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Basingstoke & Deane Local Plan,
Land North of Bloswood Lane,
Whitchurch, Hampshire,
ALC Map and Report
February, 1994

AGRICULTURAL LAND CLASSIFICATION REPORT

BASINGSTOKE AND DEANE BOROUGH LOCAL PLAN
SITE 4, LAND NORTH OF BLOSWOOD LANE, WHITCHURCH, HAMPSHIRE

Introduction

1.1 ADAS was commisioned by MAFF's Land Use Planning Unit to provide information on land quality on 22 sites around Basingstoke in Hampshire. The work forms part of MAFF's input to the preparation of the Basingstoke and Deane Borough Local Plan.

1.2 Site 4 comprises approximately 21 hectares on the north-western fringe of Whitchurch in Hampshire. The southern 12 hectares were surveyed in April, 1993, with the northern 9 hectares surveyed in June, 1993. The work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.

1.3 The classification has been made using 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 long-term limitations on its use for agriculture.

1.4 The fieldwork was carried out with an observation density of approximately one per hectare. A total of 23 borings and 3 soil pits was examined.

1.5 The ALC information is shown on the attached map at a scale of 1:5,000. It is accurate at this level but any enlargement may be misleading. This map supercedes any previous ALC information for this site. The areas of each grade are given in Table 1 below.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% of Agricultural Area
2	5.5	26.3	28.8
3a	11.6	55.5	60.7
3b	2.0	9.6	10.5
Non Agricultural	1.8	8.6	**100% (19.1 ha)**
Total	**20.9**	**100%**	

1.6 At the time of survey, the eastern-most strip of land was a derelict orchard and allotment gardens whilst the remainder of the site was in winter cereals.

1.7 A general description of the grades, subgrades and land use categories is provided in Appendix I. 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.

1.8 The land quality on the site ranges from Grade 2 (very good quality) to Subgrade 3B (moderate qaulity). A minor droughtiness risk limits the Grade 2 land where the profiles are relatively deep, slightly flinty, medium textured soils which generally become heavier with depth. A moderate droughtiness limitation restricts the Subgrade 3a land where the soils are moderately deep over Chalk or have a high subsoil stone content. Parts of the site also experience a topsoil stone limitation which restricts some land to Subgrade 3a. The areas of Subgrade 3b experience a significant droughtiness limitation as a result of shallow soils developed over Chalk.

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 annual average 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 5 kilometre gridpoint dataset (Met. Office, 1989). The details are given in Table 2 below and these show that there is no overall climatic limitation affecting the site. However, climatic factors do interact with soil factors to influence soil wetness and soil droughtiness limitations.

2.4 No local climatic factors such as exposure or frost risk affect the site.

Table 2 : Climatic Interpolations

Grid reference	SU460486	SU458487	SU460489
Altitude (m)	80	90	100
Accumulated Temperature (°days, Jan - June)	1449	1437	1426
Average Annual Rainfall (mm)	785	788	792
Field Capacity (days)	172	172	173
Moisture Deficit, Wheat (mm)	104	103	101
Moisture Deficit, Potatoes (mm)	96	94	93
Overall Climatic Grade	1	1	1

Relief

3.1 The site occupies gentle south, south-east and south-west facing slopes which range in altitude from 80-110 metres. Nowhere on the site do gradient or microrelief affect agricultural land quality.

Geology and Soils

4.1 The relevant geological sheet for the site (British Geological Survey, 1978) shows the northern section to be underlain by Upper Chalk (soft white chalk with many flint nodules) and the southern section to be underlain by River and Valley Gravel.

4.2 The published soils information for the site (Soil Survey of England and Wales, 1983 and 1984) shows the soils to be of the Charity 2 Association over the Chalk (well-drained, flinty, fine grained silty soils) with the Sonning 1 Association over the Gravel (light textured slightly stony soils). The more detailed ALC survey broadly confirmed the presence of these general soil types.

Agricultural Land Classification

5.1 The ALC information is provided on the attached ALC map and the location of the soil observation points is shown on the attached sample point map.

Grade 2

5.2 The land in the eastern section has been placed in this grade with soil droughtiness as the key limiting factor. The soils are slightly variable, sometimes with Chalk encountered at depth in the profile, but generally exhibit Medium Clay Loam topsoil textures with Heavy Clay Loam upper subsoils and Clay lower subsoils. The horizons in the subsoil can be complex, with clay lenses. Estimates of stone contents in both topsoil and subsoil are in the range 5-10% (flint) and this, in combination with the textures and the assumed moderate subsoil structural conditions, produces the slight restriction on the total amount of water in the profile that is available for extraction by roots. This restriction will slightly limit the flexibiilty of the land as it reduces the range of crops that can tolerate such conditions and the level of yield.

Subgrade 3a

5.3 The central and northern parts of the site have been placed in this subgrade. Three soil pits have been described in this area and illustrate the range of soils that occur (see Appendix 4). Soil droughtiness is the key limitation throughout.

5.4 Pit 1 is typical of the soils that occur in the lowest lying land. There is no Chalk present within the top 120 cm but stone contents in the subsoil are as high as 60% (flints). Heavy Clay Loam topsoils overlie subsoils of similar texture with root penetration possible to depth. There is no evidence of soil wetness in the profile but these soils cannot be graded higher than Grade 2 on workability alone given the heavy nature of the topsoil texture and the prevailing Field Capacity level (172 days). It is the very stony nature of the subsoil resource that significantly restricts the available water in the profile.

5.5 Pit 2 is typical of those soils that occur on the lower slopes where Chalk is present in the subsoil from approximately 30 cm. A Medium Clay Loam topsoil overlies a thin upper subsoil of Heavy Clay Loam which contains approximately 10% hard rock. Roots are generally able to penetrate into the Chalk for approximately 40 cm and so the assessment of available water has been made for the top 70 cm alone. As such there is insufficient profile available water to meet crop demand for all or part of the year.

5.5 Pit 3 is typical of some of the soils on the slopes which also experience a topsoil stone limitation. Stone contents of approximately 12% (>2cm) were measured. Such stone contents act to impair crop establishment and development and affect the efficiency and cost of using farm machinery.

Subgrade 3b

5.6 This small unit in the western edge of the survey area highlights stony soils that are very shallow over Chalk with the soil resource being less than 30 cm deep. This area experiences a significant restriction on the total water available for use by crops.

Non-Agricultural

5.7 An area of allotment gardens has been placed in this grade.

APPENDIX I

DESCRIPTION OF THE GRADES AND SUBGRADES

Grade 1 : Excellent Quality Agricultural Land
Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2 : Very Good Quality Agricultural Land
Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3 : Good to Moderate Quality Land
Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a : Good Quality Agricultural Land
Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b : Moderate Quality Agricultural Land
Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4 : Poor Quality Agricultural Land
Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (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 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 including: housing, industry, commerce, education, transport, religous buildings, cemetries. 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. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Woodland
Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm 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 (1978), Sheet Number 283, Andover, 1:50,000.

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 Number 6, Soils of South East England, 1:250,000.

Soil Survey of England and Wales (1984), Soils and their Use in South East England, Bulletin Number 15.

APPENDIX III

DEFINITION OF SOIL WETNESS CLASS

Wetness Class I

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

Wetness Class II

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

Wetness Class III

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

Wetness Class IV

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

Wetness Class V

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

Wetness Class VI

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

APPENDIX IV

SOIL PIT AND SOIL BORING DESCRIPTIONS

Contents :

Sample Point Map

Soil Abbreviations - explanatory note

Database Printout - soil pit information

Database Printout - boring level information

Database Printout - horizon level information

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

3. **GRDNT** : Gradient as 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** : Erosion Risk	**WD** : Soil Wetness/Droughtiness
ST : Topsoil Stoniness		

Soil Pits and Auger Borings

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

S : Sand	**LS** : Loamy Sand	**SL** : Sandy Loam
SZL : Sandy Silt Loam	**CL** : Clay Loam	
ZCL : Silty Clay Loam	**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
CH : chalk
ZR : soft, argillaceous, or silty rocks
MSST : soft, medium grained sandstone
SI : soft weathered igneous/metamorphic rock
SLST : soft oolitic or dolimitic limestone
FSST : soft, fine grained sandstone
GH : gravel with non-porous (hard) stones
GH : gravel with non-porous (hard) 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 : BASINGSTOKE LP - SITE 4 Pit Number : 1P

Grid Reference: SU45704952 Average Annual Rainfall : 792 mm
Accumulated Temperature : 1426 degree days
Field Capacity Level : 173 days
Land Use : Cereals
Slope and Aspect : degrees SW

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 28	HCL	10YR42 00	8	13		
28-120	HCL	10YR54 00	0	60		

Wetness Grade : 2 Wetness Class : I
Gleying :000 cm
SPL : No SPL

Drought Grade : 3A APW : 090mm MBW : -14 mm
APP : 074mm MBP : -22 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : BASINGSTOKE LP - SITE 4 Pit Number : 2P

Grid Reference: SU45804858 Average Annual Rainfall : 792 mm
Accumulated Temperature : 1426 degree days
Field Capacity Level : 173 days
Land Use : Cereals
Slope and Aspect : 03 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 25	MCL	10YR42 00	4	10		
25- 30	HCL	10YR44 54	0	10		STMSAB
30- 70	CH	00ZZ00 00	0	0		

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

Drought Grade : 3A APW : 084mm MBW : -20 mm
APP : 090mm MBP : -6 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : BASINGSTOKE LP - SITE 4 Pit Number : 3P

Grid Reference: SU45874877 Average Annual Rainfall : 792 mm
Accumulated Temperature : 1426 degree days
Field Capacity Level : 173 days
Land Use : Barley
Slope and Aspect : 03 degrees SE

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 20	MCL	10YR42 00	12	14		
20- 35	C	75YR43 00	0	15		MCSAB
35- 45	MZCL	10YR64 00	0	50		
45- 75	CH	10YR82 00	0	0		

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

Drought Grade : 3A APW : 088mm MBW : -13 mm
APP : 090mm MBP : -3 mm

FINAL ALC GRADE : 3A
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	SU46004890	ORC	E	04	000		1	1	124	20	117	21	2				DR		2	IMP 70CH
1P	SU45704952	CER	SW		000		1	2	090	-14	074	-22	3A				DR		3A	
2	SU46104890	ORC	E	01	000		1	1	100	-4	111	15	3A				DR		3A	IMP 75ST
2A	SU46104890	ORC	E	01	000		1	1	133	29	111	15	2				DR		2	
2P	SU45804858	CER	S	03	000		1	1	084	-20	090	-6	3A				DR		3A	BORDER B
3	SU46004880	ORC	E	05	000		1	1	124	20	115	19	2				DR		2	
3P	SU45874877	BAR	SE	03	000		1	1	088	-13	090	-3	3A				DR		3A	ROOT75CM
4	SU46104880	ORC	E	01	000		1	2	000	0	000	0					DR		3A	IMP 40ST
5	SU45704870	CER	SW	05	000		1	1	076	-28	081	-15	3B				DR		3B	ROOT 65
6	SU46004870	ORC	E	05	000		1	2	116	12	112	16	2				WK		2	IMP 95ST
7	SU45704860	CER	SW	06	000		1	1	110	6	102	6	2				DR		2	IMP 50CH
8	SU45804860	CER	S	03	000		1	1	085	-19	091	-5	3A				DR		3A	ROOT 70
9	SU45874551	CER	SE	04	000		1	2	091	-13	097	1	3A				DR		3A	
10	SU46014860	CER	E		000		1	2	090	-14	096	0	3A				WD		2	IMP 60ST
11	SU45704850	CER	SW		000		1	1	000	0	000	0					TS		2	IMP 40ST
12	SU45804850	CER	S	02	000		1	2	085	-19	091	-5	3A				DR		3A	IMP 40CH
13	SU45904850	CER	SE	02	000		1	1	103	-1	112	16	3A				DR		3A	PROB 2DR
15	SU45744569	BAR	S	02	000		1	2	075	-26	075	-18	3B				WK		2	IMPX2QDR
16	SU45844567	BAR	SE	03	000		1	3A	066	-35	066	-27	3B				DR		3A	IMPX3QDR
17	SU45944567	BAR	SE	04	000		1	2	090	-11	093	0	3A				DR		3A	
18	SU45954883	BAR	SE	04	000		1	2	054	-47	054	-39	3B				DR		3A	IMPX3QDR
19	SU45854883	BAR	SE	02	000		1	2	066	-35	066	-27	3B				DR		3A	IMPX2QDR
20	SU45754883	BAR	SE	02	000		1	2	051	-50	051	-42	3B				DR		3A	IMPX2QDR
21	SU45734873	BAR	S	04	000		1	2	041	-60	041	-52	4				DR		3B	IMPX2QDR
22	SU45784870	BAR	SE	04	000		1	2	097	-4	096	3	3A				DR		3A	
23	SU45904867	BAR	SE	04	000		1	1	076	-25	080	-13	3B				DR		3A	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
1	0-25	mcl	10YR43 00						0	0	HR	3						Y
	25-70	hzcl	10YR44 54						0	0	HR	5		M				Y
	70-100	ch	00ZZ00 00						0	0		0		M				Y
1P	0-28	hcl	10YR42 00						8	0	HR	13						
	28-120	hcl	10YR54 00						0	0	HR	60		M				
2	0-22	mzcl	10YR42 00						0	0	HR	5						Y
	22-30	hzcl	10YR44 00						0	0	HR	5		M				Y
	30-75	c	10YR44 54						0	0	HR	10		M				Y
2A	0-22	mzcl	10YR42 00						0	0	HR	5						Y
	22-30	hzcl	10YR44 00						0	0	HR	5		M				Y
	30-120	c	10YR44 54						0	0	HR	10		M				Y
2P	0-25	mcl	10YR42 00						4	0	HR	10						Y
	25-30	hcl	10YR44 54						0	0	HR	10	STMSAB FM	G				Y
	30-70	ch	00ZZ00 00						0	0		0		M				Y
3	0-27	mzcl	10YR42 00						0	0	HR	5						Y
	27-37	hzcl	10YR43 00						0	0	HR	5		M				Y
	37-55	c	75YR46 00						0	0	HR	7		M				Y
	55-70	hzcl	10YR64 00						0	0	CH	20		M				Y
	70-80	mzcl	10YR74 00						0	0	CH	70		M				Y
	80-100	ch	00ZZ00 00						0	0		0		M				Y
3P	0-20	mcl	10YR42 00						12	0	HR	14						
	20-35	c	75YR43 00						0	0	HR	15	MCSAB FM	M				
	35-45	mzcl	10YR64 00						0	0	CH	50		M				
	45-75	ch	10YR82 00						0	0		0		M				
4	0-20	hcl	10YR43 00						0	0	HR	5						Y
	20-40	c	10YR44 54						0	0	HR	15		M				Y
5	0-25	mcl	10YR43 00						5	0	HR	10						Y
	25-65	ch	00ZZ00 00						0	0		0		M				Y
6	0-28	hcl	10YR43 00						0	0	HR	5						Y
	28-95	c	10YR44 54						0	0	HR	5		M				Y
7	0-30	mcl	10YR43 00						3	0	HR	5						Y
	30-40	c	75YR46 56						0	0	HR	10		M				Y
	40-50	c	10YR54 00						0	0	HR	2		M				Y
	50-90	ch	00ZZ00 00						0	0		0		M				Y
8	0-28	mcl	10YR42 00						3	0	HR	6						Y
	28-30	hcl	10YR54 00						0	0	HR	5		M				Y
	30-70	ch	00ZZ00 00						0	0		0		M				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
9	0-29	hcl	10YR43 00						3	0	HR	7						Y
	29-42	c	10YR54 00						0	0	HR	5		M				Y
	42-70	ch	00ZZ00 00						0	0		0		M				Y
10	0-30	hcl	10YR43 00						3	0	HR	5						
	30-50	c	10YR44 54						0	0	HR	10		M				
	50-60	hzcl	10YR54 00						0	0	HR	10		M				
11	0-30	mcl	10YR42 00						8	0	HR	10						
	30-40	hcl	10YR43 00						0	0	HR	20		M				
12	0-30	hcl	10YR42 00						3	0	HR	5						Y
	30-70	ch	00ZZ00 00						0	0		0		M				Y
13	0-28	mcl	10YR42 00						3	0	HR	5						Y
	28-60	c	75YR46 00						0	0	HR	5		M				Y
	60-75	hzcl	10YR74 00						0	0	CH	30		M				Y
15	0-28	mcl	10YR42 00						0	0	HR	5						
	28-45	c	75YR54 00						0	0	HR	2		M				
16	0-20	hcl	10YR42 00						0	0	HR	5						
	20-40	c	75YR54 00						0	0	HR	2		M				
17	0-25	mcl	10YR42 00						0	0	HR	5						
	25-35	mcl	10YR64 00						0	0	CH	20		M				
	35-75	ch	00XX00 00						0	0		0		M				
18	0-30	mzcl	10YR43 00						0	0	HR	5						
19	0-20	mcl	10YR42 00						2	0	HR	5						
	20-40	c	75YR54 00						0	0	HR	2		M				
20	0-30	mcl	10YR42 00						2	0	HR	5						
21	0-25	mzcl	10YR42 00						10	0	HR	15						
22	0-20	mcl	10YR42 00						2	0	HR	5						
	20-30	hcl	10YR54 00						0	0	HR	5		M				
	30-40	mzcl	10YR64 00						0	0	CH	10		M				
	40-80	ch	00XX00 00						0	0		0		M				
23	0-20	mcl	10YR42 00						10	0	HR	15						
	20-30	hcl	75YR54 00						0	0	HR	10		M				
	30-65	ch	00XX00 00						0	0		0		M				