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**WYCOMBE DISTRICT LOCAL PLAN
Site 5: Bourne End, Buckinghamshire**

**Agricultural Land Classification
ALC Map and Report**

January, 1998

**Resource Planning Team
Eastern Region
FRCA Reading**

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AGRICULTURAL LAND CLASSIFICATION REPORT

WYCOMBE DISTRICT LOCAL PLAN SITE 5: BOURNE END, BUCKINGHAMSHIRE

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 18.6 ha of land at Bourne End, south of High Wycombe in Buckinghamshire. The survey was carried out during January 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). The survey was carried out in connection with MAFF's statutory input to the Wycombe District Local Plan. 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 largest piece of agricultural land use on the site was under leeks, the two smaller areas of agricultural land were in permanent grassland, partly grazed by ponies. Areas mapped as 'Other land' comprise residential properties, a covered reservoir, allotment gardens and a strip of woodland.

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
3a	9.9	58.9	53.2
3b	6.9	41.1	37.1
Other land	1.8	-	9.7
Total surveyed area	16.8	100	90.3
Total site area	18.6	-	100

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

7. The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land. A total of 17 borings, 1 topsoil stone measurement and 4 soil pits were described.

8. The site consists of three separate parcels of land which have been classified as Subgrade 3a (good quality) and Subgrade 3b (moderate quality). Topsoil stone content and soil droughtiness are the principal limitations. In places, both topsoil stones and droughtiness are equally limiting. In addition, there is also a small area of land which has a gradient limitation.

9. A variable topsoil stone limitation restricts land quality to Subgrade 3a on the majority of the site with the remainder of the land classified as Subgrade 3b. Soils are typically well drained comprising fine loamy or fine silty topsoils. These often overlie similar or slightly heavier subsoils which are moderately stony throughout. The effect of a topsoil stone limitation is to increase production costs through the increased wear and tear to implements and tyres. Crop quality and crop establishment can also be reduced.

10. In addition to a topsoil stone limitation, some of the Subgrade 3b land is also limited by soil droughtiness, gradient or by a combination of factors. Typically soils comprise fine silty topsoils directly over Chalk; in places there is a thin upper subsoil resting over the Chalk. The effect of a shallow soil resource and restricted rooting in combination with local climatic factors, means the soil holds only small reserves of moisture for plant roots to exploit. This shortfall in moisture is likely to cause a reduction in the level and consistency of yields.

11. Along the northern and north-eastern boundary gradients of 8° were observed which limits land quality to Subgrade 3b. The effect of this is to increase the attendant risk of soil erosion and to restrict the safe and efficient use of mechanised operations.

FACTORS INFLUENCING ALC GRADE

Climate

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

13. 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).

14. 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.

15. 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	SU 892 883	SU 901 879
Altitude	m, AOD	45	60
Accumulated Temperature	day°C (Jan-June)	1461	1444
Average Annual Rainfall	mm	687	687
Field Capacity Days	days	145	145
Moisture Deficit, Wheat	mm	105	104
Moisture Deficit, Potatoes	mm	98	97
Overall climatic grade	N/A	Grade 1	Grade 1

16. 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

17. The site comprises three discrete blocks of land covering altitudes in the range 40-90 m AOD. The highest land occurs along the northern boundary of the largest parcel of land and falls through moderate to gentle gradients towards the southern boundary of the area. The two smaller blocks of land have similar gradient and direction of slope as the larger parcel. Most of the site is not affected by site restrictions such as micro-relief or flooding. However, on the largest parcel of land along the north-east boundary, gradients in the range 7.5-8° were measured using an optical reading clinometer. These slopes will restrict the safe and efficient use of farm machinery and Subgrade 3b is therefore appropriate.

Geology and soils

18. The most detailed published geological information for the site (BGS, 1948) shows all three blocks of land mapped as Upper Chalk. On the lower land the Chalk is covered by a drift deposit of Taplow gravel.

19. The most detailed published soils information covering the area (SSEW, 1983) shows the northern half of the largest block of land as soils of the Frilsham association. These soils are described as 'well drained mainly fine loamy soils over Chalk, some calcareous. Shallow calcareous fine loamy and fine silty soils in places' (SSEW, 1983). The southern half is mapped as soils of the Sonning 1 association. These soils are described as 'well drained flinty coarse loamy and sandy soils, mainly over gravel. Some coarse loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging' (SSEW, 1983). The two remaining blocks of land are shown mostly as soil of the Marlow association. These soils are described as 'well drained fine loamy over clayey and clayey soils. Some coarse and fine loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging' (SSEW, 1983). The remainder is mapped as soils of the Frilsham association.

AGRICULTURAL LAND CLASSIFICATION

20. 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.

21. 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 3a

22. Good quality land is found over most of the site coincident with deeper soils over the Upper Chalk and the Taplow gravel. Limitations include topsoil stones and soil droughtiness.

23. Soils are well drained (Wetness Class I) and of two types. Over the Upper Chalk, soils comprise *calcareous medium silty clay loam* or *medium clay loam* topsoils which are slightly stony containing between 8-15 % total flints by volume (8% >2cm). These pass into similar or heavier textured heavy silty clay loam or heavy clay loam upper subsoils. These contain between 10-30 % total volume of chalk. These overlie chalk from 40-70 cm depth. Evidence from soil pit 2P (see Appendix II) confirms 30 cm of rooting into the chalk. These soil properties in the local climate interact to restrict the amount of available water the soil profile can hold and moisture balance calculations confirm that Subgrade 3a is appropriate. This may result in lower and less consistent crop yields.

24. The majority of good quality land derived from the Taplow gravel and some on the Upper Chalk is restricted by a topsoil stone limitation. Topsoil stones, in the range 11-14 % > 2 cm total flints by volume, were recorded using a 2 cm wire-mesh sieve. A stony topsoil has the effect of increasing production costs by causing extra wear and tear to implements and tyres. Crop quality, crop establishment and the nutrient capacity of the soil may also be reduced in stony soil.

25. On the Taplow gravel soils are impenetrable to the soil auger from 40-55 cm depth. Soil pit 1 (see Appendix II) is characteristic of these soils. Topsoils are typically non-calcareous medium clay loams with up to 20 % total flints per volume (9-14% >2cm). These pass into similarly textured subsoils with up to 30 % total flints per volume. The effect of these stony horizons is to cause a reduction in the available water capacity of the soil. Moisture balance calculations, which take account of the interaction between the soil properties and the local climate, indicate that these profiles suffer from a minor soil droughtiness restriction.

Subgrade 3b

26. Moderate quality land is located in two places: on the upper slopes of the large block of land and on the farthest parcel of land to the east.

27. Land of moderate quality suffers from a number of limitations including soil droughtiness, topsoil stones and gradient. In places, a combination of limitations exist. On the higher ground on the largest block of land, soils are typically shallow over the chalk. Soil

pit 4 is characteristic of this unit. Soils are well drained (wetness class I) comprising calcareous medium silty clay loam topsoils with up to 18 % total flints by volume (12-17% >2cm). These directly overlie chalk, or pass through a thin heavy silty clay loam upper subsoil to the chalk beneath. Rooting of 23 cm into the chalk is observed in pit 4. These shallow soils hold small reserves of profile water resulting in a significant soil droughtiness limitation. Moisture balance calculations compute the short fall of available water and indicate that Subgrade 3b is appropriate for this land. This may result in significantly lower and more varied yield potential.

28. Topsoil stone measurements are variable over the site. In places, topsoil stone measurements of 17 % > 2cm total flints by volume are recorded. This limits land quality to Subgrade 3b. A significant topsoil stone limitation acts as an impediment to cultivation, harvesting and crop growth and can cause extra wear and tear to implements and tyres.

29. A small area of land along the north and north-east boundary is included in the Subgrade 3b mapping unit where gradients in the range 7.5-8° are recorded. These gradients will limit the range and type of agricultural machinery that can be safely and efficiently used.

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SOURCES OF REFERENCE

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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 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--			-WHEAT-		-POTS-		M. REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
			GRDNT	GLEYS	SPL	CLASS	GRADE	AP	MB	AP	MB					
1	SU89308870	HRT S	2			1	2	80	-25	84	-14	3B		DR	3B	DRT064CM SEE4P
2	SU89438870	HRT S	2			1	1	83	-22	87	-11	3B		DR	3B	DRT061CM SEE2P
3	SU89308860	HRT S	2			1	1	101	-3	102	4	3A		DR	3A	DRT081CM SEE4P
4	SU89408860	HRT E	5			1	1	87	-18	91	-7	3A		DR	3A	DRT065CM SEE4P
5	SU89328855	HRT S	5			1	1	89	-11	94	-1	3A		DR	3A	DRT066CM SEE4P
6	SU89388850	HRT E	2			1	2	94	-11	98	0	3A		DR	3A	3A TSST
7	SU89208840	HRT S	1			1	1	99	-6	105	7	3A		TS	3A	PROB 2 DR
8	SU89308840	HRT SW	1			1	1	120	15	93	-5	2		DR	2	DRT0120 SEE 1P
9	SU89208830	HRT SW	1			1	1	117	12	90	-8	2		TS	3A	DRT0120 SEE 1P
10	SU89308830	HRT SW	1			1	1	123	18	96	-2	2		TS	3A	DRT0120 SEE 1P
11	SU89308820	HRT SW	1			1	1	116	11	89	-9	2		TS	3A	DRT0120 SEE 1P
12	SU89828807	PGR SW	1			1	1	113	8	97	-1	2		TS	3A	DRT0120 SEE 3P
13	SU90008800	PGR SW	3			1	1	85	-20	91	-7	3A		DR	3A	DRT063CM SEE4P
14	SU90108800	PGR SW	3			1	1	81	-24	86	-12	3B		DR	3B	DRT058CM SEE4P
15	SU89968792	PGR SE	2			1	1	67	-38	70	-28	3B		TS	3B	
16	SU90108790	PGR SE	1			1	1	101	4	84	-14	3A		DR	3A	DRT0120 SEE 3P
17	SU89868813	PGR SW	6			1	1	107	2	107	9	3A		DR	3A	TS 3A
1P	SU89258832	HRT S	2			1	1	117	12	90	-8	2		DR	2	PIT90AUG120CM
1S	SU89338868	HRT S	2			1	1	37	-68	37	-61			TS	3B	
2P	SU89388865	HRT S	6			1	1	75	-30	78	-20	3B		DR	3B	ROOTS30CMINCH
3P	SU90008800	PGR SW	1	90	90	1	1	115	10	96	-2	2		DR	2	2 TSST
4P	SU89828807	PGR SW	3			1	1	81	-24	85	-13	3B		DR	3B	ROOTS23CMINCH

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES-----			STRUCT/ CONSIST	SUBS			SPL	CALC	
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH		TOT	STR	POR			IMP
1	0-28	HCL	10YR43						11	2	HR	16					Y	
	28-41	HCL	10YR46						0	0	CH	10		M			Y	IMP CHALK
2	0-31	MZCL	10YR43						8	0	CH	8					Y	IMP CHALK
3	0-28	MZCL	10YR43						8	0	HR	12					Y	
	28-58	HZCL	10YR73						0	0	CH	15		M			Y	IMP CHALK
4	0-29	MZCL	10YR43						8	0	HR	12					Y	
	29-42	HZCL	10YR46						0	0	CH	10		M			Y	IMP FLINTINCH?
5	0-33	MZCL	10YR43						8	0	HR	8					Y	
	33-43	MZCL	10YR63						0	0	CH	30		M			Y	
	43-66	CH	10YR81						0	0		0		M			Y	IMP CHALK
6	0-31	HZCL	10YR42	10YR46		F			11	2	HR	14					Y	
	31-51	HZCL	10YR44						0	0	CH	15		M			Y	IMP FLINTINCH?
7	0-30	MCL	10YR42						11	1	HR	14						
	30-55	HCL	75YR44						0	0	HR	10		M				
	55-80	C	75YR44						0	0	HR	10		M				IMP FLINTY
8	0-28	MCL	10YR42						9	1	HR	12						
	28-40	HCL	75YR44						0	0	HR	30		M			Y	IMP FLINTY
9	0-30	MCL	10YR42						12	3	HR	20						+F.SAND
	30-55	MCL	10YR44						0	0	HR	30		M				IMP FLINTY
10	0-34	MZCL	10YR42						11	2	HR	16						
	34-46	HCL	75YR44						0	0	HR	30		M				IMP FLINTY
11	0-28	MCL	10YR42						12	3	HR	20						+F.SAND
	28-53	MCL	75YR44						0	0	HR	30		M				IMP FLINTY
12	0-30	MCL	10YR42						14	2	HR	18						
	30-50	HCL	75YR54						0	0	HR	15		M				IMP FLINTY
13	0-25	MCL	10YR43						0	0	HR	10						Y
	25-40	HCL	10YR4454						0	0	HR	10		M				Y
	40-63	CH	10YR81						0	0	HR	5		M			Y	IMP CHALK
14	0-25	MZCL	10YR43						6	0	HR	10						Y
	25-30	HCL	10YR4454						0	0	HR	10		M				Y
	30-35	HCL	10YR54						0	0	CH	60		M			Y	IMP CHALK
15	0-25	MCL	10YR43						17	3	HR	25						
	25-42	HCL	75YR44						0	0	HR	30		M				
	42-55	HCL	75YR44						0	0	HR	30		M				IMP FLINTY

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES---		PED		----STONES----			STRUCT/ CONSIST	SUBS			CALC	
				COL	ABUN	CONT	COL.	GLE	>2	>6		LITH	TOT	STR		POR
16	0-22	MCL	10YR43					14	3	HR	18					
	22-35	HCL	75YR44					0	0	HR	30		M			
	35-47	HCL	75YR44					0	0	HR	30		M			IMP FLINTY
17	0-25	MZCL	10YR43					12	0	HR	15					Y
	25-58	MZCL	10YR44					0	0	CH	20		M			Y
	58-70	MZCL	10YR64					0	0	CH	50		M			Y
	70-93	CH	10YR81					0	0		0		M			Y IMP CHALK
1P	0-28	MCL	10YR42					8	0	HR	18					
	28-90	MCL	10YR44					0	0	HR	30	MDCSAB	FR	M		
	90-120	MCL	10YR54					0	0	HR	30			M		AUGERED90/120
1S	0-25	MZCL	10YR43					17	0	HR	27					Y 3B TSST
2P	0-28	MZCL	10YR43					8	0	CH	10					Y
	28-58	CH	10YR81					0	0		0		M			Y FEW ROOTS
3P	0-30	MCL	10YR43					14	2	HR	18					
	30-42	HCL	75YR44					0	0	HR	8	MDCSAB	FR	M		Y
	42-65	CH	10YR8173					0	0	HR	10			M		Y FEW ROOTS
4P	0-18	MCL	10YR43					7	2	HR	10					Y
	18-66	MCL	75YR54					0	0	HR	20	MDCSAB	FR	M		
	66-76	HCL	75YR44					0	0	HR	30	MDCSAB	FR	M		
	76-90	HCL	75YR54					0	0	HR	40			M		WET SIEVE ST
	90-120	C	75YR54	05YR58		C		Y	0	0	HR	30			P	Y WET SIEVE ST