



Wates Construction Ltd



Agricultural Land Classification

Land to the south and west of HMP Gartree, Leicestershire

December 2021

Edition 02



ADAS GENERAL NOTES

Project No.: 1010911

Title: Agricultural Land Classification – HMP Gartree

Client: Wates Construction Ltd

Date: 22.12.2021

Office: ADAS Rosemaund, Preston Wynne, Hereford, HR1 3PG

Status: Edition 2

Author Simon McMillan

Technical reviewer John Grylls

Date: 22/12/2021

Date: 14/12/2021

Quality Assurance Kirk Hill

Date 22-12-21

RSK ADAS Ltd (ADAS) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and ADAS. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by ADAS for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested. No part of this report may be copied or duplicated without the express permission of ADAS and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK ADAS Ltd.

EXECUTIVE SUMMARY

ADAS has been instructed by Wates Construction Limited to undertake a soil and agricultural land classification survey of 27 ha of land mostly located to the south and south-west of HMP Gartree, Market Harborough, Leicestershire.

The survey has identified heavy silty clay loam or silty clay topsoils throughout and both slowly permeable and porous heavy silty clay loam and silty clay subsoils. Under the site climatic conditions, all areas form agricultural land of subgrade 3b quality. The high clay content of all soils at this site results in soil wetness being the principal limitation to agriculture.

CONTENTS

1	INTRODUCTION.....	3
1.1	Site Environment	3
1.2	Agricultural Use.....	3
1.3	Published Information	3
1.3.1	Geology.....	3
1.3.2	Soils.....	3
1.3.3	Previous Agricultural Land Classification.....	3
2	METHODOLOGY.....	4
3	SOILS	4
3.1	Soil Types	4
3.1.1	Slowly permeable silty clay loam and silty clay soil	4
3.1.2	Permeable silty clay loam and silty clay soil.....	5
3.2	Laboratory Analysis.....	5
4	AGRICULTURAL LAND CLASSIFICATION	5
4.1	Climate	6
4.2	Site limitations	6
4.3	Results	6
	Grade 1.....	7
	Grade 2.....	7
	Subgrade 3a	7
	Subgrade 3b	7
	Grade 4.....	7
	Grade 5.....	7
	Non-agricultural.....	7
	Urban 7	
4.4	Summary of grade areas	8
5	CONCLUSION	8

Tables

Table 1: Agro-climatic variables	6
Table 2: Grade areas.....	6

Appendices

APPENDIX 1 – DETAILS OF EACH AUGER BORING.....	I
APPENDIX 2 – AGRICULTURAL LAND CLASSIFICATION MAP	V
APPENDIX 3 – PARTICLE SIZE DISTRIBUTION RESULTS.....	VII

1 INTRODUCTION

ADAS has been instructed by Wates Construction Limited to undertake a soil and agricultural land classification survey of 27 ha of land mainly to the south and south-west of HMP Gartree, Market Harborough, Leicestershire. The report is based on a survey of the land carried out in December 2021.

1.1 Site Environment

The land surveyed is formed of nine agricultural fields located to the south and southwest of HMP Gartree and one area of amenity grassland to the west. Housing is located along both sides of Welland Avenue to the immediate west of the prison. The site, prison and houses are surrounded by agricultural fields. A small stream flows through the site in a southerly direction and a small pond is positioned within the southernmost field within the survey area. The survey area gently slopes from 120 m AOD in the north-west to 105m AOD in the south-east.

1.2 Agricultural Use

At the time of survey all fields were grass.

1.3 Published Information

1.3.1 Geology

1:50,000 scale BGS information¹ records the basal geology of the site as Dyrham Formation Siltstone and Mudstone, a sedimentary bedrock, laid down in the Jurassic Period, 183 – 191 million years ago.

No superficial deposits are mapped within the surveyed area.

1.3.2 Soils

The national soil map, published at 1:250,000 scale, records the land as belonging entirely to the Wickham 2 soil association – an association comprised of soils with slowly permeable, seasonally waterlogged fine loamy over clayey, fine silty over clayey and clayey soils.

1.3.3 Previous Agricultural Land Classification

No detailed post-1988 agricultural land classification is publicly available for this site. However, the provisional ALC map, published at 1:250,000 scale prior to the revision and subdivision of grade 3 in 1988, records the land as being grade 3 quality².

¹ British Geological Survey, 2019. *Geology of Britain viewer*. Online resource: <http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html>

² Defra, 2020. *Interactive map of Great Britain*. Online resource: <https://magic.defra.gov.uk/MagicMap.aspx>

2 METHODOLOGY

A detailed soil survey was carried out in December 2021. The survey was based on observations at intersects of a 100 m grid, giving a sampling density of at least one observation per hectare. During the survey soils were examined via a combination of auger borings and soil description pits to a maximum depth of 1.2 m. A log of the details of each observation point and a map showing the location of each observation point and ALC grades are given in respectively Appendix 1 and Appendix 2 of this report.

At the soil description pits a soil sample was taken representative of the top 25 cm of the soil profile and this was submitted to NRM Laboratories for particle size distribution (PSD) analysis. The results are presented in Appendix 3.

3 SOILS

3.1 Soil Types

The principal soil types identified at this site have soil profiles with heavy silty clay loam and silty clay topsoils and upper subsoils over slowly permeable silty clay lower subsoils and heavy silty clay loam/silty clay topsoils over porous heavy silty clay loam and silty clay subsoils.

3.1.1 Slowly permeable silty clay loam and silty clay soil

These soils are typified by a dark greyish brown heavy silty clay loam or silty clay topsoil over a greyish brown heavy silty clay loam or silty clay upper subsoil and silty clay lower subsoil. The soils are almost stoneless, with a very few smooth round hard stones. There is occasional evidence of mottling in the topsoils and frequent occurrence of ochreous mottles in the subsoils. This shows evidence of seasonal waterlogging.

An example soil profile is described below from the pit at observation point 10 (see Appendix 2).

- 0-20 cm Dark greyish brown (10YR 4/2) heavy silty clay loam; moderately developed fine subangular blocky structure; common fine fibrous roots; no ochreous mottles; indistinct boundary to:
- 20-52 cm Greyish brown (10YR 5/2) and grey (10YR 5/1) heavy silty clay loam; moderately developed medium prismatic structure; friable; common fine fibrous roots; common ochreous mottles; >0.5% biopores; clear boundary to:
- 52-100+ cm Grey (10YR 6/1) silty clay; strongly developed coarse angular blocky structure; firm; few fine fibrous roots; common ochreous mottles; <0.5% biopores.

The 52-100+cm subsoil description shows the characteristics of a slowly permeable layer (SPL). At this location (148 Field Capacity Days – see section 4.1), soils belong to Wetness Class III with a SPL within 68cm of the soil surface, and to Wetness Class IV when within 40cm of the surface.

3.1.2 Permeable silty clay loam and silty clay soil

These soils are typified by a brown or greyish brown heavy silty clay loam or silty clay topsoil over a greyish brown heavy silty clay loam or silty clay upper subsoil and silty clay lower subsoil. The soils are almost stoneless, with a very few smooth round hard stones. There is occasional evidence of mottling in the topsoils and frequent occurrence of ochreous mottles in the subsoils. This shows evidence of seasonal waterlogging.

An example soil profile is described below from the pit at observation point 30 (see Appendix 2).

- | | |
|------------|--|
| 0-22 cm | Brown (10YR 5/3) silty clay; moderately developed fine subangular blocky structure; many fine fibrous roots; no ochreous mottles; indistinct boundary to: |
| 22-48 cm | Greyish brown (10YR 5/2) silty clay; moderately developed coarse subangular blocky structure; firm; common fine fibrous roots; common ochreous mottles; >0.5% biopores; clear boundary to: |
| 48-100+ cm | Greyish brown (10YR 5/2) silty clay; strongly developed coarse prismatic structure; firm; common fine fibrous roots; common ochreous mottles; >0.5% biopores; >0.5% medium macropores. |

The strongly developed structure and number of macropores and biopores, indicate that the subsoil between 48 and 100cm+ was not slowly permeable. At this location (148 Field Capacity Days), soils gleyed within 40cm which are not slowly permeable belong to Wetness Class II.

3.2 Laboratory Analysis

Samples taken from the top 25cm of soil at Pit locations 10 and 30 were submitted to NRM Laboratories for particle size distribution (PSD) analysis. The results are presented in Appendix 3.

The PSD results indicate that topsoils within both soil types found at this site were close to the boundary between heavy silty clay loam (HZCL) (27-35% clay content) and silty clay (>35% clay content). Most topsoils were recorded in the field by hand texturing as HZCL. Land assessed as having HZCL topsoil and belonging to Wetness Class II was initially allocated ALC Subgrade 3a. However, the PSD results for Pit 30 indicates that topsoil in this area was silty clay and this changes the ALC grade to Subgrade 3b for these WC II soils.

4 AGRICULTURAL LAND CLASSIFICATION

The Agricultural Land Classification (ALC) system provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use for food production. The limitations can operate in one or more of four principal ways; they may affect the range of crops which can be grown, the level of crop yield, the consistency of crop yield, and the cost of obtaining a crop.

The classification system gives considerable weight to flexibility of cropping, whether actual or potential, however the ability of some land to produce consistently high yields of a narrower range of crops is also taken into account.

The Agricultural Land Classification (ALC) system classifies land into five grades numbered 1 to 5, with grade 3 divided into two subgrades (3a and 3b). The system was devised and

introduced by the then Ministry of Agriculture, Fisheries and Food (MAFF) in the 1960s and revised in 1988. A description of the grades used in the ALC system is attached to this report in an appendix.

4.1 Climate

The agricultural climate is an important factor in assessing the agricultural quality of land, and the agricultural climate of this site has been calculated using the Climatological Data for Agricultural Land Classification³. The relevant site data for an average elevation of 110 m AOD is given below.

Table 1: Agro-climatic variables

Average Annual Rainfall (AAR)	673 mm
January-June Accumulated Temperature (AT0)	1347 day °C
Field Capacity Days (FCD)	148
Moisture Deficit Wheat (MDW)	100 mm
Moisture Deficit Potatoes (MWP)	90 mm
Climate (upper grade limit)	1

The site is located to the north west of Market Harborough and 1 km south of the village of Foxton.

4.2 Site limitations

Slope: The site lies at an altitude of between 105 m and 120 m, with the land sloping gently down from the higher ground in the north-west to the stream which flows in a southerly direction through the centre of the site. The land is very gently sloping and gradient does not affect land quality on this site.

Flooding: The site been designated as within Flood Zone 1 on the Environment Agency Flood maps, i.e., there is a low risk of flooding on site and the surrounding land does not form part of a designated floodplain.

4.3 Results

The results of the soil survey described in section 3 were used in conjunction with the agro-climatic data above to classify the land according to the revised guidelines for Agricultural Land Classification issued in 1988 by the Ministry of Agriculture, Fisheries and Food (now Defra)⁴.

³ Meteorological Office, (1989). *Climatological Data for Agricultural Land Classification*.

⁴ MAFF, (1988). *Agricultural Land Classification for England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land*.

This report has identified agricultural land of grade 3a and 3b quality. The principal limitation to agricultural use is soil wetness. The grades present at the site are described below.

Grade 1

No land of this quality has been mapped.

Grade 2

No land of this quality has been mapped.

Subgrade 3a

No land of this quality has been mapped.

Subgrade 3b

Most soil examination locations (28) had heavy silty clay loam or silty clay topsoils and slowly permeable silty clay subsoils and were assessed as Wetness Class III or IV (see Section 3.1.1).

Five soil examination locations towards the south of the site showed soil profiles with silty clay topsoils (confirmed by PSD analysis), permeable silty clay upper subsoil and permeable silty clay lower subsoils and were assessed as Wetness Class II (see Section 3.1.2).

The combination with the site climatic data showing 148 Field Capacity Days and the heavy silty clay loam or silty clay topsoil textures result in these areas within the site being allocated to subgrade 3b. The principal limitation to agriculture is soil wetness. There is likely to be a 'workability' problem, particularly later in the autumn and spring due to soil wetness. The land is best suited to autumn sown crops.

Grade 4

No land of this quality has been mapped.

Grade 5

No land of this quality has been mapped.

Non-agricultural

A farm building and associated hard standing was located to the north-east of the site, with two small, wooded areas close by.

Urban

There was a wide, hard standing track running from the north-east to the south of the site.

4.4 Summary of grade areas

The area occupied by each grade is shown below.

Table 2: Grade areas

Grade / subgrade	Area (ha)	Area (%)
Grade 1	-	-
Grade 2	-	-
Subgrade 3a	-	-
Subgrade 3b	25.3	94
Grade 4	-	-
Grade 5	-	-
Non-agricultural	0.3	1
Urban	1.4	5
Not surveyed	-	-
Total	27.0	100

5 CONCLUSION

A soil and agricultural land classification survey has been undertaken of 27 ha of land mainly to the south and south-west of HMP Gartree, Market Harborough, Leicestershire.

The survey has identified heavy silty clay loam or silty clay topsoils throughout and both slowly permeable and porous heavy silty clay loam and silty clay subsoils. Under the site climatic conditions, all areas form agricultural land of subgrade 3b quality. The high clay content of all soils at this site results in soil wetness being the principal limitation to agriculture.

APPENDIX 1 – DETAILS OF EACH AUGER BORING

Key to auger records:

Colour	Texture	Mottle intensity	Limitations
Br - brown	C - clay	Few – few ochreous mottles (<2%)	DR - droughtiness
Dk - dark	ZC - silty clay	Com – common ochreous mottles (2-20%)	FL - flooding
Gr - grey	HCL – heavy clay loam	Mny – many ochreous mottles (20-40%)	GR - gradient
Li - light	HZCL – heavy silty clay loam	Vmny – very many ochreous mottles (>40%)	ST - stoniness
OI - olive	(calc) - calcareous		WE - wetness/workability

HMP Gartree ALC Survey - Auger descriptions, December 2021

Auger no.	Base depth of horizon (cm)	Texture	Colour		Mottles	Gleyed?	SPL?	% stone >2cm	Wetness Class	Main limitation	ALC Grade
			Munsell	Description							
1	21	HZCL	10YR 4/3	Br	-	No	No	1	III	WE	3b
	66	HZCL	10YR 5/2	Gr Br	Com	Yes	No	1			
	90	ZC	10YR 6/1	Gr	Vmny	Yes	Yes	0			
2	19	HZCL	10YR 5/2	Gr br	Few	No	No	<1	III	WE	3b
	38	HZCL	10YR 5/2 & 10YR 5/1	Gr br & Gr	Com	Yes	No	<1			
	66	HZCL	10YR 5/2 & 10YR 6/1	Gr br & Gr	Com	Yes	No	<1			
	100	C	10YR 6/1	Gr	Mny	Yes	Yes	<1			
3	24	HZCL	10YR 4/2	Dk Gr Br	-	No	No	1	III	WE	3b
	50	HZCL	10YR 5/2	Gr Br	Few	No	No	1			
	80	HZCL	10YR 5/2	Gr Br	Com	Yes	Yes	0			
4	25	(calc) HCL	10YR 4/3	br	Few	No	No	<1	III	WE	3a
	50	C	10YR 5/2	Gr br	Com	Yes	No	<1			
	100	C	10YR 6/1	Gr	Com	Yes	Yes	<1			
5	28	HZCL	10YR 5/2	Gr br	Few	No	No	<1	IV	WE	3b
	37	HZCL	2.5Y 5/3	Li Ol br	Few	No	No	<1			
	100	C	10YR 5/2 & 10YR 5/1	Gr br & Gr	Com	Yes	Yes	<1			
6	20	HZCL	10YR 3/3	Dk Br	-	No	No	1	IV	WE	3b
	38	HZCL	10YR 4/2 & 10YR 5/1	Dk Gr Br + Gr	Com	Yes	No	0			
	53	ZC	10YR 5/2	Gr Br	Com	Yes	Yes	0			
	80	ZC	10YR 6/1	Gr	Com	Yes	Yes	0			
7	12	HZCL	10YR 4/2	Dk Gr Br	-	No	No	0	IV	WE	3b
	37	C	10YR 5/2	Gr Br	Com	Yes	No	0			
	90	C	10YR 5/1	Gr	Com	Yes	Yes	0			
8	25	HZCL	10YR 3/3	Dk Br	-	No	No	1	III	WE	3b
	38	HZCL	10YR 4/3	Br	Few	No	No	1			
	61	C	10YR 5/2	Gr Br	Com	Yes	No	5			
	90	ZC	10YR 6/4 & 10YR 5/2	Li Yl Br + Gr Br	Com	Yes	Yes	0			
9	20	HZCL	7.5YR 4/3	Br	-	No	No	1	IV	WE	3b
	67	HZCL	10YR 5/2	Gr Br	Com	Yes	Yes	0			
	90	HZCL	10YR 5/1	Gr	Com	Yes	Yes	0			
10	20	HZCL	10YR 4/2	Dk Gr br	Few	No	No	<1	III	WE	3b
	52	HZCL	10YR 5/2 & 10YR 6/1	Gr br & Gr	Com	Yes	No	<1			
	100	C	10YR 6/1	Gr	Com	Yes	Yes	<1			
11	28	HCL	10YR 5/2	Gr br	Few	No	No	<1	IV	WE	3b
	100	C	10YR 6/1	Gr	Mny	Yes	Yes	<1			
12	20	HZCL	10YR 4/2	Dk Gr br	Few	No	No	<1	IV	WE	3b
	70	C	10YR 6/1 & 10YR 5/2	Gr & Gr br	Mny	Yes	Yes	<1			
	100	HZCL	10YR 4/2	Dk Gr br	Few	No	No	<1			
13	15	HZCL	10YR 4/2	Dk Gr Br	-	No	No	1	III	WE	3b
	41	HZCL	10YR 5/2	Gr Br	-	No	No	0			
	70	ZC	10YR 5/1	Gr	Com	Yes	Yes	0			
	90	ZC	10YR 6/1	Gr	Com	Yes	Yes	5			
14	18	HZCL	10YR 4/2	Dk Gr Br	-	No	No	0	IV	WE	3b
	35	HZCL	10YR 5/2	Gr Br	-	No	No	1			
	90	ZC	10YR 5/1	Gr	Mny	Yes	Yes	0			

Auger no.	Base depth of horizon (cm)	Texture	Colour		Mottles	Gleyed?	SPL?	% stone >2cm	Wetness Class	Main limitation	ALC Grade
			Munsell	Description							
15	12	HZCL	10YR 4/3	Br	-	No	No	0	IV	WE	3b
	23	HZCL	10YR 5/2	Gr Br	Com	Yes	No	0			
	80	ZC	10YR 5/1	Gr	Com	Yes	Yes	0			
16	21	HZCL	10YR 4/2	Dk Gr Br	-	No	No	0	III	WE	3b
	42	ZC	10YR 5/2	Gr Br	Few	No	No	0			
	90	C	10YR 5/1 & 10YR 5/2	Gr + Gr Br	Com	Yes	Yes	0			
17	17	HZCL	10YR 4/2	Dk Gr Br	-	No	No	0	IV	WE	3b
	32	HZCL	10YR 5/2	Gr Br	-	No	No	0			
	80	ZC	10YR 5/1 & 10YR 5/2	Gr + Gr Br	Com	Yes	Yes	0			
18	26	HZCL	10YR 4/3	Br	-	No	No	0	III	WE	3b
	49	HZCL	10YR 5/2	Gr Br	Com	Yes	No	0			
	80	ZC	10YR 5/1 & 10YR 5/2	Gr & Gr br	Vmny	Yes	Yes	0			
19	28	C	10YR 5/2	Gr br	Few	No	No	<1	IV	WE	3b
	100	C	10YR 6/1	Gr	Mny	Yes	Yes	<1			
20	28	C	10YR 4/2	Dk gr br	Few	No	No	<1	IV	WE	3b
	100	C	10YR 5/2	Gr	Mny	Yes	Yes	<1			
21	18	HZCL	10YR 5/2	Gr br	Few	No	No	<1	III	WE	3b
	54	HZCL	10YR 5/2 & 10YR 5/1	Gr br & Gr	Few	No	No	<1			
	100	C	10YR 6/1	Gr	Mny	Yes	Yes	<1			
22	28	ZC	10YR 5/2	Gr br	Few	No	No	<1	II	WE	3b
	100	ZC	2.5Y 5/4	Li ol br	Com	Yes	No	<1			
23	15	HZCL	10YR 4/3	Br	-	No	No	0	IV	WE	3b
	35	ZC	10YR 5/2	Gr Br	-	No	No	0			
	55	ZC	10YR 4/1	Dk gr	Com	Yes	Yes	0			
	90	ZC	10YR 5/1	Gr	Com	Yes	Yes	0			
24	13	HZCL	10YR 4/2	Dk gr br	-	No	No	0	III	WE	3b
	35	ZC	10YR 5/2	Gr Br	Few	No	No	0			
	52	ZC	10YR 5/2	Gr br	Com	Yes	No	0			
	85	ZC	10YR 5/1	Gr	Mny	Yes	Yes	0			
25	12	ZC	10YR 4/3	Br	-	No	No	0	II	WE	3b
	49	ZC	10YR 5/1 & 10YR 5/2	Gr & Gr Br	Com	Yes	No	0			
	82	ZC	10YR 5/2	Gr br	Com	Yes	No	1			
	90	ZC	10YR 6/1	Gr	Vmny	Yes	No	0			
26	20	HCL	10YR 4/2	Dk Gr br	Few	No	No	<1	III	WE	3b
	44	C	10YR 5/2	Gr br	Com	Yes	No	<1			
	100	C	10YR 5/1	Gr	Mny	Yes	Yes	<1			
27	28	HCL	10YR 5/2	Gr br	Few	No	No	<1	III	WE	3b
	42	C	10YR 5/2	Gr br	Com	Yes	No	<1			
	100	C	10YR 6/1	Gr	Com	Yes	Yes	<1			
28	24	ZC	10YR 5/2	Gr br	Few	No	No	<1	II	WE	3b
	71	ZC	10YR 5/2	Gr br	Com	No	No	<1			
	100	ZC	10YR 6/1	Gr	Mny	Yes	Yes	<1			
29	23	HZCL	10YR 4/2	Dk gr br	-	No	No	0	IV	WE	3b
	35	ZC	10YR 5/2	Gr Br	Com	Yes	No	0			
	90	ZC	10YR 6/1	Gr	Mny	Yes	Yes	0			

Auger no.	Base depth of horizon (cm)	Texture	Colour		Mottles	Gleyed?	SPL?	% stone >2cm	Wetness Class	Main limitation	ALC Grade
			Munsell	Description							
30	21	ZC	10YR 4/2	Dk gr br	Few	No	No	0	II	WE	3b
	48	ZC	10YR 5/2	Gr br	Com	Yes	No	0			
	90	ZC	10YR 5/2 & 10YR 5/1	Gr br & Gr	Mny	Yes	No	0			
31	18	ZC	10YR 4/3	br	-	No	No	<1	II	WE	3b
	58	ZC	10YR 5/2	Gr br	Few	No	No	<1			
	100	ZC	10YR 5/1	Gr	Com	Yes	Yes	<1			
32	28	C	10YR 4/2	Dk Gr br	Few	No	No	<1	IV	WE	3b
	100	C	10YR 5/2	Gr br	Com	Yes	Yes	<1			
33	24	HZCL	10YR 4/2	Dk Gr br	-	No	No	<1	III	WE	3b
	46	C	10YR 5/2	Gr br	Com	Yes	No	<1			
	100	C	10YR 5/1	Gr	Mny	Yes	Yes	<1			

APPENDIX 2 – AGRICULTURAL LAND CLASSIFICATION MAP



ALC Grade

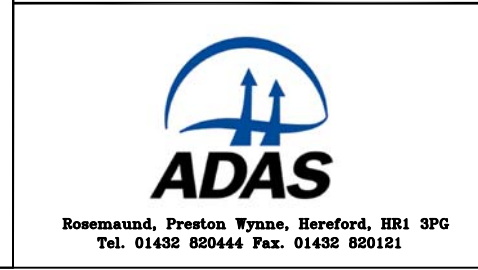
- 1
- 2
- 3a
- 3b
- 4
- 5
- Urban / Farm buildings
- Non Agric / Woodland

- ** Auger survey location.
- Soil pit location.
- Site Boundary

22.12.2021	SM	CR	B
15.12.2021	LB	SM	A
DATE	DRWN	CHKD	REVD

**HMP Gartree
AGRICULTURAL LAND CLASSIFICATION**

DRAWING NO.	MASTER SIZE
Wates/1010911/PALC 02	A3
	ISSUE
	B



APPENDIX 3 – PARTICLE SIZE DISTRIBUTION RESULTS



ANALYTICAL REPORT

Report Number	80064-21	K957	CARLA RICHMOND	Client SOIL 08-12-2021
Date Received	13-DEC-2021		RSK ADAS LTD	
Date Reported	21-DEC-2021		DRAYTON	
Project	1010911		ALCESTER ROAD	
Reference	CARLA RICHMOND		STRATFORD UPON AVON	
Order Number			CV37 9RQ	

Laboratory Reference		SOIL538688	SOIL538689	SOIL538690	SOIL538691						
Sample Reference		GP PIT 10 TS	GP PIT 10 LSS	GP PIT 30 TS	GP PIT 30 LSS						
Determinand	Unit	SOIL	SOIL	SOIL	SOIL						
Sand 2.00-0.063mm	% w/w	19	16	11	11						
Silt 0.063-0.002mm	% w/w	47	48	51	52						
Clay <0.002mm	% w/w	34	36	38	37						
Textural Class **		HZCL	ZC	ZC	ZC						

Notes

Analysis Notes The sample submitted was of adequate size to complete all analysis requested.
 The results as reported relate only to the item(s) submitted for testing.
 The results are presented on a dry matter basis unless otherwise stipulated.

Document Control **This test report shall not be reproduced, except in full, without the written approval of the laboratory.**

Reported by ***Myles Nicholson***
 Natural Resource Management, a trading division of Cawood Scientific Ltd.
 Coopers Bridge, Braziers Lane, Bracknell, Berkshire, RG42 6NS
 Tel: 01344 886338
 Fax: 01344 890972
 email: enquiries@nrm.uk.com

** Please see the attached document for the definition of textural classes.

ADAS (UK) Textural Class Abbreviations

The texture classes are denoted by the following abbreviations:

Class	Code
Sand	S
Loamy sand	LS
Sandy loam	SL
Sandy Silt loam	SZL
Silt loam	ZL
Sandy clay loam	SCL
Clay loam	CL
Silt clay loam	ZCL
Clay	C
Silty clay	ZC
Sandy clay	SC

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

vf	Very Fine (more than 2/3's of sand less than 0.106 mm)
f	Fine (more than 2/3's of sand less than 0.212 mm)
c	Coarse (more than 1/3 of sand greater than 0.6 mm)
m	Medium (less than 2/3's fine sand and less than 1/3 coarse sand).

The subdivisions of *clay loam* and *silty clay loam* classes according to clay content are indicated as follows:

M	medium (less than 27% clay)
H	heavy (27-35% clay)

Organic soils i.e. those with an organic matter greater than 10% will be preceded with a letter O.

Peaty soils i.e. those with an organic matter greater than 20% will be preceded with a letter P.