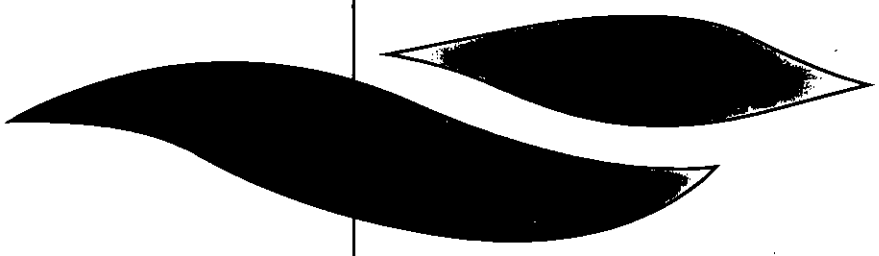
FRCA

[redacted]



FARMING AND RURAL CONSERVATION AGENCY

An Executive Agency of the Ministry of Agriculture, Fisheries and Food and the Welsh Office

A1

Hampshire Structure Plan Review
Land north of Winchester

Agricultural Land Classification
Reconnaissance / Semi-detailed Survey
ALC Map and Report

October 1997

Resource Planning Team
Eastern Region
FRCA Reading

RPT Job Number: 1513/116/97
FRCA Reference: EL 15/00518

AGRICULTURAL LAND CLASSIFICATION REPORT

HAMPSHIRE STRUCTURE PLAN REVIEW
LAND NORTH OF WINCHESTER
RECONNAISSANCE AND SEMI-DETAILED SURVEY

INTRODUCTION

1. This report presents the findings of an Agricultural Land Classification (ALC) survey of approximately 330 hectares of land to the north of Winchester. The recent reconnaissance and semi-detailed survey in the central and northern parts of the site was carried out during October 1997. The detailed survey to the extreme south of the site (FRCA Ref.: 1513/117/94, Land at Barton Farm) was carried out as a separate survey in June 1994.

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 Hampshire Structure Plan Review. This survey supersedes any previous ALC information for this land. It was completed at two different levels of detail; land to the south of Well House Lane was undertaken at a semi-detailed level whilst land north of Well House Lane was completed at a reconnaissance level of detail, on a 'free' survey basis. Consequently the results are designed for strategic planning purposes only. For site specific proposals further more detailed surveys may be required in this area. The 1994 survey of Land at Barton Farm was carried out in connection with the Winchester District Local Plan at a detailed level of survey.

3. Prior to the 1st April 1997 the work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS. After this date the work was completed by the same team as part of the Farming and Rural Conservation Agency (FRCA), Reading. 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 majority of land was under cereals and winter oilseed rape with smaller areas of rough and permanent grassland to the east of the site. The areas mapped as 'Other Land' consist of woodland, scrub, allotments, roads, footpaths, a railway line, a sewage works and a number of agricultural dwellings.

SUMMARY

5. The findings of the surveys 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.

---

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

7. The recent fieldwork was conducted at an average density of slightly less than one boring every two hectares in the semi-detailed part of the site and slightly more than one boring every four hectares in the reconnaissance part of the site. A total of 103 borings and seven soil pits were described in this area. The survey at Barton Farm was conducted at an average density of one boring every one hectare. A total of 30 borings and three soil inspection pits were assessed.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	13.9	4.5	4.2
3a	189.5	61.4	57.3
3b	105.1	34.1	31.8
Other Land	22.2	N/A	6.7
Total Surveyed Area	308.5	100	N/A
Total site area	330.7	N/A	100

8. The agricultural land at this site has been classified as very good quality (Grade 2), to moderate quality (Subgrade 3b), including a substantial proportion of good quality (Subgrade 3a). Principal limitations include soil droughtiness and to a lesser extent topsoil stone content, soil workability and gradient.

9. Soil droughtiness restricts the land quality across the majority of the site. Where Subgrade 3a is mapped weathered chalk and flints, over solid chalk at moderate depths cause profile available water to be restricted. Where soils are shallower over solid chalk or where very flinty soils occur (mainly in the valley bottoms), Subgrade 3b is appropriate due to increased risk of drought and/or the high volume of flints in the topsoil. Solid chalk has the effect of restricting plant rooting depth, such that there is a reduction in the available water capacity of the soil, leading to a risk of drought in plants. High volumes of large stones (>2cm diameter) in the topsoil increase implement and tyre wear and may interfere with crop germination, quality and harvesting.

10. Soil workability restrictions occur alone or in conjunction with other limitations where land is mapped as Grade 2. In these valley bottom situations, soils are generally deeper and land is restricted by only a minor droughtiness limitation. In addition, local climatic parameters interact with the medium textured topsoils encountered, causing this land to be prone to structural damage during wetter periods, were it to be stocked or cultivated.

11. Localised areas of Subgrade 3b have been mapped in the south west of the site on the more steeply sloping land where gradient is the major limitation. Here, slope measurements are generally within the range of 8-10°. Occasional measurements in excess of 11° have also been observed but are too limited in extent to be mapped separately at this scale. Gradient has the effect of restricting the safe and effective use of farm machinery.

FACTORS INFLUENCING ALC GRADE

Climate

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

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

Factors	Units	Values	Values	Values	Values
Grid reference	N/A	SU 485 316	SU 479 313	SU 473 320	SU 474 315
Altitude	m,AOD	44	50	62	72
Accumulated Temperature	day°C	1497	1490	1476	1465
Average Annual Rainfall	mm	804	810	817	822
Field Capacity Days	days	176	177	178	179
Moisture Deficit, Wheat	mm	106	105	104	102
Moisture Deficit, Potatoes	mm	109	98	96	94
Overall Climatic Grade	N/A	Grade 1	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 (AT0, 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. The site is believed not to be at risk from exposure. However, it does lie in an area which is indicated as being 'Frost Prone' (Met. Office, 1971). Detailed field examination indicates that frost is not likely to be a significant limitation in the grading of this site. The site is climatically Grade 1.

Site

17. The survey area comprises a gently rolling tract of land which is dissected by a number of dry valley features. The altitude of the land varies considerably. The highest land lies at about 95m AOD at the extreme north west corner of the survey area, whilst the lowest point lies at 44m AOD in the dry valley feature in the south east of the site. Land quality is limited to Subgrade 3b by steep gradients (in excess of 7°) in the central part of the site (to the west of the railway line) and in the south east corner of the site.

Geology and Soils

18. The published geological information for the site (BGS, 1975) shows the whole site to consist of Upper Chalk deposits. The geology map also indicates that valley gravel, sands and alluvium occur along the eastern boundary of the site near Headborne Worthy. Such deposits were encountered to the south of Upper Farm, in the bottom of the valley feature upon detailed field examination.

19. The most recently published soil information for the site (SSEW, 1983) shows the Andover 1 association to cover the entire area. These soils 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 soil patterns locally.' (SSEW, 1983).

20. Upon detailed field examination, soils were broadly consistent with the above description.

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.

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 II.

AGRICULTURAL LAND CLASSIFICATION

Grade 2

23. Very good quality agricultural land has been mapped in the dry valley bottoms to the centre and south of the site. The main limitations include soil droughtiness, soil workability and occasionally topsoil stoniness. The soils are derived from Chalk or superficial drift deposits of loamy material above the Chalk.

24. Profiles within this unit typically comprise calcareous medium silty clay loam topsoils which contain between 2 and 12% total flints by volume (1-8% > 2cm, 0-3% > 6cm). These overlie similar subsoils which are sometimes impenetrable to the soil auger at depths between 45 and 70cm due to flints or hard chalk at depth. Where the soils could be examined to depth, the lower subsoils contain between 25-60% weathered chalk. Given these textures, stone contents and rooting depths, in association with the prevailing climate, there is a minor soil droughtiness restriction. In addition to this, due to the relatively wet local climate, and the medium topsoil textures encountered, this area is very slightly restricted by soil workability. This means that during wetter periods, the topsoil could be prone to structural damage, were trafficking of machinery or stock grazing to occur.

25. Occasionally, a stone content of between 6% and 10% (> 2cm) diameter in the topsoil is sufficient to limit the classification to Grade 2 on the basis of topsoil stones alone. The presence of large stones in the topsoil has the effect of increasing production costs caused by extra wear and tear to equipment and reducing crop establishment and quality.

Subgrade 3a

26. Land of good quality has been mapped across the majority of the site. The principal limitation is soil droughtiness, with topsoil stoniness occasionally being equally restricting.

27. Soils within this unit typically comprise well drained, calcareous medium silty clay loam topsoils, which are very slightly to moderately stony, containing up to 20% total flints (1-12% >2cm, 0-6% > 6cm). These usually overlie similar textured subsoils, which vary in stone content and depth over the chalk below. The subsoils contain a combination of flint and/or weathered chalk fragments which vary in quantity (between 10 and 60% chalk fragments and/or between 0 and 15% flint). Many of these subsoils become impenetrable to the soil auger, either due to occasional flint fragments or when solid chalk is encountered at depths between 30cm and 75cm. In the observation pits within this unit (see pits 1,3,4 and 6, Appendix II, see Appendix III, Pits 1 and 2, Ref.: 1501/085/96) the observed rooting depth varied considerably depending on the composition and hardness of the chalk. Given the variation in the depth of rooting, the amount of available water in these profiles is such as to limit them to no better than Subgrade 3a. Where topsoil stone contents are in the range 10-15% (>2cm) or 5-10% (>6cm), stoniness itself is a limiting factor.

Subgrade 3b

28. Moderate quality (Subgrade 3b) land is mapped over about one third of the survey area. It is commonly associated with the lower slopes of the dry valley features, many of which contain superficial deposits of flinty material resting above the chalk bedrock. In addition, it is also mapped on shallow soils over chalk, particularly on the higher parts of the site, where available water is at its lowest, or where the chalk bedrock is noticeably harder and rooting is more restricted. Isolated areas of land are also restricted to Subgrade 3b quality on the basis of gradient restrictions.

29. In those areas where flinty topsoils are found, particularly in valley bottoms in the central areas of the site, not only is the water storage capacity of the soil significantly reduced, but the large volume of stones in the topsoil (typically in the range 16-20% flints > 2cm diameter) will creates a significant topsoil stoniness limitation.

30. The shallow soils over the chalk mapped as Subgrade 3b are essentially more drought prone than those described in the Subgrade 3a unit. The soils either contain higher volumes of flint and chalk stones , or the chalk occurs high in the soil profile and, in some instances, is harder and less rootable or the moisture deficit figures are higher. Typical soils in the area comprise a slightly stony to moderately stony (up to 25% flints) calcareous medium silty clay loam topsoil, occasionally passing to a very shallow, extremely chalky (50-60% v/v weathered chalk) medium or heavy silty clay loam upper subsoil. This directly overlies blocky chalk between 26 and 33cm, which tends to be impenetrable to the auger. In pits 2 and 5, roots were visible between 33 and 37cm into the chalk. As a result of the combination of the shallow soil resource and the way that the chalk restricts the rooting depth, there is a significant reduction in the plant available water.. There is, therefore, a significant risk of drought stress, which will affect both plant growth and yield.

31. Two discrete areas of land in the centre and the south east of the site have been mapped as Subgrade 3b on the basis of a gradient restriction. The gradients were measured (with an

optical reading clinometer) between 7° and 10°. Slopes in this gradient range are sufficient to compromise the safe and efficient operation of farm machinery.

Sharron Cauldwell
Resource Planning Team
FRCA Eastern Region

SOURCES OF REFERENCE

British Geological Survey (1975) Sheet No. 299, Winchester 1:50,000 scale (Drift Edition). 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.

Met. Office (1971) *Unpublished Climatological Data.* Map Sheet 168. Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Sheet 6, Soils of South East England.* 1:250,000 scale. 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 **ST**: strongly developed	**MD**: moderately developed
ped size	**F**: fine **C**: coarse	**M**: medium **VC**: very coarse
ped shape	**S** : single grain **GR**: granular **SAB**: sub-angular blocky **PL**: platy	**M**: massive **AB**: angular blocky **PR**: prismatic

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

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

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

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

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

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
1P	0-27	MZCL	10YR43						4	2	HR	10							
	27-75	CH							0	0		0			P				ROOTS 48CM
2P	0-19	MZCL	10YR42						3	0	HR	11					Y		
	19-29	MZCL	10YR44						0	0	CH	60	MDFSAB	FR	G		Y		
	29-62	CH	10YR81						0	0	HR	1			P		Y		ROOTS 33CM
3P	0-24	MZCL	10YR42						3	0	HR	5					Y		
	24-42	MZCL	10YR4454						0	0	HR	13	MDCSAB	FR	M		Y		
	42-90	CH	10YR81						0	0	HR	5			P		Y		ROOTS 48CM
4P	0-26	MZCL	10YR43						8	2	HR	15					Y		
	26-50	MZCL	10YR44						0	0	HR	15	MDCSAB	FR	M	N	Y		
	50-63	MZCL	10YR44						0	0	HR	20	MDCSAB	FR	M		Y		
	63-75	MZCL	10YR4454						0	0	CH	50	MDCSAB	FR	M		Y		
	75-85	CH	10YR81						0	0	HR	2			P		Y		ROOTS 10CM
5P	0-26	MZCL	10YR42						11	5	HR	15					Y		
	26-63	CH	10YR81						0	0	HR	5			P		Y		ROOTS 37CM
6P	0-30	MZCL	10YR4243						6	3	HR	12					Y		
	30-42	MZCL	10YR44						0	0	CH	17	MDCSAB	FM	M		Y		
	42-57	MZCL	10YR54						0	0	CH	50	WKCSAB	FR	M		Y		
	57-80	CH	10YR81						0	0	HR	5			P		Y		ROOTS 23CM
7P	0-27	MZCL	10YR43						4	1	HR	5					Y		ROOTS 105CM
	27-55	MZCL	10YR44						0	0	HR	17	MDCSAB	FR	M		Y		
	55-75	MZCL	10YR46						0	0	HR	15	MDCSAB	FR	M		Y		
	75-105	MZCL	10YR54						0	0	CH	45	MDMSAB	FR	M		Y		

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SU46303350	CER					1	2	91	-16	97	-2	3a				DR	3A	BORDER 3B
2	SU46503340	CER	S	1			1	2	86	-20	92	-7	3a				DR	3A	BORDER 3B
3	SU46803330	CER	S	1			1	2	86	-20	92	-7	3a				DR	3B	BORDER 3A
4	SU46503330	CER	S	3			1	2	93	-19	95	-4	3a				DR	3A	BORDER 3B
5	SU47103320	STU	N	1			1	2	84	-22	91	-8	3b				DR	3B	SEE PIT 5
6	SU46803320	CER	S	2			1	2	96	-10	101	2	3a				DR	3A	SEE PIT 3
7	SU46503310	STB	S	2			1	2	91	-15	100	1	3a				DR	3A	SEE PIT 3
8	SU46803310	STU	S	3			1	2	90	-16	96	-3	3a				DR	3A	SEE PIT 3
9	SU47103310	STB	S	1			1	2	92	-14	97	-2	3a				DR	3A	ALSO TS STONES
10	SU47503310	STU	N	3			1	2	107	1	109	10	3a				DR	3A	SEE PIT 4
11	SU47703210	STU		3			1	2	73	-33	73	-26	3b				DR	3A	IMP 48
12	SU47903310	OSR	N	3			1	2	87	-19	93	-2	3a				DR	3A	SEE PIT 3
13	SU47103290	STB	S	4			1	2	106	0	106	7	3a				DR	3A	SEE PIT 3
14	SU47303290	OSR	S	3			1	2	84	-25	90	-9	3b				DR	3B	SEE PIT 5
15	SU47503290	OSR	S	1			1	2	83	-23	89	-10	3b				DR	3B	SEE PIT 5
16	SU47703290	STB	NE	2			1	2	86	-20	91	-8	3a				DR	3A	SEE PIT 3
17	SU48203290	OSR	N	1			1	2	88	-18	94	-3	3a				DR	3A	SEE PIT 3
18	SU48303290	STB	SE	2			1	2	103	-3	103	4	3a				DR	3A	SEE PIT 3
19	SU46803280	STU	S	2			1	2	94	-12	97	-2	3a				DR	3A	SEE PIT 6
20	SU47803280	STB	S	1			1	2	91	-15	95	-4	3a				ST	3B	
21	SU48403270	STB	SE	2			1	2	97	-9	100	1	3a				DR	3A	SEE PIT 3
22	SU46803270	STU	S	3			1	2	84	-22	90	-9	3b				DR	3B	SEE PIT 5
23	SU47303270	OSR	S	2			1	2	86	-20	92	-6	3a				DR	3A	Q3B SEE 6P
24	SU47503270	OSR	S	3			1	2	84	-22	90	-9	3b				DR	3B	SEE PIT 5
25	SU48103270	STB	S	2			1	2	84	-20	93	-6	3a				DR	3A	BORDERLINE 3B
26	SU48603270	STB	SE	3			1	2	101	-5	100	1	3a				DR	3A	SEE PIT 3
27	SU47103270	STB	S	3			1	2	120	14	115	16	2				WD	2	ALSO TS STONES
28	SU48503260	STB	SE	2			1	2	98	-8	100	1	3a				DR	3A	SEE PIT 3
29	SU46803260	STU					1	2	82	-24	87	-12	3b				DR	3B	SEE PIT 5
30	SU48303250	PGR	SE	2			1	2	88	-18	94	-5	3a				DR	3A	SEE PIT 3
31	SU47103250	STB	S	3			1	2	71	-36	72	-27	3b				DR	3A	IMP 35 ALSO ST
32	SU47403240	OSR	N	4			1	2	99	-7	101	2	3a				DR	3A	SEE PIT 6
33	SU47803250	ARA	S	4			1	2	91	-15	97	-2	3a				DR	3A	ALSO TS STONES
34	SU48003250	OSR	S	3			1	2	88	-18	96	-4	3a				DR	3A	SEE PIT 3
35	SU48403250	PGR	SE	2			1	2	96	-10	99	0	3a				DR	3A	SEE PIT 3
36	SU48603250	RGR	SE	1			1	2	51	-55	51	-48	4				ST	3B	IMP 35
37	SU46903240	STU	N	2			1	2	94	-12	95	-4	3a				DR	3A	ALSO ST
38	SU47703235	ARA	S	4			1	2	105	-1	108	9	3a				DR	3A	
39	SU47903240	CER	S	3			1	2	100	-6	99	0	3a				DR	3A	ALSO TS STONE
40	SU46903230	STB	E	3			1	2	82	-24	88	-11	3b				DR	3B	SEE PIT 5
41	SU47203230	STB					1	2	30	-76	30	-71	4				ST	4	
42	SU47103230	STB	NW	3			1	2	98	-8	101	2	3a				DR	3A	SEE PIT 3

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
43	SU47403220	OSR	E	1			1	2	38	-68	38	-61	4				ST	3B	IMP 32
44	SU48303230	PGR	SE	2			1	2	71	-35	71	-28	3b				DR	3B	I45 SEE 4P
45	SU47103230	ARA	N	3			1	2	81	-25	87	-12	3b				DR	3B	SEE PIT 2
46	SU47803230	STU	N	2			1	2	43	-63	44	-55	4				ST	3B	
47	SU48003220	STB					1	2	51	-55	51	-48	4				ST	3B	IMP 35CM
48	SU48203220	PGR					1	2	51	-55	51	-48	4				ST	3B	IMP 35
49	SU47003210	ARA	N	4			1	2	80	-26	87	-12	3b				DR	3B	SEE PIT 2
50	SU47203210	ARA	NE	2			1	2	84	-22	91	-18	3b				DR	3B	SEE PIT 3
51	SU47403210	ARA	NE	3			1	2	85	-21	92	-7	3b				DR	3B	SEE PIT 2
52	SU47703220	STU	N	4			1	2	90	-16	95	-4	3a				DR	2	I60 SEE7P QGR2
53	SU48003210	STB	N	3			1	2	144	38	115	16	1				WK	2	SEE PIT 7
54	SU47103200	ARA	NW	1			1	2	88	-24	92	-7	3b				DR	3A	SEE PIT 3
55	SU47303200	ARA	NE	3			1	2	85	-21	89	-10	3b				DR	3A	SEE PIT 3
56	SU47503200	ARA	NE	3			1	2	102	-4	114	15	3a				DR	3A	SEE PIT 7
57	SU47703200	ARA	NW	5			1	2	91	-15	96	-3	3a				DR	3A	SEE PIT 3
58	SU47903200	ARA	NE	8						0		0					GR	3B	
59	SU48003200	ARA	NE	9						0		0					GR	3B	
60	SU48303220	PGR					1	2	82	-26	88	-11	3b				DR	3B	SEE PIT 2
61	SU48503220	LEY	E	1			1	2	96	-30	82	-17	3b				DR	3B	SEE PIT 2
62	SU47203190	PLO	N	1			1	2	90	-16	95	-4	3a				DR	3A	SEE PIT 3
63	SU47403190	ARA	SE	3			1	2	81	-25	86	-13	3b				DR	3B	ALMOST 3A
64	SU47603190	PLO	N	3			1	2	85	-21	92	-7	3b				DR	3B	ALMOST 3A
65	SU47803190	ARA					1	2	69	-37	70	-29	3b				DR	3A	SEE PIT 3
66	SU48003190	ARA					1	2	80	-26	85	-14	3b				DR	3B	SEE PIT 1
67	SU48203190	PGR	S	1			1	2	41	-65	42	-57	4				DR	3B	SEE PIT 2
68	SU48403190	LEY	S	4			1	2	76	-34	82	-17	3b				DR	3B	SEE PIT 2
69	SU47303180	PLO	E	2			1	2	88	-18	95	-4	3a				DR	3B	SEE PIT 3
70	SU47503180	PLO	NE	2			1	2	110	4	119	20	3a				DR	2	IMP 70 SEE 7P
71	SU47703180	ARA					1	2	86	-20	93	-6	3a				DR	3B	IMP 67 SEE 2P
72	SU47903180	ARA					1	2	77	-29	82	-17	3b				DR	3B	SEE PIT 2
73	SU48103180	STU	S	1			1	2	90	-16	97	-2	3a				DR	3A	IMP 63 SEE 4P
74	SU48303180	LEY	S	5			1	2	83	-23	88	-11	3b				DR	3B	SEE PIT 2
75	SU48503180	LEY	S	6			1	2	78	-28	83	-16	3b				DR	3B	SEE PIT 2
76	SU47203170	PLO	N	1			1	2	88	-18	95	-4	3a				DR	3A	SEE PIT 1
77	SU47403170	PLO	NE	2			1	2	76	-30	77	-22	3b				DR	2	IMP 45 SEE 7P
78	SU47603170	PLO	N	2			1	2	90	-16	97	-2	3a				DR	3A	SEE PIT 3
79	SU47803170	LEY	S	2			1	2	92	-14	99	0	3a				DR	3A	SEE PIT 1
80	SU48003170	LEY	SE	3			1	2	94	-12	101	2	3a				DR	3A	SEE PIT 3
81	SU48203170	STU	S	4			1	2	91	-15	98	-1	3a				DR	3A	I65 Q GR 2
82	SU48403170	LEY	S	5			1	2	81	-25	85	-14	3b				DR	3B	ALSO ST SEE2P
83	SU47303160	PLO	NE	2			1	2	95	-11	98	-1	3a				DR	3A	SEE PIT 3
84	SU47503160	PLO	N	2			1	2	90	-16	97	-2	3a				DR	3A	SEE PIT 1

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
85	SU47703160	LEY	SE	2			1	2	83	-23	88	-11	3b				DR	3B	SEE PIT 2
86	SU47903160	LEY	S	3			1	2	72	-34	73	-32	3b				DR	3A	Q GR 2 IMP 40
87	SU48103160	STU	S	2			1	2	53	-53	53	-46	4				ST	3B	IMP 40
88	SU48203160	STB					1	2	99	-7	106	7	3a				DR	3A	IMP 60 Q GR2
89	SU48303160	LEY	S	3			1	2	89	-17	89	-10	3a				ST	3A	
90	SU48503160	LEY	W	1			1	2	0	0	0	0					ST	3B	
91	SU47403150	PLO	NE	2			1	2	88	-18	95	-4	3a				DR	3A	SEE PIT 1
92	SU47803150	LEY	SE	2			1	2	107	1	106	7	3a				DR	3A	SEE PIT 6
93	SU47953150	LEY	S	2			1	2	83	-23	83	-16	3b				DR	3A	IMP 48
94	SU48103150	STU	N	6			1	2	145	39	114	15	1				WK	2	GRADE 2 WK
95	SU48203150	STB	N	5			1	2	86	-20	92	-7	3a				DR	3A	ALMOST 3B SEE1
96	SU48403150	PGR	N	8			1	2	80	-26	86	-13	3b				GR	3B	
97	SU48603150	LEY	N	8			1	2	0	0	0	0					GR	3B	IMP 30
98	SU47303140	PLO	NE	3			1	2	83	-23	88	-11	3b				DR	3B	SEE PIT 2
99	SU47703140	LEY	SE	2			1	2	90	-16	97	-2	3a				DR	3A	SEE PIT 1
100	SU47903140	LEY	SE	2			1	2	96	-10	99	0	3a				DR	3A	SEE PIT 3
101	SU48103140	STB	N	5			1	2	95	-11	101	2	3a				DR	3A	SEE PIT 3
102	SU48303140	STB	N	4			1	2	94	-12	101	2	3a				DR	3A	SEE PIT 3
103	SU48503140	PGR	NE	1			1	2	45	-61	45	-54	4				DR	3B	IMP 32
1P	SU48003190	ARA	NE	2			1	2	86	-20	89	-10	4a				DR	3A	
2P	SU47903180	ARA					1	2	73	-33	77	-22	3b				DR	3B	HARDER CH 65
3P	SU47703200	CER	N	2			1	2	104	-2	97	-2	3a				DR	3A	
4P	SU47503310	STB	N	3			1	2	109	3	109	10	3a				DR	3A	
5P	SU47503290	OSR	S	1			1	2	77	-29	81	-18	3b				DR	3B	
6P	SU46803280	STB	S	3			1	2	102	-4	103	4	3a				DR	3A	
7P	SU47503180	CER	NW	2			1	2	126	20	111	12	2				DR	2	ALSO WK

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
1	0-35	MZCL	10YR4243						8	2	HR	10						Y	
	35-65	CH	10YR81						0	0	HR	2		P				Y	
2	0-30	MZCL	10YR4243						8	5	HR	15						Y	
	30-35	MZCL	10YR54						0	0	CH	50		M				Y	
	35-65	CH	10YR81						0	0	HR	5		P				Y	
3	0-26	MZCL	10YR53						6	1	CH	10						Y	
	26-66	CH							0	0		0		P				Y	
4	0-30	MZCL	10YR4243						8	3	HR	10						Y	
	30-70	CH	10YR81						0	0	HR	2		P				Y	
5	0-27	MZCL	10YR43						8	4	CH	12						Y	
	27-67	CH							0	0		0		P				Y	
6	0-30	MZCL	10YR43						7	2	HR	15						Y	
	30-43	MZCL	10YR44						0	0	CH	15		M				Y	
	43-73	CH							0	0		0		P				Y	
7	0-30	MZCL	10YR4243						4	2	HR	10						Y	
	30-40	MZCL	10YR54						0	0	CH	50		M				Y	
	40-70	CH	10YR81						0	0	HR	2		P				Y	
8	0-28	MZCL	10YR44						5	0	HR	12						Y	
	28-39	MZCL	10YR54						0	0	CH	25		M				Y	
	39-69	CH							0	0		0		P				Y	
9	0-35	MZCL	10YR4243						11	5	HR	15						Y	
	35-75	CH	10YR81						0	0	HR	2		M				Y	
10	0-29	MZCL	10YR43						7	0	HR	15						Y	
	29-58	MZCL	75YR44						0	0	CH	10		M				Y	
	58-83	CH							0	0	HR	5		P				Y	
11	0-25	MZCL	10YR42						6	2	HR	8						Y	
	25-48	MZCL	10YR44						0	0	CH	50		M				Y	IMP FLINTS
12	0-28	MZCL	10YR43						5	2	HR	6						Y	
	28-37	MZCL	10YR44						0	0	CH	50		M				Y	
	37-67	CH							0	0	HR	2		P				Y	
13	0-30	MZCL	10YR43						6	2	HR	10						Y	
	30-50	MZCL	10YR44						0	0	CH	10		M				Y	
	50-80	CH	10YR81						0	0	HR	5		P				Y	
14	0-28	MZCL	10YR4243						8	5	HR	10						Y	
	28-68	CH	10YR81						0	0	HR	5		P				Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
15	0-26	MZCL	10YR53						8	0	CH	13						Y
	26-66	CH							0	0		0		P				Y
16	0-30	MZCL	10YR42						6	2	CH	10						Y
	30-35	MZCL	10YR4454						0	0	CH	50		M				Y
	35-65	CH	10YR81						0	0	HR	2		P				Y
17	0-26	MZCL	10YR42						7	4	HR	8						Y
	26-38	MZCL	10YR43						0	0	CH	50		M				Y
	38-68	CH							0	0	HR	5		P				Y
18	0-30	MZCL	10YR4243						6	2	HR	10						Y
	30-40	MZCL	10YR4344						0	0	HR	10		M				Y
	40-50	MZCL	10YR5444						0	0	CH	40		M				Y
	50-80	CH	10YR81						0	0	HR	5		P				Y
19	0-26	MZCL	10YR43						8	3	HR	16						Y
	26-45	MZCL	10YR54						0	0	CH	25		M				Y
	45-75	CH							0	0		0		P				Y
20	0-28	MZCL	10YR42						16	5	HR	20						Y
	28-33	MZCL	10YR44						0	0	CH	50		M				Y
	33-75	CH	10YR81						0	0	HR	5		P				Y
21	0-29	MZCL	10YR42						4	2	HR	8						Y
	29-35	MZCL	10YR43						0	0	HR	5		M				Y
	35-45	MZCL	10YR44						0	0	CH	50		M				Y
	45-75	CH	10YR81						0	0	HR	5		P				Y
22	0-29	MZCL	10YR44						10	3	HR	10						Y
	29-69	CH							0	0		0		P				Y
23	0-23	MZCL	10YR43						10	3	CH	15						Y
	23-40	MZCL	10YR54						0	0	CH	50		M				Y
	40-70	CH	10YR81						0	0		0		P				Y
24	0-26	MZCL	10YR53						5	0	CH	10						Y
	26-66	CH							0	0		0		P				Y
25	0-30	MZCL	10YR4243						6	2	HR	10						Y
	30-70	CH	10YR81						0	0	HR	2		P				Y
26	0-30	MZCL	10YR4243						4	2	HR	8						Y
	30-50	MZCL	10YR43						0	0	CH	40		M				Y
	50-80	CH	10YR81						0	0	HR	5		P				Y
27	0-28	MZCL	10YR43						7	2	HR	10						Y
	28-70	MZCL	10YR44						0	0	CH	10		M				Y
	70-75	MZCL	10YR4454						0	0	CH	50		M				Y
	75-95	CH	10YR81						0	0	HR	5		P				Y

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
28	0-35	MZCL	10YR4243						6	3	HR	10						Y	
	35-47	MZCL	10YR44						0	0	CH	40		M				Y	
	47-77	CH	10YR81						0	0	HR	5		P				Y	
29	0-33	MZCL	10YR43						13	4	HR	25						Y	
	33-73	CH							0	0		0		P				Y	
30	0-28	MZCL	10YR42						5	2	HR	10						Y	
	28-36	MZCL	10YR43						0	0	CH	40		M				Y	
	36-66	CH	10YR81						0	0	HR	5		P				Y	
31	0-30	MZCL	10YR4243						11	5	HR	15						Y	
	30-45	MZCL	10YR44						0	0	HR	15		M				Y	IMP FLINTS
32	0-32	MZCL	10YR32						8	1	HR	16						Y	
	32-52	MZCL	75YR44						0	0	CH	18		M				Y	
	52-77	CH							0	0		0		P				Y	
33	0-28	MZCL	10YR43						12	3	HR	14						Y	
	28-42	MZCL	10YR44						0	0	CH	30		M				Y	
	42-72	CH							0	0	HR	5		P				Y	
34	0-30	MZCL	10YR43						4	2	HR	10						Y	
	30-40	MZCL	10YR4454						0	0	CH	50		M				Y	
	40-70	CH	10YR81						0	0	HR	5		P				Y	
35	0-30	MZCL	10YR4243						4	2	HR	8						Y	
	30-45	MZCL	10YR4344						0	0	CH	30		M				Y	
	45-75	CH	10YR81						0	0	HR	5		M				Y	
36	0-35	MZCL	10YR2131						16	5	HR	25						Y	
37	0-28	MZCL	10YR43						14	3	HR	25						Y	
	28-48	MZCL	10YR44						0	0	HR	5		M				Y	
	48-78	CH							0	0		0		P				Y	
38	0-28	MZCL	10YR42						6	2	HR	7							
	28-38	MZCL	10YR44						0	0	CH	10		M				Y	
	38-58	MZCL	10YR73						0	0	CH	50		M				Y	
	58-78	CH							0	0	HR	5		P				Y	
39	0-30	MZCL	10YR4243						12	5	HR	20						Y	
	30-50	MZCL	10YR44						0	0	CH	10		M				Y	
	50-80	CH	10YR81						0	0		0		P				Y	
40	0-28	MZCL	10YR42						16	2	CH	20						Y	
	28-68	CH	10YR81						0	0	HR	5		P				Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
41	0-35	MZCL	10YR42						40	10	HR	60						Y	IMP FLINTS
42	0-28	MZCL	10YR4243						3	2	HR	5						Y	
	28-45	MZCL	10YR54						0	0	CH	20		M				Y	
	45-75	CH	10YR81						0	0	HR	2		P				Y	
43	0-32	MZCL	10YR42						20	4	HR	40						Y	IMP FLINTS
44	0-30	MZCL	10YR42						8	3	HR	15						Y	
	30-45	MZCL	10YR44						0	0	HR	15		M				Y	IMP FLINTS
45	0-30	MZCL	10YR53						4	0	HR	15						Y	
	30-70	CH	10YR81						0	0	HR	2		P				Y	
46	0-28	MZCL	10YR42						20	10	HR	22							IMP FLINTS
47	0-35	MZCL	10YR4243						16	5	HR	25						Y	IMP FLINTS
48	0-35	MZCL	10YR3332						16	5	HR	25						Y	IMP FLINTS
49	0-28	MZCL	10YR53						5	3	HR	15						Y	
	28-68	CH	10YR81						0	0	HR	2		P				Y	
50	0-30	MZCL	10YR43						3	2	HR	10						Y	
	30-70	CH	10YR81						0	0	HR	2		P				Y	
51	0-32	MZCL	10YR43						2	0	HR	13						Y	
	32-72	CH	10YR81						0	0	HR	2		P				Y	
52	0-25	MZCL	10YR41						7	3	HR	8						Y	
	25-35	MZCL	10YR43						0	0	CH	10		M				Y	
	35-60	MZCL	10YR74						0	0	CH	30		M				Y	IMP FLINTS
53	0-35	MZCL	10YR4243						4	2	HR	7						Y	
	35-65	MZCL	10YR54						0	0	CH	10		M				Y	
	65-120	MZCL	10YR54						0	0	CH	60		M				Y	
54	0-28	MZCL	10YR43						3	0	HR	10						Y	
	28-55	MZCL	10YR64						0	0	CH	30		M				Y	IMP FLINTS
55	0-28	MZCL	10YR43						4	2	HR	12						Y	
	28-55	MZCL	75YR4344						0	0	CH	30		M				Y	IMP FLINTS
56	0-27	MZCL	10YR42						4	1	HR	10						Y	
	27-50	MZCL	10YR43						0	0	HR	5		M				Y	
	50-58	MZCL	75YR43						0	0	HR	5		M				Y	
	58-70	MZCL	10YR64						0	0	CH	50		M				Y	IMP FLINTS

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	
57	0-28	MZCL	10YR53						2	0	HR	2						Y	
	28-38	MZCL	10YR43						0	0	CH	8		M				Y	
	38-68	CH	10YR81						0	0	HR	2		P				Y	
60	0-27	MZCL	10YR43						10	0	CH	20						Y	
	27-67	CH	10YR81						0	0		0		P				Y	
61	0-20	MZCL	10YR42						10	2	CH	17						Y	
	20-25	HZCL	10YR44						0	0	CH	17		M				Y	
	25-65	CH							0	0	HR	5		P				Y	
62	0-35	MZCL	10YR43						3	0	HR	6						Y	
	35-65	CH	10YR81						0	0		0		P				Y	
63	0-18	MZCL	10YR43						2	0	HR	5						Y	
	18-35	MZCL	10YR64						0	0	CH	50		M				Y	
	35-65	CH	10YR81						0	0	HR	2		P				Y	
64	0-30	MZCL	10YR4252						6	0	HR	7						Y	
	30-70	CH	10YR81						0	0		0		P				Y	
65	0-27	MZCL	10YR43						7	5	HR	10						Y	
	27-40	MZCL	10YR43						0	0	CH	10		M				Y	IMP FLINTS
66	0-25	MZCL	10YR43						7	5	HR	10						Y	
	25-65	CH	10YR81						0	0	HR	5		P				Y	
67	0-25	MZCL	10YR43						14	5	HR	17						Y	IMP FLINTS
68	0-27	MZCL	10YR42						11	5	HR	17						Y	
	27-67	CH							0	0	HR	5		P				Y	
69	0-29	MZCL	10YR4243						3	0	HR	8						Y	
	29-69	CH	10YR81						0	0		0		M				Y	
70	0-30	MZCL	10YR43						3	0	HR	7						Y	
	30-55	MZCL	10YR54						0	0	HR	5		M				Y	
	55-65	MZCL	10YR54						0	0	HR	5		M				Y	
	65-75	MZCL	10YR73						0	0	CH	25		M				Y	IMP HARD/DRY
71	0-27	MZCL	10YR43						1	3	HR	6							
	27-67	CH	10YR81						0	0	HR	5		P				Y	
72	0-18	MZCL	10YR43						4	2	HR	15						Y	
	18-35	MZCL	10YR6481						0	0	CH	60		M				Y	
	35-65	CH	10YR81						0	0	HR	2		P				Y	
73	0-25	MZCL	10YR43						12	2	HR	17							
	25-43	MZCL	10YR44						0	0	CH	10		M				Y	
	43-63	MZCL	10YR54						0	0	CH	45		M				Y	IMP HARD/DRY

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	
74	0-25	MZCL	10YR42						12	4	HR	15						Y	
	25-30	MZCL	10YR44						0	0	HR	10		M				Y	
	30-70	CH							0	0	HR	2		P				Y	
75	0-26	MZCL	10YR52						6	2	HR	10						Y	
	26-66	CH							0	0	HR	2		P				Y	
76	0-30	MZCL	10YR42						6	0	HR	10						Y	
	30-70	CH	10YR81						0	0		0		P				Y	
77	0-30	MZCL	10YR43						6	0	HR	12						Y	
	30-45	MZCL	10YR44						0	0	HR	10		M				Y	IMP FLINTS
78	0-30	MZCL	10YR4243						4	0	HR	10						Y	
	30-38	MZCL	10YR54						0	0	CH	10		M				Y	
	38-68	CH	10YR81						0	0		0		P				Y	
79	0-30	MZCL	10YR42						2	0	HR	3						Y	
	30-70	CH	10YR81						0	0	HR	5		P				Y	
80	0-30	MZCL	10YR43						2	0	HR	5						Y	
	30-38	MZCL	10YR44						0	0	CH	10		M				Y	
	38-68	CH	10YR81						0	0		0		P				Y	
81	0-26	MZCL	10YR43						10	1	HR	15						Y	
	26-46	MZCL	10YR44						0	0	CH	20		M				Y	
	46-65	MZCL	10YR54						0	0	CH	45		M				Y	IMP FLINTS
82	0-25	MZCL	10YR42						12	4	HR	15						Y	
	25-35	MZCL	10YR64						0	0	HR	12						Y	
	35-65	CH							0	0	HR	5						Y	
83	0-30	MZCL	10YR42						4	0	HR	10						Y	
	30-38	MZCL	10YR44						0	0	HR	5		M				Y	
	38-78	CH	10YR81						0	0		0		P				Y	
84	0-29	MZCL	10YR52						4	0	HR	4						Y	
	29-69	CH	10YR81						0	0		0		P				Y	
85	0-25	MZCL	10YR42						2	0	HR	3						Y	
	25-65	CH	10YR81						0	0		0		P				Y	
86	0-28	MZCL	10YR43						2	0	HR	5						Y	
	28-40	HZCL	10YR44						0	0	CH	2		M				Y	IMP FLINTS
87	0-22	MZCL	10YR43						17	5	HR	25							
	22-40	MZCL	10YR44						0	0	HR	35		M				Y	IMP FLINTS

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	
88	0-30	MZCL	10YR43						2	0	HR	3					Y		
	30-60	MZCL	10YR4454						0	0	HR	2		M			Y		IMP FLINTS
89	0-27	ZL	10YR42						12	4	HR	15					Y		
	27-50	MZCL	10YR53						0	0	HR	10		M			Y		IMP FLINTS
90	0-23	MZCL	10YR42						16	3	HR	18					Y		
91	0-28	MZCL	10YR52						4	0	HR	5					Y		IMP FLINTS
	28-68	CH	10YR81						0	0		0		P			Y		
92	0-28	MZCL	10YR43						2	0	HR	3					Y		
	28-40	MZCL	10YR44						0	0	HR	5		M			Y		
	40-48	MZCL	10YR73						0	0	CH	30		M			Y		
	48-78	CH	10YR81						0	0		0		P			Y		
93	0-30	MZCL	10YR43						2	0	HR	5					Y		
	30-48	MZCL	10YR44						0	0	HR	10		M			Y		IMP FLINTS
94	0-26	MZCL	10YR43						5	1	HR	10					Y		
	26-57	MZCL	10YR44						0	0	CH	10		M			Y		
	57-120	MZCL	10YR54						0	0	CH	50		M			Y		
95	0-27	MZCL	10YR4353						4	0	HR	4					Y		
	27-67	CH	10YR81						0	0		0		P			Y		
96	0-28	MZCL	10YR43						7	1	HR	15					Y		
	28-68	CH							0	0		0		P			Y		
97	0-30	MZCL	10YR42						0	0		0					Y		
98	0-25	MZCL	10YR52						5	0	HR	5					Y		
	25-65	CH	10YR81						0	0		0		P			Y		
99	0-30	MZCL	10YR4243						2	0	HR	5					Y		
	30-70	CH	10YR81						0	0		0		P			Y		
100	0-29	MZCL	10YR43						2	0	HR	5					Y		
	29-42	MZCL	10YR64						0	0	CH	50		M			Y		
	42-72	CH	10YR81						0	0		0		P			Y		
101	0-28	MZCL	10YR4353						5	0	HR	5					Y		
	28-40	MZCL	10YR54						0	0	HR	5		M			Y		
	40-70	CH	10YR81						0	0		0		P			Y		
102	0-30	MZCL	10YR43						5	0	HR	7					Y		
	30-40	MZCL	10YR54						0	0	HR	7		M			Y		
	40-70	CH	10YR81						0	0		0		P			Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
103	0-28	MZCL	10YR42						14	3	HR	30						Y	
	28-32	MZCL	10YR43						0	0	HR	35		M				Y	IMP FLINTS