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REIGATE AND BANSTEAD DISTRICT LOCAL PLAN
Land North West of Horley
Semi-Detailed Survey

Agricultural Land Classification
ALC Map and Report

December 1997

Resource Planning Team
Eastern Region
FRCA Reading

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AGRICULTURAL LAND CLASSIFICATION REPORT

REIGATE AND BANSTEAD DISTRICT LOCAL PLAN
LAND NORTH WEST OF HORLEY SURREY
SEMI-DETAILED SURVEY

INTRODUCTION

1 This summary report presents the findings of a semi detailed Agricultural Land Classification (ALC) survey of 207 9 ha of land located between the A23 and the A217 to the north west of Horley in Surrey The work was initially carried out during December 1997 with an additional area to the south west undertaken in February 1998

2 The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)[1] on behalf of the Ministry of Agriculture Fisheries and Food (MAFF) in connection with the Reigate and Banstead District Local Plan This survey supersedes any previous ALC information for this land

3 The work was conducted by members of the Resource Planning Team in the Eastern Region of the FRCA 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 agricultural land on the site was in permanent grass This was either vacant or being used to graze cattle sheep or horses The areas mapped as Other land include a section of the River Mole woodland roads and tracks farm buildings including a slurry pit a business unit and dwellings including a site for mobile homes to the south east 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 15 000 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

Table 1 Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
3a	45 4	23 9	21 8
3b	144 8	76 1	69 7
Other land	17 7		8 5
Total surveyed area	190 2	100	91 5
Total site area	207 9		100

[1] FRCA is an executive agency of MAFF and the Welsh Office

13 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

14 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 (ATO January to June) as a measure of the relative warmth of a locality

15 The combination of rainfall and temperature at this site mean that there is no overall climatic limitation Other local climatic factors such as exposure and frost risk are also not believed to affect the site it is climatically Grade 1

Site

16 The site lies between approximately 50 and 60m AOD The land rises to either side of the River Mole and Burstow Stream which pass through and in some areas create the boundary of the site Slopes across the site are gentle and do not affect agricultural land quality Burstow Stream a tributary of the River Mole has a deep channel and a narrow floodplain and although it is known to flood last did so in 1968 according to the land occupier However the River Mole is located in a shallower channel on a wider floodplain and is out of bank on a more regular basis As such agricultural land quality on the floodplain of the River Mole is restricted to Subgrade 3b at best irrespective of other factors including soil quality Other site factors such as microrelief are not significant

Geology and soils

17 The published geological information (BGS 1978) shows the south and north west of the site to be underlain by low terrace river gravel drift deposits Alluvial drift deposits are mapped along the stream margins Towards the east and west these give way to solid Cretaceous Weald Clay

18 The most detailed published soils information for the site (SSEW 1983 and 1984) shows it to comprise soils of the Shabbington and Wickham 1 associations The Shabbington soils are shown to occupy the south and centre of the site and are described as deep fine loamy and fine loamy over sandy soils variably affected by groundwater Some slowly permeable seasonally waterlogged fine loamy fine loamy over clayey soils (SSEW 1983) The Wickham soils are shown to the east and west of the site in broadly the areas underlain by Weald Clay They are described as Slowly permeable seasonally waterlogged fine silty over clayey fine loamy over clayey and clayey soils (SSEW 1983) During the survey clayey soils were most common, although sandier soils were encountered especially towards the south and north west of the site

AGRICULTURAL LAND CLASSIFICATION

19 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

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

Subgrade 3a

21 Land of good quality has been mapped in two separate units towards the south centre and north west of the site The principal limitation to land quality in these areas is soil wetness The soils are characterised by the pit observations P2 P5 and P7 (see Appendix II)

22 Two soil types are described in this subgrade at this site The most common has a profile which typically comprises medium or heavy clay loam, occasionally medium silty clay loam topsoils These overlie similar upper subsoils passing to a sandy clay loam lower subsoil Occasionally these were observed to pass to silty clay (as in P5) at depth Stone contents within the topsoil and upper subsoil are typically slight up to 10% small flints occasionally with up to 19% In the sandy clay loam lower subsoils stone content increases to a measured maximum of 29% small flints by volume (P2) The subsoils exhibit the effects of seasonal waterlogging in the form of ochreous mottling so that most of the subsoil horizons are gleyed or slightly gleyed As further evidence of waterlogging there was a significant volume of manganese concretions within the subsoil The pits proved that the majority of the highly manganiferous sandy clay loam lower subsoils were slowly permeable between 45 and 80cm Slowly permeable horizons significantly impede drainage and as such these soils are placed in Wetness Classes III and II The combination of imperfect soil drainage topsoil texture and climatic factors gives rise to a land classification of Subgrade 3a Excessive soil wetness may adversely affect crop growth and development as well as limiting the flexibility of the land due to the reduction in the number of days when the soil is in a suitable condition for cultivation trafficking by machinery or grazing by livestock

23 The second less extensive soil type in this subgrade is typified by soil pit 3 (see Appendix II) which although classified as Subgrade 3b still represents the important characteristics of these profiles The soils comprise a medium or heavy clay loam topsoil overlying a similar upper subsoil These pass to clay or silty clay lower subsoils from between 45 and 80cm The pit proves the existence of poor structures in the clayey horizons These are slowly permeable and therefore significantly impede drainage and cause seasonal waterlogging Many of the profiles were gleyed at shallow depth representing further evidence of seasonal waterlogging The depth of the slowly permeable clayey subsoils (between 45 and 70cm) results in the soils being assigned to Wetness Classes III and II As above (para 22) the combination of the local climate topsoil texture and imperfect drainage result in a Subgrade 3a classification on the basis of soil wetness the agricultural effects of which are also described in paragraph 22

Subgrade 3b

24 Land of moderate quality has been mapped across the majority of the site in two discrete units The principal limitation in these areas is soil wetness The soils are characterised by the pit observations P1 P3 P4 and P6 (see Appendix II)

25 The soils across this area are of a single type They comprise medium/heavy clay loam medium/heavy silty clay loam or clay topsoils which may contain 2 3% total flints by volume These either directly overlie a slowly permeable clay or silty clay subsoil or pass through a thin horizon of heavy clay loam/heavy silty clay loam into clay or silty clay These profiles all present evidence of seasonal waterlogging in the form of gleying within 40cm Severely impeded drainage arises from the presence of slowly permeable horizons between 20

and 44cm The subsoils are mostly either stone free or contain up to 5% flints by volume Under the prevailing local climatic conditions the observed drainage characteristics equate to Wetness Class IV which when considered alongside the topsoil textures result in a Subgrade 3b classification The effects of soil wetness are described in paragraph 22 above Subgrade 3b land is less versatile than that classified as Subgrade 3a because the limitations are more severe ie access restrictions are greater and crop yields are more likely to be adversely affected

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SOURCES OF REFERENCE

British Geological Survey (1978) *Sheet 286 Reigate Drift Edition 1 50000 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

Met 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 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	**OTH**	Other
DCW	Deciduous woodland	**BOG**	Bog or marsh	**SAS**	Set Aside
HTH	Heathland	**HRT**	Horticultural crops	**PLO**	Ploughed

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	**ST**	Topsoil Stoniness
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
EX	Exposure				

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 / oarse sand)
C Coarse (more than 33 / of the sand larger than 0 6mm)

The clay loam and silty clay loam classes will be sub-di ided 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	**FSST**	soft, fine grained sandstone
ZR	soft, argillaceous, or silty rocks	**CH**	chalk
MSST	soft, medium grained sandstone	**GS**	gravel with porous (soft) stones
SI	soft weathered igneous/metamorphic rock	**GH**	gravel with non-porous (hard) stones

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	**MD**	moderately developed
	ST	strongly developed		
Ped size	**F**	fine	**M**	medium
	C	coarse		
Ped shape	**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	**FM** firm	**EH** extremely hard
VF very friable	**VM** very firm	
FR friable	**EM** extremely firm	

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

SAMPLE NO	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	TQ28004580	PGR			28	28	4	3B		0		0					WE	3B	
6	TQ28204560	PGR	SE	2	28	38	4	3B		0		0					WE	3B	
11	TQ27004540	PGR			35	35	4	3B		0		0		Y			WE	3B	3B FLOOD
14	TQ28204540	PGR	S	1	25	39	4	3B		0		0					WE	3B	
16	TQ28404540	PGR			28	39	4	3B		0		0					WE	3B	
17	TQ26694529	PGR	NW	2			1	1	156	46	118	15	1	Y			WE	3B	FLOOD PLAIN
19	TQ26904530	PGR			25	25	4	3B	81	-28	84	-19	3B				WE	3B	
21	TQ27104530	PGR			50	50	3	3B	100	-9	112	9	3A	Y			WE	3B	3B FLOOD
27	TQ26804520	PGR			50		3	3A	95	-14	101	-2	3A				WD	3A	IMP60MN50 QDRW
28	TQ26904520	PGR			35	70	3	3A	107	-2	119	16	3A				WE	3A	IMP 80 MN 70
29	TQ27004520	PGR					3	3A	81	-28	81	-22	3B				DR	3A	IMP50 MN QDRWE
31	TQ27204520	PGR			30	40	4	3B	89	-20	94	-9	3A	Y			WE	3B	3B FLOOD
32	TQ27604520	PGR			0	26	4	3B		0		0					WE	3B	
34	TQ27804520	PGR			0	40	4	3B		0		0					WE	3B	
36	TQ28004520	PGR			0	25	4	3B		0		0					WE	3B	
38	TQ28204520	PGR			30	30	4	3B		0		0					WE	3B	
40	TQ28404520	PGR			0	39	4	3B		0		0					WE	3B	SEE 4P
41	TQ26704510	PGR			33	75	3	3A	117	7	97	-6	2				WE	3A	Q3BWE MN 33+
42	TQ26804511	PGR			40	40	4	3B		0		0					WE	3B	IMP 60 MN
43	TQ26904512	PGR			38		3	3A	112	2	116	13	3A				WE	3A	MN 65
45	TQ27104510	PGR			35	35	4	3B		0		0					WE	3B	
46	TQ27504510	PGR			38	38	4	3B		0		0					WE	3B	SEE 3P
55	TQ26204500	PGR			30	30	4	3B		0		0					WE	3B	
56	TQ26754504	PGR			28		3	3A	105	-5	108	5	3A				WE	3A	IMP 80 MN 45
57	TQ26704500	PGR			30		3	3A	68	-41	68	-35	3B				WE	3A	IMP 40 MN
58	TQ26804500	PGR			37		3	3A	91	-19	94	-9	3A				WE	3A	IMP 55 SLGL 24
60	TQ27004500	PGR			30	30	4	3B		0		0					WE	3B	
61	TQ27404500	PGR			30	30	4	3B		0		0					WE	3B	
62	TQ27624503	PGR			25	70	3	3B		0		0					WE	3B	
63	TQ27804500	PGR			25	38	4	3B		0		0					WE	3B	
65	TQ28004500	PGR			0	40	4	3B		0		0					WE	3B	
67	TQ28204500	PGR			0	30	4	3B		0		0					WE	3B	
69	TQ28334494	PGR			0	35	4	3B		0		0					WE	3B	
71	TQ26304490	PGR			0	25	4	3B		0		0					WE	3B	
74	TQ26704490	PGR			35		3	3A	94	-15	99	-4	3A				WD	3A	IMP 60 MN
76	TQ26904490	PGR			35		3	3A	86	-24	86	-17	3B				WE	3A	IMP 50 MN
77	TQ27304490	PGR			20	37	4	3B		0		0					WE	3B	
78	TQ27104490	PGR			30	70	3	3A		0		0					WE	3A	WATER @ 70
79	TQ27504491	PGR			23		3	3A	98	-12	102	-1	3A				WE	3A	IMP 78 MN/HR
80	TQ27604490	PGR	N	1	34	65	3	3A	103	-7	101	-2	3A				WE	3A	
81	TQ27704493	PGR			26		3	3A		0		0					WE	3A	IMP 78
82	TQ27864490	PGR			0	10	4	3B		0		0		Y			WE	3B	

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
88	TQ26204480	PGR	E	1		27	27	4	3B		0		0					WE	3B	
90	TQ26404480	PGR				0	30	4	3B		0		0					WE	3B	
92	TQ26604480	PGR				20		3	3A	83	-26	88	-15	3B				WE	3A	IMP60 MN QWE
94	TQ26804480	PGR				28	50	3	3A	96	-14	105	2	3A				WD	3A	IMP 65 MN/HR
96	TQ27004480	PGR				30	38	2	2	98	-12	106	3	3A				WE	3A	SEE 2P IMP 65
98	TQ27454479	PGR				30	65	3	3A		0		0					WE	3A	
99	TQ27604480	PGR				30	58	3	3A	129	20	118	15	2				WE	3A	SEE 5P
100	TQ27744481	PGR	E	1		34	34	4	3B	96	-14	108	5	3A				WE	3B	
101	TQ27984482	PGR				0	38	4	3B		0		0					WE	3B	
102	TQ27804480	PGR				0	30	4	3B		0		0					WE	3B	
103	TQ28204480	PGR				0	40	4	3B		0		0					WE	3B	
105	TQ28404480	PGR				10	10	4	3B		0		0					WE	3B	
107	TQ26304470	PGR				0	25	4	3B		0		0					WE	3B	SEE 1P
109	TQ26504470	PGR	E	1		25	37	4	3B		0		0					WE	3B	
113	TQ26904470	PGR				20	35	4	3B		0		0					WE	3B	
115	TQ27104470	PGR				30	65	3	3A	96	-14	106	3	3A				WE	3A	IMP 70 MN PAN
116	TQ27184477	PGR				28	70	3	3A		0		0					WE	3A	
117	TQ27304470	PGR				25	25	4	3B		0		0					WE	3B	
119	TQ27504467	PGR				28	40	4	3B		0		0					WE	3B	
121	TQ27694471	PGR				0	28	4	3B		0		0					WE	3B	
123	TQ28104470	PGR				0	40	4	3B		0		0					WE	3B	
126	TQ26204460	PGR	E	1		0	26	4	3B		0		0					WE	3B	
130	TQ26604460	PGR	W	1		0	24	4	3B		0		0					WE	3B	
132	TQ26804460	PGR				25	25	4	3B		0		0					WE	3B	
134	TQ27004460	PGR				0	52	3	3A		0		0					WE	3A	
136	TQ27104464	PGR				28	38	4	3B		0		0					WE	3B	
138	TQ27404460	PGR				22	70	3	3A	135	26	115	12	2				WE	3B	BOMB CRATER
139	TQ27704460	PGR				0	20	4	3B		0		0					WE	3B	
140	TQ27604460	RGR				0	60	3	3B		0		0					WE	3B	MN CONCS
141	TQ28074459	PGR				25	32	4	3B		0		0					WE	3B	
142	TQ28084458	PGR				30	65	3	3A		0		0					WE	3A	5M S OF 141
144	TQ26504450	PGR				20		3	3A	87	-22	92	-11	3B				WE	3A	IMP 60 MN
146	TQ26704450	PGR				38	38	4	3B		0		0					WE	3B	
148	TQ26904450	PGR				25	35	4	3B		0		0					WE	3B	
150	TQ27104450	PGR				20	42	4	3B		0		0					WE	3B	
151	TQ27204447	PGR				26	70	3	3A	108	-1	116	13	3A				WE	3A	IMP 75 MN
154	TQ26604440	PGR	W	2		52	52	3	3A	105	-4	110	7	3A	Y			FL	3B	FLOODING
156	TQ26804440	PGR				39	60	3	3A	135	26	112	9	2				WE	3A	
158	TQ26974444	PGR				0	55	3	3B	135	26	112	9	2				WE	3B	
159	TQ27104444	PGR				35	65	3	3A	148	39	116	13	1				WE	3A	WATER @ 85
160	TQ27234439	PGR				28	55	3	3A	111	2	109	6	3A				WE	3A	IMP90 WATER70
161	TQ26504430	PGR				30	60	3	3A		0		0		Y			FL	3B	

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
163	TQ20704430	PGR			35	40	4	3B		0		0					WE	3B	
164	TQ26804430	PGR			0	65	3	3A	93	-16	100	-3	3A				WE	3A	SEE PIT 7
165	TQ26904430	PGR			0	25	4	3B		0		0					WE	3B	
166	TQ26984429	PGR			28	80	2	2	129	20	105	2	2				WD	2	
167	TQ27104430	PGR			28	75	2	2	115	6	109	6	2				WD	2	IMP 90 MN
169	TQ27304430	PGR			33	70	3	3A		0		0					WE	3A	
171	TQ26604420	PGR			34	34	4	3B		0		0					WE	3B	SEE PIT 6
172	TQ26704420	PGR			25	35	4	3B		0		0					WE	3B	
173	TQ26804420	PGR			30		2	2	116	7	113	10	2				WD	2	IMP 85 MN
174	TQ26904420	PGR			26	75	2	3A	123	14	113	10	2				WE	3A	
175	TQ26984420	PGR			32	60	2	2	101	-8	110	7	3A				WE	3A	IMP 70 MN
177	TQ27204420	PGR			32	50	3	3A		0		0					WE	3A	
179	TQ26704410	PGR			28	28	4	3B		0		0					WE	3B	
181	TQ26904410	PGR			30	30	4	3B		0		0					WE	3B	
183	TQ27104410	PGR			28	65	3	3A	104	-5	112	9	3A				WE	3A	IMP 75 MN
184	TQ26604400	PGR			35	35	4	3B		0		0		Y			WE	3B	FLOODING
186	TQ26804400	PGR			0	30	4	3B		0		0					WE	3B	
188	TQ27004400	PGR			25	60	3	3A	132	23	113	10	2				WE	3A	IMP105MN SEE7P
190	TQ26504390	PGR			30	43	4	3B		0		0					WE	3B	
192	TQ26704390	PGR			30	70	3	3A	120	11	118	15	2	Y			FL	3B	FLOODING
194	TQ26904390	PGR			30	42	4	3B		0		0					WE	3B	
195	TQ27004390	PGR			0	35	4	3B	97	-12	109	6	3A				WE	3B	
198	TQ26804380	PGR			0	65	3	3A	103	-6	112	9	3A				WD	3A	IMP 65 MN
200	TQ27004382	PGR			20	40	4	3B	130	21	107	4	2				WE	3B	
201	TQ26704370	PGR			30		2	2	126	17	118	15	2	Y			FL	3B	FLOODING
P1	TQ26304470	PGR			25	25	4	3B	81	-29	84	-19	3B				WE	3B	PIT 55 @ 107
P2	TQ27004480	PGR			40	64	3	3A	118	8	115	12	2				WE	3A	PIT 93 AUG 120
P3	TQ27504510	PGR			22	42	4	3B	97	-13	106	3	3A	Y			WE	3B	
P4	TQ28404520	PGR			26	32	4	3B	94	-16	104	1	3A				WE	3B	PIT 60 AUG 70
P5	TQ27604480	PGR			29	58	3	3A	135	26	110	7	2				WE	3A	PIT 80 AUG 120
P6	TQ26704420	PGR			0	25	4	3B	117	8	101	-2	2				WE	3B	PIT 65 AUG 110
P7	TQ27004400	PGR			26	60	3	3A	125	16	108	5	2				WE	3A	PIT85 IMPAUG10

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	0-28	MZCL	25Y 52	75YR56	C	D	FEW MN	Y	0	0		0							
	28-38	HCL	25Y 62	75YR58	C	D	COM MN	Y	0	0		0		M			Y		
	38-70	C	05Y 72	75YR58	C	D	COM MN	Y	0	0		0		P			Y		
6	0-28	MCL	25Y 63						0	0		0							
	28-38	HCL	25Y 63	75YR56	C	F		Y	0	0		0		M					
	38-70	C	05Y 72	75YR58	C	D	COM MN	Y	0	0		0		P			Y		
11	0-25	HCL	10YR42						0	0		0							
	25-35	HCL	25Y 53						0	0		0		M					
	35-55	C	25Y 63	000C00	C	D		Y	0	0		0		P			Y		
14	0-25	MCL	25Y 63	75YR46	C	D		Y	0	0		0							
	25-39	HCL	25Y 63	75YR58	C	D	COM MN	Y	0	0		0		M					
	39-70	ZC	05Y 71	75YR68	M	D		Y	0	0		0		P			Y		
16	0-28	HCL	25Y 52						0	0		0							
	28-39	HCL	25Y 63	10YR56	C	F		Y	0	0		0		M					
	39-70	C	05Y 81	75YR68	C	D	COM MN	Y	0	0		0		P			Y		
17	0-28	MCL	10YR46						0	0		0							
	28-78	HCL	10YR43 44	10YR46	C	F		S	0	0		0		M					SLIGHTLY GLEYED
	78-120	HCL	75YR43	10YR56	C	F	COM MN	S	0	0		0		M					SLIGHTLY GLEYED
19	0-25	HCL	10YR42						0	0		0							
	25-55	C	25Y 64	000C00	M	D	COM MN	Y	0	0		0		P			Y		
21	0-30	HCL	10YR53				COM MN		0	0		0							
	30-50	MCL	75YR54						0	0		0		M					
	50-70	C	75YR53	000C00	C	D		Y	0	0		0		P			Y		
27	0-25	HCL	10YR43						0	0		0							
	25-50	HCL	10YR53						0	0		0		M					
	50-60	HCL	10YR53	000C00	C	D	MANY MN	Y	0	0		0		M					IMP 60
28	0-35	MCL	10YR43						0	0		0							
	35-70	HCL	10YR53	000C00	C	D	COM MN	Y	0	0		0		M					
	70-80	HCL	25Y 63	000C00	C	D	MANY MN	Y	0	0		0		P					IMP 80
29	0-25	MCL	10YR43						0	0		0							
	25-50	MCL	10YR43						0	0	HR	10		M					IMP 50
31	0-30	HCL	10YR53						0	0		0							
	30-40	HCL	10YR53	000C00	C	D		Y	0	0		0		M					
	40-60	HCL	10YR52	000C00	M	D		Y	0	0		0		P			Y		WET @ 40
32	0-26	HZCL	25Y 42 52	10YR56	C	D		Y	0	0	HR	2							
	26-60	ZC	25Y 61 62	10YR68	M	D	COM MN	Y	0	0		0		P			Y		
	60-70	ZC	05Y 71	10YR68	M	D		Y	0	0		0		P			Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	CALC
34	0-25	HZCL	25Y 42 52	10YR56	C	D		Y	0	0	HR	2						
	25-40	HZCL	25Y 53	10YR58	C	D		Y	0	0		0		M				
	40-65	ZC	25Y 62	10YR58	M	D		Y	0	0		0		P		Y		
	65-80	ZC	05Y 71	75YR58	M	D		Y	0	0		0		P		Y		
36	0-25	HZCL	25Y 52	10YR56	C	D	FEW MN	Y	0	0	HR	2						
	25-80	ZC	25Y 61 71	10YR58 68	M	D	FEW MN	Y	0	0		0		P		Y		
38	0-30	HCL	25Y 52	75YR56	C	D		Y	0	0		0						
	30-70	C	05Y 71	75YR58	M	D	COM MN	Y	0	0		0		P		Y		
40	0-28	MZCL	25Y 52	10YR56	C	F		Y	0	0		0						SEE 4P
	28-39	MCL	25Y 53	10YR56	C	F		Y	0	0		0		M				
	39-70	ZC	25Y 63 72	75YR68	C	D		Y	0	0		0		P		Y		
41	0-33	MZCL	10YR53	10YR46	C	D		Y	0	0		0						
	33-75	MZCL	25Y 82	10YR56	C	D	MANY MN	Y	0	0	HR	25		M				HR = FE/MN
	75-120	HZCL	10YR56	10YR56	M	D	COM MN	Y	0	0		0		P		Y		
42	0-28	MCL	10YR42						0	0		0						
	28-40	HCL	25Y 63						0	0		0		M				
	40-60	HCL	25Y 63	10YR56	M	D	MANY MN	Y	0	0		0		M		Y		IMP MN CONCS 60
43	0-30	MCL	10YR42						0	0		0						
	30-38	HCL	10YR53				COM MN		0	0		0		M				
	38-65	HCL	25Y 73	10YR56	C	D	COM MN	Y	0	0		0		M				
	65-80	HCL	25Y 73	10YR56	C	D	MANY MN	Y	0	0		0		P		Y		
45	0-35	MZCL	10YR43						0	0		0						
	35-70	C	25Y 53	10YR56	C	D		Y	0	0		0		P		Y		
46	0-25	MZCL	10YR34						0	0		0						SEE 3P
	25-38	HZCL	25Y 44						0	0		0		M				
	38-60	C	25Y 53	10YR56	C	D		Y	0	0		0		P		Y		
55	0-30	HCL	10YR53	000C00	C	D		Y	0	0		0						
	30-55	C	25Y 72	000C00	M	D	MANY MN	Y	0	0		0		P		Y		
56	0-28	MCL	10YR43						0	0		0						
	28-45	HCL	25Y 72	10YR56	C	D	COM MN	Y	0	0		0		M				
	45-80	HCL	25Y 62 63	10YR46	C	D	MANY MN	Y	0	0		0		P		Y		IMP 80
57	0-30	MCL	10YR53	000C00	C	D		Y	0	0		0						
	30-40	HCL	25Y 63	000C00	M	D	COM MN	Y	0	0	HR	15		M				IMP 40
58	0-24	MZCL	10YR43						0	0		0						
	24-37	MZCL	10YR44	10YR46	C	F		S	0	0		0		M				SL GLEYED
	37-55	MZCL	10YR63	10YR46	C	D	MANY MN	Y	0	0	HR	15		M				IMP 55 MN PAN

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	
60	0-30	HCL	10YR43						0	0		0							
	30-50	C	25Y 53	10YR56	C	D		Y	0	0		0		P			Y		
61	0-30	HZCL	25Y 53						0	0		0							
	30-60	ZC	25Y 63	10YR56	C	D		Y	0	0		0		P			Y		
62	0-25	HZCL	25Y 43 61	10YR58	C	D		Y	0	0	HR	2							
	25-70	HZCL	25Y 63 53	10YR56	C	D	COM MN	Y	0	0		0		M					
	70-120	ZC	05Y 71	10YR68	M	D		Y	0	0		0		P			Y		
63	0-25	MZCL	25Y 43 53	10YR56	F	D	FEW MN		0	0	HR	2							
	25-38	HZCL	25Y 43 53	10YR56	C	D	COM MN	Y	0	0		0		M					
	38-70	ZC	05Y 71	10YR68	M	D		Y	0	0		0		P			Y		
65	0-24	MZCL	25Y 43 52	10YR56	C	F	COM MN	Y	0	0	HR	2							
	24-40	HZCL	25Y 53 63	10YR56	C	D	COM MN	Y	0	0		0		M					
	40-70	ZC	05Y 71	10YR68	M	D		Y	0	0		0		P			Y		PLASTIC
67	0-30	HCL	25Y 63	75YR46	C	F		Y	0	0		0							
	30-70	C	05Y 71	75YR58 46	C	D	COM MN	Y	0	0		0		P			Y		
69	0-25	HZCL	25Y 42	10YR46	C	D		Y	0	0	HR	2							
	25-35	HZCL	25Y 52	10YR58	C	D	COM MN	Y	0	0		0		M					
	35-70	C	25Y 62 71	10YR58	M	D		Y	0	0		0		P			Y		
71	0-25	C	10YR53	000C00	C	D		Y	0	0		0							
	25-60	C	25Y 63	000C00	M	D	COM MN	Y	0	0		0		P			Y		
74	0-35	MCL	10YR43						0	0		0							
	35-45	MCL	10YR53	000C00	C	D		Y	0	0		0		M					
	45-60	HCL	10YR53	000C00	M	D	COM MN	Y	0	0	HR	20		M					IMP 60 MN PAN
76	0-35	MZCL	10YR43	10YR56	F	D			0	0	HR	2							
	35-50	MCL	25Y 53	10YR56	C	D	MANY MN	Y	0	0	HR	15		M					IMP 50 MN PAN
77	0-20	MZCL	10YR42	10YR56	C	D		Y	0	0		0							
	20-37	HZCL	25Y 53	10YR56	C	D		Y	0	0		0		M					
	37-60	ZC	25Y 63	10YR58	C	D		Y	0	0		0		P			Y		PLASTIC
78	0-30	MCL	10YR43	10YR56	C	D		S	0	0		0							SL GLEYED
	30-70	HCL	10YR53	10YR56	C	D		Y	0	0		0		M			Y		
	70-85	C	25Y 62	10YR58	M	D		Y	0	0		0		P			Y		WATER @ 70
79	0-23	MCL	10YR52 62	10YR46	C	D		Y	0	0	HR	2							
	23-50	MCL	25Y 71 63	10YR56	C	D	COM MN	Y	0	0	HR	10		M					
	50-78	HCL	25Y 72 63	10YR56	M	D	COM MN	Y	0	0	HR	10		P			Y		IMP STONES 78
80	0-34	MCL	10YR53				COM MN	Y	0	0		0							
	34-65	SCL	25Y 62	10YR56	C	D	MANY MN	Y	0	0	HR	30		M					
	65-85	C	25Y 72	10YR56	M	D		Y	0	0		0		P			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	
81	0-26	MCL	10YR54	10YR56	C	D		S	0	0		0							
	26-58	MCL	25Y 73 53	10YR46	C	D	MANY MN	Y	0	0	HR	10		M					
	58-78	MCL	25Y 54	10YR46	M	D	MANY MN	Y	0	0	HR	20		M					IMP MN 78
82	0-10	HCL	25Y 52	10YR58	M	D	COM MN	Y	0	0		0					Y		
	10-70	C	25Y 61 62	75YR58 46	M	D	COM MN	Y	0	0		0		P			Y		
88	0-27	HZCL	25Y 53	10YR46	C	D		Y	0	0		0							
	27-45	C	25Y 73 63	10YR46	C	D	COM MN	Y	0	0		0		P			Y		
	45-70	C	25Y 72	10YR56	M	D	COM MN	Y	0	0		0		P			Y		
90	0-30	HCL	10YR53	000C00	C	D		Y	0	0		0							
	30-55	C	25Y 63	000C00	M	D	MANY MN	Y	0	0		0		P			Y		
92	0-20	MCL	10YR53						0	0		0							
	20-30	MCL	10YR53	000C00	C	D		Y	0	0		0		M					
	30-60	HCL	25Y 63	000C00	M	D	MANY MN	Y	0	0		0		P			Y		I60MNPAN QSPL
94	0-28	MCL	10YR34						0	0		0							
	28 50	HCL	10YR53	10YR58	C	D	COM MN	Y	0	0		0		M					
	50-65	C	25Y 53	10YR58	M	D		Y	0	0		0		P			Y		IMP 65 GRAVELLY
96	0 30	MCL	10YR34						0	0		0							SEE 2P
	30-38	MCL	10YR53	10YR56	C	D		Y	0	0		0		M					
	38-48	HCL	25Y 53	10YR58	M	D	MANY MN	Y	0	0	HR	10		M			Y		
	48-65	MCL	25Y 53 63	10YR58	M	D	MANY MN	Y	0	0	HR	10		M					IMP 65 GRAVELLY
98	0-30	MCL	10YR42	10YR46	C	D	FEW MN	Y	0	0	HR	2							
	30-45	MCL	10YR43	10YR46	C	D	MANY MN	Y	0	0	HR	5		M					
	45-65	HCL	25Y 72 82	75YR58	M	D	MANY MN	Y	0	0	HR	5		M					
	65 90	C	05Y 71	10YR68	M	D	MANY MN	Y	0	0		0		P			Y		
99	0 30	MCL	10YR44	10YR56	C	D	COM MN	Y	0	0		0							SEE 5P
	30 40	HCL	10YR54	10YR46 56	C	D	COM MN	Y	0	0		0		M					
	40 78	HCL	25Y 63 73	75YR46 56	M	D	MANY MN	Y	0	0		0		M					SPL FROM 58
	78-100	C	05Y 62 51	75YR58	M	D	COM MN	Y	0	0		0		P			Y		PLASTIC
100	0-34	MCL	10YR54				COM MN	S	0	0		0							
	34-70	C	25Y73	10YR56	M	D		Y	0	0		0		P			Y		
101	0-28	HZCL	25Y 43 53	10YR56	C	D		Y	0	0	HR	2							
	28 38	HZCL	25Y 53 63	10YR58	M	D	FEW MN	Y	0	0		0		M					
	38-70	ZC	25Y 61 71	10YR58 68	M	D	MANY MN	Y	0	0		0		P			Y		
	70 90	ZC	05Y 71	10YR58	M	D	FEW MN	Y	0	0		0		P			Y		
102	0 30	HCL	10YR53	10YR46 56	C	D	COM MN	Y	0	0		0							
	30-70	C	25Y 62 72	75YR58	M	D	MANY MN	Y	0	0		0		P			Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	CALC
103	0-25	HZCL	25Y 42 52	10YR56	C	D	COM MN	Y	0	0	HR	2						
	25-40	HZCL	25Y 62 63	10YR58 68	M	D	COM MN	Y	0	0		0		M				
	40-70	ZC	25Y 62	10YR58	M	D	MANY MN	Y	0	0		0		P		Y		PLASTIC
	70-90	ZC	25Y 71	10YR58	M	D	FEW MN	Y	0	0		0		P		Y		
105	0-10	HCL	25Y 42						0	0	HR	10						
	10-70	C	05Y 71	75YR58	C	D		Y	0	0	HR	5		P		Y		
107	0-25	MZCL	25Y 53	10YR56	C	F		Y	0	0		0						SEE 1P
	25-70	C	25Y 72	10YR56	M	D		Y	0	0		0		P		Y		
109	0-25	MZCL	10YR43	10YR46	C	F		Y	0	0		0						
	25-37	HCL	25Y 63 81	10YR46	C	D		Y	0	0		0		M				
	37-50	C	25Y 72	10YR56	M	D	MANY MN	Y	0	0		0		P		Y		
	50-70	C	25Y 71	25Y 66	M	D	COM MN	Y	0	0		0		P		Y		
113	0-20	MCL	10YR43						0	0	HR	2						
	20-35	HCL	10YR53	10YR56	C	D		Y	0	0		0		M				
	35-50	C	25Y 62	10YR58	C	D		Y	0	0	HR	1		P		Y		
	50-70	C	25Y 62	10YR58	M	D	COM MN	Y	0	0		0		P		Y		PLASTIC
115	0-30	MCL	10YR34						0	0		0						
	30-42	HCL	25Y 53	10YR56	C	D		Y	0	0		0		M				
	42-65	HCL	25Y 53	10YR56	C	D		Y	0	0		0		M				
	65-70	HCL	10YR53	10YR58	M	D	COM MN	Y	0	0	HR	10		P		Y		IMP 70 MN PAN
116	0-28	MCL	10YR42 53	10YR56	F	F			0	0	HR	2						
	28-45	HCL	10YR53	10YR56	C	D	FEW MN	Y	0	0	HR	2		M				
	45-70	HCL	25Y 62 61	10YR58 68	M	D	COM MN	Y	0	0	HR	5		M				
	70-100	ZC	05Y 71	10YR68	M	D	FEW MN	Y	0	0		0		P		Y		
117	0-25	HCL	10YR43 42	10YR58	C	D	COM MN	Y	0	0	HR	2						
	25-60	C	25Y 61 62	10YR58 68	M	D	COM MN	Y	0	0	HR	2		P		Y		
	60-80	C	05Y 62 71	10YR68 58	M	D	COM MN	Y	0	0	HR	2		P		Y		
119	0-28	MCL	10YR42				COM MN		0	0	HR	2						
	28-40	MCL	25Y 52 53	10YR58 68	M	D	COM MN	Y	0	0		0		M				
	40-50	C	25Y 62	10YR58	M	D	COM MN	Y	0	0		0		P		Y		
	50-80	ZC	05Y 71	10YR68	M	D		Y	0	0		0		P		Y		
121	0-28	HCL	25Y 43 53	10YR56	M	D	COM MN	Y	0	0		0						
	28-70	C	05Y 62	75YR58	M	D	COM MN	Y	0	0		0		P		Y		
123	0-26	MZCL	25Y 42 52	10YR56	C	D	FEW MN	Y	0	0		0						
	26-40	HZCL	25Y 53 63	10YR56	M	F	COM MN	Y	0	0		0		M				
	40-75	ZC	25Y 62 63	10YR68	M	D	MANY MN	Y	0	0		0		P		Y		
	75-90	ZC	05Y 71	10YR68	M	D	FEW MN	Y	0	0		0		P		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	
126	0-26	HZCL	10YR53	10YR56	C	F	COM MN	Y	0	0		0							
	26-45	C	25Y 73 81	10YR56	C	D	COM MN	Y	0	0		0			P			Y	
	45-70	C	25Y 71	10YR68	M	D	COM MN	Y	0	0		0			P			Y	
130	0-24	HZCL	10YR43	10YR56	C	F	COM MN	Y	0	0		0							
	24-60	C	25Y 53	10YR46	C	F	COM MN	Y	0	0		0			P			Y	
	60-100	C	25Y 63	10YR56	C	D	MANY MN	Y	0	0		0			P			Y	
132	0-25	MCL	10YR43						0	0	HR	2							
	25-70	C	25Y 53	75YR58	M	D	COM MN	Y	0	0	HR	1			P			Y	
134	0-20	HCL	25Y 52	10YR56	C	D		Y	0	0		0							
	20-38	C	25Y 52	10YR56	C	D		Y	0	0		0			P				
	38-52	MCL	25Y 53	10YR58	C	D	MANY MN	Y	0	0	HR	10			M				
	52-70	C	25Y 52	10YR56	C	D	COM MN	Y	0	0		0			P			Y	
136	0-28	MCL	10YR43				FEW MN		0	0	HR	2							
	28-38	HCL	25Y 53	10YR66	C	D	COM MN	Y	0	0	HR	2			M				
	38-70	C	25Y 53 61	10YR58 68	M	D	FEW MN	Y	0	0		0			P			Y	
138	0-22	MZCL	10YR43 53				FEW MN		0	0	HR	2							
	22-35	HZCL	25Y 53	10YR56	C	F	COM MN	Y	0	0	HR	2			M				
	35-45	ZC	05Y 71	10YR68	M	D	FEW MN	Y	0	0		0			P				
	45-70	HZCL	05Y 53	10YR68	C	D	COM MN	Y	0	0	HR	5			M				
	70-100	C	05Y 52 62	75YR58	M	D	MANY MN	Y	0	0	HR	5			P			Y	
	100-120	ZC	05Y 71	10YR68	M	D	FEW MN	Y	0	0	HR	10			P			Y	
139	0-20	HCL	25Y 42 52	10YR56 58	M	D	COM MN	Y	0	0		0							
	20-75	C	05Y 51 52	75YR58	M	D	COM MN	Y	0	0		0			P			Y	
140	0-30	HCL	25Y 52	10YR58	M	D	MANY MN	Y	0	0		0							
	30-60	HCL	25Y 52	10YR58	M	D	MANY MN	Y	0	0		0			M				
	60-90	C	05Y 61 62	10YR56 58	M	D	COM MN	Y	0	0		0			P			Y	
141	0-25	MZCL	25Y 42 43	10YR56	F	F	FEW MN		0	0	HR	2							
	25-32	HZCL	25Y 62 61	10YR58 68	C	D	MANY MN	Y	0	0		0			M				
	32-80	ZC	05Y 71	10YR68	M	D	FEW MN	Y	0	0		0			P			Y	
142	0-30	MZCL	25Y 42 52	10YR56	C	F	FEW MN	Y	0	0	HR	2							
	30-65	HZCL	25Y 62 63	10YR58 68	M	D	MANY MN	Y	0	0	HR	5			M				
	65-90	ZC	05Y 71	10YR68	M	D		Y	0	0		0			P			Y	
144	0-20	MCL	10YR53						0	0		0							
	20-40	HCL	10YR53	000C00	C	D		Y	0	0		0			M				
	40-60	HCL	25Y 63	000C00	M	D	MANY MN	Y	0	0		0			P			Y	WET FROM 40
146	0-25	MCL	10YR42						0	0	HR	3							
	25-38	HCL	10YR53 61	10YR46	F	D	FEW MN		0	0	HR	2			M				
	38-80	C	10YR53 61	10YR46 58	M	D	MANY MN	Y	0	0	HR	3			P			Y	INTERBED HCL/C

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	
148	0-25	MCL	10YR43						0	0	HR	2							
	25-35	HCL	25Y 53	10YR56	C	D		Y	0	0	HR	2		M					
	35-100	C	25Y 53 52	10YR58	M	D	FEW MN	Y	0	0	HR	1		P			Y		
150	0-20	HCL	10YR43						0	0	HR	2							
	20-32	HCL	10YR53	10YR58	C	D		Y	0	0	HR	2		M					
	32-42	HCL	25Y 53 62	10YR58	M	D		Y	0	0	HR	1		M					
	42-64	C	25Y 62	75YR58	M	D	COM MN	Y	0	0		0		P			Y		
151	0-26	MCL	10YR42 43	10YR56	F	D			0	0	HR	2							
	26-70	MCL	25Y 53	10YR58	C	D	FEW MN	Y	0	0		0		M					
	70-75	SCL	10YR53 54	10YR58	M	D	MANY MN	Y	0	0	HR	10		P			Y		MNPAN 70 IMP 75
154	0-28	MCL	10YR53						0	0	HR	2							
	28-52	HCL	25Y 53 54	10YR46	F	D	FEW MN		0	0	HR	2		M					
	52-80	C	25Y 62 72	10YR46 58	M	D	MANY MN	Y	0	0	HR	2		P			Y		
156	0-30	MCL	10YR42						0	0	HR	2							
	30-39	HCL	10YR44				FEW MN		0	0	HR	3		M					
	39-60	HCL	25Y 53 61	75YR58 46	M	D	COM MN	Y	0	0	HR	5		M					
	60-85	C	25Y 61 62	10YR58 46	M	D	COM MN	Y	0	0	HR	3		P			Y		
	85-120	C	05Y 61	25Y 58	M	D	MANY MN	Y	0	0		0		P			Y		
158	0-24	HCL	10YR42 52	10YR56	C	D		Y	0	0		0							
	24-55	HCL	25Y 52	10YR58	M	D	FEW MN	Y	0	0		0		M					
	55-85	C	25Y 52 62	10YR58	M	D	COM MN	Y	0	0		0		P			Y		
	85-120	C	25Y 72	10YR58 68	M	D	FEW MN	Y	0	0		0		P			Y		
159	0-35	MCL	10YR43						0	0		0							
	35-55	HCL	10YR53 52	10YR58	M	D	COM MN	Y	0	0	HR	2		M					
	55-65	HCL	25Y 63	10YR58	M	D	MANY MN	Y	0	0	HR	5		M					
	65-95	SCL	25Y 63 62	10YR58	M	D	MANY MN	Y	0	0	HR	10		P			Y		
	95-120	SCL	25Y 62 72	10YR68	M	D	MANY MN	Y	0	0		0		M					
160	0-28	MCL	10YR43	10YR46	F	D	FEW MN		0	0	HR	2							SLIGHTLY SANDY
	28-55	HCL	25Y 53 62	10YR58	M	D	MANY MN	Y	0	0	HR	5		M					
	55-70	C	25Y 62	10YR58	M	D	COM MN	Y	0	0	HR	5		P			Y		SLIGHTLY SANDY
	70-90	SCL	25Y 54	10YR58	C	D	MANY MN	Y	0	0	HR	20		P			Y		MNPAN 70 IMP 90
161	0-30	MCL	10YR42						0	0		0							
	30-60	HCL	10YR53	10YR46 58	C	D	COM MN	Y	0	0		0		M					
	60-90	C	10YR53	10YR56	C	D	COM MN	Y	0	0		0		P			Y		
163	0-35	MCL	10YR43 53	10YR56	F	D	FEW MN		0	0	HR	5							
	35-40	HCL	10YR53 62	75YR58	M	D	MANY MN	Y	0	0	HR	5		M					
	40-70	C	05Y 61	10YR56 46	M	D	MANY MN	Y	0	0		0		P			Y		INTERBED HCL/C
164	0-32	MCL	10YR42 53	10YR46 53	C	D		Y	0	0	HR	2							
	32-46	HCL	10YR53 52	10YR58 46	M	D	COM MN	Y	0	0		0		M					
	46-65	HCL	25Y 62 72	10YR46 58	M	D	MANY MN	Y	0	0	HR	10		P					MNPAN 70 IMP 65

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
165	0-25	MCL	10YR42	10YR46	C	F		Y	0	0		0						
	25-40	C	25Y 62	75YR58	M	D	MANY MN	Y	0	0		0			P		Y	
	40-70	C	25Y 72	75YR58	M	D	COM MN	Y	0	0		0			P		Y	
	70-80	C	25Y 72	75YR58	M	D	MANY MN	Y	0	0	HR	5			P		Y	
166	0-28	MCL	10YR42						0	0	HR	2						
	28-45	HCL	25Y 53	10YR58	M	D	FEW MN	Y	0	0	HR	3			M			
	45-80	HCL	25Y 52 62	10YR58	M	D	MANY MN	Y	0	0	HR	5			M			
	80-120	SCL	25Y 62 53	10YR68	M	D	MANY MN	Y	0	0	HR	15			P		Y	MNPAN 80
167	0-28	MCL	10YR42 43						0	0	HR	3						
	28-43	HCL	25Y 62	10YR58	C	D	FEW MN	Y	0	0	HR	5			M			
	43-75	MSL	25Y 62	10YR68	C	D	MANY MN	Y	0	0	HR	10			M			
	75-90	SCL	25Y 62	75YR58	M	D	MANY MN	Y	0	0	HR	30			P		Y	MNPAN 75 IMP 90
169	0-33	MCL	10YR43	10YR46	F	D	FEW MN		0	0	HR	3						
	33-70	HCL	25Y 42 63	10YR46	M	D	MANY MN	Y	0	0	HR	10			P		Y	
	70-120	MCL	25Y 63 43	10YR46	M	D	MANY MN	Y	0	0	HR	30			P			
171	0-34	HCL	10YR42				FEW MN		0	0	HR	2						
	34-65	C	25Y 53 62	10YR58	M	D	COM MN	Y	0	0		0			P		Y	
	65-120	C	05Y 61	10YR56 58	M	D	MANY MN	Y	0	0		0			P		Y	PLASTIC
172	0-25	MCL	10YR43 42						0	0	HR	2						
	25-35	HCL	10YR53	10YR46	C	D	COM MN	Y	0	0	HR	5			M			
	35-55	C	25Y 53 62	10YR58 46	M	D	MANY MN	Y	0	0	HR	5			P		Y	PLASTIC
	55-70	HCL	25Y 63 53	10YR58 46	M	D	MANY MN	Y	0	0	HR	10			P		Y	
173	0-30	MCL	10YR32 43	10YR46	F	D	FEW MN		0	0		0						
	30-42	HCL	25Y 52	10YR56	C	D	COM MN	Y	0	0	HR	2			M			
	42-85	HCL	25Y 5362	10YR58	M	D	MANY MN	Y	0	0	HR	10			M			IMP MNPAN 85
174	0-26	HCL	10YR4252	10YR46	F	D			0	0		0						
	26-55	HCL	10YR52 53	10YR58	M	D	FEW MN	Y	0	0	HR	2			M			
	55-65	HCL	25Y 62 63	10YR58	M	D	COM MN	Y	0	0	HR	5			M			
	65-75	HCL	25Y 62 63	10YR58	M	D	MANY MN	Y	0	0	HR	10			M			
	75-100	C	25Y 72	10YR68	M	D		Y	0	0		0			P		Y	
175	0-32	MCL	10YR42						0	0		0						
	32-45	MCL	10YR53	10YR58	C	D	FEW MN	Y	0	0	HR	3			M			
	45-60	HCL	25Y 53	10YR58	M	D	COM MN	Y	0	0	HR	5			M			
	60 70	MSL	10YR34	10YR58	C	D	MANY MN	Y	0	0	HR	20			P			MNPAN 60 IMP 70
177	0-32	MCL	10YR42						0	0		0						
	32-50	HCL	25Y 62	10YR58	M	D	COM MN	Y	0	0		0			M			
	50 90	C	25Y 72	10YR68	M	D	FEW MN	Y	0	0		0			P		Y	
179	0-28	MCL	10YR42 43	10YR46	F	D	FEW MN		0	0	HR	2						
	28-40	C	25Y 52	10YR58	M	D	COM MN	Y	0	0	HR	5			P		Y	
	40-90	C	25Y 61	10YR68	M	D	COM MN	Y	0	0		0			P		Y	PLASTIC

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	
181	0-30	MCL	10YR42	10YR56	F	D			0	0		0							
	30-55	C	25Y 72	10YR68	M	D		Y	0	0		0		P			Y		
	55-80	C	25Y 72	75YR68	M	D	COM MN	Y	0	0		0		P			Y		
183	0-28	MCL	10YR42				FEW MN		0	0	HR	2							
	28-55	HCL	25Y 62	10YR58 68	C	D	COM MN	Y	0	0	HR	5		M					
	55-65	HCL	25Y 62	10YR58 68	M	D	MANY MN	Y	0	0		0		M					MNPAN 65 IMP 75
	65-75	SCL	25Y 53	75YR58	M	D	MANY MN	Y	0	0	HR	20		P			Y		
184	0-35	HCL	10YR42 53	10YR58 46	M		MANY MN	Y	0	0		0							
	35-65	C	10YR53	10YR56	C		COM MN	Y	0	0		0		P			Y		
186	0-30	MCL	10YR42	10YR56	C	F		Y	0	0	HR	2							
	30-55	C	25Y 53	10YR58	M	D	COM MN	Y	0	0	HR	5		P			Y		
	55-90	C	25Y 72	10YR68	M	D		Y	0	0		0		P			Y		PLASTIC
188	0-25	MCL	10YR42						0	0	HR	2							SEE 7P
	25-35	HCL	10YR53	10YR56	C	D	FEW MN	Y	0	0	HR	2		M					
	35-60	HCL	25Y 53 63	10YR66	C	D	MANY MN	Y	0	0	HR	5		M					
	60-95	MCL	25Y 63	10YR58	M	D	MANY MN	Y	0	0	HR	5		P			Y		MNPAN 60
	95-105	SCL	25Y 52	10YR68	M	D	MANY MN	Y	0	0	HR	20		P			Y		IMP 105
190	0-30	MCL	10YR42						0	0		0							
	30-43	HCL	10YR53	10YR56 58	C		COM MN	Y	0	0		0		M					
	43-70	C	25Y 53 62	10YR58 46	M		MANY MN	Y	0	0		0		P			Y		
192	0-30	MCL	10YR42 43				FEW MN		0	0		0							
	30-70	HCL	10YR53	10YR56	C		COM MN	Y	0	0		0		M					
	70-90	C	10YR63 61	10YR46	C		COM MN	Y	0	0		0		P			Y		
194	0-30	MCL	10YR42						0	0	HR	2							
	30-42	HCL	10YR53	10YR58	C	D		Y	0	0		0		M					
	42-55	C	25Y 53	10YR58	M	D	MANY MN	Y	0	0	HR	5		P			Y		BDR HCL
	55-90	C	25Y 62	75YR58	M	D	COM MN	Y	0	0	HR	5		P			Y		
195	0-35	MCL	10YR42 53	10YR56	C			Y	0	0		0							
	35-70	C	25Y 72 63	75YR58 68	M		COM MN	Y	0	0		0		P			Y		
198	0-38	MCL	10YR42 53	10YR56 46	C		COM MN	Y	0	0		0							
	38-65	HCL	25Y 62	10YR46 58	M		COM MN	Y	0	0		0		M					MNPAN 65 IMP 65
200	0-20	MCL	10YR42	10YR56	C			Y	0	0		0							
	20-30	MCL	25Y 53	10YR56	C			Y	0	0		0		M					
	30-40	HCL	25Y 63	10YR46 58	C		COM MN	Y	0	0		0		M					
	40-120	C	25Y 72	75YR58 68	M		MANY MN	Y	0	0		0		P			Y		
201	0-30	HCL	10YR42	10YR56	C		FEW MN	Y	0	0		0							
	30-90	HCL	10YR53	10YR46 56	C		COM MN	Y	0	0		0		M					MNPAN 90 IMP 90

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES >2	>6	LITH	TOT	STRUCT/ CONSIST	STR	POR	IMP	SPL	CALC	
P1	0-25	MZCL	25Y 53	10YR56	C	F	COM MN	Y	0	0		0							PIT @ 107
	25-55	C	25Y 71	10YR58	M	D		Y	0	0		0	MDCAB	FM	P	Y		Y	
P2	0-23	MCL	10YR42 43						0	0	HR	2							BDR MZCL PIT @ 96
	23-40	MCL	10YR54	75YR58	C	D	COM MN	S	0	0	HR	19	MDCSAB	FR	M	N			SIEVED STONES
	40-64	SCL	25Y 72	75YR58	M	D	MANY MN	Y	0	0	HR	25	MDCAB	FR	M	N			SIEVED STONES
	64-85	SCL	25Y 72	75YR58	M	D	MANY MN	Y	0	0	HR	29	MDVCPL	FM	P	Y		Y	SIEVED STONES
	85-120	SCL	25Y 62	75YR58	M	D	MANY MN	Y	0	0	HR	25	WKCPL	FR	P	Y		Y	PIT 93 AUG 120
P3	0-22	MZCL	10YR42						0	0		0							PIT @ 202
	22-42	HZCL	25Y 53	10YR56	C	D	25Y 53	Y	0	0		0	MDCSAB	FR	M	N			COM MN
	42-65	C	25Y 52	10YR56	M	D		Y	0	0		0	WKCPR	FM	P	Y		Y	
P4	0-26	MZCL	25Y 42 53	10YR56	F	F			0	0	HR	2							PIT @ BOR 40
	26-32	HZCL	25Y 53 62	10YR56	C	F	25Y 52	Y	0	0	HR	2	MDCSAB	FR	M	N			TENDING AB
	32-70	ZC	05Y 71	10YR68	M	D	25Y 62	Y	0	0		0	WKCAB	FM	P	Y		Y	WAT32 PIT60 AUG70
P5	0-29	MCL	10YR42	10YR46 56	F	F	FEW MN		0	0	HR	2							PIT @ BOR 99
	29-46	HCL	25Y 53 52	10YR58	C	D	25Y 52	Y	0	0	HR	2	MDCSAB	FR	M	N			FEW MN
	46-58	HCL	25Y 63 61	10YR58 68	M	D		Y	0	0	HR	5	WKCSAB	FR	M	N			MANY MN
	58-72	HCL	25Y 61	75YR58	M	D	25Y 61	Y	0	0	HR	5	MDVCPL	FM	P	Y		Y	MANY MN BDR C
	72-120	ZC	05Y 71	75YR68 58	M	D	05Y 71	Y	0	0		0	WKCAB	FM	P	Y		Y	PIT 80 AUG 120
P6	0-25	MCL	10YR42 52	10YR46	C	D		Y	0	0	HR	2							FEW MN PIT@171
	25-110	C	25Y 62 53	10YR58	M	D	05Y 61	Y	0	0	HR	3	MDCAB	FM	P	Y		Y	INTERBED HCL/C
P7	0-26	MCL	10YR42 43	10YR46	F	D			0	0		0							PIT @ BOR 188
	26-41	HCL	10YR52	10YR58	C	D	10YR53	Y	0	0		0	MDCSAB	FR	M	N			FEW MN
	41-60	HCL	25Y 63	10YR58	M	D	25Y 62	Y	0	0	HR	5	MDCSAB	FR	M	N			COM MN
	60-105	SCL	25Y 62 73	10YR46 58	M	D	25Y 63	Y	0	0	HR	39	WKVCPL	FM	P	Y		Y	IMPMN 105 SVD HR