	2	Pots limit Ap
15	TR14405650	ORC	N	02			1	1	119	2	118	5	3A				DR	2	Impen 85 flnty
16	TR14505650	PLO	N	03			1	1	161	44	125	12	1					1	
17	TR14605650	PLO	N	01			1	1	157	40	121	8	2				DR	2	Pots limit Ap
18	TR14705650	PLO					1	1	156	39	120	7	2				DR	2	Pots limit Ap
20	TR14905650	PGR	S	03			1	1	76	-41	76	-37	3B				DR	3B	Chalk 35
21	TR15005650	WHT	S	01	060	060	2	2	135	18	113	0	2				WD	2	
22	TR14305640	ORC	N	03	075		1	1	148	31	111	-2	2				DR	2	Pots limit Ap
23	TR14405640	ORC	N	03			1	1	157	40	121	8	2				DR	2	Pots limit Ap
24	TR14505640	ORC	N	02			1	1	158	41	122	9	2				DR	2	Pots limit Ap
25	TR14605640	ORC	N	03			1	1	159	42	123	10	1					1	Sl gley 75
26	TR14705640	PLO	NE	02	085		1	1	158	41	122	9	2				DR	2	Pots limit Ap
27	TR14805640	PLO	SW	01			1	1	147	30	111	-2	2				DR	2	
28	TR14905640	PLO	SW	03			1	1	78	-39	79	-34	3B				DR	3B	Chalk 40
29	TR15005640	WHT	S	01			1	1	100	-17	113	0	3A				DR	2	I70flnty ReSP
30	TR14205630	ORC	NE	06			1	1	71	-46	71	-42	3B				DR	3A	I50flinty Re2P
31	TR14305630	ORC	N	06			1	1	52	-65	52	-61	4				DR	3A	I35flinty Re2P
32	TR14405630	ORC	N	06			1	1	159	42	123	10	1					1	Just 1 dr
33	TR14505630	ORC	NE	02			1	1	155	38	119	6	2				DR	2	Pots limit Ap
34	TR14605630	ORC	NE	03			1	1	158	41	122	9	2				DR	2	
35	TR14705630	ORC	NE	03			1	1	167	50	131	18	1					1	
36	TR14805630	WHT					1	1	106	-11	119	6	3A				DR	2	Impen 70 flnty
37	TR14905630	WHT	S	06			1	1	78	-39	78	-35	3B				DR	3B	Chalk 35
38	TR15005630	WHT	S	01			1	1	95	-22	98	-15	3B				DR	3B	Chalk 50
39	TR14305620	PGR					1	1	33	-84	33	-80	4				DR	3B	I20flinty Q 3a
40	TR14405620	ORC					1	1	64	-53	64	-49	4				DR	3A	I40flinty Re2P
41	TR14505620	ORC	NE	03	032	032	4	3B		0		0					WE	3B	Plastic 32

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	DRT	M.REL FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT		ALC	COMMENTS
42	TR14605620	ORC	N	03	100		1	1	158	41	122	9	2				DR	2		Pots limit Ap
43	TR14705620	ORC	N	04			1	1	161	44	125	12	1						1	
44	TR14805620	WHT	N	06			1	1	157	40	121	8	2				DR	2		Pots limit Ap
45	TR14905620	WHT	S	03			1	1	157	40	121	8	2				DR	2		Pots limit Ap
46	TR15005620	WHT	S	02			1	1	77	-40	78	-35	3B				DR	3B		Chalk 40
47	TR15105620	WHT	SW	03			1	1	64	-53	64	-49	4				DR	3B		Chalk30 Qroots
48	TR14405610	PGR			028	028	4	3B		0		0					WE	3B		
49	TR14505610	ORC					1	1	57	-60	57	-56	4				DR	3A		I40flinty Re2P
50	TR14605610	ORC	N	02			1	1	152	35	117	4	2				DR	2		Pots limit Ap
51	TR14705610	WHT	NE	03			1	1	159	42	123	10	1						1	Just 1 dr
52	TR14805610	WHT	N	02			1	1	161	44	125	12	1						1	
53	TR14905610	WHT					1	1	158	41	122	9	2				DR	2		Pots limit Ap
54	TR15005610	WHT	SW	03			1	1	151	34	118	5	2				DR	2		Pots limit Ap
55	TR15105610	WHT	SW	03			1	1	59	-58	59	-54	4				DR	4		Chalk25 Qroots
56	TR14505600	ORC					1	1	107	-10	117	4	3A				DR	2		I75flinty Q 2
57	TR14605600	ORC			095		1	1	152	35	123	10	1						1	Slightly calc
58	TR14705600	WHT	NE	02			1	1	160	43	123	10	1				DR	1		mszl to 65
59	TR14805600	WHT	N	02			1	1	158	41	122	9	2						2	Pots limit Ap
60	TR14905600	WHT	NE	03			1	1	160	43	124	11	1						1	
61	TR15005600	WHT	N	01			1	1	88	-29	88	-25	3B				DR	2		I50flinty Re5P
62	TR15105600	WHT	NW	03			1	1	95	-22	104	-9	3B				DR	2		I65flinty Re5P
63	TR14605590	ORC			070		2	2	139	22	118	5	2				WD	2		Sl gleyed 70
64	TR14705590	WHT					1	1	114	-3	119	6	3A				DR	3A		Chalk 70
65	TR14805590	WHT	E	05			1	1	66	-51	66	-47	4				DR	2		I40flinty Re5P
66	TR14905590	WHT	N	02			1	1	60	-57	60	-53	4				DR	2		I35flinty Re5P
67	TR15005590	WHT	N	01			1	1	89	-28	89	-24	3B				DR	2		I50flinty Re5P
68	TR15105590	WHT	NW	03			1	1	77	-40	77	-36	3B				DR	2		I45flinty Re5P
69	TR14705580	WHT	E	02			1	1	123	6	120	7	2				DR	2		Chalk 80
70	TR14805580	WHT	E	05			1	1	158	41	122	9	2				DR	2		Pots limit Ap
71	TR14905580	WHT	W	05			1	1	78	-39	79	-34	3B				DR	3B		Chalk 38
72	TR15005580	WHT	NE	02			1	1	152	35	118	5	2				DR	2		Pots limit Ap
73	TR15105580	WHT	W	02			1	1	70	-47	70	-43	3B				DR	3B		Chalk 30
74	TR14705570	WHT	SE	02			1	1	158	41	122	9	2				DR	2		Pots limit Ap
75	TR14805570	WHT	N	02			1	1	142	25	111	-2	2				DR	2		
76	TR14905570	WHT	E	05			1	1	78	-39	78	-35	3B				DR	3B		Chalk 35
77	TR15005570	WHT	NE	01			1	1	155	38	120	7	2				DR	2		Pots limit Ap
78	TR15105570	WHT	W	02			1	1	67	-50	67	-46	3B				DR	3B		Chalk 28
79	TR14805560	WHT	N	02			1	1	89	-28	95	-18	3B				DR	2		I60flinty Re5P
80	TR14905560	WHT	E	02			1	1	67	-50	67	-46	3B				DR	3B		Impen 40 Q ch
81	TR15005560	WHT	E	03			1	1	161	44	125	12	1						1	
82	TR15105560	WHT	W	02			1	1	70	-47	70	-43	3B				DR	3B		Chalk 30
83	TR14905550	WHT					1	1	90	-27	93	-20	3B				DR	3B		Chalk 48

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
84	TR15005550	WHT	N	01			1	1	152	35	119	6	2				DR	2	Valley
85	TR15105550	WHT	W	01			1	1	141	24	114	1	2				DR	2	Nr ASP 87
86	TR15005540	WHT	N	01			1	1	155	38	119	6	2				DR	2	Pots limit Ap
87	TR15095549	WHT	W	01			1	1	60	-57	60	-53	4				DR	3B	Chalk25 Qroots

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	
1	0-30	mszl	10YR32 42						0	0	HR	5							
	30-50	mcl	10YR44 54	10YR56 00	F				0	0		0		M					
	50-70	mzcl	10YR53 00	10YR56 00	C			Y	0	0		0		M					
	70-120	mzcl	10YR53 00	10YR58 00	M			Y	0	0		0		M					
1P	0-30	mszl	10YR32 00						0	0	HR	5							
	30-62	mzcl	10YR54 00	00MN00 00	F				0	0		0		M					
	62-120	mzcl	10YR53 54	10YR56 00	C			Y	0	0		0		M					
2P	0-16	mcl	10YR32 00						2	0	HR	10					Y		hand textd mszl
	16-40	mcl	10YR43 32						0	0	HR	25		FR M			Y		hand textd mcl
	40-65	mcl	10YR44 00						0	0	HR	25		FR M					hand textd mcl
	65-120	mcl	10YR44 56						0	0	HR	25		FR M					Pit dug to 80
3	0-30	mzcl	10YR42 00						1	0	HR	5					Y		
	30-48	mzcl	10YR43 00						0	0	HR	3		M			Y		
	48-70	mzcl	10YR53 00						0	0	HR	5		M			Y		Impen 70 flinty
3P	0-20	mzcl	10YR42 00						2	0	HR	8					Y		
	20-35	mzcl	10YR43 00						0	0	CH	20	MDCSAB	FR M			Y		
	35-50	ch	10YR81 00						0	0	HR	1		P			Y		
4	0-35	mzcl	10YR42 00						1	0	HR	4					Y		
	35-50	ch	10YR81 00						0	0	HR	2		P			Y		
4P	0-20	mzcl	10YR42 00						2	0	HR	8					Y		
	20-45	mzcl	10YR43 00						0	0	CH	20	MDCSAB	FR M			Y		
	45-55	mzcl	10YR54 00						0	0	CH	50	WKCSAB	FR M			Y		
	55-65	ch	10YR81 00						0	0	HR	1		P					
5	0-25	mzcl	10YR42 00						1	0	HR	4					Y		
	25-40	ch	10YR81 00						0	0	HR	2		P			Y		
5P	0-35	mzcl	10YR43 00						1	0	HR	4							
	35-50	mzcl	10YR54 00						0	0	HR	2	WVCSAB	FR M			Y		
	50-120	mzcl	10YR56 00						0	0	HR	20		FR M			Y		Pit dug to 75
6	0-28	mzcl	10YR32 00						0	0	HR	5							
	28-50	mzcl	10YR43 44	00MN00 00	F				0	0	HR	2		M					
	50-120	mzcl	10YR53 52	10YR46 56	C			Y	0	0	HR	2		M					
6P	0-32	mcl	10YR32 00						1	0	HR	5							hand textd mzcl
	32-50	mzcl	10YR44 00						0	0	HR	2	MDCSAB	FR M					
	50-120	mzcl	10YR56 00						0	0		0	MDCSAB	FR M					
8	0-25	mzcl	10YR42 00						1	0	HR	5					Y		
	25-45	mzcl	10YR43 00						0	0	HR	5		M			Y		
	45-92	mzcl	10YR53 00						0	0	CH	5		M			Y		Impen 92 flinty

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	
9	0-30	mzcl	10YR42 00						1	0	HR	3						Y	
	30-48	mzcl	10YR43 00						0	0	HR	5		M				Y	
	48-120	mzcl	10YR53 00						0	0	CH	10		M				Y	
10	0-30	mzcl	10YR42 00						2	0	HR	5						Y	
	30-60	mzcl	10YR42 00						0	0	HR	3		M				Y	
	60-85	mzcl	10YR43 00						0	0	HR	5		M				Y	
	85-95	ch	10YR81 00						0	0	HR	2		P				Y	
11	0-25	mzcl	10YR42 00						6	2	HR	15						Y	
	25-40	mzcl	10YR43 00						0	0	CH	10		M				Y	
	40-55	ch	10YR81 00						0	0	HR	2		P				Y	
14	0-20	mszl	10YR31 00						0	0	HR	8							
	20-40	mcl	10YR43 00						0	0	HR	8		M					
	40-60	mzcl	10YR54 00						0	0		0		M					
	60-120	mzcl	10YR63 00	10YR58 00	M			Y	0	0		0		M					
15	0-25	mszl	10YR32 00						1	0	HR	5							
	25-85	mzcl	10YR43 00						0	0	HR	5		M					Impen 85 flinty
16	0-38	mszl	10YR43 00						1	0	HR	2							
	38-120	mzcl	10YR58 00						0	0		0		M					
17	0-35	mzcl	10YR42 00						1	0	HR	5							
	35-55	mzcl	10YR56 00						0	0	HR	5		M					
	55-120	mzcl	10YR56 00						0	0		0		M					
18	0-30	mzcl	10YR42 00						1	0	HR	5							
	30-80	mzcl	25Y 44 00						0	0	CH	8		M				Y	
	80-120	mzcl	25Y 54 00						0	0	CH	8		M				Y	
20	0-25	mzcl	10YR42 00						2	0	HR	5						Y	
	25-35	mzcl	10YR43 00						0	0	CH	20		M				Y	
	35-50	ch	10YR81 00						0	0	HR	1		P				Y	
21	0-30	mzcl	10YR31 00						1	0	HR	4							
	30-50	mzcl	10YR54 00						0	0	HR	5		M					
	50-60	mzcl	10YR54 00						0	0	HR	15		M					
	60-80	c	10YR53 00	10YR58 52	M			Y	0	0	HR	15		P		Y			
	80-120	c	10YR53 00	10YR58 52	M			Y	0	0	HR	2		P		Y			
22	0-25	mszl	10YR31 00						3	0	HR	10							
	25-55	mcl	10YR43 00						0	0	HR	12		M					
	55-75	mzcl	10YR54 00						0	0		0		M					
	75-120	mzcl	10YR63 00	10YR58 00	M			Y	0	0		0		M					
23	0-26	mzcl	10YR32 00						1	0	HR	3							
	26-60	mzcl	10YR43 00						0	0	HR	3		M					
	60-70	mzcl	10YR53 00						0	0		0		M					
	70-120	mzcl	10YR54 00						0	0		0		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	
24	0-30	mzcl	10YR42 00						1	0	HR	5							
	30-40	mzcl	10YR54 00						0	0	HR	5		M					
	40-120	mzcl	10YR56 00						0	0		0		M					
25	0-30	mzcl	10YR42 00						1	0	HR	3							
	30-75	mzcl	10YR54 00						0	0		0		M					
	75-120	mzcl	10YR54 00	75YR46 00 C				S	0	0		0		M					Sl. gleyed
26	0-30	mzcl	10YR32 00						1	0	HR	5							
	30-85	mzcl	10YR56 00						0	0		0		M					
	85-120	mzcl	10YR56 00	10YR63 00 C				Y	0	0		0		M					
27	0-30	mcl	10YR32 00						3	0	HR	10							
	30-50	mcl	10YR43 00						0	0	HR	5		M					
	50-80	mcl	10YR44 00						0	0	HR	2		M					
	80-120	mcl	10YR44 00						0	0	HR	5		M					
28	0-30	mcl	10YR32 00						3	0	HR	10					Y		
	30-40	mzcl	10YR64 00						0	0	CH	20		M			Y		
	40-55	ch	10YR81 00						0	0	HR	2		P			Y		
29	0-30	mzcl	10YR32 00						1	0	HR	4							
	30-50	mzcl	10YR44 00						0	0	HR	5		M					
	50-70	c	25Y 44 00						0	0	HR	20		M					Impen 70 flinty
30	0-25	mcl	10YR31 00						3	0	HR	10							
	25-50	mcl	10YR54 00						0	0	HR	25		M					Impen 50 flinty
31	0-20	mszl	10YR31 00						3	0	HR	10							
	20-35	mcl	10YR54 00						0	0	HR	30		M					Impen 35 flinty
32	0-20	zl	10YR32 00						3	0	HR	8							
	20-30	zl	10YR42 00						0	0	HR	8		M					
	30-50	mzcl	10YR43 00						0	0	HR	10		M					
	50-80	mzcl	10YR43 00						0	0	HR	15		M					
	80-120	mzcl	10YR58 00						0	0		0		M					
33	0-30	mcl	10YR43 00						1	0	HR	5							
	30-50	mzcl	10YR54 00						0	0		0		M					
	50-120	mzcl	10YR56 00						0	0		0		M					
34	0-25	mzcl	10YR42 00						2	0	HR	5							
	25-120	mzcl	10YR54 00						0	0		0		M					
35	0-25	zl	10YR42 00						2	0	HR	5							
	25-120	mzcl	10YR54 00						0	0		0		M					
36	0-25	mszl	10YR42 00						1	0	HR	3					Y		
	25-48	mzcl	10YR43 00						0	0	HR	5		M			Y		
	48-70	mzcl	10YR53 00						0	0	HR	5		M			Y		Impen 70 flinty

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	
37	0-35	mzcl	10YR42 00						0	0	CH	10						Y	
	35-50	ch	10YR81 00						0	0	HR	1		P				Y	
38	0-30	mzcl	10YR32 00						1	0	HR	4						Y	
	30-50	mzcl	10YR44 00						0	0	CH	5		M				Y	
	50-60	ch	10YR81 00						0	0		0		P				Y	
39	0-20	mszl	10YR32 00						5	0	HR	15							Impen 20 flinty
40	0-25	mcl	10YR32 00						2	0	HR	5						Y	
	25-35	mcl	10YR43 00						0	0	HR	8		M				Y	
	35-40	mcl	10YR43 00						0	0	HR	20		M				Y	Impen 40 flinty
41	0-32	mcl	10YR32 00	00MN00 00	F				2	0	HR	10							
	32-70	c	10YR53 00	10YR58 00	M			Y	0	0		0		P		Y			Plastic
42	0-28	mzcl	10YR42 00						3	0	HR	5							
	28-100	mzcl	10YR54 00						0	0		0		M					
	100-120	mzcl	10YR54 00	10YR68 00	C			S	0	0		0		M					Sl. gleyed
43	0-38	mzcl	10YR43 00						1	0	HR	2						Y	
	38-65	mzcl	10YR44 54						0	0	HR	1		M				Y	
	65-120	mzcl	10YR56 00						0	0		0		M				Y	
44	0-25	mszl	10YR42 00						1	0	HR	3							
	25-40	mzcl	10YR43 00						0	0	HR	5		M					
	40-120	mzcl	10YR58 00						0	0		0		M					
45	0-30	mszl	10YR42 00						1	0	HR	3							
	30-55	mzcl	10YR53 00						0	0	HR	5		M					
	55-120	mzcl	10YR53 00						0	0	CH	5		M					
46	0-30	mszl	10YR43 00						1	0	HR	5							
	30-40	mzcl	10YR43 00						0	0	HR	50		M					
	40-55	ch	10YR81 00						0	0	HR	1		P				Y	
47	0-20	mzcl	10YR42 00						4	0	CH	15						Y	+ 8% flint
	20-30	mzcl	10YR54 00						0	0	CH	50		M				Y	
	30-45	ch	10YR81 00						0	0		0		P				Y	
48	0-28	mzcl	10YR43 00						2	0	HR	10							
	28-60	c	25Y 53 00	10YR58 00	M			Y	0	0		0		P		Y			
49	0-25	mcl	10YR32 00						4	0	HR	15							
	25-40	mcl	10YR54 00						0	0	HR	25		M					Impen 40 flinty
50	0-25	mzcl	10YR43 00						2	1	HR	6						Y	
	25-60	mzcl	10YR43 00						0	0	HR	8		M				Y	
	60-120	mzcl	10YR44 00						0	0	HR	2		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	SUBS CALC	
51	0-30	mzcl	10YR43 00						1	0	HR	3						Y	
	30-40	mzcl	10YR44 00						0	0	HR	3		M				Y	
	40-80	mzcl	10YR54 00						0	0		0		M					
	80-120	mzcl	10YR56 00						0	0		0		M				Y	
52	0-35	mzcl	10YR53 00						1	0	HR	2							
	35-75	mzcl	10YR54 00						0	0		0		M				Y	
	75-120	mzcl	10YR56 00						0	0		0		M				Y	
53	0-35	mzcl	10YR32 00						2	1	HR	5						Y	
	35-75	mzcl	10YR54 00						0	0	HR	2		M				Y	
	75-120	mzcl	10YR56 00						0	0		0		M				Y	
54	0-25	mzcl	10YR42 00						1	0	HR	5							
	25-55	mzcl	10YR42 00						0	0	HR	5		M					
	55-85	mzcl	10YR53 00						0	0	HR	5		M					
	85-120	mzcl	10YR53 00						0	0	HR	8		M					
55	0-25	mzcl	10YR53 00						3	0	CH	15						Y	
	25-40	ch	10YR81 00						0	0		0		P				Y	
56	0-25	mzcl	10YR43 00						2	1	HR	6						Y	
	25-45	mzcl	10YR43 00						0	0	HR	8		M				Y	
	45-68	mzcl	10YR44 54						0	0	HR	2		M				Y	
	68-75	c	10YR56 00						0	0	HR	20		M				Y	Impen 75 flinty
57	0-35	mzcl	10YR43 00						1	0	HR	2							slightly calc
	35-80	mzcl	10YR44 00						0	0	HR	3		M					slightly calc
	80-95	mzcl	10YR54 00	10YR68 00	C			S	0	0		0		M					slightly calc
	95-120	c	10YR54 00	75YR58 00	C			S	0	0		0		P		Y			slightly calc
58	0-35	mszl	10YR43 00						1	0	HR	3						Y	
	35-65	mszl	10YR54 00						0	0	HR	3		M				Y	
	65-120	mzcl	10YR56 00						0	0		0		M				Y	
59	0-28	mzcl	10YR43 00						2	0	HR	3						Y	
	28-45	mzcl	10YR54 00						0	0	HR	3		M				Y	
	45-70	mzcl	10YR43 00						0	0		0		M				Y	
	70-120	mzcl	10YR56 00						0	0		0		M				Y	
60	0-40	mzcl	10YR32 00						1	0	HR	3						Y	
	40-55	mzcl	10YR53 00						0	0	HR	2		M				Y	
	55-120	mzcl	10YR44 54						0	0		0		M				Y	
61	0-35	mzcl	10YR43 00						2	0	HR	5						Y	
	35-50	mzcl	10YR54 00						0	0	HR	5		M				Y	Impen 50 flinty
62	0-25	mzcl	10YR43 00						1	0	HR	5							
	25-65	mzcl	10YR54 44						0	0	HR	15		M					Impen 65 flinty

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
63	0-25	mzcl	10YR43 00						2	0	HR	6						Y	
	25-45	mzcl	10YR43 00						0	0	HR	8		M				Y	
	45-70	hzcl	10YR44 00						0	0	HR	2		M				Y	
	70-120	c	10YR54 00	75YR58 00	M			S	0	0	HR	1		P			Y	Y	Sl. gleyed
64	0-35	mszl	10YR43 00						1	0	HR	3						Y	
	35-60	mzcl	10YR54 00						0	0	HR	3		M				Y	
	60-70	hzcl	10YR53 00						0	0	CH	50		M				Y	
	70-80	ch	10YR81 00						0	0	HR	2		P				Y	
65	0-25	mzcl	10YR42 00						2	0	HR	10						Y	
	25-40	mzcl	10YR44 00						0	0	HR	10		M				Y	Impen 40 flinty
66	0-30	mzcl	10RY42 00						2	0	HR	6						Y	
	30-35	mzcl	10YR43 00						0	0	HR	25		M				Y	Impen 35 flinty
67	0-35	mzcl	10YR43 00						1	0	HR	3							
	35-50	mzcl	10YR56 00						0	0	HR	3		M					Impen 50 flinty
68	0-25	mzcl	10YR43 00						1	0	HR	5							
	25-40	hzcl	10YR56 00						0	0	HR	5		M					
	40-45	mzcl	10YR56 00						0	0	HR	15		M					Impen 45 flinty
69	0-25	mszl	10YR42 00						1	0	HR	3						Y	
	25-50	mszl	10YR44 00						0	0	HR	5		M				Y	
	50-75	mzcl	10YR53 63						0	0	HR	1		M				Y	
	75-80	hzcl	10YR64 00						0	0	CH	50		M				Y	
	80-90	ch	10YR81 00						0	0	HR	2		P				Y	
70	0-35	mzcl	10YR43 00						2	0	HR	5						Y	
	35-75	mzcl	10YR54 00						0	0	HR	2		M				Y	
	75-120	mzcl	10YR56 00						0	0		0		M				Y	
71	0-30	mzcl	10YR52 00						0	0	CH	20						Y	
	30-38	mzcl	10YR52 00						0	0	CH	50		M				Y	
	38-55	ch	10YR81 00						0	0	HR	2		P					
72	0-25	mzcl	10YR43 00						1	0	HR	5							
	25-40	mzcl	10YR44 00						0	0	HR	5		M					
	40-80	mzcl	10YR54 00						0	0	HR	5		M				Y	+ 4% chalk
	80-120	mzcl	10YR54 00						0	0	HR	5		M					
73	0-30	mzcl	10YR53 00						0	0	CH	5						Y	
	30-45	ch	10YR81 00						0	0	HR	5		P				Y	
74	0-28	mzcl	10YR43 00						1	0	HR	3						Y	
	28-45	mzcl	10YR44 54						0	0	HR	3		M				Y	
	45-120	mzcl	10YR56 54						0	0	HR	0		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	SUBS CALC	
75	0-35	mzcl	10YR43 00						2	0	HR	10							
	35-120	mzcl	10YR54 00						0	0	HR	15		M			Y		
76	0-35	mzcl	10YR42 00						0	0	CH	10					Y		
	35-50	ch	10YR81 00						0	0	HR	2		P			Y		
77	0-30	mzcl	10YR43 00						1	0	HR	5							
	30-50	hzcl	10YR44 00						0	0	HR	5		M			Y		
	50-120	mzcl	10YR54 00						0	0	HR	2		M					
78	0-28	mzcl	10YR53 00						0	0	CH	8					Y		
	28-45	ch	10YR81 00						0	0	HR	5		P			Y		
79	0-35	mzcl	10YR43 00						2	0	HR	10					Y		
	35-60	mzcl	10YR54 00						0	0	HR	20		M			Y		Impen 60 flinty
80	0-30	mzcl	10YR42 00						2	0	HR	10					Y		
	30-40	mzcl	10YR44 00						0	0	CH	20		M			Y		Impen 40 Q chalk
81	0-35	mzcl	10YR43 00						1	0	HR	2					Y		
	35-75	mzcl	10YR54 00						0	0		0		M			Y		
	75-120	mzcl	10YR56 00						0	0		0		M			Y		
82	0-30	mzcl	10YR43 00						0	0	CH	5					Y		
	30-45	ch	10YR81 00						0	0	HR	2		P			Y		
83	0-35	mzcl	10YR42 00						0	0	CH	15					Y		
	35-48	c	75YR56 00						0	0	CH	15		M			Y		
	48-60	ch	10YR81 00						0	0	HR	2		P			Y		
84	0-30	mzcl	10YR43 00						1	0	HR	5							
	30-80	mzcl	10YR54 00						0	0	HR	5		M					
	80-120	mzcl	10YR54 00						0	0	HR	8		M					
85	0-28	mcl	10YR43 00						1	0	HR	3							
	28-40	mcl	10YR43 00						0	0	HR	5		M					
	40-70	mcl	10YR54 00						0	0	HR	3		M					
	70-120	c	10YR56 00						0	0	HR	3		M					
86	0-25	mzcl	10YR43 00						1	0	HR	3							
	25-60	mzcl	10YR44 00						0	0	HR	5		M			Y		+ 3% chalk
	60-70	mzcl	10YR44 00						0	0	HR	5		M			Y		+ 8% chalk
	70-120	mzcl	10YR54 00						0	0	HR	2		M					
87	0-25	mzcl	10YR43 00						0	0	CH	8					Y		
	25-40	ch	10YR81 00						0	0	HR	2		P			Y		