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Hart District Replacement Local Plan
Land at Hook House Farm, Hook,
Hampshire
Agricultural Land Classification
ALC Map and Report
November 1995

Resource Planning Team
Guildford Statutory Group
ADAS Reading

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AGRICULTURAL LAND CLASSIFICATION REPORT

HART DISTRICT REPLACEMENT LOCAL PLAN
LAND AT HOOK HOUSE FARM, HOOK, HAMPSHIRE.

Introduction

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 33.0 hectares of land to the east of Hook in Hampshire. The survey was carried out during November 1995.

2. The survey was commissioned by the Ministry of Agriculture, Fisheries and Food (MAFF) from its Land Use Planning Unit in Reading in connection with the Hart District Replacement Local Plan. The results of this survey supersede any previous ALC information for this land.

3. The work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.

4. At the time of survey the agricultural land use included permanent grass and set-aside. The areas shown as Other Land included a hotel, dwellings and a garden centre.

Summary

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10000. It is accurate at this scale, but any enlargement would be misleading.

6. The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1 overleaf.

7. The fieldwork was conducted at an average density of approximately 1 boring per hectare. A total of 28 borings and one soil pit were described.

8. The agricultural land at this site has been classified as Subgrade 3a (good quality) and Subgrade 3b (moderate quality). The principal limitation to land quality is soil wetness. Medium clay loam topsoils overlie slowly permeable heavy clay loams and clays at shallow and moderate depths in the profile. These horizons cause drainage to be impeded such that land utilisation is restricted. The depth at which these horizons occur determines the severity of the soil wetness restrictions and therefore the ALC grade.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% agricultural area
3a	3.4	10.3	12.1
3b	24.8	75.2	87.9
Other Land	4.8	14.5	
Total Agricultural Area	28.2		100.0
Total Site area	33.0	100.0	

Climate

9. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

10. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values	Values	Values
Grid reference	N/A	SU 729 554	SU 730 550	SU 731 549
Altitude	m, AOD	65	70	75
Accumulated Temperature	day°C	1456	1451	1445
Average Annual Rainfall	mm	696	699	708
Field Capacity Days	days	148	149	151
Moisture Deficit, Wheat	mm	108	108	107
Moisture Deficit, Potatoes	mm	102	102	100

11. 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.

12. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.

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

Site

14. The site lies at an altitude in the range of 65-78 m AOD. The land is in the form of a shallow valley which runs from south west to north east. Land rises to the north west and south east from the centre of the site. Nowhere on the site does gradient, microrelief or flooding affect the agricultural land quality.

Geology and soils

15. The published geological information for the site (BGS, 1981), shows it to be underlain by London Clay.

16. The most detailed published soils information for the site (SSEW, 1983 and 1984) shows the site to comprise soils of the Wickham 4 Association. These are described as 'slowly permeable seasonally waterlogged fine silty over clayey and fine loamy over clayey soils associated with similar clayey soils, often with brown subsoils.' (SSEW, 1983). Soils of this broad type were found across the site.

Agricultural Land Classification

17. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1, page 2.

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

Subgrade 3a

19. Land of good quality has been mapped towards the west of the site, on slopes rising from the stream which traverses the site. The principal limitation is soil wetness.

20. Soils in this area commonly comprise a very slightly stony (up to 5% v/v total flints) medium clay loam, occasionally medium silty clay loam topsoil, passing to a similarly stony, occasionally gleyed, medium clay loam upper subsoil. In the majority of cases this upper subsoil passes to a stoneless, gleyed and slowly permeable clay to depth. Occasionally, the upper subsoil passes to a gleyed and slowly permeable heavy clay loam horizon which lies over the clay, as found in the pit observation, 1p. The slowly permeable horizons have the effect of restricting water flow through the soil profile thus causing drainage to be impeded. The depth at which these horizons occur in combination with the local climate leads to Wetness Class III being appropriately applied and subsequently Subgrade 3a given the medium workability status of the topsoil. Soil wetness affects plant growth and yield as well as restricting land utilisation in terms of the number of days when machinery cultivations and grazing by livestock can occur without causing structural damage to the soil.

Subgrade 3b

21. Land of moderate quality has been mapped over the majority of the site. The principal limitation to land quality is soil wetness.

22. Soils in this area comprise a stoneless to very slightly stony (up to 5% v/v total flints), occasionally gleyed medium clay loam topsoil. Commonly this passes to a similarly stony, gleyed medium clay loam or gleyed and slowly permeable heavy clay loam (see 1p) upper subsoil, which overlies stoneless, occasionally moderately stony (up to 20% v/v total flints), slowly permeable clay. Occasionally the topsoil lies directly over the gleyed and slowly permeable clay. The slowly permeable clay and heavy clay loam horizons restrict water flow through the soil profile so causing drainage to be impeded to the extent that Wetness Class IV and Subgrade 3b has been appropriately applied to this land given the local climate and the medium workability status of the topsoils. Soil wetness affects plant growth and yield as well as restricting land utilisation in terms of the number of days when machinery cultivations and grazing by livestock can occur without causing structural damage to the soil.

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SOURCES OF REFERENCE

British Geological Survey (1981) *Sheet 284, Basingstoke. Solid and Drift Edition. 1:50 000. Scale.* BGS: London.

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

Met. Office (1989) *Climatological Data for Agricultural Land Classification.* Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Soils of South East England. 1:250 000 Scale.* SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils of South East England. Bulletin No. 15.* SSEW: Harpenden.

APPENDIX I

DESCRIPTIONS OF THE GRADES AND SUBGRADES

Grade 1: Excellent Quality Agricultural Land

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

Grade 2: Very Good Quality Agricultural Land

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

Grade 3: Good to Moderate Quality Land

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

Subgrade 3a: Good Quality Agricultural Land

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

Subgrade 3b: Moderate Quality Agricultural Land

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

Grade 4: Poor Quality Agricultural Land

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

Grade 5: Very Poor Quality Agricultural Land

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

APPENDIX II

SOIL WETNESS CLASSIFICATION

Definitions of Soil Wetness Classes

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile. Six soil wetness classes are identified and are defined in the table below.

Wetness Class	Duration of waterlogging[1]
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years.[2]
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 90 days, but only wet within 40 cm depth for 30 days in most years.
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.
IV	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 **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.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

Assessment of Wetness Class

Soils have been allocated to wetness classes by the interpretation of soil profile characteristics and climatic factors using the methodology described in *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988).

[1] The number of days is not necessarily a continuous period.

[2] 'In most years' is defined as more than 10 out of 20 years.

APPENDIX III

SOIL DATA

Contents:

SOIL PROFILE DESCRIPTIONS: EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a computer database. This uses notations and abbreviations as set out below.

Boring Header Information

1. **GRID REF**: national 100 km grid square and 8 figure grid reference.

2. **USE**: Land use at the time of survey. The following abbreviations are used.

ARA:	Arable	**WHT:**	Wheat	**BAR**:	Barley
CER:	Cereals	**OAT**:	Oats	**MZE**:	Maize
OSR:	Oilseed rape	**BEN**:	Field Beans	**BRA**:	Brassicae
POT:	Potatoes	**SBT**:	Sugar Beet	**FCD**:	Fodder Crops
LIN:	Linseed	**FRT:**	Soft and Top Fruit	**FLW**:	Fallow
PGR:	Permanent Pasture	**LEY**:	Ley Grass	**RGR**:	Rough Grazing
SCR:	Scrub	**CFW**:	Coniferous Woodland	**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 estimated or measured by a hand-held optical clinometer.

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

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

6. **MB (WHEAT/POTS)**: Moisture Balance. (Crop adjusted AP - crop adjusted MD)

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

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

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

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

OC:	Overall Climate	**AE**:	Aspect	**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
ZL:	Silt Loam	**SCL**:	Sandy Clay Loam	**C**:	Clay
SC:	Sandy Clay	**ZC**:	Silty Clay	**OL**:	Organic Loam
P:	Peat	**SP**:	Sandy Peat	**LP**:	Loamy Peat
PL:	Peaty Loam	**PS**:	Peaty Sand	**MZ**:	Marine Light Silts

For the sand, loamy sand, sandy loam and sandy silt loam classes, the predominant size of sand fraction will be indicated by the use of the following prefixes:

F: Fine (more than 66% of the sand less than 0.2mm)
M: Medium (less than 66% fine sand and less than 33% coarse sand)
C: Coarse (more than 33% of the sand larger than 0.6mm)

The clay loam and silty clay loam classes will be sub-divided according to the clay content: **M:** Medium (<27% clay) **H**: Heavy (27-35% clay)

2. **MOTTLE COL**: Mottle colour using Munsell notation.

3. **MOTTLE ABUN**: Mottle abundance, expressed as a percentage of the matrix or surface described.

F: few <2% **C:** common 2-20% **M**: many 20-40% **VM**: very many 40% +

4. **MOTTLE CONT:** Mottle contrast

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

5. **PED. COL**: Ped face colour using Munsell notation.

6. **GLEY:** If the soil horizon is gleyed a 'Y' will appear in this column. If slightly gleyed, an 'S' will appear.

7. **STONE LITH**: Stone Lithology - One of the following is used.

HR:	all hard rocks and stones	**SLST**:	soft oolitic or dolimitic limestone
CH:	chalk	**FSST**:	soft, fine grained sandstone
ZR:	soft, argillaceous, or silty rocks	**GH**:	gravel with non-porous (hard) stones
MSST:	soft, medium grained sandstone	**GS**:	gravel with porous (soft) stones
SI:	soft weathered igneous/metamorphic rock		

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

8. **STRUCT**: the degree of development, size and shape of soil peds are described using the following notation:

degree of development	**WK**: weakly developed **ST**: strongly developed	**MD**: moderately developed
ped size	**F**: fine **C**: coarse	**M**: medium **VC**: very coarse
ped shape	**S** : single grain **GR**: granular **SAB**: sub-angular blocky **PL**: platy	**M**: massive **AB**: angular blocky **PR**: prismatic

9. **CONSIST**: Soil consistence is described using the following notation:

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

10. **SUBS STR**: Subsoil structural condition recorded for the purpose of calculating profile droughtiness: **G**: good **M**: moderate **P**: poor .

11. **POR**: Soil porosity. If a soil horizon has less than 0.5% biopores >0.5 mm, a 'Y' will appear in this column.

12. **IMP**: If the profile is impenetrable to rooting a 'Y' will appear in this column at the appropriate horizon.

13. **SPL**: Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.

14. **CALC**: If the soil horizon is calcareous, a 'Y' will appear in this column.

15. Other notations
    APW: available water capacity (in mm) adjusted for wheat
    APP: available water capacity (in mm) adjusted for potatoes
    MBW: moisture balance, wheat
    MBP: moisture balance, potatoes

SOIL PIT DESCRIPTION

Site Name : HART DIST LP HOOK HSE FM Pit Number : 1P

Grid Reference: SU72905510 Average Annual Rainfall : 696 mm
Accumulated Temperature : 1456 degree days
Field Capacity Level : 148 days
Land Use :
Slope and Aspect : 1 degrees E

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 26	MCL	10YR41 00	0	3	HR					
26- 44	MCL	10YR42 00	0	3	HR	C	MDCSAB	FR	M	
44- 56	HCL	10YR63 71	0	7	HR	M	MDCAB	FR	M	
56- 75	C	25Y 51 61	0	0		M	WKCAB	FM	P	

Wetness Grade : 3A Wetness Class : III
Gleying : 26 cm
SPL : 44 cm

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

FINAL ALC GRADE : 3A
MAIN LIMITATION : Wetness

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
1P	SU72905510	STB	E	1	26	44	3	3A		0		0					WE	3A	PIT 75
2	SU72805540	PGR	N	2	37	37	4	3B		0		0					WE	3B	IMP FLINTS 60
4	SU73005539	PGR	N	1	25	45	3	3A		0		0					WE	3A	
5	SU73105540	PGR			28	28	4	3B		0		0					WE	3B	
6	SU72805530	PGR	N	2	35	35	4	3B		0		0					WE	3B	
7	SU72905530	PGR	NE	1	0	28	4	3B		0		0					WE	3B	
8	SU73005530	PGR			27	40	4	3B		0		0					WE	3B	IMP 70 BRDR 3A
9	SU73105530	PGR			0	30	4	3B		0		0					WE	3B	IMP FLINTS 70
10	SU72805520	STB			26	38	4	3B		0		0					WE	3B	
11	SU72905520	STB	E	2	45	45	3	3A		0		0					WE	3A	
12	SU73005520	PGR			0	30	4	3B		0		0					WE	3B	
13	SU73105520	PGR	W	2	35	35	4	3B		0		0					WE	3B	
14	SU72805510	STB	E	2	29	29	4	3B		0		0					WE	3B	
15	SU72905510	STB			40	40	3	3A		0		0					WE	3A	SEE 1P
16	SU73005510	PGR	W	1	35	35	4	3B		0		0					WE	3B	IMP FLINTS 70
17	SU73105510	PGR	W	3	0	30	4	3B		0		0					WE	3B	
18	*SU73205510*	*PGR*	*W*	*2*	*0*		*2*	*2*	*101*	*-7*	*112*	*10*	*3A*				*WD*	*2*	*IMP FLINTS 70*
19	SU72805500	STB			42	42	3	3A		0		0					WE	3A	
20	SU72905500	STB	W	1	25	25	4	3B		0		0					WE	3B	
21	SU73005500	STB	W	2	0	25	4	3B		0		0					WE	3B	
22	SU73105500	SAS	W	3	0	25	4	3B		0		0					WE	3B	
23	SU73205500	PGR	W	1	30	30	4	3B		0		0					WE	3B	IMP FLINTS 52
24	SU73305500	PGR			0	35	4	3B		0		0					WE	3B	
25	SU72905490	SAS	W	2	0	28	4	3B		0		0					WE	3B	
26	SU73005490	SAS	W	2	0	28	4	3B		0		0					WE	3B	
27	SU73105490	SAS	W	2	0	32	4	3B		0		0					WE	3B	
28	SU73205490	PGR			0	30	4	3B		0		0					WE	3B	
29	SU73305491	PGR			0	35	4	3B		0		0					WE	3B	
30	SU73005480	SAS	W	2	0	30	4	3B		0		0					WE	3B	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
1P	0-26	mcl	10YR41 00						0	0	HR	3							
	26-44	mcl	10YR42 00	10YR56 00	C			Y	0	0	HR	3	MDCSAB	FR	M				
	44-56	hcl	10YR63 71	10YR56 58	M		10YR62 63	Y	0	0	HR	7	MDCAB	FR	M	Y		Y	
	56-75	c	25Y 51 61	10YR58 00	M		25Y 52 00	Y	0	0		0	WKCAB	FM	P	Y		Y	
2	0-25	mcl	10YR42 00						0	0	HR	2							
	25-37	mcl	10YR43 00	10YR56 00	F				0	0	HR	2			M				
	37-60	c	25Y 52 53	10YR56 00	C		00MN00 00	Y	0	0	HR	5			P			Y	IMP FLINTS 60
4	0-25	mcl	10YR41 00						0	0	HR	5							
	25-45	mcl	10YR52 51	10YR56 00	C			Y	0	0		0			M				
	45-80	c	25Y 51 00	10YR58 00	M			Y	0	0		0			P			Y	
5	0-28	mcl	10YR41 00	10YR66 00	F				0	0		0							
	28-70	c	25Y 51 61	10YR58 68	M			Y	0	0		0			P			Y	
6	0-24	mcl	10YR42 00						0	0	HR	3							
	24-35	mcl	10YR43 00						0	0	HR	3			M				
	35-70	c	25Y 51 61	10YR58 00	M			Y	0	0	HR	5			P			Y	
7	0-28	mcl	10YR42 00	10YR46 00	C			Y	0	0	HR	5							
	28-45	hcl	10YY54 52	10YR56 00	C		00MN00 00	Y	0	0	HR	5			M			Y	
	45-80	c	25Y 51 61	10YR56 00	C			Y	0	0		0			P			Y	
8	0-27	mcl	10YR42 00						0	0	HR	5							
	27-40	mcl	10YR53 63	10YR58 00	M			Y	0	0		0			M				
	40-70	c	25Y 53 61	10YR58 00	M			Y	0	0	HR	3			P			Y	IMP FLINTS 70
9	0-30	hcl	10YR41 00	10YR56 00	C			Y	0	0		0							
	30-60	c	25Y 51 61	10YR58 00	M			Y	0	0		0			P			Y	
	60-70	c	25Y 51 61	10YR58 00	M			Y	0	0	HR	20			P			Y	IMP FLINTS 70
10	0-26	mcl	10YR42 00						0	0	HR	5							
	26-38	mcl	10YR54 52	10YR56 00	C			Y	0	0	HR	5			M				
	38-70	c	10YR51 00	10YR58 00	M		00MN00 00	Y	0	0	HR	5			P			Y	
11	0-25	mcl	10YR42 00						0	0	HR	3							
	25-45	mcl	10YR54 52	10YR56 00	F		00MN00 00		0	0	HR	5			M				
	45-80	c	25Y 53 51	10YR58 00	M			Y	0	0		0			P			Y	
12	0-30	hcl	10YR42 00	10YR46 00	C			Y	0	0	HR	5							
	30-70	c	10YR51 00	10YR58 00	M		00MN00 00	Y	0	0		0			P			Y	
13	0-35	mcl	10YR42 00	10YR58 00	F				0	0	HR	1							
	35-45	hcl	25Y 63 71	10YR58 00	C		00MN00 00	Y	0	0	HR	2			M			Y	
	45-60	c	25Y 71 00	75YR58 00	M			Y	0	0	HR	1			P			Y	
14	0-29	mcl	10YR42 00						0	0	HR	3							
	29-70	c	25Y 61 51	10YR58 68	M			Y	0	0		0			P			Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
15	0-25	mzcl	10YR42 00						0	0	HR	3							
	25-40	mcl	10YR41 43						0	0	HR	3		M					
	40-55	hcl	10YR53 52	10YR58 00	M		00MN00 00	Y	0	0		0		M			Y		
	55-80	c	25Y 51 61	10YR58 00	M			Y	0	0		0		P			Y		
16	0-35	mcl	10YR42 00	10YR58 00	F				0	0	HR	2							
	35-45	hcl	25Y 63 71	10YR58 00	C			Y	0	0	HR	2		M			Y		
	45-70	c	25Y 71 00	75YR58 00	M			Y	0	0	HR	1		P			Y		IMP FLINTS 70
17	0-30	mcl	10YR52 00	75YR58 00	C			Y	0	0	HR	2							
	30-60	c	25Y 71 72	75YR58 00	M			Y	0	0	HR	2		P			Y		
18	0-30	mcl	10YR42 00	10YR58 00	C			Y	0	0	HR	2							
	30-45	mcl	10YR63 62	75YR58 00	C			Y	0	0	HR	5		M					
	45-70	mcl	25Y 73 72	75YR46 00	M		00MN00 00	Y	0	0	HR	10		M					IMP FLINTS 70
19	0-30	mcl	10YR42 00						0	0	HR	3							
	30-42	mcl	10YR54 00	00MN00 00	F				0	0		0		M					
	42-60	hcl	10YR64 62	10YR66 00	C		00MN00 00	Y	0	0		0		M			Y		
	60-120	c	*25Y 51 61*	*10YR58 68*	M		*00MN00 00*	Y	*0*	*0*		*0*		P			Y		
20	0-25	mcl	10YR42 00						0	0	HR	3							
	25-45	hcl	10YR53 52	10YR56 00	C		00MN00 00	Y	0	0	HR	10		M			Y		
	45-80	c	10YR51 00	10YR58 00	M		00MN00 00	Y	0	0		0		P			Y		
21	0-25	mcl	10YR41 42	10YR46 00	C			Y	0	0		0							
	25-43	hcl	10YR51 53	10YR58 00	C			Y	0	0		0		M			Y		
	43-70	c	25Y 51 61	10YR58 68	M			Y	0	0		0		P			Y		
22	0-25	mcl	10YR52 00	10YR58 00	C			Y	0	0	HR	1							
	25-35	hcl	25Y 63 62	10YR58 00	C			Y	0	0	HR	2		M			Y		
	35-60	c	*10YR73 72*	*75YR58 00*	M			Y	*0*	*0*	HR	5		P			Y		
23	0-30	mcl	10YR42 00	10YR58 00	F				0	0	HR	2							
	30-48	hcl	10YR63 62	10YR58 00	C			Y	0	0	HR	5		M			Y		
	48-52	c	10YR73 72	75YR58 00	M			Y	0	0	HR	10		P			Y		IMP FLINTS 52
24	0-35	mcl	10YR52 00	10YR58 00	C			Y	0	0	HR	2							
	35-48	hcl	25Y 63 71	10YR58 00	C			Y	0	0	HR	2		M			Y		
	48-58	c	10YR73 72	75YR58 00	M			Y	0	0	HR	20		P			Y		IMP FLINTS 58
25	0-28	mcl	10YR52 00	10YR58 00	C			Y	0	0	HR	2							
	28-70	hcl	25Y 63 71	75YR58 00	M		00MN00 00	Y	0	0	HR	2		M			Y		
	70-110	mcl	25Y 63 71	10YR58 00	C			Y	0	0	HR	2		M					
26	0-28	mcl	10YR52 00	10YR58 00	C			Y	0	0	HR	2							
	28-55	hcl	25Y 63 71	10YR58 00	C			Y	0	0	HR	2		M			Y		
	55-80	c	25Y 71 00	75YR58 00	M			Y	0	0	HR	5		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
27	0-32	mcl	10YR52 00	75YR58 00	C			Y	2	0	HR	5						
	32-60	c	10YR72 71	75YR58 00	M			Y	0	0	HR	2		P			Y	
28	0-30	mcl	10YR42 00	10YR58 00	C			Y	0	0	HR	5						
	30-48	hcl	25Y 63 71	10YR58 00	C			Y	0	0	HR	5		M			Y	
	48-60	c	10YR71 00	75YR58 00	M			Y	0	0	HR	20		P			Y	
29	0-35	mcl	10YR42 00	10YR58 00	C			Y	0	0	HR	2						
	35-45	hcl	25Y 63 71	10YR58 00	C			Y	0	0	HR	2		M			Y	
	45-70	c	25Y 71 00	75YR58 00	M			Y	0	0		0		P			Y	
30	0-30	mcl	10YR42 00	10YR58 00	C			Y	2	0	HR	5						
	30-68	hcl	25Y 63 71	10YR58 00	C		00MN00 00	Y	0	0	HR	2		M			Y	
	68-85	c	25Y 71 00	75YR58 00	M			Y	0	0	HR	1		P			Y	