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TEST VALLEY BOROUGH LOCAL PLAN
Land at Weyhill Andover Hampshire

Agricultural Land Classification
Semi Detailed Survey
ALC Map and Report

February 1998

Resource Planning Team
Eastern Region
FRCA Reading

RPT Job Number 1512/005/98
FRCA Reference EL 15/01484

AGRICULTURAL LAND CLASSIFICATION REPORT

TEST VALLEY BOROUGH LOCAL PLAN
LAND AT WEYHILL HAMPSHIRE
SEMI DETAILED SURVEY

INTRODUCTION

1 This report presents the findings of a semi detailed Agricultural Land Classification (ALC) survey of approximately 140 hectares of land around the village of Weyhill to the west of Andover in Hampshire The survey was carried out during February 1998

2 The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)[1] on behalf of the Ministry of Agriculture Fisheries and Food (MAFF) in connection with its statutory input to the Test Valley Borough Local Plan This survey supersedes any previous ALC information for this land The site lies adjacent to an area previously surveyed in 1989 (FRCA Ref 1512/030/89) The information gathered in this survey has been used to assist in compiling this report and the accompanying ALC map

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

4 At the time of survey the agricultural land on this site was either in cereals oilseed rape permanent grass or set aside The areas mapped as Other Land comprise dwellings roads and trackways woodland scrub and an area currently used as a soil store The areas shown as Not Surveyed comprise land where permission to carry out the survey was not available

SUMMARY

5 The findings of the survey are shown on the enclosed ALC map The map has been drawn at a scale of 1 15 000 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 slightly less than 1 boring every 2 hectares of agricultural land In total 70 borings and 6 soil pits were described

8 The agricultural land at this site has been classified as Grade 2 (very good quality) Subgrade 3a (good quality) and Subgrade 3b (moderate quality) Principal limitations include soil droughtiness topsoil stoniness and gradient

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[1] FRCA is an executive agency of MAFF and the Welsh Office

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

Table 2 Climatic and altitude data

Factor	Units	Values		
Grid reference	N/A	SU 324 470	SU 316 463	SU 304 471
Altitude	m AOD	80	90	100
Accumulated Temperature	day C (Jan June)	1452	1442	1430
Average Annual Rainfall	mm	788	797	801
Field Capacity Days	days	172	174	175
Moisture Deficit Wheat	mm	101	100	99
Moisture Deficit Potatoes	mm	92	91	89
Overall climatic grade	N/A	Grade 1	Grade 1	Grade 1

14 The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions

15 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR) as a measure of overall wetness and accumulated temperature (ATO January to June) as a measure of the relative warmth of a locality

16 The combination of rainfall and temperature at this site mean that there is no overall climatic limitation Other local climatic factors such as exposure and frost risk are also believed not to affect the site The site is climatically Grade 1

Site

17 The site lies at altitudes between approximately 80 and 100m AOD The majority of the site to the centre and south forms part of a rolling chalk plateau that extends beyond the surveyed area To the north the land falls away sharply into a dry valley The feature approaches the site as Weyhill Bottom trending southwards It then alters direction heading east towards Penton Grafton the valley base lying along the northern site boundary In this area slope gradients can be sufficient to adversely affect land quality restricting some land to Subgrade 3b as a result Other site factors such as microrelief do not occur on the site

Geology and soils

18 The published geological information for the site (BGS 1975) shows the majority of the site to be underlain by Cretaceous Upper Chalk Towards the north and along the north east boundary river and valley gravel are shown as a drift deposit overlying the chalk

19 The most detailed published soils information for the site (SSEW 1983 and 1984) shows this site as containing soils from three associations To the east Andover 1 soils are

mapped these are described as Shallow well drained calcareous silty soils over chalk on slopes and crests Deep calcareous and non calcareous fine silty soils in valley bottoms Striped patterns locally (SSEW 1983) To the west soils from the Carstens association are shown these are described as Well drained fine silty over clayey clayey and fine silty soils often very flinty (SSEW 1983) To the north Charity 2 soils are mapped these are described as Well drained flinty fine silty soils in valley bottoms Calcareous fine silty soils over chalk or chalk rubble on valley sides sometimes shallow (SSEW 1983) Andover type soils were described across the majority of the site with Charity type soils along the northern boundary Soils conforming to the description for the Carstens Association were not encountered during the survey

AGRICULTURAL LAND CLASSIFICATION

20 The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1

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

Grade 2

22 Land of very good quality has been mapped in three separate units to the east south and west of the site The principal limitation in this area is soil droughtiness Soils in this area are characterised by the properties observed in soil pits P1 P2 P4 and P6 (see Appendix II) P1 P2 and P6 are classified as Subgrade 3a as these profiles exhibited slightly less soil resource over the chalk than in the Grade 2 units resulting in shallower rooting depths and consequently slightly less moisture available to crops

23 Soils in the Grade 2 mapping units commonly fall into two separate types The most common occurs towards the east and south of the site The soils are typified by P4 and typically comprise a calcareous medium silty clay loam topsoil which passes to increasingly chalky medium and heavy silty clay loam subsoils which overlie variably hard pure chalk at depths in the range 40 78cm Stone contents are variable with a maximum of 10% flints by volume (including 3% >2cm being recorded) more typically 5% flints The subsoils contain varying amounts of flints and chalk with up to 50% chalk and 15% flints being recorded on occasion Rooting into the chalk was recorded at between 7 (P4) and 70cm (P1) depending on the hardness of the chalk encountered As no evidence of soil wetness was observed in these well drained profiles they are all assigned to Wetness Class I However moisture balance calculations indicate that the profiles are slightly deficient in the moisture available for crop growth This is due to a combination of the stone content reducing the potential water holding capacity the restricted rooting into the chalk substrate and soil texture which result in a slight soil droughtiness limitation This has the effect of reducing the level and consistency of yields especially in drier years

24 The second soil type represented within this classification here is typified by soil pit 2 and mostly occur in the dry valley feature located towards the south west of the site The soils here comprise a calcareous medium silty clay loam topsoil overlying calcareous medium and heavy silty clay loam subsoils passing to a chalky drift between 60 and 65cm pure chalk was rarely encountered within 120cm Stones in the topsoils are similar to those described in para

be safely operated on such steep slopes As such Subgrade 3b is the highest classification possible irrespective of other factors as agricultural operations commensurate with better quality land cannot be safely carried out

30 Some of the remaining land on these slopes is principally limited by a significant topsoil stone content Flints in the topsoil were measured at a maximum of 45% by volume including 30% >2cm diameter These cause increased wear and tear on agricultural implements such as ploughs and tractor tyres so that production costs are increased The stones can also affect crop quality by impairing establishment and reducing the nutrient holding capacity of the soil leading to reduced plant populations especially in precision drilled crops This combination of factors cause this area adjoining the north eastern boundary to be restricted to Subgrade 3b

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SOURCES OF REFERENCE

British Geological Survey (1975) *Sheet No 283 Andover 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

Met 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 DATA

Contents

SOIL PROFILE DESCRIPTIONS EXPLANATORY NOTE

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

Boring Header Information

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

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

ARA	Arable	**WHT**	Wheat	**BAR**	Barley
CER	Cereals	**OAT**	Oats	**MZE**	Maize
OSR	Oilseed rape	**BEN**	Field Beans	**BRA**	Brassicae
POT	Potatoes	**SBT**	Sugar Beet	**FCD**	Fodder Crops
LIN	Linseed	**FRT**	Soft and Top Fruit	**FLW**	Fallow
PGR	Permanent Pasture	**LEY**	Ley Grass	**RGR**	Rough Grazing
SCR	Scrub	**CFW**	Coniferous Woodland	**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	**MD** moderately developed
	ST strongly developed	
ped size	**F** fine	**M** medium
	C coarse	**VC** very coarse
ped shape	**S** single grain	**M** massive
	GR granular	**AB** angular blocky
	SAB sub-angular blocky	**PR** prismatic
	PL platy	

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

L loose **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	WHEAT GRADE	POTS AP	POTS MB	M REL AP	M REL MB	DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SU30504720	CER	S	1			1	1	100	1	90	1	3A				DR	3A	IMPCH 50/P6&1
2	SU31304720	CER	N	2			1	1	109	9	102	11	2				DR	2	IMPCH 90/P2
3	SU31504720	CER	E	4			1	1	86	16	90	2	3A				DR	3A	IMPCH 75/P4
4	SU30404710	CER	S	1			1	1	103	4	92	3	3A				DR	3A	IMPCH 70/P6&1
5	SU30604710	CER					1	1	74	25	75	14	3B				DR	3B	IMPCH 56/P35
6	SU31004710	CER					1	1	96	3	89	0	3A				DR	3A	IMPCH 70/P6&1
7	SU31404710	CER	E	3			1	1	74	26	74	17	3B				DR	3B	IMPCHDR 50/P4
8	SU30504700	CER	S	1			1	1	73	26	74	15	3B				DR	3B	IMPCH 55/P4
9	SU30704700	CER	S	1			1	1	86	13	88	1	3A				DR	3A	IMPCH 70/P4
10	SU30904700	CER					1	1	98	1	91	2	3A				DR	3A	IMPCH 70/P6&1
11	SU31104700	CER					1	1	94	5	86	3	3A				DR	3A	IMPCH 80 P6LOC
12	SU31304700	CER					1	1	93	7	87	3	3A				DR	3A	IMPCH 100/P6&1
13	SU31504700	CER	E	4			1	1	99	1	92	2	3A				DR	3A	IMPCH 85/P6&1
14	SU31904698	CER					1	1	27	75	27	65	4				TS	3B	IMPHR 25
15	SU32104700	CER	N	2			1	1	51	51	51	41	4				DR	3B	IMPHR 30
16	SU32304700	CER	N	2			1	1	96	6	88	4	3A				DR	3A	IMPCH 70/P6&1
17	SU32504700	CER	N	1			1	1	105	3	111	19	3A				DR	3A	IMPHR 70/P2
18	SU30404690	CER	S	1			1	1	100	0	86	4	3A				DR	3A	CHNOTIMP80/P1
19	SU30604690	CER	SE	1			1	1	92	8	99	9	3A				DR	3A	IMPCH 70/P4
20	SU30804690	CER	SW	1			1	1	96	4	88	2	3A				DR	3A	IMPCHDR 50/P3
21	SU31004690	CER					1	1	100	1	92	3	3A				DR	3A	IMPCH 53/P6&1
22	SU31304690	CER					1	1	78	21	81	8	3B				DR	3B	IMPCHDR 60/P3
23	SU31754694	CER					1	1	125	24	119	27	2				DR	2	IMPCH/HR 90/P2
24	SU32004690	CER	N	2			1	1	112	11	98	6	2				DR	2	IMPCH 80/P6&1
25	SU32204690	CER	N	1			1	1	98	3	91	1	3A				DR	3A	IMPCH 60/P6&1
26	SU32404690	CER	N	2			1	1	114	13	114	22	2				DR	2	IMPCH 80/P4
27	SU30504680	CER	S	1			1	1	96	4	88	2	3A				DR	3A	IMPCH 55/P6&1
28	SU30704680	CER	S	1			1	1	105	5	114	24	2				DR	2	IMPCH 75 P2LOC
29	SU30904680	CER	S	1			1	1	104	4	90	0	3A				DR	3A	CHNOTIMP100/P1
30	SU31904680	CER					1	1	98	2	91	0	3A				DR	3A	IMPCH 70/P6&1
31	SU32104680	CER					1	1	95	5	89	2	3A				DR	3A	IMPHR 45/P6&1
32	SU32304680	CER	N	1			1	1	107	7	109	18	2				DR	2	IMPCH 62/P4LOC
33	SU32504680	CER	N	2			1	1	97	3	89	2	3A				DR	3A	IMPCH 80/P6&1
34	SU31004670	CER	S	1			1	1	88	12	91	1	3A				DR	3A	IMPCH 70/P4
35	SU32404670	CER	N	1			1	1	118	18	100	9	2				DR	2	IMPCH 58/P6&1
36	SU31204660	OSR					1	1	98	2	90	1	3A				DR	3A	IMPCH 70/P6&1
37	SU31374660	CER					1	1	64	36	64	27	3B				DR	3B	IMPHR 39/P4
38	SU31504660	CER					1	1	83	17	85	6	3A				DR	3A	IMPCH 56/P4
39	SU32104662	CER					1	1	107	7	94	3	2				DR	2	IMPCH 60/P6&1
40	SU32304660	CER					1	1	97	3	105	14	3A				DR	3A	IMPHR 60/P4
41	SU32504660	CER					1	1	89	11	85	6	3A				DR	3A	IMPHR 50/P6&1
42	SU31004650	OSR	S	1			1	1	83	17	88	3	3A				DR	3A	IMPHR 60/P4

SAMPLE NO	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	WETNESS CLASS	WHEAT GRADE	WHEAT AP	WHEAT MB	POTS AP	POTS MB	M REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
43	SU31204650	OSR	W	1			1	1	104	4	106	15	3A				DR	3A	IMPCHDR 75/P4
44	SU31384649	OSR					1	1	91	9	87	4	3A				DR	3A	IMPHRCH 45/P5
45	SU31604650	CER					1	1	105	5	94	3	2				DR	2	IMPCH 72/P6&1
46	SU32004650	CER					1	1	64	36	64	27	3B				DR	3B	IMPCH 40/P5LOC
47	SU32204650	CER					1	2	103	3	107	16	3A				DR	3A	IMPCH 80/P4
48	SU31114640	OSR	NW	2			1	1	84	16	87	4	3A				DR	3A	IMPHR 53/P2
49	SU31304640	OSR	NW	1			1	1	74	26	75	16	3B				DR	3B	ICHDR 42/P3LOC
50	SU31504639	OSR					1	1	90	10	91	0	3A				DR	3A	IMPCH 80/P4
51	SU31704640	CER	S	1			1	1	101	1	106	15	3A				DR	3A	IMPCHDR 60/P2
52	SU31904640	CER	W	1			1	1	107	7	103	12	2				DR	2	IMPHR 60/P4
53	SU32104640	CER	W	1			1	1	112	12	97	6	2				DR	2	IMPCH 70/P6&1
54	SU32304640	SAS	E	1			1	1	110	10	113	22	2				DR	2	IMPCHDR 80/P2
55	SU32504640	SAS	W	1			1	1	85	15	89	2	3A				DR	3A	IMPCH 55/P3
56	SU31004630	OSR	W	1			1	1	123	23	102	11	2				DR	2	IMPCH 82/P6&1
57	SU31204630	OSR	NW	1			1	1	94	6	89	2	3A				DR	3A	IMPCH 80/P6&1
58	SU31404630	OSR					1	1	73	27	74	17	3B				DR	3B	IMPCH 55/P3
59	SU31604630	CER					1	1	109	9	113	22	2				DR	2	IMPCHDR 70/P2
60	SU31784630	CER					1	1	117	16	110	18	2				DR	2	IMPCH 100/P2
61	SU32004630	CER	W	1			1	1	89	12	88	4	3A				DR	3A	IMPCH 45/P5
62	SU32204630	CER	S	1			1	1	90	11	97	5	3A				DR	3A	IMPHR 65/P2
63	SU32674634	SAS	W	1			1	1	123	23	102	11	2				DR	2	IMPCH 80/P6&1
64	SU30644625	PGR	E	1			1	1	108	7	112	20	2				DR	2	IMPCHDR 80/P2
65	SU30904622	OSR					1	1	98	3	104	12	3A				DR	3A	IMPHR 90/P2
66	SU31504625	OSR	S	1			1	1	78	22	81	10	3B				DR	3B	IMPCH 70/P3
67	SU30784614	SAS					1	1	111	10	114	22	2				DR	2	IMPCHDR 80/P2
68	SU30904617	OSR					1	1	107	6	107	15	2				DR	2	IMPHR 80/P2
69	SU31104620	OSR	NW	1			1	1	93	7	88	3	3A				DR	3A	IMPCH 70/P6&1
70	SU31304620	OSR					1	1	83	17	85	6	3A				DR	3A	IMPCH 58/P4
71	SU31284660	RGR					1	1	56	44	59	32	3B			Y	DR	3B	IMP FILL 65
P1	SU30904680	CER	S	1			1	1	104	4	90	0	3A				DR	3A	PIT 110 RTS 10
P2	SU30704680	CER	S	1			1	1	102	2	108	18	3A				DR	3A	PIT 85 RTS 75
P3	SU31304640	OSR	NW	1			1	1	75	25	77	14	3B				DR	3B	PIT 71 RTS 55
P4	SU32304680	CER	N	1			1	1	105	5	109	18	2				DR	2	PIT 88 RTS 80
P5	SU32004650	CER					1	1	78	22	84	6	3B				DR	3B	PIT 75 RTS 70
P6	SU31104700	CER					1	1	101	2	93	4	3A				DR	3A	PIT 100 RTS 90

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	GLEY	STONES 2	STONES 6	STONES LITH	STRUCT/ TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	IMP	SPL	CALC	
1	0 33	MZCL	10YR43						4	1	HR	10					Y		10%CH SEE P6
	33 93	CH	10YR81 64						0	0	HR	3			P		Y		SOFT CH/5% SOIL
2	0 30	MZCL	10YR43						4	1	HR	10					Y		SEE P2
	30 90	MZCL	10YR81 73						0	0	CH	50			M		Y		5%HR IMPCH90
3	0 28	MZCL	10YR43						9	1	HR	15					Y		SEE P4
	28 52	MZCL	10YR44						0	0	HR	10			M		Y		5%CH
	52 60	CH	10YR81 73						0	0	HR	5			P		Y		IMP CHALK 75
4	0 28	MZCL	10YR43						3	0	HR	10					Y		3%CH SEE P6
	28 35	MZCL	10YR43 44						0	0	HR	10			M		Y		5%CH
	35 95	CH	10YR81 74						0	0	HR	3			P		Y		IMP SOFT CH 70
5	0 29	MZCL	10YR43						4	1	HR	8					Y		2%CH SEE P5
	29 41	CH	10YR81						0	0	HR	3			P		Y		IMP HARD CH 41
	41 54	CH	10YR81						0	0	HR	3			P		Y		ROOTS TO 54
6	0 30	MZCL	10YR43 42						6	2	HR	12					Y		3%CH SEE P6
	30 90	CH	10YR81						0	0	HR	3			P		Y		IMP SOFT CH 70
7	0 28	MZCL	10YR43						4	0	HR	10					Y		SEE P4
	28 40	MZCL	10YR44						0	0	CH	40			M		Y		5%HR
	40 50	CH	10YR81 73						0	0	HR	3			P		Y		I HARD CHDR 50
8	0 28	MZCL	10YR43						3	1	HR	10					Y		2%CH SEE P4
	28 45	MZCL	10YR54 81						0	0	CH	60			M		Y		10%HR
	45 52	CH	10YR81						0	0	HR	3			P		Y		IMP HARD CH 55
9	0 29	MZCL	10YR43						4	1	HR	7					Y		SEE P4
	29 39	MZCL	10YR44						0	0	HR	10			M		Y		10%CH
	39 50	MZCL	10YR73						0	0	CH	30			M		Y		CH DRIFT 5%HR
	50 57	CH	10YR81						0	0	HR	3			P		Y		IMP CH 70
10	0 29	MZCL	10YR43						4	0	HR	7					Y		3%CH SEE P6
	29 89	CH	10YR81						0	0	HR	3			P		Y		IMP CH 70
11	0 27	MZCL	10YR43						5	1	HR	12					Y		5%CH P6 LOCATION
	27 90	CH	10YR81						0	0	HR	3			P		Y		IMP SOFT CH 80
12	0 28	MZCL	10YR43						2	0	HR	10					Y		10%CH SEE P4
	28 55	CH	10YR81 74						0	0	HR	3			P		Y		10%SOIL HARD
	55 70	CH	10YR81						0	0	HR	3			P		Y		
	70 88	CH	10YR81						0	0	HR	3			P		Y		IMP CHALK 100
13	0 30	MZCL	10YR43						2	0	HR	8					Y		5%CH SEE P6/1
	30 90	CH	10YR81						0	0	HR	3			P		Y		IMP SOFT CH 85

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	CALC	
14	0 25	MZCL	10YR31						30	5	HR	45					Y		IMP FLINTS 25
15	0 30	MZCL	10YR44						7	0	HR	12					Y		IMP FLINTS 30
16	0 25	MZCL	10YR43						1	0	HR	10					Y		15%CH SEE P6/1
	25 40	MZCL	10YR73						0	0	CH	50		M			Y		5%HR
	40 90	CH	10YR81						0	0	HR	3		P			Y		IMP SOFT CH 70
17	0 28	MZCL	10YR43						4	0	HR	7					Y		SEE P2
	28 48	MZCL	10YR44						0	0	CH	10		M			Y		5%HR
	48 70	MZCL	10YR64						0	0	CH	35		M			Y		5%HR IMPHR 70
18	0 25	MZCL	10YR43						3	0	HR	10					Y		10%CH SEE P6
	25 38	MZCL	10YR54 81						0	0	CH	60		M			Y		10%HR
	38 98	CH	10YR81						0	0	HR	3		P			Y		CH NOT IMP 80
19	0 25	MZCL	10YR43						3	1	HR	8					Y		5%CH SEE P4
	25 35	HZCL	10YR54 81						0	0	CH	25		M			Y		10%HR
	35 65	MZCL	10YR64						0	0	CH	50		M			Y		5%HR CH DRIFT
	65 72	CH	10YR81						0	0	HR	3		P			Y		IMP PURE CH 70
20	0 30	MZCL	10YR43						3	1	HR	10					Y		10% CH SEE P3
	30 55	CH	10YR81 74						0	0	HR	3		P			Y		IHARD CHDRIFT 50
21	0 30	MZCL	10YR43						4	0	HR	7					Y		SEE P6
	30 90	CH	10YR81						0	0	HR	5		P			Y		IMP CHALK 53
22	0 28	MZCL	10YR43						3	1	HR	10					Y		5%CH SEE P3
	28 35	MZCL	10YR43						0	0	CH	25		M			Y		10%HR
	35 60	CH	10YR81						0	0	HR	3		P			Y		I HARD CHDR 60
23	0 30	MZCL	10YR53						0	0	HR	3					Y		SEE P2
	30 60	HZCL	10YR54						0	0	HR	5		M			Y		
	60 90	HZCL	10YR54 64						0	0	CH	10		M			Y		IMP FLINT 90
24	0 25	MZCL	10YR44						0	0	HR	5					Y		SEE P6
	25 39	MZCL	10YR54						0	0	HR	5		M			Y		5%CH
	39 100	CH	10YR81						0	0	HR	3		P			Y		IMP SOFT CH 80
25	0 30	MZCL	10YR43						1	0	HR	5					Y		10%CH SEE P1
	30 90	CH	10YR81						0	0	HR	5		P			Y		IMP SOFT CH 60
26	0 25	MZCL	10YR43						2	0	HR	5					Y		SEE P4
	25 50	MZCL	10YR44						0	0	CH	10		M			Y		5%HR
	50 78	MZCL	10YR64						0	0	CH	20		M			Y		5%HR
	78 85	CH	10YR81						0	0	HR	3		P			Y		IMP HARD CH 80
27	0 30	MZCL	10YR43						3	0	HR	10					Y		10%CH SEE P6
	30 90	CH	10YR81						0	0	HR	3		P			Y		IMP CHALK 60

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES 2	STONES 6	STONES LITH	STRUCT/ TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	IMP	SPL	CALC	
28	0 25	MZCL	10YR43 44						3	1	HR	8							P2 LOCATION
	25 65	HZCL	10YR46						0	0	HR	5		M					
	65 75	CH	10YR81 74						0	0	HR	3		P			Y		10%SOILINCH IMP75
29	0 30	MZCL	10YR43						7	2	HR	10					Y		P1 LOCATION
	30 100	CH	10YR81						0	0	HR	3		P			Y		CH NOT IMP 100
30	0 29	MZCL	10YR44						0	0	HR	4					Y		3%CH SEE P6/1
	29 89	CH	10YR81						0	0	HR	5		P			Y		IMP SOFT CHALK 70
31	0 28	MZCL	10YR43						1	0	HR	5					Y		2%CH SEE P6
	28 88	CH	10YR81						0	0	HR	10		P			Y		IMPHR45 IN SOFTCH
32	0 28	MZCL	10YR43						1	0	HR	3					Y		1%CH P4 LOCATION
	28 60	MZCL	10YR73						0	0	CH	20		M			Y		5%HR
	60 80	CH	10YR81						0	0	HR	5		P			Y		IMPHR INSOFT CH62
33	0 30	MZCL	10YR43						4	0	HR	10					Y		5%CH SEE P6/P1
	30 90	CH	10YR81 73						0	0	HR	5		P			Y		IMP SOFT CHDR 80
34	0 29	MZCL	10YR43						7	1	HR	10					Y		SEE P4
	29 39	MZCL	10YR44						0	0	CH	15		M			Y		5%HR
	39 53	MZCL	10YR73						0	0	CH	30		M			Y		5%HR
	53 60	CH	10YR81						0	0	HR	3		P			Y		IMP CHALK 70
35	0 28	MZCL	10YR43						1	0	HR	3					Y		1%CH SEE P6/1
	28 45	MZCL	10YR46						0	0	CH	10		M			Y		10%HR
	45 105	CH	10YR81						0	0	HR	5		P			Y		IHR IN SOFT CH 58
36	0 30	MZCL	10YR43						3	0	HR	8					Y		5% CH SEE P6
	30 90	CH	10YR81						0	0	HR	3		P			Y		IMP CHALK 70
37	0 27	MZCL	10YR43						3	0	HR	7					Y		SEE P3
	27 39	MZCL	10YR73						0	0	CH	30		M			Y		10%HR IFLINT 39
38	0 33	MZCL	10YR43						4	0	HR	8					Y		SEE P3
	33 46	MZCL	10YR73						0	0	CH	40		M			Y		5%HR CH DRIFT
	46 56	CH	10YR81						0	0	HR	3		P			Y		IMP HARD CH 56
39	0 27	MZCL	10YR44						0	0	HR	5					Y		SEE P6/1
	27 37	MZCL	10YR54						0	0	CH	40		M			Y		5%HR
	37 97	CH	10YR81						0	0	HR	5		P			Y		IMP SOFT CH 60
40	0 28	MZCL	10YR43						1	0	HR	3					Y		3%CH SEE P4
	28 58	MZCL	10YR63						0	0	CH	20		M			Y		5%HR
	58 60	MZCL	10YR73						0	0	CH	30		M			Y		5%HR IHRINCHDR60
41	0 25	MZCL	10YR53						1	4	HR	10					Y		10%CH SEE P6/1
	25 85	CH	10YR81						0	0	HR	3		P			Y		IHR IN SOFT CH 50

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES 2	6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
42	0 27	MZCL	10YR43						4	0	HR	10					Y		SEE P3
	27 60	MZCL	10YR73						0	0	CH	40		M			Y		10%HR IHD CHDR6
43	0 27	MZCL	10YR43						9	2	HR	15					Y		SEE P4
	27 37	MZCL	10YR44						0	0	HR	10		M			Y		
	37 75	MZCL	10YR73						0	0	CH	30		M			Y		5%HR
	75 82	CH	10YR81						0	0	HR	3		P			Y		IMP CHDRIFT 75
44	0 25	MZCL	10YR43						4	1	HR	15					Y		10%CH SEE P4
	25 40	MZCL	10YR64 81						0	0	CH	50		M			Y		5%HR CH DRIFT
	40 85	CH	10YR81						0	0	HR	3		P			Y		IMP FLINT 45
45	0 30	MZCL	10YR43						3	0	HR	7					Y		SEE P6
	30 35	MZCL	10YR73						0	0	CH	40		M			Y		5%HR
	35 95	CH	10YR81						0	0	HR	3		P			Y		IMP CHALK 72
46	0 25	MZCL	10YR43						5	1	HR	12					Y		10%CH P5LOCATION
	25 70	CH	10YR81						0	0	HR	3		M			Y		IMP HARD CH 40
47	0 25	HZCL	10YR43						2	0	HR	10							SEE P2
	25 65	ZC	10YR46	FEW MN					0	0	HR	5		M					
	65 75	HZCL	10YR54 81						0	0	CH	40		M			Y		5%HR
	75 82	CH	10YR81						0	0	HR	3		P			Y		IMP HARD CH 80
48	0 27	MZCL	10YR44						6	1	HR	10					Y		SEE P3
	27 33	MZCL	10YR44						0	0	HR	10		M			Y		
	33 55	MZCL	10YR73						0	0	CH	30		M			Y		5%HR IMPHR55
49	0 29	MZCL	10YR43						4	0	HR	8					Y		P3 LOCATION
	29 54	CH	10YR81						0	0	HR	3		P			Y		IMPHARD CHDR 42
50	0 24	MZCL	10YR43						3	1	HR	10					Y		15%CH
	24 55	CH	10YR81						0	0	HR	3		P			Y		
	55 75	MZCL	10YR64 81						0	0	CH	20		M			Y		3%HR CH DRIFT
	75 82	CH	10YR81						0	0	HR	3		P			Y		IMP 80CM
51	0 30	MZCL	10YR43						3	1	HR	8					Y		2%CH SEE P3
	30 50	HZCL	10YR54						0	0	CH	25		M			Y		5%HR
	50 75	MZCL	10YR64 81						0	0	CH	50		M			Y		5%HR IMPCHDR60
52	0 30	MZCL	10YR43						3	1	HR	8					Y		2%CH SEE P4
	30 87	MZCL	10YR64 81						0	0	CH	50		M			Y		5%HR IHR/HDCH 6
53	0 28	MZCL	10YR43						3	0	HR	8					Y		SEE P6
	28 40	HZCL	10YR44						0	0	HR	5		M			Y		5%CH
	40 100	CH	10YR81						0	0	HR	3		M			Y		IHR IN CH 70
54	0 28	MZCL	10YR43						2	0	HR	8					Y		2%CH SEE P2
	28 55	HZCL	10YR54						0	0	HR	5		M			Y		5%CH
	55 65	HZCL	10YR54 81						0	0	CH	20		M			Y		5%HR
	65 80	MZCL	10YR64 81						0	0	CH	50		M			Y		5%HR IMP CHDR 80

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES 2	6	LITH	STRUCT/ TOT	CONSIST	SUBS STR	POR	IMP	SPL	CALC	
55	0 28	MZCL	10YR43						2	0	HR	8					Y		SEE P4
	28 40	MZCL	10YR64 81						0	0	CH	50		M			Y		5% HR CH DRIFT
	40 65	CH	10YR81						0	0	HR	3		P			Y		IMP HARD CH 55
56	0 31	MZCL	10YR43						0	0	HR	2					Y		SEE P6
	31 50	MZCL	10YR54 56						0	0	CH	45		M			Y		5%HR
	50 110	CH	10YR81						0	0	HR	3		P			Y		IMP SOFT CH 82
57	0 26	MZCL	10YR43						4	2	HR	6					Y		2%CH SEE P6
	26 86	CH	10YR81						0	0	HR	5		P			Y		IMP SOFT CH 80
58	0 30	MZCL	10YR43						3	0	HR	8					Y		10%CH SEE P3
	30 55	CH	10YR81						0	0	HR	3		P			Y		IMP HARD CH 55
59	0 30	MZCL	10YR43						2	0	HR	8					Y		SEE P2
	30 60	HZCL	10YR54						0	0	HR	5		M			Y		5%CH
	60 79	MZCL	10YR64 81						0	0	CH	50		M			Y		5%HR IMPHARDCH70
60	0 30	MZCL	10YR43						1	0	HR	8					Y		SEE P2
	30 45	HZCL	10YR44 54						0	0	HR	5		M			Y		10%CH
	45 60	HZCL	10YR54						0	0	CH	30		M			Y		5%HR
	60 75	MZCL	10YR64 82						0	0	CH	50		M			Y		5%HR SOFT CHDR
	75 94	CH	10YR81						0	0	HR	3		P			Y		IMP CH 100
61	0 28	MZCL	10YR43 53						3	1	HR	10					Y		15%CH SEE P5
	28 35	MZCL	10YR44 81						0	0	CH	40		M			Y		5%HR
	35 80	CH	10YR81						0	0	HR	3		P			Y		IMP HARD CH 45
62	0 28	MZCL	10YR43						3	1	HR	10					Y		10%CH SEE P4
	28 38	MZCL	10YR54 81						0	0	CH	30		M			Y		5%HR
	38 65	MZCL	10YR64 81						0	0	CH	50		M			Y		5%HR IHARDCHDR65
63	0 30	MZCL	10YR43						3	1	HR	10					Y		2%CH SEE P6/1
	30 50	MZCL	10YR54						0	0	HR	5		M			Y		10%CH
	50 110	CH	10YR81						0	0	HR	3		P			Y		IMP SOFT CH 80
64	0 25	MZCL	10YR43						2	0	HR	8							SEE P2
	25 65	HZCL	10YR46						0	0	HR	8		M					
	65 84	MZCL	10YR64 81						0	0	CH	55		P			Y		10%HR ICHDR80
65	0 25	MZCL	10YR43						2	0	HR	10					Y		10%CH SEE P4
	25 55	MZCL	10YR44						0	0	HR	10		M			Y		10%CH
	55 75	MZCL	10YR54 81						0	0	CH	40		M			Y		10%HR
	75 90	MZCL	10YR81 64						0	0	CH	60		P			Y		10%HR IFLINT90
66	0 35	MZCL	10YR43						3	0	HR	10					Y		10%CH SEE P3
	35 60	CH	10YR81 74						0	0	HR	3		P			Y		IMP HARD CH 60

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	IMP	SPL	CALC	
67	0 25	MZCL	10YR43 44						2	0	HR	8							SEE P2
	25 65	HZCL	10YR46	FEW	MN				0	0	HR	5		M					
	65 84	MZCL	10YR64 81						0	0	CH	60		P			Y		10%HR ICHDR80
68	0 25	MZCL	10YR43						3	0	HR	10					Y		+5%CH SEE P2
	25 55	MZCL	10YR43 44						0	0	CH	15		M			Y		10%HR
	55 84	HZCL	10YR46						0	0	CH	10		M			Y		+10%HR IMPHR80
69	0 26	MZCL	10YR43						3	0	HR	7					Y		SEE P6
	26 86	CH	10YR81						0	0	HR	5		P			Y		IMP SOFT CH 70
70	0 25	MZCL	10YR43						6	2	HR	10					Y		SEE P4
	25 48	MZCL	10YR73						0	0	CH	30		M			Y		5%HR
	48 58	CH	10YR81						0	0	HR	3		P			Y		IMP CHALK 58
71	0 35	MZCL	10YR42						11	3	HR	25					Y		5%CH DISTURBED
	35 60	CH	10YR81						0	0	HR	3		P			Y		SOFT CH
	60 65	LMS	10YR21						0	0	HR	50		P					FILL IMP 65
P1	0 30	MZCL	10YR43						7	2	HR	10					Y		PIT @ BOR 29
	30 100	CH	10YR81						0	0	HR	5		P			Y		PIT 110 ROOTS 100
P2	0 28	MZCL	10YR43 44						2	1	HR	5							PIT @ 28 SIEVED
	28 56	HZCL	10YR46						2	0	HR	15	MVCSAB	FR	M				BREAK TO MDCAB
	56 75	MZCL	10YR63 81						0	0	CH	50	MDMAB	FM	M		Y		10%HR PIT85RTS75
P3	0 30	MZCL	10YR43						4	0	HR	8					Y		PIT @ BOR 49
	30 55	CH	10YR73 81						0	0	HR	5		P			Y		PIT71RTS55 HARDCH
P4	0 23	MZCL	10YR43						1	0	HR	3					Y		1%CH PIT @ 32
	23 73	MZCL	10YR64						0	0	CH	30	MVCSAB	FR	M		Y		5%HR
	73 80	CH	10YR81						0	0	HR	5		P			Y		PIT 88 ROOTS 80
P5	0 25	MZCL	10YR44						4	2	CH	10					Y		10%HR PIT @ 46
	25 39	CH	10YR54						0	0	HR	5		M			Y		WEATHERED CH
	39 52	CH	10YR81						0	0	HR	5		M			Y		COM ROOTS
	52 70	CH	10YR81						0	0	HR	5		P			Y		PIT 75 ROOTS 70
P6	0 30	MZCL	10YR43						2	0	CH	5					Y		3%HR PIT @ 11
	30 90	CH	10YR81						0	0	HR	2		P			Y		PIT100 ROOTS 90