AGRICULTURAL LAND CLASSIFICATION
WIGGS FARM

CLIENT: BARBERRY BARDON LIMITED
PROJECT: WIGGS FARM
DATE: 22ND MAY 2025 – ISSUE 2
ISSUED BY: JAMES FULTON MRICS FAAV

CONTENTS

1. EXECUTIVE SUMMARY

1.1 This report assesses the Agricultural Land Classification (ALC) grading of 15.1Ha, of agricultural land at Wiggs Farm, Wood Road, Ellistown.

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:	15.1 Ha

2. INTRODUCTION

2.1 Amet Property Ltd have been instructed by Barberry Bardon Limited to produce an Agricultural Land Classification (ALC) report on a 15.1-hectare site on land at Wiggs Farm, Wood Road, Ellistown.

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 5th of February 2025 during which the conditions were overcast with sunny spells and soils were moist with area that were wet.

2.4 During the inspection 2 trial pits were 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 handbook[1]; where an auger has been used the structure is described as good, moderate or poor based on figure 9,10 and 11 in the MAFF[2] guidance. Colours are described using Munsell Colours[3].

2.5 The surveyed area extends to 15.1Ha of arable land spread cross in 2 fields. The land is northeast of Wiggs Farm, south and east of Wood Road, south of Coalville.

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.

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[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 guidance[5].

3. PUBLISHED INFORMATION

3.1 The British Geological Survey 1:50,000 scale map shows the bedrock geology to be Edwalton Member – Mudstone. Superficial deposits are not recorded for most of the site but Oadby Member – Diamicton is recorded to the west of the site.

3.2 The soils to the north and west of the site are identified as being Salop Association – Slowly permeable seasonally waterlogged reddish fine loamy over clayey, fine loamy and clayey soils. The soils to the east and south of the site are identified as Whimple 3 Association – Reddish fine loamy or fine silty over clayey soils with slowly permeable subsoils and slight seasonal waterlogging.

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.

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[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	443584 309410
Altitude (ALT)	155
Average Annual Rainfall (AAR)	712
Accumulated Temperature - Jan to June (ATO)	1293
Duration of Field Capacity (FCD)	165
Moisture Deficit Wheat	89
Moisture Deficit Potatoes	74

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. 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 8% small to large hard stones. There are never sufficient quantity or size of stones for this to be the most limiting factor to land grade.

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 topsoils across the site are consistently a medium clay loam. On site all survey points were recorded as a medium clay loam and the survey point chosen for a lab test was the area considered lightest and this confirmed the topsoil at this location to be on the cusp of medium sandy loam and medium clay loam which confirms that all survey points are medium clay loam.

7.3 Subsoils are gleyed slowly permeable clay or clay loam, greyish to the north and reddish to the south as would be expected based on soil type mapping.

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 Where there is a gleyed horizon within 40cm and slowly permeable layer within 44cm the assessment gives wetness class IV.

8.3 Table 6, 151-175FCD, wetness class IV and medium clay loam topsoil results in a grade 3b limitation.

9. DROUGHTINESS

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

MB (Wheat) = AP (Wheat) - MD (Wheat)

and

MB (Potatoes) = AP (Potatoes) - MD (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 (Wheat) = 89
MD (Potatoes) = 74

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 not the most limiting factor to land grade.

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 3b: 15.1 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)*

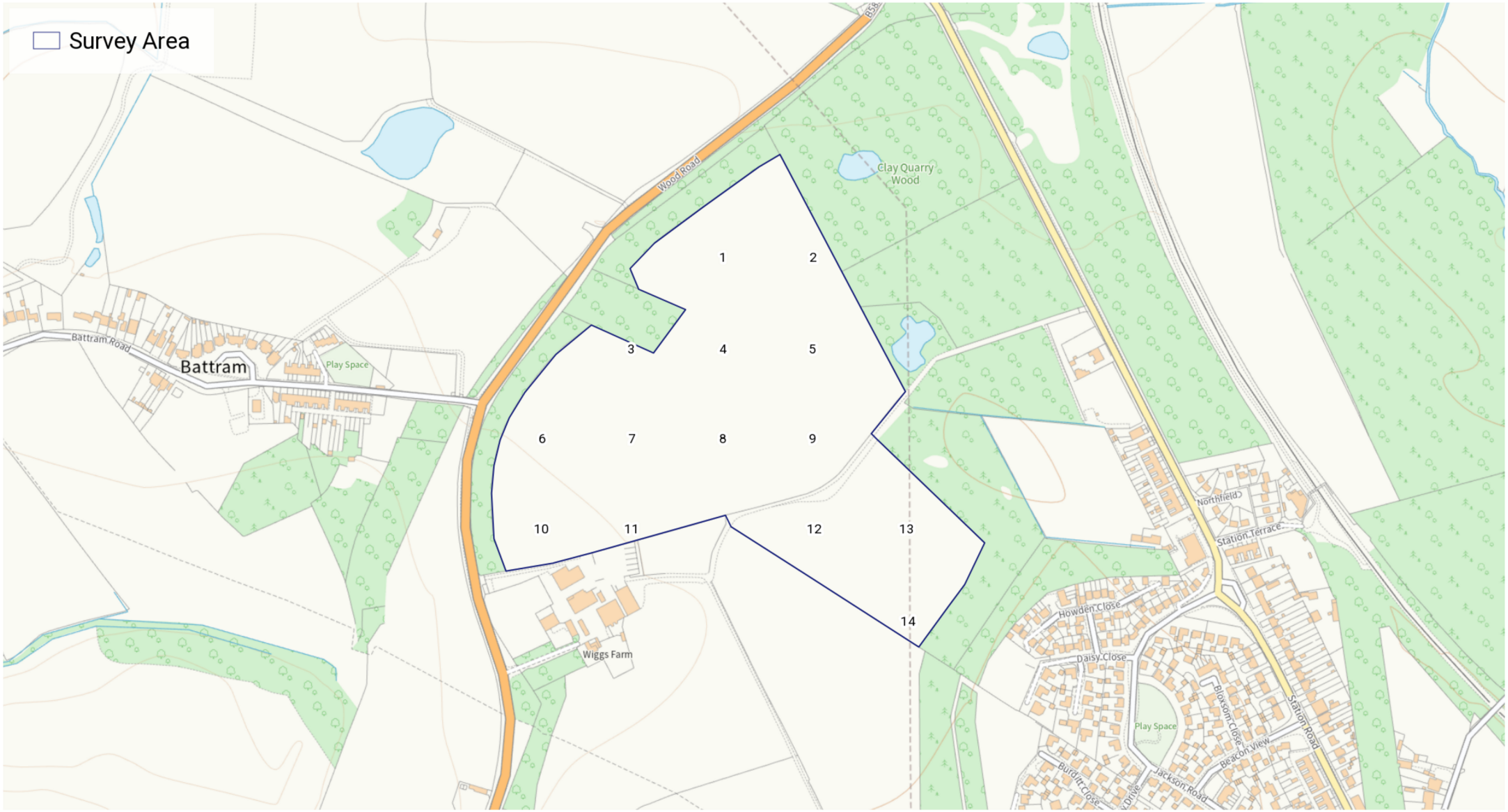
Professional Standards

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



Produced on Land App, Feb 4, 2025.

100 m
Scale 1:5896 (at A4)

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Appendix 3 – Climatic Data

Site Details: Wiggs Farm

Grid reference (centre of site): 443584 309410

Altitude: Mean 155 AOD

Climatic data from surrounding locations:

Grid Reference	ALT	AAR	LR_AAR	ASR	ATO	ATS	MDW	MDP	FCD
44003050	111	675	0.5	350	1346	2290	96	85	156
44003100	128	680	0.6	350	1324	2265	94	82	158
44503050	126	694	0.3	350	1328	2272	95	83	161
44503100	156	717	0.3	370	1291	2231	88	73	167

Altitude Adjusted

Grid Reference	AAR	ATO	FCD	MDW	MDP	Proximity Adjustment
44003050	697.00	1295.84	159.18	89.95	77.00	5.35%
44003100	696.20	1293.22	160.34	90.10	76.85	13.11%
44503050	702.70	1294.94	162.26	91.42	78.25	8.06%
44503100	716.70	1292.14	166.96	88.12	73.16	73.48%
	711.83	1292.71	165.29	88.74	74.26	

Appendix 4a - Sample Point Assessment

		Topsoil					Stoniness				Upper Subsoil							Lower Subsoil								Wetness Assesment			Grade	Droughtiness Assessment		Grade
Sample No	Altitude	Depth			Texture	Calc	Colour	<2cm	2-6cm	>6cm	Mottles	Depth			Texture	Calc	Colour	Stoniness	Mottles	Structure	Depth			Texture	Calc	Colour	Stoniness	Mottles	Structure	Depth to SPL	Gley	Wetness Class	limit by Wetness	MB Wheat	MB Potato	limit by Droughtiness
1	156	0	- 25		MCL		10YR 4 / 2	5%	2%	2%		25	- 50		SC		10YR 7 / 1	10%	mo	Poor	50	- 120		C		10YR 7 / 1	10%	mo	Poor	25	25	IV	3b	26.38	20.01	2
2	155	0	- 30		MCL		10YR 4 / 2	5%	2%		fo	30	- 50		HZCL		10YR 5 / 3	5%	co	Poor	50	- 120		HCL		10YR 6 / 1		mo	Poor	30	30	IV	3b	33.80	23.28	1
3	154	0	- 35		MCL		10YR 4 / 2	2%	5%	1%	fo	35	- 70		HZCL		10YR 6 / 1	5%	mo	Poor	70	- 120		C		10YR 7 / 1		mo	Poor	35	35	IV	3b	33.68	24.61	1
4	153	0	- 35		MCL		10YR 4 / 2	2%	5%	1%	fo	35	- 120		C		5YR 4 / 2		cgb	Poor		-				/				35	35	IV	3b	38.84	30.32	1
5	152	0	- 30		MCL		7.5YR 4 / 2	2%	2%			30	- 120		C		5YR 4 / 3		mo	Poor		-				/				30	30	IV	3b	38.70	30.18	1
6	157	0	- 35		MCL		10YR 4 / 2	2%	2%	1%	fo	35	- 120		C		5YR 4 / 3		cgb	Poor		-				/				35	35	IV	3b	40.66	32.14	1
7	156	0	- 35		MCL		10YR 4 / 2	2%	2%	1%	fo	35	- 120		C		5YR 4 / 3		cgb	Poor		-				/				35	35	IV	3b	40.83	32.31	1
8	157	0	- 35		MCL		10YR 4 / 2	2%	2%		fo	35	- 50		HZCL		10YR 5 / 3	5%	co	Poor	50	- 120		C		5YR 4 / 4		fgb	Poor	35	35	IV	3b	39.03	30.51	1
9	153	0	- 30		MCL		7.5YR 4 / 2	2%	2%			30	- 120		C		5YR 4 / 3		fog	Poor		-				/				30	30	IV	3b	39.18	30.66	1
10	161	0	- 35		MCL		10YR 4 / 2	2%	2%	1%	fo	35	- 120		C		5YR 4 / 3		cgb	Poor		-				/				35	35	IV	3b	41.36	32.84	1
11	159	0	- 35		MCL		10YR 4 / 2	2%	2%	1%	fo	35	- 120		C		5YR 4 / 3		cgb	Poor		-				/				35	35	IV	3b	41.53	33.01	1
12	153	0	- 30		MCL		7.5YR 4 / 2	2%	2%			30	- 120		C		5YR 4 / 3		fogb	Poor		-				/				30	30	IV	3b	39.54	31.02	1
13	151	0	- 30		MCL		7.5YR 4 / 2	2%	2%			30	- 120		C		5YR 4 / 4		fogb	Poor		-				/				30	30	IV	3b	39.66	31.14	1
14	153	0	- 30		MCL		5YR 4 / 2	2%	2%			30	- 120		C		5YR 4 / 3		fogb	Poor		-				/				30	30	IV	3b	39.78	31.26	1
	155																																		

Appendix 4b – Trial Pit Descriptions

Sample Point No. 15		
Horizon 1	0-25cm Dark greyish brown (10YR 4/2) medium clay loam with 7% small to large rounded and subrounded hard stones.	
Horizon 2	25-50cm Light grey (10YR 7/1) sandy clay with a weak coarse angular blocky structure, firm consistence and many ochreous mottles. Few roots and biopopres. 10% large round stones	
Horizon 3	50-120cm Light grey (10YR 7/1) clay with a massive structure, firm consistence and many ochreous mottles. Few roots and biopopres. 10% large round stones	
Pictures		
Horizon 1 	Horizon 2 	Stones in horizon 2 and 3 
Slowly permeable layer	Starts at 25cm – evidenced by firm weak coarse angular blocky structure with less than 0.5% biopores >0.5mm	
Gleying	Starts at 25cm evidenced by grey colours and ochreous mottles	
Wetness Class	IV	
Wetness limitation	3b	
MB Wheat	26.38	
MB potatoes	20.01	
Droughtiness Limitation	2	

Sample Point No. 5	
Horizon 1	0-30cm Brown (7.5YR 4/) medium clay loam with 4% small and medium rounded and subrounded hard stones
Horizon 2	30-120cm Reddish brown (5YR 4/3) clay with reddish brown (5YR 5/3) ped faces with a coarse angular blocky verging on coarse prismatic structure, firm consistence, and many ochreous mottles, few roots and biopores
Pictures	

Horizon 1	Horizon 2
	

Slowly permeable layer	Starts at 30cm – evidenced by coarse angular blocky/prismatic structure with less than 0.5% biopores >0.5mm
Gleying	Starts at 25cm evidenced by reddish colours, pale ped faces and ochreous mottles
Wetness Class	IV
Wetness limitation	3b
MB Wheat	38.7
MB potatoes	30.18
Droughtiness Limitation	1

Auger boring – survey point 10

Topography of site – survey point 11

ANALYTICAL REPORT

Report Number	**77999-25**	**W250**	**AMET PROPERTY**
Date Received	**11-FEB-2025**		**HENWICK BARN**
Date Reported	**20-FEB-2025**		**BULWICK**
Project	**SOIL**		**CORBY**
Reference	**BARBERRY**		**NORTHANTS**
Order Number			**NN17 3DU**

Laboratory Reference		**SOIL736952**
Sample Reference		**WIGGS FARM 1**
Determinand	**Unit**	**SOIL**
Coarse Sand 2.00-0.63mm	% w/w	3
Medium Sand 0.63-0.212mm	% w/w	23
Fine Sand 0.212-0.063mm	% w/w	21
Silt 0.063-0.002mm	% w/w	35
Clay <0.002mm	% w/w	18
Textural Class **		MCL/mSZL

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

** Please see the attached document for the definition of textural classes.

Reported by

Teresa Clyne

Natural Resource Management, a trading division of Cawood Scientific Ltd.
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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.

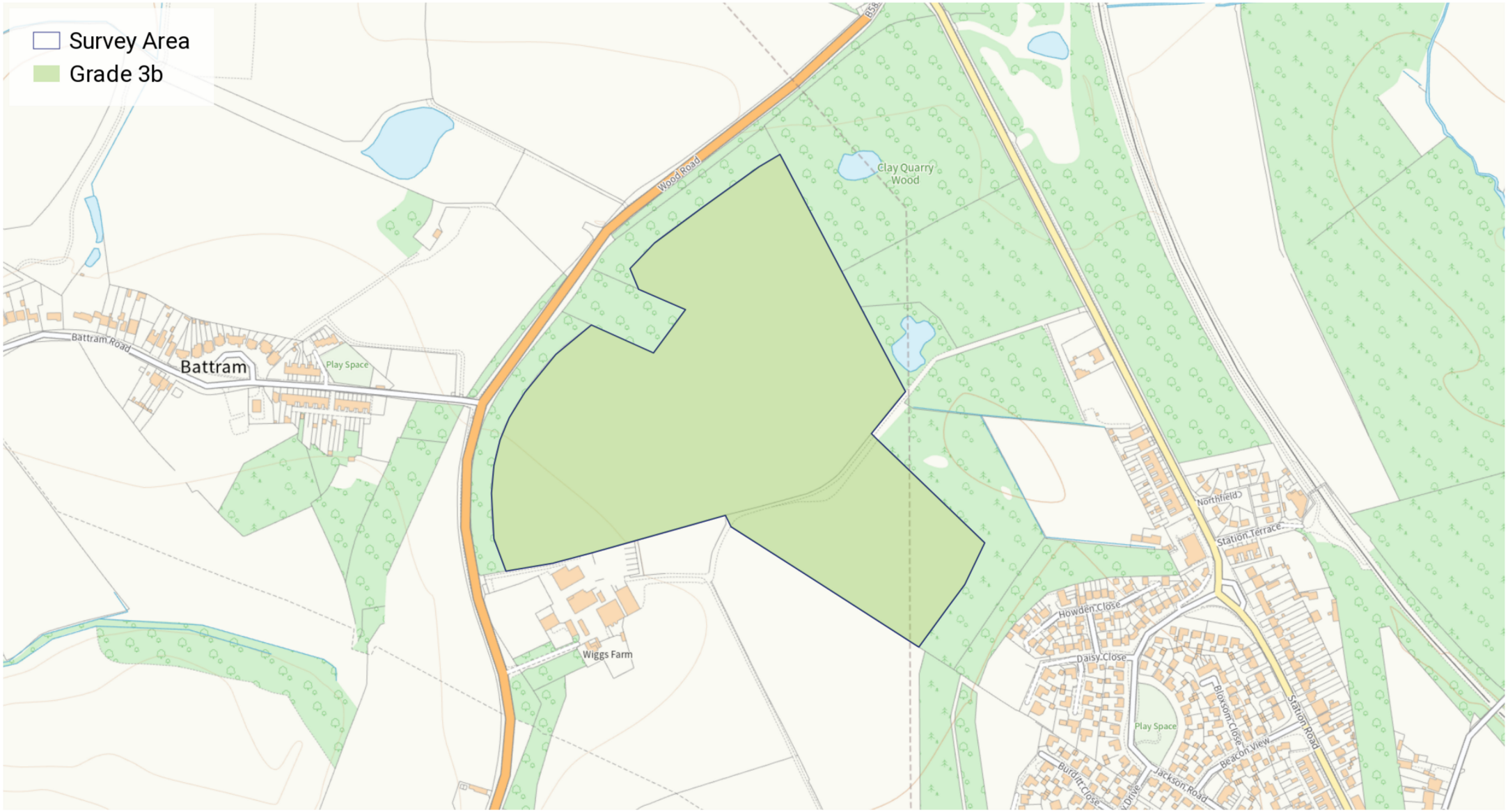
Subgrade 3a - good quality agricultural land Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural 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



100 m
Scale 1:5896 (at A4)

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