



Appendix 16.2

Agricultural Land Classification Survey Results, Amet Property (2025)

Appendix 16.2

Amet Property ALC Survey Results (2025)



**AGRICULTURAL LAND CLASSIFICATION
HOLTSMERE LANE, HEMEL HEMPSTEAD**

CLIENT: KERNON COUNTRYSIDE CONSULTANTS
PROJECT: HOLTSMERE LANE, HEMEL HEMPSTEAD
DATE: 22ND FEBRUARY 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 64.2Ha, of agricultural land at Holtsmere Lane, Hemel Hempstead.
- 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 on the areas with heavier topsoil and/or slowly permeable subsoils and droughtiness where soils are shallow over stone.
- 1.3 The land is graded as follows:
 - Grade 3a: 24.4 Ha
 - Grade 3b: 39.8 Ha

2. INTRODUCTION

- 2.1 Amet Property Ltd have been instructed by Kernon Countryside Consultants to produce an Agricultural Land Classification (ALC) report on a 64.2-hectare site on land at Holtsmere Lane, Hemel Hempstead.
- 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 2 surveyors on the 16th of January 2025 during which the conditions were overcast and soils moist.
- 2.4 During the inspection 3 trial pits were dug to a depth of 120cm or as deep as possible if the sample point became impenetrable. 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 MAFF² guidance. Colours are described using Munsell Colours³.
- 2.5 The site is described in literature as potentially calcareous and so hydrochloric acid was used to test in field for a reaction that would indicate calcareous soils.
- 2.6 The surveyed area extends to 64.2Ha of arable and grassland in 7 fields or part field. The land is north east of Hemel Hempstead, south of Holtsmere and accessed via Holtsmere Lane
- 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 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 (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

- 2.9 The principal factors influencing agricultural production are climate, site and soil and the interaction between them MAFF (1988) & 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 Lewes Nodular Chalk Formation and Seaford Chalk Formation – Chalk. Part of the site has no superficial deposits recorded while the rest has superficial deposits recorded as Clay-with-flints Formation – Clay, silt, sand and gravel.
- 3.2 Most of the soils on the site are identified as being Batcombe Association – fine silty over clayey and fine loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging with a small area identified as Charity 2 Association – well drained flinty fine silty soils in valley bottoms.
- 3.3 The 1:250,000 series Agricultural Land Classification maps show the land to be Grade 3. 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.

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	508334 210852
Altitude (ALT)	122
Average Annual Rainfall (AAR)	692
Accumulated Temperature - Jan to June (ATO)	1359
Duration of Field Capacity (FCD)	147
Moisture Deficit Wheat	100
Moisture Deficit Potatoes	91

- 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 no climatic limitation to grade.
- 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 site is mostly very stony with almost all survey points have a small number of smaller stones and a greater number of medium sized subrounded and subangular flinty stones. There are sufficient quantities of stone in most locations to limit the land grade with the stoniest areas limited to grade 3b.

6. GRADIENT AND MICRORELIEF

- 6.1 The site is 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 soils on site consist of topsoil that is either a silty clay or silty clay loam which is then usually over a moderately structure relatively free draining clay subsoil which either continues to the full 120cm depth or is stopped by a stony horizon at between 30 and 120cm.
- 7.3 The clay subsoils were found to be relatively free draining in most locations with occasional areas where the subsoil is 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	No SPL	Yes	I
<40	No SPL	N	II
40-70	No SPL	No	I
40-70	>51	N/A	II
40-70	<51	N/A	III
<40	>69	N/A	II
<40	41-69	N/A	III
<40	<40	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**.

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:

$$MD \text{ (Wheat)} = 100$$

$$MD \text{ (Potatoes)} = 91$$

- 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 locations and this assessment can be found at **appendix 4**.
- 9.5 Droughtiness is the most limiting factor where soils are shallow over stone

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 both wetness and droughtiness.
- 10.4 The breakdown of land by classification is:
- | | |
|-----------|---------|
| Grade 3a: | 24.4 Ha |
| Grade 3b: | 39.8 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)*

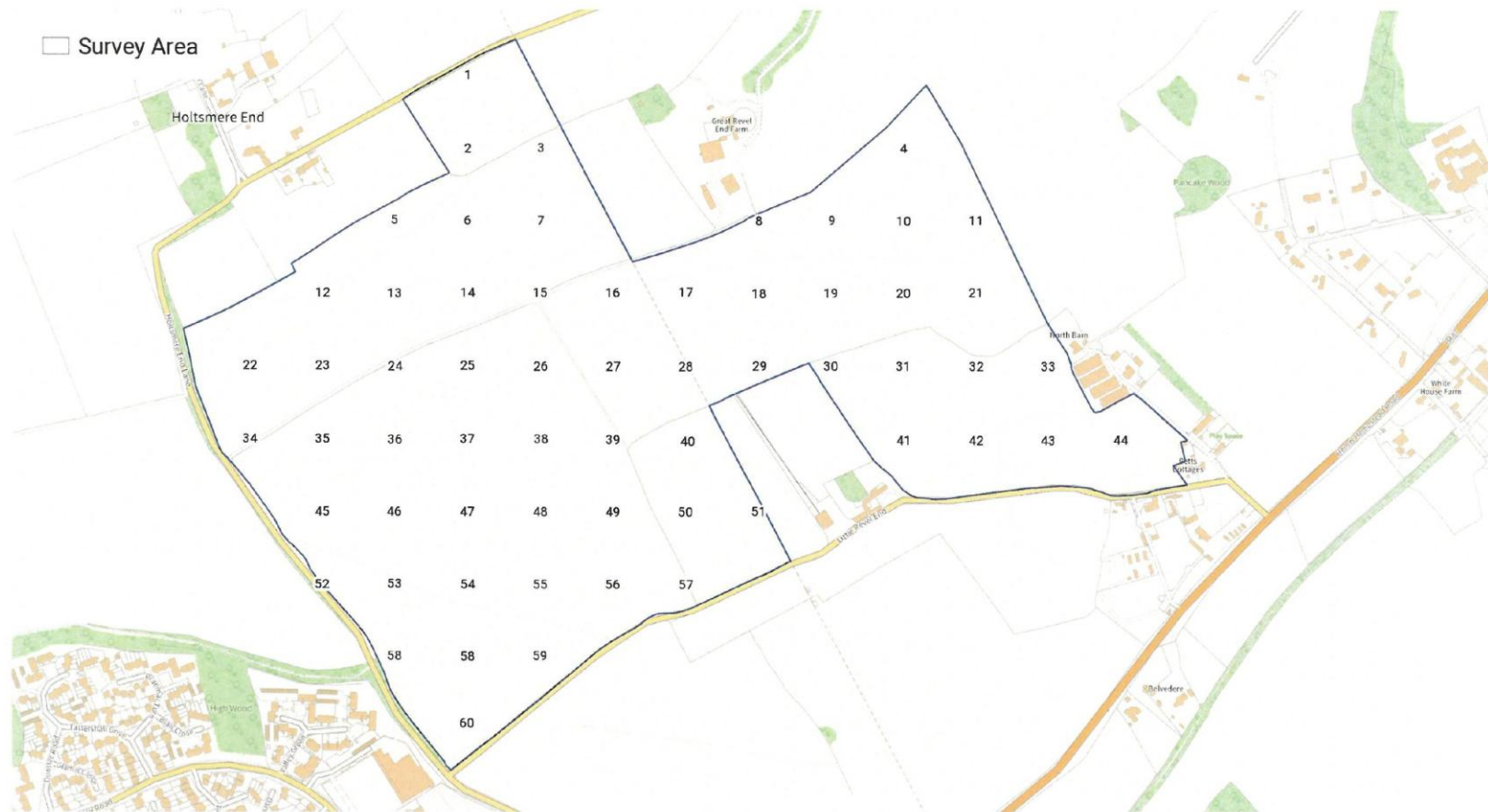
Professional Standards

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: Holtsmere Lane Hemel Hempstead

Grid reference (centre of site): 508334 210852

Altitude: Mean 121.92 AOD

Climatic data from surrounding locations:

Grid Reference	ALT	AAR	LR_AAR	ASR	ATO	ATS	MDW	MDP	FCD
50502100	124	698	0.5	355	1358	2330	98	88	152
50502150	145	721	0.4	360	1332	2302	95	84	159
51002100	130	690	0.5	345	1350	2324	100	90	145
51002150	122	701	0.5	340	1357	2331	102	92	148

Altitude Adjusted

Grid Reference	AAR	ATO	FCD	MDW	MDP	Proximity Adjustment
50502100	696.96	1360.38	151.85	98.29	88.38	18.54%
50502150	711.77	1358.32	157.66	98.01	87.99	7.75%
51002100	685.96	1359.22	144.42	101.11	91.47	62.71%
51002150	700.96	1357.10	147.99	102.01	92.02	10.99%
	691.65	1359.13	147.21	100.45	90.69	

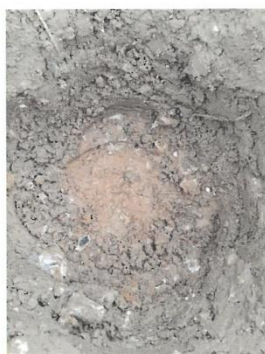
Appendix 4a - Sample Point Assessment

Sample No	Topsoil			Stoniness			Mottles	Upper Subsoil			Stoniness	Mottles	Structure	Lower Subsoil			Mottles	Structure	Grade limit by			Wetness Assessment			Grade limit by			Droughtiness Assessment			Grade limit by	Most limiting Grade
	Altitude	Depth	Texture	Colour	<2cm	2-6cm		>6cm	Depth	Texture				Colour	Depth	Texture			Colour	Stoniness	Stoniness	SPL	Gley	Wetness Class	Wetness	Wheat	Potato	Droughtiness	MR	Potato		
1	132	0	40	MZCL	10YR 4 / 2	5%	15%	40 - 120	C	10YR 6 / 4		Poor	-	/		Poor	3a	40	40		III	3a	23.15	9.91	2	3a				2	3a	
2	132	0	40	MZCL	10YR 4 / 2	5%	15%	40 - 120	C	10YR 6 / 4		Poor	-	/		Poor	3a	40	40		III	3a	23.15	9.91	2	3a				2	3a	
3	130	0	30	MZCL	10YR 4 / 2	5%	15%	30 - 70	C	10YR 5 / 6		Poor	70 - 120	C	10YR 5 / 4		Poor	3a				I	1	20.75	7.51	2	3a				2	3a
4	123	0	35	ZC	10YR 5 / 2	2%	3%	35 - 50	C	10YR 6 / 4	CO	Poor	50 - 120	Stone	/		Poor	1	35	35		IV	3b	-20.75	-12.49	3b	3b				3b	3b
5	131	0	30	MZCL	10YR 4 / 2	10%	20%	30 - 60	C	10YR 5 / 6		Poor	60 - 120	C	10YR 6 / 4		Poor	3b	60	60		II	2	15.35	2.11	2	3b				2	3b
6	127	0	35	MZCL	10YR 4 / 2	5%	15%	35 - 60	C	10YR 5 / 6		Poor	60 - 120	Stone	/		Poor	3a				I	1	-17.05	-3.29	3a	3a				3a	3a
7	125	0	30	MZCL	10YR 4 / 2	5%	15%	30 - 70	C	10YR 5 / 6		Poor	70 - 120	C	10YR 5 / 4		Poor	3a				I	1	20.75	7.51	2	3a				2	3a
8	123	0	35	HCL	10YR 4 / 2	5%	5%	35 - 120	Stone	/		Poor	-	/		Poor	1				I	2	-38.40	-30.14	3b	3b				3b	3b	
9	122	0	30	HCL	10YR 4 / 2	5%	5%	30 - 120	Stone	/		Poor	-	/		Poor	1				I	2	-46.05	-37.79	3b	3b				3b	3b	
10	122	0	35	ZC	10YR 5 / 2	2%	3%	35 - 50	C	10YR 6 / 4	CO	Poor	50 - 120	Stone	/		Poor	1	35	35		IV	3b	-20.75	-12.49	3b	3b				3b	3b
11	120	0	30	HCL	10YR 5 / 2	5%	10%	30 - 60	C	10YR 6 / 4	CO	Poor	60 - 120	Stone	/		Poor	2	30	30		IV	3b	-18.10	-4.34	3a	3b				3a	3b
12	130	0	35	HZCL	10YR 4 / 2	5%	15%	35 - 70	C	7.5YR 4 / 2		Poor	70 - 120	C	7.5YR 4 / 3		Poor	3a				I	2	21.95	8.71	2	3a				2	3a
13	128	0	35	MZCL	10YR 4 / 2	10%	20%	35 - 60	C	10YR 5 / 6		Poor	60 - 120	C	10YR 6 / 4		Poor	3b				I	1	15.55	2.41	2	3b				2	3b
14	124	0	35	MZCL	10YR 4 / 2	5%	15%	35 - 60	C	10YR 5 / 6		Poor	60 - 120	Stone	/		Poor	3a				I	1	-17.05	-3.29	3a	3a				3a	3a
15	122	0	30	MZCL	10YR 4 / 2	5%	15%	30 - 70	C	10YR 5 / 6		Poor	70 - 120	C	10YR 5 / 4	10%	Poor	3a				I	1	17.50	7.51	2	3a				2	3a
16	119	0	30	HCL	10YR 4 / 2	5%	5%	30 - 55	C	10YR 5 / 3	CO	Poor	55 - 120	Stone	/		Poor	1		30		II	3a	-18.80	-7.19	3a	3a				3a	3a
17	120	0	35	MCL	10YR 4 / 2	5%	5%	35 - 120	Stone	/		Poor	-	/		Poor	1				I	1	-38.40	-30.14	3b	3b				3b	3b	
18	120	0	35	MCL	10YR 4 / 2	5%	5%	35 - 120	Stone	/		Poor	-	/		Poor	1				I	1	-38.40	-30.14	3b	3b				3b	3b	
19	120	0	35	ZC	10YR 5 / 2	2%	3%	35 - 120	C	10YR 6 / 4	CO	Poor	-	/		Poor	1	35	35		IV	3b	24.75	11.51	2	3b				2	3b	
20	121	0	35	ZC	10YR 5 / 2	2%	3%	35 - 120	C	10YR 6 / 4	CO	Poor	-	/		Poor	1	35	35		IV	3b	24.75	11.51	2	3b				2	3b	
21	121	0	30	HCL	10YR 5 / 2	5%	10%	30 - 120	C	10YR 6 / 4	CO	Poor	-	/		Poor	2	30	30		IV	3b	20.90	7.66	2	3b				2	3b	
22	130	0	30	ZC	10YR 4 / 2	5%	5%	30 - 70	C	10YR 5 / 4		Poor	70 - 120	C	10YR 6 / 3	CO	Poor	1		70		I	3a	20.75	7.51	2	3a				2	3a
23	128	0	35	MZCL	10YR 4 / 2	5%	15%	35 - 70	C	7.5YR 4 / 2		Poor	70 - 120	C	7.5YR 4 / 3		Poor	3a				I	1	21.95	8.71	2	3a				2	3a
24	128	0	35	ZC	10YR 5 / 2	2%	3%	35 - 120	C	10YR 5 / 6		Poor	-	/		Poor	1				I	3a	24.75	11.51	2	3a				2	3a	
25	124	0	35	ZC	10YR 5 / 2	2%	3%	35 - 120	C	10YR 5 / 6		Poor	-	/		Poor	1				I	3a	24.75	11.51	2	3a				2	3a	
26	125	0	30	ZC	10YR 5 / 2	2%	3%	30 - 70	C	10YR 5 / 4		Poor	70 - 120	C	10YR 6 / 2	CO	Poor	1		70		I	3a	23.15	9.91	2	3a				2	3a
27	122	0	30	ZC	10YR 4 / 2	5%	5%	30 - 45	C	10YR 5 / 4	CO	Poor	45 - 120	Stone	/		Poor	1				I	3a	-30.75	-22.49	3b	3b				3b	3b
28	118	0	35	MCL	10YR 4 / 2	5%	5%	35 - 120	Stone	/		Poor	-	/		Poor	1				I	1	-38.40	-30.14	3b	3b				3b	3b	
29	114	0	35	MCL	10YR 4 / 2	5%	5%	35 - 120	Stone	/		Poor	-	/		Poor	1				I	1	-38.40	-30.14	3b	3b				3b	3b	
30	113	0	30	MCL	10YR 4 / 2	5%	10%	30 - 45	C	10YR 4 / 4	20%	Poor	45 - 120	Stone	/		Poor	2				I	1	-34.20	-25.94	3b	3b				3b	3b
31	112	0	30	MCL	10YR 4 / 2	5%	15%	30 - 120	Stone	/		Poor	-	/		Poor	3a				I	1	-51.15	-42.89	4	4				4	4	
32	110	0	30	MCL	10YR 4 / 2	5%	10%	30 - 120	Stone	/		Poor	-	/		Poor	2				I	1	-48.60	-40.34	3b	3b				3b	3b	
33	112	0	30	MCL	10YR 4 / 2	5%	10%	30 - 120	Stone	/		Poor	-	/		Poor	2				I	1	-48.60	-40.34	3b	3b				3b	3b	
34	128	0	30	ZC	10YR 4 / 2	5%	5%	30 - 70	C	10YR 5 / 4		Poor	70 - 120	C	10YR 6 / 3	COB	Poor	1		70		I	3a	20.75	7.51	2	3a				2	3a
35	127	0	30	ZC	10YR 4 / 2	5%	5%	30 - 70	C	10YR 5 / 4		Poor	70 - 120	C	10YR 6 / 3	COB	Poor	1		70		II	3b	20.75	7.51	2	3b				2	3b
36	127	0	35	ZC	10YR 5 / 2	2%	3%	35 - 120	C	10YR 5 / 6		Poor	-	/		Poor	1				I	3a	24.75	11.51	2	3a				2	3a	
37	127	0	35	ZC	10YR 5 / 2	2%	3%	35 - 120	C	10YR 5 / 6		Poor	-	/		Poor	1				I	3a	24.75	11.51	2	3a				2	3a	
38	126	0	30	ZC	10YR 5 / 2	2%	3%	30 - 60	C	10YR 5 / 4		Poor	60 - 120	C	10YR 6 / 2	CO	Poor	1	60	60		II	3b	23.15	9.91	2	3b				2	3b
39	125	0	35	HCL	10YR 5 / 2	2%	3%	35 - 60	C	10YR 5 / 4	CO	Poor	60 - 120	C	10YR 6 / 2	CO	Poor	1	60	60		II	3a	28.08	14.84	2	3a				2	3a
40	122	0	30	HZCL	10YR 5 / 2	5%	10%	30 - 65	C	10YR 5 / 4	CO	Poor	65 - 120	C	10YR 6 / 3	CO	Poor	2	65	65		II	3a	23.45	10.21	2	3a				2	3a
41	113	0	30	MCL	10YR 4 / 2	5%	15%	30 - 120	Stone	/		Poor	-	/		Poor	3a				I	1	-51.15	-42.89	4	4				4	4	
42	111	0	30	MCL	10YR 4 / 2	5%	10%	30 - 120	Stone	/		Poor	-	/		Poor	2				I	1	-48.60	-40.34	3b	3b				3b	3b	
43	109	0	30	MCL	10YR 4 / 2	5%	10%	30 - 120	Stone	/		Poor	-	/		Poor	2				I	1	-48.60	-40.34	3b	3b				3b	3b	
44	108	0	30	MCL	10YR 4 / 2	5%	10%	30 - 120	Stone	/		Poor	-	/		Poor	2				I	1	-48.60	-40.34	3b	3b				3b	3b	
45	123	0	40	ZC	10YR 5 / 2	2%	3%	40 - 65	C	10YR 5 / 4	CO	Poor	65 - 120	C	2.5Y 6 / 4	CO	Poor	1	65	65		II	3b	25.35	13.11	2	3b				2	3b
46	125	0	40	ZC	10YR 5 / 2	2%	3%	40 - 65	C	10YR 5 / 4	CO	Poor																				

Appendix 4b – Trial Pit Descriptions

Sample Point No. 15		
Horizon 1	0-30cm Dark greyish brown (10YR 4/2) medium silty clay loam with 20% small to medium hard subrounded and subangular stones (flint).	
Horizon 2	30-70cm Yellowish brown (10YR 5/6) clay with a weak coarse subangular blocky structure, firm consistence and some roots and biopores.	
Horizon 3	70-120cm Yellowish brown (10YR 5/4) clay with a weak coarse subangular blocky structure and 10% large stones	
Pictures		
Horizon 1	Horizon 2	Horizon 3
		
Slowly permeable layer	Not present	
Gleying	Not present	
Wetness Class	I	
Wetness limitation		
MB Wheat		
MB potatoes		
Droughtiness Limitation		
Stoniness Limit	3a	

Sample Point No. 30		
Horizon 1	0-30cm Dark greyish brown (10YR 4/2) medium clay loam with 15% small to medium hard subrounded and subangular stones (flint).	
Horizon 2	30-45cm Dark yellowish brown (10YR 4/4) clay with a weak coarse subangular blocky structure, firm consistence and some roots and biopores. 20% small to medium hard stones.	
Horizon 3	45cm Impenetrable due to stone content, stone is very tightly packed and cannot be dug but is stone not rock and assumed to be stone to 120cm for the purposes of droughtiness calculations.	
Pictures		
Horizon 1	Horizon 2	Horizon 3
		
Slowly permeable layer	Not present	
Gleying	Not present	
Wetness Class	I	
Wetness limitation	1	
MB Wheat	-36.77	
MB potatoes	-28.52	
Droughtiness Limitation	3b	
Stoniness Limit	2	

Sample Point No. 58		
Horizon 1	0-30cm Dark greyish brown (10YR 4/2) silty clay with 10% small to medium hard subrounded and subangular stones (flint).	
Horizon 2	30-40cm Brown (7.5YR 5/4) clay with a weak coarse subangular blocky structure, firm consistence and some roots and biopores. 20% small to medium hard stones. Few ochreous mottles.	
Horizon 3	40cm Impenetrable due to stone content, stone is very tightly packed and cannot be dug but is stone not rock and assumed to be stone to 120cm for the purposes of droughtiness calculations.	
Pictures		
Horizon 1	Horizon 2	Horizon 3
	No image	
Slowly permeable layer	Not present	
Gleying	Not present	
Wetness Class	I	
Wetness limitation	3a	
MB Wheat	-39.17	
MB potatoes	-30.92	
Droughtiness Limitation	3b	

Auger core survey point 12



Stone at auger point 13



Auger core survey point 21



Auger core survey point 47





ANALYTICAL REPORT										
Report Number		74179-25		W250 AMET PROPERTY		Client KERNON				
Date Received		20-JAN-2025		HENWICK BARN						
Date Reported		11-FEB-2025		BULWICK						
Project		SOIL		CORBY						
Reference		KERNON		NORTHANTS						
Order Number				NN17 3DU						
Laboratory Reference		SOIL733010	SOIL733011	SOIL733012						
Sample Reference		HEMEL TOPS OIL 15	HEMEL TOPS OIL 30	HEMEL TOPS OIL 58						
Determinand	Unit	SOIL	SOIL	SOIL						
Coarse Sand 2.00-0.63mm	% w/w	5	11	3						
Medium Sand 0.63-0.212mm	% w/w	4	6	4						
Fine Sand 0.212-0.063mm	% w/w	8	6	6						
Silt 0.063-0.002mm	% w/w	58	56	49						
Clay <0.002mm	% w/w	25	21	38						
Textural Class **		MZCL	MCL	ZC						
Notes										
Analysis Notes		The sample submitted was of adequate size to complete all analysis requested. The results as reported relate only to the item(s) submitted for testing. The results are presented on a dry matter basis unless otherwise stipulated.								
Document Control		This test report shall not be reproduced, except in full, without the written approval of the laboratory.								
Reported by		** Please see the attached document for the definition of textural classes. <i>Gabrielle Parkes</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

