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East Hampshire Local Plan
Site 1092, Lowsley Farm, Liphook
Agricultural Land Classification
ALC Map and Report
February 1994

AGRICULTURAL LAND CLASSIFICATION REPORT

EAST HAMPSHIRE LOCAL PLAN
SITE 1092, LOWSLEY FARM, LIPHOOK

1. Summary

1.1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality for a number of objector sites in connection with the preparation of the East Hampshire Local Plan.

1.2 Approximately 16 hectares of land north of Lowsley Farm on the western edge of Liphook was surveyed in February, 1995. The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 15 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 a long term limitation on its use for agriculture. In addition, information from adjacent surveys (ADAS reference numbers 1502/228 & 234/94 and 1502/10/95) was used to assist in the grading of the land.

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 survey, the agricultural land use was cereals. The Urban area shown includes gardens and redundant buildings. The Non-agricultural area is an unmanaged area where scrub is invading.

1.5 The distribution of grades and subgrades is shown on the attached ALC map and the areas and extent are given in the table 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. This map supersedes any previous survey information for this site.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% of Agricultural Land
2	1.4	9.0	9.3
3a	5.8	37.2	38.7
3b	7.8	50.0	52.0
Non-agricultural land	0.1	0.6	100% (15.0 ha)
Urban	0.5	3.2	
Total area of site	15.6 ha	100%	

1.6 A general description of the grades, subgrades and land use categories is provided in Appendix I. 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 land quality on the site is mostly Subgrade 3b, moderate quality, with smaller areas of Subgrade 3a, good quality, and Grade 2, very good quality. Soil wetness is the key limiting factor on the site, related to the presence of poorly structured clay subsoils. Those soils with shallow clay layers that cause a significant obstruction to the drainage are placed in Subgrade 3b. Where the clays occur deeper, the wetness limitation is less severe, placing these soils in Subgrade 3a. Soils across the Grade 2 land experience only a slight wetness limitation; there is some evidence of seasonal waterlogging, but the soils are generally free of poorly structured clay subsoils.

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. Estimates of climatic variables relevant to the assessment of agricultural land quality were obtained by interpolation from a 5km grid point dataset (Met. Office, 1989) for representative locations in the survey area.

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, as a measure of the relative warmth of a locality. The combination of rainfall and temperature at this site mean that there is no overall climatic limitation. No local climatic factors such as exposure or frost risk affect the site. The site is climatically Grade 1.

2.3 The prevailing climate interacts with the soil characteristics to affect the workability of the soils. The site is relatively moist, leading to an enhanced risk of soil wetness and workability limitations.

Table 2 : Climatic Interpolations

Grid Reference	SU 835 322	SU 833 321	SU 829 320
Altitude (m)	110	100	90
Accumulated Temperature (degree days, Jan-June)	1413	1424	1436
Average Annual Rainfall (mm)	885	881	875
Field Capacity (days)	194	193	193
Moisture Deficit, Wheat (mm)	97	98	99
Moisture Deficit, Potatoes (mm)	87	88	90
Overall Climatic Grade	1	1	1

3. Relief

3.1 The site occupies gently sloping land which falls from 110 metres in the north-east to 90 metres in the south-west. Nowhere on the site do gradient or microrelief become limiting to agricultural land quality.

4. Geology and Soil

4.1 The published geology map for the site area (BGS, 1981) shows the majority of the land to be underlain by Bargate Beds, with Sandgate Beds to the west.

4.2 The published soils information for the area (SSEW, 1983) shows the site to comprise the Frilford and Shirrell Heath 1 association soils. Both of these associations are generally sandy soils, though the Shirrell Heath 1 soils may contain slowly permeable subsoils.

5. Agricultural Land Classification

5.1 The ALC classification of the site is shown on the attached ALC map.

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

Grade 2

5.3 A small area of this grade has been mapped in the central section, west of the Lowsley Farm buildings. This unit ties in with Grade 2 land found on adjacent surveys (see ADAS reference numbers 1502/228/93 and 1502/234/93). The soils within the mapping unit are deep sandy soils (sandy loams over sandy silt loams) which show evidence of shallow gleying. At the time of surveying (February) the profiles were quite wet from 65 cm and have been placed conservatively in Wetness Class II. Soils on adjacent Grade 2 land are also placed in this wetness class due to the presence of deep slowly permeable layers. There is clearly some variation in the wetness characteristics of these Grade 2 soils, some with slowly permeable layers at depth, some that only show gleying. In either case, Wetness Class II is considered as the appropriate wetness class.

5.4 This slight wetness limitation will reduce the number of days when the land is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock.

Subgrade 3a

5.5 Three areas of this grade have been mapped on the site. The dominant grade across the site is actually Subgrade 3b, and this better land represents areas where the soil wetness limitation is less severe.

5.6 The wetness limitation is caused by the presence of poorly structured clay subsoils that obstruct the drainage and cause waterlogging within and above. No soil pit has been described on the site as the soils are similar to the Subgrade 3a land described in 1502/234/93. The soil pit described during the previous survey identified sandy clay lower subsoils that are slowly permeable, exhibiting platy structures. These soils are placed in Wetness Class III. Despite the presence of light topsoil textures (fine sandy silt loams and fine sandy loams), given the poor wetness class and the prevailing field capacity level (193 days), this land cannot be classed higher than Subgrade 3a.

5.7 This moderate wetness limitation will restrict the range of crops that can tolerate such conditions and reduce the flexibility of the land in terms of the numbers of days when it can be worked or grazed without causing damage.

Subgrade 3b

5.8 This is the predominant grade on the site, with soil wetness as the key limiting factor. The wetness here is a degree worse than that experienced on similar soils in the Subgrade 3a land. The soils are placed in Wetness Class IV; gleying occurs within 40 cm and slowly permeable layers occur within 50 cm. At auger sample point 11, a sample of the subsoil was excavated by spade and described as massive, tending to coarse platy in structure.

5.9 During the survey, the topsoils on the Subgrade 3a and 3b land were saturated. There was poor drainage into the heavy subsoils beneath, made worse by compaction. Once the auger penetrated the subsoil the auger hole immediately filled up with water. An attempt at digging into the subsoil at ASP 4 was abandoned due to this wetness.

5.10 The shallow occurrence of poorly structured subsoils will significantly restrict the drainage such that there is likely to be prolonged seasonal waterlogging across this land (both on the surface and in the profile). Such soil wetness will adversely affect seed germination and survival and can inhibit the development of a good root system. It also restricts the opportunities for cultivation, trafficking or grazing.

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, religious buildings, cemeteries. 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 Abbreviations - Explanatory Note

Soil Pit Descriptions

Database Printout - Boring Level Information

Database Printout - Horizon Level Information

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

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	su835 323	ARA			060	060	3	3A	134	36	129	41	1				WE	3A	
3	su833 322	ARA			025	035	4	3B	094	-4	097	9	3A				WE	3B	
4	su834 322	ARA			045	045	3	3A	119	21	129	41	2				WE	3A	
5	su835 322	ARA			038	048	4	3B	000	0	000	0					WE	3B	
6	su836 322	ARA			058	065	3	3A	111	13	113	25	2				WE	3A	
7	su830 321	ARA			035	058	3	3A	105	7	110	22	2				WE	3A	
8	su831 321	ARA			025	035	4	3B	106	8	116	28	2				WE	3B	
9	su832 321	ARA			035		2	2	192	94	128	40	1				WE	2	WET65QWC
11	su83353215	ARA			030	045	4	3B	110	12	120	32	2				WE	3B	Small pit
12	su835 321	ARA	SW	04	050	060	3	3A	121	23	128	40	2				WE	3A	3b map unit
13	su836 321	ARA			025	040	4	3B	089	-9	095	7	3A				WE	3B	
14	su829 320	ARA			020	038	4	3B	090	-8	099	11	3A				WE	3B	
15	su830 320	ARA			042	055	3	3A	099	1	107	19	3A				WE	3A	sl gley 20
16	su831 320	ARA			055	055	3	3A	107	9	111	23	2				WE	3A	
18	su83503215	ARA			028	040	4	3B	115	17	125	37	2				WE	3B	

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	0-30	fsl	10YR43 00						0	0	HR	1						
	30-60	fszl	10YR53 00						0	0		0		M				
	60-90	sc	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	
3	0-25	fszl	10YR42 00						0	0		0						
	25-35	hcl	10YR53 00	000C00	00	C		Y	0	0		0		M				
	35-55	c	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	
4	0-28	fszl	10YR42 00						0	0	HR	1						
	28-45	fszl	10YR43 00						0	0		0		M				
	45-70	sc	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	
5	0-28	fszl	10YR42 00						0	0	HR	1						
	28-38	scl	10YR53 00						0	0		0		M				
	38-48	sc	25Y 63 00	000C00	00	M		Y	0	0		0		M				
	48-70	sc	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	
6	0-30	fsl	10YR43 00						0	0	HR	1						
	30-58	scl	10YR43 00						0	0		0		M				
	58-65	c	25Y 63 00	000C00	00	M		Y	0	0		0		M				
	65-85	c	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	
7	0-25	fsl	10YR42 00						0	0	HR	1						
	25-35	scl	10YR53 00						0	0		0		M				
	35-58	scl	10YR53 00	000C00	00	M		Y	0	0		0		M				
	58-80	c	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	
8	0-25	fszl	10YR42 00						0	0	HR	1						
	25-35	hcl	10YR53 00	000C00	00	C		Y	0	0		0		M				
	35-70	sc	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	
9	0-35	fsl	10YR43 00						0	0		0						
	35-65	fsl	10YR53 00	000C00	00	C		Y	0	0		0		M				
	65-120	fszl	10YR53 00	000C00	00	C		Y	0	0		0		M				
11	0-30	fszl	10YR42 00						0	0	HR	2						
	30-45	scl	10YR53 00	000C00	00	C		Y	0	0		0		M				
	45-70	sc	25Y 63 00	000C00	00	M		Y	0	0		0	MASSIV	P	Y		Y	
12	0-32	fszl	10YR43 00						0	0	HR	1						
	32-50	mcl	10YR54 00						0	0		0		M				
	50-60	c	25Y 63 00	000C00	00	C		Y	0	0		0		M				
	60-80	c	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	
13	0-25	fsl	10YR42 00						0	0	HR	1						
	25-40	hcl	25Y 63 00	000C00	00	C		Y	0	0		0		M				
	40-60	c	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	

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	fsl	10YR42 00						0	0	HR	2						
	20-38	hcl	10YR53 00	000C00	00	M		Y	0	0		0		M				
	38-65	c	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	
15	0-20	fsl	10YR42 00						0	0	HR	2						
	20-42	scl	10YR54 00	000C00	00	C		S	0	0		0		M				
	42-55	sc	10YR53 00	000C00	00	M		Y	0	0		0		M				
	55-75	c	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	
16	0-30	fsl	10YR42 00						0	0		0						
	30-55	scl	10YR54 00						0	0		0		M				
	55-80	c	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	
18	0-28	fszl	10YR42 00						0	0	HR	2						
	28-40	fszl	10YR53 00	000C00	00	C		Y	0	0		0		M				
	40-70	sc	25Y 63 00	000C00	00	M		Y	0	0		0		P	Y		Y	