

Our northern runway: making best use of Gatwick

III

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Introduction 1

1.1 General

- 1.1.1 This document forms Appendix 18.6.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.
- 1.1.2 This document provides the published Agricultural Land Classification data relevant to the Project.

Our northern runway: making best use of Gatwick

CRAWLEY BOROUGH LOCAL PLAN AGRICULTURAL LAND CLASSIFICATION REPORT

Summary 1.

- 1.1
- 1.2 classifying land according to the extent to which its physical or chemical characteristics impose long term limitations on its use for agriculture.

At the time of survey most of the western part of the site was in permanent grassland being grazed by cattle and horses. Land to the east of the B2036, Balcombe Road, was in a mixture of cereal cropping and set-aside.

1.3

Table 1 : Distribution of Grades and Subgrades

		Area (ha)
Grade	2	5.0
	3b	75.5
	4	2.2
Total ag	ricultural area	82.7
Non-agr		3.8
Woodlar	nd	31.4
Farm Bu	ildings	0.4
Urban		4.7
Not surv	reyed	5.0
Total are	ea of site	<u>128.0</u> ha
		a found of the

- 1.4 categories identified in the survey.
- 1.5

A1 **Crawley Borough Local Plan** Agricultural Land Classification ALC Map and Report March 1994

During February 1994, an Agricultural Land Classification (ALC), survey was carried out on approximately 128 hectares of land immediately to the north-east of Crawley, West Sussex. ADAS was commissioned by MAFF to determine the quality of land under consideration for inclusion in the Crawley Borough Local Plan.

The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 86 borings and six soil inspection pits were described in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land, (MAFF, 1988). These guidelines provide a framework for

The distribution of grades and subgrades is shown on the attached ALC map and the areas and extent 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 may be misleading.

ha) % total agricultural area 6.0 91.3 2.7 100%

Appendix 1 gives a general description of the grades, subgrades and land-use

The land surveyed has been classified predominantly moderate, (Subgrade 3b) quality with smaller areas of Grades 2 and 4. A considerable proportion of the total site area has been mapped as non-agricultural land uses, such as woodland or urban. The ALC grading of the site is primarily determined by soil wetness limitations. Across most of area surveyed soils comprise silty clay loam topsoils overlying gleyed and slowly permeable silty clay loam and silty clay subsoils derived from deposits of

2

Tunbridge Wells Sand. These significantly impede soil drainage. Where land has been assigned to grade 2, soils are lighter and more sandy and thereby better drained. They are affected by only slight soil wetness problems. Grade 4 land has been mapped where disturbance has occurred and a micro-relief limitation has resulted.

2. Climate

Estimates of climatic variables relevant to the assessment of agricultural land quality 2.1 were obtained by interpolation from a 5km grid point dataset (Met. Office, 1989) for representative locations in the survey area.

Climatic Interpolations

Grid Reference	TQ 289387	TQ 300393
Altitude, (m, AOD)	65	75
Accumulated Temperature	1451	1439
(°days, Jan-June)		
Average Annual Rainfall (mm)	799	795
Field Capacity Days	170	169
Moisture deficit, wheat (mm)	104	104
Moisture deficit, potatoes (mm)) 96	95

- Climatic factors are considered first when classifying land since climate can be 2.2 overriding in the sense that adverse climatic conditions may restrict land quality irrespective of favourable site and soil conditions. The details in the table above show that there is no overall climatic limitation affecting this site. In addition, no local climatic factors such as exposure or frost risk affect the land quality.
- However, climatic factors do interact with soil factors to influence soil wetness and 2.3 droughtiness limitations. At this locality, average annual rainfall and field capacity days are relatively high in regional terms, whilst crop adjusted moisture deficits are correspondingly low. The effect will be an enhanced likelihood of soil wetness problems and a reduced chance of the land being droughty.
- 3. Relief
- 3.1 The site lies at an altitude of approximately 65-75 m AOD, rising gently from west to east. Nowhere on the site do gradient or microrelief affect agricultural land quality.

4. **Geology and Soils**

4.1 The published geology map for the site area, (British Geological Survey, 1973) shows a complex pattern of geological deposits underlying the site. To the far west of the site a band of river terrace gravels, (deposited by the River Mole) has been mapped. Adjacent to this a band of alluvium is shown running the length of Gatwick Stream. East of here, much of the remainder of the site is underlain by deposits of Tunbridge Wells Sandstone. Localised bands of clay within the Sandstone are also indicated, to the north-east of the site,

- 4.2 1984).
- 4.3 giving rise to imperfect drainage.
- **Agricultural Land Classification** 5.
- Table 1 provides the details of the area measurements for each grade and the 5.1 distribution of each grade is shown on the attached ALC map.
- 5.2 map.

Grade 2

5.3 impenetrable, (to soil auger), below 70 cm.

> This land is affected by imperfect soil drainage as evidenced by gleying from shallow depths and commonly within the topsoil. Subsoils were not, however, found to be slowly permeable. Such drainage characteristics equate to Wetness Class II. Land is thereby assigned to Grade 2 on the basis of slight soil wetness restrictions, given the climatic regime and easily workable topsoil textures.

Occasional profiles of this quality were found elsewhere on the site. However, their extent and distribution was not sufficient to justify separate mapping.

Subgrade 3b

5.4

Soil Survey of England and Wales (1983), Sheet 6, Soils of South-East England shows the entire site to comprise soils of the Curtisden association. These are described as 'silty soils over siltstone with slowly permeable subsoils', (SSEW,

Detailed field examination of the soils on the site confirmed the presence of silty soils derived from Tunbridge Wells Sand, which had slowly permeable subsoil horizons

The location of the soil observation points are shown on the attached sample point

Land of this quality occurs as a small unit towards the north-west of the site. Profiles typically comprise non-calcareous medium clay loam or silty clay loam topsoils, which are generally stone free. These overlie heavier textured upper subsoils of heavy clay loam or silty clay loam. Subsoils tend to become more sandy and/or slightly stony with depth, passing to sandy clay loam, medium sandy loam or occasionally loamy sand from about 40-70 cm depth. These lower subsoil horizons may contain 5-10% flints. As a result, occasional observations were found to be

The majority of the site has been assigned to Subgrade 3b, moderate quality land, on the basis of soil wetness limitations. Profiles typically comprise stoneless, medium or heavy silty clay loam topsoils which are non-calcareous. These overlie similar upper subsoils and pass to silty clay or occasionally clay in the lower subsoil. Commonly subsoils contained siltstone fragments comprising between 2 and 50% of the total volume. Occasional profiles were impenetrable, (to soil auger), as a consequence. Silty clay loam and silty clay subsoil horizons were found to be slowly permeable. thereby causing soil drainage to be significantly impeded. Profiles were gleved from shallow depth, commonly from the topsoil, as a result of the poor drainage status of

thereby causing soil drainage to be significantly impeded. Profiles were gleyed from shallow depth, commonly from the topsoil, as a result of the poor drainage status of the land. These soil characteristics, ie, of shallow gleying and slow permeability, equate to a Wetness Class of IV. The land is therefore assigned to Subgrade 3b as a result of soil wetness which may restrict the opportunities for cultivations and/or grazing and/or adversely affect crop growth and development.

Grade 4

Two small units of poor quality land have been mapped towards the western 5.5 boundary of the site. Here soil profiles are similar to those described in section 5.4 above. However, the land has been disturbed and the microrelief limitation which exists as a result is likely to present severe difficulties in the utilisation of the land. In some areas soil has been piled up to form hummocks whilst in others topsoil has been scraped off. It would be impractical and outside normal agricultural practices to rectify the microrelief restriction. This land is only suitable for grazing as a result.

Not-Surveyed

5 hectares of land to the south of Forge Farm was not surveyed for health and safety 5.6 reasons. At the time of survey, the occupier indicated that the land had recently been subject to the disposal of abattoir waste.

ADAS Ref: 4204/042/94 MAFF Ref: EL 42/496

Resource Planning Team Guildford Statutory Group ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1972) Sheet 302, Horsham.

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.

Soil Survey of England and Wales (1984) Bulletin 15, Soils and their use in South-East England.

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	45-75	ZC	251 81 73	3 25Y 78 00 M		Ŷ	0 0	0	P	Y			28-80	zc	10YR52 00	75YR58 00 C		Y	0 O ZF	5	Р	Ŷ	
57	0-25	mzcl	25Y 42 00	0 10YR58 00 C		Y	0 0	0				78	0-27	hzc]	10YR53 00	1			2 0 ZF	10			
	25-60	ZC	25Y 72 81	1 25Y 78 00 M	Ċ.	Y	0 0	0	Р	Y		10.70	27-88		25Y 52 00	75YR58 00 C	25Y 7	2 00 Y	0 0 ZF	15	Ρ	Y	
													88-100		25Y 70 00	05YR78 00 M		Y	0 0	0	P	Y	
61	0-25	mzc]	25Y 63 00)			0 0 ZR	1															
	25-35	mzc1	25Y 63 00	0 05YR46 00 C	1	Y	0 0 ZR	1	Р	Y		80	0-25	mcl	10YR53 00	75YR58 00 C		Y	0 0	0			
	35-70	zc	25Y 71 00	0 05YR46 00 M	Ľ	Y	0 0 ZR	1	Р	Y			25-55			75YR58 00 C			0 0	0	м		
													55-65			75YR58 00 C			0 0	0	м		
62	0-28	mzcl	25Y 52 00	0 10YR56 00 F			0 0 ZR	2					65-70		75YR58 00			0 00 Y	0 0	0	м		
	28-60	zc	25Y 62 00	0 75YR56 00 M	l -	Y	0 0 ZR	10	Р	Y			70-78		75YR58 00) C	OOMINO	0 00 Y	0 0	0	м		
													78-90		10YR34 00				0 0	0	м		
63	0-35	mzcl	25Y 52 00	0 10YR56 00 C	;	Y	0 0 ZR	2						2367423									
	35-60	zc	25Y 63 00	0 75YR58 00 M	1	Y	0 0 ZR	2	Р	Y		81	0-28	hc1	25 Y52 00	75YR56 00 C	10YR6	1 00 Y	0 0	0			
													28-60	с	25 Y73 00	75YR58 00 C	25 Y7	2 00 Y	0 0	0	М	Y	
64	0-25	mzcl	25Y 53 00	0			0 0	0					60-65		10YR34 00	2		Y	0 0	0	м		Imp 65
	25-38	mzcl	25Y 53 00	0 10YR56 00 C	2	Ŷ	0 0 ZR	3	Р	Y													
	38-80	zc	25Y 61 00	0 75YR58 00 M	t i	Y	0 0 ZR	10	P	Y		83	0-38	hzc1	25Y 52 00	75YR58 00 C		Y	0 0	0			
													38-75		25Y 63 00	75YR58 00 M		Y	0 0	o	P	Y	
66	0-22	mcl	25 Y53 00	0 75YR56 00 C	;	Y	0 0	0					75-100	zc	25Y 63 00	75YR58 00 M		Y	0 0	0	Р	Y	
	22-30	hc1	10YR53 00	0 10YR58 00 C	2 10YR71	00 Y	0 0	0	м														
	30-80	с	25 Y73 00	0 75YR58 00 M	1	Y	0 0	0	м	Y		84	0-30	mzc1	25Y 42 00)			0 0	0			
								-					30-45	hzc1	25Y 62 00) 10YR78 61 C		Y	00	0	Р	Y	
67	0-25			0 75YR56 00 M			0 0	0					45-70	zc	25Y 72 00	0 75YR78 00 M	COMNO	0 00 Y	0 0	0	Р	Y	
	25-55			0 10YR58 00 M				0	м	Ŷ													
		scl		0 75YR58 00 M				0	M	Y		85	0-30	mzc1	25Y 42 00				0 0	0			
	80-82	ZC	25 Y/0 U	0 10YR58 00 M	1	Ŷ	0 0	0	Р	Y			30-50			0 10YR78 00 C			0 0	0	Р	Y	
CO	0.00	· · · · · ·	051 50 00	-		v	0 0	•					50-80	ZC	25Y 73 00	0 75YR78 00 M		Y	0 0	0	Р	Y	
69	0-38			0 75YR58 00 C			0 0	0															
	38-58			0 05YR46 00 M				0	P	Y Y		86			25Y 53 00				0 0	0			
	58-70	zc	TUYR/T UC	0 75YR58 00 M	1	Ŷ	0 0	0	P	Ŷ			28-70	zc	25Y 63 00	0 10YR68 00 C		Y	0 0 Z	10	Р	Y	
70	0-28	hzc1	25Y 52 00	0 75YR58 00 C		Y	0 0	0				87	0-25	mzcl	25Y 53 00	75YR58 00 C		Y	0 0	0			
	28-39	zc	25Y 51 00	0 75YR85 00 C	:	Y	0 0	0	Р	Y		0,	25-70			75YR68 00 M			0 0	0	Р	Y	
	39-70	zc	25Y 71 00	0 75YR58 00 M	1	Y	0 0	0	Р	Y					— 2007-2007 - 2007							-4	
												88	0-25	mc1	25Y 53 00	75YR58 00 C		Y	0 0	0			
71		hzc1		0 75YR58 00 C			0 0	0					25-40	hc1	25Y 63 00	25Y 63 00 M	OOMNO	0 00 Y	0 0	٥	м		
	38-70	zc	25Y 71 00	0 75YR58 00 M	1	Y	0 0	0	Ρ	Y			40-90	scl	25Y 63 0	0 75YR58 00 M	Ľ.	Y	0 ОН	R 5	м		
75	0-28	mzcl	25Y 53 00	0			2 0 ZR	10				00	0-32	ho]	254 52 0	0 75YR58-00 C	9	v	0 0	0			
20050	28-40			2 75YR46 00 C	:	Y	0 0 ZR		Ρ	Y		89	0- <i>32</i> 32-38			0 75YR58-00 C			0 0	0 0	м		
	40-47			2 75YR46 00 C			0 0 ZR		P	Y			38-75			0 10YR58-00 M			0 0	0	M	Y	
	transfer instrum	zc		0 75Y 58 00 M			0 0 ZR		Р	Y			36-75 75-90			0 75YR58-00 M			0 0	0	M	Y	Imp 90, gravelly
													10-90	50	201 70-00		JOINT	-00 T	5 0	U	PI.	T	Tub 201 Graverry

program	: ALCO11			IST OF PROFILE							page 7	progra	n: ALCO1	1			ST OF PROFILES 22					page 8
			MOTTI	ES PED		STONE	ES STRUCT/	SHIBS								MOTTLES		STON	ES STRUCT/	CUDS		
SAMPLE	DEPTH	TEXTURE		CONT COL.					IMP SPL CAL	C		SAMPLE	DEPTH	TEXTURE	COLOUR		CONT COL. GLE				IMP SPL CALC	
				-																		
90	0-25	hc1	10YR51 00 75YR46 00			0 0	0	100	100			116	0-25	mzc1		75YR58 00 C		00	0			
	25-45	с	10YR51 00 75YR46 00	M	Y	0 0	0	M	Y	Imp 45			25-48	hzc1		10YR58 00 M	10YR71 00		0	P	Y	
		ed 2003		-									48-80	zc	25 Y63 73	3 10YR58 00 M	Ň	00	0	Ρ	Y	
91		hc1	10YR42 00 75YR46 00				0	_										9 600 2 00	822			
	25-85	с	10YR72 00 75YR46 58	M	Ŷ	0 0	0	Р	Y			117	0-20			75YR58 00 C		00	0			
		-		<u>_</u>		~ ~	•						20-35			10YR58 00 M		0 0	0	P	Y	
92	0-26	mzcl	25Y 52 00 75YR58 00			0 0	0		v				35-55			10YR58 00 M	05YR58 00		0	M		
	26-38		25Y 52 00 75YR58 00			0 0	0	P	Y Y				55-65			10YR58 00 M		00	0	P	Ŷ	
	38-70	zc	25Y 71 00 75YR58 00	m	Y	0 0	0	۲	T				65-80	zc	109871 00	10YR58 00 M		0 0	0	Р	Ŷ	
98	0.00		25Y 42 00 10YR58 00	c	v	0 0	0					120	0.20		10/052 00	10YR58 00 C	,	0 0	o			
90	0-30 30-50	mzc1 hzc1	25Y 71 00 75YR78 00			0 0	õ	р	Y			120	0-30			10YR58 00 M	00MN00 00		0	м		
	50-50 50-70		25Y 72 00 75YR68 00			0 0	õ	P	Ŷ				30-43 43-80			0 10YR58 00 M			-	M	Y	
	50-70	20	231 /2 00 /31800 00			0 0	v		•				43-00	C	23 175 00		0014000 00	U U UK	5	0	т	
99	0-25	hzc1	10YR52 00 10YR58 00	F		0 0	0					124	0-38	mzcl	05 Y51 00) 75YR48 00 C		0 0	0			
55	25-55		75YR62 00 75YR68 00				0	Ρ	Y			124	38-50	hzc1		10YR58 00 M			0	Р	Y	
	55-70		10YR52 00 75YR68 81				0	Ρ	Y				50-80	mzcl		0 10YR58 00 M			0	P	Y	
100	0-30	mzc]	25Y 42 00 10YR58 00	С	Y	0 0	0					125	0-30	mzcl	25 Y52 00	75YR46 00 C		0 0 0	0			
	30-60	hzc1	25Y 62 00 10YR78 61	м	Y	0 0	0	Ρ	Y				30-75	с	10YR71 00	0 10YR58 00 M		0 0 0	0	м	Y	
	60-70	zc	25Y 71 00 75YR78 00	м	Y	0 0	0	Ρ	Y													
												126	0-15	mc1	10YR51 00	75YR46 00 C	,	0 0	0			
101	0-30	mzcl	25Y 42 00 10YR58 00	с	Y	0 0	0						15-30	hc1	10YR61 00	75YR56 00 M		00	0	м		
	30-65	hzc1	25Y 62 00 10YR78 61	м	Y	0 0	0	P	Y				30-75	с	25 Y70 00) 75YR58 00 M		00	0	м	Y	
103	0-22	mcl	10YR43 00			0 0	0															
	22-40	hc1	10YR53 00 75YR58 00		00 Y		0	M														
	40-70	c	10YR64 00 75YR58 00	C 00MN00	UU Y		0	M	Y													
	70-75		10YR34 00		00 V		20	M M														
	75-90	scl	10YR63 00	M 00MN00	00 Y	0 0 HR	20	14														
106	0_25	mzcl	25 Y62 00 75YR56 00	с	Y	0 0	0															
100	25-90		25 Y72 00 10YR68 00			0 0	0	Р	Y													
	25-50		20 112 00 101100 00			•••	U U															¥
110	0-30	mzcl	25Y 42 00 10YR58 00	С	Y	0 0	0															
	30-60		25Y 62 00 10YR78 00			0 0	0	Р	Y													
	60-70		25Y 72 00 75YR78 00				0	P	Y													
111	0-30	mzcl	25Y 42 00 10YR58 00	С	Y	0 0	0															
	30-45	zc	25Y 72 00 40YR78 00	М	Y	0 0	0	Ρ	Y													
	45-70	zc	25Y 62 81 75YR78 00	м	Y	0 0 Z R	20	Ρ	Y													
116	0-25	mzcl	25 Y53 00			0 0	0															
110	25-50		25 Y73 00 10YR58 00	C 10VP71	00 Y		0	P	Y													
	20-30 50-70		10YR71 00 10YR58 00			0 0	õ	P	Ý													
	70-75		10YR71 00 10YR58 00			0 0	0	P	Ŷ													
	75-90		10YR71 00 10YR58 00			0 0	0	Р	Y													

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program: ALCO12	LIST OF BORINGS HEADERS 22/02/94 CRAWLEY BOROUGH LP	page 1	program: ALCO12 LIST OF BORINGS HEADERS 22/02/94 CRAWLEY BOROUGH LP	page 2
SAMPLE ASPECT NO. GRID REF USE	WETNESSWHEATPOTS- M.REL EROSN FROST CHEM GRDNT GLEY SPL CLASS GRADE AP MB AP MB DRT FLOOD EXP DIST LIMIT	ALC COMMENTS	SAMPLE ASPECTWETNESSWHEATPOTS- M.REL EROSN FROST CHI NO. GRID REF USE GRDNT GLEY SPL CLASS GRADE AP MB AP MB DRT FLOOD EXP DIST	IEM ALC LIMIT COMMENTS
1 TQ30103990 SAS 1P TQ29423942 PGR		3B 3B	43 TQ29303930 PGR 0 035 4 3B 000 0 000 0 44 T029403930 PGR 0 040 4 3B 129 24 121 23 2	WE 3B
2 T030103980 SAS	0 028 4 3B 094 -11 104 6 3A WE 0 045 4 3B 000 0 000 0 WE	38 38	44 TQ29403930 PGR 0 040 4 3B 129 24 121 23 2 47 T029803930 CER W 02 030 030 4 3B 000 0 000 0	WE 3B WE 3B
2P TQ29403870 PGR	0 031 4 3B 137 32 118 20 1 WE	3B	47 1029603930 CER W 02 030 030 4 30 000 0 000 0	WE 3B
3 TQ29903970 SAS	0 025 4 3B 088 -17 096 -2 3A WE	3B	49 TQ30003930 SAS 0 015 4 3B 092 -13 093 -5 3A	WE 3B IMP 85
3P TQ28903890 PGR	0 058 3 3B 105 0 117 19 3A WE	3B SPL 58	50 TQ30103930 SAS E 01 0 038 4 3B 000 0 000 0	WE 3B
4 TQ30003970 SAS	025 2 2 151 46 139 41 1 WE	2	52 TQ28903920 PGR 028 2 2 136 31 117 19 1	WE 2
4P TQ29903940 SAS W	01 0 030 4 38 000 0 000 0 WE	3B	55 TQ29203920 PGR 0 025 4 3B 100 -5 112 14 3A	WE 3B
5 TQ30103970 SAS	0 025 4 3B 135 30 124 26 1 WE	38	56 TQ29303920 PGR 0 025 4 3B 101 -4 108 10 3A	WE 3B
5P TQ30103960 SAS S	02 0 024 4 3B 000 0 000 0 WE	3B	57 TQ29403920 PGR 0 025 4 3B 000 0 000 0	WE 3B
6 TQ30233970 SAS SE	04 0 025 4 3B 000 0 000 0 WE	3B	61 TQ29803920 CER W 02 025 025 4 3B 000 0 000 0	WE 3B
6P TQ30003910 CER W	01 028 028 4 3B 000 0 000 0 WE	3B IMP 70 SILTST.	62 TQ29903920 CER W 02 028 028 4 3B 000 0 000 0	WE 3B
7 TQ29103960 PGR	0 030 4 38 000 0 000 0 WE	3B	63 TQ30003920 CER E 02 0 035 4 3B 000 0 000 0	WE 3B
9 TQ29303960 PGR	0 035 4 3B 000 0 000 0 WE	38	64 TQ30103920 CER E 02 025 025 4 3B 000 0 000 0	WE 3B
10 TQ29403960 PGR	0 025 4 3B 000 0 000 0 WE	38	66 TQ28903910 PGR 0 030 4 3B 000 0 000 0	WE 3B
11 TQ29503960 PGR	0 030 4 3B 000 0 000 0 WE	3B	67 TQ29003910 PGR 0 025 4 3B 000 0 000 0	WE 3B
12 TQ29603960 SAS NW	01 0 025 4 3B 000 0 000 0 · WE	3B	69 TQ29203910 PGR 0 038 4 3B 000 0 000 0	WE 3B
13 TQ29903960 SAS	030 030 4 3B 101 -4 105 7 3A WE	3B	70 TQ29303910 PGR 0 028 4 3B 000 0 000 0	WE 3B
14 TQ30003960 SAS	0 030 4 3B 000 0 000 0 WE	3B	71 TQ29403910 PGR 0 038 4 3B 000 0 000 0	WE 3B
15 TQ30103960 SAS	0 030 4 3B 000 0 000 0 WE	3B	75 TQ29803910 CER W 01 028 028 4 3B 000 0 000 0	WE 3B
16 TQ30203960 SAS SE	04 0 025 4 3B 100 -5 111 13 3A WE	3B	76 TQ29903910 CER W 01 028 028 4 38 123 18 118 20 2	WE 3B
17 TQ29103950 PGR	0 042 4 3B 136 31 109 11 1 WE	3B	77 TQ30003910 CER W 01 028 028 4 3B 000 0 000 0	WE 3B
19 TQ29303950 PGR	005 030 4 3B 082 -23 088 -10 3B WE	3B	78 TQ30103910 CER E 01 027 027 4 38 000 0 000 0	WE 3B
20 TQ29403950 PGR	0 025 4 3B 000 0 000 0 WE	3B	80 TQ28903900 PGR 0 2 2 115 10 117 19 2	WE 2
21 TQ29503950 PGR	0 038 4 3B 000 0 000 0 WE	3B	81 TQ29003900 PGR 0 028 4 38 000 0 000 0	WE 3B IMP 65
22 TQ29603950 SAS NW	01 0 028 4 3B 000 0 000 0 WE	38	83 TQ29203900 PGR 0 038 4 38 000 0 000 0	WE 3B
25 TQ30103950 SAS	0 030 4 3B 000 0 000 0 WE	3B	84 TQ29823899 SAS 030 030 4 3B 000 0 000 0	WE 3B
26 TQ30203950 SAS	0 030 4 3B 000 0 000 0 WE	3B	85 TQ29903900 SAS 030 030 4 38 000 0 000 0	WE 38
27 TQ28903940 PGR	0 2 2 109 4 117 19 3A DR	3A IMP 72	86 TQ30003900 SAS SW 01 028 028 4 3B 000 0 000 0	WE 3B
28 TQ29003940 PGR	0 2 2 120 15 122 24 2 WE	2	87 TQ30103900 SAS 0 025 4 3B 000 0 000 0	WE 3B
30 TQ29303940 PGR	0 030 4 3B 000 0 000 0 WE	3B	88 TQ28853890 PGR 0 2 2 121 16 112 14 2	WE 2
31 TQ29403940 PGR		38	89 TQ28903890 PGR 0 038 4 3B 000 0 000 0	WE 3B
32 TQ29513942 PGR		3B	90 TQ29003890 PGR 0 025 4 3B 000 0 000 0	WE 3B VERY WET
33 TQ29703940 SAS NW	01 025 038 4 3B 000 0 000 0 WE	3B	91 TQ29103890 PGR 0 025 4 3B 000 0 000 0	WE 3B
34 TQ29803940 SAS W	01 0 026 4 3B 000 0 000 0 WE	38	92 TQ29223890 PGR 0 026 4 3B 000 0 000 0	WE 3B
35 TQ29903940 SAS W	01 0 025 4 38 000 0 000 0 WE	38	98 TQ29803890 SAS 0 030 4 3B 095 -10 105 7 3A	WE 3B
36 TQ30003940 SAS W	01 027 027 4 3B 102 -3 112 14 3A WE	38	99 TQ29903889 SAS 025 025 4 3B 094 -11 106 8 3A	WE 3B
37 TQ30103940 SAS W		38	100 TQ30023891 SAS 0 030 4 3B 000 0 000 0	WE 3B
38 TQ28803930 PGR	0 045 4 38 113 8 115 17 2 WE	3B	101 TQ30103890 SAS 0 030 4 3B 090 -15 099 1 3A	WE 3B
39 TQ28903930 PGR	0 2 2 123 18 113 15 2 WE	2	103 TQ28903880 PGR 0 040 4 3B 000 0 000 0	WE 3B
40 TQ29003930 PGR	0 2 2 113 8 117 19 2 WE	2 IMP 78	106 TQ29303880 PGR 0 025 4 3B 130 25 124 26 2	WE 3B
42 TQ29203926 PGR	0 025 4 3B 000 0 000 0 WE		110 TQ29803880 SAS 0 030 4 3B 000 0 000 0	WE 3B

program: ALCO12	LIST OF BORINGS HEADERS 22/02/94 CRAWLEY BOROUGH LP	page 3 SOIL PIT DESCRIPTION
SAMPLE ASPE		Site Name : CRAWLEY BOROUGH LP Pit Number : 1P
NO. GRID REF USE	GRDNT GLEY SPL CLASS GRADE AP MB AP MB DRT FLOOD EXP DIST LIMIT	COMMENTS Grid Reference: TQ29423942 Average Annual Rainfall : 796 mm Accumulated Temperature : 1439 degre
111 TQ29903880 SAS	0 030 4 3B 094 -11 103 5 3A WE 3B	B Field Capacity Level : 169 days
115 TQ29203870 PGR	025 025 4 3B 126 21 120 22 2 WE 3B	B Land Use : Permanent
116 TQ29303870 PGR	0 025 4 3B 000 0 000 0 WE 3B	B Slope and Aspect : degree:
117 TQ29403870 PGR	0 055 3 3A 000 0 000 0 WE 3A	4
120 TQ28863855 PGR	0 043 4 3B 000 0 000 0 WE 3B	В
		HORIZON TEXTURE COLOUR STONES >2 TOT.STONE MOTTLES ST
124 TQ29283863 PGR	0 038 4 3B 000 0 000 0 WE 3B	B 0- 28 MZCL 25Y 52 00 0 0 C
125 TQ28853845 PGR	0 030 4 3B 000 0 000 0 WE 3B	B 28-70 ZC 05Y 71 00 0 0 M 5
126 TQ29003850 PGR	0 030 4 3B 000 0 000 0 WE 3B	В
		Wetness Grade: 3B Wetness Class : IV Gleying :0 cm SPL :028 cm
		Drought Grade : 3A APW : 094mm MBW : -11mm APP : 104mm MBP : 6mm

i.

FINAL ALC GRADE : 3B MAIN LIMITATION : Wetness

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STRUCTURE

STVCPR

SOIL PIT DESCRIPTION	SOIL PIT DESCRIPTION
Site Name : CRAWLEY BOROUGH LP Pit Number : 2P	Site Name : CRAWLEY BOROUGH LP Pit Number : 3P
Grid Reference: TQ29403870 Average Annual Rainfall : 796 mm	Grid Reference: TQ28903890 Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days	Accumulated Temperature : 1439 degn
Field Capacity Level : 169 days	Field Capacity Level : 169 days
Land Use : Permanent Grass	Land Use : Permanent
Slope and Aspect : degrees	Slope and Aspect : degree
HORIZON TEXTURE COLOUR STONES >2 TOT.STONE MOTTLES STRUCTURE 0-31 MZCL 25 Y52 0 0 C 31-56 MZCL 25 Y71 00 0 M 56-76 HZCL 25 Y71 00 0 M MDCOAB 76-120 ZC 25 Y71 0 30 M MDCOPR	HORIZON TEXTURE COLOUR STONES >2 TOT.STONE MOTTLES ST 0-23 HCL 25 Y52 00 0 C 23-36 C 25 Y63 00 0 C 36-58 C 10YR71 00 0 M 58-75 C 10YR71 00 0 0 M 58-75 C 10YR71 00 0 0 0 0
Wetness Grade : 3B Wetness Class : IV	Wetness Grade : 3B Wetness Class : III
Gleying :0 cm	Gleying :0 cm
SPL :031 cm	SPL :058 cm
Drought Grade: 1 APW: 137mm MBW: 32mm	Drought Grade : 3A APW : 105mm MBW : 0 mm
APP: 118mm MBP: 20mm	APP : 117mm MBP : 19 mm

FINAL ALC GRADE : 3B

MAIN LIMITATION : Wetness

FINAL ALC GRADE : 3B MAIN LIMITATION : Wetness egree days ys ent Grass rees

STRUCTURE

MDCSAB MDCSAB WKCSAB

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SOIL PIT DESCRIPTION	SOIL PIT DESCRIPTION
Site Name : CRAWLEY BOROUGH LP Pit Number : 4P	Site Name : CRAWLEY BOROUGH LP Pit Number : 5P
Grid Reference: TQ29903940 Average Annual Rainfall : 796 mm	Grid Reference: TQ30103960 Average Annual Rainfall : 796 mm
Accumulated Temperature : 1439 degree days	Accumulated Temperature : 1439 degree
Field Capacity Level : 169 days	Field Capacity Level : 169 days
Land Use :	Land Use :
Slope and Aspect : 01 degrees W	Slope and Aspect : 02 degrees
HORIZON TEXTURE COLOUR STONES >2 TOT.STONE MOTTLES STRUCTURE	HORIZON TEXTURE COLOUR STONES >2 TOT.STONE MOTTLES STRU
0~ 30 HZCL 25 Y62 00 0 0 C	0-24 MZCL 25Y 53 00 0 2 C
30- 52 ZC 25 Y62 00 0 0 C MDMPR	24-43 HZCL 25Y 72 00 0 0 M ME
52-82 ZC 25 Y80 00 0 0 M WKVCPR	43-60 HZCL 25Y 71 00 0 0 M W 60-76 ZC 25Y 71 00 0 0 M M
Wetness Grade : 3B Wetness Class : IV	76-90 HZCL 25Y8100 0 0 M Wa
Gleying :0 cm	Wetness Grade: 3B Wetness Class : IV
SPL :030 cm	Gleying :0 cm
Drought Grade : APW : 000mm MBW : 0 mm APP : 000mm MBP : 0 mm	SPL :024 cm
FINAL ALC GRADE : 3B	Drought Grade : APW : 000mm MBW : 0 mm
MAIN LIMITATION : Wetness	APP : 000mm MBP : 0 mm

FINAL ALC GRADE : 3B MAIN LIMITATION : Wetness

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STRUCTURE

- MDVCPR
- WKVCPR
- MDCOPL WKMSAB

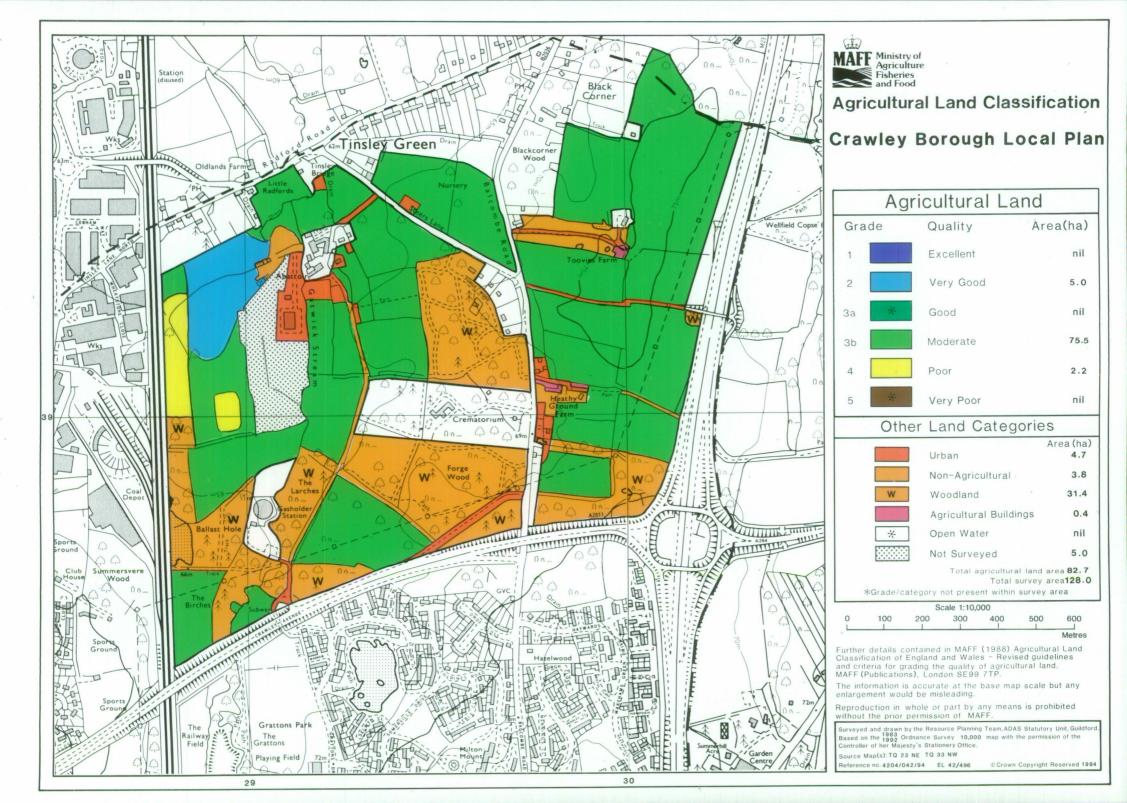
.

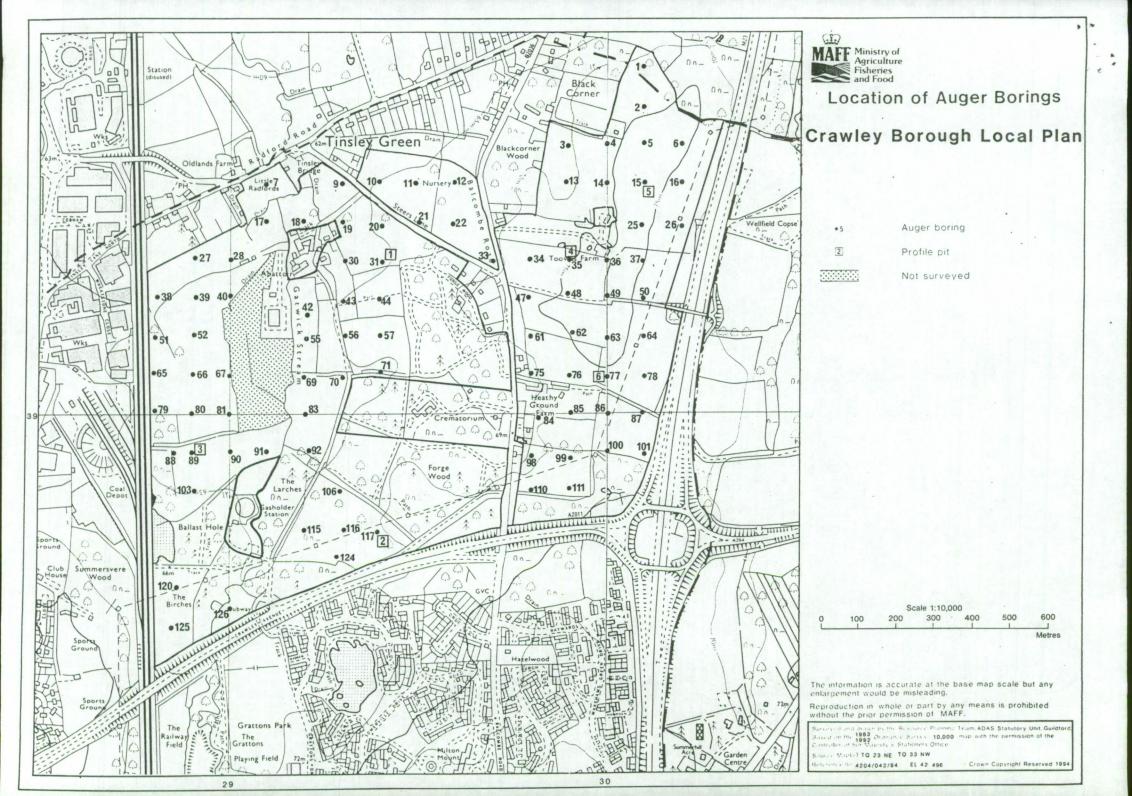
SOIL PIT DESCRIPTION

Site Name : CRAWLEY	BOROUGH LP	Pit Number	: 6P						
Grid Reference: TQ3		Temperature ty Level	: 1439 degree days						
HORIZON TEXTURE 0- 28 HZCL	COLOUR STONES >2 25Y 53 00 0	TOT.STONE 2	MOTTLES	STRUCTURE					
28- 52 ZC	25Y 63 00 0	10	С	WKCSAB					
52- 70 ZC	25Y 72 00 0	50	М	MDCOPL					
Wetness Grade : 3B	Wetness Clas Gleying SPL	s : IV :028 :028							
Drought Grade ;	APW : 000mm APP : 000mm	MBW : MBP :	0mm 0mm						

FINAL ALC GRADE : 3B MAIN LIMITATION : Wetness

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AGRICULTURAL LAND CLASSIFICATION REPORT

HORSHAM DISTRICT LOCAL PLAN. LAND AT IFIELD COURT FARM, CRAWLEY. **RECONNAISSANCE SURVEY.**

1. Summary

- 1.1 Plan.
- 1.2 characteristics impose a long term limitation on its use for agriculture.
- 1.3 Guildford Statutory Group of ADAS.
- 1.4
- 1.5 It is accurate at this scale, but any enlargement would be misleading.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)
3b	99.0
Non-agricultural	1.0
Woodland	1.7
Urban	17.3
Farm buildings	0.6
Open Water	<u>0.4</u>
Total area of site	120.0

A1 Horsham District Local Plan Land at Ifield Court Farm, Crawley. **Reconnaissance Survey Agricultural Land Classification** ALC Map and Report March 1995

1

ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality for a number of sites in the Horsham District of West Sussex. The work forms part of MAFF's statutory input to the preparation of the Horsham District Local

The site comprises 120 hectares of land around Ifield Court Farm at Ifield, north-west of Crawley in West Sussex. An Agricultural Land Classification (ALC) survey was carried out in March 1995. The survey was undertaken at a reconnaissance level of approximately one boring per 5 hectares of agricultural land surveyed. The southern half of the site has been previously surveyed by Bioscan UK Ltd in January 1995. Consequently, the boring density of the ADAS survey was decreased in this area of the site, being sufficient to verify the Bioscan findings. A total of 21 borings and two soil inspection pits were described 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

The survey work was carried out by members of the Resource Planning Team in the

At the time of the survey the agricultural land on the site comprised permanent grassland, cereals and recently ploughed land. Areas marked as non-agricultural include scrubland and areas of woodland have also been marked on the map. Areas of urban comprise private dwellings, gardens and tarmac roads. An area of open water has been mapped around Ifield Court Hotel and farm buildings have been mapped around Ifield Court Farm.

The distribution of grades and subgrades is shown on the attached ALC map, and the areas and extent are given in the table below. The map has been drawn at a scale of 1:10,000.

% of Site 82.5 0.8 1.4 14.5 0.5 0.3 100%

- Appendix I gives a general description of the grades, subgrades and land use categories 1.6 identified in the survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.
- The majority of the agricultural land on the site has been classified as Subgrade 3b, 1.7 moderate quality land, with soil wetness as the main limitation. Soil profiles typically comprise medium clay loam and heavy clay loam topsoils resting upon clay subsoils. Profiles are commonly gleyed from the topsoil, and the clay subsoils are slowly permeable and significantly impede drainage, such that a classification of Subgrade 3b is appropriate. Poorly drained wet soils restrict plant growth and development and may be more susceptible to structural damage through trafficking by agricultural machinery or poaching by grazing livestock.

The previous Bioscan survey similarly found land to be classified as Subgrade 3b due to a wetness limitation.

2. Climate

- .1 The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe climatic limitations will restrict land to low grades irrespective of favourable site or soil conditions.
- The main parameters used in the assessment of an overall climatic limitation are average 2.2 annual rainfall, as a measure of overall wetness, and accumulated temperature (degree days Jan-June), as a measure of the relative warmth of a locality.
- A detailed assessment of the prevailing climate was made by interpolation from a 5km 2.3 gridpoint 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.
- 2.4 However, climatic factors do interact with soil factors to influence soil wetness and droughtiness limitations. At this locality the climate is relatively warm and moist, therefore the likelihood of soil wetness problems may be increased.
- No local climatic factors such as exposure or frost risk are believed to affect the site. 2.5

Table 2 : Climatic Interpolation

Grid Reference Altitude (m)	TQ 245 381 65
Accumulated Temperature	1452
(degree days, Jan-June)	
Average Annual Rainfall (mm)	812
Field Capacity (days)	172
Moisture Deficit, Wheat (mm)	104
Moisture Deficit, Potatoes (mm)	96
Overall Climatic Grade	1

3. Relief

The site is relatively flat, lying at an altitude of approximately 65m AOD. 3.1

Geology and Soils 4.

- 4.1 the site.
- 4.2
- 4.3 with slowly permeable subsoils.
- 5. **Agricultural Land Classification**
- 5.1

Subgrade 3b

5.2 This can in turn affect the frequency and timing of such operations.

ADAS Ref: 4205/18/95 MAFF Ref: EL 42/130

The published geological map (BGS, 1972) shows the majority of the site to be underlain by Weald Clay. Alluvium is mapped around watercourses, clay-ironstone beds in the north of the site and small bands of River Mole 2nd terrace deposits towards the south of

The published Soil Survey map (SSEW, 1983) shows the soils on the site to comprise those of the Wickham 1 association. These are described as 'slowly permeable seasonally waterlogged fine silty over clavey, fine loamy over clavey and clavey soils' (SSEW 1983).

Detailed field examination found the majority of the soils on the site to be silty and clayey

The location of the soil observation points are shown on the attached sample point map.

All of the agricultural land on the site has been classified as Subgrade 3b, at a reconnaissance survey level, due to a significant soil wetness limitation. Soil profiles were found to typically comprise medium silty clay loam and heavy silty clay loam topsoils commonly resting directly upon clay subsoils. Profiles show evidence of drainage imperfections in the form of gleying, usually from the topsoils. Two soil inspection pits dug on the site indicated the clay subsoils to be poorly structured with low porosity, and therefore classified as slowly permeable layers which significantly impede drainage. The presence of gleying and the relatively shallow depth to these slowly permeable layers means that these soils are assigned to Wetness Class IV, with a resultant classification of Subgrade 3b given the prevailing climatic conditions. Poorly drained wet soils can inhibit plant and root development, and may be more susceptible to structural damage through trafficking by agricultural machinery or poaching by grazing livestock.

> **Resource Planning Team** Guildford Statutory Group ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1972), Sheet No. 302, Horsham, 1:50,000 Series (solid and 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), Climatological Data for Agricultural Land Classification.

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

AGRICULTURAL LAND CLASSIFICATION, SUMMARY REPORT

HORSHAM DISTRICT LOCAL PLAN. LAND AT IFIELD COURT FARM, CRAWLEY. **RECONNAISSANCE SURVEY.**

1. Summary

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At the time of the survey the agricultural land on the site comprised permanent grassland, cereals and recently ploughed land. Areas marked as non-agricultural include scrubland and areas of woodland have also been marked on the map. Areas of urban comprise private dwellings, gardens and tarmac roads. An area of open water has been mapped around Ifield Court Hotel and farm buildings have been mapped around Ifield Court Farm.

The distribution of grades and subgrades is shown on the attached ALC map, and the areas and extent are given in the table below. The map has been drawn at a scale of 1:10,000.

% of Site 82.5

> 0.8 1.4 14.5 0.5 0.3 100%

- Appendix I gives a general description of the grades, subgrades and land use categories 1.6 identified in the survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.
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The previous Bioscan survey similarly found land to be classified as Subgrade 3b due to a wetness limitation.

ADAS Ref: 4205/18/95 MAFF Ref: EL 42/130

Resource Planning Team **Guildford Statutory Group** ADAS Reading

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 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 I

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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

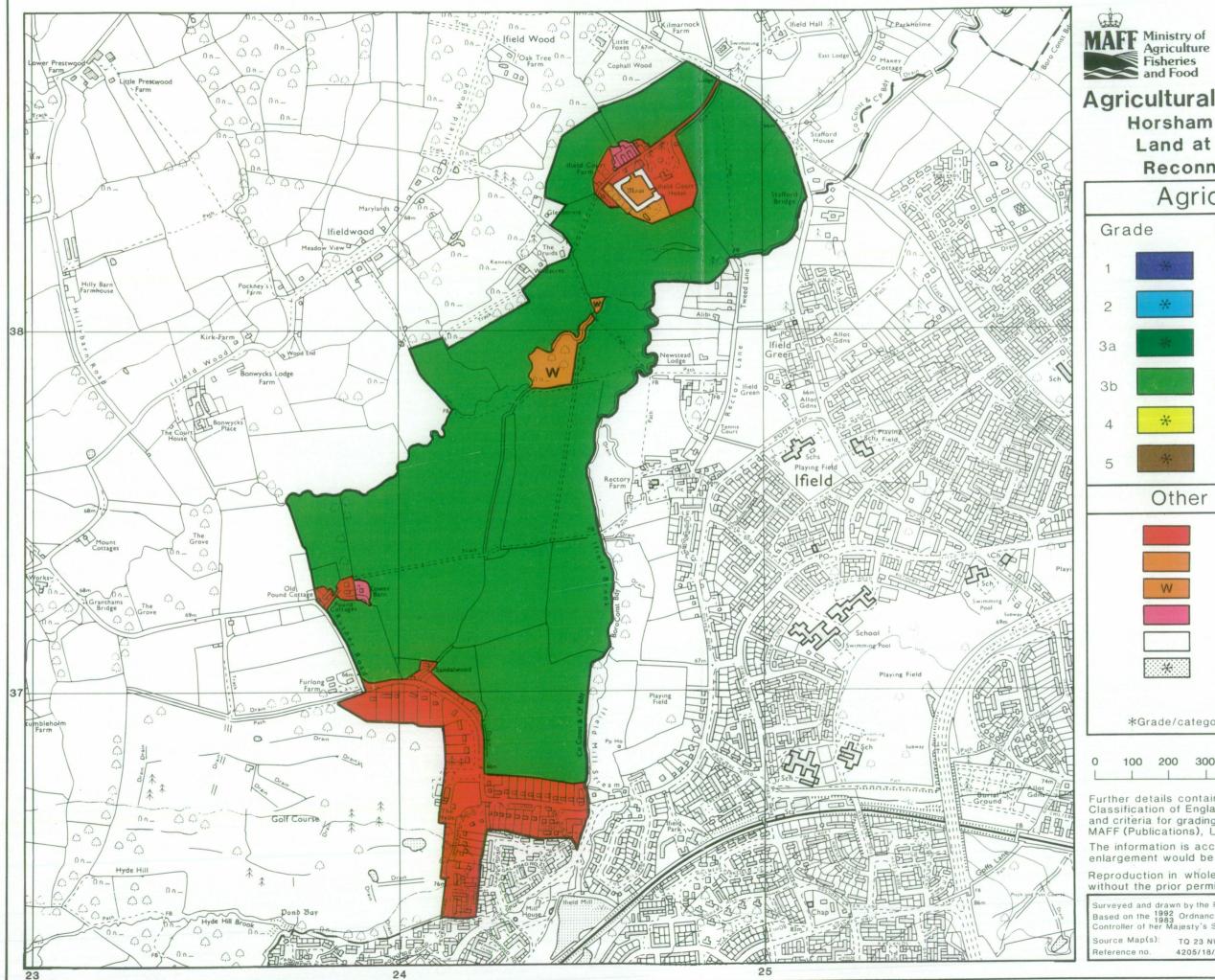
Agricultural land which has not been surveyed.

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.

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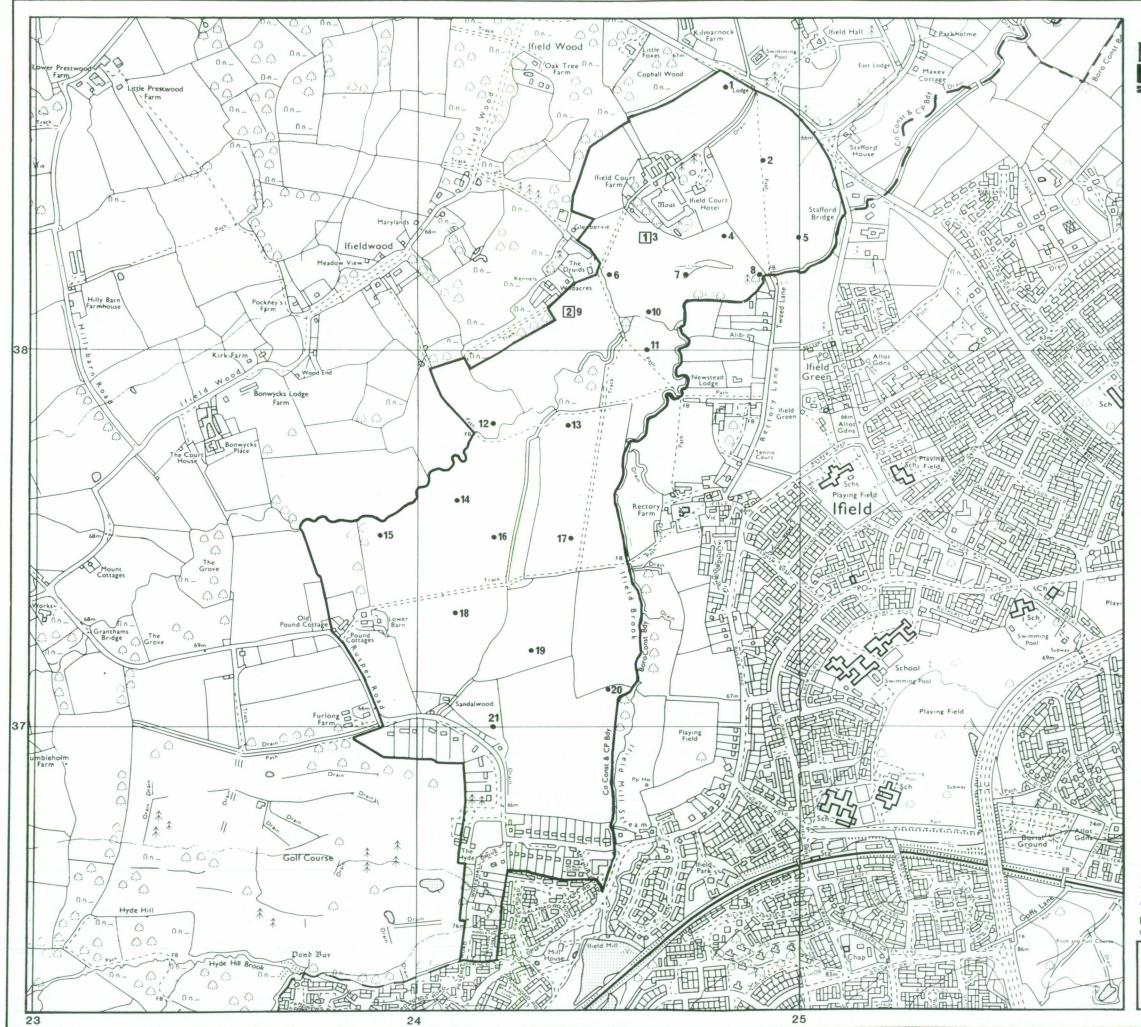
Agricultural Land Classification Horsham District Local Plan Land at Ifield Court Farm. Reconnaissance Survey

	inaissance 5	
Agr	icultural L	and
Grade	Quality	Area(ha)
1 *	Excellent	nil
2 *	Very Good	nil
3a 🔭	Good	nil
3b	Moderate	99.0
4 *	Poor	nil
5 *	Very Poor	nil
Othe	r Land Cate	gories
	Urban	Area (ha) 17.3
	Non-Agricultural	1.0
W	Woodland	1.7
	Agricultural Build	dings 0.6
	Open Water	0.4
*	Not Surveyed	nil
*Grade/cate		ral land area 99.0 I survey area 120.0 n survey area
	Scale 1:10,000	
0 100 200 3	300 400 500 600	700 800 900
Classification of En and criteria for grad	tained in MAFF (1988) gland and Wales - Rev ling the quality of agric	Agricultural Land vised guidelines
	, London SE99 7TP. accurate at the base m	ap scale but any

The information is accurate at the base map scale but any enlargement would be misleading.

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Surveyed and drawn by the Resource Planning Team, ADAS Statutory Unit, Guildford. Based on the 1992 Controller of her Majesty's Stationery Office. Source Map(s): TQ 23 NW TQ 23 NE Reference no. 4205/18/95 EL 42/130 ©Crown Copyright Reserved 1995





Location of Auger Borings Horsham District Local Plan Land at Ifield Court Farm.

Reconnaissance Survey

• 5	Auger boring
2	Profile pit

			Scale 1	1:10,00	0			
0 100	200	300 	400 	500 	600 	700	800 I	900
								Metres
The informa enlargemen					ase ma	ap scal	e but	any
Reproduction without the						ns is p	rohibit	ed
Surveyed and Based on the Controller of h	1992 1983 O	rdnance	Survey	10.000				
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Reference no	420	5/18/95	FI 42	/130	C Crown	· Convis	ht Dees	

AGRICULTURAL LAND CLASSIFICATION REPORT

REIGATE AND BANSTEAD DISTRICT LOCAL PLAN LAND SOUTH EAST OF HORLEY, SURREY SEMI DETAILED SURVEY

INTRODUCTION

This report presents the findings of a semi detailed Agricultural Land Classification 1 (ALC) survey of 101 1 ha on three parcels of land located between the M23 the London Brighton railway line and Smallfield Road to the south east of Horley in Surrey The survey was carried out during November and December 1997

The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)¹ 2 on behalf of the Ministry of Agriculture Fisheries and Food (MAFF) in connection with the Reigate and Banstead District Local Plan This survey supersedes any previous ALC information for this land

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

4 At the time of survey most of the agricultural land on the site was in permanent grassland Land to the west of Harrowsley Green Farm located in the northern most block of land had recently been ploughed The areas mapped as Other land include woodland roads and tracks a business unit farm buildings and residential dwellings

SUMMARY

The findings of the survey are shown on the enclosed ALC map The map has been 5 drawn at a scale of 1 15 000 It is accurate at this scale but any enlargement would be misleading

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

Table 1 Area of grades and other land

Grade/Other land	Area (hectares)	g
3b Other land	95 2 5 9	
Total surveyed area Total site area	95 2 101 1	

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

A1

REIGATE AND BANSTEAD DISTRICT LOCAL PLAN Land South East of Horley Semi Detailed Survey

Agricultural Land Classification ALC Map and Report

November 1997

Resource Planning Team Eastern Region FRCA Reading

RPT Job Number 4005/123/97 FRCA Reference EL 40/00522

% surveyed area % site area 100 942 58 100 942 100

7 The fieldwork was conducted at an average density of approximately 1 boring per 2 hectares of agricultural land In total 65 borings and four soil pits were described

8 All of the agricultural land on this site has been classified as Subgrade 3b (moderate quality) The principal limitation to land quality is soil wetness and workability arising from soils typically derived from Weald Clay Profiles typically comprise medium and occasionally heavy textured topsoils which overlie heavy textured subsoils at shallow depths within the soil profile These subsoils act to impede soil drainage At this locality the interaction between such poor soil drainage and the topsoil textures means that this land is subject to reduced flexibility of cropping stocking and cultivations Subgrade 3b is appropriate

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 5km grid datasets using the standard interpolation procedures (Met Office 1989)

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 (AT0 January to June) as a measure of the relative warmth of a locality

	Units	Values		
Grid Reference Altitude Accumulated Temperature Average Annual Rainfall Field Capacity Days Moisture Deficit Wheat Moisture Deficit Potatoes	N/A m AOD day°C (Jan June) mm days mm mm	TQ 300 430 57 1458 774 164 109 102	TQ 290 420 58 1458 783 166 107 100	
Overall climatic grade	N/A	Grade 1	Grade 1	

Table 2 Climatic and altitude data

13 The combination of rainfall and accumulated temperature at this site mean that there is no overall climatic limitation. However, climatic factors do interact with soil properties to

influence soil wetness and droughtiness limitations At this locality the soil moisture deficits are tending slightly above average in regional terms. As a result the likelihood of soil droughtiness problems may be increased. No local climatic factors such as exposure or frost risk are believed to adversely affect the land quality on the site. This site is climatically Grade 1.

Site

14 The three separate parcels of land that constitute the site are all relatively flat and lie at approximately 57 59 m AOD Nowhere on the site do gradient or microrelief adversely affect agricultural land quality

Geology and soils

15 The most detailed published geological information for the site (BGS 1978) shows the entire site to be underlain by a solid deposit of Weald Clay Drift deposits of low terrace river gravels overlie much of the site These occur across the northern and western half of the most northern block of land across the western half of the land adjacent to the railway line and across all of the remaining south easterly block of land Drift deposits of alluvium are shown to flank the Burstow stream which occurs in the most northern block of land

16 The most recent detailed published soil map for this area (SSEW 1983 and 1984) maps two soil associations across the three areas of land Broadly speaking soils of the Shabbington Association are mapped in conjunction with the river gravel deposits. These soils are described as Deep fine loamy and fine loamy over sandy soils variably affected by groundwater. Some slowly permeable seasonally waterlogged fine loamy over clayey soils (SSEW 1983). Soils of the Wickham 1 Association are mapped across the area underlain by the Weald Clay. These soils are described as. Slowly permeable seasonally waterlogged fine silty over clayey fine loamy over clayey and clayey soils. (SSEW 1983). Soils similar to the latter rather than the Shabbington Association were found across the site.

AGRICULTURAL LAND CLASSIFICATION

17 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

18 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 page 8

Subgrade 3b

19 All of the land on this site has been classified as Subgrade 3b (moderate quality) All of this land is subject to significant soil wetness and workability limitations resulting from soils derived from the underlying Weald Clay

20 The topsoils on the site tend to be medium textured typically medium (silty) clay loams though heavy textured topsoils heavy (silty) clay loams also prevail These pass into heavy textured subsoils heavy (silty) clay loams and (silty) clays immediately below the topsoil These profiles tend to be stoneless or very slightly stony throughout with topsoils and subsoils containing 0 2% total flints by volume Occasionally lower subsoils are slightly to moderately stony containing 10 20% total flints. These profiles are typified by Pits 2 3 and 4 Around Haroldslea Poultry Farm in the northern block of land the profiles tend to be silty in texture here subsoils contain 5 25% total siltstone by volume. The latter are typified by Pit 1 All of the pits on the site show the (silty) clay subsoils to be poorly structured the heavy (silty) clay loam subsoils are either moderately or poorly structured (depending upon the constituent soil ped consistency). All of these subsoils are slowly permeable and act to significantly impede soil drainage as indicated by gleying either from the surface or directly below the topsoil. Given the prevailing climate these profiles are assessed as poorly drained (Wetness Class IV)

21 The interaction between the medium and heavy textured topsoils poor soil drainage and prevailing local climate means that this land is limited by soil wetness and workability Soil wetness can adversely affect seed germination and survival and can inhibit the development of a good root system. It also influences the sensitivity of soil to structural damage and is therefore a major factor in determining the number of days when cultivation trafficking or grazing can take place

4

Gillian Iles Resource Planning Team Eastern Region FRCA Reading

SOURCES OF REFERENCE

British Geological Survey (1978) Sheet No 286 Reigate 1 50 000 (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 1 250 000 scale Soils of South East England and accompanying legend SSEW Harpenden.

Soil Survey of England and Wales (1984) Soils and their Use in South East England 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

Sample location map Soil abbreviations explanatory note Soil pit descriptions

Soil boring descriptions (boring and horizon levels)

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

- GRID REF national 100 km grid square and 8 figure grid reference 1
- USE Land use at the time of survey The following abbreviations are used 2

ARA	Arable	WHT	Wheat	BAR	Barley
CER	Cereals	OAT	Oats	MZE	Maize
OSR	Oilseed rape	BEN	Field beans	BRA	Brassicae
РОТ	Potatoes	SBT	Sugar beet	FCD	Fodder crops
LIN	Linseed	FRT	Soft and top fruit	FLW	Fallow
PGR	Permanent	LEY	Ley grass	RGR	Rough grazing
	pasture				
SCR	Scrub	CFW	Coniferous woodland	OTH	Other
DCW	Deciduous	BOG	Bog or marsh	SAS	Set Aside
	woodland				
HTH	Heathland	HRT	Horticultural crops	PLO	Ploughed

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

GLEY/SPL Depth in centimetres (cm) to gleying and/or slowly permeable layers 4

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

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

DRT Best grade according to soil droughtiness 7

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

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

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

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

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	С	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)
- Μ Medium (less than 66% fine sand and less than 33% coarse sand)
- С 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
- MOTTLE ABUN Mottle abundance expressed as a percentage of the matrix or surface 3 described

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

- MOTTLE CONT Mottle contrast 4
 - F faint indistinct mottles evident only on close inspection
 - D distinct mottles are readily seen
 - Ρ
- PED COL Ped face colour using Munsell notation 5
- 6 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	СН	chalk
MSST	soft medium grained sandstone	GS	gravel with porous (soft) stones
SI	soft weathered	GH	gravel with non porous (hard)
	igneous/metamorphic rock		stones

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

prominent mottling is conspicuous and one of the outstanding features of the horizon

GLEY If the soil horizon is gleyed a Y will appear in this column If slightly gleyed an

	Degree	of development	WK ST	weakly developed strongly developed	MD	moderately developed
	Ped size		F C	fine coarse	Μ	medium
	Ped shap	pe	S GR SAB PL	sıngle graın granular sub angular blocky platy	M AB PR	massive angular blocky prismatic
	CONSIS	ST Soil consister	nce is de	scribed using the follow	ing nota	ation
	L loose VF very FR fria	y friable		FM firm VM very firm EM extremely firm		EH extremely hard
0		FR Subsoil structures G good		ndition recorded for the lerate P poor	purpose	of calculating profile
1	POR So this colui		soil hori:	zon has less than 0 5%	biopores	s >0 5 mm a 'Y will appear in
2	IMP If the horizon	the profile is imp	enetrabl	e to rooting a Y will a	ppear in	this column at the appropriate
3	SPL Sic column	owly permeable 1	ayer If	the soil horizon is slow	vly perm	neable a Y will appear in this
4	CALC I	f the soil horizor	i is calca	reous a Y will appear	in this c	olumn
~	Other not	tations				
5	APW APP		capacit	y (1n mm) adjusted for y y (1n mm) adjusted for j at		

prog	ram ALCO12		L -	.IST	OF BOR							BLP HORL						page 1
SAMP	LE GRID REF	ASPECT	GLEY	' SPL		NESS GRADE			-PO AP		M DRT	REL FLOOD	EROS	N F EXP	ROST DIST	CHEM LIMIT	ALC	COMMENTS
	T020004220	000	•	25		20		~		•							20	
1	TQ30204330			25	4	3B		0		0						WE	3B	Water table 15
2	TQ30404330			29	4	3B		0		0						WE	3B	Ridge & furrow
3	TQ29404320			35	4	3B	01	0	07	0	24					WE	3B	T CO. M. 8 UD.
	TQ29504320			25	4	38	91	-18	97		3A					WE	3B	Imp 60 Mn & HR
5	TQ29704320	PLU	25	25	4	3B		0		0						WE	3B	Fe 70 Water 65
_	TQ29904320		28	28	4	3B		0		0						WE	3B	
7	TQ30104320	PGR	0	28	4	3B		0		0						WE	3B	Very wet
8	TQ30304320	PGR	0	29	4	3B		0		0						WE	3B	Ridge & furrow
9	TQ29404310	PLO	25	25	4	3B		0		0						WE	3B	
10	TQ29604310	PLO	25	25	4	38		0		0						WE	3B	Wet 30 Imp 80
• 11	TQ29804310	PLO	25	25	4	3B		0		0						WE	3B	Fe concs 65+
_ 12	TQ30204310	PGR	0	30	4	3B		0		0						WE	3B	Water table 10
13	TQ30404310	PGR	0	30	4	3B		0		0						WE	3B	Ridge & furrow
14	TQ29404300	RGR	0	30	4	3B		0		0						WE	38	
15	TQ29504300	PLO	25	25	4	3B		0		0						WE	3B	Wet25 Imp/Fe65
16	TQ29704300	PLO	25	25	4	3B		0		0						WE	ЗB	Wet 25
17	TQ29904300	PGR	0	23	4	3B		0		0						WE	3B	
— 18			30	30	4	3B		0		0						WE	3B	
19	TQ30304300		0	35	4	3B		0		0						WE	3B	Sl drier
20			0	35	4	3B		0		0						WE	3B	
21	TQ29664290	PLO	25	25	4	3B		0		0						WE	3B	
22				25	4	3B		ŏ		ō						WE	3B	
23			0		4	3B		ŏ		ŏ						WE	3B	
24	TQ30204290		õ	28	4	3B		õ		ō						WE	3B	
25	TQ30404290		õ		4	3B		0		Ő						WE	3B	Standing water
- 26	T020E04200	DCD	0	20	4	20		•		0							20	
26	TQ29504280 TQ29944280			30	4	3B 20		0		0						WE	3B 3D	
27	-			25	4	3B		0		0						WE	3B	
	TQ30104280			28	4	38		0		0						WE	3B	
30	TQ30304280 TQ29404270			35 25	4 4	3B 3B		0		0 0						WE WE	3B 3B	
			-					_		_								
	TQ29604270		0		4	3B		0		0						WE	38	
32	TQ29724270			30	4	3B		0		0						WE		Sl drier
	TQ30034272		0	30	4	3B		0		0						WE	3B	
	TQ30204270		0	35	4	3B		0		0						WE	3B	
35	TQ28744242	PGR	28	48	3	ЗА	120	11	114	12	2					WE	ЗA	Med upr s/soil
36	TQ28804230	PGR	0	25	4	3B		0		0						WE	3B	
	TQ29034227			35	4	38		0		0						WE	3B	
38			0	28	4	3B		ō		0						WE	3B	
39			0	30	4	3B		0		0						WE	3B	
-	TQ28904220		30	30	4	3B		0		0						WE	3B	
41	TQ28824210	DCD	0	35	4	3B		0		0						WE	38	
	TQ28904210			30	4	3B		0		0						WE	38 38	
42	1020304210	run	50	50	-	JU		Ű		Ű						TIL	50	

LIST OF BORINGS HEADERS 05/01/98 REIGATE BLP HORLEY SE

program ALCO12	LIST OF BORINGS HEADERS 05/01/98 REIGATE BLP HORLEY SE	page 2	progra	m ALCO1	1		COMPLETE LIST OF PROFI					page 1
SAMPLE ASPE NO GRID REF USE	ECTWETNESSWHEATPOTS- M REL EROSN FROST CHEM GRDNT GLEY SPL CLASS GRADE AP MB AP MB DRT FLOOD EXP DIST LIM	ALC IT COMMENTS	SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES PED COL ABUN CONT COL			STRUCT/	SUBS STR POR IMP SPL CAL	^
				02	1 Extrone	ODEDDIK			L FO LIN			•
43 TQ29004210 PL0	28 28 4 3B 100 -9 97 -5 3A WE	3B Imp 85 stony	1	0-25	MZCL	10YR53	10YR58 C	Y	0 0	0		
44 TQ29804210 PGR	25 25 4 3B 0 0 WE	3B V many Mn 38		25-60	ZC	25Y 61 71	1 10YR68 M	Y	0 0	0	P Y	
45 TQ28734200 PGR	0 25 4 38 0 0 WE		-									
46 TQ28804200 PGR	0 25 4 3B 0 0 WE		2		MZCL	10YR53	10YR58 C	Y	0 0	0		
47 TQ28904202 PGR	0 75 3 3A 0 0 WE	3A Wet 50		29-60	ZC	25Y 71 72	2 75YR68 M	Y	0 0	0	P Y	
48 TQ29004200 PGR	0 28 4 3B 0 0 WE	3B Very wet 50	3	0-35		10YR42			0 0 HR	2		
49 TQ29104200 PGR	0 28 4 3B 113 4 99 -3 3A WE	, .		35-70	С	25Y 73	10YR68 M D	Y	O O HR	2	P Y	
50 TQ29704200 PGR	25 25 4 3B 0 0 WE			70-85	HCL	25Y 72	75YR58 M D	Y	0 0 HR	5	M Y	
51 TQ29904200 PGR	20 20 4 3B 0 0 WE											
52 TQ28804190 PGR	0 20 4 3B 0 0 WE	3B Standing water	4	0-25		10YR42			0 0 HR			
				25-40		25Y 63 52		Ŷ	0 O HR		M Y	
53 TQ29004190 PGR	0 25 4 3B 0 0 WE	-		40-60	HCL	25Y 53 62	2 75YR58 M D	Ŷ	0 O HR	10	M Y	Imp60 stony/Mn
54 TQ29804190 PGR 55 TQ30004190 PGR	0 25 4 3B 0 0 WE 0 22 4 3B 0 0 WE		5	0.05	MOL	251/ 42			0.0.11	2		
56 TQ28804180 PGR	0 22 4 38 0 0 WE 28 2 2 126 17 96 -6 2 WD		5	0-25 25-70		25Y 42 25Y 62	10YR5868 M D	v	0 0 HF 0 0	2 0	p v	
57 TQ28904180 PGR	20 40 4 3B 0 0 WE			70-90		257 62 257 63	75YR58 M D	Y	0 0 HR		P Y	
									• • • • •	•		
58 TQ29104180 PGR	28 28 4 38 0 0 WE		6	0-28		25Y 42 52			0 0 HR		.	
59 TQ29304176 PGR	28 28 4 38 0 0 WE 10 10 4 38 0 0 WE	-		28-75		25Y 62 63		¥ V	0 0	0	P Y	Mar. b1
60 TQ29754180 PGR 61 TQ29904180 PGR	10 10 4 3B 0 0 WE 0 20 4 3B 0 0 WE			75-120		N 73 4	1 10YR58 M D	т	0 0	0	P T	Very blue matrix
62 TQ30104180 PGR	0 35 4 38 0 0 WE		7	0-28	MCI	25Y 62	75YR56 M	v	0 0	0		
			1	28-60		25Y 61 62		Y	0 0	0	P Y	
63 TQ28804170 PGR	25 35 4 3B 0 0 WE	3B								-		
64 T029004170 PGR	25 25 4 38 79 -30 81 ~21 3B WE		8	0-29	MZCL	10YR53	10YR56 C	Y	0 0	0		
65 TQ29204170 PGR	28 28 4 38 97 -12 96 -6 3A WE	3B Imp85 stony/Mn		29-42		10YR53	10YR58 M	Y	0 0	0	P Y	
1P TQ30104280 PGR	0 24 4 3B 121 12 99 -3 2 WE	3B Includes ZR		42-50	С	25Y 51	75YR68 M	Y	0 0	0	P Y	
2P TQ29004210 PGR	0 28 4 38 85 -24 88 -14 38 WE	3B Many Mn at 55		50 70	ZC	25Y 51 61	1 75YR68 M	Y	0 0	0	P Y	
3P TQ29804210 PGR	20 20 4 3B 98 -11 110 11 3A WE	3B	_ 9	0 25	MCL	10YR42 43	3		ООНЯ	2		
4P TQ29404287 PGR	0 29 4 3B 93 -16 103 0 3A WE	3B		25 55	HCL	25Y 53 71	1 10YR5868 M D	Ŷ	0 0 HR	2	P Y	
				55 85	HCL	25Y 72 62	2 75YR58 M D	Y	0 0 HF	10	M Y	
				85-100	HCL	25Y 62 72	2 75YR58 M D	Y	O O HR	30	M	Stonier- Q spl
			10	0-25	MCL	25Y 42			о оня	2		
—			—	25-70		25Y 51 61	1 10YR58 M D	Y	0 0	0	P Y	
				70-80	с	25Y 71	75YR58 M D	Y	0 0 HR	5	Р	
			11	0-25	HCI	25Y 42 52	2		0 O HR	2		
				25-65		25Y 61 63		Y	0 0	0	P Y	
				65-90		25Y 72 82		Ŷ	0 0	0	P Y	Fe concretions
-			12	0 30	MZCI	10YR53	10YR58 C	v	0 0	0		
				30 60		25Y 51 61		Ŷ	0 0	0	P Y	
1				0.00	M701		10/050		0.0	0		
			13	0-30	MZCL	25Y 52	IUIKS8	Ŷ	0 0	0		

30-60 C 25Y 52 62 10YR68 M Y 0 0 0 P Y

progra	um ALCO1	1			LIST OF PROFILE						page 2	brogram	ALCO1	١			LIST OF PRO						
		TEVTUDE	001.0110		LES PED		STONES										LES P				STRUCT/		
BAMPLE	DEPTH	TEXTURE	COLOUR	CUL ABUI	N CONT COL	GLEY >	2 >6 LIIH II	UI CUNSISI	SIK PUK	IMP SPL CALC		SAMPLE	DEPTH	TEXTURE	COLOUR	COL ABU	N CONT C	XUL G	iLEY >2 >	>6 LIIH I	OT CONSIST	STR POR IM	P SPL CALC
14	0-30	MCL	25Y 42	10YR46	C D	Y	0 0 HR	2				27	0-25	HZCL	25Y 62	75YR56	CÐ		Y (0 0	0		
	30 65	HCL	25Y 53 71	10YR5868	M D	Y	0 0 HR	5	М	Y			25-65	ZC	25Y 63	75YR68	MD			0 0	0	Р	Y
	65-120	с	05Y 71	10YR68	M D	Y	0 0	0	Ρ	Y			65-80	ZC	25Y 71 73		C D			0 0	0	P	٧
15	0-25		25Y 42				0 0 HR	2	_			28	0-28		25Y 62	75YR56	C D			0 0	0	_	
-	25-55		25Y 52		M D	Y	0 0	0	Р	Ŷ		-	28-50	ZC	25Y 73 72	_	CD			0 0	0	P	Ŷ
	55-65	HUL	25Y 71	75YR58	M D	Ŷ	0 0 HR	5	м	Ŷ	Imp 65 stony/Fe		50-95	ZC	05Y 71	75YR58	MD		ΥU	0 0	0	Р	Ŷ
16	0-25	HZCL	25Y 42				0 0 HR	2				29	0-35	MZCL	25Y 62	75YR46	СD		Y (0 0	0		
-	25-80		25Y 72	10YR68	M D	Y	0 0	0	Р	Y			35-42		25Y 72	75YR68	C D			0 0	0	М	Y
													42-100		05Y 71	75YR68	MD		Y (0 0	0	Ρ	Y
17	0-27	MZCL	25Y 52	75YR46	C F	Y	0 0	0															
-	27-35	HZCL	25Y 63	75YR56	C D	Y	0 0	0	M	Y		30	0-25	MZCL	25Y 52	75YR56	C D		Y (0 0	0		
	35-65		25Y 73 71		M D	Y	0 0	0	Р	Y			25-50	HZCL	25Y 62	75YR5658	С		Y (0 0	0	Р	Y
	65–100	ZC	05Y 81	05YR58	MD	Y	0 0	0	Р	Ŷ			50-80	С	25Y 72	75YR58	М		Y I	0 0	0	Р	Y
	0-30	MZCL	10YR53				0 0	0				31	0-30	HCL	25Y 42	10YR46	Ср		v	0 O HR	2		
	30-44	HZCL	25Y 63	75YR56	с	Y	0 0	0	м	Y			30-60	C	05Y 62	10YR5868				0 0	0	Р	Y
	44-70		25Y 71 63	75YR68	м	Y	0 0	0	Р	Y				-									
-												32	0-30	HCL	10YR53				(O O HR	2		
19	0-35	MZCL	10YR53	10YR56	С	Y	0 0	0					30-55	С	25Y 62	10YR58	M D		Y (0 0	0	М	Y
	35-60	ZC	25Y 71 63	3 75YR68	М	Y	0 0	0	Р	Y			55-120	С	25Y 62 72	2 75YR5868	MD		Y I	0 0	0	P	Y
-	0.05	1170	051 50	750056	<u> </u>			•				-											
20	0-35		25Y 52		C D	Ŷ		2	р	Y		33	0 30	HZCL	25Y 52	75YR56	CD				0	P	Y
	35 45 45 80		25Y 62 72 25Y 73 71		C D M	v	00HR 00HR	2 2	P	v v			30-80	С	25Y 62	75YR58	MD		ΥU	0 0	0	P	Ŧ
—	10 00	ů.	201 /0 /1	/01100		'	o o nix	-	•	•			0-35	MZCL	25Y 52	75YR46	Ср		Y I	0 0	0		
21	0-25	HCL	25Y 42				0 0 HR	2					35-45		25Y 62	75YR66	C D			0 0	0	м	Y
	25 60	С	25Y 62 72	10YR68	M D	Y	0 0	0	Р	Y			45-80	ZC	25Y 63 71	75YR66	M D		Y I	0 0	0	Р	Y
-	60-80	ZC	25Y 72	75YR68	M D	Y	0 0	0	Р	Y		-											
												35	0-28	MZCL	10YR42	75YR46	FF		(0 0	0		
22	0-25		25Y 42				0 0 HR	2	_				28-48	MZCL	25Y 53	75YR56	C F			0 0	0	М	
-	25-70	ZC	25Y 71	75YR68	M D	Y	0 0	0	Р	Ŷ		-	48 55	HZCL	25Y 63	75YR66	CD		-	0 0	0	P	Ŷ
23	0_20	MZCI	257 52		с р	v	0 0	0					55-85		25Y 72	75YR68	MD				0	P	Y
23	20 40	MZCL HZCL	25Y 52 25Y 62		C D C D	Y	00	0	м	Y			85-95	TUL	25Y 73	10YR58	MD		Y (O O HR	10	F	Ţ
-	40 52		25Y 62		C D	Ŷ	0 0	0	P	Ŷ		36	0-25	MCL	25Y 62	75YR46	CD		γı	OOHR	2		
	52 80		25Y 71 73		M D	Ŷ	0 0	0	P	Ŷ			25-65		25Y 81	75YR58	MD			OOHR		Ρ	Y
													65-80		25Y 71	75YR68	M			0 0 HR		Ρ	Y
24	028	HZCL	25Y 63 72	05YR58	C D	Y	0 0	0				-											
	28-50	ZC	25Y 71		M D	γ	0 0	0	Р	Y		37	0-35	MZCL	10YR42	10YR46	FD		(0 0	0		
	50-75	ZC	05Y 71	75YR58	M D	Y	0 0	0	Р	Y			35-60		25Y 63	10YR68	C D			0 0 HR		Р	Y
-	0.00	1170	050 50 50	350000	•			•					60 120	MCL	05Y 71	75YR68	MD		Y I	0 0 HR	15	Р	Y
25	0-30		25Y 62 52		C	Y	0 0	0					0.00	M70	251/ 62	Drup of	0 D		v	0 0 110	2		
	30 60	20	25Y 71 63	6 ANTCV	м	Y	0 0	0	P	Ŷ		38	028 28-42		25Y 62 25Y 63	75YR46 75YR56	C D C D			00HR 00HR		P	×
26	0-30	MZCI	25Y 62	75YR56	с	Y	0 0	0					28-42 42-60		257 63 257 71	75YR56	MD			0 0 HR		р	Ŷ
-	30-60			75YR56		Ŷ	0 0	õ	P	Y		-	42-00 60-80		257 71 257 71		MD			0 0 HR		P	Ŷ
			. –						-	-			22 24		/ /					2			
												-											

page 3

V pale- prob spl

program ALCO11		COMPLETE LIST OF PROFILES 05/01/98 REIGATE BLP HORLEY SE							page 4 program ALC			1		COMPLETE LIST OF PROFILES 05/01/98 REIGATE BLP HORLEY SE						page 5			
SAMPLE	DEPTH	TEXTURE	COLOUR	MOT COL AB	TLES PED UN CONT COL			STRUCT/ TOT CONSIST	SUBS STR POR IMP SPL	. CALC		SAMPLE	DEPTH	TEXTURE	COLOUR		TLES PED UN CONT COL			STRUCT/ TOT CONSIST	SUBS STR POR IMP SPI	_ CALC	
- 20	0.20		254 62		с р	~		0					0.05	MZCI	0514 40				0.0.00	2			
39	0-30 30-40	MCL	25Y 62 25Y 53	75YR46 75YR56	C D C D	Y	00 00 hr	0 2	P	v		50	0-25 25-70	MZCL ZC	25Y 42 05Y 71	10YR68	MD	v	0 0 HR 0 0	2 0	P	Y	
	40-75		257 53 257 71	75YR50	M D	v	0 0 HR		F D	r V			25-70	20	051 /1	TUTKOO	MU	Ť	0 0	Ū	r	1	
_	75-120		05Y 81		MD	, Y	0 0 HR		P	Y		_ 51	0-20	MCL.	10YR42	10YR46	FD		0 O HR	2			
						·		-		•			20-70		05Y 71	10YR68	MD	Y	0 0	0	Р	Y	
40	0-30	MCL	10YR42				0 0 HR	2															
	30-65	HCL	25Y 63 62	10YR58	CD	Y	0 0	0	Р	Y		52	0-20	MZCL	10YR53	10YR58	с	Y	0 0	0			
	65-80	SCL	25Y 72	75YR58	MD	Ŷ	0 0 HR	10	Ρ	Y			20-70	С	10YR52	10YR56	м	Y	0 O HR	4	Р	Y	
	80-120	ZC	05Y 71	10YR68	M D	Y	0 0	0	Р	Υ													
												53	0-25	MCL	10YR43				0 0 HR	2			
41	0-35	MZCL	25Y 62	75YR46	C D	Y	0 0 HR	2					25-35	HCL	10YR53	10YR56	С	Y	0 O HR	2	м	Y	
	35-48	ZC	25Y 62	75YR56	MD	Y	0 0 HR	2	Р	Y			35-50	HCL	10YR72 63	3 10YR68	С	Y	0 0	0	м	Y	
_	48-60		25Y 72	75YR5666	MD	Y	0 0 HR	2	Р	Y		-	50-60		25Y 71 7		С	Y	0 0	0	м	Y	
	60-80	ZC	05Y 81	05YR58	MD	Y	0 0	0	Р	Y			60–120	С	25Y 71 7	2 10YR68	С	Y	0 0	0	P	Y	
																				-			
42	0-30		10YR42				0 O HR		_			54	0-25	MZCL	25Y 52	75YR46	CD	Ŷ	0 0	0	0		
	30-70		25Y 53 62			Ŷ	0 0	0	P	Ŷ			25-40		25Y 72	75YR68	MD	Y V	0 0	0	P	Y Y	
	70-120	20	05Y 71 72	751858	MD	Ŷ	0 0	0	Р	Y			40-80	ZC	25Y 71	75YR58	MD	¥	0 0	0	P	Ŧ	
43	0-28	MCE	10YR43 32				0 0 HR	2				55	0-22	MZCL	25Y 52	75YR46	СР	v	0 0	0			
	28-55		25Y 53 62		м	v	0 0 HR		P	~			22-35	HZCL	251 52 257 71	75YR68	CD	v	0 0	0	P	v	
	55 75		25Y 53 61		M	v	0 0 HR		•	Y			35-60	HZCL	25Y 71	75YR68	MD	v	0 O HR	-	P	Y Y	
	75-85		10YR42 43		c	Ý	0 0 HR		м	•	mp 85 stony/Mn		00 00		201 71	701100		·	• • • • •	-	·	•	
					-		• • • •	20		•	mp co coorgy m	56	0-28	MCL	10YR42	00MN00	F		0 0 HR	2			
44	0-25	MCL	10YR42	10YR58	F		0 0 HR	2					28-45	HCL	25Y 53 6		c	Y	0 0	0	Р		
		С	25Y 62 61		м	Y	0 0	0	Р	Y			45-55	SCL	25Y 42	10YR58	C	Y	0 O HR	25	м		{ Lighter
	38-70	С	10YR62	75YR58	м	Y	0 0	0	Р	Y			55-90	SCL	25Y 62 7	1 75YR5868	с	Y	0 0 HR	35	м		{ and
													90-120	MCL	25Y 71 7	2 75YR68	м	Y	0 O HR	20	м		{ stonier
45	0-25	MZCL	25Y 52	75YR46	С	Y	0 0 HR	2															
_	25-40	HZCL	25Y 63	75YR58	CD	Y	0 0 HR	2	Р	Y		57	0-20	MCL	10YR43				0 0	0			
	40-80	ZC	05Y 81	75YR68	M D	Y	0 0	0	Ρ	Y			20-40	MCL	10YR53	75YR56	с	Y	0 0	0	м		
													40-75	HCL	25Y 51 5	2 75YR56	M	Y	0 0	0	М	Y	
46			25Y 62			Y	0 0 HR					-											
	25 58		25Y 72	10YR58	M D	Y	0 0 HR	10	•	Y		58	0-28		10YR42				0 O HR		_		
	58-80	ZC	05Y 71	75YR68	MD	Y	0 0	0	P	Y			28~45		25Y 53 6		MD	Y	0 0	0	P	Y	
													45-55		25Y 42		CD	Y	0 O HR		P	Y	
47	0 28		25Y 52	75YR46	CD	Y	0 0 HR			-	. .	_				4 75YR5868		Ŷ			P	Y	
	28-50		25Y 64 74		MD	Y	0 0 HR		M		itonier-Q spl		90-120	MUL	25Y 71 7	2 /5YK68	C D	Ŷ	0 0 HR	20	М		
	50-75		25Y 72	75YR58	M D	Y	0 0 HR		M		itonier-Q spl	E0.	0 20	MCI	100042				0 O HR	2			
	75-120	26	05Y 81	10YR58	M D	Ŷ	0 0	0	P	Y		59	0-28 28-60		10YR42 25Y 63 6	2 757050	м	v	0 0 0	0	Ρ	Y	
48	0.00	MCI	100050	10YR58	C	v	0 0	0					60-120		257 63 6 05Y 71		M M	r V	0 0	0	P	Y	
48	0-28 28 40		10YR52 25Y 51 52		C M	Y	00	0	Р	Y			00-120	2.0	03171	/ 31800	1.1	T		U U	r	•	
-	28 40 40 50		25Y 51 52 25Y 51 52		M	Y Y	0 0 HR	0	•	Y Y		- 60	0-10	MZCL	25Y 52	75YR46	СР	Y	0 0	0			
	40 50 50 120		10YR53 52		C	Y	0 0 HR			Y Y			10-62		25Y 72	75YR68	MD	Ŷ	0 O HR	-	Р	Y	
	30 120		101833-32	101100	5	ł	U U UK	30	11				62 80		25Y 71	10YR58	M D	Y	0 0 HR		M		Prob spl- see 4F
49	0-28	MCL	10YR42 52	10Y858	с	Y	0 0 HR	2				-			22. 71			•		- -			
	28-95		25Y 53 62		M	Ŷ	0 0 HR		Р	Y		61	0 20	MZCL	25Y 52	75YR46	СР	Y	0 0	0			
	95-105		10YR53		С	Y.	0 0	0			mp 105 stony		20-80		25Y 72	75YR58	MD	Y	0 O HR		Р	Y	
					-	•	- -	-	•		mp too bootig	-			• =								

program	ALCO11			COMPLETE		T OF F	PROFIL	ES 05/01	/98	REIGA	TE BLP HORLE	EY SE		page 6
				MO TT	TLES	j	PED	-	S	TONES-	STRUCT/	SUBS		
SAMPLE	DEPTH	TEXTURE	COLOUR	COL ABU	JN	CONT	COL	GLEY >	2 >6	LITH	TOT CONSIST	STR POR	IMP SPL CALC	
62	0-20	ZC	25Y 72	75YR58	м	D		Y	0	0	0			
	20-35	MZCL	25Y 52	75YR58	с	D		Y	0	0	0	М		
-	35-60	HCL	25Y 73 72	10YR58	м	D		Y	0	0 HR	5	Ρ	Y	
	60-75	SCL	25Y 71	75YR58	М	D		Y	0	0 HR	40	м		
63	0-25	MCL	25Y 42						0	0 HR	2			
	25-35	MCL	25Y 42 52	10YR58	С	D		Y	0	0 HR	5	м		
	35-60	HCL	25Y 53 62	10YR58	С	D		Y	0	0 HR	5	Р	Y	
	60-80	HCL	10YR53	10YR5868	С	D		Y	0	O HR	20	Р	Y	
_	80-120	HCL,	05GY41	10YR68	С	D		Y	0	0 HR	15	Р	Y	
64	0-25	MCL	10YR52						0	0	0			
	25-50	с	10YR52	10YR58	С			Y	0	0 HR	5	Р	Y	
	50-55	HCL	10YR52	10YR58	С			Y	0	0 HR	35	м		Imp55 stonier
65	0 28	MCL.	10YR42						0	0 HR	2			
	28 60	HCL	25Y 53 62	10YR5868	м	D		Y	0	0 HR	5	Ρ	Y	
	60-75	HCL.	25Y 53 61	10YR5868	С	D		Y	0	0 HR	20	P	Y	Prob spl- see 4P
	75-85	SCL	10YR43 53	10YR68	С	D		Y	0	0 HR	30	М		Imp 85 stony/Mn

				MOTTL	ES	PED		S
SAMPLE	DEPTH	TEXTURE	COLOUR	COL ABUN	CONT	COL	GLEY	>2 >6
1P	0-24	MZCL	25Y 62	75YR46 68	CD		Y	0
	24-56	HZCL	25Y 63 71	75YR68	M D		Y	0
-	56-70	ZC	05Y 81	75YR56	M D		Y	0
	70-120	ZC	05Y 71	05YR58	MD		Y	0
2P	0-29	MZCL	25Y 52	75YR56	ĊF		Ŷ	0
	29-42	HZCL	25Y 52 62	75YR68	СЪ		Y	0
	42-50	С	25Y 71	75YR68	MD		Y	0
	50-70	HCL	25Y 62	75YR68	MD		Y	0
3P	0-20	MZCL	10YR42	10YR56	FD			0
	20-43	С	25Y 62 61	75YR58	MD		Y	0
	43-53	HZCL	05Y 71	75YR56	MD		Y	0
	53-70	HCL	05Y 71	75YR58	MD		Y	0
4P	0-28	MCL	10YR42	10YR58	с		Y	0
	28-40	HCL	25Y 53 63	75YR68	м		Ŷ	0
	40-55	с	25Y 63 62	75YR6866	Μ		Ŷ	0

program ALCO11

COMPLETE LIST OF PROFILES 24/06/98 REIGATE BLP HORLEY SE

-STONES---- STRUCT/ SUBS >6 LITH TOT CONSIST STR POR IMP SPL CALC 0 ZR 2 0 ZR 5 MDMPR FM P Y Y 0 ZR 10 WKVCAB FM P Y Y 0 ZR 25 STVCPL FM P Y Y 0 HR 2 0 HR 2 WKCAB FM P Y Y 0 HR 2 WKCAB FM P Y Y 0 HR 20 FM P 0 HR 2 0 0 MDCAB FM P Y Y 0 0 MDCAB FR M Y Y 0 HR 5 MDCAB FRM Y Y 0 HR 2 0 HR 2 MDCAB FRM Y Y 0 0 WKCAB FM P Y Y

