

**LAND AT ROWNALL ROAD,
CELLARHEAD**

**AGRICULTURAL LAND
CLASSIFICATION**

October 2024





**LAND AT ROWNALL ROAD,
CELLARHEAD**

**AGRICULTURAL LAND
CLASSIFICATION**

October 2024

COPYRIGHT

The contents of this document must not be copied in whole or in part without the written consent of Kernon Countryside Consultants.

Authorised By EGC 10/24

*Greenacres Barn, Stoke Common Lane, Purton Stoke, Swindon SN5 4LL
T: 01793 771333 Email: info@kernon.co.uk Website: www.kernon.co.uk*

*Directors - **Tony Kernon** BSc(Hons), MRAC, MRICS, FBIAC **Sarah Kernon**
Consultants - **Ellie Clark** BSc(Hons), **Amy Curtis** BSc(Hons)*

CONTENTS

- 1 Introduction
- 2 Methodology
- 3 Factors Affecting Land Quality
- 4 Agricultural Land Classification

Appendices

- KCC1 Soil Profile Log
- KCC2 Soil Pit Description
- KCC3 Certificate of Analysis

Plans

- 01 Auger Point Plan
- 02 Agricultural Land Classification Plan

1 INTRODUCTION

- 1.1 This report sets out the findings of a detailed Agricultural Land Classification (ALC). It is based on a desktop study of relevant published information on climate, topography, geology and soil in conjunction with a soil survey. The ALC Study Area, which measures approximately 21.7 hectares (ha) in area, is shown in **Plan KCC3745/01**, and outlined in red on the Insert below.

Insert 1. The Site Area (Boundary Approx.)



- 1.2 A detailed Agricultural Land Classification has been carried out over the Site. The Site is recorded to be Subgrade 3b.
- 1.3 This report has been prepared by Kernon Countryside Consultants Ltd. We specialise in assessing the effects of development proposals on agricultural land and businesses.

2 METHODOLOGY

- 2.1 The work has been carried out by a Chartered Scientist (CSci), who is a Fellow (F. I. Soil Sci) of the British Society of Soil Science (BSSS). This ALC survey has been carried out by a soil scientist who meets the BSSS Professional Competency Standard (PSC) scheme requirements for ALC (see BSSS PCS Document 2 '*Agricultural Land Classification of England and Wales*'¹). The BSSS PSC scheme is endorsed, amongst others, by the Department for Environment, Food and Rural Affairs (Defra), Natural England, the Science Council, and the Institute of Environmental Assessment and Management (IEMA).
- 2.2 This assessment is based upon the findings of a study of published information on climate, geology and soil in combination with a soil investigation carried out in accordance with the Ministry of Agriculture, Fisheries and Food (MAFF) ² '*Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land*', October 1988 (henceforth referred to as the 'the ALC Guidelines').
- 2.3 The 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. The ALC system divides agricultural land into five grades (Grade 1 'Excellent' to Grade 5 'Very Poor'), with Grade 3 subdivided into Subgrade 3a 'Good' and Subgrade 3b 'Moderate'. Agricultural land classified as Grade 1, 2 and Subgrade 3a falls in the '*best and most versatile*' category in Paragraphs 180 and 181 of the National Planning Policy Framework (NPPF), revised on the 19th of December 2023. Further details of the ALC system and national planning policy implications are set out in Natural England's '*Guide to assessing development proposals on agricultural land*' online³.
- 2.4 A detailed ALC survey of the Study Area was carried out on the 11th September 2024. The ALC survey involved examination of the soil's physical properties at 27 auger-bores within the Study Area at a density of at least one auger-bore per hectare (ha). One soil pit, i.e., Pit 1 located near auger-bore location 12, was excavated with a spade to examine

¹ British Society of Soil Science. Professional Competency Scheme Document 2 '*Agricultural Land Classification of England and Wales*'. Available online @ <https://www.soils.org.uk/sites/default/files/events/flyers/ipss-competency-doc2.pdf> Last accessed October 2024

² The Ministry of Agriculture, Fisheries and Food (MAFF) was incorporated within the Department for Environment, Food and Rural Affairs (Defra) in November 2001

³ Natural England (2022) '*Guide to assessing development proposals on agricultural land*'. Available online at <https://www.gov.uk/government/publications/agricultural-land-assess-proposals-for-development/guide-to-assessing-development-proposals-on-agricultural-land> Last accessed October 2024

certain soil physical properties, such as stone content and subsoil structure, in more detail. See **KCC3745/01** for the location of auger bores and soil pits.

- 2.5 The sample locations were located using a hand-held Garmin E-Trec Geographic Information System (GIS) to enable the sample locations to be relocated for verification, if necessary.
- 2.6 The soil profile at each sample location was examined to a maximum depth of approximately 1.2 m by hand using a 5 cm diameter Dutch (Edleman) soil auger. The soil profile at each sample location was described using the '*Soil Survey Field Handbook: Describing and Sampling Soil Profiles*' (Ed. J.M. Hodgson, Cranfield University, 1997). Each soil profile was ascribed a grade following the ALC Guidelines. A log of the soil profiles examined and described on-site is given in **Appendix KCC1**, and a description of the soil pit is given in **Appendix KCC2**.
- 2.7 A topsoil sample was collected at auger-bore locations 8 and 25, as shown in **KCC3745/01**. The samples were sent to an accredited laboratory for particle size analysis, i.e., sand, silt, and clay proportions. This is to determine the definitive texture class of the topsoil, especially regarding distinguishing between medium clay loams (i.e., <27% clay) and heavy clay loams (27% to 35% clay). The results of the laboratory particle size (texture) analysis are given in Section 3.0, and a laboratory report is given in **Appendix KCC3**.

3 FACTORS AFFECTING LAND QUALITY

3.1 As described in the ALC Guidelines, the main physical factors influencing agricultural land quality are:

- climate;
- site;
- soil; and
- interactive limitations.

3.2 These factors are considered in turn below.

Climate

3.3 Interpolated climate data relevant to determining the ALC grade of land at the Site is given in Table 1 below.

Table 1: ALC Climate Data

Climate Parameter	Grid Ref: SJ 947486
Average Altitude (m)	248
Average Annual Rainfall (mm)	912
Accumulated Temperature above 0°C (January – June)	1181
Moisture Deficit (mm) Wheat	62
Moisture Deficit (mm) Potatoes	40
Field Capacity Days (FCD)	223
Grade according to climate	3a

3.4 Parameters used for assessing overall climate are accumulated temperature, a measure of relative warmth, and average annual rainfall, a measure of overall wetness. Regarding Figure 1 ‘*Grade according to climate*’ on page 6 of the ALC Guidelines, there is no overall climatic limitation to the quality of agricultural land at the Site. This means that agricultural land at the Site cannot be graded higher than ALC Grade 3a in overall climatic terms.

3.5 The soil profiles across the Study Area are predicted to be at field capacity (i.e., the amount of soil moisture or water content held in the soil after excess water has drained away) for approximately 223 Field Capacity Days (FCD) per year, mainly over the late autumn, winter and early spring.

- 3.6 The climate interacts with soil physical properties, i.e., soil texture and wetness class, and can limit agricultural land quality due to soil wetness as per Table 6 of the ALC Guideline 'Grade according to soil wetness'. It should be noted that the number of FCD at this Site just falls in the FCD category 176-225 for determining the grade according to wetness.

Site

- 3.7 As shown in **KCC3745/01**, the Study Area is located on the northern edge of Cellarhead. The approximate centre of the Site is located at British National Grid (BNG) reference SJ947486. The Study Area is bordered by Rownall Road in places to the east, by unnamed lanes in places to the north and south, and by agricultural land on all other sides.
- 3.8 With regard to the ALC Guidelines, agricultural land quality can be limited by one or more of three main site factors as follows:
- gradient;
 - micro-relief (i.e., complex change in slope angle over short distances); and
 - risk of flooding.

Gradient and Micro-Relief

- 3.9 The land in the Study Area is flat at approximately 248 metres (m) Above Ordnance Datum (AOD). The quality of agricultural land within the Study Area is not limited by gradient, which does not exceed 7° (refer to Table 1 of ALC Guidelines). Likewise, the quality of agricultural land in the Study Area is not limited by micro-relief, i.e., where complex changes in slope angle and direction over short distances.

Risk of Flooding

- 3.10 According to the Government Flood Map for Planning website⁴, the land in the Study Area is in Flood Zone 1 and has a low risk of flooding. The MAFF ALC Guidelines (1988) take account of the frequency, duration, and timing of flooding in the summer and winter (re Table 2 '*Grade according to flood risk in summer*' and/or Table 3 '*Grade according to flood risk in winter*'). There is no evidence the grade of agricultural land in the Study Area is limited by flood risk during the summer or winter following the ALC Guidelines.

⁴ Government/Environment Agency. 'Get flood risk information for planning in England'. Available online at <https://flood-map-for-planning.service.gov.uk/> Last accessed October 2024

Soil

- 3.11 **Geology/ Soil Parent Material.** British Geological Survey (BGS) online⁵ information has been utilised to identify the Bedrock underlying the Study Area and any Superficial (Drift) Deposits over the Bedrock. This information helps to determine the parent material⁶ from and within which a soil has formed.
- 3.12 From the BGS information, most of the Study Area is underlain by mudstone, siltstone, and sandstone in the Morridge Formation. The northwest of the Study Area is underlain by sandstone Cheddleton Formation. There is a strip of Kniveden Sandstone through the centre of the site, and in the south, there is a small section of Chatsworth Grit sandstone. The BGS Superficial Deposit map indicates the bedrock is covered by glacial till (Devensian, Diamicton).
- 3.13 **Published Information on Soil.** Soil information on the National Soil Map⁷ indicates that land at the Site is covered by soils grouped in the Brickfield 3 association. As described by the Soil Survey of England and Wales (SSEW)⁸, the Brickfield 3 association consists predominantly of loamy and clayey surface-water gley soils belonging to the Brickfield, Dunkeswick and Hallsworth series. It is widespread throughout Northern England, the north Midlands and north Wales, covering over 3,650 km², usually below 250 m O.D. on gentle to moderate slopes.
- 3.14 The parent material is a greyish till or Head derived from Carboniferous and other Palaeozoic sandstones and shales. The loamy textures are due to the preponderance of sandstone in the drift. Greater proportions of shale give rise to more clayey drift. Brickfield soils, cambic stagnogley soils, are clay loam throughout and commonly contain many sandstones or, locally shales; at lower altitudes hard igneous and other erratic stones are also present.
- 3.15 Stone content frequently increases with depth. The main soils are seasonally waterlogged (Wetness Class IV) but, with satisfactory drainage, may be in Wetness Class III where the annual rainfall is less than about 900 mm. They have slowly permeable loamy and clayey subsurface horizons which cause surface waterlogging.

⁵ British Geological Survey 'Geology of Britain Viewer'. Available online @ <http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html> Last accessed October 2024

⁶ British Geological Survey. A 'parent material' is a soil-science name for a weathered rock or deposit from and within which a soil has formed. In the UK, parent materials provide the basic foundations and building blocks of the soil, influencing their texture, structure, drainage and chemistry. Available online @ [Soil Parent Material Model - British Geological Survey \(bgs.ac.uk\)](http://www.bgs.ac.uk/soilparentmaterial/) Last accessed October 2024

⁷ Cranfield University (2024) Soil site report, Soil Report for location 394746E, 348588N, 1km x 1km, Cranfield University.

⁸ Soil Survey of England and Wales, National Soil Resource Institute, Cranfield University (2023). *The Soils Guide*. Available online at https://www.landis.org.uk/soilsguide/mapunit_list.cfm Last accessed October 2024

Soil Survey

- 3.16 The soil profiles recorded at each auger-bore location are given in **Appendix KCC1**. A detailed description of Soil Pit 1 is given in **Appendix KCC2**. The survey determined soils that are consistent with the Brickfield 3 association above.
- 3.17 **Topsoil Particle Size Analysis.** To substantiate topsoil texture determined during the ALC survey by hand-texturing, two topsoil samples were collected over the Study Area, i.e., from auger bore locations 2 (Pit 1) and 5, see **KCC3745/01**. The topsoil samples were sent to an accredited laboratory for analysis of particle size distribution (PSD), based on the British Standard Institution particle size grades. The certificate of analysis is provided as **Appendix KCC3**. The findings of the PSD analysis are shown in Table 2 below.

Table 2: Topsoil Particle Size Analysis

Topsoil Sample Location (See Plan KCC3745/01)	% sand 0.063-2.0 mm	% silt 0.002- 0.063 mm	% clay <0.002 mm	ALC Soil Texture Class
8	36	37	27	Heavy Clay Loam
25	28	36	36	Clay

Interactive Limitations

- 3.18 From the information above, together with the findings of the detailed soil survey (see Soil Profile Log given in **Appendix KCC1**), it has been determined that the quality of agricultural land at the Site is limited by soil wetness, as described below.
- 3.19 **Soil Wetness.** From the ALC Guidelines, a soil wetness limitation exists where *‘the soil water regime adversely affects plant growth or imposes restrictions on cultivations or grazing by livestock’*. Agricultural land quality at the Site is limited by soil wetness as per Table 3 below (based on Table 6 ‘Grade According to Soil Wetness – Mineral Soils’ in the ALC Guidelines).

Table 3: ALC Grade According to Soil Wetness

Wetness Class	Texture of the Top 25 cm	176-225 Field Capacity Days
I	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	1
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	2
	Heavy Silty Clay Loam/Heavy Clay Loam**	3a
	Sandy Clay/Silty Clay/Clay	3b
II	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	2
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	3a
	Heavy Silty Clay Loam/Heavy Clay Loam**	3a
	Sandy Clay/Silty Clay/Clay	3b
III	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	3a
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	3a
	Heavy Silty Clay Loam/Heavy Clay Loam**	3b
	Sandy Clay/Silty Clay/Clay	4
IV	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	3b
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	3b
	Heavy Silty Clay Loam/Heavy Clay Loam**	4
	Sandy Clay/Silty Clay/Clay	4
Key: * 18% to <27% clay; and ** 27% to 35% clay		

- 3.20 In a climate area with 223 FCD, profiles that are slowly permeable and seasonally waterlogged for long periods over the winter (Wetness Class IV) are limited by soil wetness to Subgrade 3b where the topsoil texture is medium silty clay loam, sandy clay loam, or medium clay loam. One profile (auger bore 25) has clay topsoil and is in Grade 4.
- 3.21 Occasionally, a few profiles had slowly permeable and seasonally waterlogged subsoil in Wetness Class III. In this climate (223 FCD), soils with medium sandy loam or medium clay loam are limited by soil wetness to

4 AGRICULTURAL LAND CLASSIFICATION

- 4.1 By detailed ALC survey, it has been determined that the quality of agricultural land in the Study Area is limited mainly by soil wetness to Subgrade 3b.
- 4.2 As described on page 7 of the ALC Guidelines ‘...a degree of variability in physical characteristics within a discrete area is to be expected. If the area includes a small proportion of land of different quality, the variability can be considered as a function of the mapping scale.’
- 4.3 By convention, two or more contiguous auger bores of the same grade are mapped as a single unit. Where a single auger bore has a different ALC grade from those surrounding it, it is included in the predominant ALC grade. Accordingly, an isolated auger bores determined to be Subgrade 3a, and one as Grade 4, have been included in the predominant Subgrade 3b mapping unit (see **Appendix KCC1**).
- 4.4 The area and proportion of agricultural land in each ALC grade have been measured from an ALC map given in **KCC3745/02**. The findings are reported in Table 4 below.

Table 4: Agricultural Land Classification

ALC Grade	Area (Ha)	Area (% of Total Site)
Grade 1 (Excellent)	0	0
Grade 2 (Very Good)	0	0
Subgrade 3a (Good)	0	0
Subgrade 3b (Moderate)	21.7	100
Grade 4 (Poor)	0	0
Grade 5 (Very Poor)	0	0
Non-agricultural / Other land	0	0
Total	21.7	100

Appendix KCC1
Soil Profile Log

Point	Grid ref.				Alt (m)	Slope °	Aspect	Land use	Depth (cm)			Matrix		Ochreous Mottles		Grey Mottles		Gley	Texture	Stones - type 1						Stones - type 2			Ped			SUBS STR	CaCO3	Mn C	SPL	Drought			Wet		Final ALC				
	NGR	X	Y	Top					Bttm	Thick	Munsell colour	Form	Munsell colour	Form	Munsell colour	% > 2cm	> 6cm			Type	% > 2cm	> 6cm	Type	Strength	Size	Shape	MBw	MBp	Gd	WC	Gw					Limitation 1	Limitation 2	Limitation 3	Grade						
1	SJ 94645	48975	394645	348975	243	≤7	Level	CER	0	25	25	10YR3/1							MCL - Clay loam (medium)	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No	68	66	1	WC IV	3b	Wetness				3b	
									25	35	10	10YR6/2	CD - Common Distinct	10YR5/6				Yes	MCL - Clay loam (medium)	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Poor	NON - Non-calcareous (<0.5% CaCO3)	Yes	Yes											
									35	120	85	2.5Y6/1	CP - Common Prominent	7.5YR5/8				Yes	C - Clay	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)																							
2	SJ 94745	48975	394745	348975	244	≤7	Level	CER	0	30	30	10YR3/1							MZCL - Silty clay loam (medium)	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Poor	NON - Non-calcareous (<0.5% CaCO3)	No	No	76	75	1	WC IV	3b	Wetness				3b	
									30	40	10	2.5Y5/3	CP - Common Prominent	7.5YR5/6				Yes	C - Clay	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No											
									40	55	15	10YR4/1	CP - Common Prominent	7.5YR4/6				Yes	MZCL - Silty clay loam (medium)	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Poor	NON - Non-calcareous (<0.5% CaCO3)	No	No											
									55	120	65	2.5Y5/3	CP - Common Prominent	7.5YR5/8				Yes	C - Clay	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)																							
3	SJ 94845	48975	394845	348975	245	≤7	Level	CER	0	25	25	10YR3/1							SCL - Sandy clay loam	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No	64	63	1	WC IV	3b	Wetness				3b	
									25	35	10	2.5Y5/2	CP - Common Prominent	10YR5/6				Yes	HCL - Clay loam (heavy)	2		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Poor	NON - Non-calcareous (<0.5% CaCO3)	Yes	Yes											
									35	120	85	2.5Y6/1	CP - Common Prominent	7.5YR5/8				Yes	C - Clay	1		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)																							
4	SJ 94945	48970	394945	348970	249	≤7	Level	CER	0	30	30	10YR3/2							MCL - Clay loam (medium)	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Poor	NON - Non-calcareous (<0.5% CaCO3)	Yes	Yes	71	65	1	WC IV	3b	Wetness				3b	
									30	60	30	2.5Y6/1	MP - Many Prominent	7.5YR5/8				Yes	SC - Sandy clay	1		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Poor	NON - Non-calcareous (<0.5% CaCO3)	Yes	Yes											
									60	120	60	2.5Y6/1	CP - Common Prominent	7.5YR5/8				Yes	SC - Sandy clay	5		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)																							
5	SJ 95045	48960	395045	348960	249	≤7	Level	CER	0	26	26	10YR3/1							SCL - Sandy clay loam	2		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Poor	NON - Non-calcareous (<0.5% CaCO3)	No	Yes	62	61	1	WC IV	3b	Wetness				3b	
									26	120	94	2.5Y6/2	MP - Many Prominent	7.5YR5/8				Yes	C - Clay	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)																							
6	SJ 94645	48875	394645	348875	243	≤7	Level	CER	0	22	22	10YR3/1							MZCL - Silty clay loam (medium)	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Poor	NON - Non-calcareous (<0.5% CaCO3)	No	Yes	65	64	1	WC IV	3b	Wetness				3b	
									22	120	98	2.5Y5/2	CP - Common Prominent	10YR5/6				Yes	C - Clay	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)																							
7	SJ 94745	48875	394745	348875	245	≤7	Level	CER	0	20	20	10YR2/1							MCL - Clay loam (medium)	0		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No	76	74	1	WC IV	3b	Wetness				3b	
									20	35	15	10YR6/1	CD - Common Distinct	10YR5/6				Yes	SCL - Sandy clay loam	1		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)									Moderate	NON - Non-calcareous (<0.5% CaCO3)	No	No											
									35	120	85	2.5Y6/1	MP - Many Prominent	7.5YR5/8				Yes	C - Clay	1		HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)																							
8	SJ 94845	48875	394845	348875	246																																								

13

Appendix KCC2
Soil Pit Description

Project	Location	Date	Surveyor(s)	Company
C1112	Cellarhead	03-Sep-24		Askew Land and Soil

Pit	WC	Grade	Limitation(s)	Notes
At AB12	IV	3b	Wetness and Workability	Calculated Moisture Balance (MB): Wheat 67mm; Potatoes = 66mm (Grade 1 according to soil droughtiness)

Grid Ref.			Altitude	Nearest point	Topography			Flora		Weather and conditions				
Square	East	North			Gradient	Aspect	Slope form	Surface	Cultivation type	Vegetation types	Temp	Sky	Wind	Precipitation
SJ	94748	48775		At AB12	3	NW		Improved p	Grassland	Grass				

Horizon	Depth		Matrix			Gleying			Mottles			Stone content					Calc.	Mn C	Ped/soil structure				Horizon boundary		Biopores	SP
	Top	Btm	Texture	Colour	Munsell	Gley	Colour	Munsell	Form	Colour	Munsell	%	H	Type	S	Type			Dev.	Size	Structure	Strength	Distinct	Form		
1	0	30	MCL		10YR3/1			10YR3/1				5		HR			NC									
2	30	60	C		2.5Y6/1			2.5Y6/1			7.5YR5/8	0		HR			NC	No	Weak	Coarse	Prismatic / Massive	Firm	Clear	Wavy	<0.5%	

Pit	WC	Grade	Limitation(s)	Notes

Grid Ref.			Altitude	Nearest point	Topography				Flora		Weather and conditions			
Square	East	North			Gradient	Aspect	Slope form	Surface	Cultivation type	Vegetation types	Temp	Sky	Wind	Precipitation

Horizon	Depth		Matrix			Gleying			Mottles			Stone content					Calc.	Mn C	Ped/soil structure				Horizon boundary		Biopores	SP
	Top	Bttm	Texture	Colour	Munsell	Gley	Colour	Munsell	Form	Colour	Munsell	%	H	Type	S	Type			Dev.	Size	Structure	Strength	Distinct	Form		

Appendix KCC3
Laboratory Analysis



ANALYTICAL REPORT										
Report Number	53129-24		P248	SARAH KERNON			Client			
Date Received	13-SEP-2024			KERNON COUNTRYSIDE						
Date Reported	24-SEP-2024			CONSULTANTS LTD						
Project	KCC3745			GREENACRES BARN						
Reference	ADRIAN ROCHFORD			PURTON STOKE						
Order Number	KCC3745			WILTSHIRE SN5 4LL						
Laboratory Reference			SOIL711722	SOIL711723						
Sample Reference			AB8 T/S	AB25 T/S						
Determinand	Unit	SOIL	SOIL							
Sand 2.00-0.063mm	% w/w	36	28							
Silt 0.063-0.002mm	% w/w	37	36							
Clay <0.002mm	% w/w	27	36							
Textural Class **		O-HCL	O-C							
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		** Please see the attached document for the definition of textural classes. <i>Teresa Clyne</i> 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.co.uk								

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).

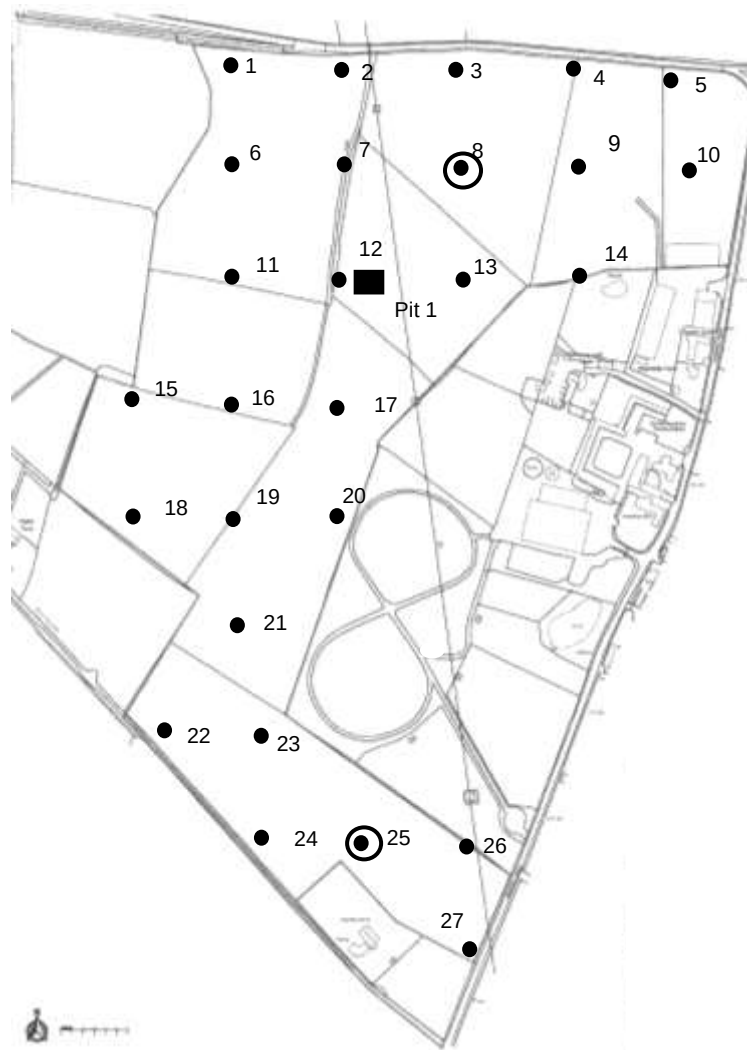
The subdivisions of *clay loam* and *silty clay loam* classes according to clay content are indicated as follows:

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.

Plan KCC3745/01
Auger Point Plan



KEY

- Auger sample location
- Topsoil texture sample
- Soil Pit

PLAN	KCC3745/01		
TITLE	Auger Points Plan		
SITE	Rownhall Road, Colchester		
CLIENT	S & C Energy Ltd		
NUMBER	KCC3745/01 10/24hr		
DATE	October 2024	SCALE	NTS

KERNON COUNTRYSIDE CONSULTANTS LTD
GREENACRES BARN, PURTON STOKE, SWINDON,
WILTSHIRE SN5 4LL

Tel 01793 771 333 Email: info@kernon.co.uk

This plan is reproduced from the Ordnance Survey
under copyright license 100015226

Plan KCC3745/02
Agricultural Land Classification Plan



KEY		Ha	%	PLAN	KCC3745/02			
	Grade 1			TITLE	Agricultural Land Classification Plan			
	Grade 2			SITE	Rownhall Road, Cellarhead			
	Grade 3a			CLIENT	S & C Energy Ltd			
	Grade 3b	21.7	100	NUMBER	KCC3745/02 10/24hr			
	Grade 4			DATE	October 2024	SCALE	NTS	
	Grade 5			KERNON COUNTRYSIDE CONSULTANTS LTD GREENACRES BARN, PURTON STOKE, SWINDON, WILTSHIRE, SN5 4LL Tel 01793 771 333 Email: info@kernon.co.uk This plan is reproduced from the Ordnance Survey under copyright license 100015226				
	Non-agricultural							
	Urban							
	Not surveyed							



Greenacres Barn, Stoke Common Lane, Purton Stoke, Swindon, Wiltshire SN5 4LL
Telephone: 01793 771333 • Email: info@kernon.co.uk • Website: www.kernon.co.uk