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Horsham District Local Plan
Land North of Rock Road
Thakeham
Agricultural Land Classification
ALC Map and Report
March 1995

AGRICULTURAL LAND CLASSIFICATION REPORT

HORSHAM DISTRICT LOCAL PLAN
LAND NORTH OF ROCK ROAD, THAKEHAM

1. Summary

1.1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality for a number of sites in the Horsham district of West Sussex. This forms part of MAFF's input to the preparation of the Horsham District Local Plan.

1.2 Approximately 5 hectares of land to the north of Rock Road in Thakeham, West Sussex, was surveyed during March 1995. The Agricultural Land Classification (ALC) survey was undertaken at a detailed level of approximately one boring per hectare. A total of 7 auger borings were assessed in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on its use for agriculture.

1.3 The work was carried out by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.

1.4 At the time of the survey the agricultural land on this site was under permanent pasture, field beans and maize stubble. The woodland, at the southern end of the site, comprises a small copse while the farm buildings and urban structures include a barn and building foundations.

1.5 The distribution of grades and subgrades is shown on the attached ALC map and the areas are given in Table 1 below. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement would be misleading.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% of Agricultural Land
3a	2.8	63.6	65.1
3b	1.2	27.3	27.9
4	0.3	6.8	7.0
Woodland	<0.1	1.2	100%(4.3 ha)
Farm Buildings	<0.1	0.8	
Urban	<0.1	0.3	
Total area of site	4.4	100%	

1.6 Appendix I gives a general description of the grades, subgrades and land use categories identified in the survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

1.7 The majority of the site has been classified as good quality, Subgrade 3a, the key limitation being soil wetness. In the north west and south west corners of the site poorly drained land has been assigned to moderate quality, Subgrade 3b, while a narrow strip of saturated land, adjacent to the drain at the northern end of the site, has been assessed as poor quality, Grade 4.

The soils are derived from the Lower Greensand and as such comprise very slightly stony fine sandy over clayey horizons. Drainage impedance is more significant in the heavier subsoils, therefore, profiles with clay at shallow depths represent the poorer quality land.

2. Climate

2.1 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.

2.2 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall, as a measure of overall wetness, and accumulated temperature (day degrees Celsius, Jan-June), as a measure of the relative warmth of a locality.

2.3 A detailed assessment of the prevailing climate was made by interpolation from a 5km gridpoint dataset (Met. Office, 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site. However, climatic factors do interact with soil properties to influence soil wetness and droughtiness limitations. At this locality the relatively high average annual rainfall (in regional terms) and correspondingly high field capacity days increase the likelihood of soil wetness.

2.4 No local climatic factors such as exposure or frost risk are believed to affect the site.

Table 2 : Climatic Interpolations

Grid Reference	TQ 102 153	TQ 103 151
Altitude (m)	45	50
Accumulated Temperature (day degrees, Jan-June)	1488	1482
Average Annual Rainfall (mm)	881	883
Field Capacity (days)	185	185
Moisture Deficit, Wheat (mm)	103	103
Moisture Deficit, Potatoes (mm)	96	95
Overall Climatic Grade	1	1

3 Relief

3.1 The land on this site slopes gently from 50m AOD in the south east to 45m AOD in a small valley towards the north west. Nowhere on the site do altitude or relief impose limitations to agricultural land quality.

4. Geology and Soil

4.1 The British Geological Survey (1984), sheet 318/333, Brighton & Worthing (Solid & Drift Edition, 1:50,000 scale), shows the majority of the site to be underlain by the Sandgate Beds of the Lower Greensand (solid). Drift deposits, shown as head, are mapped across the north of the site in association with the valley feature.

4.2 The Soil Survey of England and Wales (1983) maps the Fyfield 1 soil association across the entire site. These soils are described as 'well drained coarse and fine loamy soils over interbedded sands and sandstone. Similar fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging. Slight risk of water erosion.' (SSEW, 1983).

4.3 Detailed field examination broadly confirmed the existence of soils similar to those described in paragraph 4.2., however, these soils generally show signs of moderate to severe seasonal waterlogging.

5. Agricultural Land Classification

5.1 Table 1 provides the details of the area measurements for each grade and the distribution of each grade is shown on the attached ALC map.

5.2 The location of the soil observation points are shown on the attached sample point map.

5.3 **Subgrade 3a**

The majority of the site has been classified as good quality, Subgrade 3a, land comprising imperfectly drained profiles with fine sandy silt loam topsoils over similar or slightly heavier upper subsoils passing to sandy clay loams and clays. The profiles generally contain a few stones (1-2% > 2cm and 1-10% total stone by volume), however, occasionally the stone content increases to 35% by volume in the lower subsoil. This flinty horizon does not significantly affect soil droughtiness as it is not impenetrable to plant roots therefore profile available water for crops may still be extracted from below this depth. Soil inspection Pit 1 (on adjacent land) revealed the heavy clay loam and some heavier sandy clay loam lower subsoils (from 53 cm depth) to be slowly permeable and therefore impede drainage, as indicated by the gleyed horizons above. Imperfectly drained soils can inhibit plant and root development as well as influence the sensitivity of the soil to structural damage through trafficking by agricultural machinery and poaching by grazing livestock, thereby reducing the opportunities for mechanical operations and grazing. This land has been assigned to Wetness Class III, Subgrade 3a, on the basis of a moderate soil wetness limitation.

5.4 **Subgrade 3b**

Areas to the north west and south west of the site have been classified as moderate quality, Subgrade 3b. The soils are similar in texture to those described in paragraph 5.3, however the poorly structured, slowly permeable, clayey subsoils occur higher in the profile (35-48 cm from the surface). Pit 2 on adjacent land is typical of these soils. In this relatively wet climatic regime (in regional terms) poorly drained soils, such as these, can result in significant soil wetness limitations and have been assigned to wetness Class IV, Subgrade 3b.

5.5 Grade 4

Within the small valley feature to the north of the site hydrophilic vegetation such as Juncus spp. is prevalent suggesting that this land is saturated for much of the year. The area is low lying and acts as a water receiving area which cannot be adequately drained therefore it is considered that this part of the site should not be classed any higher than Wetness Class V, Grade 4.

ADAS Ref: 4205/38/95
MAFF Ref: EL42/130

Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1984), Sheet No. 318/333, Brighton & Worthing, 1:50,000 Scale (solid & drift edition).

MAFF (1988), Agricultural Land Classification of England and Wales : Revised guidelines and criteria for grading the quality of agricultural land.

Meteorological Office (1989), Climatological Data for Agricultural Land Classification.

Soil Survey of England and Wales (1983), Sheet 6, Soils of South East England, and accompanying legend.

APPENDIX I

DESCRIPTION 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 (eg. 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.

Urban

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religous buildings, cemetries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture, including: private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Woodland

Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm woodland.

Agricultural Buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg. polythene tunnels erected for lambing) may be ignored.

Open Water

Includes lakes, ponds and rivers as map scale permits.

Land Not Surveyed

Agricultural land which has not been surveyed.

Where the land use includes more than one of the above, eg. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will be shown.

APPENDIX II

FIELD ASSESSMENT OF SOIL WETNESS CLASS

SOIL WETNESS CLASSIFICATION

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

Definition of Soil Wetness Classes

Wetness Class	Duration of Waterlogging[1]
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years.[2]
II	The soil profile is wet within 70 cm depth for 31-90 days in most years **or**, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but only wet within 40 cm depth for 30 days in most years.
III	The soil profile is wet within 70 cm depth for 91-180 days in most years **or**, if there is no slowly permeable layer present within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31-90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years **or**, if there is no slowly permeable layer present within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

Soils can be allocated to a wetness class on the basis of quantitative data recorded over a period of many years or by the interpretation of soil profile characteristics, site and climatic factors. Adequate quantitative data will rarely be available for ALC surveys and therefore the interpretative method of field assessment is used to identify soil wetness class in the field. The method adopted here is common to ADAS and the SSLRC.

[1]The number of days specified is not necessarily a continuous period.
[2]'In most years' is defined as more than 10 out of 20 years.

APPENDIX III

SOIL PIT AND SOIL BORING DESCRIPTIONS

Contents :

SOIL PROFILE DESCRIPTIONS : EXPLANATORY NOTE

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

Boring Header Information

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

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

ARA :	Arable	**WHT** :	Wheat	**BAR** :	Barley
CER :	Cereals	**OAT** :	Oats	**MZE** :	Maize
OSR :	Oilseed rape	**BEN** :	Field Beans	**BRA** :	Brassicae
POT :	Potatoes	**SBT** :	Sugar Beet	**FCD** :	Fodder Crops
LIN :	Linseed	**FRT** :	Soft and Top Fruit	**FLW** :	Fallow
PGR :	Permanent Pasture	**LEY** :	Ley Grass	**RGR** :	Rough Grazing
SCR :	Scrub	**CFW** :	Coniferous Woodland	**DCW** :	Deciduous Wood
HTH :	Heathland	**BOG** :	Bog or Marsh	**FLW** :	Fallow
PLO :	Ploughed	**SAS** :	Set aside	**OTH** :	Other
HRT :	Horticultural Crops				

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

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

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

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

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

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

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

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

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

Soil Pits and Auger Borings

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

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

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

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

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

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

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

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

4. **MOTTLE CONT** : Mottle contrast

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SOIL PIT DESCRIPTION

Site Name : HORSHAM DLP ROCK RD ORIG Pit Number : 1P

Grid Reference: TQ10401560 Average Annual Rainfall : 881 mm
Accumulated Temperature : 1488 degree days
Field Capacity Level : 185 days
Land Use : Field Beans
Slope and Aspect : 01 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	FSL	10YR42 00	2	6	FSST	F				
28- 53	HCL	10YR53 00	0	10	FSST	C	MDCSAB	FR	M	
53- 70	HCL	10YR53 00	0	20	FSST	M	WKCSAB	FR	M	
70- 85	SCL	25Y 64 00	0	35	FSST	C	MDCAB	FR	M	
85-120	SCL	25Y 73 00	0	45	FSST	C			M	

Wetness Grade : 3A Wetness Class : III
Gleying :028 cm
SPL :053 cm

Drought Grade : 1 APW : 134mm MBW : 31 mm
APP : 109mm MBP : 13 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : HORSHAM DLP ROCK RD ORIG Pit Number : 2P

Grid Reference: TQ10201540 Average Annual Rainfall : 881 mm
Accumulated Temperature : 1488 degree days
Field Capacity Level : 185 days
Land Use : Permanent Grass
Slope and Aspect : 01 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	FSZL	10YR41 00	1	3	HR	M				
28- 40	SCL	10YR53 00	0	2	HR	M	MDCSAB	FR	M	
40- 56	C	05Y 52 00	0	2	HR	M	MDCAB	FR	M	
56- 78	SCL	25Y 53 00	0	0		C	MDCPL	FR	P	
78- 95	C	05Y 52 00	0	1	HR	M	MASSVE	FM	P	

Wetness Grade : 3B Wetness Class : IV
Gleying : 0 cm
SPL :040 cm

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

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SAMPLE NO	GRID REF	ASPECT USE		GRDNT	--WETNESS-- GLEY	SPL	CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
	TQ10111533	PGR	S	01	055	055	3	3A		0		0					WE	3A	SPL 55
	TQ10101527	PGR	S		0	048	4	3B		0		0					WE	3B	SPL 48
3	TQ10201527	STB	N	01	058	065	3	3A	146	43	122	26	1				WE	3A	SPL 65
4	TQ10311530	STB	N	01	030	076	3	3A		0		0					WE	3A	SPL 76
	TQ10301520	STB	N	01	030	075	3	3A	137	34	112	16	1				WE	3A	SPL 75
6	TQ10361515	BEN	N	01	030	098	2	2	163	60	131	35	1				WE	2	SPL 98
	TQ10171505	BEN	W	01	028	038	4	3B		0		0					WE	3B	SPL 38

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	
1	0-28	fszl	10YR42 00	75YR46 00	F				0	0	HR	1							Root mottles
	28-55	scl	10YR53 00						0	0	HR	1		M					
	55-66	scl	25Y 53 00	10YR58 00	C			Y	0	0	HR	1		P	Y		Y		High C content
	66-90	c	25Y 62 00	75YR58 00	M			Y	0	0	HR	1		P	Y		Y		
2	0-28	fszl	10YR32 00	75YR46 00	C			Y	0	0	HR	1							
	28-38	fszl	10YR32 00	10YR58 51	C			Y	0	0	HR	1		M					
	38-48	mcl	10YR52 00	75YR58 00	C			Y	0	0	HR	1		M					
	48-70	c	10YR52 00	75YR58 00	C			Y	0	0	HR	1		P	Y		Y		
3	0-30	mszl	10YR42 00						1	0	HR	2							
	30-58	scl	10YR53 00						0	0	HR	2		M					
	58-65	scl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M					
	65-88	c	10YR62 00	75YR58 00	M			Y	0	0	HR	5		P	Y		Y		
	88-120	c	25Y 62 00	10YR58 00	M			Y	0	0	HR	1		P	Y		Y		
4	0-30	mszl	10YR32 00						2	0	HR	5							
	30-60	scl	10YR42 00	75YR58 00	C			Y	0	0	HR	10		M					
	60-68	scl	25Y 63 00	10YR58 00	C			Y	0	0	HR	5		M					Very sandy
	68-76	scl	25Y 53 00	10YR58 00	C			Y	0	0	HR	5		M					Very wet
	76-100	c	05Y 53 00	75YR58 00	M			Y	0	0	HR	1		P	Y		Y		
5	0-30	fszl	10YR32 00						1	0	HR	3							
	30-40	fsl	10YR42 00	10YR58 00	C			Y	0	0	HR	5		M					
	40-75	scl	10YR53 00	10YR58 00	C			Y	0	0	HR	35		M					Very wet
	75-120	c	05Y 53 00	75YR58 00	M			Y	0	0	HR	10		P	Y		Y		
6	0-30	fszl	10YR32 00						1	0	HR	2							
	30-58	fsl	10YR32 00	75YR46 00	C			Y	0	0	HR	2		M					
	58-98	scl	10YR53 00	75YR46 00	C			Y	0	0	HR	5		M					Very wet
	98-120	c	05Y 53 00	75YR56 00	M			Y	0	0	HR	5		P	Y		Y		
7	0-28	fszl	10YR32 00						0	0	HR	1							
	28-38	fsl	75YR72 00	75YR58 00	C			Y	0	0	HR	1		M					
	38-80	c	10YR62 00	75YR58 00	C			Y	0	0	HR	1		P	Y		Y		