



AGRICULTURAL LAND CLASSIFICATION HEOLDDU

CLIENT: QUALITAS ENERGY
PROJECT: HEOLDDU
DATE: 13TH JANUARY 2025 – ISSUE 1
ISSUED BY: JAMES FULTON MRICS FAAV

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1. EXECUTIVE SUMMARY

- 1.1 This report assesses the Agricultural Land Classification (ALC) grading of 80.9Ha, of agricultural land at Llandyfaelog.
- 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 3a: 38.7 Ha

Grade 3b: 42.2 Ha

2. INTRODUCTION

- 2.1 Amet Property Ltd have been instructed by Qualitas Energy to produce an Agricultural Land Classification (ALC) report on an 81-hectare site on land southwest of Llandyfaelog. The ALC report is being prepared to accompany a planning application.
- 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 two surveyors on the 28th of November 2024 during which the conditions were overcast and mild, the soil was found to be wet.
- 2.4 During the inspections 2 trial pits were dug to a depth of 120cm, or as deep as possible before the soil becomes impenetrable. In addition to the trial pits an auger was used to take approximately one sample per hectare on a 100mx100m grid across 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 MAFF² guidance. Colours are described using Munsell Colours³. Soil texture was confirmed using soil particulate distribution by sedimentation tests conducted by an independent laboratory. Samples to send to the lab were chosen where it was considered that they were most representative of certain areas, this is not always the same as the trial pit locations.
- 2.5 The surveyed area extends to 80.9Ha of grassland spread cross 28 fields.
- 2.6 Further information has been obtained from the MAGIC website, the Soil Survey of England and Wales, the British Geological Survey, the Meteorological Office and 1:250,000 series Agricultural Land Classification maps.
- 2.7 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 (1997) Soil Survey Field Handbook

² MAFF (1988) - *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land*. MAFF Publications

³ Munsell Color (2009) Munsell Soil Color Charts

- 2.8 The principal factors influencing agricultural production are climate, site and soil and the interaction between them MAFF (1988) & Natural England (2012)⁴.
- 2.9 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 Milford Haven Group – Argillaceous rocks and sandstone and conglomerate, interbedded.
- 3.2 The soils on the site are identified as being 541a MILFORD Association, well drained fine loamy reddish soils over rock.
- 3.3 The Welsh Government: Predictive ALC Map shows the land to be largely Grade 3a with some small areas of grade 3a.

⁴ MAFF (1988) - *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land*. MAFF Publications

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	239884,210476
Altitude (ALT)	106
Average Annual Rainfall (AAR)	1339
Accumulated Temperature - Jan to June (ATO)	1440
Duration of Field Capacity (FCD)	260
Moisture Deficit Wheat	64
Moisture Deficit Potatoes	45

- 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 (ATO), as a measure of the relative warmth of a locality.
- 4.4 The AAR and ATO provide climatic limitation to grade 3a.
- 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 was no evidence of flooding seen during the site visit and it is considered that will not result in a limitation to land grade.

5. STONINESS

- 5.1 The topsoil ranges from stoneless to up to 15% small to medium subrounded to subangular hard stones. The size and quantity of stones is not sufficient to limit the and grade.

6. GRADIENT AND MICRORELIEF

- 6.1 The site is flat to gently sloping with no gradient or microrelief to limit land grade.

7. SOILS

- 7.1 The soils found on site largely follow the expectations set by the national soils map. 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 is consistently reddish brown (5YR 4/4) clay loam with odd points where the topsoil is significantly heavier and recorded as clay. The majority of survey points are on the margin of being medium clay loam or heavy clay loam as was shown by the lab tests that show a clay percentage of 24% to 29% with the cutoff between heavy and medium clay loam being 27%. There was a relatively high proportion of silt identified at all survey points, but this was not considered enough to be recorded and a silty clay loam although one of the lab tests identified enough silt for the sample point to be recorded as heavy silty clay loam.
- 7.3 Where a subsoil was identified it was heavier than the topsoil and recorded as clay. The subsoil was recorded as moderately structured with the soil auger and confirmed as a friable coarse subangular blocky structure at the trial pits. The subsoil was usually the same colour as the topsoil but occasionally a slightly different Munsell colour (5YR 5/4 or 2.5YR 5/3).
- 7.4 Almost all survey points became impenetrable to further augering or digging at between 30cm (directly below the topsoil) and 70cm due to the quantity of medium to large subrounded and subangular hard stones. This did not appear to be rock and so in terms of the droughtiness assessment it is assumed that the stone continues to 120cm and there would be some water availability to a crop.

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 in the MAFF guidance. 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**.
- 8.2 There was no slowly permeable layer of gleying identified at any survey point and so all points were recorded as wetness class I.
- 8.3 Table 6, >225FCD and wetness class I result in a grade 3a limitation where the topsoil is medium clay loam and grade 3b limitation where the topsoil is heavy clay loam.

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:

$$MD \text{ (Wheat)} = 64$$

$$MD \text{ (Potatoes)} = 45$$

- 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 each survey point and can be found at **appendix 4**.

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 principle 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 principle 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 3a: | 38.7 Ha |
| Grade 3b: | 42.2 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)*

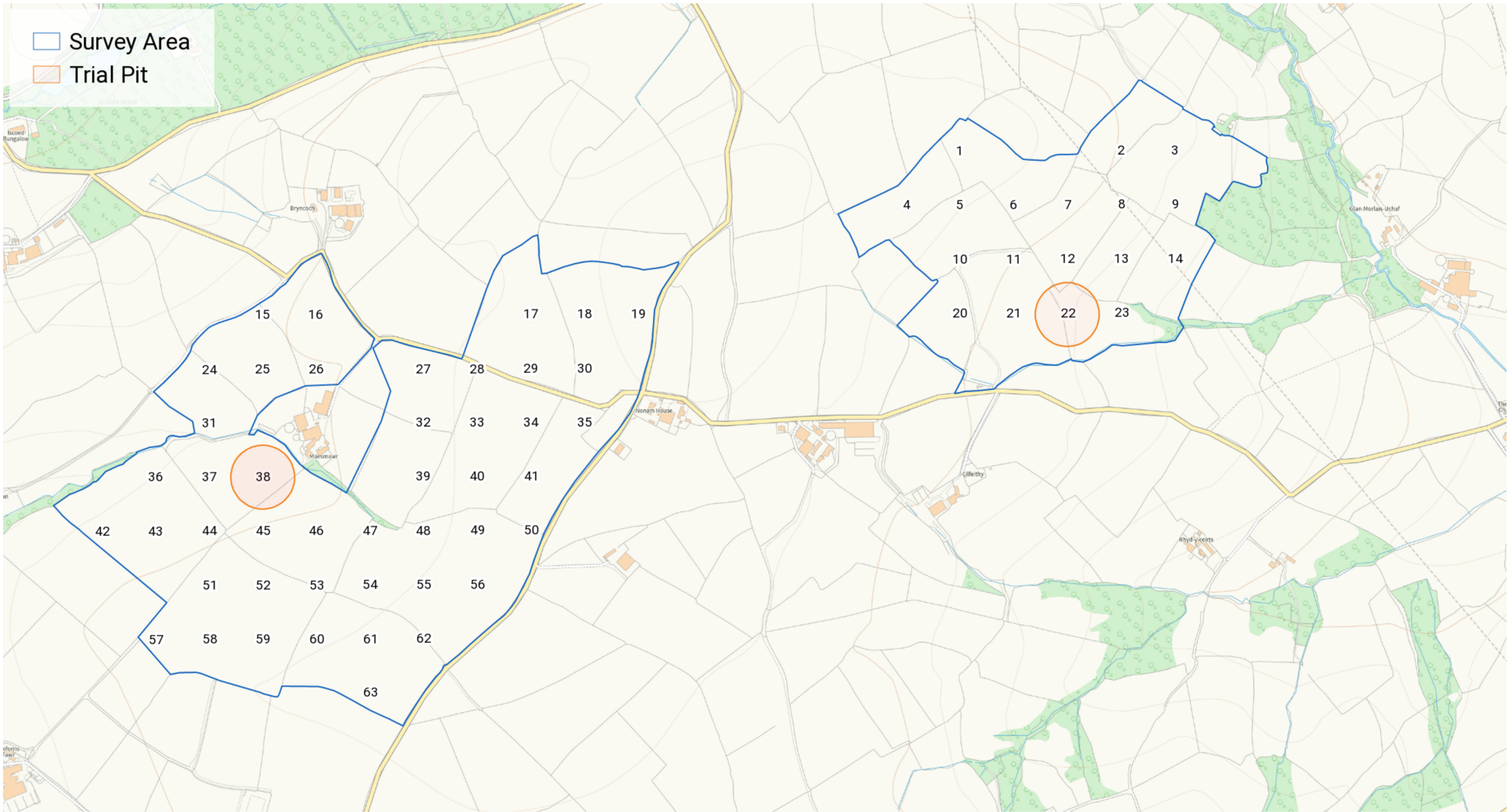
Professional Standards

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

Site Details: Heolddu

Grid reference (centre of site): 239884 210476

Altitude: Mean 105.67 AOD

Climatic data from surrounding locations:

Grid Reference	ALT	AAR	LR_AAR	ASR	ATO	ATS	MDW	MDP	FCD
23502100	38	1146	1.4	500	1518	2395	79	66	230
23502150	86	1260	0.9	565	1461	2331	66	48	248
24002100	94	1320	1.7	555	1453	2325	67	49	257
24002150	7	1256	1.5	560	1550	2432	74	60	247




Altitude Adjusted








Grid Reference	AAR	ATO	FCD	MDW	MDP	Proximity Adjustment
23502100	1240.74	1440.86	243.70	65.43	48.22	0.97%
23502150	1277.70	1438.58	250.56	62.74	43.72	0.53%
24002100	1339.84	1439.70	259.87	64.41	45.62	97.36%
24002150	1404.01	1437.52	268.40	53.52	33.18	1.14%

Appendix 4a - Sample Point Assessment

Sample No	Topsoil			Stoniness			Upper Subsoil			Lower Subsoil			Wetness Assessment			Grade limit by Wetness	Droughtiness Assessment		Grade limit by Droughtiness	Most limiting Grade			
	Altitude	Depth	Texture	Colour	<2cm	2-6cm	>6cm	Mottles	Depth	Texture	Colour	Stoniness	Mottles	Structure	Depth to SPL		Gley	Class			Wetness	Wheat	Potato
1	111	0 - 40	HCL	5YR 4 / 4	10%		CO	40 - 120	Stone					Good	-		I	3b	5.41	22.71	2	3b	
2	98	0 - 40	HCL	5YR 4 / 4	10%		CO	40 - 120	Stone					Good	-		I	3b	5.41	22.71	2	3b	
3	91	0 - 40	MCL	5YR 4 / 4	10%		CO	40 - 120	Stone					Good	-		I	3a	5.41	22.71	2	3a	
4	116	0 - 40	MCL	5YR 4 / 4	10%		CO	40 - 120	Stone					Good	-		I	3a	5.41	22.71	2	3a	
5	116	0 - 50	HCL	5YR 4 / 4	5%		CO	50 - 120	Stone					Good	-		I	3a	24.96	42.26	2	3b	
6	114	0 - 30	HCL	5YR 4 / 4	5%		CO	30 - 120	Stone					Good	-		I	3b	-7.34	9.96	3a	3b	
7	109	0 - 50	MCL	5YR 4 / 4	5%		CO	50 - 120	Stone					Good	-		I	3a	24.96	42.26	2	3a	
8	105	0 - 30	MCL	5YR 4 / 4	5%		CO	30 - 120	Stone					Good	-		I	3a	-7.34	9.96	3a	3a	
9	100	0 - 45	HCL	5YR 4 / 4	10%		CO	45 - 120	Stone					Good	-		I	3b	13.06	30.36	2	3b	
10	109	0 - 70	HCL	5YR 4 / 4	5%		CO	70 - 120	Stone					Good	-		I	3b	58.26	74.56	1	3b	
11	105	0 - 55	HCL	5YR 4 / 4	5%		CO	55 - 120	Stone					Good	-		I	3b	33.28	50.33	1	3b	
12	100	0 - 40	MCL	5YR 4 / 4	5%		CO	40 - 120	Stone					Good	-		I	3a	8.81	26.11	2	3a	
13	98	0 - 35	MCL	5YR 4 / 4	5%		CO	35 - 120	Stone					Good	-		I	3a	0.73	18.03	3a	3a	
14	98	0 - 35	MCL	5YR 4 / 4	5%		CO	35 - 120	Stone					Good	-		I	3a	0.73	18.03	3a	3a	
15	98	0 - 45	MCL	5YR 4 / 4	5%		CO	45 - 70	C	5YR 4 / 4	5%	MO	Moderate	70 - 120	Stone		I	3a	38.26	69.81	1	3a	
16	102	0 - 40	MCL	5YR 4 / 4	5%		CO	40 - 70	C	5YR 4 / 4	5%	MO	Moderate	70 - 120	Stone		I	3a	37.31	68.86	1	3a	
17	111	0 - 40	MCL	10YR 5 / 2			CO	40 - 60	HCL	2.5YR 5 / 3	2%	MO	Moderate	60 - 120	Stone		I	3a	36.22	58.91	1	3a	
18	117	0 - 80	MCL	5YR 4 / 4	5%		FO	80 - 120	Stone					Good	-		I	3a	74.91	74.56	1	3a	
19	123	0 - 50	MCL	5YR 4 / 4	10%			50 - 120	Stone					Good	-		I	3a	20.71	38.01	2	3a	
20	105	0 - 40	MCL	5YR 4 / 4	5%		CO	40 - 120	Stone					Good	-		I	3a	8.81	26.11	2	3a	
21	105	0 - 35	MCL	5YR 4 / 4	5%		CO	35 - 120	Stone					Good	-		I	3a	0.73	18.03	3a	3a	
22	103	0 - 40	MCL	5YR 4 / 4	10%		CO	40 - 50	HCL	5YR 4 / 4	20%			Moderate	50 - 120	Stone		I	3a	17.41	34.71	2	3a
23	97	0 - 40	MCL	5YR 4 / 4	5%		CO	40 - 50	HCL	5YR 4 / 4	20%	COB	Moderate	50 - 120	Stone		I	3a	20.81	38.11	2	3a	
24	98	0 - 45	MCL	5YR 4 / 4	5%		CO	45 - 70	C	5YR 4 / 4	5%	MO	Moderate	70 - 120	Stone		I	3a	38.26	69.81	1	3a	
25	101	0 - 40	MCL	5YR 4 / 4	5%		CO	40 - 60	C	5YR 4 / 4	20%	MO	Moderate	60 - 120	Stone		I	3a	26.81	50.11	2	3a	
26	102	0 - 40	MCL	5YR 4 / 4	5%		CO	40 - 60	C	5YR 4 / 4	20%	MO	Moderate	60 - 120	Stone		I	3a	26.81	50.11	2	3a	
27	105	0 - 40	MCL	5YR 4 / 4	5%		CO	40 - 120	Stone					Good	-		I	3a	8.81	26.11	2	3a	
28	110	0 - 30	MCL	5YR 4 / 4	5%		CO	30 - 120	Stone					Good	-		I	3a	-7.34	9.96	3a	3a	
29	110	0 - 40	MCL	10YR 5 / 2			CO	40 - 60	HCL	2.5YR 5 / 4	2%	MO	Moderate	60 - 120	Stone		I	3a	36.22	58.91	1	3a	
30	111	0 - 40	MCL	5YR 4 / 3	15%		CO	40 - 120	HCL	2.5YR 5 / 4	2%	MO	Moderate	-			I	3a	81.88	63.41	1	3a	
31	94	0 - 45	MCL	5YR 4 / 4	10%	2%	CO	45 - 120	Stone					Good	-		I	3a	11.53	28.83	2	3a	
32	104	0 - 75	MCL	5YR 4 / 4	10%		CO	75 - 120	Stone					Good	-		I	3a	60.21	68.61	1	3a	
33	108	0 - 70	C	5YR 4 / 4	5%		CO	70 - 120	Stone					Good	-		I	3b	51.61	67.91	1	3b	
34	112	0 - 40	C	5YR 4 / 4	5%		CO	40 - 120	Stone					Good	-		I	3b	5.01	22.31	2	3b	
35	114	0 - 40	C	5YR 4 / 4	5%		CO	40 - 120	Stone					Good	-		I	3b	5.01	22.31	2	3b	
36	91	0 - 60	HCL	5YR 4 / 4			CO	60 - 70	C	5YR 4 / 4	20%	MO	Moderate	70 - 120	Stone		I	3b	52.71	75.51	1	3b	
37	93	0 - 55	MCL	5YR 4 / 4	5%	2%	CO	55 - 70	C	5YR 4 / 4	20%			Moderate	70 - 120	Stone		I	3a	38.54	64.59	1	3a
38	96	0 - 55	MCL	5YR 4 / 4	5%	5%	CO	55 - 70	HCL	5YR 4 / 4	20%			Moderate	70 - 120	Stone		I	3a	40.01	63.66	1	3a
39	105	0 - 40	HCL	5YR 4 / 4	2%		CO	40 - 100	C	5YR 4 / 4		COB	Moderate	100 - 120	Stone		I	3a	63.35	73.15	1	3b	
40	111	0 - 70	C	5YR 4 / 4	5%		CO	70 - 120	Stone	/				Good	-		I	3b	51.61	67.91	1	3b	
41	115	0 - 30	C	5YR 4 / 4	5%		CO	30 - 120	Stone	/				Good	-		I	3b	-10.19	7.11	3a	3b	
42	92	0 - 60	HCL	5YR 4 / 4			CO	60 - 90	C	5YR 4 / 4	20%	CO	Moderate	90 - 120	Stone		I	3b	64.71	75.51	1	3b	
43	95	0 - 55	HCL	5YR 4 / 4			CO	55 - 100	C	5YR 4 / 4	20%	MO	Moderate	100 - 120	Stone		I	3b	64.96	73.01	1	3b	
44	99	0 - 60	MCL	5YR 4 / 4	5%		CO	60 - 120	Stone					Good	-		I	3a	41.61	58.41	1	3a	
45	103	0 - 50	MCL	5YR 4 / 4	5%		CO	50 - 120	Stone					Good	-		I	3a	24.96	42.26	2	3a	
46	103	0 - 50	HCL	5YR 4 / 4	5%		CO	50 - 120	Stone					Good	-		I	3b	24.96	42.26	2	3b	
47	107	0 - 55	HCL	5YR 4 / 4	5%		CO	55 - 120	Stone					Good	-		I	3b	33.28	50.33	1	3b	
48	109	0 - 40	HCL	5YR 4 / 4	2%		CO	40 - 100	C	5YR 4 / 4		MO	Moderate	100 - 120	Stone		I	3b	63.35	73.15	1	3b	
49	113	0 - 30	HCL	5YR 4 / 4	2%		CO	30 - 40	C	5YR 4 / 4	20%	CO	Moderate	40 - 120	Stone		I	3b	6.19	23.49	2	3b	
50	117	0 - 50	HCL	5YR 4 / 4	7%		CO	50 - 120	Stone					Good	-		I	3b	23.26	40.56	2	3b	
51	102	0 - 35	HCL	5YR 4 / 4	5%		CO	35 - 50	HCL	5YR 5 / 4		COB	Moderate	50 - 60	C	5YR 4 / 4	20%	MO	Moderate	36.23	51.53	1	3b
52	103	0 - 40	HCL	5YR 4 / 4	2%		CO	40 - 70	C	5YR 4 / 4	20%	MO	Moderate	70 - 120	Stone		I	3b	34.85	64.15	1	3b	
53	105	0 - 50	HCL	5YR 4 / 4	2%		CO	50 - 80	C	5YR 4 / 4	20%	MO	Moderate	80 - 120	Stone		I	3b	45.51	68.81	1	3b	
54	106	0 - 55	HCL	5YR 4 / 4	5%		CO	55 - 120	Stone					Good	-		I	3b	33.28	50.33	1	3b	
55	110	0 - 25	HCL	5YR 4 / 4	5%		CO	25 - 120	Stone					Good	-		I	3b	-15.42	1.88	3a	3b	
56	114	0 - 40	HZCL	10YR 5 / 2			CO	40 - 120	Stone					Good	-		I	3b	16.21	33.51	2	3b	
57	105	0 - 45	HCL	5YR 4 / 4	10%		CO	45 - 120	Stone					Good	-		I	3b	13.06	30.36	2	3b	
58	107	0 - 45	HCL	5YR 4 / 4	10%		CO	45 - 120	Stone					Good	-		I	3b	13.06	30.36	2	3b	
59	108	0 - 40	HCL	5YR 4 / 4	2%		CO	40 - 70	C	5YR 4 / 4	20%	MO	Moderate	70 - 120	Stone		I	3b	34.85	64.15	1	3b	
60	110	0 - 35	HCL	5YR 4 / 4	5%		CO	35 - 120	Stone					Good	-		I	3b	0.73	18.03	3a	3b	
61	112	0 - 30	HCL	5YR 4 / 4	5%		CO	30 - 120	Stone					Good	-		I	3b	-7.34	9.96	3a	3b	
62	113	0 - 25	HCL	5YR 4 / 4	5%		CO	25 - 120	Stone					Good	-		I	3b	-15.42	1.88	3a	3b	
63	113	0 - 30	HCL	5YR 4 / 4	7%		CO	30 - 120	Stone					Good	-		I	3b	-8.36	8.94	3a	3b	

Appendix 4b – Trial Pit Descriptions

Sample Point No. 22		
Horizon 1	0-40cm (5YR 4/4) medium clay loam. With 10% small to large, rounded stones and common ochreous mottles.	
Horizon 2	40-50cm (5YR 4/4) heavy clay loam with a coarse subangular blocky structure, friable consistence. With 20% rounded stones and few ochreous mottles.	
Horizon 3	50cm impenetrable due to stone content.	
Pictures		
Horizon 1	Horizon 2	Horizon 3
		
Slowly permeable layer	Not Present	
Gleying	Not Present	
Wetness Class	I	
Wetness limitation	3a	
MB Wheat	17.41	
MB potatoes	34.71	
Droughtiness Limitation	2	

Sample Point No. 38					
Horizon 1	0-55cm (5YR 4/4) medium clay loam. With 10% small to medium, rounded stones and common ochreous mottles.				
Horizon 2	55-70cm (5YR 4/4) heavy clay loam with a coarse subangular blocky structure, friable consistence. With 20% rounded stones and few ochreous mottles.				
Horizon 3	70cm impenetrable due to stone content, there was water present at the bottom of the hole.				
Pictures					
Horizon 1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">Horizon 2</td> <td style="width: 33%; text-align: center;">Horizon 3</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> </table>	Horizon 2	Horizon 3		
Horizon 2	Horizon 3				
					
					
Slowly permeable layer	Not Present				
Gleying	Not Present				
Wetness Class	I				
Wetness limitation	3a				
MB Wheat	40.01				
MB potatoes	63.66				
Droughtiness Limitation	2				

Core pictures



Sample Point 3



Sample Point 32



Sample Point 43



Sample Point 48

ANALYTICAL REPORT

Report Number	68034-24	W250	AMET PROPERTY
Date Received	02-DEC-2024		HENWICK BARN
Date Reported	10-JAN-2025		BULWICK
Project	SOIL		CORBY
Reference	AMET PROPERTY		NORTHANTS
Order Number			NN17 3DU

Laboratory Reference				SOIL727028	SOIL727029	SOIL727030	SOIL727031			
Sample Reference				58	56	28	3			
Determinand	Unit			SOIL	SOIL	SOIL	SOIL			
Coarse Sand 2.00-0.63mm	% w/w			7	0	11	11			
Medium Sand 0.63-0.212mm	% w/w			4	2	5	7			
Fine Sand 0.212-0.063mm	% w/w			11	13	12	13			
Silt 0.063-0.002mm	% w/w			49	56	47	45			
Clay <0.002mm	% w/w			29	29	25	24			
Textural Class **				HCL	HZCL	MCL	MCL			

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.

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** 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.

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

