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BASINGSTOKE & DEANE BOROUGH
LOCAL PLAN.
SITE 2: LAND NORTH OF
POPLEY FIELDS
AGRICULTURAL LAND CLASSIFICATION
ALC MAP & REPORT
AUGUST 1993

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AGRICULTURAL LAND CLASSIFICATION REPORT

1.0 Summary

1.1 In August 1993, a detailed Agricultural Land Classification (ALC) survey was carried out on approximately 107 hectares of land at Popley Fields, Basingstoke. ADAS was commissioned by MAFF's Land Use Planning Unit to determine the quality of 22 sites around Basingstoke in Hampshire. The work forms part of MAFF's statutory input into the Basingstoke and Deane Borough Local Plan (2nd round).

1.2 The survey was conducted by members of the Resource Planning Team in the Guildford Statutory Group at an observation density of approximately one boring per hectare. A total of 102 borings and 5 soil inspection pits were described in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose longterm limitations on its use for agriculture.

At the time of survey, the land was under permanent grass and cereal stubble.

1.3 The distribution of the grades and subgrades is shown on the attached ALC map and the areas and extents are given in the table below. The map has been drawn at a scale of 1:5000. It is accurate at this scale, but any enlargement may be misleading.

Table 1 : Distribution of Grades and Sub-grades

Grade	Area (ha)	% of Agricultural Area
2	9.1	9.3
3a	38.6	39.6
3b	49.9	51.1
Total agricultural area	97.6	100%
Non agricultural	1.7	
Woodland	2.7	
Urban	4.3	
Agricultural buildings	1.3	
Total area of site	107.6	

1.4 A general description of the grades, subgrades and landuse categories identified in this survey is provided as an appendix. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

1.5 The site has been classified as grades 2, 3a and 3b. The areas shown as grade 2 are limited by slight soil droughtiness due to the presence of chalk at depth and/or profile stone volumes which restrict available water for plant growth. The area shown as subgrade 3a is limited by moderate soil droughtiness as a result of chalk at shallow depths in the profile. Pit observations found deep rooting into the chalk which partially offsets lack of available water for plant growth due to its close proximity to the surface. Land shown as subgrade 3b is similar to that mapped as subgrade 3a, however the chalk (at shallow depths) was found to be

less well rooted due to it being harder and more compact than that of subgrade 3a land. Consequently soils suffer from a significant droughtiness limitation.

An area of lower lying land to the north east is also classified as subgrade 3b due to a significant soil wetness limitation due to the presence of slowly permeable horizons of clay in the upper subsoil.

2.0 Climate

2.1 The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

2.2 The main parameters used in the assessment of the overall climatic limitation are average annual rainfall, as a measure of overall wetness, and accumulated temperature, as a measure of the relative warmth of a locality.

2.3 A detailed assessment of the prevailing climate was made by interpolation from a 5km gridpoint dataset (Met. Office, 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site.

2.4 No local climatic factors such as exposure or frost risk affect the site. However, climatic factors do interact with soil properties to influence soil wetness and droughtiness limitations.

Table 2 : Climatic Interpolations

Grid Reference :	SU 629 550	SU 621 546	SU 620 544
Altitude (m) :	85	100	110
Accumulated Temperature (days) :	1436	1419	1408
Average Annual Rainfall (mm) :	751	773	782
Field Capacity (days) :	161	166	167
Moisture Deficit, Wheat (mm) :	104	101	99
Moisture Deficit, Potatoes (mm) :	96	91	89
Overall Climatic Grade :	1	1	1

3.0 Relief

3.1 The site lies at an altitude of between 75-115 metres. The highest point of altitude is to the south with land falling gently away to the north and north west. Nowhere on the site does relief or gradient affect agricultural land quality.

4.0 Geology and Soil

4.1 The relevant geological sheet for the site (Sheet 284 BGS, 1981) shows the underlying geology to be Cretaceous Upper Chalk over the majority of the site giving way to Tertiary Reading Beds and London Clay to the north east, in the vicinity of Kiln Farm.

4.2 The published soils information for the area (Sheet 6 SSEW, 1983) shows the site to comprise Andover 1 Association where the Cretaceous Upper Chalk has been mapped -"Shallow well drained calcareous silty soils over chalk on slopes and crests. Deep calcareous and non calcareous fine silty soils in valley bottoms" (SSEW, 1983). Coinciding with Tertiary Reading Beds and London Clay geology is mapped Wickham 4 Association -"Slowly

permeable seasonally waterlogged fine loamy over clayey and fine silty over clayey soils associated with similar clayey soils often with brown subsoils" (SSEW, 1983). A detailed inspection of soils over the site broadly confirmed the presence of soils similar to those described above.

5.0 Agricultural Land Classification

5.1 Table 1 provides the details of the area measurements for each grade and the distribution of each grade is shown on the attached ALC map.

5.2 The location of the soil observation points are shown on the attached sample point map.

Grade 2

5.3 Land classified as Grade 2 is found to the east and west of the site. Profiles are calcareous and non calcareous typically comprising topsoils of medium clay loam or medium silty clay loam containing 2-6% total flints by volume. Upper subsoils consist of similar textures and heavy clay loam containing 2-30% total flints or weathered chalk. Underlying this is medium silty clay loam, occasionally heavy clay loam or clay containing 10-25% total flints or weathered chalk. In places this passes into pure chalk from between 50-70cm depth in the profile. Soils are well drained with a wetness class of I but experience a slight droughtiness limitation due to the very slight to moderate volumes of profile stone reducing available water (see Pit 5). In profiles where pure chalk was encountered observations from Pit 1 found effective rooting depth into the chalk to be 20cm. This again results in a reduction of profile available water for plant growth and land can be classified no higher than Grade 2 as a consequence.

Subgrade 3a

5.4 Land of this quality is found to the west and centre of the site. Profiles are calcareous and non calcareous and typically comprise topsoils of medium silty clay loam containing 0-10% total flints and weathered chalk. Upper subsoils consist of either soft, weathered pure chalk or medium and heavy silty clay loam containing 2-70% total flints or weathered chalk. When the latter was encountered it passed into harder, less weathered pure chalk between 45-55cm depth. Soils are well drained with a wetness class of I but are limited by moderate droughtiness. The soft, weathered chalk was encountered mainly to the north of the site and roots were found to penetrate effectively 40cm (see Pit 3). Such profiles experience a moderate reduction in available water due to deep rooting offsetting the shallow depth of soil over chalk. Harder , less weathered chalk was found mainly to the south of the site with an effective rooting depth of 20cm (see Pit 1). These profiles too, experience only moderate droughtiness due to the deeper soils above the chalk holding available water for plant growth. This map unit includes some better and poorer quality profiles which were not mapped separately due to their limited number and distribution.

Subgrade 3b

5.5 Land classified as Subgrade 3b is found to the south and east of the site. Land to the south is limited by soil droughtiness and comprises topsoils of calcareous and non calcareous medium silty clay loam or medium clay loam containing 2-5% total flints or weathered chalk. Underlying this between 23-35cm depth is hard pure chalk as described above. With an effective rooting depth of only 20cm into the chalk (see Pit 1) soils experience significant droughtiness due to chalk at shallow depths reducing available water.

5.6 Lower lying land to the east is limited by soil wetness with profiles typically comprising topsoils of heavy clay loam containing 0-5% total flints by volume. Subsoils comprise poorly stuctured, slowly permeable clay. Profiles experience a significant wetness limitation as evidenced by the presence of gleying beginning from the surface to 30cm depth and slowly permeable layers from 25-55cm depth. Soils are assigned to wetness classes III and IV and this combined with a heavy topsoil texture and the Field Capacity Days for the site area gives a resultant land classification of Subgrade 3b. As with Subgrade 3a some profiles of better quality were encountered but not mapped separately due to their limited number and distribution.

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 reclaimed using derelict land grants.

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture, including : private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports/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 scale permits.

Land Not Surveyed

Agricultural land which has not been surveyed.

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

APPENDIX II

REFERENCES

* BRITISH GEOLOGICAL SURVEY (1981), Sheet No. 284, Basingstoke, 1:50,000 scale.

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

* METEOROLOGICAL OFFICE (1989), Climatological Data for Agricultural Land Classification.

* SOIL SURVEY OF ENGLAND AND WALES (1983), Sheet No. 6, Soils of South East England and accompanying legend, 1:250,000 scale.

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 pit and auger boring information collected during ALC fieldwork is held on a database. This has commonly used notations and abbreviations as set out below.

Boring Header Information

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

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

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

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

6. **MB (WHEAT/POTS)** : Moisture Balance.

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

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

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

9. **LIMIT** : The main limitation to land quality. The following abbreviations are used.

OC : Overall Climate **AE** : Aspect **EX** : Exposure **FR** : Frost Risk **GR** : Gradient **MR** : Microrelief
FL : Flood Risk **TX** : Topsoil Texture **DP** : Soil Depth **CH** : Chemical **WE** : Wetness **WK** : Workability
DR : Drought **ER** : Soil Erosion Risk **WD** : Combined Soil Wetness/Droughtiness **ST** : Topsoil Stoniness

Soil Pits and Auger Borings

1. **TEXTURE** : soil texture classes are denoted by the following abbreviations.

S : Sand **LS** : Loamy Sand **SL** : Sandy Loam **SZL** : Sandy Silt Loam **CL** : Clay Loam **ZCL** : Silty Clay Loam
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 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

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

6. **STONE LITH** : One of the following is used.

HR : all hard rocks and stones **MSST** : soft, medium or coarse grained sandstone
SI : soft weathered igneous or metamorphic **SLST** : soft oolitic or dolimitic 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:

- degree of development **WK** : weakly developed **MD** : moderately developed **ST** : strongly developed

- ped size **F** : fine **M** : medium **C** : coarse **VC** : very coarse

- ped shape **S** : single grain **M** : massive **GR** : granular **AB** : angular blocky **SAB** : sub-angular blocky **PR** : prismatic **PL** : platy

8. **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

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 appropiate 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. 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 : BSTOKE LP (2) SITE 2 Pit Number : 1P

Grid Reference: SU62485475 Average Annual Rainfall : 773 mm
Accumulated Temperature : 1419 degree days
Field Capacity Level : 166 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	MCL	10YR43 00	0	6		
30- 50	CH	10YR81 00	0	0		

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

Drought Grade : 3B APW : 71 mm MBW : -30 mm
APP : 71 mm MBP : -20 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : BSTOKE LP (2) SITE 2 Pit Number : 2P

Grid Reference: SU62005510
Average Annual Rainfall : 773 mm
Accumulated Temperature : 1419 degree days
Field Capacity Level : 166 days
Land Use : Cereals
Slope and Aspect : 02 degrees NE

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 22	MZCL	10YR43 00	1	3		
22- 45	MCL	10YR64 00	0	50		
45- 80	CH	05Y 81 00	0	0		
80-115	MCL	10YR64 00	0	40		
115-120	CH	05Y 81 00	0	0		

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

Drought Grade : 2
APW : 131mm MBW : 30 mm
APP : 96 mm MBP : 5 mm

FINAL ALC GRADE : 2
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : BSTOKE LP (2) SITE 2 Pit Number : 3P

Grid Reference: SU62055498 Average Annual Rainfall : 773 mm
Accumulated Temperature : 1419 degree days
Field Capacity Level : 166 days
Land Use : Cereals
Slope and Aspect : 01 degrees SE

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 22	MZCL	10YR43 53	1	4		
22- 38	MZCL	10YR54 00	0	45		
38- 78	CH	05Y 81 00	0	0		

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

Drought Grade : 3A APW : 94 mm MBW : -7 mm
APP : 94 mm MBP : 3 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : BSTOKE LP (2) SITE 2 Pit Number : 4P

Grid Reference: SU63005530 Average Annual Rainfall : 773 mm
Accumulated Temperature : 1419 degree days
Field Capacity Level : 166 days
Land Use : Cereals
Slope and Aspect : 01 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 25	HCL	10YR42 00	0	0	F	
25- 68	C	10YR51 00	0	0	M	WDCAB

Wetness Grade : 3B Wetness Class : IV
Gleying :025 cm
SPL :025 cm

Drought Grade : APW : mm MBW : 0 mm
APP : mm MBP : 0 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : BSTOKE LP (2) SITE 2 Pit Number : 5P

Grid Reference: SU62755502 Average Annual Rainfall : 773 mm
Accumulated Temperature : 1419 degree days
Field Capacity Level : 166 days
Land Use : Cereals
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	MCL	10YR42 00	1	3		
30- 70	MZCL	10YR43 00	0	7		MCSAB
70- 95	MZCL	10YR54 00	0	25		

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

Drought Grade : 2 APW : 126mm MBW : 25 mm
APP : 116mm MBP : 25 mm

FINAL ALC GRADE : 2
MAIN LIMITATION : Droughtiness

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SU62605550	CER					1	1	42	-59	42	-49	4				DR	4	IMP 25 Q3B
1P	SU62485475	PGR					1	1	71	-30	71	-20	3B				DR	3B	ROOT 50
2	SU62705550	CER					1	1	51	-50	51	-40	3B				DR	3B	IMP 30
2P	SU62005510	CER	NE	02			1	1	131	30	96	5	2				DR	2	ROOT120
3	SU62805550	CER	NE		025		2	3A	64	-37	64	-27	3B				DR	3B	IMP 40 Q3BWE
3P	SU62055498	CER	SE	01			1	1	94	-7	94	3	3A				DR	3A	PIT 85 ROOT 78
4	SU62905550	CER	NE	03	030	030	4	3B		0		0					WE	3B	
4P	SU63005530	CER	S	01	025	025	4	3B		0		0					WE	3B	PIT68
5	SU63005550	CER	NE	04	030	055	3	3B		0		0					WE	3B	
5P	SU62755502	CER					1	1	126	25	116	25	2				DR	2	IMP 95
6	SU63105550	CER			0		2	3A	98	-3	107	16	3A				WE	3A	IMP 65
7	SU62705540	CER			0	030	4	3B		0		0					WE	3B	
8	SU62805540	CER			030	030	4	3B		0		0					WE	3B	
9	SU62905540	CER	E	01	025	030	4	3B		0		0					WE	3B	
10	SU63005540	CER	NE	02	025	025	4	3B		0		0					WE	3B	
11	SU63105540	CER	NE	02	025	025	4	3B	95	-6	104	13	3A				WE	3B	
12	SU63205540	CER	NE	02	055		1	2	136	35	118	27	1				WE	2	IMP 100
13	SU62705530	PGR					1	1	36	-65	36	-55	4				DR	4	IMP 20 Q3B
15	SU62905530	CER			030	045	4	3B		0		0					WE	3B	
16	SU63005530	CER			030	040	4	3B		0		0					WE	3B	
17	SU63105530	CER			0	025	4	3B		0		0					WE	3B	
18	SU63205530	CER			025	025	4	3B		0		0					WE	3B	
20	SU61805520	CER	NE	03			1	1	109	8	115	24	2				DR	2	IMP 50
21	SU61905520	CER	NE	04			1	1	106	5	101	10	2				DR	2	ROOT 85 AS 3P
22	SU62405520	PGR	NE	01			1	1	90	-11	92	1	3A				DR	3A	ROOT 75 AS 3P
23	SU62505520	PGR	NE	01			1	1	54	-47	54	-37	3B				DR	3B	IMP 32 Q3B
24	SU62605520	PGR	N				1	1	50	-51	50	-41	4				DR	4	IMP 32 Q3B
26	SU62805520	PGR					1	2	43	-58	43	-48	4				DR	4	IMP 25 Q3B
27	SU62905520	CER			022	035	4	3B		0		0					WE	3B	
28	SU63005520	CER			025	025	4	3B		0		0					WE	3B	
29	SU63105520	CER			028	028	4	3B		0		0					WE	3B	
30	SU61705510	CER	NE	02			1	1	70	-31	70	-21	3B				DR	3B	IMP 40 Q3A
31	SU61805510	CER	N	03			1	1	110	9	102	11	2				DR	2	ROOT 90 AS 3P
32	SU61905510	CER	NE	03			1	1	94	-7	97	6	3A				DR	3A	ROOT 75 AS 3P
33	SU62005510		NE	02			1	1	99	-2	98	7	3A				DR	3A	ROOT 80 AS 3P
34	SU62305510	PGR	SE	04			1	1	78	-23	82	-9	3B				DR	3B	ROOT 64
35	SU63405510	PGR	SE	02			1	1	109	8	122	31	2				DR	2	IMP 70
36	SU63505510	PGR	SE	02			1	1	102	1	110	19	3A				DR	3A	IMP65
37	SU63605510	PGR	N	01			1	1	73	-28	73	-18	3B				DR	3B	IMP42Q3A
38	SU63705510	CER	SE				1	1	80	-21	82	-9	3B				DR	3B	ROOT 55 AS 1P
39	SU63805510	CER	SE		0		1	2	130	29	105	14	2				DR	2	WEDR
40	SU63905510	PGR	SE		030	030	4	3B		0		0					WE	3B	

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
41	SU61705500	CER	NE	02			1	1	99	-2	98	7	3A				DR	3A	ROOT 80 AS 3P
42	SU61805500	CER	SE				1	1	93	-8	95	4	3A				DR	3A	ROOT 75 AS 3P
43	SU61905500	CER	NW	02			1	1	88	-13	94	3	3A				DR	3A	ROOT 70 AS 3P
44	SU62005500	CER	E				1	1	93	-8	95	4	3A				DR	3A	ROOT 75 AS 3P
45	SU62105500	CER	E	02			1	1	98	-3	98	7	3A				DR	3A	ROOT 78 AS 3P
47	SU62305500	PGR	SE	04			1	1	121	20	108	17	2				DR	2	ROOT 100 AS 3P
48	SU62405500	PGR	NW	02			1	1	120	19	110	19	2				DR	2	ROOT 95 AS 3P
49	SU62505500	PGR	NW	05			1	1	103	2	109	18	3A				DR	2	ROOT 80 AS 1P
50	SU62605500	STU	N	02			1	1	104	3	107	16	3A				DR	3A	BDR 2 AS 1P
51	SU62705500	STU	N	02			1	1	90	-11	97	6	3A				DR	3A	IMP60Q2
52	SU62805500	STU	N				1	1	112	11	108	17	2				DR	2	ROOT 90 AS 1P
53	SU62905500	STU	E	02			1	1	83	-18	85	-6	3A				DR	3A	IMP55Q2
54	SU61705490	CER	NE				1	1	114	13	106	15	2				DR	2	ROOT 90 AS 3P
55	SU61805490	PGR	SE				1	1	105	4	100	9	3A				DR	3A	ROOT 85 AS 3P
56	SU61905490	CER	N				1	1	101	0	100	9	3A				DR	3A	ROOT 80 AS 3P
57	SU62005490	CER	E	02			1	1	98	-3	104	13	3A				DR	3A	IMP60 Q2
58	SU62105490	CER	E	03			1	1	113	12	105	14	2				DR	2	ROOT 90 AS 3P
59	SU62205490	PGR	SE	03			1	1	91	-10	91	0	3A				DR	3A	IMP 50
60	SU62305490	PGR	NW	04			1	1	74	-27	74	-17	3B				DR	3B	ROOT 50 AS 1P
61	SU62405490	PGR	NW	02			1	1	79	-22	80	-11	3B				DR	3B	ROOT 55 AS 1P
62	SU62505490	PGR	NW	01			1	1	79	-22	79	-12	3B				DR	3B	ROOT 52
63	SU62605490	PGR	N	02			1	1	95	-6	101	10	3A				DR	3A	ROOT 70
64	SU62705490	STU	N	02			1	1	96	-5	106	15	3A				DR	3A	IMP70Q2
65	SU62805490	STU	E	02			1	1	86	-15	89	-2	3A				DR	3A	IMP55
66	SU62905490	STU	E	02			1	1	117	16	115	24	2				DR	2	ROOT 90
67	SU61805480	PGR	SE				1	1	61	-40	61	-30	3B				DR	3B	IMP 35
68	SU61905480	CER	SE	03			1	1	88	-13	93	2	3A				DR	3A	ROOT 75 AS 3P
69	SU62005480	CER	SE	03			1	1	94	-7	97	6	3A				DR	3A	ROOT 75 AS 3P
70	SU62105480	PGR	W	01			1	1	104	3	100	9	3A				DR	3A	ROOT 85 AS 3P
71	SU62205480	PGR	E	02			1	1	79	-22	81	-10	3B				DR	3B	ROOT 55 AS 1P
72	SU62305480	PGR	E	02			1	1	64	-37	64	-27	3B				DR	3B	ROOT 45 AS 1P
73	SU62405480	PGR					1	1	72	-29	72	-19	3B				DR	3B	ROOT 50 AS 1P
74	SU62505480	PGR					1	1	81	-20	82	-9	3A				DR	3A	ROOT 55 AS 1P
75	SU62605480	PGR					1	1	86	-15	89	-2	3A				DR	3A	ROOT 60 AS 1P
76	SU62705480	PPR					1	1	72	-29	72	-19	3B				DR	3B	ROOT 50 AS 1P
77	SU62805480	STU	N	02			1	1	68	-33	68	-23	3B				DR	3B	ROOT 48 AS 1P
80	SU62005470	PGR	E	02			1	1	83	-18	88	-3	3A				DR	3A	ROOT 48 AS 1P
81	SU62105470	PGR	E	01			1	1	88	-13	91	0	3A				DR	3B	ROOT 62 AS 1P
82	SU62205470	PGR	E	02			1	1	50	-51	50	-41	4				DR	4	ROOT 37 AS 1P
83	SU62305470	PGR	E	02			1	1	91	-10	94	3	3A				DR	3A	ROOT 62 AS 1P
84	SU62405470	PGR					1	1	82	-19	83	-8	3A				DR	3A	ROOT 55 AS 1P
85	SU62505470	PGR					1	1	74	-27	74	-17	3B				DR	3B	ROOT 50 AS 1P

SAMPLE NO.	GRID REF	USE	ASPECT	GRONT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
86	SU62605470	PGR					1	1	74	-27	74	-17	3B				DR	3B	ROOT 50 AS 1P
87	SU62705470	PGR					1	1	86	-15	89	-2	3A				DR	3A	ROOT 60 AS 1P
89	SU61905460	PGR	E	02			1	1	61	-40	61	-30	3B				DR	3B	ROOT 43 AS 1P
90	SU62005460	PGR	E	03			1	1	70	-31	70	-21	3B				DR	3B	ROOT 50 AS 1P
91	SU62105460	PGR	E	03			1	1	82	-19	85	-6	3A				DR	3A	ROOT 60 AS 1P
92	SU62205460	PGR	E	02			1	1	68	-33	68	-23	3B				DR	3B	ROOT 47 AS 1P
93	SU62305460	PGR	E	02			1	1	68	-33	68	-23	3B				DR	3B	ROOT 47 AS 1P
94	SU62405460	PGR					1	1	74	-27	74	-17	3B				DR	3B	ROOT 50 AS 1P
95	SU62505460	PGR					1	1	82	-19	83	-8	3A				DR	3A	ROOT 55 AS 1P
96	SU62605460	PGR					1	1	89	-12	92	1	3A				DR	3A	ROOT 60 AS 1P
97	SU61905450	PGR	N				1	1	72	-29	72	-19	3B				DR	3B	ROOT 48 AS 1P
98	SU62005450	PGR	N	04			1	1	88	-13	91	0	3A				DR	3A	ROOT 60 AS 1P
99	SU62105450	PGR	N	03		000	1	1	88	-13	91	0	3A				DR	3A	ROOT 60 AS 1P
100	SU62205450	PGR	N	03			1	1	80	-21	82	-9	3B				DR	3B	ROOT 54 AS 1P
101	SU62305450	PGR	NE	03			1	1	84	-17	87	-4	3A				DR	3A	ROOT 60 AS 1P
102	SU62405450	PGR	NE	02			1	1	74	-27	74	-17	3B				DR	3B	ROOT 50 AS 1P
103	SU62505450	PGR					1	1	77	-24	78	-13	3B				DR	3B	ROOT 52 AS 1P
104	SU62005440	PGR	N	03			1	1	80	-21	81	-10	3B				DR	3B	BDR 3A AS 1P
105	SU62105440	PGR	N	03			1	1	85	-16	88	-3	3A				DR	3A	ROOT 58 AS 1P
106	SU62205440	PGR	N	03			1	1	54	-47	54	-37	3B				DR	3B	IMP 30
107	SU62305440	PGR					1	1	74	-27	74	-17	3B				DR	3B	ROOT 50 AS 1P
108	SU62405440	PGR					1	1	74	-27	74	-17	3B				DR	3B	ROOT 50 AS 1P
109	SU62205430	PGR					1	1	80	-21	82	-9	3B				DR	3B	ROOT 55 AS 1P

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
1	0-25	hcl	10YR42 00						0	0	HR	8						
1P	0-30	mcl	10YR43 00						0	0	HR	6						Y
	30-50	ch	10YR81 00						0	0		0		P				Y
2	0-30	hcl	10YR42 00	10YR58 00	F				0	0	HR	5						
2P	0-22	mzcl	10YR43 00						1	0	HR	3						Y
	22-45	mcl	10YR64 00						0	0	CH	50		M				Y
	45-80	ch	05Y 81 00						0	0		0		P				Y
	80-115	mcl	10YR64 00						0	0	CH	40		M				Y
	115-120	ch	05Y 81 00						0	0		0		P				Y
3	0-25	hcl	10YR42 00						0	0	HR	5						
	25-40	c	10YR63 00	10YR58 61	C			Y	0	0	HR	12		M				
3P	0-22	mzcl	10YR43 53						1	0	HR	4						Y
	22-38	mzcl	10YR54 00						0	0	CH	45		M				Y
	38-78	ch	05Y 81 00						0	0		0		P				Y
4	0-30	hcl	10YR42 00						0	0		0						
	30-70	c	10YR53 00	10YR58 61	M			Y	0	0		0		P	Y		Y	
4P	0-25	hcl	10YR42 00	10YR56 00	F				0	0		0						
	25-68	c	10YR51 00	10YR58 00	M			Y	0	0		0	WDCAB VM	P	Y		Y	
5	0-30	hcl	10YR42 00	10YR58 00	F				0	0		0						
	30-55	hcl	10YR53 00	10YR58 62	C			Y	0	0		0		M				
	55-80	c	10YR63 00	10YR58 61	C	00MN00	00	Y	0	0		0		P	Y		Y	
5P	0-30	mcl	10YR42 00						1	0	HR	3						
	30-70	mzcl	10YR43 00						0	0	HR	7	MCSAB FM	M				
	70-95	mzcl	10YR54 00						0	0	CH	25		M				
6	0-25	hcl	10YR42 00	10YR58 62	C			Y	0	0	HR	5						
	25-65	hcl	10YR53 00	10YR58 62	C	00MN00	00	Y	0	0		0		M				
7	0-25	hcl	10YR31 00	75YR46 00	C			Y	0	0	HR	2						
	25-30	c	10YR52 00	10YR56 00	C			Y	0	0		0		M				
	30-60	c	10YR53 00	10YR68 00	M			Y	0	0		0		P	Y		Y	
8	0-30	hcl	10YR32 00						0	0		0						
	30-50	c	10YR53 00	10YR58 52	M	00MN00	00	Y	0	0	HR	5		P	Y		Y	
	50-70	c	10YR52 53	10YR56 00	M			Y	0	0		0		P	Y		Y	
9	0-25	hcl	10YR32 00						0	0		0						
	25-30	c	10YR53 00	10YR68 52	M			Y	0	0	HR	5		P	Y			
	30-65	c	10YR53 00	10YR68 52	M			Y	0	0		0		P	Y		Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
10	0-25	hcl	10YR32 00						0	0		0						
	25-60	c	10YR53 00	10YR52	68	M		Y	0	0		0		P	Y		Y	
11	0-25	hcl	10YR32 00						0	0		0						
	25-60	c	10YR53 00	10YR68	51	M		Y	0	0		0		P	Y		Y	
	60-75	c	10YR51 00	10YR68	00	M		Y	0	0		0		P	Y		Y	
12	0-35	hcl	10YR43 00	000C00	00	F			0	0	HR	1						
	35-55	mcl	10YR54 00	000C00	00	F			0	0		0		M				
	55-70	hcl	10YR53 00	10YR58	00	M		Y	0	0		0		M				
	70-100	hcl	10YR52 00	10YR58	00	M		Y	0	0		0		M				
13	0-20	mcl	10YR43 00						0	0		0						
15	0-30	hcl	10YR43 00	10YR58	00	F			0	0		0						
	30-45	c	10YR42 00	10YR58	62	C		Y	0	0		0		M				
	45-70	c	10YR52 00	10YR58	00	M	00MN00	00 Y	0	0		0		P	Y		Y	
16	0-30	hzcl	10YR53 00						0	0		0						
	30-40	c	10YR52 00	10YR58	00	C		Y	0	0		0		M				
	40-80	c	10YR52 00	10YR58	62	M		Y	0	0		0		P	Y		Y	
17	0-25	hcl	10YR52 00	10YR58	00	C		Y	0	0		0						
	25-60	c	10YR64 00	10YR58	61	M		Y	0	0		0		P	Y		Y	
18	0-25	hcl	10YR42 00	10YR58	00	F			0	0		0						
	25-60	c	10YR63 00	10YR58	61	M		Y	0	0		0		P	Y		Y	
20	0-25	mzcl	10YR43 00						0	0	HR	2						
	25-38	hcl	75YR44 00						0	0	CH	2		M				Y
	38-75	hcl	10YR54 00						0	0	CH	20		M				Y
21	0-28	mzcl	10YR43 00						0	0	HR	2						
	28-45	hcl	10YR54 00						0	0	CH	30		M				Y
	45-85	ch	00CH00 00						0	0		0		M				Y
22	0-25	hcl	10YR42 00						0	0	CH	2						Y
	25-35	hcl	10YR42 00						0	0	CH	55		M				Y
	35-75	ch	10YR82 00						0	0		0		M				Y
23	0-27	mcl	10YR32 00						0	0	HR	2						
	27-32	mcl	10YR43 00						0	0	HR	20		M				
24	0-20	mcl	10YR43 00						0	0	HR	5						Y
	20-32	mcl	10YR44 54						0	0	HR	20		M				Y
26	0-25	hcl	10YR42 00						0	0	HR	4						

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
27	0-22	hcl	10YR32 00						0	0	HR	1						
	22-35	c	10YR53 00	10YR56 00	C			Y	0	0	CH	3		P	Y			
	35-60	c	10YR53 00	10YR58 51	M			Y	0	0		0		P	Y		Y	
28	0-25	c	10YR32 00						0	0	HR	1						
	25-60	c	10YR53 00	10YR58 51	M			Y	0	0		0		P	Y		Y	
29	0-28	c	10YR32 00						0	0	HR	2						
	28-60	c	10YR53 00	10YR56 52	M			Y	0	0	HR	5		P	Y		Y	
30	0-25	mzcl	10YR43 00						0	0	HR	2						
	25-40	hcl	75YR44 00						0	0	CH	2		M				
31	0-28	mzcl	10YR43 00						0	0	HR	2						
	28-50	mzcl	10YR54 00						0	0	CH	50		M				
	50-90	ch	00CH00 00						0	0		0		P				
32	0-25	mzcl	10YR43 00						0	0	HR	2						
	25-35	mzcl	10YR44 00						0	0	CH	30		M				
	35-75	ch	00CH00 00						0	0		0		P				
33	0-28	mzcl	10YR43 00						0	0	HR	2						
	28-40	mzcl	10YR54 00						0	0	CH	50		M				
	40-80	ch	00CH00 00						0	0		0		P				
34	0-24	mzcl	10YR53 00						0	0	CH	10						Y
	24-64	ch	00CH00 00						0	0	HR	5		P				Y
35	0-33	mzcl	10YR53 00						0	0	CH	5						Y
	33-45	hzcl	10YR54 00						0	0	CH	5		M				Y
	45-70	hzcl	10YR56 00						0	0	HR	3		M				Y
36	0-32	mzcl	10YR43 53						0	0	HR	2						Y
	32-45	hzcl	10YR54 00						0	0	HR	3		M				Y
	45-62	hzcl	10YR46 56						0	0	HR	10		M				Y
	62-65	mzcl	10YR64 81						0	0	CH	70		P				Y
37	0-28	mzcl	10YR43 53						0	0	HR	3						Y
	28-38	hzcl	10YR56 00						0	0	HR	10		M				Y
	38-42	hzcl	10YR56 00						0	0	HR	20		M				Y
38	0-25	mzcl	10YR43 00						0	0	HR	2						
	25-35	mzcl	10YR54 00						0	0	CH	30		M				
	35-55	ch	00CH00 00						0	0		0		P				
39	0-25	hcl	10YR42 00						0	0	HR	2						
	25-100	c	25Y 43 00						0	0	CH	40		M				
	100-120	ch	00CH00 00						0	0		0		P				

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
40	0-25	hcl	10YR42 00						0	0	HR	2						
	25-30	hcl	10YR42 00						0	0	CH	5		M				Y
	30-60	c	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	
41	0-20	mzcl	10YR43 00						0	0	HR	2						
	20-40	hzcl	10YR54 00						0	0	CH	20		M				Y
	40-80	ch	00CH00 00						0	0		0		P				Y
42	0-25	mzcl	10YR43 00						0	0	HR	2						
	25-35	mzcl	10YR54 00						0	0	CH	50		M				Y
	35-75	ch	00CH00 00						0	0		0		P				Y
43	0-25	mzcl	10YR43 00						0	0	CH	2						Y
	25-30	mzcl	10YR43 00						0	0	CH	50		M				Y
	30-70	ch	00CH00 00						0	0		0		P				Y
44	0-25	mzcl	10YR43 00						0	0	HR	2						
	25-35	mzcl	10YR54 00						0	0	CH	50		M				Y
	35-75	ch	00CH00 00						0	0		0		P				Y
45	0-25	mzcl	10YR43 00						0	0	HR	2						
	25-38	mzcl	10YR54 00						0	0	CH	30		M				Y
	38-78	ch	00CH00 00						0	0		0		P				Y
47	0-35	mzcl	10YR53 00						0	0	CH	5						Y
	35-45	hzcl	10YR54 00						0	0	CH	15		M				Y
	45-60	mzcl	10YR54 66						0	0	CH	30		P				Y
	60-100	ch	00CH00 00						0	0	HR	0		P				Y
48	0-28	mzcl	10YR53 00						0	0	CH	1						Y
	28-40	hzcl	10YR54 00						0	0	CH	10		M				Y
	40-55	mzcl	10YR54 00						0	0	CH	30		M				Y
	55-95	ch	00CH00 00						0	0	HR	0		P				Y
49	0-32	mzcl	10YR53 00						0	0	CH	3						Y
	32-50	hzcl	10YR54 00						0	0	CH	15		M				Y
	50-70	ch	00ZZ00 00						0	0	HR	0		P				Y
50	0-30	mcl	10YR42 00						0	0	HR	3						
	30-55	hcl	10YR44 00						0	0	HR	10		M				
	55-60	c	10YR54 00						0	0	CH	5		M				Y
	60-80	ch	00CH00 00						0	0		0		P				Y
51	0-30	mcl	10YR42 00						0	0	HR	5						
	30-55	hcl	10YR44 00						0	0	HR	5		M				
	55-60	c	10YR44 00						0	0	HR	10		M				
52	0-35	mcl	10YR42 00						0	0	HR	5						
	35-70	hcl	10YR44 00						0	0	HR	15		M				
	70-90	ch	00CH00 00						0	0		0		P				Y

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
53	0-35	mcl	10YR43 00						0	0	HR	6						
	35-55	hcl	10YR44 00						0	0	HR	20		M				
54	0-25	mzcl	10YR43 00						0	0	HR	2						
	25-38	mzcl	10YR44 00						0	0	CH	2		M			Y	
	38-50	mzcl	10YR54 00						0	0	CH	30		M			Y	
	50-90	ch	00CH00 00						0	0		0		P			Y	
55	0-25	mzcl	10YR43 00						0	0	HR	2						
	25-35	hcl	75YR44 00						0	0	CH	5		M				
	35-45	hcl	75YR44 00						0	0	CH	50		M				
	45-85	ch	00CH00 00						0	0		0		P				
56	0-25	mzcl	10YR43 00						0	0		0						
	25-40	mzcl	10YR54 00						0	0	CH	30		M			Y	
	40-80	ch	00CH00 00						0	0		0		P			Y	
57	0-25	mzcl	10YR43 00						0	0	HR	2						
	25-55	mzcl	10YR54 00						0	0	CH	5		M			Y	
	55-60	mzcl	10YR54 00						0	0	CH	30		M			Y	
58	0-28	mzcl	10YR43 00						0	0	HR	2						
	28-50	mzcl	10YR54 00						0	0	CH	30		M			Y	
	50-90	ch	00CH00 00						0	0		0		P			Y	
59	0-35	mzcl	10YR53 00						0	0		0						
	35-50	hzcl	10YR54 00						0	0	HR	5		M			Y	
60	0-30	mzcl	10YR53 00						0	0	CH	10					Y	
	30-50	ch	00CH00 00						0	0	HR	0		P			Y	
61	0-28	mzcl	10YR53 00						0	0	CH	10					Y	
	28-35	mzcl	10YR54 81						0	0	CH	50		M			Y	
	35-55	ch	00CH00 00						0	0	HR	0		P			Y	
62	0-32	mzcl	10YR53 00						0	0	CH	5					Y	
	32-52	ch	00CH00 00						0	0	HR	0		P			Y	
63	0-30	mcl	10YR43 00						0	0	HR	5						
	30-50	hcl	10YR44 00						0	0	HR	8		M				
	50-70	ch	00CH00 00						0	0		0		P			Y	
64	0-30	mcl	10YR43 00						0	0	HR	5						
	30-70	mcl	10YR66 00						0	0	HR	15		M			Y	
65	0-30	mcl	10YR43 00						0	0	HR	4						
	30-55	hcl	10YR66 00						0	0	CH	20		M			Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
66	0-30	mcl	10YR42 00						0	0	HR	2						
	30-45	mcl	10YR44 00						0	0	HR	2		M				
	45-70	hcl	10YR44 00						0	0	HR	5		M				
	70-90	ch	00CH00 00						0	0		0		P				Y
67	0-20	mzcl	10YR43 00						0	0	HR	2						
	20-35	mzcl	10YR43 00						0	0	CH	20		M				Y
68	0-28	mzcl	10YR43 00						0	0	HR	2						
	28-35	mzcl	10YR54 00						0	0	CH	30		M				
	35-65	ch	00CH00 00						0	0		0		P				
69	0-22	mzcl	10YR42 00						0	0	HR	1						
	22-35	hzcl	10YR54 00						0	0	CH	20		M				Y
	35-75	ch	00CH00 00						0	0		0		P				Y
70	0-25	mcl	10YR42 00						0	0	HR	1						
	25-45	hcl	10YR54 00						0	0	CH	15		M				Y
	45-85	ch	10YR82 00						0	0		0		P				Y
71	0-25	mcl	10YR42 00						0	0	HR	1						
	25-35	mcl	10YR54 00						0	0		0		M				
	35-55	ch	10YR82 00						0	0		0		P				Y
72	0-25	mcl	10YR43 00						0	0	HR	2						
	25-45	ch	10YR82 00						0	0		0		P				Y
73	0-20	mcl	10YR42 00						0	0		0						Y
	20-30	mcl	10YR53 00						0	0		0		M				
	30-50	ch	10YR81 00						0	0		0		P				Y
74	0-30	mcl	10YR42 00						0	0		0						Y
	30-35	mcl	10YR54 00						0	0		0		M				
	35-55	ch	10YR81 00						0	0		0		P				Y
75	0-30	mcl	10YR53 00						0	0		0						Y
	30-40	mcl	10YR54 00						0	0	CH	10		M				
	40-60	ch	10YR81 00						0	0		0		P				Y
76	0-20	mcl	10YR53 00						0	0		0						
	20-30	mcl	10YR54 00						0	0		0		M				
	30-50	ch	10YR81 00						0	0		0		P				Y
77	0-28	mcl	10YR42 00						0	0	HR	5						Y
	28-48	ch	00CH00 00						0	0		0		P				Y
80	0-28	mcl	10YR42 00						0	0	HR	4						
	28-48	ch	10YR82 00						0	0		0		P				Y

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
81	0-25	mcl	10YR42 00						0	0	HR	1						
	25-42	mcl	10YR42 00						0	0	CH	5		M				
	42-62	ch	10YR82 00						0	0		0		P				Y
82	0-17	mcl	10YR42 00						5	0	CH	5						
	17-37	ch	10YR82 00						0	0		0		P				Y
83	0-42	mcl	10YR42 00						0	0	HR	2						
	42-62	ch	10YR82 00						0	0		0		P				Y
84	0-35	mcl	10YR54 00						0	0		0						
	35-55	ch	10YR81 00						0	0		0		P				Y
85	0-30	mcl	10YR53 00						0	0		0						Y
	30-50	ch	10YR81 00						0	0		0		P				Y
86	0-30	mcl	10YR43 00						0	0		0						
	30-50	ch	10YR81 00						0	0		0		P				Y
87	0-40	mcl	10YR54-00						0	0	CH	10						
	40-60	ch	00CH00-00						0	0		0		P				
89	0-23	mcl	10YR43 00						0	0	HR	2						
	23-43	ch	10YR82 00						0	0		0		P				Y
90	0-25	mcl	10YR42 00						0	0	HR	3						
	25-30	mcl	10YR42 00						0	0	CH	50		M				
	30-50	ch	10YR82 00						0	0		0		P				Y
91	0-28	mcl	10YR42 00						0	0	HR	3						
	28-35	mcl	10YR42 00						0	0	CH	40		M				
	35-40	mcl	10YR54 00						0	0	CH	50		M				
	40-60	ch	10YR82 00						0	0		0		P				Y
92	0-27	mcl	10YR42 00						0	0	HR	1						
	27-47	ch	10YR82 00						0	0		0		P				Y
93	0-27	mcl	10YR42 00						0	0	CH	2						
	27-47	ch	10YR82 00						0	0		0		P				Y
94	0-30	mcl	10YR43 00						0	0		0						
	30-50	ch	10YR81 00						0	0		0		P				Y
95	0-35	mcl	10YR44 00						0	0		0						
	35-55	ch	10YR81 00						0	0		0		P				Y
96	0-40	mcl	10YR43 00						0	0		0						
	40-60	ch	10YR81 00						0	0		0		P				Y

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
97	0-28	mzcl	10YR42 00						0	0	HR	2						Y
	28-48	ch	00CH00 00						0	0		0		P				Y
98	0-30	mzcl	10YR43 00						0	0	HR	5						Y
	30-40	mzcl	10YR44 00						0	0	HR	2		M				Y
	40-60	ch	00CH00 00						0	0		0		P				Y
99	0-30	mzcl	10YR43 00						0	0	HR	5						Y
	30-40	mzcl	10YR66 00						0	0	HR	5		M				Y
	40-60	ch	00CH00 00						0	0		0		P				Y
100	0-34	mzcl	10YR43 00						0	0	HR	5						Y
	34-54	ch	00CH00 00						0	0		0		P				Y
101	0-30	mzcl	10YR43 00						0	0	HR	8						Y
	30-40	mcl	10YR66 00						0	0	CH	20		M				Y
	40-60	ch	00CH00 00						0	0		0		P				Y
102	0-30	mzcl	10YR43 00						0	0	HR	5						Y
	30-50	ch	00CH00 00						0	0		0		P				Y
103	0-32	mzcl	10YR42 00						0	0	HR	5						Y
	32-52	ch	00CH00 00						0	0		0		P				Y
104	0-35	mzcl	10YR43 00						0	0	HR	8						Y
	35-55	ch	00CH00 00						0	0		0		P				Y
105	0-30	mzcl	10YR42 00						0	0	HR	3						Y
	30-38	hzcl	10YR66 00						0	0	CH	20		M				Y
	38-58	ch	00CH00 00						0	0		0		P				Y
106	0-30	mzcl	10YR43 00						0	0	HR	5						Y
107	0-30	mzcl	10YR43 00						0	0	HR	5						Y
	30-50	ch	00CH00 00						0	0		0		P				Y
108	0-30	mzcl	10YR43 00						0	0	HR	5						Y
	30-50	ch	00CH00 00						0	0		0		P				Y
109	0-25	mzcl	10YR43 00						0	0	HR	5						Y
	25-35	hzcl	10YR44 00						0	0	CH	10		M				Y
	35-55	ch	00CH00 00						0	0		0		P				Y