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Test Valley Local Plan Review
Site 101 Velmore Farm Chandlers Ford
Hampshire
Agricultural Land Classification
ALC Map and Report

April 1997

Resource Planning Team
Eastern Region
FRCA Reading

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AGRICULTURAL LAND CLASSIFICATION REPORT

TEST VALLEY BOROUGH LOCAL PLAN REVIEW
SITE 101 VELMORE FARM CHANDLERS FORD HAMPSHIRE

INTRODUCTION

1 This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 62 3 hectares of land located to the south west of Chandlers Ford in Hampshire The field survey work was carried out during June 1991 as part of an earlier incomplete survey The site has been included in the proposals for this review

2 The survey was commissioned by the Ministry of Agriculture Fisheries and Food (MAFF) from its Land Use Planning Unit in Reading in connection with the Test Valley Borough Local Plan Review The results of this survey supersede any previous ALC information for this land

3 Prior to 1 April 1997 the work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS After this date the work was completed by the same team as part of the Farming and Rural Conservation Agency (FRCA, Reading) The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF 1988) A description of the ALC grades and subgrades is given in Appendix I

4 At the time of survey the majority of the agricultural land at this site was in grass either permanent grazing or a ley for silage cutting In addition, some areas were being cropped for maize The areas mapped as Other land include the farm buildings at Velmore Farm and an electrical switching station to the north of the site

SUMMARY

5 The findings of the survey are shown on the enclosed ALC map The map has been drawn at a scale of 1 10 000 It is accurate at this scale but any enlargement would be misleading

6 The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1 overleaf

7 The fieldwork was conducted at an average density of 1 boring per hectare A total of 63 borings and four soil pits were described

8 The agricultural land on this site has been classified as Subgrade 3a (good quality) Subgrade 3b (moderate quality) and Grade 4 (poor quality) Limitations to land quality include soil wetness soil droughtiness and gradient

9 Good quality land has been mapped to the east and west of the site The principal limitations are soil wetness and soil droughtiness Two soil types were observed The majority of this area is limited by soil wetness and the soils comprise stoneless light to medium loamy topsoils and upper subsoils overlying clay at moderate depths Soil wetness restricts

land utilisation by reducing the number of days when trafficking by machinery or grazing by animals may occur without damaging the soil The remaining soils either comprise light or medium loams to depth or contain a significant stone content such that they are limited in the local climate to Subgrade 3a on the basis of soil droughtiness Soil droughtiness affects plant growth and yield especially in drier years

10 Most of the remaining agricultural land is mapped as Subgrade 3b due principally to a soil wetness limitation Soils comprise medium loams over clays at moderate depths At this site the clayey subsoils restrict drainage to the extent that in the prevailing local climate Subgrade 3b is appropriate Subgrade 3b has also been mapped where gradients were measured between 7 and 11° This causes a restriction in potential land utilisation as some farm machinery cannot be efficiently or safely operated on such gradients

11 Towards the centre of the site there are two small areas where gradients in excess of 11° were measured Slopes of this nature seriously hamper the safe and efficient use of farm machinery such that Grade 4 is appropriate

Table 1 Area of grades and other land

Grade/Other land	Area (hectares)	/ site area	/ surveyed area
3a	29 6	47 5	48 8
3b	30 3	48 6	50 0
4	0 7	1 1	1 2
Other Land	1 7	2 8	
Total surveyed area	60 6	97 3	100 0
Total site area	62 3	100 0	

FACTORS INFLUENCING ALC GRADE

Climate

12 Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics

13 The key climatic variables used for grading this site are given in Table 2 overleaf these were obtained from the published 5km grid datasets using standard interpolation procedures (Met Office 1989)

14 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

Table 2 Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SU 421 195	SU 414 189
Altitude	m, AOD	35	60
Accumulated Temperature	day°C	1514	1486
Average Annual Rainfall	mm	813	818
Field Capacity Days	days	172	172
Moisture Deficit, Wheat	mm	108	105
Moisture Deficit, Potatoes	mm	102	99

15 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR) as a measure of overall wetness and accumulated temperature (AT0 January to June) as a measure of the relative warmth of a locality

16 The combination of rainfall and temperature at this site mean that there is no overall climatic limitation Local climatic factors such as exposure and frost risk, are not believed to significantly affect this area The site is climatically Grade 1

Site

17 The site lies at altitudes in the range 30 60m AOD the highest land being towards the south and south west The area comprises a series of small hills and valleys which fall overall from the south towards the north Within the site some of the valley sides are of sufficient gradient to adversely affect agricultural land quality

Geology and soils

18 The published geological information for the site (BGS 1987) shows the site to be underlain by the Wittering formation (laminated clays and sands) and Earnley Sand (fine grained silty and clayey sand) Both deposits form part of the Bracklesham Beds series of deposits The Earnley Sand occurs on the higher parts of the site with the Wittering formation on the lowest lying land

19 The most detailed published soils information for the site (SSEW 1983 and 1984) shows the site to comprise soils of the Wickham 3 association These are described as Slowly permeable seasonally waterlogged fine loamy over clayey and coarse loamy over clayey soils and similar more permeable soils with slight waterlogging Some deep coarse loamy soils affected by groundwater Landslips with irregular terrain locally (SSEW 1983) Soils of the types described above were found at this site

Agricultural Land Classification

20 The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1

21 The location of the auger borings and pits is shown on the attached sample location map and details of the soils data are presented in Appendix III

Subgrade 3a

22 Land of good quality has been mapped in three separate mapping units to the east west and south west of the site The principal limitation is soil wetness

23 Soils in this area are of a single type which can be quite variable overall They are characterised by the pit observations 2P 3P and 4P The topsoils commonly comprise either fine sandy silt loam fine or medium sandy loam, or occasionally loamy fine sand The majority of the observations were stoneless in the topsoil but occasionally up to 12% total v/v flints with up to 7% >2cm were recorded The upper subsoil horizon(s) was either similar to the topsoil or comprised the slightly heavier textures of medium clay loam, sandy clay loam, occasionally medium sandy loam containing up to 5% v/v total flints The lower subsoil horizons were sandy clay loam, heavy clay loam clay or sandy clay textures and often banded They were commonly stoneless moderately or poorly structured The majority were slowly permeable Occasionally as in the pit observation, 3P the slowly permeable horizon gave way to a fine sandy loam horizon to depth In these cases the clayey horizon was of sufficient thickness to be slowly permeable In the local climate these soils are appropriately placed in Wetness Classes III and IV (see Appendix II) on the basis of the depth to gleying and slowly permeable horizon(s) The light nature and good workability of the topsoil means that these soils are placed in Subgrade 3a and Grade 2 on the basis of a soil wetness limitation The Grade 2 observations were scattered within the Subgrade 3a units and could not be mapped separately

24 Soil wetness restricts land utilisation by reducing the number of days when the soil is in a suitable condition for cultivation trafficking by machinery or grazing by livestock as well as adversely affecting crop growth and development

25 Occasional observations in this Subgrade at this site were limited by soil droughtiness Essentially the profiles were similar to those describe above (para 22) except that the upper subsoil comprises a loamy fine sand which lies over sandy clay or clay The poor water retention of this soil texture leads to this area being appropriately placed in Subgrade 3a on the basis of soil droughtiness Soil droughtiness can affect plant growth, development and yield especially in drier years

Subgrade 3b

26 Land of moderate quality has been mapped in total of two units and is concentrated towards the centre of the site Soils are characterised by the soil pit 1P The principal limitations are soil wetness and gradient

27 Soils in this area commonly comprise a stoneless to slightly stony medium clay loam, medium silty clay loam or sandy clay loam topsoils which were occasionally gleyed These typically overlie a gleyed sandy clay loam or heavy clay loam which passes to clay or sandy clay The shallow depth to gleying and clayey slowly permeable horizons lead to Wetness Class IV (see Appendix II) being appropriate which, with the medium textured topsoil leads to Subgrade 3b being applied in this area due to moderate wetness limitations

28 Towards the centre of the site there are some areas where slope is the principal limitation to land quality In these areas gradients were measured to be in excess of 7° This

causes a restriction in potential land utilisation as some farm machinery cannot be efficiently or safely operated on such gradients

Grade 4

29 Towards the centre of the site there are two small areas where gradients in excess of 11° were measured Slopes of this nature seriously hamper the safe and efficient use of farm machinery such that Grade 4 is appropriate

M Larkin
Resource Planning Team
Eastern Region
FRCA, Reading

SOURCES OF REFERENCE

British Geological Survey (1987) *Sheet 315 Southampton Solid and Drift Edition 1 50 000 Scale*
BGS London

Ministry of Agriculture Fisheries and Food (1988) *Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land*
MAFF London

Meteorological Office (1989) *Climatological Data for Agricultural Land Classification*
Met Office Bracknell

Soil Survey of England and Wales (1983) *Soils of South East England. 1 250 000 Scale*
SSEW Harpenden

Soil Survey of England and Wales (1984) *Soils of South East England. Bulletin No 15*
SSEW Harpenden

APPENDIX I

DESCRIPTIONS 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 (e g 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

APPENDIX II

SOIL WETNESS CLASSIFICATION

Definitions of Soil Wetness Classes

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

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

Assessment of Wetness Class

Soils have been allocated to wetness classes by the interpretation of soil profile characteristics and climatic factors using the methodology described in *Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land* (MAFF 1988)

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

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

APPENDIX III

SOIL DATA

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

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

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 appropriate 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 VELMORE FARM HANTS Pit Numbe 1P

G id R f rence SU42001960 Ave age Annual Rainfall 815 mm
Accumulated Temperature 1497 degree days
Field Capacity Level 172 days
Land Use Ley
Slope and Aspect 1 degrees N

HORIZON	TEXTURE	COLOUR	STONES 2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	MCL	10YR32 00	0	0						
25- 38	SCL	05GY51 00	0	0		C	MDMAB	FR	M	
38- 65	SC	05G 42 51	0	0		M	MDCAB	FM	P	
65-120	SC	05G 41 00	0	0		M			P	

Wetness Grade 3B Wetness Class IV
Gleying 25 cm
SPL 38 cm

Drought G ade 2 APW 147mm MBW 41 mm
APP 107mm MBP 7 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Wetnes

SOIL PIT DESCRIPTION

Site Name VELMORE FARM HANTS Pit Numbe 2P

G id R ference SU41601950 Ave age A nu 1 Rai f 11 815 mm
Accumulated Tempe ature 1497 degree days
Field Capacity Level 172 days
Land Use Permane t G as
Slope and Aspect 1 degrees E

HORIZON	TEXTURE	COLOUR	STONES 2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 26	FSZL	10YR32 00	0	0						
26 35	MCL	10YR42 54	0	0		C	MDMSB	FM	M	
35- 47	HCL	10YR63 00	0	0		M	MDCAB	FM	M	
47 60	MCL	10YR53 00	0	0		M	MDCAB	FM	M	
60- 75	SC	05Y 54 00	0	0		M	MDMAB	FM	P	
75-120	C	25Y 44 00	0	0		M	MDMPR	FM	P	

Wetness G ade 3A Wetness Cl s IV
Gleying 26 cm
SPL 35 cm

Drought G ade 1 APW 149mm MBW 43 mm
APP 125mm MBP 25 mm

FINAL ALC GRADE 3A
MAIN LIMITATION Wetness

SOIL PIT DESCRIPTION

Site Name VELMORE FARM HANTS Pit Numbe 3P

G id Reference SU41901940 Average Annual Rai fall 815 mm
Accumul ted Temperature 1497 degree days
Field Capacity Level 172 days
Land Use Mai e
Slope and Aspect 2 degrees NW

HORIZON	TEXTURE	COLOUR	STONES 2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	LFS	10YR42 00	7	12	HR					
25- 36	SCL	25Y 44 00	0	5	HR		STMSAB	FR	G	
36 53	LFS	25Y 56 00	0	0		F	STCSAB	FR	G	
53- 70	SC	05Y 73 00	0	0		C	MDCAB	FR	M	
70-105	FSL	05Y 73 00	0	2	HR	C			M	
105-120	FSL	05Y 73 00	0	5	HR	C			M	

Wetness Grade 2 Wetness Class III
Gleying 53 cm
SPL 53 cm

Drought Grade 1 APW 165mm MBW 59 mm
APP 111mm MBP 11 mm

FINAL ALC GRADE 2
MAIN LIMITATION Wetness

SOIL PIT DESCRIPTION

Site Name VELMORE FARM HANTS Pit Numbe 4P

Grid Reference SU41701930 Ave age Annual R i f 11 815 mm
Accumulated Tempe ture 1497 degree days
Field Capacity Level 172 days
Land Use Ley
Slope and Aspect 4 degrees W

HORIZON	TEXTURE	COLOUR	STONES 2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0 28	FSZL	10YR42 00	0	0						
28- 55	MCL	10YR52 00	0	0		C	MDCSAB	FR	M	
55-120	C	10YR62 00	0	0		M	MDCAB	FM	P	

Wetness Grade 2 Wetness Class III
Gleying 28 cm
SPL 55 cm

Drought G ade 1 APW 147mm MBW 41 mm
APP 124mm MBP 24 mm

FINAL ALC GRADE 2
MAIN LIMITATION Wetnes

SAMPLE NO	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	WETNESS CLASS	WETNESS GRADE	-WHEAT AP	-WHEAT MB	POTS AP	POTS MB	M REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM	LIMIT	ALC	COMMENTS
1	SU41501960	LEY	N	1	0	35	4	3A	111	5	114	14	2					WE	3A	
1P	SU42001960	LEY	N	1	25	38	4	3B	147	41	107	7	2					WE	3B	PIT65 AUG120
2	SU41601960	LEY	N	1	23	23	4	3A	158	52	126	26	1					WE	3A	
2P	SU41601950	PGR	E	1	26	35	4	3A	149	43	125	25	1					WE	3A	PIT 85
3	SU41701960	LEY	N	1	26	26	4	3B	120	14	110	10	2					WE	3B	
3P	SU41901940	MZE	NW	2	53	53	3	2	165	59	111	11	1					WE	2	PIT70 AUG120
4	SU41801960	LEY	NE	1	45	45	3	3A	132	26	108	8	2					WE	3A	
4P	SU41701930	LEY	W	4	28	55	3	2	147	41	124	24	1					WE	2	PIT 70
5	SU41901960	LEY	NE	1	31	31	4	3B	130	24	107	7	2					WE	3B	
6	SU42001960	LEY	N	1	25	38	4	3B	105	1	99	1	3A					WE	3B	SEE 1P
7	SU41501950	LEY	N	1	28	36	4	3A	130	24	104	4	2					WE	3A	
8	SU41601950	PGR	E	1	26	35	4	3A	149	43	124	24	1					WE	3A	SEE 2P
9	SU41701950	PGR	E	1	20	45	4	3A	150	44	120	20	1					WE	3A	
10	SU41801950	PGR	E	1	25	40	4	3A	140	34	115	15	1					WE	3A	
11	SU41901950	MZE	N	1	30	45	4	3A	145	39	120	20	1					WE	3A	
12	SU42001950	MZE	N	1	30	50	3	2	159	53	128	28	1					WE	2	
13	SU42101950	MZE	NE	1	28	28	4	3B	136	30	112	12	1					WE	3B	SMALL PIT
14	SU42201950	PGR	N	1	70	70	2	1	143	37	113	13	1						1	
15	SU41601940	LEY	E	3	23	28	4	3A	134	28	113	13	2					WE	3A	
16	SU41701940	LEY	E	3	27	32	4	3A	137	31	114	14	1					WE	3A	SL GLAUCONITIC
17	SU41801940	LEY			21	21	4	3B	121	15	102	2	2					WE	3B	WET FROM 60cm
18	SU41901940	MZE	NW	2	53	53	3	2	172	66	118	18	1		Y			WE	2	SEE 3P
19	SU42001940	MZE	N	3	21	21	4	3B	130	24	100	0	2					WE	3B	
20	SU42101940	MZE	N	2	25	25	4	3A	119	13	106	6	2					WE	3A	
21	SU42201940	PGR	N	1	38	38	4	3A	130	24	101	1	2				Y	WE	3A	PODZOLIC
22	SU42301940	LEY	W	4	45	60	3	2	108	2	79	21	3A					DR	3A	
23	SU41601930	LEY			28	28	4	3B	126	20	103	3	2					WE	3B	
24	SU41701930	LEY	W	4	28	55	3	2	147	41	124	24	1					WE	2	SEE 4P
25	SU41801930	MZE	W	6	0	28	4	3B	128	22	105	5	2					WE	3B	V WET TOPSOIL
26	SU41901930	MZE	W	6	30	30	4	3B	133	27	106	6	2					WE	3B	SLOPE 6 5 DEGS
27	SU42001930	MZE	EN	6	28	28	4	3B	124	18	101	1	2					WE	3B	
28	SU42101930	MZE	E	6	30	30	4	3B	130	24	106	6	2					WE	3B	
29	SU42201930	PGR	NW	7	23		1	1	46	60	46	54	4					DR	4	PROB 3B DR
30	SU42301930	LEY	SE	1	26	50	3	2	149	43	109	9	2					WD	2	PODZOLIC
31	SU42401930	LEY	SE	2	25	25	4	3A	145	39	110	10	1					WE	3A	
32	SU41601920	PGR	SE	2	18	18	4	3B	123	17	100	0	2					WE	3B	
33	SU41701920	PGR	E	1	29	85	2	1	144	38	119	19	1						1	
34	SU41801920	PGR	W	1	26	26	4	3B	132	26	108	8	2					WE	3B	
35	SU41901920	PGR	W	6	25	25	4	3A	152	46	124	24	1					WE	3A	
36	SU42001920	PGR	E	1	25	25	4	3B	124	18	101	1	2					WE	3B	
37	SU42101920	PGR	NW	11	33	33	4	3B	125	19	102	2	2					SL	4	SLOPE 11 5 DEG
38	SU42201920	PGR	SE	4	25	35	4	3A	128	22	98	2	2					WE	3A	

SAMPLE NO	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	WETNESS CLASS	WETNESS GRADE	WHEAT AP	WHEAT MB	POTS AP	POTS MB	M REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
39	SU42301920	LEY	S	1	20	34	4	3A	136	30	115	15	1				WE	3A	
40	SU42401920	LEY	SE	1	24	83	2	1	149	43	110	10	1					1	
41	SU42501920	LEY	E	2	22	22	4	3B	132	26	102	2	2				WE	3B	
42	SU41501910	PGR	E	2	40	40	3	2	154	48	131	31	1				WE	2	
43	SU41601910	PGR	E	2	23	38	4	3A	139	33	125	25	1				WE	3A	
44	SU41801900	PGR	E	1	22	38	4	3B	117	11	102	2	2				WE	3B	
45	SU41801910	PGR	W	5	23	23	4	3B	123	17	100	0	2				WE	3B	
46	SU41901910	PGR	W	11	24	24	4	3B	125	19	102	2	2				SL	4	SLOPE 11 5 DE
47	SU42001910	PGR	E	3	27	27	4	3B	122	16	97	3	2				WE	3B	
48	SU42101910	PGR	S	5	42	55	3	3A	135	29	110	10	2				WE	3A	
49	SU42201910	PGR	S	1	28	37	4	3B	139	33	115	15	1				WE	3B	
50	SU42301910	PGR	S	1	37	37	4	3B	137	31	107	7	2				WE	3B	
51	SU42401910	PGR			35	35	4	3A	147	41	117	17	1				WE	3A	
52	SU42501910	PGR	S	1	45	55	3	3A	149	43	123	23	1				WE	3A	
53	SU41501900	PGR	E	3	38	62	3	2	137	31	108	8	2				WD	2	
54	SU41601900	PGR	E	1	21	32	4	3B	128	22	105	5	2				WE	3B	
55	SU41701900	PGR	N	1	20	20	4	3A	114	8	96	-4	2				WE	3A	
56	SU41701910	PGR	E	1	0	40	4	3B	130	24	103	3	2				WE	3B	
57	SU41901900	PGR	W	1	24	24	4	3B	34	72	34	66	4				DR	4	PROB DR 3B
58	SU42001900	PGR	S	6	24	24	4	3B	124	18	101	1	2				WE	3B	
60	SU42201900	PGR			12		4	3B	104	2	88	12	3A	Y			WE	3B	WET/MICRO
61	SU42301900	PGR	N	1	28	28	4	3A	137	31	109	9	2				WE	3A	
62	SU42401900	PGR	N	1	38	38	4	3A	126	20	114	14	2				WE	3A	GLAUCONITIC
63	SU41501890	PGR			18	40	4	3A	129	23	99	1	2				WE	3A	
64	SU41401890	PGR	SE	3	24	24	4	3B	134	28	104	4	2				WE	3B	

SAMPLE	DEPTH	TEXTURE	COLOUR	-MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES- 2	6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
1	0 35	fszl	10YR41 00	75YR58 00	C	F		Y	1	0	HR	3							
	35-40	scl	25Y 63 00	10YR58 00	C	D		Y	0	0	HR	20		M					
	40 63	c	25Y 63 00	10YR58 00	M	D		Y	0	0	HR	10		P			Y		
	63-85	c	25Y 63 00	75YR58 00	M	P	25Y 46 00	Y	0	0	HR	40		P			Y		IMP STONES 85cm
1P	0 25	mcl	10YR32 00						0	0		0							
	25-38	scl	05GY51 00	10YR58 00	C			Y	0	0		0	MDMAB FR	M	Y				
	38-65	sc	05G 42 51	10YR56 00	M			Y	0	0		0	MDCAB FM	P	Y		Y		TENDING PRISMATIC
	65-120	sc	05G 41 00	75YR58 44	M			Y	0	0		0		P	Y		Y		
2	0 23	fszl	10YR42 00					N	0	0		0							POSS MCL T/S
	23-80	c	05GY51 61	10YR56 00	M	D		Y	0	0		0		M			Y		
	80 120	sc	05Y 54 42	10YR56 00	C	D		Y	0	0		0		M			Y		
2P	0 26	fszl	10YR32 00						0	0		0							
	26 35	mcl	10YR42 54	75YR56 58	C			Y	0	0		0	MDMSB FM	M					
	35-47	hcl	10YR63 00	25Y 58 00	M			Y	0	0		0	MDCAB FM	M			Y		
	47 60	mcl	10YR53 00	75YR58 00	M			Y	0	0		0	MDCAB FM	M	Y		Y		
	60 75	sc	05Y 54 00	25YR58 00	M			Y	0	0		0	MDMAB FM	P	Y		Y		
	75-120	c	25Y 44 00	05Y 68 00	M			Y	0	0		0	MDMPR FM	P	Y		Y		
3	0 26	mcl	10YR42 00					N	0	0		0							
	26 43	hcl	25Y 63 00	10YR58 00	M	D		Y	0	0		0		M			Y		
	43 50	c	25Y 63 00	10YR58 00	M	D		Y	0	0		0		M			Y		
	50 60	c	25Y 63 00	10YR58 00	M	D		Y	0	0	HR	10		P			Y		
	60 75	c	25Y 63 00	10YR58 00	M	D		Y	0	0		0		P			Y		
	75-105	c	25Y 63 00	75YR58 00	M	D		Y	0	0	HR	15		P			Y		IMP STONES 105cm
3P	0 25	lfs	10YR42 00						7	0	HR	12							
	25-36	scl	25Y 44 00						0	0	HR	5	STMSAB FR	G					
	36 53	lfs	25Y 56 00	25Y 66 00	F				0	0		0	STCSAB FR	G					
	53 70	sc	05Y 73 00	25Y 56 84	C			Y	0	0		0	MDCAB FR	M	Y		Y		
	70 105	f l	05Y 73 00	25Y 56 84	C			Y	0	0	HR	2		M			Y		
	105 120	fsl	05Y 73 00	25Y 56 84	C			Y	0	0	HR	5		M			Y		
4	0 23	mcl	10YR42 32	10YR58 00	F	F		N	0	0		0							
	23-45	mcl	10YR58 00	10YR46 00	F	D		N	0	0		0		M					
	45-55	hcl	10YR63 00	10YR58 00	C	D		Y	0	0		0		P			Y		
	55 120	c	25Y 62 00	75YR58 00	M	D		Y	0	0		0		P			Y		
4P	0 28	fs l	10YR42 00						0	0		0							
	28-55	mcl	10YR52 00	10YR56 00	C			Y	0	0		0	MDCSAB FR	M					
	55-120	c	10YR62 00	10YR56 00	M			Y	0	0		0	MDCAB FM	P	Y		Y		
5	0 31	mcl	10YR43 00					N	0	0		0							
	31 120	c	10YR61 00	10YR58 00	M	D		Y	0	0		0		P			Y		STONY/WET 68cm+
6	0 25	mcl	10YR32 00					N	0	0		0							
	25 38	scl	05GY51 00	10YR58 00	C	D		Y	0	0		0	Md MAB Fr	M					
	38 65	sc	05G 42 51	10YR56 00	M	P		Y	0	0		0	Md CAB Fm	P			Y		TENDING PRISMATIC
	65 120	sc	05G 41 00	75YR58 44	M	P		Y	0	0		0		P			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	
7	0 28	msl	10YR32 00					N	0	0		0							
	28-36	msl	10YR42 00		F	F		Y	0	0		0		M					
	36 55	scl	25Y 63 00	10YR58 00	C	D		Y	0	0		0		P			Y		
	55-90	c	25Y 63 00	10YR68 00	C	D		Y	0	0		0		P			Y		SANDY LAYERS
	90 120	scl	25Y 63 00	10YR58 00	C	D		Y	0	0		0		P			Y		
8	0 26	fszl	10YR32 00					N	0	0		0							
	26 35	mcl	10YR54 56	75YR58 00	C	D	10YR42 00	Y	0	0		0	Md MSB Fm	M					
	35-47	hcl	10YR63 00	25YR58 00	M	P		Y	0	0	HR	1	Md CAB Fm	M			Y		
	47 60	mcl	10YR53 00	75YR58 00	M	D		Y	0	0		0	Md CAB Fm	M			Y		
	60 75	sc	05Y 54 00	25YR58 00	M	P		Y	0	0		0	Md MAB Fm	P			Y		
	75-120	c	25Y 44 00	05Y 68 00	M	P		Y	0	0		0	Md MPR Fm	P			Y		
9	0 20	f zl	10YR42 00					N	0	0		0							
	20 26	fszl	10YR54 00	10YR56 00	F	D	10YR53 00	Y	0	0		0		M					
	26 35	mcl	10YR54 00	10YR58 00	C	D	10YR53 62	Y	0	0		0		M					
	35-45	mcl	10YR54 00	10YR58 00	C	D	10YR53 62	Y	0	0		0		M					
	45-70	scl	05GY61 00	10YR58 00	C	D		Y	0	0		0		P			Y		
	70 120	sc	05G 62 00	10YR58 00	C	D		Y	0	0		0		P			Y		
10	0 25	fs l	10YR42 00					N	0	0		0							
	25-40	mcl	10YR54 00	10YR68 00	F	F	10YR53 63	Y	0	0		0		M					
	40 65	hcl	10YR63 00	10YR58 68	C	D		Y	0	0		0		P			Y		
	65-120	hcl	25Y 72 00	10YR58 00	M	P		Y	0	0		0		P			Y		
11	0 30	fs l	10YR43 00					N	0	0		0							
	30 45	mcl	10YR54 00	10YR56 58	F	F	10YR53 00	Y	0	0		0		M					
	45-60	hcl	10YR54 00	10YR56 58	C	D	10YR53 00	Y	0	0		0		P			Y		
	60 100	hcl	10YR54 00	10YR58 00	C	D	10YR63 00	Y	0	0		0		P			Y		
	100 120	c	10YR54 00	10YR58 00	C	D	10YR63 00	Y	0	0		0		P			Y		
12	0 30	f l	10YR32 00					N	0	0		0							
	30 50	fsl	10YR44 00	10YR63 00	F	F		Y	0	0		0		G					
	50 75	scl	05G 52 00	10YR68 00	F	F		Y	0	0		0		M			Y		
	75-120	sc	05G 52 00	10YR68 00	C	D		Y	0	0		0		P			Y		
13	0 28	mcl	10YR32 00					N	0	0		0							
	28 65	hcl	05GY51 00	10YR58 00	M	P		Y	0	0		0		P					
	65 87	hcl	05GY51 00	10YR58 00	M	P		Y	0	0	HR	5		P			Y		
	87 100	hcl	05GY51 00	10YR58 00	M	P		Y	0	0		0		P			Y		
	100 120	c	05GY51 00	10YR58 00	M	P		Y	0	0		0		P			Y		
14	0 28	f l	10YR31 00					N	0	0		0							
	28 70	scl	10YR46 00					N	0	0		0		M					
	70 120	scl	10YR58 00	05GY51 00	C	F		Y	0	0		0		P			Y		
15	0 23	fszl	10YR41 00	10YR44 00	C	F		N	0	0		0							
	23-28	scl	10YR62 00	10YR68 72	C	D		Y	0	0		0		M					
	28 60	sc	10YR62 00	10YR68 72	C	D		Y	0	0		0		P			Y		
	60 68	scl	10YR72 00	10YR68 00	C	D	05YR46 00	Y	0	0		0		P			Y		
	68-85	sc	10YR72 00	05YR46 00	M	P		Y	0	0		0		P			Y		
	85-90	c	10YR72 00	05YR46 00	M	P		Y	0	0		0		P			Y		
	90 110	cl	10YR72 00	05YR46 00	M	P		Y	0	0		0		P			Y		
	110 120	lms	10YR72 00	05YR46 00	M	P		Y	0	0		0		P			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	
16	0 27	fszl	10YR42 00					N	0	0	HR	5							
	27 32	scl	05Y 73 00	25YR76 00	C	D	10YR68 00	Y	0	0	HR	5		M					+ GREEN MOTTLES
	32 36	c	10YR81 00	10YR76 64	C	D	75YR44 00	Y	0	0	HR	10		M			Y		
	36-45	scl	10YR81 00	10YR76 64	C	D	75YR64 00	Y	0	0	HR	10		M			Y		
	45-98	c	10YR71 00	75YR68 00	C	D		Y	0	0		0		P			Y		
	98-105	scl	10YR71 00	75YR68 00	C	D		Y	0	0	HR	5		P			Y		
	105-120	c	10YR71 00	75YR68 00	C	D		Y	0	0	HR	5		P			Y		
17	0 21	mcl	10YR41 00	75YR44 00	C	F		N	0	0		0					N		
	21 90	c	10YR61 00	75YR58 00	C	D		Y	0	0		0		P			Y		WATER TABLE AT 60cm
	90 120	c	10YR61 00	75YR58 00	C	D		Y	0	0	HR	20		P			Y		
18	0 25	lfs	10YR42 00					N	7	0	HR	12							
	25-36	scl	25Y 44 00					N	0	0	HR	5	St MSB Fr	G					
	36 53	lfs	25Y 56 00	25Y 66 00	F	F		N	0	0		0	St CAB Fr	G					SLIGHTLY GLEYED
	53 70	sc	05Y 73 00	25Y 56 84	C	D		Y	0	0		0	Md CAB Fr	G			Y		
	70 105	f 1	05Y 73 00	25Y 56 84	C	D		Y	0	0	HR	2		M					
	105-120	fsl	05Y 73 00	25Y 56 84	C	D		Y	0	0	HR	5		M					
19	0 21	mcl	10YR32 00					N	0	0	HR	3							
	21 95	sc	05Y 44 00	10YR46 00	C	D	05Y 72 00	Y	0	0		0		P			Y		GLAUCONITIC?
	95-120	scl	05Y 44 00	10YR46 00	C	D	05Y 72 00	Y	0	0		0		P			Y		
20	0 25	f zl	10YR33 00					N	0	0	HR	2							
	25 50	hcl	05Y 63 00	10YR68 00	C	D		Y	0	0		0		P			Y		
	50 60	c	05Y 63 00	10YR68 00	C	D		Y	0	0		0		P			Y		WATER TABLE AT 70cm
	60 80	c	05Y 63 00	10YR68 00	C	D		Y	0	0	HR	30		P			Y		IMP STONES 80cm
21	0 19	fsl	10YR31 00					N	0	0		0							ORGANIC ?
	19 30	lfs	75YR62 00	10YR56 00	F	F		N	0	0		0		G					
	30 38	lf	10YR31 00	10YR46 00	C	D		N	0	0		0		G					IRON PAN FORMING
	38 80	hcl	10YR51 00	10YR68 00	C	D		Y	0	0		0		P			Y		
	80 120	scl	10YR51 00	10YR68 00	C	D		Y	0	0		0		P			Y		
22	0 25	msl	10YR32 00					N	0	0		0							
	25-45	lms	10YR53 42					N	0	0	HR	10		M					
	45-60	lms	25YR64 00	10YR46 00	F	F		Y	0	0	HR	5		M					
	60 80	c	05Y 54 00	75YR56 00	C	D		Y	0	0		0		P			Y		
	80 120	c	05G 51 00	75YR58 00	M	D		Y	0	0		0		P			Y		
23	0 28	mcl	10YR42 00					N	0	0		0							
	28 45	hcl	10YR72 00	10YR58 00	C	D		Y	0	0		0		P			Y		
	45 120	c	10YR72 00	10YR58 00	M	D		Y	0	0		0		P			Y		
24	0 28	f zl	10YR42 00					N	0	0		0							PSD- TEX NR FSZL
	28 55	mcl	10YR52 00	10YR56 00	C	D		Y	0	0		0	Md CSB F	M					
	55-120	c	10YR62 00	10YR56 00	M	D		Y	0	0		0	Md CAB Fm	P			Y		

				-MOTTLES			PED		STONES-				STRUCT/	SUBS					
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	2	6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
25	0 28	mcl	10YR32 00	75YR66 00	F	D		Y	0	0		0							POSS ORGANIC
	28 120	c	10YR51 00	75YR58 00	M	D		Y	0	0		0		P			Y		
26	0 30	hcl	10YR31 32					N	0	0		0							
	30 70	c	05G 42 00	10YR58 00	M	P		Y	0	0		0		P			Y		
	70 120	sc	05G 42 00	10YR58 68	M	P		Y	0	0	HR	3		P			Y		
27	0 28	scl	10YR31 00					N	0	0		0							POSS ORGANIC
	28 45	hcl	10YR54 00	10YR56 00	C	D	05GY51 00	Y	0	0		0		P			Y		
	45-120	c	10YR84 00	10YR68 00	M	D	05GY51 00	Y	0	0		0		P			Y		
28	0 30	scl	10YR31 00					N	0	0		0							POSS ORGANIC
	30-45	scl	05Y 64 00	10YR68 00	C	D		Y	0	0		0		M			Y		
	45 57	scl	05GY41 00	10YR58 00	M	P		Y	0	0		0		P			Y		
	57 120	c	05Y 41 00	10YR58 00	M	P		Y	0	0		0		P			Y		
29	0 23	fsl	10YR31 00					N	11	0	HR	21							
	23-35	lf	10YR84 00	10YR68 00	C	D	10YR72 00	Y	0	0	HR	30		M					IMP STONES 35cm
30	0 20	f l	10YR31 00					N	0	0	HR	5							
	20 26	lfs	10YR42 00					N	0	0	HR	5		M					
	26 37	lf	10YR22 00	10YR42 00	C	D		Y	0	0		0		M					
	37 50	lfs	10YR22 43	10YR76 00	C	D		Y	0	0		0		M					
	50 120	scl	10YR53 00	10YR58 76	C	D		Y	0	0		0		M			Y		
31	0 25	fsl	10YR32 00					N	7	0	HR	20							
	25-40	sc	05Y 44 00	10YR56 00	C	D	10YR42 00	Y	0	0		0		M			Y		
	40 50	cl	05Y 44 00	10YR56 00	C	D	10YR42 00	Y	0	0		0		M			Y		GLAUCONITIC
	50 80	f l	05Y 44 00	10YR56 00	C	D	10YR42 00	Y	0	0		0		M					GLAUCONITIC
	80 120	sc	05GY51 00	75YR56 00	C	D		Y	0	0		0		P			Y		GLAUCONITIC
32	0 18	fszl	10YR32 00					N	0	0		0							
	18 37	c	10YR53 72	75YR58 00	C	D	10YR72 00	Y	0	0	HR	30		P			Y		
	37 120	c	10YR71 00	10YR78 00	C	D		Y	0	0		0		P			Y		
33	0 29	fszl	10YR33 00					N	0	0		0							
	29 45	mcl	10YR42 52	10YR68 00	C	F		Y	0	0		0		M					
	45-85	mcl	10YR52 00	10YR58 00	C	D		Y	0	0		0		M					
	85-120	hcl	10YR52 00	10YR58 00	M	D		Y	0	0		0		P			Y		
34	0 26	mcl	10YR31 00	75YR46 00	F	F		N	0	0		0							
	26 45	hcl	10YR61 62	10YR68 00	M	P		Y	0	0		0		M			Y		
	45-65	hcl	10YR61 00	10YR68 00	M	P		Y	0	0		0		P			Y		
	65-120	c	10YR61 00	10YR68 00	M	P		Y	0	0		0		P			Y		
35	0 25	f l	10YR31 00					N	0	0		0							POSS ORGANIC
	25 50	hcl	25Y 64 00	75YR58 00	M	D		Y	0	0		0		M			Y		
	50 65	scl	25Y 64 00	75YR56 00	M	D		Y	0	0		0		M			Y		
	65 100	scl	25Y 74 00	05YR58 00	M	D		Y	0	0		0		P			Y		
	100 120	c	25Y 82 00	10YR76 00	M	D		Y	0	0		0		P			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	
36	0-25	mcl	10YR21 31					N	2	0	HR	7							POSS ORGANIC
	25-120	c	05G 42 00	75YR46 00	M	D		Y	0	0		0		P			Y		
37	0 33	scl	10YR31 32					N	1	0	HR	1							POSS ORGANIC
	33-45	hcl	05GY41 00	10YR68 00	C	D		Y	0	0		0		P			Y		
	45-120	c	05GY41 00	10YR68 00	C	D		Y	0	0		0		P			Y		
38	0 25	msl	10YR31 00					N	0	0	HR	5							
	25-35	hcl	25Y 53 74	10YR58 00	C	D		Y	0	0		0		P					SANDY LENSES
	35 110	sc	05GY51 61	25YR36 00	C	D		Y	0	0		0		P			Y		
	110 120	scl	05GY51 61	10YR66 00	C	D		Y	0	0		0		P			Y		
39	0 20	f zl	10YR42 00					N	0	0		0							
	20 26	fs l	10YR42 00	75YR34 00	C	D	10YR62 00	N	0	0		0		M					
	26 34	mcl	10YR42 53	75YR46 00	C	D	10YR51 64	Y	0	0		0		M					
	34 50	scl	10YR53 00	75YR46 00	C	D	10YR51 64	Y	0	0		0		M					
	50 60	hcl	05GY61 00	10YR58 00	C	D		Y	0	0	HR	5		P			Y		
	60 110	sc	05GY61 00	10YR58 00	C	D		Y	0	0	HR	5		P			Y		
	110 120	lms	10YR72 00	10YR58 00	C	D		Y	0	0		0		P			Y		
40	0 24	fsl	10YR31 00					N	0	0		0							POSS ORGANIC
	24 42	lfs	10YR42 00	10YR58 00	C	D	10YR62 00	Y	0	0	HR	5		M					
	42 45	fsl	10YR42 00	10YR58 00	C	D	10YR62 00	Y	0	0	HR	5		M					
	45 50	l	10YR42 00	10YR58 00	C	D	10YR62 00	Y	0	0	HR	5		M					
	50 60	lf	10YR71 00	10YR58 00	M	P		Y	0	0		0		M					
	60 75	fs	10YR71 00	10YR58 00	M	P		Y	0	0		0		M					
	75-83	f l	10YR71 00	10YR58 00	C	P		Y	0	0		0		M					
	83 120	c	10YR71 00	10YR58 00	C	P		Y	0	0		0		P			Y		
41	0 22	mcl	10YR41 42					N	0	0		0							
	22 50	c	10YR63 00	10YR58 00	C	D	10YR72 00	Y	0	0		0		P			Y		
	50 120	sc	10YR63 00	10YR58 00	C	P	10YR72 00	Y	0	0		0		P			Y		SANDY LENSES 30%
42	0 23	fs l	10YR43 00					N	0	0		0							
	23 40	fs l	10YR43 54					N	0	0		0		M					
	40 58	hcl	10YR54 00					N	0	0		0		M					
	58 120	c	10YR54 00	10YR56 00	C	F	10YR63 00	Y	0	0		0		P			Y		DEF GLEYED FROM 65c
43	0 23	fszl	10YR42 00					N	0	0		0							
	23-38	fs l	10YR42 00	10YR66 00	C	D	10YR72 00	Y	0	0		0		M					
	38 50	scl	10YR72 00	10YR66 00	C	D		Y	0	0		0		M			Y		
	50 65	hcl	10YR72 00	10YR66 00	C	D		Y	0	0		0		P			Y		
	65-100	sc	05GY71 00	10YR58 00	M	D		Y	0	0		0		P			Y		
	100 120	lms	10YR72 00	10YR66 00	M	D		Y	0	0		0		P			Y		
44	0 22	mcl	10YR32 00	10YR46 00	F	F		N	0	0		0							
	22 38	mcl	10YR62 71	10YR68 78	F	F		Y	0	0	HR	3		M					
	38 65	scl	10YR58 00		C	D	10YR52 00	Y	0	0	HR	7		P			Y		
	65 78	hcl	10YR58 00		C	D	10YR52 00	Y	0	0	HR	15		P			Y		IMP STONES 78cm

SAMPLE	DEPTH	TEXTURE	COLOUR	-MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES 2	6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
45	0 23	mcl	10YR43 00	10YR46 00	F	F		N	0	0		0							
	23-45	hcl	10YR56 00	10YR58 68	F	F	10YR53 00	Y	0	0		0		P			Y		
	45-120	c	10YR53 00	10YR58 68	M	P	10YR62 63	Y	0	0		0		P			Y		
46	0 24	hcl	10YR32 00	10YR56 00	F	F		N	0	0		0							
	24 35	hcl	25Y 72 00	75YR58 00	M	D		Y	0	0		0		P			Y		
	35-45	c	25Y 72 00	75YR58 00	M	D		Y	0	0		0		P			Y		
	45-120	c	25Y 62 00	25YR48 00	M	D		Y	0	0		0		P			Y		
47	0 16	scl	10YR43 00					N	1	0	HR	1							
	16 27	scl	10YR54 00	10YR68 00	C	D		N	0	0		0		M					
	27-45	hcl	10YR58 00	10YR53 00	F	F		Y	0	0		0		P			Y		
	45-69	scl	10YR58 00	10YR53 00	C	D		Y	0	0		0		P			Y		WET
	69 95	hcl	10YR58 00	10YR53 00	F	F		Y	0	0		0		P			Y		BECOMING WET
	95-120	c	10YR58 00	10YR53 00	F	F		Y	0	0		0		P			Y		
48	0-42	scl	10YR43 00	10YR46 58	F	F		N	0	0		0							
	42 55	mcl	10YR54 00	10YR58 68	C	D	10YR53 63	Y	0	0		0		M					
	55-88	hcl	10YR56 66	10YR56 00	M	P	10YR53 00	Y	0	0		0		P			Y		
	88 120	c	10YR58 00	10YR58 00	M	P	10YR62 63	Y	0	0		0		P			Y		
49	0 20	mzcl	10YR32 00					N	0	0		0							
	20 28	fs l	10YR41 00	75YR44 00	C	D	10YR63 00	N	0	0		0		M					
	28 37	fs l	10YR42 53	10YR66 00	C	D	10YR71 00	Y	0	0		0		M					
	37 50	hcl	10YR62 00	10YR56 00	C	D		Y	0	0		0		P			Y		
	50 57	sc	10YR62 00	10YR56 00	C	D		Y	0	0	HR	5		P			Y		
	57 120	c	10YR62 00	10YR56 00	C	D		Y	0	0		0		P			Y		
50	0 20	mzcl	10YR32 42					N	0	0		0							
	20 25	mcl	10YR42 00					N	0	0		0		M					
	25-30	mcl	10YR42 00	10YR56 00	C	D		N	0	0		0		M					
	30 37	mcl	10YR53 00	10YR58 00	C	D	10YR64 00	N	0	0		0		M					
	37 50	hcl	10YR64 00	10YR58 00	C	D	10YR62 00	Y	0	0		0		P			Y		
	50-80	sc	10YR64 00	10YR58 00	M	P	10YR62 00	Y	0	0		0		P			Y		
	80 120	sc	10YR64 00	10YR58 00	C	D	10YR62 00	Y	0	0		0		P			Y		SANDY LENSES
51	0 25	fszl	10YR42 00					N	0	0		0							
	25-35	hcl	10YR42 00	10YR66 00	M	P	10YR62 00	N	0	0		0		M					
	35-50	c	10YR42 00	10YR66 00	M	P	10YR62 00	Y	0	0		0		P			Y		
	50 120	sc	10YR71 00	10YR58 00	C	P	05GY71 00	Y	0	0		0		P			Y		5GY COLS NR 120
52	0 25	mzcl	10YR43 00					N	0	0		0							
	25-45	f zl	10YR43 00	75YR44 00	C	F		N	0	0		0		M					
	45-50	msl	10YR42 00	10YR56 00	C	D	10YR71 00	Y	0	0		0		M					
	50 55	mcl	10YR42 00	10YR56 00	C	D	10YR71 00	Y	0	0		0		M					
	55 90	c	10YR42 00	10YR56 00	C	D	10YR71 00	Y	0	0		0		P			Y		
	90 120	sc	10YR42 00	10YR56 00	C	D	10YR71 00	Y	0	0		0		P			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	
53	0-22	msl	10YR43 00					N	0	0		0							
	22 38	msl	10YR54 66					N	0	0		0		M					
	38-62	msl	10YR63 00	10YR58 00	C	D	10YR72 00	Y	0	0		0		M					
	62 95	sc	10YR63 00	10YR58 00	C	D	10YR72 00	Y	0	0		0		P			Y		
	95-120	c	10YR63 00	10YR58 00	C	D	10YR72 00	Y	0	0		0		P			Y		
54	0 21	mcl	10YR42 00	75YR34 00	F	D	10YR51 00	N	0	0		0							
	21 25	fsl	10YR42 00	10YR66 34	C	D	10YR72 00	Y	0	0		0		M					
	25-32	msl	10YR42 00	10YR58 66	C	D	10YR72 00	Y	0	0		0		M					
	32 120	c	10YR72 58	10YR58 66	C	D	10YR42 00	Y	0	0		0		P			Y		
55	0 20	fszl	10YR42 00	10YR58 00	C	F	10YR51 00	N	0	0	HR	5							
	20-42	hcl	10YR53 00	10YR63 00	C	D	10YR71 00	Y	0	0	HR	5		P			Y		
	42 50	c	10YR58 71	10YR58 00	M	D	10YR71 00	Y	0	0		0		P			Y		
	50-70	sc	10YR58 71	10YR58 00	M	D	10YR71 00	Y	0	0	HR	30		P			Y		IMP STONES 70cm
56	0 27	mcl	10YR32 62	10YR68 00	C	D		Y	0	0		0							
	27-40	mcl	10YR62 00	75YR68 00	M	D		Y	0	0		0		M					
	40-85	scl	10YR61 62	75YR68 00	M	D		Y	0	0		0		P			Y		
	85-120	hcl	10YR61 00	75YR68 00	M	D		Y	0	0		0		P			Y		
57	0 10	mcl	10YR42 00					N	6	3	HR	11							
	10 24	mcl	10YR54 00					N	0	0	HR	30		M					
	24 30	scl	10YR54 00	10YR68 00	C	D	10YR62 00	Y	0	0	HR	30		P			Y		IMP STONES 30cm
58	0 24	mcl	10YR32 00					N	0	0		0							
	24-40	hcl	10YR63 73	10YR68 00	C	D		Y	0	0		0		P			Y		
	40 120	c	10YR61 00	10YR68 78	M	P		Y	0	0		0		P			Y		Mn & Fe CONCS
60	0 12	mzcl	10YR41 00	75YR34 00	C	D		N	0	0		0							
	12 20	mzcl	10YR51 00	75YR46 00	C	D		Y	0	0		0		M					
	20 40	mcl	10YR52 00	10YR66 00	C	D	10YR71 00	Y	0	0	HR	10		M					IMP STONES 40cm
61	0 28	fszl	10YR32 00	75YR32 00	C	D		N	0	0		0							
	28 48	hcl	10YR42 00	10YR58 00	C	D	10YR61 00	Y	0	0	HR	25		P			Y		HEAVIER BELOW 40cm
	48-70	c	05GY71 00	75YR58 00	C	D		Y	0	0		0		P			Y		
	70 100	sc	05GY71 00	75YR58 00	C	D		Y	0	0		0		P			Y		
	100 120	scl	05GY71 00	75YR58 00	C	D		Y	0	0		0		P			Y		
62	0 20	fszl	10YR32 00					N	0	0	HR	5							
	20 38	f l	10YR42 00	10YR66 00	F	F	25Y 74 00	N	0	0	HR	5		M					
	38-47	scl	10YR42 00	10YR66 00	C	D	10YR62 00	Y	0	0	HR	5		M			Y		
	47 75	sc	25Y 64 54	75YR58 00	M	D	10YR71 00	Y	0	0	HR	5		P			Y		
	75-100	sc	05GY61 00	75YR68 00	C	D		Y	0	0	HR	15		P			Y		IMP STONES 100cm
63	0 18	msl	10YR43 00					N	0	0	HR	5							
	18 29	msl	10YR64 00	75YR34 00	C	D	10YR72 00	Y	0	0	HR	5		M					
	29 40	msl	10YR53 63	10YR58 00	C	D	10YR73 00	Y	0	0	HR	10		M					
	40 60	sc	10YR58 00	10YR58 68	C	D	10YR72 00	Y	0	0		0		P			Y		
	60 120	scl	10YR72 00	10YR58 68	C	D	10YR72 00	Y	0	0		0		P			Y		

				-MOTTLES			PED		STONES				STRUCT/	SUBS				
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	2	6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
64	0 24	mcl	10YR54 00	10YR58 00	F	F		N	0	0		0						
	24 30	scl	10YR64 00	10YR68 00	C	D	05Y 63 00	Y	0	0		0		M			Y	
	30 120	scl	10YR66 00	10YR68 00	C	D	10YR72 00	Y	0	0		0		P			Y	