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**KENT MINERALS LOCAL PLAN REVIEW
Land at Moat Farm, Five Oak Green, Kent**

**Agricultural Land Classification
ALC Map and Report**

December 1998

**Resource Planning Team
Eastern Region
FRCA Reading**

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AGRICULTURAL LAND CLASSIFICATION REPORT

KENT MINERALS LOCAL PLAN REVIEW LAND AT MOAT FARM, FIVE OAK GREEN, KENT

INTRODUCTION

- 1 This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 40.8 ha of land at Moat Farm Five Oak Green near Paddock Wood in Kent. The survey was carried out during December 1998.
- 2 The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)¹ on behalf of the Ministry of Agriculture Fisheries and Food (MAFF) in connection with its statutory input to the Kent Minerals Local Plan Review. The survey supersedes any previous ALC information for this land.
- 3 The work was conducted by members of the Resource Planning Team in the Eastern Region of FRCA. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF 1988). A description of the ALC grades and subgrades is given in Appendix I.
- 4 At the time of survey the whole of the agricultural area had been sown to oil seed rape. The areas mapped as 'Other land' includes woodland, an irrigation lagoon, a soil bund, and an area used for tipping and burning of farm rubbish.

SUMMARY

- 5 The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10,000. It is accurate at this scale but any enlargement would be misleading.
- 6 The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1.

Table 1 Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
3b	39.1	100.0	95.8
Other	1.7		4.2
Total surveyed area	39.1	100.0	95.8
Total site area	40.8		100.0

- 7 The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land. In total 44 borings and two soil pits were described.

¹ FRCA is an executive agency of MAFF and the Welsh Office.

8 The agricultural land at this site has been classified as Subgrade 3b (moderate quality) The soils comprise deep stoneless heavy clay loam textured topsoils overlying poorly structured clay subsoils These exhibit indications of soil wetness to the extent that in the local climate Subgrade 3b is appropriate Soil wetness reduces the versatility of the land in terms of access by machinery (e.g. for cultivations or harvesting) and grazing by livestock if damage to the soil is to be avoided Soil wetness will also adversely affect seed germination and root growth and will therefore reduce the level and consistency of yields

FACTORS INFLUENCING ALC GRADE

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 the standard interpolation procedures (Met Office 1989)
- 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

Table 2 Climatic and altitude data

Factor	Units	Values	
		TQ 647 466	TQ 646 461
Grid reference	N/A	16	17
Altitude	m AOD	1496	1495
Accumulated Temperature	day°C (Jan June)	691	694
Average Annual Rainfall	mm	143	143
Field Capacity Days	days	121	121
Moisture Deficit Wheat	mm	118	118
Moisture Deficit Potatoes	mm		
Overall climatic grade	N/A	Grade 1	Grade 1

- 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 (ATO January to June) as a measure of the relative warmth of a locality
- 13 The combination of rainfall and temperature at this site means that there is no overall climatic limitation and in addition the site does not suffer from any local factors such as exposure or frost risk As such the site may be considered as being climatically Grade 1

Site

- 14 The survey area is flat and low lying at 16–17m AOD. To the south of the site the land rises. Nowhere on the site does gradient, microrelief or flooding adversely affect agricultural land quality.
- 15 As regards flooding, the site lies in the floodplain of the River Medway and the Environment Agency (EA) was contacted with regard to information on flooding. EA records show that the site has not experienced a significant flood event since 1968 and as such the flood risk is probably no worse than Subgrade 3a for both summer and winter flooding.

Geology and soils

- 16 The most detailed published geological information for this area (BGS 1971) maps the entire site as alluvium.
- 17 The most recent published soils information covering the area (SSEW 1983) shows the site to comprise soils of the Fladbury 3 Association. These soils are described as Stoneless clayey fine silty and fine loamy soils affected by groundwater. Flat land. Risk of flooding (SSEW 1983). These soils are similarly described in Soils of Kent (SSEW 1980). The survey found soils of this general type to be represented throughout the site.

AGRICULTURAL LAND CLASSIFICATION

- 18 The details of the classification of the survey area are shown on the attached ALC map and the area statistics of each grade are given in Table 1.
- 19 The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix II.

Subgrade 3b

- 20 The entire site has been mapped as land of moderate quality. The principal limitation is soil wetness. The soils are typified by the soil pits 1P and 2P (see Appendix II).
- 21 Soils on the site typically comprise poorly drained profiles (Wetness Class IV) having a heavy clay loam topsoil overlying heavy clay loam and clay subsoils. The subsoils are gleyed and are poorly structured and slowly permeable. In one area in the south west of the site medium clay loam topsoils overlie a thin (8cm) transitional horizon of heavy clay loam and clay subsoils. The soils in this area are typified by soil pit 2P. Two isolated borings (ASPs 28–35) have a horizon of medium or fine sandy loam below 90cm depth but still experience poorly drained conditions due to the presence of shallow slowly permeable layers.

22 Across the site the interaction between the soil drainage characteristics the topsoil textures and the prevailing field capacity days (143 days) means that this land is classified as Subgrade 3b Soil wetness of this degree adversely affects seed germination and survival and inhibits the development of a good root system Soil wetness also imposes restrictions on cultivations trafficking by machinery or grazing by livestock there will be a significant restriction on the number of days when the land can be worked without risk of damage to the soil

Vaughan Redfern and Edgar Black
Resource Planning Team
Eastern Region
FRCA Reading

SOURCES OF REFERENCE

British Geological Survey (1971) *Sheet No 287 Sevenoaks 1 63 360 Solid and Drift Edition*
BGS London

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

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

Soil Survey of England and Wales (1980) *Soils of Kent Soil Survey Bulletin No 9*
SSEW Harpenden

Soil Survey of England and Wales (1983) *Sheet 6 Soils of South East England 1 250 000*
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 most climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5 Very Poor Quality Agricultural Land

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

APPENDIX II

SOIL DATA

Contents

Sample location map

Soil abbreviations explanatory note

Soil pit and soil boring descriptions (boring and horizon levels)

SOIL PROFILE DESCRIPTIONS EXPLANATORY NOTE

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

Boring Header Information

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

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

ARA	Arable	WHT	Wheat	BAR	Barley
CER	Cereals	OAT	Oats	MZE	Maize
OSR	Oilseed rape	BEN	Field beans	BRA	Brassicae
POT	Potatoes	SBT	Sugar beet	FCD	Fodder crops
LIN	Linseed	FRT	Soft and top fruit	FLW	Fallow
PGR	Permanent pasture	LEY	Ley grass	RGR	Rough grazing
SCR	Scrub	CFW	Coniferous woodland	OTH	Other
DCW	Deciduous woodland	BOG	Bog or marsh	SAS	Set Aside
HTH	Heathland	HRT	Horticultural crops	PLO	Ploughed

3 **GRDNT** Gradient as estimated or measured by a hand held optical clinometer

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

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

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

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

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

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

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

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

Soil Pits and Auger Borings

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

S	Sand	LS	Loamy Sand	SL	Sandy Loam
SZL	Sandy Silt Loam	CL	Clay Loam	ZCL	Silty Clay Loam
ZL	Silt Loam	SCL	Sandy Clay Loam	C	Clay
SC	Sandy Clay	ZC	Silty Clay	OL	Organic Loam
P	Peat	SP	Sandy Peat	LP	Loamy Peat
PL	Peaty Loam	PS	Peaty Sand	MZ	Marine Light Silts

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

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

The clay loam and silty clay loam classes will be sub-divided according to the clay content

M Medium (<27% clay) **H** Heavy (27-35% clay)

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

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

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

4 **MOTTLE CONT** Mottle contrast

F faint indistinct mottles evident only on close inspection

D distinct mottles are readily seen

P prominent mottling is conspicuous and one of the outstanding features of the horizon

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

6 **GLEYS** If the soil horizon is gleyed a Y will appear in this column If slightly gleyed an S will appear

7 **STONE LITH** Stone Lithology one of the following is used

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

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

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

Degree of development	WK	weakly developed	MD	moderately developed
	ST	strongly developed		
Ped size	F	fine	M	medium
	C	coarse		
Ped shape	S	single grain	M	massive
	GR	granular	AB	angular blocky
	SAB	sub angular blocky	PR	prismatic
	PL	platy		

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

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

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

SAMPLE NO	GRID REF	ASPECT USE	--WETNESS--		--HEAT--		--POTS--		M REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS	
			GRDNT	GLEY	SPL	CLASS	GRADE	AP	MB	AP						MB
1	TQ64504670	OSR		30	30	4	38	129	8	106	-12	3a		WE	38	
2	TQ64604670	OSR		0	25	4	38	125	4	102	-16	3a		WE	38	S/soil +manyMn
3	TQ64704670	OSR		0	25	4	38	127	6	104	-14	3a		WE	38	H3 many Mn
4	TQ64404660	OSR		30	30	4	38	129	8	106	-12	3a		WE	38	
5	TQ64504660	OSR		30	30	4	38	129	8	106	-12	3a		WE	38	
6	TQ64604660	OSR		0	20	4	38	122	1	99	-19	3a		WE	38	
7	TQ64704660	OSR		0	20	4	38	123	2	100	-18	3a		WE	38	
8	TQ64804660	OSR		30	30	4	38	126	5	103	-15	3a		WE	38	
9	TQ64904660	OSR		30	30	4	38	129	8	106	-12	3a		WE	38	
10	TQ65004660	OSR		29	29	4	38	125	4	100	-18	3a		WE	38	
11	TQ64404650	OSR		32	32	4	38	130	9	107	-11	3a		WE	38	
12	TQ64504650	OSR		0	35	4	38	132	11	109	-9	2		WE	38	H3 V many Mn
13	TQ64604650	OSR		0	28	4	38	90	-31	99	-19	3b		WE	38	Impen 65
14	TQ64704650	OSR		0	30	4	38	126	5	103	-15	3a		WE	38	H3 Many Mn
15	TQ64804650	OSR		0	35	4	38	132	11	109	-9	2		WE	38	
16	TQ64904650	OSR		30	30	4	38	128	7	105	-13	3a		WE	38	S1 gleyed 0
17	TQ65004650	OSR		26	26	4	38	127	6	104	-14	3a		WE	38	
18	TQ65104650	OSR		30	30	4	38	126	5	103	-15	3a		WE	38	
19	TQ64404640	OSR		32	32	4	38	130	9	107	-11	3a		WE	38	
20	TQ64504640	OSR		29	29	4	38	129	8	106	-12	3a		WE	38	
21	TQ64604640	OSR		0	30	4	38	98	-23	106	-12	3a		WE	38	Impen 75
22	TQ64704640	OSR		34	34	4	38	101	-20	104	-14	3a		WE	38	Impen 80
23	TQ64804630	OSR		29	29	4	38	129	8	105	-13	3a		WE	38	
24	TQ64204630	OSR		30	30	4	38	129	8	106	-12	3a		WE	38	
25	TQ64304630	OSR		30	30	4	38	129	8	106	-12	3a		WE	38	
26	TQ64404630	OSR		30	30	4	38	129	8	106	-12	3a		WE	38	
27	TQ64504630	OSR		0	30	4	38	112	-9	106	-12	3a		WE	38	
28	TQ64604630	OSR		0	28	4	38	135	17	105	-16	3a		WE	38	
29	TQ64704630	OSR		0	25	4	38	134	16	103	-18	3a		WE	38	H3 V many Mn
30	TQ64804630	OSR		0	25	4	38	94	-24	100	-21	3a		WE	38	Imp75 manyMn
31	TQ64904630	OSR		20	20	4	38	124	6	101	-20	3a		WE	38	
32	TQ65004630	OSR		0	25	4	38	113	-5	104	-17	3a		WE	38	Impen 100
33	TQ64404620	OSR		29	42	3	3A	132	11	109	-9	2		WE	3A	
34	TQ64504620	OSR		27	34	4	38	130	9	107	-11	3a		WE	38	
35	TQ64604620	OSR		0	30	4	38	149	31	108	-13	3a		WE	38	H2 plastic
36	TQ64704620	OSR		0	25	4	38	127	9	104	-17	3a		WE	38	V many Mn
39	TQ65004620	OSR		0	25	4	38	127	9	104	-17	3a		WE	38	H3 many Mn
40	TQ65094616	OSR		0	30	4	38	129	11	106	-15	3a		WE	38	
43	TQ64404612	OSR		29	34	4	38	130	9	107	-11	3a		WE	38	
44	TQ64504611	OSR		25	25	4	38	126	5	103	-15	3a		WE	38	
45	TQ64594613	OSR		0	45	3	38	131	13	108	-13	3a		WE	38	H2 Q sp1
1P	TQ64704630	OSR		0	28	4	38	121	0	104	-14	3a		WE	38	

SAMPLE NO	GRID REF	ASPECT USE	--WETNESS--		-WHEAT-		-POTS-		M REL		EROSN	FROST	CHEM	ALC	COMMENTS
			GRDNT	GLEY	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	
2P	TQ64504620	OSR	0	28	4	38	126	5	103	-15	3a				WE 38 H2 shallow

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES---			PED COL	---STONES---			STRUCT/ CONSIST	SUBS					
				COL	ABUN	CONT		GLE	>2	>6		LITH	TOT	STR	POR	IMP	SPL
1	0-30	HCL	10YR42							0	0	0					
	30-120	C	10YR71	10YR68	M	D		Y	0	0	0		P				Y
2	0-25	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	25-45	HCL	25Y 52	10YR58	M	D		Y	0	0	0		P				Y
	45-120	C	05Y 62	10YR58	M	D		Y	0	0	0		P				Y
3	0-25	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	25-45	C	25Y 52	10Y58	M	D		Y	0	0	0		P				Y
	45-120	C	05Y 62	10YR58	M	D		Y	0	0	0		P				Y
4	0-30	HCL	10YR42							0	0	0					
	30-72	C	25Y 71	10YR68	M	D		Y	0	0	0		P				Y
	72-120	C	10YR71	10YR68	M	D		Y	0	0	0		P				Y
5	0-30	HCL	10YR42							0	0	0					
	30-60	C	10YR71	10YR68	C	D		Y	0	0	0		P				Y
	60-120	C	10YR72	10YR56	M	D		Y	0	0	0		P				Y
6	0-20	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	20-45	HZCL	25Y 52	10YR58	C	D		Y	0	0	0		P				Y
	45-120	C	05Y 62	10YR5846	M	D		Y	0	0	0		P				Y
7	0-20	HCL	10YR42	10YR56	C	D		Y	0	0	HR	2					
	20-50	C	25Y 52	10YR58	M	D		Y	0	0	0		P				Y
	50-90	C	05Y 62	10YR5846	M	D		Y	0	0	0		P				Y
	90-120	C	05Y 71	75YR4658	M	D		Y	0	0	0		P				Y
8	0-30	C	10YR42							0	0	0					
	30-50	C	05Y71	10YR56	M	P		Y	0	0	0		P				Y
	50-120	C	05Y71	10YR56	C	D		Y	0	0	0		P				Y
9	0-30	HCL	10YR42							0	0	0					
	30-120	C	05Y71	10YR56	C	D		Y	0	0	0		P				Y
10	0-29	C	10YR42	10YR56	C	D				0	0	0					
	29-40	C	05Y71	10YR68	C	D		Y	0	0	0		P				Y
	40-120	HCL	05Y71	10YR56	M	P		Y	0	0	0		P				Y
11	0-32	HCL	10YR42							0	0	0					
	32-95	C	25Y 72	10YR56	M	D		Y	0	0	0		P				Y
	95-120	C	10YR72	10YR68	M	D		Y	0	0	0		P				Y
12	0-35	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	35-50	C	25Y 52	10YR56	C	D		Y	0	0	0		P				Y
	50-120	C	05Y 62	10YR5868	M	D		Y	0	0	0		P				Y
13	0-28	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	28-65	C	05Y 62	10YR58	M	D		Y	0	0	0		P				Y

SAMPLE	DEPTH	TEXTURE	COLOUR	-----MOTTLES-----			PED COL	-----STONES-----			STRUCT/ CONSIST	SUBS			CALC
				COL	ABUN	CONT		GLE	>2	>6		LITH	TOT	STR	
14	0-30	C	10YR42	10YR56	C	D		Y	0	0	0				
	30-50	C	05Y 62	10YR6858	M	D		Y	0	0	0	P		Y	
	50-120	C	05Y 61	10YR58	M	D		Y	0	0	0	P		Y	
15	0-35	HCL	10YR42	10YR56	C	D		Y	0	0	0				
	35-80	C	05Y 62	10YR6858	M	D		Y	0	0	0	P		Y	
	80-120	C	05Y 61	10YR58	M	D		Y	0	0	0	P		Y	
16	0-30	HCL	10YR43	10YR56	C	D		S	0	0	0				
	30-45	HZCL	25Y 52	75YR4658	M	D		Y	0	0	0	P		Y	
	45-80	C	05Y 62	75YR4658	M	D		Y	0	0	0	P		Y	
	80-120	C	05Y 61	75YR4658	M	D		Y	0	0	0	P		Y	
17	0-26	HCL	10YR42						0	0	0				
	26-120	C	05Y71	10YR68	C	D		Y	0	0	0	P		Y	
18	0-30	C	10YR42						0	0	0				
	30-65	C	05Y71	10YR68	C	D		Y	0	0	0	P		Y	
	65-120	C	05Y71	10YR68	M	P		Y	0	0	0	P		Y	
19	0-32	MCL	10YR42						0	0	0				
	32-120	C	25Y72	10YR68	M	D		Y	0	0	0	P		Y	
20	0-29	HCL	10YR42						0	0	0				
	29-60	C	25Y61	10YR68	C	D		Y	0	0	0	P		Y	
	60-120	C	25Y71	10YR68	M	D		Y	0	0	0	P		Y	
21	0-30	HCL	10YR42	10YR56	C	D		Y	0	0	0				
	30-75	C	25Y72	10YR68	C	D		Y	0	0	0	P		Y	
22	0-34	HCL	10YR42						0	0	0				
	34-56	HCL	25Y64	10YR68	C	D		Y	0	0	0	P		Y	
	56-80	MCL	10YR72	10YR68	M	P		Y	0	0	0	P		Y	
23	0-29	HCL	10YR42						0	0	0				
	29-68	C	05Y71	10YR68	M	D		Y	0	0	0	P		Y	
	68-120	HCL	05Y71	10YR68	M	P		Y	0	0	0	P		Y	
24	0-30	HCL	10YR42						0	0	0				
	30-90	C	25Y72	10YR68	M	D		Y	0	0	0	P		Y	
	90-120	C	10YR53	10YR56	M	D		Y	0	0	0	P		Y	
25	0-30	HCL	10YR42						0	0	0				
	30-90	C	25Y 72	10YR68	M	D		Y	0	0	0	P		Y	
	90-120	C	10YR63	10YR68	C	D		Y	0	0	0	P		Y	
26	0-30	HCL	10YR42						0	0	0				
	30-120	C	25Y72	10YR68	M	D		Y	0	0	0	P		Y	

S1 gleyed

Impen 75

Impen 80

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED COL	----STONES-----			STRUCT/ CONSIST	SUBS					
				COL	ABUN	CONT		GLEY	>2	>6		LITH	TOT	STR	POR	IMP	SPL
27	0-30	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	30-45	C	25Y 52	10YR58	M	D		Y	0	0	0		P				Y
	45-95	C	05Y 6261	10YR5846	M	D		Y	0	0	0		P				Y
28	0-28	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	28-70	C	05Y62	10YR58	M	D		Y	0	0	0		P				Y
	70-100	HCL	05Y 72	10YR58	M	D		Y	0	0	0		P				Y
	100-120	MSL	05Y 72	10YY58	M	D		Y	0	0	HR	5		M			
29	0-25	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	25-60	C	05Y 61	10YR58	M	D		Y	0	0	0		P				Y
	60-95	HCL	05Y 61	10YR58	M	D		Y	0	0	0		P				Y
	95-120	MCL	05Y 61	10YR58	M	D		Y	0	0	0		P				Y
30	0-25	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	25-50	C	05Y 61	10YR5868	M	D		Y	0	0	0		P				Y
	50-75	HCL	05Y 52	10YR58	M	D		Y	0	0	HR	5		P			Y
31	0-20	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	20-45	C	10YR5251	25YR56	C	D		Y	0	0	0		P				Y
	45-120	C	05Y 61	10YR58	M	D		Y	0	0	0		P				Y
32	0-25	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	25-45	C	10YR42	10YR56	M	D		Y	0	0	0		P				Y
	45-90	C	05Y 62	10YR58	M	D		Y	0	0	0		P				Y
	90-100	HCL	05Y 62	10YR58	M	D		Y	0	0	0		P				Y
33	0-29	MCL	10YR42						0	0	0						
	29-42	HCL	25Y64	10YR56	C	D		Y	0	0	0			M			Gaspl
	42-120	C	25Y71	10YR68	M	D		Y	0	0	0		P				Y
34	0-27	MCL	10YR42						0	0	0						
	27-34	HCL	10YR53	10YR56	C	D		Y	0	0	0			M			Gaspl
	34-120	C	10YR71	10YR68	M	D		Y	0	0	0		P				Y
35	0-30	MZCL	10YR42	10YR56	C	D		Y	0	0	HR	2					
	30-90	C	05Y 6261	10YR5868	M	D		Y	0	0	0		P				Y
	90-120	FSL	05Y61	10YR68	M	D		Y	0	0	0			M			
36	0-25	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	25-95	C	05Y 61	10YR58	M	D		Y	0	0	0		P				Y
	95-120	HCL	05Y 61	10YR5868	M	D		Y	0	0	0		P				Y
39	0-25	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	25-60	C	05Y 6162	10YR58	M	D		Y	0	0	0		P				Y
	60-120	C	05Y 5261	10YR58	M	D		Y	0	0	0		P				Y
40	0-30	HCL	10YR42	10YR56	C	D		Y	0	0	0						
	30-120	C	05Y 6162	10YR58	M	D		Y	0	0	0		P				Y

-----MOTTLES----- PED -----STONES----- STRUCT/ SUBS

SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLE	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
43	0-29	MCL	10YR42							0	0	0						
	29-34	C	25Y63	10YR56	C	D		Y	0	0	0	0		M				
	34-120	C	25Y71	10YR68	C	D		Y	0	0	0	0		P			Y	
44	0-25	MCL	10YR52							0	0	0						
	25-34	MCL	10YR71	10YR68	M	D		Y	0	0	0	0		P			Y	
	34-90	C	10YR71	10YR68	M	D		Y	0	0	0	0		P			Y	
	90-120	C	75YR71	75YR58	M	D		Y	0	0	0	0		P			Y	
45	0-25	HCL	10YR42	10YR56	C	D		Y	0	0	HR	2						
	25-45	HCL	10YR52	10YR58	C	D		Y	0	0	HR	2		M				Q sp1
	45-120	C	05Y 62	10YR58	M	D		Y	0	0	0	0		P			Y	
1P	0-28	HCL	10YR42	10YR56	C	D		Y	0	0	0	0						
	28-62	C	05Y72	10YR68	M	D	10YR53	Y	0	0	0	0	M CPR	FM	P	Y	Y	
	62-84	HCL	05Y71	10YR68	M	D		Y	0	0	0	0	WK CPL	FR	P	Y	Y	
	84-110	MCL	05Y71	10YR68	M	P		Y	0	0	0	0	WK CPL	FR	P	Y	Y	
2P	0-20	MCL	10YR42	10YR56	C	D		Y	0	0	0	0						
	20-28	HCL	25Y 53	10YR56	C	D		Y	0	0	0	0		M				
	28-80	C	25Y 6163	10YR6858	M	D		Y	0	0	0	0	MDCPR	FM	P	Y	Y	
	80-120	C	05Y 61	10YR58	M	D		Y	0	0	0	0	WK CPL	FM	P	Y	Y	