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Arun District Local Plan

Site 10 : Ancton Road, Middleton

Agricultural Land Classification

ALC Map and Report

April 1994

AGRICULTURAL LAND CLASSIFICATION REPORT

ARUN DISTRICT LOCAL PLAN
SITE 10 : ANCTON LANE

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 Arun District of West Sussex. The work forms part of MAFF's statutory input to the preparation of the Arun District Local Plan.

1.2 Site 10 comprises approximately 16 hectares of land either side of Ancton Road in Middleton, West Sussex. An Agricultural Land Classification, (ALC), survey was carried out during April 1994. The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 17 borings and 2 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 characteristics impose a long term limitation on its use for agriculture.

1.3 At the time of the survey the land use on the site comprised permanent grassland to the south of Ancton Road and partly a tree nursery and partly grassland to the north of the road.

1.4 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 1:5,000. It is accurate at this scale, but any enlargement would be misleading.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% of Agricultural Land
2	11.4	73.0	78.6
3a	2.5	16.0	17.2
3b	0.6	4.0	4.2
Open water	0.7	4.5	100% (14.5 ha)
Urban	0.3	1.9	
Non-agricultural	0.1	0.6	
Total area of site	15.6	100%	

1.5 Appendix I gives a general description of the grades, subgrades and land use categories 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.

1.6 The majority of the agricultural land on this site has been classified as very good quality, Grade 2, land. The remainder comprises Subgrade 3a with a small area of

Subgrade 3b in the north-west corner near Guernsey Farm. Profiles comprise silty clay loams which become heavier with depth. These are variably affected by soil wetness caused by clay lower subsoils which impede drainage. Land is graded 2, 3a or 3b depending on depth to poorly structured clay and the resultant severity of the wetness limitation. This wetness limitation may give rise to depressed crop yields and restricted opportunities for working the land. A number of well drained profiles are affected by slight soil droughtiness as a result of the relatively dry climate at this locality. The level and consistency of crop yields may be slightly reduced and this land has been assigned to Grade 2 as a result.

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 (degree days Jan-June), 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 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. However climatic factors do interact with soil properties to influence soil wetness and droughtiness limitations. At this locality the moisture deficits are high and the field capacity days correspondingly low thus increasing the likelihood of soil droughtiness.

2.4 No local climatic factors such as exposure or frost risk affect the site.

Table 2 : Climatic Interpolations

Grid Reference	SU975009	SU980006
Altitude (m)	5	5
Accumulated Temperature (days)	1543	1543
(°days, Jan-June)	738	734
Field Capacity (days)	150	150
Moisture Deficit, Wheat (mm)	121	122
Moisture Deficit, Potatoes (mm)	119	119
Overall Climatic Grade	1	1

3. Relief

3.1 The site is situated on the West Sussex coastal plain and is therefore relatively flat and low lying at 5-6 m AOD.

4. Geology and Soil

4.1 British Geological Survey (1975), Sheet 332, Bognor shows the entire site to be underlain by brickearth which overlies the Upper Chalk.

4.2 The Soil Survey of Great Britain, (1967) Sheet SU90, Bognor Regis, shows the soil on this site as the Parkgate series. These are described as 'deep stoneless silty soils variably affected by groundwater' (SSGB, 1967).

4.3 Detailed field examination broadly confirmed the presence of such soils, although parts of the site are affected by poor drainage.

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 The majority of the site was classified as very good quality agricultural land restricted in places by slight soil wetness but with an overriding soil droughtiness limitation. The soil profiles generally comprise medium silty clay loam topsoils over heavy silty clay loam, between 50-80 cm from the surface, and poorly structured clay or silty clay at depth. Others remain medium textured throughout. All are very slightly stony, containing 0-1% total flint by volume, resulting in an overriding soil droughtiness limitation. The combination of the soil texture and stone content in this relatively warm and dry climatic regime reduces the amount of profile available water for crops while the poorly structured subsoils cause the water to be more difficult to extract. Consequently the level and consistency of crop yields may be slightly restricted so limiting the land to Grade 2. These profiles, however, also exhibit soil wetness with common ochreous mottles occurring at varying depths according to soil drainage. Both soil inspection pits revealed the poorly structured clay to be slowly permeable. These horizons do not occur until 75-100 cm depth, however, and therefore drainage impedence is minimal (Wetness Class II). As the interaction between these drainage characteristics and the medium textured topsoils may also restrict the flexibility of cultivations, cropping and stocking this land is also limited to Grade 2 on soil wetness.

Subgrade 3a

5.4 A small area of land towards the north west of the site has been classified as good quality agricultural land. The soil profiles are similar to those mapped as Grade 2, comprising medium silty clay loam topsoils becoming heavier with depth. These profiles, however are stone free and noticeably wetter (Wetness Class III). The presence of common or many ochreous mottles higher up the profile indicates a

more acute drainage impedance resulting from a slowly permeable clay at 50-65 cm depth. In this local climatic regime the combination of medium textured topsoil and moderate drainage impedance may impose greater restrictions to cropping, stocking and cultivation opportunities, therefore the land has been assessed as Subgrade 3a.

Subgrade 3b

5.5 A very small area of agricultural land, near Guernsey Farm, has been classified as moderate quality land. Again the soil profiles comprise stone-free medium silty clay loam topsoils which became heavier with depth. However, gleying in the upper subsoil is more evident with many ochreous mottles and manganese nodules exhibited. This is due to the slowly permeable clay being present at 40 cm from the surface. Such drainage impedance leads to soil wetness consistent with Wetness Class IV. The opportunities for working and grazing the land are significantly more restricted under such conditions so the land is limited to Subgrade 3b.

5.6 Areas marked as Urban include a number of private houses and gardens as well as an electricity substation.

5.7 The area marked as Non-Agricultural land comprises a small area of scrubland.

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MAFF Ref: EL42/00460

Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1975), Sheet No 332, Bognor, 1:50,000 (drift).

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 (1967), Sheet SU90, Bognor Regis, Soil Maps of the West Sussex Coastal Plain, 1:25,000.

Soil Survey of Great Britain (1967), Bulletin No. 3, Soils of the West Sussex Coastal Plain.

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 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.

Urban

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religous buildings, cemetries. 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.

[1]The number of days specified is not necessarily a continuous period.
[2]'In most years' is defined as more than 10 out of 20 years.

APPENDIX III

SOIL PIT AND SOIL BORING DESCRIPTIONS

Contents :

SOIL PROFILE DESCRIPTIONS : EXPLANATORY NOTE

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

Boring Header Information

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

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

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

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

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

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

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

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

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

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

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

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

Soil Pits and Auger Borings

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

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

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

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

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

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

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

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

4. **MOTTLE CONT** : Mottle contrast

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

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

6. **GLEY** : If the soil horizon is gleyed a 'Y' will appear in this column. If slightly gleyed, an 'S' will appear.

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

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

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

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

degree of development	**WK** : weakly developed **ST** : strongly developed	**MD** : moderately developed
ped size	**F** : fine **C** : coarse	**M** : medium **VC** : very coarse
ped shape	**S** : single grain **GR** : granular **SAB** : sub-angular blocky **PL** : platy	**M** : massive **AB** : angular blocky **PR** : prismatic

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

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

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

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

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

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

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

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

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	DRT	M.REL FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
	SU97600090	PGR			0	085	2	2	149	28	123	4	2				WE	2	DR ALSO
TP	SU97800080	HRT			028	080	2	2	000	0	000	0					WE	2	
2	SU97700090	HRT			055	075	2	2	149	28	126	7	2				WE	2	
[illegible]	SU98100060	PGR					1	1	159	37	124	25	2				DR	2	SL GLEYED 46
	SU97500080	PGR			0	065	3	3A	000	0	000	0					WE	3A	
	SU97600080	PGR			0	050	3	3A	000	0	000	0					WE	3A	
	SU97700080	HRT			025	065	3	3A	153	32	122	3	2				WE	3A	
6	SU97800080	HRT	S	01	080	080	1	1	148	27	124	5	2				DR	2	SL GLEYED 70
7	SU97900080	PAS	S	01	110		1	1	162	41	126	7	2				DR	2	
	SU98000080	PGR			078		1	1	151	30	124	5	2				DR	2	
9	SU97700070	HRT	S	01	088		1	1	155	34	123	4	2				DR	2	
[illegible]	SU97820067	HRT	S	01	042	080	2	2	144	23	124	5	2				WD	2	
[illegible]	SU97900070	PGR	S	01	080	080	1	1	148	27	124	5	2				DR	2	
12	SU98000070	PGR			060	090	1	1	146	25	124	5	2				DR	2	
[illegible]	SU97500090	PGR			030	040	4	3B	000	0	000	0					WE	3B	
14	SU97800060	PGR			090	090	1	1	150	37	123	4	2				DR	2	
15	SU97900060	PGR					1	1	159	37	124	5	2				DR	2	
[illegible]	SU98000060	PGR					1	1	159	37	124	5	2				DR	2	
[illegible]	SU98100060	PGR			098		1	1	159	37	123	4	2				DR	2	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
1	0-20	mzcl	10YR52 00	10YR58 00	C			Y	0	0		0							
	20-30	mzcl	10YR42 00	10YR58 00	C			Y	0	0		0		M					
	30-65	mzcl	10YR64 00	75YR58 00	C			Y	0	0		0		M					
	65-85	hzcl	10YR62 00	75YR58 71	M			Y	0	0		0		M					
	85-120	c	10YR62 00	75YR58 71	M			Y	0	0		0		P			Y		
1P	0-28	mzcl	10YR52 00	10YR66 00	F				0	0	HR	1							
	28-44	mzcl	10YR63 52	75YR58 00	C			S	0	0	HR	1	MDCSAB	FR M					
	44-50	mzcl	10YR63 00	75YR58 00	C			Y	0	0	HR	1	MDCSAB	FR M					
	50-80	hzcl	10YR63 64	75YR58 00	M			Y	0	0	HR	1	MDCAB	FM P					
	80-100	c	10YR63 64	75YR68 00	M			Y	0	0	HR	1	MDCAB	FM P	Y		Y		> 0.5% BIOPORES
2	0-35	mzcl	10YR42 00	10YR58 00	F				0	0		0							
	35-55	mzcl	10YR54 00						0	0		0		M					
	55-75	hzcl	10YR53 00	10YR58 00	C			Y	0	0		0		M					
	75-120	c	10YR64 00	75YR58 00	M			Y	0	0		0		P			Y		
2P	0-30	mzcl	10YR42 00						0	0	HR	1							
	30-46	mzcl	10YR53 00						0	0	HR	1	MDCSAB	FR M					
	46-75	mzcl	10YR54 56	10YR58 00	C			S	0	0	HR	1	MDCSAB	FR M					
	75-100	hzcl	10YR54 00	10YR58 00	C			S	0	0	HR	1	STCSAB	FR M					
	100-120	hzcl	10YR54 00	10YR58 00	C	10YR72 00		S	0	0	HR	1	WKCOPL	FR P	Y				POSSIBLY SPL
3	0-30	mzcl	10YR41 00	10YR58 00	C			Y	0	0		0							
	30-45	mzcl	10YR53 00	10YR58 00	C			Y	0	0		0		M					
	45-65	hzcl	10YR62 00	75YR58 00	C			Y	0	0		0		M					
	65-90	c	10YR64 00	75YR58 00	M			Y	0	0		0		P			Y		
4	0-30	mzcl	10YR42 00	10YR58 00	C			Y	0	0		0							
	30-50	hzcl	10YR53 00	10YR58 00	C			Y	0	0		0		M					
	50-80	c	10YR64 00	10YR58 71	M	00MN00 00		Y	0	0		0		P			Y		
5	0-25	mzcl	10YR42 00						0	0		0							
	25-35	mzcl	10YR53 00	10YR58 00	C			Y	0	0		0		M					
	35-65	hzcl	10YR62 00	75YR58 00	M			Y	0	0		0		M					
	65-90	c	10YR64 00	75YR58 00	M			Y	0	0		0		P			Y		
	90-120	hzcl	10YR63 00	75YR58 00	M			Y	0	0		0		M					
6	0-32	mzcl	10YR42 00						0	0	HR	1							
	32-70	mzcl	10YR53 00						0	0	HR	1		M					
	70-80	hzcl	10YR54 00	75YR58 00	C			S	0	0	HR	1		M					
	80-120	c	10YR52 00	75YR58 00	C	00MN00 00		Y	0	0	HR	1		P			Y		
7	0-40	mzcl	10YR42 00		F				0	0	HR	1							
	40-80	mzcl	10YR53 00						0	0	HR	1		M					
	80-110	hzcl	10YR54 00						0	0		0		M					
	110-120	hzcl	10YR53 00	75YR58 00	C			Y	0	0		0		M					

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
8	0-30	mzcl	10YR42 00						0	0	HR	1						
	30-48	mzcl	10YR53 00						0	0	HR	1		M				
	48-78	hzcl	10YR53 00	10YR75 58	F				0	0	HR	1		M				
	78-120	c	10YR53 00	10YR72 58	C			Y	0	0	CH	1		M				
9	0-25	mzcl	10YR42 00						0	0	HR	1						
	25-78	mzcl	10YR53 00						0	0	HR	1		M				
	78-88	hzcl	10YR54 00		F				0	0	HR	1		M				
	88-99	c	10YR53 00	75YR58 00	C		10YR72 00	Y	0	0	HR	1		P				
	99-120	hzcl	10YR53 00	75YR58 00	C		10YR72 00	Y	0	0	HR	1		M				
10	0-30	mzcl	10YR42 00		F				0	0	HR	1						
	30-42	mzcl	10YR53 00		F				0	0	HR	1		M				
	42-55	mzcl	10YR53 00	10YR58 00	C		10YR72 00	Y	0	0		0		M				
	55-70	hzcl	10YR53 00	10YR58 00	C		10YR72 00	Y	0	0		0		M				
	70-80	hcl	10YR53 00	10YR58 00	C		10YR72 00	Y	0	0		0		M				
	80-100	c	10YR62 00	75YR58 00	C			Y	0	0		0		P			Y	
	100-120	lms	10YR62 00	75YR58 00	C			Y	0	0		0		M				
11	0-30	mzcl	10YR42 00						0	0	HR	1						
	30-38	mzcl	10YR42 43						0	0	HR	1		M				
	38-80	mzcl	10YR53 00						0	0	HR	1		M				
	80-120	zc	10YR62 00	75YR58 00	C		00MN00 00	Y	0	0		0		P	Y		Y	
12	0-30	mzcl	10YR42 00						0	0	HR	1						
	30-60	mzcl	10YR53 00						0	0	HR	1		M				
	60-68	hzcl	10YR58 00	10YR72 58	C			Y	0	0	HR	1		M				
	68-90	c	10YR53 00	10YR72 58	C			Y	0	0	HR	1		M				
	90-120	c	10YR61 00	75YR56 00	M		00MN00 00	Y	0	0	HR	1		P	Y		Y	
13	0-30	mzcl	10YR52 00						0	0		0						
	30-40	hzcl	10YR63 00	75YR58 00	M			Y	0	0		0		M				
	40-80	c	10YR62 00	75YR58 00	M		00MN00 00	Y	0	0		0		P			Y	
14	0-28	mzcl	10YR42 00						0	0	HR	1						
	28-83	mzcl	10YR53 00						0	0	HR	1		M				
	83-90	hzcl	10YR53 00	10YR58 00	F				0	0		0		M				
	90-120	c	10YR62 00	75YR58 00	C		10YR71 00	Y	0	0		0		P	Y		Y	
15	0-30	mzcl	10YR42 00						0	0	HR	1						
	30-120	mzcl	10YR53 00						0	0	HR	1		M				
16	0-30	mzcl	10YR42 00						0	0	HR	1						
	30-68	mzcl	10YR53 00						0	0	HR	1		M				
	68-105	mzcl	10YR53 00						0	0	HR	1		M				
	105-120	mzcl	10YR54 00	10YR58 00	F				0	0	HR	1		M				
17	0-25	zl	10YR42 00						0	0	HR	1						
	25-98	mzcl	10YR53 54						0	0	HR	1		M				
	98-120	mzcl	10YR53 00	10YR58 00	C			Y	0	0		0		M				

SOIL PIT DESCRIPTION

Site Name : SITE 10, ARUN LP Pit Number : 1P

Grid Reference: SU97800080 Average Annual Rainfall : 737 mm
Accumulated Temperature : 1542 degree days
Field Capacity Level : 150 days
Land Use : Horticultural Crops
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	MZCL	10YR52 00	0	1	HR	F				
28- 44	MZCL	10YR63 52	0	1	HR	C	MDCSAB	FR	M	
44- 50	MZCL	10YR63 00	0	1	HR	C	MDCSAB	FR	M	
50- 80	HZCL	10YR63 64	0	1	HR	M	MDCAB	FM	P	
80-100	C	10YR63 64	0	1	HR	M	MDCAB	FM	P	

Wetness Grade : 2 Wetness Class : II
Gleying :028 cm
SPL :080 cm

Drought Grade : APW : 000mm MBW : 0 mm
APP : 000mm MBP : 0 mm

FINAL ALC GRADE : 2
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : SITE 10, ARUN LP Pit Number : 2P

Grid Reference: SU98100060
Average Annual Rainfall : 737 mm
Accumulated Temperature : 1542 degree days
Field Capacity Level : 150 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	MZCL	10YR42 00	0	1		
30- 46	MZCL	10YR53 00	0	1		MDCSAB
46- 75	MZCL	10YR54 56	0	1	C	MDCSAB
75-100	HZCL	10YR54 00	0	1	C	STCSAB
100-120	HZCL	10YR54 00	0	1	C	WKCOPL

Wetness Grade : 1
Wetness Class : I
Gleying :046 cm
SPL : cm

Drought Grade : 2
APW : 159mm MBW : 37 mm
APP : 124mm MBP : 25 mm

FINAL ALC GRADE : 2
MAIN LIMITATION : Droughtiness