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Maidstone Borough Local Plan
Site 32 Land at Hermitage Lane
Maidstone
Agricultural Land Classification
ALC Map and Report
August 1994

AGRICULTURAL LAND CLASSIFICATION REPORT

MAIDSTONE BOROUGH LOCAL PLAN SITE 32 LAND AT HERMITAGE LANE, MAIDSTONE

1 Summary

- 1.1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality for a number of sites in the Maidstone district of Kent. This work forms part of MAFF's statutory input to the Maidstone Borough Local Plan.
- 1.2 Site 32 comprises approximately 29 hectares of land to the north-west of Maidstone in Kent. An Agricultural Land Classification (ALC) survey was carried out in August 1994. The survey was undertaken at a detailed level of approximately one boring per hectare of agricultural land. A total of 21 borings and two soil inspection pits were assessed in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land (MAFF 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose a long term limitation on its use for agriculture. In addition information from a previous detailed survey undertaken in 1988 was used in the grading of the site.
- 1.3 The work was carried out by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.
- 1.4 At the time of the survey the agricultural land on the site was mainly unmanaged permanent grassland with significant scrub encroachment locally. To the west of the track the land was an orchard and south of the large area of woodland mapped the land was closely grazed grassland. The non agricultural land mapped comprises dense scrub and a metalled track running across the site has been mapped as urban.
- 1.5 The distribution of grades and subgrades is shown on the attached ALC map and the areas are given in the table below. The map has been drawn at a scale of 1:10,000. It is accurate at this scale but any enlargement would be misleading. This map supersedes any previous survey information for this site.

Table 1 Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% of Agricultural Land
2	17.3	59.7	71.5
3a	4.6	15.9	19.0
3b	2.3	7.9	<u>9.5</u>
Woodland	3.8	13.1	100% (24.2 ha)
Non Agricultural	0.5	1.7	
Urban	<u>0.5</u>	<u>1.7</u>	
Total area of site	29.0	100%	

- 1 6 Appendix 1 gives a general description of the grades and landuse categories identified in this survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and expected level and consistency of yield.
- 1 7 The agricultural land on the site has been classified mainly as Grade 2 very good quality land with smaller units of Subgrade 3a and 3b land. Grade 2 land comprises sandy loam or medium textured topsoils passing to heavier subsoils. This land is affected by slight soil droughtiness and/or soil wetness limitations. Land assigned to Subgrade 3a comprises similar soils which overlie poorly structured clay at moderate depth thereby being imperfectly drained and affected by soil wetness. Subgrade 3b has been mapped due to soil droughtiness limitations arising as a result of freely draining sandy soils derived from Folkestone Beds. Gradient limits a very small area of land to Subgrade 3b.

2 Climate

- 2 1 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.
- 2 2 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall as a measure of overall wetness and accumulated temperature as a measure of the relative warmth of a locality.
- 2 3 A detailed assessment of the prevailing climate was made by interpolation from a 5km grid point dataset (Met Office 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site. However climatic factors do interact with soil properties to influence soil wetness and droughtiness limitations. At this locality the climate is relatively warm and dry in national terms.
- 2 4 No local climatic factors such as exposure or frost risk are believed to affect the site.

Table 2 Climatic Interpolations

Grid Reference	TQ736565	TQ734562
Altitude (m AOD)	65	80
Accumulated Temperature (degree days Jan June)	1433	1416
Average Annual Rainfall (mm)	686	692
Field Capacity (days)	140	140
Moisture Deficit Wheat (mm)	114	112
Moisture Deficit Potatoes (mm)	109	107
Overall Climatic Grade	1	1

3 Relief

- 3.1 The site lies at an altitude in the range of 60-84 m AOD rising gently towards the south. A small area of land in the south western part of the site is affected by relatively steep gradients. Soil droughtiness is equally limiting and Subgrade 3b has been mapped accordingly. Elsewhere on the site land quality is not affected by gradient or relief.

4 Geology and Soil

- 4.1 British Geological Survey (1976) shows a series of geological deposits to underlie the site. Moving from north to south the northern-most part of the site is underlain by Hythe Beds (sandy limestone and calcareous sands) passing to Sandgate Beds and Folkestone Beds. These are approximately coincident with the woodland mapped. South of here river gravel deposits are shown to occur.
- 4.2 Soil Survey of England and Wales (1983) Sheet 6 shows the entire site to comprise soils of the Malling association. These are described as well drained fine loamy soils over limestone at variable depths. Some deep well drained coarse loamy soils and similar fine loamy over clayey soils (SSEW 1983).
- 4.3 Detailed field examination found the soils on the site to be very variable but generally comprising medium textured topsoils over similar upper subsoils and passing to heavier lower subsoils which may impede drainage. Around the woodland towards the south of the site, soils are derived from Folkestone Beds and as such are more sandy in nature and freely draining.

5 Agricultural Land Classification

- 5.1 Table 1 provides the details of the area measurements for each grade and the distribution of each grade is shown on the attached ALC map.
- 5.2 The location of the soil observation points are shown on the attached sample point map.

Grade 2

- 5.3 Very good quality land has been mapped across the majority of the site it being affected by minor soil wetness and/or droughtiness limitations.

Profiles comprise non-calcareous topsoils of fine or medium sandy loam or medium clay loam which may be very slightly stony containing up to about 5% total hard sandstone fragments by volume. These overlie similarly textured or sandy clay loam upper subsoils and pass to heavier textures with depth i.e. heavy clay loam or clay. Clay horizons in the lower subsoil have slowly permeable structures and thereby impede drainage slightly resulting in gleying within or above the slowly permeable layer. Such profiles are assigned to Wetness Class II given these drainage characteristics. Where clay horizons are absent from the profile Wetness Class I is appropriate.

The land in the Grade 2 mapping may be affected by slight soil wetness where minor drainage imperfections occur. Alternatively soil properties particularly textures, structures and stone contents interact with the relatively dry climatic regime to give rise to slight restrictions on profile available water and thereby cause minor soil droughtiness to be a limitation. In either case the utilisation of the land is very slightly restricted in terms of timings of cultivations and effects on crop growth and yield potential.

Subgrade 3a

- 5.4 Good quality land has been mapped where soils are similar to those described above, the difference being that clayey horizons which impede drainage occur higher up the profile than in the Grade 2 mapping unit. Consequently the soil wetness limitation which prevails is more significant. Profiles typically comprise non-calcareous medium clay loam topsoils containing 2% total hard sandstone fragments by volume. These overlie similar upper subsoils and pass to poorly structured clay horizons in the lower subsoil. Imperfect drainage through these lower subsoils causes seasonal waterlogging resulting in soils being gleyed below the topsoil. Such drainage characteristics equate to Wetness Class III and the land is thereby assigned to Subgrade 3a.

Seasonal waterlogging of the soil will adversely affect seed establishment, root development and therefore crop growth. Yield potential may be depressed as a result. In addition, wet soils will restrict the opportunities for trafficking, cultivations and grazing.

Subgrade 3b

- 5.5 Moderate quality land on this site is associated with freely draining sandy soils derived from Folkestone Beds. Profiles comprise non-calcareous sandy loam topsoils containing 2-10% total flints by volume. These overlie similarly textured upper subsoils which may contain up to 20% total stones and pass to loamy sand or sand lower subsoils which are stone-free. These sandy textured profiles drain freely and hold only small reserves of soil water which may be available to plant roots. As a result soil droughtiness acts to restrict the use of the land and depress yield potential.

A very small area of land in the Subgrade 3b mapping unit is equally limited by gradient as soil droughtiness. Slopes of 8.5° were recorded using an optical reading clinometer. Such gradients restrict the safe and efficient use of farm machinery.

ADAS Ref 2007/171/94
MAFF Ref EL20/328

Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1976) Sheet No 288 Maidstone 1 50 000 Solid & Drift Edition

MAFF (1988) Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land

Meteorological Office (1989) Climatic datasets for Agricultural Land Classification

Soil Survey of England and Wales (1983), Sheet 6 Soils of South East England 1 250 000 and accompanying legend

APPENDIX I

DESCRIPTION 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 (eg cereals and forage crops) the yields of which are variable. In most 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.

Urban

Built up or 'hard' uses with relatively little potential for a return to agriculture including housing industry commerce education transport religious buildings cemeteries Also hard surfaced sports facilities permanent caravan sites and vacant land all types of derelict land including mineral workings which are only likely to be reclaimed using derelict land grants

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture including private parkland public open spaces sports fields allotments and soft surfaced areas on airports Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply

Woodland

Includes commercial and non commercial woodland A distinction may be made as necessary between farm and non farm woodland

Agricultural Buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses Temporary structures (eg polythene tunnels erected for lambing) may be ignored

Open Water

Includes lakes ponds and rivers as map scale permits

Land Not Surveyed

Agricultural land which has not been surveyed

Where the land use includes more than one of the above eg buildings in large grounds and where map scale permits the cover types may be shown separately Otherwise the most extensive cover type will be shown

APPENDIX II

FIELD ASSESSMENT OF SOIL WETNESS CLASS

SOIL WETNESS CLASSIFICATION

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.

Definition of Soil Wetness Classes

Wetness Class	Duration of Waterlogging ¹
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years ²
II	The soil profile is wet within 70 cm depth for 31-90 days in most years or if there is no slowly permeable layer within 80 cm depth it is wet within 70 cm for more than 90 days but only wet within 40 cm depth for 30 days in most years
III	The soil profile is wet within 70 cm depth for 91-180 days in most years or if there is no slowly permeable layer present within 80 cm depth it is wet within 70 cm for more than 180 days but only wet within 40 cm depth for between 31-90 days in most years
IV	The soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years or if there is no slowly permeable layer present within 80 cm depth it is wet within 40 cm depth for 91-210 days in most years
V	The soil profile is wet within 40 cm depth for 211-335 days in most years
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years

Soils can be allocated to a wetness class on the basis of quantitative data recorded over a period of many years or by the interpretation of soil profile characteristics, site and climatic factors. Adequate quantitative data will rarely be available for ALC surveys and therefore the interpretative method of field assessment is used to identify soil wetness class in the field. The method adopted here is common to ADAS and the SSLRC.

¹The number of days specified is not necessarily a continuous period

²In most years is defined as more than 10 out of 20 years

APPENDIX III
SOIL PIT AND SOIL BORING DESCRIPTIONS

Contents

Soil Abbreviations - Explanatory Note

Soil Pit Descriptions

Database Printout - Boring Level Information

Database Printout - Horizon Level Information

SOIL PROFILE DESCRIPTIONS EXPLANATORY NOTE

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

Boring Header Information

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

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

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

3 **GRDNT** Gradient as estimated or measured by a hand held optical clinometer

4 **GLEYSPL** Depth in centimetres (cm) to gleying and/or slowly permeable layers

5 **AP (WHEAT/POTS)** Crop adjusted available water capacity

6 **MB (WHEAT/POTS)** Moisture Balance (Crop adjusted AP - crop adjusted MD)

7 **DRT** Best grade according to soil droughtiness

8 If any of the following factors are considered significant Y will be entered in the relevant column

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

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

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

Soil Pits and Auger Borings

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

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

For the sand loamy sand sandy loam and sandy silt loam classes the predominant size of sand fraction will be indicated by the use of the following prefixes

F	Fine (more than 66% of the sand less than 0.2mm)
M	Medium (less than 66% fine sand and less than 33% coarse sand)
C	Coarse (more than 33% of the sand larger than 0.6mm)

The clay loam and silty clay loam classes will be sub-divided according to the clay content **M** Medium (<27% clay) **H** Heavy (27-35% clay)

2 **MOTTLE COL** Mottle colour using Munsell notation

3 **MOTTLE ABUN** Mottle abundance expressed as a percentage of the matrix or surface described

F few <2% **C** common 2-20% **M** many 20-40% **VM** very many 40% +

4 **MOTTLE CONT** Mottle contrast

F faint indistinct mottles evident only on close inspection
D distinct - mottles are readily seen
P prominent - mottling is conspicuous and one of the outstanding features of the horizon

5 **PED COL** Ped face colour using Munsell notation

6 **GLEYS** If the soil horizon is gleyed a **Y** will appear in this column If slightly gleyed an **S** will appear

7 **STONE LITH** Stone Lithology One of the following is used

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

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

8 **STRUCT** the degree of development size and shape of soil peds are described using the following notation

degree of development **WK** weakly developed **MD** moderately developed
 ST strongly developed

ped size **F** fine **M** medium
 C coarse **VC** very coarse

ped shape **S** single grain **M** massive
 GR granular **AB** angular blocky
 SAB sub angular blocky **PR** prismatic
 PL platy

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

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

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

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

12 **IMP** If the profile is impenetrable to rooting a 'Y' will appear in this column at the 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 MAIDSTONE LP SITE 32 Pit Number 1P

Grid Reference TQ73305650 Average Annual Rainfall 691 mm
 Accumulated Temperature 1421 degree days
 Field Capacity Level 140 days
 Land Use
 Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0 32	MSL	10YR42 00	0	2	HR					
32 46	MCL	75YR56 00	0	0		C	MDCSAB	FR	M	
46 70	C	10YR56 00	0	0		C	MDCAB	FM	P	

Wetness Grade 2 Wetness Class III
 Gleying 046 cm
 SPL 046 cm

Drought Grade 3A APW 095mm MBW -19 mm
 APP 107mm MBP 0 mm

FINAL ALC GRADE 2
 MAIN LIMITATION Soil Wetness/Droughtiness

f

SOIL PIT DESCRIPTION

Site Name MAIDSTONE LP SITE 32 Pit Number 2P

Grid Reference TQ73205620
 Average Annual Rainfall 691 mm
 Accumulated Temperature 1421 degree days
 Field Capacity Level 140 days
 Land Use Permanent Grass
 Slope and Aspect 02 degrees W

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0-24	MSL	10YR42 00	6	10	HR					
24-41	MSL	10YR43 00	0	20	HR				M	
41-120	MS	10YR66 00	0	0			S	VF	M	

Wetness Grade 1
 Wetness Class I
 Gleying cm
 SPL No SPL

Drought Grade 3B
 APW 091mm MBW 23 mm
 APP 074mm MBP 33 mm

FINAL ALC GRADE 3B
 MAIN LIMITATION Droughtiness

f

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES			PED		STONES			STRUCT/		SUBS				
				COL	ABUN	CONT	COL	GLEYS >2	6 LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC		
1	0-30	fs1	10YR44 00						0	0	HR	2						IMP 30 STONES
1P	0 32	ms1	10YR42 00						0	0	HR	2						
	32 46	mc1	75YR56 00	75YR58 00	C			00MN00 00	S	0	0	0	MDCSAB	FR	M			
	46-70	c	10YR56 00	75YR58 00	C			00MN00 00	Y	0	0	0	MDCAB	FM	P	Y	Y	
2	0 30	fs1	10YR44 00							0	0	HR	2					
	30 40	fs1	10YR44 00							0	0	0				M		
	40 75	sc1	10YR53 54	10YR58 00	C			00MN00 00	Y	0	0	0				M		
	75 120	lfs	10YR66 00						Y	0	0	0				M		
2P	0 24	ms1	10YR42 00							6	0	HR	10					
	24 41	ms1	10YR43 00							0	0	HR	20			M		
	41 120	ms	10YR66 00							0	0	0	S		VF	M		
3	0-29	fs1	10YR44 00	10YR58 00	F					0	0	0						
	29 45	sc1	10YR44 00	10YR58 00	F			00MN00 00		0	0	0				M		
	45-60	sc1	10YR43 00	10YR58 00	C			00MN00 00	Y	0	0	0				M		
	60-100	c	10YR53 00	10YR58 00	C			00MN00 00	Y	0	0	0				P	Y	Y
4	0-25	fs1	10YR44 00							0	0	HR	2					
	25 35	fs1	10YR43 00							0	0	0				M		
	35 55	sc1	10YR43 54	10YR58 00	C				Y	0	0	0				M		
	55 70	c	10YR52 00	10YR58 00	C			00MN00 00	Y	0	0	0				P	Y	Y
5	0-25	ms1	10YR33 00							0	0	HR	2					IMP 25 STONES
6	0 29	ms1	10YR42 00							0	0	HR	2					
	29 65	mc1	10YR53 00	75YR46 00	C			10YR64 00	Y	0	0	HR	2			M		
	65 120	c	10YR63 00	75YR56 00	M			00MN00 00	Y	0	0	HR	10			P	Y	Y
7	0 25	mc1	10YR44 00							0	0	HR	4					
	25 42	hc1	10YR43 00	10YR58 00	C				Y	0	0	0				M		
	42 80	c	10YR54 00	10YR58 00	C				S	0	0	0				P	Y	Y
8	0 26	mc1	10YR42 00							0	0	HR	2					
	26 40	mc1	10YR43 52	10YR58 00	C				Y	0	0	0				M		
	40 70	hc1	10YR43 00	10YR58 00	C			00MN00 00	Y	0	0	0				M		IMP 70 STONES
10	0 30	ms1	10YR42 00							0	0	HR	2					
	30 32	ms1	10YR54 00							0	0	HR	2			M		IMP 32 STONES
11	0-30	ms1	10YR43 00							0	0	0						
	30 42	mc1	10YR54 00		F			00MN00 00		0	0	0				M		
	42 55	sc1	10YR54 00	75YR46 00	C			10YR63 00	S	0	0	0				M		
	55 65	sc	10YR54 00	75YR58 00	F			00MN00 00	S	0	0	0				M		
	65 85	ms1	10YR54 00	75YR58 00	F			00MN00 00	S	0	0	0				M		
	85-120	sc1	75YR58 00		F			00MN00 00	S	0	0	0				M		

SAMPLE	DEPTH	TEXTURE	COLOUR	-- MOTTLES			PED		----STONES--			STRUCT/ CONSIST	SUBS			SPL	CALC
				COL	ABUN	CONT	COL	GLE	2	>6	LITH		TOT	STR	POR		
13	0 30	ms1	10YR42 00						0	0	HR	2					
	30-55	mc1	10YR53 00 75YR58 00 C				10YR63 00 Y		0	0	HR	5		M			
	55 60	c	10YR53 00 75YR58 00 C					Y	0	0	HR	5		P			
	60-65	c	10YR53 00 75YR58 00 C					Y	0	0	HR	20		P			IMP 65 STONES
16	0-30	mc1	10YR42 00						0	0	HR	2					IMP 30 STONES
17	0 28	mc1	10YR42 00						0	0	HR	2					
	28 75	c	10YR54 00 75YR58 00 C				00M00 00 Y		0	0	HR	2		P	Y		Y
19	0-25	fs1	10YR43 00						0	0	HR	2					
	25 30	fs1	10YR44 00						0	0	HR	5		M			
	30 50	lfs	10YR54 00						0	0	HR	10		M			IMP 50 STONES
22	0-35	mc1	10YR43 00						0	0	HR	2					
	35 60	sc1	10YR53 00 75YR56 00 C				10YR63 00 Y		0	0	HR	5		M			
	60 70	c	10YR56 00 75YR58 00 C				00M00 00 Y		0	0	HR	5		P	Y		Y
	70-90	c	75YR56 00 75YR46 00 C				00M00 00 Y		0	0	HR	2		P	Y		Y
23	0 30	mc1	10YR43 00						0	0	HR	2					
	30 47	mc1	10YR42 00 10YR58 00 C					Y	0	0	HR	10		M			
	47 75	c	75YR66 00 05YR58 00 C					Y	0	0	HR	5		P	Y		Y
25	0-22	fs1	10YR43 00						0	0		0					
	22-55	fs1	10YR54 00						0	0	HR	5		M			
	55 70	sc1	10YR53 00 10YR58 00 C					Y	0	0	HR	2		M			IMP 70 STONES
26	0 25	fs1	10YR44 00						0	0		0					
	25 40	fs1	10YR56 00						0	0	HR	10		M			IMP 40 STONES
29	0 32	mc1	10YR43 00						0	0		0					
	32-38	mc1	10YR44 00						0	0	HR	2		M			
	38-60	hc1	10YR54 00 75YR58 00 C				10YR73 00 S		0	0	HR	2		M			
	60 75	hc1	10YR64 00 75YR58 00 C				10YR73 00 Y		0	0	HR	2		M			IMP 75 STONES

SAMPLE NO	GRID REF	ASPECT USE	WETNESS		WHEAT		POTS-		M REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
			GRDNT	GLEYSPL	CLASS	GRADE	AP	MB	AP	MB					
1	TQ73405660	ORC			1	1	053	61	053	-54	4		DR	2	IMP 30 SEE 1P
1P	TQ73305650	ORC		046 046	3	2	095	-19	107	0	3A		WD	2	PIT TO 70
2	TQ73505660	PGR		040	2	1	169	55	116	9	2		DR	2	
2P	TQ73205620	PGR	W	02	1	1	091	23	074	33	3B		DR	3B	
3	TQ73305650	ORC		045 060	3	2	122	8	112	5	2		WD	2	SEE 1P
4	TQ73405650	ORC		035 055	3	2	100	14	112	5	3A		WD	2	
5	TQ73505650	RGR	NE	02	1	1	042	-72	042	-67	4		DR	2	IMP 25 SEE 1P
6	TQ73605650	RGR	N	02	029 065	3	2	131	17	111	2	2	WD	2	
7	TQ73205640	ORC		025 042	3	3A	102	12	107	0	3A		WE	3A	
8	TQ73305640	ORC		026	2	2	104	-10	116	9	3A		WD	2	IMP 70 PROB 2
10	TQ73605640	RGR	NW	02	1	1	053	61	053	56	4		DR	2	IMP 32 SEE 1P
11	TQ73705640	RGR	NW	02	1	1	154	40	112	3	2		DR	2	SL GLEY 42
13	TQ73265630	RGR	N	01	030	2	1	091	23	100	9	3B	DR	2	IMP 65 SEE 1P
16	TQ73705630	RGR	N	02	1	1	053	61	053	-56	4		DR	3A	SEE 88 SURVEY
17	TQ73805630	RGR	W	02	028 028	4	3B	095	-19	103	6	3A	WE	3B	
19	TQ73205620	PGR			1	1	000	0	000	0			DR	3B	IMP 50 SEE 2P
22	TQ73455621	RGR	N	02	035 060	3	3A	114	0	113	4	3A	WE	3A	
23	TQ73605620	RGR	N	01	030 047	3	3A	098	16	106	3	3A	WE	3A	
25	TQ73305610	PGR		055	1	1	109	-5	118	11	3A		DR	2	IMP 70 SEE 1P
26	TQ73405610	PGR			1	1	069	45	069	38	3B		DR	3B	IMP 40 SEE 2P
29	TQ73705610	RGR	N	02	060	1	1	110	4	117	8	3A	DR	2	SL GLEY 38