



LOW CARBON

BEACON FEN PV DCO

SOILS AND AGRICULTURAL LAND CLASSIFICATION

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ST19595/166 Agricultural Land Classification Map

ST19595/168 Soil Associations

1 INTRODUCTION

1.1 Background

1.1.1 Wardell Armstrong LLP (WA) has been commissioned by Low Carbon to undertake an Agricultural Land Classification (ALC) survey on a 528.2 hectares (ha) parcel of land between Ewerby and South Kyme, postcode NG34 9PS (hereafter referred to as 'the Site').

1.1.2 This report includes the ALC results for the Application Boundary, shown in Plate 1.



Plate 1: Application boundary shown in red (Basemap © Google Maps).

1.2 Site Description

1.2.1 The Site is located within the administrative area of North Kesteven District Council. The Site is situated near the post code NG34 9PR and is accessed via Howell Fen Drove (located off Heckington Road). The Site is comprised primarily of agricultural field throughout with some small areas of forestry.

1.2.2 Surrounding area is comprised entirely of agricultural land and farmhouses.

1.2.3 At the time of the survey in August and September 2023, the weather was typically clear and warm.



Photograph 1: Overview of the site condition during the survey in August 2023.

1.3 Definitions

- 1.3.1 The ALC system was devised by the Ministry of Agriculture, Fisheries and Food (MAFF) (1988)¹ and is the standard method for determining the quality of agricultural land in England and Wales according to its versatility, productivity and workability, based upon inter-related parameters including climate, relief, soil characteristics and drainage; i.e. ALC assesses land quality based upon the type and level of agricultural production the land can potentially support.
- 1.3.2 The ALC places land into one of five grades: Grade 1 (excellent); Grade 2 (very good); Grade 3 (good to moderate) which is divided into Subgrades 3a (good) and 3b (moderate); Grade 4 (poor); and Grade 5 (very poor).

¹ MAFF (1988). The Agricultural Land Classification (ALC) of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land. Available at: <http://publications.naturalengland.org.uk/publication/6257050620264448> Accessed August 2023.

- 1.3.3 Best and most versatile (BMV) agricultural land is defined as land of excellent to good agricultural quality (ALC Grades 1, 2 and Subgrade 3a) and is afforded a degree of protection in the National Planning Policy Framework (NPPF), 2023².
- 1.3.4 Soil series are the lowest category in the soil classification system and are precisely defined based upon particle-size distribution, parent material (substrate) type, colour, and mineralogical characteristics. Soil associations are groupings of related soil series.

² UK Government (2023). National Planning Policy Framework. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>. Accessed October 2023

2 METHODOLOGY

2.1 Desk Study

2.1.1 Information about the soils and agricultural land present on the Site was obtained from the following published sources:

- MAFF (1993). 1:250,000 'Provisional Agricultural Land Classification'³.
- Met Office (1989) Climatological Data for Agricultural Land Classification (ALC): Grid point datasets of climatic variables at 5 km intervals for England and Wales⁴.
- Soil Survey of England and Wales (1984) Soils and their Use in Eastern England, with accompanying 1: 250,000 map, Sheet 4.
- OS (2021) Terrain 5 Digital Terrain Modelling⁵.
- Multi-Agency Geographical Information for the Countryside (MAGIC)⁶.
- Google Maps including Streetview⁷.
- Cranfield University (2015). Research to develop the evidence base on soil erosion and water use in agriculture⁸.
- Cranfield University (2023) The Soils Guide. Available at LandIS - Land Information System - Soils guide Accessed July 2023.⁹
- Natural England (2017) Likelihood of Best and Most Versatile (BMV) Agricultural Land – Strategic scale map East Midlands region¹⁰.
- Munsell (2010) Colour Charts¹¹.
- British Geological Survey Geology Viewer (BGS)¹².

³ Provisional Agricultural Land Classification Maps and Data. Available at: <https://data.gov.uk/dataset/952421ec-da63-4569-817d-4d6399df40a1/provisional-agricultural-land-classification-alc> Accessed August 2023.

⁴ Met Office (1989) Climatological Data for Agricultural Land Classification (ALC): Grid point datasets of climatic variables at 5 km intervals for England and Wales. Available at: <https://data.gov.uk/dataset/8a334958-ff65-4f5c-9674-5a85e61ee269/climatological-data-for-agricultural-land-classification> Accessed August 2023.

⁵ OS Terrain 5. Available at: <https://www.ordnancesurvey.co.uk/business-government/products/terrain-5> August July 2023.

⁶ HM Government. Multi-Agency Geographical Information for the Countryside (MAGIC). Available at: www.magic.gov.uk

⁷ Google Maps (©2021). Available at: <https://www.google.co.uk/maps/> Accessed August 2023.

⁸ Knox *et al.* (2015). 'Research to develop the evidence base on soil erosion and water use in agriculture: Final Technical Report. pp147' Available at <https://www.theccc.org.uk/wp-content/uploads/2015/06/Cranfield-University-for-the-ASC.pdf> Accessed August 2023.

⁹ Cranfield University (2023) The Soils Guide. Available at LandIS - Land Information System - Soils guide Accessed August 2023.

¹⁰ Natural England (2017) Likelihood of Best and Most Versatile (BMV) Agricultural Land - Strategic scale map East midlands region (ALC017) Available at: <http://publications.naturalengland.org.uk/category/5208993007403008> Accessed August 2023.

¹¹ Munsell Colour (2010). Munsell Soil Colour Charts. Not available online.

¹² British Geological Survey UKRI (2023) British Geological Survey Geology Viewer. Available at: BGS Geology Viewer - British Geological Survey Accessed October 2023.

2.2 Site Survey

- 2.2.1 An ALC and soil survey was undertaken in three stages due to harvest schedules. The first stage of the survey took place between 14th and 18th August 2023. The second stage of the survey took place between 21st and 25th August 2023, and the third stage of the survey took place between 4th and 6th September 2023. The soil survey was undertaken by experienced soil surveyors using a combination of augered soil cores and soil profile pits.
- 2.2.2 Auger cores were taken using a 70 mm diameter hand-held Edelman auger, capable of sampling to a maximum depth of 120 cm. The soil profile pits were excavated, using a spade to a maximum depth of 80 cm, sufficient to evaluate the in-situ structure of the soil profile.
- 2.2.3 A total of 515 points (472 cores and 43 pits) were inspected (Drawing ST19595/166). The survey points were distributed across the Site, giving a survey density of one point per hectare in the areas of agricultural land¹³. The purpose of the survey was to provide details of soil profile characteristics and to inform the ALC assessment. The results of the Soil Survey are included in Appendix 1.
- 2.2.4 To confirm the soil texture across the Site, 127 soil samples (selected to represent areas of the site or where changes in soil characteristics were identified) were sent for analysis of particle size distribution and other determinants (organic matter, pH, phosphorus, potassium, and magnesium). The samples were analysed by NRM Laboratories, which is accredited by UKAS to the internationally recognised standard for competence; ISO/IEC 17025. The laboratory results are included in Appendix 2.

¹³ Natural England (2012). Technical Information Note 049, 'Agricultural Land Classification: protecting the Best and Most Versatile agricultural land'. Available at <http://publications.naturalengland.org.uk/publication/35012>. Accessed October 2023

3 DESK STUDY

3.1 Soils

3.1.1 The scale of the Soil Survey of England and Wales (1984) mapping is such that it is not accurate to the field level and does not pick up small-scale local variations in soil type. However, it does provide a general indication of the soil types within the Site and the wider area.

3.1.2 The Soil Survey of England and Wales (1984) indicates that the Site belongs to the Wallasea 2 (813g), Beccles 3 (711t) and Ruskington (512c) soil associations. The Beccles 2 (711s) is mapped at the boundary of the Site and thus has also been included. A summary of the characteristics of these soil associations is provided in Table 1.

Table 1: The Soil Associations based on the Soil Survey of England and Wales (1984).

Soil Association	Wallasea 2 813g	Beccles 3 711t	Ruskington 512c	Beccles 2 711s
Soil Series	Wallasea, Newchurch, Blacktoft, Wisbech	Beccles, Ashley, Hanslope	Ruskington, Ickford, Newsleaford	Beccles Aldeby, Blackwood
Geology	Marine alluvium	Chalky till	Glaciofluvial sand and gravel	Chalky till and glaciofluvial drift
Soil characteristics	Deep stoneless clayey soils, calcareous in places. Some deep calcareous silty soils. Flat land often with low ridges giving a complex soil pattern. Groundwater controlled by ditches and pumps.	Slowly permeable seasonally waterlogged fine loamy over clayey soils, associated with similar clayey soils.	Deep permeable calcareous coarse and fine loamy and sandy soils affected by groundwater. Flat land.	Slowly permeable seasonally waterlogged fine and coarse loamy over clayey soils. Some deep sandy soils affected by groundwater.
Soil Water Regime (WC = Wetness Class)	Most of the land is pump-drained and the more permeable Blacktoft and Wisbech soils are well drained (WC I). Wallasea and Newchurch soils are less permeable but respond to	All the soils have slowly permeable subsoils which cause waterlogging for much of the winter (WC III and IV). Because of this they have a limited winter rainfall acceptance potential and most surplus	Most of the soils have been artificially drained so are now only occasionally waterlogged in winter (WC II) as they respond well to drainage. Locally, however, where there is	Beccles and Aldeby soils are seasonally waterlogged (WC III) because of their slowly permeable subsoils, but in Lincolnshire, where perimeter ditches are linked to pumped arterial systems, Blackwood soils

	underdrainage; drained soils are occasionally waterlogged (WC II) but undrained soils are waterlogged for long periods in winter (WC III or IV).	water is shed laterally as surface run-off.	hard ironpan or an undulating, slowly permeable clay substratum the soils lie wet for longer.	are only occasionally waterlogged (WC II). There are marked annual differences in the duration of waterlogging.
Erodibility	Minimal risk	Hanslope soils are restricted to convex eroded slopes mainly at the margins of delineations (calcareous till near surface).	Minimal risk	Minimal risk

3.2 Agricultural Land Classification

- 3.2.1 The Provisional 1:250,000 ALC mapping indicates that agricultural land within the Survey Area is ALC Grade 3 (good to moderate quality). However, as with the soils data, the scale of the mapping is not accurate at the field level, and this is reflected by the inability to pick up variations in ALC grade for areas less than approximately 80 ha. However, it does provide an indication of the predominant ALC grading in the wider area.
- 3.2.2 The Natural England BMV Likelihood mapping shows the site to be in an area of both High (>60% area BMV) likelihood BMV and Moderate (20-60% area BMV) likelihood.
- 3.2.3 There was an assessment of agricultural quality of land carried out on the Site in January 2023 by Land Research Associates Ltd. The survey identified two generalised ALC land gradings, ‘mainly Subgrade 3a, some 2 and some 3b’ and ‘mainly Subgrade 3b’ land. The scope of the surveys did not conform to the requirements of Natural England’s 2021 ‘*Guide to Assessing Development Proposals on Agricultural Land*’¹⁴. It is also noted that samples for laboratory analysis were not taken, which does not conform to the Institute of Environmental Management & Assessment’s (IEMA) 2022 guidance ‘*A New Perspective on Land & Soil in Environmental Impact Assessment*’¹⁵,

¹⁴ Natural England (2021) Guide to assessing development proposals on agricultural land. Available at: <https://www.gov.uk/government/publications/agricultural-land-assess-proposals-for-development/guide-to-assessing-development-proposals-on-agricultural-land>. Accessed October 2023.

¹⁵ Institute of Environmental Management (2022) A New Perspective on Land and Soil in Environmental Impact Assessment. Available at: <https://www.iema.net/articles/new-land-and-soils-guidance-for-eia?t=156574>. Accessed October 2023

which states that “...where sampled soils are of a clay loam and silty clay loam texture, additional laboratory testing is required to determine the soils’ clay content for the accurate determinate of ALC...”.

3.2.3 A detailed Soils and Agriculture Land Classification (ALC) survey, including laboratory analysis of samples, is required therefore to ensure that the baseline information is sufficiently robust to inform the Soils and ALC Assessment, and to inform the Soil Management Plan (SMP) that is to be prepared as part of the application.

3.3 Aerial Imagery and Ordnance Survey Mapping

3.3.1 The Ordnance Survey mapping indicates that the Site has a gently undulating topography, with elevation from 5m to 15m AOD across the Site.

4 SITE SURVEY

4.1 Soils

The primary soil profiles observed across the Site were found to be consistent with the mapped soil associations, Beccles 3 711t (Photograph 2), Ruskington 512c (Photograph 3) and Wallasea 2 813g (Photograph 4). A summary of the typical soil profile observed on site is provided below, with detailed results provided in Appendix 1.



Photograph 2. Beccles 3 711t – Beccles series - point - 154



Photograph 3. Ruskington 512c – Ruskington series Point 450



Photograph 4. Wallasea 2 813g – Wallasea series Point 449

Beccles 3 (711t)

- 4.1.1 Soils with characteristics of Beccles 3 711t soil association formed a large proportion of the site (417 points). These soils typically consisted of heavy clay loam or clay topsoil (sandy clay loam and medium clay loam topsoils were also recorded in smaller quantities), ranging in colour from dark or very dark greyish brown (10YR 4/2 or 10YR 3/2) to dark or very dark grey (10YR 4/1 to 10YR 3/1). Points with sandy clay loam topsoil were generally located near points with the sandier Ruskington soil association characteristics. The topsoil ranged in depth from 20cm to 50cm and generally had medium or coarse sized sub angular blocky peds with moderate to strong development. Several points towards the south and centre of the site had calcareous topsoil.
- 4.1.2 Colour of the upper subsoil horizons ranged between grey (10YR 5/1 to 10YR 6/1), brown (10YR 5/3) or dark greyish brown (10YR 4/3). The upper subsoil was typically a clay texture (heavy clay loam and sandy clay loam textures were also recorded in the upper subsoil in smaller quantities), with a typical structure being angular blocky with firm to very firm consistency and medium to coarse sized peds with a moderate to weak development. Ochreous mottling and greyish/pale ped faces were found through a large proportion of these points indicating a gleyed horizon due to the slowly permeable nature of the subsoil horizons. The lower subsoil horizons were grey (10YR 5/1 to 10YR 6/1) to dark grey (10YR 4/1) or greyish brown (10YR 5/2) clay with coarse sized very firm weakly developed peds. These lower subsoils generally had strong ochreous mottling indicating a gleyed horizon. The lower subsoils were typically calcareous with chalk stones encountered at lower depths.

Ruskington (512c)

- 4.1.3 Soils with characteristics of Ruskington 512c (93 points) were found to the north/northeast of the site, but there were also bands of these soils found to the southwest and through the middle and south of the site. For these soils the topsoil typically consisted of very dark greyish brown (10YR 3/2) sandy loam or sandy clay loams ranging in depth from 26cm to 45cm. These generally had sub angular blocky, medium to fine sized friable or firm peds of moderate development. Upper subsoil depths ranged from 45 to 100 cm and are typically a yellowish brown (10YR 5/6) or brownish yellow (10YR 6/8) colour with a sandy loam or loamy sand texture and some ochreous mottling but generally no pale or greyish ped faces. The lower subsoils were typically yellowish brown (10YR 5/6) or light yellowish brown (10YR 6/4) colour with a

range of textures recorded including loamy sand, sand, clay, sandy loam and sandy clay loam with fine to medium sub angular blocky or granular peds of friable to very friable ped strength. The lower subsoils also had a higher stone content which in parts prevented the surveyor reaching the full profile depth. For several points a slowly permeable clay lower sub soil was found. This was generally gleyed clay with weakly developed, coarse angular blocky structure with very firm peds. Where these were present some gleying features were found in the upper subsoil horizons. Lower subsoil depths ranged between 60 cm to 115 cm.

- 4.1.4 Some points identified as Ruskington 512c soils have characteristics in line with the Ickford soil series. These are where the topsoil and upper subsoil were both typically a dark greyish brown (10YR 3/2) heavy clay loam or clay. Sandy loam, loamy sand and sandy clay loam textures were also recorded in the upper subsoil. The topsoil was recorded at a depth of between 10 and 60 cm. The heavy clay loam or clay upper subsoil generally was found over predominantly loamy sandy, sandy loam or sand lower subsoils. These were generally found to the very northeast of the site. The upper subsoil ranged in depth between 35 cm and 100 cm, and the lower subsoil horizons varied in depth between 55 cm and 120 cm.
- 4.1.5 Several points had characteristics that did not exactly match any soil series within the soil mapped associations for the site. These soils generally had Heavy Clay Loam/Sandy Clay Loam topsoil/upper subsoils over sandy loam or loamy sand with clay lower subsoils. These were generally located near the boundary of Ruskington 512c soils and have been grouped with these due to the present of sandy soils within the profile.

Wallasea 2 (813g)

- 4.1.6 Soils with characteristics of Wallasea 2 813g (5 points) were found towards the east of the site. These soils have a topsoil depth ranging from 30 to 45 cm and are very dark greyish brown (10 YR 3/2) to very dark grey (10YR 3/1) silty clay/clay with sub angular blocky, weakly to moderately developed, medium sized firm peds. The upper and lower subsoils were generally dark grey (10YR 4/1) silty clays, with strong to moderately developed, firm/very firm coarse sized peds. The subsoils were generally gleyed with ochreous mottling present and greyish matrix colours. The extent of these soils may cover surrounding points that were identified as having clay topsoil and subsoils. Upper subsoil depths ranged from 50 cm to 80 cm and lower subsoil depths ranged from 80 cm to 110 cm.

4.1.7 The location of survey points with the identified soil association characteristics is shown in Drawing ST19595/168.

Laboratory Results

4.1.8 A total of 127 Samples were taken from the topsoil and subsoil at 75 survey points across the site. These were analysed for pH, macro nutrient availability, soil organic matter and soil texture. Copies of the reports can be found in Appendix 2.

4.1.9 A total of 58 topsoils, 45 upper subsoils and 24 lower subsoils were analysed. The soil texture results largely matched the surveyed hand texture determinations and were used to confirm the soil textures of surrounding areas with similar characteristics. Where borderline results between textural classifications have been reported the soil texture result closest to the surveyed soil texture has been used.

4.2 Agricultural Land Classification

Agroclimatic Data

4.2.1 Agroclimatic data were taken from the nearest meteorological stations and interpolated to obtain site specific values (Table 2). This was then used to establish whether the agricultural land quality of the Site is limited by climate and, in conjunction with soil profile characteristics, wetness and droughtiness.

4.2.2 The climate on the Site poses no direct limitation on the ALC classification.

Average annual rainfall (mm)	560
Accumulated Temperature (°C)	1431
Field Capacity Duration (FCD) (days)	106
Moisture Deficit Wheat (mm)	118.04
Moisture Deficit Potatoes (mm)	112.82

4.3 Direct Limitations

4.3.1 Topsoil stoniness limits two survey points to Grade 2, two survey points to Subgrade 3a and two survey points to Subgrade 3b. In these cases, topsoil stoniness is not the only limiting factor.

4.3.2 There is no limitation due to topsoil depth.

4.3.3 No other direct limitations including gradient, summer and winter flood risk and topsoil texture limited the ALC grade at the Site.

4.4 Interactive ALC Limitations

Wetness

4.4.1 The soils with Beccles 3 711t and Wallasea 2 813g characteristics typically had slowly permeable clay subsoils and gleyed horizons within the profile. Based on the FCD of 106 days, points that have a slowly permeable layer (SPL) within 56cm and are gleyed within 40cm have a Wetness Class (WC) of III (WC II if the SPL is within 56 to 80cm). Where there is gleying between 40cm and 70cm and an SPL within 80cm the soils have WC II. Points with no SPL within 80cm and no gleying within 70cm have a WC I. Other points with no SPL but gleying within 70cm have WC I (WC II if gleying was within 40cm).

4.4.2 For soils with Ruskington 512c soil association characteristics and no Clay/Heavy Clay Loam subsoils there are typically no wetness limitations due to the sandy topsoil textures and no SPL or gleying present. Where Clay/ Heavy Clay loam subsoils were present, SPL and gleying features are present and the designation of wetness class follows the same process described in 4.4.1. However, the soils only become limited by wetness where there is a SPL <56cm and gleying within 40cm (if there is no SPL but gleying within 40cm, the coarse textured subsoils reduce the wetness class to I). In most other situations these soils are limited by droughtiness.

4.4.3 The summaries for wetness limitations for each of the soil associations provided above are for typical profile characteristics, however variations in the determination of Wetness grade occurred where there were differences in topsoil textures. Table 3 lists the soil profile characteristic combinations that lead to an overall wetness limitation and the number of points across the site with these characteristics.

Topsoil Textures	Depth to SPL	Depth to Gleying	Wetness Class (WC)	Limitation and Grade	No. Points
HCL C	<56cm	<40cm	III	Wetness 3b	260
HCL C	>56 <80cm	<40cm	II	Wetness 3a	9
Calcareous HCL Calcareous C	<80cm	<40cm	III	Wetness 3a	15
SCL MCL	>56 <80cm	<40cm	II	Wetness 2	3
SCL MCL	<56	<40cm	III	Wetness 3a	25
HCL C	<80	>40cm<70cm	II	Wetness 3a	55
Calcareous HCL Calcareous C	<80	>40cm<70cm	II	Wetness 2	3
C	No SPL	None <70cm	I	Wetness 3a	7
C HCL	No SPL	<40cm	II	Wetness 3a	52
HCL	No SPL	>40cm	I	Wetness 2	6
C	No SPL	>40<70	I	Wetness 3a	11
HCL C	SPL <60 but not to 100cm	None <70cm	II	Wetness 3a	17
HCL C	SPL >60 <80	None <70cm	II	Wetness 3a	1
SCL MCL	No SPL	<40cm	II	Wetness 2	3
SCL MCL	<80cm	>40<70cm	II	Wetness 2	6
SCL MCL	<80cm	None <70cm	I	Wetness 2	2

Droughtiness

- 4.4.4 The relatively low rainfall, FCD (106) and associated winter wheat and potato moisture deficit for the site brings in a potential minor droughtiness limitation for each of the soil types found depending on the subsoil texture and structure found.
- 4.4.5 Soils with Beccles 3 711t characteristics typically had a droughtiness limitation to Grade 2 due to the higher available water capacity of the heavy clay loam topsoils and clay subsoils. These clay to heavy clay textures, however, meant that in most cases the main limitation was wetness. A droughtiness limitation to Subgrade 3a occurs where there are weakly developed clay subsoils with coarse ped size and very firm ped strength reducing the structural condition to poor. The droughtiness limitation increases to 3b where poor structured subsoils also have significant stone contents (points 342 and 344). In these situations, droughtiness is the main limiting factor.
- 4.4.6 For the soils with Ruskington series characteristics (Sandy Loam topsoil), there is typically a droughtiness limitation to 3a due to the low available water capacity of the sandy loam/loamy sand/sand soils through the profile. Some soils had very stoney lower subsoils which reduced the available water capacity significantly, increasing the droughtiness limitation to Subgrade 3b. For Ruskington type soils where there is a Sand Clay Loam lower subsoil the available water capacity increases and the droughtiness limits these points to Grade 2. However, where there is poor structure within the lower Clay/Heavy Clay Loam lower subsoils there is reduced available water capacity and droughtiness limitation changes to Subgrade 3a.
- 4.4.7 For the soils with Ickford series characteristics (Clay /Heavy Clay Loam over sandy soils) the droughtiness limitation is to ALC Grade 2, but it changes to Subgrade 3a if there is a loamy sand or sand lower subsoil due to the reduced available water capacity.
- 4.4.8 Across the site 42 points had droughtiness as the main limitation – 5 soils with Beccles 3 711t characteristics and 35 with Ruskington 512c characteristics. A further 40 Points had droughtiness and Wetness as the main limitations.

4.5 Overall Agricultural Land Classification

- 4.5.1 Grade boundaries were drawn based on field observations and the calculations from the individual points to make mapping units (groups of ALC gradings) representative of field conditions. Soil limitations were the main factors determining ALC grade on this site, and map units were made of at least 2 survey points of the same grade. Isolated points of ALC grades were incorporated into the surrounding map units. The

ALC map comprises Grade 2, Subgrade 3a and Subgrade 3b agricultural land and non-agricultural land (Table 4 and Drawing ST19595/166).

ALC or other land category	Area (ha)	Percentage % within application boundary	Percentage % of Surveyed area (excluding land marked as 'other')
Grade 2 (very good)	14.61	2.8	2.9
Subgrade 3a (good)	235.51	44.6	46.0
Subgrade 3b (moderate)	261.43	49.5	51.1
Other	16.62	3.1	
Total	528.17	100	100 (511.55 ha)

4.5.2 The following sections provide summaries of the main ALC grades and limitations found across the site.

Grade 2

4.5.3 **Grade 2 – Wetness:** Points with minor limitations to the soil water regime. This occurs at points with medium to light textured topsoil, where the impermeable clay layers sit deeper in the profile providing a low degree of waterlogging or where there is minor evidence of waterlogging (gleyed horizons) higher in the profile with no slowly permeable layer present. These points also have deep soil profiles and good structured subsoils that provide no droughtiness limitation.

4.5.4 **Grade 2 – Droughtiness:** Due to the relatively low rainfall and FCD of the area and where the soils have adequate profile depths and well-structured subsoils that ensure adequate water holding capacity, the general grade for droughtiness is either 1 or 2. Areas of the site with medium to light textured (clay <27%) topsoil and no evidence of waterlogging or slowly permeable layers have an overall ALC Grade 2 limited by droughtiness.

Subgrade 3a

4.5.5 **Subgrade 3a – Wetness:** Areas of the site where there is a moderate limitation to the soil water regime (gleying not within 40cm, or slowly permeable clay layer deeper in the profile) or where more significant limitations to the soil water regime are present but there are medium textured topsoils improving the soil workability. This is mainly present in soils with Beccles 3 711t and Wallasea 2 813g characteristics however Ruskington 512c soils with Ickford soil series characteristics can also have this

limitation due to the heavy textured (clay > 26%) topsoils that have reduced workability.

- 4.5.6 **Subgrade 3a - Droughtiness:** Typically occurs within soils that have Ruskington 512c characteristics where there are slight limitations to soil workability or soil water regime but there are relatively shallow soil profiles reducing available water capacity. Also occurs where more significant limitations to soil water regime are present but there is sandy loam topsoil texture giving improved soil workability reducing the wetness limitation.

Subgrade 3b

- 4.5.7 **Subgrade 3b – Wetness:** This is the main limitation and grade across the site and is typically found within soils with Beccles 3 711t characteristics. The heavy textured topsoil provides poor workability with high susceptibility to damage. These soils also have significant limitations to the soil water regime with slowly permeable heavy clays located at shallow depths that will bring prolonged periods of waterlogging. The presence of extensively gleyed horizons indicates a high water table that requires effective field drainage to support arable production.
- 4.5.8 **Subgrade 3b – Droughtiness:** This has low occurrence across the site (15 points) and mainly occurs in soils with Ruskington 512c characteristics where there is a shallow soil profile, high stone content in the lower subsoil, or sand subsoil which all provide a low available water capacity.

5 POLICY AND GUIDANCE

5.1 National Planning Policy

*National Planning Policy Framework (2023)*²

5.1.1 Under Section 15 of the NPPF (2023): Conserving and enhancing the natural environment, Paragraph 174 states that planning policies and decisions should contribute to and enhance the natural and local environment by:

a) *protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*

b) *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*

e) *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*

f) *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

5.1.2 The footnote to Paragraph 175 also states that ‘*Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality*’.

5.1.3 The Planning Practice Guidance (PPG) which accompanies the NPPF is split into a number of guidance notes. Guidance on soils and agricultural land is found in the Planning Practice Guidance for the Natural Environment 2019 (PPGNE)¹⁶ under the heading *Agricultural Land, Soil and Brownfield Land of Environmental Value*. This advises that the ALC be used to assess the quality of farmland to enable informed choices to be made about its future use within the planning system; and explains that

¹⁶ Planning Practice Guidance for the Natural Environment 2019 (PPGNE) Available at: <https://www.gov.uk/guidance/natural-environment>. Accessed October 2023

the ALC places agricultural land into five Grades with Grade 3 subdivided into 3a and 3b. The BMV land is defined as Grades 1, 2 and 3a. The PPGNE states that *‘Planning policies and decisions should take account of the economic and other benefits of the best and most versatile agricultural land’*.

- 5.1.4 The PPGNE goes on to state that ‘In the circumstances set out in Schedule 4 paragraph (y) of the Development Management Procedure Order 2015¹⁷, Natural England is a statutory consultee: *‘a local planning authority must consult Natural England before granting planning permission for large-scale non-agricultural development on best and most versatile land that is not in accord with the development plan’* and refers to Natural England guidance to assessing development proposals on agricultural land, 2018.
- 5.1.5 Therefore, knowledge of the ALC grading of the Site, is necessary to be able to determine whether the requirements of planning policy are being met.
- 5.1.6 The PPGNE also recognises soil as an essential natural capital asset that provides important ecosystem services, for example as a growing medium for food, timber and other crops, as a store for carbon and water, as a reservoir of biodiversity and as a buffer against pollution. It also recommends Defra’s Code of Practice for the Sustainable Use of Soils on Construction Sites¹⁸ as a useful tool when setting planning conditions for development sites, as it provides advice on the use and protection of soil in construction projects, including the movement and management of soil resources.

Emerging Overarching National Policy Statement for Energy (EN-1) (Published November 2023)¹⁹

- 5.1.7 Paragraph 5.11.4 states that “Development of land will affect soil resources, including physical loss of and damage to soil resources, through land contamination and structural damage. Indirect impacts may also arise from changes in the local water regime, organic matter content, soil biodiversity and soil process.”

¹⁷ HM Government (2015). Statutory Instrument 2015 No. 595, The Town and Country Planning (Development Management Procedure) (England) Order 2015. Available at <https://www.legislation.gov.uk/uksi/2015/595/contents/made>. Accessed October 2023

¹⁸ DEFRA (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69308/pb13298-code-of-practice-090910.pdf

¹⁹ Department for Energy Security and Net Zero (2023) Overarching National Policy Statement for Energy (EN-1) Draft Update November 2023. Available at: [EN-1 Overarching National Policy Statement for Energy \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/123456/EN-1_Overarching_National_Policy_Statement_for_Energy_Draft_Update_November_2023.pdf)

5.1.8 Paragraph 5.11.13 states that applicants should seek to minimise impacts on soil health and protect and improve soil quality. Paragraph 5.11.14 outlines that the sustainable reuse of soils needs to be carefully considered in line with good practice guidance where large quantities of soil are surplus to requirements.

***Emerging National Policy Statement for Renewable Energy Infrastructure (EN-3)
(Published November 2023)²⁰***

5.1.9 Section 2.10 considers the development of Solar Photovoltaic Generation.

5.1.10 Paragraph 2.10.29 states that where the proposed use of any agricultural land has been shown to be necessary, poorer quality land should be preferred to higher quality land (avoiding the use of “Best and Most Versatile” agricultural land where possible) and Paragraph 2.10.30 states that whilst the development of ground mounted solar arrays is not prohibited on Best and Most Versatile agricultural land, the impacts of such are expected to be considered.

5.1.11 Paragraph 2.10.31 states that at this scale it is likely that applicants’ developments may use some agricultural land therefore applicants should explain their choice of site, noting the preference for development to be on suitable brownfield, industrial and low and medium grade agricultural land. Paragraph 2.10.32 discusses that where sited on agricultural land, consideration may be given as to whether the proposal allows for continued agricultural use and/or can be co-located with other functions (for example, storage, hydrogen electrolyzers) to maximise the efficiency of land use.

5.1.12 Paragraph 2.10.33 discusses the Agricultural Land Classification system and states that field surveys should be used to establish the ALC grades in accordance with the current, or any successor to it, grading criteria and identify the soil types to inform soil management at the construction, operation, and decommissioning phases in line with the Defra Construction Code.

5.1.13 Additionally, Paragraph 2.10.34 states that applicants are encouraged to develop and implement a Soil Resources and Management Plan which could help to use and manage soils sustainably and minimise impacts on soil health and potential land contamination and that this should be in line with the ambition set out in the

²⁰ Department for Energy Security and Net Zero (2023) Overarching National Policy Statement for Renewable Energy Infrastructure (EN-3) November 2023. Available at: [National Policy Statement for Renewable Energy Infrastructure \(EN-3\) \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/118111/national-policy-statement-for-renewable-energy-infrastructure-en-3.pdf)

Environmental Improvement Plan to bring 40% of England’s agricultural soils into sustainable management by 2028 and increase this up to 60% by 2030.

5.1.14 Paragraph 2.10.81 states that where soil stripping occurs topsoil and subsoil should be stripped, stored, and replaced separately to minimise soil damage and to provide optimal conditions for site restoration.

5.1.15 Paragraph 2.10.127 refers to the DEFRA Construction code of practice for the sustainable use of soils on construction sites and discusses that mitigation measures should focus on minimising damage to soil that remains in place, and minimising damage to soil being excavated and stockpiled. It also states that mitigation measures should aim to preserve soil health and soil structure to minimise soil carbon loss and maintain water infiltration and soil biodiversity. Mitigation measures for agricultural soils include use of green cover, multispecies cover crops - especially during the winter - minimising compaction and adding soil organic matter.

5.1.16 Paragraph 2.10.145 states that the Secretary of State should take into account the economic and other benefits of the best and most versatile agricultural land and that the Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to minimise impacts on soils or soil resources.

5.2 Local Planning Policy

Central Lincolnshire Local Plan (Adopted 2023)²¹

5.2.1 The Central Lincolnshire Local Plan was adopted in April 2023 and includes the following relevant policies:

- Policy S14: Renewable Energy
- Policy S17: Carbon Sinks
- Policy S67: Best and Most Versatile Agricultural Land
- Policy S68 Sustainable Urban Extensions

5.2.2 One of the objectives of the local plan is “to protect and enhance soil and land resources and quality in Central Lincolnshire”.

²¹ Central Lincolnshire Local Plan Team and North Kesteven District Council (2023) Central Lincolnshire Local Plan (Adopted 2023). Available at: <https://www.n-kesteven.gov.uk/sites/default/files/2023-04/Local%20Plan%20for%20adoption%20Approved%20by%20Committee.pdf>. Accessed September 2023

5.2.3 Policy S14 states that proposals for solar thermal or photovoltaics panels and associated infrastructure to be installed on existing property, will be under a presumption in favour of permission unless there is clear and demonstrable significant harm arising. Proposals for ground-based photovoltaics and associated infrastructure, including commercial large scale proposals, will be under a presumption in favour unless:

- There is clear and demonstrable significant harm arising; or
- The proposal is (following a site-specific soil assessment) to take place on Best and Most Versatile (BMV) agricultural land and does not meet the requirements of Policy S67; or
- The land is allocated for another purpose in this Local Plan or other statutory based document (such as a nature recovery strategy or a Local Transport Plan), and the proposal is not compatible with such other allocation.

5.2.4 Policy S14 also states that proposals for ground-based photovoltaics should be accompanied by evidence demonstrating how opportunities for delivering biodiversity net gain will be maximised in the scheme taking account of soil, natural features, existing habitats, and planting proposals accompanying the scheme to create new habitats linking into the nature recovery strategy.

5.2.5 Policy S17 states that existing carbon sinks, such as peat soils, must be protected, and where opportunities exist, they should be enhanced in order to continue to act as a carbon sink. Where development is proposed on land containing peat soils or other identified carbon sinks, the applicant must submit a proportionate evaluation of the impact of the proposal on either the peat soil's carbon content or any other form of identified carbon sink as relevant and in all cases an appropriate management plan must be submitted. There will be a presumption in favour of preservation of peat and other carbon sinks in-situ. Proposals that will result in unavoidable harm to, or loss of, peat soils or other identified carbon sinks will only be permitted if it is demonstrated that:

- a) the site is allocated for development; or
- b) there is not a less harmful viable option to development of that site. In any such case, the harm caused must be shown to have been reduced to the minimum possible and appropriate, satisfactory provision will be made for the evaluation, recording and interpretation of the peat soils or other form of carbon sink before commencement

of development. For peat soils that are to be removed, the soils must be temporarily stored and then used in a way that will limit carbon loss to the atmosphere. Proposals to enhance peat soils and protect its qualities will be supported.

5.2.6 Policy S67 states that proposals should protect the best and most versatile agricultural land so as to protect opportunities for food production and the continuance of the agricultural economy. With the exception of allocated sites, significant development resulting in the loss and the best and most versatile agricultural land will only be supported if:

a) The need for the proposed development has been clearly established and there is insufficient lower grade land available at that settlement (unless development of such lower grade land would be inconsistent with other sustainability considerations); and

b) The benefits and/or sustainability considerations outweigh the need to protect such land, when taking into account the economic and other benefits of the best and most versatile agricultural land; and

c) The impacts of the proposal upon ongoing agricultural operations have been minimised through the use of appropriate design solutions; and

d) Where feasible, once any development which is supported has ceased its useful life the land will be restored to its former use (this condition will be secured by planning condition where appropriate).

5.2.7 Additionally, Policy S67 states that where proposals are for sites of 1 hectare or larger, which would result in the loss of best and most versatile agricultural land, an agricultural land classification report should be submitted, setting out the justification for such a loss and how criterion b has been met.

5.2.8 Policy S68 states that each new urban extension proposal must, where applicable consider the Agricultural Land Classification of the site, and where higher quality agricultural land exists on one part of the site compared with another, then, if possible, utilise such land (or part of such land) for productive use, such as community orchards and allotments.

5.2.9 One of the objectives of the local plan is “to protect and enhance soil and land resources and quality in Central Lincolnshire”.

South East Lincolnshire Local Plan 2011-2036 (Adopted March 2019)²²

5.2.10 The South East Lincolnshire Local Plan was adopted in March 2019 and includes the following relevant policies:

- Policy 3: Design of New Development
- Policy 31: Climate Change and Renewable and Low Carbon Energy

5.2.11 Policy 3 (Design of New Development) states that development proposals should demonstrate how issues where they are relevant to the proposal including “the use of locally sourced building materials, minimising the use of water and minimising land take, to protect best and most versatile soils” will be secured.

5.2.12 Policy 31 (Climate Change and Renewable and Low Carbon Energy) on renewable energy states that “with the exception of Wind Energy the development of renewable energy facilities, associated infrastructure and the integration of decentralised technologies on existing or proposed structures will be permitted provided, individually, or cumulatively, there would be no significant harm to agricultural land take”.

5.3 Guidance

5.3.1 Natural England Technical Information Note 49 (TIN049)¹³, promotes the use of ALC for assessing the quality of agricultural land, to ensure informed choices are made about its future use within the planning system. It advocates the use of soil survey to inform environmental assessment. TIN049 states that where development is proposed on agricultural or other potential crop producing land, if that proposed development is not for agricultural purposes and is not in accordance with the provisions of a development plan, and involves the direct or cumulative loss of more than 20 ha of BMV agricultural land, Natural England must be consulted in accordance with the Schedule 4, paragraph (y) of the Statutory Instrument 2015 No. 595¹⁷.

5.3.2 Natural England’s Guide to assessing development proposals on agricultural land¹⁴ sets out the government policies and legislation which developers and local planning authorities (LPA) should refer to when considering development proposals that affect agricultural land and guidance on when Natural England should be consulted on

²² South East Lincolnshire Joint Strategic Planning Committee (2019) South East Lincolnshire Local Plan 2011 – 2036. Available at: <http://www.southeastlincslocalplan.org/wp-content/uploads/2019/02/Local-Plan-text-March-2019.pdf>. Accessed October 2023

development proposals. It also provides a detailed explanation of the ALC, information on published ALC resources and explains circumstances in which new detailed surveys may be required. It also explains how ALC data should be used in the assessment of planning decisions. Importantly, the guidance states that the LPA should ensure that development proposals include plans to protect soils; that where insufficient data are available, new surveys should be undertaken to better inform the planning decision; and that these surveys should be carried out by soil scientists or experienced soil specialists. The guidance also summarises the required survey methodology (also presented in TIN049).

6 CONCLUSION

6.1.1 The soils within the Site can be characterised according to 3 main soil associations:

- Beccles 3 (711t) – Heavy textured Clay and Heavy Clay Loam topsoils over slowly permeable Clay/Heavy Clay loam subsoils
- Wallasea 2 (813g) – Heavy textured Silty Clay and Clay topsoils over slowly permeable Silty Clay subsoils
- Ruskington (512c) – Sandy loam/Sandy Clay Loam topsoils (Some Clay/Heavy Clay Loam topsoils in parts – Ickford soils) over sandy Loam, loamy sand/sand subsoils (occurrences of slowly permeable clay lower subsoils in parts).

6.1.2 The main limitation at the Site was Wetness with 58% of the points having Wetness Class (WC) III. The majority of these were identified as either having Beccles 3 711t or Wallasea 2 813g soil associations characteristics which have heavy textured topsoil and heavy textured slowly permeable subsoils. These soils were either classed as Subgrade 3b or 3a (where there were medium textured or calcareous topsoil). Approximately 30% of the surveyed points are WC II and are typically present at points within transition areas between soil types where there are more permeable, better structured subsoils or within soils identified with Ruskington 512c soil association characteristics. These soils were typically Subgrade 3a with occurrences of Grade 2 where there were medium textured/calcareous topsoils. Only 12% of the land had WC I and was typically found where there were well-structured lighter textured subsoils with good drainage. The majority of these had droughtiness as the main limitation due to the reduced available water content of the lighter textured subsoils and the relatively low rainfall for the area.

6.1.3 The Provisional ALC mapping identifies the agricultural land within the Site as Grade 3 (good to moderate quality); with Natural England's BMV Likelihood mapping designating a predicted High Likelihood (> 60 % area BMV) of BMV presence across the whole site. Post 1988 data, collected by the Land Research Associates indicates that the site is predominantly Subgrade 3b with smaller areas of Subgrade 3a and Grade 2.

6.1.4 The ALC survey of the Site showed that it is predominantly Subgrade 3b (moderate quality agricultural land), has a marginally lesser area of Subgrade 3a (good quality) agricultural land and has a small proportion of Grade 2 (very good quality) agricultural land non-agricultural land.

APPENDICES

APPENDIX 1: SOIL PROFILE DESCRIPTIONS AND AGRICULTURAL LAND CLASSIFICATION

APPENDIX 1 Soil Survey Record and ALC

Legend for non-self-explanatory terms:

Horizons - number of different horizons identified within the profile

Type - type of sample, auger core or soil profile pit dug using a spade

Depth - depth to the bottom of the (horizon number) horizon in cm

Texture - C - clay, ZC - silty clay, SC - sandy clay, CL - clay loam, SCL - sandy clay loam, ZCL - silty clay loam, SL - sandy loam, LS - loamy sand, S - sand;

CL and ZCL textures are subdivided into medium (M) and heavy (H) classes according to clay content, as follows: M medium (less than 27 % clay), H heavy (27-35 % clay); F, M and C refer to fine, medium and coarse, respectively, and are subdivisions of S, LS, SL, and SZL textures; O - organic, P - peat or peaty, HP - humified (highly decomposed peat), FP - fibrous peat, SFP - semi-fibrous peat; MZ - marine light silts

Matrix (main) colour - dominant colour of the soil; **Hue** - Munsell colour hue; **Value** - Munsell colour value; **Chroma** - Munsell colour chroma

Mottling - spots and blotches of different colour than the dominant matrix colour

Ped faces - surfaces of the primary soil fragments into which the soil naturally breaks up upon excavating

FeMn - ferri-manganiferous concretions

Biopores - 'yes' if >0.5 % biopores greater than 0.5 mm diameter present (by area)

Stones > 2 cm up to % - maximum percentage of 2 - 6 cm diameter stones

Stones > 6 cm up to % - maximum percentage of > 6 cm diameter stones

Type - H - All hard rocks or stones (those which cannot be scratched with a finger nail); SS - Soft, medium or coarse grained sandstones; SIM - Soft 'weathered' igneous or metamorphic rocks or stones; SL - Soft oolitic or dolomitic limestones; SFS - Soft fine-grained sandstones; SAZ - Soft, argillaceous or silty rocks or stones; CH - Chalk or chalk stones; GRH - Gravel¹ with non-porous (hard) stones; GRS - Gravel¹ with porous stones (mainly soft stone types listed); 1 - Gravel with at least 70% rounded stones by volume

Structure type - SG - single grain; GR - granular; SAB - subangular blocky; AB - angular blocky; PR - prismatic; PL - platy; MAS - massive

Dev - Development, how well the structure is developed; W - weak; M - moderate; S - strong

Consistence - Soil consistence (strength); L - loose; VFR - very friable; FR - friable; FIR - firm; VFIR - very firm; EXFIR - extremely firm; EXHD - extremely hard

Gley - depth to gleying

SPL - depth to slowly permeable layer

Wetness Class - classification of the soil according to the depth and duration of waterlogging in the soil profile, the higher the class, the longer and at the shallower depth the soil is wet

Pattern Limitations – Where there are isolated points of ALC Grades on the ALC map, these have been incorporated into surrounding map units. This is indicated in the ALC Map Variation Column.

*Isolated point of Grade 2 – appears as Subgrade 3a on the ALC map

** Isolated point of Subgrade 3a – appears as Subgrade 3b on the ALC map

*** Isolated point of Subgrade 3b – appears as Subgrade 3a on the ALC map

Overall ALC - this part of the table combines results of the classification for each of the limitations

Soil profile descriptions						Soil profile descriptions continued														ALC for areas represented by individual survey points																																
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure		Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations																	
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %															Type	Type	Development	Ped size	Type	Type											
1	Core	0	NO	1	34	SCL	10YR	4	4	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	Stopped on stone	3	1	1	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness															
				2	80	C	10YR	5	4	2	7.5YR	6	8	YES	10YR	5	2	0	NO	10	5	H	AB	M	C	FIR	NO	YES										YES														
				3																																																
				4																																																
				5																																																
2	Core	0	NO	1	29	HCL	10YR	4	3	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	M	VFIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																
				2	68	C	10YR	4	4	10	10YR	6	8	YES	10YR	5	3	2	NO	5	0	H	AB	M	C	VFIR	NO	YES										YES														
				3	91	C	10YR	4	6	10	10YR	6	8	YES	10YR	5	3	2	NO	5	0	H	AB	M	M	VFIR	NO	YES										NO														
				4																																																
				5																																																
3	Core	0	NO	1	29	HCL	10YR	4	3	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	C	VFIR	NO	NO	NO	Stopped on stones at 70cm	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness															
				2	70	C	10YR	5	4	15	10YR	5	8	YES	10YR	5	3	10	NO	5	0	H	AB	M	C	VFIR	YES	YES										YES														
				3																																																
				4																																																
				5																																																
4	Core	0	NO	1	30	HCL	10YR	4	3	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	M	FIR	NO	NO	NO	Stopped on stones at 75cm	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness															
				2	51	C	10YR	5	4	2	10YR	5	6	YES	10YR	5	3	2	NO	5	0	H	SAB	M	C	VFIR	NO	YES										NO														
				3	75	C	10YR	5	6	10	10YR	6	8	NO	n/a	n/a	n/a	10	NO	5	0	CH	AB	M	M	VFIR	YES	NO										NO														
				4																																																
				5																																																
5	Pit	0	NO	1	38	HCL	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	M	VFIR	NO	NO	NO	-	2	1	1	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness															
				2	70	C	10YR	4	4	10	7.5YR	5	8	YES	10YR	5	3	2	NO	0	0	n/a	AB	S	M	EXFIR	YES	YES										NO														
				3																																																
				4																																																
				5																																																
6	Core	0	NO	1	29	C	10YR	4	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	2	1	1	3a	2	3a	Wetness																
				2	80	C	7.5YR	5	1	40	7.5YR	6	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	M	FIR	NO	YES										NO														
				3	110	SCL	10YR	5	4	40	10YR	6	8	NO	n/a	n/a	n/a	2	NO	5	0	H	SAB	M	M	FIR	NO	NO										NO														
				4																																																
				5																																																
7	Pit	0	NO	1	35	SCL	10YR	3	3	0	0	0	NO	n/a	n/a	n/a	0	YES	10	5	H	SAB	S	M	VFIR	NO	NO	NO	-	3	2	2	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness															
				2	50	SCL	10YR	4	4	2	7.5YR	5	8	YES	10YR	5	3	10	NO	5	0	H	AB	W	C	EXFIR	NO	YES										YES														
				3																																																
				4																																																
				5																																																
8	Core	0	NO	1	30	HCL	10YR	4	3	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	F	FR	NO	NO	NO	-	2	1	1	3a	2	3a	Wetness																
				2	50	MCL	10YR	5	3	2	10YR	5	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	SAB	M	C	FIR	NO	YES										NO														
				3	90	SCL	10YR	6	3	2	10YR	6	8	NO	n/a	n/a	n/a	2	NO	0	10	H	SAB	M	M	FR	NO	YES										NO														
				4																																																
				5																																																
9	Core	0	NO	1	29	HCL	10YR	4	4	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	Stopped on stone	3	1	1	3b	3a	3b	Wetness																
				2	50	C	10YR	6	3	10	10YR	6	8	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	M	M	FIR	NO	YES										NO														
				3	80	C	10YR	6	3	20	10YR	6	8	NO	n/a	n/a	n/a	15	NO	0	10	H	AB	W	C	FIR	NO	YES										YES														
				4																																																
				5																																																
10	Core	0	NO	1	28	HCL	10YR	4	3	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	Stopped on stone	3	1	1	3b	3a	3b	Wetness																
				2	43	HCL	10YR	6	3	2	10YR	6	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	C	FIR	NO	YES										NO														
				3	80	C	10YR	6	3	40	10YR	6	8	NO	n/a	n/a	n/a	2	NO	0	10	H	AB	M	C	VFIR	NO	YES										YES														
				4																																																
				5																																																
11	Core	0	NO	1	34	HCL	10YR	3	3	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3b	2	3b	Wetness																
				2	100	C	10YR	6	3	40	10YR	6	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	M	C	FIR	NO	YES										YES														

Soil profile descriptions							Soil profile descriptions continued															ALC for areas represented by individual survey points																													
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations															
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development	Ped size	FIR	VFIR	FR									
17	Core	0	NO	1	26	C	10YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness													
				2	70	SCL	10YR	6	4	40	7.5YR	6	8	NO	n/a	n/a	n/a	2	NO	5	0	H	AB	M	C	FIR	NO	YES	YES																						
				3																																															
				4																																															
				5																																															
18	Core	0	NO	1	35	C	10YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness														
				2	75	C	10YR	5	2	40	7.5YR	6	8	NO	n/a	n/a	n/a	0	NO	5	0	CH	AB	S	C	VFIR	YES	YES	YES																						
				3																																															
				4																																															
				5																																															
19	Core	0	NO	1	26	C	10YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	H2 very stony.	2	1	1	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness													
				2	65	C	10YR	5	4	40	7.5YR	6	8	NO	n/a	n/a	n/a	10	NO	10	0	H	AB	S	C	VFIR	YES	NO	NO																						
				3																																															
				4																																															
				5																																															
20	Core	0	NO	1	20	HCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	Chalk only from 80 cm	2	1	1	3a	2	3a	Wetness														
				2	55	HCL	10YR	4	1	10	10YR	6	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	SAB	W	M	FIR	NO	YES	NO																						
				3	80	C	10YR	5	1	40	10YR	6	8	NO	n/a	n/a	n/a	10	NO	0	0	n/a	SAB	W	M	VFIR	YES	YES	NO																						
				4	120	C	10YR	4	1	20	10YR	7	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	PR	W	C	VFIR	YES	NO	NO																						
				5																																															
21	Core	0	NO	1	30	SCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	F	FR	NO	NO	NO	-	2	1	1	2	2	2	Wetness Droughtiness														
				2	55	SCL	10YR	5	4	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	S	F	FR	NO	NO	NO																						
				3	75	MSL	10YR	5	6	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	GR	S	F	FR	NO	NO	NO																						
				4	110	C	10YR	4	1	20	10YR	6	8	YES	10YR	5	2	0	NO	0	0	n/a	AB	W	C	VFIR	YES	YES	YES																						
				5																																															
22	Core	0	NO	1	40	HCL	10YR	3	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	M	FIR	YES	NO	NO	-	2	1	1	2	1	2	Wetness														
				2	70	C	10YR	5	1	20	10YR	6	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	SAB	M	M	FIR	NO	YES	NO																						
				3	120	C	10YR	4	1	20	10YR	6	6	YES	10YR	4	6	2	NO	0	0	n/a	AB	W	C	FIR	NO	YES	YES																						
				4																																															
				5																																															
23	Core	0	NO	1	35	HCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	M	M	FIR	YES	NO	NO	Deep mottled sub2. Less pronounced h3	2	1	1	2	1	2	Wetness														
				2	60	C	10YR	4	6	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	FIR	YES	NO	NO																						
				3	110	C	10YR	6	1	40	10YR	6	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	C	FIR	YES	YES	YES																						
				4																																															
				5																																															
24	Core	0	NO	1	35	HCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	M	FIR	NO	NO	NO	-	2	1	1	3a	2	3a	Wetness														
				2	50	SCL	10YR	5	6	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	S	M	FR	YES	NO	NO																						
				3	120	C	5Y	5	1	40	10YR	6	8	YES	10YR	5	4	0	NO	0	0	n/a	AB	M	C	VFIR	YES	YES	YES																						
				4																																															
				5																																															
25	Core	0	NO	1	30	SCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	15	10	H	SAB	M	M	FIR	NO	NO	NO	-	1	1	3a	1	3a	3a	Topsoil stoniness Droughtiness														
				2	55	MSL	10YR	4	4	2	7.5YR	5	8	NO	n/a	n/a	n/a	2	YES	5	5	H	SAB	M	M	FIR	NO	NO	NO																						
				3	74	MSZL	10YR	4	1	15	10YR	4	8	NO	n/a	n/a	n/a	2	YES	0	0	n/a	AB	S	M	EXFIR	YES	YES	NO																						
				4																																															
				5																																															
26	Core	0	NO	1	26	SCL	7.5YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	F	FR	NO	NO	NO	stopped on hard clay	2	1	1	2	2	2	Wetness Droughtiness														
				2	60	C	10YR	6	3	15	7.5YR	6	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	SAB	S	F	FR	NO	YES	NO																						
				3	81	SC	10YR	6	3	20	10YR	6	8	NO	n/a	n/a	n/a	0	NO	10	0	H	AB	W	C	VFIR	NO	YES	YES																						
				4																																															
				5																																															
27	Core	0	NO	1	28	SCL	10YR	3	4	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	F	FR	NO	NO	NO	-	3	1	1	3a	2	3a	Wetness														
				2	50	HCL	10YR	7	4	20	7.5YR	6	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	FIR	NO	YES	NO																						
				3	65	HCL	10YR	6	2</																																										

Soil profile descriptions				Soil profile descriptions continued															ALC for areas represented by individual survey points																																
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure		Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations																
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %															Type	Type	Development	Ped size												
33	Core	0	NO	1	30	MSL	7.5YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	2	YES	10	5	H	GR	S	F	FR	NO	NO	NO	Stopped on stone sandy loam	1	1	2	1	2	2	Topsoil stoniness Droughtiness														
				2	53	SCL	10YR	3	6	10	7.5YR	6	6	6	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	F	FR	NO	NO									NO													
				3	90	SCL	10YR	4	4	15	10YR	6	6	6	NO	n/a	n/a	n/a	10	NO	10	5	H	GR	M	F	FR	NO	NO									NO													
				4																																															
				5																																															
34	Core	0	NO	1	35	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	S	M	FIR	YES	NO	NO	Chalk from 75cm	1	1	1	2	1	2	Wetness														
				2	55	MCL	10YR	5	6	0	0	0	0	NO	n/a	n/a	n/a	10	NO	0	0	n/a	SAB	M	M	FIR	NO	NO	NO																						
				3	75	FSL	10YR	6	6	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	GR	S	F	FR	NO	NO	NO																						
				4	110	C	10YR	5	1	20	10YR	6	8	YES	10YR	4	6	2	NO	0	0	n/a	AB	M	M	FIR	NO	YES	NO																						
				5																																															
35	Core	0	NO	1	40	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	Refusal on stone	2	1	1	3a	2	3a	Wetness														
				2	55	HCL	10YR	5	6	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	FIR	NO	NO	NO																						
				3	85	C	10YR	5	2	15	10YR	6	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	C	FIR	YES	YES	YES																						
				4	95	C	10YR	5	1	20	10YR	6	8	NO	n/a	n/a	n/a	2	NO	5	0	H	AB	M	C	VFIR	YES	YES	NO																						
				5																																															
36	Core	0	NO	1	28	HCL	10YR	3	4	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	AB	M	M	FIR	NO	NO	NO	Calcareous lower sub	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness													
				2	48	C	10YR	4	6	0	0	0	0	NO	n/a	n/a	n/a	2	NO	0	0	n/a	SAB	M	C	VFIR	YES	NO	NO																						
				3	90	C	10YR	5	4	10	7.5YR	4	6	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	M	C	VFIR	YES	NO	YES																						
				4																																															
				5																																															
37	Core	0	NO	1	25	HCL	10YR	3	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	YES	NO	NO	No obvious mottling in upper sub. chalk in lower sub	3	1	1	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness													
				2	52	C	10YR	5	4	2	7.5YR	4	6	YES	10YR	6	3	0	NO	0	0	n/a	AB	M	C	VFIR	YES	YES	YES																						
				3	80	C	10YR	5	6	2	7.5YR	4	6	YES	10YR	5	1	2	NO	5	0	H	AB	M	C	VFIR	YES	YES	YES																						
				4																																															
				5																																															
38	Pit	0	NO	1	30	SCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	S	M	FIR	NO	NO	NO	Stones restricting at depth	2	1	1	2	3b	2	Wetness Droughtiness	Soil profile deeper than recorded - not limited by droughtiness only													
				2	45	MCL	10YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	C	VFIR	NO	NO	YES																						
				3	60	C	10YR	5	1	20	10YR	5	8	NO	n/a	n/a	n/a	15	NO	0	0	n/a	AB	S	C	FIR	NO	YES	YES																						
				4																																															
				5																																															
39	Pit	0	NO	1	35	SCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	10	5	H	SAB	M	M	FIR	NO	NO	NO	Some chalk stones in h2	3	1	2	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness													
				2	60	SC	10YR	4	4	2	10YR	5	6	YES	10YR	6	3	0	NO	10	5	H	AB	M	C	FIR	YES	YES	YES																						
				3	80	C	10YR	5	4	10	10YR	5	6	YES	10YR	5	1	0	NO	15	5	CH	AB	M	C	VFIR	YES	YES	YES																						
				4																																															
				5																																															
40	Core	0	NO	1	36	HCL	10YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness														
				2	75	C	10YR	6	3	40	10YR	6	8	NO	n/a	n/a	n/a	15	NO	0	0	n/a	AB	W	C	VFIR	NO	YES	YES																						
				3	95	LMS	10YR	6	4	40	10YR	6	8	NO	n/a	n/a	n/a	15	NO	0	0	n/a	GR	W	F	FR	NO	YES	NO																						
				4																																															
				5																																															
41	Core	0	NO	1	35	C	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	10	YES	0	0	n/a	SAB	W	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness														
				2	55	C	10YR	5	3	40	10YR	5	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	SAB	W	M	FIR	NO	YES	NO																						
				3	75	C	10YR	6	1	40	10YR	6	8	NO	n/a	n/a	n/a	0	NO	5	0	CH	PR	M	C	FIR	YES	YES	YES																						
				4	95	C	2.5Y	5	1	20	10YR	6	6	NO	n/a	n/a	n/a	0	NO	10	0	CH	AB	M	M	VFIR	YES	YES	NO																						
				5																																															
42	Core	0	NO	1	35	C	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	W	M	FIR	NO	NO	NO	Refusal on stone	3	1	1	3b	3a	3b	Wetness														
				2	55	C	10YR	5	1	20	10YR	5	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	W	M	FIR	NO	YES	NO																						
				3	75	C	10YR	6	1	40	10YR	6	8	NO	n/a	n/a	n/a	0	NO	5	0	CH	PR	M	C	FIR	YES	YES	YES																						
				4	95	C	2.5Y	5	1	20	10YR	6	6	NO	n/a	n/a	n/a	0	NO	10	0	CH	AB	M	M	VFIR	YES	YES	NO																						
				5																																															
43	Core	0	NO	1	35	C	10YR	5	2	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	W	M	FIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness													
				2	60	C	10YR	5	2	0	0	0	0	NO	n/a	n/a	n/a	0	NO	5	0	H	SAB	W	M	FIR	NO	NO	NO																						
				3	85	C	10YR	5	1	40</																																									

Soil profile descriptions							Soil profile descriptions continued																		ALC for areas represented by individual survey points																											
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations																
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development	Ped size	FIR	VFIR	YES	NO	YES	NO							
65	Core	0	NO	1	24	SCL	10YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	F	FR	NO	NO	NO	Chalk h3	2	1	1	2	3a	2	Wetness Droughtiness	Soil profile deeper than recorded - not limited by droughtiness	*													
				2	48	HCL	10YR	4	4	0	0	NO	n/a	n/a	n/a	0	NO	5	0	H	SAB	M	M	FIR	NO	NO	NO	NO	NO											NO												
				3	80	C	10YR	5	4	10	10YR	6	6	6	6	YES	10YR	5	2	2	NO	5	0	CH	AB	M	C	VFIR	YES											YES	YES											
				4																																																
				5																																																
66	Core	0	NO	1	34	HCL	10YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness														
				2	80	C	10YR	5	6	10	10YR	6	8	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	C	VFIR	YES	NO										YES													
				3																																																
				4																																																
				5																																																
67	Core	0	NO	1	22	HCL	10YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	Chalk in h4	3	1	1	3b	3a	3b	Wetness															
				2	36	HCL	10YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	W	C	VFIR	NO	NO	NO										NO	NO												
				3	59	C	10YR	5	6	10	10YR	6	8	8	YES	10YR	6	3	2	NO	0	0	n/a	AB	W	C	VFIR	YES	YES										YES	YES	YES											
				4	80	C	10YR	5	6	2	10YR	6	8	8	NO	n/a	n/a	n/a	2	NO	5	0	CH	AB	M	M	VFIR	YES	NO										NO	NO	NO											
				5																																																
68	Core	0	NO	1	30	HCL	10YR	3	4	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	S	C	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness															
				2	50	C	10YR	5	3	40	7.5YR	5	8	8	NO	n/a	n/a	n/a	2	YES	5	0	SFS	AB	S	VC	EXFIR	YES	YES										NO	NO												
				3	80	C	10YR	6	1	40	7.5YR	5	8	8	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	M	C	VFIR	YES	YES										YES	YES												
				4																																																
				5																																																
69	Core	0	NO	1	35	HCL	10YR	3	4	0	0	0	0	NO	n/a	n/a	n/a	0	YES	10	5	H	SAB	S	C	FIR	NO	NO	NO	-	3	1	2	3b	3a	3b	Wetness															
				2	55	C	10YR	5	3	40	7.5YR	5	8	8	NO	n/a	n/a	n/a	2	YES	5	0	SFS	AB	S	VC	EXFIR	YES	YES										NO	NO												
				3	80	C	10YR	6	1	40	10YR	6	8	8	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	M	C	VFIR	YES	YES										YES	YES												
				4																																																
				5																																																
70	Core	0	NO	1	30	HCL	10YR	3	4	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	S	C	FIR	NO	NO	NO	-	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness														
				2	70	C	10YR	7	1	40	10YR	5	8	8	NO	n/a	n/a	n/a	2	NO	10	0	H	AB	S	VC	EXFIR	YES	YES										YES	YES												
				3																																																
				4																																																
				5																																																
71	Core	0	NO	1	30	HCL	10YR	3	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	M	VFIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness														
				2	55	C	10YR	4	4	2	7.5YR	5	8	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	S	C	VFIR	NO	NO										YES	YES												
				3	80	C	10YR	6	1	40	10YR	5	8	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	S	C	VFIR	YES	YES										YES	YES												
				4																																																
				5																																																
72	Pit	0	NO	1	28	MCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	5	H	SAB	M	M	FIR	NO	NO	NO	-	1	1	1	1	3a	3a	Droughtiness															
				2	60	MSL	10YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	0	NO	10	0	H	SAB	M	M	FIR	NO	NO	NO										NO													
				3	75	SCL	10YR	4	6	10	7.5YR	5	8	8	YES	10YR	5	3	0	NO	0	0	n/a	SAB	M	F	FIR	NO	YES										NO	NO												
				4																																																
				5																																																
73	Core	0	NO	1	35	HCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	2	1	1	3a	2	3a	Wetness															
				2	65	MCL	10YR	6	4	15	10YR	5	8	8	NO	n/a	n/a	n/a	2	NO	5	0	CH	SAB	M	M	FIR	YES	YES										NO	NO												
				3	90	SCL	10YR	6	4	2	10YR	5	8	8	NO	n/a	n/a	n/a	0	NO	15	5	CH	SAB	M	M	VFIR	YES	YES										NO	NO												
				4																																																
				5																																																
74	Core	0	NO	1	30	HCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	2	1	1	3a	1	3a	Wetness															
				2	55	C	10YR	5	3	15	10YR	5	6	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	FIR	NO	YES										NO	NO												
				3	75	MSL	10YR	5	6	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	GR	S	M	FR	NO	NO	NO										NO													
				4	100	SCL	10YR	6	4	2	10YR	6	8	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	GR	S	M	FIR	YES	YES										NO	NO												
				5																																																
75	Core	0	NO	1	30	HCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	2																																		

Soil profile descriptions						Soil profile descriptions continued													ALC for areas represented by individual survey points																																			
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure				Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations																	
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type	Type															Development	Ped size															
113	Pit	0	NO	1	30	C	10YR	4	2	2	10YR	5	6	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	YES	NO	Auger used for 80 to 100, same strcture and colour as from pit	3	1	1	3b	3a	3b	Wetness																	
				2	65	C	10YR	4	4	20	10YR	6	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	M	C	FIR	NO	NO	YES																									
				3	100	C	5YR	4	1	15	5YR	5	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	M	C	VFIR	NO	NO	YES																									
				4																																																		
				5																																																		
114	Core	0	NO	1	28	C	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	C	VFIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																	
				2	53	C	10YR	4	2	2	10YR	4	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	W	C	VFIR	NO	YES	YES																									
				3	80	C	10YR	5	1	10	5YR	4	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	M	VFIR	NO	YES	NO																									
				4																																																		
				5																																																		
115	Core	0	NO	1	30	C	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	AB	M	C	VFIR	NO	NO	NO	Chalk stones also in h4	2	1	1	3a	2	3a	Wetness																	
				2	55	C	10YR	4	4	20	10YR	4	6	YES	10YR	5	2	2	NO	0	0	n/a	SAB	M	C	VFIR	NO	YES	NO																									
				3	75	SCL	10YR	4	6	10	10YR	5	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	F	FR	NO	NO	NO																									
				4	95	C	10YR	6	1	20	10YR	5	8	NO	n/a	n/a	n/a	0	NO	10	0	H	AB	M	M	VFIR	YES	YES	NO																									
				5																																																		
116	Core	0	NO	1	35	HCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	Small chalk stones within h3	2	1	1	3a	2	3a	Wetness																	
				2	55	C	10YR	4	4	20	10YR	5	8	YES	10YR	5	1	0	NO	0	0	n/a	SAB	M	M	FIR	NO	YES	NO																									
				3	100	LMS	10YR	4	6	10	10YR	5	8	NO	n/a	n/a	n/a	0	NO	5	0	H	SAB	W	F	FR	YES	NO	NO																									
				4																																																		
				5																																																		
117	Core	0	NO	1	35	C	10YR	4	3	2	10YR	5	6	YES	10YR	6	1	0	YES	5	0	H	SAB	M	M	FIR	NO	NO	NO	Red stones in h1	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness																
				2	80	C	10YR	5	2	15	10YR	5	6	YES	10YR	6	1	0	NO	5	0	H	AB	W	C	VFIR	NO	YES	YES																									
				3																																																		
				4																																																		
				5																																																		
118	Core	0	NO	1	28	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	S	M	FIR	NO	NO	NO	Some h2 and h1 colour in h3	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness																
				2	48	C	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	M	C	VFIR	NO	NO	NO																									
				3	85	C	10YR	5	4	40	10YR	5	8	YES	10YR	5	1	2	NO	5	0	H	AB	W	C	VFIR	NO	YES	YES																									
				4																																																		
				5																																																		
119	Core	0	NO	1	25	HCL	10YR	3	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	F	FIR	NO	NO	NO	-	2	1	1	3a	2	3a	Wetness																	
				2	50	HCL	10YR	3	4	2	10YR	5	3	NO	n/a	n/a	n/a	2	NO	0	0	n/a	SAB	M	M	FIR	NO	NO	NO																									
				3	90	C	10YR	6	1	40	10YR	6	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	W	M	VFIR	NO	YES	YES																									
				4																																																		
				5																																																		
120	Core	0	NO	1	32	HCL	10YR	3	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	VFIR	YES	NO	NO	Chalk h4	3	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness																
				2	80	C	10YR	5	4	20	10YR	5	8	YES	10YR	n/a	6	2	2	NO	0	0	n/a	AB	W	C	VFIR	YES	YES												YES													
				3																																																		
				4																																																		
				5																																																		
121	Core	0	NO	1	35	C	10YR	3	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	AB	S	C	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																	
				2	55	C	10YR	5	3	20	10YR	6	8	NO	n/a	n/a	n/a	0	NO	5	0	H	SAB	W	C	FIR	NO	YES	YES																									
				3	65	SCL	10YR	5	4	0	0	0	0	NO	n/a	n/a	n/a	0	NO	5	0	H	SAB	W	M	FR	NO	NO	NO																									
				4	85	C	10YR	6	1	40	7.5YR	5	8	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	M	C	VFIR	YES	YES	YES																									
				5																																																		
122	Core	0	NO	1	32	HCL	10YR	3	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	C	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																	
				2	50	C	10YR	5	3	40	7.5YR	5	8	NO	n/a	n/a	n/a	2	NO	5	0	SFS	AB	S	VC	EXFIR	YES	YES	YES																									
				3	75	C	10YR	6	1	40	7.5YR	5	8	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	M	C	VFIR	YES	YES	YES																									
				4																																																		
				5																																																		
123	Core	0	NO	1	30	HCL	10YR	3	4	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	S	C	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																	
				2	60	C	10YR	5	3	4																																												

Soil profile descriptions							Soil profile descriptions continued																		ALC for areas represented by individual survey points																											
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations																
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development	Ped size	FIR	VFIR	YES	NO									
129	Core	0	NO	1	30	SCL	10YR	3	1	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	M	FIR	NO	NO	NO	-	3	1	1	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness															
				2	65	C	10YR	6	1	40	7.5YR	6	8	NO	n/a	n/a	n/a	2	NO	5	0	CH	AB	S	C	VFIR	NO	YES										YES														
				3																																																
				4																																																
				5																																																
130	Pit	0	NO	1	25	SCL	10YR	4	1	0	0	0	NO	n/a	n/a	n/a	0	YES	10	5	H	SAB	M	F	FIR	NO	NO	NO	H2 has crumbly structure and sand.	2	1	2	2	3b	3b	Droughtiness																
				2	60	SCL	10YR	4	2	2	10YR	6	6	NO	n/a	n/a	n/a	2	YES	15	5	H	AB	S	M	FIR	NO	YES									NO															
				3																																																
				4																																																
				5																																																
131	Core	0	NO	1	30	HCL	10YR	4	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	C	FIR	NO	NO	NO	-	1	2	1	2	3b	3b	Droughtiness																
				2	50	SCL	10YR	5	4	20	7.5YR	5	8	NO	n/a	n/a	n/a	0	YES	5	0	CH	AB	M	M	FIR	YES	NO									NO															
				3																																																
				4																																																
				5																																																
132	Core	0	NO	1	27	HCL	10YR	4	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	C	FIR	NO	NO	NO	-	2	1	1	3a	3b	3b	Droughtiness																
				2	60	C	10YR	5	1	40	10YR	5	8	NO	n/a	n/a	n/a	2	YES	5	0	CH	AB	W	M	VFIR	YES	YES									NO															
				3																																																
				4																																																
				5																																																
133	Core	0	NO	1	30	HCL	10YR	4	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	C	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																
				2	90	C	10YR	6	1	40	7.5YR	6	8	NO	n/a	n/a	n/a	0	NO	5	0	CH	AB	M	C	VFIR	YES	YES									YES															
				3																																																
				4																																																
				5																																																
134	Core	0	NO	1	30	HCL	10YR	4	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																
				2	45	C	10YR	4	4	20	10YR	5	6	YES	10YR	5	3	2	NO	5	0	H	AB	M	C	VFIR	NO	YES									YES															
				3	100	C	10YR	5	2	40	10YR	5	6	YES	10YR	5	1	2	NO	10	0	CH	AB	M	C	VFIR	YES	YES									YES															
				4																																																
				5																																																
135	Core	0	NO	1	35	HCL	10YR	4	2	2	10YR	3	6	NO	n/a	n/a	n/a	2	YES	5	0	H	SAB	M	M	FIR	NO	YES	NO	-	3	1	1	3b	3a	3b	Wetness															
				2	60	C	10YR	4	4	20	10YR	5	6	YES	10YR	5	2	2	NO	0	0	n/a	AB	M	C	VFIR	NO	YES	YES																							
				3	110	C	10YR	5	2	40	10YR	5	6	YES	10YR	5	1	2	NO	5	0	CH	AB	M	C	VFIR	YES	YES	YES																							
				4																																																
				5																																																
136	Core	0	NO	1	25	HCL	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	C	FIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness																
				2	46	C	10YR	3	2	2	10YR	5	4	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	W	C	VFIR	NO	NO									NO															
				3	80	C	10YR	4	4	10	10YR	5	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	C	VFIR	NO	NO									YES															
				4																																																
				5																																																
137	Core	0	NO	1	30	HCL	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	C	FIR	NO	NO	NO	Chalk h3	2	1	1	3a	3a	3a	Wetness																
				2	45	C	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	M	C	VFIR	NO	NO	NO																								
				3	80	C	10YR	6	2	40	10YR	6	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	M	C	VFIR	YES	YES									YES															
				4																																																
				5																																																
138	Core	0	NO	1	29	HCL	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	M	FIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness																
				2	57	C	10YR	3	3	2	10YR	5	6	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	M	C	VFIR	NO	NO									YES															
				3	80	C	10YR	6	1	40	10YR	5	8	NO	n/a	n/a	n/a	2	NO	5	0	CH	AB	M	C	VFIR	YES	YES									YES															
				4																																																
				5																																																
139	Core	0	NO	1	35	HCL	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	S	M	FIR	NO	NO	NO	-	3	1	1	3b	3b	3b	Wetness																
				2	78	C	10YR	4	3																																											

Soil profile descriptions											Soil profile descriptions continued											ALC for areas represented by individual survey points																																		
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations																				
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development	Ped size	FIR	NO	YES														
193	Core	0	NO	1	30	HCL	10YR	3	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	C	FIR	NO	NO	NO	Gleying in h2.	3	1	1	3b	3a	3b	Wetness																			
				2	55	SCL	10YR	5	1	10	7.5YR	6	8	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	M	M	FIR	NO	YES											NO																
				3	75	C	10YR	6	1	40	10YR	6	6	8	NO	n/a	n/a	n/a	0	NO	5	0	n/a	CH	AB	W	M	FIR	YES											YES	YES															
				4																																																				
				5																																																				
194	Core	0	NO	1	30	HCL	10YR	3	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	M	FIR	NO	NO	NO	Same as pt. 217	3	1	1	3b	3a	3b	Wetness																			
				2	70	C	10YR	5	1	40	7.5YR	6	8	NO	n/a	n/a	n/a	0	NO	5	0	SFS	AB	M	C	VFIR	NO	YES	YES																											
				3																																																				
				4																																																				
				5																																																				
195	Core	0	NO	1	32	C	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	10	YES	10	5	H	AB	M	M	FIR	NO	NO	NO	-	3	1	2	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness																		
				2	81	C	10YR	4	2	15	10YR	6	6	NO	n/a	n/a	n/a	20	NO	15	10	H	AB	M	C	FIR	NO	YES	YES																											
				3																																																				
				4																																																				
				5																																																				
196	Pit	0	NO	1	32	HCL	10YR	3	1	0	0	0	0	NO	n/a	n/a	n/a	2	YES	10	5	H	SAB	M	M	FIR	NO	NO	NO	-	2	1	2	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness																		
				2	57	HCL	10YR	3	2	2	10YR	5	6	YES	10YR	5	3	2	YES	10	5	H	SAB	M	M	FIR	NO	YES	NO																											
				3	75	C	10YR	5	1	40	10YR	6	6	NO	n/a	n/a	n/a	2	NO	10	0	CH	AB	M	C	VFIR	YES	YES	YES																											
				4																																																				
				5																																																				
197	Core	0	NO	1	30	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	15	10	H	SAB	M	M	FIR	NO	NO	NO	-	3	1	3a	3b	3a	3b	Wetness																			
				2	55	C	10YR	5	3	10	10YR	5	6	YES	10YR	6	2	2	NO	0	0	n/a	AB	M	C	FIR	NO	YES	YES																											
				3	81	MCL	10YR	6	4	40	10YR	6	8	NO	n/a	n/a	n/a	40	NO	10	5	H	GR	M	F	FIR	YES	YES	NO																											
				4																																																				
				5																																																				
198	Core	0	NO	1	35	HCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	0	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																			
				2	60	C	10YR	4	3	2	10YR	5	6	YES	10YR	5	3	2	NO	0	0	n/a	AB	M	C	FIR	YES	YES	YES																											
				3	100	C	10YR	4	3	20	10YR	5	6	YES	10YR	5	1	2	NO	5	0	CH	AB	M	C	VFIR	YES	YES	YES																											
				4																																																				
				5																																																				
199	Core	0	NO	1	20	HCL	10YR	4	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	S	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																			
				2	50	C	10YR	5	3	2	7.5YR	5	8	NO	n/a	n/a	n/a	2	YES	0	0	n/a	AB	S	C	FIR	NO	YES	NO																											
				3	80	C	10YR	4	1	20	7.5YR	6	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	S	C	VFIR	YES	YES	YES																											
				4																																																				
				5																																																				
200	Core	0	NO	1	30	MCL	10YR	4	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness																		
				2	55	HCL	10YR	5	3	20	10YR	5	8	YES	10YR	5	1	0	NO	0	0	n/a	AB	S	C	FIR	YES	YES	YES																											
				3	75	SCL	10YR	5	4	40	7.5YR	5	8	NO	n/a	n/a	n/a	0	NO	5	0	CH	AB	M	M	FR	YES	NO	NO																											
				4																																																				
				5																																																				
201	Core	0	NO	1	30	C	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	C	VFIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																			
				2	50	C	10YR	4	2	2	10YR	5	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	M	C	VFIR	YES	YES	YES																											
				3	80	C	10YR	5	2	40	7.5YR	4	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	C	VFIR	NO	YES	YES																											
				4																																																				
				5																																																				
202	Core	0	NO	1	38	C	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	AB	M	C	VFIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness																		
				2	80	C	10YR	4	3	10	10YR	5	6	NO	n/a	n/a	n/a	2	NO	5	0	H	AB	M	C	VFIR	NO	NO	YES																											
				3																																																				
				4																																																				
				5																																																				
203	Core	0	NO	1	35	C	10YR	4	2																																															

Soil profile descriptions										Soil profile descriptions continued												ALC for areas represented by individual survey points																	
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations			
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development	Ped size
209	Core	0	NO	1-5	50-81	C- HCL	7.5YR 7.5YR	3 5	2 1	0 40	0 7.5YR	0 6	0 6	NO NO	n/a n/a	n/a n/a	n/a n/a	0 20	YES NO	10 0	0 15	H H	SAB AB	M W	M M	FIR FIR	NO NO	NO YES	NO YES	stopped on stone near main drain	2	1	2	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
210	Core	0	NO	1-5	34-90	C- SCL	7.5YR 7.5YR	3 5	2 2	0 40	0 7.5YR	0 6	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	15 10	YES NO	10 15	5 10	H H	SAB AB	M S	M F	FIR FIR	NO NO	NO YES	NO NO	-	3	1	2	3b	3a	3b	Wetness		
211	Core	0	NO	1-5	30-80	HCL- HCL C	10YR 10YR 5YR	3 3 4	2 2 2	0 15 20	0 7.5YR 7.5YR	0 4 4	0 6 6	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 2 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB AB	S S S	M C C	FIR VFIR EXFIR	NO NO YES	NO NO YES	NO YES YES	Sandy deposits in h2 and h3	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
212	Pit	0	NO	1-5	40-60	C- C	10YR 10YR	2 4	2 1	0 40	0 10YR	0 4	0 6	NO NO	n/a n/a	n/a n/a	n/a n/a	0 2	YES NO	5 0	5 0	H n/a	SAB AB	S S	M C	FIR VFIR	NO NO	NO YES	NO YES	-	2	1	1	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
213	Core	0	NO	1-5	50-100	HCL- HCL HCL	10YR 10YR 5YR	4 4 4	1 2 1	0 20 15	0 10YR 5YR	0 5 4	0 6 6	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	2 2 0	YES NO NO	5 5 5	0 0 0	H H CH	SAB SAB AB	M M M	M M C	FIR FIR VFIR	NO NO YES	NO YES YES	NO NO NO	-	1	1	1	2	2	2	Wetness Droughtiness		*
214	Core	0	NO	1-5	35-80	C- FSL C	10YR 10YR 10YR	4 6 6	1 6 1	0 0 20	0 0 10YR	0 0 6	0 0 6	NO NO YES	n/a n/a 10YR	n/a n/a 4	n/a n/a 3	2 0 0	YES NO NO	0 5 5	0 0 0	n/a H H	SAB GR AB	W S M	M F M	FIR FR VFIR	NO NO YES	NO NO YES	NO NO NO	-	1	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
215	Core	0	NO	1-5	45-105	C- C MS	10YR 10YR 7.5YR	4 5 6	1 1 6	0 40 0	0 10YR 0	0 6 0	0 6 0	NO YES NO	n/a 10YR n/a	n/a 4 n/a	n/a 3 n/a	0 2 0	YES NO NO	5 0 0	0 0 0	H n/a n/a	SAB SAB GR	M M S	M M F	FIR FIR FR	NO YES NO	NO YES NO	NO NO NO	-	2	1	1	3a	1	3a	Wetness		
216	Core	0	NO	1-5	30-70	HCL- C	10YR 10YR	3 5	1 1	0 40	0 7.5YR	0 6	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 0	YES NO	0 5	0 0	n/a CH	SAB AB	S M	M C	FIR VFIR	NO YES	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
217	Core	0	NO	1-5	30-80	HCL- C	10YR 10YR	3 5	1 1	0 40	0 7.5YR	0 6	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 0	YES NO	0 5	0 0	n/a CH	SAB AB	S M	M C	FIR VFIR	NO YES	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
218	Core	0	NO	1-5	30-70	HCL- C MSL	10YR 10YR 10YR	3 5 5	1 1 2	0 40 10	0 7.5YR 7.5YR	0 6 5	0 8 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 0 2	YES NO NO	0 5 5	0 0 0	n/a CH CH	SAB AB GR	S M W	M C M	FIR VFIR FR	NO YES YES	NO YES YES	NO YES NO	-	3	1	1	3b	3a	3b	Wetness		
219	Core	1	NO	1-5	30-81	C- C C	10YR 10YR 10YR	4 5 6	3 3 2	0 40 40	0 10YR 10YR	0 6 6	0 6 6	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	2 2 0	YES NO NO	15 10 10	10 0 5	H n/a H	SAB AB AB	W W W	M C M	FIR FIR FIR	NO NO YES	NO YES YES	NO YES YES	-	3	1	3a	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
220	Core	0	NO	1-5	38-95	HCL- C C	10YR 10YR 10YR	3 6 6	2 4 1	0 40 40	0 10YR 10YR	0 6 6	0 8 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 2 2	YES NO NO	10 10 10	5 5 5	H H H	AB AB AB	M W W	M C C	FR FIR FIR	NO NO YES	NO YES YES	NO YES YES	-	3	1	2	3b	3a	3b	Wetness		
221	Core	0	NO	1-5	35-90	HCL- C C	7.5YR 10YR 5YR	4 5 5	1 4 3	0 20 20	0 10YR 7.5YR	0 6 6	0 8 8	NO NO YES	n/a n/a 5YR	n/a n/a 6	n/a n/a 1	0 0 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB AB	M M M	M C C	FIR FIR FIR	NO NO YES	NO NO YES	NO YES YES	-	2	1	1	3a	3a	3a	Wetness Droughtiness		
222	Core	0	NO	1-5	30-90	C- C C	10YR 10YR 10YR	4 5 5	2 2 1	0 20 20	0 10YR 10YR	0 6 6	0 6 6	NO YES NO	n/a 10YR n/a	n/a 5 n/a	n/a 1 n/a	0 0 0	YES NO NO	10 10 10	5 5 5	H H H	SAB AB AB	M M M	M C M	FIR FIR FIR	NO NO YES	NO YES YES	NO YES NO	-	3	1	2	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
223	Core	0	NO	1-5	30-85	C- C C	10YR 10YR 5YR	3 5 5	2 2 1	20 20 15	10YR 10YR 10YR	5 5 6	4 6 6	NO NO YES	n/a n/a 5YR	n/a n/a 5	n/a n/a 4	0 0 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB SAB AB	M M W	M M M	FIR FIR VFIR	NO YES YES	NO YES YES	NO NO YES	-	3	1	1	3b	3a	3b	Wetness		
224	Core	0	NO	1-5	30-110	HCL- C C	10YR 10YR 5YR	3 5 4	1 3 1	0 20 20	0 10YR 5YR	0 6 4	0 8 4	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 2 0	YES NO NO	5 0 0	0 0 0	H n/a n/a	SAB AB AB	M M W	M C C	FIR VFIR VFIR	NO NO NO	NO YES NO	NO YES NO	-	3	1	1	3b	2	3b	Wetness		

Soil profile descriptions						Soil profile descriptions continued													ALC for areas represented by individual survey points																				
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure				Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations		
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type	Type															Development	Ped size
225	Core	0	NO		1 2 3 4 5	30 85 115	HCL C C	10YR 10YR 10YR	4 6 5	2 3 1	0 10 15	0 10YR 10YR	0 6 6	0 8 6	NO NO NO	n/a n/a n/a	n/a n/a n/a	2 10 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB AB	M M W	M C C	FIR VFIR VFIR	NO NO YES	NO YES YES	NO YES NO		3	1	1	3b	2	3b	Wetness		
226	Core	0	NO		1 2 3 4 5	29 55 80	HCL C C	10YR 10YR 10YR	3 3 4	2 2 3	0 2 15	0 10YR 10YR	0 5 5	0 4 6	NO NO YES	n/a n/a 10YR	n/a n/a 5	0 0 2	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB AB	M M W	M C C	FIR VFIR VFIR	NO NO NO	NO NO YES	NO NO YES		2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
227	Pit	0	NO		1 2 3 4 5	35 45 110	HCL HCL C	10YR 10YR 10YR	4 4 5	2 3 1	0 15 40	0 10YR 10YR	0 5 5	0 6 8	NO YES NO	n/a 10YR n/a	n/a 5 n/a	0 0 2	YES NO NO	5 0 5	0 0 0	H n/a CH	SAB SAB AB	M M M	M M C	FIR FIR VFIR	NO NO YES	NO YES YES	NO NO YES	Auger core from 80 to 110cm	3	1	1	3b	2	3b	Wetness		
228	Core	0	NO		1 2 3 4 5	35 65 97 110	HCL C SCL C	10YR 10YR 10YR 5YR	4 5 6 4	2 1 1	0 20 40 20	0 10YR 10YR 5YR	0 6 6 4	0 6 6 3	NO YES NO NO	n/a 5YR n/a n/a	n/a 4 n/a n/a	0 0 0 0	YES NO NO NO	0 5 0 0	0 0 0 0	n/a H n/a n/a	SAB SAB SAB AB	M W W W	M C M C	FIR FIR FR VFIR	YES YES YES YES	NO YES YES NO	NO YES NO NO		3	1	1	3a	2	3a	Wetness		
229	Pit	0	NO		1 2 3 4 5	35 45 70 120	SCL C C C	10YR 5YR 10YR 5YR	3 4 3 4	2 2 2	0 20 40 15	0 10YR 10YR 10YR	0 5 5 5	0 6 6 6	NO YES YES YES	n/a 5YR 10YR 5YR	n/a 5 1 5	0 2 10 2	YES NO NO NO	10 5 5 5	5 0 0 0	H H H CH	AB AB AB AB	M M M M	C C C C	FIR FIR FR VFIR	NO NO NO YES	NO YES YES NO	NO YES YES YES	Some chalk stones in h3.	3	1	2	3a	3a	3a	Wetness Droughtiness		
230	Core	0	NO		1 2 3 4 5	32 50 65	SCL SC C	10YR 10YR 10YR	4 6 6	2 6 4	0 10 40	0 10YR 10YR	0 6 6	0 8 8	NO YES YES	n/a 10YR 10YR	n/a 6 7	0 0 0	YES NO NO	10 0 15	5 0 10	H n/a H	SAB SAB AB	M S M	M F C	FIR FR FIR	NO NO NO	NO YES YES	NO NO YES	stopped on stone	3	1	2	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
231	Core	0	NO		1 2 3 4 5	30 60 81	SCL C HCL	10YR 10YR 5YR	4 5 5	2 2 6	0 20 20	0 7.5YR 5YR	0 6 6	0 6 8	NO YES YES	n/a 7.5YR 5YR	n/a 6 6	0 0 2	YES NO NO	10 10 10	5 5 5	H H H	SAB AB AB	S M M	F C C	FIR FIR FIR	NO NO YES	NO YES YES	NO YES YES	stopped on hard clay	3	1	2	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
232	Core	0	NO		1 2 3 4 5	30 72	C C	10YR 7.5YR	3 5	2 2	0 10	0 7.5YR	0 4	0 6	NO NO	n/a n/a	n/a n/a	0 2	YES NO	0 5	0 0	n/a H	SAB AB	M W	C C	VFIR VFIR	NO YES	NO YES	NO YES	Hit stones at 72cm	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
233	Core	0	NO		1 2 3 4 5	30 60	HCL SCL	10YR 10YR	3 4	2 6	0 0	0 0	0 0	0 0	NO NO	n/a n/a	n/a n/a	0 0	YES NO	0 0	0 0	n/a n/a	AB SAB	M M	M F	FIR FR	NO NO	NO NO	NO NO		1	1	1	2	3a	2	Wetness Droughtiness	Soil profile deeper than recorded - not limited by droughtiness only	*
234	Core	0	NO		1 2 3 4 5	38 85	C C	10YR 10YR	3 6	2 1	0 40	0 10YR	0 6	0 8	NO NO	n/a n/a	n/a n/a	0 0	YES NO	0 0	0 0	n/a n/a	AB AB	M W	M C	FIR FIR	NO NO	NO YES	NO YES		3	1	1	3b	3a	3b	Wetness		
235	Core	0	NO		1 2 3 4 5	31 60 85	HCL MCL C	10YR 10YR 10YR	4 6 5	1 2 1	0 40 100	0 10YR 10YR	0 6 6	0 8 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	0 40 20	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	AB AB AB	M W W	M M C	FIR FIR FIR	NO NO NO	NO YES YES	NO YES YES		3	1	1	3b	3a	3b	Wetness		
236	Core	0	NO		1 2 3 4 5	38 68 85	HCL C C	10YR 10YR 10YR	3 3 4	2 2 1	0 10 2	0 10YR 10YR	0 4 5	0 6 6	NO NO NO	n/a n/a n/a	n/a n/a n/a	0 2 20	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB AB	M W M	M C C	VFIR VFIR VFIR	NO NO NO	NO NO YES	NO NO YES		2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
237	Core	0	NO		1 2 3 4 5	45 75 90	HCL SCL SC	10YR 10YR 10YR	4 6 6	1 3 1	0 2 20	0 10YR 10YR	0 6 6	0 6 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	0 0 0	YES NO NO	0 5 5	0 0 0	n/a H H	SAB GR AB	M S M	M F C	FIR FR VFIR	NO NO YES	NO YES YES	NO NO YES		2	1	1	3a	2	3a	Wetness		
238	Core	0	NO		1 2 3 4 5	45 65 85	C C C	10YR 10YR 10YR	4 6 6	1 1 1	0 10 10	0 10YR 10YR	0 6 6	0 6 6	NO YES NO	n/a 10YR n/a	n/a 4 n/a	2 0 0	YES NO NO	5 10 5	0 0 0	H H H	SAB AB AB	W M M	M C C	FIR VFIR FR	YES YES YES	NO YES YES	NO YES YES		2	1	1	2	3a	3a	Droughtiness		
239	Core	0	NO		1 2 3 4 5	35 70	HCL C	10YR 10YR	3 6	2 1	0 40	0 10YR	0 4	0 6	NO NO	n/a n/a	n/a n/a	0 2	YES NO	0 0	0 0	n/a n/a	SAB AB	S S	C C	FIR VFIR	NO YES	NO YES	NO YES		3	1	1	3b	3a	3b	Wetness		
240	Core	0	NO		1 2 3 4 5	35 60	HCL C	10YR 10YR	3 6	2 1	0 40	0 10YR	0 4	0 6	NO NO	n/a n/a	n/a n/a	0 2	YES NO	0 0	0 0	n/a n/a	SAB AB	S S	C C	FIR VFIR	NO YES	NO YES	NO YES		3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	

Soil profile descriptions					Soil profile descriptions continued													ALC for areas represented by individual survey points																				
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations		
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development
241	Core	0	NO	1	30	HCL	10YR	3	1	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness		
242	Core	0	NO	1	30	HCL	10YR	3	1	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	S	M	FIR	NO	NO	NO	Did 2 points. Stopped at 30cm at 1 point.	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
243	Core	0	NO	1	45	HCL	10YR	3	1	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	M	FIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
244	Core	0	NO	1	28	HCL	10YR	4	2	0	0	0	NO	n/a	n/a	n/a	10	YES	10	5	H	SAB	M	M	FIR	NO	NO	NO	-	3	1	2	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
245	Core	1	NO	1	30	HCL	10YR	3	1	0	0	0	NO	n/a	n/a	n/a	0	YES	10	5	H	SAB	M	M	FR	NO	NO	NO	stopped on stones	3	1	2	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
246	Core	0	YES	1	32	C	10YR	4	3	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness		
247	Core	0	NO	1	30	C	10YR	4	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	AB	W	C	VFIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness		
248	Core	0	NO	1	27	C	7.5YR	4	2	2	7.5YR	6	8	NO	n/a	n/a	n/a	2	YES	0	0	n/a	AB	W	C	FIR	NO	YES	NO	-	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness
249	Core	0	NO	1	30	C	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	VFIR	NO	NO	NO	-	3	1	1	3b	2	3b	Wetness		
250	Core	0	NO	1	25	C	10YR	4	2	2	10YR	5	4	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	W	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness	
251	Core	0	NO	1	30	C	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	Chalk stones from 80	3	1	1	3b	3a	3b	Wetness		
252	Core	0	NO	1	30	C	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	M	FIR	NO	NO	NO	Small chalk stones	3	1	1	3b	3a	3b	Wetness		
253	Core	0	NO	1	35	HCL	10YR	4	2	0	0	0	NO	n/a	n/a	n/a	0	YES	10	0	H	SAB	M	M	FIR	NO	NO	NO	-	2	1	2	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
254	Core	0	NO	1	30	C	10YR	4	2	0	0	0	NO	n/a	n/a	n/a	0	YES	10	5	H	SAB	M	M	FIR	NO	NO	NO	-	2	1	2	3a	1	3a	Wetness		
255	Core	0	NO	1	35	HCL	10YR	4	2	0	0	0	NO	n/a	n/a	n/a	0	YES	10	5	H	SAB	M	M	FIR	NO	NO	NO	-	2	1	2	3a	2	3a	Wetness		
256	Core	0	NO	1	30	SCL	7.5YR	4	2	0	0	0	NO	n/a	n/a	n/a	0	YES	10	5	H	SAB	S	F	FR	NO	NO	NO	-	1	1	2	1	2	2	Topsoil stoniness Droughtiness	*	

Soil profile descriptions										Soil profile descriptions continued													ALC for areas represented by individual survey points																														
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure				Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations																
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type	Type															Development	Ped size														
289	Core	0	NO	1	28	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																
				2	85	C	7.5YR	5	1	40	10YR	4	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	C	VFIR	NO	YES	YES																								
				3																																																	
				4																																																	
				5																																																	
290	Core	0	NO	1	30	HCL	10YR	3	1	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	AB	S	M	FIR	NO	NO	NO	-	2	1	1	3a	2	3a	Wetness																
				2	58	C	7.5YR	4	1	40	7.5YR	4	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	M	VFIR	NO	YES	NO																								
				3	80	C	5YR	3	1	10	5YR	5	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	SAB	M	M	FIR	YES	NO	NO																								
				4																																																	
				5																																																	
291	Core	0	NO	1	35	HCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	2	1	1	3a	2	3a	Wetness																
				2	80	SCL	10YR	4	1	40	7.5YR	5	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	FIR	YES	YES	NO																								
				3																																																	
				4																																																	
				5																																																	
292	Core	0	NO	1	40	C	10YR	4	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	W	M	FIR	NO	NO	NO	-	2	1	1	3a	2	3a	Wetness																
				2	60	C	10YR	3	1	40	10YR	4	4	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	FIR	NO	NO	NO																								
				3	75	C	10YR	5	1	40	10YR	6	6	YES	10YR	5	3	0	NO	0	0	n/a	SAB	M	M	FR	NO	YES	NO																								
				4	100	C	5YR	3	2	20	10YR	6	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	PL	M	M	FIR	YES	NO	YES																								
				5																																																	
293	Core	0	NO	1	45	C	10YR	4	1	2	10YR	4	4	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	W	M	FIR	NO	NO	NO	-	1	1	1	3a	1	3a	Wetness																
				2	70	C	10YR	4	1	20	10YR	5	4	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	FIR	NO	NO	NO																								
				3	105	C	10YR	3	2	20	10YR	3	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	FR	NO	NO	NO																								
				4	115	SC	10YR	5	1	10	10YR	5	4	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	FIR	NO	NO	NO																								
				5																																																	
294	Core	0	NO	1	40	HCL	10YR	4	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	Rust powder in h3	2	1	1	3a	2	3a	Wetness																
				2	65	C	10YR	4	1	20	10YR	4	6	YES	10YR	5	2	2	NO	0	0	n/a	AB	M	C	VFIR	NO	YES	YES																								
				3	120	C	10YR	3	1	15	10YR	6	8	YES	10YR	4	4	20	NO	0	0	n/a	AB	M	M	FIR	NO	NO	NO																								
				4																																																	
				5																																																	
295	Core	0	NO	1	30	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	2	1	1	3a	2	3a	Wetness																
				2	90	HCL	10YR	3	2	40	10YR	5	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	M	C	FIR	NO	NO	YES																								
				3	115	C	10YR	4	1	20	5YR	4	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	W	M	VFIR	NO	YES	NO																								
				4																																																	
				5																																																	
296	Core	0	NO	1	36	C	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	C	VFIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																
				2	80	C	2.5Y	5	4	15	10YR	5	6	YES	10YR	n/a	6	1	2	NO	0	0	n/a	AB	M	C	VFIR	YES	YES											YES													
				3																																																	
				4																																																	
				5																																																	
297	Core	0	NO	1	30	HCL	10YR	4	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	C	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																
				2	80	C	10YR	5	2	40	10YR	5	8	YES	10YR	n/a	6	1	2	NO	0	0	n/a	AB	S	C	VFIR	NO	YES											YES													
				3																																																	
				4																																																	
				5																																																	
298	Core	0	NO	1	30	HCL	10YR	4	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	C	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																
				2	50	C	10YR	5	4	20	10YR	6	6	YES	10YR	n/a	6	1	2	NO	0	0	n/a	AB	S	C	FIR	NO	YES											YES													
				3	80	C	10YR	6	1	40	10YR	5	8	NO	n/a	n/a	n/a	2	NO	5	0	CH	AB	S	C	VFIR	NO	YES	YES																								
				4																																																	
				5																																																	
299	Core	0	NO	1	25	C	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	2	YES	5	5	H	SAB	S	C	FR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																
				2	55	C	10YR																																														

Soil profile descriptions						Soil profile descriptions continued																		ALC for areas represented by individual survey points															
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure				Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations		
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type	Type															Development	Ped size
305	Core	0	NO	1 2 3 4 5	30 63 95	HCL C C	10YR 10YR 10YR	3 6 6	2 6 2	0 20 20	0 10YR 10YR	0 6 6	0 8 8	NO YES NO	n/a 10YR n/a	n/a 6 n/a	n/a 2 n/a	0 0 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB SAB	M W W	M C M	FIR FIR FIR	NO NO YES	NO YES YES	NO YES NO	-	3	1	1	3b	3a	3b	Wetness		
306	Core	0	NO	1 2 3 4 5	30 63 95	HCL C HCL	7.5YR 10YR 10YR	4 6 6	2 3 2	0 20 10	0 10YR 10YR	0 6 6	0 8 8	NO YES NO	n/a 10GY n/a	n/a 6 n/a	n/a 1 n/a	0 0 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	AB AB SAB	M M W	M C M	FIR FIR FR	NO YES YES	NO YES YES	NO YES NO	-	3	1	1	3b	2	3b	Wetness		
307	Pit	0	NO	1 2 3 4 5	30 50 60	SCL SCL SC	10YR 10YR 10YR	3 3 5	1 1 4	0 20 40	0 7.5YR 7.5YR	0 5 6	0 6 8	NO YES YES	n/a 10YR 10YR	n/a 5 6	n/a 1 1	0 2 0	YES NO YES	15 15 10	10 10 5	H H H	AB AB AB	S M M	VC C M	FIR FIR FIR	NO NO YES	NO YES YES	NO YES NO	-	3	1	3a	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
308	Core	0	NO	1 2 3 4 5	35 70	HCL C	10YR 10YR	4 6	1 3	0 20	0 10YR	0 5	0 6	NO YES	n/a 10YR	n/a 6	n/a 1	2 0	YES NO	5 5	0 0	H CH	SAB AB	M M	M C	FIR VFIR	NO YES	NO YES	NO YES	-	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
310	Core	0	NO	1 2 3 4 5	30 57 80	HCL C C	10YR 10YR 7.5YR	3 5 4	1 1 2	0 15 0	0 7.5YR 0	0 4 0	0 6 0	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	2 10 2	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	AB AB AB	S M M	C C C	VFIR VFIR VFIR	NO YES YES	NO YES NO	NO YES YES	-	3	1	1	3b	3a	3b	Wetness		
311	Core	0	NO	1 2 3 4 5	28 45 80	HCL SC MS	10YR 10YR 10YR	3 5 5	2 1 8	0 10 0	0 7.5YR 0	0 6 0	0 6 0	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	2 0 0	YES NO NO	0 0 5	0 0 0	n/a n/a H	SAB SAB SG	S S M	M M F	VFIR FIR FR	NO NO NO	NO YES NO	NO NO NO	-	1	1	1	2	3a	3a	Droughtiness		
312	Pit	0	NO	1 2 3 4 5	38 70 85	C C C	5YR 5YR 5YR	4 5 6	1 1 1	2 40 40	5YR 5YR 5YR	5 5 6	8 8 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 10 10	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	AB AB AB	W W W	C C C	FIR FIR FIR	NO NO NO	YES YES YES	NO YES YES	-	3	1	1	3b	3a	3b	Wetness		
313	Core	0	NO	1 2 3 4 5	25 80	HCL C	10YR 10YR	3 4	1 1	0 40	0 10YR	0 5	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	10 2	YES NO	0 0	0 0	n/a n/a	AB AB	S S	M M	FIR VFIR	NO YES	NO YES	NO NO	Sandy deposits/ calcium carbonate at max depth	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
314	Core	0	NO	1 2 3 4 5	38 53 80	HCL C C	10YR 10YR 10YR	3 6 4	2 1 1	0 20 40	0 7.5YR 7.5YR	0 5 5	0 8 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	2 15 2	YES YES NO	5 0 0	0 0 0	H n/a n/a	SAB AB SAB	S M M	M M M	VFIR FIR FIR	NO YES NO	NO YES YES	NO NO NO	-	2	1	1	3a	2	3a	Wetness		
315	Core	0	NO	1 2 3 4 5	40 85 105 120	C C C O-C	10YR 10YR 10YR 10YR	4 4 5 3	1 1 1 2	2 20 20 0	10YR 10YR 10YR 0	4 4 6 0	4 6 8 0	NO NO YES NO	n/a n/a n/a n/a	n/a n/a n/a n/a	n/a n/a n/a n/a	0 0 0 0	YES NO NO NO	0 0 0 0	0 0 0 0	n/a n/a n/a n/a	SAB AB AB GR	M W S S	M C M M	FIR FIR FIR FR	NO NO NO NO	NO YES YES NO	NO YES NO NO	H4 organic clay	2	1	1	2	2	3a	Wetness	No organic soils within 30cm	
316	Core	0	NO	1 2 3 4 5	40 105 120	HCL C C	10YR 10YR 10YR	4 3 4	2 1 1	0 15 10	0 5YR 10YR	0 4 4	0 6 3	NO YES NO	n/a 10YR n/a	n/a 5 n/a	n/a 2 n/a	2 2 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB SAB	M W S	M C M	FIR FIR FR	NO NO NO	NO YES NO	NO YES NO	-	2	1	1	3a	2	3a	Wetness		
317	Core	0	NO	1 2 3 4 5	40 120	HCL C	10YR 10YR	4 4	2 2	0 40	0 10YR	0 5	0 8	NO YES	n/a 5YR	n/a 5	n/a 8	10 10	YES NO	0 0	0 0	n/a n/a	SAB AB	M S	M C	FIR FIR	NO NO	NO YES	NO YES	FeMn as deep as 80 cm. Mottle colour intense at depth	2	1	1	3a	2	3a	Wetness		
318	Core	0	NO	1 2 3 4 5	35 75	HCL C	10YR 10YR	4 5	1 2	0 40	0 10YR	0 5	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	2 2	YES NO	5 5	0 0	H CH	SAB AB	S S	C C	FIR VFIR	NO NO	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
319	Core	0	NO	1 2 3 4 5	30 80	HCL C	10YR 10YR	4 5	1 2	0 40	0 10YR	0 5	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	2 2	YES NO	5 5	0 0	H CH	SAB AB	S S	C C	FIR VFIR	NO YES	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
320	Core	0	NO	1 2 3 4 5	20 60 90	C C C	10YR 10YR 10YR	3 6 4	2 1 1	2 40 40	7.5YR 5YR 10YR	5 5 5	8 8 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	2 20 2	YES NO NO	0 0 5	0 0 0	n/a n/a H	AB AB AB	S S S	M C M	FIR FIR VFIR	NO NO YES	NO YES YES	NO YES NO	-	3	1	1	3b	3a	3b	Wetness		

Soil profile descriptions											Soil profile descriptions continued											ALC for areas represented by individual survey points																																	
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations																			
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development	Ped size	FIR	VFIR	YES	NO	YES	NO										
321	Core	0	NO	1	20	HCL	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	10	5	H	SAB	M	M	FIR	NO	NO	NO		3	1	2	3b	3a	3b	Wetness																		
				2	70	C	10YR	5	1	20	10YR	6	8	8	NO	n/a	n/a	n/a	0	NO	10	5	H	AB	M	C	FIR	NO	YES											YES															
				3	95	C	10YR	5	1	40	10YR	8	8	8	NO	n/a	n/a	n/a	0	NO	10	5	H	AB	W	C	FIR	NO	NO											YES															
				4																																																			
				5																																																			
322	Core	0	NO	1	27	C	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	10	5	H	SAB	W	M	FIR	NO	NO	NO		3	1	2	3b	3b	3b	Wetness Droughtiness																		
				2	90	C	10YR	6	3	20	10YR	6	8	YES	10YR	5	1	0	NO	10	5	H	AB	W	C	FIR	NO	YES	YES																										
				3																																																			
				4																																																			
				5																																																			
323	Pit	0	NO	1	35	C	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	2	YES	10	5	H	SAB	S	C	FIR	NO	NO	NO	Calcareous deposits at ~70cm	3	1	2	3b	3a	3b	Wetness																		
				2	85	C	10YR	6	1	40	10YR	5	8	NO	n/a	n/a	n/a	0	NO	10	5	H	AB	S	C	VFIR	YES	YES	YES																										
				3																																																			
				4																																																			
				5																																																			
324	Core	0	NO	1	27	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	10	5	H	SAB	M	M	FIR	NO	NO	NO		3	1	2	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness																	
				2	81	C	10YR	6	2	20	10YR	6	8	NO	n/a	n/a	n/a	0	NO	15	10	H	AB	W	M	FIR	NO	YES	YES																										
				3	90	C	10YR	5	1	40	10YR	6	8	NO	n/a	n/a	n/a	0	NO	10	5	H	AB	W	M	VFIR	YES	YES	NO																										
				4																																																			
				5																																																			
325	Core	0	NO	1	28	HCL	10YR	4	1	0	0	0	0	NO	n/a	n/a	n/a	2	YES	5	0	H	SAB	S	C	FIR	NO	NO	NO		3	1	1	3b	3a	3b	Wetness																		
				2	80	HCL	10YR	5	1	40	10YR	5	8	NO	n/a	n/a	n/a	2	NO	5	0	H	AB	S	C	VFIR	YES	YES	YES																										
				3																																																			
				4																																																			
				5																																																			
326	Core	0	NO	1	38	C	10YR	4	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	S	C	FIR	NO	NO	NO		3	1	1	3b	3a	3b	Wetness																		
				2	80	C	10YR	6	1	40	10YR	5	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	S	C	VFIR	YES	YES	YES																										
				3																																																			
				4																																																			
				5																																																			
327	Core	0	NO	1	30	HCL	10YR	4	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO		3	1	1	3b	3a	3b	Wetness																		
				2	60	C	10YR	6	1	20	10YR	6	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	W	C	FIR	NO	YES	YES																										
				3	90	C	7.5YR	6	4	20	7.5YR	6	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	W	M	FIR	NO	YES	YES																										
				4																																																			
				5																																																			
328	Core	0	NO	1	35	HCL	10YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	M	M	FR	NO	NO	NO		3	1	1	3b	3a	3b	Wetness																		
				2	90	C	10YR	6	1	40	10YR	6	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	W	C	FIR	NO	YES	YES																										
				3																																																			
				4																																																			
				5																																																			
329	Core	0	NO	1	27	HCL	7.5YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	M	FIR	NO	NO	NO		3	1	1	3b	2	3b	Wetness																		
				2	55	C	7.5YR	5	3	40	7.5YR	6	6	YES	7.5YR	5	3	0	NO	0	0	n/a	AB	M	C	FIR	NO	YES	YES																										
				3	95	HCL	7.5YR	6	1	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	W	F	FR	YES	NO	NO																										
				4																																																			
				5																																																			
330	Core	0	NO	1	30	HCL	10YR	4	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	M	FIR	YES	NO	NO		3	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness																	
				2	50	HCL	10YR	4	1	2	7.5YR	6	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	C	FIR	NO	YES	YES																										
				3	75	C	10YR	4	3	40	10YR	5	6	YES	10YR	6	1	0	NO	5	0	CH	AB	M	C	VFIR	YES	YES	YES																										
				4																																																			
				5																																																			
331	Core	0	NO	1	30	HCL	10YR	4	2																																														

Soil profile descriptions				Soil profile descriptions continued														ALC for areas represented by individual survey points																					
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure				Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations		
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type	Type															Development	Ped size
337	Core	0	NO	1 2 3 4 5	25 80	HCL C	10YR 10YR	3 5	2 1	0 40	0 7.5YR	0 5	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	2 2	YES YES	0 0	0 0	n/a n/a	AB AB	S M	M M	FIR FIR	NO NO	NO YES	NO NO	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
338	Core	0	NO	1 2 3 4 5	36 62 90	C O-C C	10YR 10YR 5YR	4 4 5	2 3 1	2 40 40	10YR 10YR 5YR	6 5 5	8 6 8	NO YES NO	n/a 10YR n/a	n/a 4 n/a	n/a 2 n/a	2 10 10	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	AB AB AB	W W W	C C C	FIR FIR FIR	NO NO NO	YES YES YES	NO NO YES	-	2	1	1	3a	2	3a	Wetness		
339	Core	0	NO	1 2 3 4 5	35 70	HCL C	10YR 10YR	4 5	1 1	0 40	0 10YR	0 6	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 0	YES NO	5 5	0 0	H H	SAB AB	S S	C C	FIR VFIR	NO NO	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
340	Core	0	NO	1 2 3 4 5	30 70 100	C C C	10YR 10YR 10YR	4 4 5	2 3 1	2 20 40	10YR 10YR 10YR	5 5 5	6 6 8	NO YES NO	n/a 10YR n/a	n/a 5 n/a	n/a 1 n/a	2 2 2	YES NO NO	5 5 0	0 0 5	H H CH	AB AB AB	M M M	M C VC	FIR FIR VFIR	NO NO YES	YES YES YES	NO YES YES	-	3	1	1	3b	3a	3b	Wetness		
341	Pit	0	NO	1 2 3 4 5	35 100	C C	10YR 10YR	4 5	2 1	2 40	10YR 10YR	5 5	6 8	NO NO	n/a n/a	n/a n/a	n/a n/a	2 2	YES NO	10 5	0 0	H H	AB AB	S M	C VC	FIR VFIR	NO YES	YES YES	NO YES	Some chalk stones at 80 to 100. 80 to 100 taken with auger. Separate image	3	1	2	3b	3a	3b	Wetness		
342	Core	0	NO	1 2 3 4 5	20 45 90	HCL C C	10YR 10YR 10YR	4 6 5	2 1 1	0 20 40	0 10YR 10YR	0 6 6	0 6 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 0 0	YES NO NO	10 10 10	5 5 5	H H H	SAB AB AB	M W W	M C C	FIR FIR FIR	NO NO NO	NO YES YES	NO YES YES	-	3	1	2	3b	3b	3b	Wetness Droughtiness		
343	Core	0	NO	1 2 3 4 5	35 60 115	C C C	10YR 10YR 2.5Y	3 4 5	2 1 1	0 20 15	0 10YR 7.5YR	0 6 6	0 6 8	NO YES NO	n/a 10YR n/a	n/a 4 n/a	n/a 3 n/a	0 2 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB SAB MAS	W W W	M C VC	FIR FIR EXFIR	NO NO YES	NO YES YES	NO YES YES	-	3	1	1	3b	2	3b	Wetness		
344	Core	0	NO	1 2 3 4 5	25 82 95	C C C	10YR 10YR 10YR	3 6 5	2 3 1	0 20 40	0 10YR 10YR	0 6 6	0 8 8	NO YES NO	n/a 10YR n/a	n/a 5 n/a	n/a 1 n/a	0 0 0	YES NO NO	10 10 15	5 5 10	H H H	SAB AB AB	M M W	M C C	FIR FIR FIR	NO NO NO	NO YES YES	NO YES NO	-	3	1	2	3b	3b	3b	Wetness Droughtiness		
345	Core	0	NO	1 2 3 4 5	30 75 85	C C C	10YR 10YR 10YR	4 6 5	3 2 2	0 40 40	0 10YR 10YR	0 6 6	0 8 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 15 10	YES NO NO	0 10 15	0 5 10	n/a H H	SAB AB AB	M W W	M C VC	FIR VFIR FIR	NO NO YES	NO YES YES	NO YES YES	-	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
346	Core	0	NO	1 2 3 4 5	33 55 82	HCL C C	10YR 10YR 10YR	3 5 6	2 2 1	0 10 20	0 10YR 10YR	0 5 6	0 6 6	NO NO YES	n/a n/a 10YR	n/a n/a 4	n/a n/a 2	0 2 2	YES NO NO	0 5 0	0 0 0	n/a H n/a	SAB AB AB	M M M	M C C	FIR VFIR VFIR	NO NO YES	NO YES YES	NO YES YES	Chalk h3	3	1	1	3b	3a	3b	Wetness		
347	Core	0	NO	1 2 3 4 5	36 80	C C	10YR 10YR	3 5	2 2	0 20	0 10YR	0 5	0 6	NO NO	n/a n/a	n/a n/a	n/a n/a	0 2	YES NO	5 0	5 0	H n/a	AB AB	M M	C C	VFIR VFIR	NO YES	NO YES	NO YES	Chalk at bottom of h2	3	1	1	3b	3a	3b	Wetness		
348	Core	0	NO	1 2 3 4 5	35 65 80	C C C	10YR 10YR 10YR	3 3 5	2 2 2	0 10 40	0 7.5YR 7.5YR	0 5 5	0 6 6	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 0 2	YES NO NO	5 5 0	0 0 0	H H n/a	AB AB AB	M M M	C C C	VFIR VFIR VFIR	NO NO NO	NO NO YES	NO YES YES	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	**
349	Pit	0	NO	1 2 3 4 5	25 90	C C	10YR 10YR	3 5	2 1	0 40	0 10YR	0 5	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	2 2	YES NO	10 0	0 0	H n/a	SAB AB	S S	VC C	FIR VFIR	NO NO	NO YES	NO YES	Calcareous horizon at ~70cm	3	1	2	3b	3a	3b	Wetness		
350	Core	0	NO	1 2 3 4 5	30 75	HCL C	10YR 10YR	4 5	1 1	0 40	0 10YR	0 5	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 2	YES NO	5 5	0 0	H H	SAB AB	S M	M C	FIR VFIR	NO YES	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
351	Core	0	NO	1 2 3 4 5	25 80	HCL C	10YR 10YR	3 6	2 2	0 40	0 10YR	0 6	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 0	YES NO	15 15	10 10	H H	SAB AB	M W	M C	FIR FIR	NO NO	NO YES	NO YES	-	3	1	3a	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness		
352	Core	0	NO	1 2 3 4 5	30 60 82 91	HCL C LFS SC	10YR 10YR 10YR 10YR	3 3 5 6	2 2 6 1	0 10 0 15	0 10YR 0 7.5YR	0 5 0 5	0 6 0 4	NO YES NO NO	n/a 10YR n/a n/a	n/a 5 n/a n/a	n/a 2 n/a n/a	0 0 0 0	YES NO NO NO	0 0 0 0	0 0 0 0	n/a n/a n/a n/a	SAB AB GR AB	M M M M	M C F M	FIR VFIR VFR VFIR	NO NO NO YES	NO YES NO NO	NO YES NO NO	Some greyish mottles at bottom of h2	3	1	1	3b	2	3b	Wetness		

Soil profile descriptions						Soil profile descriptions continued														ALC for areas represented by individual survey points																			
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations			
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development	Ped size
353	Core	0	NO		1 30 2 80 3 4 5	C C	10YR 5YR	3 4	2 3	0 10	0 7.5YR	0 5	0 6	NO YES	n/a 5YR	n/a 4	n/a 2	0 2	YES NO	5 0	0 0	n/a n/a	SAB AB	M M	C C	VFIR VFIR	NO NO	NO YES	NO YES	-	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
354	Core	0	NO		1 30 2 45 3 60 4 90 5 120	SCL SCL SCL LFS C	10YR 10YR 10YR 10YR 5YR	3 3 5 6 4	1 1 2 8 1	0 10 40 0 40	0 10YR 10YR 0 2.5YR	0 4 6 0 5	0 4 8 0 4	NO NO YES NO NO	n/a n/a n/a n/a n/a	n/a n/a 5 n/a n/a	n/a n/a 6 n/a n/a	0 0 0 0 0	YES NO NO NO NO	0 0 0 0 5	0 0 0 0 0	n/a n/a n/a n/a CH	SAB SAB SAB GR AB	W M W S M	M M C F M	FIR FIR FIR FR EXFIR	NO NO NO NO YES	NO NO YES NO NO	NO NO YES NO NO	-	2	1	1	2	2	2	Wetness Droughtiness	*	
355	Core	0	NO		1 35 2 80 3 4 5	HCL C	10YR 10YR	3 5	2 4	0 20	0 10YR	0 5	0 6	NO YES	n/a 10YR	n/a 3	n/a 2	0 2	YES NO	0 5	0 0	n/a H	SAB AB	M M	C C	FIR VFIR	NO YES	NO NO	NO YES	Some chalk at 80cm	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
356	Core	0	NO		1 45 2 60 3 85 4 5	C MSL LMS	10YR 10YR 10YR	3 6 5	1 3 6	0 2 0	0 10YR 0	0 5 0	0 6 0	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	2 0 0	YES NO NO	0 0 10	0 0 0	n/a n/a H	SAB GR GR	W S S	M F F	FIR FIR FR	NO NO NO	NO YES NO	NO NO NO	-	1	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
357	Core	0	NO		1 30 2 46 3 74 4 95 5	C HP C SC	10YR 10YR 10YR 10YR	3 3 6 6	3 3 1 1	10 20 40 40	7.5YR 10YR 10YR 10YR	6 6 8 6	8 8 8 8	NO YES YES YES	n/a 10YR 10YR 10YR	n/a 4 5 5	n/a 2 2 2	2 0 40 0	YES NO NO NO	0 0 0 0	0 0 0 0	n/a n/a n/a n/a	SAB AB AB GR	W W W W	M M C F	FIR FIR VFIR FR	NO NO NO YES	NO YES YES YES	NO NO YES NO	-	3	1	1	3b	1	3b	Wetness		
358	Core	0	NO		1 42 2 60 3 85 4 5	C C C	10YR 5YR 5YR	4 5 6	2 1 1	2 40 40	5YR 5YR 5YR	6 6 6	8 8 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	2 0 10	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	AB AB AB	W W W	VC C VC	FIR FIR VFIR	NO NO NO	YES YES YES	YES YES YES	-	3	1	1	3b	3a	3b	Wetness		
359	Core	0	NO		1 45 2 90 3 4 5	C C	5YR 5YR	3 5	1 1	0 40	0 5YR	0 5	0 6	NO NO	n/a n/a	n/a n/a	n/a n/a	10 20	YES NO	0 0	0 0	n/a n/a	AB AB	M M	M M	FIR FIR	NO NO	NO YES	NO NO	-	1	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
360	Core	0	NO		1 50 2 82 3 4 5	C C	10YR 10YR	4 5	1 2	0 40	0 10YR	0 5	0 6	NO NO	n/a n/a	n/a n/a	n/a n/a	0 15	YES NO	0 0	0 0	n/a n/a	AB AB	W W	C M	FIR FIR	NO NO	NO YES	NO YES	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
361	Core	0	NO		1 45 2 80 3 100 4 5	C C C	10YR 10YR 10YR	3 5 5	2 1 1	0 40 40	0 10YR 7.5YR	0 6 5	0 6 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 0 10	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	AB AB AB	W W W	C C M	FIR FIR FIR	NO NO NO	NO YES YES	NO YES NO	-	2	1	1	3a	3a	3a	Wetness Droughtiness		
362	Core	0	NO		1 35 2 80 3 110 4 5	HCL C C	10YR 10YR 10YR	3 5 6	3 2 1	2 40 40	10YR 10YR 10YR	5 6 6	4 6 6	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	2 2 0	YES NO NO	0 5 5	0 0 0	n/a H H	SAB AB MAS	M W W	M C VC	FIR VFIR VFIR	NO NO YES	NO YES YES	NO YES NO	Ca flint on h3	3	1	1	3b	3a	3b	Wetness		
363	Core	0	NO		1 37 2 85 3 4 5	HCL HCL	10YR 7.5YR	4 5	2 2	0 40	0 2.5YR	0 5	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 0	YES NO	0 10	0 5	n/a H	SAB AB	M M	M C	FIR FIR	NO NO	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
364	Core	0	NO		1 30 2 70 3 90 4 5	C C C	10YR 10YR 10YR	3 5 5	2 2 1	0 20 0	0 10R 0	0 6 0	0 8 0	NO YES NO	n/a 10YR n/a	n/a 5 n/a	n/a 1 n/a	0 0 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB AB	M W W	M C C	FIR FIR FIR	NO NO NO	NO YES NO	NO YES YES	-	3	1	1	3b	3a	3b	Wetness		
365	Core	0	NO		1 35 2 80 3 110 4 5	C C C	10YR 10YR 10YR	4 4 5	2 3 1	0 20 20	0 10YR 10YR	0 5 5	0 6 6	NO YES NO	n/a 10YR n/a	n/a 5 n/a	n/a 1 n/a	0 0 2	YES NO NO	5 0 5	0 0 0	H n/a CH	SAB AB AB	M M M	C C VC	FIR VFIR VFIR	NO NO YES	NO YES YES	NO YES NO	-	3	1	1	3b	3a	3b	Wetness		
366	Core	0	NO		1 30 2 70 3 120 4 5	HCL C C	10YR 5YR 10YR	4 4 5	2 2 1	0 20 15	0 10YR 5YR	0 4 4	0 6 6	NO YES YES	n/a 10YR 5YR	n/a 5 4	n/a 1 2	0 2 2	YES NO NO	5 0 5	0 0 0	H n/a CH	SAB AB AB	M M M	M C VC	FIR VFIR VFIR	NO NO YES	NO YES YES	NO YES YES	-	3	1	1	3b	2	3b	Wetness		
367	Core	0	NO		1 30 2 63 3 95 4 5	HCL C HCL	10YR 10YR 5YR	3 6 5	2 3 3	0 40 10	0 10YR 10YR	0 6 6	0 8 6	NO YES YES	n/a 10YR 5YR	n/a 5 6	n/a 1 1	0 2 0	YES NO NO	10 10 10	5 5 5	H H H	AB AB AB	M W W	M C C	FIR FIR FIR	NO NO NO	NO YES YES	NO YES YES	-	3	1	2	3b	3a	3b	Wetness		
368	Core	0	NO		1 33 2 60 3 80 4 5	C C C	10YR 10YR 5YR	3 5 4	2 2 3	0 20 15	0 7.5YR 10YR	0 5 5	0 6 6	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 2 2	YES NO NO	35 0 0	0 0 0	H n/a n/a	AB AB AB	M M M	C C C	VFIR VFIR VFIR	YES NO NO	NO YES NO	NO YES YES	-	3	1	3b	3a	3b	3b	Topsoil stoniness Droughtiness		

Soil profile descriptions						Soil profile descriptions continued															ALC for areas represented by individual survey points																		
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure				Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations		
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type	Type															Development	Ped size
369	Core	0	NO		1 2 3 4 5	C C	10YR 10YR	3 5	2 2	0 15	0 7.5YR	0 5	0 6	NO NO	n/a n/a	n/a n/a	n/a n/a	0 2	YES NO	0 0	0 0	n/a n/a	AB AB	M W	C C	VFIR VFIR	NO NO	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
370	Core	0	NO		1 2 3 4 5	HCL C	10YR 10YR	4 5	1 1	0 40	0 10YR	0 5	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 2	YES NO	5 5	0 0	H CH	SAB AB	S M	C C	FIR VFIR	NO YES	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
371	Core	0	NO		1 2 3 4 5	HCL C	10YR 10YR	4 5	1 1	0 40	0 10YR	0 5	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 2	YES NO	10 5	5 0	H CH	SAB AB	S M	C C	FIR VFIR	NO NO	NO YES	NO YES	-	3	1	2	3b	3a	3b	Wetness		
372	Core	0	NO		1 2 3 4 5	C C C	10YR 10YR 10YR	3 5 5	2 1 2	0 40 40	0 10YR 10YR	0 6 5	0 8 6	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 10 0	YES NO NO	10 10 10	5 5 5	H H H	SAB AB AB	W M W	M C VC	FIR FIR VFIR	NO NO NO	NO YES YES	NO YES YES	-	3	1	2	3b	3a	3b	Wetness		
373	Core	0	NO		1 2 3 4 5	HCL C	10YR 10YR	3 4	1 1	0 40	0 10YR	0 5	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 2	YES NO	0 0	0 0	n/a n/a	SAB PL	S S	M C	FIR VFIR	NO NO	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
374	Core	0	NO		1 2 3 4 5	HCL C	10YR 10YR	3 4	1 1	0 40	0 10YR	0 5	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 2	YES NO	0 0	0 0	n/a n/a	SAB PL	S S	M C	FIR VFIR	NO NO	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
375	Core	0	NO		1 2 3 4 5	C C	10YR 10YR	3 5	2 2	0 15	0 7.5YR	0 4	0 6	NO NO	n/a n/a	n/a n/a	n/a n/a	0 2	YES NO	0 5	0 0	n/a CH	AB AB	M M	C C	VFIR VFIR	NO YES	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
376	Core	0	NO		1 2 3 4 5	C C SCL	10YR 7.5YR 10YR	3 4 3	2 2 1	0 15 0	0 10YR 0	0 4 0	0 6 0	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 2 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	AB AB GR	M M M	C C F	VFIR VFIR FR	NO NO NO	NO YES NO	NO YES NO	-	3	1	1	3b	2	3b	Wetness		
377	Core	0	NO		1 2 3 4 5	C C	10YR 7.5YR	3 4	2 2	0 15	0 7.5YR	0 4	0 6	NO NO	n/a n/a	n/a n/a	n/a n/a	0 2	YES NO	0 0	0 0	n/a n/a	SAB AB	M M	C C	VFIR VFIR	NO NO	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
378	Core	0	NO		1 2 3 4 5	C C C SCL	10YR 10YR 10YR 10YR	3 3 4 4	1 1 1 4	0 20 20 20	0 10YR 10YR 10YR	0 4 5 5	0 4 6 6	NO YES YES NO	n/a n/a n/a n/a	n/a n/a n/a n/a	n/a n/a n/a n/a	2 0 0 0	YES NO NO NO	0 0 0 0	0 0 0 0	n/a n/a n/a n/a	SAB SAB AB GR	W M M S	M M M F	FIR FIR FIR FR	NO NO NO NO	NO NO YES NO	NO NO NO NO	-	1	1	1	3a	1	3a	Wetness		
379	Core	0	NO		1 2 3 4 5	C C C SCL	10YR 10YR 10YR 10YR	4 4 5 4	2 1 1 1	0 40 20 10	0 5YR 10YR 10YR	0 4 6 5	0 4 6 6	NO NO NO NO	n/a n/a n/a n/a	n/a n/a n/a n/a	n/a n/a n/a n/a	2 2 0 0	YES NO NO NO	0 0 0 0	0 0 0 0	n/a n/a n/a n/a	SAB AB AB SAB	M M M M	M M M M	FIR FIR FIR FR	NO NO YES YES	NO NO YES YES	NO NO NO NO	-	1	1	1	3a	2	3a	Wetness		
380	Core	0	NO		1 2 3 4 5	C C C HP	10YR 7.5YR 7.5YR 10YR	5 6 5 2	1 1 1 1	10 40 40 0	7.5YR 7.5YR 7.5YR 0	6 6 6 0	6 8 6 0	NO NO NO NO	n/a n/a n/a n/a	n/a n/a n/a n/a	n/a n/a n/a n/a	10 10 10 0	YES NO NO NO	0 0 0 0	0 0 0 0	n/a n/a n/a n/a	AB AB AB SG	W W W M	M C F 0	FIR FIR FIR FR	NO NO NO NO	YES YES YES NO	NO YES YES NO	-	3	1	1	3b	2	3b	Wetness		
381	Core	0	NO		1 2 3 4 5	C C HP	7.5YR 7.5YR 10YR	3 5 2	2 1 1	0 40 0	0 7.5YR 0	0 5 0	0 8 0	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 20 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	AB AB GR	W W W	M VC F	FIR FIR FR	NO NO NO	NO YES NO	NO YES NO	-	3	1	1	3b	2	3b	Wetness		
382	Core	0	NO		1 2 3 4 5	C C HCL O-FS	10YR 7.5YR 7.5YR 7.5YR	3 4 5 5	2 2 1 1	0 40 100 0	0 7.5YR 7.5YR 0	0 6 6 0	0 6 6 0	NO NO NO NO	n/a n/a n/a n/a	n/a n/a n/a n/a	n/a n/a n/a n/a	0 2 0 0	YES NO NO NO	0 0 0 0	0 0 0 0	n/a n/a n/a n/a	AB AB SAB GR	W W W W	C C M F	FIR FIR FR FR	NO NO NO NO	NO YES YES NO	NO YES NO NO	-	3	1	1	3b	2	3b	Wetness		
383	Core	0	NO		1 2 3 4 5	C C C	10YR 10YR 10YR	4 6 6	2 1 1	0 40 20	0 10YR 10YR	0 6 6	0 6 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 2 0	YES NO NO	5 0 15	0 0 0	H n/a CH	SAB AB MAS	M M W	M C C	FIR FIR VFIR	YES YES YES	NO YES YES	NO YES YES	Calcareous flint in h2 and h3	3	1	1	3a	2	3a	Wetness		**
384	Core	0	NO		1 2 3 4 5	HCL C	10YR 10YR	3 5	2 1	0 40	0 10YR	0 6	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 0	YES NO	0 0	0 0	n/a n/a	SAB AB	M W	M C	FIR FIR	NO NO	NO YES	NO YES	-	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	

Soil profile descriptions							Soil profile descriptions continued													ALC for areas represented by individual survey points																																			
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure				Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations																		
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type	Type															Development	Ped size																
385	Core	0	NO	1	30	HCL	10YR	3	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																		
				2	80	C	10YR	4	2	40	10YR	5	6	6	YES	10YR	5	1	0	NO	0	0	n/a	AB	W	C	FIR	NO	YES											YES															
				3	95	C	10YR	5	1	10	10YR	6	8	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	W	C	FIR	NO	YES											NO															
				4																																																			
				5																																																			
386	Core	0	NO	1	30	C	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	10	5	H	SAB	M	M	FIR	NO	NO	NO	-	3	1	2	3b	3a	3b	Wetness																		
				2	75	C	10YR	4	3	40	10YR	5	8	8	YES	10YR	5	1	2	NO	0	0	n/a	AB	M	C	FIR	NO	YES											YES															
				3	110	C	10YR	5	1	20	10YR	5	8	8	NO	n/a	n/a	n/a	2	NO	5	0	CH	AB	M	VC	VFIR	YES	YES											YES															
				4																																																			
				5																																																			
387	Core	0	NO	1	25	C	10YR	4	2	2	10YR	5	6	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	M	M	FIR	NO	YES	NO	-	3	1	1	3b	3a	3b	Wetness																		
				2	90	C	5YR	4	3	40	7.5YR	5	6	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	PR	W	C	VFIR	NO	NO											YES															
				3	115	C	5YR	4	1	10	10YR	6	6	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	MAS	W	VC	VFIR	YES	YES											NO															
				4																																																			
				5																																																			
388	Core	0	NO	1	35	C	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness																	
				2	60	HZCL	10YR	6	1	20	10YR	6	6	6	NO	n/a	n/a	n/a	0	NO	15	5	CH	SAB	S	M	FR	YES	YES												NO														
				3	80	C	10YR	6	1	20	10YR	6	6	6	YES	10YR	4	4	0	NO	5	0	CH	AB	S	C	FIR	YES	YES												YES														
				4																																																			
				5																																																			
389	Core	0	NO	1	40	HCL	10YR	4	2	2	10YR	5	6	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	M	FIR	NO	YES	NO	Flint of ca in h5	3	1	1	3b	3a	3b	Wetness																		
				2	60	C	10YR	4	4	20	7.5YR	5	6	6	YES	10YR	6	1	2	NO	10	0	H	AB	W	C	VFIR	NO	YES											YES															
				3	85	C	5YR	4	4	40	7.5YR	6	6	6	YES	10YR	6	1	0	NO	0	0	n/a	AB	W	C	VFIR	NO	YES											YES															
				4	88	MS	10YR	5	4	0	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SG	W	F	VFR	NO	NO											NO															
				5	110	C	5YR	5	1	40	5YR	4	4	4	NO	n/a	n/a	n/a	0	NO	0	0	n/a	MAS	W	0	EXFIR	NO	NO											NO															
390	Core	0	NO	1	30	C	10YR	4	1	2	7.5YR	5	8	NO	n/a	n/a	n/a	2	YES	10	5	H	SAB	S	C	FIR	NO	YES	NO	-	2	1	2	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness																	
				2	65	C	10YR	5	1	40	7.5YR	6	8	8	NO	n/a	n/a	n/a	2	YES	5	0	H	AB	M	C	VFIR	NO	YES												NO														
				3																																																			
				4																																																			
				5																																																			
391	Core	0	NO	1	30	C	10YR	4	1	2	7.5YR	5	8	NO	n/a	n/a	n/a	2	YES	10	5	H	SAB	S	C	FIR	NO	YES	NO	-	3	1	2	3b	3a	3b	Wetness																		
				2	55	C	10YR	7	1	20	10YR	5	8	8	NO	n/a	n/a	n/a	0	YES	5	0	CH	AB	S	C	FIR	YES	YES											NO															
				3	80	C	10YR	6	1	20	10YR	6	8	8	NO	n/a	n/a	n/a	0	NO	5	0	CH	AB	M	C	VFIR	YES	YES											YES															
				4																																																			
				5																																																			
392	Core	0	NO	1	33	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	5	H	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																		
				2	65	C	10YR	4	2	15	7.5YR	4	6	6	NO	n/a	n/a	n/a	2	NO	5	0	H	AB	M	C	VFIR	NO	YES											YES															
				3	80	C	5YR	4	2	20	7.5YR	5	6	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	C	VFIR	NO	YES											YES															
				4																																																			
				5																																																			
393	Core	0	NO	1	25	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness																		
				2	40	C	10YR	4	2	2	10YR	5	6	6	NO	n/a	n/a	n/a	2	YES	0	0	n/a	AB	M	C	VFIR	NO	YES											NO															
				3	85	C	5YR	4	2	15	7.5YR	4	6	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	W	C	VFIR	NO	YES											YES															
				4																																																			
				5																																																			
394	Core	0	NO	1	30	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	15	YES	15	5	H	SAB	M	M	FIR	NO	NO	NO	-	3	1	3a	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness																		
				2	65	C	10YR	6	2	15	10YR	6	6	6	NO	n/a	n/a	n/a	15	NO	15	10	H	AB	W	M	FIR	NO	YES											YES															
				3	85	C	10YR	5	2	40	10YR	6	8	8	NO	n/a	n/a	n/a	20	NO	0	0	n/a	AB	M	M	FIR	NO	YES											NO															
				4																																																			
				5																																																			
395	Core	0	NO	1	30	HCL	10YR	3	1	0	0	0																																											

Soil profile descriptions							Soil profile descriptions continued																ALC for areas represented by individual survey points																
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations			
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development	Ped size
401	Core	0	NO		1 2 3 4 5	ZC ZC	10YR 10YR	3 4	2 1	0 40	0 5YR	0 5	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	2 10	YES NO	0 0	0 0	n/a n/a	SAB AB	S S	C C	FIR VFIR	NO NO	NO YES	NO YES	-	3	1	1	3b	3a	3b	Wetness		
402	Core	0	NO		1 2 3 4 5	C C C C	10YR 10YR 10YR 10YR	4 4 5 3	2 1 1 1	0 20 20 2	0 10YR 10YR 10YR	0 6 6 5	0 6 8 6	NO YES NO NO	n/a 5YR n/a n/a	n/a 6 n/a n/a	n/a 4 n/a n/a	0 0 0 0	YES NO NO NO	0 0 0 0	0 0 0 0	n/a n/a n/a n/a	SAB SAB AB SAB	W M M M	M M M M	FIR FIR FIR VFIR	NO NO NO NO	NO YES YES NO	NO NO NO NO	Clay over clay	1	1	1	3a	1	3a	Wetness		
403	Core	0	NO		1 2 3 4 5	C C	7.5YR 7.5YR	3 4	2 1	0 100	0 7.5YR	0 6	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 2	YES NO	0 0	0 0	n/a n/a	AB AB	W W	M C	FIR FIR	NO NO	NO YES	NO YES	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
404	Core	0	NO		1 2 3 4 5	HCL C C	10YR 10YR 10YR	3 5 6	2 3 1	10 10 20	10YR 5YR 10YR	5 6 4	6 6 4	NO YES YES	n/a 10GY 5YR	n/a 6 5	n/a 6 6	2 0 0	YES NO NO	5 0 5	0 0 0	H n/a SFS	SAB AB AB	M W W	M C C	FIR FIR FIR	NO NO YES	NO YES NO	NO YES NO	Calcareous in h3	3	1	1	3b	2	3b	Wetness		
405	Core	0	NO		1 2 3 4 5	HCL C C	10YR 10YR 10YR	4 4 5	2 3 1	0 20 20	0 10YR 10YR	0 5 4	0 6 6	NO YES NO	n/a 10YR n/a	n/a 5 n/a	n/a 1 n/a	0 2 0	YES NO NO	10 0 5	0 5 0	H H CH	SAB AB AB	M M M	M C C	FIR FIR VFIR	NO NO YES	NO YES YES	NO YES YES	-	3	1	2	3b	3a	3b	Wetness		
406	Pit	0	NO		1 2 3 4 5	C C C	10YR 10YR 5YR	4 5 4	2 1 2	10 20 10	10YR 10YR 10YR	5 5 5	6 8 8	NO YES YES	n/a 10YR 10YR	n/a 4 5	n/a 3 1	0 2 0	YES NO NO	5 5 5	0 0 0	H H CH	SAB AB AB	M M M	C C C	FIR FIR VFIR	NO NO YES	YES YES YES	NO YES YES	-	3	1	1	3b	3a	3b	Wetness		
407	Core	0	NO		1 2 3 4 5	HCL C C	10YR 5YR 10YR	4 4 5	2 2 1	2 20 20	10YR 10YR 10YR	5 4 5	6 6 8	NO YES NO	n/a 10YR n/a	n/a 5 n/a	n/a 1 n/a	0 2 2	YES NO NO	5 5 5	0 0 0	H H CH	SAB AB AB	M M M	M C C	FIR FIR VFIR	NO NO YES	YES YES YES	NO YES NO	-	3	1	1	3b	3a	3b	Wetness		
408	Core	0	NO		1 2 3 4 5	C C C	10YR 7.5YR 10YR	4 5 4	2 2 1	0 20 15	0 7.5YR 10YR	0 6 6	0 6 6	NO YES NO	n/a 5YR n/a	n/a 5 n/a	n/a 6 n/a	0 0 0	YES NO NO	5 0 0	0 0 0	H n/a n/a	SAB AB PR	W M W	M C C	FIR FIR VFIR	NO NO NO	NO YES NO	NO YES NO	Ca flint in h3 and h4. Increasing ca with depth in h4	3	1	1	3b	2	3b	Wetness		
409	Core	0	NO		1 2 3 4 5	HCL SC MSL	10YR 10YR 7.5YR	4 6 6	2 1 6	2 20 0	10YR 10YR 0	5 6 0	6 6 0	NO YES NO	n/a 10YR n/a	n/a 4 n/a	n/a 4 n/a	2 2 0	YES NO NO	10 0 0	5 0 0	H n/a n/a	SAB SAB GR	S M S	M M F	FIR FIR FR	NO NO NO	YES YES NO	NO NO NO	Ca flint in h4	2	1	2	3a	2	3a	Wetness		
410	Core	0	NO		1 2 3 4 5	C C C	10YR 10YR 10YR	4 6 6	3 2 2	0 40 40	0 10YR 10YR	0 6 6	0 8 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 0 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB MAS	W W W	M C VC	FIR FIR EXHD	NO NO NO	NO YES YES	NO YES YES	-	3	1	1	3b	3a	3b	Wetness		
411	Core	0	NO		1 2 3 4 5	HCL C C	10YR 10YR 5YR	3 3 4	2 2 3	0 0 10	0 0 7.5YR	0 0 4	0 0 6	NO NO YES	n/a n/a 10YR	n/a n/a 5	n/a n/a 2	0 0 2	YES NO NO	5 0 0	0 0 0	H n/a n/a	SAB AB AB	M M M	M C C	FIR VFIR VFIR	NO NO NO	NO NO YES	NO NO YES	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
412	Core	0	NO		1 2 3 4 5	C C MSL	10YR 10YR 10YR	4 4 5	1 3 2	2 40 10	7.5YR 5YR 7.5YR	5 6 5	8 8 8	NO YES NO	n/a 10YR n/a	n/a 5 n/a	n/a 1 n/a	2 2 2	YES NO NO	5 5 10	0 0 5	H H H	SAB AB GR	S M W	M C M	FIR VFIR FR	NO NO YES	YES YES YES	NO YES NO	-	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
413	Core	0	NO		1 2 3 4 5	HCL C	10YR 10YR	3 4	1 3	0 40	0 7.5YR	0 5	0 8	NO YES	n/a 10YR	n/a 6	n/a 1	0 2	YES NO	0 0	0 0	n/a n/a	SAB AB	S M	M C	FIR VFIR	NO NO	NO YES	NO YES	-	3	1	1	3b	3b	3b	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
414	Core	0	NO		1 2 3 4 5	HCL C C	10YR 10YR 5YR	3 4 4	2 2 3	0 20 15	0 7.5YR 7.5YR	0 4 4	0 6 6	NO NO YES	n/a n/a 10YR	n/a n/a 6	n/a n/a 1	0 2 2	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB AB	M M M	M C C	FIR VFIR VFIR	NO NO YES	NO YES YES	NO YES YES	-	3	1	1	3b	3a	3b	Wetness		
415	Core	0	NO		1 2 3 4 5	HCL MSL C	10YR 7.5YR 10YR	3 4 5	2 4 1	0 20 40	0 7.5YR 7.5YR	0 5 4	0 6 6	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 0 2	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB SAB AB	M M M	M F C	FIR FR VFIR	NO NO YES	NO NO YES	NO NO YES	-	2	1	1	3a	2	3a	Wetness		
416	Core	0	NO		1 2 3 4 5	C SC C	10YR 10YR 10YR	3 7 6	1 2 2	0 40 40	0 10YR 10YR	0 6 6	0 8 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 10 0	YES NO NO	15 10 0	10 5 0	H H n/a	SAB AB AB	M W M	M C M	FIR FIR FIR	NO NO NO	NO YES YES	NO YES NO	-	2	1	3a	3a	3a	3a	Topsoil stoniness Wetness Droughtiness		

Soil profile descriptions						Soil profile descriptions continued																		ALC for areas represented by individual survey points																											
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure				Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations														
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type	Type															Development	Ped size												
433	Core	0	NO	1	30	C	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	C	VFIR	NO	NO	NO	Chalk in h3	3	1	1	3b	3a	3b	Wetness														
				2	55	MSL	7.5YR	5	3	20	10YR	5	6	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	F	FR	NO	YES											NO											
				3	80	C	10YR	4	3	10	7.5YR	5	6	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	C	VFIR	YES	NO											YES											
				4																																															
				5																																															
434	Core	0	NO	1	45	C	10YR	3	1	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	W	M	FIR	NO	NO	NO	Sandy from 45 cm	1	1	1	3a	1	3a	Wetness														
				2	80	SCL	10YR	6	3	10	10YR	6	8	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	S	M	FR	NO	YES											NO											
				3	105	SCL	10YR	6	3	40	7.5YR	6	6	6	NO	n/a	n/a	n/a	0	NO	5	0	H	GR	S	M	FR	NO	YES											NO											
				4																																															
				5																																															
435	Core	0	NO	1	35	ZC	10YR	3	1	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	W	M	FIR	NO	NO	NO	-	1	1	1	3a	1	3a	Wetness														
				2	60	ZC	10YR	4	1	15	10YR	4	4	4	NO	n/a	n/a	n/a	2	NO	0	0	n/a	SAB	M	M	FIR	NO	NO											NO											
				3	85	SC	10YR	4	1	10	10YR	6	6	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	SAB	M	M	FIR	NO	YES											NO											
				4	105	SCL	10YR	6	2	20	10YR	6	8	8	NO	n/a	n/a	n/a	0	NO	5	0	H	GR	S	M	FR	NO	YES											NO											
				5																																															
436	Core	0	NO	1	25	C	10YR	4	2	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	W	M	FIR	NO	NO	NO	-	1	1	1	3a	1	3a	Wetness														
				2	40	C	10YR	4	1	0	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	W	M	FIR	NO	NO											NO											
				3	55	C	10YR	5	1	40	10YR	6	6	6	YES	5YR	5	6	2	NO	0	0	n/a	SAB	M	M	FIR	NO	YES											NO											
				4	75	C	10YR	4	1	15	7.5YR	5	6	6	NO	n/a	n/a	n/a	10	NO	5	0	H	SAB	M	M	FIR	NO	YES											NO											
				5	100	SC	10YR	6	3	15	10YR	7	8	8	NO	n/a	n/a	n/a	0	NO	10	0	CH	SAB	M	M	FR	YES	NO											NO											
437	Core	0	NO	1	40	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness Droughtiness														
				2	55	SC	10YR	5	4	20	10YR	5	8	8	YES	10YR	5	2	0	NO	5	0	H	AB	W	C	FIR	NO	YES											YES											
				3	100	C	10YR	5	1	20	10YR	5	8	8	NO	n/a	n/a	n/a	2	NO	5	0	CH	AB	W	C	VFIR	YES	YES											YES											
				4																																															
				5																																															
438	Core	0	NO	1	40	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	M	FIR	NO	NO	NO	Small chalk stones from 70cm	2	1	1	3a	2	3a	Wetness														
				2	50	C	10YR	5	3	10	10YR	5	6	6	YES	10YR	4	4	0	NO	0	0	n/a	AB	M	C	FIR	NO	YES											YES											
				3	100	C	10YR	5	1	40	10YR	5	8	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	M	C	VFIR	YES	YES											YES											
				4																																															
				5																																															
439	Core	0	NO	1	40	SCL	10YR	3	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	W	M	FR	NO	NO	NO	-	1	1	1	1	3a	3a	Droughtiness														
				2	85	LMS	10YR	4	6	0	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	GR	W	F	VFR	NO	NO											NO											
				3	100	C	10YR	5	1	20	10YR	5	8	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	M	C	VFIR	YES	YES											NO											
				4																																															
				5																																															
440	Core	0	NO	1	35	FSL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	W	F	FR	NO	NO	NO	Some small chalk stones in h3	2	1	1	1	3a	3a	Droughtiness														
				2	75	LMS	10YR	5	6	0	0	0	0	0	NO	n/a	n/a	n/a	0	YES	10	0	H	GR	W	M	VFR	NO	NO											NO											
				3	100	C	10YR	5	1	20	10YR	5	8	8	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	M	C	VFIR	YES	YES											YES											
				4																																															
				5																																															
441	Core	0	NO	1	35	SCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	W	M	FR	NO	NO	NO	-	3	1	1	3a	3a	3a	Wetness Droughtiness														
				2	60	SCL	10YR	5	4	15	10YR	5	8	8	YES	10YR	5	1	0	NO	0	0	n/a	SAB	W	C	FIR	NO	YES											YES											
				3	100	C	10YR	5	1	20	10YR	5	8	8	NO	n/a	n/a	n/a	2	NO	5	0	CH	AB	M	C	VFIR	YES	YES											YES											
				4																																															
				5																																															
442	Core	0	NO	1	30	SCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	VFR	NO	NO	NO	-	1	1	1	1	2	2	Droughtiness														
				2	50	SCL	10YR	3	2	10	10YR	4	4	4	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	FR	NO	NO											NO											
				3	80	LFS	10YR	5	4	20	7.5YR	5	6	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	GR	M	F	VFR	NO	NO											NO											
				4																																															
				5																																															
443	Core	0	NO	1	39	SCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	C	FIR	NO	NO	NO	-	1	1	1	1	3a	3a	Droughtiness														
				2	65	MSL	10YR	4	4	15	10YR	5	6	6	NO	n/a	n/a	n/a	0</																																

Soil profile descriptions						Soil profile descriptions continued													ALC for areas represented by individual survey points																																
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations															
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development	Ped size	FIR	FR	VFIR	YES	NO	YES	NO					
449	Core	0	NO	1	45	C	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	2	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	1	1	1	3a	2	3a	Wetness														
				2	80	C	10YR	3	1	10	10YR	5	6	6	YES	5YR	4	6	0	NO	0	0	n/a	AB	M	M	FIR	NO	NO											NO											
				3	105	SCL	10YR	4	2	20	5YR	5	6	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	S	M	FR	NO	NO											NO											
				4																																															
				5																																															
450	Core	0	NO	1	40	SCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	W	F	FR	NO	NO	NO	-	2	1	1	2	3a	3a	Droughtiness														
				2	70	LMS	10YR	6	6	0	0	0	0	NO	n/a	n/a	n/a	0	YES	10	0	H	GR	W	F	VFR	NO	NO	NO																						
				3	110	C	10YR	5	1	20	10YR	5	6	6	YES	10YR	3	4	0	NO	0	0	n/a	AB	M	C	FIR	YES	YES											YES											
				4																																															
				5																																															
451	Core	0	NO	1	35	FSL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FR	NO	NO	NO	-	3	1	1	2	3a	3a	Droughtiness														
				2	90	C	10YR	5	1	20	10YR	5	8	8	NO	n/a	n/a	n/a	2	NO	10	0	CH	AB	M	C	VFIR	YES	YES											YES											
				3																																															
				4																																															
				5																																															
452	Core	0	NO	1	38	SCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	W	M	FR	NO	NO	NO	-	3	1	1	3a	2	3a	Wetness														
				2	50	MSL	10YR	4	6	15	10YR	5	8	8	YES	10YR	5	3	0	NO	0	0	n/a	SAB	M	M	FR	NO	YES											NO											
				3	75	SCL	10YR	5	3	15	10YR	5	8	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	W	C	FIR	YES	YES											YES											
				4	100	C	10YR	5	1	20	10YR	5	8	8	NO	n/a	n/a	n/a	0	NO	5	0	CH	AB	W	C	VFIR	YES	YES											YES											
				5																																															
453	Core	0	NO	1	40	FSL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	W	M	FR	NO	NO	NO	-	1	1	1	1	3a	3a	Droughtiness														
				2	80	LMS	10YR	5	6	0	0	0	0	NO	n/a	n/a	n/a	0	NO	10	0	H	GR	W	M	VFR	NO	NO	NO																						
				3	100	MS	10YR	6	4	0	0	0	0	NO	n/a	n/a	n/a	0	NO	5	0	H	GR	W	F	VFR	NO	NO	NO																						
				4																																															
				5																																															
454	Core	0	NO	1	45	FSL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	W	F	FR	NO	NO	NO	-	1	1	1	1	3a	3a	Droughtiness														
				2	100	MS	10YR	5	4	0	0	0	0	NO	n/a	n/a	n/a	0	NO	10	0	H	GR	W	M	VFR	NO	NO	NO																						
				3																																															
				4																																															
				5																																															
455	Core	0	NO	1	35	HCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	M	FIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness													
				2	57	C	10YR	3	2	2	10YR	4	6	6	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	M	C	VFIR	NO	NO											YES											
				3	80	SCL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	F	FR	NO	NO	NO																						
				4																																															
				5																																															
456	Core	0	NO	1	33	C	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	AB	M	C	VFIR	NO	NO	NO	-	1	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness													
				2	50	FSL	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	F	VFR	NO	NO	NO																						
				3	80	LMS	10YR	4	6	20	10YR	5	8	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	GR	M	F	VFR	NO	NO											NO											
				4																																															
				5																																															
457	Core	0	NO	1	40	C	10YR	4	3	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	1	1	1	3a	2	3a	Wetness														
				2	62	C	10YR	6	2	20	7.5YR	5	8	8	NO	n/a	n/a	n/a	15	NO	0	0	n/a	SAB	M	M	FIR	NO	YES											NO											
				3	85	LMS	10YR	6	2	20	2.5YR	4	8	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	GR	W	M	FR	NO	YES											NO											
				4																																															
				5																																															
458	Core	0	NO	1	30	HCL	10YR	4	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3b	3a	3b	Wetness														
				2	90	C	10YR	5	1	40	7.5YR	5	8	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	S	C	VFIR	NO	YES											YES											
				3																																															
				4																																															
				5																																															
459	Pit	0	NO	1	30	ZC	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	S	C	FIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness Droughtiness														
				2	80	C	10YR	4	1	40	10YR	4	6	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	SAB	S	C	VFIR	NO	YES											NO											
				3	100																																														

Soil profile descriptions				Soil profile descriptions continued															ALC for areas represented by individual survey points																				
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations			
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development	Ped size
465	Core	0	NO	1 2 3 4 5	40 80	FSL MS	10YR 10YR	3 5	2 6	0 0	0 0	0 0	NO NO	n/a n/a	n/a n/a	n/a n/a	0 0	YES NO	0 15	0 0	n/a H	SAB GR	W W	M M	FR VFR	NO NO	NO NO	NO NO	Stopped on stones at 80cm	1	1	1	1	3b	3a	Droughtiness	Soil profile deeper than recorded		
466	Core	0	NO	1 2 3 4 5	45 85 95	HCL LMS LMS	10YR 10YR 10YR	4 6 7	1 8 6	0 0 0	0 0 0	0 0 0	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 0 0	YES YES YES	5 10 10	0 0 0	H H H	SAB GR GR	S W W	C F F	FIR VFR VFR	NO NO NO	NO NO NO	NO NO NO	-	1	1	1	2	3a	3a	Droughtiness			
467	Core	0	NO	1 2 3 4 5	34 55 75	HCL LMS LMS	10YR 10YR 10YR	4 6 7	1 8 6	0 0 0	0 0 0	0 0 0	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 0 0	YES YES YES	5 10 10	0 0 0	H H H	SAB SAB GR	S M W	C F F	FIR VFR VFR	NO NO NO	NO NO NO	NO NO NO	-	1	1	1	2	3b	3a	Droughtiness	Soil profile deeper than recorded		
468	Core	0	NO	1 2 3 4 5	35 70	HCL LFS	10YR 10YR	3 5	2 6	0 2	0 10YR	0 6	0 8	NO NO	n/a n/a	n/a n/a	n/a n/a	0 0	YES NO	0 0	0 0	n/a n/a	SAB GR	W M	M F	FIR VFR	NO NO	NO NO	NO NO	Hit stones at 70cm	1	1	1	2	3a	3a	Droughtiness		
469	Core	0	NO	1 2 3 4 5	40 71 95	C C CS	10YR 7.5YR 10YR	3 6 6	3 1 1	0 100 100	0 7.5YR 10YR	0 6 6	0 8 6	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 15 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	AB AB SG	W W M	M C F	FIR FIR FR	NO NO NO	NO YES YES	NO YES NO	-	2	1	1	3a	3a	3a	Wetness Droughtiness		
470	Core	0	NO	1 2 3 4 5	38 75 85	C C CS	7.5YR 7.5YR 7.5YR	3 6 5	2 1 1	2 100 40	7.5YR 7.5YR 7.5YR	7 6 6	8 6 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 15 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB SG	M W M	M M F	FIR FIR FR	NO NO NO	NO YES YES	NO YES NO	-	3	1	1	3b	3a	3b	Wetness		
471	Core	0	NO	1 2 3 4 5	30 70 90 110	HCL C SCL MS	10YR 10YR 10YR 10YR	3 3 4 4	2 2 1 6	0 15 40 0	0 10YR 7.5YR 0	0 3 4 0	0 6 6 0	NO YES NO NO	n/a n/a n/a n/a	n/a 4 n/a n/a	n/a 1 n/a n/a	0 0 2 0	YES NO NO NO	0 0 0 15	0 0 0 0	n/a n/a n/a H	SAB AB SAB GR	M M M M	M C M M	FIR FIR FIR VFR	NO NO NO YES	NO YES YES NO	NO YES NO NO	Some chalk stones within h4	3	1	1	3b	2	3b	Wetness		
472	Core	0	NO	1 2 3 4 5	25 45 85 110	HCL HCL C C	10YR 10YR 10YR 5YR	3 3 4 4	2 2 4 1	0 20 20 40	0 10YR 5YR 5YR	0 4 4 4	0 6 6 6	NO NO YES NO	n/a n/a 10YR n/a	n/a n/a 5 n/a	n/a n/a 3 n/a	0 2 0 2	YES NO NO NO	0 0 0 0	0 0 0 0	n/a n/a n/a n/a	SAB AB SAB AB	M W M M	M C M C	FR FIR FR VFR	NO NO NO NO	NO NO YES NO	NO YES NO NO	-	2	1	1	3a	2	3a	Wetness		
473	Core	0	NO	1 2 3 4 5	25 65 80	HCL C MCL	10YR 10YR 10YR	4 4 4	1 1 3	0 40 10	0 7.5YR 10YR	0 6 6	0 8 8	NO YES NO	n/a 10YR n/a	n/a 5 n/a	n/a 1 n/a	0 0 0	YES YES NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB GR	M M M	M C M	FIR VFIR FR	NO NO NO	NO YES NO	NO NO NO	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness	
474	Core	0	NO	1 2 3 4 5	32 66 90 120	HCL HCL HCL C	5YR 5YR 5YR 5YR	4 4 6 7	1 3 1 1	0 20 40 20	0 5YR 5YR 5YR	0 6 6 5	0 6 8 4	NO YES NO NO	n/a 5YR n/a n/a	n/a 5 n/a n/a	n/a 1 n/a n/a	0 0 0 0	YES YES NO NO	0 0 0 0	0 0 0 0	n/a n/a n/a n/a	SAB AB SAB AB	S M M W	M C M C	FR FIR FIR FIR	NO NO NO NO	NO YES YES NO	NO NO NO NO	-	2	1	1	3a	2	3a	Wetness		
475	Core	0	NO	1 2 3 4 5	40 65 100	HCL HCL HCL	10YR 10YR 5YR	4 5 5	3 3 2	0 20 20	0 10YR 5YR	0 6 6	0 8 8	NO NO YES	n/a n/a 5YR	n/a n/a 5	n/a n/a 1	0 0 0	YES NO NO	0 0 0	0 0 0	n/a n/a n/a	SAB AB AB	S M M	F C C	FR FIR FIR	NO NO NO	NO YES YES	NO YES YES	-	2	1	1	3a	2	3a	Wetness		
476	Core	0	NO	1 2 3 4 5	40 80 100	FSL MS MS	10YR 10YR 10YR	3 5 6	2 6 4	0 0 2	0 0 10YR	0 0 5	0 0 8	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 0 0	YES YES NO	0 0 5	0 0 0	n/a n/a CH	SAB GR GR	W M W	M M F	FR VFR VFR	NO NO YES	NO NO YES	NO NO NO	-	1	1	1	1	3a	3a	Droughtiness		
477	Core	0	NO	1 2 3 4 5	40 65	FSL LMS	10YR 10YR	3 6	1 8	0 0	0 0	0 0	0 0	NO NO	n/a n/a	n/a n/a	n/a n/a	0 0	YES YES	5 10	0 0	H H	GR GR	W W	M F	VFR VFR	NO NO	NO NO	NO NO	-	1	1	1	1	3b	3a	Droughtiness	Soil profile deeper than recorded	
478	Core	0	NO	1 2 3 4 5	38 70	FSL LMS	10YR 10YR	3 6	1 8	0 0	0 0	0 0	0 0	NO NO	n/a n/a	n/a n/a	n/a n/a	0 0	YES YES	5 10	0 0	H H	GR GR	W W	M F	VFR VFR	NO NO	NO NO	NO NO	-	1	1	1	1	3b	3a	Droughtiness	Soil profile deeper than recorded	
479	Core	0	NO	1 2 3 4 5	37 75 100	HCL LMS LMS	10YR 10YR 10YR	4 6 7	1 8 6	0 0 0	0 0 0	0 0 0	0 0 0	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 0 0	YES YES YES	5 10 10	0 0 0	H H H	SAB GR GR	S W W	C F F	FIR VFR VFR	NO NO NO	NO NO NO	NO NO NO	-	1	1	1	2	3a	3a	Droughtiness		
480	Pit	0	NO	1 2 3 4 5	60 75 80	C MSL MSL	10YR 10YR 10YR	4 4 6	3 1 8	2 0 0	7.5YR 0 0	6 0 0	8 0 0	NO NO NO	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	0 0 0	YES YES NO	10 15 15	5 5 5	H H H	AB GR GR	M W W	C F F	VFIR VFR VFR	NO NO NO	YES NO NO	NO NO NO	Stopped at stones.	2	1	2	3a	3a	3a	Wetness Droughtiness		

Soil profile descriptions					Soil profile descriptions continued														ALC for areas represented by individual survey points																					
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations				
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development	Ped size	
497	Core	0	NO	1	35	MSL	10YR	3	1	0	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	GR	W	M	VFR	NO	NO	NO	-	1	1	1	1	3b	3b	Droughtiness			
				2	60	LMS	10YR	6	8	0	0	0	0	0	NO	n/a	n/a	n/a	0	YES	10	0	H	GR	W	F	VFR	NO	NO	NO										
				3																																				
				4																																				
				5																																				
498	Core	0	NO	1	38	MCL	10YR	2	1	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	F	FR	NO	NO	NO	stopped on stone	1	1	1	1	3a	3a	Droughtiness				
				2	70	SCL	7.5YR	6	6	20	7.5YR	5	8	NO	n/a	n/a	n/a	0	NO	10	5	H	SAB	S	F	FR	NO	NO	NO											
				3																																				
				4																																				
				5																																				
499	Core	0	NO	1	37	SCL	10YR	2	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	1	1	1	1	3a	3a	Droughtiness	***			
				2	100	LCS	7.5YR	5	4	20	7.5YR	4	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	F	FR	NO	NO	NO											
				3																																				
				4																																				
				5																																				
500	Core	0	NO	1	40	MCL	10YR	2	2	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	M	FR	NO	NO	NO	-	1	1	1	1	3a	3a	Droughtiness				
				2	65	LMS	10YR	4	4	2	7.5YR	4	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	VFR	NO	NO	NO											
				3	100	MS	10YR	5	6	0	0	0	0	NO	n/a	n/a	n/a	0	NO	10	0	H	GR	M	M	VFR	NO	NO	NO											
				4																																				
				5																																				
501	Core	0	NO	1	30	HCL	10YR	3	2	2	10YR	4	4	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	2	1	1	3a	2	3a	Wetness			
				2	55	C	10YR	4	1	15	10YR	5	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	S	M	FIR	NO	YES	NO											
				3	70	C	10Y	4	1	10	7.5YR	5	6	YES	5YR	4	4	0	NO	0	0	n/a	AB	S	M	FIR	NO	YES	NO											
				4	90	MSL	7.5YR	5	4	2	7.5YR	6	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	W	M	FR	NO	NO	NO											
				5	105	MS	10YR	5	8	0	0	0	0	NO	n/a	n/a	n/a	0	NO	5	0	SS	SG	W	F	VFR	NO	NO	NO											
502	Core	0	NO	1	30	HCL	10YR	3	2	2	7.5YR	4	6	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3b	2	3b	Wetness			
				2	54	C	10YR	4	1	20	7.5YR	5	6	YES	10YR	4	4	2	NO	0	0	n/a	AB	W	M	FIR	NO	YES	YES											
				3	80	LFS	10YR	3	2	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	GR	W	F	VFR	NO	NO	NO											
				4	100	MS	10YR	6	6	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SG	W	M	FR	NO	NO	NO											
				5																																				
503	Core	0	NO	1	45	FSL	10YR	2	2	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	W	M	VFR	NO	NO	NO	-	1	1	1	1	2	2	Droughtiness	*			
				2	55	FSL	10YR	2	2	10	10YR	5	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	W	M	FR	NO	NO	NO											
				3	85	LMS	10YR	5	6	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	GR	W	M	VFR	NO	NO	NO											
				4																																				
				5																																				
504	Core	0	NO	1	25	HCL	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	M	FIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness			
				2	61	C	10YR	3	2	10	10YR	5	6	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	W	C	VFIR	NO	NO	YES											
				3	85	C	7.5YR	4	4	10	10YR	5	6	NO	n/a	n/a	n/a	2	NO	5	0	H	AB	M	C	VFIR	NO	NO	YES											
				4																																				
				5																																				
505	Core	0	NO	1	35	MCL	7.5YR	2.5	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	F	FIR	NO	NO	NO	-	2	1	1	2	2	2	Wetness Droughtiness	*			
				2	65	MSL	7.5YR	5	4	15	7.5YR	5	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	FR	NO	NO	NO											
				3	100	C	7.5YR	5	1	20	7.5YR	5	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	M	C	VFIR	NO	YES	YES											
				4																																				
				5																																				
506	Pit	0	NO	1	40	HCL	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	S	C	VFIR	NO	NO	NO	-	1	1	1	2	3a	3a	Droughtiness				
				2	50	FSL	10YR	3	3	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	SAB	M	M	FR	NO	NO	NO											
				3	55	LFS	10YR	5	2	0	0	0	0	NO	n/a	n/a	n/a	0	NO	0	0	n/a	GR	M	F	VFR	NO	NO	NO											
				4	80	MS	10YR	5	8	10	7.5YR	5	6	NO	n/a	n/a	n/a	0	NO	0	0	n/a	GR	M	F	VFR	NO	NO	NO											
				5																																				
507	Core	0	NO	1	30	HCL	10YR	3	2																															

Soil profile descriptions				Soil profile descriptions continued														ALC for areas represented by individual survey points																																	
Survey point	Type	Gradient	Soil disturbed or restored	Horizon	Depth	Texture	Matrix (main) colour			Mottling			Ped faces			FeMn up to %	Biopores	Stones and rocks		Structure			Consistence	Calcareous	Gleying	SPL	Survey Notes	Wetness class	Soil Depth	Topsoil stoniness	Wetness	Droughtiness	ALC Grade	Limited by	Limitation Notes	ALC Map Variations															
							Hue	Value	Chroma	Abundance up to %	Hue	Value	Chroma	Colour different to matrix	Hue			Value	Chroma	> 2 cm up to %	> 6 cm up to %	Type															Type	Development	Ped size	FIR	VFIR	FR									
513	Core	0	NO	1	22	HCL	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	S	M	FIR	NO	NO	NO	-	1	1	1	2	3a	2	Wetness Droughtiness	Soil profile deeper than recorded - not limited by droughtiness	*													
				2	50	C	7.5YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	M	C	VFIR	NO	NO	NO																							
				3	82	MSL	7.5YR	4	3	10	7.5YR	5	8	NO	n/a	n/a	n/a	0	NO	0	0	n/a	AB	M	C	VFIR	NO	NO											NO												
				4																																															
				5																																															
514	Core	0	NO	1	25	HCL	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	Very small white stones h3	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness														
				2	43	C	7.5YR	3	2	2	10YR	5	6	NO	n/a	n/a	n/a	2	NO	0	0	n/a	SAB	W	C	VFIR	NO	NO											YES												
				3	72	SC	10YR	4	4	20	10YR	5	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	M	VFIR	YES	NO											NO												
				4																																															
				5																																															
515	Pit	0	NO	1	35	SCL	10YR	2	1	0	0	0	NO	n/a	n/a	n/a	0	YES	10	0	H	SAB	S	M	FIR	NO	NO	NO	-	3	1	2	3a	3b	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness														
				2	80	C	5YR	4	2	20	10YR	5	6	YES	10YR	5	1	2	NO	0	0	n/a	AB	M	C	VFIR	NO	YES											YES												
				3																																															
				4																																															
				5																																															
516	Core	0	NO	1	36	MCL	10YR	2	1	0	0	0	NO	n/a	n/a	n/a	0	YES	0	0	n/a	SAB	M	M	FIR	NO	NO	NO	-	3	1	1	3a	3a	3a	Wetness Droughtiness															
				2	62	SCL	10YR	3	2	10	10YR	6	8	YES	10YR	5	1	2	NO	0	0	n/a	AB	W	C	FIR	NO	YES											YES												
				3	110	CS	10YR	4	3	40	10YR	5	8	NO	n/a	n/a	n/a	2	NO	0	0	n/a	AB	M	F	FR	NO	NO											NO												
				4																																															
				5																																															
517	Core	0	YES	1	30	HCL	10YR	3	2	0	0	0	NO	n/a	n/a	n/a	0	YES	5	0	H	SAB	M	M	VFIR	NO	NO	NO	-	2	1	1	3a	3a	3a	Wetness	Soil profile deeper than recorded - not limited by droughtiness														
				2	55	C	10YR	3	3	2	10YR	4	6	NO	n/a	n/a	n/a	0	NO	5	0	H	AB	M	C	VFIR	NO	NO											YES												
				3	84	SC	10YR	4	4	2	10YR	5	6	YES	10YR	5	1	2	NO	5	0	H	AB	M	M	VFIR	YES	YES											NO												
				4																																															
				5																																															

APPENDIX 2: LABORATORY ANALYSIS

ANALYTICAL REPORT

Report Number	97335-23	H448	WARDELL ARMSTRONG LLP	Client	ST19595
Date Received	01-SEP-2023		CITY QUADRANT		
Date Reported	26-OCT-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62805	SOILX62806	SOILX62807	SOILX62808	SOILX62809	SOILX62810	SOILX62811	SOILX62812	SOILX62813	SOILX62814
Sample Reference		P99 H2	P99 H1	P76 H1	P70 H2	P74 H3	P72 H2	P65 H3	P72 H3	P65 H1	P88 H1
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
pH water [1:2.5]		7.4	7.5	7.7	8.2	8.2	8.2	8.3	8.1	8.1	7.9
Available Phosphorus (Index)	mg/l	11.4 (1)	6.1 (0)	8.8 (0)	8.1 (0)	5.8 (0)	6.1 (0)	5.9 (0)	5.8 (0)	8.8 (0)	12.2 (1)
Available Potassium (Index)	mg/l	128 (2-)	87.8 (1)	174 (2-)	127 (2-)	55.2 (0)	72.1 (1)	83.8 (1)	69.3 (1)	171 (2-)	180 (2-)
Available Magnesium (Index)	mg/l	239 (4)	109 (3)	156 (3)	89.7 (2)	55.1 (2)	41.7 (1)	63.9 (2)	43.4 (1)	43.8 (1)	60.5 (2)
Sand 2.00-0.063mm	% w/w	38	50	47	32	72	68	37	58	59	63
Silt 0.063-0.002mm	% w/w	28	22	22	26	13	17	23	24	21	19
Clay <0.002mm	% w/w	34	28	31	42	15	15	40	18	20	18
Organic Matter LOI	% w/w	3.8	5.9	6.6	3.7	1.5	2.3	2.5	2.9	4.4	4.8
Textural Class **		HCL	SCL/HCL	HCL	C	SL	SL	C	SCL/SL	SCL	SCL/SL

Notes

Analysis Notes The sample submitted was of adequate size to complete all analysis requested.
The results as reported relate only to the item(s) submitted for testing.
The results are presented on a dry matter basis unless otherwise stipulated.

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

ANALYTICAL REPORT

Report Number	97336-23	H448	WARDELL ARMSTRONG LLP	Client	ST19595
Date Received	01-SEP-2023		CITY QUADRANT		
Date Reported	01-NOV-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62815	SOILX62816	SOILX62817	SOILX62818	SOILX62819	SOILX62820	SOILX62821	SOILX62822	SOILX62823	SOILX62824
Sample Reference		P60 H2	P55 H1	P60 H1	P51 H4	P47 H2	P12 H3	P39 H1	P39 H2	P25 H2	P12 H2
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
pH water [1:2.5]		7.7	8.0	7.6	7.9	8.2	8.6	7.6	8.1	7.8	8.3
Available Phosphorus (Index)	mg/l	5.2 (0)	10.9 (1)	7.5 (0)	5.4 (0)	3.9 (0)	7.0 (0)	8.9 (0)	5.8 (0)	5.3 (0)	11.3 (1)
Available Potassium (Index)	mg/l	98.7 (1)	144 (2-)	156 (2-)	115 (1)	86.2 (1)	53.6 (0)	114 (1)	111 (1)	86.2 (1)	95.5 (1)
Available Magnesium (Index)	mg/l	164 (3)	54.1 (2)	82.7 (2)	65.9 (2)	63.8 (2)	18.7 (0)	91.9 (2)	108 (3)	90.1 (2)	33.5 (1)
Sand 2.00-0.063mm	% w/w	42	60	42	80	43	92	62	58	67	87
Silt 0.063-0.002mm	% w/w	24	20	24	10	26	4	20	22	17	6
Clay <0.002mm	% w/w	34	20	34	10	31	4	18	20	16	7
Organic Matter LOI	% w/w	2.8	4.9	4.3	3.1	2.7	1.2	4.9	2.9	2.8	2.3
Textural Class **		HCL	SCL	HCL	LS/SL	HCL	S	SCL/SL	SCL	SL	LS

Notes

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

ANALYTICAL REPORT

Report Number	97337-23	H448	WARDELL ARMSTRONG LLP	Client	ST19595
Date Received	01-SEP-2023		CITY QUADRANT		
Date Reported	01-NOV-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62825	SOILX62826	SOILX62827	SOILX62828	SOILX62829	SOILX62830	SOILX62831	SOILX62832	SOILX62833	SOILX62834
Sample Reference		P7 H1	P12 H1	P7 H2	P31 H1	P25 H1	P33 H1	P102 H1	P111 H1	P102 H2	P111 H2
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
pH water [1:2.5]		7.5	7.5	7.9	7.1	7.3	6.8	8.4	8.0	8.0	8.1
Available Phosphorus (Index)	mg/l	10.4 (1)	28.3 (3)	5.1 (0)	10.8 (1)	7.5 (0)	17.4 (2)	5.3 (0)	7.9 (0)	7.0 (0)	6.1 (0)
Available Potassium (Index)	mg/l	122 (2-)	223 (2+)	103 (1)	173 (2-)	108 (1)	170 (2-)	56.0 (0)	223 (2+)	120 (1)	176 (2-)
Available Magnesium (Index)	mg/l	176 (4)	77.4 (2)	278 (5)	181 (4)	103 (3)	71.3 (2)	68.8 (2)	144 (3)	95.3 (2)	179 (4)
Sand 2.00-0.063mm	% w/w	64	76	56	35	64	73	22	36	48	38
Silt 0.063-0.002mm	% w/w	18	12	21	23	18	13	28	25	23	21
Clay <0.002mm	% w/w	18	12	23	42	18	14	50	39	29	41
Organic Matter LOI	% w/w	5.2	3.9	3.4	7.8	4.8	4.1	2.7	6.9	5.1	5.1
Textural Class **		SCL/SL	SL	SCL	C	SCL/SL	SL	C	C	HCL	C

Notes

Analysis Notes The sample submitted was of adequate size to complete all analysis requested.
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The results are presented on a dry matter basis unless otherwise stipulated.

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

ANALYTICAL REPORT

Report Number	97338-23	H448	WARDELL ARMSTRONG LLP	Client	ST19595
Date Received	01-SEP-2023		CITY QUADRANT		
Date Reported	01-NOV-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62835	SOILX62836	SOILX62837	SOILX62838	SOILX62839	SOILX62840	SOILX62841	SOILX62842	SOILX62843	SOILX62844
Sample Reference		P129 H1	P117 H1	P117 H2	P143 H3	P166 H1	P130 H1	P163 H1	P168 H3	P102 H3	P276 H2
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
pH water [1:2.5]		8.0	8.2	8.1	7.8	8.0	8.0	8.1	8.4	8.5	8.3
Available Phosphorus (Index)	mg/l	10.3 (1)	8.4 (0)	4.9 (0)	4.2 (0)	10.3 (1)	23.5 (2)	16.2 (2)	5.5 (0)	3.9 (0)	4.1 (0)
Available Potassium (Index)	mg/l	139 (2-)	137 (2-)	107 (1)	78.9 (1)	129 (2-)	309 (3)	234 (2+)	35.1 (0)	30.2 (0)	111 (1)
Available Magnesium (Index)	mg/l	56.4 (2)	124 (3)	138 (3)	250 (4)	98.6 (2)	60.1 (2)	67.9 (2)	32.3 (1)	55.5 (2)	138 (3)
Sand 2.00-0.063mm	% w/w	64	32	37	10	32	62	44	87	15	37
Silt 0.063-0.002mm	% w/w	18	28	24	30	27	18	23	7	25	25
Clay <0.002mm	% w/w	18	40	39	60	41	20	33	6	60	38
Organic Matter LOI	% w/w	5.9	4.7	3.9	2.6	6.4	5.8	6.1	0.9	1.7	3.7
Textural Class **		SCL/SL	C	C	C	C	SCL	HCL	LS	C	C

Notes

Analysis Notes The sample submitted was of adequate size to complete all analysis requested.
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** Please see the attached document for the definition of textural classes.

ANALYTICAL REPORT

Report Number	97339-23	H448	WARDELL ARMSTRONG LLP	Client ST19595
Date Received	01-SEP-2023		CITY QUADRANT	
Date Reported	26-OCT-2023		11 WATERLOO SQUARE	
Project	SOIL		NEWCASTLE UPON TYNE	
Reference	ST19595		NE1 4DP	
Order Number				

Laboratory Reference		SOILX62845	SOILX62846	SOILX62847						
Sample Reference		P111 H3	P170 H2	P113 H1						
Determinand	Unit	SOIL	SOIL	SOIL						
pH water [1:2.5]		8.3	8.5	7.9						
Available Phosphorus (Index)	mg/l	5.5 (0)	3.8 (0)	5.8 (0)						
Available Potassium (Index)	mg/l	167 (2-)	67.3 (1)	121 (2-)						
Available Magnesium (Index)	mg/l	200 (4)	60.6 (2)	180 (4)						
Sand 2.00-0.063mm	% w/w	35	12	21						
Silt 0.063-0.002mm	% w/w	24	30	28						
Clay <0.002mm	% w/w	41	58	51						
Organic Matter LOI	% w/w	3.9	2.1	4.7						
Textural Class **		C	C	C						

Notes

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ANALYTICAL REPORT

Report Number	97340-23	H448	WARDELL ARMSTRONG LLP	Client	ST19595
Date Received	01-SEP-2023		CITY QUADRANT		
Date Reported	26-OCT-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62848	SOILX62849	SOILX62850	SOILX62851	SOILX62852	SOILX62853	SOILX62854	SOILX62855	SOILX62856	SOILX62857
Sample Reference		P130 H2	P116 H3	P113 H2	P206 H1	P227 H2	P227 H1	P291 H2	P288 H3	P261 H2	P261 H1
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
pH water [1:2.5]		7.9	8.1	7.8	7.7	8.2	8.3	5.3	8.3	7.7	7.1
Available Phosphorus (Index)	mg/l	6.2 (0)	4.2 (0)	4.2 (0)	9.4 (0)	4.3 (0)	5.9 (0)	15.1 (1)	6.9 (0)	4.5 (0)	7.2 (0)
Available Potassium (Index)	mg/l	156 (2-)	48.4 (0)	172 (2-)	146 (2-)	90.3 (1)	119 (1)	117 (1)	42.7 (0)	133 (2-)	199 (2+)
Available Magnesium (Index)	mg/l	174 (3)	104 (3)	299 (5)	150 (3)	89.7 (2)	80.2 (2)	116 (3)	31.1 (1)	407 (6)	235 (4)
Sand 2.00-0.063mm	% w/w	57	82	11	45	50	50	61	87	7	35
Silt 0.063-0.002mm	% w/w	19	9	26	20	23	22	18	7	32	25
Clay <0.002mm	% w/w	24	9	63	35	27	28	21	6	61	40
Organic Matter LOI	% w/w	6.8	1.8	6.0	5.8	4.6	5.2	2.5	0.9	3.1	7.1
Textural Class **		SCL	LS	C	C/HCL/SC	SCL/HCL	SCL/HCL	SCL	LS	C	C

Notes

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ANALYTICAL REPORT

Report Number	97341-23	H448	WARDELL ARMSTRONG LLP	Client	ST19595
Date Received	01-SEP-2023		CITY QUADRANT		
Date Reported	01-NOV-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62858	SOILX62859	SOILX62860	SOILX62861	SOILX62862	SOILX62863	SOILX62864	SOILX62865	SOILX62866	SOILX62867
Sample Reference		P266 H1	P271 H1	P276 H1	P276 H3	P271 H2	P270 H2	P266 H2	P212 H2	P212 H1	P217 H2
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
pH water [1:2.5]		8.0	8.0	8.0	8.4	8.2	8.1	8.3	8.1	7.6	8.3
Available Phosphorus (Index)	mg/l	5.6 (0)	5.8 (0)	5.6 (0)	3.6 (0)	3.6 (0)	5.4 (0)	3.8 (0)	4.0 (0)	7.3 (0)	3.6 (0)
Available Potassium (Index)	mg/l	214 (2+)	170 (2-)	175 (2-)	102 (1)	94.7 (1)	94.3 (1)	88.6 (1)	105 (1)	300 (3)	96.3 (1)
Available Magnesium (Index)	mg/l	507 (6)	263 (5)	191 (4)	247 (4)	233 (4)	121 (3)	432 (6)	148 (3)	97.3 (2)	114 (3)
Sand 2.00-0.063mm	% w/w	14	42	42	19	40	57	14	25	39	6
Silt 0.063-0.002mm	% w/w	53	30	27	34	26	20	54	35	26	38
Clay <0.002mm	% w/w	33	28	31	47	34	23	32	40	35	56
Organic Matter LOI	% w/w	5.7	6.0	6.0	3.1	3.3	7.3	3.5	3.1	10.2	2.5
Textural Class **		HZCL	HCL	HCL	C	HCL	SCL	HZCL	C	C/HCL	C

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Date Received	01-SEP-2023		CITY QUADRANT		
Date Reported	01-NOV-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62868	SOILX62869	SOILX62870	SOILX62871	SOILX62872	SOILX62873	SOILX62874	SOILX62875	SOILX62876	SOILX62877
Sample Reference		P312 H2	P312 H1	P323 H1	P323 H2	P349 H2	P349 H1	P354 H3	P354 H4	P354 H1/H2	P356 H3
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
pH water [1:2.5]		8.4	8.2	7.8	8.4	8.0	7.8	8.3	8.5	8.0	8.0
Available Phosphorus (Index)	mg/l	3.9 (0)	4.9 (0)	6.9 (0)	3.6 (0)	3.4 (0)	5.7 (0)	7.7 (0)	4.1 (0)	5.7 (0)	7.9 (0)
Available Potassium (Index)	mg/l	76.6 (1)	197 (2+)	270 (3)	111 (1)	85.4 (1)	142 (2-)	68.1 (1)	33.5 (0)	141 (2-)	43.5 (0)
Available Magnesium (Index)	mg/l	223 (4)	276 (5)	113 (3)	233 (4)	358 (6)	166 (3)	41.1 (1)	36.5 (1)	75.3 (2)	54.8 (2)
Sand 2.00-0.063mm	% w/w	7	5	11	9	4	20	65	86	56	80
Silt 0.063-0.002mm	% w/w	43	49	36	40	34	29	17	9	18	12
Clay <0.002mm	% w/w	50	46	53	51	62	51	18	5	26	8
Organic Matter LOI	% w/w	2.9	7.2	9.0	3.4	2.4	5.6	1.8	0.7	5.8	1.2
Textural Class **		C	ZC	C	C	C	C	SCL/SL	LS	SCL	LS

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Date Reported	01-NOV-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62878	SOILX62879	SOILX62880	SOILX62881	SOILX62882	SOILX62883	SOILX62884	SOILX62885	SOILX62886	SOILX62887
Sample Reference		P356 H2	P397 H1	P382 H1	P496 H2	P496 H1	P480 H2	P459 H1	P459 H3	P451 H1	P444 H1
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
pH water [1:2.5]		7.9	8.0	7.6	8.1	6.9	6.6	8.2	8.0	7.7	7.6
Available Phosphorus (Index)	mg/l	10.0 (1)	8.4 (0)	9.9 (1)	6.0 (0)	15.5 (2)	14.2 (1)	4.6 (0)	16.6 (2)	12.7 (1)	9.2 (0)
Available Potassium (Index)	mg/l	52.4 (0)	220 (2+)	222 (2+)	18.2 (0)	122 (2-)	33.5 (0)	141 (2-)	18.6 (0)	135 (2-)	106 (1)
Available Magnesium (Index)	mg/l	64.3 (2)	164 (3)	264 (5)	14.3 (0)	43.3 (1)	77.3 (2)	326 (5)	77.7 (2)	63.4 (2)	99.8 (2)
Sand 2.00-0.063mm	% w/w	71	16	15	87	77	83	4	85	74	54
Silt 0.063-0.002mm	% w/w	16	43	41	8	11	11	55	7	15	21
Clay <0.002mm	% w/w	13	41	44	5	12	6	41	8	11	25
Organic Matter LOI	% w/w	2.1	7.0	7.6	1.7	11.2	2.6	4.8	1.2	8.2	9.5
Textural Class **		SL	C	C	S	SL	LS	ZC	LS	SL	SCL

Notes	
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ANALYTICAL REPORT

Report Number	97344-23	H448	WARDELL ARMSTRONG LLP	Client	ST19595
Date Received	01-SEP-2023		CITY QUADRANT		
Date Reported	01-NOV-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62888	SOILX62889	SOILX62890	SOILX62891	SOILX62892	SOILX62893			
Sample Reference		P401 H1	P401 H2	P429 H1	P435 H2	P496 H3	P435 H1			
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL			
pH water [1:2.5]		7.9	7.9	7.6	7.7	8.4	8.1			
Available Phosphorus (Index)	mg/l	6.2 (0)	4.3 (0)	6.2 (0)	4.6 (0)	4.4 (0)	6.0 (0)			
Available Potassium (Index)	mg/l	343 (3)	182 (2+)	139 (2-)	130 (2-)	25.8 (0)	173 (2-)			
Available Magnesium (Index)	mg/l	297 (5)	464 (6)	159 (3)	494 (6)	85.1 (2)	348 (5)			
Sand 2.00-0.063mm	% w/w	12	6	63	4	86	16			
Silt 0.063-0.002mm	% w/w	51	48	16	51	8	46			
Clay <0.002mm	% w/w	37	46	21	45	6	38			
Organic Matter LOI	% w/w	8.6	6.4	7.1	6.2	1.2	6.5			
Textural Class **		ZC	ZC	SCL	ZC	LS	ZC			

Notes

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ANALYTICAL REPORT

Report Number	97345-23	H448	WARDELL ARMSTRONG LLP	Client	ST19595
Date Received	01-SEP-2023		CITY QUADRANT		
Date Reported	01-NOV-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62894	SOILX62895	SOILX62896	SOILX62897	SOILX62898	SOILX62899	SOILX62900	SOILX62901	SOILX62902	SOILX62903
Sample Reference		P442 H1	P451 H2	P480 H3	P480 H1	P459 H1	P513 H3	P515 H2	P515 H1	47 H1	416 H1
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
pH water [1:2.5]		7.2	8.3	8.2	7.2	7.7	8.3	7.9	7.3	7.9	6.9
Available Phosphorus (Index)	mg/l	9.3 (0)	4.6 (0)	15.7 (2)	6.8 (0)	7.0 (0)	4.1 (0)	409 (9)	10.7 (1)	7.0 (0)	9.2 (0)
Available Potassium (Index)	mg/l	106 (1)	65.7 (1)	20.2 (0)	80.6 (1)	218 (2+)	61.7 (1)	110 (1)	108 (1)	91.5 (1)	292 (3)
Available Magnesium (Index)	mg/l	71.1 (2)	82.7 (2)	51.8 (2)	194 (4)	263 (5)	55.1 (2)	204 (4)	106 (3)	57.3 (2)	146 (3)
Sand 2.00-0.063mm	% w/w	61	35	75	5	5	77	29	57	67	10
Silt 0.063-0.002mm	% w/w	16	30	13	44	50	11	31	18	15	45
Clay <0.002mm	% w/w	23	35	12	51	45	12	40	25	18	45
Organic Matter LOI	% w/w	7.7	3.8	2.7	10.4	8.8	1.6	4.2	6.2	4.0	8.4
Textural Class **		SCL	C/HCL	SL	C	ZC	SL	C	SCL	SCL/SL	C/ZC

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ANALYTICAL REPORT

Report Number	97346-23	H448	WARDELL ARMSTRONG LLP	Client	ST19595STEM
Date Received	08-SEP-2023		CITY QUADRANT		AGRICULTURAL
Date Reported	01-NOV-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62904	SOILX62905	SOILX62906	SOILX62907	SOILX62908	SOILX62909	SOILX62910	SOILX62911	SOILX62912	SOILX62913
Sample Reference		157 H1	157 H2	157 H3	196 H1	196 H2	196 H3	229 H1	229 H2	253 H1	253 H2
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
pH water [1:2.5]		7.9	8.1	8.2	7.2	7.9	8.2	7.9	8.2	8.1	8.3
Available Phosphorus (Index)	mg/l	7.5 (0)	3.7 (0)	3.6 (0)	18.4 (2)	8.6 (0)	3.5 (0)	6.9 (0)	4.0 (0)	8.1 (0)	4.1 (0)
Available Potassium (Index)	mg/l	139 (2-)	89.3 (1)	85.7 (1)	335 (3)	178 (2-)	122 (2-)	174 (2-)	94.3 (1)	170 (2-)	98.3 (1)
Available Magnesium (Index)	mg/l	124 (3)	177 (4)	419 (6)	165 (3)	161 (3)	321 (5)	143 (3)	136 (3)	73.0 (2)	80.0 (2)
Sand 2.00-0.063mm	% w/w	50	62	29	59	41	28	56	33	44	46
Silt 0.063-0.002mm	% w/w	21	17	30	18	25	31	18	27	22	23
Clay <0.002mm	% w/w	29	21	41	23	34	41	26	40	34	31
Organic Matter LOI	% w/w	5.2	3.3	2.8	5.8	4.4	3.0	4.4	3.0	5.1	2.7
Textural Class **		SCL/HCL	SCL	C	SCL	HCL	C	SCL	C	HCL	HCL

Notes

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ANALYTICAL REPORT

Report Number	97347-23	H448	WARDELL ARMSTRONG LLP	Client	ST19595STEM
Date Received	08-SEP-2023		CITY QUADRANT		AGRICULTURAL
Date Reported	01-NOV-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62914	SOILX62915	SOILX62916	SOILX62917	SOILX62918	SOILX62919	SOILX62920	SOILX62921	SOILX62922	SOILX62923
Sample Reference		307 H1	307 H2	307 H3	341 H1	341 H2	365 H1	365 H2	383 H1	383 H2	389 H1
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
pH water [1:2.5]		7.9	8.0	8.3	6.9	8.0	7.3	7.9	7.7	7.9	7.5
Available Phosphorus (Index)	mg/l	6.7 (0)	3.8 (0)	3.8 (0)	5.9 (0)	3.7 (0)	6.2 (0)	6.3 (0)	5.1 (0)	3.8 (0)	6.6 (0)
Available Potassium (Index)	mg/l	146 (2-)	92.3 (1)	68.3 (1)	146 (2-)	116 (1)	176 (2-)	148 (2-)	135 (2-)	127 (2-)	126 (2-)
Available Magnesium (Index)	mg/l	64.2 (2)	82.4 (2)	67.3 (2)	309 (5)	482 (6)	254 (5)	392 (6)	317 (5)	455 (6)	181 (4)
Sand 2.00-0.063mm	% w/w	57	58	49	36	7	6	5	5	9	36
Silt 0.063-0.002mm	% w/w	17	18	17	25	38	34	34	35	36	22
Clay <0.002mm	% w/w	26	24	34	39	55	60	61	60	55	42
Organic Matter LOI	% w/w	5.2	3.1	2.0	7.8	3.9	8.1	4.6	6.5	4.0	6.3
Textural Class **		SCL	SCL	SC	C	C	C	C	C	C	C

Notes

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

ANALYTICAL REPORT

Report Number	97348-23	H448	WARDELL ARMSTRONG LLP	Client	ST19595STEM
Date Received	08-SEP-2023		CITY QUADRANT		AGRICULTURAL
Date Reported	01-NOV-2023		11 WATERLOO SQUARE		
Project	SOIL		NEWCASTLE UPON TYNE		
Reference	ST19595		NE1 4DP		
Order Number					

Laboratory Reference		SOILX62924	SOILX62925	SOILX62926	SOILX62927	SOILX62928	SOILX62929	SOILX62930	SOILX62931		
Sample Reference		406 H1	406 H2	462 H1	462 H2	462 H3	472 H3	493 H1	493 H2		
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
pH water [1:2.5]		7.1	8.1	7.3	7.8	7.7	7.6	7.4	8.1		
Available Phosphorus (Index)	mg/l	7.4 (0)	3.6 (0)	7.6 (0)	4.8 (0)	4.0 (0)	9.9 (1)	8.8 (0)	3.8 (0)		
Available Potassium (Index)	mg/l	152 (2-)	115 (1)	181 (2+)	220 (2+)	117 (1)	185 (2+)	188 (2+)	66.3 (1)		
Available Magnesium (Index)	mg/l	267 (5)	432 (6)	336 (5)	512 (6)	501 (6)	408 (6)	366 (6)	287 (5)		
Sand 2.00-0.063mm	% w/w	8	10	5	4	2	4	1	20		
Silt 0.063-0.002mm	% w/w	32	39	41	49	46	44	46	55		
Clay <0.002mm	% w/w	60	51	54	47	52	52	53	25		
Organic Matter LOI	% w/w	8.1	3.5	8.8	6.7	5.1	7.6	8.0	2.9		
Textural Class **		C	C	C	ZC	ZC	C	ZC	MCL/MZCL		

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.**

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

Reported by **Joe Cherrie**
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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).

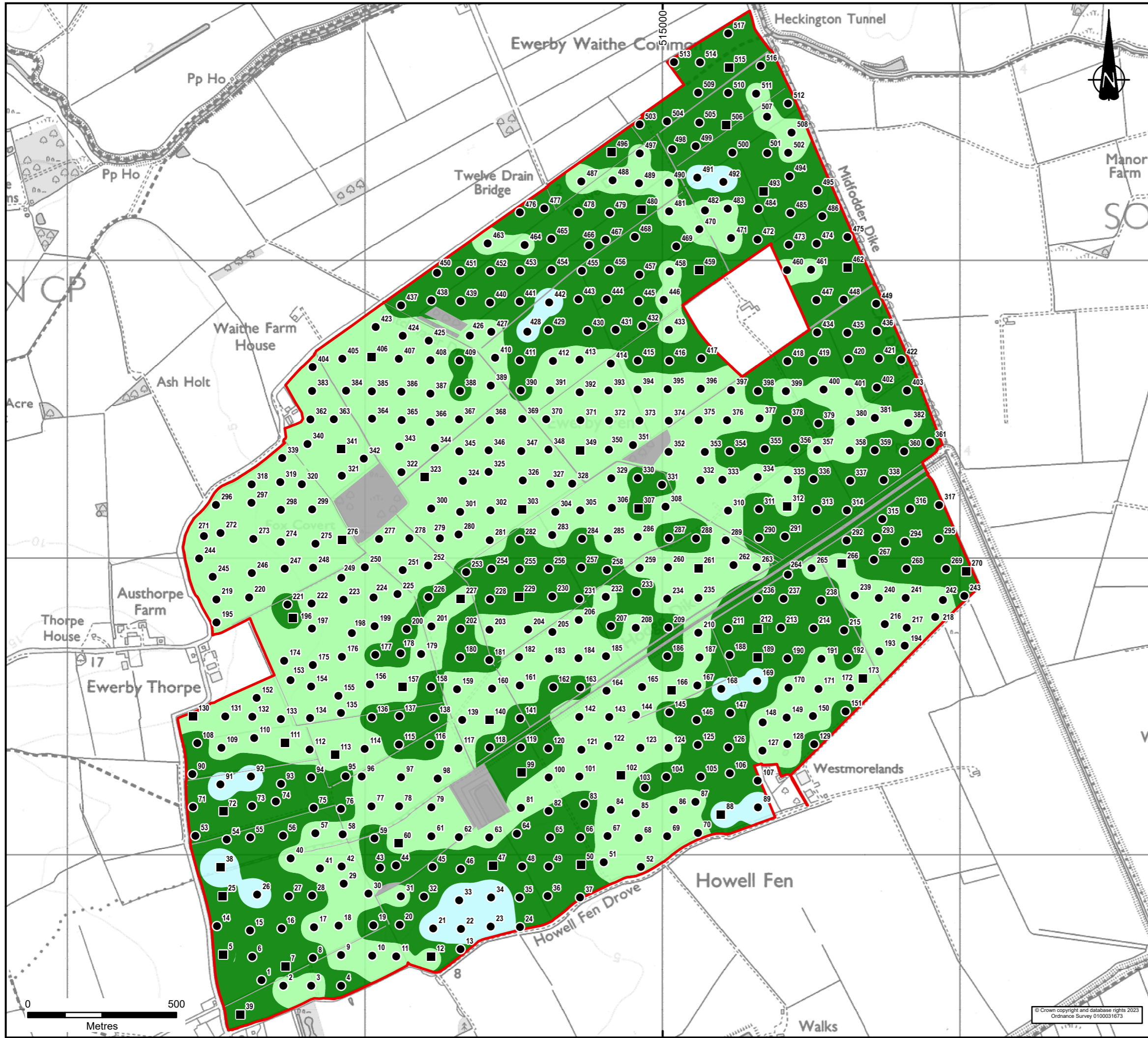
The subdivisions of *clay loam* and *silty clay loam* classes according to clay content are indicated as follows:

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.

DRAWINGS



KEY

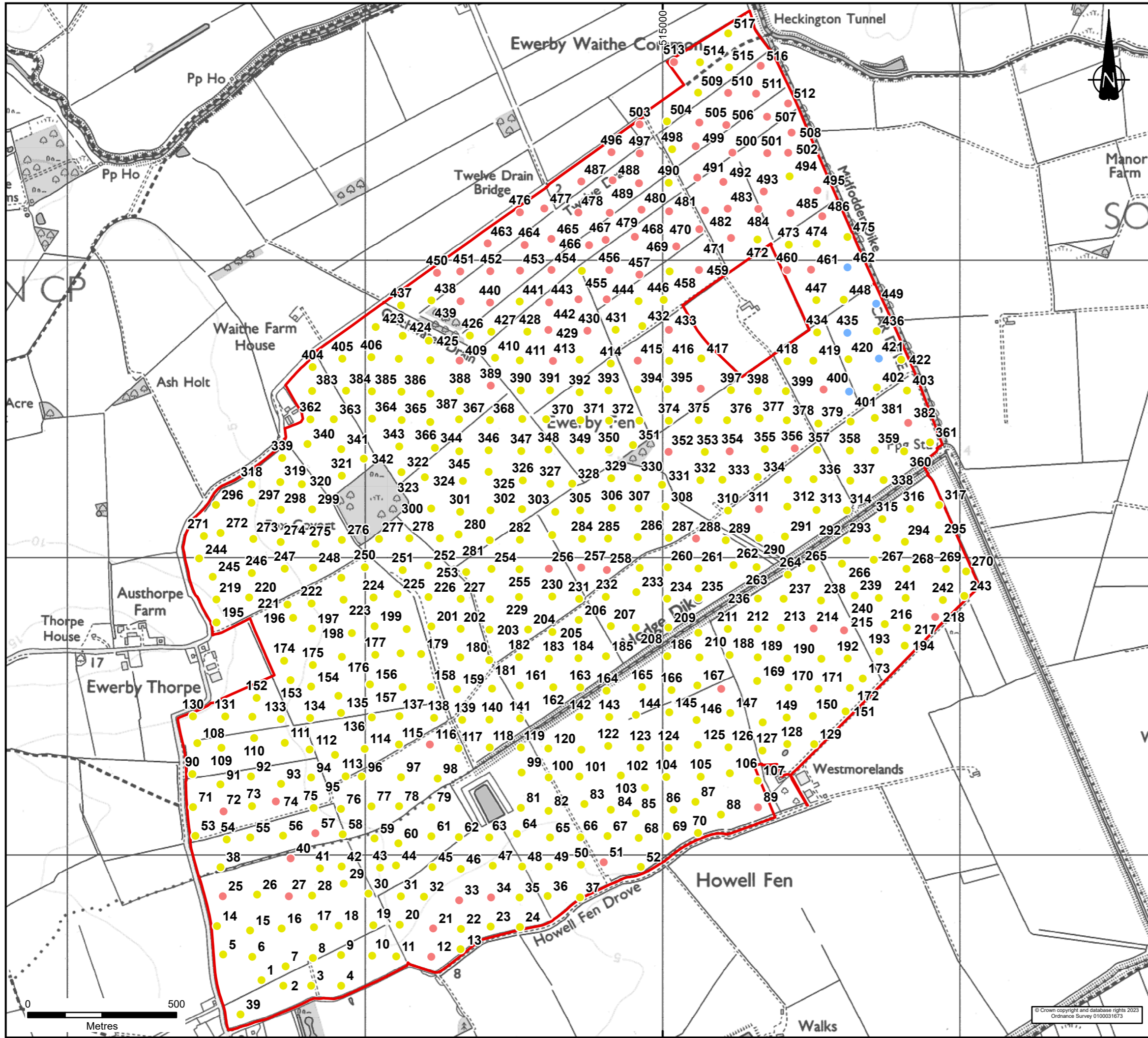
- Site Boundary
 - Auger Core
 - Profile Pit
- Agricultural Land Classification
- Grade 2
 - Grade 3a
 - Grade 3b
 - Other

Agricultural Land Classification	Area (ha)
Grade 2	14.61
Grade 3a	235.51
Grade 3b	261.43
Other	16.62

Notes:
Boundaries are indicative.

B A	AMENDED ALC BOUNDARIES FIRST ISSUE	11/23 11/23	SRW SRW	DR DR	BC BC
REVISION	DETAILS	DATE	DRAWN	CHKD	APPD
CLIENT					
BEACON FEN ENERGY PARK LTD					
PROJECT					
BEACON FEN ENERGY PARK					
DRAWING TITLE					
AGRICULTURAL LAND CLASSIFICATION					
DRG No.	ST19595/166	REV	B	SUIT. CODE	---
DRG SIZE	A3	SCALE	1:12,500	DATE	28/11/2023
DRAWN BY	SRW	CHECKED BY	DR	APPROVED BY	BC





KEY

- Site Boundary
- Soil Association Characteristic
- Beccles 711t
- Ruskington 512c
- Wallasea 813g

Notes:
Boundaries are indicative.

REVISION	DETAILS	DATE	DRAWN	CHKD	APPD
CLIENT					
BEACON FEN ENERGY PARK LTD					
PROJECT					
BEACON FEN ENERGY PARK					
DRAWING TITLE					
SOIL ASSOCIATIONS					
DRG No.	ST19595/168	REV	A	SUIT. CODE	---
DRG SIZE	A3	SCALE	1:12,500	DATE	01/11/2023
DRAWN BY	GER	CHECKED BY	DR	APPROVED BY	BC

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