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West Sussex Minerals Plan
Plan 1: Woodlands Farm, Slindon

Agricultural Land Classification
ALC Map and Report

May 1997

Resource Planning Team
Eastern Region
FRCA Reading

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AGRICULTURAL LAND CLASSIFICATION REPORT

WEST SUSSEX MINERALS PLAN, PLAN 1: WOODLANDS FARM, SLINDON

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of approximately 31 hectares of land at Woodlands Farm, Slindon. The site comprises two parcels of land on the northern side of the A29 road, separated from each other by an area of woodland. The survey was carried out in May 1997.

2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA) on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF), in connection with its statutory input to the West Sussex Minerals Plan. The results of this survey supersede any previous ALC information for this land.

3. The work was coordinated by members of the Resource Planning Team in the Eastern Region of the FRCA, and was carried out under sub-contracting arrangements by NA Duncan and Associates. 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 eastern parcel of land was in permanent grass being grazed by dairy cattle, whilst the western area was growing maize. Two areas of 'Other Land' have been identified, an area of farm bulidings alongside Mill Road and an old pit on the northern boundary.

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.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
3b	29.3	100	94.2
Other land	1.8		5.8
Total surveyed area	29.3	100	-
Total site area	31.1	-	100

7. The fieldwork was conducted at an average density of 1 boring per hectare. A total of 32 borings and 2 soil pits were described.

8. The soils on the site are very similar in both areas comprising very flinty silty soils. The land is restricted to a Subgrade 3b classification due to a droughtiness limitation, with many of the profiles having a further limitation restricting the land to this subgrade due to the amount of hard stone (greater than 2 cm diameter) in the topsoil. The soils typically have a flinty silt loam or fine sandy silt loam topsoil with 15-30% stones (8-18% larger than 2 cm) overlying a very flinty medium silty clay loam upper subsoil (35-45% stones). Below 45-50 cm depth the soil is a medium silty clay loam with 70-75% flint stones, which in turn overlies a reddish brown extremely stony clay. Soil moisture balance calculations indicate that these soils are very droughty restricting the land to Subgrade 3b, moderate quality agricultural land.

FACTORS INFLUENCING ALC GRADE

Climate

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

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

Table 2: Climatic and altitude data

Factor	Units	Values	Values
Grid reference	N/A	SU 959 071	SU 967 071
Altitude	m, AOD	31	35
Accumulated Temperature	day°C (Jan-June)	1512	1507
Average Annual Rainfall	mm	809	813
Field Capacity Days	days	167	167
Moisture Deficit, Wheat	mm	113	112
Moisture Deficit, Potatoes	mm	108	107

11. 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.

12. 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.

13. The combination of rainfall and temperature at this site mean there is no overall climatic limitation (Climate Grade 1). However, climatic factors do interact with soil properties to influence soil wetness and droughtiness limitations. At this locality the climate is relatively warm and moist, so that summer droughtiness will affect soils of low moisture holding capacity, whilst wetness during the early spring and late autumn may be enhanced on soils with impeded drainage.

14. Local climatic factors such as exposure or frost risk are not believed to affect this site.

Site

15. The site comprises two blocks of land separated by a shallow valley occupied by an area of woodland. The majority of the eastern parcel is relatively flat, lying at an altitude of approximately 35 m AOD, falling at its western side into the valley, with a gradient of 4-5°. The western part of the other parcel of land is also relatively flat, lying at an altitude of 30 m AOD and this falls with similar gradients to those described above into the central valley. Microrelief and gradient do not impose any limitation on the agricultural land quality of the site.

Geology and soils

16. The relevant published geological map for the area (BGS, 1957) shows the whole site to be underlain by valley gravel, with the central lower lying valley, which is not included within the site boundary, occupied by Reading Beds and a small area of Upper Chalk.

17. The published 1:25,000 scale soil map for the area (SSEW, 1967) shows the area to principally comprise soils of the extremely flinty phases of the Charity and Strettington series, with a small area of the extremely flinty phase of the Binsted series on the lower slope of the central valley. The three soil series are all broadly similar differing in their wetness characteristics. They are described as having flinty silt loam topsoils overlying extremely flinty silt loam/silty clay loam subsoil horizons. The Charity series is described as free draining, the Strettington series as moderately well drained whilst the Binsted soils are described as non calcareous gleys, probably due to the incorporation of Eocene derived material in the lower horizons. The current survey showed similar stony soils with both soil pits correlating with the soils of the Charity series.

AGRICULTURAL LAND CLASSIFICATION

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

19. 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.

Subgrade 3b

20. All the agricultural land within the site boundary has been mapped as Subgrade 3b, with the main limitations being soil droughtiness and topsoil stoniness. The soils on the site are all broadly similar having a dark brown flinty silt loam or fine sandy silt loam topsoil. Topsoil stone contents at each observation point were measured using a 2 cm diameter sieve and range from 15-30%, with 8-18% larger than 2 cm diameter. The upper subsoil is typically a strong brown medium silty clay loam with 35-45% subangular flint stones and a moderate structure. Below approximately 45-50 cm depth the soil becomes paler in colour and extremely stony, with a medium silty clay loam soil matrix between the stones. Stone contents of this layer were measured in the two soil pits and found to be in excess of 70%

subangular flints. In both soil pits a reddish brown very stony clay was encountered at depth. Plant roots were seen to penetrate the extremely stony subsoil layer, decreasing markedly with depth, but there was no evidence of any rooting into the reddish brown clay layer.

21. Moisture balance calculations indicate that under the prevailing climatic conditions these soils are very droughty for deeper rooting crops such as wheat. Furthermore, many of the soil profiles have very stony topsoils, with more than 15% of the stones larger than 2 cm diameter. Both these limitations will restrict the range of crops that can be grown satisfactorily and will also reduce yields. The severity of these limitations therefore restricts the land quality to Subgrade 3b, moderate quality agricultural land.

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SOURCES OF REFERENCE

British Geological Survey (1957) *Sheet No. 317, Chichester*, 1:63,360 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.

Soil Survey of England and Wales (1967) *Soils of the West Sussex Coastal Plain.* Bulletin No 3, 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 grass	**LEY:**	Ley grass	**RGR:**	Rough grazing
SCR:	Scrub	**CFW:**	Coniferous woodland	**OTH**	Other
DCW:	Deciduous woodland	**BOG:**	Bog or marsh	**SAS:**	Set-Aside
HTH:	Heathland	**HRT:**	Horticultural crops	**PLO:**	Ploughed

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	**ST:**	Topsoil Stoniness
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

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*	**FSST:**	*soft, fine grained sandstone*
ZR:	soft, argillaceous, or silty rocks	**CH:**	chalk
MSST:	soft, medium grained sandstone	**GS:**	gravel with porous (soft) stones
SI:	soft weathered igneous/metamorphic rock	**GH:**	gravel with non-porous (hard) stones

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

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

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

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

13. **SPL:** Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.

14. **CALC:** If the soil horizon is calcareous, a 'Y' will appear in this column.

15. Other notations:

    APW: available water capacity (in mm) adjusted for wheat
    APP: available water capacity (in mm) adjusted for potatoes
    MBW: moisture balance, wheat
    MBP: moisture balance, potatoes

SOIL PIT DESCRIPTION

Site Name : WOODLANDS FARM, SLINDON Pit Number : 1P

Grid Reference: SU96700720
Average Annual Rainfall : 803 mm
Accumulated Temperature : 1518 degree days
Field Capacity Level : 165 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	ZL	75YR43 33	16	27	HR					
28- 55	MZCL	10YR56 00	16	30	HR		MDFSAB	FR	G	Y
55-100	GH	10YR64 00	0	0	HR				P	Y
100-120	GH	75YR56 00	0	0	HR				P	

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

Drought Grade : 3B
APW : 92 mm MBW : -22 mm
APP : 91 mm MBP : -19 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Topsoil Stoniness

SOIL PIT DESCRIPTION

Site Name : WOODLANDS FARM, SLINDON Pit Number : 2P

Grid Reference: SU96000710
Average Annual Rainfall : 803 mm
Accumulated Temperature : 1518 degree days
Field Capacity Level : 165 days
Land Use : Cereals
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 30	FSZL	75YR43 00	8	22	HR					
30- 45	MZCL	75YR54 56	20	44	HR		MDMSAB	FR	G	
45- 85	GH	75YR56 00	0	0	HR				P	
85-120	ZC	75YR56 58	0	40	HR		WDVSAB	VF	M	

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

Drought Grade : 3B
APW : 92 mm MBW : -22 mm
APP : 75 mm MBP : -35 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Droughtiness

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	0-28	zl	75YR43 33						16	4	HR	27							TOPSOIL STONES 3A
	28-55	mzcl	10YR56 00						16	0	HR	30	MDFSAB FR	G			Y		
	55-100	gh	10YR64 00						0	0	HR	0		P			Y		
	100-120	gh	75YR56 00						0	0	HR	0		P					
2	0-26	fszl	75YR43 00						18	0	HR	27							TOPSOIL STONES 3B
	26-38	mzcl	10YR54 00						0	0	HR	35		M					IMP FLINTS 38 CM
2P	0-30	fszl	75YR43 00						8	2	HR	22							TOPSOIL STONES 3A
	30-45	mzcl	75YR54 56						20	0	HR	44	MDMSAB FR	G					
	45-85	gh	75YR56 00						0	0	HR	0		P					
	85-120	zc	75YR56 58						0	0	HR	40	WDVSAB VF	M					ROOTS TO 85
3	0-23	zl	75YR43 00						12	0	HR	18							TOPSOIL STONES 3A
	23-40	mzcl	10YR54 00						0	0	HR	35		M					IMP FLINTS 40 CM
4	0-25	zl	75YR43 00						15	3	HR	22							TOPSOIL STONES 3B
	25-40	mzcl	10YR54 00						0	0	HR	35		M					IMP FLINTS 40 CM
5	0-27	fszl	75YR43 00						12	3	HR	18							TOPSOIL STONES 3A
	27-35	mzcl	10YR54 00						0	0	HR	35		M					IMP FLINTS 35 CM
6	0-26	zl	75YR43 00						8	2	HR	15							TOPSOIL STONES 3A
	26-45	mzcl	10YR54 55						0	0	HR	35		M					IMP FLINTS 45 CM
7	0-25	zl	75YR43 00						18	2	HR	25							TOPSOIL STONES 3B
8	0-25	zl	75YR43 00						12	2	HR	19							TOPSOIL STONES 3A
	25-40	mzcl	10YR54 55						0	0	HR	35		M			Y		IMP FLINTS 40 CM
9	0-25	zl	75YR43 00						8	0	HR	13					Y		TOPSOIL STONES 3A
	25-50	mzcl	75YR55 00						0	0	HR	4		M			Y		
	50-65	hzcl	75YR56 00						0	0	HR	4		M			Y		IMP FLINTS 65
11	0-27	zl	75YR43 00						20	6	HR	30							TOPSOIL STONES 3B
	27-40	mzcl	10YR54 00						0	0	HR	35		M					IMP FLINTS 40 CM
12	0-30	zl	75YR43 00						20	6	HR	30							TOPSOIL STONES 3B
	30-36	mzcl	10YR54 00						0	0	HR	35		M					IMP FLINTS 36 CM
13	0-26	zl	10YR43 00						12	3	HR	18							TOPSOIL STONES 3A
	26-38	mzcl	10YR56 00						0	0	HR	35		M					IMP FLINTS 38 CM
14	0-29	zl	10YR43 00						12	3	HR	18							TOPSOIL STONES 3A
	29-40	mzcl	10YR56 00						0	0	HR	35		M					IMP FLINTS 40 CM
15	0-24	zl	75YR43 00						12	3	HR	18							TOPSOIL STONES 3A
	24-36	mzcl	10YR54 56						0	0	HR	35		M					IMP FLINTS 36 CM

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	
16	0-28	fszl	75YR43 00						16	0	HR	24						Y	TOPSOIL STONES 3B
	28-55	mzcl	10YR54 55						0	0	HR	30		M				Y	
	55-60	mzcl	10YR64 00						0	0	HR	30		M				Y	IMP FLINTS 60 CM
17	0-30	zl	10YR33 00						8	0	HR	18							TOPSOIL STONES 3A
18	0-26	zl	75YR43 00						16	0	HR	23							TOPSOIL STONES 3B
	26-45	mzcl	10YR55 00						0	0	HR	30		M					IMP FLINTS 45 CM
19	0-30	zl	75YR43 00						16	3	HR	20							TOPSOIL STONES 3B
	30-40	fszl	10YR44 00						0	0	HR	35		M					IMP FLINTS 40 CM
20	0-25	fszl	75YR43 00						12	0	HR	19							TOPSOIL STONES 3A
	25-40	mzcl	10YR55 00						0	0	HR	35		M					IMP FLINTS 40 CM
21	0-26	fszl	75YR43 00						16	0	HR	24							TOPSOIL STONES 3B
	26-45	mzcl	10YR55 00						0	0	HR	35		M					IMP FLINTS 45 CM
22	0-26	fszl	10YR43 00						15	2	HR	25							TOPSOIL STONES 3B
	26-42	mzcl	10YR54 00						0	0	HR	35		M					IMP FLINTS 42 CM
23	0-25	zl	75YR43 00						10	0	HR	18							TOPSOIL STONES 3A
	25-35	mzcl	10YR54 00						0	0	HR	35		M					IMP FLINTS 35 CM
24	0-23	fszl	75YR43 00						12	0	HR	18							TOPSOIL STONES 3A
	23-55	mzcl	10YR54 00						0	0	HR	30		M					
	55-80	c	75YR56 00						0	0	HR	30		M					IMP FLINTS 80 CM
25	0-30	fszl	75YR43 00						16	0	HR	24						Y	TOPSOIL STONES 3B
	30-40	mzcl	10YR54 00						0	0	HR	35		M				Y	IMP FLINTS 40 CM
26	0-25	zl	10YR33 00						16	2	HR	22							TOPSOIL STONES 3B
27	0-24	zl	75YR43 00						16	0	HR	24							TOPSOIL STONES 3B
	24-40	mzcl	10YR54 00						0	0	HR	35		M					IMP FLINTS 40 CM
28	0-30	fszl	75YR43-00						7	0	HR	10							TOPSOIL STONES 3A
	30-35	mzcl	10YR44-00						0	0	HR	35		M					IMP FLINTS 35 CM
29	0-25	fszl	75YR33 00						11	0	HR	18							TOPSOIL STONES 3B
	25-45	mzcl	10YR55 00						0	0	HR	35		M					IMP FLINTS 45 CM
30	0-26	fszl	75YR43 00						16	0	HR	24						Y	TOPSOIL STONES 3B
	26-45	mzcl	10YR54 00						0	0	HR	30		M				Y	IMP FLINTS 45 CM
31	0-25	fszl	75YR43 00						9	1	HR	19							TOPSOIL STONES 3A
32	0-28	zl	75YR43 00						11	0	HR	18							TOPSOIL STONES 3A
	28-40	mzcl	10YR55 00						0	0	HR	30		M					IMP FLINTS 40 CM

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
33	0-30	fszl	75YR43 00						9	0	HR	16							TOPSOIL STONES 3A
	30-40	mzcl	10YR53 00						0	0	HR	35		M					IMP FLINTS 40 CM
34	0-25	zl	75YR43 00						20	3	HR	30							TOPSOIL STONES 3A
	25-40	mzcl	10YR65 00						0	0	HR	35		M					IMP FLINTS 40 CM

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
1P	SU96700720	PGR					1	1	92	-22	91	-19	3B				TS	3B	3B TS
2	SU96900730	PGR	NW	01			1	1	56	-58	56	-54	4				TS	3B	
2P	SU96000710	CER					1	1	92	-22	75	-35	3B				DR	3B	ROOTS 85
3	SU96000720	CER	E	01			1	1	63	-51	63	-47	4				DR	3B	SEE 2P
4	SU96100720	CER					1	1	63	-51	63	-47	4				TS	3B	IMP40
5	SU96200720	CER					1	1	58	-56	58	-52	4				DR	3B	IMP35, SEE 2P
6	SU96300720	CER	E	05			1	1	73	-41	73	-37	3B				DR	3B	IMP45
7	SU96600720	PGR					1	1	44	-70	44	-66	4				DR	3B	IMP25, 3B TS
8	SU96700720	PGR					1	1	64	-50	64	-46	3B				DR	3B	IMP40
9	SU96800720	PGR	N	01			1	1	106	-8	116	6	3A				DR	3A	IMP65
11	SU95800710	CER					1	1	59	-55	59	-51	4				DR	3B	IMP40, 3B TS
12	SU95900710	CER					1	1	56	-58	56	-54	4				DR	3B	IMP36, 3B TS
13	SU96000710	CER					1	1	63	-51	63	-47	4				DR	3B	IMP38
14	SU96100710	CER	N	01			1	1	68	-46	68	-42	3B				DR	3B	IMP40
15	SU96200710	CER	S	02			1	1	59	-55	59	-51	4				DR	3B	IMP36
16	SU96500710	PGR	W	04			1	1	81	-33	87	-23	3B				DR	3B	IMP60, 3B TS
17	SU96600710	PGR					1	1	57	-57	57	-53	4				DR	3B	IMP30
18	SU96700710	PGR					1	1	70	-44	70	-40	3B				DR	3B	IMP45, 3B TS
19	SU96800710	PGR					1	1	70	-44	70	-40	3B				DR	3B	IMP40, 3B TS
20	SU96900710	PGR					1	1	62	-52	62	-48	4				DR	3B	IMP40
21	SU97000710	PGR					1	1	66	-48	66	-44	3B				DR	3B	IMP45, 3B TS
22	SU96000700	CER					1	1	62	-52	62	-48	4				DR	3B	IMP42, 3B TS
23	SU96100700	CER					1	1	59	-55	59	-51	4				DR	3B	IMP35
24	SU96200700	CER	E	04			1	1	93	-21	98	-12	3B				DR	3B	IMP80
25	SU96500700	PGR	W	02			1	1	62	-52	62	-48	4				DR	3B	IMP40, 3B TS
26	SU96600700	PGR					1	1	45	-69	45	-65	4				DR	3B	IMP25, 3B TS
27	SU96700700	PGR					1	1	61	-53	61	-49	4				DR	3B	IMP40, 3B TS
28	SU96800700	PGR	S	01			1	1	65	-49	65	-45	3B				DR	3B	IMP35
29	SU96900700	PGR	S	05			1	1	68	-46	68	-42	3B				DR	3B	IMP45
30	SU96700690	PGR	S	01			1	1	67	-47	67	-43	3B				DR	3B	IMP45, 3B TS
31	SU96800690	PGR	S	01			1	1	45	-69	45	-65	4				DR	3B	IMP25
32	SU96900690	PGR	S	01			1	1	68	-46	68	-42	3B				DR	3B	IMP40
33	SU96450695	PGR	W	05			1	1	67	-47	67	-43	3B				DR	3B	IMP40
34	SU95750717	CER					1	1	58	-56	58	-52	4				DR	3B	IMP40, 3B TS