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BUCKINGHAMSHIRE MINERALS LOCAL PLAN
Land at Thornton, Buckingham

Agricultural Land Classification
ALC Map and Report

April 1999

Resource Planning Team
Eastern Region
FRCA Reading

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AGRICULTURAL LAND CLASSIFICATION REPORT

BUCKINGHAMSHIRE MINERALS LOCAL PLAN
LAND AT THORNTON, BUCKINGHAM

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of approximately 66 hectares of land at Thornton, near Buckingham. The survey was carried out during April 1999.

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). The survey was carried out in connection with MAFF's statutory input to the review of the Minerals Local Plan for Buckinghamshire. This 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 agricultural land on the site was in permanent grassland, ley grassland and wheat. The areas mapped as 'Other land' include woodland, a tributary stream of the River Great Ouse and a disused mineral working.

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
2	19.8	32.4	30.2
3a	9.5	15.5	14.5
3b	30.6	50.1	46.7
4	1.2	2.0	1.8
Other land	4.4	N/A	6.7
Total surveyed area	61.1	100	93.3
Total site area	65.5	-	100

7. The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land. In total, 64 borings and 5 soil pits were described.

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

8. The agricultural land on this site has been classified Grade 2 (very good quality), Subgrade 3a (good quality), Subgrade 3b (moderate quality) and Grade 4 (poor quality). The principal limitation to land quality is soil wetness with soil droughtiness to a lesser degree.

9. Grade 2 land is mapped in two areas and suffers from minor limitations which include soil droughtiness or soil wetness or a combination of both. Soils comprise either coarse loamy or fine loamy topsoils passing to similar or sandy or clayey subsoils. The combination of these soils properties with the local climate results in minor limitations which may influence the choice of crops grown and the level and consistency of yields.

10. Subgrade 3a land is also mapped in two places. Soil wetness is the principal limitation. Soils comprise fine loamy topsoils becoming heavier with depth and passing to clays. These clays are poorly structured and impede drainage, and may affect the ease with which mechanised operations can be carried out or the advisability of grazing by livestock.

11. Subgrade 3b land is affected by a significant soil wetness limitation. Soils comprise fine loamy topsoils over poorly structured clays resulting in severely impeded drainage. This will affect the range and yield of crops that can be grown on this land as well as restricting the number of days when the land is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock.

12. Grade 4 land follows part of the disused Buckingham Arm of the Grand Union Canal. This particular stretch of the canal has a severe microrelief limitation. In addition, localised disturbance has caused a severe soil wetness limitation; the presence of wet-loving vegetation indicates almost permanent waterlogging conditions. As a result, the land is only suitable for grazing.

FACTORS INFLUENCING ALC GRADE

Climate

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

14. 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).

15. 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.

16. 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.

Table 2: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SP 745 365	SP 739 362
Altitude	m, AOD	75	85
Accumulated Temperature	day°C (Jan-June)	1409	1398
Average Annual Rainfall	mm	671	675
Field Capacity Days	days	142	143
Moisture Deficit, Wheat	mm	105	104
Moisture Deficit, Potatoes	mm	97	95
Overall climatic grade	N/A	Grade 1	Grade 1

17. 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 do not affect land quality at this location. The site is climatically Grade 1. However, climatic factors do interact with soil properties to influence soil wetness and soil droughtiness. At this locality the climate is average in regional terms.

Site

18. The site lies at altitudes in the range 70–85 m AOD and lies on the northern valley sides of the River Great Ouse. The highest land occurs in the west and the north east and falls gently towards the south east and south respectively. Between these two higher outcrops is lower flatter land, through which flows a tributary stream of the River Great Ouse. The lowest land is coincident with the flood plain of the River Great Ouse along the southern boundary.

Geology and soils

19. The most detailed geological information for the site (BGS, 1983) shows the majority of it to be alluvium, 'it probably overlies extensive spreads of First Terrace gravels, but elsewhere it rests directly on bedrock or boulder clay' (BGS, 1983). The Chalky Boulder Clay is mapped on the higher land. It is described as containing, 'a matrix of stiff, silty clay and contains coarse sand to coarse gravel-sized erratics of chalk, flint, limestone, sandstone and locally derived Jurassic mudstone in varying proportions.

20. The most detailed published soils information covering the area (SSEW, 1983) shows the lower and flatter lying ground to comprise soils of the Fladbury 1 association. These soils are described as, 'stoneless clayey soils, in places calcareous, variably affected by groundwater, some with sandy subsoils. Some similar fine loamy soils'. The higher ground to the west, is mapped as soils of the Bishampton 2 association. These soils are described as, 'deep fine loamy and fine loamy over clayey with slowly permeable subsoils and slight seasonal waterlogging and similar slowly permeable seasonally waterlogged soils'. The higher land in the north-east, is shown as soils of the Evesham 1 association. These are described as slowly permeable clayey soils and shallow well drained brashy calcareous soils over limestone'.

AGRICULTURAL LAND CLASSIFICATION

21. 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 1.

22. 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.

Grade 2

23. Very good quality agricultural land is mapped in two places; on the higher land in the west and the mid-slopes of the north east. Both areas incorporate an element of Grade 1 land which could not be mapped separately at this scale. Soil droughtiness and soil wetness are the principal limitations.

24. Grade 2 land is found in conjunction with two soil types. In the west, non-calcareous well drained (Wetness Class I) sandier profiles predominate. Soils comprise medium sandy loam topsoils with up to 5% total flints by volume (1% > 2 cm in size). These pass to similarly textured upper subsoils with up to 8% total flints. These overlie loamy medium sand, some to depth, with up to 12% total flints or, sometimes coarse sandy loam passing to fine sandy silt loam. Pit 5 (see Appendix II) is representative of these soils confirming good structural conditions of the loamy medium sands. The interaction of the prevailing climate with these soil properties results in a minor shortfall in the profile available water. Moisture balance calculations indicate Grade 2 is appropriate. A minor droughtiness limitation such as this may affect the level and consistency of yields.

25. In the north-east, on the mid-slopes, the soils are more variable and are restricted by a minor soil droughtiness and/or soil wetness limitation. Where droughtiness is limiting; the soils are permeable and well drained (Wetness Class I). Evidence of fluctuating groundwater in the form of gleying, was frequently noted below 40cm. Pit 3 (see Appendix II) is representative of these soils. Soils comprise non-calcareous medium clay loam topsoils which contain up to 2% total flints. These pass to a heavy clay loam upper and lower subsoil which contain up to 15% total flints. These overlie a porous moderately structured clay and sandy clay to depth, with 17% and 20% total flints respectively. These soil characteristics, interacting with the prevailing climate, cause a reduction in the amount of available water resulting in a minor soil droughtiness limitation. Elsewhere in this unit, soil droughtiness combined with soil wetness is observed. These soils are either gleyed within 40cm of the surface, or have slowly permeable layers at moderate depth. Soils are typically non-calcareous stoneless medium clay loam topsoils. These overlie heavy clay loam or sandy clay loam upper subsoils which contain up to 3% total flints. These pass to sandy clay loam or loamy medium sand or clay lower subsoils which contain up to 5% chalk and flints. Occasionally, the lower clay subsoils are poorly structured (from 55cm) which assigns these soils to Wetness Class II, or alternatively there is evidence of fluctuating groundwater within 40cm which also places these soils in to WCII. These soil characteristics in the local climate (142 FCD) result in these soils classified Grade 2. A minor soil wetness limitation will affect the flexibility of cropping, particularly in wetter years.

Subgrade 3a

26. Good quality land is also shown in two places; on the higher land in the north-east and the mid-slopes of the west. Soil wetness is the principal limitation. Some disturbed soils were also noted.

27. The Subgrade 3a soils in the north east of the area are developed over Chalky Boulder Clay. These soils comprise non-calcareous stoneless medium clay loam topsoils. These pass to non-calcareous heavy clay loam upper subsoils which may contain up to 3% total flints by volume. These overlie slowly permeable calcareous clay which may contain up to 5% total chalky fragments. Pit 4 (see Appendix II) is typical of these soils and proved the existence of two poorly structured clay horizons which act to impede drainage. The depth to these slowly permeable subsoils (between 39 and 45cm) results in soils being assigned to Wetness Class III. This combination of imperfect drainage, topsoil texture and the prevailing field capacity level (142 days) gives rise to a land classification of Subgrade 3a. In the west, the soils are similar but no calcareous Chalky Boulder Clay was observed in the auger borings. Beneath the poorly structured clay (from 70 to 90cm) are sandy clay loams and sandy clays. These soils are assigned to Wetness Class III with Subgrade 3a appropriate. On this site, part of the disused Buckingham Arm of the Grand Union Canal has been in-filled and restored back to agriculture. Pit 2 (see Appendix II) is close to the course of the canal and shows evidence of compaction in the form of dense poorly structured subsoils; however, these subsoils are either too porous, or where potentially slowly permeable are not thick enough (< 15cm) to impede drainage. Therefore, these soils are technically Wetness Class II, even though they are close to being assigned to Wetness Class IV. However, in view of the disturbance, Wetness Class III and thus Subgrade 3a is considered appropriate which is in line with the surrounding soils. This degree of soil wetness may adversely affect crop growth and development, as well as limiting the flexibility of the land due to a reduction in the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock.

Subgrade 3b

28. Approximately half of the agricultural land surveyed has been classified as moderate quality. Soil wetness is the principal limitation with soils developed over alluvium within the River Great Ouse flood plain and associated tributary stream. Flooding may also be a limitation, however, 'natural river flood plains .... are not considered a high priority for monitoring during an event' (Environment Agency letter, 1999). It is considered that flooding is likely up to altitudes of about 72m AOD (Environment Agency data, 1999) but is likely to be no worse than Subgrade 3b on this site (i.e. frequent medium term winter floods).

29. Soils comprise heavy clay loam topsoils, which are generally stoneless. These overlie stoneless slowly permeable clay subsoils. Pit 1 (see Appendix II) confirmed the existence of these poorly structured clay horizons. These profiles all exhibited evidence of severely impeded drainage in the form of gleying within 40cm. The depth to these slowly permeable subsoils (between 17 and 35cm) results in soils being assigned to Wetness Class IV. This combination of poor drainage, topsoil texture and the prevailing field capacity level (142 days) results in land classified Subgrade 3b. Excessive soil wetness adversely affects seed germination and survival, partly by a reduction in soil temperature and partly because of anaerobism. It also inhibits the development of a good root system, all of which can affect the range of crops that can be grown and the level of yield. Soil wetness also influences the sensitivity of the soil to structural damage and is, therefore, a major factor in determining the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock.

Grade 4

30. Grade 4 (poor quality) land follows part of the disused Buckingham Arm of the Grand Union Canal. This particular stretch of the canal has a severe microrelief limitation. In addition, localised disturbance has resulted in a severe soil wetness limitation with hydrophilous vegetation indicative of more permanent waterlogging. The land is only suitable for grazing.

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SOURCES OF REFERENCE

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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 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. **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	**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. **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	**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	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	DRT	M.REL FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
2	SP74803670	PGR	S	3	39	39	3	3A	128	23	105	8	2				WE	3A	SEE 4P
3	SP74603660	PGR	SW	3	37	37	4	3B	127	22	105	8	2				WE	3B	BORDER 3A WE
4	SP74703660	PGR	SW	2	45	45	3	3A	135	30	112	15	1				WE	3A	4P LOCATION
5	SP74803660	PGR			39	39	3	3A	129	24	106	9	2				WE	3A	SEE 4P
6	SP74503650	PGR	S	1	48		1	1	150	45	111	14	1					1	SEE 3P
7	SP74603650	PGR	SW	2	68	68	2	2	138	33	115	18	1				WE	2	
8	SP74703650	PGR	SW	2	37	37	4	3B	147	42	112	15	1				WE	3B	BORDER 3A WE
9	SP74803650	PGR			35		2	2	123	18	113	16	2				WD	2	IMP90
10	SP74903650	PGR	S	3	20		1	1	119	14	94	-3	2				DR	2	
12	SP74403645	PGR	S	1	60		1	1	146	41	116	19	1					1	
13	SP74303635	PGR	S	1	56		1	1	142	37	114	17	1					1	BORDER 2 DR
14	SP74503640	PGR	S	1	58		1	1	153	48	114	17	1					1	
15	SP74603640	PGR	S	1	32		2	2	139	34	115	18	1				WE	2	SEE 3P
16	SP74703640	PGR	SW	2	55	55	2	2	120	15	111	14	2				WD	2	IMP100
17	SP74803635	PGR	S	1	55	72	2	2	113	8	109	12	2				WD	2	IMP94
18	SP74903642	PGR	S	1			1	1	152	47	116	19	1					1	
19	SP75003640	LEY			25	25	4	3B	108	3	104	7	3A				WE	3B	IMP94
20	SP75103640	LEY			25	25	4	3B	127	22	104	7	2				WE	3B	
21	SP73703630	CER	N	2			1	1	146	41	108	11	1					1	
22	SP73803630	CER	NE	2			1	1	156	51	105	8	1				DR	2	H2 STONY
23	SP73903630	CER	NE	2			1	1	137	32	108	11	1					1	BORDER 2 DR
24	SP74003630	CER	NE	2	80		1	1	153	48	116	19	1					1	H2 SANDY
25	SP74103630	CER	NE	1	65	85	1	1	144	39	117	20	1					1	
26	SP74203630	PGR			25	25	4	3B	102	-3	103	6	3A				WE	3B	FLOODPLAIN
27	SP74303630	PGR			75	75	2	3A	138	33	116	19	1				WE	3A	
28	SP74403630	PGR			50	65	1	1	136	31	114	17	1					1	IMP110 SEE3P
31	SP74703630	PGR					1	1	83	-22	86	-11	3B				DR	2	SEE 3P
32	SP74803630	LEY			24	24	4	3B	126	21	103	6	3A				WE	3B	FLOODPLAIN
33	SP74903630	LEY			19	19	4	3B	108	3	101	4	3A				WE	3B	FLOODPLAIN
34	SP75003630	LFY			29	29	4	3B	129	24	106	9	2				WE	3B	FLOODPLAIN
35	SP73803620	CER	E	1			1	1	136	31	107	12	1					1	BORDER 2 DR
36	SP73903620	CER	E	2	60		1	1	152	47	107	10	1					1	
37	SP74003620	CER	E	3	60	60	2	2	150	45	114	17	1				WE	2	
38	SP74103620	CER	E	1	100	100	1	1	142	37	112	15	1					1	
38A	SP74103620	PGR	E	2	25		2	2	131	26	101	4	2				WD	2	
39	SP74203620	PGR			30	30	4	3B	111	6	104	7	2				WE	3B	FLOODPLAIN
40	SP74303620	PGR			47	47	3	3B	132	27	109	12	2				WE	3B	FLOODPLAIN
41	SP74403620	PGR			44	44	3	3B	132	27	109	12	2				WE	3B	FLOODPLAIN
42	SP74503620	PGR			31	31	4	3B	111	6	106	9	2				WE	3B	FLOODPLAIN
43	SP74603620	PGR			34	34	4	3B	129	24	107	10	2				WE	3B	FLOODPLAIN
44	SP74703620	PGR			36	36	4	3B	130	25	108	11	2				WE	3B	FLOODPLAIN
45	SP74803620	LEY			24	24	4	3B	126	21	103	6	2				WE	3B	FLOODPLAIN

SAMPLE NO.	GRID REF	USE	ASPECT	GRONT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	DRT	M.REL FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
46	SP74903620	LEY			25	25	4	3B	124	19	101	4	2				WE	3B	FLOODPLAIN
47	SP73803610	CER	S	2	40	40	3	3A	145	40	108	11	1				WE	3A	WET AREA
48	SP73903610	CER	S	2	50		2	2	118	13	109	12	2				WD	2	IMP100
49	SP74003610	CER	S	2	30	45	3	3A	132	27	108	11	2				WE	3A	2P LOC/DISTURB
50	SP74103610	CER	S	2	36	65	3	3A	129	24	115	18	2				WE	3A	SEE 2P
51	SP74203610	PGR			25	25	4	3B	123	18	104	7	2				WE	3B	FLOODPLAIN
52	SP74303610	PGR			25	25	4	3B	127	22	104	7	2				WE	3B	FLOODPLAIN
53	SP74403610	PGR			30	30	4	3B	129	24	106	9	2				WE	3B	FLOODPLAIN
54	SP74503610	LEY			38	38	4	3B	131	26	108	11	2				WE	3B	FLOODPLAIN
55	SP74603610	PGR			24	24	4	3B	123	18	103	6	2				WE	3B	FLOODPLAIN
56	SP74703610	PGR			22	22	4	3B	125	20	102	5	2				WE	3B	FLOODPLAIN
57	SP74803610	LEY					1	1	82	-23	85	-12	3B				DR	3B	I56 BORDER3ADR
58	SP73903600	CER	S	1	30	50	3	3A	131	26	107	10	2				WE	3A	FLOODPLAIN
59	SP74903602	CER			28	40	3	3A	132	27	105	8	2				WE	3A	FLOODPLAIN
59A	SP74123607	WHT			25	25	4	3B	141	36	103	6	2				WE	3B	FLOODPLAIN
60	SP74203600	PGR			18	18	4	3B	123	18	100	3	2				WE	3B	FLOODPLAIN
61	SP74303600	PGR			30	30	4	3B	129	24	106	9	2				WE	3B	FLOODPLAIN
62	SP74403600	PGR			35	35	4	3B	132	27	109	12	2				WE	3B	FLOODPLAIN
63	SP74503600	PGR			34	45	4	3B	131	26	108	11	2				WE	3B	FLOODPLAIN
64	SP74603600	PGR			19	19	4	3B	124	19	101	4	2				WE	3B	FLOODPLAIN
65	SP74403590	PGR			17	17	4	3B	123	18	100	3	2				WE	3B	FLOODPLAIN
66	SP74503590	PGR			17	17			123	18	100	3	2				WE	3B	FLOODPLAIN
1P	SP74703620	LEY			20	20	4	3B	124	19	101	4	2				WE	3B	PIT90AUG120
2P	SP74103610	CER	S	3	26	103	3	3A	124	19	102	5	2				WE	3A	DISTURBED WC3
P	SP74403630	PGR			53		1	1	136	31	108	11	1					1	BORDER 2 DR
4P	SP74703660	PGR	SW	2	46	46	3	3A	130	25	108	11	2				WE	3A	
P	SP73853630	WHT	E	1			1	1	151	46	98	1	2				DR	2	

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	
2	0-25	MCL	10YR42						0	0		0							
	25-39	HCL	10YR54						0	0	HR	3		M					
	39-120	C	25Y 52	10YR58	M	D		Y	0	0	HR	1		P			Y	Y	CHALKY B'CLAY
3	0-20	MCL	10YR32						0	0		0							
	20-37	HCL	10YR53						0	0	HR	2		M					
	37-120	C	10YR52 63	75YR58	M	D		Y	0	0	HR	2		P			Y		
4	0-25	MZCL	10YR42						0	0		0							
	25-45	HCL	10YR53						0	0		0		M					
	45-70	C	25Y5354	10YR56	M	F		Y	0	0		0		P			Y		
	70-120	C	25Y6153	10YR58	M	D		Y	0	0	CH	5		P			Y	Y	
5	0-22	MCL	10YR42						0	0		0							
	22-39	HCL	10YR43	75YR56	F	F			0	0	HR	1		M					
	39-120	C	10YR42	75YR56	M	D		Y	0	0	HR	1		P			Y		
6	0-20	MCL	10YR42						0	0		0							
	20-48	HCL	10YR63						0	0	HR	3		M					
	48-120	SC	10YR63	75YR46	M	D		Y	0	0	HR	4		M					NOT SPL SEE 3P
7	0-18	MCL	10YR42						0	0		0							
	18-68	HCL	10YR63						0	0		0		M					
	68-120	C	10YR63	75YR56	M	D		Y	0	0		0		P			Y		Q SPL
8	0-23	MCL	10YR42						0	0		0							
	23-37	HCL	10YR54						0	0	HR	1		M					
	37-55	C	10YR53	75YR56	C	D		Y	0	0	HR	1		M			Y		Q SPL
	55-120	HZCL	25Y 62	75YR46	C	D		Y	0	0	SLST	2		M				Y	
9	0-27	MCL	10YR42						0	0		0							
	27-35	HCL	10YR52	75YR58	C	D		Y	0	0	HR	1		M					
	35-90	SCL	10YR53	75YR58	M	D		Y	0	0	HR	1		M					IMP90 SEE3P
10	0-20	MCL	10YR42						0	0		0							
	20-42	SCL	10YR52	75YR58	C	D		Y	0	0		0		M					
	42-120	LMS	10YR54	75YR58	C	D			0	0		0		M					
12	0-25	MCL	10YR43						0	0	HR	1							
	25-40	HCL	10YR54						0	0	HR	1		M					
	40-60	C	10YR56	75YR56	F	F			0	0	HR	1		M					
	60-70	C	10YR63	75YR56	C	F		Y	0	0	HR	1		M				S	
	70-120	MZCL	10YR62	10YR56	C	D		Y	0	0	HR	8		M				Y	
13	0-25	MCL	10YR43						0	0		0							
	25-56	HCL	10YR53						0	0	HR	2		M					
	56-70	SCL	25Y 63	75YR46	C	D		Y	0	0	HR	2		M					
	70-90	SC	10YR53	75YR46	M	D		Y	0	0	HR	3		M					
	90-110	SC	10YR53	75YR46	M	D		Y	0	0	HR	5		M					SEE 3P

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
14	0-20	MCL	10YR43						0	0		0							
	20-58	HCL	10YR54						0	0	HR	2		M					+SAND
	58-120	SC	10YR53	75YR46	M	D		Y	0	0		0		M					
15	0-20	MCL	10YR43						0	0		0							
	20-32	HCL	10YR43						0	0	HR	3		M					
	32-90	C	10YR53	75YR58	M	D		Y	0	0	HR	1		M					FRIABLE SEE 3P
	90-120	C	10YR53	75YR58	M	D		Y	0	0	HR	1		M				Y	+SAND FRIABLE
16	0-25	MCL	10YR43						0	0		0							
	25-55	HCL	10YR54						0	0	HR	2		M					
	55-80	C	10YR53	75YR58	M	D		Y	0	0	HR	1		P		Y			DENSE
	80-100	C	10YR53	75YR58	M	D		Y	0	0	HR	5		P		Y	Y		IMP 100
17	0-25	MCL	10YR43						0	0		0							
	25-55	C	10YR44 54						0	0	HR	5		M					
	55-72	C	75YR44	75YR46	C	D		S	0	0	HR	5		M					PROB NOT SPL
	72-88	C	10YR53	10YR56	C	D		Y	0	0	HR	2		P		Y			
	88-94	C	25Y 64	10YR56	C	F		Y	0	0	HR	5		P		Y	Y		BOULDER CLAY
18	0-22	MCL	10YR42						0	0		0							
	22-75	HCL	10YR43						0	0		0		M					
	75-120	HCL	10YR43						0	0	HR	5		M					
19	0-25	HCL	10YR43						0	0		0							
	25-80	C	25Y 61 63	10YR58	M	D		Y	0	0		0		P		Y			
	80-94	C	25Y 61 63	10YR58	M	D		Y	0	0	HR	2		P		Y			
20	0-25	HCL	10YR43						0	0		0							
	25-65	C	25Y 64 61	10YR58	M	D		Y	0	0		0		P		Y			PLASTIC SEE 1P
	65-120	C	25Y 61 63	10YR58	M	D		Y	0	0		0		P		Y			
21	0-30	MSL	10YR53						0	0	HR	3							
	30-55	MSL	10YR54						0	0	HR	5		M					SEE 5P
	55-100	MCL	10YR54						0	0	HR	5		M					
	100-120	HCL	10YR54	10YR56	F	F			0	0	HR	3		M					
22	0-35	MSL	10YR54						0	0	HR	5							
	35-70	MSL	10YR54						0	0	HR	8		M					STONY
	70-105	CSL	10YR54						0	0	HR	8		M					
	105-120	FSZL	10YR54						0	0		0		M					
23	0-35	MSL	10YR53						0	0	HR	3							
	35-75	MSL	10YR54						0	0	HR	5		M					
	75-120	LMS	10YR54						0	0	HR	2		G					SEE 5P
24	0-30	MCL	10YR43						0	0	HR	2							
	30-80	MCL	10YR54						0	0	HR	2		M					SANDY
	80-120	HCL	10YR53	10YR56	C	D		Y	0	0	HR	2		M					FRIABLE

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	
25	0-28	MCL	10YR43						0	0	HR	2							
	28-50	MCL	10YR53						0	0		0		M					
	50-65	HCL	10YR53						0	0		0		M					
	65-85	HCL	10YR53	10YR56	58	C D		Y	0	0		0		M					FRIABLE
	85-120	C	10YR53	10YR56	58	C D		Y	0	0		0		P		Y			DENSE/PLASTIC
26	0-25	MCL	10YR44						0	0		0							
	25-50	C	10YR53	10YR56		C D		Y	0	0		0		P		Y			DENSE SEE 1P
	50-85	C	25Y 53	10YR56	58	M D		Y	0	0	HR	2		P		Y			PLASTIC SEE 1P
27	0-22	HCL	10YR42						0	0		0							
	22-75	C	10YR54	44					0	0		0		M					
	75-105	C	10YR52	10YR58		M D		Y	0	0	HR	3		P		Y			
	105-120	SC	10YR52	10YR58		C D		Y	0	0	HR	15		M					
28	0-25	MCL	10YR44						0	0		0							
	25-50	HCL	10YR53	43					0	0	HR	2		M					3P LOCATION
	50-65	HCL	10YR63	75YR46		C D		Y	0	0	HR	4		M					
	65-90	SCL	25Y 62	75YR46		M D		Y	0	0	HR	5		M					
	90-110	SC	25Y 62	75YR46		M D		Y	0	0	HR	10		M					
31	0-22	MCL	75YR43	10YR46		C D		S	0	0		0							IMP110
	22-56	SCL	75YR44						0	0	HR	10							IMP56 FLINTS
32	0-24	HCL	10YR43						0	0		0							
	24-55	C	25Y 63	61 10YR58		M D		Y	0	0		0		P		Y			PLASTIC/DENSE
	55-120	C	10YR32	10YR46		C D		Y	0	0		0		P		Y			PLASTIC/DENSE
33	0-19	HCL	10YR43						0	0		0							
	19-55	C	25Y 64	61 10YR58		M D		Y	0	0		0		P		Y			PLASTIC/DENSE
	55-98	C	25Y 61	63 10YR58		M D		Y	0	0		0		P		Y			PLASTIC
34	0-29	HCL	10YR43	10YR46		C D		Y	0	0		0							
	29-65	C	25Y 64	61 10YR58		M D		Y	0	0		0		P		Y			PLASTIC
	65-120	C	25Y 61	63 10YR58		M D		Y	0	0		0		P		Y			PLASTIC
35	0-28	MSL	10YR43						0	0	HR	2							
	28-70	MSL	10YR54						0	0	HR	2		M					
	70-120	LMS	10YR54						0	0	HR	2		G					SEE 5P
36	0-30	MSL	10YR53						0	0	HR	2							
	30-60	MSL	10YR54						0	0	HR	5		M					
	60-120	MSL	10YR53	10YR56		C D		Y	0	0	HR	5		M					
37	0-29	MCL	10YR43						0	0	HR	2							
	29-60	HCL	10YR53	10YR56		F F			0	0		0		M					FRIABLE
	60-80	C	10YR53	10YR56	58	C D		Y	0	0		0		P		Y			PLASTIC
	80-120	MZCL	10YR53	10YR56		C F		Y	0	0		0		M					

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
38	0-28	MCL	10YR43						0	0	HR	2							
	28-60	MCL	10YR53						0	0	HR	5		M					
	60-100	SCL	10YR53						0	0	HR	10		M					
	100-120	C	10YR53	10YR56	C	D		Y	0	0	HR	2		P		Y			PLASTIC/DENSE
38A	0-25	MCL	10YR44						0	0		0							
	25-55	HCL	10YR53	10YR56	C	D		Y	0	0		0		M					FRIABLE SEE 3P
	55-120	SCL	10YR53	10YR56	C	D		Y	0	0		0		M					
39	0-30	MCL	10YR44						0	0		0							
	30-70	C	10YR53	10YR56	58 C	D		Y	0	0	HR	5		P		Y			DENSE/PLASTIC
	70-90	C	10YR53	10YR56	58 C	D		Y	0	0	HR	15		P		Y			DENSE/PLASTIC
	90-100	HCL	10YR53	10YR56	C	D		Y	0	0	HR	35		M			Y		
40	0-20	HCL	10YR42						0	0		0							
	20-47	C	10YR44						0	0		0		M					FRIABLE
	47-120	C	25Y 62	10YR58	M	D		Y	0	0		0		P		Y			PLASTIC
41	0-25	HCL	10YR42						0	0		0							
	25-44	C	10YR54						0	0		0		M					FRIABLE
	44-120	C	25Y 62	10YR58	M	D		Y	0	0		0		P		Y			PLASTIC
42	0-26	HCL	10YR42						0	0		0							
	26-31	C	10YR54						0	0		0		M					
	31-58	C	25Y 62	10YR58	M	D		Y	0	0		0		P		Y			
	58-88	HCL	25Y 62	10YR58	M	D		Y	0	0	HR	15		P		Y			PLASTIC
43	0-34	HCL	10YR42						0	0		0							
	34-65	C	25Y 63	10YR58	M	D		Y	0	0		0		P		Y			PLASTIC/DENSE
	65-120	HCL	25Y 53	10YR58	M	D		Y	0	0	HR	5		P		Y			
44	0-36	HCL	10YR42						0	0		0							
	36-65	C	25Y 53	10YR58	M	D		Y	0	0		0		P		Y			PLASTIC/DENSE
	65-120	HCL	25Y 63	10YR58	M	D		Y	0	0	HR	5		P		Y			
45	0-24	HCL	10YR43						0	0		0							
	24-55	C	25Y 61 63	10YR58	M	D		Y	0	0		0		P		Y			PLASTIC/DENSE
	55-95	C	25Y 61	10YR58	C	D		Y	0	0		0		P		Y			PLASTIC/DENSE
	95-120	C	25Y 61 53	10YR58	M	D		Y	0	0		0		P		Y			PLASTIC/DENSE
46	0-25	C	10YR43						0	0		0							
	25-75	C	25Y 61 53	10YR58	M	D		Y	0	0		0		P		Y			PLASTIC
	75-120	C	25Y 61 63	10YR58	M	D		Y	0	0		0		P		Y			PLASTIC
47	0-40	MCL	10YR31						0	0	HR	2							ORGANIC?
	40-55	C	25Y 53	10YR56	C	D		Y	0	0		0		P		Y			DENSE
	55-90	HCL	05Y 61	10YR56	C	D		Y	0	0		0		P		Y			
	90-120	MSL	25Y 53	10YR56	C	D		Y	0	0		0		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	
48	0-30	MCL	10YR53						0	0	HR	2							
	30-50	HCL	10YR54						0	0	HR	2		M					
	50-100	C	25Y 63	10YR56	58	C D		Y	0	0	HR	2		M				Y	FRIABLE
49	0-30	MCL	10YR43 44						0	0	HR	2							
	30-45	HCL	10YR53	10YR56		C F		Y	0	0	HR	2		M					FRIABLE
	45-90	C	10YR53	10YR56		C D		Y	0	0	HR	5		P		Y		Y	DENSE
	90-120	SC	10YR53	10YR56		C D		Y	0	0	HR	5		P		Y			
50	0-36	MCL	10YR44						0	0	HR	2							
	36-65	HCL	10YR53	10YR56	58	C D		Y	0	0	HR	2		M					FRIABLE
	65-90	C	10YR53	10YR56	58	C D		Y	0	0	HR	2		P		Y			DENSE
	90-105	SC	10YR53 63	10YR56	58	C D		Y	0	0	HR	2		P		Y			
51	0-25	HCL	10YR43						0	0		0							
	25-40	C	25Y 53	10YR56		C F		Y	0	0		0		P		Y			PLASTIC
	40-85	C	25Y 53	10YR56	58	M D		Y	0	0		0		P		Y			PLASTIC
	85-120	C	25Y 53	10YR56	58	M D		Y	0	0	HR	15		P		Y			PLASTIC
52	0-25	HCL	10YR44						0	0		0							
	25-40	C	10YR53	10YR56		C F		Y	0	0		0		P		Y			PLASTIC
	40-120	C	25Y 53	10YR56	58	M D		Y	0	0		0		P		Y			PLASTIC
53	0-30	HCL	10YR44						0	0		0							
	30-50	C	25Y 53	10YR56	58	C D		Y	0	0		0		P		Y			PLASTIC
	50-120	C	25Y 53 61	10YR56	58	C D		Y	0	0		0		P		Y			PLASTIC
54	0-26	HCL	10YR42						0	0		0							
	26-38	C	10YR44						0	0		0		M					
	38-120	C	25Y 62	10YR58		M D		Y	0	0		0		P		Y			PLASTIC
55	0-24	HCL	10YR42	10YR56		F D		N	0	0		0							
	24-68	C	25Y 62	10YR58		M D		Y	0	0		0		P		Y			PLASTIC
	68-120	C	25Y 63 62	10YR58		M D		Y	0	0	HR	10		P		Y			PLASTIC
56	0-22	HCL	10YR42						0	0		0							
	22-120	C	25Y 63	10YR58		M D		Y	0	0		0		P		Y			PLASTIC
57	0-22	MCL	75YR43	10YR46		C D		S	0	0	HR	2							
	22-56	SCL	75YR44						0	0	HR	10		M					
58	0-30	MCL	10YR44						0	0	HR	5						Y	
	30-50	HCL	10YR53	10YR56	58	C D		Y	0	0	HR	5		M					
	50-80	C	10YR53	10YR56	58	C D		Y	0	0	HR	5		P		Y			DENSE/PLASTIC
	80-120	SCL	10YR53	10YR56		C D		Y	0	0	HR	10		P		Y			
59	0-28	MCL	10YR53						0	0	HR	2							
	28-40	HCL	10YR53	10YR56		C D		Y	0	0	HR	5		M					
	40-70	C	10YR53	10YR56	58	C D		Y	0	0	HR	5		P		Y			DENSE/PLASTIC
	70-120	SCL	10YR53	10YR56		C D		Y	0	0	HR	5		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	
59A	0-25	HCL	10YR32						0	0	HR	1							
	25-70	C	10YR5362	10YR56	M	D		Y	0	0		0			P		Y		PLASTIC
	70-120	SC	25Y64	25Y66	C	F		Y	0	0		0							WET
60	0-18	HCL	10YR42						0	0		0							
	18-40	C	25Y 51	10YR46	C	D		Y	0	0		0			P		Y		
	40-120	C	25Y 62	10YR58	M	D		Y	0	0		0			P		Y		
61	0-30	HCL	10YR44						0	0		0							
	30-120	C	25Y 53 61	10YR56 58	M	D		Y	0	0		0			P		Y		
62	0-35	HCL	10YR42						0	0		0							
	35-120	C	25Y 62	10YR58	M	D		Y	0	0		0			P		Y		
63	0-34	HCL	10YR42						0	0		0						Y	
	34-45	C	25Y 61	10YR56	M	D		Y	0	0		0			P		Y		
	45-120	C	25Y 61	75YR56	M	D		Y	0	0		0			P		Y		
64	0-19	HCL	10YR42						0	0		0							
	19-37	C	25Y 53	10YR56	C	D		Y	0	0		0			P		Y		
	37-120	C	25Y 61	10YR58	M	D		Y	0	0		0			P		Y		
65	0-17	HCL	10YR42						0	0		0							
	17-40	C	25Y 51	10YR46	C	D		Y	0	0		0			P		Y		
	40-120	C	25Y 62	10YR58	M	D		Y	0	0		0			P		Y		
66	0-17	HCL	10YR42						0	0		0							
	17-35	C	25Y 51	10YR56	C	D		Y	0	0		0			P		Y		
	35-120	C	25Y 62	10YR58	M	D		Y	0	0		0			P		Y		
1P	0-20	HCL	10YR42						0	0		0	MDMSAB	FR				N	
	20-42	C	25Y 63	10YR58	M	D	25Y 62	Y	0	0		0	MDCAB	FM	P		Y	N	PLASTIC
	42-72	C	25Y 62	10YR58	M	D		Y	0	0		0	STCPR	VF	P		Y	N	PLASTIC
	72-120	C	25Y 61	10YR56	M	D		Y	0	0		0	MASSVE		P		Y	N	PLASTIC
2P	0-26	MCL	10YR43						1	0	HR	3	MDCSAB	FR					DISTURBED SOIL
	26-49	HCL	10YR53	10YR56	C	D		Y	0	0	HR	5	MDCPR	FM	P	Y			NOT15CM/SPL
	49-79	C	10YR53	10YR56	C	D		Y	0	0	HR	10	MDCAB	FR	M				FRIABLE/POROUS
	79-103	SCL	10YR53	10YR56	C	D		Y	0	0	HR	5	MDCPL	FR	P				FRIABLE/POROUS
	103-120	C	25Y 53	10YR5658	C	D		Y	0	0		0	MASIVE	FM	P		Y		PLASTIC
3P	0-30	MCL	10YR5453						0	0	HR	2							
	30-53	HCL	10YR53						0	0	HR	15	MDCSAB	FR	M				
	53-66	HCL	10YR53	10YR56	C	D		Y	0	0	HR	15	MDCSAB	FR	M				+SAND FRIABLE
	66-80	C	10YR53	10YR56	C	D		Y	0	0	HR	17	MDCAB	FR	M				FRIABLE/POROUS
	80-120	SC	10YR53	10YR56	C	D		Y	0	0	HR	20	MDCAB	FR	M				FRIABLE
4P	0-23	MCL	10YR42						0	0		0	MDCSAB	FR					
	23-46	HCL	10YR44						0	0	HR	2	MDSAB	FR	M				
	46-58	C	10YR6151	10YR58	M	D		Y	0	0		0	MDCAB	FR	P	Y	Y		
	58-120	C	25Y61	75YR54	M	D		Y	0	0	HR	3	MDCPL	FM	P	Y	Y	Y	CHALKY B'CLAY

				----MOTTLES-----			PED	----STONES----				STRUCT/	SUBS			
AMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL.	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
5P	0-29	MSL	10YR42						1	0	HR	2	MDCSAB	FR				
	29-46	MSL	10YR44						0	0	HR	7	MDCAB	FR		M		
	46-70	LMS	10YR44						0	0	HR	12	MDCAB	FR		G		
	70-97	LMS	10YR56						0	0		0	MDCAB	FR		G		
	97-120	FSZL	10YR56	10YR58	C	D			0	0		0				M		