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ADUR DISTRICT LOCAL PLAN

AGRICULTURAL LAND CLASSIFICATION
ALC MAP & REPORT

APRIL 1993

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AGRICULTURAL LAND CLASSIFICATION

1 In December 1992 detailed Agricultural Land Classification (ALC) surveys were conducted at Lancing and Sompting in West Sussex ADAS was commissioned by MAFF s Land Use Planning Unit to provide information on the quality of agricultural land affected by proposals for development in the Adur District Local Plan

A total of 332 hectares was surveyed using MAFF s revised guidelines and criteria for classifying the quality of agricultural land These guidelines allow land to be graded according to the extent to which its physical or chemical characteristics impose long term limitations on its use for agriculture

The details of the findings are given in the attached appendices and the distribution of the grades and sub-grades is shown on the attached ALC maps These have been drawn at a scale of 1 10 000 and are accurate at this level but any enlargement may be misleading The fieldwork was conducted at a detailed level with approximately one soil observation per hectare - a combination of auger boring and soil pit descriptions

The detailed measurements of each grade are presented in the tables below and the following report describes the Lancing and Sompting areas separately

TABLE 1 Lancing, Distribution of Grades and Sub-grades

Grade	Area (ha)	% of Agricultural Area
2	22 3	16 8
3A	15 3	11 5
3B	95 1	71 7
Non Agric	5 5	100% (132 7 ha)
Urban	0 3	
TOTAL	138 5 ha	

TABLE 2 Sompting, Distribution of Grades and Sub-grades

Grade	Area (ha)	% of Agricultural Area
2	101 5	67 5
3A	16 3	10 8
3B	32 1	21 4
4	0 5	0 4
Non Agric	32 7	
Urban	10 4	100% (150 4 ha)
TOTAL	193 5 ha	

2 Land at Lancing

2 1 Three distinct blocks of agricultural land were surveyed on the eastern edge of Lancing totalling 138 5 hectares an area north of the A27 (T) developed on higher slopes overlying Chalk and Quaternary

Head deposits, a central area of low lying land bounded by the A27 (T) and the coastal railway with soils developed over Alluvium deposits in the east and Quaternary Head and Raised Beach Deposits in the west a flat low lying area to the south between the railway and the coast with soils largely developed over Alluvium deposits

2 2 Land to the north of the A27 (T) is a mixture of Sub-grades 3A and 3B Pits numbers 2 3 and 4 were located in this area and illustrate the range of soils that occur in this section Soil droughtiness is the single most limiting factor on these soils that have developed over Chalk The northern fringe of Sub-grade 3B identifies shallow soils which rest on Chalk from within 30 cm depth Even with roots penetrating 45 cm into the Chalk the low amount of available water for plants restricts these profiles to no better than Sub-grade 3B The deeper Sub-grade 3A soils exhibit Heavy Clay Loam topsoil textures overlying Clay subsoils with Chalk occasionally present from 65 cm depth or with subsoils with high chalk stone percentages Roots again penetrate the Chalk layers but there is a significant limitation on the degree of available water

2 3 Land between the A27 (T) and the railway falls into two distinct ALC grades

To the east of Marsh Barn Lane the alluvial soils are classified as Sub-Grade 3B To the west of the Lane the soils are classified as Grade 2

Pit 1 is typical of the Sub-grade 3B soils Soil wetness is the important limiting factor Clay topsoils overlie clay subsoils which exhibit clear evidence of shallow gleying caused by waterlogging related to slowly permeable structures in the upper subsoil These soils are therefore placed in Wetness Class IV (i e the 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) and suffer from a significant restriction on the number of days when the soil is in a suitable condition for cultivation trafficking by machinery or grazing by livestock

The Grade 2 soils in the western end are typically Medium Clay Loam topsoils overlying Heavy Clay Loam upper subsoils and Clay lower subsoils The profiles are stone free show no evidence of significant wetness and the subsoils exhibit moderate structural conditions Soil droughtiness is the most significant physical limitation with the profiles having insufficient available water to qualify for a higher grade

2 4 The southern block of land is mostly Sub-grade 3B with a limited area of Sub-grade 3A on the north-eastern fringe The soils are similar to the poor alluvial soils described by Pit 1 north of the railway with a significant soil wetness limitation

A limited area of better quality Sub-grade 3A land defines variable profiles with lighter textures better structures and a less significant wetness limitation These profiles experience a soil droughtiness limitation

Table 3 Climatic Interpolations, Lancing

Grid Reference	TQ 190060	TQ 193043
Altitude	35	4
Accumulated Temperature (° days)	1502	1537
Average Annual Rainfall (mm)	793	758
Field Capacity (days)	166	161
Moisture deficit Wheat (mm)	115	121
Moisture deficit Potatoes (mm)	111	119
Climatic Grade	1	1

3 Land at Sompting

3 1 The ALC survey at Sompting covers 193 5 hectares and includes the lower lying flat land in the Sompting gap between the urban areas of Sompting and Worthing and includes a significant block of land north of the A27 (T) around Sompting Abbotts

The majority of the soils are developed over Head Deposits with a band of Chalk along the higher ground on the northern fringe and with a band of Raised Beach deposits and Alluvium along the southern fringe

3 2 Land in the extreme north of the site is classified as Sub-grade 3B with gradients locally in the range 7-11° On the southern slopes adjacent to this area of Sub-grade 3B there is a fringe of Sub-grade 3A soils where soil droughtiness becomes the most limiting factor Chalk is encountered at depths below approximately 60 cm but the stony nature of the subsoil combines to significantly restrict the amount of available water for plants Pit 1 is typical of these soils

Soils with stony subsoils also occur in the south-western edge of the northern block These soils though of heavier textures again experience a significant droughtiness limitation which restricts them to Sub-grade 3A (see Pit 2)

3 3 The remainder of the northern block and the bulk of the southern section form a large map unit of Grade 2 land Pits 3 and 5 are typical of the variation that exists in this map unit Soil droughtiness is generally the key limitation for soils that have Medium Clay Loam topsoils overlying stone-free and freely draining Heavy Clay Loam upper and lower subsoils These profiles fail to have enough available water in the profile for shallower rooting crops such as potatoes

In the western edge of this map unit soil wetness becomes the most limiting factor Soils here are generally heavier with a sequence of Medium Clay Loam Heavy Clay Loam and Clay in the profile the clay occurring from approximately 50 cm depth There is clear evidence of gleying within the top 40 cm and when augering the subsoils appear slowly permeable The soil pit (Pit 5) however reveals that the subsoils are not poor in structure allowing these profiles to be placed in Wetness Class II (i e the soils is wet within 70 cm for more than 90 days but not wet within 40 cm for more than 30 days in most years) and Grade 2 The soil pit is actually classified as Sub-grade 3A due to a droughtiness limitation related to slightly stony lower subsoils In general the subsoils are not as stony and qualify for Grade 2 even on droughtiness

3 4 A limited area of Sub-grade 3A occurs over Beach Deposits which have given rise to soils with very stony subsoils (35-45% stone content) which experience a significant restriction on the amount of water available in the profile and hence a droughtiness limitation

3 5 The southern fringe is classified as Sub-grade 3B This lower lying area has a significant wetness limitation The soils are developed over Alluvium are typically Heavy Clay Loam topsoils with Clay subsoils which are slowly permeable This area is placed in Wetness Class IV (i e 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) and this degree of wetness severely restricts the number of days when the soil is in a suitable condition for cultivation trafficking by machinery or grazing by livestock

3 6 The non-agricultural areas outlined on the map include farm tracks areas overgrown by bramble and scrub allotment gardens school playing fields reed beds and sizeable field ditches

Table 4 Climatic Interpolations, Sompting

Grid Reference	TQ165 040	TQ160 055	TQ160 054	TQ157 059
Altitude (m)	5	30	20	70
Accumulated Temperature (° days)	1537	1508	1520	1463
Average Annual Rainfall (mm)	773	805	801	824
Field Capacity (days)	164	169	168	171
Moisture Deficit Wheat (mm)	120	115	117	110
Moisture Deficit Potatoes (mm)	113	111	113	104
Overall Climatic Grade	1	1	1	1

APPENDIX I

DESCRIPTION OF THE GRADES AND SUB-GRADES

Grade 1 Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit soft fruit salad crops and winter harvested vegetables Yields are high and less variable than on land of lower quality

Grade 2 Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield cultivations or harvesting A wide range of agricultural or horticultural crops can usually be grown but on some land on the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops The level of yield is generally high but may be lower or more variable than Grade 1

Grade 3 Good To Moderate Quality Agricultural Land

Land with moderate limitations which affect the choice of crops timing and type of cultivation harvesting or the level of yield When more demanding crops are grown yields are generally lower or more variable than on land in grades 1 and 2

Sub grade 3A Good Quality Agricultural Land

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

Sub grade 3B Moderate Quality Agricultural Land

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

Grade 4 Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields It is mainly suited to grass with occasional arable crops (eg cereals and forage crops) the yields of which are variable In moist climates yields of grass may be moderate to high but there may be difficulties in utilisation the grade also includes very droughty arable land

Grade 5 Very Poor Quality Agricultural Land

Land with very severe limitations which restrict use to permanent pasture or rough grazing except for occasional pioneer forage crops

Urban

Built-up or hard uses with relatively little potential for a return to agriculture housing industry commerce education transport religious buildings cemeteries Also hard surfaced sports facilities permanent caravan sites and vacant land all types of derelict land including mineral workings which are only likely to be re claimed using derelict land grants

Non agricultural

Soft uses where most of the land could be returned relatively easily to agriculture, including private parkland public open spaces sports fields allotments and soft surfaced areas on airports/airfields Also active mineral workings and refuse tips where restoration conditions to soft after uses may apply

Woodland

Includes commercial and non-commercial woodland

Agricultural Buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses Temporary structures (eg polythene tunnels erected for lambing) may be ignored

Open Water

Includes lakes ponds and rivers as map sclae permits

Land Not Surveyed

Agricultural land which has not been surveyed

Where the land use includes more than one of the above eg buildings in large grounds and where map scale permits the cover types may be shown separately Otherwise the most extensive cover type will be shown

APPENDIX II

REFERENCES

* MAFF (1988) Agricultural Land Classification of England And Wales revised guidelines and criteria for grading the quality of agricultural land

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

APPENDIX III

DEFINITION OF SOIL WETNESS CLASSES

Wetness Class I

The soil profile is not wet within 70cm depth for more than 30 days in most years

Wetness Class II

The soil profile is wet within 70cm depth for 31 90 days in most years or if there is no slowly permeable layer within 80cm depth it is wet within 70cm for more than 90 days but not wet within 40cm depth for more than 30 days in most years

Wetness Class III

The soil profile is wet within 70cm depth for 91 180 days in most years or if there is no slowly permeable layer within 80cm depth it is wet within 70cm for more than 180 days but only wet within 40cm depth for 31 90 days in most years

Wetness Class IV

The soil profile is wet within 70cm depth for more than 180 days but not wet within 40cm depth for more than 210 days in most years or if there is no slowly permeable layer within 80cm depth, it is wet within 40cm depth for 91-210 days in most years

Wetness Class V

The soil profile is wet within 40cm depth for 211 335 days in most years

Wetness Class VI

The soil profile is wet within 40cm depth for more than 335 days in most years

(The number of days is not necessarily a continuous period In most years is defined as more than 10 out of 20 years)

APPENDIX IV

SOIL PIT AND SOIL BORING DESCRIPTIONS

Contents

SOIL PROFILE DESCRIPTIONS EXPLANATORY NOTE

Soil profile and pit information obtained during ALC surveys is held on a database This has commonly used notations and abbreviations as set out below

BORING HEADERS

1 GRID REF National grid square followed by 8 figure grid reference

2 USE Land-use at the time of survey
The following abbreviations are used

ARA - arable	PAS/PGR - permanent pasture
WHT - wheat	RGR - rough grazing
BAR - barley	LEY - ley grassland
CER - cereals	CFW - coniferous woodland
OAT - Oats	DCW - deciduous woodland
MZE - maize	SCR - scrub
OSR - Oilseed rape	HTH - heathland
BEN - field beans	BOG - bog or marsh
BRA - brassicae	FLW - fallow
POT - potatoes	PLO - ploughed
SBT - sugarbeet	SAS - set-aside
FCD - fodder crops	OTH - other
FRT - soft and top fruit	LIN - linseed
HOR/HRT - horticultural crops	

3 GRDNT Gradient as measured by optical reading clinometer

4 GLEY/SPL Depth in centimetres (cm) to gleyed and/or slowly permeable horizons

5 AP (WHEAT/POTS) Crop-adjusted available water capacity The amount of soil water (in millimetres) held in the soil profile that is available to a growing crop (wheat and potatoes are used as reference crops)

6 MB (WHEAT/POTS) The moisture balance for wheat and potatoes obtained by subtracting the soil moisture deficit from the crop-adjusted available water capacity

7 DRT Grade according to soil droughtiness assessed against soil moisture balances

8

M REL	Micro-relief	If any of these factors are considered significant in terms of the assessment of agricultural land quality a y will be entered in the relevant column
FLOOD	Flood risk	
EROSN	Soil erosion	
EXP	Exposure	
FROST	Frost prone	
DIST	Disturbed land	
CHEM	Chemical limitation	

9 LIMIT Principal limitation to agricultural land quality
The following abbreviations are used

OC - overall climate
AE - aspect
FX - exposure
FR - frost
GR - gradient
MR - micro-relief
FL - flooding
TX - soil texture
DP - soil depth
CH - chemical limitations
WE - wetness
WK - workability
DR - drought
ER - erosion
WD - combined soil wetness/soil droughtiness
ST - topsoil stoniness

PROFILES & PITS

1 TEXTURE Soil texture classes are denoted by the following abbreviations

S - sand
LS - loamy sand
SL - sandy loam
SZL - sandy silt loam
ZL - silt loam
MZCL - medium silty clay loam
MCL - medium clay loam
SCL - sandy clay loam
HZCL - heavy silty clay loam
SC - sandy clay
ZC - silty clay
C - clay

For the sand loamy sand sandy loam and sandy silt loam classes the predominant size of sand fraction may be indicated by the use of prefixes

F - fine (more than $\frac{2}{3}$ of the sand less than 0 2 mm)
C - coarse (more than $\frac{1}{3}$ of sand greater than 0 6 mm)
M - medium (less than $\frac{2}{3}$ fine sand and less than $\frac{1}{3}$ coarse sand)

The sub-divisions of clay loam and silty clay loam classes according to clay content are indicated as follows

M - medium (less than 27% clay)
H - heavy (27-35% clay)

Other possible texture classes include

OL - organic loam
P - peat
SP - sandy peat
LP - loamy peat
PL - peaty loam
PS - peaty sand
MZ marine light silts

2 MOTTLE COL Mottle colour

3 MOTTLE ABUN Mottle abundance

F - few - less than 2- of matrix or surface described
C - common - 2-2- of the matrix
M - many - 20-40- of the matrix
VM - very many - 40- + of the matrix

4 MOTTLE CONT Mottle continuity

F - faint - indistinct mottles evident only on close examination
D - distinct - mottles are readily seen
P - prominent - mottling is conspicuous and one of the outstanding features of the horizon

5 PED COL Ped face colour

6 STONE LITH Stone lithology One of the following is used

HR - all hard rocks or stones
MSST - soft medium or coarse grained sandstone
SI - soft weathered igneous or metamorphic
SLST - soft oolitic or dolomitic limestone
FSST - soft fine grained sandstone
ZR - soft argillaceous or silty rocks
CH - chalk
GH - gravel with non-porous (hard) stones
GS - gravel with porous (soft) stones

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

7 STRUCT the degree of development size and shape of soil peds are described using the following notation

- <u>degree of development</u> WK - weakly developed
MD - moderately developed
ST - strongly well 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
SB/SAB - sub-angular blocky
AB - angular blocky
PR - prismatic
PL - platy

8 CONSIST Soil consistence is decribed using the following notation

L - loose
VF - very friable
FR - friable
FM - firm
VM - very firm
EM - extremely firm
EH - extremely hard

9 SUBS STR Subsoil structural condition recorded for the purpose of calculating profile droughtiness

G - good
M - moderate
P - poor

10 POR Soil porosity If a soil horizon has less than 0 5% biopores >0 5 mm a y will appear in this column

11 IMP If the profile is impenetrable a y will appear in this column at the appropriate horizon

12 SPL Slowly permeable layer If the soil horizon is slowly permeable a y will appear in this column

13 CALC If the soil horizon is calcareous a y will appear in this column

14 <u>Other Notations</u>

APW - available water capacity (in mm) adjusted for wheat
APP - available water capacity (in mm) adjusted for potatoes
MBW - moisture balance wheat
MBP - moisture balance potatoes

SOIL PIT DESCRIPTION

Site Name : ADUR LP - SOMPTING   Pit Number : 1P

Grid Reference: TQ16050580 Average Annual Rainfall : 801 mm
Accumulated Temperature : 1520 degree days
Field Capacity Level : 168 days
Land Use :
Slope and Aspect : 05 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 25	MCL	10YR43 00	8	8		
25- 40	MCL	10YR54 00	0	10		
40- 60	MCL	00ZZ00 00	0	50		
60- 85	CH	00ZZ00 00	0	0		

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

Drought Grade : 3A   APW : 102mm MBW : -8 mm
APP : 099mm MBP : -5 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name ADUR LP - SOMPTING Pit Number 2P

Grid Reference TQ15680534

Average Annual Rainfall	801 mm
Accumulated Temperature	1520 degree days
Field Capacity Level	168 days
Land Use	Cereals
Slope and Aspect	04 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	MOTTLES	STRUCTURE
0- 30	HCL	10YR42 00	4	6		
30- 42	HCL	10YR42 00	0	23		
42- 65	C	10YR54 00	0	23		
65-120	C	10YR64 00	0	30		

Wetness Grade 2

Wetness Class	I
Gleying	cm
SPL	No SPL

Drought Grade 3A

APW	103mm	MBW	-13 mm
APP	101mm	MBP	11 mm

FINAL ALC GRADE 3A
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name ADUR LP - SOMPTING Pit Number 3P

Grid Reference TQ16590467 Average Annual Rainfall 801 mm
Accumulated Temperature 1520 degree days
Field Capacity Level 168 days
Land Use Bare Soil
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	MOTTLES	STRUCTURE
0 25	MCL	10YR42 00	0	1		
25 68	HCL	75YR54 00	0	0		MCSAB
68 120	HCL	10YR54 00	0	0		

Wetness Grade 1 Wetness Class I
Gleying 000 cm
SPL No SPL

Drought Grade 2 APW 155mm MBW 35 mm
APP 117mm MBP 3 mm

FINAL ALC GRADE 2
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name : ADUR LP - SOMPTING Pit Number : 4P

Grid Reference: TQ16550415
Average Annual Rainfall : 801 mm
Accumulated Temperature : 1520 degree days
Field Capacity Level : 168 days
Land Use : Arable
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 25	MCL	10YR42 00	0	1		
25- 70	HCL	10YR43 00	0	35		
70-120	C	10YR54 00	0	45		

Wetness Grade : 1
Wetness Class : I
Gleying :000 cm
SPL : No SPL

Drought Grade : 3A
APW : 108mm MBW : -12 mm
APP : 093mm MBP : -21 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name ADUR LP - SOMPTING Pit Number 5P

Grid Reference TQ16080467 Average Annual Rainfall 801 mm
Accumulated Temperature 1520 degree days
Field Capacity Level 168 days
Land Use Cereals
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES 2	TOT STONE	MOTTLES	STRUCTURE
0 24	MCL	10YR42 00	0	0		
24 50	HCL	10YR53 00	0	0	C	MDCSAB
50 80	C	10YR63 00	0	8	M	MDCSAB
80- 90	C	10YR63 73	0	15	M	

Wetness Grade 2 Wetness Class II
Gleying 024 cm
SPL No SPL

Drought Grade 3A APW 114mm MBW -6 mm
APP 114mm MBP 0 mm

FINAL ALC GRADE 2
MAIN LIMITATION Wetness

				MOTTLES			PED		STONES				STRUCT/	SUBS				
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL.	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
1	0-32	mcl	10YR42 00						0	0	HR	5						Y
	32-75	hcl	10YR54 00						0	0	HR	3		M				Y
	75-80	c	75YR56 00						0	0	HR	5		M				Y
1P	0-25	mcl	10YR43 00						8	0	HR	8						Y
	25-40	mcl	10YR54 00						0	0	HR	10		M				Y
	40-60	mcl	00ZZ00 00						0	0	CH	50		M				Y
	60-85	ch	00ZZ00 00						0	0		0		M				Y
2	0-30	mcl	10YR33 00						5	0	HR	6						Y
	30-50	hcl	10YR44 00						0	0	HR	5		M				Y
	50-85	c	10YR44 00						0	0	HR	8		M				Y
2P	0-30	hcl	10YR42 00						4	0	HR	6						
	30-42	hcl	10YR42 00						0	0	HR	23	FR	M				Y
	42-65	c	10YR54 00						0	0	HR	23	FR	M				Y
	65-120	c	10YR64 00						0	0	HR	30		M				Y
3P	0-25	mcl	10YR42 00						0	0	HR	1						
	25-68	hcl	75YR54 00						0	0		0	MCSAB FR	M	Y			
	68-120	hcl	10YR54 00						0	0		0		M				
4P	0-25	mcl	10YR42 00						0	0	HR	1						
	25-70	hcl	10YR43 00						0	0	HR	35		M				
	70-120	c	10YR54 00						0	0	HR	45		M				
5	0-28	mzcl	10YR53 00						0	0	HR	2						Y
	28-45	mzcl	10YR64 00						0	0	HR	2		M				Y
	45-75	hzcl	10YR54 00						0	0	HR	2		M				Y
	75-95	c	10YR54 56						0	0	HR	5		M				Y
	95-120	hcl	10YR64 00						0	0	CH	25		M				Y
5P	0-24	mcl	10YR42 00						0	0		0						
	24-50	hcl	10YR53 00	75YR56 00	C			Y	0	0		0	MDCSAB FR	M				
	50-80	c	10YR63 00	75YR56 00	M		10YR61 00	Y	0	0	HR	8	MDCSAB FR	M				
	80-90	c	10YR63 73	75YR56 00	M			Y	0	0	HR	15		M				Y
6	0-30	mzcl	10YR53 00						0	0	HR	3						Y
	30-70	hcl	10YR54 00						0	0	HR	3		M				Y
	70-95	mcl	10YR54 56						0	0	HR	3		M				Y
	95-120	hcl	10YR54 56						0	0	HR	5		M				Y
10P	0-25	mcl	10YR43 00						8	0	HR	8						Y
	25-40	mcl	10YR54 00						0	0	HR	10		M				Y
	40-60	mcl	00ZZ00 00						0	0	CH	50		M				Y
	60-120	ch	00ZZ00 00						0	0		0		M				Y
11	0-28	mzcl	10YR53 00						0	0	HR	6						Y
	28-45	mzcl	10YR74 00						0	0	CH	50		M				Y
	45-85	ch	00CH00 00						0	0	HR	2		M				Y

SAMPLE			ASPECT				--WETNESS--		-WHEAT-		-POTS		M REL		EROSN	FROST	CHEM	ALC	
NO	GRID REF	USE		GRDNT	GLEY	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT		COMMENTS
62	TQ17100560	CER	SE	01	000		1	1	000	0	000	0					DR	3A	IMP35
63	TQ17200560	CER	SE	02	000	000	1	2	080	-36	080	-32	3B				DR	3B	IMP50-3A
64	TQ15700550	CER	S	03			1	2	000	0	000	0					DR	3A	
65	TQ15800550	CER	S	05			1	2	123	7	114	2	2				DR	2	Grade 2 work
67	TQ16000550	PGR	S	05	000		1	1	104	-12	116	4	3A				DR	2	IMP Q
69	TQ16200550	CER	S	03			1	1	098	-18	109	-3	3A				DR	2	
70	TQ16300550	ARA	S	02	000		1	1	115	-1	113	1	3A				DR	2	IMP Q
71	TQ16400550	ARA	S	02	000		1	1	151	35	114	2	2				DR	2	
72	TQ15700540	ARA	S	05	000		1	1	097	-19	113	1	3A				DR	3A	IMPX3 Q
73	TQ15800540	CER	S	02			1	1	121	5	113	1	2				DR	2	
75	TQ16700550	PGR	S	02	000		1	1	112	-8	114	-2	3A				DR	2	IMP
76	TQ16200540	PGR	S	02	000		1	1	124	4	116	0	3A				DR	2	IMP
77	TQ16300540	PAS	S				1	1	144	24	115	-1	2				DR	2	
78	TQ16400540	PGR	S	02	000		1	1	113	-7	115	-1	3A				DR	2	IMP
79	TQ16500540	PAS	S				1	1	082	-38	082	-34	3B				DR	2	
80	TQ 6600540	PGR	S	02	000		1	1	117	-3	114	-2	3A				DR	2	IMP
81	TQ16700540	PGR	S		000		1	1	113	-7	115	-1	3A				DR	2	IMP
86	TQ16200530	PGR	S	02	000		1	1	066	-54	066	50	4				DR	3B	IMPX3 Q
87	TQ16300530	PGR	S	02	000		1	1	112	-8	114	-2	3A				DR	2	IMP Q
88	TQ16400530	PGR	S	02	000		1	1	103	-17	114	-2	3A				DR	2	IMP Q
89	TQ16600530	PAS					1	1	143	23	113	-3	2				DR	2	
90	TQ16700530	PGR	S		000		1	1	068	-52	068	48	4				DR	3B	IMPX3 Q
91	TQ15700520	ARA	S	04	000		1	1	153	37	116	4	2				DR	2	
96	TQ16200520	PGR	S		000		1	1	116	-4	116	0	3A				DR	2	IMP
97	TQ16300520	PGR	S		000		1	1	153	33	115	-1	2				DR	2	
98	TQ16400520	PGR	S		000		1	1	152	32	115	-1	2				DR	2	
100	TQ15900510	PAS			32		2	2	115	-5	115	-1	3A				WD	2	
101	TQ16000510	PAS			60		1	1	000	0	000	0	2				DR	2	
103	TQ16200510	CER					1	1	107	-13	115	-1	3A				DR	2	
104	TQ16300510	CER					2	2	000	0	000	0	2				DR	2	
105	TQ16400510	CER					2	2	000	0	000	0	2				DR	2	
106	TQ15800500	PAS					1	1	000	0	000	0				Y	DR	3B	Disturbed
107	TQ15900500	PAS					1	1	000	0	000	0				Y	DR	3B	Disturbed
108	TQ16000500	OSR			30	30	2	2	134	14	111	-5	2				WE	2	
110	TQ16200500	CER					1	1	112	-8	116	0	3A				DR	2	
112	TQ16400500	CER					1	1	098	-22	113	-3	3B				DR	2	
112A	TQ16400500	CER					1	1	137	17	113	-3	2				DR	2	
113	TQ15800490	PAS					1	1	000	0	000	0				Y	DR	3B	Disturbed
114	TQ15900490	PAS			35		2	2	000	0	000	0					WE	2	
115	TQ16000490	ARA					1	1	156	36	118	2	2				DR	2	NO GLEY
116	TQ16100490	ARA			000		1	1	141	21	117	1	2				DR	2	NO GLEY
117	TQ16200490	ARA			080		1	1	126	6	115	-1	2				DR	2	NO GLEY

				- --MOTTLES-----			PED		----STONES----				STRUCT/	SUBS					
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
34	0-30	mcl	10YR53 00						0	0	HR	3						Y	
	30-35	mcl	00ZZ00 00						0	0	CH	80		M				Y	
	35-85	ch	00ZZ00 00						0	0		0		M				Y	Rooting to 85
36	0-28	mcl	10YR32 00						0	0	CH	2						Y	
	28-58	mcl	10YR53 00						0	0	CH	5		M				Y	
	58-75	mcl	10YR74 00						0	0	CH	10		M				Y	
	75-120	ch	00ZZ00 00						0	0		0		M				Y	
41	0-28	mzcl	10YR42 00						0	0	HR	3						Y	
	28-35	hcl	10YR43 54						0	0	HR	5		M				Y	
	35-60	c	10YR54 56						0	0	HR	5		M				Y	
	60-95	mzcl	10YR74 64						0	0	CH	35		M				Y	
	95-120	mzcl	10YR74 00						0	0	CH	50		M				Y	
42	0-26	hzcl	10YR53 00						0	0	HR	5						Y	
	26-120	c	10YR56 00				00MN00 00		0	0	HR	3		M				Y	
43	0-28	mcl	10YR53 00						0	0	HR	3						Y	
	28-45	hcl	10YR54 00						0	0	HR	2		M				Y	
	45-79	c	10YR44 54						0	0	HR	3		M				Y	
	79 90	hzcl	10YR54 00						0	0	CH	20		M				Y	
	90-120	mzcl	10YR64 74						0	0	CH	35		M				Y	
44	0-28	mzcl	10YR42 43						0	0	HR	5						Y	
	28-48	hcl	10YR54 00						0	0	HR	8		M				Y	
	48-75	hzcl	10YR64 63						0	0	CH	35		M				Y	
	75-90	hzcl	10YR74 00						0	0	CH	40		M				Y	
45	0-28	mzcl	10YR42 00						0	0	HR	6						Y	
	28-55	hzcl	10YR43 44						0	0	HR	5		M				Y	
	55-78	c	10YR44 00						0	0	CH	8		M				Y	
	78-120	hzcl	10YR64 74						0	0	CH	30		M				Y	
46	0-28	hzcl	10YR42 00						8	0	HR	14						Y	
	28-35	hzcl	10YR43 54						0	0	HR	8		M				Y	
	35-45	hzcl	10YR74 64						0	0	CH	35		M				Y	
47	0-26	mzcl	10YR42 00						0	0	HR	10						Y	
	26 35	c	10YR44 00						0	0	HR	20		M				Y	
48	0-25	hcl	10YR42 00						5	0	HR	7							
	25-50	hcl	10YR54 00						0	0	CH	20		M					
	50-70	hcl	10YR64 00						0	0	CH	50		M					
	70-90	ch	00CH00 00						0	0		0		M					
49	0-30	hcl	10YR42 00						2	0	HR	5							
	30-80	hcl	10YR54 00						0	0	CH	1		M					
	80-85	hcl	10YR64 00						0	0	CH	20		M					

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
172	TQ16300420	PLO			060		1	1	149	29	117	1	2				DR	2	NO SPL
173	TQ16400420	PLO			000		1	1	120	0	117	1	3A				DR	2	IMP
174	TQ16500420	ARA			000		1	1	137	17	114	-2	2				DR	2	NO GLEY
175	TQ16600420	ARA			000		1	1	104	-16	114	-2	3A				DR	2	IMP Q
180	TQ16400410	CER			020		2	2	112	-8	094	-22	3A				DR	3A	WT 65CM
181	TQ16500410	ARA			000		1	1	065	-55	065	-51	4				DR	3B	IMP X 3
182	TQ16600410	ARA			025		2	2	088	-32	092	-24	3B				DR	3A	IMP Q
184	TQ16300400	PGR			000	020	4	3B	077	-43	080	-36	3B				WE	3B	SPL
185	TQ16400400	PGR			000	010	4	3B	077	-43	083	-33	3B				WE	3B	SPL
186	TQ16500400	PGR			025		2	1	110	-10	112	-4	3A				DR	3A	WT 60CM
187	TQ16600400	PAS			0	035	4	3B	000	0	000	0					WE	3B	
189	TQ16300390	PGR			000	020	4	3B	079	-41	082	-34	3B				WE	3B	SPL
2504	TQ									0		0						5	IGNORE

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	TQ16800610	CER	NE	02	000		1	1	111	-5	114	2	3A				DR	3A	IMP80
1P	TQ16050580	STU	S	05			1	1	102	-8	099	-5	3A				DR	3A	Near boring 20
2	TQ16900610	CER	NE	02	000		1	1	107	-9	111	-1	3A				DR	3A	IMP85-2
2P	TQ15680534	CER	S	04			1	2	103	-13	101	-11	3A				DR	3A	Near boring 64
3P	TQ16590467	PLO			000		1	1	155	35	117	3	2				DR	2	Near boring 20
4P	TQ16550415	ARA			000		1	1	108	-12	093	-21	3A				DR	3A	
5	TQ16800600	CER	NE	03	000		1	1	152	36	122	10	1				DR	1	
5P	TQ16080467	CER			024		2	2	114	-6	114	0	3A				WE	2	PROB 2DR
6	TQ16900600	CER	NE	06	000		1	1	154	38	118	6	2				DR	2	NO CH
11	TQ16500590	STU	S	03	000		1	1	102	-8	098	-6	3A				DR	3A	ROOT 85
12	TQ16600590	STU	SE	03	000		1	1	095	-15	098	-6	3A				DR	3A	ROOT 75
12A	TQ16600590	STU	SE	03	000		1	1	090	-20	096	-8	3B				DR	3B	ROOT 70
13	TQ16700590	CER	E	03	000		1	1	096	-20	098	-14	3B				DR	3B	ROOT 75
14	TQ16800590	CER	N	04	000		1	1	124	8	113	1	2				DR	2	ROOT 100
15	TQ16900590	CER	NE	07	000		1	1	091	-25	093	-19	3B				DR	3B	SLOPE
20	TQ16100580	STU	S	06			1	1	086	-24	092	-12	3A				DR	3A	
25	TQ16600580	CER	S	04	000		1	1	106	-10	102	-10	3A				DR	3A	ROOT 85
26	TQ16700580	CER	SE	04	000		1	1	089	-27	092	-20	3B				DR	3B	ROOT75
27	TQ16800580	CER	SE	03	000		1	1	107	-9	103	-9	3A				DR	3A	ROOT 85
28	TQ16900580	CER	E	03	000		1	1	089	-27	095	-17	3B				DR	3B	ROOT 70
29	TQ17000580	PGR	NE	04	000		1	1	104	-12	103	-9	3A				DR	3A	ROOT 80
30	TQ17100580	PGR	E	03	000		1	1	149	33	116	4	2				DR	2	
33	TQ15800570	CER	S	05			1	1	144	28	116	4	2				DR	2	
34	TQ15900570	CER	S	05			1	1	087	-29	093	-19	3A				DR	3A	
36	TQ16100570	PAS	S	04			1	1	140	24	116	4	2				DR	2	
41	TQ16600570	CER	S	03	000		1	1	145	29	115	3	2				DR	2	
42	TQ16700570	CER	SE	02	000		1	2	139	23	115	3	2				DR	2	MN 65
43	TQ16800570	CER	SE	02	000		1	1	143	27	115	3	2				DR	2	
44	TQ16900570	CER	SE	03	000		1	1	119	3	112	0	3A				DR	3A	PROB 2DR
45	TQ17000570	CER	SE	02	000		1	1	147	31	117	5	2				DR	2	
46	TQ17100570	CER	E	02	000	000	1	2	072	-44	072	-40	3B				DR	4	IMP45-3A
47	TQ17200570	CER	E	02	000		1	1	056	-60	056	-56	4				DR	4	IMP35-3A
48	TQ15700560	ARA	S	05	000		1	2	110	-6	105	-7	3A				DR	3A	Q ROOTS
49	TQ15800560	ARA	S	05	000		1	2	118	2	115	3	3A				WK	2	IMP Q
50	TQ15900560	ARA	S	05	000		1	1	101	-15	112	0	3A				DR	2	IMP Q
51	TQ16000560	PGR	S	05	000		1	1	043	-73	043	-69	4				DR	3B	IMPX4 Q
57	TQ16600560	CER	S	02	000		1	2	105	-11	111	-1	3A				DR	3A	IMP 80
58	TQ16700560	CER	S	03	000		1	1	088	-28	095	-17	3B				DR	3B	IMP60-3A
59	TQ16800560	CER	S	02	000		1	1	147	31	120	8	2				DR	2	
60	TQ16900560	CER	S	02	000		1	1	141	25	112	0	2				DR	2	
61	TQ17000560	CER	SE	01	000		1	1	105	-11	117	5	3A				DR	3A	IMP 2DR

				----MOTTLES-----			PED		----STONES----				STRUCT/	SUBS					
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
12	0-34	mzcl	10YR53 00						0	0	CH	10						Y	
	34-75	ch	00CH00 00						0	0		0		M				Y	
12A	0-32	mzcl	10YR53 00						0	0	CH	10						Y	
	32-70	ch	00CH00 00						0	0		0		M				Y	
13	0-35	mzcl	10YR53 00						0	0	HR	5						Y	
	35-75	ch	00CH00 00						0	0		0		M				Y	
14	0-28	mzcl	10YR53 00						0	0	HR	5						Y	
	28-60	hzcl	10YR63 00						0	0	CH	10		M				Y	
	60-100	ch	00CH00 00						0	0		0		M				Y	
15	0-28	mzcl	10YR53 00						0	0	CH	10						Y	
	28-32	mzcl	10YR53 00						0	0	CH	80		M				Y	
	32-75	ch	00CH00 00						0	0		0		M				Y	
20	0-20	mzcl	10YR53 00						0	0	HR	2						Y	
	20-25	mzcl	10YR54 00						0	0	CH	5		M				Y	
	25-35	mzcl	00ZZ00 00						0	0	CH	80		M				Y	
	35-85	ch	00ZZ00 00						0	0		0		M				Y	Rooting to 85
25	0-26	mzcl	10YR53 00						0	0	HR	3						Y	
	26-45	hcl	10YR54 64						0	0	CH	10		M				Y	
	45-85	ch	00CH00 00						0	0	HR	2		M				Y	
26	0-27	mzcl	10YR53 00						0	0	HR	5						Y	
	27-75	ch	00CH00 00						0	0		0		M				Y	
27	0-25	mzcl	10YR53 00						0	0	HR	3						Y	
	25-40	hzcl	10YR53 54						0	0	CH	3		M				Y	
	40-45	hcl	10YR53 00						0	0	CH	50		M				Y	
	45-85	ch	00CH00 00						0	0		0		M				Y	
28	0-32	mzcl	10YR53 00						0	0	HR	6						Y	
	32-70	ch	00CH00 00						0	0		0		M				Y	
29	0-25	mzcl	10YR53 00						0	0	CH	3						Y	
	25-40	hzcl	10YR54 00						0	0	CH	10		M				Y	
	40-45	mzcl	10YR64 00						0	0	CH	50		M				Y	
	45-80	ch	00CH00 00						0	0		0		M				Y	
30	0-26	mzcl	10YR42 00						0	0	HR	3						Y	
	26-58	hzcl	10YR43 00						0	0	HR	8		M				Y	
	58-120	mzcl	10YR64 74						0	0	CH	35		M				Y	
33	0-28	mcl	10YR43 00						0	0	HR	3						Y	
	28-70	hcl	10YR54 00						0	0		0		M				Y	
	70-80	hcl	10YR54 00						0	0	CH	10		M				Y	
	80-90	hcl	10YR74 00						0	0	CH	20		M				Y	
	90-120	ch	00ZZ00 00						0	0		0		M				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	
34	0-30	mcl	10YR53 00						0	0	HR	3						Y	
	30-35	mcl	00ZZ00 00						0	0	CH	80		M				Y	
	35-85	ch	00ZZ00 00						0	0		0		M				Y	Rooting to 85
36	0-28	mcl	10YR32 00						0	0	CH	2						Y	
	28-58	mcl	10YR53 00						0	0	CH	5		M				Y	
	58-75	mcl	10YR74 00						0	0	CH	10		M				Y	
	75-120	ch	00ZZ00 00						0	0		0		M				Y	
41	0-28	mzcl	10YR42 00						0	0	HR	3						Y	
	28-35	hcl	10YR43 54						0	0	HR	5		M				Y	
	35-60	c	10YR54 56						0	0	HR	5		M				Y	
	60-95	mzcl	10YR74 64						0	0	CH	35		M				Y	
	95-120	mzcl	10YR74 00						0	0	CH	50		M				Y	
42	0-26	hzcl	10YR53 00						0	0	HR	5						Y	
	26-120	c	10YR56 00				00MN00 00		0	0	HR	3		M				Y	
43	0-28	mcl	10YR53 00						0	0	HR	3						Y	
	28-45	hcl	10YR54 00						0	0	HR	2		M				Y	
	45-79	c	10YR44 54						0	0	HR	3		M				Y	
	79-90	hzcl	10YR54 00						0	0	CH	20		M				Y	
	90-120	mzcl	10YR64 74						0	0	CH	35		M				Y	
44	0-28	mzcl	10YR42 43						0	0	HR	5						Y	
	28-48	hcl	10YR54 00						0	0	HR	8		M				Y	
	48-75	hzcl	10YR64 63						0	0	CH	35		M				Y	
	75-90	hzcl	10YR74 00						0	0	CH	40		M				Y	
45	0-28	mzcl	10YR42 00						0	0	HR	6						Y	
	28-55	hzcl	10YR43 44						0	0	HR	5		M				Y	
	55-78	c	10YR44 00						0	0	CH	8		M				Y	
	78-120	hzcl	10YR64 74						0	0	CH	30		M				Y	
46	0-28	hzcl	10YR42 00						8	0	HR	14						Y	
	28-35	hzcl	10YR43 54						0	0	HR	8		M				Y	
	35-45	hzcl	10YR74 64						0	0	CH	35		M				Y	
47	0-26	mzcl	10YR42 00						0	0	HR	10						Y	
	26-35	c	10YR44 00						0	0	HR	20		M				Y	
48	0-25	hcl	10YR42 00						5	0	HR	7							
	25-50	hcl	10YR54 00						0	0	CH	20		M					
	50-70	hcl	10YR64 00						0	0	CH	50		M					
	70-90	ch	00CH00 00						0	0		0		M					
49	0-30	hcl	10YR42 00						2	0	HR	5							
	30-80	hcl	10YR54 00						0	0	CH	1		M					
	80-85	hcl	10YR64 00						0	0	CH	20		M					

				MOTTLES			PED		STONES				STRUCT/	SUBS					
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
50	0-25	mcl	10YR42 00						3	0	HR	5							
	25-30	hcl	10YR54 00						0	0	HR	2		M					
	30-70	hcl	10YR64 00						0	0	CH	10		M					
51	0 25	mcl	10YR42 00						0	0	HR	5							
57	0-28	hzcl	10YR42 00						0	0	HR	6						Y	
	28-75	c	75YR56 00						0	0	HR	10		M				Y	
	75 80	mzcl	10YR64 74						0	0	CH	30		M				Y	
58	0-28	mcl	10YR42 00						0	0	HR	4						Y	
	28 60	c	10YR56 00						0	0	HR	10		M				Y	
59	0 27	mzcl	10YR42 00						0	0	HR	4						Y	
	27 65	hzcl	10YR44 54						0	0	HR	3		M				Y	
	65 96	c	10YR44 54						0	0	HR	6		M				Y	
	96 120	mzcl	10YR64 74						0	0	CH	30		M				Y	
60	0 26	mzcl	10YR42 00						0	0	HR	6							
	26-50	hcl	10YR42 43						0	0	HR	7		M					
	50 79	c	75YR56 00				00MN00 00		0	0	HR	7		M					
	79-120	hzcl	10YR64 74						0	0	CH	35		M				Y	
61	0-28	mzcl	10YR42 00						0	0	HR	4							
	28-50	mzcl	10YR43 00						0	0	HR	3		M					
	50-65	hcl	10YR43 44						0	0	HR	10		M					
	65-70	c	10YR44 00						0	0	HR	10		M					
62	0 28	mcl	10YR42 00						7	0	HR	12							
	28 35	hzcl	10YR44 00						0	0	HR	20		M					
63	0 28	hzcl	10YR42 00						0	0	HR	7							
	28 50	hcl	10YR42 43						0	0	HR	15		M					
64	0 30	hcl	10YR42 00						7	0	HR	10						Y	
	30 35	hcl	10YR44 00						0	0	HR	20		M				Y	Imp 35 - stones
65	0 29	hcl	10YR42 00						0	0	HR	3						Y	
	29-55	hcl	10YR43 00						0	0	HR	3		M				Y	
	55-95	c	10YR44 00		F				0	0	HR	3		M				Y	
	95-100	c	10YR74 00						0	0	HR	10		M				Y	Imp 100 - flints
67	0-30	hcl	10YR42 00						0	0	HR	2							
	30-70	hcl	10YR54 00						0	0	HR	2		M					
69	0-27	mcl	10YR42 00						3	0	HR	5							
	27-70	hcl	10YR54 00						0	0	HR	10		M				Y	Imp 70 - stones

				----MOTTLES-----			PED		----STONES----				STRUCT/	SUBS					
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
70	0-25	mcl	10YR42 00						0	0	HR	4							
	25-40	hcl	10YR43 00						0	0	HR	2		M					
	40-85	hcl	10YR54 00						0	0	HR	5		M					
71	0-25	mcl	10YR42 00						2	0	HR	5							
	25-120	hcl	10YR54 00						0	0	HR	2		M					
72	0-25	mcl	10YR42 00						2	0	HR	5							
	25-50	hcl	10YR43 00						0	0	HR	2		M					
	50-70	c	10YR44 00						0	0	HR	5		M					
73	0-30	mcl	10YR42 00						3	0	HR	3							
	30-70	hcl	10YR43 00						0	0	HR	5		M					
	70-95	c	10YR44 00						0	0	HR	5		M					Imp 95 - stones
75	0-20	mcl	10YR32 00						0	0	HR	2							
	20-30	mcl	10YR42 00						0	0	HR	2		M					
	30-50	mcl	10YR54 00						0	0	HR	2		M					
	50-80	hcl	10YR54 00						0	0	HR	2		M					
76	0-30	mcl	10YR32 00						0	0	HR	2							
	30-60	mcl	10YR42 00						0	0	HR	2		M					
	60-90	hcl	10YR44 00						0	0	HR	2		M					
77	0-30	mcl	10YR43 00						0	0		0							
	30-80	hcl	10YR44 00						0	0	HR	5		M					
	80-120	c	10YR54 00						0	0	HR	5		M					
78	0-25	mcl	10YR42 00						0	0	HR	2							
	25-60	mcl	10YR43 00						0	0	HR	2		M					
	60-80	hcl	10YR54 00						0	0	HR	2		M					
79	0-30	mcl	10YR43 00						0	0	HR	5							
	30-50	hcl	10YR44 00						0	0	HR	5		M					Imp 50 - stones
80	0-20	mcl	10YR32 00						0	0	HR	2							
	20-40	mcl	10YR42 00						0	0	HR	2		M					
	40 70	mcl	10YR43 00						0	0	HR	2		M					
	70-85	hcl	10YR54 00						0	0	HR	2		M					
81	0-25	mcl	10YR42 00						0	0	HR	2							
	25-50	mcl	10YR43 00						0	0	HR	2		M					
	50-80	hcl	10YR54 00						0	0	HR	2		M					
86	0-30	mcl	10YR42 00						0	0	HR	5							
	30-40	mcl	10YR42 00						0	0	HR	10		M					
87	0 25	mcl	10YR43 00						0	0	HR	2							
	25 50	hcl	10YR42 00						0	0	HR	5		M					
	50 80	hcl	10YR54 00						0	0	HR	2		M					

				----MOTTLES-----			PED		----STONES----				STRUCT/	SUBS					
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
88	0-30	mcl	10YR42 00						0	0	HR	2							
	30-60	mcl	10YR43 00						0	0	HR	5		M					
	60-70	hcl	10YR54 00						0	0	HR	5		M					
89	0-32	mcl	10YR43 00						0	0	HR	2							
	32-50	hcl	10YR44 00						0	0	HR	5		M					
	50-90	c	10YR44 00						0	0	HR	10		M					
	90-120	hcl	10YR64 00						0	0	CH	5		M				Y	Chalky drift
90	0-25	mcl	10YR42 00						0	0	HR	2							
	25-40	mcl	10YR43 00						0	0	HR	2		M					
91	0-30	mcl	10YR42 00						0	0	HR	2							
	30-45	hcl	10YR43 00						0	0	HR	2		M					
	45-120	hcl	10YR44 00						0	0	HR	2		M					
96	0-32	mcl	10YR32 00						0	0	HR	2							
	32-70	mcl	10YR42 00						0	0	HR	2		M					
	70-85	c	10YR54 00						0	0	HR	2		M					
97	0-25	mcl	10YR42 00						0	0	HR	2							
	25-50	hcl	10YR44 00						0	0	HR	2		M					
	50 80	hcl	10YR54 00				00MN00 00		0	0	HR	2		M					
	80-120	hcl	10YR54 00						0	0	CH	2		M					
98	0-25	mcl	10YR42 00						0	0	HR	2							
	25-60	hcl	10YR43 00						0	0	HR	2		M					
	60-120	hcl	10YR54 00						0	0	HR	2		M					
100	0-32	mcl	10YR32 00						0	0	HR	5							
	32-70	hcl	10YR62 00	75YR58 00	C		10YR71 00	Y	0	0	HR	2		M					
	70-82	hcl	10YR62 00	75YR58 00	C		10YR71 00	Y	0	0	HR	2		M				Y	Imp 82 - stones
101	0-30	mcl	10YR32 00						0	0		0							
	30-60	mcl	10YR52 00						0	0		0		M					
	60-78	c	10YR61 00	75YR58 00	C			Y	0	0		0		M					Imp 78 - gravel
103	0-30	mcl	10YR42 00						2	0	HR	3							
	30-50	hcl	10YR53 00						0	0	HR	3		M					
	50-80	c	10YR54 00						0	0	HR	3		M					Imp 80 - stones
104	0-27	mcl	10YR42 00						2	0	HR	3							
	27-48	hcl	10YR43 00						0	0	HR	3		M					
	48-65	c	75YR54 00						0	0	HR	5		M					Imp 65 - stones
105	0-25	mcl	10YR42 00						3	0	HR	5							
	25-50	mcl	10YR43 00						0	0	HR	10		M					Imp 50 - stones

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES-- -- COL	ABUN	CONT	PED COL	GLEY	- STONES - >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
106	0 25	ol	10YR32 00						0	0		0							Imp 25 gravel
107	0 30	pl	10YR21 00						0	0		0							
	30 40	gh	00ZZ00 00						0	0		0		M					Imp 40 gravel
108	0 30	hcl	10YR32 00						0	0	HR	1							
	30 50	c	25 Y52 00	10YR58 00	C		25 Y60 00	Y	0	0		0		M					
	50 120	c	10YR62 00	10YR58 00	M		10YR61 00	Y	0	0		0		M					Many Mn concs
110	0 29	mcl	10YR42 00						0	0	HR	2							
	29 48	hcl	10YR53 00						0	0	HR	2		M					
	48 80	c	10YR54 00						0	0		0		M					
	80 85	c	10YR54 00		F				0	0		0		M					Imp 85 stones
112	0 28	mcl	10YR53 00						0	0	HR	5							
	28 45	hcl	10YR54 00						0	0	HR	5		M					
	45 70	c	10YR54 00						0	0	HR	2		M					Imp 70 stones
11 1	0 28	mcl	10YR53 00						0	0	HR	5							
	28 45	hcl	10YR54 00						0	0	HR	5		M					
	45 120	c	10YR54 00						0	0	HR	2		M					Assume to 120
113	0 25	ocl	10YR22 00						0	0		0							
	25 32	hcl	10YR31 00						0	0		0		M					Imp 32 - gravel
114	0 25	mzcl	10YR32 00						0	0		0							
	25 35	hcl	10YR53 00						0	0		0		M					
	35 55	hcl	10YR62 00	10YR58 00	C		10YR61 00	Y	0	0	HR	2		M					
	55 120	c	10YR62 00	10YR58 00	C		10YR61 00	Y	0	0	HR	2		M					
115	0 35	mcl	10YR42 00						0	0	HR	2							
	35 42	hcl	10YR54 00						0	0		0		M					
	42 120	hcl	10YR54 00	000C00 00	M		00MN00 00		0	0		0		M					
116	0 25	mcl	10YR42 00						0	0		0							
	25 50	c	10YR44 00						0	0		0		M					
	50 80	c	10YR54 00						0	0		0		M					
	80 120	c	10YR54 00	000C00 00	C				0	0		0		M					
117	0 28	mcl	10YR42 00						0	0	HR	2							
	28 60	hcl	10YR44 00						0	0	HR	2		M					
	60 80	c	10YR44 00						0	0	HR	2		M					
	80 100	c	25Y 63 00	000C00 00	C			Y	0	0		0		M					
118	0 32	mcl	10YR42 00						2	0	HR	5							
	32 80	hcl	10YR54 00						0	0	HR	5		M					
	80 90	hcl	10YR54 00						0	0	HR	10		M					Imp 90 - stones

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES----- COL	ABUN	CONT	PED COL	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
119	0-29	mcl	10YR53 00						2	0	HR	5							
	29-60	hcl	10YR54 00						0	0	HR	5		M					
	60-75	c	10YR54 00						0	0	HR	2		M					Imp 75 - stones
120	0-30	ocl	10YR22 00						0	0		0							
	30-42	pl	10YR32 00						0	0		0		M					Imp 42 - stones
121	0-25	mzcl	10YR42 00						0	0		0							
	25-45	hcl	10YR53 00						0	0	HR	5		M					
	45-70	c	10YR53 00	75YR56	00	C	10YR62 00	Y	0	0	HR	5		M					
	70-120	c	10YR71 00	10YR56	00	C		Y	0	0	HR	5		M					
122	0-28	mcl	10YR42 00						0	0		0							
	28-50	hcl	10YR53 00						0	0		0		M					
	50-120	hcl	10YR53 00	000C00	00	C	00MN00 00	Y	0	0		0		M					
123	0-25	mcl	10YR42 00						0	0	HR	2							
	25-50	hcl	10YR44 00						0	0		0		M					
	50-120	c	10YR54 56	000C00	00	C			0	0	HR	5		M					
124	0-25	mcl	10YR42 00						0	0	HR	2							
	25-80	hcl	10YR54 00						0	0	HR	2		M					
	80-90	c	10YR54 00	000C00	00	C	00MN00 00		0	0	HR	5		M					
125	0-25	mcl	10YR42 00						0	0	HR	2							
	25-50	hcl	10YR54 00						0	0	HR	5		M					
127	0-25	mcl	10YR42 00						0	0	HR	2							
	25-45	hcl	10YR44 00						0	0	HR	2		M					
	45-80	c	10YR44 00						0	0	HR	2		M					
	80-120	c	10YR44 00	000C00	00	F			0	0		0		M					
128	0-32	mcl	10YR32 00						0	0		0							
	32-60	hcl	10YR63 00	75YR56	46	C	10YR61 00	Y	0	0	HR	5		M					Few Mn concs
	60-120	c	10YR52 00	75YR58	00	M	10YR61 00	Y	0	0	HR	5		M					
129	0-28	mcl	10YR42 00						0	0		0							
	28-40	hcl	10YR53 00						0	0		0		M					
	40-58	c	10YR54 00						0	0		0		M					Few Mn concs
	58-62	c	10YR53 00	75YR58	00	C		Y	0	0	HR	5		M					Imp 62 - stones
130	0-32	mcl	10YR42 00						0	0		0							
	32-50	hcl	10YR53 00	75YR58	00	C	10YR61 00	Y	0	0		0		M					
	50-120	c	10YR53 00	75YR58	00	M	10YR61 00	Y	0	0		0		M					
131	0-25	mcl	10YR42 00						0	0	HR	2							
	25-50	mcl	25Y 52 00						0	0	HR	5		M					

				----MOTTLES-----			PED		----STONES----				STRUCT/	SUBS					
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
132	0-25	mcl	10YR42 00						0	0	HR	2							
	25-50	mcl	10YR54 00						0	0		0		M					
	50-60	hcl	10YR54 00	000C00 00	F				0	0		0		M					
	60-90	c	10YR54 00	000C00 00	F				0	0		0		M					
133	0-25	mcl	10YR42 00						0	0	HR	2							
	25-40	hcl	10YR54 00						0	0		0		M					
	40-120	c	10YR54 00				00MN00 00		0	0		0		M					
135	0-25	mcl	10YR42 00						0	0	HR	2							
	25-65	hcl	10YR54 00						0	0	HR	2		M					
	65-120	c	10YR54 00						0	0	HR	2		M					
136	0 25	mcl	10YR42 00						0	0	HR	2							
	25 50	mcl	10YR44 00						0	0	HR	2		M					
	50 80	hcl	10YR54 00						0	0	HR	2		M					
	80 95	c	10YR54 00						0	0	HR	5		M					
138	0-25	mcl	10YR42 00						0	0	HR	2							
	25-50	hcl	10YR53 00						0	0	HR	2		M					
	50-60	c	10YR56 00						0	0	HR	5		M					
139	0-25	mcl	10YR42 00						0	0	HR	2							
	25-60	c	10YR54 00				00MN00 00		0	0		0		M					
	60 70	c	10YR54 00				00MN00 00		0	0		0		M					
	70 120	c	10YR54 00	000C00 00	C		00MN00 00		0	0		0		M					
140	0 28	mcl	10YR42 00						0	0	HR	2							
	28 65	hcl	10YR54 00						0	0		0		M					
	65 120	c	10YR54 00	000C00 00	C		00MN00 00		0	0		0		M					
142	0-25	mcl	10YR42 00						0	0	HR	2							
	25 60	hcl	10YR44 00						0	0		0		M					
	60-120	c	10YR54 00				00MN00 00		0	0	HR	2		M					
144	0-35	ocl	10YR22 00						0	0		0							Imp 35 - brashy
145	0-25	mcl	10YR42 00						0	0		0							
	25-60	hcl	10YR53 00	000C00 00	C			Y	0	0		0		M					
	60-90	c	10YR52 00	000C00 00	C			Y	0	0		0		P	Y		Y		
146	0-25	mcl	10YR42 00						0	0		0							
	25-60	hcl	10YR44 00						0	0		0		M					
	60-85	c	10YR54 00				00MN00 00		0	0		0		M					
147	0-25	mcl	10YR42 00						0	0	HR	2							
	25-60	hcl	10YR54 00				00MN00 00		0	0		0		M					
	60-80	c	10YR54 00	000C00 00	F		00MN00 00		0	0	HR	5		M					

				----MOTTLES-----			PED		----STONES----				STRUCT/	SUBS					
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL.	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
148	0-25	mcl	10YR42 00						0	0	HR	2							
	25-50	hcl	10YR54 00						0	0		0		M					
	50-60	c	10YR54 00						0	0		0		M					
	60-75	c	10YR54 00				00MN00 00		0	0	HR	5		M					
149	0-25	mcl	10YR42 00						0	0	HR	2							
	25-50	hcl	10YR44 00						0	0	HR	2		M					
	50-120	hcl	10YR54 00						0	0	HR	2		M					
150	0-25	mcl	10YR42 00						0	0	HR	2							
	25-80	hcl	10YR54 00						0	0	HR	2		M					
	80-120	hcl	10YR54 00	000C00	00	C	00MN00 00		0	0	HR	2		M					
152	0-30	pl	10YR22 00						0	0	HR	5							
	30-65	ocl	10YR21 00	75YR46	00	C		Y	0	0	HR	2		P					Imp 65 - stones
154	0-25	mcl	10YR42 00						0	0		0							
	25-50	hcl	10YR52 00	000C00	00	M		Y	0	0		0		M					
	50-60	c	10YR52 00	000C00	00	M		Y	0	0		0		M					
	60-80	c	10YR52 00	000C00	00	M		Y	0	0		0		P	Y		Y		
156	0-25	mcl	10YR42 00						0	0		0							
	25-42	mcl	10YR53 00						0	0		0		M					
	42-120	hcl	10YR52 00	000C00	00	C		Y	0	0		0		M					
157	0-25	mcl	10YR42 00						0	0		0							
	25-60	hcl	10YR44 00						0	0	HR	2		M					
	60-90	c	10YR54 00						0	0	HR	5		M					
158	0-25	mcl	10YR42 00						0	0	HR	2							
	25-60	hcl	10YR54 00						0	0	HR	2		M					
	60-120	c	10YR54 00	000C00	00	C			0	0	HR	2		M					
159	0-25	mcl	10YR43 00						0	0		0							
	25-38	hcl	75YR54 00						0	0		0		M					
	38-50	c	75YR56 00						0	0	HR	5		M					
	50-60	c	75YR56 00						0	0	HR	10		M					Imp 60 - stones
160	0-32	mcl	10YR43 00						0	0		0							
	32-40	hcl	10YR53 00	10YR58	00	C	10YR62 00	Y	0	0	HR	5		M					
	40-62	hcl	10YR62 00	10YR58	00	M	10YR61 00	Y	0	0	HR	10		M					Imp 62 - stones
161	0-27	hcl	10YR41 00	75YR46	00	C		Y	0	0		0							
	27-120	c	05 Y71 00	10YR58	00	M		Y	0	0		0		P			Y		Watertable 50+
162	0-30	mcl	10YR42 00						0	0		0							
	30-50	c	25Y 52 00	000C00	00	C		Y	0	0	HR	2		M					
	50-120	c	25Y 52 00	000C00	00	C		Y	0	0	HR	5		M					

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES 2	6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
166	0 28	mcl	10YR42 00						0	0	HR	2							
	28-60	hcl	10YR54 00						0	0	HR	2		M					
	60-120	c	10YR54 00						0	0	HR	2		M					
167	0-28	mcl	10YR42 00						0	0	HR	1							
	28 75	hcl	10YR54 00						0	0		0		M					
	75-120	c	10YR54 00				00MN00 00		0	0	HR	2		M					
168	0 32	c	10YR62 00	75YR56 00	C		10YR51 00	Y	0	0		0							
	32-120	c	05 Y71 00	10YR58 00	M			Y	0	0		0		M			Y		Peaty loam lenses
170	0-30	mcl	10YR42 00						0	0		0							
	30-50	mcl	10YR53 00						0	0		0		M					
	50-75	hcl	10YR53 00	000C00 00	M		00MN00 00	Y	0	0		0		M					
	75-90	scl	10YR56 00	000C00 00	C			Y	0	0		0		M					
171	0 30	mcl	10YR42 00						0	0		0							
	30 40	hcl	10YR53 00						0	0		0		M					
	40 80	hcl	10YR53 00	000C00 00	C		00MN00 00	Y	0	0	HR	2		M					
	80 120	c	10YR56 00	000C00 00	C			Y	0	0		0		M					
172	0 25	mcl	10YR42 00						0	0		0							
	25 60	hcl	10YR54 00						0	0		0		M					
	60 90	hcl	10YR53 00	000C00 00	C			Y	0	0		0		M					
	90 120	c	10YR53 00	000C00 00	C			Y	0	0		0		M					
173	0 25	mcl	10YR42 00						0	0		0							
	25 50	hcl	10YR44 00						0	0		0		M					
	50-70	hcl	10YR54 00						0	0		0		M					
	70 90	c	10YR46 00	000C00 00	F				0	0	HR	5		M					
174	0 25	mcl	10YR42 00						0	0	HR	2							
	25 50	hcl	10YR54 00						0	0	HR	2		M					
	50 120	c	10YR54 00	000C00 00	C				0	0	HR	5		M					
175	0 28	mcl	10YR43 00						0	0	HR	2							
	28 60	hcl	10YR54 00						0	0	HR	5		M					
	60 75	c	10YR54 00						0	0	HR	5		M					
180	0-20	mcl	10YR42 00						0	0	HR	4							
	20-50	mcl	25Y 62 00	000C00 00	C			Y	0	0	HR	5		M					
	50 120	lms	10YR56 00	000C00 00	C			Y	0	0	HR	5		M					
181	0 28	mcl	10YR42 00						0	0	HR	5							
	28-40	mcl	10YR44 00						0	0	HR	10		M					
182	0 25	mcl	10YR42 00						0	0	HR	2							
	25-60	msl	10YR42 00	000C00 00	C			Y	0	0	HR	10		M					

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
184	0-20	c	10YR32 00	000C00	00	C		Y	0	0		0						
	20-55	c	25Y 52 00	000C00	00	M		Y	0	0		0		P	Y		Y	
185	0-10	hcl	10YR32 00	000C00	00	C		Y	0	0		0						
	10-60	c	25Y 52 00	000C00	00	M		Y	0	0		0		P	Y		Y	
186	0-25	mszl	10YR42 00						0	0	HR	2						
	25-80	mcl	10YR52 00	000C00	00	C		Y	0	0	HR	10		M				
187	0-35	hcl	10YR42 00	75YR58	00	C	10YR71 00	Y	0	0		0						
	35-55	c	10YR52 00	75YR58	00	M	10YR61 00	Y	0	0		0		M			Y	
	55-120	c	05 Y61 00	75YR58	00	M		Y	0	0		0		M			Y	
189	0-20	hcl	10YR32 00	000C00	00	C		Y	0	0		0						
	20-55	c	25Y 52 00	000C00	00	M		Y	0	0		0		P	Y		Y	
2504	0-26	mzcl	10YR53 00						0	0	HR	3						Y
	26-45	hcl	10YR54 64						0	0	CH	10		M				Y
	45-85	ch	00CH00 00						0	0	HR	2		M				Y