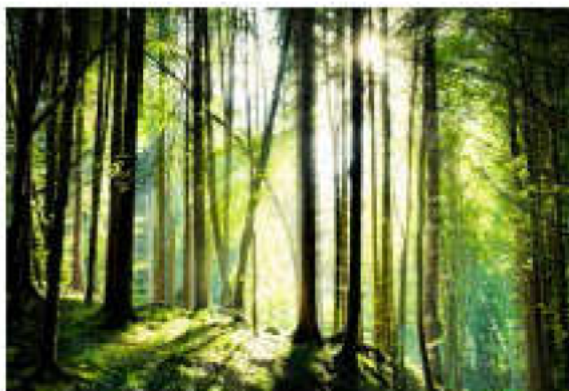


AGRICULTURAL LAND CLASSIFICATION REPORT



**WHITE HOUSE FARM
MOORLAND RD
HAVERFORDWEST
SA62 4LE**

AXIS



DOCUMENT CONTROL RECORD

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Site Address: White House Farm, Moorland Rd, Haverfordwest SA62 4LE

Author: Alan Taylor BSc MSc
Senior Environmental Consultant

Signature: *Alan Taylor*

Checked & Approved By: Dr Jon Burton BSc PhD FGS MCIWEM CSci MAE
Managing Director

Signature: *Jon Burton*

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EXECUTIVE SUMMARY

Instruction	Oracle Environmental Experts Ltd (OEE) were commissioned by Axisto complete an Agricultural Land Classification (ALC) survey of a proposed solar farm at a site known as White House Farm.
Site Information	The site currently comprises 2 no. separate parcels of land totalling 9 no. agricultural fields located 1.0 km north-west of the village of Freystrop Cross and covers an area of approximately 52 ha. The western parcel of land is centred at national grid reference 194535E 211650N. The eastern parcel of land is centred at national grid reference 195357E 212073E.
Agricultural Land Classification	The assessment has been carried out in accordance with the Ministry of Agriculture, Fisheries and Food (MAFF) 'Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land', October 1988. The ALC survey has been completed using a combination of desktop assessment of the relevant published information and a detailed site survey comprising 4 no. trial pits and 48 no. hand augers. From the published information above, together with the findings of the detailed soil survey, it has been determined that the quality of agricultural land at the site is limited by wetness and to a lesser extent gradient and stoniness. It is considered that the soil texture and high Field Capacity Days deriving wetness is the deciding factor for grade. The approximate 52 ha within the survey site that has been assessed in this ALC survey has been divided into 4 no. different Grades/Sub-grades. The largest area is Sub-grade 3b covering 49.6 % of the site, then Grade 4 accounting for 47.4 %, Sub-grade 3a covering 1.5 % and an area of Grade 5 covering 1.5 %.

This executive summary is intended to provide an outline of the site assessment and is not intended to provide a definitive analysis of the information obtained.

1.0 INTRODUCTION

1.1 Instruction

- 1.1.1 Oracle Environmental Experts Ltd (OEE) were commissioned by Axis to complete an Agricultural Land Classification (ALC) survey of a proposed solar farm at a site known as White House Farm.
- 1.1.2 The assessment has been made in accordance with the ALC system for England and Wales (see 'Methodology' below).

1.2 Limitations

- 1.2.1 Limitations to the scope of this report are presented in Appendix F.

2.0 METHODOLOGY

- 2.1 This assessment has been carried out in accordance with the Ministry of Agriculture, Fisheries and Food (MAFF) 'Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land', October 1988.
- 2.2 The ALC system provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The ALC system divides agricultural land into 5 no. grades (Grade 1 'Excellent' to Grade 5 'Very Poor'), with Grade 3 subdivided into Subgrade 3a 'Good' and Subgrade 3b 'Moderate'. Agricultural land classified as Grade 1, 2 and Subgrade 3a falls in the 'best and most versatile' category in the National Planning Policy Framework (NPPF) revised in December 2023. Further details of the ALC system and national planning policy implications are set out by Natural England in Technical Information Note 049.
- 2.3 The ALC survey has been completed using a combination of desktop assessment of the relevant published information and a detailed site survey.
- 2.4 The desktop study included the following information:
- Geological Information from British Geological Survey Internet Portal at https://mapapps2.bgs.ac.uk/geoindex/home.html?_ga=2.70761622.707236199.1708507952-901914965.1708507952
 - Soil information from LandIS published by Cranfield University and accessed at <https://www.landis.org.uk/soilscapes/>

- Soil information from the UK Soil Observatory (UKSO) accessed at <https://mapapps2.bgs.ac.uk/ukso/home.html>
- The Met. Office Climatological data for Agricultural Land Classification, January 1989
- DEFRA MAGIC (Multi-Agency Geographic Information for the Countryside) website at www.magic.defra.gov.uk

- 2.5 A detailed soil survey and ALC of the site was carried out on 06 February 2025. The soil survey involved examination of the soil's physical properties with trial pits and hand augers progressed at a sampling density of approximately 1 no. position per 1 ha. The locations of the trial pit and hand augers are shown on Figure 1, Appendix A.
- 2.6 The soil profile at each sample location was described in accordance with the 'Soil Survey Field Handbook: Describing and Sampling Soil Profiles' (Ed. J.M. Hodgson, Cranfield University, 1997). Each soil profile was ascribed an Agricultural Land Classification (ALC) grade following the MAFF ALC Guidelines.

3.0 LOCATION, LAND USE, TOPOGRAPHY, CLIMATE AND FLOODING

3.1 Site Location and Land Use

- 3.1.1 The site currently comprises 2 no. separate parcels of land totalling 9 no. agricultural fields located 1.0 km north-west of the village of Freystrop Cross and covers an area of approximately 52 ha. The western parcel of land is centred at national grid reference 194535E 211650N. The eastern parcel of land is centred at national grid reference 195357E 212073E.
- 3.1.2 The western site was accessed via field entrances off Moorland Road and comprises 5 no. interconnected fields which, at the time of the survey were surfaced with grass. The internal field boundaries comprised either hedgerows or drainage channels.
- 3.1.3 Areas of waterlogged ground were present in the northern low lying areas of this parcel and marshy ground with marsh grass was present in the south-west.
- 3.1.4 This area was bound by wooded areas to the west and south and hedgerows to the north and east.
- 3.1.5 The eastern site was accessed via Middle Hill Farm in the east of the site, to the south of Lower Freystrop and comprises 4 no. interconnected fields. These were also surfaced with grass with internal field boundaries consisting of hedgerows. The external boundaries comprised hedgerows and mature trees with Red Water, a small watercourse, flowing along the northern boundary.
- 3.1.6 Marshy grasses were present in the south of this parcel although the majority of the site showed no sign of waterlogging.

- 3.1.7 A site location plan is presented as Figure 1 in Appendix A, and a photographic record is presented in Appendix B.

3.2 Topography

- 3.2.1 The topography of the site was generally undulating with steeper sections ($>7^{\circ}$) present in certain areas. As such a gradient map has been produced using LiDAR data to highlight these areas as presented in Figures 4 & 5 of Appendix A.
- 3.2.2 The western parcel had 2 no. small areas of steeper slopes in the north-east and west. These slopes were located towards to the field boundaries and were not representative of the fields overall gradient, however, they could present localised difficulties for farm machinery.
- 3.2.3 Whilst the majority of the eastern parcel was relatively level ($<7^{\circ}$), the northern and south-eastern boundaries comprised steep slopes down to the field boundaries. Sections of slopes in these areas were in excess of 11° and as such are considered to be classified as ALC Grade 4 as outlined in Table 1 of the MAFF guidelines.

3.3 Flooding

- 3.3.1 The Natural Resources Wales 'Flood and Coastal Erosion Risk Maps' service shows that the majority of the land covered on both parcels proposed for the solar farm is not within a flood zone. This means in any year, land has less than a 0.1% chance of flooding from rivers or sea. There are two small areas of land in the eastern parcel of land that are mapped as being at medium-high risk of flooding from surface water and small watercourses. Both parcels of land are also bounded by watercourses which are mapped as being at medium-high risk of flooding from surface water and small watercourses.

4.0 PUBLISHED GEOLOGICAL, SOIL AND ALC INFORMATION

4.1 Geology

- 4.1.1 According to the British Geological Survey (BGS) Geoindex resource, there are no superficial deposits mapped beneath either parcel of land.
- 4.1.2 The underlying bedrock geology beneath the western parcel of land comprises the South Wales Lower Coal Measures Formation and South Wales Middle Coal Measures Formation (undifferentiated) - (mudstone, siltstone and sandstone). The eastern parcel of land is also underlain by the same bedrock but the centre of the site is mapped as being underlain by South Wales Lower Coal Measures Formation and South Wales Middle Coal Measures Formation (undifferentiated) - (sandstone) trending in an east-west direction.

4.2 Soils

- 4.2.1 According to the LandIS information portal, soils on both parcels of land are mapped as freely draining slightly acid loamy soils and slowly permeable seasonally wet acid loamy and clayey soils
- 4.2.2 The UK Soil Observatory (UKSO) have mapped the parcels of land as being underlain by predominantly clayey loam to sandy loam. In the eastern parcel of land, locally above the South Wales Lower Coal Measures Formation and South Wales Middle Coal Measures Formation (undifferentiated) - (sandstone), the soils are mapped as loam to sandy loam.

4.3 ALC Information

- 4.3.1 The published information available from the Data Map Wales resource indicates that western parcel of land comprises Sub-grade 3a in the centre of the site and Sub-grade 3b in the north and south, in approximately equal proportions.
- 4.3.2 The majority of the eastern parcel is classified as Sub-grade 3a with approximately 3 hectares of Sub-grade 3b along the site boundaries and eastern section.

5.0 AGRICULTURAL LAND CLASSIFICATION

5.1 Background

- 5.1.1 This section of the report sets out the findings of the Agricultural Land Classification (ALC). It is based on a desktop study of relevant published information on climate, topography, geology, and soil, in conjunction with a soil survey of the site.
- 5.1.2 As described in the ALC Guidelines, the main physical factors influencing agricultural land quality are:
- climate;
 - site;
 - soil; and
 - interactive limitations.
- 5.1.3 With regard to the ALC Guidelines, agricultural land quality can also be limited by 1 no. or more of 3 no. main site factors as follows:
- gradient;
 - micro-relief (i.e., complex change in slope angle over short distances); and
 - risk of flooding.

5.2 ALC Climate Data

5.2.1 Interpolated climate data have been calculated using the 2 no. closest grid points from the 5 km spacing data set provided in MAFF Climatological Data for ALC. The values for these data points are listed in Table 1 below. The site is located on the grid line between 2 no. grid points and as such, it is not considered necessary to use 4 no. points to interpolate site adjusted values.

Table 1: ALC Climate Data		
Location	Grid Point 1 SM950100	Grid Point 2 SN950150
Average altitude (m AOD)	67	27
Lapse rate of average annual rainfall (mm/m)	0.7	0.8
Average annual rainfall (AAR) (mm) (1941-70)	1113	1147
Accumulated temperature above 0°C – Median value (Jan to June 1961-80) (ATO)	1494	1538
Accumulated temperature above 0°C – Median value (April to Sept 1961-80) (ATS)	2351	2400
Moisture Deficit (MD), winter wheat (mm)	76	78
Moisture Deficit (MD), potatoes (mm)	61	65
Field Capacity Days (FCD)	226	234

5.2.2 The relevant interpolated values for the proposed development site, which have been adjusted for height and location, are presented in Table 2 below. The calculations for the interpolation process have been completed in line with the MAFF guidelines.

Table 2: Interpolated Site Climatic Data	
Average altitude (m AOD)	80
Average annual rainfall (AAR) (mm) (1941-70)	1134
Accumulated temperature above 0°C – Median value (Jan to June 1961-80) (ATO)	1479
Moisture Deficit (MD), winter wheat (mm)	73
Moisture Deficit (MD), potatoes (mm)	58
Field Capacity Days (FCD)	230
Grade According to Climate	2

5.2.3 With reference to Figure 1 of the MAFF guidelines 'Grade according to climate' in the ALC Guidelines, the site has been designated ALC Grade 2 based on climate.

5.2.4 Agricultural land at the site is predicted to be at field capacity (i.e. near saturation point) for 230 Field Capacity Days (FCD) per year, which will be mainly over the late autumn, winter, and early spring. The combination of topsoil texture, drainage status (Wetness Class) of the profile, and number of FCD affects the degree to which agricultural land is limited by soil wetness, assessed further below.

5.3 Interactive Limitations

5.3.1 Soil Texture, Structure and Wetness

- 5.3.1.1 A detailed soil survey was undertaken by OEE on 6 February 2025 comprising 4 no. trial pits (TP01-TP04) to a maximum depth of 1.00 m and 48 no. hand augered soil bores (SB01-SB48) to a maximum depth of 1.23 m. The achievable depth of intrusive positions was limited in certain areas of the site due to the presence of increased stone content and potentially bedrock. It is noted that the majority of refusals (SB01-5) are located on the steeper sections in the eastern parcel where shallow rock is likely to be present.
- 5.3.1.2 Topsoil was typically encountered at depths ranging from 0.12 m to 0.44 m and generally comprised either sandy clay loam (SCL), clay loam (CL) or silty clay (ZC) with dark brown colouring. Close examination of the topsoil within the trial pits identified well developed sub-angular to angular blocky peds as well as soils with a massive structure where higher clay contents were present.
- 5.3.1.3 Laboratory analysis comprising Particle Size Distribution (PSD) and Sedimentation analysis of 4 no. topsoil samples from TP01, TP02, TP03 & TP04 was completed to confirm soil texture. Laboratory results are presented in Appendix E.
- 5.3.1.4 In reference to Table 5 of the MAFF guidelines, stone size of the tested samples was less than 6 cm, with 100% of the soil passing through the 63 mm PSD sieve. Stone content in TP01 was 14 % (Sub-grade 3a), TP02 was 40 % (Grade 4), TP03 was 22% (Subgrade 3b) and TP04 was 5 % (Grade 1). Field estimation of stone content in the topsoil auger positions was generally <5 % with estimated contents of 5-10 % and 10-15 % present in several positions. It is considered that the variable stone content is possibly due to the undulating relief of the site which may have led to preferential transportation and deposition of the stones.
- 5.3.1.5 The soil structure observed in the trial pits generally showed weakly developed angular peds or in some positions an indistinguishable crumbly structure. Given the high clay content present in the subsoils and structure observed, it is considered that the majority of the subsoils encountered represent a slow permeable layer.
- 5.3.1.6 The colour of the sub-soils generally consisted of yellowish brown, brown and strong brown colours. Whilst mottling was observed in the majority of positions, the hue of the mottling in a lot of cases did not indicate gleying in accordance with the MAFF Guidelines. Those positions that are considered to have undergone gleying had mottling in the ochreous range of hues.
- 5.3.1.7 With the exception of surface puddling and waterlogged topsoils, groundwater was not encountered within any of the intrusive positions.
- 5.3.1.8 Full details of the soil survey are available in Appendix C.
- 5.3.1.9 Observations from the on-site soil survey and derived wetness classes and soil grade based on criteria detailed in the MAFF guidelines are outlined in Table 3 below.

Table 3: ALC Soil survey summary

Position	Topsoil depth (m)	Texture of top 25cm	Stoniness of top 25cm (%)	Depth to slow permeable layer (m)	Depth to gleying (m)	Figure used for class	Estimated wetness class*	Grade according to wetness [#]
TP01	0.32	SC	14	0.32	-	8	III	4
TP02	0.31	C	40	>0.76	-	6	I	3b
TP03	0.29	C	22	0.29	-	8	III	4
TP04	0.26	C	5	0.26	-	8	III	4
SB01	0.18	SCL	-	Too shallow				
SB02	0.37	SCL	-	Too shallow				
SB03	0.28	SCL	-	Too shallow				
SB04	0.42	SCL	-	0.42	-	8	III	3b
SB05	0.32	MCL	-	0.32	0.32	7	IV	3b
SB06	0.34	MCL	-	0.34	-	8	III	3b
SB07	0.44	MCL	-	0.44	-	8	III	3b
SB08	0.38	SCL	-	0.38	0.38	7	IV	3b
SB09	0.42	MCL	-	Too shallow				
SB10	0.44	SCL	-	0.44	-	8	III	3b
SB11	0.29	SCL	-	0.29	-	8	III	3b
SB12	0.33	MCL	-	0.33	0.33	7	IV	3b
SB13	0.22	SCL	10-15	Refused – possible made ground				
SB14	0.42	SCL	-	0.42	-	8	III	3b
SB15	0.37	SCL	-	0.37	0.37	7	IV	3b
SB16	0.22	SCL	-	0.22	-	8	III	3b
SB17	0.30	ZC	-	0.30	-	8	III	4
SB18	0.29	ZC		0.29	-	8	III	4
SB19	0.22	SCL	-	0.22	-	8	III	3b
SB20	0.28	MCL	-	0.28	0.28	7	IV	3b
SB21	0.36	ZC	-	0.68	-	8	III	4
SB22	0.26	ZC	-	0.26	-	8	III	4
SB23	0.12	SCL	-	Too shallow				
SB24	0.33	SCL	-	0.33	-	8	III	3b
SB25	0.27	MCL	-	0.27	0.27	7	IV	3b
SB26	0.32	CL	-	0.32	-	8	III	4
SB27	0.36	SCL	-	0.36	-	8	III	3b
SB28	0.76	MCL	-	0.76	-	8	III	3b
SB29	0.27	MCL	-	0.27	-	8	III	3b
SB30	0.36	MCL	-	0.36	-	8	III	3b
SB31	0.32	MCL	-	0.32	0.32	7	IV	3b
SB32	0.24	MCL	-	0.24	-	8	III	3b
SB33	0.31	MCL	5-10	0.31	-	8	III	3b
SB34	0.50	SL	10-15	Refused – possible made ground				
SB35	0.15	MCL	-	0.15	-	8	III	3b
SB36	0.22	C	-	0.22	-	8	III	4
SB37	0.32	MCL	-	0.32	-	8	III	3b
SB38	0.32	C	10-15	0.32	0.32	7	IV	5

Table 3: ALC Soil survey summary

Position	Topsoil depth (m)	Texture of top 25cm	Stoniness of top 25cm (%)	Depth to slow permeable layer (m)	Depth to gleying (m)	Figure used for class	Estimated wetness class*	Grade according to wetness [#]
SB39	0.34	MCL	5-10	-	-	8	III	3b
SB40	0.34	MCL	-	0.34	-	8	III	3b
SB41	0.31	ZC	-	0.31	-	8	III	4
SB42	0.26	ZC	-	0.26	-	8	III	4
SB43	0.23	ZC	-	0.23	-	8	III	4
SB44	0.34	MCL	-	0.34	-	8	III	3b
SB45	0.24	ZC	-	0.24	-	8	III	4
SB46	0.29	ZC	-	0.29	-	8	III	4
SB47	0.40	ZC	-	0.40	-	8	III	4
SB48	0.20	ZC	-	0.20	-	8	III	4

Notes:

SC = Sandy clay, C = Clay, SCL = Sandy clay loam, MCL = Medium clay loam, SL = Sandy loam ZC = Silty clay

* = Derived from Figures 6, 7 and 8 of the MAFF guidelines based on an FCD of 230

[#] = Derived from Table 6 (mineral soils) of the MAFF guidelines.

5.3.2 Soil Droughtiness

5.3.2.1 From the ALC Guidelines, a soil droughtiness limitation exists 'in areas with relatively low rainfall or high evapotranspiration, or where the soil holds only small reserves of moisture available to plant roots.' The ALC grade according to soil droughtiness is shown in Table 4 below (based on Table 8 'Grade According to Droughtiness' in the ALC Guidelines). To be eligible for Grades 1 to 3b, the moisture balances (MBs) must be equal to, or exceed, the stated minimum values for both wheat and potatoes. If the MB for either crop is less (i.e. more negative) than that shown for Subgrade 3b, the soil is Grade 4 on droughtiness).

Table 4: ALC Grade According to Droughtiness		
Grade/Subgrade	Moisture Balance Limits	
	Wheat	Potatoes
1	+30	+10
2	+5	-10
3a	-20	-30
3b	-50	-55
4	<-50	<-55

5.3.2.2 Given that the soils have been classified as Grade 4 and Sub-grade 3b for wetness in Table 3 of this report, it is considered unlikely that droughtiness will be a limiting factor. However, the moisture balance (MB) values have been calculated for the soil profiles at a selection of locations to confirm this and are listed with the corresponding ALC grade in Table 5 below. Full droughtiness calculations are available in Appendix D.

Table 5: ALC Grade According to Droughtiness			
Position	Moisture Balance Limits		Grade
	Wheat	Potatoes	
TP01	66.2	57.2	1
TP02	82.0	61.0	1
TP03	65.9	55.7	1
TP04	63.2	52.2	1

5.4 ALC Grading

5.4.1 From the published information above, together with the findings of the detailed soil survey, it has been determined that the quality of agricultural land at the site is limited by wetness and the lesser extent gradient and stoniness. It is considered that the soil texture and high Field Capacity Data derived from wetness is the deciding factor for grade.

5.4.2 It is acknowledged that the evidence of gleying varies across the site, however, as stated above the significant high Field Capacity Data value interpolated for the site's location and elevation is the main variable in the wetness values attributed to the site.

5.4.3 The site has been zoned based on each position's limiting factor and is shown in Figure 6 & of Appendix . The corresponding areas for each Grade/Sub-grade are listed below in Table 6.

Table 6: ALC Grade Area		
Grade/Sub-grade	Area (ha)	Percent of site Area (%)
3a	0.8	1.5
3b	25.8	49.6
4	24.6	47.4
5	0.8	1.5

6.0 CONCLUSIONS

6.1 The approximate 52 ha within the survey site that has been assessed in this ALC survey has been divided into 4 no. different Grades/Sub-grades, generally dictated by the wetness assessment, stoniness and gradient. The largest area is Sub-grade 3b covering 49.6 % of the site, then Grade 4 accounting for 47.4 %, Sub-grade 3a covering 1.5 % and an area of Grade 5 covering 1.5 %.

7.0 REFERENCES

Hodgson, J.M. (ed.) (1997). Soil Survey Field Handbook. Technical Monograph No. 5. Soil Survey and Land Research Centre, Silsoe.

Ministry of Agriculture, Fisheries and Food (1988) Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land.

Natural England (December, 2012). 'Agricultural Land Classification: protecting the best and most versatile agricultural land (TIN049)'.

8.0 GLOSSARY

AAR: Average Annual Rainfall. AAR is a measure of the total amount of rainfall, falling in a calendar year (observation period 1941-1970). This is different to the duration of wetness throughout a calendar year – see FCD.

ALC: Agricultural Land Classification system. This is a robust, scientific system to assess agricultural land quality at a range of mapping scales. The ALC is the only approved system for grading land quality in England and Wales. (See also BMV)

ATO: Median Accumulated Temperature above 0°C (January to June). This measures the warmth of an area during a period critical for germination and plant growth. ATO is simply a sum of all temperatures above 0°C, summed daily from January to June. This is used in the assessment of overall climate. April to September values of ATO is used in some background calculations (this is known as ATS, see below).

ATS: Median Accumulated Temperature above 0°C (April to September). ATS is a sum of all temperatures above 0°C, summed daily from April to September.

FCD: Field Capacity Days. FCD is the number of days per year a soil is at Field Capacity. Field Capacity (FC) is maximum water soil content under gravity, i.e. the soil moisture deficit is 0 and the point at which drainage starts. At Field Capacity, soils are considered too wet for cultivation. FCD is a key criterion in ALC assessment of soil wetness and workability.

Interactive limitations: In ALC, these are physical limitations which result from interactions between climate, site and soil. The interactive limitations in ALC are soil wetness, droughtiness and erosion. Interactive limitations allow for similar soils to be assessed differently, in wetter or drier parts of England and Wales. See also Standalone limitations.

MAFF: MAFF was the Ministry of Agriculture, Fisheries and Food (now DEFRA)

MAFF 1988 Guidelines: The Revised guidelines and criteria for grading the quality of agricultural land (MAFF 1988). This is the extant and only approved system for grading land quality in England and

Wales. The guidelines came into force on 1 January 1989 superseding any previous ALC surveys or guidelines (see MAFF Technical Reports: Tech 11 and 11/1)

Mineral soils: Mineral soils are soils which are not organic-mineral soil or peaty and have less than 6-10% organic matter. Most lowland arable soils outside Fenland are mineral. See Appendix 2 of the MAFF 1988 Guidelines for definitions.

Moisture Balance (MB): Droughtiness limits for grades and subgrades are defined in terms of moisture balances (MB, in mm) for wheat and potatoes which are calculated using the following formulae:

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

Moisture Deficit (MD): The moisture deficit term used in the ALC droughtiness assessment is a crop-related meteorological variable which represents the balance between rainfall and potential evapotranspiration calculated over a critical portion of the growing season.

Most limiting factor (ALC): If a combination of limiting factors exists, the most limiting one only is used to determine severity of limitation and hence ALC Grade. See Liebig's law of the minimum.

Organic-mineral or peaty soils: Organic mineral soils have between 6-25% organic matter, depending on clay content. Peaty soils have 20-100% organic matter, depending on clay content. See Appendix 2 of the MAFF 1988 Guidelines for definitions.

Predictive ALC: The Predictive ALC was introduced in Wales in 2017. It is a web-based model refining ALC grading at an all Wales level. It uses background climate and terrain models, linked to NATMAP soil property data. It then calibrates the data to the ALC system. Predictive ALC Grades (Including Subgrade 3a and 3b) can be viewed, along with all Post Revision field surveys. The Predictive ALC has superseded the Provisional ALC maps in Wales and is available on the Welsh Government website. It is the primary source of strategic ALC information in Wales. (See Provisional ALC).

Soil structure: Soil structure is the aggregation of individual soil particles into discrete units, called peds or structural units. These can be classified into different shapes, sizes etc. Differences between soil structural type and condition can have a large effect on soil water movement. Soil structure is important for soil wetness/workability and droughtiness assessment.

Soil texture: Soil texture is defined according to the relative proportions of sand, silt and clay fractions.

Standalone limitations: In ALC, these are limitations directly affecting grade independent of soil/climate interactions – e.g. flooding, gradient, topsoil stone content and overall climate.

Wetness Class: Wetness Class (WC) measures the amount of the year a soil is wet above certain depths on a scale of I – VI. WC I is driest, WC VI is wettest. WC I to IV are most encountered in ALC. For ALC, WC is assessed using (a) depth to gleyed horizon and depth to slowly permeable layer – measuring how quickly water can move through a soil profile – and (b) the number of Field Capacity Days (FCD)

– measuring the duration of climatic wetness. See Appendix 3 of the MAFF 1988 guidelines for a full definition.

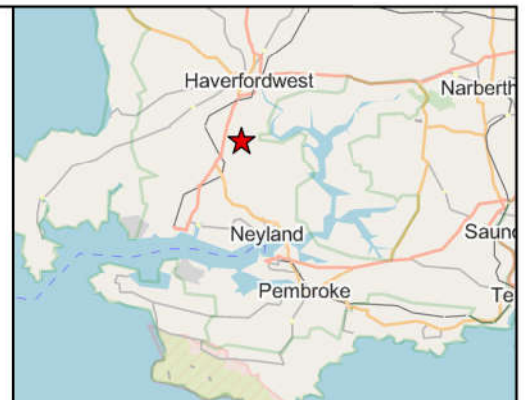
Wet: In soil wetness class assessment, ‘wet’ means water films are visible on the surfaces of grains or peds. Excavation below a wet horizon will cause water to flow down the exposed face, though flow may be very slow and confined to major pores and fissures. For a full definition see Soil Survey Field Handbook (Hodgson J.M. 1997 – definition as Hodgson J.M. 1976).

APPENDIX A - FIGURES

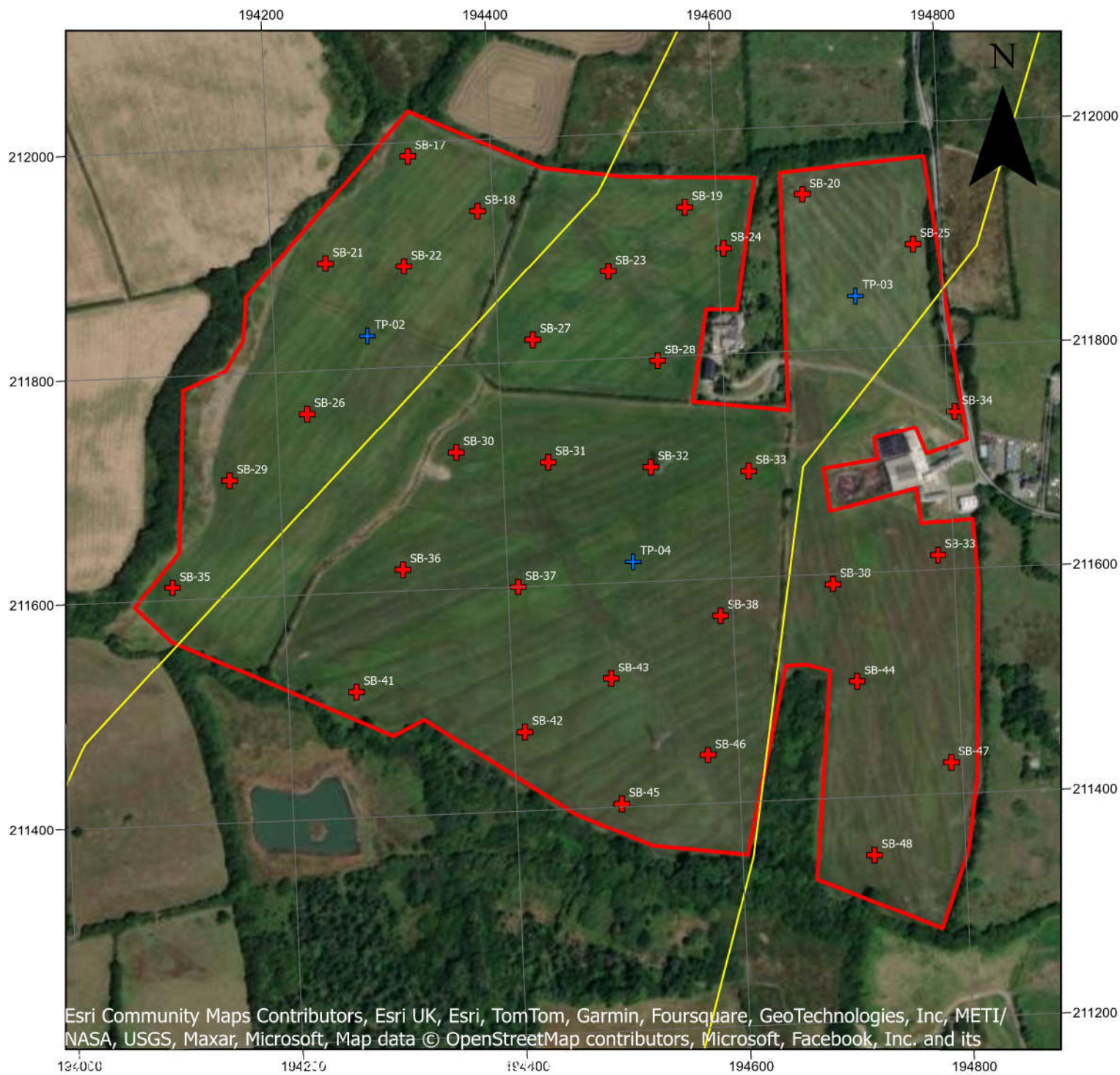


Legend

- White House Farm
- Middle Hill Farm

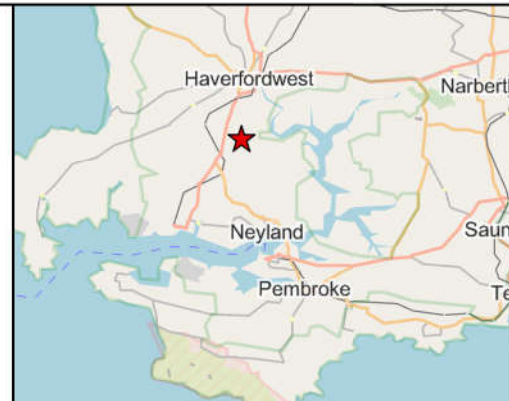


	Project	Axis, White House Farm	Project No.	P252121	Scale: 1:20,000
	Client	Axis	Date	25/02/2025	00100 0.10.2
	Figure	Figure 1: Site Boundary	Drawn by SP	Approved by AT	 Kilometers



Legend

- + Soil Augers
- + Trial Pits
- High Pressure Gas Mains

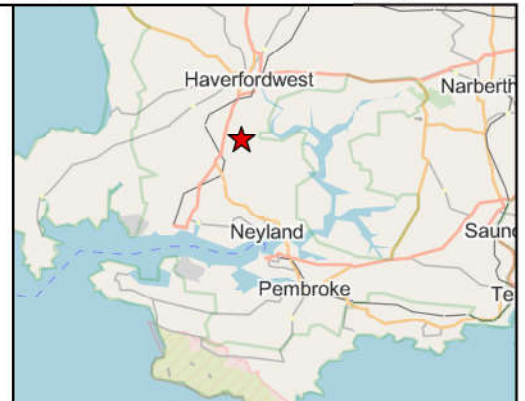


Project	Axis, White House Farm	Project No.	P252121	Scale: 1:8,000
Client	Axis	Date	25/02/2025	0.0000.00.08
Figure	Figure 2: White House Farm	Drawn by	SP	Approved by
			AT	Kilometers

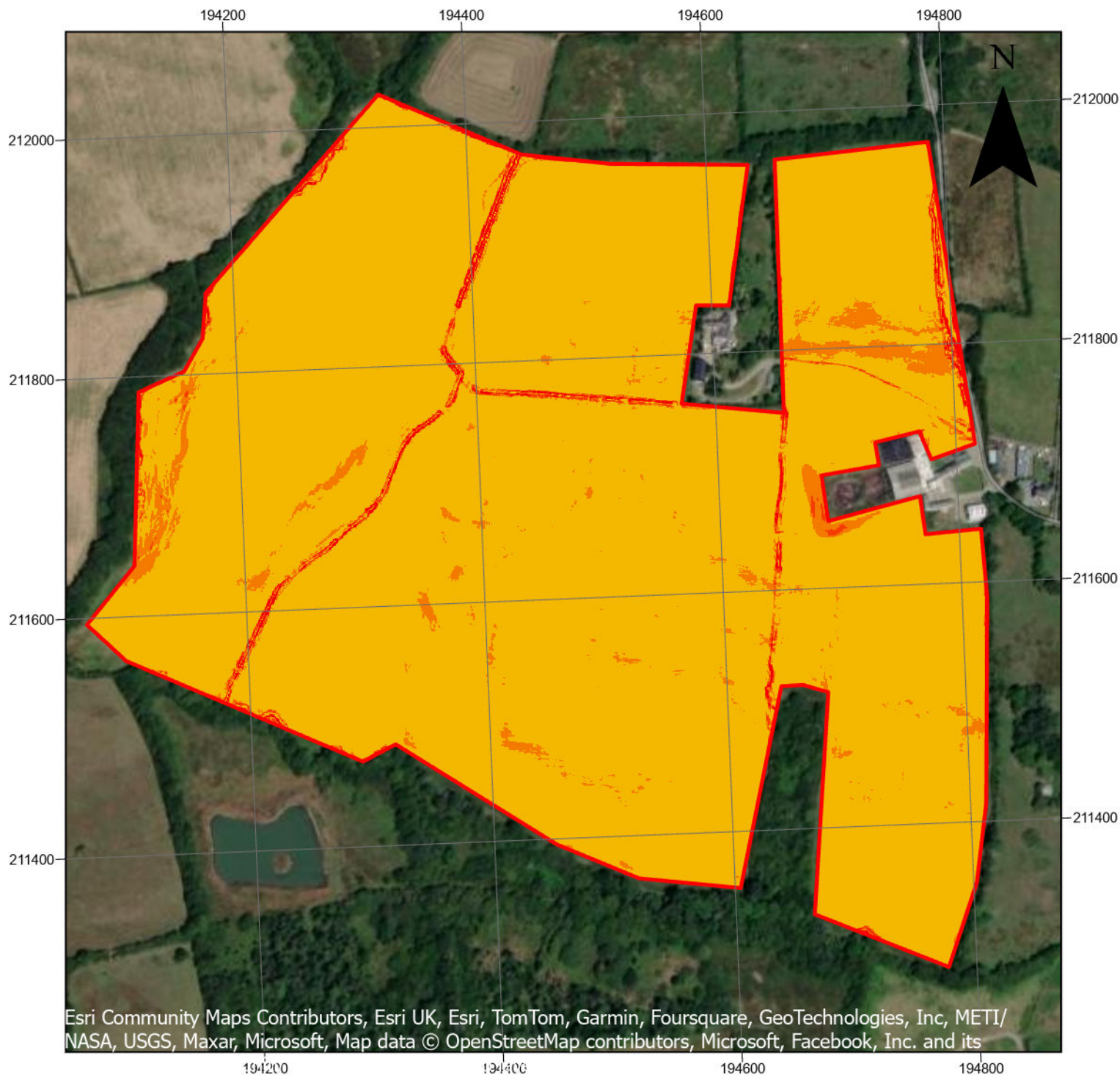


Legend

- + Soil Augers
- + Trial Pits
- High Pressure Gas Mains



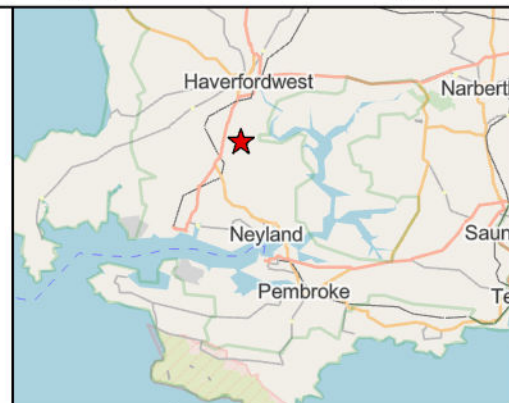
	Project	Axis, White House Farm	Project No.	P252121	Scale: 1:7,500
	Client	Axis	Date	25/02/2025	0.04 0.04 0.08
	Figure	Figure 3: Middle Hill Farm	Drawn by	SP	Approved by
				AT	



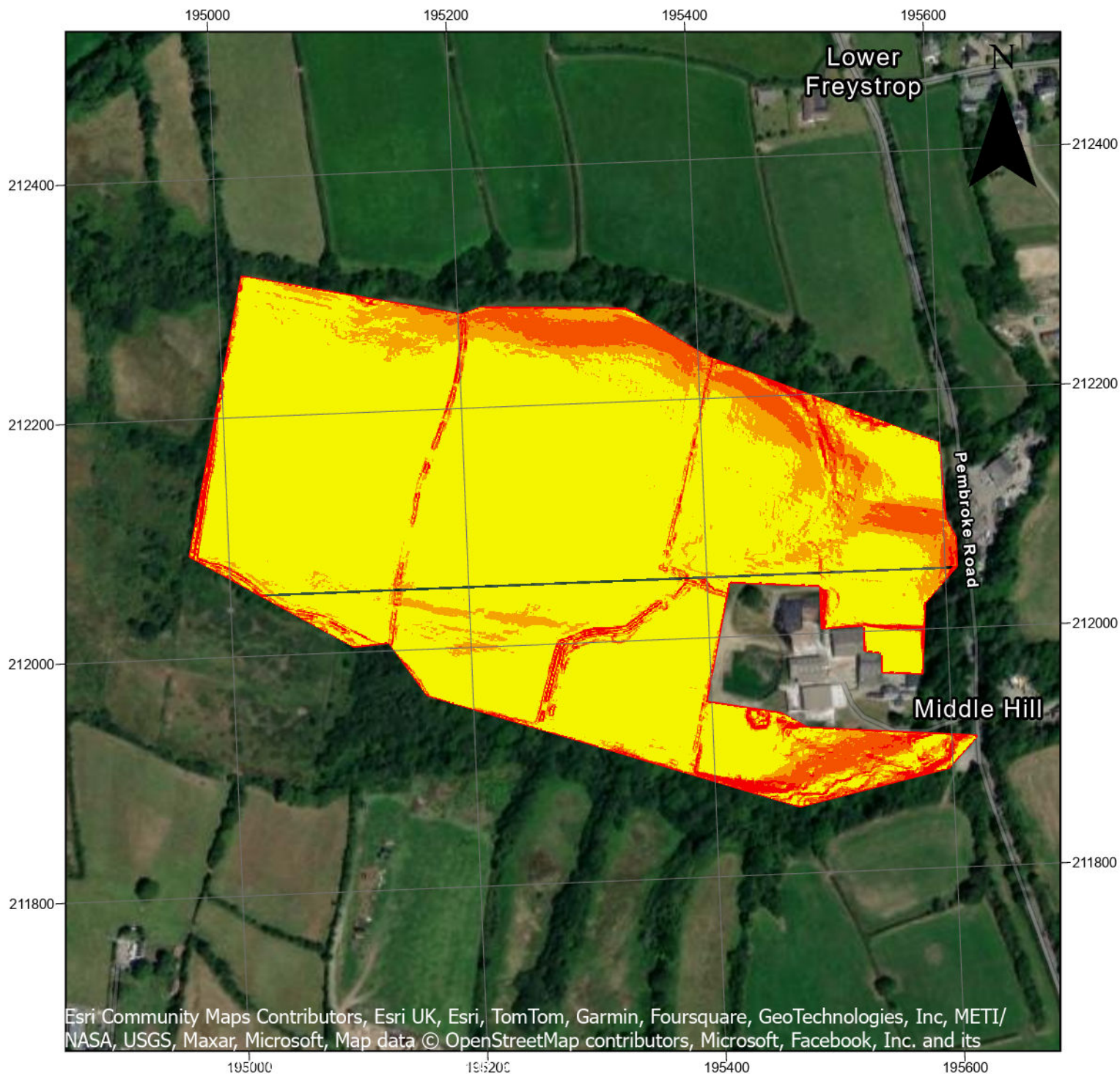
Legend

Slope - White House Farm

- <7 degrees
- 7-11 degrees
- 11-18 degrees
- >18 degrees



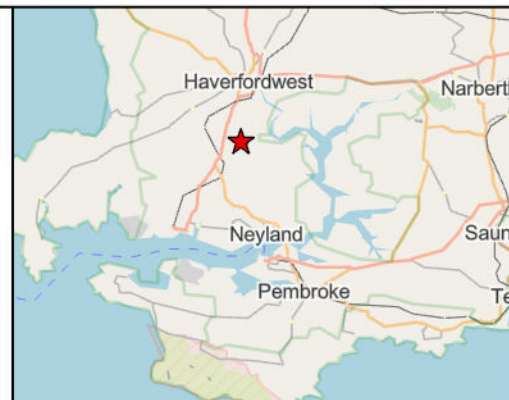
	Project	Axis, White House Farm	Project No.	P252121	Scale: 1:7,500
	Client	Axis	Date	25/02/2025	0.040 0.040.08
	Figure	Figure 4: White House Farm	Drawn by SP	Approved by AT	 Kilometers



Legend

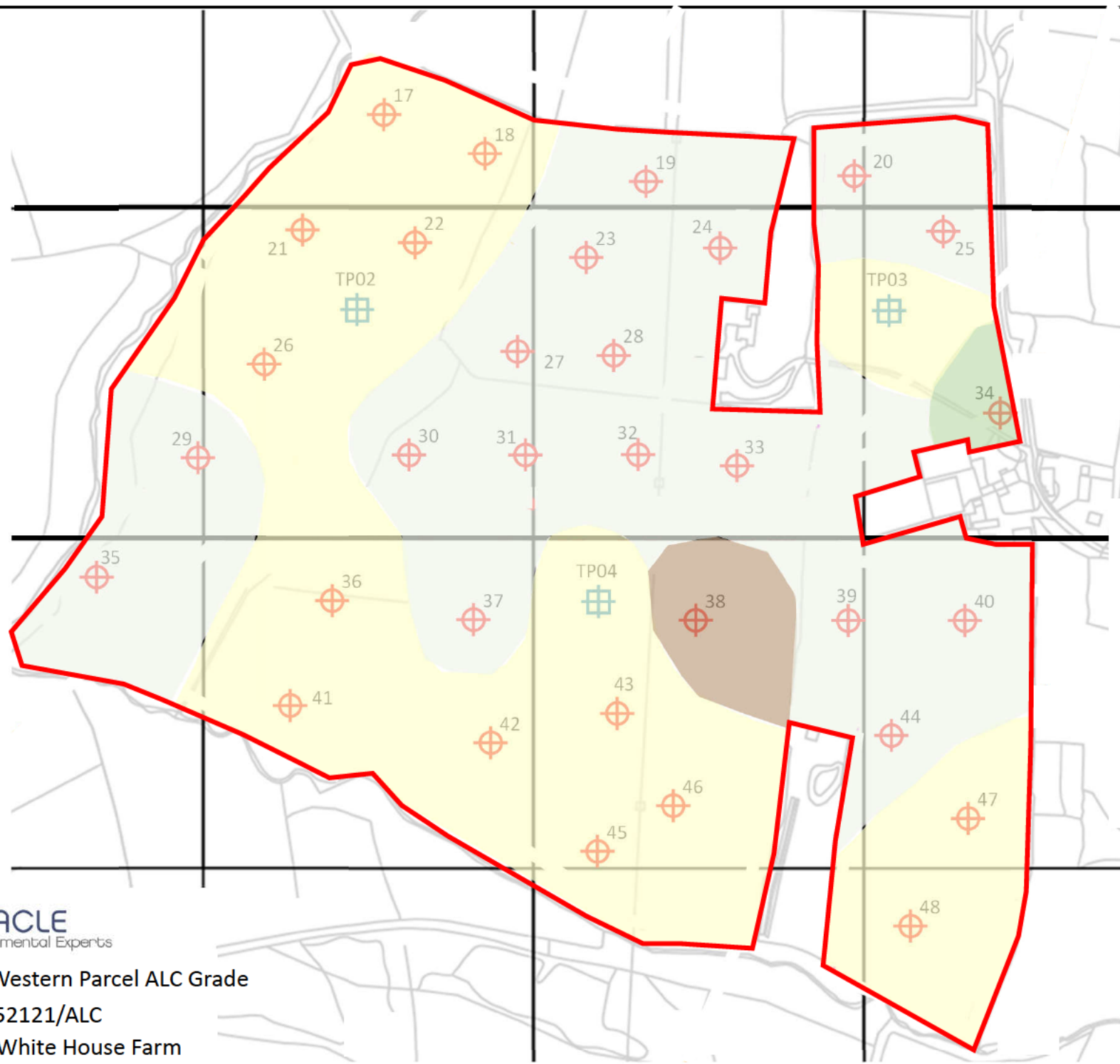
Slope - Middle Hill Farm

- <7 degrees
- 7-11 degrees
- 11-18 degrees
- >18 degrees



	Project	Axis, White House Farm	Project No.	P252121	Scale: 1:7,500
	Client	Axis	Date	25/02/2025	0.00 0.04 0.08
	Figure	Figure 5: Middle Hill Farm	Drawn by	SP	Approved by AT

 Kilometers



ALC Grade -

-  Sub-Grade 3a
-  Sub-Grade 3b
-  Grade 4
-  Grade 5

Legend

-  Trial Pit
-  Auger Soil Bore



Figure 6 – Western Parcel ALC Grade

Site ref: P252121/ALC

Site name: White House Farm

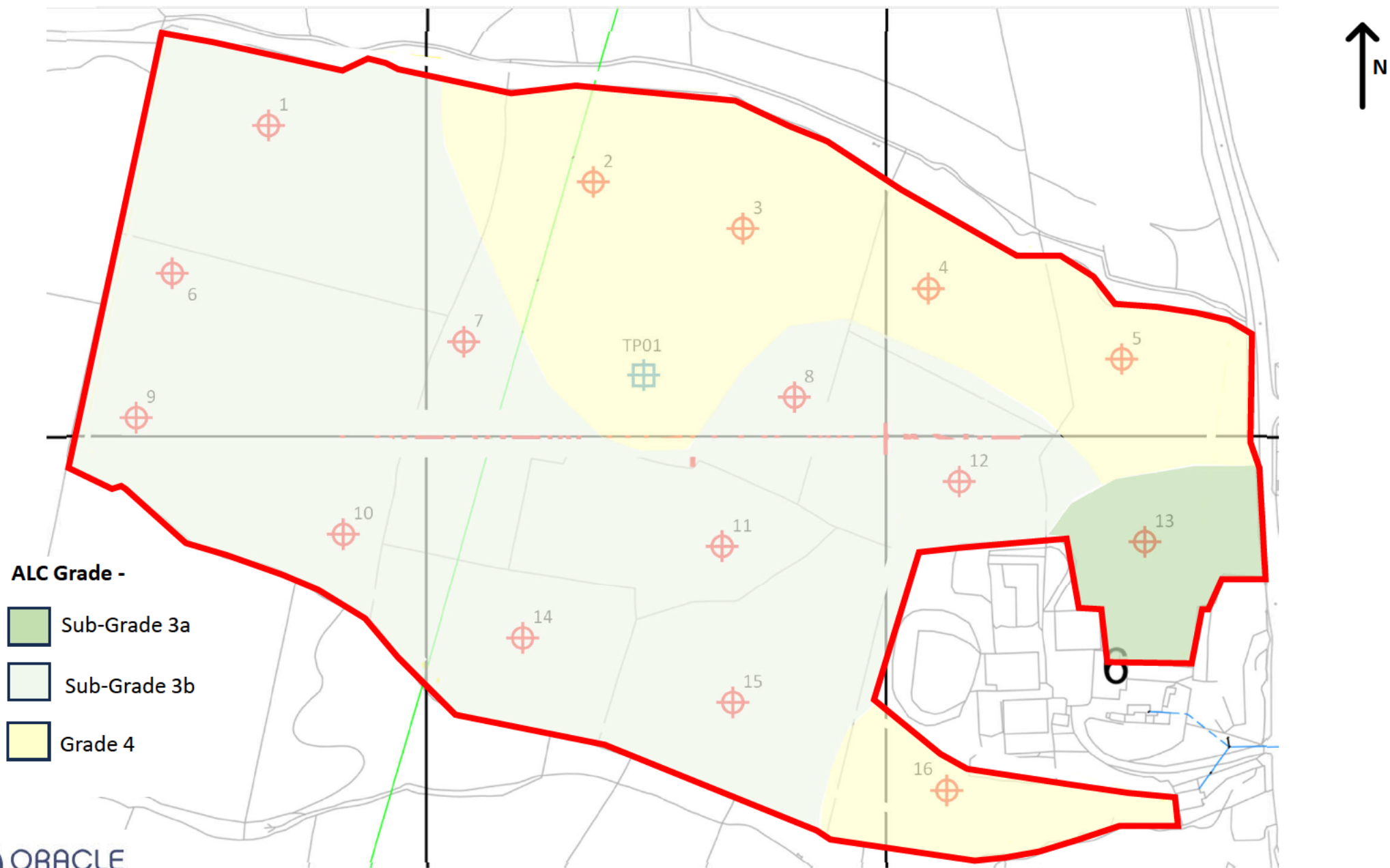


Figure 7 – East rn Parcel LC Grade

Site ref: P252121/ALC

Site name: White Horse Farm

APPENDIX B – PHOTOGRAPHIC RECORD

PHOTOGRAPHIC RECORD



Photo 1: View north across north-east of western parcel.



Photo 2: View south-west cross the centre of the western parcel.

PHOTOGRAPHIC RECORD



Photo 3: View west across southern section of western parcel



Photo 4: View north across centre of western parcel

PHOTOGRAPHIC RECORD



Photo 5: View east across eastern parcel



Photo 6: View south across eastern parcel



Photo 7: Centre of eastern parcel



Photo 8: Marshy grass in the south of the eastern parcel



Photo 9: TP01 arisings



Photo 10: TP01 excavation



Photo 11: TP02



Photo 12: TP02 excavation



Photo 13: TP03 arisings



Photo 14: TP03 excavation



Photo 15: TP04 arisings



Photo 16: TP04 excavation



Photo 17: SB01



Photo 18: SB02



Photo 19: SB03



Photo 20: SB04



Photo 21: SB05



Photo 22: SB06



Photo 23: SB07



Photo 24: SB08



Photo 25: SB09



Photo 26: SB10



Photo 27: SB11



Photo 28: SB12



Photo 29: SB13



Photo 30: SB14



Photo 31: SB15



Photo 32: SB16



Photo 33: SB17



Photo 34: SB18



Photo 35: SB19



Photo 36: SB20



Photo 37: SB21



Photo 38: SB22



Photo 39: SB23



Photo 40: SB24



Photo 41: SB25



Photo 42: SB26



Photo 43: SB27



Photo 44: SB28



Photo 45: SB29



Photo 46: SB30



Photo 47: SB31



Photo 48: SB32



Photo 49: SB33



Photo 50: SB34



Photo 51: SB35



Photo 52: SB36



Photo 53: SB37



Photo 54: SB38



Photo 55: SB39



Photo 56: SB40



Photo 57: SB41



Photo 58: SB42



Photo 59: SB43



Photo 60: SB44



Photo 61: SB45



Photo 62: SB46



Photo 63: SB47



Photo 64: SB48

APPENDIX C – SURVEY DETAILS

Position	Depth (m)	Description	Munsell Colour		Texture	Stoniness (%)	Groundwater (m)	Slope (°)	Wetness Class	Grade					Limit
			1st	2nd						Wetness	Droutiness	Stoniness	Gradient	Overall	
TP01	0.00-0.32	Soft dark brown stoney sandy clay with well developed medium to coarse sub-angular to angular blocky peds.	7.5YR3/2		SC	14	Dry	<7	III	4	1	3a	1	4	Wetness
	0.32-1.00	Firm yellowish brown becoming mottled grey with depth slightly stoney clay. Massive structure. Large cobble at 0.60m	10YR5/6	10YR5/1	C	5-10									
TP02	0.00-0.31	Soft dark brown very stoney clay with well developed medium to coarse sub-angular to angular blocky peds.	7.5YR3/3		C	40	Dry	<7	I	3b	1	4	1	4	Stoniness
	0.31-0.76	Firm very dark brown and black stoney silty clay loam.Indistinguishable crumbly structure possibly granular.	7.5YR3/1 & 7.5YR2.5/1		ZCL	10-15									
TP03	0.00-0.29	Soft dark brown stoney clay with a massive clay dominated structure.	7.5YR3/2		C	22	Dry	<7	III	4	1	3b	1	4	Wetness
	0.29-0.58	Firm brown mottled dark grey stoney clay with weakly developed fine to coarse angular peds.	7.5YR4/4	7.5YR4/1	C	10-15									
	0.58-0.84	Firm very dark grey and black stoney silty clay. Indistinguishable crumbly structure possibly granular.	7.5YR3/1 & 7.5YR2.5/1		ZC	10-15									
TP04	0.00-0.26	Soft dark brown clay with well developed coarse sub-angular to angular blocky peds.	7.5YR3/2		C	5	Dry	<7	III	4	1	1	1	4	Wetness
	0.26-0.48	Firm yellowish brown mottled grey sandy clay with weakly developed fine to coarse angular peds.	10YR5/6	10YR5/1	SC	-									
	0.48-0.67	Firm dark grey mottled brown stoney silty clay.	7.5YR4/1	7.5YR4/3	ZC	10-15									
SB01	0.00-0.18	Soft dark brown sandy clayey loam. (Refused)	7.5YR3/3		SCL	-	Dry	<7	-	-	-	1	1	-	-
SB02	0.00-0.37	Soft dark brown sandy clayey loam. (Refused)	7.5YR3/3		SCL	-	Dry	11-18	-	-	-	1	4	4	Gradient
SB03	0.00-0.28	Soft dark brown slightly sandy clayey loam.	7.5YR3/2		SCL	-	Dry	11-18	-	-	-	1	4	4	Gradient
	0.28-0.35	Firm brown stoney sandy clay. (Refused)	7.5YR4/3		SC	10-15									
SB04	0.00-0.42	Soft brown slightly sandy clay loam.	7.5YR4/3		SCL	-	Dry	11-18	III	3b	-	1	4	4	Gradient
	0.42-0.53	Firm yellowish brown mottled grey stoney sandy clay. (Refused)	10YR5/4	10YR5/1	SC	10-15									
SB05	0.00-0.32	Soft dark brown clay loam.	7.5YR3/2		CL	-	Dry	11-18	IV	3b	-	1	4	4	Gradient
	0.32-0.68	Firm yellowish brown mottled grey slightly stoney clay.	10YR5/6	10YR5/1	C	5-10									
SB06	0.00-0.34	Soft dark brown clay loam.	7.5YR3/2		CL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.34-1.00	Firm yellowish brown mottled grey slightly stoney clay.	10YR5/4	10YR5/1	C	5-10									
SB07	0.00-0.44	Soft dark brown clay loam.	7.5YR3/3		CL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.44-1.00	Firm yellowish brown becoming mottled grey with depth slightly stoney sandy clay.	10YR5/4	10YR5/1	SC	5-10									
SB08	0.00-0.38	Soft dark brown, slightly sandy, clayey loam.	7.5YR3/2		SCL	-	Dry	<7	IV	3b	-	1	1	3b	Wetness
	0.38-1.00	Firm brown mottled grey sandy clay.	10YR4/3	10YR5/1	SC	5-10									
SB09	0.00-0.42	Soft dark brown slightly sandy clay loam. (Refused)	7.5YR3/3		CL	-	Dry	<7	-	-	-	1	1	-	-
SB10	0.00-0.44	Soft dark brown slightly sandy clayey loam.	7.5YR3/2		SCL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.44-0.52	Firm brown stoney sandy clay. (Refused)	7.5YR4/3		SC	10-15									
SB11	0.00-0.29	Soft dark brown slightly sandy clayey loam.	7.5YR3/4		SCL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.29-0.75	Firm light brownish yellow mottled grey with depth, slightly sandy, slightly stoney clay. (Refused)	10YR6/6	10YR5/1	SC	5-10									
SB12	0.00-0.33	Soft dark brown clayey loam.	7.5YR3/3		CL	-	Dry	<7	IV	3b	-	1	1	3b	Wetness
	0.33-0.85	Firm yellowish brown mottled grey slightly stoney sandy clay.	10YR5/4	10YR6/1	SC	5-10									
SB13	0.00-0.22	Soft, dark brown stoney sandy clayey loam. (Refused - Possible made ground with uneven moundy features in close proximity)	7.5YR3/4		SCL	10-15	Dry	<7	-	-	-	3a	1	3a	Stoniness
SB14	0.00-0.42	Soft dark brown sandy clayey loam.	7.5YR3/3		SCL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.42-0.81	Firm light yellowish brown mottled grey clay.	10YR5/4	10YR5/1	C	-									
SB15	0.00-0.37	Dark brown slightly sandy clay loam.	7.5YR3/2		SCL	-	Dry	<7	IV	3b	-	1	1	3b	Wetness
	0.37-1.00	Firm brown mottled grey stoney sandy clay.	7.5YR5/4	7.5YR5/1	SC	10-15									
SB16	0.00-0.22	Soft dark brown sandy clayey loam.	7.5YR3/3		SCL	-	Dry	11-18	III	3b	-	1	4	4	Gradient
	0.22-0.30	Firm brown stoney sandy clay. (Refused)	7.5YR5/4		SC	10-15									
SB17	0.00-0.30	Soft dark brown silty clay.	7.5YR3/3		ZC	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.30-0.91	Firm brown mottled dark grey clay.	7.5YR5/4	7.5YR4/1	C	-									
SB18	0.00-0.29	Soft dark brown silty clay.	7.5YR3/3		ZC	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.29-1.15	Firm to stiff yellowish brown mottled grey and brown slightly sandy clay.	10YR5.4	10YR5/1 & 10YR4/3	SC	-									
SB19	0.00-0.22	Soft dark greyish brown slightly sandy clay loam.	10YR4/2		SCL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.22-1.00	Firm yellowish brown becoming mottled grey with depth stoney sandy clay.	10YR5/4	10YR5/1	SC	10-15									
SB20	0.00-0.28	Soft dark brown clay loam.	7.5YR3/2		CL	-	Dry	<7	IV	3b	-	1	1	3b	Wetness
	0.28-0.87	Firm brown mottled strong brown sandy clay.	7.5YR4/4	7.5YR4/6	SC	-									
SB21	0.00-0.36	Soft dark brown silty clay.	7.5YR3/2		ZC	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.36-0.68	Soft to firm dark brown clay loam.	7.5YR3/3		CL	-									
	0.68-1.07	Firm strong brown mottled dark grey slightly stoney clay.	7.5YR5/6	7.5YR4/1	C	5-10									
SB22	0.00-0.26	Soft dark brown silty clay.	7.5YR3/3		ZC	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.26-1.00	Firm strong brown mottled dark grey clay.	7.5YR5/6	7.5YR4/1	C	-									
SB23	0.00-0.12	Soft dark brown slightly sandy clay loam.	7.5YR3/3		SCL	-	Dry	<7	-	-	-	1	1	-	-
	0.12-0.22	Firm brown slightly sandy stoney clay. (Refused)	7.5YR4/2		SC	10-15									
SB24	0.00-0.33	Dark greyish brown sandy clayey loam.	10YR4/2		SCL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.33-1.00	Firm yellowish brown mottled grey slightly stoney sandy clay.	10YR5/4	10YR5/1	SC	5-10									
SB25	0.00-0.27	Soft dark brown clay loam.	7.5YR3/2		CL	-	Dry	<7	IV	3b	-	1	1	3b	Wetness
	0.27-1.23	Firm brown mottled strong brown & dark grey clay.	7.5YR4/2	7.5YR4/6 & 7.5YR4/1	C	-									
SB26	0.00-0.32	Soft very dark brown clay loam.	7.5YR2.5/2		CL	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.32-1.21	Firm becoming stiff strong brown mottled dark grey clay.	7.5YR5/6	7.5YR4/1	C	-									
SB27	0.00-0.36	Soft dark greyish brown sandy clayey loam.	10YR4/2		SCL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.36-1.00	Firm yellowish brown mottled grey stoney sandy clay.	10YR5/4	10YR5/1	SC	5-10									
SB28	0.00-0.76	Soft very dark grey stoney clay loam.	10YR3/1		CL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.76-1.00	Firm brown mottled dark grey stoney sandy clay.	7.5YR4/2	7.5YR4/1	SC	10-15									
SB29	0.00-0.27	Very soft dark brown clay loam.	7.5YR3/2		CL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.27-1.17	Firm dark yellowish brown mottled dark grey and brown slightly sandy clay becoming stoney with depth.	10YR4/4	10YR4/1 & 10YR5/3	SC	10-15									
SB30	0.00-0.36	Soft dark brown clay loam.	7.5YR3/2		CL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.36-0.94	Firm dark grey mottled brown slightly stoney clay.	7.5YR5/1	7.5YR4/2	C	5-10									
SB31	0.00-0.32	Soft very dark brown clay loam.	7.5YR2.5/2		CL	-	Dry	<7	IV	3b	-	1	1	3b	Wetness
	0.32-1.03	Firm becoming stiff yellowish brown mottled grey and strong brown silty clay becoming stoney with depth.	10YR5/4	7.5YR5/1 & 7.5YR4/6	ZC	10-15									
SB32	0.00-0.24	Soft dark brown clay loam.	7.5YR3/2		CL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.24-0.39	Firm dark brown mottled dark grey clay.	7.5YR3/3		C	-									
	0.39-1.05	Firm brown mottled grey slightly stoney sandy clay.	7.5YR4/4	7.5YR5/1	SC	5-10									
SB33	0.00-0.31	Soft very dark brown slightly stoney clay loam.	7.5YR2.5/2		CL	5-10	Dry	<7	III	3b	-	2	1	3b	Wetness
	0.31-0.58	Firm dark brown clay.	7.5YR3/3		CL	-									
	0.58-0.93	Firm becoming stiff brown mottled grey slightly sandy clay.	7.5YR4/4	7.5YR5/1	SC	-									
SB34	0.00-0.50	Soft very black and dark brown stoney organic sandy loam. (Refused-possible made ground)	7.5YR2.5/1 & 7.5YR2.5/2		SL	10-15	Dry	<7	-	-	-	3a	1	3a	Stoniness
SB35	0.00-0.15	Very soft dark brown clay loam.	7.5YR3/3		CL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.15-0.99	Soft to firm yellowish brown mottled dark grey silty clay.	10YR5/4	10YR4/1	ZC	-									
SB36	0.00-0.22	Soft dark greyish brown clay.	10YR4/2		C	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.22-1.10	Firm yellowish brown mottled grey and brown clay.	10YR5/6	10YR5/1 & 10YR5/3	C	-									
	1.10-1.18	Stiff dark grey slightly stoney clay.	10YR4/1		C	5-10									
SB37	0.00-0.32	Soft very dark brown clay loam.	7.5YR2.5/2		CL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.32-0.96	Firm becoming stiff strong brown mottled dark grey and brown slightly sandy clay.	7.5YR4/6	7.5YR4/1 & 7.5YR4/3	SC	-									
SB38	0.00-0.32	Soft dark reddish brown stoney clay.	5YR3/3		C	10-15	Dry	<7	IV	5	-	3a	1	5	Wetness
	0.32-1.17	Firm yellowish brown mottled grey sandy clay, becoming sandier with depth.	10YR5/6	10YR5/1	SC	-									
SB39	0.00-0.34	Soft very dark grey mottled dark brown slightly stoney slightly clay loam.	7.5YR3/1	7.5YR3/2	CL	5-10	Dry	<7	III	3b	-	2	1	3b	Wetness
	0.34-0.51	Possible Made Ground - Firm dark brown stoney sandy clay.	7.5YR3/3		SC	10-15									
SB40	0.00-0.34	Soft dark greyish brown clay loam.	10YR4/2		CL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.34-1.20	Firm dark grey mottled yellowish brown slightly stoney clay.	10YR4/1	10YR5/6	CL	5-10									
SB41	0.00-0.31	Soft dark brown silty clay.	7.5YR3/3		ZC	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.31-0.82	Firm yellowish brown mottled grey clay.	10YR5/6	10YR5/1	C	-									
SB42	0.00-0.26	Soft dark brown silty clay.	7.5YR3/2		ZC	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.26-0.91	Firm brownish yellow mottled brownish grey clay.	10YR6/6	10YR5/2	C	-									
SB43	0.00-0.23	Soft dark brown silty clay.	7.5YR3/2		ZC	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.23-1.15	Firm brown mottled grey clay	7.5YR4/4	7.5YR5/1	C	-									
SB44	0.00-0.34	Soft dark brown clay loam.	7.5YR3/3		CL	-	Dry	<7	III	3b	-	1	1	3b	Wetness
	0.34-1.20	Firm yellowish brown mottled grey and brown clay.	10YR5/6	7.5YR5/1 & 7.5YR4/4	C	-									
SB45	0.00-0.24	Soft dark greyish brown silty clay.	10YR4/2		ZC	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.24-1.18	Firm yellowish brown slightly sandy clay.	10YR5/4		SC	-									
SB46	0.00-0.29	Soft dark brown silty clay.	7.5YR3/3		ZC	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.29-0.92	Firm yellowish brown mottled grey and brown clay.	10YR5/4	10YR5/1 & 10YR4/3	C	-									
	0.92-1.21	Firm to stiff dark grey mottled brown slightly stoney clay.	10YR4/1	10YR4/3	C	5-10									
SB47	0.00-0.40	Soft very dark greyish brown silty clay.	10YR3/2		ZC	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.40-0.89	Firm yellowish brown mottled grey sandy clay.	10YR5/4	10YR5/1	SC	-									
	0.89-1.19	Firm to stiff very dark grey slightly stoney silty clay.	10YR3/1		ZC	5-10									
SB48	0.00-0.20	Very soft dark greyish brown silty clay.	10YR4/2		ZC	-	Dry	<7	III	4	-	1	1	4	Wetness
	0.20-1.12	Firm dark grey mottled yellowish brown clay.	10YR4/1	10YR5/6	C	-									

APPENDIX D – DROUGHTINESS CALCULATIONS

Potato	
Moisture Deficit =	58

TP01				
	Thickness (cm)	Texture Class	Available Water (%)	Thickness x Avail Water
Topsoil (TA)	32	SC	17	544
Subsoil 1 (TA)	38	C	16	608
Available Water Capacity	115.2			
Moisture Balance	57.2			

TP02				
	Thickness (cm)	Texture Class	Available Water (%)	Thickness x Avail Water
Topsoil (TA)	31	C	17	527
Subsoil 1 (TA)	39	ZCL	17	663
Available Water Capacity	119			
Moisture Balance	61			

TP03				
	Thickness (cm)	Texture Class	Available Water (%)	Thickness x Avail Water
Topsoil (TA)	29	C	17	493
Subsoil 1 (TA)	29	C	16	464
Subsoil 2 (TA)	12	ZC	15	180
Available Water Capacity	113.7			
Moisture Balance	55.7			

TP04				
	Thickness (cm)	Texture Class	Available Water (%)	Thickness x Avail Water
Topsoil (TA)	26	C	17	442
Subsoil 1 (TA)	22	SC	15	330
Subsoil 2 (TA)	22	ZC	15	330
Available Water Capacity	110.2			
Moisture Balance	52.2			

Winter Wheat	
Moisture Deficit =	73

TP01				
	Thickness (cm)	Texture Class	Available Water (%)	Thickness x Avail Water
Topsoil (TA)	32	SC	17	544
Subsoil 1 (TA)	18	C	16	288
Subsoil 1 (EA)	70	C	8	560
Available Water Capacity	139.2			
Moisture Balance	66.2			

TP02				
	Thickness (cm)	Texture Class	Available Water (%)	Thickness x Avail Water
Topsoil (TA)	31	C	17	527
Subsoil 1 (TA)	19	ZCL	17	323
Subsoil 1 (EA)	70	ZCL	10	700
Available Water Capacity	155			
Moisture Balance	82			

TP03				
	Thickness (cm)	Texture Class	Available Water (%)	Thickness x Avail Water
Topsoil (TA)	29	C	17	493
Subsoil 1 (TA)	21	C	16	336
Subsoil 1 (EA)	8	C	8	64
Subsoil 2 (EA)	62	ZC	8	496
Available Water Capacity	138.9			
Moisture Balance	65.9			

TP04				
	Thickness (cm)	Texture Class	Available Water (%)	Thickness x Avail Water
Topsoil (TA)	26	C	17	442
Subsoil 1 (TA)	22	SC	15	330
Subsoil 2 (TA)	2	ZC	15	30
Subsoil 2 (EA)	70	ZC	8	560
Available Water Capacity	136.2			
Moisture Balance	63.2			

APPENDIX E – LAB RATORY RESULTS



Laboratory Report



Contract Number: 77224

Client Ref: **P25212**
Client PO: **PO-19714**

Date Received: **18-02-2025**
Date Completed: **23-02-2025**
Report Date: **23-02-2025**

Client: **Oracle Enviromental Experts LTD**

This report has been checked and approved by:

Contract Title: **White House Farm**
For the attention of: **Alan Taylor**



Brendan Evans
Office Administrator

Description	Qty
Particle Size Distribution BS EN ISO 17892-4 : 5.1 - * UKAS	4
Sedimentation by Pipette Method BS EN ISO 17892-4 : 5.4	4

Notes: Observations and Interpretations are outside the UKAS Accreditation

* - denotes test included in laboratory scope of accreditation

- denotes test carried out by approved contractor

@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

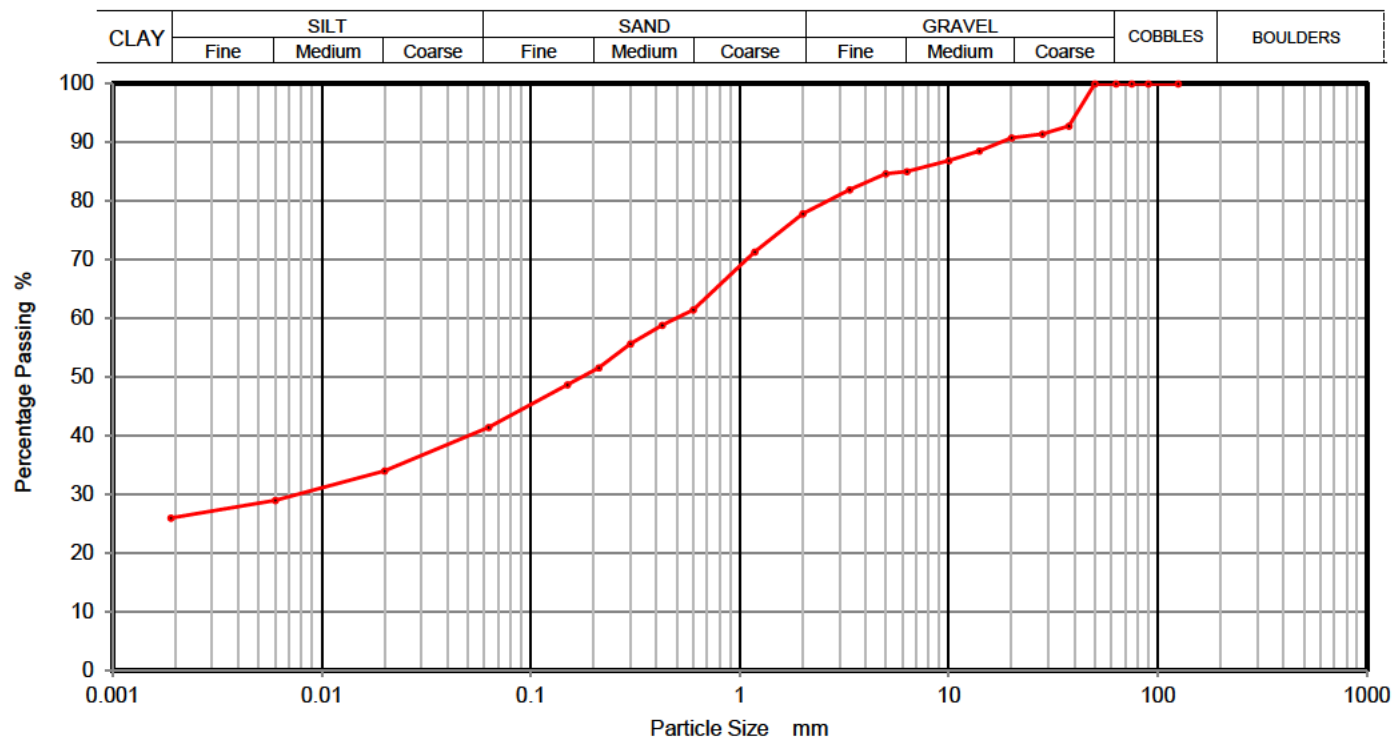
Approved Signatories:

Brendan Evans (Office Administrator) - Darren Bourne (Quality Senior Technician) - Paul Evans (Director)
Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)
Wayne Honey (HR & HSE Manager)

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4:2016
Wet Sieve & Pipette Analysis, Clause 5.2 & 5.4

Contract Number	77224
Borehole/Pit No.	TP01
Sample No.	1
Depth Top	0.10
Depth Base	0.30
Sample Type	B

Project Name	White House Farm
Sample Description	Brown fine to coarse gravelly fine to coarse sandy silty CLAY
Date Tested	19/02/2025



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0200	34
90	100	0.0060	29
75	100	0.0020	26
63	100		
50	100		
37.5	93		
28	91		
20	91		
14	89		
10	87		
6.3	85		
5	85		
3.35	82		
2	78		
1.18	71		
0.63	61		
0.425	59		
0.30	56		
0.20	52		
0.15	49		
0.063	41		

Sample Proportions	% dry mass
Cobbles	0
Gravel	22
Sand	37
Silt	15
Clay	26

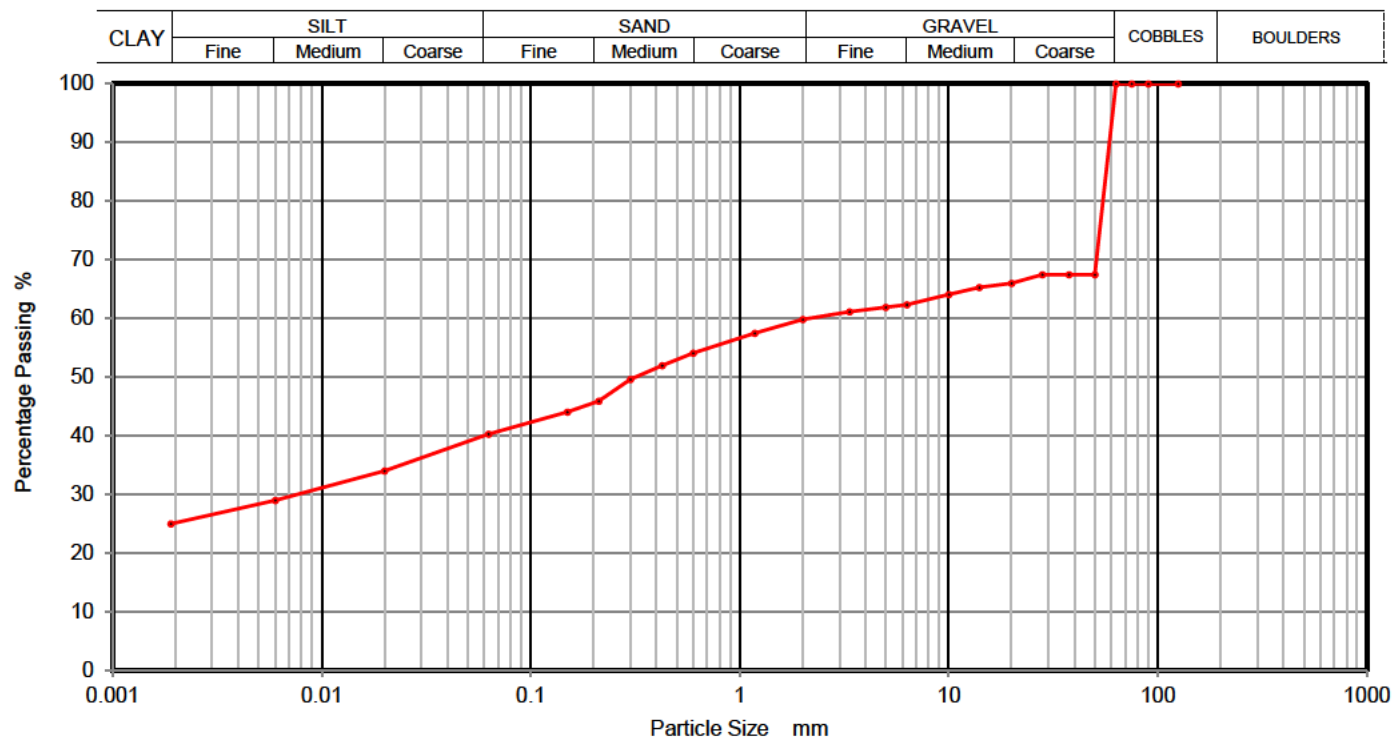
Remarks
Preparation and testing in accordance with BS17892 unless noted below

Operator
Cameron T.

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4:2016
Wet Sieve & Pipette Analysis, Clause 5.2 & 5.4

Contract Number	77224
Borehole/Pit No.	TP02
Sample No.	1
Depth Top	0.10
Depth Base	0.30
Sample Type	B

Project Name	White House Farm
Sample Description	Brown fine to coarse sandy fine to coarse gravelly silty CLAY
Date Tested	19/02/2025



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0200	34
90	100	0.0060	29
75	100	0.0020	25
63	100		
50	67		
37.5	67		
28	67		
20	66		
14	65		
10	64		
6.3	62		
5	62		
3.35	61		
2	60		
1.18	58		
0.63	54		
0.425	52		
0.30	50		
0.20	46		
0.15	44		
0.063	40		

Sample Proportions	% dry mass
Cobbles	0
Gravel	40
Sand	20
Silt	15
Clay	25

Remarks

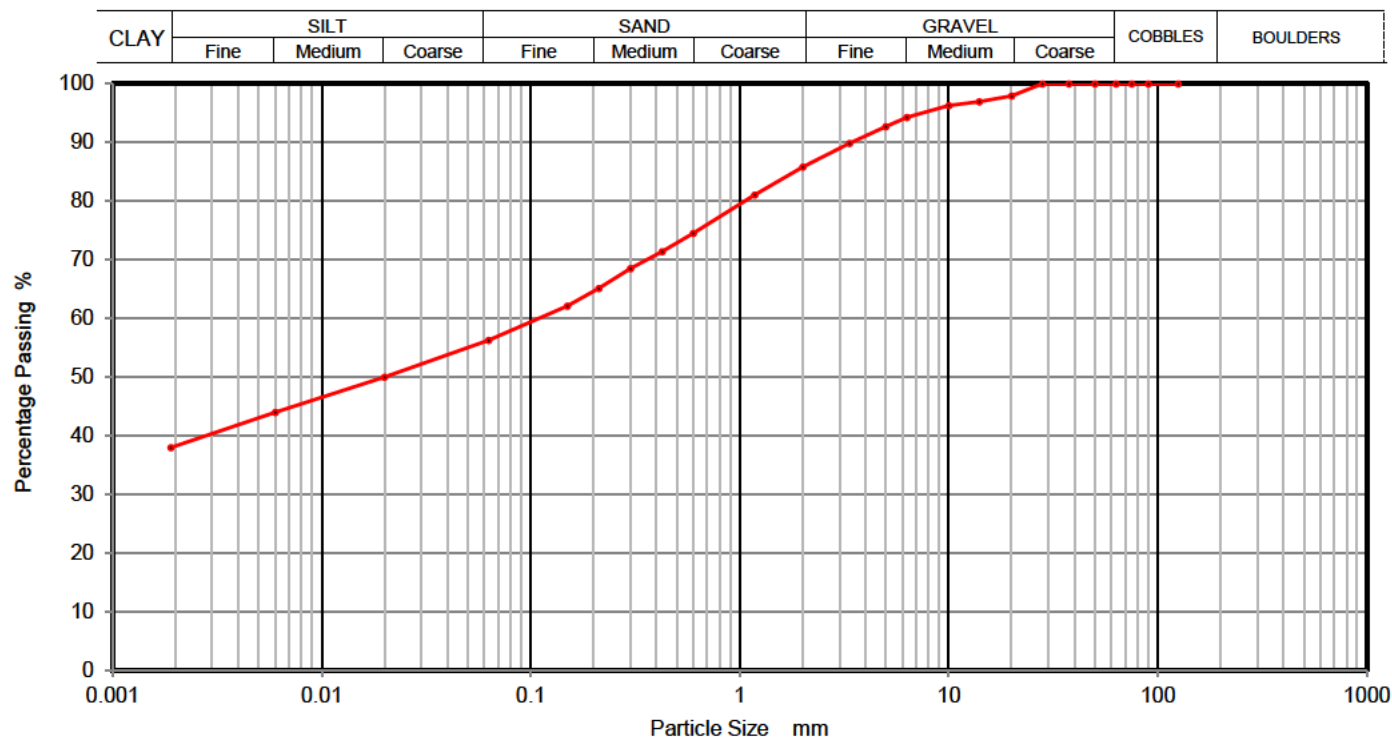
Preparation and testing in accordance with BS17892 unless noted below

Operator
Cameron T.

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4:2016
Wet Sieve & Pipette Analysis, Clause 5.2 & 5.4

Contract Number	77224
Borehole/Pit No.	TP03
Sample No.	1
Depth Top	0.10
Depth Base	0.30
Sample Type	B

Project Name	White House Farm
Sample Description	Brown fine to coarse gravelly fine to coarse sandy silty CLAY
Date Tested	19/02/2025



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0200	50
90	100	0.0060	44
75	100	0.0020	38
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	97		
10	96		
6.3	94		
5	93		
3.35	90		
2	86		
1.18	81		
0.63	75		
0.425	71		
0.30	68		
0.20	65		
0.15	62		
0.063	56		

Sample Proportions	% dry mass
Cobbles	0
Gravel	14
Sand	30
Silt	18
Clay	38

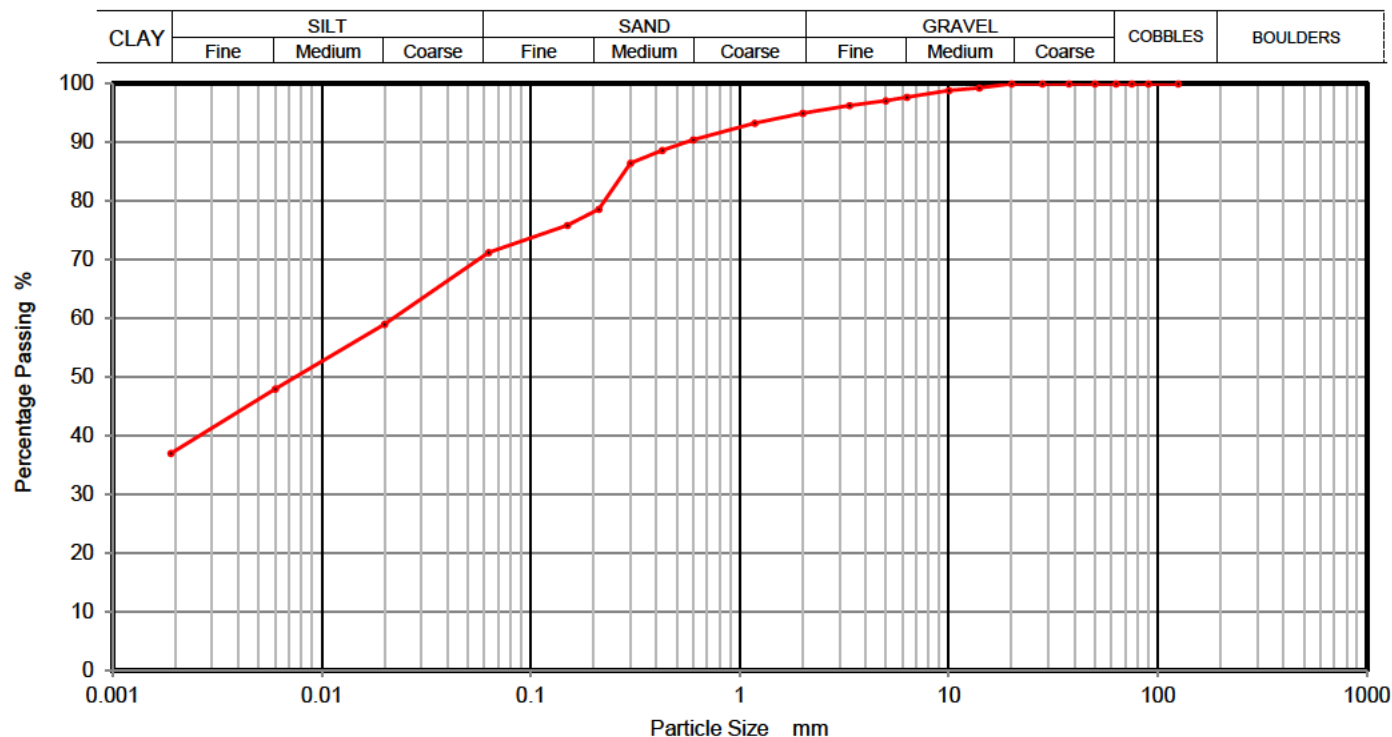
Remarks
Preparation and testing in accordance with BS17892 unless noted below

Operator
Cameron T.

PARTICLE SIZE DISTRIBUTION
BS EN ISO 17892-4:2016
Wet Sieve & Pipette Analysis, Clause 5.2 & 5.4

Contract Number	77224
Borehole/Pit No.	TP04
Sample No.	1
Depth Top	0.10
Depth Base	0.30
Sample Type	B

Project Name	White House Farm
Sample Description	Brown slightly fine to medium gravelly fine to coarse sandy silty CLAY
Date Tested	19/02/2025



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0200	59
90	100	0.0060	48
75	100	0.0020	37
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	98		
5	97		
3.35	96		
2	95		
1.18	93		
0.63	90		
0.425	89		
0.30	86		
0.20	79		
0.15	76		
0.063	71		

Sample Proportions	% dry mass
Cobbles	0
Gravel	5
Sand	24
Silt	34
Clay	37

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Operator

Cameron T.

Oracle Environmental Experts Limited (OEE) has prepared this report with all reasonable skill, care and diligence in accordance with the instructions from the Client.

OEE has prepared this report for the sole use of the Client and those parties an assignment agreed by OEE in writing. Any third parties who wish to rely upon the contents of this report must seek written approval from OEE and a charge may be levied for such approval. OEE accept no responsibility or liability for the consequences of the contents of this report being used for any other purpose other than which it was commissioned or by any third party with whom an assignment has not been granted.

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Subject to the specific instructions from the Client and the agreed scope of works, the intrusive site investigation works will have been carried out to provide sufficient information regarding the type, nature and extent of the contamination of the soil, groundwater and surface waters and air, to enable a reasonable assessment of risks to human health, the environment and building structures and services.

The investigation of the site will have been limited to those areas of the site that were accessible by exploratory equipment and were clear of buried services and ordinance (if present).

A more comprehensive investigation of the site may be required should the site be developed or used for a more sensitive land use than that indicated in this report.

The investigations of the exploratory holes undertaken can only provide an indication of the site conditions owing to the small volume of the ground represented by the exploratory holes in relation to the remainder of the site. The number and distribution of sampling locations and the methods of sampling and testing used does not preclude the presence of localised 'hotspots' of contamination where concentrations of contaminants may be higher than those encountered. Reasonable care must be taken in the interpretation of the findings of this investigation and in accordance with standard practice, no liability can be accepted by OEE for localised contamination 'hot-spots' not identified by the site investigation.

The soil, surface water, groundwater and air conditions reported herein are based on observations and testing completed at the time of the site investigation. The soil, surface water, groundwater and air conditions will change over time (e.g. owing to seasonal groundwater level fluctuations, weather related effects etc).

The risk assessment and associated opinions provided herein are based on currently available guidance relating to acceptable contaminant concentrations and the relevant land use scenarios associated with the proposed development of the site and the current land use of the adjacent sites.

OEE accepts no liability for the retrospective effects associated with any future changes or amendments to published assessment criteria, models or associated guidance. Should the proposed use of the site change from that detailed herein further investigation and/or assessment may be required.