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WEST OXFORDSHIRE DISTRICT LOCAL PLAN
Land North-east of Charlbury, Oxfordshire

Agricultural Land Classification
ALC Map and Report

October 1998

Resource Planning Team
Eastern Region
FRCA Reading

RPT Job Number: 3305/067/98
MAFF Reference: EL 33/1860

AGRICULTURAL LAND CLASSIFICATION REPORT

WEST OXFORDSHIRE DISTRICT LOCAL PLAN
LAND NORTH-EAST OF CHARLBURY, OXFORDSHIRE

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 13.2 hectares of land to the north-east of Charlbury in Oxfordshire. The survey was carried out during October 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). It was carried out in connection with MAFF's statutory input to the West Oxfordshire 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 agricultural land use on the site comprised a combination of permanent and rough grassland as well as two areas which had recently been ploughed. Areas mapped as 'Other Land' include housing, agricultural and industrial buildings, an abandoned nursery and an overgrown disused quarry.

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	3.6	31.0	27.3
3b	7.4	63.8	56.1
4	0.6	5.2	4.5
Other land	1.6	-	12.1
Total surveyed area	11.6	100	87.9
Total site area	13.2	-	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. In total, 16 borings and 2 soil pits were described.

8. The agricultural land on this site has been classified in the range Subgrade 3a (good quality) to Grade 4 (poor quality) with substantial areas of Subgrade 3b (moderate quality) land. The principal limitations to land quality include soil droughtiness and gradient. Soil depth is also a consideration in some areas but it is not an overriding limitation to land quality.

9. The Subgrade 3a quality land is located in the east of the site. The soils in this area comprise slightly stony clay loam topsoils and subsoils which often become impenetrable due to the presence of weathered or hard limestone at moderate depths in the profile. In the local climate this combination of soil properties restricts the amount of water available to plants to the extent that Subgrade 3a is appropriate on the basis of soil droughtiness. This limitation is likely to adversely affect the consistency of crop yields, especially if conditions are dry.

10. The areas shown as Subgrade 3b are concentrated in the north, west and south of the area surveyed. The principal limitation here is soil droughtiness, in part caused by a restricted soil depth over limestone. The soils are similar to those described previously but are shallower and stonier. These factors cause the water holding capacity of the soil to be reduced to the extent that, in the local climate, Subgrade 3b is appropriate. As a result, crop yields and the consistency of these yields are likely to be adversely affected to a significant degree.

11. The area mapped as Subgrade 3b and Grade 4 to the south of the site has been affected by quarrying. This has left much of this area with a shallow soil resource overlying solid limestone. In addition, the margins of this land contain areas where gradient has a significant effect on land quality. The gradients measured are sufficient to restrict the safe and efficient use of certain types of farm machinery, further restricting potential cropping in this area.

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	SP 363 201	SP 365 198	SP 366 201
Altitude	m, AOD	135	140	145
Accumulated Temperature	day°C (Jan-June)	1357	1351	1345
Average Annual Rainfall	mm	743	745	743
Field Capacity Days	days	164	164	164
Moisture Deficit, Wheat	mm	92	92	91
Moisture Deficit, Potatoes	mm	81	80	79
Overall climatic grade	N/A	Grade 1	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 are not believed to 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.

Site

17. The site lies at altitudes in the range 135-145m AOD. The highest land occurs in the north-east of the site. The lowest land is located to the north-west of the site. The slopes across the majority of the site are slight. However, landforms towards the south of the survey area have been affected by quarrying. As a consequence many of the slopes in this area are moderate and severe and as such they cause land quality to be adversely affected so that Grade 4 and Subgrade 3b are the best possible classifications.

Geology and soils

18. The most detailed published geological information for the site (BGS, 1968) shows the entire site to be underlain by Jurassic Great Oolite Limestone.

19. According to the most detailed published information available for this area (SSEW, 1983) this site is underlain by two soil types; the Elmton 1 and Sherborne associations. Elmton 1 soils are mapped towards the west of the site and are described as, 'Shallow well drained brashy calcareous fine loamy soils over limestone. Some similar deeper soils and some non-calcareous and calcareous clayey soils' (SSEW, 1983). Sherborne soils are mapped as occurring towards the east of the site and are described as, 'Shallow, well drained brashy calcareous clayey soils over limestone, associated with slowly permeable calcareous clayey soils' (SSEW, 1983). The soils encountered across were more similar overall to the description of Elmton 1 soils as opposed to the Sherborne type as, although clay was encountered in the subsoil, it was not found to be slowly permeable.

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 on 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 has been mapped in the east of the site. The soils in this area are typified by soil pit 1P (see Appendix II). All the profiles observed were well drained (Wetness Class I) and calcareous. They typically comprise a medium or heavy clay loam topsoil passing to several similar, and slightly heavier (clay), subsoil horizons. The subsoils were often impenetrable to the soil auger between 50 and 100cm. The pit observation (1P) shows that the horizon which is impenetrable to the soil auger is a further variant of the previous subsoils which then overlies weathered limestone at 82cm. Plant roots were observed to penetrate to at least this depth. Stone contents in the topsoils and subsoils were typically slight to moderate with between 5 and 30% being recorded as a combination of hard and soft limestone brash. These totals include up to 3% >2cm in the topsoil. The overall result is that these soils, in the local climate, are limited by soil droughtiness as the combination of soil texture and stone content restricts the availability of water to plants to a moderate degree. Moderate soil droughtiness is likely to restrict crop yields and the consistency of those yields is likely to be variable, especially if dry conditions prevail during the growing season. Occasional observations within this unit were either of, or had the potential to be slightly better quality, but these were both too few in number and too scattered to be mapped separately.

Subgrade 3b

23. The majority of the agricultural land within this survey area has been classified as being of moderate quality. Land quality is principally restricted by soil droughtiness and/or gradient limitations. Soil pit 2P (see Appendix II) is typical of the observations in this area, especially those towards the north of the site.

24. Soils towards the north comprise a heavy, occasionally medium, clay loam topsoil overlying a similar or heavier subsoil (clay) passing to solid limestone at shallow depths (20-55cm). The profiles are calcareous throughout and well drained (Wetness Class I). Stone contents throughout the profiles in this unit were commonly slight to moderate with 5–20% (including up to 5% > 2cm) limestone brash in the topsoil, increasing to a maximum of 50% in the subsoil immediately prior to becoming impenetrable to the soil auger and/or spade. Roots were observed to penetrate into the solid limestone for approximately 15cm. The shallow clayey soil resource and the stone content of these horizons combine with the local climate to adversely affect the amount of moisture available to crops, to the extent that Subgrade 3b is appropriate for this land. This reduction in available water will reduce potential crop yields and also influence the consistency of those yields, especially in drier years.

25. In the south of the survey area some of the land classified as Subgrade 3b has been disturbed by quarry working. In this area, the soils are essentially similar to those described above except that the uppermost clay loam horizon is very shallow, typically 5–8cm. This may affect the nutrient holding capacity of the soil and, if ploughed, the subsoil would be incorporated into this layer. Over part of this area, gradient has a bearing on the classification. Some slopes were measured in the range 7–11°. This is sufficient to restrict the safe passage of some farm machinery across this land which, in turn, restricts the capability of the land to produce certain crops.

Grade 4

26. Further to paragraph 25, some of the land along the margins of the quarried land contained slopes whose gradients were measured in the range 11–15°. This is sufficient to severely restrict the farm machinery capable of working safely and efficiently in these areas. Therefore Grade 4 is the most appropriate classification for this land.

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SOURCES OF REFERENCE

British Geological Survey (1982) *Sheet No. 218 Chipping Norton*
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) *Sheet 6 Soils of South East England.*
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in South East England*
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:

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
1	SP36462016	RGR	N	3			1	2	50	-42	50	-30	3B				DR	3B	IMP 30 LSTONE
2	SP36302010	RGR	NW	3			1	2	33	-59	33	-47	4			Y	DR	3B	IMP 20 LSTONE
3	SP36432008	PGR			85		1	2	110	18	104	24	2			Y	DR	2	IMP 100 LSTONE
4	SP36502010	PLO					1	2	43	-49	43	-37	3B				DR	3B	IMP 30 LSTONE
5	SP36602010	PLO					1	2	51	-41	51	-29	3B				DR	3B	IMP 30 PIT2LOC
6	SP36532003	PGR					1	2	71	-21	71	-9	3B				DR	3A	IMP 50 LSTONE
7	SP36602000	PLO					1	2	133	41	105	25	1				WK	2	
8	SP36431982	PGR					1	2	65	-27	65	-15	3B				DR	3B	IMP 45 LSTONE
9	SP36501990	PGR					1	1	95	3	110	30	3A			Y	DR	3A	IMP 70 DIST
10	SP36601990	PLO					1	2	93	1	102	22	3A				DR	3A	IMP 65 PIT1LOC
11	SP36401980	RGR					1	1	48	-44	48	-32	3B			Y	DR	3B	IMP 33 LSTONE
12	SP36481980	RGR					1	1	44	-48	44	-36	3B			Y	DR	3B	IMP 35 LSTONE
13	SP36561980	RGR					1	1	44	-48	44	-36	3B			Y	DR	3B	IMP 35 TSDEPTH
14	SP36652016	PLO	W	1			1	2	39	-53	39	-41	4				DR	3B	IMP 25 LSTONE
15	SP36242008	PGR					1	2	65	-27	67	-13	3B				DR	3B	IMP 55 LSTONE
16	SP36302003	RGR	NW	1			1	2	29	-63	29	-51	4				DR	3B	IMP 20 LSTONE
1P	SP36601990	PLO					1	2	96	4	102	22	3A				DR	3A	IMP82 GRAD2DR?
2P	SP36602010	PLO					1	2	48	-44	48	-32	3B				DR	3B	IMP 30 PIT 46

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
1	0-20	HCL	10YR42						0	0	HR	5						Y	
	20-30	C	10YR56						0	0	HR	5		M				Y	IMP 30 LSTONE
2	0-20	HCL	10YR43						0	0	HR	10						Y	IMP 20 LSTONE
3	0-20	HCL	10YR42						0	0	SLST	5							
	20-50	C	10YR44						0	0	SLST	10		M				Y	+5% SLST
	50-60	C	25Y 54						0	0	HR	15		M				Y	+5% SLST
	60-85	C	05Y 63	10YR58	F	D			0	0	SLST	5		M				Y	
	85-100	C	25Y 64	10YR68	C	D		Y	0	0	HR	20		M				Y	+30%SLST IMP 100
4	0-28	HCL	10YR43						8	4	HR	20						Y	
	28-30	HCL	10YR46						0	0	HR	50		M				Y	IMP 30 LSTONE
5	0-30	HCL	10YR52						0	0	HR	5						Y	2P LOCATION
6	0-25	HCL	10YR42						0	0	HR	10						Y	
	25-50	C	10YR56 66						0	0	HR	10		M				Y	+20%SLST IMP 100
7	0-35	HCL	10YR53						0	0	SLST	10						Y	+2% LSTONE
	35-50	HCL	10YR66						0	0	SLST	20		M				Y	+5% LSTONE
	50-67	HCL	10YR66						0	0	SLST	10		M				Y	+2% LSTONE
	67-100	MCL	10YR76						0	0	SLST	10		M				Y	+2% LSTONE
	100-110	HCL	10YR66						0	0	SLST	10		M				Y	+2% LSTONE
	110-120	SLST	25Y 71						0	0		0		M				Y	
8	0-22	HCL	10YR43						1	0	HR	5						Y	
	22-45	C	10YR56						0	0	SLST	10		M				Y	+30% HR IMP 45
9	0-25	MCL	10YR42						0	0	HR	5						Y	
	25-48	C	25Y 66						0	0	SLST	3		M				Y	+5% LSTONE
	48-70	C	10YR56						0	0	SLST	3		M				Y	+5% LSTONE IMP70
10	0-26	HCL	10YR53						3	1	SLST	2						Y	+10% HR 1P LOC
	26-40	HCL	10YR64						0	0	SLST	2		M				Y	+2% LSTONE
	40-65	MCL	25Y 74						0	0	SLST	2		M				Y	+2% LSTONE IMP65
11	0-10	MCL	10YR54 44						2	2	HR	10						Y	
	10-25	MCL	75YR44 43						0	0	HR	8		M				Y	
	25-33	MCL	10YR44						0	0	HR	20		M				Y	5% SLST IMP 33
12	0-8	MCL	10YR42 43						2	0	HR	10						Y	DISTURBED
	8-35	HCL	10YR44 46						0	0	HR	25		M				Y	+15% SLST IMP 35
13	0-5	MCL	10YR43						2	0	HR	10						Y	DISTURBED
	5-35	HCL	10YR44 46						0	0	HR	20		M				Y	+10% SLST IMP 35
14	0-25	HCL	10YR43						5	0	HR	15						Y	IMP 25 LSTONE

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
15	0-22	HCL	10YR43						3	0	HR	20						Y	
	22-55	HCL	10YR64						0	0	HR	10		M				Y	+30% SLST IMP 55
16	0-22	HCL	10YR43						5	0	HR	20						Y	IMP 22 LSTONE
1P	0-26	HCL	10YR43						0	0	HR	8						Y	PIT AT BORING 10
	26-34	C	10YR44 46						20	18	HR	30		M				Y	FLAGGY LSTONE
	34-56	C	10YR66						0	0	HR	2	MDCSAB	FR M	N			Y	+10% SLST
	56-75	C	25Y 63	10YR58	C	D			0	0	HR	5	WKCSAB	FR M	N			Y	GRITTY +25% SLST
	75-82	C	25Y 63						0	0	HR	20		M				Y	+10%SLST IMP 82
2P	0-24	HCL	10YR43						2	0	HR	8						Y	PIT AT BORING 5
	24-30	C	10YR46						0	0	HR	30		M				Y	+10% SLST
	30-46	HR							0	0		0		P				Y	PIT IMP46 LSTONE