



BSR Energy Ltd



Agricultural Land Classification

Land south west of Berkeley, Gloucestershire

December 2020



ADAS GENERAL NOTES

Project No.: 1050692

Title: Agricultural Land Classification – Worlds End

Client: BSR Energy Ltd

Date: 09/12/2020

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

Status: Final

Author	<u>Carla Richmond</u>	Technical reviewer	<u>John Grylls</u>
Date:	<u>26/11/2020</u>	Date:	<u>28/11/2020</u>

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 BSR Energy Limited to undertake a soil and agricultural land classification survey of 57 ha of land south west of Berkeley, Gloucestershire.

The survey has identified slowly permeable stoneless soils with silty clay topsoils. Under the local climatic conditions these soils form agricultural land of grade 4 quality. The principal limitation to agriculture is soil wetness.

CONTENTS

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

Tables

Table 4.1: Agro-climatic variables	4
Table 4.3: Grade areas	4

Appendices

APPENDIX 1 – SOIL SURVEY DETAILS
APPENDIX 2 – MAP 1: LOCATION OF OBSERVATIONS
APPENDIX 3 – MAP 2: AGRICULTURAL LAND CLASSIFICATION
APPENDIX 4 – PSD TEXTURE ANALYSIS

1 INTRODUCTION

ADAS have been instructed by BSR Energy Ltd to undertake an agricultural land classification survey. This report provides information on the soils and agricultural quality of 57 ha of land south west of Berkeley, Gloucestershire. The report is based on a survey of the land carried out in November 2020.

1.1 Site Environment

The land surveyed is formed of six agricultural fields and roughly half of one other field. The site is surrounded by agricultural fields with a lake to the north. Worlds End Lane, Worlds End Farm and Worlds End Farm cottage are all to the east of the site. The River Severn lies approximately 600m to the north west of the site. Field boundaries are mainly hedges with some mature trees. Located directly to the north west of the site there are four solar panels bordering the site. Deep groundwater drainage ditches boarder some fields. The survey area is largely flat from 10 m AOD in the east to 6 m AOD in the north west and south.

1.2 Agricultural Use

At the time of survey four fields, three in the north of the site and one in the south were growing winter wheat. A field roughly in the centre of the site was permanent pasture used to graze cattle with two fields of grass reseed to the west. One was reseeded in autumn 2020 and the other was reseeded two years ago.

1.3 Published Information

1.3.1 Geology

1:50,000 scale BGS information¹ records the basal geology of the site as Mudstone, a sedimentary bedrock, laid down in the Triassic Period, 201 – 252 million years ago.

The entire site has Tidal Flat surface deposits of clay and silt formed in the Quaternary Period, 2 million years ago.

1.3.2 Soils

The national soil map, published at 1:250,000 scale, records the land as belonging entirely to the Newchurch 2 soil association – an association comprised of soils with stoneless silty clay top and subsoils. Under old permanent grass these soils can have excellent structure and earthworm populations and are at least moderately permeable. Note the soil survey work carried out for this report identified the soil profiles on this site as being slowly permeable. In the absence of field drainage systems the soils are usually waterlogged for long periods in the winter.

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

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 mostly of grade 3 quality².

2 METHODOLOGY

A detailed soil survey was carried out in November 2020. The survey was based on observations at intersects of a 100 m grid, giving a sampling density of 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 (Map 1) 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 laboratory analysis report is given in Appendix 4 to this report.

3 SOILS

3.1 Soil Types

The principal soil type identified at this site is silty clay topsoils over slowly permeable silty clay subsoils.

3.1.1 Slowly permeable stoneless silty clay soil

These soils are typified by a dark greyish brown silty clay topsoil over a grey silty clay subsoil. The subsoils are calcareous. The topsoil and subsoils are stoneless. There is occasional evidence of mottling in the topsoils and frequent evidence of common mottling with occasional manganese concretions in the subsoils. This shows evidence of seasonal waterlogging.

An example soil profile is described below from Pit A at observation point 20 (see Map 1).

- | | |
|------------|---|
| 0-23 cm | Dark greyish brown (10YR 4/2) silty clay; moderately developed medium subangular blocky structure; common fine fibrous roots; few ochreous mottles; clear boundary to: |
| 23-115+ cm | Grey (10YR 5/1) silty clay; moderately developed very coarse angular blocky to coarse prismatic structure; very firm; few fine fibrous roots; many ochreous mottles; few ferrimanganiferous concretions; very distinct gleyed ped faces; few worms. |

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

The 23-115+cm subsoil description shows the characteristics of a slowly permeable layer (spl). With the spl starting within 56cm and 186 Field Capacity Days (see Section 4.1) these soils belong to soil Wetness Class IV.

3.2 Laboratory Analysis

Samples taken from the top 25cm of soil at Pit locations A, B and C and were submitted to NRM Laboratories for particle size distribution analysis. The textures were confirmed as silty clay. The laboratory analysis report is given in Appendix 4.

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 5 m AOD is given below.

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

Table 4.1: Agro-climatic variables

Average Annual Rainfall (AAR)	845 mm
January-June Accumulated Temperature (AT0)	1532 day °C
Field Capacity Days (FCD)	186
Field Capacity Period	Mid Oct to mid April
Moisture Deficit Wheat (MDW)	102 mm
Moisture Deficit Potatoes (MWP)	94 mm
Climate (upper grade limit)	1

The site is located to the south west of Berkeley, 600m from the River Severn which lies to the north west.

4.2 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.

This report has identified agricultural land of grade 4 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.

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

Subgrade 3b

No land of this quality has been mapped.

Grade 4

All soil examination locations on the site had silty clay topsoil and were assessed as Wetness Class IV (see Section 3.1.1). This in combination with the site climatic data showing 186 Field Capacity Days results in all soil examination locations on the site being allocated to grade 4, hence all 57 ha is classed as grade 4 land. The principal limitation to agriculture is soil wetness. This limitation is a consequence of the silty clay soil texture and a relatively wet climate. The silty clay topsoil could result in a 'workability' problem particularly in the spring due to soil wetness.

Grade 5

No land of this quality has been mapped.

Non-agricultural

No land of this quality has been mapped.

Urban

No land of this quality has been mapped.

4.3 Summary of grade areas

The area occupied by each grade is shown below.

Table 4.3: Grade areas

Grade / subgrade	Area (ha)	Area (%)
Grade 1	-	-
Grade 2	-	-
Subgrade 3a	-	-
Subgrade 3b	-	-
Grade 4	57	100
Grade 5	-	-
Non-agricultural	-	-
Urban	-	-
Total	57	100

5 CONCLUSION

A soil and agricultural land classification survey has been undertaken of 57 ha of land south west of Berkeley, Gloucestershire.

The survey has identified slowly permeable stoneless soils with silty clay topsoils and silty clay subsoils. Under the site climatic conditions these soils form agricultural land of grade 4 quality. Under the relatively wet local climate the principal limitation to agriculture is soil wetness due to the clay content of the topsoil and subsoil making the soils slowly permeable.

APPENDIX 1 – SOIL SURVEY DETAILS

Land South West of Berkley, Gloucestershire – Details of each auger boring:

Auger	Depth (cm)	Colour	Texture	Soil Profile				Stones (%) Total >2cm >6cm	Notes	Agricultural Land Classification							
				Mottling	SPL	CaCO ₃	Slope (°)			W C	WE grade	DR grade	Overall grade	Limit(s)			
1	0-25	Dk Gr Br	ZC	com	yes	ca	0				1	4	4	2	4	WE	
	25-37	Dk Gr	ZC				0										
	37-115+	Dk Gr + Gr Br	ZC				0										
2	0-22	Dk Gr Br	ZC	Com	no	ca	0				1	4	4	2	4	WE	
	22-38	Gr Br	ZC				0										
	38-115+	Gr Br	ZC				0										
3	0-20	Dk Gr Br	ZC	Few	Yes	ca	0				1	4	4	2	4	WE	
	20-70+	Gr Br	ZC				Many	0									
								0									
4	0-24	Dk Gr Br	ZC	Com	Yes	ca	0				1	4	4	2	4	WE	
	24-70+	Gr Br	ZC				0										
							0										
5	0-26	Dk Gr Br	ZC	Many	Yes	ca	0				1	4	4	2	4	WE	
	26-70+	Gr	ZC				0										
							0										
6	0-28	Dk Gr Br	ZC	Few	Yes	ca	0				1	4	4	2	4	WE	
	28-70+	Gr	ZC				Many	0									
								0									
7	0-24	Gr Br	ZC	Com	Yes	ca	0				1	4	4	2	4	WE	
	24-32	GR	ZC				0										
	32-115+	Gr Br	ZC				0										
8	0-24	Dk Gr Br	ZC	Few	Yes	ca	0				1	4	4	2	4	WE	
	24-70+	Gr Br	ZC				Many	0									
								0									
9	0-26	Dk Gr Br	ZC	Few	Yes	ca	0				1	4	4	2	4	WE	
	26-70+	Gr Br	ZC				Many	0									
								0									
10	0-36	Dk Gr Br	HZCL/ZC	Com	Yes	ca	0				1	4	4	2	4	WE	
	36-58	Dk Gr Br	ZC				Many	0									
								58-70+	Gr								ZC
11	0-34	Dk Gr Br	HZCL/ZC	Many	Yes	ca	0				1	4	4	2	4	WE	
	34-70+	Gr	ZC				0										
							0										
12	0-32	Dk Gr Br	ZC	Many	Yes	ca	0				1	4	4	2	4	WE	
	32-70+	Gr	ZC				0										
							0										
13										On Field boarder Not completed							
14	0-34	Dk Gr Br	HZCL/ZC	Many	Yes	ca	0				1	4	4	2	4	WE	
	34-70+	Gr	ZC				0										
							0										
15	0-28	Dk Gr Br	ZC	Few	Yes	ca	0				1	4	4	2	4	WE	
	28-70+	Gr Br	ZC				0										
							0										
16	0-35	V Dk Gr Br	ZC	Com	Yes	ca	0				1	4	4	2	4	WE	
	35-70+	Gr	ZC				0										
							0										
17	0-34	Dk Gr Br	ZC	Com	yes	ca	0				1	4	4	2	4	WE	
	34-47	Dk Gr + Gr	ZC				0										
	47-70+	GR	ZC				0										
18	0-25	Dk Gr Br	ZC	Few	no	ca	0			fm	1	4	4	2	4	WE	
	25-48	Dk Gr Br + Dk Gr	ZC				0										
	48-70+	Gr Br	ZC				0										
19	0-28	Dk Gr Br	ZC	Few	no	ca	0			fm	1	4	4	2	4	WE	
	28-39	Dk Gr	ZC				0										
	39-70+	Gr	ZC				0										
20 Pit A	0-23	Dk Gr Br	ZC	Few	Yes	ca	0			Distinct gleyed ped faces	1	4	4	2	4	WE	
	23-120+	Gr	ZC				Many	0									
								0									
21	0-36	Dk Gr Br	ZC	Com	Yes	ca	0				1	4	4	2	4	WE	
	36-70+	Dk Gr + Gr Gr	ZC				0										
							0										

Auger	Depth (cm)	Colour	Texture	Soil Profile				Notes	Agricultural Land Classification						
				Mottling	SPL	CaCO ₃	Stones (%)		Slope (°)	W C	WE grade	DR grade	Overall grade	Limit(s)	
22	0-30	Dk Gr	ZC	Com	Yes	ca	0		Rusty root m fm	1	4	4	2	4	WE
	30-70+	Gr	ZC	Many			0								
23	0-25	Dk Gr Br	ZC	Com	Yes	ca	0			1	4	4	2	4	WE
	25-49	Li Br Gr	ZC				0								
	49-70+	Gr	ZC			Many				0					
24	0-28	Gr Br	ZC	Many	Yes	ca	0			1	4	4	2	4	WE
	28-70+	GR	ZC				0								
25	0-28	Gr Br	ZC	Few	Yes	ca	0			1	4	4	2	4	WE
	28-115+	Gr Br	ZC	Many			0								
26	0-27	Dk Gr Br	HZCL/ZC	Com	Yes	ca	0			1	4	4	2	4	WE
	27-42	Dk Gr	ZC				0								
	42-70+	Gr	ZC			Many				0					
27	0-28	Dk Gr Br	HZCL/ZC	Few	Yes	ca	0			1	4	4	2	4	WE
	28-70+	Gr	ZC	Many			0								
28	0-28	Dk Gr Br	HZCL/ZC	Few	Yes	ca	0			1	4	4	2	4	WE
	28-70+	Gr	ZC	Many			0								
29	0-28	Gr Br	ZC	Few	Yes	ca	0			1	4	4	2	4	WE
	28-70+	Gr	ZC	Com			0								
30	0-35	Dk Gr Br	ZC	Many	yes	ca	0			1	4	4	2	4	WE
	35-70+	Dk Gr Br + Gr	ZC				0								
31	0-26	Dk Gr Br	ZC	Com	Yes	ca	0		fm	1	4	4	2	4	WE
	26-35	Dk Gr	ZC				0								
	38-70+	Gr	ZC			Many				0					
32	0-28	Gr Br	HZCL/ZC	Few	Yes	ca	0		fm	1	4	4	2	4	WE
	28-115+	Gr	ZC	Many			0								
33	0-28	Dk Gr Br	HZCL/ZC	Many	Yes	ca	0			1	4	4	2	4	WE
	28-70+	Gr	ZC				0								
34	0-28	Dk Gr Br	ZC	Few	Yes	ca	0			1	4	4	2	4	WE
	28-70+	Gr Br	ZC	Many			0								
35	0-30	Dk Gr Br	ZC	Many	Yes	ca	0		fm	1	4	4	2	4	WE
	30-70+	Gr Br	ZC				0								
36	0-28	Dk Gr Br	ZC	Com	Yes	ca	0			1	4	4	2	4	WE
	28-38	Dk Gr BR	ZC				0								
	38-70+	Gr Br	ZC			Com				0					
37	0-28	Dk Gr Br	ZC	Few	Yes	ca	0		Rusty root m	1	4	4	2	4	WE
	28-70+	Gr	ZC	Many			0								
38	0-28	Dk Gr Br	ZC	Few	Yes	ca	0			1	4	4	2	4	WE
	28-70+	Gr	ZC	Many			0								
39	0-28	Dk Gr Br	ZC	Few	Yes	ca	0			1	4	4	2	4	WE
	28-70+	Gr	ZC	Many			0								
40	0-20	Gr Br	ZC	Com	Yes	ca	0			1	4	4	2	4	WE
	20-70+	Gr	ZC	Many			0								
41	0-28	Dk Gr Br	HZCL/ZC	Few	Yes	ca	0			1	4	4	2	4	WE
	28-115+	Gr	ZC	Many			0								
42	0-28	Dk Gr Br	HZCL/ZC	Few	Yes	ca	0			1	4	4	2	4	WE
	28-115+	Gr	ZC	Many			0								

Auger	Depth (cm)	Colour	Soil Profile						Agricultural Land Classification							
			Texture	Mottling	SPL	CaCO ₃	Stones (%)	Notes	Slope (°)	W C	WE grade	DR grade	Overall grade	Limit(s)		
43	0-30	Dk Gr Br	HZCL/ZC			ca	0				1	4	4	2	4	WE
	30-70+	Li Gr Br + Gr	ZC	Many	Yes		0		fm							
44	0-29	Dk Gr Br	ZC			ca	0				1	4	4	2	4	WE
	29-70+	Gr Br / Gr	ZC	Com	Yes		0									
45	0-36	Dk Gr Br	ZC			ca	0				1	4	4	2	4	WE
	36-70+	Gr + Dk Gr	ZC	Com	yes		0									
46	0-26	Dk Gr Br	HZCL/ZC	Few		ca	0				1	4	4	2	4	WE
	26-36	Gr Br	ZC	Com	Yes		0									
	36-70+	Li Br Gr	ZC	Com	Yes		0		fm							
47	0-24	Dk Gr Br	ZC	Few		ca	0				1	4	4	2	4	WE
	24-38	Gr Br	ZC	Com	Yes		0									
48	0-24	Dk Gr Br	HZCL/ZC	Few		ca	0				1	4	4	2	4	WE
	24-32	Gr	ZC	Com	Yes		0									
49	0-20	Dk Gr Br	HZCL/ZC	Few		ca	0				1	4	4	2	4	WE
	20-70+	Gr	ZC	Com	Yes		0									
50	0-29	Dk Gr Br	HZCL/ZC	Few		ca	0				1	4	4	2	4	WE
51	0-27	Dk Gr Br	HZCL/ZC	Many	Yes		0									
	27-115+	Li Br Gr	HZCL/ZC	Com	Yes		0									
52	0-33	Dk Gr Br	ZC			ca	0				1	4	4	2	4	WE
	33-70+	Gr	ZC	Many	Yes		0									
53	0-25	Dk Gr Br	HZCL/ZC			ca	0				1	4	4	2	4	WE
	25-39	Gr Br	ZC	Few			0									
	39-70+	Gr	ZC	Com	Yes		0									
54	0-25	Dk Gr Br	ZC			ca	0				1	4	4	2	4	WE
	25-42	Br	ZC	Com	yes		0									
	42-80+	Gr Br	ZC	Many	Yes		0									
55									On field boarder							
56									Not completed							
57	0-25	Dk Gr Br	HZCL / ZC			ca	0				1	4	4	2	4	WE
	25-37	Dk Gr	HZCL / ZC	Few			0									
58	37-70+	Gr	ZC	Com	Yes		0									
	0-25	Dk Gr Br	HZCL/ZC			ca	0				1	4	4	2	4	WE
59	25-35	Dk Gr Br + Dk Gr	ZC	Few			0									
	35-70+	Gr	ZC	Com	Yes		0									
60	0-28	Dk Gr Br	ZC			ca	0				1	4	4	2	4	WE
	28-42	Br	ZC	Com	Yes		0									
	42-90+	Gr Br	ZC	Many	Yes		0									
61	0-25	Dk Gr Br	HZCL/ZC			ca	0				1	4	4	2	4	WE
	25-49	Gr Br	ZC	Com	Yes		0									
62	49-90+	Gr	ZC	Many	Yes		0									
	0-30	Dk Gr Br	HZCL/ZC			ca	0				1	4	4	2	4	WE
Pit B	30-49	Gr Br	ZC	Com	Yes		0									
	49-80+	Gr	ZC	Com	Yes		0									
Pit C	0-20	Dk Gr Br	ZC			ca	0				1	4	4	2	4	WE
	20-120	Gr Br	ZC	Many	Yes		0									
Pit C	0-22	Dk Gr Br	ZC			ca	0				1	4	4	2	4	WE
	22-120	Gr Br + Gr	ZC	Many	Yes		0									

Key to auger records:

Colour	Texture	Texture suffixes	Mottle intensity	Limitations
Bl - black	C - clay	Calcareous:	Few – few ochreous mottles (<2%)	CL - climate
Br - brown	ZC - silty clay	v sl ca - very slightly calcareous	Com – common ochreous mottles (2-20%)	DE - depth
Dk - dark	SC - sandy clay	sl ca - slightly calcareous	Many – many ochreous mottles (20-40%)	DR - droughtiness
Gr - grey	CL - clay loam (H-heavy, M-medium)	ca - calcareous	V. many – very many ochreous mottles (>40%)	ER - erosion
Li - light	ZCL - silty clay loam (H-heavy, M-medium)	v ca - calcareous		FL - flooding
Ol - olive	SCL - sandy clay loam			GR - gradient
Pi - pink	SZL - sandy silt loam (F-fine, M-medium, C-coarse)	Stoniness (by volume):		MR - microrelief
Pl - pale	ZL - silt loam	v sl st – very slightly stony (1-5%)		ST - stoniness
Rd - red	SL - sandy loam (F-fine, M-medium, C-coarse)	sl st - slightly stony (6-15%)		TX - texture
St - strong	LS - loamy sand (F-fine, M-medium, C-coarse)	m st - moderately stony (16-35%)		WE - wetness/workability
V - very	S - sand (F-fine, M-medium, C-coarse)	v st - very stony (36-70%)		
Wk - weak	ORG - organic (S-sand, L-loam, C-clay)	ex st - extremely stony (>70%)		
Yl - yellow	PTY - peaty (S-sand, L-loam)			
	PT - peat (S-sandy, L-loamy, H-humified, SF-semi-fibrous, F-fibrous)	Other:		
	R - bedrock	fm – ferrimanganiferous concentrations		






Title
Appendix 2: Map 1
Location of Observations
Project

Worlds End ALC

Client



Key

-  Site Boundary
-  Auger location
-  Pit location

Date: 26 / 11 / 2020

Scale: 1 : 13,500 at A3



ADAS
www.adas.uk





Title
Appendix 3: Map 2
Agricultural Land

Project
Worlds End ALC



Key

 Site Boundary

 Grade 4

Date: 26 / 11 / 2020

Scale: 1 : 13,500 at A3





ANALYTICAL REPORT

Report Number	30608-20	K957	CARLA RICHMOND
Date Received	13-NOV-2020		RSK ADAS LTD
Date Reported	20-NOV-2020		DRAYTON
Project	1050692 02 03 09 10112020		ALCESTER ROAD
Reference	CARLA RICHMOND		STRATFORD UPON AVON
Order Number	W13A 01		CV37 9RQ

Laboratory Reference		SOIL496796	SOIL496797	SOIL496798							
Sample Reference		W END PIT A TOPSOIL	W END PIT B TOPSOIL	W END PIT C TOPSOIL							
Determinand	Unit	SOIL	SOIL	SOIL							
Sand 2.00-0.063mm	% w/w	2	3	3							
Silt 0.063-0.002mm	% w/w	47	61	56							
Clay <0.002mm	% w/w	51	36	41							
Organic Matter LOI	% w/w	5.7	5.4	5.4							
Textural Class **		ZC	ZC	ZC							

Notes	
Analysis Notes	<p>The sample submitted was of adequate size to complete all analysis requested.</p> <p>The results as reported relate only to the item(s) submitted for testing.</p> <p>The results are presented on a dry matter basis unless otherwise stipulated.</p>
Document Control	This test report shall not be reproduced, except in full, without the written approval of the laboratory.

Reported by	<p>** Please see the attached document for the definition of textural classes.</p> <p><i>Myles Nicholson</i></p> <p>Natural Resource Management, a trading division of Cawood Scientific Ltd.</p> <p>Coopers Bridge, Braziers Lane, Bracknell, Berkshire, RG42 6NS</p> <p>Tel: 01344 886338</p> <p>Fax: 01344 890972</p> <p>email: enquiries@nrm.uk.com</p>
-------------	--

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.