

A1
East Sussex Structure Plan
Land at Berwick Station

Agricultural Land Classification
Reconnaissance Survey
November 1995

Resource Planning Team
Guildford Statutory Group
ADAS Reading

ADAS Reference: 4107/162/95
MAFF Reference: EL 41/00458
LUPU Commission: 02116

AGRICULTURAL LAND CLASSIFICATION REPORT RECONNAISSANCE SURVEY

EAST SUSSEX STRUCTURE PLAN LAND AT BERWICK STATION

Introduction

1. This report presents the findings of a reconnaissance Agricultural Land Classification (ALC) survey of approximately 634 hectares of land to the north and north-east of Berwick Station in East Sussex. The survey was carried out during October and November 1995.
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 East Sussex Structure Plan. The results of this survey supersede any previous ALC information for this land.
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. The survey was completed at a reconnaissance level of detail, on a 'free' survey basis, as it was undertaken primarily to update the 1:63,360 scale provisional ALC maps for this area. Consequently the results are designed for strategic planning purposes only. For site specific proposals, further, more detailed surveys may be required.
4. At the time of survey the land was in a mixture of uses including permanent grassland being grazed by sheep, cattle and horses, and cereal cropping. Land shown as 'Other Land' includes residential areas, agricultural buildings, woodland and scrub.

Summary

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:50 000. 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 overleaf.
7. The fieldwork was conducted at an average density of approximately 1 boring every 8 hectares of agricultural land. A total of 73 borings and four soil pits were described.
8. Most of the agricultural land around Berwick Station has been classified as Subgrade 3b (moderate quality). Areas of distinctly better quality land, Subgrade 3a (good quality) have been mapped around Wickstreet, and north and east of Selmeston.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% Total site area	% Surveyed Area
3a	142.9	22.5	23.9
3b	454.2	71.4	76.1
Other land	38.6	6.1	
Total surveyed area	597.1	93.9	100.0
Total site area	635.7	100.0	

9. The principal limitation to land quality in the area around Berwick Station is soil wetness. Soils were found to comprise clay loam and silty clay loam textures overlying slowly permeable horizons at varying depths. These horizons act to impede soil drainage, the degree being dependent upon their depth from the surface. Where the profile is slowly permeable at shallow depth, drainage is severely restricted such that Subgrade 3b is appropriate. Elsewhere, slowly permeable horizons occur deeper in the profile and soils are better drained as a consequence; Subgrade 3a is assigned to such land.

10. South of the railway line at Selmeaton, a small area of soils tend to be more sandy in association with deposits of Lower Greensand. Here, land quality is influenced by soil droughtiness. As a result of the interaction between soil properties and the local climatic regime, profile available water may be insufficient to meet the demands of a growing crop throughout the year. Such land has been mapped as Subgrade 3a.

Factors Influencing ALC Grade

Climate

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

12. 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).

Table 2: Climatic and altitude data

Factor	Units	Values		
Grid reference	N/A	TQ 532 079	TQ 515 068	TQ 507 068
Altitude	m, AOD	20	32	43
Accumulated Temperature	day°C (Jan-June)	1511	1498	1485
Average Annual Rainfall	mm	828	838	841
Field Capacity Days	days	174	176	176
Moisture Deficit, Wheat	mm	114	112	111
Moisture Deficit, Potatoes	mm	110	108	106

13. 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.

14. 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.

15. The combination of rainfall and temperature at this site means that there is no overall climatic limitation. All of the site is climatically Grade 1. However, climatic factors do interact with soil factors to influence grading and at this locality the climate is relatively warm and moist in regional terms. This will enhance the likelihood of both soil wetness and soil droughtiness restrictions.

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

Site

17. The site is gently undulating, lying at an altitude of approximately 10-45 m AOD. Nowhere on the site do gradient, microrelief or flood risk affect land quality.

Geology and Soils

18. The most detailed published geological information for the site (BGS, 1979) indicates the presence of a complicated pattern of solid and drift geology across the site. The north-west and north of the site is underlain by Gault Clay which is occasionally overlain by drift deposits of head. Much of the remainder of the site comprises a patchwork of Lower Greensand, overlain by head deposits. Weald Clay outcrops around the Arlington Reservoir.

19. The most detailed published soils information for the site (SSEW, 1983) shows a pattern of soil associations which broadly mirrors the geological deposits. Soils of the Denchworth association are shown to be approximately coincident with the Gault Clay. These are described as, 'slowly permeable seasonally waterlogged soils with similar fine loamy over clayey soils' (SSEW, 1983). Much of the rest of the site is mapped as the Kingston association, broadly in conjunction with Lower Greensand and head deposits. These are also described as, 'slowly permeable seasonally waterlogged soils with similar fine loamy over clayey soils' (SSEW, 1983). Wickham 1 association, 'slowly permeable seasonally waterlogged fine silty over clayey, fine loamy over clayey and clayey soils' (SSEW, 1983), is mapped where Weald Clay outcrops.

20. Detailed field examination of the soils broadly confirmed the presence of slowly permeable, loamy over clayey and clayey soils.

Agricultural Land Classification

21. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1, page 2.

22. 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 III.

Subgrade 3a.

23. Good quality land has been mapped in three mapping units across the site. Within the units to the north of the railway line the principal limitation to land quality is soil wetness. Soils here comprise non-calcareous medium clay loam or silty clay loam topsoils, which are generally stonefree or may contain 1-2% flints. These pass to similarly textured or slightly heavier upper subsoils which are generally mottled and gleyed but not slowly permeable. Lower subsoils typically comprise heavy clay loam, silty clay loam or clay horizons which are poorly structured and thereby impede soil drainage. Such drainage characteristics result in these soils being assigned to Wetness Class III, (see Appendix II), which, in combination with the prevailing climate and the workability of the topsoils, gives rise to a classification of Subgrade 3a on the basis of soil wetness. Soil pits 2 and 4 are typical of these soils (see Appendix III). Soil wetness affects seed germination and root development and restricts the flexibility of the land due to the reduction in the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock.

24. To the south of the railway line, around Selmeston, an area of land has been mapped as Subgrade 3a largely on the basis of soil droughtiness. Soils here are more sandy than elsewhere on the site and typically comprise medium sandy loam, sandy clay loam or medium clay loam topsoils, overlying similar upper subsoils and becoming more sandy with depth. These soils are generally well drained and qualify for Wetness Class I or II depending upon the presence of mottling which is indicative of a fluctuating water table. Moisture balance calculations suggest that the combination of soil characteristics and climatic factors results in a shortfall of profile available water such that a soil droughtiness limitation exists. Soil droughtiness will affect the versatility of the land by restricting the range of crops which can tolerate droughty conditions, and by reducing the yield potential of those crops which are grown.

25. Occasional borings of better quality are included within the Subgrade 3a mapping units. They were not mapped separately since they are of limited number and extent.

Subgrade 3b.

26. Most of the site has been mapped as moderate quality land on the basis of soil wetness. Soils typically comprise non-calcareous and stonefree medium clay loam or silty clay loam topsoils which directly overlie poorly structured, gleyed heavy clay loam, silty clay loam or clay subsoils which severely impede soil drainage. Since profiles are slowly permeable at shallow depth, Wetness Class IV is appropriate for such soils with a resultant classification of Subgrade 3b. Soil pits 1 and 3 are representative of these soils (see Appendix III).

Michelle Leek
Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1979) *Sheet No. 319, Lewes*.
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 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 : E SUSSEX S, BERWICK Pit Number : 1P

Grid Reference: TQ54300900 Average Annual Rainfall : 828 mm
 Accumulated Temperature : 1511 degree days
 Field Capacity Level : 174 days
 Land Use : Permanent Grass
 Slope and Aspect : 04 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	HCL	10YR52 00	0	0		C				
25- 60	C	10YR53 00	0	0		M	STCOPR	VM	P	

Wetness Grade : 3B Wetness Class : IV
 Gleying : 0 cm
 SPL : 025 cm

Drought Grade : APW : 000mm MBW : 0 mm
 APP : 000mm MBP : 0 mm

FINAL ALC GRADE : 3B
 MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : E SUSSEX S, BERWICK Pit Number : 2P

Grid Reference: TQ53100790 Average Annual Rainfall : 828 mm
 Accumulated Temperature : 1511 degree days
 Field Capacity Level : 174 days
 Land Use : Cereals
 Slope and Aspect : 02 degrees N

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 35	MCL	10YR43-00	0	1	HR					
35- 55	MCL	25Y 63-00	0	0		M	WKOPR	FR	M	
55-100	HCL	25Y 72-00	0	0		M	WKCSAB	FR	M	

Wetness Grade : 3A Wetness Class : III
 Gleying : 035 cm
 SPL : 055 cm

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

FINAL ALC GRADE : 3A
 MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : E SUSSEX S, BERWICK Pit Number : 3P

Grid Reference: TQ52250910 Average Annual Rainfall : 828 mm
 Accumulated Temperature : 1511 degree days
 Field Capacity Level : 174 days
 Land Use : Permanent Grass
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	MCL	25Y 42-00	2	2	HR	F				
28-100	C	05Y 52-00	0	0		C	STMDPR	VM	P	

Wetness Grade : 3B Wetness Class : IV
 Gleying : 028 cm
 SPL : 028 cm

Drought Grade : APW : 000mm MBW : 0 mm
 APP : 000mm MBP : 0 mm

FINAL ALC GRADE : 3B
 MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : E SUSSEX S, BERWICK Pit Number : 4P

Grid Reference: TQ52500895 Average Annual Rainfall : 828 mm
 Accumulated Temperature : 1511 degree days
 Field Capacity Level : 174 days
 Land Use : Cereals
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	MZCL	10YR53-00	0	0						
28- 40	HZCL	10YR64-00	0	0		C	MDCSAB	FM	M	
40- 68	HZCL	10YR63-00	0	0		M	MDMDAB	FM	P	
68-100	ZC	25Y 63-00	0	0		M	STCOAB	VM	P	

Wetness Grade : 3B Wetness Class : IV
 Gleying : 028 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	USE	ASPECT	GRDNT	GLEYS	SPL	--WETNESS--		-WHEAT-		-POTS-		M.REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
							CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD					
1	TQ53050860	PLO	S	01	025	065	3	3A	000	0	000	0					WE	3A	
1P	TQ54300900	PGR	S	04	0	025	4	3B	000	0	000	0					WE	3B	
2	TQ52800870	PGR	NE	02	025	060	3	3A		0		0					WE	3A	
2P	TQ53100790	CER	N	02	035	055	3	3A		0		0					WE	3A	AT AB 17
3	TQ53050880	CER	NE	02	030	035	4	3B		0		0					WE	3B	
3P	TQ52250910	PGR			028	028	4	3B	000	0	000	0					WE	3B	
4	TQ53250890	PGR			030	035	4	3B	000	0	000	0					WE	3B	
4P	TQ52500895	CER			028	040	4	3B		0		0					WE	3B	
5	TQ53400900	PGR	SE	03	0	025	4	3B	000	0	000	0					WE	3B	
6	TQ53450860	PLO			025	060	3	3A	000	0	000	0					WE	3A	SEE 1P
7	TQ53250825	PGR			0	040	4	3B	000	0	000	0					WE	3B	
8	TQ53700790	PGR			030	030	4	3B	000	0	000	0					WE	3B	
9	TQ53600795	PGR	N	01	042		1	1	160	45	122	11	1						1
10	TQ53400770	CER	SW	02	030	040	4	3B	000	0	000	0					WE	3B	
11	TQ53750770	CER	E	02	025	025	4	3B	000	0	000	0					WE	3B	
12	TQ53300795	CER			080	080	1	1	143	28	117	6	2				DR		2
13	TQ53200780	CER			035	035	4	3B	131	16	108	-3	2				WE		3B
14	TQ53100750	CER			035	035	4	3B	000	0	000	0					WE		3B
15	TQ53050765	CER	E	02	030	030	4	3B	000	0	000	0					WE		3B
16	TQ52850775	CER	E	01	035	035	4	3B	000	0	000	0					WE		3B
17	TQ53100790	CER	N	02	030	060	3	3A	000	0	000	0					WE	3A	SEE 2P
18	TQ52350790	PGR	N	05	020	020	4	3B	000	0	000	0					WE		3B
19	TQ52200815	PGR			020	020	4	3B	000	0	000	0					WE		3B
20	TQ52650850	PLO	E	01	025	045	4	3B	000	0	000	0					WE		3B
21	TQ52750825	CER			040	040	3	3A	000	0	000	0					WE		3A
22	TQ51250840	CER	SE	01	020	020	4	3B	000	0	000	0					WE		3B
23	TQ50700820	PLO	SW	01	020	020	4	3B	000	0	000	0					WE		3B
24	TQ50550805	PGR			025	040	4	3B	000	0	000	0					WE		3B
25	TQ50450770	PLO	N	02	045	045	3	3A	000	0	000	0					WE		3A
26	TQ51300815	CER	NE	01	0	025	4	3B	000	0	000	0					WE		3B
27	TQ50900820	CER			0	020	4	3B	000	0	000	0					WE		3B
28	TQ50950810	CER	NW	02	025	035	4	3B	000	0	000	0					WE		3B
29	TQ51050805	CER	NW	02	025	085	2	2	142	27	115	4	2				WD		2
30	TQ50950785	PGR	SW	02	015		2	2	153	38	115	4	2				WD		2
31	TQ50800770	PLO	SE	04	025	025	4	3B	000	0	000	0					WE		3B
32	TQ50700745	LEY			050		1	1	156	41	118	7	2				DR		2
33	TQ50350745	CER	N	01	0	030	4	3B	000	0	000	0					WE		3B
34	TQ50300700	CER	N	03			1	1	132	17	113	2	2				DR		2 SANDY
35	TQ50400720	CER	N	02	030	060	3	3A	000	0	000	0					WE		3A
36	TQ51000735	CER	S	01	030	030	4	3B	000	0	000	0					WE		3B IMP 50, STONY
37	TQ51200775	CER	SE	03	025	035	4	3B	000	0	000	0					WE		3B
38	TQ50250875	LEY			028	028	4	3B	000	0	000	0					WE		3B

SAMPLE NO.	GRID REF	ASPECT USE	--WETNESS--		-WHEAT-		-POTS-		M. REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
			GRDNT	GLEY SPL	CLASS	GRADE	AP	MB	AP	MB					
39	TQ50100850	LEY		0 022	4 3B	000	0 000	0					WE	3B	
40	TQ49950815	LEY SE	02	015 015	4 3B	000	0 000	0					WE	3B	
41	TQ49800790	LEY W	01	0 028	4 3B	000	0 000	0					WE	3B	
42	TQ50150790	MZE		0 058	3 3A		0	0					WE	3A	
43	TQ50600860	PGR S	04	0 025	4 3B	000	0 000	0					WE	3B	
44	TQ50500845	PGR		0 050	3 3A	000	0 000	0					WE	3A	
45	TQ50350830	PGR		0 040	4 3B	000	0 000	0					WE	3B	
46	TQ50200810	PGR		0 028	4 3B	000	0 000	0					WE	3B	
47	TQ52050895	PGR		0 040	4 3B	000	0 000	0					WE	3B	
48	TQ52450925	PGR SE	02	020 030	4 3B	000	0 000	0					WE	3B	
49	TQ52250910	PGR		035 035	4 3B	000	0 000	0					WE	3B	
50	TQ52700880	STB		030 060	3 3A	000	0 000	0					WE	3A	
51	TQ53050905	HOR NE	03	030 030	4 3B	000	0 000	0					WE	3B	
52	TQ52900895	HOR W	02	025 060	3 3A	000	0 000	0					WE	3A	
53	TQ50500675	TRF S	03		1 1	084	-31 086	-25 3B					DR	2	IMP, STONY
54	TQ50650695	TRF NE	02	015	2 2	092	-23 098	-13 3B					WE	2	IMP 60
55	TQ50800725	TRF NE	02	020 020	4 3B	000	0 000	0					WE	3B	
56	TQ51150690	TRF S	01	030	2 2	084	-31 087	-24 3B					WE	2	POSS 3A
57	TQ51800670	PGR N	01	042 050	3 3A	000	0 000	0					WE	3A	
58	TQ52150680	PGR SE	04	025 025	4 3B	000	0 000	0					WE	3B	
59	TQ51950700	PGR W	02	0 020	4 3B	000	0 000	0					WE	3B	
60	TQ51800710	LEY S	01	030 060	3 3A	000	0 000	0					WE	3A	
61	TQ51700740	PGR N	01	015 045	4 3B	000	0 000	0					WE	3B	RUSHES
62	TQ52500895	PLO		030 040	4 3B	000	0 000	0					WE	3B	SEE 4P
63	TQ52250870	PLO		025 025	4 3B	000	0 000	0					WE	3B	
64	TQ52200845	PLO		0 020	4 3B	000	0 000	0					WE	3B	
65	TQ51950835	PGR		0 015	4 3B	000	0 000	0					WE	3B	
66	TQ51700855	PGR		0 010	4 3B	000	0 000	0					WE	3B	
67	TQ51450865	PGR		0 015	4 3B	000	0 000	0					WE	3B	
68	TQ51200860	PGR NE	02	0 015	4 3B	000	0 000	0					WE	3B	
69	TQ51400885	PGR		0 020	4 3B	000	0 000	0					WE	3B	
70	TQ51500780	PGR SE	02	0 045	4 3B	000	0 000	0					WE	3B	
71	TQ51450750	CER E	02	030 030	4 3B	000	0 000	0					WE	3B	
72	TQ51500730	PGR NE	02	0 020	4 3B	000	0 000	0					WE	3B	
73	TQ51200725	PGR NE	02	020 030	4 3B	000	0 000	0					WE	3B	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED COL.	----STONES----			STRUCT/ CONSIST	SUBS					
				COL	ABUN	CONT		GLY	>2	>6		LITH	TOT	STR	POR	IMP	SPL
1	0-25	mc1	10YR43 00					0	0	HR	2						
	25-65	hc1	10YR53 00 75YR58 00 C					Y	0	0	HR	2		M			
	65-100	c	25Y 53 00 75YR58 00 M					Y	0	0		0		P		Y	
1P	0-25	hc1	10YR52 00 75YR56 00 C					Y	0	0		0					
	25-60	c	10YR53 00 75YR58 00 M					10YR62 00	Y	0	0	0	STCOPR	VM	P	Y	Y
2	0-25	mzc1	10YR54-00						0	0		0					
	25-60	mzc1	10YR53-00 10YR58-00 C					Y	0	0		0		M			
	60-100	hzc1	10YR52-00 75YR58-00 C					00MN00-00	Y	0	0	0		P		Y	
2P	0-35	mc1	10YR43-00						0	0	HR	1					
	35-55	mc1	25Y 63-00 75YR56-00 M					Y	0	0		0	WKCOPR	FR	M		
	55-100	hc1	25Y 72-00 75YR68-00 M					00MN00-00	Y	0	0	0	WKCSAB	FR	M	Y	Y
3	0-30	mc1	10YR43 00						1	0	HR	1					
	30-35	hzc1	25 Y62 00 10YR58 00 C					Y	0	0		0		M			
	35-60	c	25 Y62 00 75YR68 00 M					Y	0	0		0		P		Y	
3P	0-28	mc1	25Y 42-00 10YR58-00 F						2	0	HR	2					
	28-100	c	05Y 52-00 75YR58-00 C					00MN00-00	Y	0	0	0	STMDPR	VM	P	Y	Y
4	0-30	mc1	10YR43 00						0	0		0					
	30-35	hc1	10YR53 00 10YR58 00 C					Y	0	0		0		M			
	35-70	c	25 Y62 00 75YR68 00 M					Y	0	0		0		P		Y	
4P	0-28	mzc1	10YR53-00						0	0		0					
	28-40	hzc1	10YR64-00 75YR78-00 C					Y	0	0		0	MDCSAB	FM	M		
	40-68	hzc1	10YR63-00 75YR68-00 M					00MN00-00	Y	0	0	0	MDMDAB	FM	P		Y
	68-100	zc	25Y 63-00 75YR68-00 M					Y	0	0		0	STCOAB	VM	P		Y
5	0-25	hc1	10YR53 00 10YR58 00 C					Y	0	0		0					
	25-60	c	10YR62 00 75YR68 00 M					Y	0	0		0		P		Y	
6	0-25	fs1	10YR53 00						0	0		0					
	25-40	fs1	10YR52 00 10YR58 00 C					Y	0	0		0		M			
	40-60	mc1	10YR52 00 10YR68 00 M					Y	0	0		0		M			
	60-100	hc1	10YR52 00 10YR68 00 M					Y	0	0		0		P		Y	
7	0-25	mc1	10YR53 00 10YR58 00 C					Y	0	0		0					
	25-40	hc1	10YR52 00 75YR68 00 M					Y	0	0		0		M			
	40-70	c	10YR52 00 75YR68 00 M					Y	0	0		0		P		Y	
8	0-30	mc1	10YR43 00 75YR46 0 F						0	0		0					
	30-70	c	10YR63 00 25YR48 00 M					10YR72 00	Y	0	0	0		P		Y	
9	0-30	mzc1	10YR43 00 10YR58 00 F						0	0		0					
	30-42	mzc1	10YR53 00 10YR58 00 F						0	0		0		M			
	42-120	mc1	10YR62 00 10YR58 00 C					Y	0	0		0		M			

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	----STONES----			STRUCT/ CONSIST	SUBS						
				COL	ABUN	CONT	COL.	GLE	>2	>6		LITH	TOT	STR	POR	IMP	SPL	CALC
10	0-30	mc1	10YR43 00						0	0	HR	1						
	30-40	hc1	10YR53 00	10YR58	00	C		Y	0	0		0	M					
	40-80	c	10YR52 00	75YR58	00	M		Y	0	0		0	P			Y		
11	0-25	mc1	10YR42 00	10YR58	00	F			1	0	HR	1						
	25-70	c	10YR62 00	10YR58	00	C		Y	0	0		0	P			Y		
12	0-25	mc1	10YR43 00						0	0		0						
	25-80	hc1	10YR44 00						0	0		0	M					
	80-120	c	10YR52 00	10YR58	00	C		Y	0	0		0	P			Y		
13	0-35	mc1	10YR43 00						1	0	HR	1						
	35-120	c	10YR42 00	75YR58	00	C		Y	0	0		0	P			Y		
14	0-30	mc1	10YR54 00						0	0		0						
	30-35	hc1	10YR53 00	10YR					0	0		0	M					
	35-80	c	10YR53 00	75YR58	00	C		Y	0	0		0	P			Y		
15	0-30	mc1	10YR43 00						0	0		0						
	30-70	c	10YR52 00	75YR58	00	C	10YR62	00	Y	0	0	0	P			Y		
16	0-25	mc1	10YR43 00						0	0		0						
	25-35	mc1	10YR42 00	00M00	00	C			0	0		0	M					
	35-65	c	10YR63 00	10YR58	00	M	10YR71	00	Y	0	0	0	P			Y		
17	0-30	mzc1	10YR43 00						0	0		0						
	30-60	mzc1	10YR63 00	75YR58	00	C		Y	0	0		0	M					
	60-120	hzc1	10YR63 00	75YR58	00	C		Y	0	0		0	M			Y		
18	0-20	hc1	10YR42 00	10YR58	00	F			0	0		0						
	20-50	c	10YR62 00	75YR58	00	M		Y	0	0		0	P			Y		
19	0-20	hc1	10YR42 00	10YR58	00	F			0	0		0						
	20-60	c	25 Y42 00	10YR58	00	M		Y	0	0		0	P			Y		
20	0-25	mc1	10YR43 00						0	0		0						
	25-45	hc1	25 Y43 00	10YR58	00	C		Y	0	0		0	M					
	45-70	c	25 Y53 00	10YR58	00	M		Y	0	0		0	P			Y		
21	0-30	mzc1	10YR43 00						0	0		0						
	30-40	mzc1	10YR54 00						0	0		0	M					
	40-60	c	10YR53 00	10YR58	00	C		Y	0	0		0	P			Y		
	60-120	sc1	10YR72 00	75YR58	00	M		Y	0	0		0	M					
22	0-20	c	25 Y42 00						0	0		0						
	20-60	c	05 Y51 00	10YR68	00	C		Y	0	0		0	P			Y		
23	0-20	hc1	10YR42 00						0	0		0						
	20-60	c	25 Y52 00	75YR58	00	M	05Y 51	00	Y	0	0	0	P			Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----		PED COL.	----STONES----		STRUCT/ CONSIST	SUBS							
				COL	ABUN		CONT	GLEYS		>2	>6	LITH	TOT	STR	POR	IMP	SPL
24	0-25	mc1	10YR42 00					0	0	0							
	25-40	hc1	10YR53 00 75YR58 00 C					Y	0	0	0		M				
	40-75	sc1	25 Y62 00 10YR58 00 C					Y	0	0	0		P			Y	
	75-100	c	05 Y52 00 75YR58 00 C					Y	0	0	0		P			Y	
25	0-35	mc1	10YR43 00					0	0	0							
	35-45	hc1	10YR43 53					0	0	0		M					
	45-70	c	10YR52 00 75YR58 00 C					Y	0	0	0		P			Y	
26	0-25	hc1	10YR42 00 75YR58 00 C					Y	0	0	0						
	25-50	c	25 Y52 00 75YR58 00 M					Y	0	0	0		P			Y	
27	0-20	hc1	10YR42 41 75YR58 00 C					Y	0	0	HR	1					
	20-70	c	25 Y62 00 75YR58 00 C					Y	0	0	0		P			Y	
28	0-25	mc1	10YR42 00					0	0	0							
	25-35	hc1	25 Y53 00 10YR68 00 C					Y	0	0	0		M				
	35-70	c	05 Y52 00 75YR68 00 M					Y	0	0	0		P			Y	
29	0-25	sc1	10YR42 00					0	0	0							
	25-80	hc1	10YR52 00 10YR58 00 C					Y	0	0	0		M				
	80-85	mc1	10YR64 00 10YR68 00 C					Y	0	0	0		M				
	85-120	c	25 Y53 00 75YR68 00 C			25Y 71	00	Y	0	0	0		P			Y	
30	0-15	mc1	10YR42 00					0	0	0							
	15-25	mc1	10YR53 00 10YR58 00 C					Y	0	0	0		M				
	25-120	hc1	10YR53 00 10YR58 00 C					Y	0	0	0		M				
31	0-25	mc1	10YR42 00					0	0	0							
	25-55	c	25 Y53 00 75YR58 00 C					Y	0	0	0		P			Y	
32	0-30	mc1	10YR42 00					0	0	0							
	30-50	mc1	10YR53 00					0	0	0		M					
	50-120	mc1	10YR64 00 75YR58 00 C					Y	0	0	0		M				
33	0-30	mc1	10YR42 00 10YR58 00 C					Y	0	0	0						
	30-60	c	10YR53 62 75YR58 00 C					Y	0	0	0		P			Y	
	60-80	sc	05 Y52 00 75YR68 00 C					Y	0	0	0		P			Y	
34	0-40	ms1	10YR42 41					0	0	0							
	40-80	ms1	10YR54 00					0	0	0		M					
	80-85	1ms	10YR56 00					0	0	0		M					
	85-120	ms	10YR66 00					0	0	0		M					
35	0-30	mc1	10YR42 00					0	0	0							
	30-60	mc1	10YR63 00 75YR58 00 C					Y	0	0	0		M				
	60-80	c	10YR63 00 75YR58 00 M					Y	0	0	0		P			Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED COL.	----STONES-----			STRUCT/ CONSIST	SUBS			CALC	
				COL	ABUN	CONT		GLEY	>2	>6		LITH	TOT	STR		POR
36	0-30	hc1	10YR41 00						2	1	HR	3				
	30-50	sc	10YR62 00	75YR58	00	M		Y	0	0	HR	6	P		Y	IMP 50, STONES
37	0-25	mc1	10YR42 00						2	0	HR	2				
	25-35	hc1	25 Y42 00	75YR58	00	M		Y	0	0	HR	2	M			
	35-70	c	25 Y52 00	75YR58	00	M		Y	0	0	HR	4	P		Y	
38	0-28	mzc1	10YR43 00						0	0		0				
	28-60	c	25 Y62 00	10YR68	00	M		Y	0	0		0	P		Y	
39	0-22	hzc1	25 Y42 00	10YR58	00	M		Y	0	0	HR	1				
	22-55	zc	05 Y52 00	10YR58	00	M		Y	0	0		0	P		Y	
40	0-15	mc1	10YR42 00						1	0	HR	1				
	15-35	c	25 Y52 00	10YR58	00	M		Y	0	0		0	P		Y	
	35-60	zc	05 Y52 00	10YR56	00	M		Y	0	0	CH	2	P		Y	
41	0-28	hc1	10YR51 00	75YR46	00	M		Y	1	0	HR	1				
	28-55	c	05 Y52 00	10YR68	00	M		Y	0	0		0	P		Y	
42	0-25	mc1	10YR42-00	75YR46-00		C		Y	0	0		0				
	25-35	mc1	10YR53-00	75YR46-00		M		Y	0	0		0	M			
	35-58	mc1	10YR62-00	10YR68-00		M		Y	0	0		0	M			
	58-80	c	05Y 52-00	75YR68-00		M		Y	0	0		0	P		Y	
43	0-25	hc1	10YR42 32	75YR58	00	C		Y	1	0	HR	1				
	25-45	c	05YR52 00	75YR58	00	C		Y	0	0	HR	1	P		Y	
	45-60	c	05 Y41 00	10YR58	00	C		Y	0	0	HR	5	P		Y	
44	0-30	mc1	10YR53 00	10YR58	00	C		Y	1	0	HR	1				
	30-50	hc1	25 Y63 00	75YR58	00	M	25Y 72 00	Y	0	0	HR	1	M			
	50-80	hc1	25 Y72 00	75YR58	00	M		Y	0	0	HR	1	P		Y	
45	0-30	mc1	10YR42 00	10YR58	00	C		Y	1	0	HR	1				
	30-40	hc1	25 Y62 00	75YR58	00	C		Y	0	0	HR	1	M			
	40-70	c	05 Y62 00	75YR58	00	M		Y	0	0	HR	2	P		Y	
46	0-28	mc1	10YR42 00	10YR58	00	C		Y	1	0	HR	1				
	28-40	c	25 Y62 00	75YR58	00	C		Y	0	0	HR	1	P		Y	
	40-60	c	05 Y62 00	75YR58	00	C		Y	0	0	HR	2	P		Y	
47	0-30	mzc1	10YR53 00	75YR58	00	C		Y	0	0		0				
	30-40	hzc1	10YR72 00	10YR58	00	C		Y	0	0		0	M			
	40-80	c	10YR61 00	75YR58	00	C		Y	0	0		0	P		Y	
48	0-20	mzc1	10YR41 00						0	0		0				
	20-30	hc1	25 Y52 00	75YR58	00	C		Y	0	0		0	M			
	30-70	c	05 Y43 00	25 Y56	00	C		Y	0	0		0	P		Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	-----MOTTLES-----			PED		-----STONES-----			STRUCT/	SUBS					
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH		TOT	CONSIST	STR	POR	IMP	SPL
49	0-35	mc1	10YR42 00	10YR58 00	F			0	0	0								
	35-70	c	05 Y52 00	75YR58 00	C			Y	0	0	0		P					Y
50	0-30	mzc1	10YR43 00					0	0	0								
	30-60	mzc1	10YR62 72	75YR58 00	C			Y	0	0	0		M					
	60-70	hzc1	10YR62 72	75YR58 00	C		00MNO0 00	Y	0	0	0		P					Y
	70-100	zc	10YR72 00	75YR68 00	M			Y	0	0	0		P					Y
51	0-30	mzc1	10YR43 00					0	0	0								
	30-80	zc	10YR63 00	75YR68 00	M			Y	0	0	0		P					Y
52	0-25	mzc1	10YR43 44					0	0	0								
	25-60	mzc1	10YR62 00	75YR58 00	C		00MNO0 00	Y	0	0	0		M					
	60-100	zc	10YR72 00	75YR68 00	M			Y	0	0	0		P					Y
53	0-25	ms1	10YR43 00					0	0	HR	2							
	25-55	ms1	10YR44 00					0	0	HR	2		M					IMP 55, STONES
54	0-15	mc1	10YR42 00					0	0	0								
	15-40	mc1	10YR42 00	10YR58 00	C			Y	0	0	0		M					
	40-60	hc1	10YR72 00	75YR58 00	C			Y	0	0	HR	5	M					IMP 60, STONES
55	0-20	mzc1	10YR41 00					0	0	0								
	20-70	c	05 Y52 00	75YR68 00	M			Y	0	0	0		P					Y
56	0-30	mc1	10YR41 00					0	0	HR	5							
	30-50	sc1	10YR62 00	75YR58 00	C			Y	0	0	HR	3	M					
	50-55	sc	10YR62 00	75YR58 00	C			Y	0	0	HR	10	P					IMP, GRAVELLY
57	0-30	z1	10YR41 00					0	0	0								
	30-42	hc1	25 Y43 00					0	0	0			M					
	42-90	c	05 Y52 00	75YR58 00	M		00MNO0 00	Y	0	0	0		P					Y
58	0-25	hc1	25 Y53 00					0	0	0								
	25-70	c	25 Y52 00	75YR58 00	C			Y	0	0	0		P					Y
59	0-20	hzc1	10YR52 00	75YR58 00	C			Y	0	0	0							
	20-70	zc	10YR63 00	75YR58 00	M		10YR71 00	Y	0	0	0		P					Y
60	0-30	mzc1	10YR43 00					0	0	HR	2							
	30-50	hzc1	10YR52 00	75YR58 00	C			Y	0	0	HR	2	M					
	50-60	hzc1	10YR61 00	75YR58 00	C			Y	0	0	0		M					
	60-90	c	25 Y62 00	75YR58 00	M			Y	0	0	HR	2	P					Y
61	0-15	z1	10YR43 00					0	0	0								
	15-45	hzc1	10YR53 00	75YR58 00	M		10YR71 00	Y	0	0	0		M					
	45-90	zc	10YR72 00	75YR58 00	M			Y	0	0	0		P					Y

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/ CONSIST	SUBS				
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH		TOT	STR	POR	IMP	SPL
62	0-30	mzc1	10YR53 00						0	0	0						
	30-65	hzc1	10YR73 00	75YR58 00	C		10YR72 00	Y	0	0	0		M			Y	
	65-100	c	25 Y72 00	75YR58 00	M			Y	0	0	0		P			Y	
63	0-25	mzc1	10YR43 53						0	0	0						
	25-70	zc	25 Y62 00	75YR58 00	C			Y	0	0	0		P			Y	
64	0-20	mc1	25 Y42 00	75YR56 00	C		10YR61 00	Y	0	0	0						
	20-80	c	25 Y62 00	75YR68 00	M			Y	0	0	0		P			Y	
65	0-15	mc1	10YR32 00	75YR46 00	C			Y	0	0	0						
	15-70	c	10YR61 00	10YR58 00	C			Y	0	0	0		P			Y	
66	0-10	mc1	10YR32 00	10YR58 00	C			Y	0	0	0						
	10-70	c	10YR62 00	75YR58 00	C			Y	0	0	0		P			Y	
67	0-15	mc1	10YR32 00	10YR58 00	C			Y	0	0	0						
	15-70	c	25 Y63 00	10YR68 00	M			Y	0	0	0		P			Y	
68	0-15	mc1	10YR52 00	75YR46 00	C			Y	0	0	0						
	15-70	c	25 Y62 00	10YR66 00	M			Y	0	0	0		P			Y	
69	0-20	mc1	10YR52 00	10YR58 00	C			Y	0	0	0						
	20-70	c	10YR62 00	75YR58 00	M			Y	0	0	0		P			Y	
70	0-35	mzc1	10YR53 00	75YR46 00	C			Y	0	0	0						
	35-45	hzc1	10YR62 00	75YR58 00	C			Y	0	0	0		M				
	45-80	zc	10YR62 00	75YR58 00	M		10YR71 00	Y	0	0	0		P			Y	
71	0-30	mzc1	10YR33 00						0	0	0						
	30-70	zc	10YR53 00	75YR58 00	C		10YR71 00	Y	0	0	0		P			Y	
72	0-20	mc1	10YR42 00	75YR58 00	C			Y	0	0	0						
	20-70	c	25 Y64 00	75YR58 00	M		10YR72 00	Y	0	0	0		P			Y	
73	0-20	mzc1	10YR32 00						0	0	0						
	20-30	hzc1	10YR63 00	75YR58 00	C			Y	0	0	0		M				
	30-70	zc	25 Y62 00	75YR58 00	C			Y	0	0	0		P			Y	