



AGRICULTURAL LAND CLASSIFICATION MALMESBURY ROAD, CRICKLADE

CLIENT: KERNON
PROJECT: MALMSBURY ROAD, CRICKLADE
DATE: 16TH MARCH 2025 – ISSUE 1
ISSUED BY: JAMES FULTON MRICS FAAV

CONTENTS

1. EXECUTIVE SUMMARY
2. INTRODUCTION
3. PUBLISHED INFORMATION
4. CLIMATE
5. STONINESS
6. GRADIENT
7. SOILS

INTERACTIVE FACTORS

8. WETNESS
9. DROUGHTINESS
10. AGRICULTURAL LAND CLASSIFICATION

APPENDIX 1 – DETAILS OF THE AUTHORS EXPERIENCE

APPENDIX 2 – PLAN OF SITE WITH SAMPLING POINTS

APPENDIX 3 – AGRO-CLIMATIC DATA

APPENDIX 4 – SURVEY DATA

APPENDIX 5 – DESCRIPTION OF AGRICULTURAL LAND CLASSIFICATION GRADES

APPENDIX 6 – MAP OF LAND GRADING

1. EXECUTIVE SUMMARY

- 1.1 This report assesses the Agricultural Land Classification (ALC) grading of 20.7Ha, at Cricklade.
- 1.2 The limiting factor found to be soil wetness, a combination of the climatic regime, soil water regime and texture of the top 25cm of the soil.
- 1.3 The land is graded as follows:

Grade 3b: 20.4 Ha

Non-Agricultural: 0.3 Ha

2. INTRODUCTION

- 2.1 Amet Property Ltd have been instructed by Kernon to produce an Agricultural Land Classification (ALC) report on a 20.7 hectare site on land west of Cricklade.
- 2.2 The report's author is James Fulton BSc (Hons) MRICS FAAV who has worked as a chartered surveyor, agricultural valuer, and agricultural consultant since 2004, has a degree in agriculture which included modules on soils and over 10 years' experience in advising farmers on soil structure and cultivation methods and in producing agricultural land classification reports. Additional information on authors experience is found at **appendix 1**.
- 2.3 The report is based on a site visit conducted by James Fulton and 2 assistant surveyors on the 27th February 2026 during which the conditions were overcast with sunny spells with rain as we were finishing on site.
- 2.4 The surveyed area extends to 20.68ha of grassland spread across 4 fields. The land is situated West of Cricklade.
- 2.5 The site is described in literature as possibly naturally calcareous soils. In order to confirm hydrochloric acid was used to test in field for a reaction that would indicate calcareous soils.
- 2.6 During the inspection 1 trial pit was dug to a depth of 120cm. In addition to the trial pits an auger was used to take approximately one sample per hectare on the proposed development site to a depth of 120cm with smaller trial pits at some of these locations to confirm soil structure and colour where it was not clear from the auger samples. A plan of auger points and trial pit locations can be found at **appendix 2**. The trial pit locations were selected as they were representative of the soils found on site. Where subsoils were inspected with a spade, descriptions of structure have been recorded based on the soil survey field handbook¹; where an auger has been used the structure is described as good, moderate or poor based on figure 9,10 and 11 in the DEFRA & Welsh Government (2025)² guidance. Colours are described using Munsell Colours³.
- 2.7 Further information has been obtained from the MAGIC website, the Soil Survey of England and Wales, the British Geological Survey, the Meteorological Office and the 1:250,000 series Agricultural Land Classification maps.
- 2.8 The collected information has been judged against the Ministry of Agriculture Fisheries and Food Agricultural Land Classification of England and Wales revised guidelines and criteria for grading the quality of agricultural land.

¹ Hodgson, JM (2022) Soil Survey Field Handbook

² DEFRA (2025) - *Agricultural Land Classification of England and Wales. Guidelines for grading the quality of agricultural land – DEFRA and Welsh Government joint publication*

³ Munsell Color (2009) Munsell Soil Color Charts

- 2.9 The principal factors influencing agricultural production are climate, site and soil and the interaction between them DEFRA & Welsh Government (2025) & Natural England (2012)⁴.
- 2.10 The report is prepared and formatted considering the latest BSSS guidance⁵.

3. PUBLISHED INFORMATION

- 3.1 The British Geological Survey 1:50,000 scale map shows the bedrock geology to be Oxford Clay Formation-Mudstone.
- 3.2 The soils on the site are identified as being 712b Denchworth, slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils.
- 3.3 The 1:250,000 series Agricultural Land Classification maps show the land to the south to be grade 3 and the north to be grade 4. These plans are of strictly limited value, using an out-of-date methodology at a very small scale (low detail) level of survey. Further information on the limits of their use can be found in TIN049.
- 3.4 The Natural England Register of Post 1988 Agricultural Land Classification maps show that the land has not yet been surveyed, however, land directly Northeast of the northwest corner of the site is shown to be Grade 3b.

⁴ DEFRA (2025) - *Agricultural Land Classification of England and Wales. Guidelines for grading the quality of agricultural land – DEFRA and Welsh Government joint publication*

Natural England (2012) - *Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land*, Second Edition

⁵ BSSS (2022) *Working with Soil Guidance Note on Assessing Agricultural Land Classification Surveys in England and Wales*

4. CLIMATE

- 4.1 Climate has a major, and in places overriding, influence on land quality affecting both the range of potential agricultural uses and the cost and level of production.
- 4.2 There is published agro-climatic data for England and Wales provided by the Meteorological Office, such data for the subject site is listed in the table below.

Agro-Climatic Data – Full details can be found at **appendix 3**

Grid Reference	405000,190000
Altitude (ALT)	94
Average Annual Rainfall (AAR)	703
Accumulated Temperature - Jan to June (AT0)	1421
Duration of Field Capacity (FCD)	159
Moisture Deficit Wheat	101
Moisture Deficit Potatoes	92

- 4.3 The main parameters used in assessing the climatic limitation are average annual rainfall (AAR), as a measure of overall wetness; and accumulated temperature (AT0), as a measure of the relative warmth of a locality.
- 4.4 The AAR and AT0 provide climatic limitation to Grade 1.
- 4.5 The site is shown to be in flood zone 1 – areas with a less than 1 in 1000 annual chance of flooding. There were areas on site with standing water but this was due to soils being at field capacity rather than due to flooding.

5. STONINESS

- 5.1 The topsoil is largely stoneless with no stones of sufficient size or quantity to limit land grade.

6. GRADIENT AND MICRORELIEF

- 6.1 The site is gently sloping with no gradient or microrelief that limits land grade.

7. SOILS

- 7.1 Full information on the sample points along with trial pit descriptions and photographs and lab test results can be found at **appendix 4**.
- 7.2 The topsoil was found to be a greyish brown (2.5Y 5/2). Dark greyish brown (2.5Y 4/2), grey (2.5Y 5/1) or dark gray (2.5Y 4/1) clay, often with ochreous mottles indicating gleyed subsoils that sit wet for a large portion of the year.
- 7.3 The upper subsoils were found to be grey (2.5Y 5/1 or 6/1), light greyish brown (2.5Y 6/2), or light olive brown (2.5Y 5/3) clay usually slowly permeable and always gelyed.
- 7.4 Where a lower subsoil was found it was recorded as a poorly structured greyish brown (2.5Y 5/2), light yellowish brown (2.5Y 6/3) or grey (2.5Y 6/1) clay that is both gleyed and slowly permeable.

INTERACTIVE FACTORS

8. WETNESS

- 8.1 An assessment of the wetness class of each sample point was made based on the flow chart at Figure 6 and the graphs at figure 7 and 8 in the MAFF guidance.

Wetness class Assessment

Depth to gley	Depth to SPL	Coarse subsoil	Wetness Class
No gley	No SPL	N/A	I
40-70	No SPL	Yes	I
40-70	No SPL	No	I
<40	No SPL	Yes	I
<40	No SPL	No	II
40-70	No SPL	No	I
40-70	>56	N/A	II
40-70	<56	N/A	III
<40	>70	N/A	II
<40	42-70	N/A	III
<40	<42	N/A	IV

- 8.2 The wetness class and topsoil texture were then assessed against Table 6 of the MAFF guidance to determine the ALC grade according to wetness. The wetness assessment can be found at **appendix 4**.
- 8.3 The whole site is found to be wetness class III or IV and limited to grade 3b by wetness.

9. DROUGHTINESS

- 9.1 Droughtiness limits are defined in terms of moisture balance for wheat and potatoes using the formula:

$$MB \text{ (Wheat)} = AP \text{ (Wheat)} - MD \text{ (Wheat)}$$

and

$$MB \text{ (Potatoes)} = AP \text{ (Potatoes)} - MD \text{ (Potatoes)}$$

Where:

MB = Moisture Balance

AP = Crop Adjusted available water capacity

MD = Moisture deficit

- 9.2 Moisture deficit for wheat and potatoes can be found in the agro-climatic data and are as follows:

$$MD \text{ (Wheat)} = 101$$

$$MD \text{ (Potatoes)} = 92$$

- 9.3 Crop adjusted available water is calculated by reference to the total available water and easily available water which is calculated by reference to soil texture and structural condition and the stone content.
- 9.4 The moisture balance was calculated for all survey points; this assessment can be found at **appendix 4**.
- 9.5 Droughtiness limits the site to grade 2 but is not the most limiting factor.

10. AGRICULTURAL LAND CLASSIFICATION

- 10.1 The Agricultural Land Classification provides a framework for classifying land according to which its physical or chemical characteristics impose long-term limitations on agricultural use. The limitations can operate in one or more of four principal ways: they may affect the range of crops that can be grown, the level of yield, the consistency of yield and the cost of obtaining it.
- 10.2 The principal physical factors influencing agricultural production are climate, site and soil and the interactions between them which together form the basis for classifying land into one of 5 grades; grade 1 being of excellent quality and grade 5 being land of very poor quality. Grade 3 land, which constitutes approximately half of all agricultural land in the United Kingdom is divided into 2 subgrades – 3a and 3b. A full definition of all of the grades can be found at **appendix 5**.
- 10.3 This assessment sets out that the site is limited by wetness.
- 10.4 The breakdown of land by classification is:
- | | |
|-------------------|---------|
| Grade 3b: | 20.4 Ha |
| Non-Agricultural: | 0.3 Ha |
- 10.5 A plan of the land grading can be found at **appendix 6**.

Appendix 1 – Details of the Authors Experience

James Fulton

Professional Education and Qualifications

BSc (Hons) Agriculture, University of Nottingham (2004)

Member of the Royal Institution of Chartered Surveyors (MRICS) (2008)

Fellow of the Central Association of Agricultural Valuers (FAAV) (2009)

Relevant Work Experience

While working for a regional firm from 2004 until 2016 as part of my work I provided advice to farmers on soils, cultivation techniques and cropping and was involved in field trials which assessed cropping and cultivation techniques and how they impacted soil structure. At the same time I worked alongside an experienced surveyor who produced Agricultural Land Classification reports and I received training in field survey techniques and the ALC process to the point where I was able to produce ALC reports.

In 2016 I left my employer and formed Amet Property Ltd providing development consultancy and other rural practice surveying services. Of all of the services that we provide Agricultural Land Classification reports is the single largest area of work accounting for approximately 70% of all of my working time.

While I am not a member of the BSSS I meet the minimum competencies set out by the BSSS in Document 1 *Foundation skills in field soil investigation, description and interpretation* and Document 2 *Agricultural Land Classification (England and Wales)*

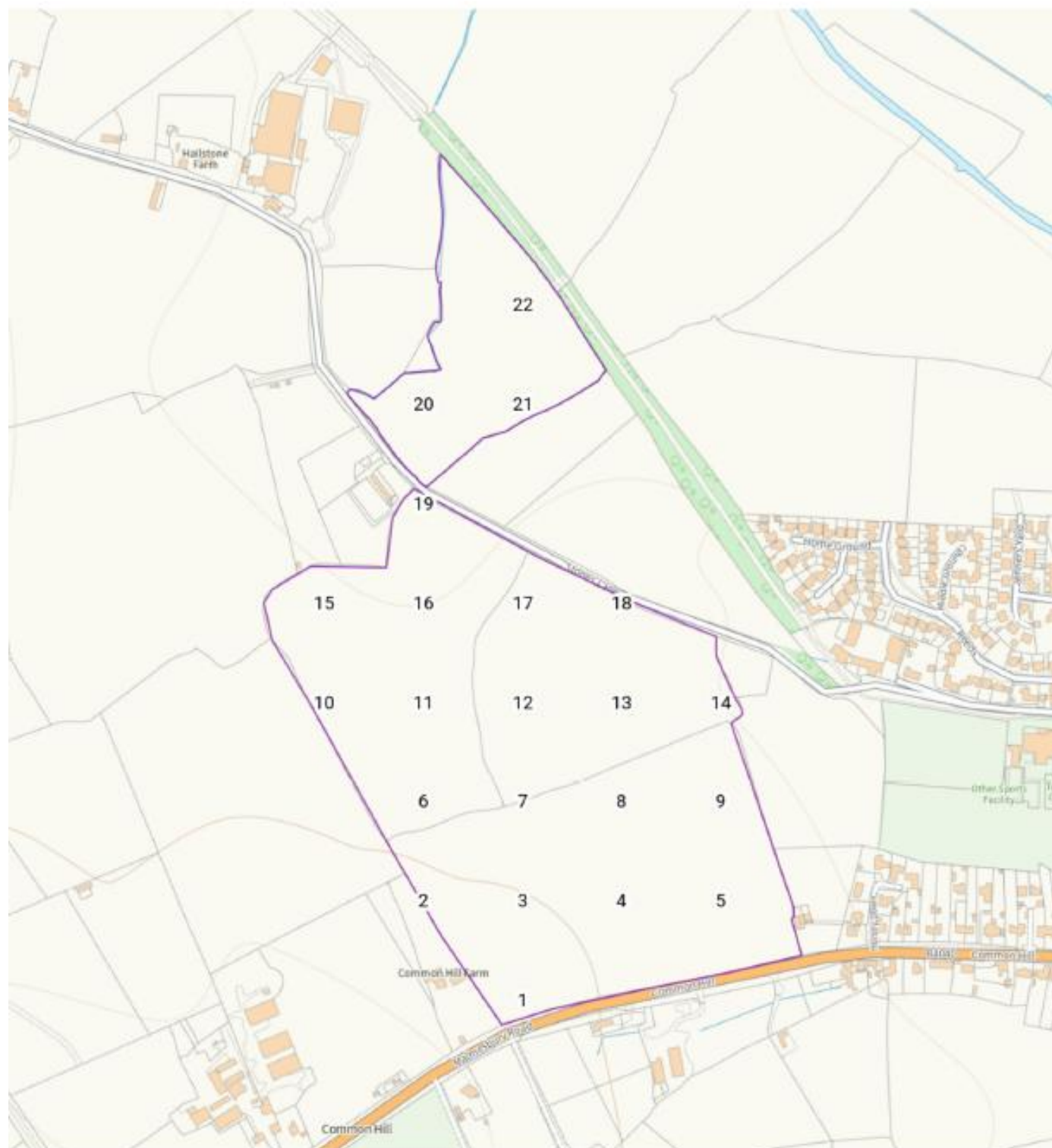
Professional Standards

As a member of the Royal Institution of Chartered Surveyors and Fellow of the Central Association of Agricultural Valuers I am bound by their professional standards and am only able to carry out work where I am suitably qualified and experienced to do so. Due to the formal and practical training that I have received I am able to competently produce Agricultural Land Classification reports.

Assistant Surveyors

All assistant surveyors have completed the BSSS working with soil course and have been trained to meet the requirements of BSSS Document 1 *Foundation skills in field soil investigation, description, and interpretation*.

Appendix 2 - Map of Survey points



Appendix 3 - Climatic Data

Centre of the site	Easting	Northing	Mean
			Altitude
	408808	193959	94

Surrounding Climate Data

Grid Reference	ALT	AAR	LR_AAR	ASR	ATO	ATS	MDW	MDP	FCD
4050 1900	96	742	1	350	1422	2360	102	92	166
4050 1950	84	723	1.7	360	1433	2372	101	91	166
4100 1900	84	690	0.5	345	1434	2375	104	95	156
4100 1950	80	681	1	345	1437	2378	104	96	155

Altitude adjusted

Grid Reference	AAR	ATO	FCD	MDW	MDP	Proximity
						Adjustment
4050 1900	740.00	1424.28	165.71	102.35	92.45	5.97%
4050 1950	740.00	1421.60	168.46	98.78	88.10	11.56%
4100 1900	695.00	1422.60	156.72	102.62	93.18	10.54%
4100 1950	695.00	1421.04	157.02	101.58	92.82	71.93%

Altitude Adjusted Climate Data

AAR	703
ATO	1421
FCD	159
MDW	101
MDP	92

Appendix 4a - Sample Point Assessment

Table 4 - Sample 1 Soil Assessment																														
Sample No	Topsoil			Calc	Colour	Stoniness		Upper Subsoil			Stoniness	Mottles	Lower Subsoil					Stoniness	Mottles	Structure	Grade limit by Stoniness	Wetness Assessment			Grade limit by Wetness	Droughtiness Assessment		Grade limit by Droughtiness	Most limiting Grade	
	Altitude	Depth	Texture			<2cm	2-6cm >6cm	Mottles	Depth	Texture			Calc	Colour	Depth	Texture	Calc					Colour	Depth to Gleyed	SPL		Wetness Class	Wheat			Potato
1	105	0 - 20	C	N	2.5Y 5 / 2			20 - 50	C	N	2.5Y 5 / 1	MO	Poor	50 - 120	C	Y	2.5Y 6 / 1		FO	Poor	1	20	50	III	3b	20.58	6.71	2	3b	
2	104	0 - 30	C	N	2.5Y 4 / 1			30 - 120	C	N	2.5Y 5 / 1	COB	Poor	-			/				1	30	30	IV	3b	24.58	10.71	2	3b	
3	101	0 - 20	C	N	2.5Y 5 / 2			20 - 50	C	N	2.5Y 5 / 1	MO	Poor	50 - 120	C	Y	2.5Y 6 / 1		FO	Poor	1	20	50	III	3b	20.58	6.71	2	3b	
4	99	0 - 20	C	N	2.5Y 5 / 2			20 - 50	C	N	2.5Y 5 / 1	MO	Poor	50 - 120	C	Y	2.5Y 6 / 1		FO	Poor	1	20	50	III	3b	20.58	6.71	2	3b	
5	95	0 - 30	C		2.5Y 4 / 2		CO	30 - 120	C	N	2.5Y 5 / 3	CO	Poor	-			/				1	30	30	IV	3b	24.58	10.71	2	3b	
6	98	0 - 30	C	N	2.5Y 4 / 1			30 - 120	C	N	2.5Y 5 / 1	COB	Poor	-			/				1	30	30	IV	3b	24.58	10.71	2	3b	
7	96	0 - 20	C	N	2.5Y 5 / 2			20 - 50	C	N	2.5Y 5 / 1	MO	Poor	50 - 120	C	Y	2.5Y 5 / 2		MO	Poor	1	20	20	IV	3b	20.58	6.71	2	3b	
8	95	0 - 20	C	N	2.5Y 5 / 2			20 - 50	C	N	2.5Y 5 / 1	MO	Poor	50 - 120	C	Y	2.5Y 5 / 2		MO	Poor	1	20	20	IV	3b	20.58	6.71	2	3b	
9	93	0 - 20	C	N	2.5Y 5 / 2			20 - 50	C	N	2.5Y 5 / 1	MO	Poor	50 - 120	C	Y	2.5Y 5 / 2		MO	Poor	1	20	20	IV	3b	20.58	6.71	2	3b	
10	93	0 - 20	C	N	2.5Y 5 / 2			20 - 50	C	N	2.5Y 5 / 1	MO	Poor	50 - 120	C	Y	2.5Y 5 / 2		MO	Poor	1	20	20	IV	3b	20.58	6.71	2	3b	
11	93	0 - 20	C	N	2.5Y 5 / 2			20 - 50	C	N	2.5Y 5 / 1	MO	Poor	50 - 120	C	Y	2.5Y 5 / 2		MO	Poor	1	20	20	IV	3b	20.58	6.71	2	3b	
12	94	0 - 20	C	N	2.5Y 5 / 2			20 - 50	C	N	2.5Y 5 / 1	MO	Poor	50 - 120	C	Y	2.5Y 5 / 2		MO	Poor	1	20	20	IV	3b	20.58	6.71	2	3b	
13	93	0 - 20	C	N	2.5Y 5 / 2			20 - 50	C	N	2.5Y 5 / 1	MO	Poor	50 - 120	C	Y	2.5Y 5 / 2		MO	Poor	1	20	20	IV	3b	20.58	6.71	2	3b	
14	91	0 - 30	C	N	2.5Y 5 / 2		CO	30 - 120	C	N	2.5Y 6 / 2	MO	Poor	-			/				1	30	30	IV	3b	24.58	10.71	2	3b	
15	91	0 - 20	C	N	2.5Y 5 / 2			20 - 50	C	N	2.5Y 5 / 1	MO	Poor	50 - 120	C	Y	2.5Y 5 / 2		MO	Poor	1	20	20	IV	3b	20.58	6.71	2	3b	
16	90	0 - 30	C	N	2.5Y 5 / 1		CO	30 - 120	C	N	2.5Y 6 / 1	MO	Poor	-			/				1	30	30	IV	3b	24.58	10.71	2	3b	
17	92	0 - 20	C	N	2.5Y 4 / 1		CO	20 - 120	C	N	2.5Y 5 / 1	FO	Poor	-			/				1	20	20	IV	3b	20.58	6.71	2	3b	
18	93	0 - 20	C	N	2.5Y 4 / 2		FO	20 - 50	C	N	2.5Y 5 / 3	COB	Poor	50 - 120	C	Y	2.5Y 6 / 3		COB	Poor	1	20	20	IV	3b	20.58	6.71	2	3b	
19	89	Non-Agricultural																												
20	88	0 - 20	C	N	2.5Y 4 / 2		FO	20 - 50	C	N	2.5Y 5 / 3	COB	Poor	50 - 120	C	Y	2.5Y 6 / 3		COB	Poor	1	20	20	IV	3b	20.58	6.71	2	3b	
21	88	0 - 20	C	N	2.5Y 4 / 2		FO	20 - 50	C	N	2.5Y 5 / 3	COB	Poor	50 - 120	C	Y	2.5Y 6 / 3		COB	Poor	1	20	20	IV	3b	20.58	6.71	2	3b	
22	86	0 - 20	C	N	2.5Y 4 / 1		CO	20 - 50	C	N	2.5Y 5 / 1	MO	Poor	50 - 120	C	Y	2.5Y 6 / 1		MO	Poor	1	20	20	IV	3b	20.58	6.71	2	3b	
	94																													

Appendix 4b – Trial Pit Descriptions

Sample Point No. 18		
Horizon 1	0-20cm Dark greyish brown (2.5Y 4/2) stoneless clay with few ochreous mottles.	
Horizon 2	20-50cm Light olive brown (2.5Y 5/3) clay, with a coarse angular blocky structure, firm consistence, common ochreous and black mottles and negligible roots and biopores.	
Horizon 3	50-120 Light yellowish brown (2.5Y 6/3) clay with a massive structure and common ochreous and black mottles	
Pictures		
Horizon 1	Horizon 1 – Soil Ribbon	Horizon 2
		
Slowly permeable layer	Present from 20cm evidenced by clay with a coarse angular blocky structure, <0.5% biopores >0.5mm and mottles evidencing wetness	
Gleying	Present from 20cm evidenced by pale colours and common ochreous mottles.	
Wetness Class	IV	
Wetness limitation	3b	
MB Wheat	20.58	
MB potatoes	6.71	
Droughtiness Limitation	2	

Additional site photos

Survey point 3 – Auger core



Survey point 14 – topsoil and subsoil



Survey point 17 – Auger Core



Survey point 19 – non agricultural



ANALYTICAL REPORT											
Report Number	43260-26		W250	AMET PROPERTY							
Date Received	05-MAR-2026			HENWICK BARN							
Date Reported	13-MAR-2026			BULWICK							
Project	KERNON			CORBY							
Reference	CRICKLADE			NORTHANTS							
Order Number				NN17 3DU							
Laboratory Reference			SOIL786754	SOIL786755							
Sample Reference			CRICKLADE 20	CRICKLADE 3							
Determinand	Unit	SOIL	SOIL								
Coarse Sand 2.00-0.63mm	% w/w	0	0								
Medium Sand 0.63-0.212mm	% w/w	2	3								
Fine Sand 0.212-0.063mm	% w/w	7	12								
Silt 0.063-0.002mm	% w/w	33	38								
Clay <0.002mm	% w/w	58	47								
Textural Class **		C	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>Gina Graham</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.uk.com									

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.

APPENDIX 5 - DESCRIPTION OF ALC GRADES

- | | |
|---------------|---|
| 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 and horticultural crops can usually be grown but on some land in the 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. |
| Grade 3 - | good to moderate quality agricultural land Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where 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 level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land. |
| Grade 5 - | very poor-quality agricultural land Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops. |

Appendix 6 - Map of ALC Grade

