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Proposed Golf Course
Norwood Farm
Cobham, Surrey

Agricultural Land Classification
ALC Map and Report

August 1997

Resource Planning Team
Eastern Region
FRCA Reading

RPT Job Number 4001/105/97
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AGRICULTURAL LAND CLASSIFICATION REPORT

PROPOSED GOLF COURSE, NORWOOD FARM, COBHAM, SURREY

INTRODUCTION

1 This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of approximately 82 hectares of land to the north of Cobham around Norwood Farm The survey was carried out during August 1997

2 The survey was undertaken by the Farming and Rural Conservation Agency (FRCA) on behalf of the Ministry of Agriculture Fisheries and Food (MAFF) in connection with an ad-hoc planning application for a golf course This survey supersedes any previous ALC information for this land including a previous 1978 ALC survey (ADAS Ref 4001/02/78)

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 majority of agricultural land was in volunteer oilseed rape with smaller areas of rough and permanent grassland The areas of non-agricultural land comprise farm buildings trackways and waterways

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 below

Table 1 Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
3a	6 4	8 6	7 9
3b	68 4	91 4	83 9
Other land	5 6	N/A	6 9
Not surveyed	1 1	N/A	1 3
Total survey area	74 8	100	N/A
Total site area	81 5	N/A	100

7 The fieldwork was conducted at an average density of 1 boring every hectare A total of 82 borings and 5 soil pits were described

8 The majority of the site has been classified as Subgrade 3b (moderate quality agricultural land) with two smaller areas of Subgrade 3a (good quality agricultural land) Soil droughtiness and/or soil wetness are the main limitations with flood risk and topsoil stoniness being occasionally limiting

9 Most of the land is affected by soil droughtiness Soil profiles comprise sandy textures which are impenetrable to the auger at depth due to moderate or very stony lower subsoils Some profiles comprise deep well drained sandy soils with little stone content whilst others are moderately stony from the surface In this local climatic regime the combination of soil textures structures and stone contents acts to restrict the amount of profile available water for crops As a result the level and consistency of crop yields may be restricted The majority of the land has therefore been classified as Subgrades 3a and 3b on the basis of a slight or moderate soil droughtiness limitation

10 Occasional profiles comprise heavier textures and the soils are less well drained than those described above Soil wetness alone or in combination with soil droughtiness acts to restrict the land to Subgrade 3a or Subgrade 3b

11 Land adjacent to the River Mole is poorly drained Here both flood risk and soil wetness restricts the land to Subgrade 3b The resultant waterlogging will restrict seed germination and growth and also limit the timing of cultivations and trafficking by farm machinery and grazing livestock

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 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met Office 1989)

Table 2 Climatic and altitude data

Factors	Units	Values	Values
Grid reference	N/A	TQ 110 628	TQ 106 618
Altitude	m AOD	15	19
Accumulated Temperature	day°C	1501	1497
Average Annual Rainfall	mm	637	652
Field Capacity Days	days	132	136
Moisture Deficit Wheat	mm	121	119
Moisture Deficit Potatoes	mm	118	116
Overall Climatic Grade	N/A	Grade 1	Grade 1

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

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 The site is climatically Grade 1 The site is not believed to be at risk from local climatic factors such as frost or exposure

Site

17 The survey are is relatively flat The higher land occurs in the south east corner of the site (20m AOD) whereas the lower land lies adjacent to the River Mole along the north west boundary of the site (15m AOD) Nowhere on the site does gradient or micro-relief affect agricultural quality

Geology and Soils

18 The published geological information for the site (BGS 1978 and 1981) shows the majority of the area to be underlain with river terrace gravel deposits The land adjacent to the River Mole (along the western boundary of the site) is shown as alluvium, whereas the are to the far south west corner of the site is mapped as Bagshot Beds

19 The most recently published soil information for the site (SSEW 1983) shows the vast majority of the survey are as the Hucklesbrook Association, wit the land immediately adjacent to the River Mole being mapped as the Fladbury Association The former is described as Well drained coarse loamy and some sandy soils commonly over gravel Some similar permeable soils affected by groundwater Usually on flat land (SSEW 1983) The latter is described as Stoneless clayey fine silty and fine loamy soils affected by groundwater Usually on flat land Risk of flooding (SSEW 1983)

20 Upon detailed field examination soils were broadly consistent with the above description

AGRICULTURAL LAND CLASSIFICATION

21 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

22 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

23 Land of good quality has been mapped in two discrete areas The first occurs in the central north eastern part of the site whilst the second lies in the far south east corner The principal limitations are soil droughtiness with soil wetness being equally or more restricting in places

24 The soils within this unit comprise intermixed sand and clays so are therefore variable depending on the amount of sand in the profile The observations affected by soil droughtiness

tend to comprise stoneless to slightly stony (0 10% total flints 0 6% > 2cm 0 3 % > 6cm diameter) medium sandy loam topsoils These topsoils overlie upper subsoils which range considerably in texture from loamy medium sand to sandy clay loam The upper subsoils vary from being very slightly to slightly stony (5 15% total flints) Lower subsoils are very similar in that they vary in composition from medium sand to sandy clay loam but they can contain as much as 40% total flints Some of the profiles are impenetrable to the auger at depths between 50 90cm over flints The depth to gleying varies considerably between profiles in this unit Occasional soils are gleyed from the surface whereas other profiles are gleyed at 60cm depth Despite the evidence of wetness within these profiles the land is generally well drained (aided in some instances by the high flint content) A wetness class of I or II has been assigned to these soils depending on the depth to gleying and subsoil texture Pit 3 is representative of this soil type in this mapping unit On the whole the combination of soil texture and hard stone restricts the water available to crops such that there is a risk of drought stress to the plants in most years This restricts the land to Subgrade 3a Land of this quality could be expected to produce moderate yields of a wide range of crops including oilseed rape and potatoes and moderate to high yields of a narrow range of crops principally cereals and grass

25 Land affected by minor soil wetness comprises medium clay loam or medium sandy loam topsoils which are similar in stone content than those described above These tend to pass into heavier textured (medium clay loam sandy clay loam and clay) very slightly stony (0-3% total flints) upper subsoils which are usually gleyed and are in some instances slowly permeable Lower subsoils comprise stoneless clay sandy clay sandy and heavy clay loam textures which are usually poorly structured and slowly permeable The depth to gleying varies from the surface down to 35cm A wetness class of III or IV and subsequently Subgrade 3a is therefore considered appropriate depending on topsoil texture depth to gleying and the slowly permeable layer The impeded drainage tends to restrict utilisation of the land to a moderate degree by reducing the number of days when cultivations and/or grazing may occur without causing structural damage to the soil

Subgrade 3b

26 Land of moderate quality covers the majority of the survey area The principal limitation is soil droughtiness with soil wetness and/or flooding occurring to a lesser extent

27 The areas affected by soil droughtiness are those where soil profiles typically consist of a very slightly to moderately stony (up to 18% flints) medium sandy loam or loamy medium sand topsoil These usually pass to similarly textured (but occasionally lighter or heavier) upper subsoils which vary depending on the amount of sand content (as in the similar soils in the Subgrade 3a unit) The volume of flint also varies in the upper subsoil and can reach as high as 40% total Lower subsoils are similar in their variability but tend to be slightly coarser textured (loamy medium sand and medium sand) Stone content can reach as high as 60% in these lower horizons The majority of the borings within this unit are impenetrable to the auger at depths between 40 and 110cm The degree of wetness varies considerably within these profiles Some soils show no signs of gleying whilst others are gleyed from the surface Despite this these areas of the Subgrade 3b unit tend to be well drained usually having a Wetness Class of I or occasionally II Soil pits 1 4 and 5 are representative of these soil types The high volumes of hard stone in the soils as well as the relatively coarser textures of the soils act to significantly reduce the available water for crops such that within the local climatic regime Subgrade 3b is appropriate

28 Land of moderate quality is mapped extensively in the flat lower lying areas in the valley bottom adjacent to the River Mole The land is assigned to this grade on account of moderate soil wetness and workability limitations but with an overriding limitation of flood risk The soil profiles are very variable in nature ranging from heavy clayey profiles (similar to those described in paragraph 25) to lighter stonier profiles The degree of wetness will subsequently vary according to the specific nature of the soils Irrespective of soil properties local information on flood risk suggests that the land should be no better than Subgrade 3b and as such will present significant difficulties in terms of cropping and cultivations

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SOURCES OF REFERENCE

British Geological Survey (1981) Sheet No 269 Windsor 1 50 000 scale (Solid and Drift Edition) BGS London

British Geological Survey (1978) Sheet No 270 South London 1 50 000 scale (Solid and Drift Edition) 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) *Sheet 6 Soils of South East England* 1 250 000 scale SSEW Harpenden

Soil Survey of England and Wales (1984) *Soils and their Use in South East England.* Bulletin 15 SSEW Harpenden

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% 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	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 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 BURHILL GC COBHAM Pit Number 1P

Grid Reference TQ10306190 Average Annual Rainfall 646 mm
Accumulated Temperature 1498 degree days
Field Capacity Level 135 days
Land Use Oilseed Rape
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	MSL	10YR42 00	3	6	HR					
28- 42	LMS	10YR44 00	0	6	HR		MDVCAB	FR	G	
42- 55	LMS	10YR54 00	0	42	HR			VF	M	
55- 76	LMS	10YR54 64	0	55	HR			VF	M	
76- 90	LMS	10YR54 56	0	60	HR			VF	M	
90-100	MS	10YR64 00	0	55	HR	C		VF	M	
100-120	LMS	25 Y63 00	0	15	HR	C	WKCSAB	VF	M	

Wetness Grade 1 Wetness Class I
Gleying 090 cm
SPL cm

Drought Grade 3B APW 081mm MBW -39 mm
APP 069mm MBP -47 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name BURHILL GC COBHAM Pit Number 2P

Grid Reference TQ10206200

Average Annual Rainfall 646 mm
Accumulated Temperature 1498 degree days
Field Capacity Level 135 days
Land Use Permanent Grass
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 27	HZCL	10YR42 00	0	1	HR	C				
27- 45	C	10YR52 00	0	0		M	MCSAB	FM	M	
45- 70	C	10YR62 00	0	0		M	MCPR	FM	P	

Wetness Grade 3B

Wetness Class III
Gleying cm
SPL 045 cm

Drought Grade 3A

APW 100mm MBW -20 mm
APP 112mm MBP -5 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Wetness

SOIL PIT DESCRIPTION

Site Name BURHILL GC COBHAM Pit Number 3P

Grid Reference TQ10706190 Average Annual Rainfall 646 mm
Accumulated Temperature 1498 degree days
Field Capacity Level 135 days
Land Use Oilseed Rape
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 31	MSL	10YR42 00	0	1	HR					
31- 47	LMS	10YR44 00	0	0		C	MVCSAB	FR	G	
47- 76	LMS	10YR72 00	0	0		M	MDVCAB	FR	G	
76- 85	SCL	10YR62 63	0	7	HR	M	MVCSAB	FR	M	
85- 94	SCL	25Y 63 72	0	20	HR	M	MVCSAB	FR	M	
94-120	MSL	25Y 53 00	0	30	HR	M	MVCSAB	FR	M	

Wetness Grade 1 Wetness Class I
Gleying 047 cm
SPL cm

Drought Grade 3A APW 125mm MBW 5 mm
APP 090mm MBP -26 mm

FINAL ALC GRADE 3A
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name BURHILL GC COBHAM Pit Number 4P

Grid Reference TQ10706210 Average Annual Rainfall 646 mm
Accumulated Temperature 1498 degree days
Field Capacity Level 135 days
Land Use Oilseed Rape
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 32	MSL	10YR32 00	1	3	HR					
32- 56	MSL	10YR43 00	0	38	HR			VF	M	
56-100	LMS	10YR44 00	0	44	HR	M		VF	M	
100-120	LMS	10YR34 00	0	42	HR			VF	M	

Wetness Grade 1 Wetness Class I
Gleying cm
SPL cm

Drought Grade 3B APW 093mm MBW -27 mm
APP 082mm MBP -35 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name BURHILL GC COBHAM Pit Number 5P

Grid Reference TQ10606240 Average Annual Rainfall 646 mm
Accumulated Temperature 1498 degree days
Field Capacity Level 135 days
Land Use Oilseed Rape
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	LMS	10YR34 00	1	2	HR					
28- 60	LMS	10YR44 00	0	1	HR		WKCSAB	VF	M	
60- 87	LMS	10YR54 00	0	2	HR		WKCSAB	VF	M	
87-120	LMS	10YR54 00	0	18	HR	M	WKCSAB	VF	M	

Wetness Grade 1 Wetness Class I
Gleying cm
SPL cm

Drought Grade 3B APW 082mm MBW -38 mm
APP 066mm MBP -51 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Droughtiness

SAMPLE NO	GRID REF	USE	ASPECT	--WETNESS-- GRDNT	GLEY	SPL	CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	TQ11106290	PGR			030		2	2	152	31	117	-1	2	Y			FL	3B	
1P	TQ10306190	OSR			090		1	1	081	-39	069	-47	3B				DR	3B	
2	TQ10906280	PGR			025	025	4	3B	000	0	000	0		Y			WE	3B	FLOODING
2P	TQ10206200	PGR			0	045	3	3B	100	-20	112	-5	3A	Y			WE	3B	
3	TQ11006280	PGR			075		1	1	125	4	095	-23	3A				DR	3A	Q FLOODING
3P	TQ10706190	OSR			047		1	1	125	5	090	-26	3A				DR	3A	SL GL 31CM
4	TQ11106280	PGR			060		1	1	141	20	114	-4	2	Y			FL	3B	
4P	TQ10706210	OSR					1	1	093	-27	082	-35	3B				DR	3B	
5	TQ10806270	OSR					1	1	063	-58	067	-51	4				DR	3B	IMP 72 SEE 5P
5P	TQ10606240	OSR					1	1	082	-38	066	-51	3B				DR	3B	
6	*TQ10906270*	OSR					1	1	*076*	*-45*	*079*	*-39*	3B				DR	3B	IMP 65 SEE PIT
7	TQ11006270	PGR			0		2	1	077	-44	077	-41	3B				DR	3B	IMP 50
8	TQ11106270	PGR			0		2	1	077	-44	077	-41	3B				DR	3B	IMP 50
9	TQ11206270	PGR			0	025	4	3B	000	0	000	0					WE	3B	
10	TQ11306270	PGR			038	070	2	2	136	15	111	-7	2	Y			FL	3B	
11	TQ10406262	PGR			060	060	2	2	000	0	000	0		Y			FL	3B	
12	TQ10506260	PGR			030		2	2	146	26	117	1	2	Y			FL	3B	
13	TQ10606258	OSR					1	1	041	-79	041	-75	4				DR	3B	I40 SEE 5P
14	TQ10706260	OSR					1	1	050	-70	051	-65	4				DR	3B	I55 SEE 5P
15	TQ10806260	OSR					1	1	065	-55	065	-51	4				DR	3B	I80 SEE 5P
16	TQ10906260	OSR			055		1	1	083	-38	087	-31	3B				DR	3B	SEE 5P
17	TQ11006260	OSR					1	1	055	-66	055	-63	4				DR	3B	I40 SEE 5P
18	TQ11106260	LEY			0	042	3	3A	000	0	000	0					WE	3A	
19	*TQ11206260*	LEY					1	1	*048*	*-72*	*048*	*-68*	4				DR	3B	SEE 4P
20	TQ10306250	PGR			025	055	3	3A	000	0	000	0		Y			FL	3B	
21	TQ10406248	PGR			060		1	1	152	32	117	1	2	Y			FL	3B	
22	TQ10506250	OSR					1	1	059	61	063	-53	4				DR	3B	I70 SEE 5P
23	TQ10606250	OSR					1	1	072	-48	077	-39	3B				DR	3B	I70 SEE 5P
24	TQ10706250	OSR			100		1	1	081	-39	066	-50	3B				DR	3B	SEE 5P
25	TQ10806250	OSR			050		1	1	082	-38	066	-50	3B				DR	3B	SEE 5P
26	TQ10906250	OSR			035		1	1	088	-33	088	-30	3B				DR	3B	I80 SEE 4P
27	TQ11026248	LEY			035		2	1	083	-37	083	-33	3B				DR	3A	IMP SEE 3P
28	TQ11106250	LEY			035		1	1	064	-56	064	-52	4				DR	3B	SEE 4P
29	TQ10206240	PGR			0	050	3	3A	138	18	113	-3	2	Y			FL	3B	
30	TQ10306240	PGR			0	028	4	3B	000	0	000	0					WE	3B	FLOODING
31	*TQ10406240*	PGR			*030*	*055*	3	3A	119	-1	115	-1	3A	Y			FL	3B	
32	TQ10506240	OSR					1	1	054	-66	056	-60	4				DR	3B	I60 SEE 5P
33	TQ10606240	OSR					1	1	072	-48	066	-50	3B				DR	3B	I95 SEE 5P
34	TQ10706240	OSR					1	1	070	-50	067	-49	4				DR	3B	I90 SEE 5P
35	TQ10806240	OSR			0		1	1	087	-34	090	-28	3B				DR	3B	I58 SEE 4P
36	TQ10906240	OSR			035	035	4	3A	127	6	101	-17	3A				WD	3A	
37	TQ11006240	RGR			0		2	1	137	17	102	-14	3A				DR	3A	

SAMPLE NO	GRID REF	USE	ASPECT		GRDNT	GLEY	SPL	WETNESS CLASS	WETNESS GRADE	WHEAT AP	WHEAT MB	POTS AP	POTS MB	DRT	M REL FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
38	TQ11106240	RGR				0		2	1	122	2	76	-40	2				DR	2	
39	TQ10356228	OSR	W		03			1	1	042	-78	042	-74	4				DR	3B	I40 SEE 1P
40	TQ10506230	OSR						1	1	081	-39	065	-51	3B				DR	3B	SEE 5P
41	TQ10606230	OSR						1	1	079	-41	066	-50	3B				DR	3B	I110 SEE 5P
42	TQ10706230	OSR						1	1	063	-57	063	-53	4				DR	3B	I80 SEE 5P
43	TQ10806230	OSR				030		1	1	091	-30	096	-22	3B				DR	3B	I70 SEE 4P
44	TQ10906230	RGR				0		2	1	097	-23	103	-14	3B				DR	3A	I75 SEE 3P
45	TQ11006230	RGR				0		1	1	095	-25	094	-23	3B				DR	3B	I80 SEE 3P
46	TQ10306220	OSR	W		03			1	1	060	-60	057	-59	4				DR	3B	I90 SEE 5P
47	TQ10406220	OSR						1	1	052	-68	054	-62	4				DR	3B	I60 SEE 5P
48	TQ10506220	PGR						1	1	059	-61	059	-57	4				DR	3B	I45 SEE 5P
49	TQ10606220	OSR						1	1	094	-26	101	-15	3B				DR	3B	I70 SEE 4P
50	TQ10706220	OSR				032		1	1	063	-58	064	-54	4				DR	3B	I55 SEE 4P
51	TQ10806220	OSR				030		1	1	064	-57	065	-53	4				DR	3B	I57 SEE 4P
52	TQ10906220	OSR				035		1	1	074	-47	076	-42	3B				DR	3B	IMP 72
53	TQ11006220	RGR				035		1	1	105	-15	106	-11	3A				DR	3B	
54	TQ10206210	PGR				050	075	2	2	147	27	123	7	2				FL	3B	
55	TQ10306210	OSR						1	1	054	-66	056	-60	4				DR	3B	I64
56	TQ10406210	ZSR	E		01			1	1	062	-58	061	-55	4				DR	3B	I80
57	TQ10506210	PGR						1	1	090	-30	093	-23	3B				DR	3B	I55 SEE 4P
58	TQ10606210	OSR						1	1	065	-56	068	-50	4				DR	3B	I60 SEE 4P
59	TQ10706210	OSR				035		1	1	077	-44	081	-37	3B				DR	3B	I70 SEE 4P
60	TQ10806210	OSR				028		1	1	091	-29	096	-20	3B				DR	3B	I65 SEE 4P
61	TQ10906210	OSR				030		1	1	080	-40	083	-33	3B				DR	3B	I60 SEE 4P
62	TQ10206200	PGR				025	045	3	3A	137	17	114	-2	2				WE	3B	SEE PIT 2
63	TQ10306200	OSR						1	1	065	-55	065	-51	4				DR	3B	I82 SEE 5P
64	TQ10406200	OSR						1	1	075	-45	066	-50	3B				DR	3B	I100 SEE 5P
65	TQ10506200	PGR				0	035	4	3A	123	3	108	-8	3A				WE	3A	
68	TQ10806200	OSR				035		1	1	067	-53	067	-49	4				DR	3B	I48 SEE 4P
69	TQ10906200	OSR				032		1	1	065	-55	065	-51	4				DR	3B	I50 SEE 4P
70	TQ10106190	PGR				0	060	3	3A	140	20	117	1	2	Y			FL	3B	SEE PIT 2
71	TQ10206190	OSR						1	1	044	-76	044	-72	4				DR	3B	I50 SEE 1P
72	TQ10306190	OSR						1	1	070	-50	071	-45	4				DR	3B	I55 SEE 1P
73	TQ10406190	OSR				030		1	1	089	-31	089	-27	3B				DR	3B	I80 POSS 3A
74	TQ10506190	OSR						1	1	066	-54	066	-50	4				DR	3B	I40 SEE 1P
75	TQ10606190	OSR				045		1	1	083	-37	087	-29	3B				DR	3B	I68 SEE 4P
76	TQ10706190	OSR				035		1	1	086	-34	081	-35	3B				DR	3A	I85 SEE 3P
77	TQ10806190	OSR	W		01	060		1	1	000	0	000	0					DR	3A	I90 SEE 3P
78	TQ10906190	ZSR				035		1	1	078	-42	078	-38	3B				DR	3B	I50 SEE 4P
79	TQ10206180	OSR						1	1	045	-75	045	-71	4				DR	3B	I50 SEE 1P
80	TQ10306180	OSR				030		1	1	078	-42	078	-38	3B				DR	3B	I50 SEE 1P
81	TQ10406180	OSR				030		1	1	080	-40	080	-36	3B				DR	3B	150 SEE 1P

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
82	TQ10506180	OSR			032	043	3	3A	121	1	107	-9	3A				WD	3A	
83	TQ10606180	OSR	W	01			1	1	067	-53	067	-49	4				DR	3B	I50 SEE 1P
84	TQ10706180	OSR			030		2	1	107	-13	092	-24	3A				DR	3A	I90 SEE 3P

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	CALC
1	0-30	mcl	10YR42 00						0	0		0						
	30-55	hcl	10YR52 00	10YR58 00	C			Y	0	0	HR	2		M				
	55-70	c	10YR52 00	10YR58 00	C		00MN00 00	Y	0	0		0		M				
	70-120	scl	10YR52 00	10YR58 00	C		00MN00 00	Y	0	0		0		M				
1P	0-28	msl	10YR42 00						3	1	HR	6						
	28-42	lms	10YR44 00						0	0	HR	6	MDVCAB	FR G				
	42-55	lms	10YR54 00						0	0	HR	42		VF M				
	55-76	lms	10YR54 64						0	0	HR	55		VF M				
	76-90	lms	10YR54 56						0	0	HR	60		VF M				
	90-100	ms	10YR64 00	10YR68 00	C			Y	0	0	HR	55		VF M				
	100-120	lms	25 Y63 00	10YR58 68	C		00MN00 00	Y	0	0	HR	15	WKCSAB	VF M				
2	0-25	hcl	10YR42 00						0	0		0						
	25-70	c	10YR62 00	75YR56 00	M		00MN00 00	Y	0	0		0		P		Y		IMP FLINTS
2P	0-27	hzcl	10YR42 00	05YR44 00	C			Y	0	0	HR	1						BORDER MZCL
	27-45	c	10YR52 00	75YR56 00	M			Y	0	0		0	MCSAB	FM M				
	45-70	c	10YR62 00	75YR56 00	M			Y	0	0		0	MCPR	FM P	Y	Y		
3	0-32	msl	10YR42 00						0	0	HR	5						
	32-45	msl	10YR54 00						0	0	HR	2		M				
	45-75	lms	10YR54 00						0	0		0		G				
	75-90	ms	25 Y74 00	10YR58 00	C			Y	0	0		0		G				
	90-110	lms	25 Y74 00	10YR58 00	C			Y	0	0		0		G				
	110-120	msl	25 Y74 00	10YR58 00	C			Y	0	0		0		M				
3P	0-31	msl	10YR42 00						0	0	HR	1						
	31-47	lms	10YR44 00	10YR46 00	C			S	0	0		0	MVCSAB	FR G				
	47-76	lms	10YR72 00	75YR58 00	M			Y	0	0		0	MDVCAB	FR G				
	76-85	scl	10YR62 63	75YR68 00	M			Y	0	0	HR	7	MVCSAB	FR M				
	85-94	scl	25Y 63 72	75YR68 00	M			Y	0	0	HR	20	MVCSAB	FR M				
	94-120	msl	25Y 53 00	75YR56 00	M			Y	0	0	HR	30	MVCSAB	FR M				
4	0-28	mcl	10YR43 00						0	0	HR	2						
	28-40	mcl	10YR54 00						0	0	HR	2		M				
	40-60	scl	10YR54 00	75YR46 00	F				0	0		0		M				
	60-85	hcl	25 Y63 00	75YR44 00	M		00MN00 00	Y	0	0		0		M				
	85-95	msl	25 Y73 00	75YR44 00	M		00MN00 00	Y	0	0		0		M				
	95-120	lms	25 Y73 00	75YR44 00	M		00MN00 00	Y	0	0		0		M				
4P	0-32	msl	10YR32 00						1	0	HR	3						
	32-56	msl	10YR43 00						0	0	HR	38		VF M				
	56-100	lms	10YR44 00	00FE00 00	M				0	0	HR	44		VF M				
	100-120	lms	10YR34 00						0	0	HR	42		VF M				
5	0-32	lms	10YR43 00						2	0	HR	3						
	32-50	lms	10YR44 00						0	0	HR	5		M				
	50-72	lms	10YR34 00	10YR62 00	C		00MN00 00	S	0	0	HR	5		M				IMP STONES

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	
5P	0-28	1ms	10YR34 00						1	0	HR	2							
	28-60	1ms	10YR44 00						0	0	HR	1	WKCSAB VF	M					
	60-87	1ms	10YR54 00						0	0	HR	2	WKCSAB VF	M					
	87-120	1ms	10YR54 00	00FE00	00	M			0	0	HR	18	WKCSAB VF	M					
6	0-35	ms1	10YR43 00						1	0	HR	2							
	35-50	1ms	10YR44 00						0	0	HR	2		M					
	50-65	1ms	10YR44 00						0	0	HR	10		M					IMP FLINTS
7	0-27	ms1	10YR42 00	75YR46 00	C			Y	0	0	HR	5							
	27-50	ms1	10YR61 00	75YR56 00	M			Y	0	0	HR	5		M					IMP FLINTS
8	0-30	ms1	10YR42 00	75YR46 00	C			Y	0	0	HR	2							
	30-50	sc1	10YR61 62	75YR46 00	M			Y	0	0	HR	10		M					IMP GRAVELLY
9	0-25	mc1	10YR42 00	75YR46 00	C			Y	0	0		0							
	25-60	sc	10YR61 00	75YR56 00	M			Y	0	0		0		P		Y			
10	0-28	mc1	10YR42 00						0	0	HR	2							
	28-38	mc1	10YR43 00						0	0	HR	10		M					
	38 45	hc1	10YR53 00	10YR58 00	C			Y	0	0	HR	10		M					
	45-70	sc1	25 Y62 00	75YR44 00	M	00MN00	00	Y	0	0	HR	2		M					
	70-120	c	25 Y62 00	75YR44 00	M	00MN00	00	Y	0	0		0		P		Y			
11	0-28	mc1	10YR42 00						0	0		0							
	28-60	hc1	10YR44 54						0	0		0		M					
	60-120	c	10YR54 64	10YR58 00	C	00MN00	00	Y	0	0		0		P		Y			
12	0-30	mc1	10YR43 00						0	0		0							
	30-55	hc1	25Y 63 00	10YR68 00	C	00MN00	00	Y	0	0		0		M					
	55-70	sc1	25Y 62 00	10YR68 00	C	00MN00	00	Y	0	0		0		M					
	70-95	ms1	25Y 63 00	10YR58 00	C			Y	0	0		0		M					
	95-120	1ms	25Y 63 00	10YR66 00	F	00MN00	00	Y	0	0		0		M					
13	0-30	1ms	10YR42 43						5	3	HR	10							
	30-40	1ms	10YR44 54						0	0	HR	30		M					IMP FLINTS
14	0-33	1ms	10YR42 00						3	1	HR	10							
	33-55	1ms	10YR54 00	10YR66 00	F				0	0	HR	25		M					IMP FLINTS
15	0-35	1ms	10YR42 00						0	0	HR	5							
	35-60	1ms	10YR44 54						0	0	HR	5		M					
	60-80	ms	10YR74 64						0	0	HR	20		M					IMP FLINTS
16	0-35	ms1	10YR43 00						2	0	HR	3							
	35-45	ms1	10YR44 00						0	0	HR	2		M					
	45-55	1ms	10YR54 00	00MN00	00	F			0	0	HR	2		M					
	55-65	1ms	10YR73 00	75YR56 00	C	00MN00	00	Y	0	0	HR	2		M					IMP FLINTS

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
17	0-35	ms1	10YR32 42						12	4	HR	18							
	35-45	lms	10YR44 54						0	0	HR	30		M					IMP FLINTS
18	0-28	mc1	10YR51 00	75YR46 00	M			Y	2	0	HR	3							
	28-42	sc1	25 Y62 00	10YR58 00	M		00MN00 00	Y	0	0		0		M					
	42-70	sc	25 Y62 00	10YR56 00	M		00MN00 00	Y	0	0		0		P		Y			
	70-80	c	25 Y53 00	10YR58 00	M			Y	0	0		0		P		Y			
19	0-30	ms1	10YR33 00						3	1	HR	6							IMP FLINTS
20	0-25	mzc1	25Y 42 00						0	0		0							
	25-55	hzc1	25Y 62 00	10YR58 00	M		00MN00 00	Y	0	0		0		M					
	55-90	c	25Y 72 00	10YR58 00	M			Y	0	0		0		P		Y			
21	0-30	mc1	10YR42 00						0	0		0							
	30-60	mc1	10YR44 54	10YR56 00	F				0	0		0		M					
	60-105	ms1	10YR53 62	10YR56 00	C			Y	0	0		0		M					
	105-120	ms	25Y 63 00	10YR56 00	C			Y	0	0		0		M					
22	0-35	lms	10YR42 00						3	1	HR	8							
	35-55	lms	10YR44 00						0	0	HR	10		M					
	55-70	lms	10YR44 00						0	0	HR	30		M					IMP FLINTS
23	0-33	ms1	10YR42 00						2	1	HR	8							
	33-65	lms	10YR44 00						0	0	HR	5		M					
	65-70	lms	10YR44 00						0	0	HR	25		M					IMP FLINTS
24	0-33	lms	10YR42 00						1	0	HR	5							
	33-60	lms	10YR44 00						0	0	HR	5		M					
	60-100	lms	10YR64 00	10YR58 00	F				0	0	HR	5		M					
	100-120	ms	10YR64 74	10YR58 00	C			Y	0	0	HR	30		M					
25	0-33	lms	10YR42 00						1	0	HR	5							
	33 50	lms	10YR44 00						0	0	HR	5		M					
	50 95	lms	10YR64 00	10YR58 00	C		00MN00 00	Y	0	0	HR	5		M					
	95-110	ms	10YR74 00	10YR68 00	C		00MN00 00	Y	0	0	HR	10		M					
	110-120	ms	10YR74 00	10YR68 00	C		00MN00 00	Y	0	0	HR	30		M					
26	0-35	ms1	10YR31 32	10YR46 00	F				0	0	HR	4							
	35-45	c	25Y 72 71	10YR56 58	M		00MN00 00	Y	0	0	HR	2		P					
	45-80	lms	25Y 72 73	10YR58 56	M		00MN00 00	Y	0	0	HR	2		M					IMP FLINTS
27	0-35	ms1	10YR32 00						0	0		0							
	35-50	sc1	10YR52 00	75YR56 00	M		00MN00 00	Y	0	0	HR	2		M					IMP GRAVELLY
28	0-35	ms1	10YR32 22						2	0	HR	4							
	35-40	ms1	10YR42 00	10YR58 00	C			Y	0	0	HR	10		M					IMP GRAVELLY

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
29	0-20	mzcl	25Y 42 00	10YR58 00	C			Y	0	0		0							
	20-50	hzcl	25Y 62 00	10YR58 00	M			Y	0	0		0		M					
	50-120	hcl	25Y 62 00	75YR58 00	M			Y	0	0		0		P		Y			
30	0-28	mzcl	25Y 42 00	10YR56 00	C			Y	0	0		0							
	28-80	c	25Y 62 00	10YR58 00	M		00MN00 00	Y	0	0		0		P		Y			IMP FLINTS
31	0-30	mzcl	25Y 42 00	10YR58 00	F				0	0		0							
	30-55	mcl	25Y 52 53	10YR68 00	C		00MN00 00	Y	0	0		0		M					
	55-90	hcl	25Y 62 00	10YR58 00	M		00MN00 00	Y	0	0		0		P		Y			IMP FLINTS
32	0-35	lms	10YR43 00						3	1	HR	10							
	35-50	lms	10YR44 00						0	0	HR	10		M					
	50-60	lms	10YR44 54						0	0	HR	40		M					IMP FLINTS
33	0-35	lms	10YR42 43						1	0	HR	5							
	35-55	lms	10YR44 00						0	0	HR	15		M					
	55-90	lms	10YR44 54						0	0	HR	5		M					
	90-95	lms	10YR64 00						0	0	HR	40		M					IMP FLINTS
34	0-35	lms	10YR42 43						1	0	HR	5							
	35-55	lms	10YR44 00						0	0	HR	5		M					
	55-70	lms	10YR54 00						0	0	HR	10		M					
	70-90	lms	10YR64 00						0	0	HR	25		M					IMP FLINTS
35	0-35	msl	10YR32 31	10YR46 00	C			Y	2	0	HR	4							
	35-58	msl	25Y 72 73	10YR56 58	M			Y	0	0	HR	5		M					IMP FLINTS
36	0-35	msl	10YR31 32						2	0	HR	5							
	35-85	c	05Y 71 72	10YR56 58	M		00MN00 00	Y	0	0	HR	3		P		Y			
	85-120	scl	05Y 71 72	10YR58 00	M			Y	0	0		0		P		Y			
37	0 35	msl	10YR42 00	10YR56 00	C			Y	6	0	HR	10							
	35-100	scl	10YR62 00	75YR56 00	C		00MN00 00	Y	0	0	HR	15		M					
	100-120	scl	25Y 61 00	75YR56 00	M		00MN00 00	Y	0	0	HR	10		M					
38	0-35	msl	10YR31 00	75YR46 00	C			Y	4	0	HR	8							
	35-68	ms	25Y 81 00	10YR58 00	C			Y	0	0		0		G					
	68-120	scl	25Y 72 00	10YR58 00	M			Y	0	0	HR	2		M					
39	0-35	lms	10YR32 00						13	5	HR	20							
	35-40	msl	10YR43 44						0	0	HR	40		M					IMP GRAVELLY
40	0-35	lms	10YR42 00						2	1	HR	5							
	35-60	lms	10YR44 00						0	0	HR	20		M					
	60-100	lms	10YR54 00						0	0	HR	5		M					
	100-120	lms	10YR54 64						0	0	HR	30		M					

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
41	0-33	lms	10YR43 00						1	0	HR	5							
	33-65	lms	10YR44 54	10YR58 00	F				0	0	HR	5		M					
	65-95	lms	10YR54 64						0	0	HR	5		M					
	95-110	lms	10YR64 00						0	0	HR	20		M					IMP FLINTS
42	0-30	lms	10YR43 44						2	0	HR	5							
	30-60	lms	10YR44 46						0	0	HR	5		M					
	60-80	lms	10YR64 74						0	0	HR	30		M					IMP FLINTS
43	0-30	msl	10YR42 00						0	0	HR	5							
	30 55	msl	25Y 72 73	10YR46 58	C		00MN00 00	Y	0	0	HR	2		M					
	55-70	lms	25Y 72 00	10YR46 56	M			Y	0	0	HR	2		M					IMP FLINTS
44	0-30	msl	10YR41 00	75YR46 00	C			Y	6	0	HR	10							
	30-45	scl	25Y 71 00	75YR68 58	M			Y	0	0	HR	5		M					
	45-68	scl	05Y 71 00	75YR56 00	M			Y	0	0	HR	2		M					
	68 75	msl	05Y 62 72	75YR56 00	M			Y	0	0	HR	40		M					IMP GRAVELLY
45	0-38	msl	10YR41 00	75YR46 00	C			Y	4	0	HR	8							
	38-52	msl	25Y 71 00	75YR46 00	M		00MN00 00	Y	0	0	HR	40		M					
	52-62	scl	05Y 72 81	75YR56 00	M		00MN00 00	Y	0	0	HR	25		M					
	62-80	msl	05Y 72 81	75YR56 00	M		00MN00 00	Y	0	0	HR	25		M					IMP FLINTS
46	0-30	lms	10YR32 00						12	6	HR	20							
	30-70	lms	10YR43 44						0	0	HR	15		M					
	70-90	ms	10YR54 00						0	0	HR	10		M					IMP GRAVELLY
47	0 30	lms	10YR32 00						4	2	HR	8							
	30-50	lms	10YR43 44						0	0	HR	15		M					
	50-60	lms	10YR54 00						0	0	HR	30		M					IMP GRAVELLY
48	0-30	msl	10YR42 41						0	0	HR	4							
	30 45	lms	10YR44 00						0	0	HR	10		M					IMP GRAVELLY
49	0-30	msl	10YR43 00						1	0	HR	5							
	30-65	msl	10YR44 54	10YR58 00	F		00MN00 00		0	0	HR	5		M					
	65-70	lms	10YR44 54	10YR58 00	F		00MN00 00		0	0	HR	40		M					IMP FLINTS
50	0-32	msl	10YR32 00						4	0	HR	10							
	32 55	lms	25Y 63 62	10YR46 58	M		00MN00 00	Y	0	0	HR	15		M					IMP GRAVELLY
51	0-30	msl	10YR31 32						3	0	HR	5							
	30-57	lms	25Y 62 63	10YR46 56	C			Y	0	0	HR	15		M					IMP GRAVELLY
52	0-35	msl	10YR42 00						2	0	HR	5							
	35-55	lms	25Y 62 63	10YR46 56	M			Y	0	0	HR	15		M					
	55-72	ms	25Y 72 73	10YR46 58	M			Y	0	0	HR	20		M					IMP GRAVELLY

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
53	0-35	msl	10YR31 00	75YR46 00	F				6	0	HR	10						
	35-50	lms	25Y 71 72	75YR46 00	M			Y	0	0	HR	10		M				
	50-60	lms	25Y 71 00	75YR46 00	M			Y	0	0	HR	40		M				IMP GRAVELLY
54	0-28	mzcl	10YR43 00						0	0		0						
	28-50	mzcl	10YR44 54						0	0		0		M				
	50-75	mcl	10YR53 00	10YR56 00	C			Y	0	0		0		M				
	75-120	c	25Y 62 00	10YR56 00	M		00MN00 00	Y	0	0		0		P		Y		
55	0-30	lms	10YR32 00						0	0	HR	4						
	30-64	ms	10YR44 64						0	0	HR	5		M				IMP GRAVELLY
56	0 32	lms	10YR32 00						0	0	HR	3						
	32-70	ms	10YR43 44				10YR73 00		0	0	HR	2		M				
	70 80	lms	10YR54 44						0	0	HR	20		M				IMP GRAVELLY
57	0-35	fsl	10YR42 00						0	0	HR	2						
	35-55	msl	10YR43 44	10YR46 00	F				0	0	HR	2		M				IMP GRAVELLY
58	0-32	msl	10YR31 00						4	0	HR	10						
	32-60	lms	10YR54 44				25Y 64 00		0	0	HR	10		M				IMP GRAVELLY
59	0-35	msl	10YR42 32						0	0	HR	4						
	35-70	lms	25Y 63 64	10YR46 58	M		00MN00 00	Y	0	0	HR	5		M				IMP GRAVELLY
60	0-28	msl	10YR32 00						0	0	HR	2						
	28-60	msl	10YR52 71	10YR56 58	M			Y	0	0	HR	5		M				
	60-65	lms	10YR52 00	10YR46 00	C			Y	0	0	HR	2		M				IMP GRAVELLY
61	0-30	msl	10YR42 32						0	0	HR	2						
	30-45	msl	25Y 72 53	10YR46 56	C			Y	0	0	HR	2		M				
	45-60	lms	25Y 71 73	10YR56 58	C			Y	0	0	HR	2		M				IMP GRAVELLY
62	0-25	mzcl	10YR42 00						0	0		0						
	25-45	mzcl	25Y 61 00	10YR58 00	M			Y	0	0		0		M				
	45-75	c	25Y 61 00	10YR58 00	M			Y	0	0		0		P		Y		
	75-120	c	25Y 61 00	10YR58 00	M		00MN00 00	Y	0	0		0		P		Y		
63	0-30	lms	10YR41 42						2	0	HR	5						
	30-55	lms	10YR44 00						0	0	HR	5		M				
	55-80	lms	10YR54 00						0	0	HR	5		M				
	80 82	lms	10YR54 64						0	0	HR	40		M				IMP GRAVELLY
64	0 33	lms	10YR41 42						2	0	HR	5						
	33 60	lms	10YR44 00						0	0	HR	5		M				
	60-85	lms	10YR54 00						0	0	HR	5		M				
	85 100	lms	10YR64 00						0	0	HR	20		M				IMP GRAVELLY

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	
65	0-20	msl	10YR41 51	10YR58 00	C			Y	6	0	HR	6							
	20-35	msl	25Y 71 00	10YR58 00	C			Y	0	0	HR	2		M					
	35-68	hcl	05Y 51 61	10YR58 68	M			Y	0	0	HR	2		M			Y		
	68-82	scl	25Y 71 00	75YR58 00	M			Y	0	0	HR	20		M					
	82-100	msl	05GY51 00	75YR58 00	C			Y	0	0	HR	20		M					IMP GRAVELLY
68	0-35	msl	10YR32 00						0	0	HR	3							
	35-48	lms	10YR42 51	10YR46 56	C		00FE00	00 Y	0	0	HR	2		M					IMP GRAVELLY
69	0-32	msl	10YR42 32						0	0	HR	3							
	32-50	lms	25Y 62 63	10YR56 00	C		00FE00	00 Y	0	0	HR	10		M					IMP GRAVELLY
70	0-25	mzcl	10YR42 00	10YR56 66	C			Y	0	0		0							
	25-60	mcl	25Y 61 00	10YR58 00	M		00MN00	00 Y	0	0		0		M					
	60-120	c	25Y 61 00	10YR58 00	M		00MN00	00 Y	0	0		0		P			Y		
71	0-30	lms	10YR41 42						5	2	HR	10							
	30-50	ms	10YR44 54						0	0	HR	30		M					IMP GRAVELLY
72	0-35	msl	10YR43 00						3	0	HR	5							
	35-55	lms	10YR43 00	10YR56 00	C				0	0	HR	1		M					IMP GRAVELLY
73	0-30	msl	10YR43 33						2	0	HR	4							
	30 45	msl	10YR42 00	10YR46 00	C			Y	0	0	HR	1		M					
	45-63	lms	10YR53 00	10YR46 00	M			Y	0	0	HR	1		M					
	63-80	lms	10YR53 63	10YR46 00	M		00MN00	00 Y	0	0		0		M					IMP FLINTS
74	0-30	fsl	10YR43 00						4	1	HR	6							
	30-40	msl	10YR43 00						0	0	HR	1		M					IMP FLINTS
75	0-32	msl	10YR42 00						3	0	HR	5							
	32-45	msl	10YR43 00						0	0	HR	5		M					
	45 55	lms	10YR42 64	10YR58 00	C			Y	0	0	HR	30		M					
	55-68	lms	25Y 72 00	10YR58 00	C			Y	0	0	HR	10		M					IMP FLINTS
76	0 35	msl	10YR42 00						3	0	HR	5							
	35-50	lms	25Y 64 00	10YR58 00	C			Y	0	0	HR	5		G					
	50 80	ms	25Y 73 74	10YR58 00	C			Y	0	0	HR	2		G					
	80-85	msl	25Y 73 74	75YR58 00	M			Y	0	0	HR	40		M					IMP FLINTS
77	0 30	msl	10YR42 00						1	0	HR	3							
	30-60	msl	10YR64 00						0	0	HR	2		M					
	60-90	scl	05Y 72 00	10YR58 00	M			Y	0	0	HR	2		M					IMP FLINTS
78	0-35	msl	10YR43 42						0	0	HR	5							
	35-50	msl	25Y 53 62	10YR56 00	C			Y	0	0	HR	5		M					IMP GRAVELLY
79	0-35	lms	10YR42 00						8	3	HR	15							
	35-50	ms	10YR54 00						0	0	HR	40		M					IMP GRAVELLY

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
80	0-30	msl	10YR43 00						4	1	HR	6							
	30-50	msl	10YR42 00	10YR46 00	C			Y	0	0	HR	1		M					IMP GRAVELLY
81	0-30	msl	10YR43 00						2	0	HR	3							
	30-50	msl	10YR42 00	10YR46 00	C			Y	0	0		0		M					IMP GRAVELLY
82	0-32	mcl	10YR33 00						4	2	HR	4							
	32-43	mcl	10YR42 00	10YR46 00	C			Y	0	0		0		M					
	43-53	hcl	10YR52 00	75YR56 00	M		00MN00 00	Y	0	0		0		P		Y			
	53-80	sc	10YR61 00	75YR56 00	C		00MN00 00	Y	0	0		0		P		Y			
	80-100	scl	10YR61 00	10YR58 00	M		00MN00 00	Y	0	0	HR	3		P		Y			IMP GRAVELLY
83	0-30	msl	10YR42 00						3	1	HR	5							
	30-50	msl	10YR42 53				00MN00 00		0	0	HR	40		M					IMP GRAVELLY
84	0-30	msl	10YR42 00						3	0	HR	5							
	30-40	msl	10YR52 53	75YR46 00	C			Y	0	0	HR	5		M					
	40-68	lms	25Y 74 72	10YR56 00	C			Y	0	0	HR	2		G					
	68-90	scl	05Y 72 00	10YR58 00	M			Y	0	0	HR	2		M					IMP FLINTS