

A1
New Forest District Local Plan -
Omission Site 30
Land East of Hightown Trading Estate,
Ringwood, Hampshire
Agricultural Land Classification
ALC Map and Report
November 1996



A1
New Forest District Local Plan -
Omission Site 30
Land East of Hightown Trading Estate,
Ringwood, Hampshire
Agricultural Land Classification
ALC Map and Report
November 1996

Resource Planning Team
Guildford Statutory Group
ADAS Reading

ADAS Reference 1508/156/96
MAFF Reference EL 15/00315
LUPU Commission 02768

AGRICULTURAL LAND CLASSIFICATION REPORT
NEW FOREST DISTRICT LOCAL PLAN
OMISSION SITE 30 LAND EAST OF HIGHTOWN TRADING ESTATE,
RINGWOOD

INTRODUCTION

1 This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 10.6 hectares of land between the Hightown Trading Estate and Crow Lane to the east of Ringwood in Hampshire. The survey was carried out during November 1996.

2 The survey was commissioned by the Ministry of Agriculture Fisheries and Food (MAFF) from its Land Use Planning Unit in Reading in connection with the New Forest District Local Plan. The results of this survey supersede a previous ALC survey (ADAS Ref 1508/026/82) carried out in 1982 prior to the revision of the ALC system (MAFF 1988).

3 The work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF 1988). A description of the ALC grades and subgrades is given in Appendix I.

4 At the time of survey the agricultural land towards the south of the site was permanent grassland with grazing horses. To the north of the site the land was in a grass ley. The area mapped as 'Other Land' towards the south of the site comprises a dwelling and garden.

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 below.

Table 1 Area of grades and other land

Grade/Other land	Area (hectares)	% site area	% surveyed area
2	10.5	99.1	100.0
Other Land	0.1	0.9	
Total surveyed area	10.5		100.0
Total site area	10.6	100.0	

7 The fieldwork was conducted at an average density of approximately 1 boring per hectare of agricultural land. A total of 11 borings and two soil pits were described.

8 The agricultural land at this site has been classified as Grade 2 (very good quality) on the basis of a soil droughtiness limitation.

9 The soils on the site were found to be of two types. Over the majority of the site they comprise slightly stony clay loam and medium sandy loam topsoils and upper subsoils overlying very stony sandy clay loams at moderate depth. The second soil type present on the site comprises slightly to moderately stony medium sandy loam and medium sandy silt loam topsoils and upper subsoils overlying very stony loamy medium sands at depth. In the local climate these soil textures and stone contents combine to cause a slight restriction in available water to plants leading to a Grade 2 classification being most appropriate.

FACTORS INFLUENCING ALC GRADE

Climate

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

11 The key climatic variables used for grading this site are given in Table 2 below and were obtained from the published 5km grid datasets using standard interpolation procedures (Met Office 1989).

12 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.

Table 2 Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SU 160 046
Altitude	m AOD	20
Accumulated Temperature	day°C	1543
Average Annual Rainfall	mm	849
Field Capacity Days	days	176
Moisture Deficit, Wheat	mm	109
Moisture Deficit, Potatoes	mm	104

13 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.

14 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 significantly affect the site. The site is climatically Grade 1.

Site

15 The site lies at an altitude of approximately 20m AOD. The land is flat overall and therefore there are no slopes of sufficient gradient to affect agricultural land quality.

Geology and soils

16 The published geological information for the area (BGS 1976) shows the entire site to be underlain by valley gravel drift deposits.

17 The most detailed published soils information for the area (SSEW 1983) shows the entire site to comprise soils of the Hucklesbrook Association. These are described as being well drained coarse loamy and some sandy soils commonly over gravel. Some similar permeable soils affected by groundwater usually on flat land (SSEW 1983). The soils encountered at the site were found to be similar to those described.

Agricultural Land Classification

18 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.

19 The location of the auger borings and pits is shown on the attached sample location map and details of the soils data are presented in Appendix III.

Grade 2

20 Land of very good quality extends across all of the agricultural land at this site. The principal limitation in this area is soil droughtiness.

21 The soils at this site were found to be of two main types. The most common extends over the north and east of the site. These were found to comprise a slightly stony (up to 8% v/v total flints including up to 3% > 2cm) medium clay loam or medium sandy loam topsoil. This passes to a similarly stony medium clay loam upper subsoil. The lower subsoil horizons show some variability. They are commonly of medium sandy loam, medium or heavy clay loam or sandy clay loam texture, occasionally gleyed and they contain up to 46% v/v total flints where penetrable in the pit observation 1P which is representative of this soil type. Where the horizons were stony they were impenetrable to the soil auger from between 75cm and 105cm.

22 The second soil type encountered was found towards the south and west of the site. The pit observation 2P is representative. The soils in this area comprise a slightly stony (up to 8% v/v total flints including up to 3% > 2cm) medium sandy loam topsoil. This passes to a similarly stony (up to 15% v/v total flints) medium sandy loam or medium sandy silt loam upper subsoil. The lower subsoil horizons are commonly very stony (up to 47% v/v total flints) as measured in the pit observation, 2P and are either medium sandy loam or loamy medium sand textures. These observations were commonly impenetrable to the soil auger between 85 and 110cm due to the flints in the profile.

23 The textures and subsoil stone content of the majority of the profiles examined cause the water retaining capability of the soil to be reduced to a level where given the local climatic factors Grade 2 is appropriate due to a soil droughtiness limitation which can affect plant growth and yield Occasional observations on this site were of a slightly worse quality but were of too few a number and too scattered a distribution to justify separate mapping

M Larkin
Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1976) *Sheet 314 Ringwood Drift Edition 1 50 000 Scale*
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

Meteorological Office (1989) *Climatological Data for Agricultural Land Classification*
Met Office Bracknell

Soil Survey of England and Wales (1983) *Soils of South East England 1 250 000 Scale*
SSEW Harpenden

Soil Survey of England and Wales (1984) *Soils of South East England Bulletin No 15*
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 WETNESS CLASSIFICATION

Definitions of Soil Wetness Classes

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.

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

Assessment of Wetness Class

Soils have been allocated to wetness classes by the interpretation of soil profile characteristics and climatic factors using the methodology described in *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land* (MAFF 1988).

¹ The number of days is not necessarily a continuous period

² In most years is defined as more than 10 out of 20 years

APPENDIX III

SOIL DATA

Contents

Sample location map

Soil abbreviations - Explanatory Note

Soil Pit Descriptions

Soil boring descriptions (boring and horizon levels)

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 **GLEYSPL** 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 **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 | 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
- | | | |
|------------------------------|-------------------------------|--------------------------------|
| <u>degree of development</u> | WK weakly developed | MD moderately developed |
| | ST strongly developed | |
| <u>ped size</u> | F fine | M medium |
| | C coarse | VC very coarse |
| <u>ped shape</u> | 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 | 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 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 |

SOIL PIT DESCRIPTION

Site Name NEW FOREST LP SITE 30 Pit Number 1P

Grid Reference SU16100460 Average Annual Rainfall 848 mm
 Accumulated Temperature 1545 degree days
 Field Capacity Level 176 days
 Land Use Permanent Grass
 Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 30	MCL	10YR42 52	3	6	HR					
30- 65	MCL	10YR43 00	0	3	HR		MDCSAB	FR	M	
65- 86	SCL	10YR64 00	0	40	HR	C		FR	M	
86-120	SCL	10YR53 00	0	46	HR	C		FR	M	

Wetness Grade 2 Wetness Class I
 Gleying 65 cm
 SPL cm

Drought Grade 2 APW 129mm MBW 19 mm
 APP 110mm MBP 6 mm

FINAL ALC GRADE 2
 MAIN LIMITATION Soil Wetness/Droughtiness

SOIL PIT DESCRIPTION

Site Name NEW FOREST LP SITE 30 Pit Number 2P

Grid Reference SU15900460 Average Annual Rainfall 848 mm
 Accumulated Temperature 1545 degree days
 Field Capacity Level 176 days
 Land Use Permanent Grass
 Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 26	MSL	10YR42 00	3	8	HR					
26- 55	MSL	10YR44 00	2	10	HR		MDCSAB	FR	M	
55- 75	MSL	10YR53 00	20	46	HR	C	WKCSAB	FR	G	
75-120	LMS	10YR54 00	0	47	HR				M	

Wetness Grade 1 Wetness Class I
 Gleying 55 cm
 SPL cm

Drought Grade 3A APW 105mm MBW 5 mm
 APP 95 mm MBP 9 mm

FINAL ALC GRADE 3A
 MAIN LIMITATION Droughtiness

SAMPLE NO	GRID REF	ASPECT USE	--WETNESS--		-WHEAT-		-POTS-		M REL		EROSN	FROST	CHEM	ALC	COMMENTS	
			GRDNT	GLEYSPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST		LIMIT
1	SU15900470	LEY			1	2	117	7	115	11	2			WD	2	IMP FLINTS 85
1P	SU16100460	LEY	65		1	2	129	19	110	6	2			WD	2	PIT 90 AUG 110
2	SU16000470	LEY	85		1	1	157	47	107	3	2			DR	2	
2P	SU15900460	LEY	55		1	1	105	-5	95	-9	3A			DR	3A	PIT 90 AUG 110
3	SU16100470	LEY			1	1	117	7	108	4	2			DR	2	IMP FLINTS 85
4	SU16200470	LEY	70		1	1	131	21	108	4	2			DR	2	IMP 105 SLGL50
5	SU15900460	LEY	55		1	1	106	-4	102	-2	3A			DR	3A	IMP 85 SEE 2P
6	SU16000460	LEY			1	1	135	25	109	5	2			DR	2	IMP FLINTS 110
7	SU16100460	LEY	70		1	2	118	8	112	8	2			WD	2	IMP 90 SEE 1P
8	SU15900450	PGR	55		1	1	146	36	108	4	2			DR	2	
9	SU16000450	PGR			1	1	118	8	108	4	2			DR	2	IMP FLINTS 85
10	SU16090450	PGR	50		1	1	102	-8	108	4	3A			DR	2	IMP FLINTS 75
11	SU16100442	PGR	55		1	1	100	-10	105	1	3A			DR	2	IMP FLINTS 80

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES---			PED COL	----STONES----			STRUCT/ CONSIST	SUBS			CALC	
				COL	ABUN	CONT		GLEY	>2	>6		LITH	TOT	STR		POR
1	0-35	mc1	10YR42 52					2	0	HR	6					
	35-65	mc1	10YR42 00					0	0	HR	2		M			
	65-78	ms1	10YR43 00					0	0	HR	2		G			
	78-85	lms	10YR53 00					0	0	HR	20		M		IMP FLINTS 85	
1P	0-30	mc1	10YR42 52					3	0	HR	6				PIT @ BORING 7	
	30-65	mc1	10YR43 00					0	0	HR	3	MDCSAB	FR	M		
	65-86	sc1	10YR64 00	10YR58	00	C		Y	0	0	HR	40		FR	M	
	86-120	sc1	10YR53 00	10YR58	00	C		Y	0	0	HR	46		FR	M	IMP 110 WET SIEVED
2	0-35	ms1	10YR42 52					2	0	HR	6					
	35-75	mc1	10YR42 00					0	0	HR	10		M			
	75-85	ms1	10YR43 00					0	0	HR	2		G			
	85-120	ms1	10YR64 00	10YR58	00	C		Y	0	0	HR	5		G		
2P	0-26	ms1	10YR42 00					3	0	HR	8				PIT @ BORING 5	
	26-55	ms1	10YR44 00					2	0	HR	10	MDCSAB	FR	M	WET SIEVED	
	55-75	ms1	10YR53 00	10YR56	00	C		Y	20	0	HR	46	WKCSAB	FR	G	WET SIEVED
	75-120	lms	10YR54 00					Y	0	0	HR	47		M	IMP FLINTS 110	
3	0-35	ms1	10YR42 52					2	0	HR	8					
	35-65	mc1	10YR42 00					0	0	HR	8		M			
	65-85	ms1	10YR44 00					0	0	HR	2		G		IMP FLINTS 85	
4	0-35	ms1	10YR42 52					2	0	HR	8					
	35-50	mc1	10YR42 00					0	0	HR	10		M			
	50-70	hc1	10YR53 00	10YR58	00	C		S	0	0	HR	2		M	SLIGHTLY GLEYED	
	70-105	mc1	10YR64 00	10YR58	00	C		Y	0	0	HR	2		M	IMP FLINTS 105	
5	0-30	ms1	10YR41 00					2	0	HR	8				2P LOCATION	
	30-55	ms1	10YR44 54	10YR56	00	F		0	0	HR	15		G			
	55-80	ms1	10YR53 00	10YR56	00	C		Y	0	0	HR	30		G		
	80-85	lms	10YR42 52	10YR56	00	C		Y	0	0	HR	60		M	IMP FLINTS 85	
6	0-30	ms1	10YR41 00					0	0	HR	10					
	30-50	msz1	10YR42 43					0	0	HR	5		M			
	50-70	msz1	10YR44 54					0	0	HR	10		M			
	70-100	ms1	10YR64 00	10YR66	00	F		0	0	HR	25		G			
	100-110	ms1	10YR53 00					0	0	HR	50		G		IMP FLINTS 110	
7	0-35	mc1	10YR42 52					2	0	HR	8				PIT 1 LOCATION	
	35-70	mc1	10YR42 00					0	0	HR	5		M			
	70-90	mc1	10YR64 00	10YR58	00	C		Y	0	0	HR	10		M	IMP FLINTS 90	
8	0-30	ms1	10YR41 00					2	0	HR	10					
	30-55	ms1	10YR54 00					0	0	HR	10		G			
	55-75	ms1	10YR54 53	10YR56	00	C		Y	0	0	HR	10		G		
	75-85	ms1	10YR54 53	10YR56	00	C		Y	0	0	HR	30		G		
	85-120	ms1	10YR64 00	10YR66	00	C		Y	0	0	HR	35		G		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	----STONES----				STRUCT/ CONSIST	SUBS						
				COL	ABUN	CONT	COL	GLE	>2	>6	LITH		TOT	STR	POR	IMP	SPL	CALC	
9	0-35	ms1	10YR41 00						2	0	HR	10							
	35-80	ms1	10YR44 00						0	0	HR	10			G				
	80-85	ms1	10YR54 44						0	0	HR	15			G				IMP FLINTS 85
10	0-28	ms1	10YR41 00						0	0	HR	5							
	28-50	mc1	10YR54 00						0	0	HR	5			M				
	50-75	mc1	10YR53 54	10YR58 00	C			Y	0	0	HR	10			M				IMP FLINTS 75
11	0-30	ms1	10YR42 00						2	0	HR	10							
	30-55	mc1	10YR44 00						0	0	HR	5			M				
	55-70	sc1	10YR52 00	10YR58 00	C			Y	0	0	HR	10			M				
	70-80	sc1	10YR52 51	10YR58 00	M			00M00 00	Y	0	0	HR	50			M			