

A1  
New Forest District Local Plan  
Omission Site 29 Land W of Lynes Farm  
Hightown, Hampshire  
Agricultural Land Classification Report  
November 1996



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**Omission Site 29 Land W of Lynes Farm,**  
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**Resource Planning Team**  
**Guildford Statutory Group**  
**ADAS Reading**

**ADAS Reference 1508/155/96**  
**MAFF Reference EL 15/00315**  
**LUPU Commission 02768**

# AGRICULTURAL LAND CLASSIFICATION REPORT

## NEW FOREST DISTRICT LOCAL PLAN OMISSION SITE 29 LAND WEST OF LYNES FARM

### INTRODUCTION

1 This report presents the findings of a detailed Agricultural Land Classification (ALC) survey on approximately 28 hectares of land to the west of Lynes Farm Hightown near Ringwood in Hampshire. The survey was carried out during November 1996.

2 The survey was commissioned by the Ministry of Agriculture Fisheries and Food (MAFF) from its Land Use Planning Unit in Reading in connection with the New Forest District Local Plan. The results of this survey supersede a previous ALC survey (ADAS Ref 1508/033/84) carried out in 1984 prior to the revision of the ALC system (MAFF 1988).

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

4 At the time of survey most of the agricultural land on this site was under permanent grassland with some areas of maize stubble to the north of the site. The areas shown as Other Land include residential buildings and a farm track.

### SUMMARY

5 The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10,000. It is accurate at this scale but any enlargement would be misleading.

6 The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1 below.

Table 1 Area of grades and other land

Grade/Other land	Area (hectares)	% Total site area	% Surveyed Area
2	27.0	96.8	100.0
Other land	0.9	3.2	
Total surveyed area	27.0		100.0
Total site area	27.9	100.0	

7 The fieldwork was conducted at an average density of 1 boring per hectare. A total of 30 borings and three soil inspection pits were described.

8 All of the agricultural land on this site has been classified as Grade 2 (very good quality) on the basis of a minor soil droughtiness limitation. Occasional borings were also limited primarily by slight soil wetness or workability restrictions.

9 There are three distinct soil types on this site. Those to the north of the site comprise medium sandy loam topsoils over medium sandy loam or medium sandy silt loam upper subsoils and sandy clay loam lower subsoils. The stone contents range from slightly to moderately flinty. Profiles are moderately well drained. The centre of the site comprises slightly flinty medium sandy silt loam topsoils over medium and heavy clay loam subsoils with a very slight flint content. These soils are well drained. The profiles to the south east of the site are similar to those in the centre. However they contain more flint in the lower subsoils and are less well drained due to clayey horizons at depth. In this local climatic regime the combination of soil textures, structures and stone contents acts to slightly reduce the amount of profile available water for crops. As a result the level and consistency of crop yields is restricted. The medium textured topsoils may also limit the timing and flexibility of cultivations in some places.

10 Occasional borings of slightly higher or lower quality were also noted on this site. However these were not mapped separately due to their limited number and extent.

## **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).

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.

Table 2 Climatic and altitude data

Factor	Units	Values	Values
Grid reference	N/A	SU 167 053	SU 166 052
Altitude	m AOD	30	25
Accumulated Temperature	day°C (Jan June)	1531	1537
Average Annual Rainfall	mm	854	851
Field Capacity Days	days	178	177
Moisture Deficit Wheat	mm	108	109
Moisture Deficit Potatoes	mm	102	103

15 The combination of rainfall and temperature at this site mean that there is no overall climatic limitation (Climatic Grade 1) However climatic factors can interact with soil properties to influence soil wetness and droughtiness At this locality the high field capacity day values may increase the likelihood of soil wetness The crop adjusted soil moisture deficits are also relatively high thus increasing the likelihood of soil droughtiness restrictions

16 Local climatic factors such as frost risk and exposure are unlikely to adversely affect agricultural land use on this site

#### Site

17 The land on this site slopes very gently from 30m AOD in the north east to 21m AOD in the south west

18 Flooding is not likely to affect land quality in this area

#### Geology and soils

19 The relevant geological sheet (BGS 1976) maps the Bracklesham Beds across the site However valley gravel drift deposits are shown to cover all but the eastern boundary of the site

20 The most recently published soils information for this area (SSEW 1983) maps the Hurst soil association across most of the site and the Bursledon association in the east The former association is described as comprising Coarse and fine loamy permeable soils mainly over gravel variably affected by groundwater (SSEW 1983) and the latter as Deep fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging associated with deep coarse loamy soils variably affected by groundwater Some slowly permeable seasonally waterlogged loamy over clayey soils Landslips and associated irregular terrain locally (SSEW 1983)

21 Detailed field examination broadly confirmed the existence of soils similar to those described above

## AGRICULTURAL LAND CLASSIFICATION

22 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 1

23 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

### *Grade 2*

24 There are three main soil types on this site all of which have been classified as very good quality The north east of the site comprises slightly flinty (5-12% total flint with 1-3% > 2cm) medium sandy loam or sandy silt loam topsoils over moderately well structured occasionally mottled upper subsoils of a similar texture and stone content At 65-75cm depth the profiles become more distinctly mottled and more variable in texture with medium clay loams sandy clay loams medium sandy loams and loamy medium sands The lower subsoils also appear to become stonier (5-50% total flint) before becoming impenetrable to the soil auger at 65-100cm depth Soil inspection Pit 3 (Appendix III) however showed that the stone content is generally only 20-30% and the soil resource continues to at least 120cm depth In this locally warm and dry climatic regime the combination of soil textures structures and stone contents acts to slightly reduce the amount of profile available water for crops This land has therefore been classified as Grade 2 due primarily to a minor soil droughtiness limitation However the mottling present in some profiles also shows signs of a minor drainage impedance Slight seasonal waterlogging such as this is consistent with Wetness Class II (Appendix II) as it can reduce the timing and flexibility of cultivations Trafficking by agricultural machinery or grazing livestock can cause structural damage therefore in some places this land is equally limited by soil wetness and workability restrictions

25 The land to the centre of the site is similar to that described above the topsoils being directly comparable However this land is slightly heavier in texture and less stony comprising moderately well structured very slightly flinty (2% total flint) medium clay loam or sandy clay loam upper subsoils At 55-70cm depth the sandy clay loam and heavy clay loam lower subsoils become slightly stonier with 2-20% total flint Soil inspection Pit 1 (Appendix III) showed that these horizons are moderately well structured though occasional poorly structured clays do occur at depth (78-100cm) Most profiles therefore are well drained (Wetness Class I) however signs of slight soil wetness in the form of mottling do occur in some borings In general though drought risk is the most limiting factor as the profile available moisture is slightly reduced by the warm climate and a combination of the various soil structures textures and stone contents This land has therefore been classified as Grade 2 on the basis of a slight soil droughtiness limitation

26 The southern end of the site and other more scattered areas were found to comprise very slightly to slightly flinty (3-10%) medium clay loam medium sandy loam or medium sandy silt loam topsoils and upper subsoils At 40-65cm depth these generally overlie slightly to moderately flinty (10-20%) moderately well structured sandy clay loams heavy clay loams and occasional medium clay loams with variable degrees of mottling From 65-100cm the profiles become impenetrable to the soil auger due to an increase in flint content Soil inspection Pit 2 (Appendix III) however revealed that the soil resource continues to 120cm

with similar textured subsoils. These are gleyed and contain 30-45% flint. Where the stone content is higher the subsoil structural conditions become poorly developed but in general they remained moderately well structured. In this local climatic regime Wetness Class I or II is appropriate though soil droughtiness restrictions again predominate. Occasional borings of either higher or lower quality also occur within this site. However these were too limited in number and extent to map separately.

Helen Goode  
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ADAS Reading

## SOURCES OF REFERENCE

British Geological Survey (1976) *Sheet No 314 Ringwood* 1 50 000 Series 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

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

## 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 <sup>1</sup>
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years <sup>2</sup>
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).

<sup>1</sup> The number of days is not necessarily a continuous period

<sup>2</sup> 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

<b>ARA</b>	Arable	<b>WHT</b>	Wheat	<b>BAR</b>	Barley
<b>CER</b>	Cereals	<b>OAT</b>	Oats	<b>MZE</b>	Maize
<b>OSR</b>	Oilseed rape	<b>BEN</b>	Field Beans	<b>BRA</b>	Brassicae
<b>POT</b>	Potatoes	<b>SBT</b>	Sugar Beet	<b>FCD</b>	Fodder Crops
<b>LIN</b>	Linseed	<b>FRT</b>	Soft and Top Fruit	<b>FLW</b>	Fallow
<b>PGR</b>	Permanent Pasture	<b>LEY</b>	Ley Grass	<b>RGR</b>	Rough Grazing
<b>SCR</b>	Scrub	<b>CFW</b>	Coniferous Woodland	<b>DCW</b>	Deciduous Wood
<b>HTH</b>	Heathland	<b>BOG</b>	Bog or Marsh	<b>FLW</b>	Fallow
<b>PLO</b>	Ploughed	<b>SAS</b>	Set aside	<b>OTH</b>	Other
<b>HRT</b>	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

<b>MREL</b>	Microrelief limitation	<b>FLOOD</b>	Flood risk	<b>EROSN</b>	Soil erosion risk
<b>EXP</b>	Exposure limitation	<b>FROST</b>	Frost prone	<b>DIST</b>	Disturbed land
<b>CHEM</b>	Chemical limitation				

9 **LIMIT** The main limitation to land quality The following abbreviations are used

<b>OC</b>	Overall Climate	<b>AE</b>	Aspect	<b>EX</b>	Exposure
<b>FR</b>	Frost Risk	<b>GR</b>	Gradient	<b>MR</b>	Microrelief
<b>FL</b>	Flood Risk	<b>TX</b>	Topsoil Texture	<b>DP</b>	Soil Depth
<b>CH</b>	Chemical	<b>WE</b>	Wetness	<b>WK</b>	Workability
<b>DR</b>	Drought	<b>ER</b>	Erosion Risk	<b>WD</b>	Soil Wetness/Droughtiness
<b>ST</b>	Topsoil Stoniness				

## Soil Pits and Auger Borings

- 1 **TEXTURE** soil texture classes are denoted by the following abbreviations

<b>S</b>	Sand	<b>LS</b>	Loamy Sand	<b>SL</b>	Sandy Loam
<b>SZL</b>	Sandy Silt Loam	<b>CL</b>	Clay Loam	<b>ZCL</b>	Silty Clay Loam
<b>ZL</b>	Silt Loam	<b>SCL</b>	Sandy Clay Loam	<b>C</b>	Clay
<b>SC</b>	Sandy Clay	<b>ZC</b>	Silty Clay	<b>OL</b>	Organic Loam
<b>P</b>	Peat	<b>SP</b>	Sandy Peat	<b>LP</b>	Loamy Peat
<b>PL</b>	Peaty Loam	<b>PS</b>	Peaty Sand	<b>MZ</b>	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

<b>F</b>	Fine (more than 66% of the sand less than 0.2mm)
<b>M</b>	Medium (less than 66% fine sand and less than 33% coarse sand)
<b>C</b>	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

<b>HR</b>	all hard rocks and stones	<b>SLST</b>	soft oolitic or dolimitic limestone
<b>CH</b>	chalk	<b>FSST</b>	soft fine grained sandstone
<b>ZR</b>	soft argillaceous or silty rocks	<b>GH</b>	gravel with non porous (hard) stones
<b>MSST</b>	soft medium grained sandstone	<b>GS</b>	gravel with porous (soft) stones
<b>SI</b>	soft weathered igneous/metamorphic rock		

Stone contents (>2cm >6cm and total) are given in percentages (by volume)



SOIL PIT DESCRIPTION

Site Name LAND WEST OF LYNES FARM Pit Number 1P

Grid Reference SU16400510 Average Annual Rainfall 854 mm  
 Accumulated Temperature 1531 degree days  
 Field Capacity Level 177 days  
 Land Use Permanent Grass  
 Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 30	MSZL	10YR42 00	2	15	HR					
30- 65	MCL	10YR43 00	0	2	HR		MDCSAB	FR	M	
65- 95	HCL	10YR53 00	0	2	HR	C	MDCSAB	FR	M	
95-120	HCL	10YR61 00	0	2	HR	M			M	

Wetness Grade 1 Wetness Class I  
 Gleying 65 cm  
 SPL No SPL

Drought Grade 2 APW 149mm MBW 40 mm  
 APP 112mm MBP 9 mm

FINAL ALC GRADE 2  
 MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name LAND WEST OF LYNES FARM Pit Number 2P

Grid Reference SU16610490 Average Annual Rainfall 854 mm  
 Accumulated Temperature 1531 degree days  
 Field Capacity Level 177 days  
 Land Use Permanent Grass  
 Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 32	MCL	10YR52 00	2	5	HR					
32- 45	MCL	10YR53 00	0	5	HR		MVCSAB	FR	M	
45- 64	HCL	25Y 53 00	0	10	HR	C	MDCSAB	FR	M	
64- 74	HCL	25Y 53 00	0	45	HR	M			P	
74- 85	HCL	25Y 63 00	0	40	HR	M			M	
85-120	SCL	25Y 64 00	0	30	HR	M	WKSAB	FR	M	

Wetness Grade 2 Wetness Class I  
 Gleying 45 cm  
 SPL 85 cm

Drought Grade 2 APW 132mm MBW 23 mm  
 APP 108mm MBP 5 mm

FINAL ALC GRADE 2

MAIN LIMITATION Soil Wetness/Droughtiness

SOIL PIT DESCRIPTION

Site Name LAND WEST OF LYNES FARM Pit Number 3P

Grid Reference SU16400540 Average Annual Rainfall 854 mm  
 Accumulated Temperature 1531 degree days  
 Field Capacity Level 177 days  
 Land Use  
 Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 33	MSL	10YR41 00	2	8	HR					
33- 62	MSZL	10YR42 43	0	10	HR	C	MDCSAB	FR	M	
62-103	MSL	10YR52 00	0	26	HR	C	MDCSAB	VF	M	
103-120	SCL	10YR52 00	0	15	HR	M		FR	M	

Wetness Grade 2 Wetness Class II  
 Gleying 33 cm  
 SPL No SPL

Drought Grade 2 APW 138mm MBW 29 mm  
 APP 106mm MBP 3 mm

FINAL ALC GRADE 2

MAIN LIMITATION Soil Wetness/Droughtiness

SAMPLE NO	GRID REF	ASPECT USE	GRDNT	--WETNESS--		-WHEAT-		-POTS-		M REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
				GLEY	SPL	CLASS	GRADE	AP	MB	AP	MB					
1	SU16400510	STB E	01		1	1	100	-9	101	-2	3A			DR	3A	I80 Border 2
1P	SU16400510	PGR		65		1	1	149	40	112	9	2		DR	2	At Boring 17
2	SU16300540	STB		75		1	1	130	21	117	14	2		DR	2	I100 See 3P
2P	SU16610490	PGR		45	85	1	2	132	23	108	5	2		WD	2	At Boring 27
3	SU16400540	STB		50		1	1	100	-9	107	4	3A		DR	2	I75 See 3P
3P	SU16400540	STB		33		2	2	138	29	106	3	2		WD	2	At Boring 3
4	SU16500540	STB		70		1	1	110	1	111	8	3A		DR	2	I80 See 3P
5	SU16600540	STB E	02			1	1	093	-16	099	-4	3A		DR	3A	I75 Border 2
6	SU16300530	STB				1	1	102	-7	111	8	3A		DR	2	I70 See 3P
7	SU16400530	STB				1	1	147	38	111	8	2		DR	2	Pots Limit
8	SU16500530	PGR				1	1	119	10	111	8	2		DR	2	I90 See 1P
9	SU16600530	STB				1	1	112	3	110	7	3A		DR	2	I85 See 1P
10	SU16700530	STB W	03			1	1	151	42	109	6	2		DR	2	Pots Limit
11	SU16300520	PGR		32		2	2	085	-24	090	-13	3B		WD	2	I65 See 3P
12	SU16400520	PGR				1	1	116	7	109	6	2		DR	2	I90 See 3P
13	SU16500520	PGR				1	1	111	2	108	5	3A		DR	2	I85 See 1P
14	SU16600520	STB				1	1	083	-26	086	-17	3B		DR	3A	I55 QDR
15	SU16700520	PGR W	02	0		2	2	121	12	113	10	2		WD	2	I90 See 2P
16	SU16300510	PGR				1	1	134	25	118	15	2		DR	2	I100 See 3P
17	SU16400510	PGR		90		1	1	143	34	110	7	2		DR	2	See 1P
18	SU16500510	PGR				1	1	119	10	114	11	2		DR	2	I90 SEE Pits
19	SU16580510	PGR W	01	0		2	3A	117	8	110	7	2		WK	3A	MCL T/S
19A	SU16610510	PGR		45		1	1	095	-14	103	0	3A		DR	2	I70 See 3P
20	SU16700510	PGR W	01	0		2	2	139	30	107	4	2		WD	2	See 3P
21	SU16300500	PGR				1	1	113	4	107	4	3A		DR	2	I85 See 3P
22	SU16400500	PGR		70	100	1	1	151	42	122	19	1				
23	SU16500500	PGR		65		1	1	121	12	116	13	2		DR	2	I90 See 2P
24	SU16600500	PGR W	01	50	78	2	2	114	5	114	11	2		WD	2	I85 See 1P
25	SU16700500	PGR W	01			1	1	144	35	106	3	2		DR	2	Pots Limit
26	SU16400490	PGR		50	50	3	3A	111	2	102	-1	3A		WE	3A	MCL T/S
27	SU16610491	PGR W	01	40		1	1	092	-17	099	-4	3A		WD	2	I65 See 2P
28	SU16700490	PGR W	01	55		1	1	108	-1	112	9	3A		DR	2	I78 See 2P
29	SU16800490	PGR W	01	30		2	2	096	-13	107	4	3A		DR	2	I70 See 1P

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES---			PED		---STONES---			STRUCT/	SUBS	STR	POR	IMP	SPL	CALC
				COL	ABUN	CONT	COL	GLE	>2	>6	LITH							
1	0-25	msl	10YR42 00						2	0	HR	10						
	25-50	msl	10YR44 00						0	0	HR	5				M		
	50-75	msl	10YR54 00						0	0	HR	10				M		
	75-80	lms	10YR54 00						0	0	HR	50				M	Imp gravelly	
1P	0-30	mszl	10YR42 00						2	0	HR	15						
	30-65	mc1	10YR43 00						0	0	HR	2	MDCSAB	FR	M			
	65-95	hc1	10YR53 00	10YR68 00	C			Y	0	0	HR	2	MDCSAB	FR	M			
	95-120	hc1	10YR61 00	10YR68 00	M			Y	0	0	HR	2				M		
2	0-30	mszl	10YR42 00						2	0	HR	8						
	30-50	mszl	25Y 42 43						0	0	HR	5				M		
	50-75	mszl	10YR54 00						0	0	HR	5				M		
	75-90	sc1	10YR53 00	10YR56 00	C		00M00 00	Y	0	0	HR	10				M		
	90-100	sc1	25Y 52 00	10YR56 00	C			Y	0	0	HR	50				M	Imp gravelly	
2P	0-32	mc1	10YR52 00						2	0	HR	5					H4+5 Wet Sieved	
	32-45	mc1	10YR53 00						0	0	HR	5	MVCSAB	FR	M			
	45-64	hc1	25Y 53 00	10YR58 00	C			Y	0	0	HR	10	MDCSAB	FR	M			
	64-74	hc1	25Y 53 00	75YR58 00	M			Y	0	0	HR	45				P	H4+5 are too stony to be SP	
	74-85	hc1	25Y 63 00	10YR58 00	M			Y	0	0	HR	40				M		
	85-120	sc1	25Y 64 00	10YR68 00	M		25Y 62 00	Y	0	0	HR	30	WKSAB	FR	M	Y	Y	
3	0-26	msl	10YR42 00						2	0	HR	10						
	26-50	mszl	10YR42 43						0	0	HR	5				M		
	50-65	mszl	10YR52 00	10YR56 00	C			Y	0	0	HR	5				M		
	65-75	msl	10YR51 00	10YR56 00	C			Y	0	0	HR	50				M	Imp gravelly	
3P	0-33	msl	10YR41 00						2	0	HR	8						
	33-62	mszl	10YR42 43	10YR46 56	C			Y	0	0	HR	10	MDCSAB	FR	M			
	62-103	msl	10YR52 00	10YR56 00	C			Y	0	0	HR	26	MDCSAB	VF	M		Wet Sieved	
	103-120	sc1	10YR52 00	10YR58 00	M			Y	0	0	HR	15				FR	M	
4	0-30	msl	10YR41 00						2	0	HR	10						
	30-70	mszl	10YR44 54						0	0	HR	5				M		
	70-80	mszl	10YR53 00	10YR56 00	C			Y	0	0	HR	5				M	Imp large flint	
5	0-23	msl	10YR41 00						3	0	HR	12						
	23-70	msl	10YR44 54						0	0	HR	10				M		
	70-75	lms	10YR54 00						0	0	HR	40				M	Imp gravelly	
6	0-28	mszl	10YR41 42						1	0	HR	10						
	28-50	mszl	10YR43 00						0	0	HR	5				M		
	50-70	sc1	10YR54 53	10YR56 00	C			S	0	0	HR	10				M	Imp gravelly	
7	0-30	msl	10YR42 00						1	0	HR	10						
	30-70	mszl	10YR43 44						0	0	HR	5				M		
	70-120	sc1	10YR54 53	10YR56 00	C			S	0	0	HR	5				M	Dry/Friable	

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES---			PED COL	---STONES---			STRUCT/ CONSIST	SUBS STR POR IMP SPL CALC		
				COL	ABUN	CONT		GLE	>2	>6				LITH
8	0-30	msl	10YR42 00					0	0	HR	3			
	30-70	mc1	10YR43 00					0	0	HR	5	M		
	70-90	mc1	10YR44 00					0	0	HR	10	M	Imp flints	
9	0-30	msl	10YR42 00					1	0	HR	3			
	30-60	mc1	10YR43 00					0	0	HR	5	M		
	60-85	mc1	10YR43 00					0	0	HR	10	M	Imp gravelly	
10	0-30	msl	10YR42 00	10YR58 00	F			1	0	HR	3		Q Root Mottles	
	30-58	sc1	10YR43 00					0	0	HR	5	M		
	58-120	mc1	10YR43 00					0	0	HR	5	M		
11	0-32	msl	10YR41 31					0	0	HR	10			
	32-60	msl	25Y 64 00	10YR66 00	C		Y	0	0	HR	15	M		
	60-65	msl	25Y 64 00	10YR66 00	C		Y	0	0	HR	40	M	Imp gravelly	
12	0-28	msl	10YR42 00					0	0	HR	8			
	28-40	msl	10YR43 00					0	0	HR	5	M		
	40-68	mszl	10YR43 44					0	0	HR	5	M		
	68-90	sc1	10YR54 00	10YR56 00	C		S	0	0	HR	10	M	Imp Flinty	
13	0-30	msl	10YR42 00	75YR46 00	C			0	0	HR	3		Q Root Mottles	
	30-60	mc1	10YR43 00					0	0	HR	5	M		
	60-85	sc1	10YR43 00					0	0	HR	15	M	Imp flinty	
14	0-30	msl	10YR42 00					0	0	HR	5			
	30-55	mc1	10YR43 00					0	0	HR	8	M	Imp large flint	
15	0-35	mszl	10YR41 00	10YR58 00	C		Y	3	0	HR	5			
	35-60	sc1	10YR61 00	75YR46 00	M		00MNOO 00	Y	0	0	HR	5	M	Border MSL
	60-80	sc1	10YR62 00	75YR46 00	M		00MNOO 00	Y	0	0	HR	10	M	Moist
	80-90	sc1	10YR62 00	75YR46 00	M		00MNOO 00	Y	0	0	HR	20	M	Imp gravelly/wet
16	0-28	mszl	10YR41 00					0	0	HR	5			
	28-55	mszl	10YR42 00					0	0	HR	5	M		
	55-70	mszl	10YR43 00					0	0	HR	10	M		
	70-100	sc1	10YR54 00					0	0	HR	10	M	Imp Flinty	
17	0-28	mszl	10YR43 00					2	0	HR	10			
	28-55	mc1	10YR44 00					0	0	HR	5	M		
	55-90	hc1	10YR54 00	10YR56 00	C		S	0	0	HR	5	M		
	90-120	sc1	10YR53 00	10YR56 00	C		Y	0	0	HR	15	M		
18	0-28	mszl	10YR41 00					0	0	HR	5			
	28-55	mc1	10YR43 00					0	0	HR	5	M	Border MSL	
	55-80	mc1	10YR44 00	10YR56 00	F			0	0	HR	10	M		
	80-90	mc1	10YR44 00	10YR56 00	F			0	0	HR	30	M	Imp gravelly	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES-----			STRUCT/ CONSIST	SUBS				
				COL	ABUN	CONT	COL	GLE	>2	>6	LITH		TOT	STR	POR	IMP	SPL
19	0-25	mc1	10YR41 00	10YR58 00	C			Y	0	0	HR	5					
	25-50	mc1	10YR61 00	75YR58 00	M			00MN00 00	Y	0	0	HR	5	M			Moist
	50-90	mc1	10YR71 00	75YR46 00	M			00MN00 00	Y	0	0	HR	10	M			Imp gravelly/wet
19A	0-28	msz1	10YR41 00	10YR46 00	C					2	0	HR	10				Q Root Mottles
	28-45	msz1	10YR43 00							0	0	HR	15	M			
	45-70	msz1	10YR52 00	10YR58 00	C			00MN00 00	Y	0	0	HR	30	M			Imp gravelly/wet
20	0-25	msz1	10YR42 00	10YR58 00	C			Y	0	0	HR	5					
	25-50	ms1	10YR52 00	10YR58 00	C			Y	0	0	HR	5	M				
	50-80	sc1	10YR52 00	10YR58 00	C			Y	0	0	HR	15	M				Moist
	80-120	sc1	10YR62 00	10YR58 00	C			Y	0	0	HR	20	M				V Wet
21	0-28	ms1	10YR32 00							0	0	HR	5				
	28-45	msz1	10YR43 00							0	0	HR	5	M			
	45-75	ms1	10YR54 00	10YR56 00	C			S	0	0	HR	10	M				
	75-85	ms1	10YR54 00	10YR56 00	C			S	0	0	HR	25	M				Imp gravelly
22	0-25	msz1	10YR31 41							0	0	HR	2				
	25-50	msz1	10YR44 00	10YR56 00	F					0	0	HR	2	M			
	50-70	msz1	10YR54 00	10YR68 00	F					0	0	HR	2	M			
	70-100	hc1	10YR53 00	10YR58 00	C			Y	0	0	HR	5	M				Border MCL
	100-120	c	25Y 53 00	10YR58 00	M			Y	0	0	HR	10	P			Y	Firm
23	0-28	msz1	10YR43 00							0	0	HR	5				
	28-50	msz1	10YR43 44							0	0	HR	5	M			
	50-65	mc1	10YR53 00							0	0	HR	5	M			
	65-80	mc1	25Y 52 62	10YR58 00	C			Y	0	0	HR	15	M				
	80-90	mc1	25Y 52 62	10YR58 00	C			00MN00 00	Y	0	0	HR	30	M			
24	0-30	msz1	10YR42 00	10YR58 00	F					0	0	HR	8				Root Mottles
	30-50	mc1	10YR52 00							0	0	HR	5	M			
	50-68	mc1	10YR63 00	10YR56 00	C			Y	0	0	HR	5	M				
	68-78	hc1	10YR63 73	10YR68 00	C			00MN00 00	Y	0	0	HR	5	M			
	78-85	c	10YR63 73	10YR68 00	C			00MN00 00	Y	0	0	HR	10	P		Y	
25	0-30	msz1	10YR42 00							0	0	HR	5				
	30-55	sc1	10YR42 00							0	0	HR	5	M			
	55-120	mc1	10YR43 00							0	0	HR	5	M			
26	0-27	mc1	10YR41 42							1	0	HR	10				
	27-50	mc1	10YR43 44							0	0	HR	10	M			
	50-100	c	25Y 53 52	10YR58 00	M			00MN00 00	Y	0	0	HR	5	P		Y	Firm
27	0-30	mc1	10YR42 00	10YR58 00	F					0	0	HR	5				
	30-40	mc1	10YR52 00	10YR58 00	F					0	0	HR	5	M			
	40-65	hc1	25Y 63 73	10YR58 00	C			Y	0	0	HR	20	M				Imp gravelly

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	----STONES--			STRUCT/	SUBS	SPL	CALC
				COL	ABUN	CONT	COL	GLEY	>2	>6	LITH	TOT		
28	0-30	msz1	10YR42 00					0	0	HR	5			
	30-55	mc1	10YR52 00					0	0	HR	5	M		
	55-78	hc1	10YR63 00	10YR58	00	C		Y	0	0	HR	20	M	Imp gravelly/wet
29	0-30	ms1	10YR42 00					0	0	HR	5	-		
	30-70	mc1	10YR52 00	10YR58	00	C		Y	0	0	HR	10	M	Imp gravelly/wet