DBS Offshore Wind

RWE Renewables UK Dogger Bank South (West) Limited

RWE Renewables UK Dogger Bank South (East) Limited

Dogger Bank South Offshore Wind Farms

Soil Resource Assessment Survey Results

Pre-Examination Procedural Deadline

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Glossary

Term	Definition
Agricultural Land Classification	Agricultural Land Classification is a grading system used to assess and compare the quality of agricultural land in England and Wales. A combination of climate, topography and soil characteristics and their unique interaction determines the grade of the land. The grades range from 1 to 5. Grade 1 being excellent, Grade 2 very good, Grade 3a and 3b good to moderate (no subdivide), Grade 4 poor and Grade 5 very poor.
High Voltage Direct Current (HVDC)	High voltage direct current is the bulk transmission of electricity by direct current (DC), whereby the flow of electric charge is in one direction.
Horizontal Directional Drill (HDD)	HDD is a trenchless technique to bring the offshore cables ashore at the landfall and can be used for crossing other obstacles such as roads, railways and watercourses onshore.
Landfall	The point on the coastline at which the Offshore Export Cables are brought onshore, connecting to the onshore cables at the Transition Joint Bay (TJB) above mean high water.
Landfall Zone	The generic term applied to the entire landfall area between Mean Low Water Spring (MLWS) and the Transition Joint Bays (TJBs) inclusive of all construction works, including the landfall compounds, Onshore Export Cable Corridor and intertidal working area including the Offshore Export Cables.
Onshore Export Cable Corridor	This is the area which includes cable trenches, haul roads, spoil storage areas, and limits of deviation for micro-siting. For assessment purposes, the cable corridor does not include the Onshore Converter Stations, Transition Joint Bays or temporary access routes; but includes Temporary Construction Compounds (purely for the cable route).

Term	Definition
Onshore Substation Zone	Parcel of land within the Onshore Development Area where the Onshore Converter Station infrastructure (including the haul roads, Temporary Construction Compounds and associated cable routeing) would be located.
Onward Cable Connection	Area of 400kV HVAC onshore export cable from the Onshore Converter Stations to the Proposed Birkhill Wood National Grid Substation.

Acronyms

Acronym	Definition
AAR	Annual Accumulated Rainfall
ALC	Agricultural Land Classification
AOD	Above Ordnance Datum
ATO	Accumulated Temperature
BMV	Best and Most Versatile
DBS	Dogger Bank South
DEFRA	Department for Food and Rural Affairs
FCD	Field Capacity Days
HDD	Horizontal Directional Drilling
HVDC	High Voltage Direct Current
LDC	Land Drainage Consultancy Ltd
MD	Moisture Deficits
OSNGR	OS National Grid Reference
PSD	Particle Size Distribution

1 Introduction

1.1 Background

1. Land Drainage Consultancy Ltd (LDC) has been asked by RWE Renewables (RWE) to provide information on the soils resources and Agricultural Land Classification that will be affected by installation of Dogger Bank South (DBS) Projects.

2. The DBS Projects include the construction of a High Voltage Direct Current (HVDC) with the combined capacity of 3GW. These projects combined could generate enough energy to meet the annual domestic needs of around 3 million average UK homes.

3. It is proposed that topsoil be stripped and stored from an approximate 75m wide working width which will be widened locally to accommodate compounds, trenchless crossing e.g. Horizontal Directional Drilling (HDD) areas, visibility splays and crossing points. Cables ducts will be laid into excavated trenches or cables will be pulled through pre-installed ducts, the number of trenches and cables will be determined during the design phase. On completion of installation the trenches will be backfilled, the working area will be levelled, and the soils drained as required. The subsoil will be loosened followed by re-instatement of the stripped topsoil, cultivation and seeding.

4. LDC has been asked to provide a record of the soil resources and agricultural land quality present within the Onshore Development Area and to recommend mitigation measures to ensure that the soil resource is handled and restored in accordance with best practice. Following the completion of the soils resources and Agricultural Land Classification surveys for the Onshore Developments Area, there are no recommendations for further mitigation measures to be added to the **Outline Soil Management Plan** included in Appendix A of the **Outline Code of Construction Practice** [App-234].

2 Objectives

5. The objectives of this report are to:

- Describe and map the distribution of soil types over the proposed Onshore Export Cable Corridor and Onward Cable Connection;
- Assess the quality of impacted land in terms of its potential Agricultural Land Classification (ALC) grade;
- Provide a pre-construction record of soil physical characteristics in each agricultural plot; and
- Collect and analyse topsoil samples from each plot to determine their pH, available nutrients, and textural characteristics.

3 Assessment Methodology

3.1 Guidelines

- The following guidance has been used in compiling this report:
- The Code of Practice for the Sustainable Use of Soils on Construction Sites, DEFRA 2009,
- Agricultural Land Classification of England and Wales. Revised guidelines and Criteria for Grading the Quality of Agricultural Land (MAFF, 1988),
- The Soil Survey Field Handbook, Technical Monograph No 5, Harpenden, v4 , 2022.
- Agricultural Land Classification: protecting the best and most versatile agricultural land: Technical Information Note TIN049, (Natural England, 2012),
- Institute of Quarrying, 'Good Practice Guide for Handling Soils in Mineral Workings', July 2021
- Soil Texture: Technical Information Note TIN037, (Natural England, 2008),
- Construction best practice for underground cable installation, National Grid, 2021
- Guide to Assessing Development Proposals on Agricultural Land (Natural England, 2018),
- Soil Texture: Technical Information Note TIN037, (Natural England, 2008),
- The Nutrient Management Guide, ADHB/Defra. 2012,
- Safeguarding our Soils, A Strategy for England, Defra, 2009.
- Guidance for Successful Reclamation of Mineral and Waste Sites (Defra, 2004),
- Protecting our Water, Soil and Air, A Code of Practice, Defra, 2009, and

3.2 Desktop study

6. A desk study was undertaken by LDC in 2023 to assess key environmental information along the route and to support the field survey. This consisted of a review of the following data sources:

- Ordnance Survey 1:2,500 mapping,
- Agroclimatic datasets from the UK Met Office (1961-1988),
- Soil Survey 1:250,000, Sheet 1 Northern England,
- Cranfield's LANDIS website,
- Provisional ALC and Soils data held on Defra's MAGIC/Soilscapes website,
- British Geological Survey (BGS) Website (1:50,000 mapping),
- Aerial photographs reference from Google Earth, and
- Flood risk information

3.3 Field Survey

7. A soil survey and land quality assessment was undertaken by LDC soil scientists between September 2023 and July 2024. Soils were examined using a hand-held Dutch auger and spade within a 75m corridor transposed onto the proposed DBS cable route.

8. A total of 531 auger borings were completed at approximately 100m intervals to a maximum depth of 1.20m at points predetermined by the Ordnance Survey (OS) National Grid and located in the field using a handheld GPS. Borings were also made offset from the 100m OS Grid to further define soil boundaries or to collect information from smaller enclosures, proposed compounds and/or access routes as required.

9. LDC have allocated plot numbers to each field based on sections of the route relative to proposed road crossings and these are used for reference purposes below and in the Appendices.

10. Information on cropping, relief, topsoil and subsoil depth, soil texture, stone content and drainage characteristics were collected at each point. Small hand dug profile pits were excavated in the soil types identified to record more detailed information on profile characteristics.

3.4 Soil sampling and analysis

11. Topsoil samples were collected from each plot using procedures outlined in Defra's Nutrient Management Guide (RB209, 2022).

12. Topsoil samples were collected using a 25mm diameter Dutch auger from each numbered enclosure to a depth of 0-150mm for plots in arable use and 0-75mm for grassland. Samples were taken on a W pattern within the extent of the proposed working area at a sample density of not less than 10 cores per field, with individual cores bulked to form a composite sample from each enclosure.

13. Samples for each plot were tested to determine pH, available phosphorus, potassium and magnesium, organic matter status (Loss on Ignition) and topsoil texture (Laser PSD). A total of 161 plots have been sampled, tested and lab analysis reported.

3.5 Testing laboratory

14. Soil samples were analysed at a suitably accredited laboratory (NRM Ltd) which is UKAS accredited for soil, sludge and sediment analyses. NRM participate in numerous proficiency testing schemes including CONTEST (contaminated land soils and leachates), MCERTS, Aquacheck (waters, soils and sludges), FAPAS (nitrate in leafy vegetables) and WEPAL (nutrients in agricultural soils).

3.6 Interpretation

15. Soil survey information has been combined with other site information, e.g., climate, relief, flood risk, to grade the quality of the land in accordance with the method described in Agricultural Land Classification of England Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land" (MAFF 1988).

16. Agricultural Land Classification (ALC) is the system which grades agricultural land according to the degree to which its physical characteristics impose long term limitations on agricultural use and cropping flexibility. The principal physical factors influencing agricultural production are climate (temperature and rainfall), site (gradient, micro-relief and flood risk) and soil (texture, structure, depth and stoniness). These factors together with interaction between them form the basis of classifying land into 1 of 5 grades: Grade 1 being land of excellent quality and Grade 5 land of very poor quality. ALC grades 1, 2 and 3a are, from a policy perspective, regarded as Best and Most Versatile (BMV) which affords them a degree of protection in the planning policy framework.

17. Field survey information and analytical data has been used to characterise the soils found on site into one of five soil type categories to inform proposals for mitigation as the construction design.

18. Soil analysis has been interpreted with reference to the Nutrient Management Guide, ADHB/DEFRA 2022.

4 Desktop assessment

4.1 Location

19. The Projects cable route is shown in detail (1:5,000) on the plans in Appendix 1 and 2 and a route overview is shown in **Plate 4-1**. The cable will make landfall just south of Skipsea, East Yorkshire, located over OS National Grid Reference (OSNGR) TA 18045 55268. The route follows a broadly SW alignment passing to the east of settlements Nunkeeling, Catwick and Routh. Before bending around the northern outskirts of Beverley and reaching the Onshore Substation Zone just south of Beverley, between Walkington and Woodmansey. The total route length is approximately 35km.

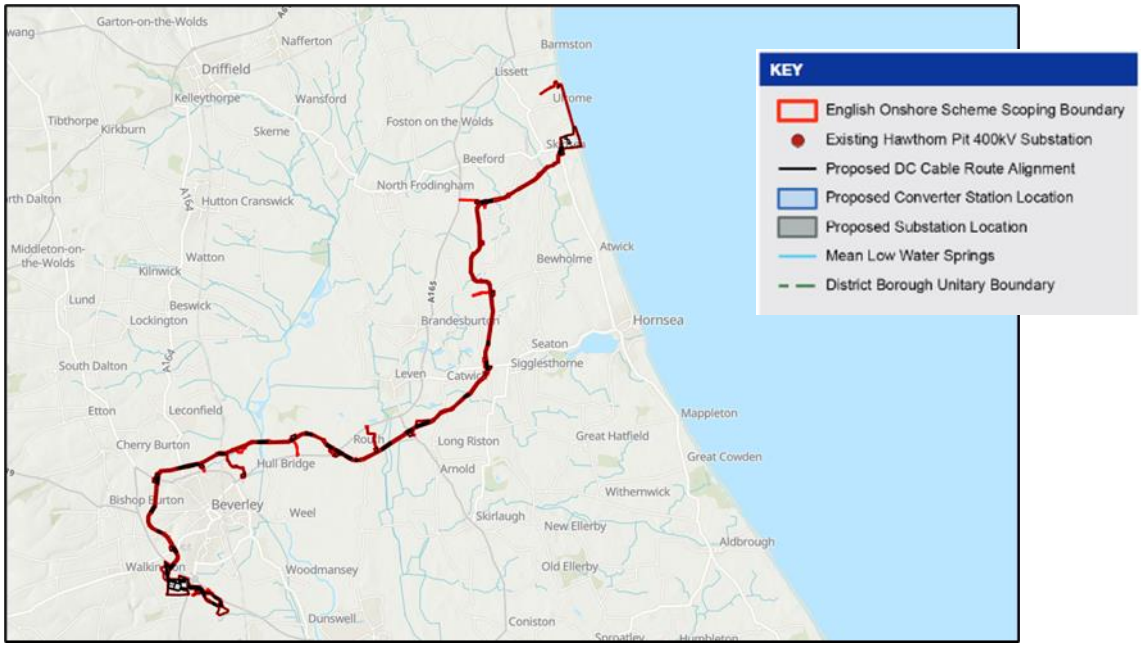


Plate 4-1 Onshore Development Area

(Source: https://ldcltd.maps.arcgis.com/apps/mapviewer/index.html?webmap=588cd3d617e14b9d9bcca90c5600c282)

4.2 Climate and relief

20. Climate data, interpolated from Met Office 1965-1988 agroclimatic datasets, for a selection of auger boring points along the route are shown in **Table 4.1**. These are to be used in the interpretation of ALC to identify the climatic and interactive, such as drought and wetness that are likely to affect cropping flexibility.

21. The Projects route has a moderate annual accumulated rainfall (AAR) ranging from 652mm at landfall and falling to 632mm at Sigglesthorne before rising to 688mm at the Onshore Substation Zone. The Accumulated Temperature (ATO) (January-June) is moderate, ranging from 1,342-1,396 day°C. This rainfall and temperature regime provides a relatively mild and moderately long growing season across the route.

Table 4.1 DBS: Climate Data

AB Point	OS GRID Reference (NZ)	Altitude (m)	Average Annual Rainfall (AAR) (mm/year)	Accumulated temperature (ATO) (Day °C Jan -Jun)	Field Capacity Days (FCD) (Days/year)	Moisture Deficits Wheat (mm)	Moisture Deficits Potatoes (mm)
A16	TA178554	10	652	1377	153	109	101
1	TA174550	8	647	1380	151	109	101
10	TA172544	6	640	1382	149	109	101
20	TA164538	11	644	1377	149	108	100
30	TA156533	20	655	1367	151	106	97
40	TA147529	16	651	1372	150	106	98
50	TA140523	19	654	1369	150	105	97
60	TA141513	20	650	1368	149	106	97
70	TA138504	21	649	1367	149	106	97
80	TA140495	15	643	1374	147	107	98
90	TA146490	18	645	1371	148	106	97
100	TA147480	13	641	1377	146	107	98
110	TA146470	15	640	1376	145	106	98
120	TA145446	7	632	1385	142	107	99
130	TA142452	11	634	1381	142	107	99
140	TA135445	10	635	1383	142	106	98
150	TA127440	8	638	1385	143	106	98
160	TA119435	4	638	1390	144	106	98
170	TA110429	3	639	1392	144	107	99
180	TA102424	2	638	1393	144	107	99
181G	TA100430	3	642	1392	146	106	98

AB Point	OS GRID Reference (NZ)	Altitude (m)	Average Annual Rainfall (AAR) (mm/year)	Accumulated temperature (ATO) (Day °C Jan -Jun)	Field Capacity Days (FCD) (Days/year)	Moisture Deficits Wheat (mm)	Moisture Deficits Potatoes (mm)
190	TA093419	4	642	1392	145	107	99
200	TA084423	3	642	1393	146	107	99
210	TA076429	3	642	1393	147	106	99
220	TA067428	2	641	1394	147	107	99
230	TA057426	2	641	1394	148	107	99
240	TA046425	1	643	1396	150	107	99
250	TA037421	3	648	1394	152	106	98
B20	TA038417	4	649	1393	151	107	98
260	TA028417	8	654	1388	154	105	97
270	TA019414	24	670	1371	157	102	93
280	TA010411	29	672	1366	159	102	92
290	TA009401	32	673	1362	159	102	92
300	TA006392	50	685	1342	160	99	89
310	TA014386	35	676	1359	157	102	92
320	TA019378	48	688	1345	157	100	90
330	TA015369	37	680	1358	156	102	92
X26	TA020366	28	673	1368	154	103	94
X93	TA033369	14	662	1384	151	106	97
X148	TA038358	12	660	1386	148	107	98

22. Land along the route is at field capacity, when underdrainage or agricultural land drains would normally be expected to flow, for 142-160 days (i.e. 4-5 months) in a normal year. Local variability will occur, associated with changes in altitude, proximity to the coast and where local rainfall patterns dictate. Field capacity increases as altitude increases. Lower lying land occupying the section between Monk Drain and Molescroft have lowest number of Field capacity days on the route, around 142 FCD. East of Driffield Road the land rises, reaching a maximum elevation of 50m at plot 26.02a (FCD 160) before falling towards the Onshore Substation Zone. The field capacity period will extend from mid-October to early April. This presents challenges for soil handling and re-instatement, which are discussed later in this report.

23. Moisture deficits (MD) represent the balance between rainfall and potential evapotranspiration calculated over a critical portion of the growing season. For ALC purposes, moisture deficits for winter wheat and potatoes are used to calculate drought limitations. On this route moisture deficits for winter wheat range from 99-109mm and 89-101mm for potatoes. Drought is therefore likely to be a moderate consideration in low lying areas occupied by light textured sandier soils on this route which have low available water capacity.

24. Altitudes range from 0 to 52m Above Ordnance Datum (AOD). A long section of the route is shown indicatively in **Plate 4-2**. The route is generally gently undulating, not limiting ALC grade. Individual borings, west of Beverly, that are located on a slope greater than 7° are agriculturally limited due to the safe access to large machinery and their ALC grade has been adjusted accordingly.

Plate 4-2 DBS Elevation (Indicative AOD(m)).

4.3 Geology

4.3.1 Bedrock

25. From landfall to northwest of Dunnington the route is underlain by chalk of the Rowe Formation, west of Dunnington to the Onshore Substation Zone, south of Beverley, bedrock is chalk of the Flamborough Formation, which comprises of flint-free chalk as opposed to the de-calcified flint bearing chalk of the Rowe formation.

4.3.2 Superficial

26. Superficial deposits across the route exhibit complex variability. The northeastern section is occupied predominantly by glacial till with small inputs of glaciofluvial and alluvial deposits around Skipsea. This drift tended to be very slightly stony and soil derivatives typically medium to heavy textured. Glaciofluvial deposits of predominantly sand and gravel are found between Catwick and Sigglesthorne which may result in slightly lighter borings. Glacial till deposits then dominate the route until Routh and Tickton area where the same glaciofluvial and alluvial deposits are found. The alluvial deposits contain clay, silt, sand and gravel, resulting in heavier profiles. Glaciofluvial deposits occupy the route as it bends around Beverley towards the Onshore Substation Zone.

4.3.3 Soils

27. Soils have been mapped (1:250,000, Sheet 1: Northern England) and described by the Soil Survey of England and Wales and this is shown in **Plate 4-3.**

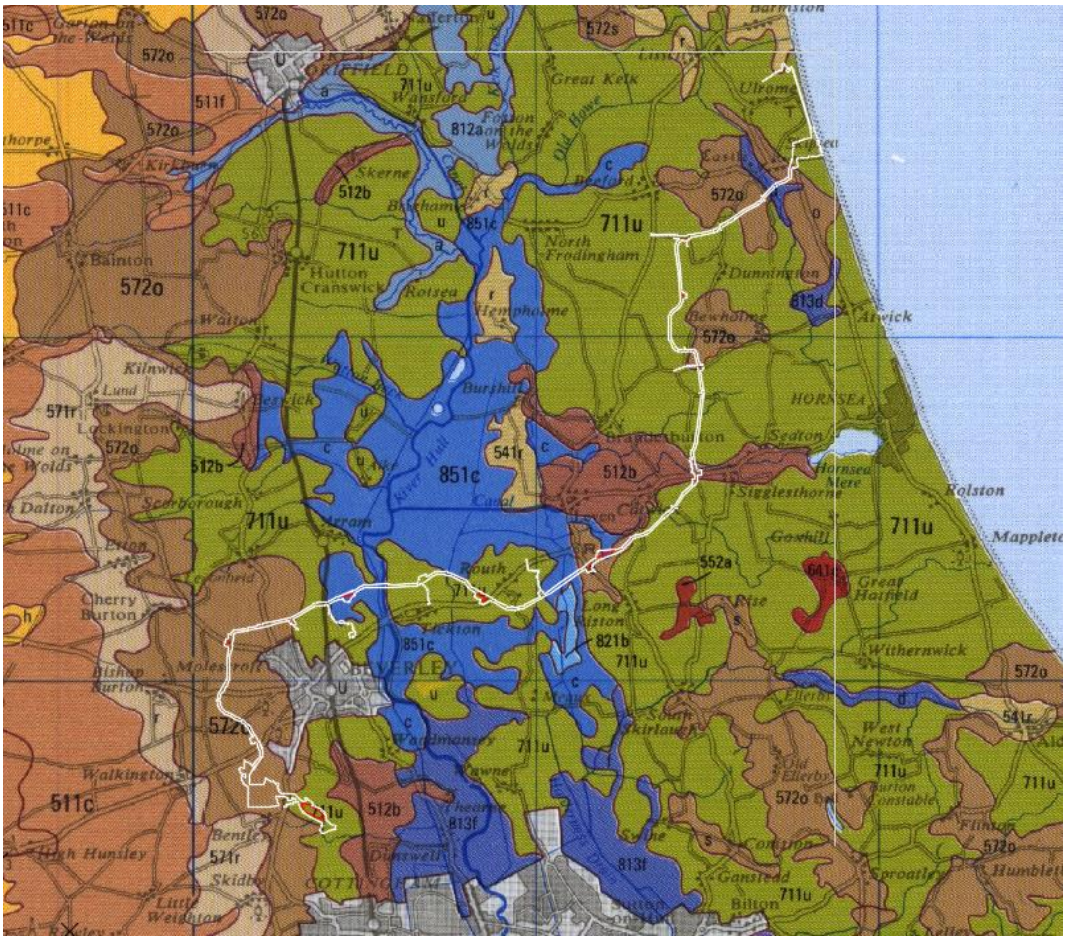
28. The route passes through five major soil associations from the Landfall Zone to the Onshore Substation Zone. Between the Landfall Zone and Sigglesthorne, soils are typically loamy and clayey of the of the Holderness, Burlingham and Fladbury Soil Associations. These soils are seasonally waterlogged and slowly permeable.

29. For a small band across Sigglesthorne the route is underlain by the Landbeach soil association, which consists of permeable, variable calcareous, loamy soils.

30. As the route then bends around Catwick and Riston, soils return to poorly drained, heavy clay soils of the Holderness and Burlingham association. At Routh and west of the River Hull, soils become increasingly organic in the upper layer, typical of the Downholland soil association.

31. West of Ings Rd, Molescroft and between A164 south of Beverly, the route is underlain with a large inclusion of the Burlingham Soil association. imperfect to poorly drained loamy soils that are invariable chalky. Holderness Soil association underlay the far eastern area of the Onshore Substation Zone.

32. Subtle variations occur in soil texture associated with more distinct changes in altitude, relief and parent material leading to slightly more complex soils patterns over short distances, particularly, on sloping land or where fluvioglacial drift occurs. Profile stone content can vary considerably depending on position on the slope, degree of stone weathering within the subsoil, the nature of the superficial drift and proximity of underlying bedrock to the surface.



Source: 1:250,000 Soils Map, Sheet 1 Northern England, Soil Survey

0711u (green) - Holderness	*Slowly permeable loamy and clayey soils on chalky till. Clay content can be as high as 30%. Slight waterlogging.*
0572o (beige) – Burlingham	*Deep loamy soils with slowly permeable subsoils. Chalk can be found at depth.*
0813d (dark blue) – Fladbury	*Deposited by river alluvium, often affected by groundwater with a high risk of flooding. Stoneless soils, high in clay content, and often slowly permeable.*
0512b (brown) – Landbeach	*Coarse calcareous soils often affected by groundwater. Often found at the foot of the Yorkshire Wolds.*
0851c (blue) – Downholland	*Clayey soils with a peaty surface horizon.*

Plate 4-3 DBS Onshore Export Cable Corridor: Published Soils Information

4.4 Land use

33. The predominance of medium to heavy soil textures together with the climatic regime predispose most of the land on this route (76%) to winter arable cropping of which following a wet autumn and spring 15% were newly cultivated. The route is occupied by 6% oil seed rape and 4% potatoes. Grassland occurs sporadically (10%), usually in areas of lower lying relief where the soils are heavier textured, poorly drained and less suited to arable crops, grassland production is used for silage and/or haylage, grazing with livestock. There is a single horse paddock, as well as a dog walking field. Land use along the route is described in the schedule of soil auger borings at Appendix 3a.

34. The remainder of the route (5%) was either unmanaged or along grass margins, a single enclosure is put aside as a SSSI or woodland understood which cable are to be laid by trenchless crossing e.g. HDD, as such these fields were not surveyed. Many farms now use cover crops over winter such as clover, legume mixes or mustard, to provide winter cover, soil protection and to return both nitrogen and organic matter to the soil in spring.

35. The route intersects a number of roads, railways and watercourses where soils resources are likely disturbed or absent.

4.5 Land quality

36. A review of published DEFRA land quality (at a scale of 1:250,000 and 1:10,000 MAGIC website), shows the land in this area to be mapped as predominantly good or moderate quality agricultural land (ALC Grades 2 and 3).

37. Information from the LDC soil survey has been used to provide an indication of likely Agricultural Land Classification (ALC) grading on the route using the method detailed in "Revised Guidelines and Criteria for Grading the Quality of Agricultural Land" (MAFF 1988) and the distribution of ALC grades is shown in Appendix 2 and described in detail at 5.3.

5 Survey Findings

5.1 Soil description

38. Soils have been surveyed and categorised with reference to the soil classification for England and Wales, fully described by Avery (1980) and Clayden and Hollis (1984). This is a general-purpose classification which groups soils that behave have in a similar way in response to normal management practices. A group of soils, or Soil Association, has a limited and defined range of diagnostic properties that differentiate it from other soil types and each Association is subdivided into component soil series. Detailed descriptions of individual soil types are outlined in 'Soils and Their Use in Northern England' (Harpenden 1984).

39. The field survey has identified five undisturbed soil types with characteristics that impact their behaviour during stripping storage, replacement, and reinstatement. These characteristics include soil texture, drainage characteristics, stone content and erosion risk. A further two categories of disturbed soils and areas with no agricultural soil resources has also been mapped. The distribution of soil types on the route is shown in Appendix 1, Plans 1-60 and their key characteristics are described below.

5.1.1 Soil Type 1: Light over medium textured imperfectly drained soils (1.8 Hectares or 0.42% of the soils on the route)

40. This soil type occurred at two single boring locations on the route. Due to its isolated occurrence, this soil type was not selected for further trial pit examination. However, the project should be aware of the presence of these inclusions of lighter material as their differing characteristics will necessitate these soils to be stripped and stored separately should they occur within extensive tracts of heavier material. This soil type occurs at AB 5 and 17, within 2k of the coast and are shown in yellow in Appendix 1. This soil type is occupied by distinct sandy profiles persisting to depth. These profiles occur within areas of Burlingham Soil association, however better reflect overlying superficial geology of coarse-grained lacustrine deposits laid down in complex patterns.

41. Profiles were characterised by a dark brown or dark grey-brown (10YR 3/2 or 3/3) medium sandy loam topsoil with a mean depth of 31cm (range 28-34cm). Topsoil stone content was low and less than 5% of small angular and subangular rounded de-calcified flint and hard sandstone gravels.

42. Subsoils were brown or dark brown loamy medium sand / medium sand containing <1% stones, the boundary between the topsoil and subsoil was often indistinct, however exhibit subtle differences in soil texture. Topsoil depths are reported in Appendix 1, 3a and 3b.

43. Sandy profiles on this route are freely to imperfectly draining, absent of slowly permeable clays within 80cm depth. The combination of light textured topsoil, number of field capacity days and free to imperfect drainage leads to a Wetness Class of I.

44. This soil type occupied land of good quality ALC subgrade 3a. Exclusively limited by soil droughtiness. The light soil texture within this group encourages their susceptibility to wind and water erosion, care should be given to avoid bare stockpiles and control surface water flows in these areas.

5.1.2 Soil Type 2: Medium textured imperfectly drained soils (20.7 Hectares or 4.93% of the soils on the route)

45. This soil type was found intermittently along the route predominantly Sigglesthorne to Tickton and around the Onshore Substation Zone south of Beverley. Minor inclusions occur south of Skipsea and north of Beverley. A typical soil profile is described in Appendix 4, TP1.

46. Profiles were characterised by a topsoil with dark greyish brown and very dark greyish brown medium clay loam or sandy clay loam, with the occasional boring more silty or slightly organic. There is a mean topsoil depth of 32.2cm (range 21-56cm). Topsoil depths were relatively consistent within each field and were distinct from the underlying subsoil. Topsoil stone content was typically low (<1-2%) along the route with flints and small rounded sandstones. South of Beverley soils contained a greater stone contents (10-20%) with flints and chalks present, indicative of the Burlingham Soil Association.

47. Subsoils were pale brown in colour and increasingly sandy clay loam or medium sandy loam textured containing low (1-2%) hard sandstone gravels and the same Burlingham borings having high chalk content to depth (30-50%).

48. These soils were typically freely to imperfectly drained, typically absent of slowly permeable layers within 50cm. The combination of medium textured topsoil and upper subsoil, number of field capacity days and free to imperfect drainage leads to a Wetness Class of I or II. Borings containing sandy clay loam or medium clay loam to depth, were often gleyed resulting in a Wetness Class of III or on one occasion IV.

49. This soil type occupied very good quality land of ALC grade 2 quality and good quality ALC subgrade 3a, limited by drought and occasionally wetness where gleyed subsoils were present. South of Beverley these soils were differently limited by high topsoil stone content.

5.1.3 Soils Type 3: Medium to heavy textured imperfect to poorly drained soils (137.0 Hectares or 32.61% of the soils on the route)

50. This soil type occurred intermittently along the route but predominantly around Beverley. A typical soil profile is described in Appendix 4, TP2 and is reflective of the Holderness and Burlingham Soil Associations.

51. Profiles were characterised by a dark greyish brown medium clay loam or sandy clay loam. Topsoils had a mean depth of 30.0cm (range 21-40cm). Topsoil depths were relatively consistent within each field and a with a clearly identifiable boundary into the subsoil.

52. Topsoil stone content was generally low (1-5%), with several borings slightly higher (5-10%) and one particular boring measuring very high topsoil stone content (10-20%). Stones were predominantly flints and sandstone gravels, with higher content of chalk fragments around Beverley. On occasion these soils may be calcareous, typical of the Burlingham soil associations.

53. Subsoils were strong brown or yellowish-brown heavy clay loam. Subsoils often contained distinct mottling within 40cm and were considered slowly permeable however were typically not considered slowly permeable. Resulting in soils that were typically impeded to poorly drained (Wetness Class III/IV), a few borings along the route had imperfect drainage (Wetness Class II), found predominantly between Sigglesthorne and Tickton.

54. The combination of medium textured topsoil, poor drainage and number of field capacity resulted in predominantly ALC subgrade 3a and 3b. Where subsoils were better drained, soils were graded as ALC Grade 2. All borings were limited by wetness, on two occasions slope or stone content were the dominant limitation.

5.1.4 Soil Type 4: Heavy textured poorly drained soils (240.6 Hectare or 57.28% of the soils)

55. This soil type was the dominant soil type found throughout the route. A typical soil profile is described in Appendix 4, TP3 and TP4 and represents of the Holderness and heavier variants of the Burlingham Soil Association.

56. Profiles were characterised by dark greyish brown medium clay loam, sandy clay loam and silty clay loam with a mean depth of 29.9cm (17-45cm range). Topsoil depths were relatively consistent within each field.

57. The topsoil stone content was generally low (1-5%) and composed of rounded hard sandstone, flints and quartzite pebbles. With the exception of 15.03-15.05 that contained very high (10-40%) flint, chalk and sandstones.

58. Underlying subsoils were variable, dark yellowish-brown or brownish grey heavy clay loam/clay. Subsoils were distinctly mottled and gleyed and typically with a slowly permeable layer almost immediately below the topsoil and usually within 35-45cm, providing a Wetness Class of IV for the majority of this soil type.

59. The combination of heavy textured topsoils and impeded to poorly drained subsoils results in moderate quality land of ALC subgrade 3b quality that is ALC limited by moderate to severe wetness and workability issues.

5.1.5 Soil Type 5: Organic and organic mineral soils (13.4 Hectares or 3.19% of the soils)

60. This soil type occurs intermittently along the route but predominantly around Routh and Riston Grange. A typical soil profile is described in Appendix 4, TP5 and is reflective of the Downholland Soil Association. They account for around 3% of the soils on the route and found primarily adjacent to watercourses. This soil type is mapped in orange in Appendix 1.

61. Profiles comprised of a near stoneless organic silty clay loam or organic sandy clay loam topsoil with a mean depth of 34cm (range 28-40cm). Auger borings 244 and 243, located in the SSSI comprised of peat topsoil.

62. Soil profile drainage was variable across this soil type, profiles were both affected by high groundwater and others were perfectly drained (Wetness Class I) absent of gleying or mottling.

63. This soil type occupied agricultural land of good, moderate and poorer quality (ALC grade 2 and subgrades 3a/3b) being limited by moderate wetness and workability and flood risk issues.

5.1.6 No soil resources (6.6 Hectare or 1.56 % of the route)

64. This category includes non-agricultural land impacted by the route and is mapped in grey in Appendix 1. This includes numerous roads, rails, watercourses, tracks, and verges intersecting the route. These areas, where present, have no definable soil resource and if disturbed should be stripped separately.

5.1.7 Un-surveyed (3.1 Hectare or 0.75 % of the route)

65. This category includes a small amount of land impacted by the route and is mapped in pink in Appendix 1. This is occupied by woodland at 10.02/10.03 and to the east of 29.07 that are not to expected to be subject to soil handling procedures.

66. The distribution of soil types on the Projects cable route is summarised in **Table 5.1**.

Table 5.1 Onshore Export Cable Corridor: Summary of Soil Types

Soil Types	Total Area (ha)	% Soils	% Route
Light-Medium	1.8	0.43	0.42
Medium	20.7	5.00	4.88
Medium-Heavy	137.0	33.07	32.31
Heavy	241.4	58.27	56.94

Soil Types	Total Area (ha)	% Soils	% Route
Organic	13.4	3.23	3.16
Subtotal (total soil resource area)	**414.3**	**100.00**	-
No soil resource	6.6	-	1.55
Un-surveyed	3.1	-	0.74
Total	**424.0**	**100.00**	**100.00**

5.2 Soil analysis

67. Topsoil analysis results alongside findings and recommendations are shown on the plans in Appendix 5.

5.2.1 pH

68. The optimum pH for soils in arable use is 6.50 and for grassland is 6.00. The majority of the route measured a pH exceeding 6.5, adequate for both grassland and arable use. There were 18 fields on the route with a marginally pH (6.0-6.5) for which a maintenance application of lime is recommended for arable use. Only four of these fields were measured below 6.0, associated with use for horse paddocks likely absent of lime applications. This reflects the moderately intense farming system on the route involving regular maintenance applications of lime. 104 fields are considered slightly alkaline and likely variably calcareous, with pH's measuring in excess of 7.0 up to 8.4, these were predominantly found across the Wolds and also on the floodplain of the River Ouse and reflect the calcareous (i.e. chalk) bedrock and glacial till deposits beneath a large proportion of the route.

5.2.2 Available Phosphorus, potassium and magnesium

69. Available phosphorus concentrations largely achieved the target index of 2-3 across the route, with 107 fields recording an Index of 2 or 3. A remaining 47 fields were found below the target Index measuring Index 1 or 0, considered deficient. A total of seven fields were found to exceed the target measuring an Index of 4. The results indicate that farmers on the route are fertilising responsibly however some fields would benefit from phosphate application.

70. Levels of available potassium on the route were generally low with 105 fields deficient, at or below Index 2-. The remainder of the fields achieved a target index of 2+ or 3. Potassium tends to be more soluble within the soil and is easily lost, or leached, in water moving through the profile. Potassium is also readily removed from the soil in crop offtake, to a greater extent than phosphorus, when crops are harvested. Results suggest that farmers are managing soil potassium slightly below the economic optimum as any surplus in the soil is susceptible to leaching, particularly on lighter soil.

71. Available soil magnesium was generally satisfactory throughout the route, a reflection of their increased availability at slightly alkaline pH. A total of four fields measured deficient at or below Index 1. The majority of the fields (153 fields) were satisfactory with an Index of 2 or 3 whilst four fields measured as high with Index level at 4.

5.2.3 Organic matter

72. The topsoil organic matter status on this route is generally low with 110 fields or 68% of the route measuring less than 5% organic matter, however none of these fields were critically low with less than 3% organic matter. A total of 46 fields were considered satisfactory with between 5-10% organic matter. While 4 fields were considered to be organic, with organic matter content exceeding 10%, and one field located in the SSSI had an OM content of 20% considered to be a peat. The soil organic matter status across the route is a reflection of long-term arable farm and annual cultivations and trend towards the removal of organic residues. Organic matter is important for soil nutrient recycling, respiration, structure, water retention, stability and microbiological activity.

5.2.4 Particle Size Distribution (PSD)

73. Topsoil across the route is variable, a reflection of the complex distribution of superficial deposits. The topsoil across the route is 12.4% light textured containing up to 18% clay, these soils are susceptible to water and wind erosion which should be considered through the management of soil handling during construction. The dominant topsoil texture across the route is medium clay loam, occupying 65.2% of fields and containing between 18-27% clay. A remaining 19.3% of the topsoil on the route contains over 27% clay, considered heavy textured, particularly susceptible to structural damage during soil handling. The remaining 3.1% of fields are considered to have organic topsoils.

Table 5.2 DBS Onshore Export Cable Corridor: Summary of Topsoil texture across the route (according to Laser PSD analysis)

	Number of Fields	% Fields
Light (<18% Clay)	20	12.4
Medium (18-26% Clay)	105	65.2

	Number of Fields	% Fields
Heavy (>26% Clay)	31	19.3
Organic (>10% Organic matter)	5	3.1

5.3 Agricultural Land Classification

74. The principal physical factors influencing land quality and agricultural production are climate, particularly temperature and rainfall; site, including gradient; micro-relief; flood risk and soil characteristics such as texture, structure, depth, stoniness and erosion potential.

5.3.1 Survey limitations

75. The survey corridor is approximately 75m wide, locally adjusted, and standard ALC mapping is typically completed on a 100m grid. ALC grading relies on interpolation of surrounding auger borings to be definitive. This means that ALC grades should be regarded cautiously as localised pattern variability in the soils cannot be accurately mapped to either side of a linear corridor.

5.3.2 Climatic limitations

76. Climate has an overriding influence on crop production and hence land flexibility and quality. The combination of rainfall and temperature shown in **Table 4.1** indicates a mild climatic regime and places no limitations on cropping flexibility.

5.3.3 Site limitations

77. Gradients on the route are generally slight (1-7°), do not restrict machinery access or land workability and impose no limitations to ALC grade. There are localised steeply undulating slopes, measuring 7-11°, that exert limitation to ALC.

78. Land close to watercourses, on the flood plain or at major ditch crossings are prone to localised flooding and ALC grade has been moderated, by one grade/subgrade, in these areas.

5.3.4 Soil limitations

79. Topsoil and subsoil depths on this route were generally good and typical of agricultural land in this geographical area. Soil profiles were adequate for continuous arable, or grass production and depth poses no limitation to ALC grade.

80. Topsoil and subsoil stone content was generally low (<5%), predominantly comprising of small, occasionally medium, hard semi-rounded gravels, flints or chalks. Stonier soils with significant levels of hard flints in the topsoil (5-20%) were found between Nunkeeling and Riston Grange leading to minor limitations to ALC to grade 2 and subgrade 3a. Further increases in stone content (20%+) were found to the west of Beverley.

81. Particle size distribution (PSD) analysis for the topsoil on the route together with hand textures in the field confirmed broadly medium texture sandy loam and sandy silt loam (Soil type 1, 2) and clay loam in texture, ranging between, medium clay loam (Soil type 3) and heavy clay loam (Soil type 4).

82. Analysis for pH shows that the topsoil is near neutral and is locally calcareous which provide further amelioration to soil structure providing further improvement on ALC for those free to imperfectly drained soils with medium to heavy textured topsoil of Soil type 2,3 and 4.

83. The slow permeability of clayey subsoils in soil types 3 and 4 lead to imperfect to poor soil drainage and creates potential for at least seasonal perched water table effects (Wetness Classes II, III and IV). Seasonal wetness in the surface layers of the soil profile is an overriding limitation to plant growth in these soil types reducing productivity, moderating yields and affecting the range of crops that may be grown.

84. Better drained profiles of soil type 1 and 2 were absent of slowly permeable layers, however their primary limitation resulted from topsoil stone content and drought. Topsoil stone content in this soil type recorded between 3-10% for the majority of the route and 10-20% around the Onshore Substation Zone. Those at or above 5%, impose a mechanical limitation to the land with stones acting to impeded crop establishment and growth, harvesting, as well as difficulty in cultivations and increased wear and tear to machinery. Topsoil stone content exert a ALC limitation of grade 2.

5.3.5 Interactive limitations

85. The physical limitations which result from the interactions between climate, site and soil are profile wetness, droughtiness and erosion. This area has a low to moderate annual rainfall and the soils will typically be at field capacity, when land drains would normally be expected to flow, for 123-181 days per year, i.e. 4-6 months in a typical year.

86. Soil wetness expresses the extent to which excess water imposes restrictions on crop growth, workability and cultivations. The slow permeability in the upper subsoil, often immediately below the topsoil, below a depth of 35-70cm, as a result of coarse structure and clayey textures, leads to soil Wetness Classes of II-IV. This wetness class, together with clayey topsoil textures, has a moderating effect to ALC grade 2 (Wetness Class II), subgrade 3a (Wetness Class III) and subgrade 3b (Wetness Class IV) in soil types 2- 5.

87. Soil droughtiness indicates the degree to which a shortage of soil water influences the range of crops that may be grown, and the level of yield which may be achieved. Summer moisture deficits are 87-111mm for wheat and 74-104mm for potatoes, lead to slight to moderate drought limitation in lighter textured and stony profiles of soil types 1 and 2 to ALC grade 2 and subgrade 3a.

88. Soil type and texture on this route, together with a gently undulated landform mean that soil erosion by wind or water does not significantly limit agricultural land quality

5.3.6 Agricultural Land Classification Grades

89. The distribution of ALC grades on the route is shown in Appendix 2, Plans 1-57 and summarised in **Table 5.2.** They are described as follows.

5.3.7 Grade 2: Very good quality agricultural land (18.0 Hectares or 4.28% of the agricultural area

90. This grade of land occupied approximately 18.0ha or 4.28% of the route and is predominantly occupied by soil types 2, 3, and 5.

91. The land is free to imperfectly drained typically absent of slowly permeable layers occurring within 80cm (Wetness Class I/II), however on occasion Wetness Class III where slowly permeable layer occur between 50-80cm. This land is limited by a combination of soil wetness, soil droughtiness and topsoil stone content. Elsewhere where topsoil stone content is below 5%, medium textured soils of soil type 3 and soil type 5, and occasionally soil type 2, in combination with relatively high moisture deficits in certain areas of the route impose a slight droughtiness limitation to ALC Grade 2.

92. This land is of very good quality and is BMV. It is capable of producing consistently high yields of a wide range of agricultural crops including cereals, oilseed rape, root crops and/or grass.

5.3.8 Subgrade 3a: Good quality agricultural land (51.0 Hectares or 12.14% of the agricultural area)

93. This grade of land occupied approximately 51.0 ha or 12.14% of the route. This grade of land is occupied by soils from all soil types on the route. It is limited for a number of factors, depend on the soil characteristics, inclusive of soil droughtiness, soil wetness and stone content.

94. This grade is occupied predominantly by soil type 3, medium textured soil with impeded drainage (Wetness Class III) resulting in a primary limitation of soil wetness and workability. In soil types 1 and 2, light to medium soil textures, alongside high stone content promote profiles with limited water holding capacity, exert a moderate soil droughtiness limitation to ALC grade.

95. This land is of good quality and is BMV. It is capable of producing consistently high yields of a wide range of agricultural crops including cereals, oilseed rape, root crops and/or grass and will be suited to spring cropping. In wetter years, the land in soil type 3 and 4 will be prone to wetness and land access issues in late autumn and early spring. Whilst in drier years, the land in soil type 1, 2 and 5 are likely to be prone to droughtiness, instigating issues with crop emergence and irrigation requirements.

5.3.9 Subgrade 3b: Moderate quality agricultural land (345.8 Hectares or 82.32% of the agricultural area)

96. This grade of land is the dominant grade of the route; it is predominantly occupied by heavy clay soils of soil type 4 and less commonly by soil type 3.

97. The land is limited in this grade predominantly by soil wetness and workability (Wetness Class IV) due to slowly permeable layers occurring immediately below the topsoil.

98. There are isolated borings at 242 and X138 of soil type 2 where climatic parameters in combination with light stoney soils predispose this land to a severe drought limitation to ALC subgrade 3b.

99. Land within subgrade 3b is of moderate quality and suited to a relatively narrow range of mainly winter sown combinable crops and grassland. In wet years, this land will be less flexible than subgrade 3a and crops are likely to suffer damage from surface waterlogging and require careful timing of cultivations. The yield and quality of combinable crops are likely to be good in most years.

5.3.10 Urban (5.3 Hectares or 1.25% of the route)

100. This category of land occupies areas of the route that cross roads and tracks along the route. It occupies just over 5 ha of land in total and is coloured in red in Appendix 2.

5.3.11 Non-Agricultural (6.4 Hectares or 1.52% of the route)

101. This category occupies areas of the route that cross major water courses inclusive of: River Hull, Holderness Drain, Meaux Drain, and Monk Dike. This category also includes two woodlands, one at plot 10.02/10.03, the other east of 29.07, and one SSSI found at 21.08. They are mapped in orange in Appendix 2.

102. The distribution of ALC grades on the DBS Onshore Export Cable Corridor is shown in **Table 5.3**.

Table 5.3 DBS Onshore Export Cable Corridor: Summary of ALC grades

ALC Grade	Total Area (ha)	% Agricultural	% Route
Grade 2	17.8	4.32	4.20

ALC Grade	Total Area (ha)	% Agricultural	% Route
Subgrade 3a	50.8	12.32	11.98
Subgrade 3b	343.8	83.36	81.08
Subtotal (total agricultural area)	**412.4**	**100.00**	**-**
Urban	5.3	-	1.24
Non-agricultural	6.4	-	1.50
Total	**424.0**	**100.00**	**100.00**

5.4 Conclusion

103. Soils on the DBS Onshore Export Cable Corridor are made up of predominantly fine loamy clay soils (Soil type 3 and 4), these soils are medium to heavy textured overlying impeded to poorly drained subsoils. These soils are cohesive and when wet are susceptible to smearing and compaction. They are likely to reach their lower plastic limit after rainfall at most times of the year.

104. Isolated areas of the route (5%) were found to be underlain with sandier profiles, light to medium textured, with less than 26% clay. These soils were found predominantly between Sigglesthorne and Tickton, with minor inclusions to the south of the proposed Onshore Substation Zone, north of Beverly and to the south of Skipsea. These soil profiles are better drained and likely to be suitable for soil stripping earlier or later in the year than heavier soils of Soil Type 3 and 4.

105. The majority of the route is occupied by moderate quality land of ALC subgrade 3b, however there are isolate areas of better quality ALC subgrade 3a and Grade 2. Limitations were dictated predominantly by soil wetness due to poorly draining clay subsoils. Surveys were conducted exclusively within the 75m wide linear corridor and as such interpolation of localised pattern variability within the wider field are limited.

Appendices

Appendix 1 Soil Type Distribution

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	1
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
0.01E	7.1	16	2	178	2-	115	3	4.9	48	28	24	Medium Clay Loam	43	18	32.3
0.01W	7.3	26	3	232	2+	131	3	5.5	45	28	27	Heavy Clay Loam	35	34	34.5
0.02	7.7	16	2	140	2-	111	3	4.7	43	30	27	Heavy Clay Loam	30	24	28.3
0.02a	7.8	16	2	196	2+	76	2	4.7	48	28	24	Medium Clay Loam	34	31	32.5
TP3									50	24	26	Medium Clay Loam			
TP3 USS									30	32	38	Clay			
TP3 LSS									42	30	28	Heavy Clay Loam			

Comments

Recommendation

METRES
50m 0m 50m 100m

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	1
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REVISION	C	DATE	04/10/2024		
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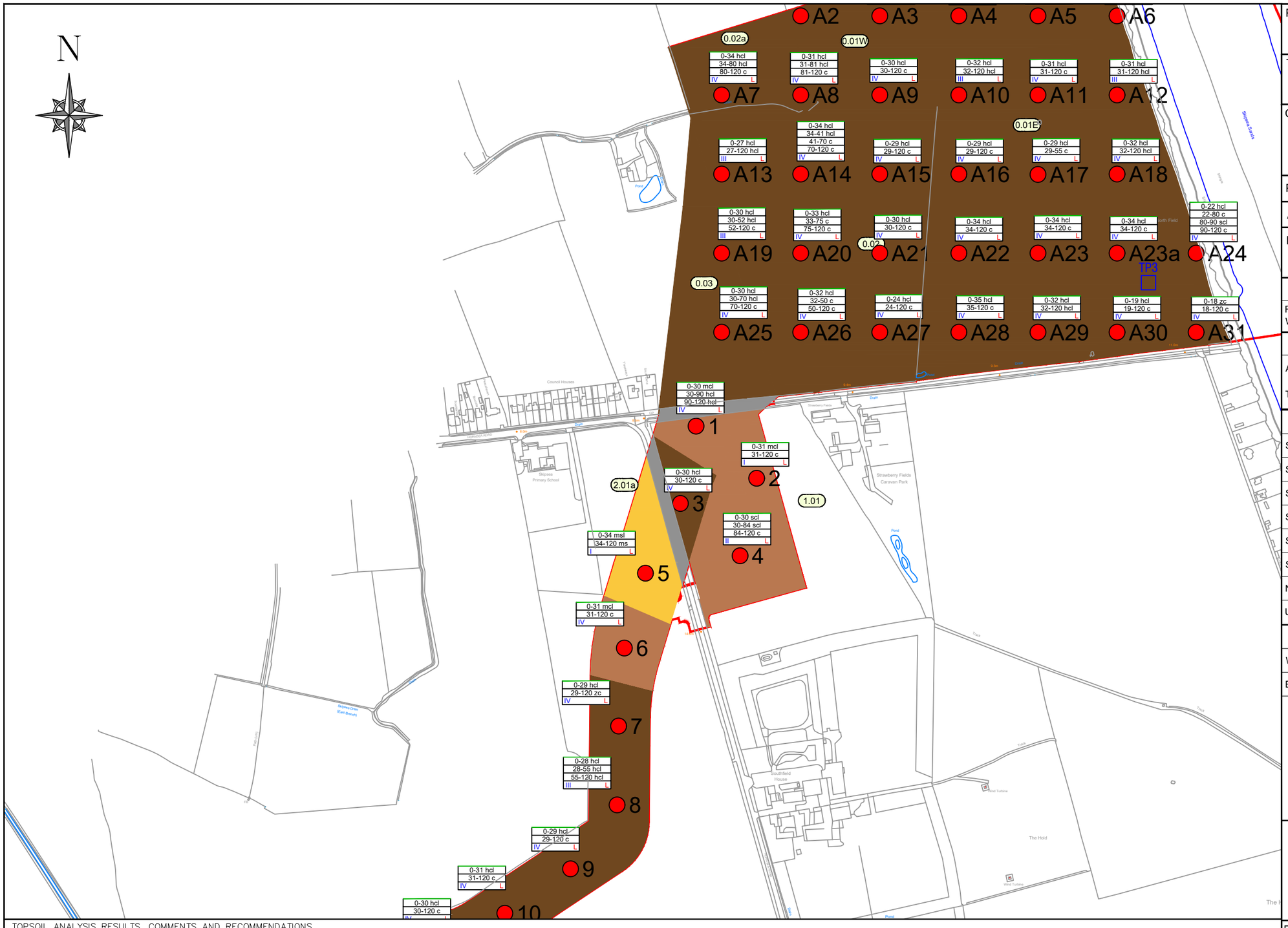

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	2
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
0.03	7.6	20	2	149	2-	97	2	5.1	47	28	25	Medium Clay Loam	34	27	31
1.01	6.8	18	2	113	1	107	3	4.5	58	23	19	Sandy Clay Loam	31	30	30.3
2.01a	7.6	21	2	178	2-	121	3	4.8	42	33	25	Medium Clay Loam	34	34	34

Comments

Recommendation

METRES
50m 0m 50m 100m

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
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C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	2
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REVISION	C	DATE	04/10/2024		
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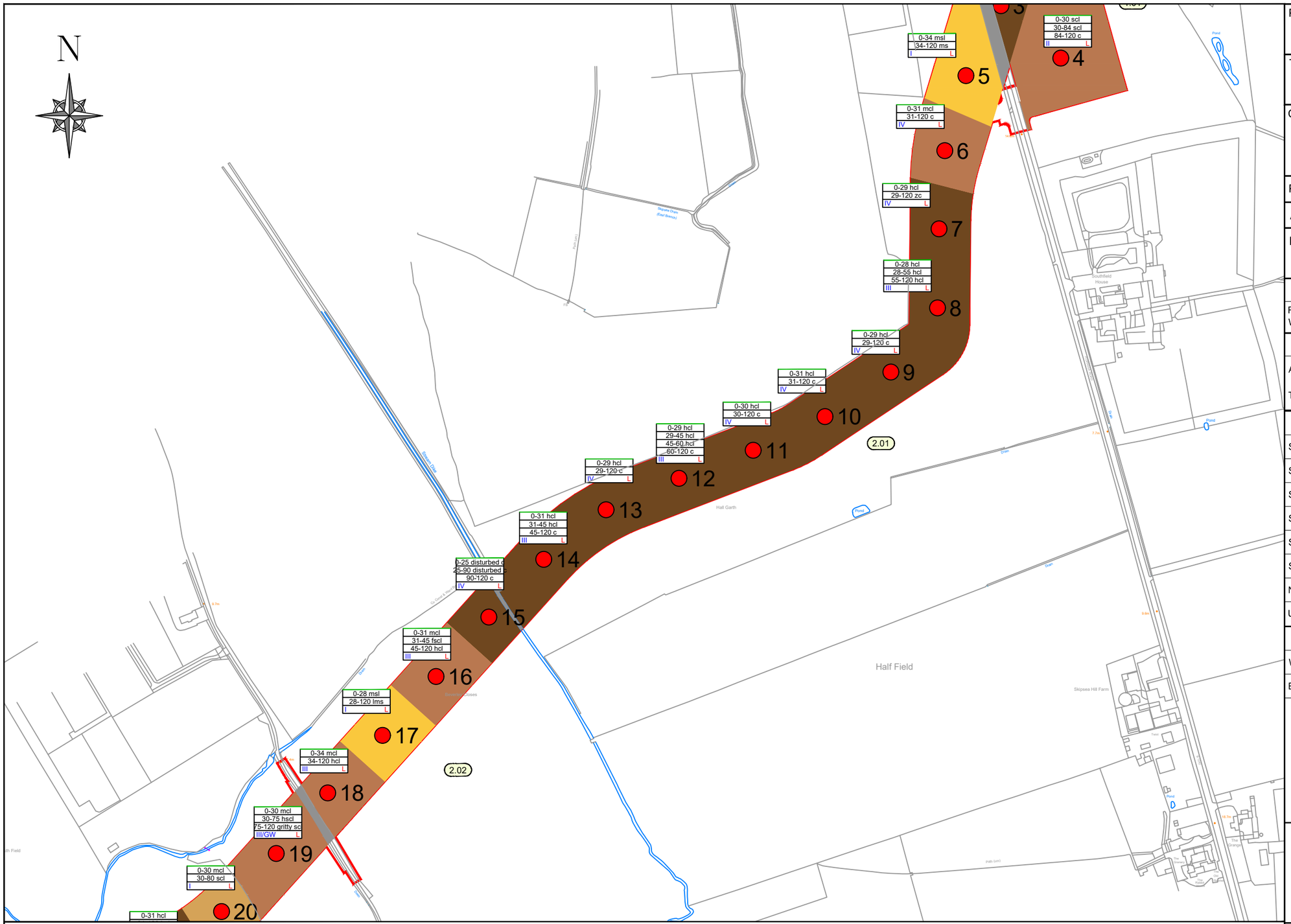

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
2.01	7.6	13	1	185	2+	100	2	4.7	54	23	23	Sandy Clay Loam	31	29	29.8
2.02	7.7	25	2	249	3	96	2	4.8	69	14	17	Sandy Loam	34	25	29.5

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	3
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	3
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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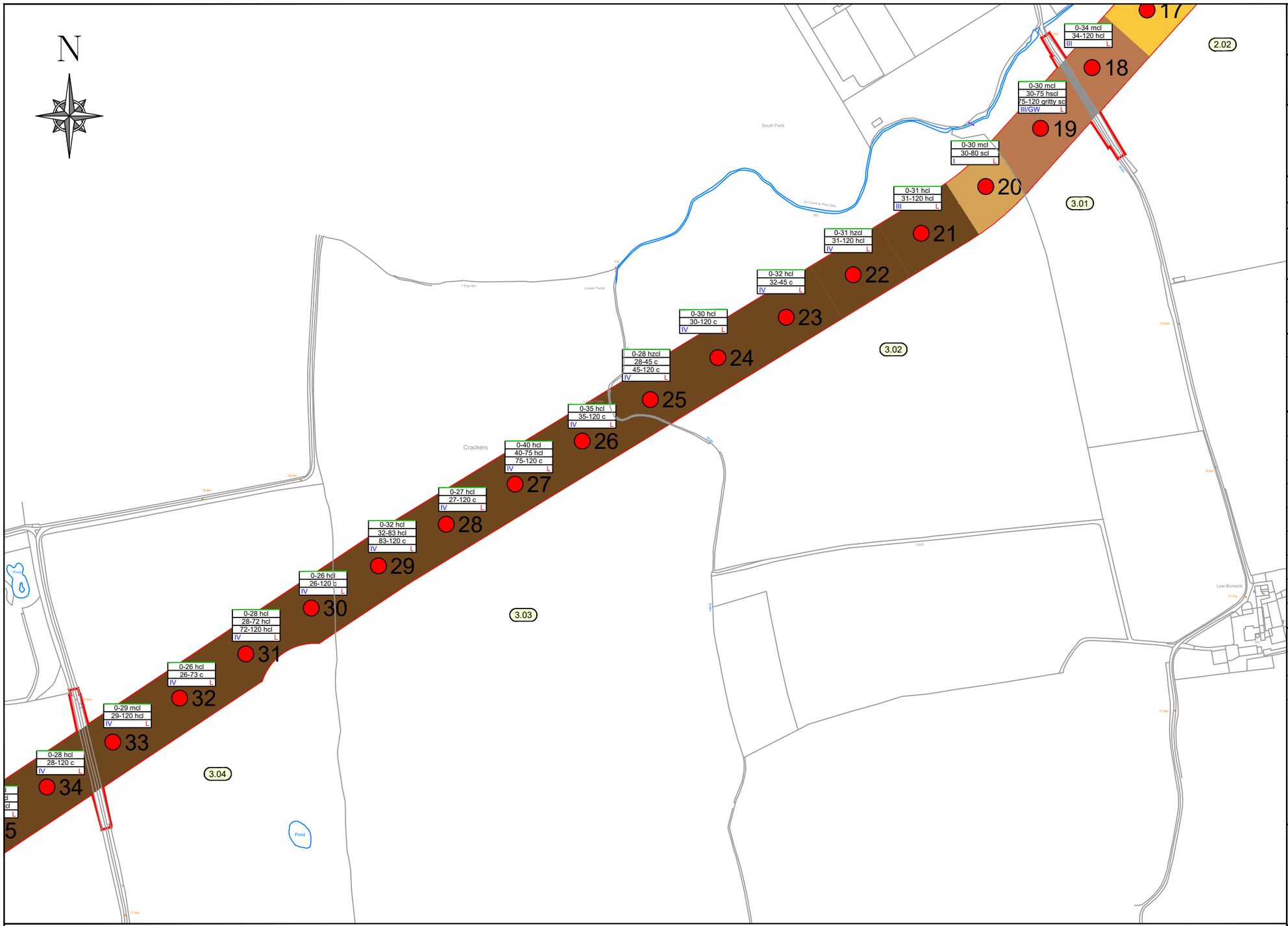

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	4
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
3.01	6.7	12	1	144	2-	62	2	4.1	58	17	15	Sandy Loam	30	30	30
3.02	7	13	1	132	2-	128	3	5.2	52	24	24	Sandy Clay Loam	32	28	30.3
3.03	6.4	12	1	113	1	71	2	3.6	43	30	27	Heavy Clay Loam	40	27	33.5
3.04	6.3	9	0	76	1	81	2	4.2	50	27	23	Medium Clay Loam	29	26	27.3

Comments

Recommendation

METRES
50m 0m 50m 100m

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REV	AMENDMENT	DATE
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B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE A3	SHEET 4
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REVISION	C	DATE	04/10/2024
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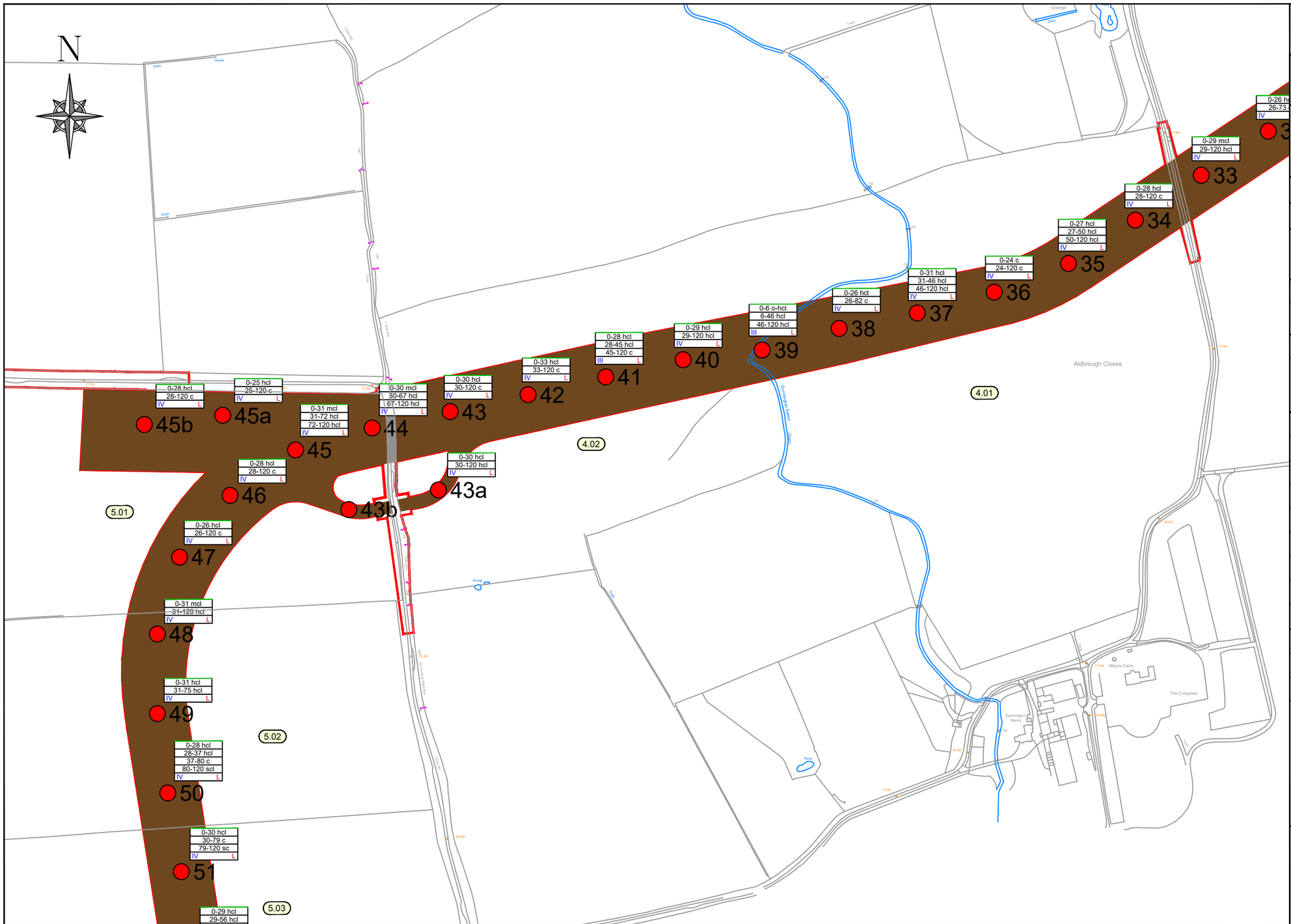

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	5
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
4.01	7.1	14	1	125	2-	117	3	4.9	50	25	25	Medium Clay Loam	31	24	27.2
4.02	7.6	26	3	226	2+	89	2	3.9	43	33	24	Medium Clay Loam	33	28	30
5.01	6.3	19	2	147	2-	80	2	4.1	53	25	22	Sandy Clay Loam	31	25	28.1
5.02	6.2	20	2	140	2-	91	2	4.2	52	27	21	Sandy Clay Loam	31	28	30

Comments

Recommendation

METRES
50m 0m 50m 100m

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	5
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_SoilType.dwg				

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
5.03	6.7	55	4	158	2-	151	3	4	54	25	21	Sandy Clay Loam	30	29	29.5
5.04	6.6	27	3	100	1	121	3	3.6	54	25	21	Sandy Clay Loam	30	27	28.7
5.05	6.5	26	3	179	2-	123	3	3.8	48	28	24	Medium Clay Loam	39	26	34.3

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	6
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

Land Drainage Consultancy Ltd
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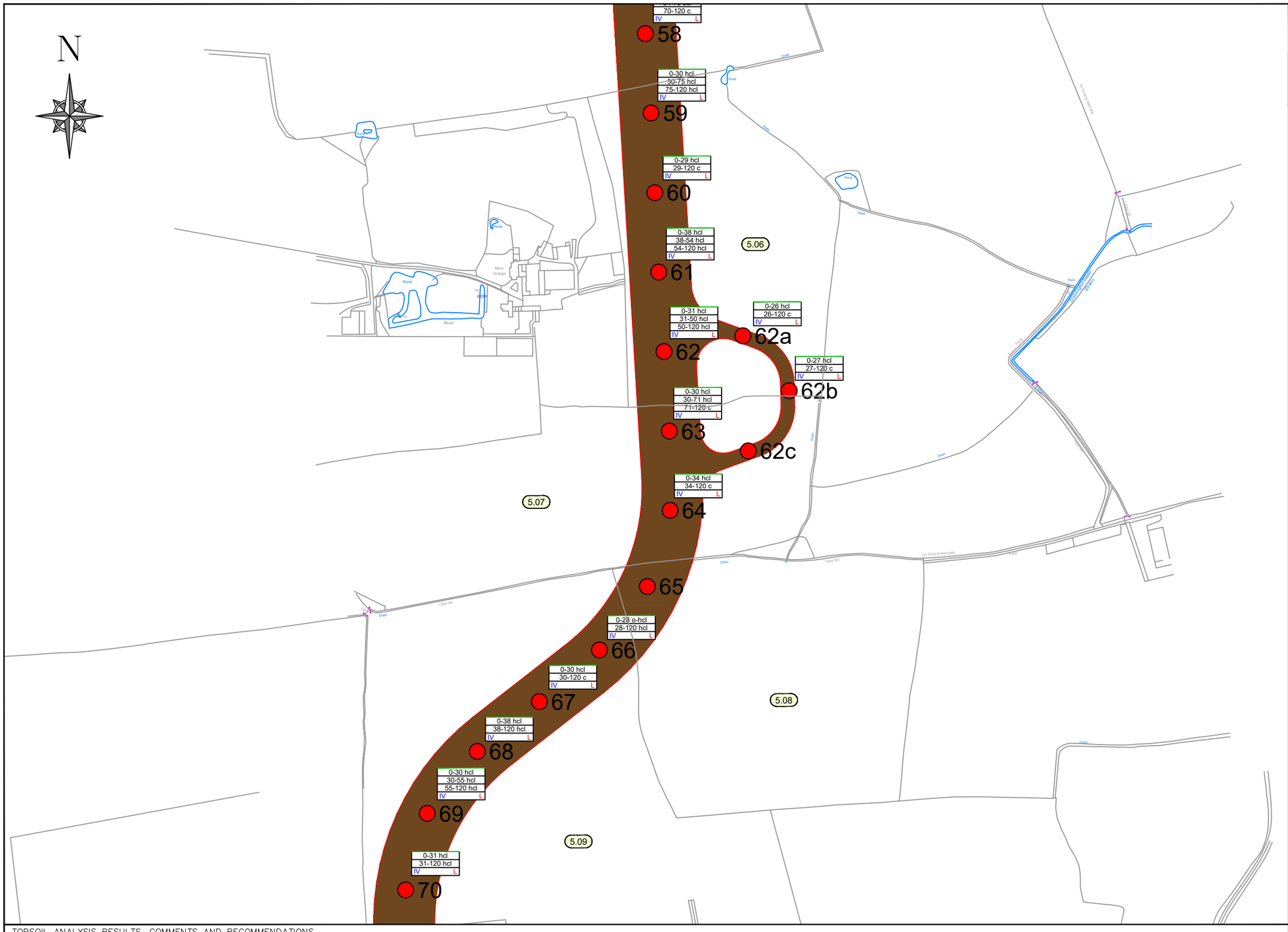
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	6
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_SoilType.dwg				



PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT: RWE

PLAN NUMBER	7
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION
SOIL TYPE 1: LIGHT-MEDIUM
SOIL TYPE 2: MEDIUM
SOIL TYPE 3: MEDIUM-HEAVY
SOIL TYPE 4: HEAVY
SOIL TYPE 5: ORGANIC
SOIL TYPE 6: DISTURBED
NO SOIL RESOURCE
UNSURVEYED

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
5.06	6.9	24	2	179	2-	113	3	4.3	44	30	26	Medium Clay Loam	38	26	30.2
5.07	7.2	28	3	197	2+	117	3	4.3	54	26	20	Sandy Clay Loam	34	27	30.3
5.08	6.1	15	1	75	1	87	2	7	43	30	27	Heavy Clay Loam	31	31	31
5.09	6.6	18	2	149	2-	130	3	4	44	31	25	Medium Clay Loam	38	28	31.4

Comments

Recommendation

METRES
50m 0m 50m 100m

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	7
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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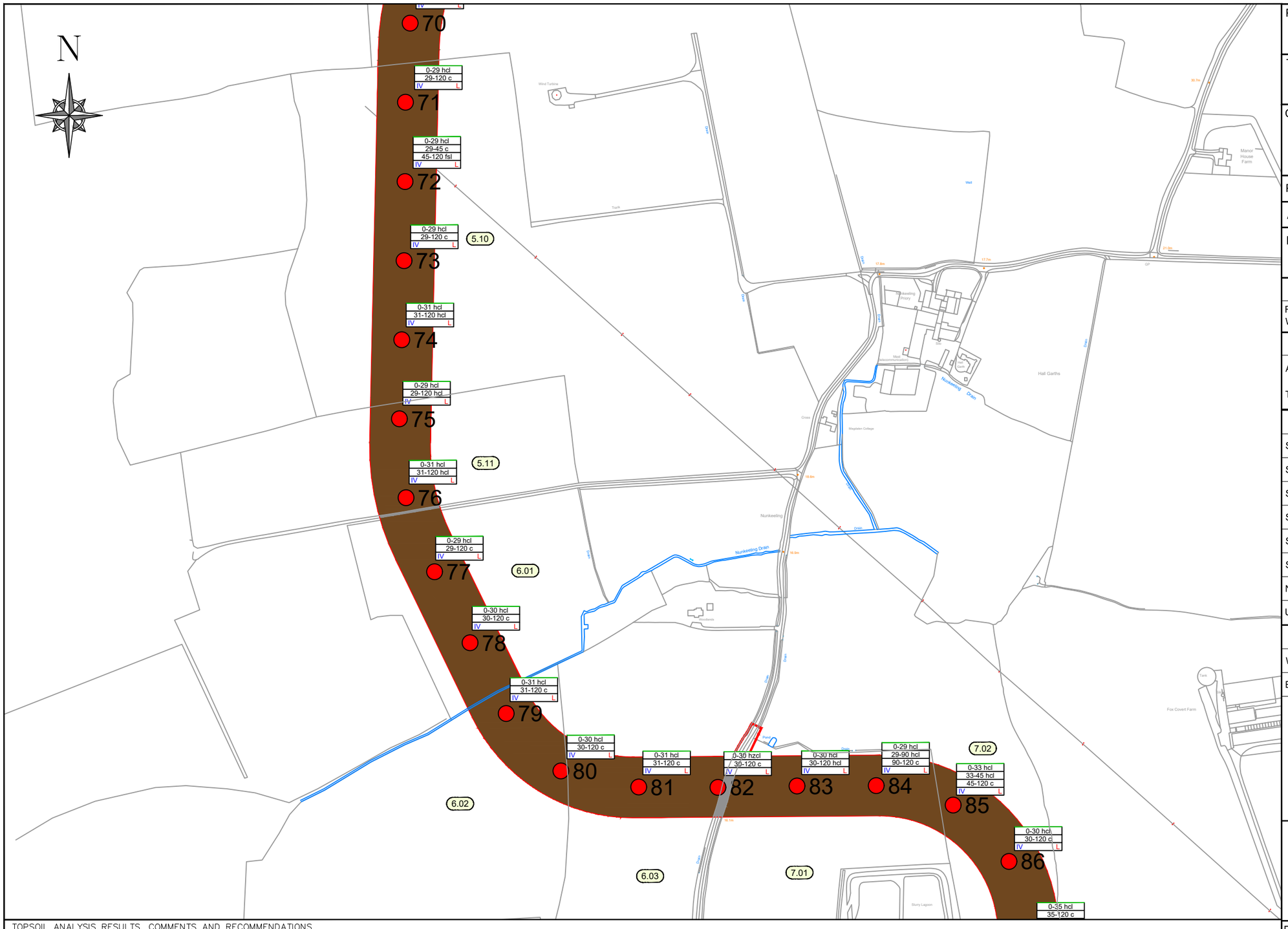

PROJECT:

DOGGER BANK SOUTH

TITLE:

SOIL TYPE PLANS

CLIENT: RWE

PLAN NUMBER	8
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
5.10	6.8	22	2	185	2+	189	4	4.4	38	34	28	Heavy Clay Loam	31	29	29.5
5.11	7.1	18	2	141	2-	116	3	4.4	53	26	21	Sandy Clay Loam	31	29	30
6.01	7.1	14	1	114	1	114	3	4.6	44	30	26	Medium Clay Loam	30	29	29.5
6.02	7.3	39	3	169	2-	120	3	4.6	46	29	25	Medium Clay Loam	31	30	30.5
6.03	7.4	46	4	214	2+	116	3	4.9	47	28	25	Medium Clay Loam	31	30	30.5
7.01	7	67	4	220	2+	156	3	3.8	46	30	24	Medium Clay Loam	30	29	29.5

Comments

Recommendation

METRES
50m 0m 50m 100m

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	8
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_SoilType.dwg				

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
7.02	7.1	53	4	257	3	158	3	3.9	42	32	26	Medium Clay Loam	35	30	32.3
7.03	7.1	55	4	287	3	163	3	4	47	28	25	Medium Clay Loam	31	31	31
8.01a	7.8	41	3	201	2+	109	3	4.2	48	29	23	Medium Clay Loam	31	31	31
8.01	7.4	36	3	138	2-	65	2	3.7	68	16	16	Sandy Loam	32	22	27.5

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	9
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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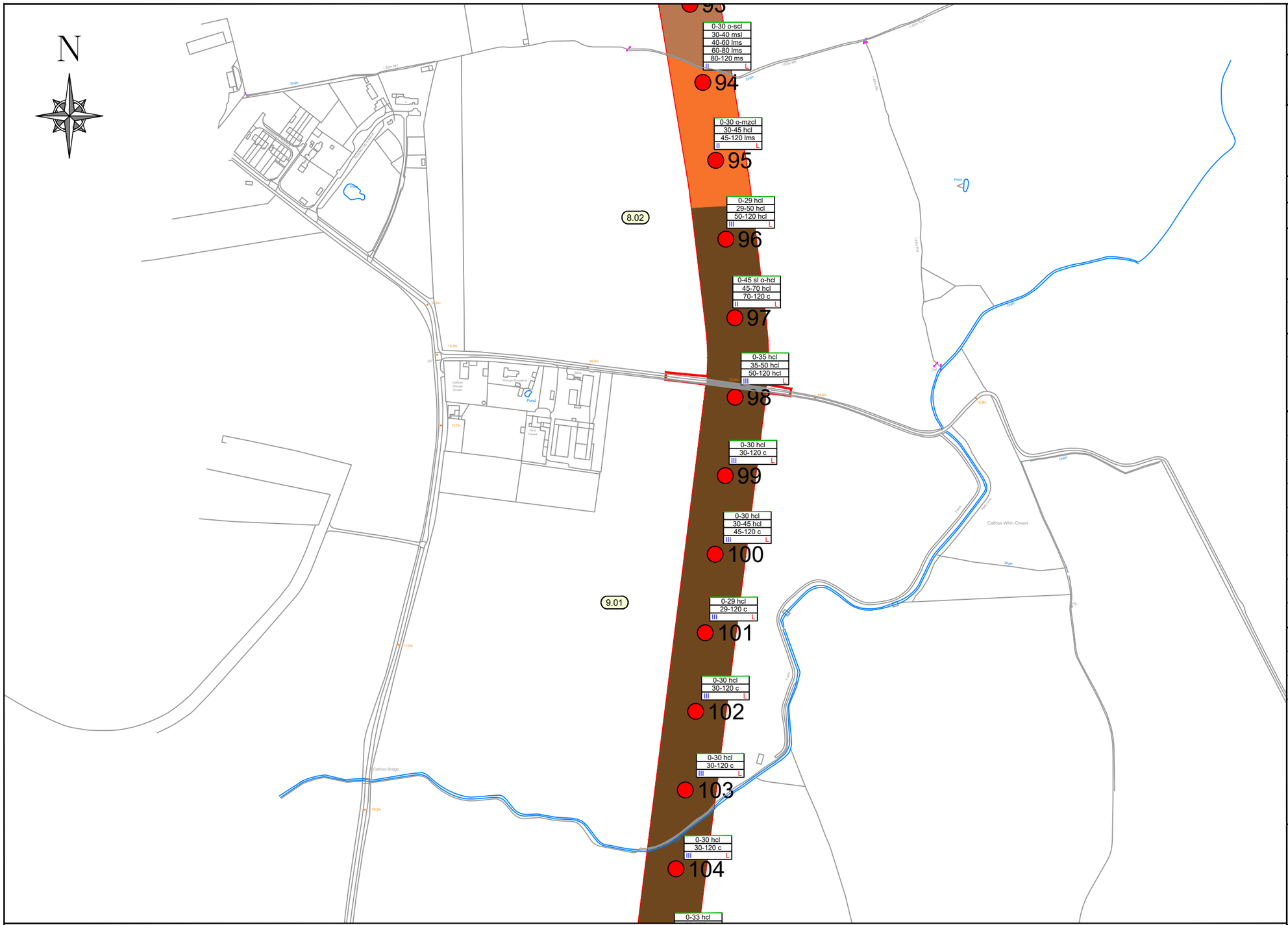
REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	9
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_SoilType.dwg				



PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	10
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
8.02	7.2	29	3	134	2-	95	2	3.8	68	17	15	Sandy Loam	45	29	33.5
9.01	7	26	3	168	2-	104	3	4.8	44	31	25	Medium Clay Loam	35	29	30.7

Comments

Recommendation

METRES
50m 0m 50m 100m

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Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	10
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_SoilType.dwg				

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
9.02	7.6	21	2	154	2-	143	3	4.4	38	33	29	Heavy Clay Loam	33	30	31.3
9.03	7.1	18	2	190	2+	207	4	5	36	31	33	Heavy Clay Loam	31	30	30.3
9.04	7.8	24	2	114	1	74	2	4	53	25	22	Sandy Clay Loam	33	33	33
9.05	OUTSIDE OF WORKING AREA, SOILS NOT EXPECTED TO BE STRIPPED														
9.06	7.4	12	1	86	1	79	2	4.1	49	27	24	Medium Clay Loam	31	27	29.3

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	11
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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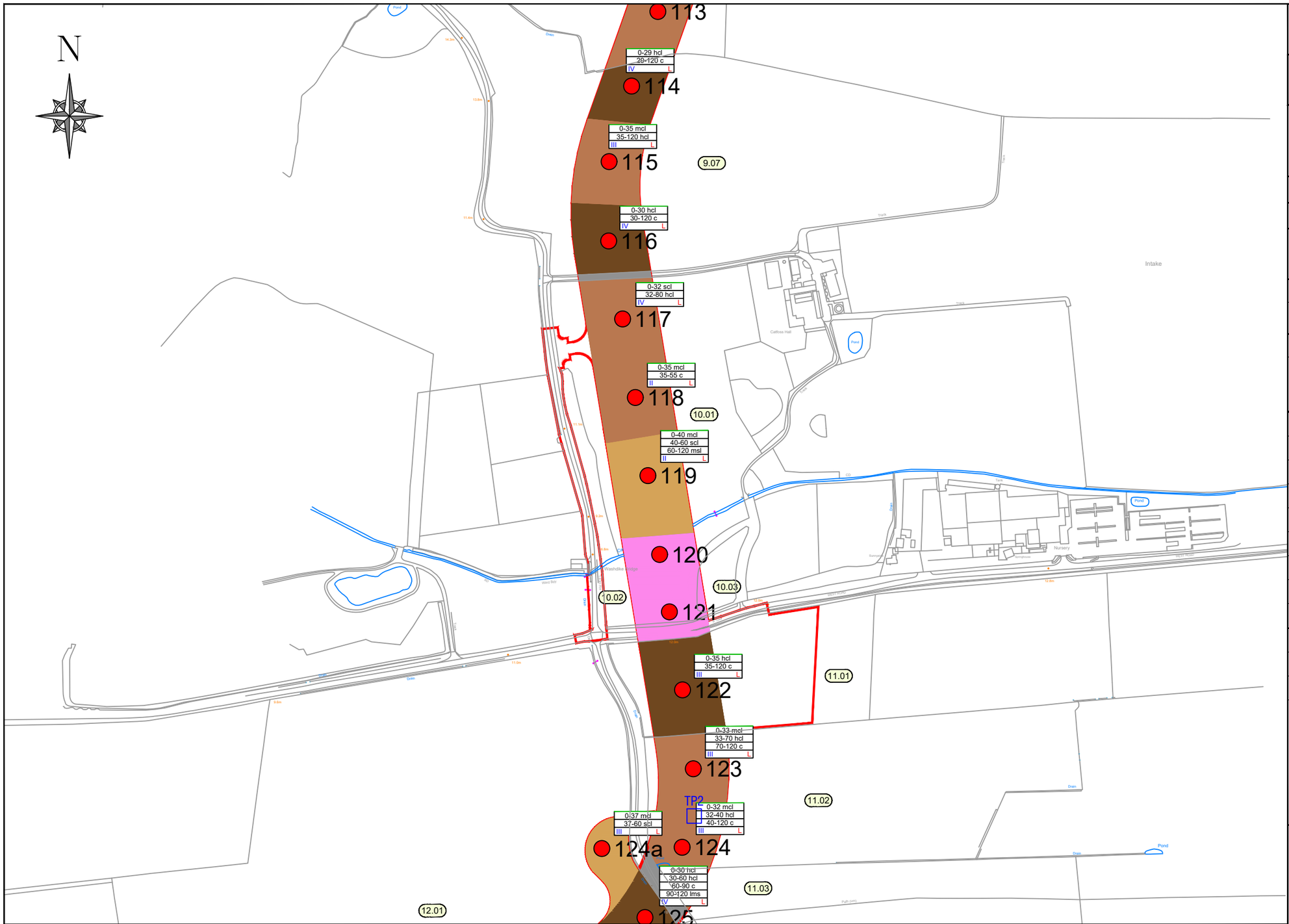
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	11
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_SoilType.dwg				



PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	11A
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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East Yorkshire
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TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
9.07	7.4	22	2	132	2-	138	3	3.6	41	34	25	Medium Clay Loam	35	29	31.3
10.01	7	24	2	179	2-	88	2	4.5	62	19	19	Sandy Clay Loam	40	32	35.7
10.02	NOT SURVEYED, NON AGRICULTURAL, WOODLAND TO BE HDD UNDER														
10.03	NOT SURVEYED, NON AGRICULTURAL, WOODLAND TO BE HDD UNDER														
11.01	7.5	23	2	189	2+	106	3	3.9	45	31	24	Medium Clay Loam	35	35	35

Comments

Recommendation

METRES
50m 0m 50m 100m

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	11a
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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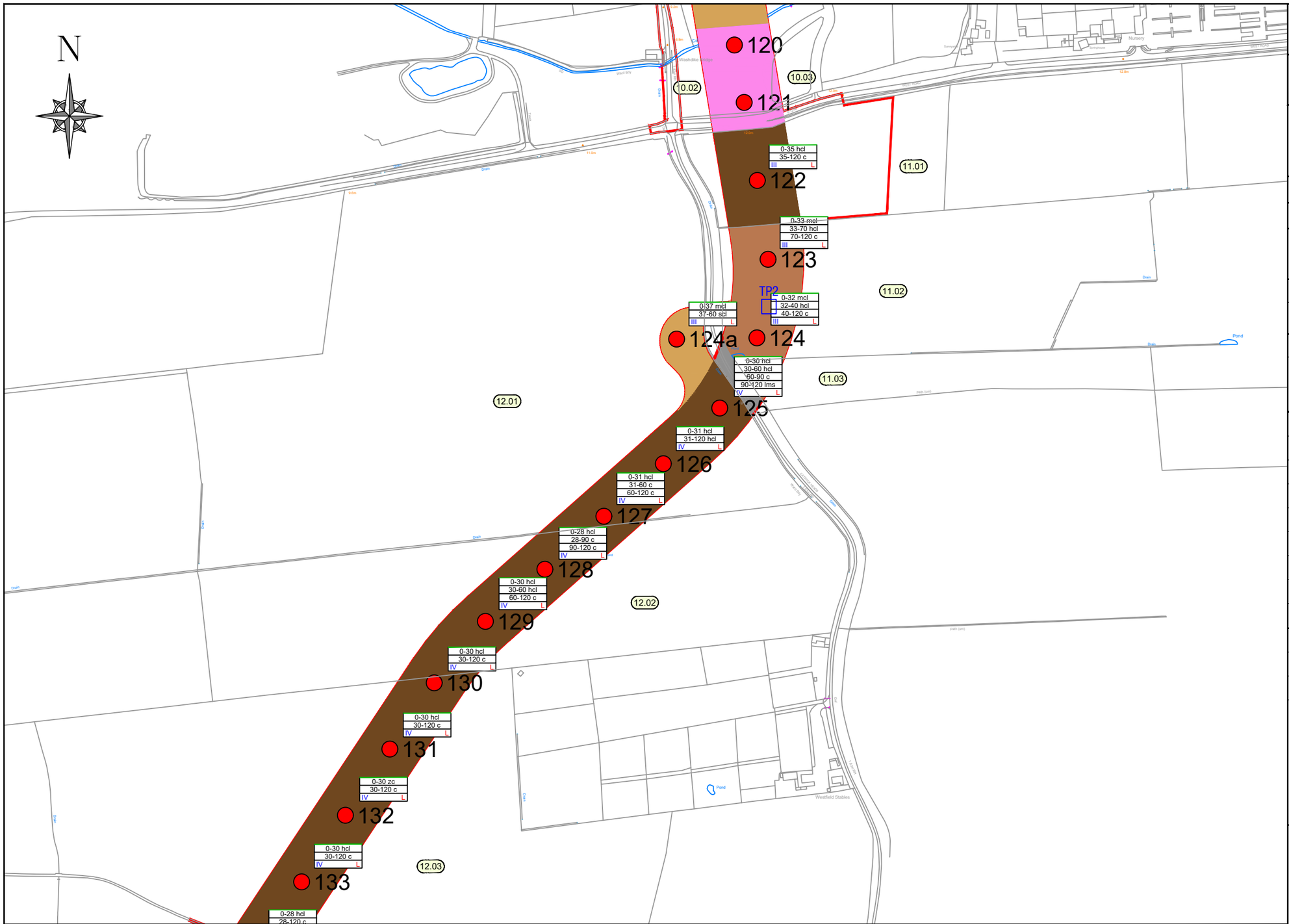

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT: RWE

PLAN NUMBER	12
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION
SOIL TYPE 1: LIGHT-MEDIUM
SOIL TYPE 2: MEDIUM
SOIL TYPE 3: MEDIUM-HEAVY
SOIL TYPE 4: HEAVY
SOIL TYPE 5: ORGANIC
SOIL TYPE 6: DISTURBED
NO SOIL RESOURCE
UNSURVEYED

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
11.02	7.5	33	3	255	3	118	3	4.1	49	29	22	Medium Clay Loam	33	32	32.5
11.03	7.3	13	1	244	3	91	2	4.1	50	27	23	Medium Clay Loam			
TP2 TS									52	22	26	Sandy Clay Loam			
TP2 USS									44	27	29	Heavy Clay Loam			
12.01	7.4	20	2	191	2+	103	3	3.4	45	29	26	Medium Clay Loam	37	30	32.3
12.02	7.1	14	1	107	1	103	3	3.3	53	25	22	Sandy Clay Loam	30	28	29

Comments

Recommendation

METRES
50m 0m 50m 100m

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Fimber
DRIFFIELD
East Yorkshire
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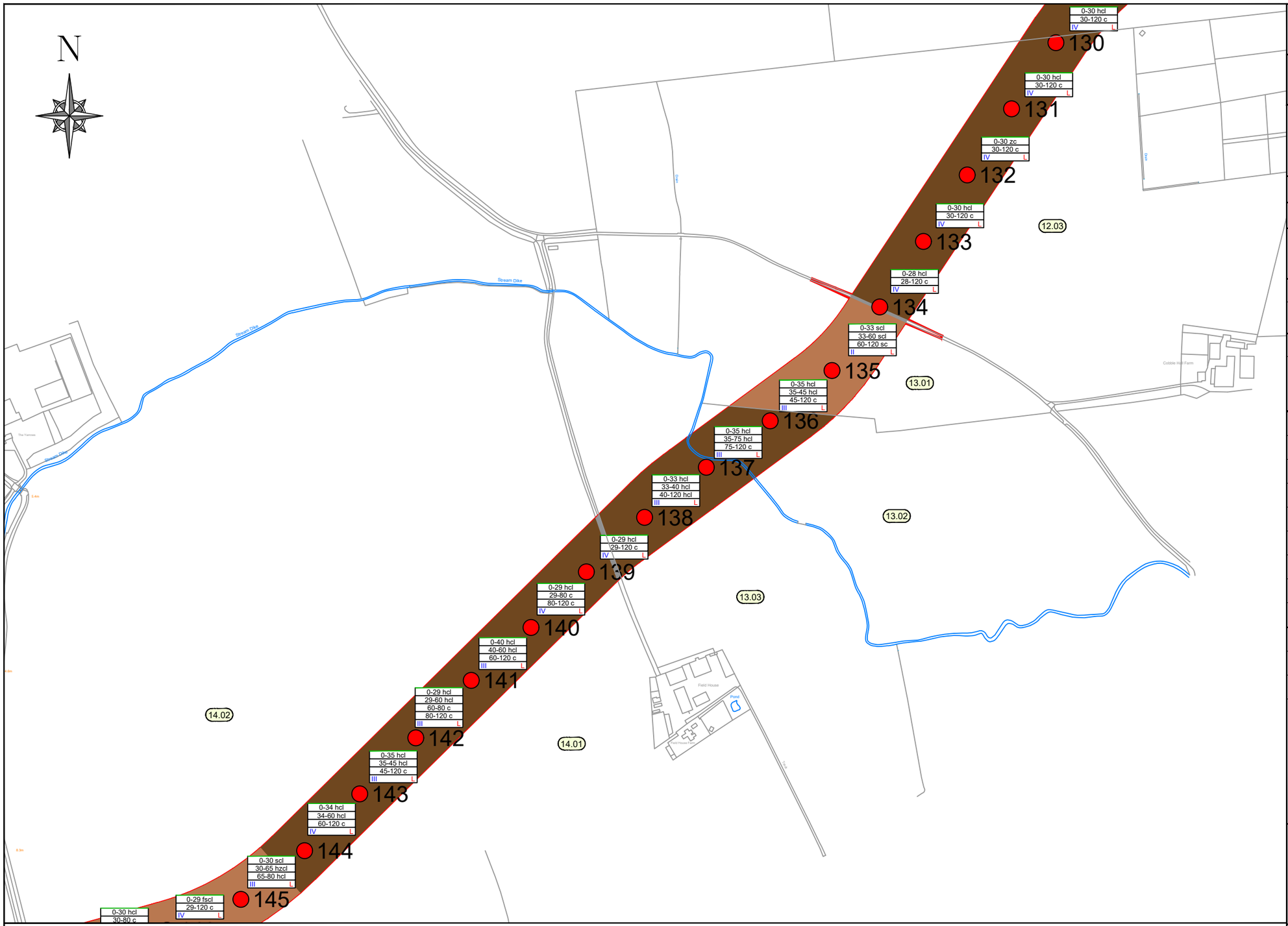
Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	12
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_SoilType.dwg				



TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
12.03	7.3	24	2	174	2-	117	3	5.4	36	33	31	Heavy Clay Loam	30	30	30
13.01	6.6	28	3	268	3	80	2	4.8	52	25	23	Sandy Clay Loam	33	33	33
13.02	7.3	29	3	215	2+	149	3	4.4	51	25	24	Sandy Clay Loam	35	35	35
13.03	7.3	23	2	143	2-	134	3	4.9	41	31	28	Heavy Clay Loam	35	33	34
14.01	6.9	15	1	106	1	118	3	4.7	39	33	28	Heavy Clay Loam	40	29	32.3
14.02	7.1	22	2	153	2-	87	2	3.7	46	31	23	Medium Clay Loam	35	29	32

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER 13

AB's:

LANDOWNER:

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

Land Drainage Consultancy Ltd
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YO25 9LY
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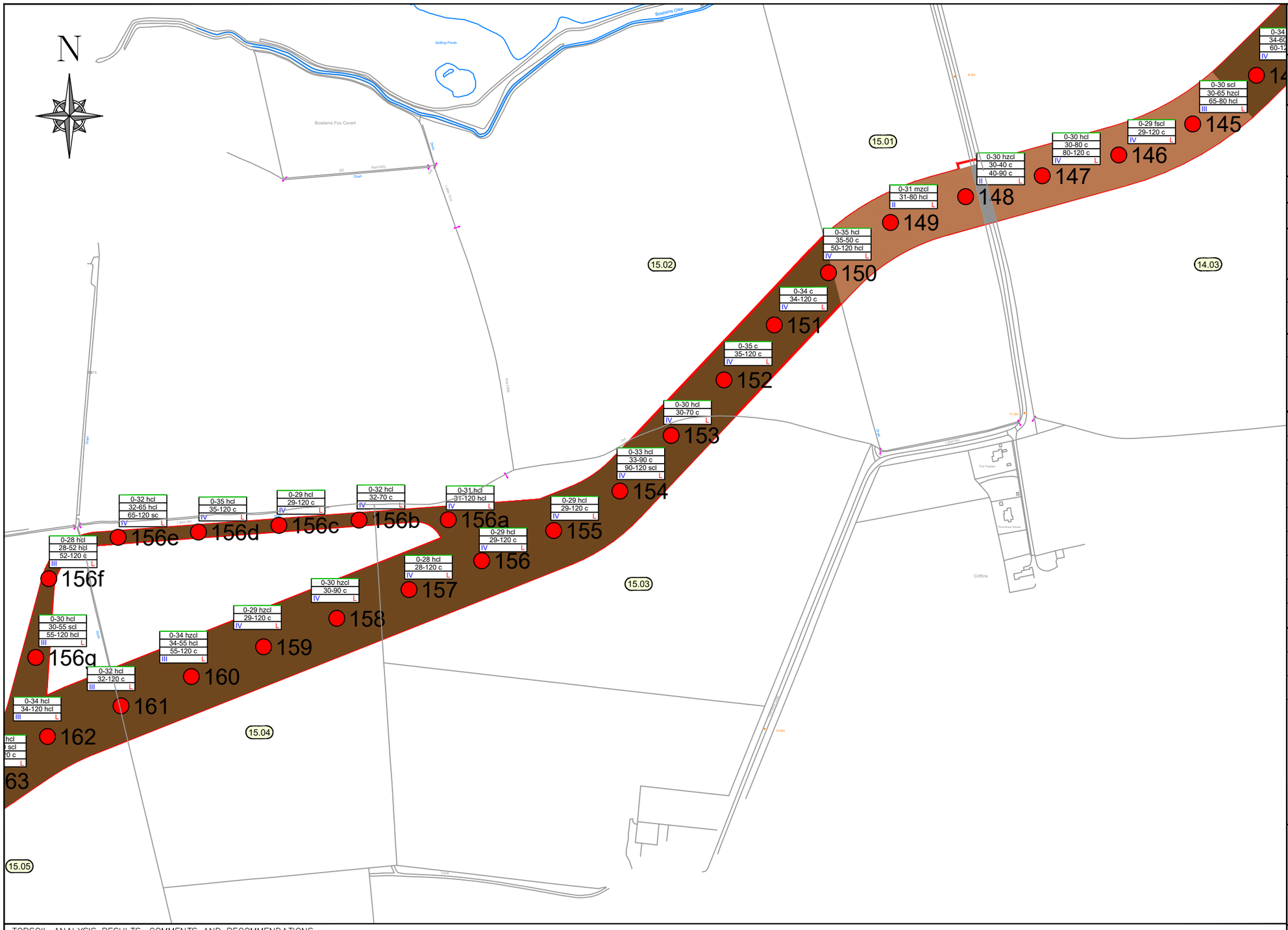
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE 1:5,000	ORIG. SIZE A3	SHEET 13	
DRAWN NS	CHECKED AM	APPROVED AM	
REVISION C	DATE 04/10/2024		
DRAWING: LDC_DBS_Continuous_SoilType.dwg			



TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
14.03	7	19	2	122	2-	71	2	3.5	57	24	19	Sandy Clay Loam	34	29	30.8
15.01	7.1	21	2	135	2-	72	2	3.3	55	26	19	Sandy Clay Loam	31	30	30.5
15.02	6.6	13	1	75	1	104	3	4.9	46	28	25	Medium Clay Loam	35	34	34.7
15.03	7.4	13	1	178	2-	81	2	3.4	52	26	22	Sandy Clay Loam	33	28	30
15.04	7.7	17	2	134	2-	81	2	3.7	47	28	25	Medium Clay Loam	34	29	31.3
15.04T	7.5	17	2	152	2-	96	2	3.7	48	25	27	Heavy Clay Loam	35	29	32

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER 14

AB's:

LANDOWNER:

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

Land Drainage Consultancy Ltd
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East Yorkshire
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Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	14
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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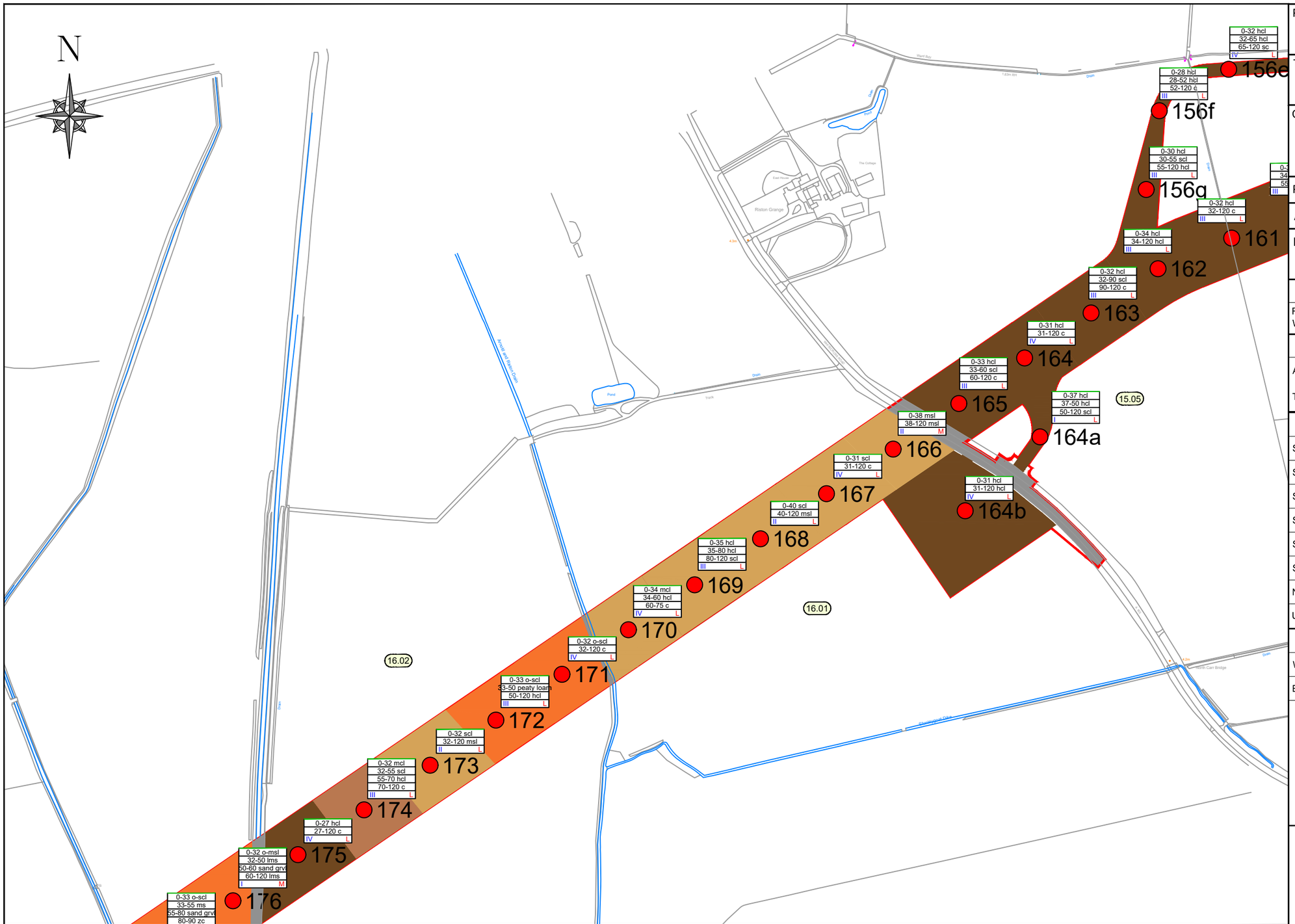

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
15.05	7.4	40	3	294	3	148	3	5.4	47	21	32	Heavy Clay Loam	37	31	33.4
15.05T	7.5	37	3	212	2+	81	2	3.8	67	14	19	Sandy Clay Loam	30	28	29
16.01	7.4	43	3	237	2+	87	2	4.8	62	18	20	Sandy Clay Loam	31	40	35.6
16.02	7.5	30	3	226	2+	139	3	8.3	27	31	42	Clay	33	27	31.2

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER 15

AB's:

LANDOWNER:

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

Land Drainage Consultancy Ltd
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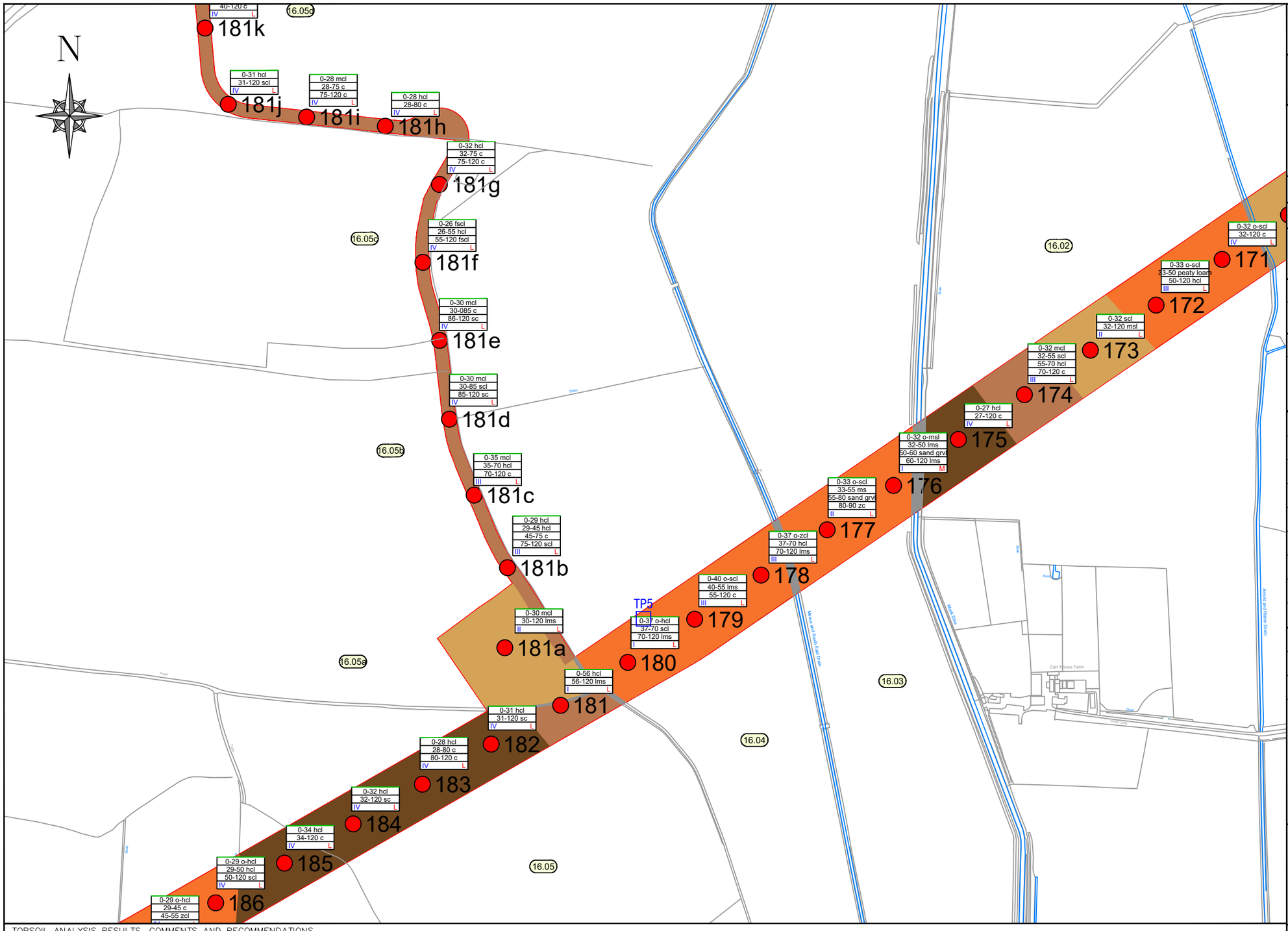
REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	15
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_SoilType.dwg				



TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
16.03	7.4	34	3	278	3	82	2	5.8	64	18	18	Sandy Loam	33	32	32.5
TP5 TS									46	15	39	Organic Sandy Clay			
TP5 USS									40	19	41	Clay			
TP5 LSS									82	5	13	Sandy Loam			
16.04	7.2	23	2	247	3	77	2	6	55	18	27	Sandy Clay Loam	40	37	38

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER 16

AB's:

LANDOWNER:

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	16
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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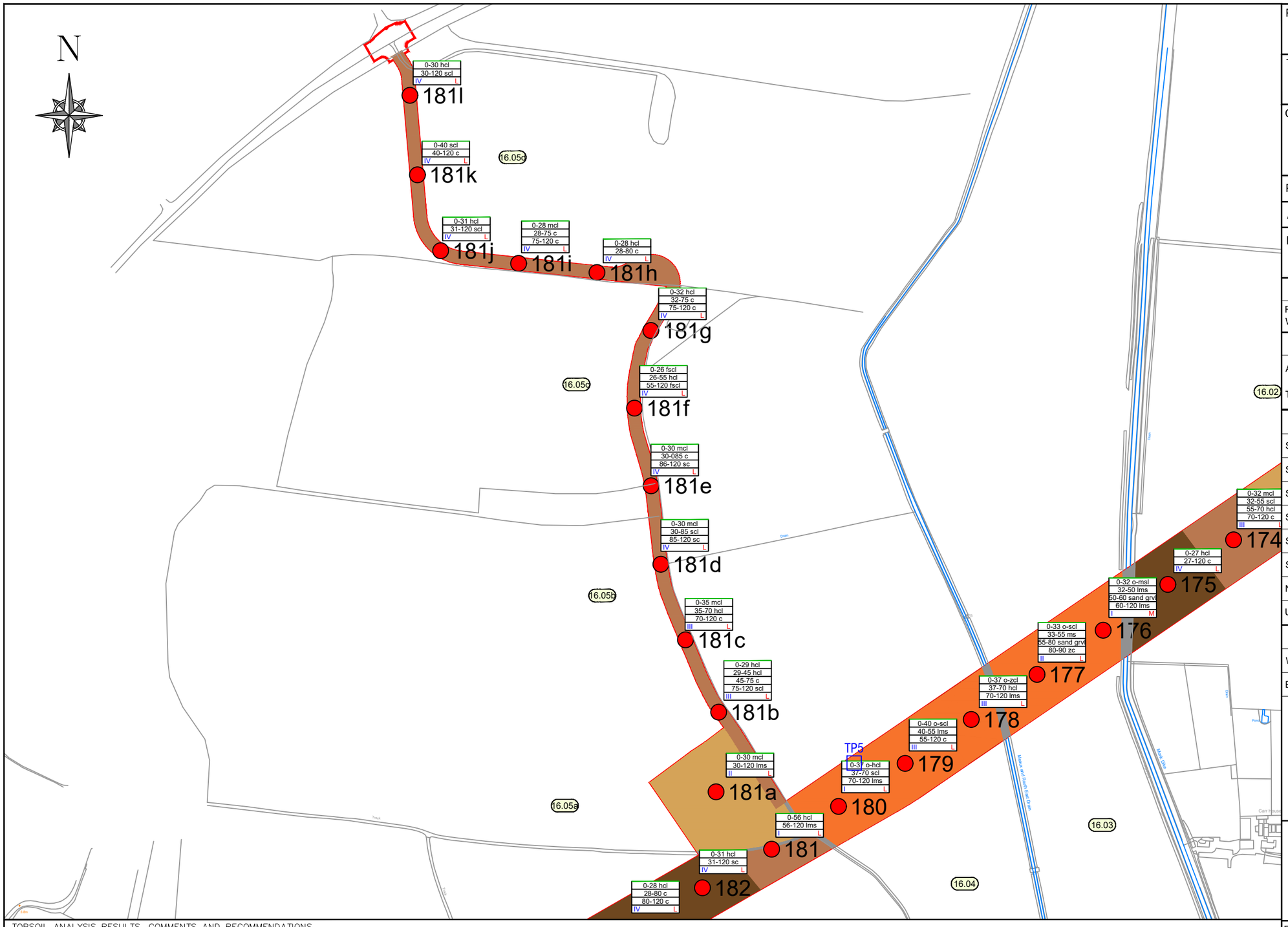

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	16A
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
16.05a	7.3	28	3	158	2-	51	2	4.6	76	11	13	Sandy Loam	30	30	30
16.05b	7.4	23	2	257	3	61	2	3.3	71	14	15	Sandy Loam	35	29	31.3
16.05c	7.6	25	2	244	3	64	2	3.8	62	16	22	Sandy Clay Loam	32	26	29.3
16.05d	7.6	32	3	276	3	91	2	4	52	20	28	Sandy Clay Loam	40	28	33.4

Comments

Recommendation

METRES
50m 0m 50m 100m

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	16a
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REVISION	C	DATE	04/10/2024		
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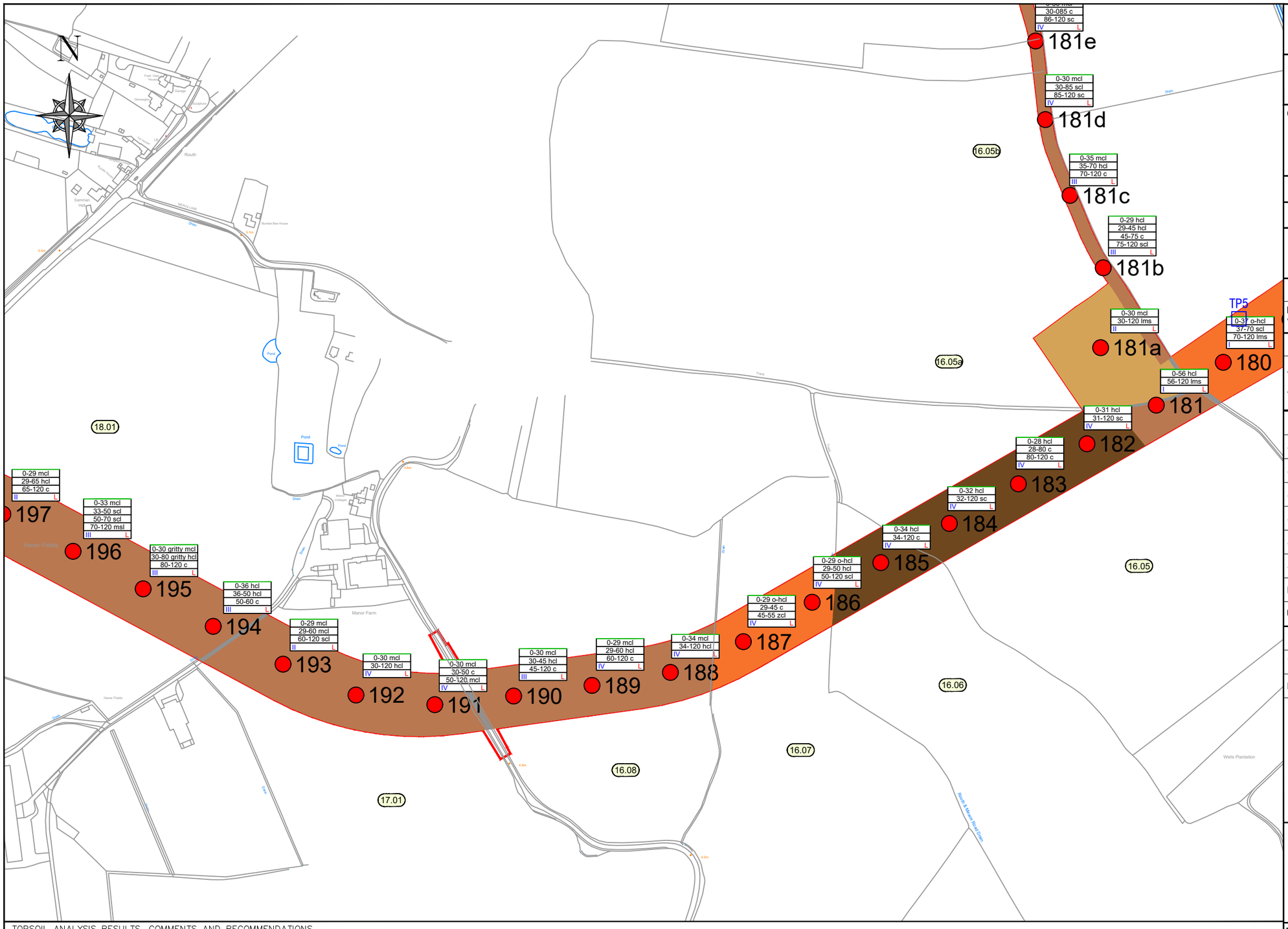

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
16.05	7.4	27	3	187	2+	53	2	3.8	61	20	19	Sandy Clay Loam	32	28	30.3
16.06	7	19	2	259	3	86	2	8.7	61	16	23	Sandy Clay Loam	34	34	34
16.07	6.9	21	2	252	3	184	4	10.3	33	31	36	Organic Clay	29	29	29
16.08	6.9	27	3	158	2-	114	3	6.4	51	25	24	Sandy Clay Loam	34	29	31
17.01	7.6	45	3	305	3	103	3	5	55	24	21	Sandy Clay Loam	30	29	29.7

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER 17

AB's:

LANDOWNER:

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	17
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REVISION	C	DATE	04/10/2024		
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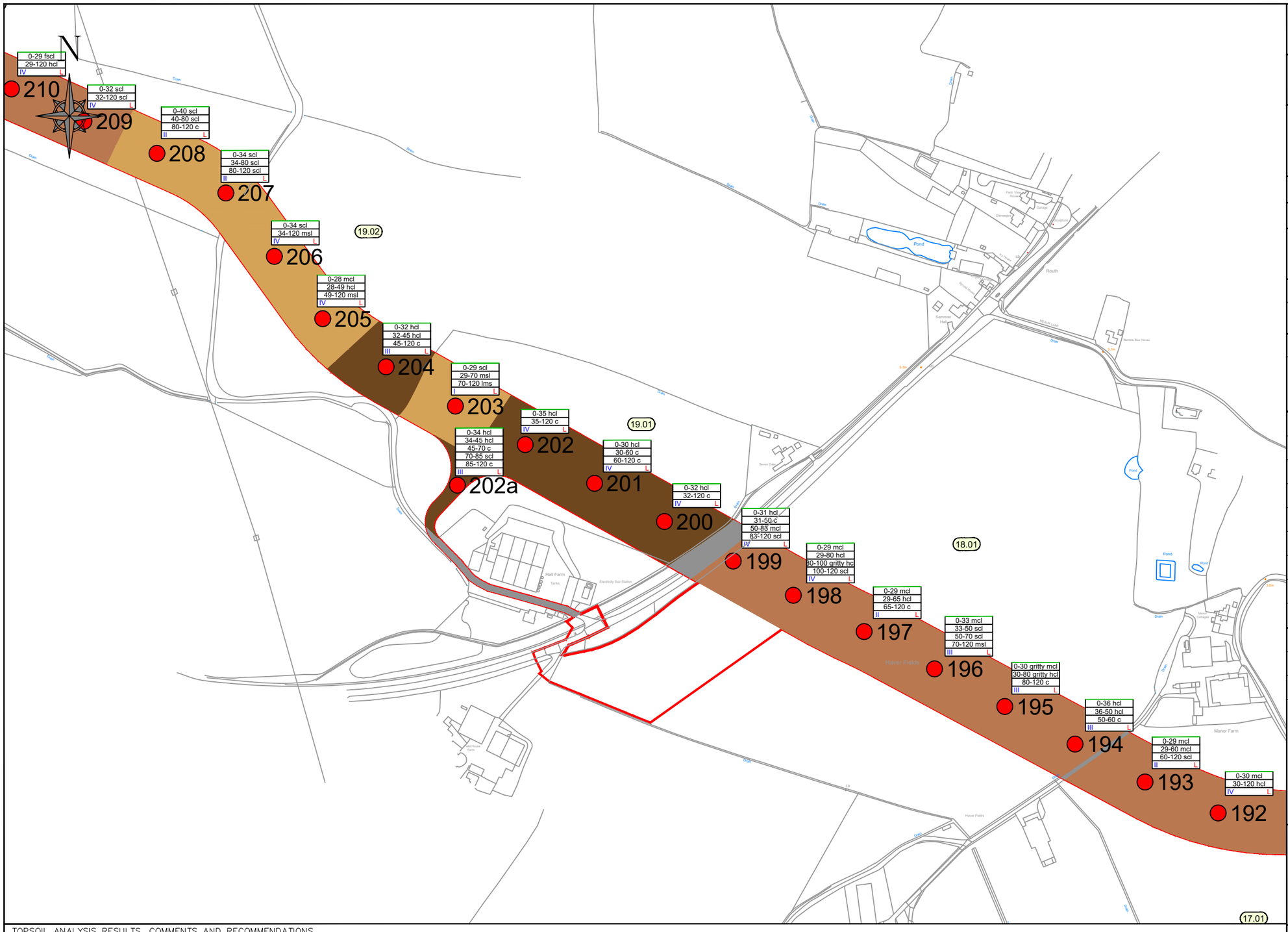

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	18
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
18.01	7.8	42	3	326	3	110	3	3.9	56	25	19	Sandy Clay Loam	36	29	31.3
19.01	7.4	32	3	212	2+	168	3	4.9	52	25	23	Sandy Clay Loam	35	29	32
19.02	7	31	3	293	3	101	3	3.7	66	18	16	Sandy Loam	3	28	31.3

Comments

Recommendation

METRES
50m 0m 50m 100m

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	18
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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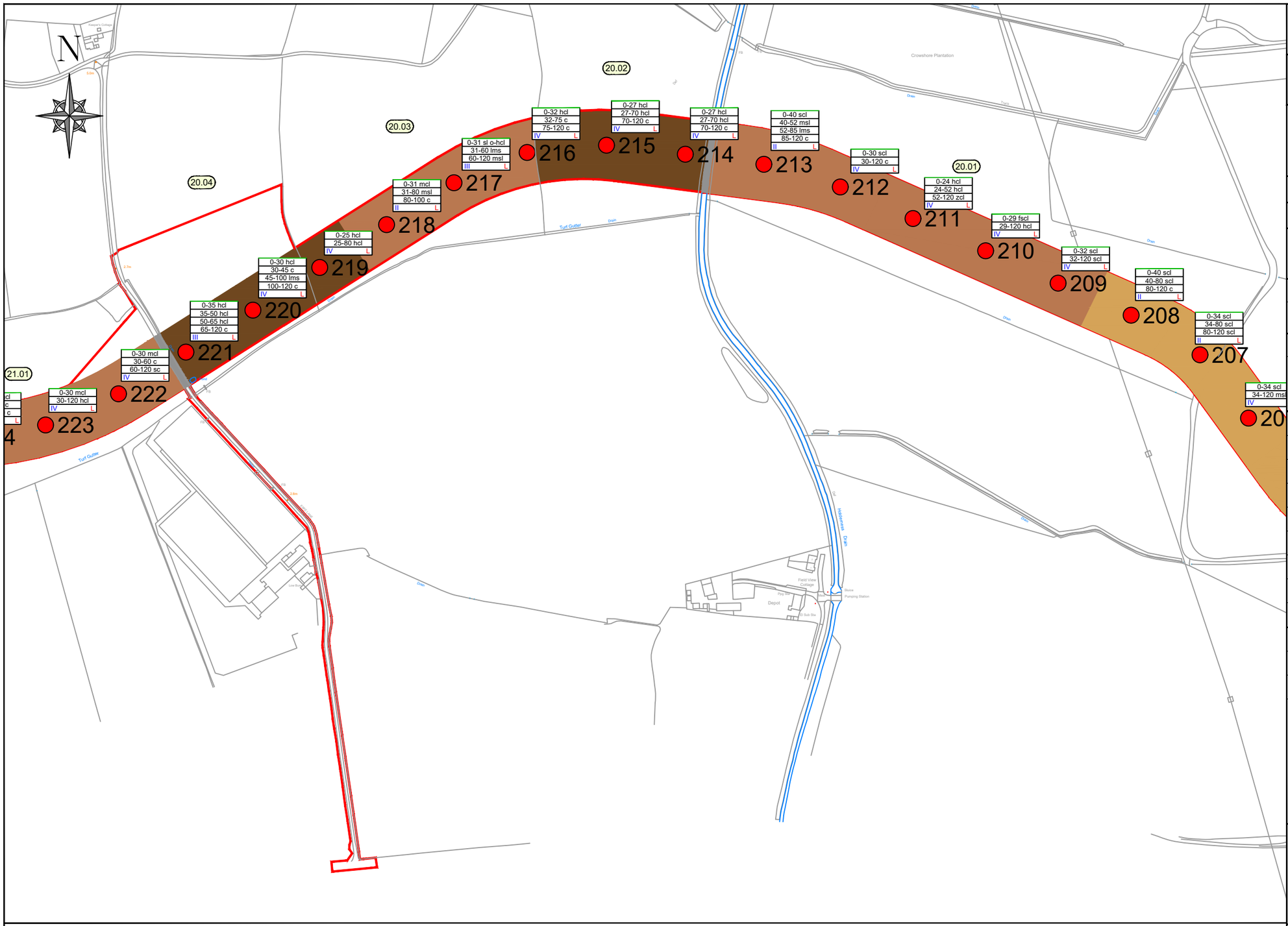

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
20.01	7.4	35	3	234	2+	79	2	3	66	21	13	Sandy Loam	40	24	32.7
20.02	7.4	27	3	299	3	122	3	4.5	50	27	23	Medium Clay Loam	27	27	27
20.03	6.9	18	2	165	2-	133	3	4.4	60	22	18	Sandy Loam	32	25	29.8
20.04	6.9	20	2	222	2+	109	3	4.2	61	20	19	Sandy Clay Loam	35	30	32.5

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER 19

AB's:

LANDOWNER:

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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DRIFFIELD
East Yorkshire
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Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	19
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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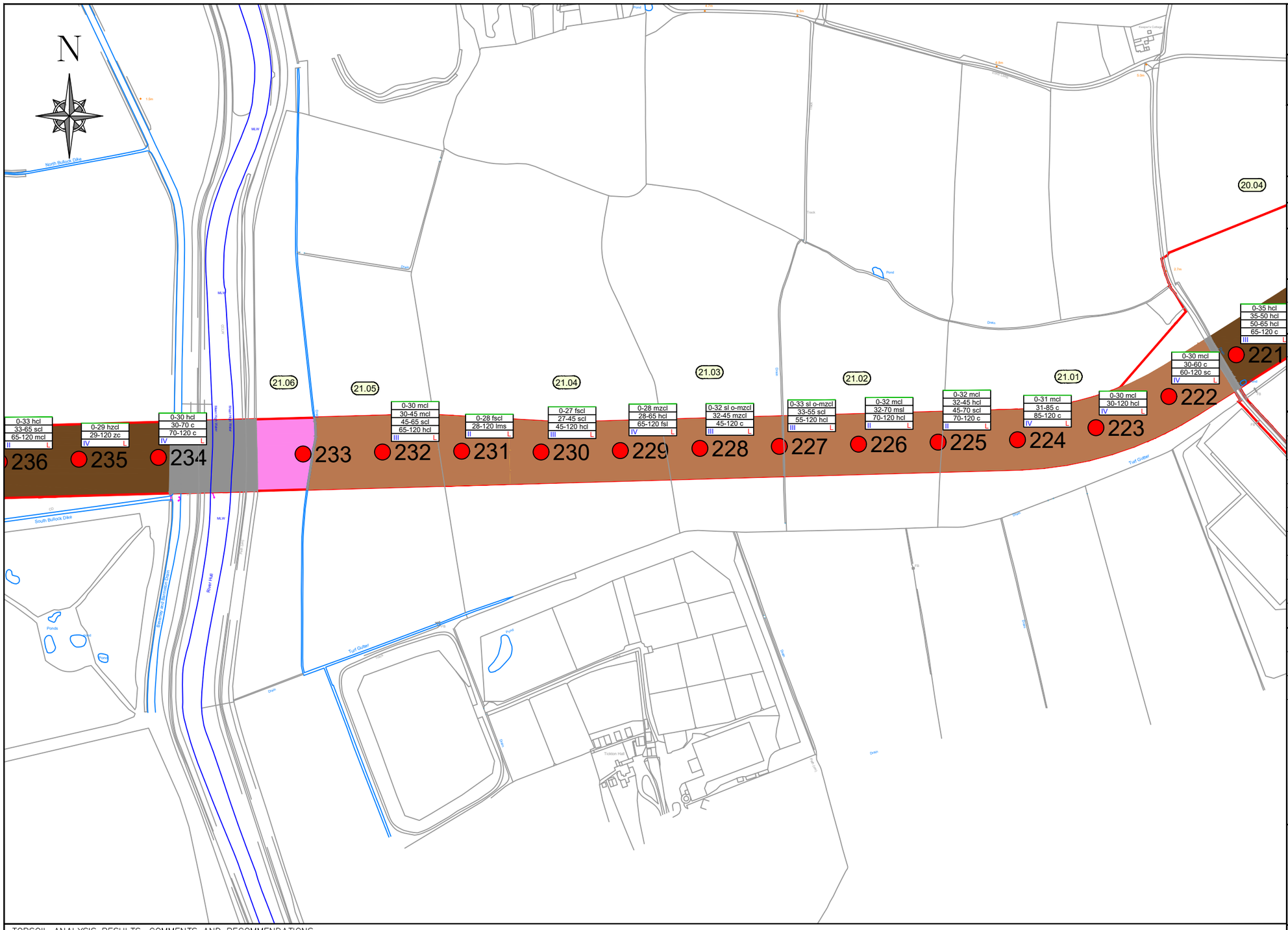

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
21.01	7	9	0	86	1	58	2	4.4	64	18	18	Sandy Loam	31	30	30.3
21.02	7.4	11	1	95	1	37	1	4.6	66	18	16	Sandy Loam	32	32	32
21.03	7.2	12	1	83	1	83	2	8.2	34	34	32	Heavy Clay Loam	32	32	32
21.04	7.1	9	0	73	1	52	2	5.2	59	22	19	Sandy Clay Loam	28	27	27.6
21.05	7.4	10	1	85	1	58	2	5.1	62	18	20	Sandy Clay Loam	30	30	30
21.06	FIELD NOT ACCESSED, HDD UNDER														

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER 20

AB's:

LANDOWNER:

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

Land Drainage Consultancy Ltd
Cowslip Offices
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Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	20
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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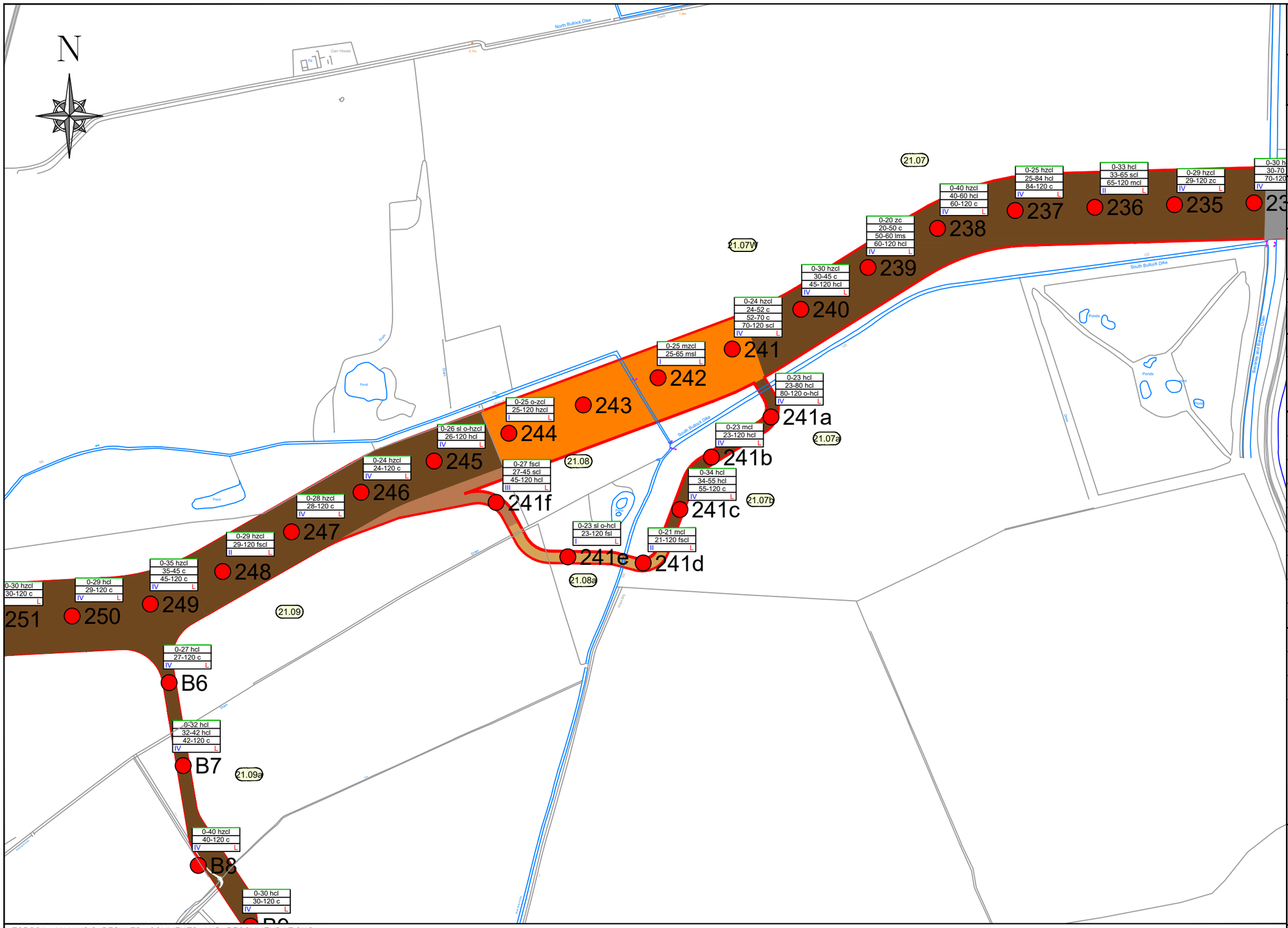

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
21.07	6.9	23	2	149	2-	125	3	7.7	32	35	33	Heavy Clay Loam	40	20	29.6
21.07W	7.2	25	2	213	2+	138	3	11	21	37	42	Organic Clay	25	24	24.5
21.07a	7.4	24	2	176	2-	95	2	7.4	38	32	30	Heavy Clay Loam	23	23	23
21.07b	7.3	23	2	147	2-	73	2	7.7	41	32	27	Heavy Clay Loam	34	21	26
21.08	6.2	21	2	375	3	186	4	20	39	36	43	Peat	26	26	26
21.08a	6.7	24	2	179	2-	85	2	7.6	62	21	17	Sandy Loam	23	23	23
21.09	7.5	29	3	186	2+	90	2	5.7	45	26	29	Heavy Clay Loam	35	24	28.5

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER 21

AB's:

LANDOWNER:

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

Land Drainage Consultancy Ltd
Cowslip Offices
Fimber
DRIFFIELD
East Yorkshire
YO25 9LY
Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	21
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REVISION	C	DATE	04/10/2024		
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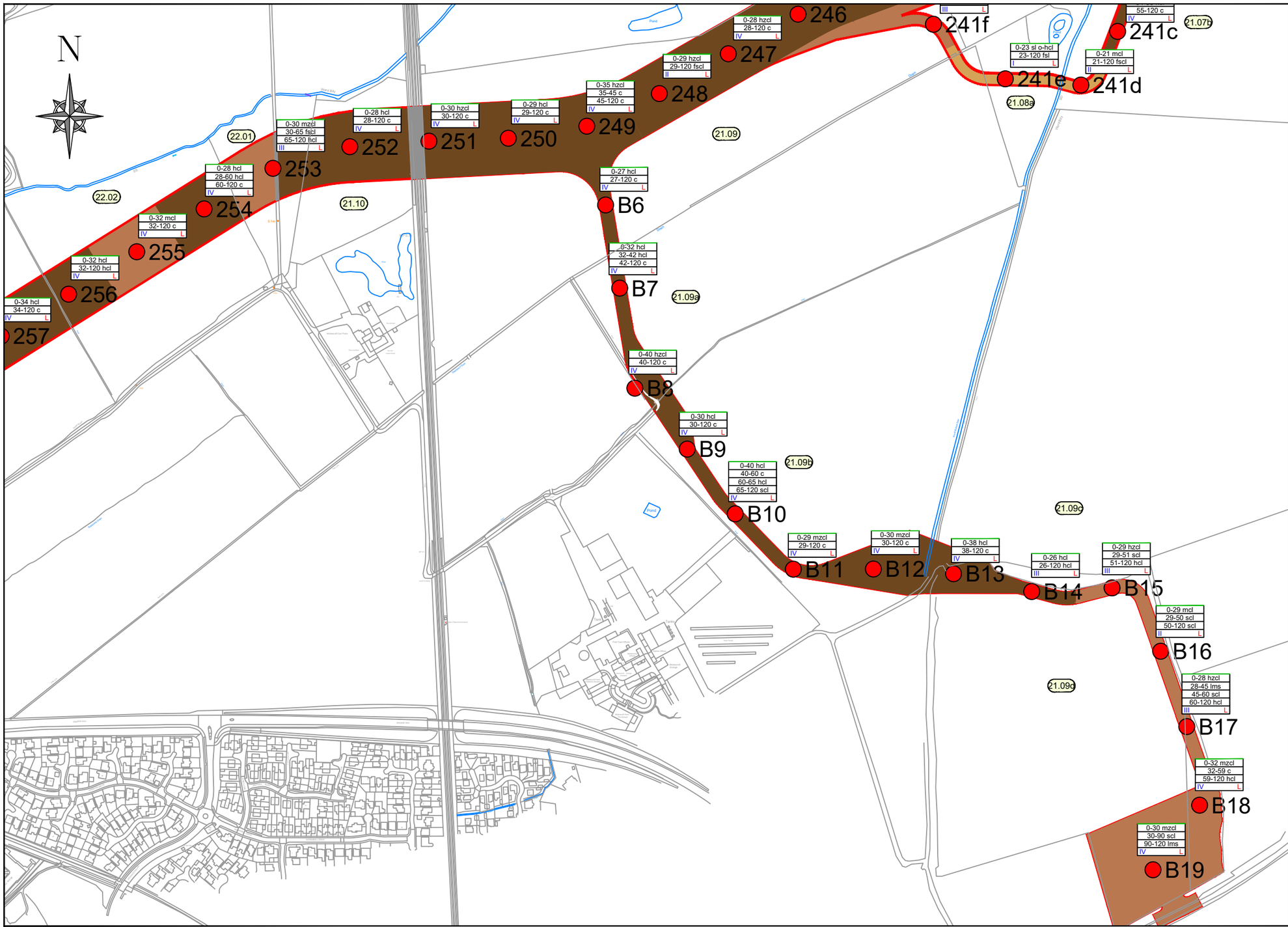

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
21.09a	7	25	2	108	1	97	2	6.6	36	32	32	Heavy Clay Loam	40	32	36
21.09b	6.9	26	3	186	2+	139	3	3.8	80	11	9	Loamy Sand	40	29	32.3
21.09c	7	33	3	290	3	166	3	7.8	42	29	29	Heavy Clay Loam			
21.09d	7.3	25	2	243	3	143	3	9	45	29	26	Medium Clay Loam	38	26	30.3
21.10	5.7	16	2	152	2-	121	3	8	51	27	22	Sandy Clay Loam	28	28	28
22.01	6.8	11	1	120	1	85	2	5.7	43	33	24	Medium Clay Loam	30	30	30
22.02	6.9	23	2	122	2-	103	3	5.2	44	30	26	Medium Clay Loam	32	28	30.7

Comments

Recommendation

METRES 50m 0m 50m 100m

PROJECT: DOGGER BANK SOUTH

TITLE: SOIL TYPE PLANS

CLIENT: RWE

PLAN NUMBER 22

AB's:

LANDOWNER:

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

Land Drainage Consultancy Ltd
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Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	22
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		

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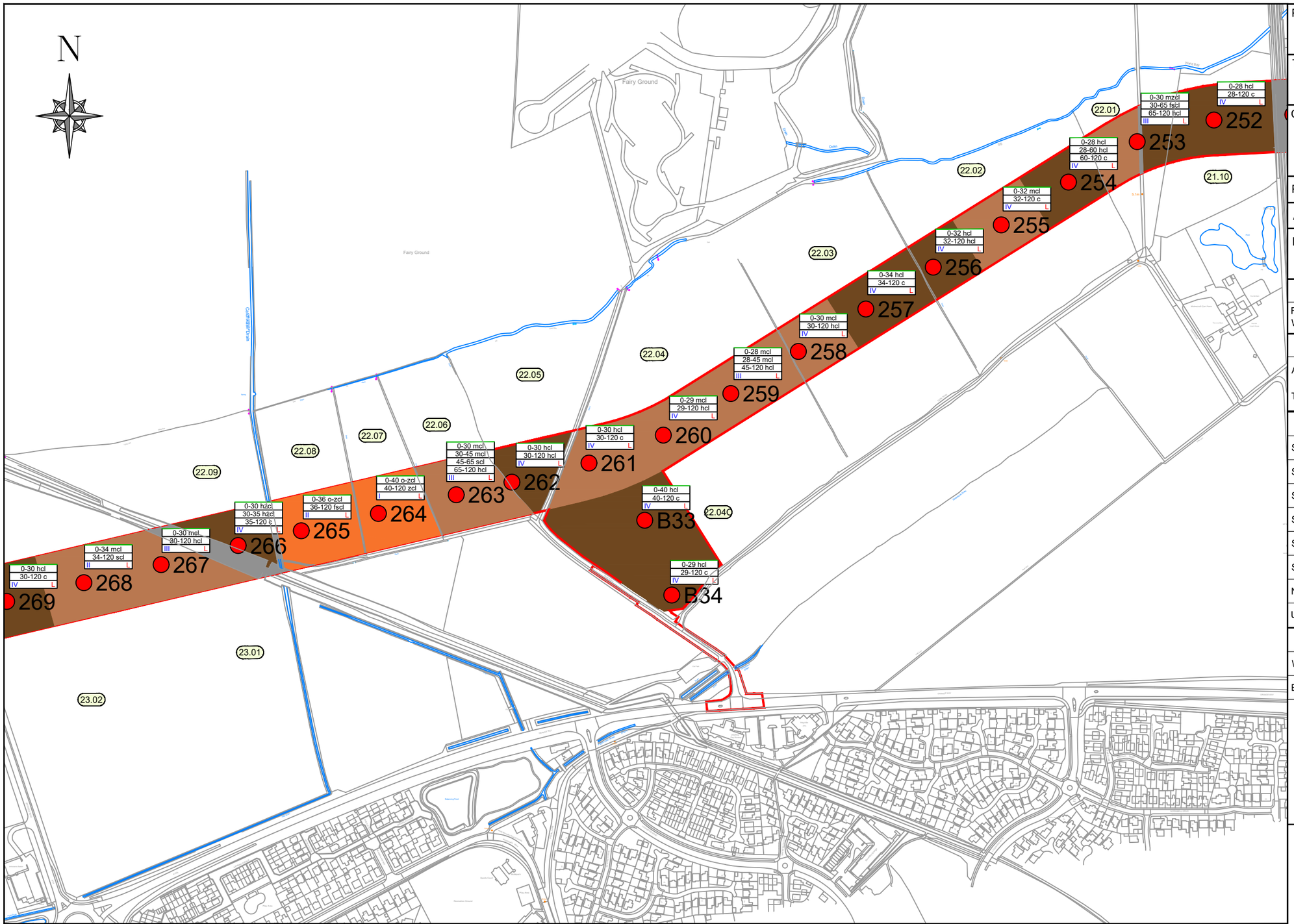

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	23
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION
SOIL TYPE 1: LIGHT-MEDIUM
SOIL TYPE 2: MEDIUM
SOIL TYPE 3: MEDIUM-HEAVY
SOIL TYPE 4: HEAVY
SOIL TYPE 5: ORGANIC
SOIL TYPE 6: DISTURBED
NO SOIL RESOURCE
UNSURVEYED

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
22.03	7.2	22	2	154	2-	99	2	5	43	30	27	Heavy Clay Loam	34	30	32
22.04	6.3	22	2	147	2-	123	3	5.4	42	31	27	Heavy Clay Loam	30	28	29
22.04C	6.9	13	1	167	2-	125	3	4.8	45	29	26	Medium Clay Loam	40	29	34.5
22.05	6.4	11	1	116	1	119	3	6.7	45	29	26	Medium Clay Loam	30	30	30
22.06	6.7	13	1	100	1	112	3	6.4	53	25	22	Sandy Clay Loam	30	30	30
22.07	7	9	0	78	1	100	2	11.8	57	24	19	Organic Sandy Clay Loam	40	40	40
22.08	6.7	6	0	56	0	75	2	12.1	58	28	14	Organic Sandy Loam	36	36	36

Comments

Recommendation

METRES
50m 0m 50m 100m

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE A3	SHEET 23
DRAWN	NS	CHECKED AM	APPROVED AM
REVISION	C	DATE	04/10/2024
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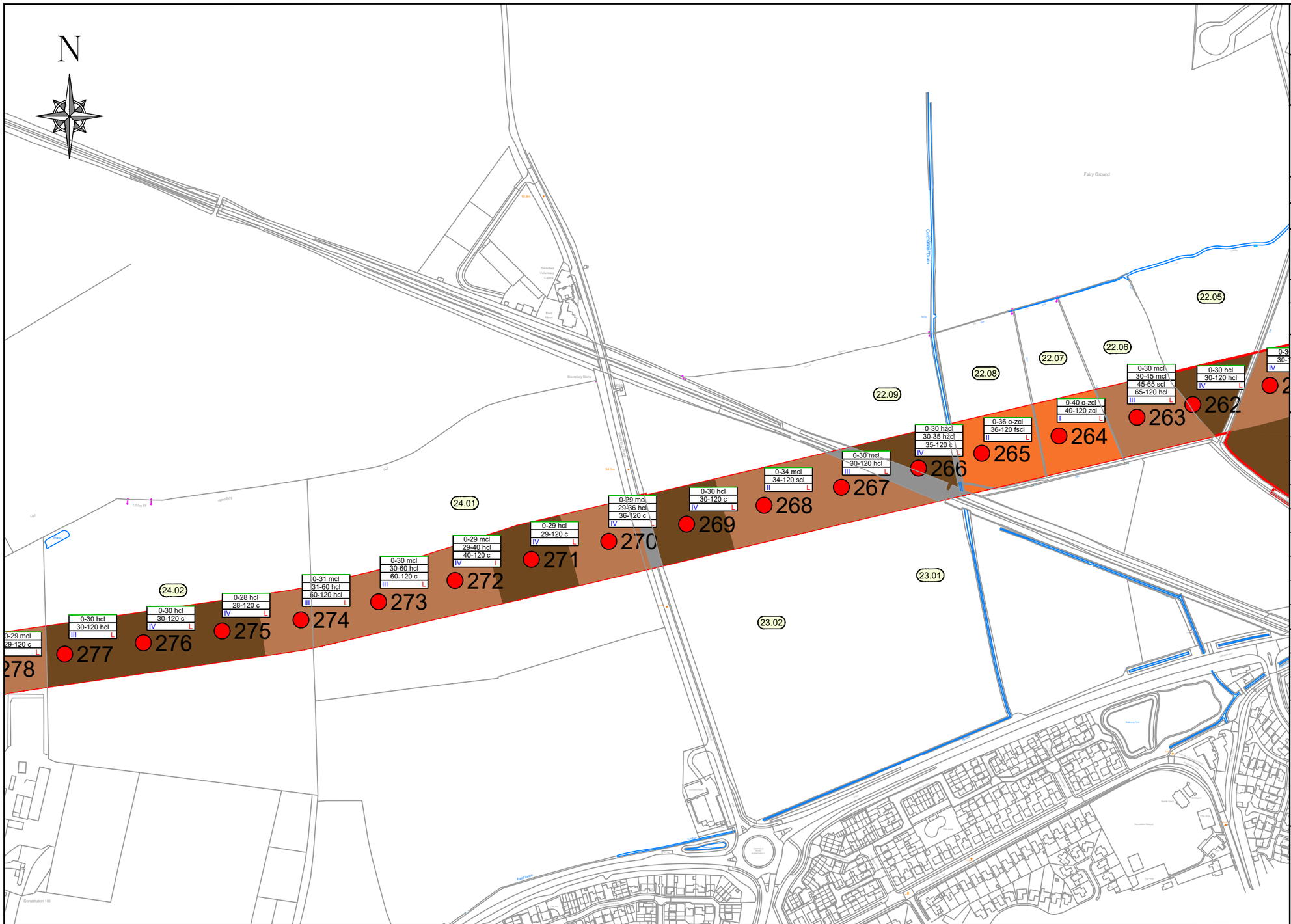

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	24
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
22.09	6.8	12	1	121	2-	113	3	6	52	27	21	Sandy Clay Loam	30	30	30
23.01	7.2	17	2	123	2-	68	2	3.9	47	29	24	Medium Clay Loam	30	30	30
23.02	6.8	21	2	140	2-	88	2	4	53	27	20	Sandy Clay Loam	34	30	32
24.01	7.1	28	3	150	2-	77	2	3.9	52	27	21	Sandy Clay Loam	30	29	29.3
24.02	6.9	28	3	255	3	72	2	3.6	50	29	21	Medium Clay Loam	31	28	29.8

Comments

Recommendation

METRES
50m 0m 50m 100m

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	24
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_SoilType.dwg				

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT: RWE

PLAN NUMBER	25
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
24.03	7.2	29	3	266	3	59	2	3.9	46	31	23	Medium Clay Loam	31	29	29.3
24.03a	7.1	20	2	137	2-	83	2	4.4	52	29	19	Sandy Clay Loam			
25.01	6.5	14	1	79	1	45	1	4	52	29	19	Sandy Clay Loam	30	26	28.3
25.02	7.2	13	3	267	3	91	2	4.2	49	30	21	Medium Clay Loam	35	29	31.7

Comments

Recommendation

METRES
50m 0m 50m 100m

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	25
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_SoilType.dwg				

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT: RWE

PLAN NUMBER	26
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
25.03	7.1	17	2	162	2-	135	3	4.7	35	37	28	Heavy Clay Loam	30	30	30
25.04	7	12	1	126	2-	121	3	4.7	38	36	26	Medium Clay Loam	32	32	32
25.05	7.1	20	2	192	2+	94	2	4.9	46	30	24	Medium Clay Loam	31	30	30.5
26.01	7.1	26	3	231	2+	101	3	4.7	48	29	23	Medium Clay Loam	34	29	31.5

Comments

Recommendation

METRES
50m 0m 50m 100m

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	26
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	27
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
26.02a	7.7	24	2	89	1	82	2	4.3	43	32	25	Medium Clay Loam	33	31	31.8
26.02b	7	14	1	106	1	96	2	4.8	41	33	26	Medium Clay Loam	30	30	30
TP4 TS									45	30	25	Medium Clay Loam			
TP4 SS									33	36	31	Heavy Clay Loam			
27.01	6.5	15	1	119	1	81	2	4.7	38	33	29	Heavy Clay Loam	34	30	31.8
27.02	7.2	15	1	103	1	99	2	4.6	43	31	26	Medium Clay Loam	29	29	29

Comments

Recommendation

METRES
50m 0m 50m 100m

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	27
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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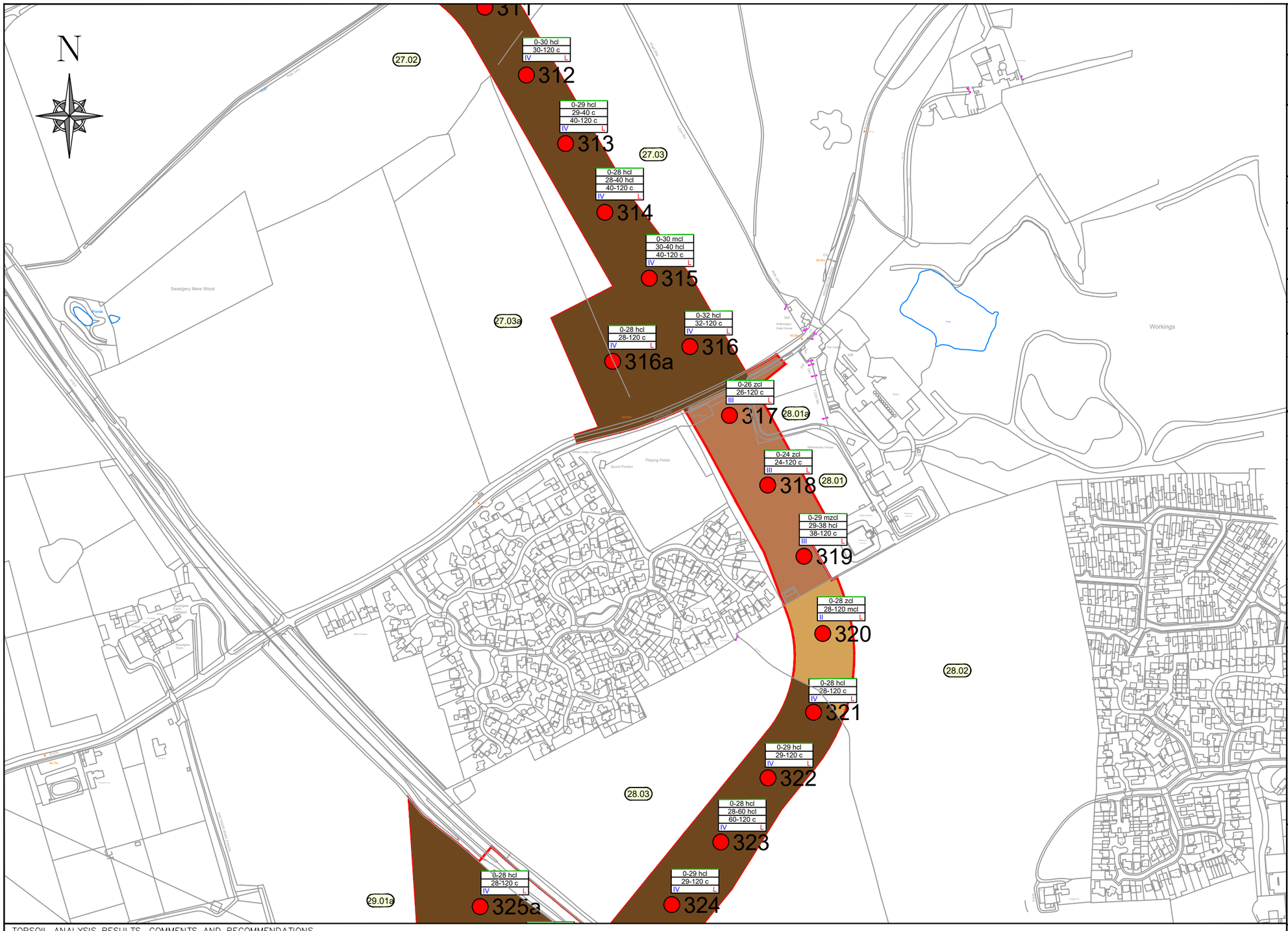

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT: RWE

PLAN NUMBER 28

AB's:

LANDOWNER:

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
27.03	7.2	17	2	86	1	62	2	3.9	40	32	28	Heavy Clay Loam	32	28	29.8
27.03a	6	16	2	81	1	78	2	4.2	50	28	22	Medium Clay Loam	28	28	28
28.01a	OUTSIDE OF WORKING AREA, SOILS NOT EXPECTED TO BE STRIPPED														
28.01	7	23	2	100	1	91	2	8.1	39	33	28	Heavy Clay Loam	29	24	26.3
28.02	7.8	24	2	59	0	51	2	5	35	35	30	Heavy Clay Loam	28	28	28
28.03	6.7	15	1	139	2-	69	2	4.3	47	29	24	Medium Clay Loam	29	28	28.5

Comments

Recommendation

METRES
50m 0m 50m 100m

Land Drainage Consultancy Ltd
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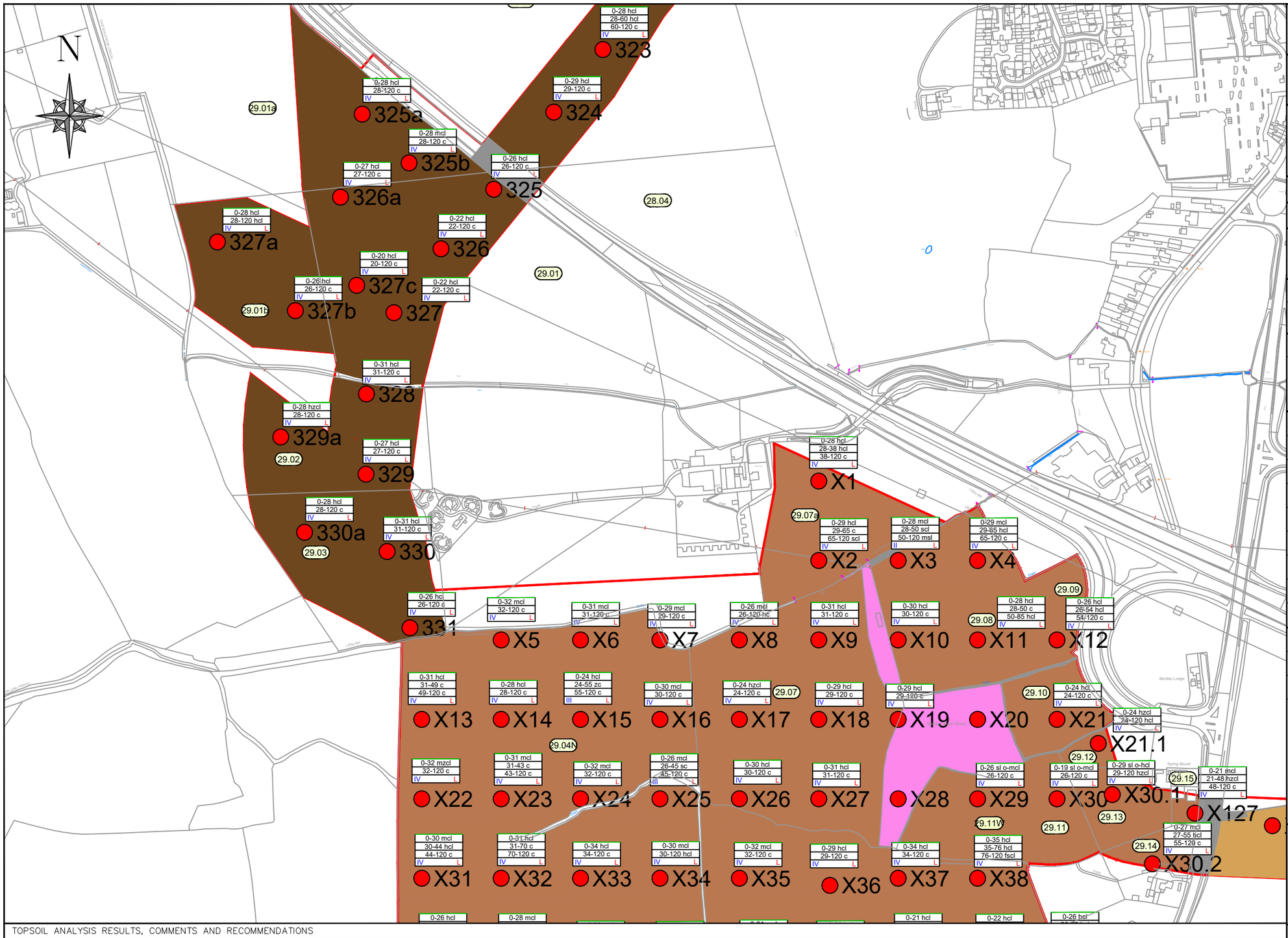
REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	28
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_SoilType.dwg				



PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	29
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

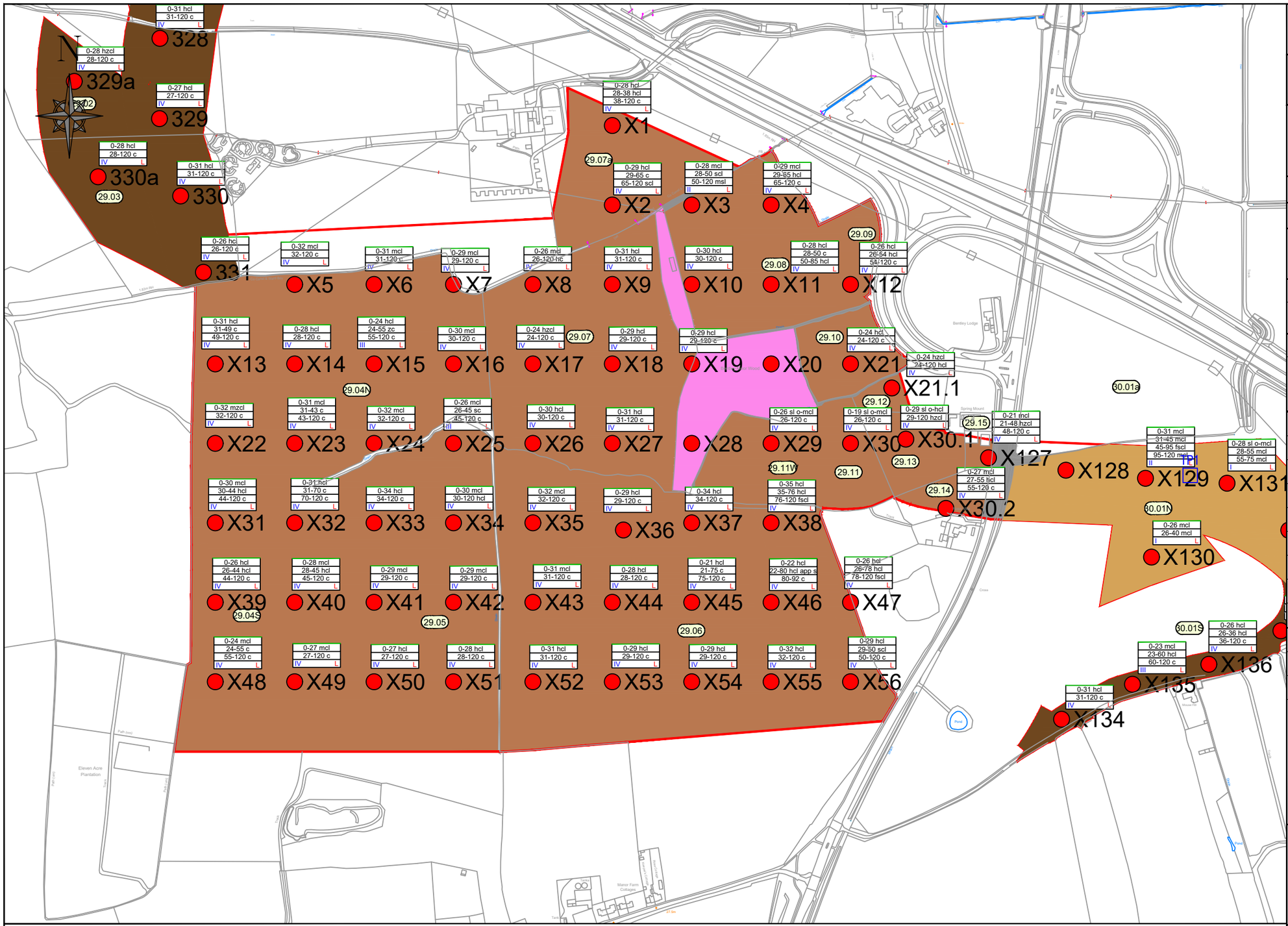
Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
29.01	6.6	19	2	211	2+	94	2	3.9	50	28	22	Medium Clay Loam	27	20	23.4
29.01a	6	14	1	224	2+	86	2	4.2	47	29	24	Medium Clay Loam	28	28	28
29.01b	6.3	11	1	150	2-	93	2	3.7	46	29	25	Medium Clay Loam	28	26	27
29.02	7.2	20	2	134	2-	85	2	4.5	49	28	23	Medium Clay Loam	31	27	28.7
29.03	6.8	23	2	98	1	136	3	5.1	50	28	22	Medium Clay Loam	31	26	28.3

Comments

Recommendation

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE A3	SHEET 29
DRAWN	NS	CHECKED AM	APPROVED AM
REVISION	C	DATE	04/10/2024
DRAWING:	LDC_DBS_Continuous_SoilType.dwg		



TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
29.04N	7.3	21	2	147	2-	100	2	4.6	48	28	24	Medium Clay Loam	32	24	30
29.04S	7.3	16	2	143	2-	72	2	4.3	42	32	26	Medium Clay Loam	31	24	27.7
29.05	7.4	22	2	175	2-	92	2	4.3	48	29	23	Medium Clay Loam	34	26	29
29.06	7.2	19	2	134	2-	122	3	3.3	54	26	20	Sandy Clay Loam	35	21	29.1
29.07	6.7	10	1	99	1	151	3	5	47	29	24	Medium Clay Loam	31	24	28.5
29.07a	6.6	9	0	65	1	76	2	4.1	48	28	24	Medium Clay Loam	29	28	28.5
29.08	7	15	1	97	1	98	2	5.4	57	24	19	Sandy Clay Loam	30	28	28.8

Comments

Recommendation

METRES 50m 0m 50m 100m

PROJECT: DOGGER BANK SOUTH

TITLE: SOIL TYPE PLANS

CLIENT: RWE

PLAN NUMBER 30

AB's:

LANDOWNER:

CONSTRUCTION DETAIL

RED LINE BOUNDARY
WORKING AREA

SOIL SURVEY

AUGER BORING LOCATION 0

TRIAL PIT LOCATION TP

SOIL TYPE CLASSIFICATION

- SOIL TYPE 1: LIGHT-MEDIUM
- SOIL TYPE 2: MEDIUM
- SOIL TYPE 3: MEDIUM-HEAVY
- SOIL TYPE 4: HEAVY
- SOIL TYPE 5: ORGANIC
- SOIL TYPE 6: DISTURBED
- NO SOIL RESOURCE
- UNSURVEYED

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

Land Drainage Consultancy Ltd
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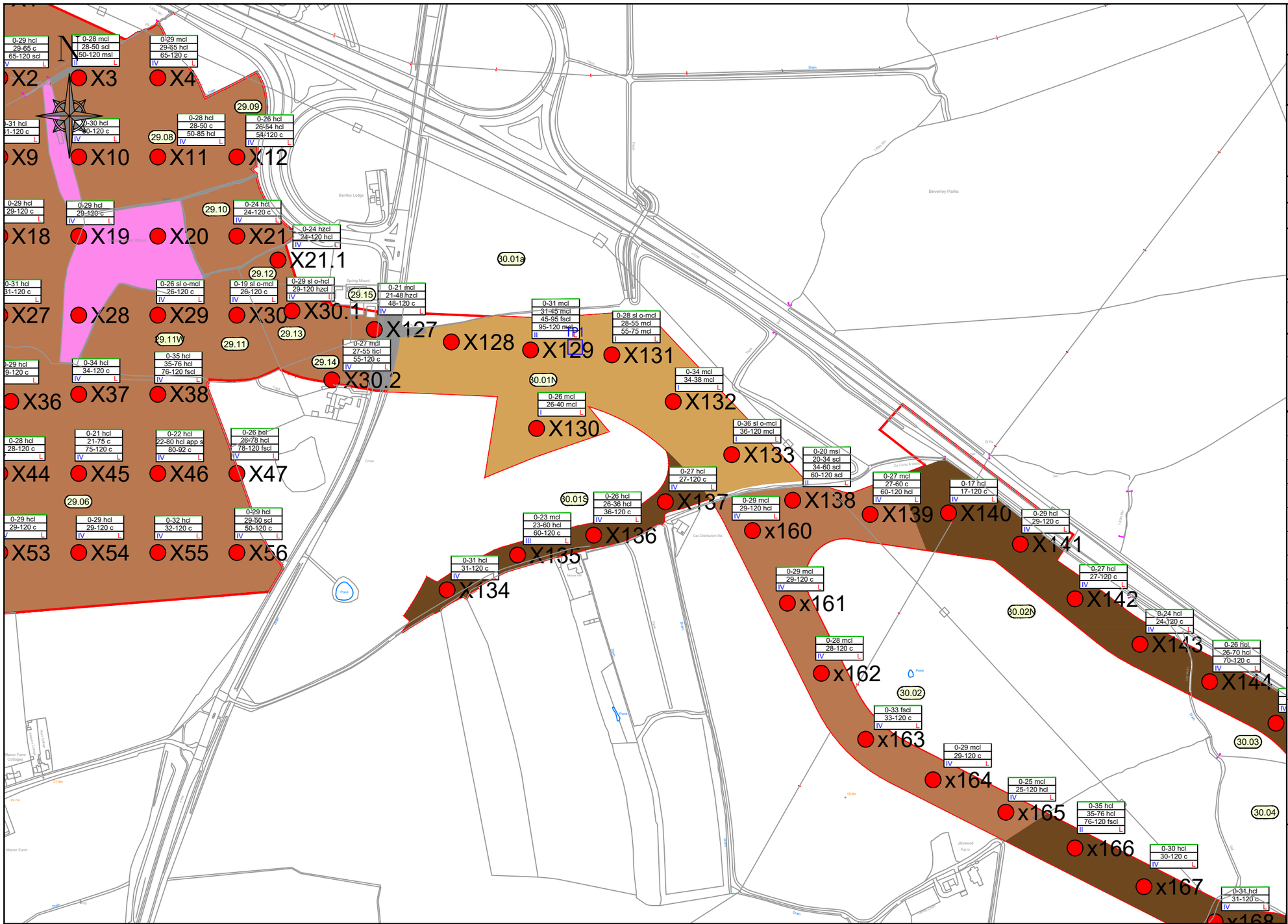
REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	30
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		

DRAWING: LDC_DBS_Continuous_SoilType.dwg



PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	31
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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Email: mail@ldcl.co.uk

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
29.09	7	13	1	94	1	106	3	4.8	66	18	16	Sandy Loam	26	26	26
29.10	6.7	37	3	196	2+	94	2	6.4	52	26	22	Sandy Clay Loam	24	24	24
29.11	6.2	20	2	123	2-	109	3	7.4	49	29	22	Medium Clay Loam	19	19	19
29.11W	6.2	27	3	81	1	112	3	8.6	51	28	21	Sandy Clay Loam	26	26	26
29.12	5.9	12	1	235	2+	124	3	8.5	52	27	21	Sandy Clay Loam	24	24	24
29.13	5.9	7	0	132	2-	126	3	7.8	54	26	20	Sandy Clay Loam	29	29	29
29.14	6.1	51	4	169	2-	117	3	8.6	48	28	24	Medium Clay Loam	27	27	27

Comments

Recommendation

METRES
50m 0m 50m 100m

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3
DRAWN	NS	CHECKED	AM
APPROVED	AM	SHEET	31
REVISION	C	DATE	04/10/2024
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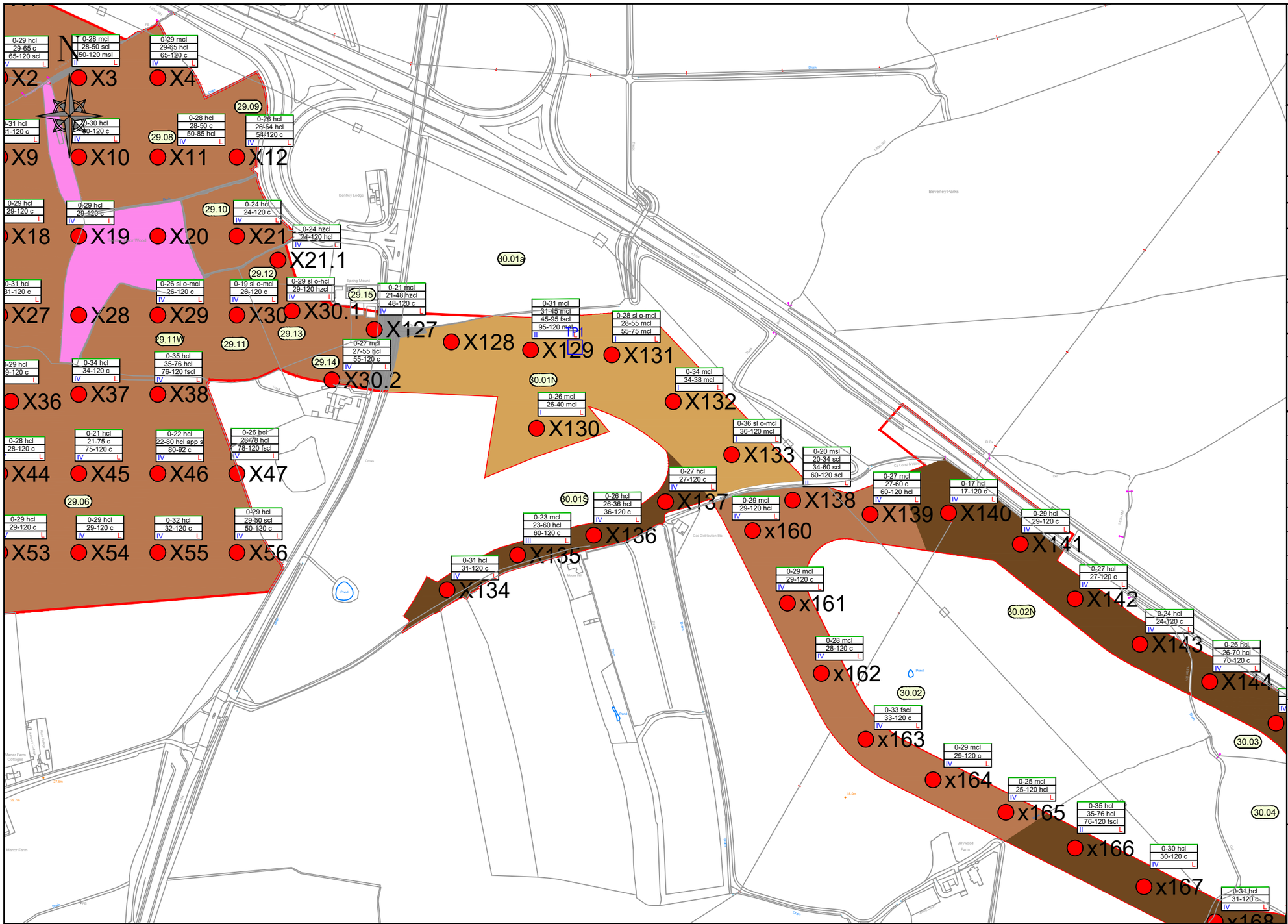

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
30.01N	7.1	38	3	192	2+	67	2	4.6	69	19	23	Sandy Loam	36	26	31
30.01S	7.6	29	3	156	2-	63	2	4.3	58	25	17	Sandy Loam	31	23	26.8
TP1 TS									62	22	16	Sandy Loam			
TP1 USS									58	25	17	Sandy Loam			
TP1 LSS									41	38	21	Medium Clay Loam			

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER 32

AB's:

LANDOWNER:

CONSTRUCTION DETAIL

RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY

AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION

SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER

WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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East Yorkshire
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Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	32
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		

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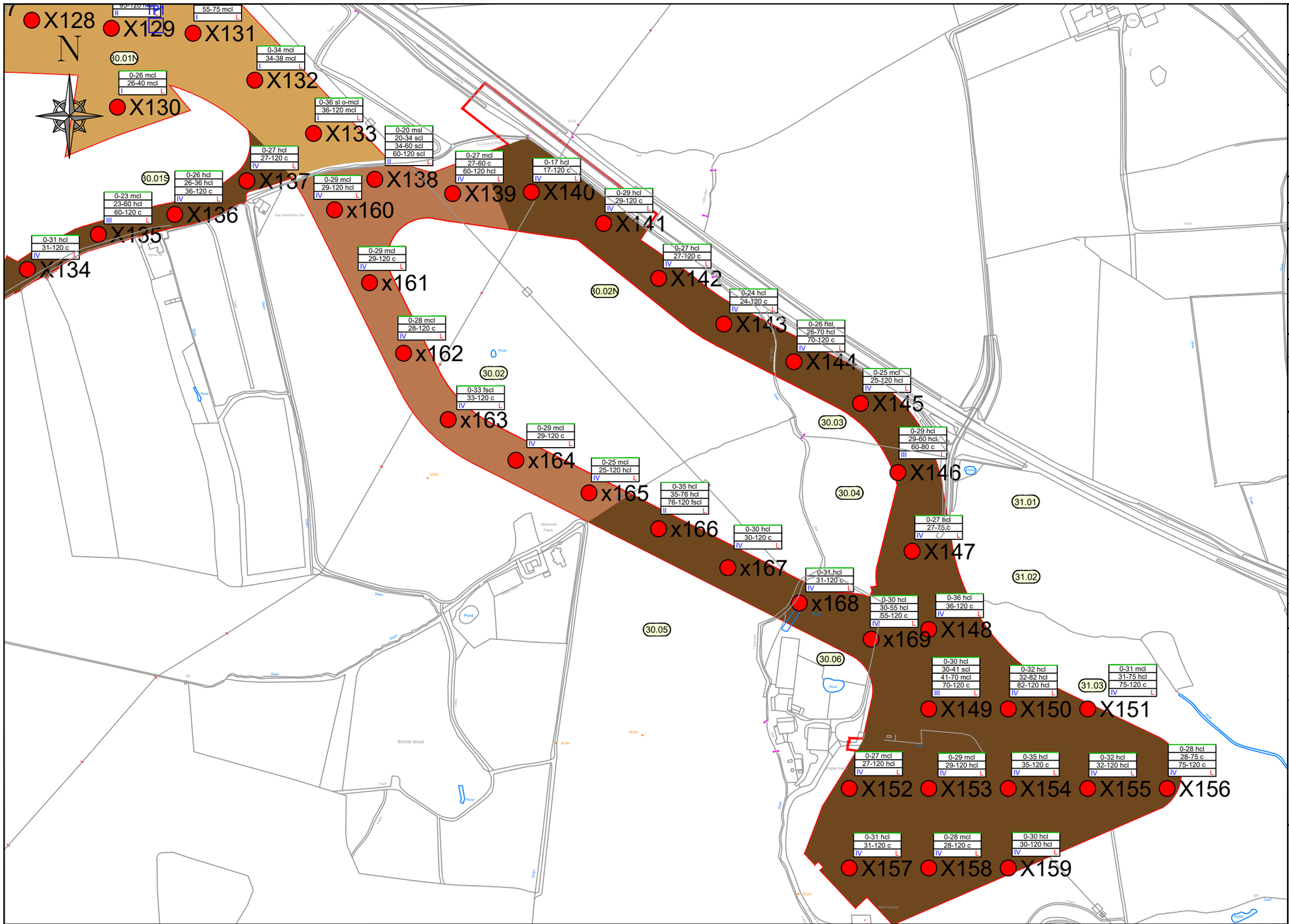

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER	33
AB's:	
LANDOWNER:	

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
30.02	6.8	18	2	148	2-	80	2	4.4	45	31	24	Medium Clay Loam	33	20	27.6
30.02N	7.6	22	2	129	2-	78	2	3.9	57	25	18	Sandy Loam	29	17	24.8
30.03	6.7	18	2	87	1	96	2	5.7	51	27	22	Sandy Clay Loam	26	25	25.5
30.04	6.7	14	1	197	2+	122	3	4.8	34	33	33	Heavy Clay Loam	29	27	28
30.05	7	14	1	162	2-	125	3	4.6	40	31	29	Heavy Clay Loam	35	30	32.5
30.06	6.8	13	1	97	1	49	1	5.8	48	30	22	Medium Clay Loam	31	30	30.5
31.01	7.7	12	1	144	2-	60	2	4.6	53	28	19	Sandy Clay Loam			

Comments

Recommendation

METRES
50m 0m 50m 100m

Land Drainage Consultancy Ltd
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Fimber
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Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	33
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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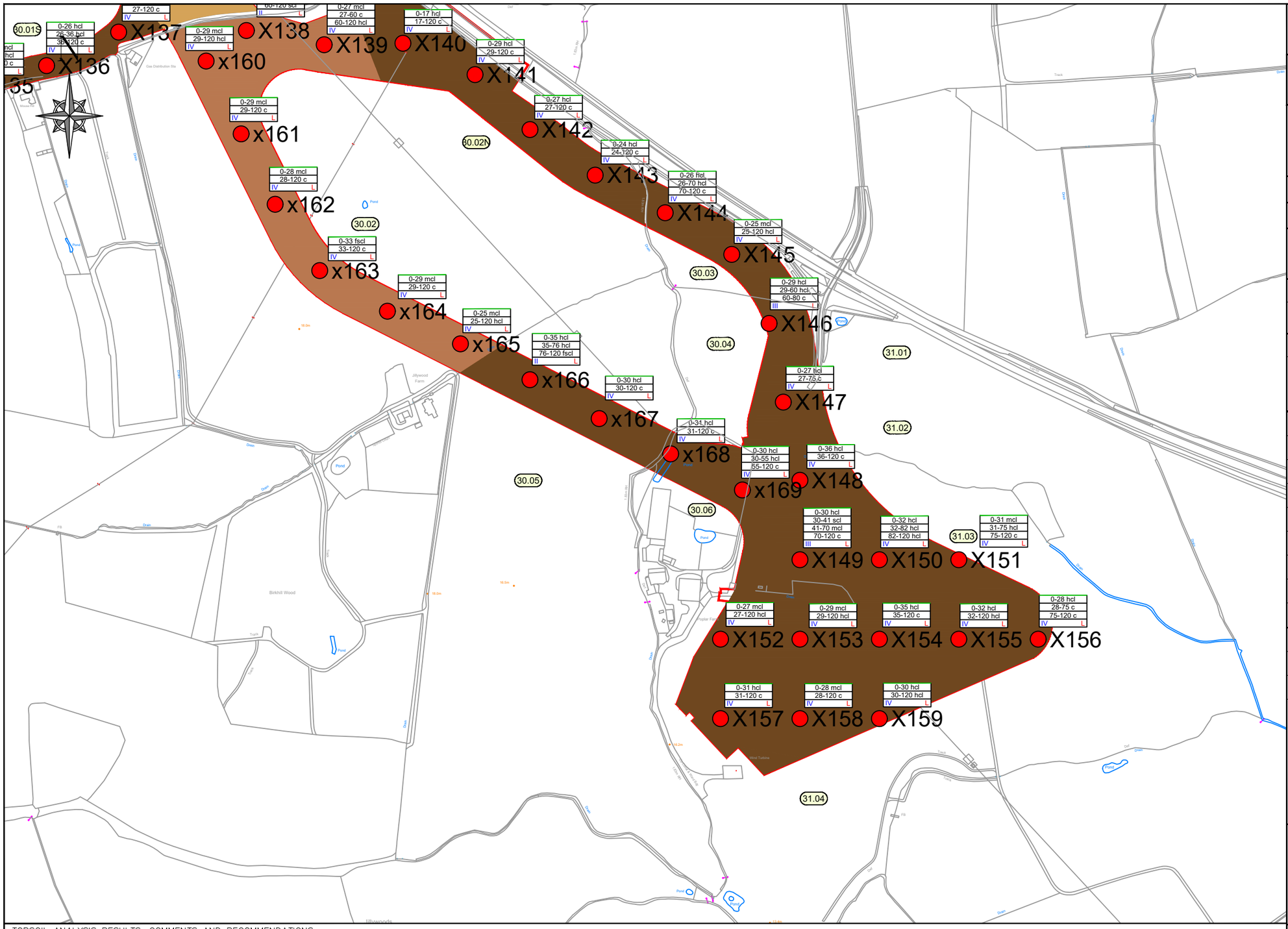

TOPSOIL ANALYSIS RESULTS, COMMENTS AND RECOMMENDATIONS

Field	pH	Available P		Available K		Available Mg		OM	Sand	Silt	Clay	Texture	Topsoil Depth (cm)		
		mg/l	Index	mg/l	Index	mg/l	Index	%	%	%	%	Description	Maximum	Minimum	Mean
31.02	7.1	12	1	107	1	47	1	4	56	26	18	Sandy Loam			
31.03	6.8	11	1	108	1	57	2	4.2	59	25	16	Sandy Loam	36	28	31.5
31.04	7.1	10	1	122	2-	70	2	4.2	53	29	18	Sandy Loam	35	27	30

Comments

Recommendation

METRES
50m 0m 50m 100m

PROJECT:
DOGGER BANK SOUTH

TITLE:
SOIL TYPE PLANS

CLIENT:
RWE

PLAN NUMBER 34

AB's:

LANDOWNER:

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

SOIL TYPE CLASSIFICATION	
SOIL TYPE 1: LIGHT-MEDIUM	
SOIL TYPE 2: MEDIUM	
SOIL TYPE 3: MEDIUM-HEAVY	
SOIL TYPE 4: HEAVY	
SOIL TYPE 5: ORGANIC	
SOIL TYPE 6: DISTURBED	
NO SOIL RESOURCE	
UNSURVEYED	

OTHER	
WETNESS CLASS	I / II / III / IV
EROSION RISK	L M H

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	08/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	34
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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Appendix 2 Agricultural Land Classification (ALC) Distribution

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	1

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION	
GRADE 1	
GRADE 2	
SUBGRADE 3a	
SUBGRADE 3b	
GRADE 4	
NON-AGRICULTURAL	
URBAN	
UNSURVEYED	

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Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	1
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REVISION	C	DATE	04/10/2024		
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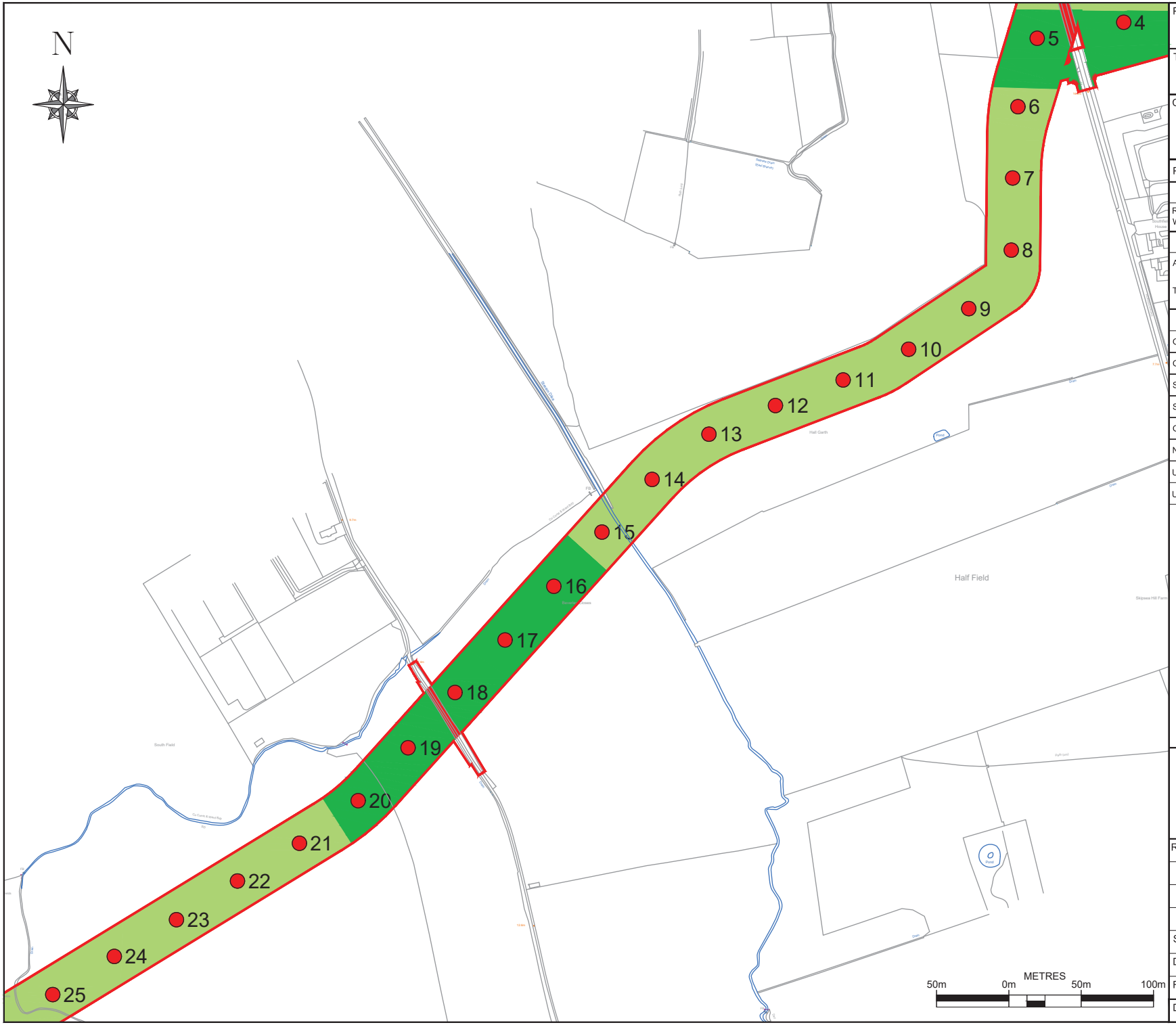

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	2

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION	
GRADE 1	
GRADE 2	
SUBGRADE 3a	
SUBGRADE 3b	
GRADE 4	
NON-AGRICULTURAL	
URBAN	
UNSURVEYED	

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Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	2
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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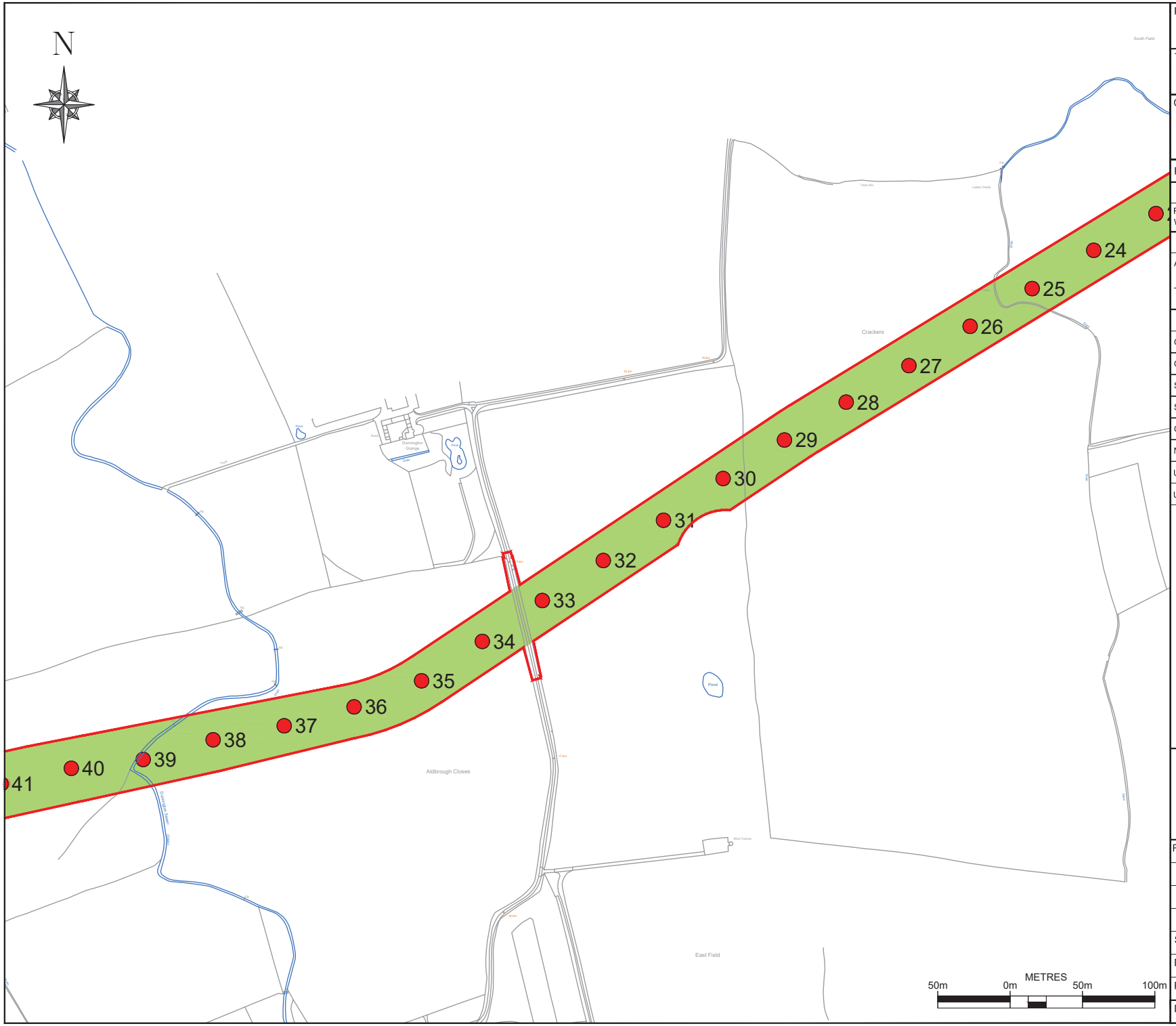

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT: RWE

PLAN NUMBER	3

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

Land Drainage Consultancy Ltd
Cowslip Offices
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Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	3
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REVISION	C	DATE	04/10/2024		
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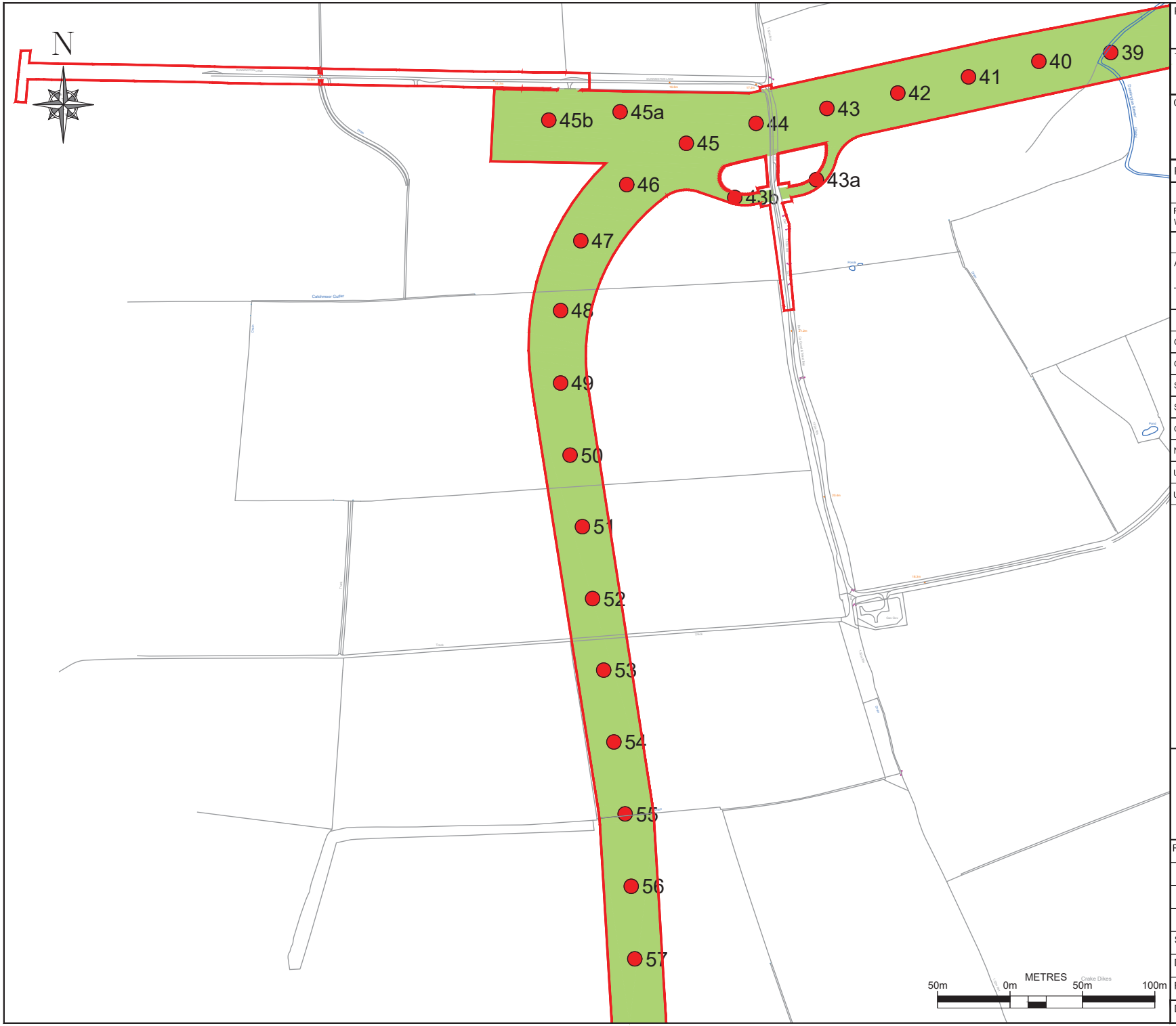

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	4

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

Land Drainage Consultancy Ltd
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Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	4
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	5

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

Land Drainage Consultancy Ltd
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East Yorkshire
YO25 9LY
Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	5
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REVISION	C	DATE	04/10/2024		
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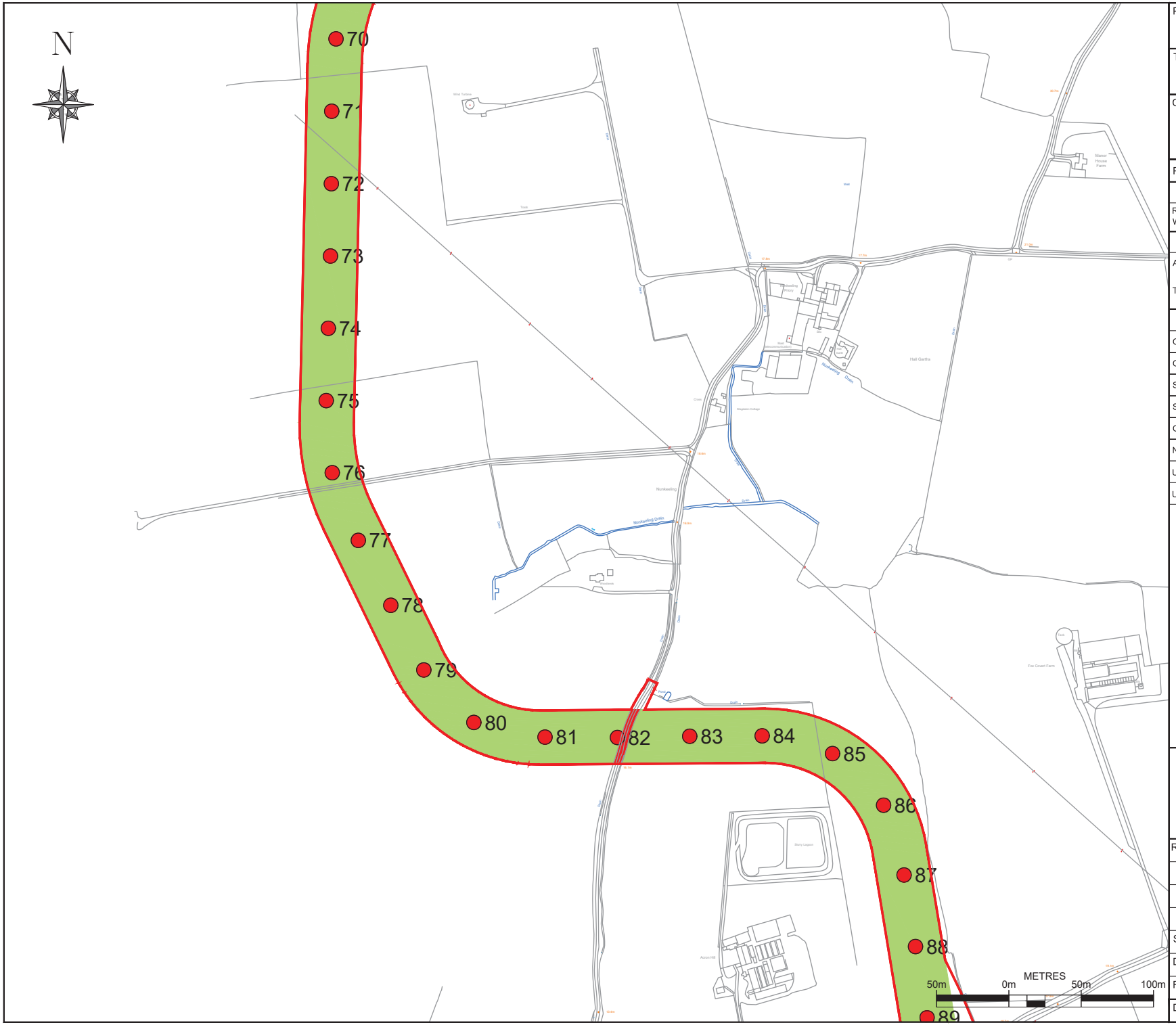

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	6

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

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East Yorkshire
YO25 9LY
Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	6
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REVISION	C	DATE	04/10/2024		
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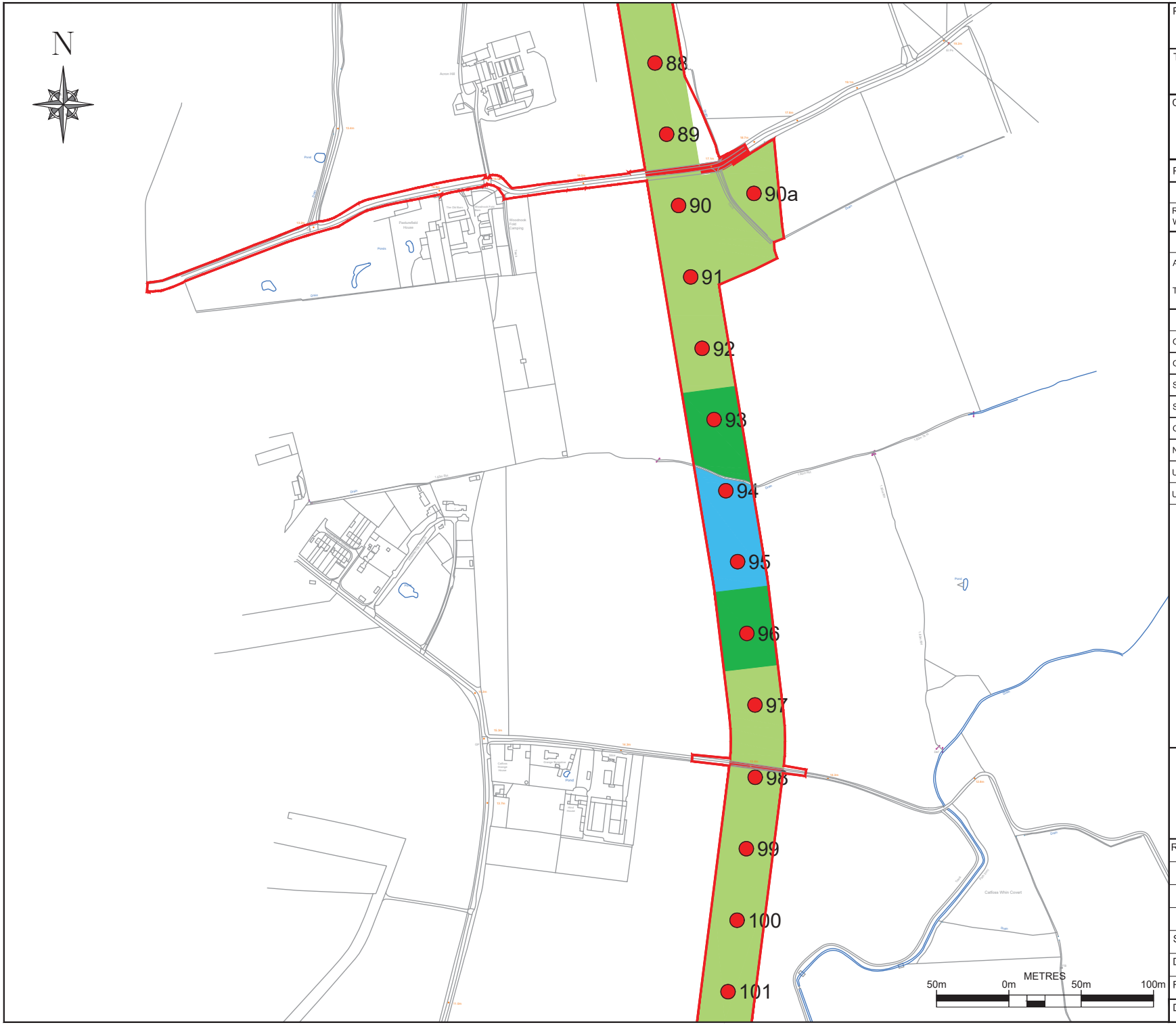

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	7

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

Land Drainage Consultancy Ltd
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Fimber
DRIFFIELD
East Yorkshire
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Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	7
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_ALC.dwg				

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	8

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

Land Drainage Consultancy Ltd
Cowslip Offices
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DRIFFIELD
East Yorkshire
YO25 9LY
Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	8
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REVISION	C	DATE	04/10/2024		
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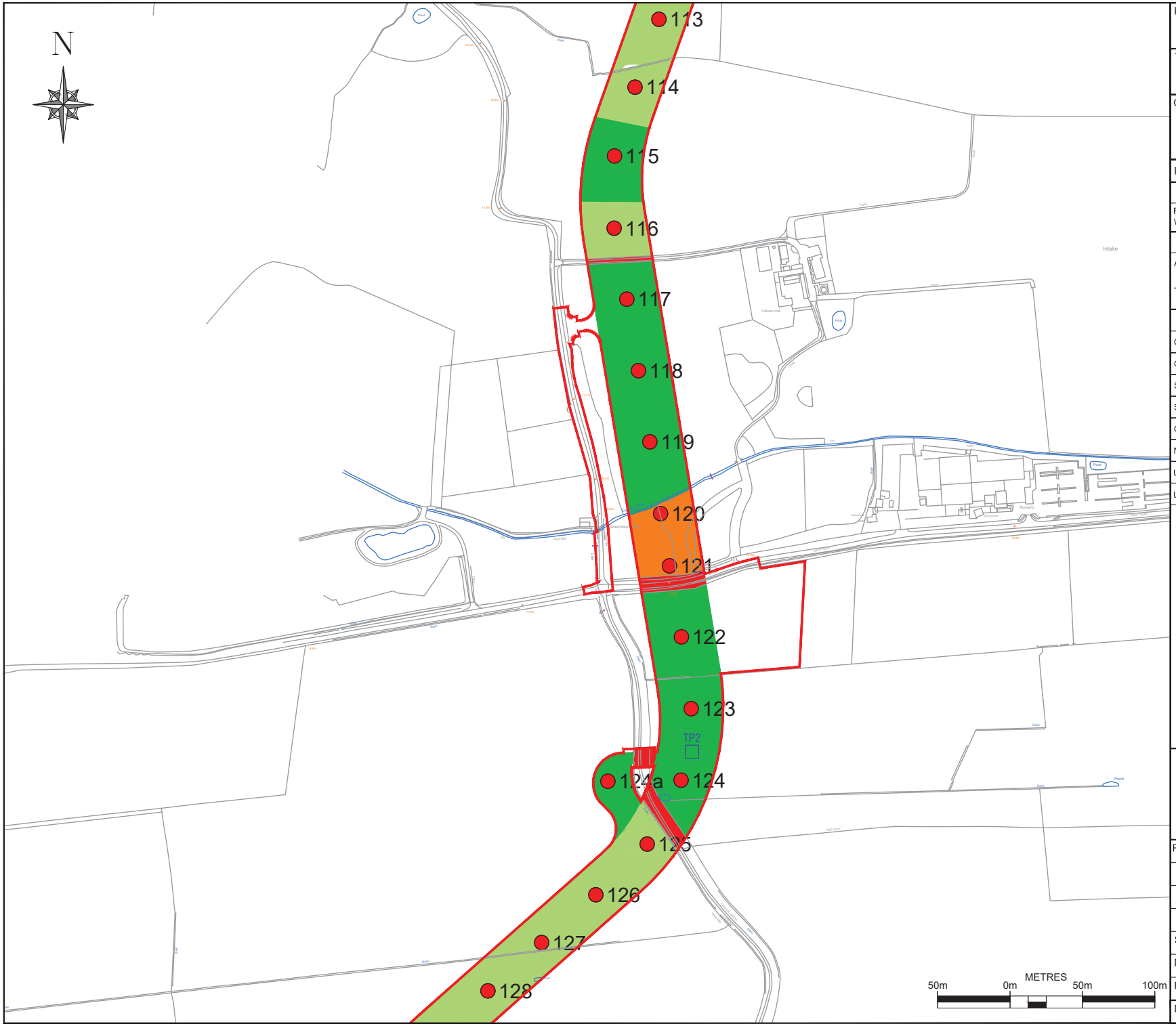

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	9

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

Land Drainage Consultancy Ltd
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DRIFFIELD
East Yorkshire
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Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	9
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_ALC.dwg				

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	10

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

Land Drainage Consultancy Ltd
Cowslip Offices
Fimber
DRIFFIELD
East Yorkshire
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Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	10
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REVISION	C	DATE	04/10/2024		
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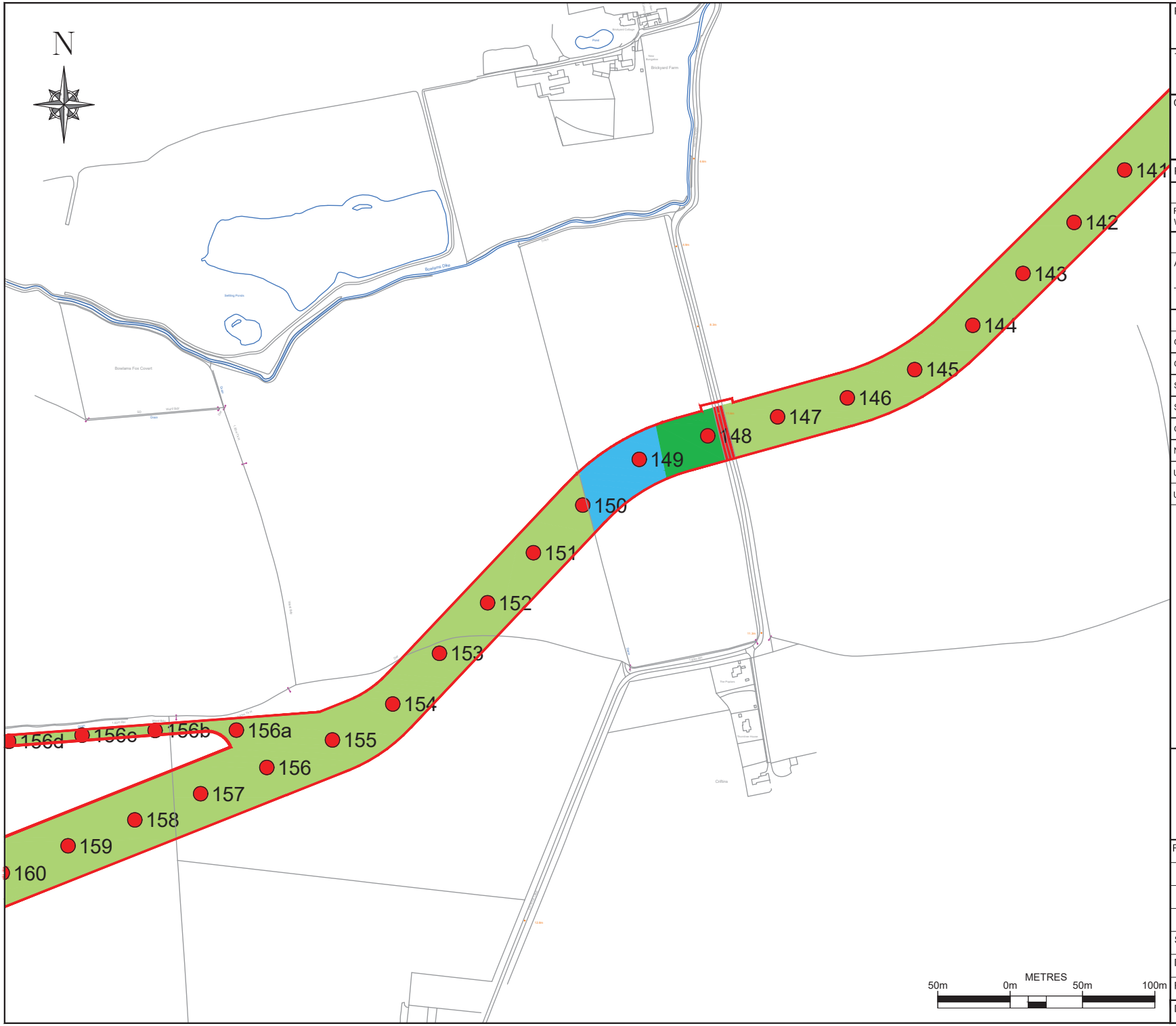

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	11

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

Land Drainage Consultancy Ltd
Cowslip Offices
Fimber
DRIFFIELD
East Yorkshire
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Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	11
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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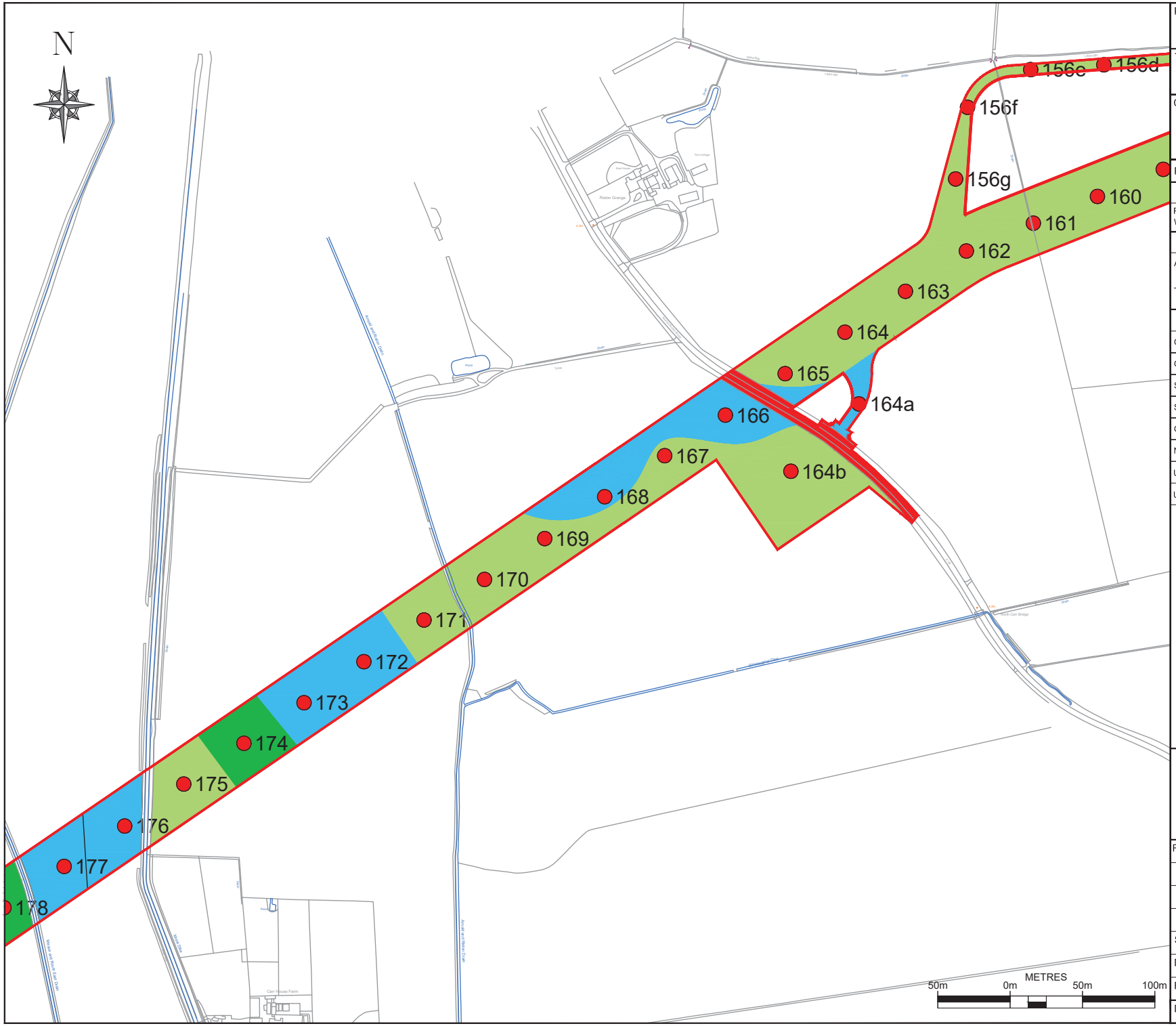

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	12

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

Land Drainage Consultancy Ltd
Cowslip Offices
Fimber
DRIFFIELD
East Yorkshire
YO25 9LY
Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	12
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REVISION	C	DATE	04/10/2024		
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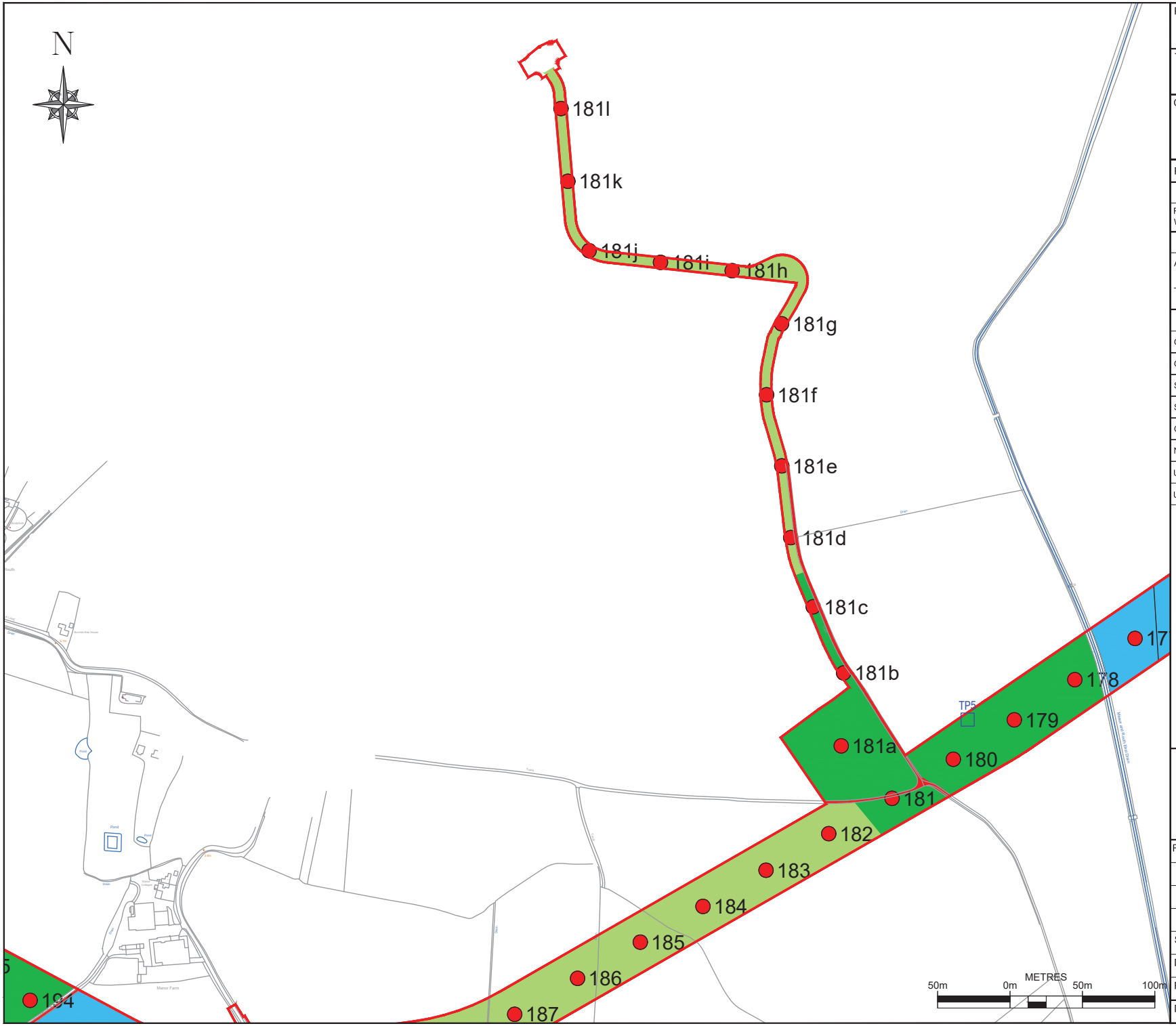

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	13

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

Land Drainage Consultancy Ltd
Cowslip Offices
Fimber
DRIFFIELD
East Yorkshire
YO25 9LY
Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	13
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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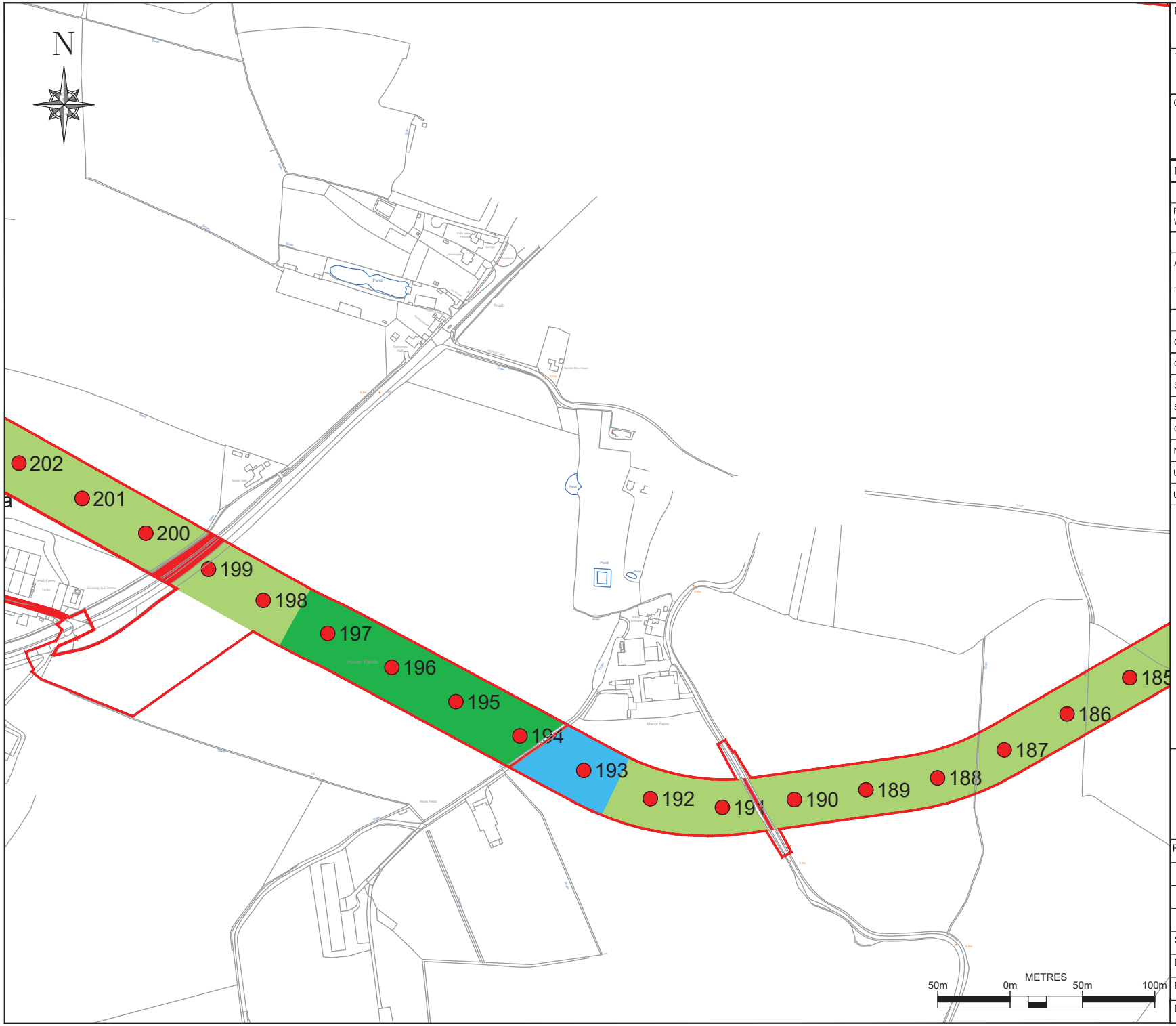

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	14

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	14
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REVISION	C	DATE	04/10/2024		
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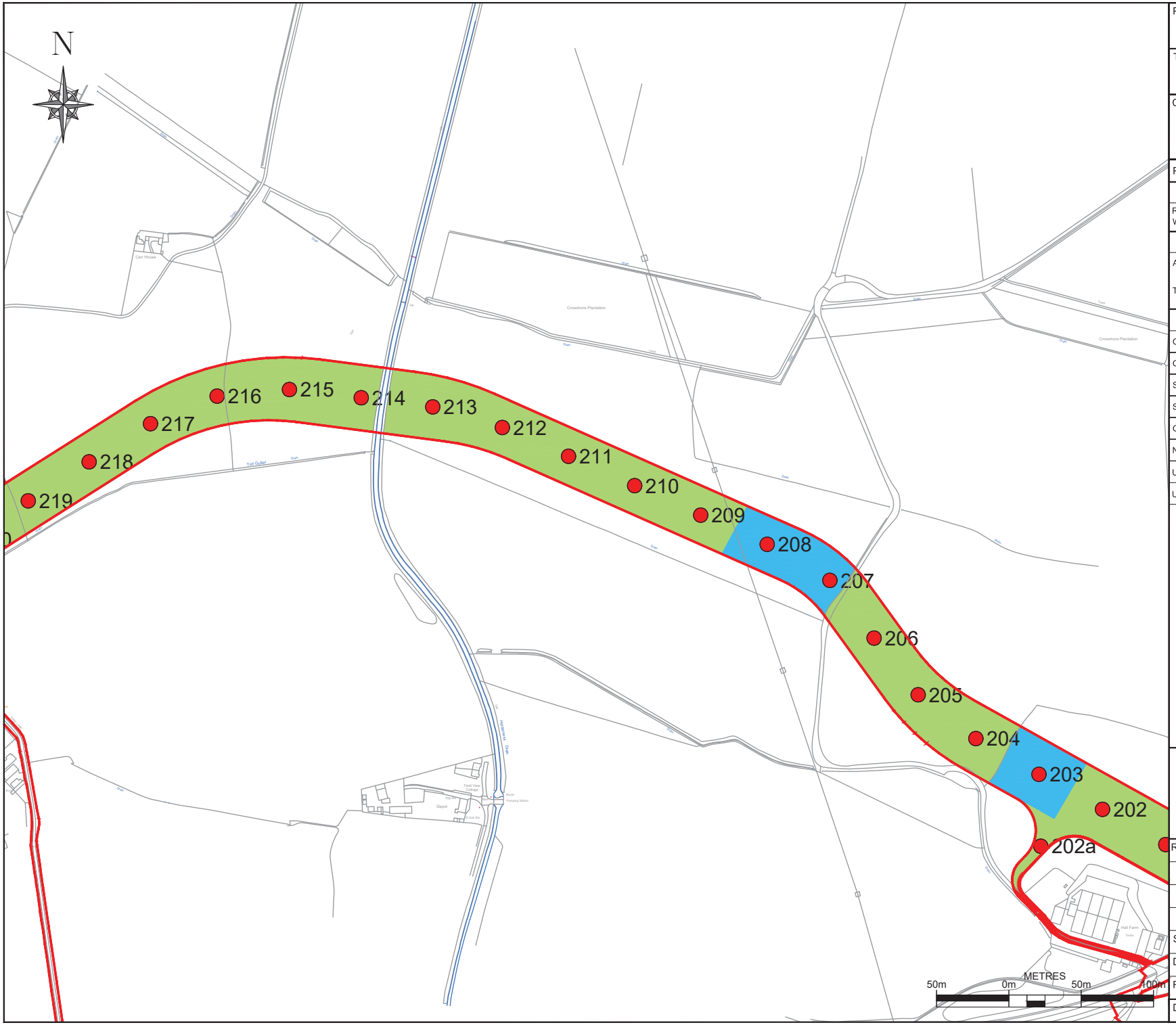

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	15

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

Land Drainage Consultancy Ltd
Cowslip Offices
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Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	15
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REVISION	C	DATE	04/10/2024		
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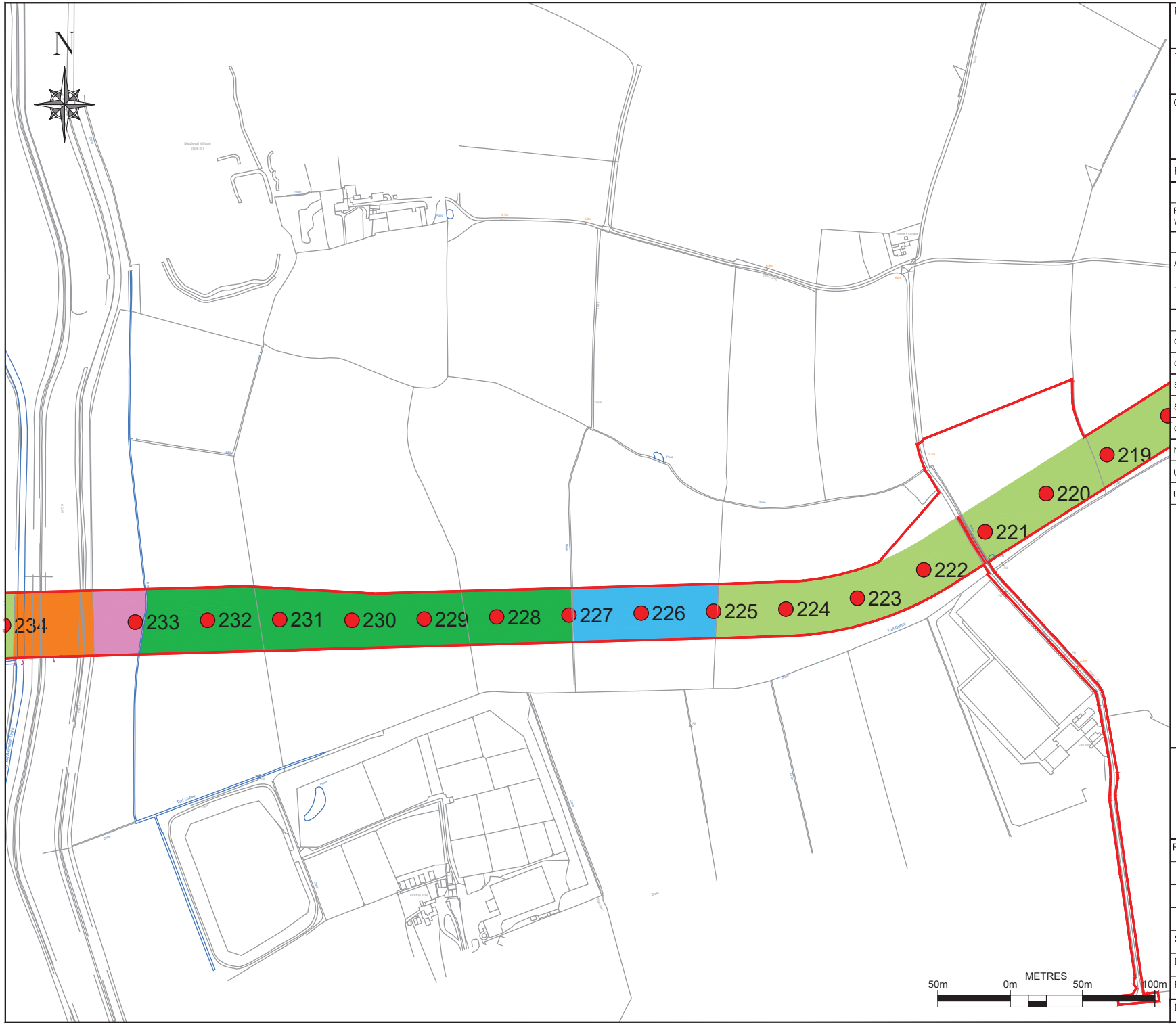

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	16

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION	
GRADE 1	
GRADE 2	
SUBGRADE 3a	
SUBGRADE 3b	
GRADE 4	
NON-AGRICULTURAL	
URBAN	
UNSURVEYED	

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	16
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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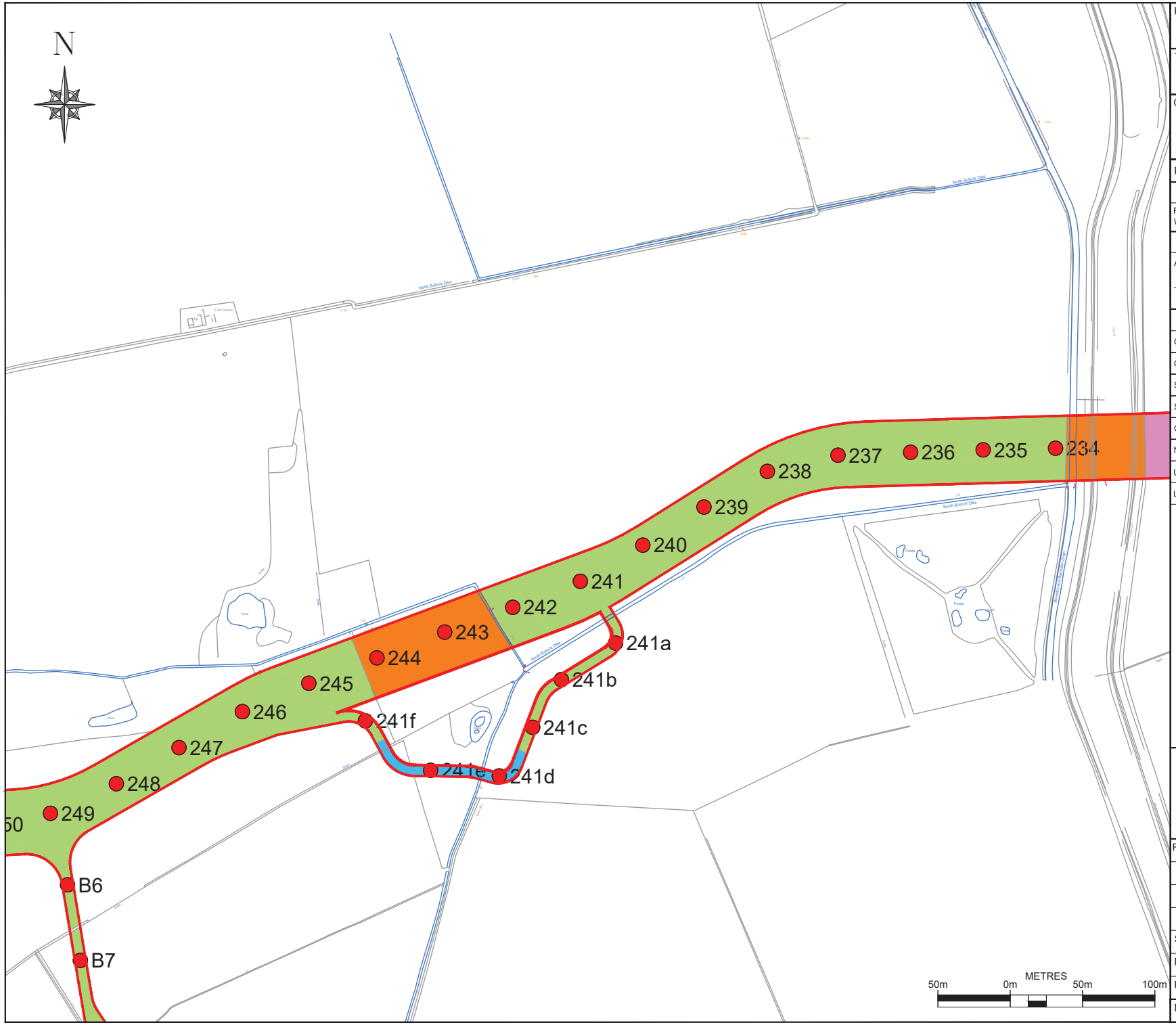

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	17

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

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Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	17
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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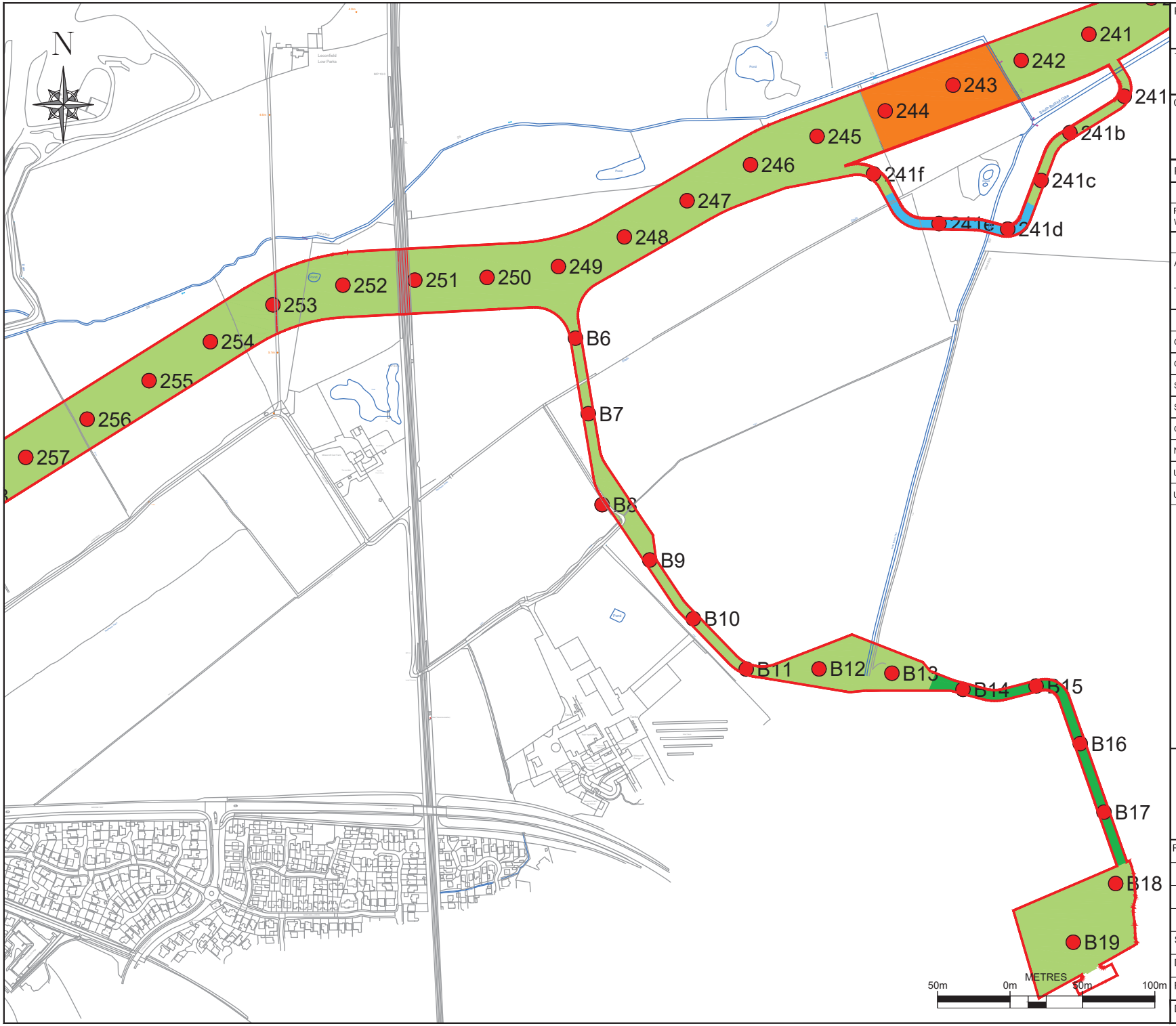

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	18

CONSTRUCTION DETAIL	
RED LINE BOUNDARY WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION	
GRADE 1	
GRADE 2	
SUBGRADE 3a	
SUBGRADE 3b	
GRADE 4	
NON-AGRICULTURAL	
URBAN	
UNSURVEYED	

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	18
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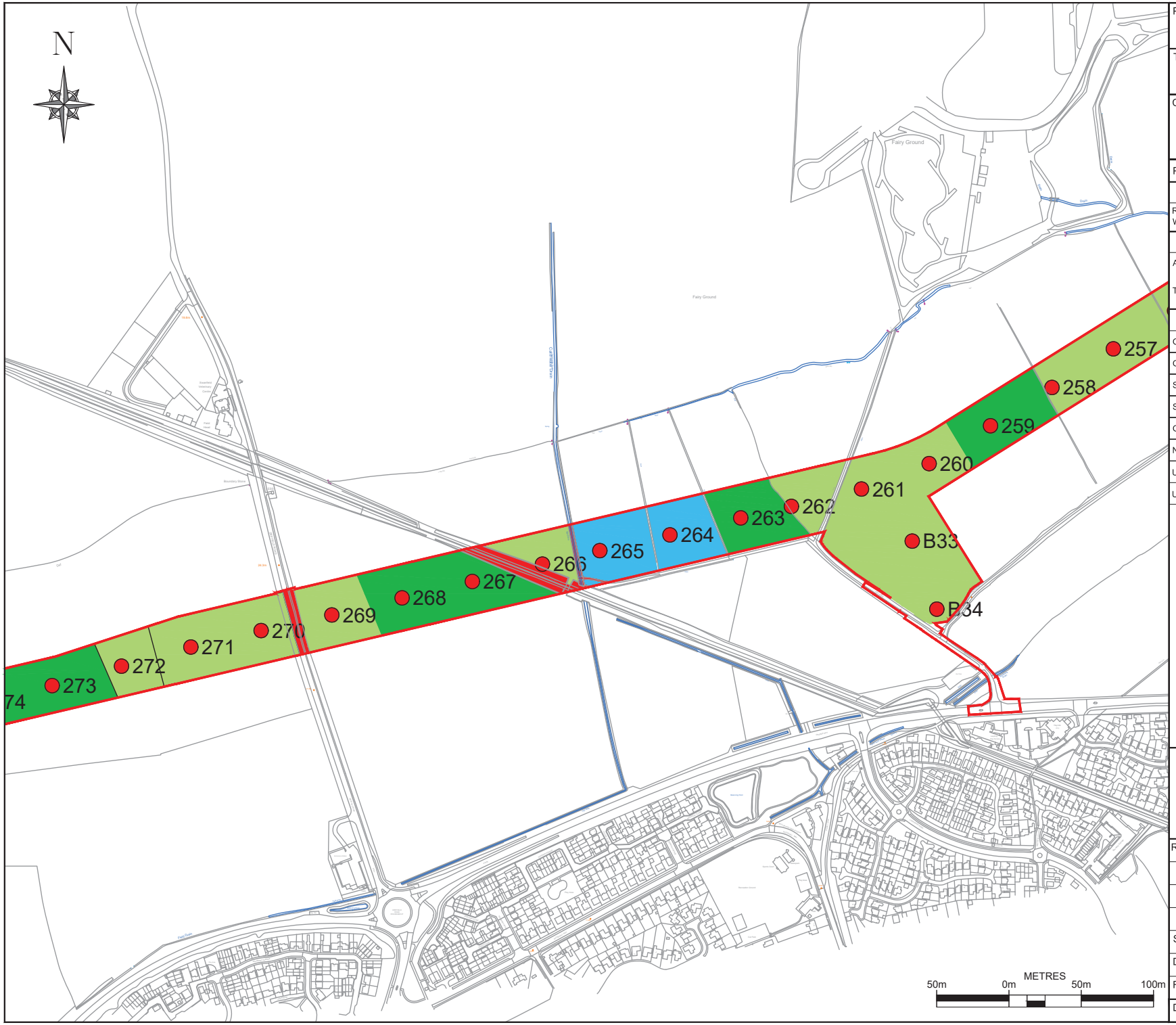

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	19

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

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East Yorkshire
YO25 9LY
Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	19
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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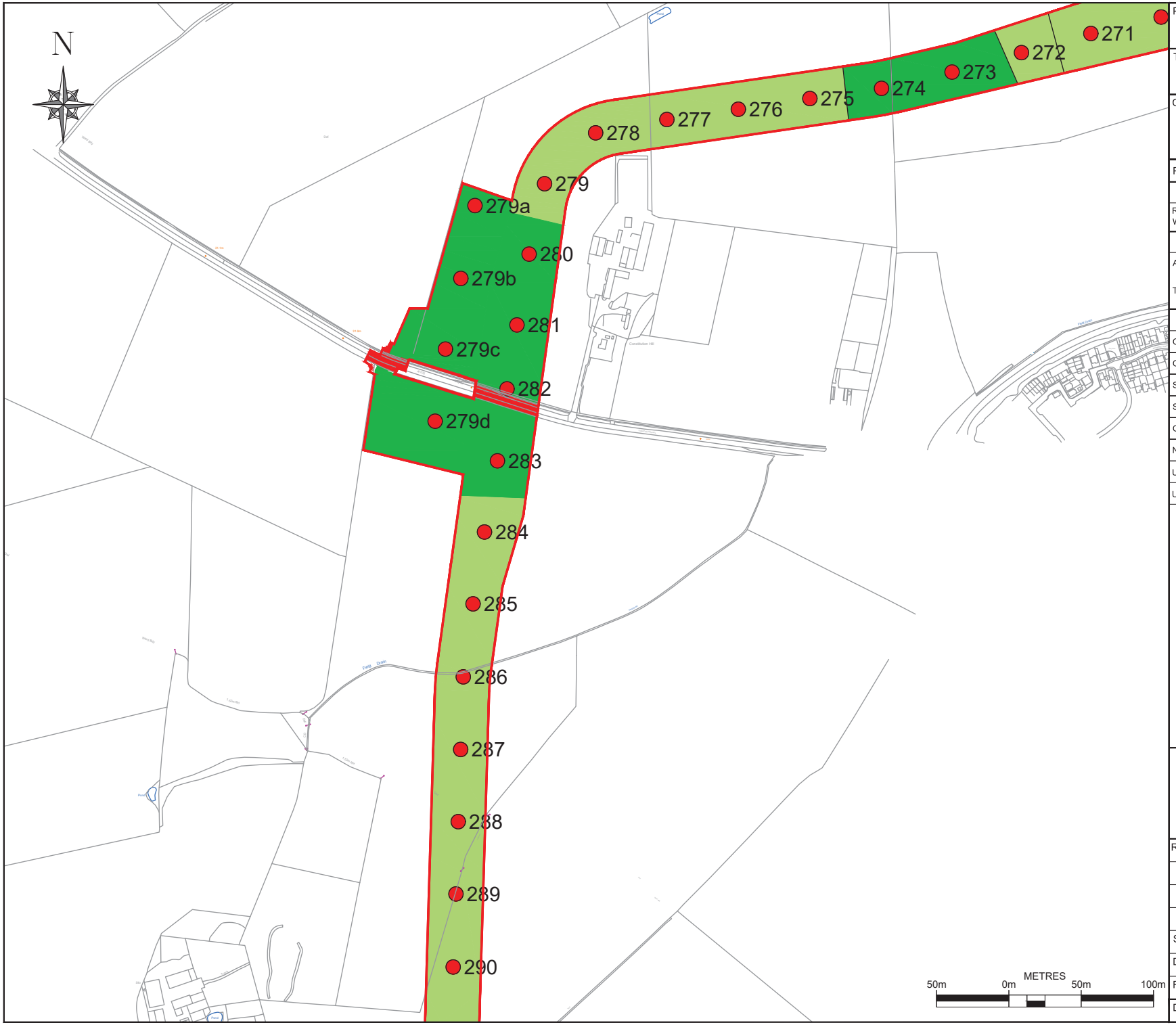

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	20

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION	
GRADE 1	
GRADE 2	
SUBGRADE 3a	
SUBGRADE 3b	
GRADE 4	
NON-AGRICULTURAL	
URBAN	
UNSURVEYED	

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	20
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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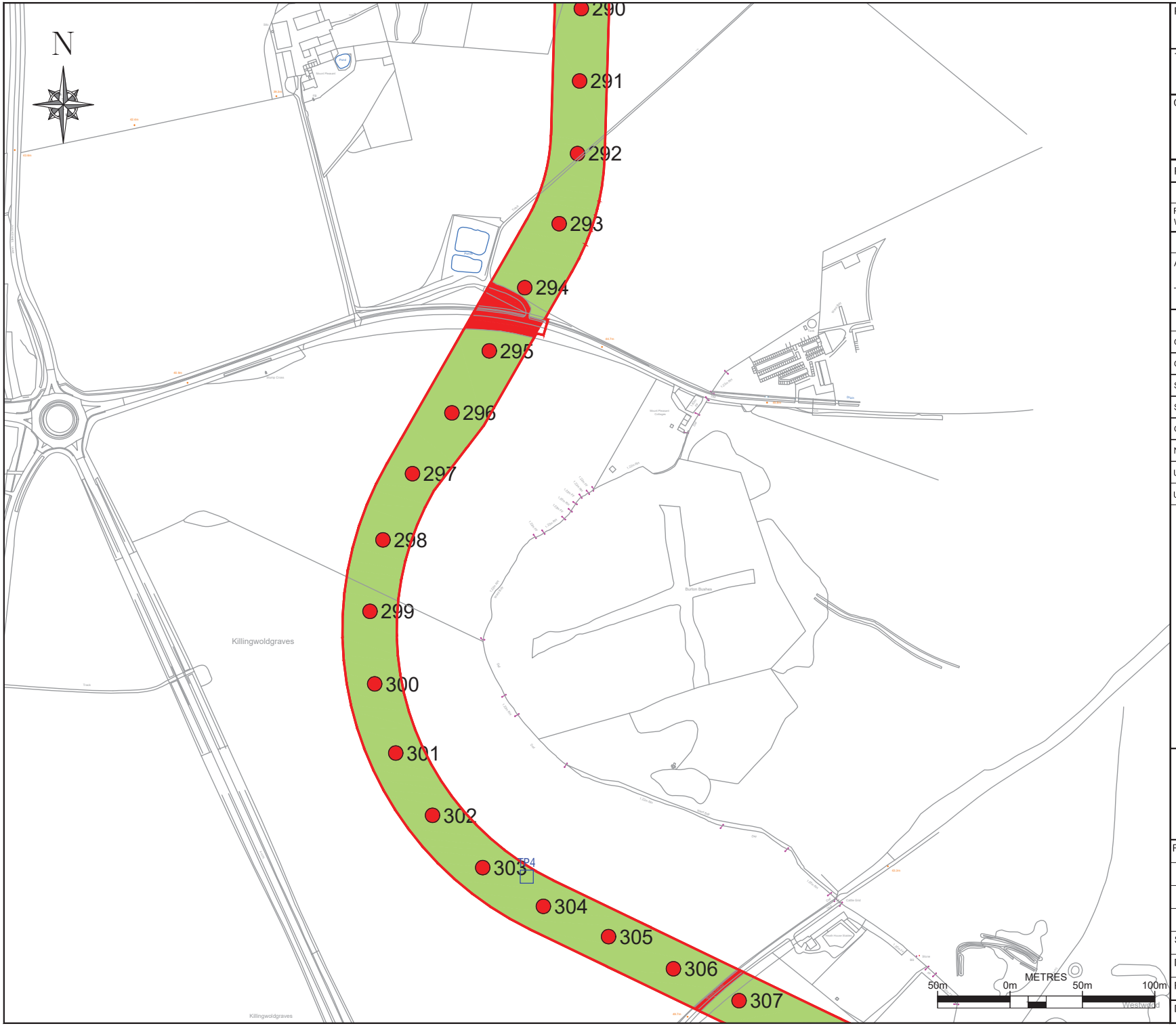

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	21

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	21
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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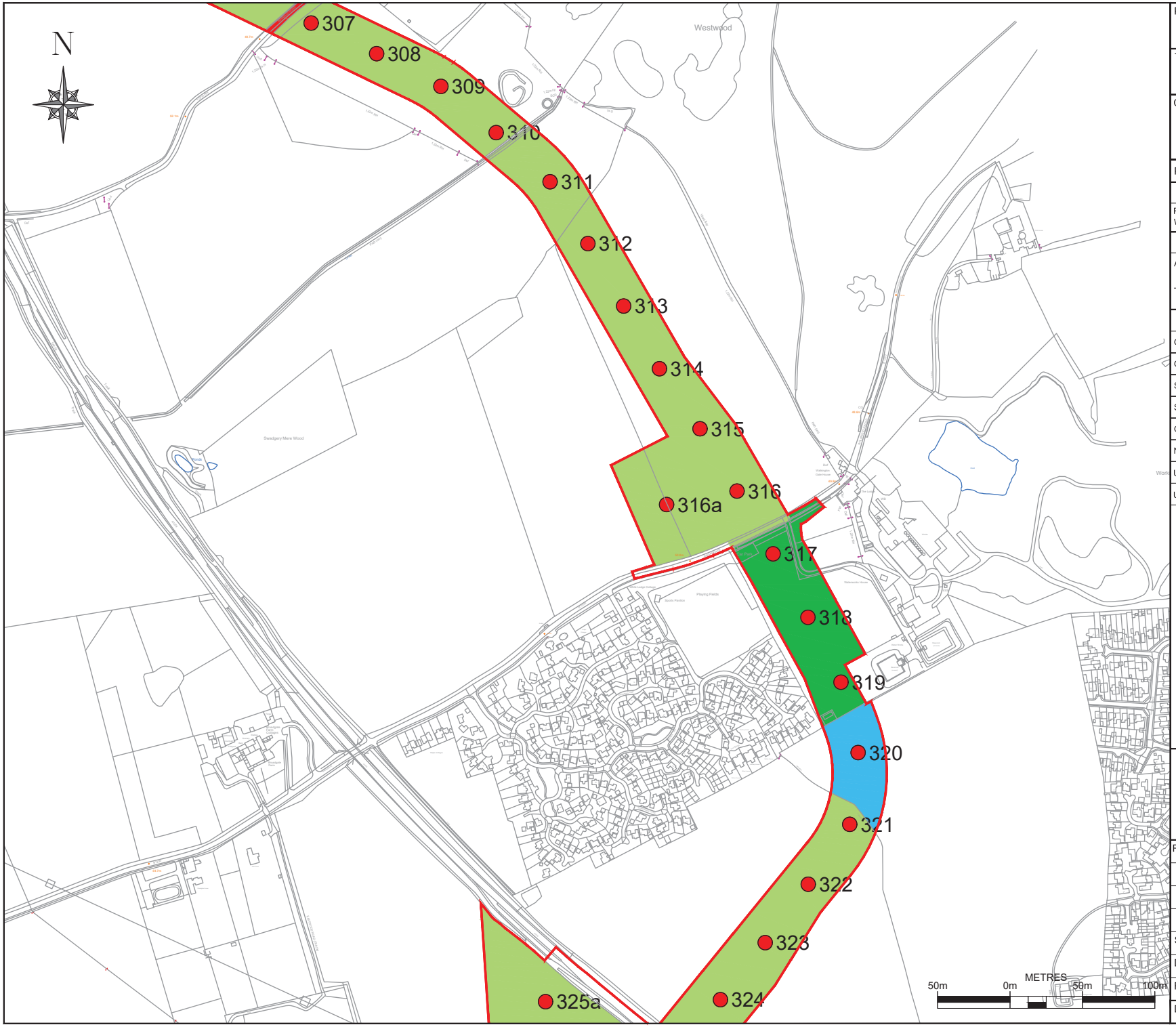

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	22

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
URBAN
UNSURVEYED

Land Drainage Consultancy Ltd
Cowslip Offices
Fimber
DRIFFIELD
East Yorkshire
YO25 9LY
Tel: 01377 236010
Email: mail@ldcl.co.uk

REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	22
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_ALC.dwg				

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	23

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION
GRADE 1
GRADE 2
SUBGRADE 3a
SUBGRADE 3b
GRADE 4
NON-AGRICULTURAL
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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	23
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
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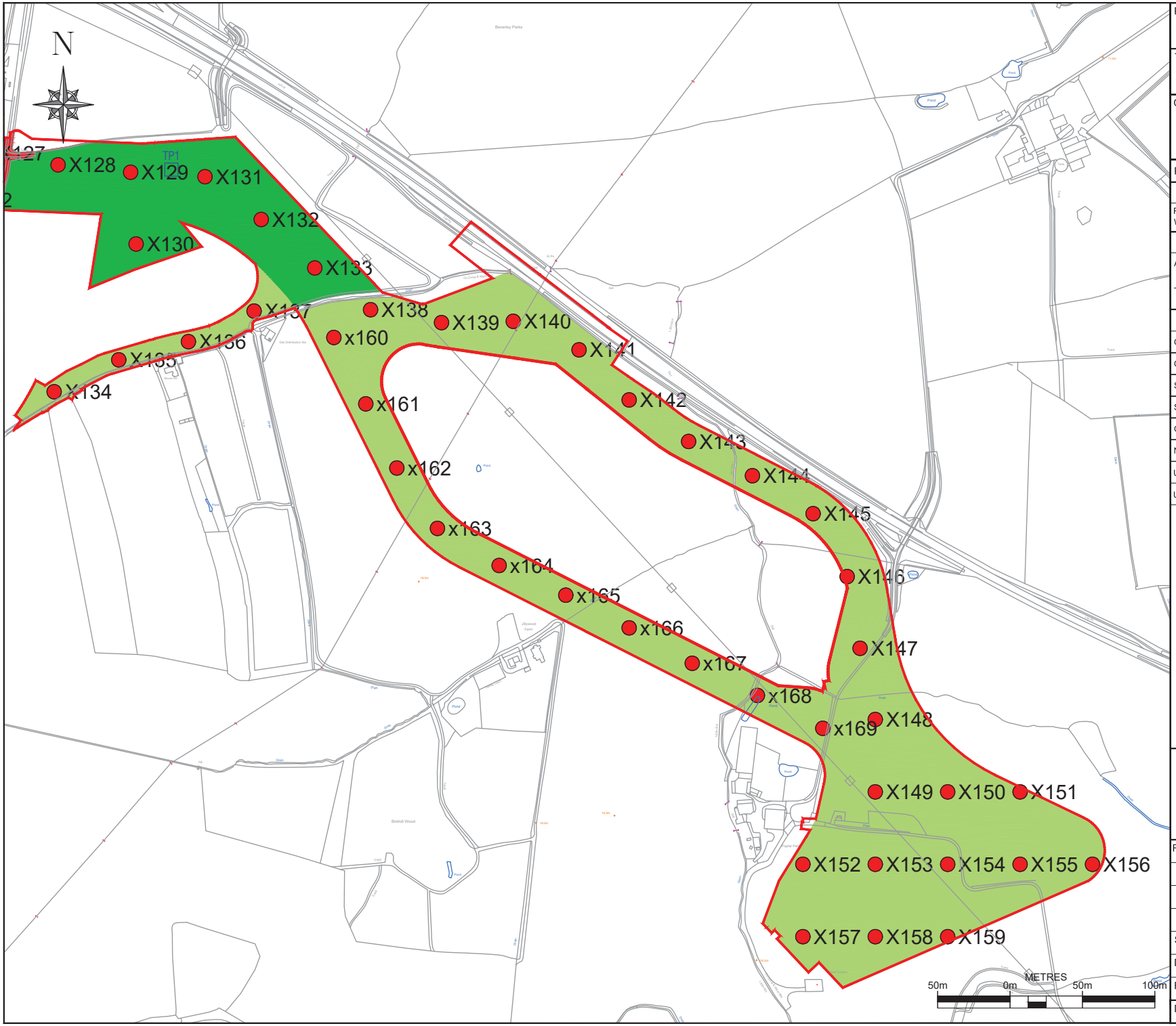

PROJECT:
DOGGER BANK SOUTH

TITLE:
ALC DISTRIBUTION PLANS

CLIENT:
RWE

PLAN NUMBER	24

CONSTRUCTION DETAIL	
RED LINE BOUNDARY	
WORKING AREA	

SOIL SURVEY	
AUGER BORING LOCATION	0
TRIAL PIT LOCATION	TP

AGRICULTUAL LAND CLASSIFICATION	
GRADE 1	
GRADE 2	
SUBGRADE 3a	
SUBGRADE 3b	
GRADE 4	
NON-AGRICULTURAL	
URBAN	
UNSURVEYED	

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REV	AMENDMENT	DATE
A	For Survey Use Only	14/11/2023
B	For Soils Report	14/05/2024
C	For Soils Report	04/10/2024

SCALE	1:5,000	ORIG. SIZE	A3	SHEET	24
DRAWN	NS	CHECKED	AM	APPROVED	AM
REVISION	C	DATE	04/10/2024		
DRAWING:	LDC_DBS_Continuous_ALC.dwg				

Appendix 3a Schedule of Individual Soil Auger Borings

RWE_DBS

Description of Individual Soil Auger Borings

Updated: 01/08/2024 Survey Date: Assessor: SH & NS

BORE NO.	OS GRID REF	LAND USE	DEPTH (cm)	TEXTURE	Soil Colour	MOTTLES		Stones		DEPTH TO GLEYING (cm)	DEPTH TO SPL (cm)	WETNESS CLASS	ALC	ALC limitation	SOIL TYPE	COMMENTS
					Munsell	Musell	Ab.	Total	Type							
A1	517900, 455700	Ploughed	36	hcl	10YR 3/2			1-2	sst	36	70	II	3b	PV	Heavy	Graded as ALC 3b due to pattern varaibility.
			120	hcl	10YR 4/4	mn, gr, o	cm	<1	sst							
A2	517600, 455600	STB	35	hcl	10YR 3/2			<1	sst	35	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 4/4	mn, o, p gr	ab	<1	sst							
A3	517700, 455600	Ploughed	34	hcl	10YR 3/2			1-2	chlk, hdst	34	35	IV	3b	WETNESS	Heavy	Localised areas of standing water.
			50	c	10YR 5/4	o, mn, gr	ab	<1	hdst							
			120	c	10YR 4/4	o, gr	ab	3-5	chlk frag							
A4	517800, 455600	Ploughed	43	hcl	10YR 3/2			1-2	chlk, hdsst	43	43	III	3b	WETNESS	Heavy	SS inclusions in TS.
			83	hcl	10YR 5/4	o, mn, gr	ab	<1	sst							
			120	c	10YR 5/2	o, gr	ab	<1	sst							
A5	517900, 455600	Ploughed	24	hcl	10YR 3/2			1-2	chlk, hdst	24	35	IV	3b	WETNESS	Heavy	
			120	hcl	10YR 5/4	o, mn, gr	ab	1-2	wthd sst							
A6	518000, 455600	Ploughed	33	hcl	10YR 3/2			1-2	chlk, hdst	33	35	IV	3b	WETNESS	Heavy	Chlk fragments below 70cm.
			90	hcl	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							
			120	c	2.5YR 4/6	o, gr, mn	ab	<1	wthd sst							
A7	517500, 455500	STB	34	hcl	10YR 3/2			1-2	chlk, hdst	34	35	IV	3b	WETNESS	Heavy	
			80	hcl	10YR 5/3	o, gr, mn	cm	<1	chlk							
			120	c	10YR 5/2	o, gr, mn	ab	<1	chlk							
A8	517600, 455500	STB	31	hcl	10YR 3/2			1-2	chlk, hdst	31	35	IV	3b	WETNESS	Heavy	
			81	hcl	10YR 5/3	o, gr, mn	ab	<1	chlk							
			120	c	10YR 5/2	o, gr, mn	ab	<1	chlk							
A9	517700, 455500	STB	30	hcl	10YR 3/2			1-2	sst	30	35	IV	3b	WETNESS	Heavy	AB on headland.
			120	c	10YR 4/4	o, mn, p gr	ab	1-2	chlk							
A10	517800, 455500	Ploughed	32	hcl	10YR 3/2			3-5	sst, chlk	32	45	III	3b	WETNESS	Heavy	
			120	hcl	10YR 4/4	o, mn, p gr	cm	1-2	chlk							
A11	517900, 455500	Ploughed	31	hcl	10YR 3/2			3-5	sst, chlk	31	35	IV	3b	WETNESS	Heavy	Water on surface. Saturated TS.
			120	c	10YR 4/4	o, mn, p gr	ab	<1	chlk							
A12	518000, 455500	Ploughed	31	hcl	10YR 3/2			3-5	sst, chlk	31	50	III	3b	WETNESS	Heavy	
			120	hcl	10YR 4/4	mn, o	cm	1-2	sst							
A13	517500, 455400	STB	27	hcl	10YR 3/2			1-2	sst, chlk	27	50	III	3b	WETNESS	Heavy	
			120	hcl	10YR 4/4	mn, o	cm	1-2	sst, chlk							
A14	517600, 455400	STB	34	hcl	10YR 3/2			1-2	hdst, chlk frag	34	35	IV	3b	WETNESS	Heavy	
			41	hcl	10YR 4/4	gr, mn	cm	<1	chlk frag							
			70	c	10YR 5/3	o, gr, mn	ab	1-2	chlk frag							
			120	c	10YR 5/2	o, gr, mn	ab	<1	chlk frag							
A15	517700, 455400	STB	29	hcl	10YR 4/2			1-2	sst, chlk	29	35	IV	3b	WETNESS	Heavy	Chlk increasing with depth.
			120	c	10YR 4/4	o, mn, p gr, rd	ab	3-5	chlk							
A16	517800, 455400	Ploughed	29	hcl	10YR 3/2			3-5	sst, chlk	29	35	IV	3b	WETNESS	Heavy	Chlk increasing with depth.
			120	c	10YR 4/4	o, mn, p gr, rd	ab	3-5	chlk							
A17	517900, 455399	Ploughed	29	hcl	10YR 3/2			3-5	sst, chlk	29	35	IV	3b	WETNESS	Heavy	Impen at 55cm due to stone.
			55	c	10YR 4/4	o, mn, p gr, rd	ab	3-5	chlk							

RWE_DBS

Description of Individual Soil Auger Borings

Updated: 01/08/2024 Survey Date: Assessor: SH & NS

BORE NO.	OS GRID REF	LAND USE	DEPTH (cm)	TEXTURE	Soil Colour	MOTTLES		Stones		DEPTH TO GLEYING (cm)	DEPTH TO SPL (cm)	WETNESS CLASS	ALC	ALC limitation	SOIL TYPE	COMMENTS
					Munsell	Musell	Ab.	Total	Type							
A18	518000, 455400	Ploughed	32	hcl	10YR 3/2			1-2	chlk, hdst	32	35	IV	3b	WETNESS	Heavy	SS inclusions in TS.
			120	hcl	10YR 5/4	o, mn, gr	ab	1-2	wthd sst							
A19	517500, 455300	STB	30	hcl	10YR 3/2			1-2	sst	30	52	III	3b	WETNESS	Heavy	
			52	hcl	7.5YR 5/6	o, mn	fw	<1	sst							
			120	c	10YR 4/4	o, mn, p gr	ab	1-2	sst, chlk							
A20	517600, 455300	STB	33	hcl	10YR 3/2			1-2	chlk, hdst grvls	33	35	IV	3b	WETNESS	Heavy	Near filled in archaeology pit. On headland.
			75	c	10YR 5/2	o, gr, mn	ab	<1	chlk							
			120	c	10YR 6/2	o, gr, mn	ab	<1	chlk							
A21	517700, 455300	STB	30	hcl	10YR 3/2			3-5	sst, chlk	30	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 4/4	o, mn, p gr	ab	1-2	chlk							
A22	517800, 455300	Ploughed	34	hcl	10YR 3/2			3-5	sst, chlk	34	35	IV	3b	WETNESS	Heavy	Chlk inclusions from 70cm.
			120	c	10YR 4/4	o, mn, p gr	ab	1-2	chlk							
A23	517900, 455300	Ploughed	27	hcl	10YR 3/2			3-5	sst, chlk, q pebbles	27	35	IV	3b	WETNESS	Heavy	Field 0.01 recently ploughed so TS depth is variable.
			120	c	10YR 4/4	o, mn, p gr	ab	3-5	chlk, wthd sst							
A23a	518000, 455300	Ploughed	34	hcl	10YR 3/2			1-2	chlk, hdsst	34	35	IV	3b	WETNESS	Heavy	SS inclusions in TS.
			120	c	10YR 5/4	o, mn, p gr	ab	1-2	wthd sst							
A24	518100, 455300	Ploughed	22	hcl	10YR 3/2			1-2	chlk, hdsst	22	35	IV	3b	WETNESS	Heavy	SS inclusions in TS.
			80	c	10YR 5/4	o, mn, p gr	ab	1-2	wthd sst							
			90	scl	10YR 5/3	o, mn, p gr	ab	1-2	wthd sst							
			120	c	10YR 5/4	o, mn, p gr	ab	1-2	wthd sst							
A25	517500, 455200	STB	30	hcl	10YR 3/2			1-2	chlk, hdsst	32	35	IV	3b	WETNESS	Heavy	
			70	hcl	10YR 5/3	o, mn, p gr	ab	1-2	chlk							
			120	c	10YR 5/2	o, mn, p gr	ab	<1	chlk							
A26	517600, 455200	STB	32	hcl	10YR 3/2			1-2	chlk, hdsst	32	35	IV	3b	WETNESS	Heavy	
			50	c	10YR 5/4	o, mn, p gr	ab	1-2	chlk frag							
			120	c	10YR 5/4	o, mn, p gr	ab	3-5	hdsst, chlk frag							
A27	517700, 455200	STB	24	hcl	10YR 3/2			1-2	sst	24	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, mn, p gr	ab	3-5	chlk							
A28	517800, 455200	Ploughed	35	hcl	10YR 3/2			3-5	sst, q pebbles	35	35	IV	3b	WETNESS	Heavy	Chlk inclusions from 80cm.
			120	c	7.5YR 5/6	o, mn	ab	1-2	chlk							
A29	517900, 455200	Ploughed	32	hcl	10YR 3/2			1-2	sst	32	35	IV	3b	WETNESS	Heavy	
			120	hcl	10YR 5/4	o, mn	cm	<1	chlk							
A30	518000, 455200	Ploughed	19	hcl	10YR 3/2			1-2	sst	19	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, mn	cm	<1	chlk							
A31	518100, 455200	Ploughed	18	zc	10YR 3/2			1-2	chlk, hdsst	18	35	IV	3b	WETNESS	Heavy	SS inclusions in TS. Localised patch of gravel see photo. Bottom of slope. Saturated.
			120	c	10YR 5/4	o, mn, p gr	ab	1-2	wthd sst							
1	517467, 455081	CULT	30	mcl	10YR 4/2			3-5	chlk q sst	40	40	IV	3b	WETNESS	Medium-Heavy	
			90	hcl	10YR 3/3	o, gr	ab	<1	sst							
			120	hcl	10YR 5/1	o, gr, mn	ab	<1	sst							
2	517544, 455015	CULT	31	mcl	10YR 4/2			3-5	sst, chlk, q	31	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	10YR 3/3	o, gr, mn	ab	1-2	chlk							

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					Munsell	Musell	Ab.	Total	Type							
3	517447, 454983	CULT	30	hcl	10YR 4/2			1-2	sst	30	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 3/3	o, mn, p gr	ab	<1	sst							
4	517523, 454917	CULT	30	scl	10YR 4/2			1-2	sst	84	84	I	3a	WETNESS	Medium-Heavy	ALC Grade 1 however occurred in isolation, therefore downgraded to subgrade 3a due to pattern variability in line with surrounding areas.
			84	scl	10YR 3/3			<1	sst							
			120	c	10YR 5/1	o, mn, p gr	ab	<1	sst							
5	517403, 454895	WW	34	msl	10YR 3/3			1-2	hsst, f	no gleying	no spl	I	3a	DROUGHT	Light-Medium	Slope of 4-7°. DROUGHT CALC CONDUCTED, GRADE CHANGED TO 3a.
			120	ms	10YR 3/3			<1	hsst							
6	517377, 454800	WW	31	mcl	10YR 3/3			<1	hdsst	35	35	IV	3b	WETNESS	Medium-Heavy	5-10% SS inclusions in TS.
			120	c	10YR 5/6			1-2	hsst, chlk, f							
7	517369, 454701	WW	29	hcl	10YR 3/2			1-2	sst, f	35	35	IV	3b	WETNESS	Heavy	5-10% SS inclusions in TS. Fine sandy and silty lenses. Coating on ped faces.
			120	zc	10YR 6/1	rd br, o, mn	ab	<1	sst							
8	517367, 454602	WW	28	hcl	10YR 3/2			10-20	f, hdsst, tile	55	55	III	3b	WETNESS	Heavy	Old farm track. Disturbed 5m wide area with yellow crop. Severely gleyed between 15 and 20cm
			55	hcl	10YR 6/1	o	fw	1-2	hdsst							
			120	hcl	10YR 5/8	o, gr, mn	ab	1-2	hdsst							
9	517309, 454521	WW	29	hcl	10YR 5/2			<1	sst	29	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/8	o, gr, mn	cm	<1	sst							
10	517225, 454465	WW	31	hcl	10YR 3/2			1-2	chlk, f, rnd sst	31	35	IV	3b	WETNESS	Heavy	Water sitting on TS/SS boundry.
			120	c	10YR 5/2	o, gr	ab	<1	f gravel							
11	517135, 454422	WW	30	hcl	10YR 3/2			<1	hdsst	30	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 3/3	o	ab	<1	hdsst							
12	517041, 454387	WW	29	hcl	10YR 3/2			<1	hdsst	29	45	III	3b	WETNESS	Heavy	Sandy lenses at 50cm.
			45	hcl	10YR 3/2	o, y br, mn	cm	<1	hdsst							
			60	hcl	10YR 3/2	o, gr	ab	<1	hdsst							
			120	c	10YR 5/2	o, gr	ab	<1	hdsst							
13	516949, 454347	WW	29	hcl	10YR 5/2			<1	hdsst	29	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/8	o, gr, mn	m	1-2	chlk frag							
14	516871, 454285	WW	31	hcl	10YR 3/2			3-5	r sst, f, chlk	45	45	III	3b	WETNESS	Heavy	TS marginal mcl. Water at TS/SS boundry.
			45	hcl app s	10YR 5/2	o, gr	cm	<1	sst							
			120	c	5YR 4/3	o, gr	ab	3-5	f, chlk							
15	516801, 454212	OSR	25	disturbed c	5YR 4/3	o		3-5	chlk	25	35	IV	3b	WETNESS	Disturbed	Structure very poor. High compaction. Very subtle colour change.
			90	disturbed c	10YR 4/1			3-5	concrete brick							
			120	c	10YR 4/3			1-2	sst, r f							
16	516735, 454137	OSR	31	mcl	10YR 3/2			1-2	sst, f	31	45	III	3a	WETNESS	Medium-Heavy	
			45	fscl	10YR 4/3	o	r	3-5	wthd sst, gravls							
			120	hcl	10YR 4/3	o, gr, mn	cm	<1	sst							
17	516667, 454063	OSR	28	msl	10YR 3/2			1-2	sst, f	no gleying	no spl	I	3a	DROUGHT	Light-Medium	Wet at 85cm. DROUGHT CALC CONDUCTED, GRADE 3a
			120	lms	10YR 4/3			<1	sst							
18	516598, 453990	OSR	34	mcl	10YR 5/2			3-5	rnd q, f	34	60	III	3a	WETNESS	Medium-Heavy	Wet at TS/SS boundry. 15 m from field entrance.
			120	hcl app s	10YR 5/2	o, gr	ab	<1	q pebbles							
19	516533, 453914	OSR	30	mcl	10YR 3/2			3-5	f, sst	45	40	III	3a	WETNESS	Medium-Heavy	Water table at 80cm.
			75	sc	10YR 4/3	o, gr, mn	cm	3-5	wthd sst							
			120	scl	10YR 4/3			<1	wthd sst							
20	516464, 453840	WW	30	mcl	10YR 3/3			3-5	f, rnd sst	no gleying	no spl	I	3a	DROUGHT	Medium	Impenetrable stone at 80cm. DROUGHT CALC CONDUCTED, GRADE 2 CONFIRMED
			80	scl	5YR 4/3	o	r	5-10	wthd sst							

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					Munsell	Musell	Ab.	Total	Type							
21	516383, 453782	WW	31	hcl	10YR 4/1			3-5	f, rnd sst	31	45	III	3b	WETNESS	Heavy	
			120	hcl	5YR 4/3	o, gr	ab	3-5	f , rnd sst							
22	516297, 453729	WW	31	hzcl	10YR 3/2			3-5	f , rnd sst	31	35	IV	3b	WETNESS	Heavy	Local patches of surface standing water and yellow crop.
			120	hcl	10YR 4/3	o, gr		<1	sst							
23	516213, 453676	WW	32	hcl	10YR 5/4			<1	sst	32	35	IV	3b	WETNESS	Heavy	
			45	c	10YR 5/4	o, gr	ab	<1	sst							
24	516127, 453625	WW	30	hcl	10YR 5/4			<1	sst	30	35	IV	3b	WETNESS	Heavy	Next to lake.
			120	c	10YR 5/4	o, gr	ab	<1	sst							
25	516042, 453572	WW	28	hzcl	10YR 4/1			<1	sst	28	35	IV	3b	WETNESS	Heavy	3m away from edge of field 5m away from edge of ditch. Ditch horizens? Large area of standing water. Poor TS structure.
			40	c	10YR 5/2	o, gr	ab	<1	sst							
			120	c	10YR 5/4			<1	sst							
26	515956, 453520	STB	35	hcl	10YR 4/2			<1	sst	35	39	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, gr, mn	ab	<1	chlk							
27	515871, 453466	STB	40	hcl	10YR 5/2			1-2	sst	40	40	IV	3b	WETNESS	Heavy	Slight dip in the field.
			75	hcl	10YR 5/4	o, gr	ab	<1	sst							
			120	c	10YR 4/1	o, gr, mn	ab	<1	sst							
28	515785, 453415	STB	27	hcl	10YR 4/2			1-2	chlk, sst	27	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, gr, mn	ab	<1	wthd sst							
29	515699, 453363	STB	32	hcl	10YR 5/2			<1	sst	40	40	IV	3b	WETNESS	Heavy	
			83	hcl app fs	10YR 5/4	o, gr	ab	<1	sst							
			120	c	10YR 4/1	o, gr, mn	ab	<1	sst							
30	515615, 453310	WW	26	hcl	10YR 4/2			1-2	sst	26	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, gr, mn	ab	<1	sst							
31	515532, 453252	WW	28	hcl	10YR 5/2			1-2	wthd sst, chlk	28	35	IV	3b	WETNESS	Heavy	Large pockets of coal. Near wind turbine construction. AB in area of field of poor crop and signs of previous flooding.
			72	hcl	10YR 5/4	o, gr	ab	1-2	wthd sst, chlk, coal							
			120	hcl	5YR 4/3	o, gr	ab	<1	sst							
32	515449, 453197	WW	26	hcl	10YR 4/2			1-2	sm sst	26	35	IV	3b	WETNESS	Heavy	Impen at 73cm due to sst layer.
			73	c	10YR 4/4	o, gr, mn	ab	1-2	sst							
33	515365, 453141	WW	29	mcl	10YR 4/2			1-2	sst	30	35	IV	3b	WETNESS	Heavy	Previous crop residue at 23cm.
			120	hcl	10YR 5/2	o, gr, mn	ab	1-2	wthd sst							
34	515282, 453085	WW	28	hcl	10YR 4/2			3-5	sst, chlk	28	35	IV	3b	WETNESS	Heavy	*unsprayed mustard and borage still in field.
			120	c	10YR 4/4	o, gr, mn	ab	1-2	wthd sst							
35	515198, 453030	WW	27	hcl	10YR 4/2			<1	sst	27	35	IV	3b	WETNESS	Heavy	Poor crop with large quantity of borage and mustard growing. AB located in previously flooded area.
			50	hcl	10YR 5/4	o, gr, mn	cm	1-2	sm sst, f							
			120	hcl	10YR 5/2	o, p gr, mn	ab	1-2	wthd sst, chlk							
36	515105, 452994	WW	24	c	10YR 4/2			<1	chlk	26	35	IV	3b	WETNESS	Heavy	*unsprayed mustard and borage stkll in field. Area of grass volunteers in field.
			120	c	10YR 4/1	o, gr, mn	ab	<1	sst							
37	515008, 452968	WW	31	hcl	10YR 4/2			<1	sst	31	35	IV	3b	WETNESS	Heavy	Sandstones below 65cm brick below 80cm.
			46	hcl	10YR 5/4	o, gr, mn	cm	1-2	sm sst, f							
			120	hcl	10YR 5/2	o, p gr, mn	ab	1-2	wthd sst, chlk							
38	514910, 452949	WW	26	hcl	10YR 4/2			3-5	sst, chlk	26	35	IV	3b	WETNESS	Heavy	*unsprayed mustard and borage stkll in field. Impenetrable at 82cm due to sst layer.
			82	c	10YR 4/2	o, gr, mn	ab	1-2	sst							

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					Munsell	Musell	Ab.	Total	Type							
39	514813, 452922	Grass Margin	6	o-hcl	10YR 4/2			<1	sst	46	46	III	3b	WETNESS	Heavy	
			46	hcl	10YR 5/4	o, gr, mn	ab	<1	sst							
			120	hcl app fs	10YR 5/2	o, gr, mn	ab	<1	sst							
40	514714, 452910	WW	29	hcl	10YR 3/2			<1	wthd sst	29	35	IV	3b	WETNESS	Heavy	
			120	hcl	10YR 5/4	o, gr, mn	ab	<1	wthd sst							
41	514617, 452888	WW	28	hcl	10YR 3/2			3-5	rnd hsst	45	45	III	3b	WETNESS	Heavy	
			45	hcl	10YR 5/4			1-2	rnd hsst							
			120	c	10YR 5/4	o, gr, mn	ab	1-2	rnd hsst							
42	514519, 452866	WW	33	hcl	10YR 3/2			3-5	rnd hsst	33	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, gr	cm	1-2	rnd hsst							
43	514421, 452844	WW	30	hcl	10YR 3/2			3-5	rnd hsst	30	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, gr	cm	1-2	rnd hsst							
43a	514406, 452746	WW	30	hcl	10YR 3/2			3-5	rnd hsst	30	35	IV	3b	WETNESS	Heavy	
			120	hcl	10YR 5/4	o, gr, mn	ab	1-2	rnd hsst							
43b	514294, 452721	CULT	29	mcl	10YR 4/2			<1	sst	30	35	IV	3b	WETNESS	Heavy	
			37	scl	10YR 5/4	o, gr, mn	ab	1-2	chlk, f							
			120	hcl	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							
44	514323, 452824	CULT	30	mcl	10YR 4/2			<1	sst	30	35	IV	3b	WETNESS	Heavy	
			67	hcl	10YR 5/4	o, gr, mn	ab	1-2	chlk, f							
			120	hcl	10YR 5/2	o, gr, mn	ab	1-2	wthd sst							
45	514227, 452796	CULT	31	mcl	10YR 4/2			<1	sst	30	35	IV	3b	WETNESS	Heavy	
			72	hcl	10YR 5/4	o, gr, mn	ab	1-2	chlk, f							
			120	hcl	10YR 5/2	o, gr, mn	ab	1-2	wthd sst							
45a	514135, 452840	DD	25	hcl	10YR 4/2			1-2	sst	25	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 4/4	o, gr, mn	ab	<1	sst							
45b	514037, 452828	DD	28	hcl	10YR 4/2			1-2	sst	28	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 4/4	o, gr, mn	ab	<1	sst							
46	514145, 452739	DD	28	hcl	10YR 4/2			1-2	sst	28	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 4/4	o, gr, mn	ab	<1	sst							
47	514081, 452662	DD	26	hcl	10YR 4/2			1-2	sst	26	35	IV	3b	WETNESS	Heavy	Field recently drilled.
			120	c	10YR 4/4	o, gr, mn	ab	<1	sst							
48	514053, 452565	OSR	31	mcl	10YR 4/2			1-2	sst	31	35	IV	3b	WETNESS	Heavy	
			120	hcl	10YR 4/4	o, gr, mn	ab	<1	sst							
49	514053, 452465	OSR	31	hcl	10YR 4/2			1-2	sm hdsst	30	35	IV	3b	WETNESS	Heavy	Impenetrable at 75cm, due to high stone content.
			75	hcl	10YR 5/4	o, gr, mn	ab	1-2	wthd sst, chlk							
50	514066, 452365	OSR	28	hcl	10YR 4/2			1-2	hdsst	30	37	IV	3b	WETNESS	Heavy	
			37	hcl	10YR 5/4			1-2	sst							
			80	c	10YR 3/1	o, gr, mn	ab	<1	sst							
			120	scl	10YR 5/2	o, gr, mn	ab	1-2	wthd sst							

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					Munsell	Musell	Ab.	Total	Type							
51	514083, 452267	OSR	30	hcl	10YR 4/2			1-2	sst	30	35	IV	3b	WETNESS	Heavy	Slight change at 89cm, sand content increases. Check with the rest of the field.
			79	c	10YR 4/4	o, gr, mn	ab	<1	sst							
			120	sc	10YR 4/4	o, gr, mn	ab	<1	sst							
52	514097, 452167	OSR	29	hcl	10YR 4/2			1-2	hdsst	30	35	IV	3b	WETNESS	Heavy	
			56	hcl	10YR 5/4	o, gr, mn	ab	<1	sst							
			120	hcl	10YR 4/1	o, gr, mn	ab	<1	sst							
53	514113, 452068	OSR	30	hcl	10YR 4/2			1-2	hdsst	30	35	IV	3b	WETNESS	Heavy	
			54	hcl	10YR 5/4	o, gr, mn	ab	<1	sst							
			120	hcl	10YR 4/1	o, gr, mn	ab	<1	sst							
54	514127, 451969	OSR	27	hcl	10YR 4/2			3-5	sst, f	27	35	IV	3b	WETNESS	Heavy	Mustard mixed in with OSR.
			76	scl	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							
			120	c	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							
55	514142, 451870	OSR	29	hcl	10YR 4/2			<1	sst	29	35	IV	3b	WETNESS	Heavy	Poor crop with many weed and grass growing throughout. AB moved to offset well trafficked grass track.
			120	hcl	10YR 5/4	o, gr, mn	ab	<1	sst							
56	514151, 451770	DD	38	hcl	10YR 4/2			3-5	sst, q	38	38	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/8	o, gr, mn	ab	1-2	sst							
57	514156, 451670	CULT	39	hcl	10YR 4/2			<1	sst	39	39	IV	3b	WETNESS	Heavy	
			80	hcl app fs	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							
			120	hcl	5YR 5/2	o, gr, mn	ab	1-2	wthd sst							
58	514162, 451570	DD	26	hcl	10YR 4/2			1-2	sst	26	35	IV	3b	WETNESS	Heavy	Field drilled day before.
			54	c	10YR 5/4	o, gr, mn	ab	<1	wthd sst							
			70	scl	10YR 5/4	o, gr, mn	ab	<1	wthd sst							
			120	c	10YR 5/1	o, gr, mn	ab	<1	wthd sst							
59	514169, 451470	WW	30	hcl	10YR 4/2			3-5	sst, f	30	35	IV	3b	WETNESS	Heavy	Evidence of nightspoiling in TS. AB located in area of no crop due to flood damage.
			75	hcl	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							
			120	hcl	10YR 3/3	o, gr, mn	ab	1-2	wthd sst, chlk							
60	514174, 451370	WW	29	hcl	10YR 4/2			1-2	sst	29	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, gr, mn	ab	<1	wthd sst							
61	514179, 451270	WW	38	hcl	10YR 4/2			1-2	sst, f	38	38	IV	3b	WETNESS	Heavy	Evidence of nightspoiling in TS. Large quantity of brick in field. AB near field entrance. Possible old farm track.
			54	hcl app s	10YR 5/4	o, gr, mn	ab	1-2	sst							
			120	hcl	5YR 4/3	o, gr, mn	ab	1-2	sst							
62	514185, 451170	WW	31	hcl	10YR 4/2			1-2	sst	31	35	IV	3b	WETNESS	Heavy	AB located in area of no crop due to flood damage.
			50	hcl app s	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							
			120	hcl	5YR 4/3	o, gr, mn	ab	1-2	wthd sst							
62a	514284, 451190	WW	26	hcl	10YR 4/2			3-5	med sst	26	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, gr, mn	ab	1-2	sst							
62b	514343, 451121	WW	27	hcl	10YR 4/2			3-5	med sst, q	27	35	IV	3b	WETNESS	Heavy	Area of previous wetness in field.
			120	c	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							
62c	514291, 451045	WW	27	hcl	10YR 4/2			3-5	med sst, q	27	35	IV	3b	WETNESS	Heavy	Area of previous wetness in field. No crop growth. Capping in top 3cm. Clay turning grey with depth. Saturated at 15cm but clay layer below 60cm so
			120	c	10YR 5/4	o, gr, mn	ab	1-2	wthd sst chlk frag							

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					Munsell	Musell	Ab.	Total	Type							
63	514192, 451070	WW	30	hcl	10YR 4/2			1-2	sst, f	30	35	IV	3b	WETNESS	Heavy	Area recently flooded. Poor crop at AB and tractors driven round lake so in new headland.
			71	hcl	10YR 4/6	o, gr	ab	1-2	grvl							
			120	c	10YR 5/1	o, gr, mn	ab	<1	sst							
64	514193, 450970	WW	34	hcl	10YR 4/2			1-2	sst	34	34	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, gr, mn	ab	<1	sst							
65	514164, 450874	SPR B	31	hcl	10YR 4/2			1-2	f, sst	31	35	IV	3b	WETNESS	Heavy	Sandy pockets around weathered sst.
			90	c	10YR 5/4	o, gr, mn	ab	3-5	wthd sst							
			120	c	10YR 4/3	o, gr, mn	ab	10-20	chlk							
66	514104, 450795	Ploughed	28	o-hcl	10YR 3/2			3-5	wthd chlk	28	35	IV	3b	WETNESS	Organic-Mineral	Organic
			120	hcl	10YR 4/4	o, gr, pink, mn	ab	3-5	wthd chlk							
67	514029, 450730	Ploughed	30	hcl app fs	10YR 3/2			3-5	sst, q, f	30	35	IV	3b	WETNESS	Heavy	
			120	c	5YR 5/8			<1	sst, q, f							
68	513950, 450667	Ploughed	38	hcl	10YR 3/2			<1	sst, q, f	38	38	IV	3b	WETNESS	Heavy	TS depth ploughed.
			120	hcl	10YR 5/4	o, gr, mn	ab	<1	sst, q, f							
69	513888, 450589	Ploughed	30	hcl	10YR 3/2			3-5	sst, q, f	30	35	IV	3b	WETNESS	Heavy	
			55	hcl app s	10YR 5/4	o	r	<1	sst, q, f							
			120	hcl	10YR 5/4	o, gr	ab	3-5	wthd sst							
70	513860, 450493	Ploughed	31	hcl	10YR 5/2			<1	wthd sst	31	35	IV	3b	WETNESS	Heavy	Chalk fragments below 60cm.
			120	hcl	10YR 5/4	o, gr, mn	ab	3-5	chlk							
71	513854, 450393	WW	29	hcl	10YR 3/2			3-5	f, sst, chlk, q	29	35	IV	3b	WETNESS	Heavy	Bottom of slope.
			120	c	10YR 5/4	o, gr	ab	1-2	chlk							
72	513854, 450293	WW	29	hcl	10YR 3/2			<1	chlk	29	35	IV	3b	WETNESS	Heavy	Wet at 68cm. Marginal SPL. Sand stability! Top of 4-7 degree slope.
			45	c	10YR 5/4	o, gr	ab	<1	chlk							
			120	fsl	10YR 5/4	o, gr	cm	<1	chlk							
73	513853, 450193	WW	29	hcl	10YR 3/2			3-5	sst, r f	29	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, gr		<1	sst, r f							
74	513850, 450093	WW	31	hcl	10YR 3/2			3-5	f, sst	31	35	IV	3b	WETNESS	Heavy	Chalk fragments below 80cm.
			120	hcl	5YR 5/8			3-5	chlk							
75	513847, 449993	WW	29	hcl	10YR 4/2			1-2	sst, chlk	29	35	IV	3b	WETNESS	Heavy	
			120	hcl	10YR 4/4	o, mn, p gr	ab	<1	sst							
76	513855, 449893	WW	31	hcl	10YR 4/2			1-2	sst, chlk	31	35	IV	3b	WETNESS	Heavy	Sandy pockets at 90cm.
			120	hcl	10YR 4/4	o, mn, p gr	ab	<1	sst							
77	513891, 449799	Ploughed	29	hcl	10YR 4/2			3-5	sst, f	29	35	IV	3b	WETNESS	Heavy	Ploughed field, 5% SS mixing in TS.
			120	c	10YR 6/1	y, gr, o	ab	1-2	sst, f							
78	513936, 449710	Ploughed	30	hcl	10YR 4/2			3-5	sst	30	35	IV	3b	WETNESS	Heavy	Ploughed field, 5% SS mixing in TS.
			120	c	10YR 5/4	o, mn, gr	ab	<1	sst							
79	513982, 449620	WB	31	hcl	10YR 4/2			5-10	ige sst, f, chlk	31	35	IV	3b	WETNESS	Heavy	Concrete and glazed pipes in TS surface.
			120	c	10YR 5/4	o, gr, mn	ab	1-2	chlk							
80	514051, 449548	WB	30	hcl	10YR 4/2			5-10	ige sst, f, chlk	30	35	IV	3b	WETNESS	Heavy	Concrete in TS surface. Chalk increasing with depth.
			120	c	10YR 4/4	o, mn, gr	ab	1-2	chlk							
81	514149, 449527	OSR	31	hcl	10YR 4/2			1-2	sst, f	31	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, mn, gr, rd, green	ab	<1	sst							
82	514250, 449527	OSR	30	hzcl	10YR 4/2			1-2	sst, f	30	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, mn, gr, rd, green	ab	<1	sst							

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					Munsell	Musell	Ab.	Total	Type							
83	514350, 449529	STB	30	hcl	10YR 3/3			1-2	sst	30	35	IV	3b	WETNESS	Heavy	Water on TS/SS boundry.
			120	hcl	10YR 5/4	o, gr	ab	1-2	wthd sst							
84	514450, 449529	STB	29	hcl	10YR 3/3			1-2	sst	30	35	IV	3b	WETNESS	Heavy	
			90	hcl	10YR 5/4	o, gr	ab	<1	sst							
			120	c	5YR 5/8			3-5	sst							
85	514547, 449505	STB	33	hcl	10YR 3/3			1-2	sst, brick, hdsst	33	35	IV	3b	WETNESS	Heavy	Standing water in tram lines. Wet at 42cm.
			45	hcl	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							
			120	c	10YR 5/4			5-10	hsst, chlk							
86	514618, 449433	STB	30	hcl	10YR 3/3			1-2	f, chlk	30	35	IV	3b	WETNESS	Heavy	Chalk fragments below 80cm.
			120	c	10YR 5/4	o gr	ab	3-5	chlk							
87	514646, 449337	STB	35	hcl	10YR 3/3			1-2	chlk f	35	35	IV	3b	WETNESS	Heavy	Chalk fragments below 80cm.
			120	c	10YR 5/4	o, gr	ab	3-5	chlk							
88	514662, 449238	STB	31	hcl	10YR 3/3			<1	chlk	31	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, gr, mn	m	<1	chlk							
89	514678, 449139	STB	31	hcl	10YR 3/3			3-5	f, sst, chlk	31	35	IV	3b	WETNESS	Heavy	Bottom of a 4-7 slope south facing. Mottling becomes abundant below 40cm. Chalk fragments below 80cm.
			60	hcl	10YR 5/4	o, gr, mn	cm	3-5	chlk							
			120	c	10YR 5/4			<1	chlk							
90	514694, 449041	Ploughed	28	hcl	10YR 4/2			1-2	sst	28	35	IV	3b	WETNESS	Heavy	Recent manure application. Ploughed field TS depth inaccurate.
			120	c	10YR 4/4	p y, p gr, mn, rd	ab	1-2	wthd sst							
90a	514805, 449049	TGR	31	hcl	10YR 4/2			1-2	sst, f	31	52	III	3b	WETNESS	Heavy	3° slope
			52	fscl	10YR 4/4	o, mn	fw	<1	sst							
			120	c	10YR 5/2	o, mn, p gr, dk gr, green	ab	<1	sst							
91	514711, 448942	Ploughed	32	hcl	10R 4/2			1-2	sst	32	35	IV	3b	WETNESS	Heavy	Ploughed field TS depth inaccurate.
			120	c	10YR 4/4	p y, p gr, mn, rd	ab	1-2	wthd sst							
92	514727, 448843	Ploughed	28	mcl	10YR 4/2			1-2	sst	28	35	IV	3b	WETNESS	Medium-Heavy	Ploughed field TS depth inaccurate. 3-5° slope.
			120	c	10YR 4/4	p y, p gr, mn, rd	ab	1-2	wthd sst							
93	514743, 448745	Ploughed	22	mcl app fs	10YR 4/2			1-2	sst	22	54	III	3a	WETNESS	Medium-Heavy	Ploughed field TS depth inaccurate. Saturated AB.
			54	lms	10YR 5/4			<1	sst							
			120	c	10YR 4/4	o, mn, p gr, dk gr	ab	<1	sst							
94	514760, 448646	WW	30	o-scl	10YR 3/1			1-2	sst, q	no gleying	no spl	I	2	DROUGHT	Organic-Mineral	Legacy mottling 15m from ditch. Sand stability.
			40	msl	10YR 5/2	o, gr	cm	<1	sst, q							
			60	lms	5YR 5/8	o, gr	cm	<1	sst, q							
			80	lms	10YR 5/4	o, gr	cm	<1	sst, q							
			120	ms	10YR 5/4	o, gr	fw	<1	sst, q							
95	514776, 448548	WW	30	o-mzcl	10YR 3/1			1-2	sst	no gleying	no spl	I	2	DROUGHT	Organic-Mineral	No sign of motteling, signs of drainage. Sand stability.
			45	hcl	10YR 5/2			<1	sst							
			120	lms	5YR 5/8			<1	sst							
96	514789, 448449	WW	29	hcl	10YR 3/1			1-2	sst, q, f chlk	50	50	III	3b	WETNESS	Heavy	Top of ridge.
			50	hcl	10YR 5/4	o, gr	fw	<1	wthd sst							
			120	hcl	10YR 5/2	o, gr, mn	ab	1-2	wthd sst							
97	514800, 448350	WW	45	sl o-hcl	10YR 3/2			<1	wthd sst	70	70	II	3b	WETNESS	Heavy	Grade 3b, due to pattern variability.
			70	hcl	10YR 4/2	o, gr	fw	1-2	wthd sst							
			120	c	10YR 4/2	o, gr	ab	<1	wthd sst							

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					Munsell	Musell	Ab.	Total	Type							
98	514800, 448250	WW	35	hcl	10YR 3/2			3-5	r sst, q	35	50	III	3b	WETNESS	Heavy	AB offset from headland. Chalk increasing from 60cm.
			50	hcl	10YR 4/3	o, mn	cm	3-5	wthd sst							
			120	hcl	10YR 4/3	o, gr, mn	ab	3-5	wthd sst, chlk							
99	514788, 448151	WW	30	hcl	10YR 3/2			3-5	r sst	30	55	III	3b	WETNESS	Heavy	3-5 slope.
			120	c	10YR 4/4	o, mn, p gr	ab	1-2	sst							
100	514775, 448052	WW	30	hcl	10YR 3/2			3-5	sst	30	45	III	3b	WETNESS	Heavy	
			45	hcl	10YR 4/4	o	r	1-2	sst							
			120	c	10YR 4/1	o, mn, g	m	1-2	sst							
101	514763, 447953	WW	29	hcl	10YR 3/2			3-5	f, sst	35	45	III	3b	WETNESS	Heavy	
			120	c	10YR 4/4	o, mn, p gr	m	1-2	sst, chlk							
102	514751, 447854	WW	30	hcl	10YR 3/2			3-5	sst, chlk	30	40	III	3b	WETNESS	Heavy	Chalk frag increasing with depth. below 60cm much drier with depth.
			120	c	10YR 4/4	o, mn, g	m	3-5	wthd sst							
103	514738, 447755	WW	30	hcl	10YR 3/2			3-5	sst, chlk	30	40	III	3b	WETNESS	Heavy	Chalk frag increasing with depth. below 60cm much drier with depth.
			120	c	10YR 4/4	o, mn, g	m	3-5	wthd sst							
104	514726, 447656	WW	30	hcl	10YR 3/2			1-2	r sst, chlk, f	35	45	III	3b	WETNESS	Heavy	Si holding sst together is chemically eroding, leading to wthd sst.
			120	c	10YR 4/4	o, gr	ab	3-5	wthd sst							
105	514713, 447557	WW	33	hcl	10YR 3/2			3-5	sst, chlk	33	35	IV	3b	WETNESS	Heavy	Water sitting on TS/SS interface. Check calcareous.
			120	c	5YR 5/8	o, g, mn	m	1-2	sst, chlk							
106	514700, 447458	WW	31	hcl	10YR 3/2			3-5	f, chlk	31	45	III	3b	WETNESS	Heavy	Abundant mottles below 45cm. Chalk increasing to 3-5% below 80cm.
			120	c	10YR 5/4	o, mn	fw	1-2	wthd sst, chlk							
107	514688, 447359	WW	30	hcl	10YR 4/2			3-5	f sst	30	35	IV	3b	WETNESS	Heavy	
			60	c	10YR 5/8	o, gr, mn	ab	1-2	chlk below 50cm							
			120	c	2.5YR 4/3	o, gr, mn	ab	3-5	chlk							
108	514676, 447260	WW	31	hcl	10YR 4/2			3-5	sst, f	31	35	IV	3b	WETNESS	Heavy	Recent flooding. Low area in field.
			120	c	10YR 3/1	o, gr, y	cm	<1	sst, f							
109	514663, 447161	WW	30	hcl	10YR 4/2			3-5	f sst	30	35	IV	3b	WETNESS	Heavy	
			50	c	10YR 7/1	o, gr, mn	ab	1-2	chlk below 50cm							
			75	sc	10YR 5/8	o, gr, mn	ab	3-5	chlk							
			120	c	10YR 3/3	o, gr, mn	ab	5-10	chlk							
110	514650, 447062	Ploughed	33	hcl	10YR 4/2			5-10	sst, f	33	35	IV	3b	WETNESS	Heavy	Ploughed and rolled field. Some SS mixed with TS. Chalk increases with depth. Water table at 70cm. Impen at 70cm.
			70	c	10YR 5/3	o, mn, p gr, dk gr	ab	1-2	chlk, wthd sst							
111	514638, 446963	OSR	27	hcl	10YR 4/2			<1	sst	27	35	IV	3b	WETNESS	Heavy	Saturated at 25cm.
			120	c	10YR 3/4	o, mn, p gr	ab	<1	sst, f							
112	514621, 446866	OSR	30	mcl	10YR 4/2			1-2	sst	30	no spl	II	2	WETNESS	Medium-Heavy	
			67	scl	10YR 5/3	gr, mn	cm	<1	sst							
			120	hcl	10YR 4/4	gr, mn	cm	<1	sst							
113	514588, 446772	OSR	31	mcl	10YR 5/2			3-5	m, lge sst	31	35	IV	3b	WETNESS	Medium-Heavy	25-31cm transition layer. Mottling increases with depth. Slight scl layer from 70-80cm.
			83	hcl	10YR 4/4	dk gr, p gr, o, mn, rd	ab	1-2	wthd sst							
			120	c	10YR 5/4	dk gr, p gr, o, mn, rd	ab	1-2	chlk							
114	514555, 446678	OSR	29	hcl	10YR 3/2			3-5	sst, f	30	35	IV	3b	WETNESS	Heavy	Marginal TS texture.
			120	c	10YR 5/4	o, mn, p gr	ab	5-10	wthd sst							
115	514526, 446583	OSR	35	mcl	10YR 3/2			5-10	f, sst	35	45	III	3a	WETNESS	Medium-Heavy	DD, min till.
			120	hcl	10YR 5/4	p g, o, mn	ab	<1	sst							

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					Munsell	Musell	Ab.	Total	Type							
116	514526, 446483	OSR	30	hcl	10YR 3/3			3-5	sst	30	35	IV	3b	WETNESS	Heavy	DD, min till.
			120	c	5YR 3/2	o, mn, p gr	ab	5-10	wthd sst							
117	514543, 446385	WW	32	scl	10YR 3/3			5-10	sst, chlk, f	32	35	IV	3a	WETNESS	Medium-Heavy	Impenetrable at 80cm.
			80	hcl	5YR 3/2	o, mn	cm	10-20	wthd sst							
118	514559, 446287	WW	35	mcl	10YR 3/3			10-20	sst, f, q, chlk	40	no spl	II	3a	STONE CONTENT	Medium-Heavy	Impen at 55cm due to .stone content
			55	c	5YR 3/2			10-20	wthd chlk							
119	514575, 446188	WW	40	mcl	5YR 3/2			10-20	sst, f, q	40	no spl	II	3a	STONE CONTENT	Medium	Check calcareous.
			60	scl	10YR 5/3			10-20	sst, f, q							
			120	msl	10YR 5/3	gr	r	5-10	wthd sst							
120	514590, 446089	Unsurveyed due to HDD under woodland.														Woodland, no ALC.
121	514602, 446017	Unsurveyed due to HDD under woodland.														Woodland, no ALC.
122	514619, 445919	WW	35	hcl	10YR 3/2			3-5	sst, f	35	50	III	3a	PV	Heavy	Upgraded to 3a on pattern variability.
			120	c	5YR 3/2	o, mn, y, gr	m	3-5	lge r sst							
123	514632, 445820	WW	33	mcl	10YR 3/2			5-10	sst, f	35	45	III	3a	WETNESS	Medium-Heavy	Water sitting on TS/SS interface.
			70	hcl	10YR 4/4	o, gr	fw	1-2	sst, f							
			120	c	10YR 4/4	o, gr	ab	3-5	sst, chlk							
124	514618, 445721	WW	32	mcl	10YR 3/2			5-10	sst, f	32	40	III	3a	WETNESS	Medium-Heavy	
			40	hcl	10YR 4/3	o	fw	3-5	sst, f							
			120	c	10YR 4/4	o, gr	ab	1-2	sst, f							
124a	514517, 445719	WW	37	mcl	10YR 3/2			3-5	rounded sst f odd g	37	40	III	3a	WETNESS	Medium	Impenetrable due to stone at 60cm.
			60	scl	10YR 4/4	o, mn	fw	3-5	sst, f							
125	514571, 445633	WW	30	hcl	10YR 3/2			3-5	sst, f	30	35	IV	3b	WETNESS	Heavy	
			60	hcl	10YR 5/4	o, mn , gr	cm	<1	sst, f							
			90	c	10YR 5/2			<1	sst, f							
			120	lms	5YR 3/2			<1	sst, f							
126	514500, 445563	WW	31	hcl	10YR 4/2			<1	sst, f	31	35	IV	3b	WETNESS	Heavy	Organic patch at 40cm.
			120	hcl	5YR 3/2	o, gr, mn	ab	3-5	chlk, f							
127	514426, 445497	WW	31	hcl	10YR 4/2			3-5	glacial irratics	31	35	IV	3b	WETNESS	Heavy	
			60	c	10YR 6/1	o, gr, mn	ab	1-2	sst							
			120	c	10YR 5/8	o, gr, mn	ab	1-2	sst							
128	514351, 445430	WW	28	hcl	10YR 5/2			<1	sst	28	35	IV	3b	WETNESS	Heavy	
			90	c	10YR 5/4			3-5	weathered sst							
			120	c	5YR 4/3			3-5	small st including							

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					Munsell	Musell	Ab.	Total	Type							
			30	hcl	10YR 5/2			1-2	rounded sst and f							
		WW	60	hcl	10YR 5/4	o, gr, mn	ab	1-2	sst	30	35	IV	3b	WETNESS	Heavy	
129	514276, 445364		120	c	5YR 5/3	o, gr, mn	ab	3-5	chlk							
		OSR	30	hcl	10YR 3/2			3-5	sst, f, q	30	35	IV	3b	WETNESS	Heavy	
130	514212, 445287		120	c	10YR 4/4	o, mn, p gr	ab	1-2	wthd sst							
		OSR	30	hcl	10YR 3/2			1-2	chlk, f	30	35	IV	3b	WETNESS	Heavy	Chalk frag at 90cm.
131	514156, 445204		120	c	10YR 4/4	o, mn, p gr	ab	1-2	f, wthd sst							
		OSR	30	zc	10YR 3/2			1-2	chlk, f	30	35	IV	3b	WETNESS	Heavy	
132	514100, 445120		120	c	10YR 4/4	o, mn, p gr	ab	1-2	f							
		OSR	30	hcl	10YR 3/2			3-5	sst	30	35	IV	3b	WETNESS	Heavy	Water sitting at TS/SS interface.
133	514045, 445037		120	c	10YR 4/4	o, mn, p gr	ab	1-2	sst							
		OSR	28	hcl	10YR 3/2			3-5	r sst	30	35	IV	3b	WETNESS	Heavy	AB moved off headland. Water sitting at TS/SS interface.
134	513990, 444954		120	c	5YR 4/3	mn, o	ab	1-2	sst							
		WW	33	scl	10YR 3/2			3-5	sst	30	60	III	2	WETNESS	Medium-Heavy	
			60	scl	5YR 4/3	mn	r	<1	sst							
135	513930, 444874		120	sc	5YR 3/2	o, gr	ab	<1	sst							
		STB	35	hcl	10YR 5/2			3-5	rnd sst	45	45	III	3a	WETNESS	Heavy	USS has a mix of TS/SS.
			45	hcl	10YR 5/2			3-5	sst							
136	513852, 444811		120	c	10YR 3/3	o, gr, mn	ab	3-5	sst							
		WW	35	hcl	10YR 5/2			3-5	sst, r f	35	40	III	3b	WETNESS	Heavy	
			75	hcl	10YR 5/2	o, gr, mn	ab	<1	sst							
137	513772, 444752		120	c	5YR 5/3			3-5	chlk frag							
		WW	33	hcl	10YR 5/2			3-5	f, sst, chlk frag	40	60	III	3b	WETNESS	Heavy	TS/SS boundary indistinct colour change. Disturbed? Hollow infill?
			40	hcl	10YR 5/2	o, gr	fw	<1	sst							
138	513694, 444689		120	hcl	5YR 5/3			<1	sst							
		WW	29	hcl	10YR 5/2			3-5	f, q, rnd sst	29	35	IV	3b	WETNESS	Heavy	Flatish field. Increasingly grey with depth. Top 10-12cm wet saturated.
139	513630, 444612		120	c	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							
		WW	20	hcl	10YR 5/2			3-5	rnd sst, f, q	29	35	IV	3b	WETNESS	Heavy	
			80	c	10YR 5/4	o, gr, mn	ab	3-5	wthd sst							
140	513571, 444531		120	c	5YR 5/3			<1	chlk							
		WW	40	hcl	10YR 5/2			3-5	rnd sst, f, q, chlk	40	40	III	3b	WETNESS	Heavy	Slight colour change between SS/TS boundary.
			60	hcl	10YR 5/4	o	ab	1-2	wthd sst							
141	513513, 444449		120	c	10YR 5/4	o, mn	ab	1-2	sst							
		WW	29	hcl	10YR 5/2			3-5	rnd sst, f, q	60	60	III	3b	WETNESS	Heavy	
			60	hcl	10YR 5/2	o	ab	1-2	wthd sst							
			80	c	10YR 5/4	o, gr	ab	1-2	sst							
142	513454, 444368		120	c	10YR 5/4	o, gr	ab	10-20	wthd sst, gravls							
		WW	35	hcl	10YR 5/2			3-5	f, q, rnd sst	45	45	III	3b	WETNESS	Heavy	
			45	hcl	10YR 5/2	o, gr		1-2	sst							
143	513396, 444287		120	c	10YR 5/4	o, gr	ab	1-2	sst							

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					Munsell	Musell	Ab.	Total	Type							
144	513337, 444206	WW	34	hcl	10YR 5/2			3-5	f, q, rnd sst	34	35	IV	3b	WETNESS	Heavy	
			60	hcl	10YR 5/4	o, gr, mn	ab	3-5	wthd sst							
			120	c	5YR 5/3	o, gr, mn	ab	3-5	wthd sst							
145	513278, 444125	WW	30	scl	10YR 5/2			3-5	wthd sst	65	65	III	3b	WETNESS	Medium-Heavy	Standing water in tramlines. Impenetrable stone at 85cm.
			65	hzcl	5YR 5/3	gr, mn	fw	3-5	f, q, rnd sst							
			80	hcl	10YR 5/1	gr, mn	ab	3-5	wthd sst							
146	513219, 444044	WW	29	fscl	10YR 5/2			3-5	f, q, rnd sst	29	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	10YR 5/4	o, gr, mn	ab	<1	wthd sst							
147	513143, 443980	WW	30	hcl	10YR 5/2			3-5	f, q, rnd sst	30	35	IV	3b	WETNESS	Heavy	Surface water in large areas local to this boaring.
			80	c	10YR 5/4	o, gr	ab	<1	f, q, rnd sst							
			120	c	10YR 4/1	o, gr	ab	<1	f, q, rnd sst							
148	513052, 443937	WW	30	fscl	10YR 5/2			5-10	f, q, rnd sst	30	no spl	II	3a	WETNESS	Heavy	Impenetrable stone at 90cm.
			40	c	10YR 5/4	o, gr, mn	ab	3-5	wthd sst, chlk							
			90	c	5YR 4/3	o, gr, mn	ab	3-5	wthd sst, chlk							
149	512958, 443900	WW	31	fscl	10YR 5/2			5-10	f, q, rnd sst (sm)	31	no spl	II	2	WETNESS	Medium-Heavy	Impenetrable stone at 80cm.
			80	hcl app s	10YR 4/4	o, gr, mn	ab	5-10	f, sst							
150	512727, 444022	WB	35	hcl	10YR 4/2			1-2	sst, f	35	35	IV	3b	WETNESS	Heavy	SAMPLES NEEDED
			50	c	10YR 5/6	o, gr, mn	ab	<1	sst, f							
			120	hcl	10YR 5/4	o, gr, mn	ab	<1	sst, f							
151	512659, 443956	WB	34	c	10YR 4/2			1-2	sst, f	34	35	IV	3b	WETNESS	Heavy	SAMPLES NEEDED
			120	c	10YR 5/4	o, gr, mn	fw	1-2	chlk							
152	512596, 443887	WB	35	c	10YR 4/2			1-2	sst, f	35	35	IV	3b	WETNESS	Heavy	SAMPLES NEEDED
			120	c	10YR 5/4	o, gr, mn	fw	1-2	chlk							
153	512588, 443748	WW	30	hcl	5YR 3/2			3-5	sst, f	30	35	IV	3b	WETNESS	Heavy	AB moved 15m East from standing water. Impen at 70cm.
			70	c	5YR 3/2	p gr, mn	fw	5-10	sst							
154	512497, 443706	WW	33	hcl	10YR 3/2			3-5	sst	30	35	IV	3b	WETNESS	Heavy	Field sample needs to be taken.
			90	c	10YR 4/4	o, mn, p gr	ab	1-2	wthd sst, chlk							
			120	scl	10YR 4/4			<1	sst, f							
155	512407, 443663	WW	29	hcl	10YR 4/2			5-10	sst, f	29	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 4/4	gr, y, o	ab	<1	sst, f							
156	512314, 443625	WW	29	hcl	10YR 4/2			5-10	sst, f	29	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 4/4	p gr, y, green	ab	<1	sst, f							
156a	512248, 443710	WW	31	hcl	10YR 4/2			3-5	m sst, f	31	35	IV	3b	WETNESS	Heavy	AB in wet area with no crop.
			120	gritty hcl	10YR 4/4	o, gr	cm	<1	sst, f							
156b	512136, 443710	WW	32	hcl	10YR 4/2			5-10	sst, f, chlk. q	32	35	IV	3b	WETNESS	Heavy	AB in wet area with no crop. Impenetrable at 70cm.
			70	c	10YR 4/4	o, gr, mn, rd	ab	1-2	chlk							
156c	512035, 443703	WW	29	hcl	10YR 4/2			5-10	sst, f, chlk, q	29	35	IV	3b	WETNESS	Heavy	AB in wet area with no crop.
			120	c	10YR 4/4	o, gr, mn, rd	ab	1-2	chlk							
156d	511933, 443695	WW	35	hcl	10YR 4/2			5-10	sst, f, chlk, q	35	35	IV	3b	WETNESS	Heavy	AB in wet area with no crop.
			120	c	10YR 4/4	o, p gr, green	ab	1-2	chlk							

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					Munsell	Musell	Ab.	Total	Type							
156e	511832, 443688	Fallow	32	hcl	10YR 4/2			5-10	sst, f, chlk, q	32	35	IV	3b	WETNESS	Heavy	Wet unmanaged corner of field.
			65	hcl	10YR 4/4	o	ab	10-20	grvl							
			120	sc	10YR 5/4	o	ab	<1	grvl							
156f	511745, 443636	Unmanaged	28	hcl	10YR 4/2			5-10	grvl	28	52	III	3b	WETNESS	Heavy	
			52	hcl	10YR 5/2			<1	grvl							
			120	c	10YR 4/4	o, p gr, mn, rd	ab	<1	grvl							
156g	511729, 443537	PGR	30	hcl	10YR 4/2			10-20	grvl	30	55	III	3b	WETNESS	Heavy	
			55	scl	10YR 5/4			<1	grvl							
			120	hcl	10YR 5/6	o, p gr, mn, rd	ab	<1	grvl							
157	512219, 443592	WW	28	hzcl	10YR 4/2			5-10	sst, f, chlk, q	28	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 4/4	o, p gr, mn, green	ab	1-2	chlk							
158	512108, 443587	WW	30	hzcl	10YR 4/2			3-5	f	30	35	IV	3b	WETNESS	Heavy	Surface of whole field severely slaked. Impen at 90cm due to stone.
			90	c	5YR 3/2	p gr, mn, y br	ab	3-5	sst, f, chlk							
159	512016, 443551	WW	29	hzcl	10YR 4/2			3-5	m sst	29	35	IV	3b	WETNESS	Heavy	Rare chalk fragments in TS. Chalk below 60cm.
			120	c	5YR 3/2	p gr, mn, y br	ab	3-5	f, chlk							
160	511925, 443513	WW	34	hzcl	10YR 4/2			3-5	m sst	34	55	III	3b	WETNESS	Heavy	Marginal heavy/medium TS texture. Below 80cm reddish brown with common chalk fragments.
			55	hcl	10YR 4/4	p gr, mn	cm	1-2	sst, q							
			120	c	5YR 4/3	o, gr, mn	ab	1-2	wthd sst							
161	511836, 443476	STB	32	hcl	10YR 4/2			1-2	f, q	32	45	III	3b	WETNESS	Heavy	On margin 5m from hedge. Local areas of surface standing water.
			120	c	5YR 3/2	p gr, mn	fw	3-5	f, chlk							
162	511743, 443437	WB	34	hcl	10YR 4/2			3-5	sst, f, chlk, q	34	40	III	3b	WETNESS	Heavy	Marginal topsoil m/hcl. Mottles become abundant with depth. Clay below 50cm. Saturated at surface with standing water.
			120	hcl	10YR 5/2	o, p gr, mn	cm	3-5	sst, f							
163	511659, 443382	WB	32	hcl	10YR 4/2			3-5	sst, f, q	32	60	III	3b	WETNESS	Medium-Heavy	* crop inconsistent large areas grasses. Increasing clay content, abundant mottles below 60cm, also slowly permeable.
			90	scl	10YR 4/4	o, p gr, mn	fw	3-5	sst, f							
			120	c	5YR 5/3	o, p gr, mn	ab	1-2	wthd sst							
164	511576, 443325	WB	31	hcl	10YR 4/2			3-5	sst, f, q	31	35	IV	3b	WETNESS	Heavy	SS turns grayer with depth.
			120	c	10YR 5/4	o, p gr, mn	ab	1-2	wthd sst							
164a	511595, 443226	Grass	37	hcl	10YR 4/2			<1	wthd sst	no gleying	no spl	I	2	WETNESS	Medium-Heavy	
			50	hcl	10YR 4/1	o	fw	<1	wthd sst							
			120	scl	10YR 4/4			<1	wthd sst							
164b	511501, 443133	WW	31	hcl	10YR 4/2			<1	wthd sst	31	35	IV	3b	WETNESS	Heavy	
			120	hcl	10YR 4/4	o, p gr, mn	m	<1	wthd sst							
165	511493, 443268	WB	33	hcl	10YR 4/2			1-2	sst, f, q	33	60	III	3b	WETNESS	Heavy	Standing water TS/SS interface, saturated, surface standing water. Flat gently undulating.
			60	scl	10YR 6/4	p gr	fw	3-5	sst, f, chlk							
			100	c	10YR 5/4	o, p gr	ab	3-5	wthd sst, f, chlk							
166	511410, 443211	CULT	38	msl	10YR 3/2			1-2	grvl	40	no spl	II	2	DROUGHT	Medium	Recently drilled winter wheat. Slope 4-6°. Saturated at 70cm. DROUGHT CALC CONDUCTED, GRADE 2
			120	msl	10YR 5/2	o, r br, mn	cm	3-5	q pebbles							
167	511327, 443155	CULT	31	scl	10YR 3/2			1-2	grvl	35	35	IV	3b	WETNESS	Medium-Heavy	Sandy lenses within clay SS, weathered sandstone. Mottling increases with depth.
			120	c	10YR 5/2	o, mn	m	3-5	q pebbles							
168	511244, 443098	CULT	40	scl	10YR 3/1			1-2	sst, q, f	40	no spl	II	2	DROUGHT	Medium	DROUGHT CALC CONDUCTED, GRADE 2.
			120	msl	10YR 5/1	o	cm	3-5	grvl, m pebbles							

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					Munsell	Musell	Ab.	Total	Type							
169	511161, 443040	CULT	35	hcl	10YR 3/2			1-2	f, q	35	40	III	3b	WETNESS	Medium-Heavy	Wetness class marginal.
			80	hcl	10YR 5/1	o, mn, y, br	ab	1-2	f, q							
			120	scl	10YR 5/1	o, mn, y, br	ab	5-10	f, q							
170	511077, 442984	CULT	34	mcl	10YR 3/2			1-2	f, q, sst	34	35	IV	3b	WETNESS	Medium-Heavy	7-11 slope. Sandy lenses in clay LSS. Impenetrable at 75cm.
			60	hcl	10YR 5/1	o	ab	<1	wthd sst							
			75	c	10YR 4/1	o, mn, g	ab	<1	wthd sst							
171	510994, 442928	CULT	32	o-scl	10YR 3/1			1-2	f	32	35	IV	3b	WETNESS	Organic-Mineral	Water table at 60cm.
			120	c	10YR 3/1	o	fw	<1	f							
172	510911, 442870	CULT	33	o-scl	10YR 3/2			3-5	fine grvl	50	50	III	2	STONE CONTENT	Organic-Mineral	Check ALC for organic soils. Sandy pockets in LSS. DROUGHT CALC CONDUCTED, LIMTIED BY STONES.
			50	pl	10YR 2/1			3-5	fine grvl							
			120	hcl	10YR 5/1	o	ab	5-10	wthd sst							
173	510828, 442813	CULT	32	scl	10YR 3/2			3-5	hst, sm grvls	32	no spl	II	2	DROUGHT	Medium	scl lenses in USS. Clay below 1m. DROUGHT CALC CONDUCTED GRADE 2 CONFIRMED.
			120	msl	10YR 5/1	o, fe	ab	<1	wthd sst							
174	510745, 442757	CULT	32	mcl	10YR 3/2			1-2	sm grvls	32	55	III	3a	WETNESS	Medium-Heavy	Water at TS/SS boundary. Sandy lenses in LSS.
			55	scl	10YR 5/1	o	cm	1-2	sst, q, f							
			70	hcl	10YR 5/1	o, mn, fe	m	1-2	sst, q, f							
			120	c	10YR 4/1	o, mn, fe	m	<1	sst, q, f							
175	510662, 442701	CULT	27	hcl	10YR 3/2			1-2	sst, f	30	35	IV	3b	WETNESS	Heavy	Saturated at TS/SS boundary.
			120	c	10YR 5/4	gr, o	cm	<1	wthd sst							
176	510580, 442643	CULT	32	o-msl	10YR 3/1			1-2	f grvl, f, sst	50	no spl	I	2	PV	Organic-Mineral	Clay band at 95cm to 1m. Drought calc needed. DROUGHT CALC CONDUCTED, GRADE 1 CONFIRMED. Down grade due to pattern variability.
			50	lms	10YR 4/4	r br	fw	<1	wthd sst							
			60	sand grvl	10YR 4/6	fe, mn	ab	5-10	f, sst, grvl							
			120	lms	10YR 4/4			<1	wthd sst							
177	510497, 442587	CULT	33	o-scl	10YR 3/1			<1	wthd sst	55	80	II	2	PV	Organic-Mineral	Check ALC. DROUGHT CALC CONDUCTED, GRADE 1 CONFIRMED. Changed due to pattern variability.
			55	ms	10YR 6/4	o	fw	3-5	f, sst							
			80	sand & grvl	10YR 4/6	o, mn	fw	10-20	fine grvl							
			90	zc	10YR 7/3			<1	wthd sst							
178	510413, 442530	CULT	37	o-zcl	10YR 2/2			3-5	f, sst, grvl	37	45	III	3a	WETNESS	Organic-Mineral	Saturated at 70cm. DROUGHT CALC CONDUCTED, LIMITED BY STONES.
			70	hcl	10YR 3/1	o	fw	<1	wthd sst							
			120	lms grvl	10YR 4/2			3-5	grvl							
179	510330, 442475	CULT	40	o-scl	10YR 3/1			1-2	grvl	55	60	III	3a	WETNESS	Organic-Mineral	TS borderline peaty loam, esp. below 20cm. Check organic soil ALC. DROUGHT CALC CONDUCTED, GRADE 1 CONFIRMED
			55	lms	10YR 4/4	mn	cm	<1	wthd sst							
			120	c	10YR 5/2	o, mn	ab	<1	wthd sst							
180	510246, 442420	CULT	37	o-hcl	10YR 3/1			<1	f	45	no spl	I	3a	PV	Organic-Mineral	AB offset. Between AB and hedge is large midden. Gets sandier with depth. Stability issues, measures needed. DROUGHT CALC CONDUCTED, GRADE 2. Grade changed to 3a on pattern variability
			70	scl	10YR 4/6	mn, fe	cm	<1	f							
			120	lms	10YR 4/6	mn, fe	cm	<1	f							
181	510161, 442366	CULT	56	hcl	10YR 3/2			1-2	f, grvl	56	no spl	I	3a	DROUGHT	Medium-Heavy	AB offset from track. Likely disturbed from track creation nearby.
			120	lms	10YR 5/1	o	cm	<1	f							
181a	510091, 442439	WW	30	mcl	10YR 3/2			1-2	f, sst	40	no spl	II	3a	DROUGHT	Medium	Drilled with limited crop emergence. High levels of soil erosion of fine particles in drill wheelings. Bands of siltier material (szl). Water table at
			120	lms	10YR 4/6	fe, mn	cm	<1	f							

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BORE NO.	OS GRID REF	LAND USE	DEPTH (cm)	TEXTURE	Soil Colour	MOTTLES		Stones		DEPTH TO GLEYING (cm)	DEPTH TO SPL (cm)	WETNESS CLASS	ALC	ALC limitation	SOIL TYPE	COMMENTS
					Munsell	Musell	Ab.	Total	Type							
			29	hcl	10YR 4/2			1-2	sst chlk							
		BEANS	45	hcl	10YR 5/2			1-2	sst, chlk	45	45	III	3a	WETNESS	Medium-Heavy	Completed end of May.
			75	c	10YR 5/1	o, gr, mn	ab	1-2	sst, chlk							
181b	510094, 442540		120	scl	10YR 5/1	o	fw	<1	f							
			35	mcl	10YR 4/2			5-10	sst, f, chlk, brick							
		WW	70	hcl	10YR 5/2	o g	ab	3-5	sm sst, f	35	40	III	3a	WETNESS	Medium-Heavy	Bottom of 12 degree slope. Next to farm track in wet area with no crop growth.
181c	510052, 442631		120	c	10YR 5/2	o g	ab	<1	f							
			30	mcl	10YR 4/2			3-5	sst, f							
		BEANS	85	scl	10YR 5/2	o, gr	ab	<1	f	30	35	IV	3b	WETNESS	Medium-Heavy	Completed end of May.
181d	510021, 442727		120	sc	10YR 5/1	o, gr	ab	<1	f							
			30	mcl	10YR 4/2			5-10	sst, f, chlk, brick							
		WW	85	c	10YR 5/2	o, gr, dk gr	ab	<1	f	30	35	IV	3b	WETNESS	Medium-Heavy	Bottom of 12 degree slope. Next to farm track in wet area with no crop growth.
181e	510009, 442826		120	sc	10YR 4/1	o, gr	ab	<1	f							
			26	hcl	10YR 4/2			3-5	sst, f, chlk, brick							
		WW	55	c	10YR 5/2	o, dk gr	ab	<1	chlk	26	35	IV	3b	WETNESS	Medium-Heavy	
181f	509988, 442924		120	fscl	10YR 7/1	o	ab	<1	f							
			32	hcl	10YR 4/2			3-5	sst, f, chlk							
		WW	75	c	10YR 5/2	o, gr	ab	<1	f	32	35	IV	3b	WETNESS	Medium-Heavy	Pockets of sand in lss.
181g	510008, 443022		120	c	10YR 6/1			<1	f							
		WW	28	hcl	10YR 4/2			3-5	f	28	35	IV	3b	WETNESS	Medium-Heavy	Impenetrable at 80cm.
181h	509940, 443095		80	c	10YR 5/2	o, gr	ab	1-2	sm sst							
			28	mcl	10YR 4/2			5-10	sst, f, chlk, q							
		WW	75	c	10YR 5/2	o, gr	ab	<1	sm sst	28	35	IV	3b	WETNESS	Medium-Heavy	
181i	509841, 443107		120	c	10YR 4/1	o, gr	ab	<1	sm sst							
		WW	31	hcl	10YR 4/2			3-5	sm sst	31	35	IV	3b	WETNESS	Medium-Heavy	
181j	509742, 443123		120	scl	10YR 5/4	o, gr	ab	1-2	sm sst							
		WW	40	hcl	10YR 4/2			3-5	sm sst	40	40	IV	3b	WETNESS	Medium-Heavy	
181k	509713, 443219		120	c	10YR 4/2	o, gr	ab	<1	sm sst							
		WW	30	hcl	10YR 4/2			5-10	sst, f, chlk	30	35	IV	3b	WETNESS	Medium-Heavy	
181l	509704, 443319		120	scl	10YR 5/4	o, gr	ab	1-2	sm sst							
		OSR	31	hcl	10YR 3/2	gr	cm	5-10	sst, f	35	35	IV	3b	WETNESS	Heavy	Min-till. OSR following cereal. Gleyed TS base. Standing water at surface.
182	510073, 442318		120	sc	10YR 5/4	o, gr	ab	1-2	f							
			28	hcl	10YR 3/2	gr	cm	3-5	sst, f							
		OSR	80	c	10YR 5/4	o, gr, mn, fe	ab	1-2	f, grvl	35	35	IV	3b	WETNESS	Heavy	Poorly structured TS, gleyed and anaerobic around crop residue. Appreciable sand content. Clay till at 80cm.
183	509987, 442267		120	c	5YR 4/3	o, gr, mn, fe	ab	1-2	f, grvl							
		OSR	32	hcl	10YR 3/2			3-5	sst, f	35	35	IV	3b	WETNESS	Heavy	Adjacent to bird cover on field headland. Sandier pockets around weathered sandstones and clayey bands.
184	509900, 442217		120	sc	10YR 5/4	o, gr, mn	ab	<1	sst, f							
		OSR	34	hcl	10YR 3/2			<1	sst, f	35	35	IV	3b	WETNESS	Heavy	OSR with meadow grass emergence. Standing water. Water welling up in boring from horizontal fissures. Subtle colour change between TS/SS.
185	509813, 442168		120	c	10YR 5/4	o, gr	fw	<1	sst, f							
			29	hcl	10YR 3/2			3-5	f, chlk							
		WW	50	hcl	10YR 4/1	o, gr	ab	1-2	f	29	35	IV	3b	WETNESS	Organic-Mineral	Subtle colour difference between TS/SS. Potential stability issues. SS gets sandier with depth.
186	509726, 442118		120	scl	10YR 4/4	o, gr	ab	1-2	f							

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					Munsell	Musell	Ab.	Total	Type							
		WW	29	hcl	10YR 3/2			3-5	sst, f, chlk	29	35	IV	3b	WETNESS	Organic-Mineral	Marginal SPL due to clay layer thickness
			45	c	10YR 5/4	o, gr, mn	ab	1-2	chlk							
187	509640, 442068		55	zcl	10YR 6/1	o, gr, mn	ab	3-5	chlk, f							
		CC	34	mcl	10YR 4/2			1-2	grvl	34	35	IV	3b	WETNESS	Medium-Heavy	*CC, raddish, rye
188	509548, 442029		120	hcl	10YR 3/3	o, gr, mn	ab	1-2	grvl							
		CC	29	mcl	10YR 4/2			1-2	grvl	29	35	IV	3b	WETNESS	Medium-Heavy	*CC, raddish, rye
			60	hcl	10YR 3/3	o, gr, mn	ab	1-2	grvl							
189	509449, 442013		120	c	5YR 4/3	o, gr, mn	ab	3-5	chlk							
		CC	30	mcl	10YR 4/2			<1	f, chlk	30	45	III	3b	WETNESS	Medium-Heavy	*CC, raddish, rye
			45	hcl	10YR 3/3	o, gr, mn	ab	<1	sst, f							
190	509350, 441999		120	c	5YR 4/3	o, gr, mn	ab	3-5	chlk							
		WW	30	mcl	10YR 3/2			3-5	sst	30	35	IV	3b	WETNESS	Medium-Heavy	Possibly disturbed, but no surface features.
			50	c	5YR 4/3	gr, mn, o	cm	1-2	wthd sst							
191	509250, 441989		120	mcl	10YR 3/3	o	m	<1	sst, f							
		WW	30	mcl	10YR 4/2			3-5	grvl	30	35	IV	3b	WETNESS	Medium-Heavy	
192	509151, 442001		120	hcl	10YR 4/4	o, p gr, mn, rd	ab	1-2	sst							
		WW	29	mcl	10YR 4/2			3-5	grvl	29	no spl	II	2	WETNESS	Medium-Heavy	
			60	mcl	5YR 4/3	gr, mn	r	1-2	chlk							
193	509058, 442040		120	scl	5YR 3/2	o, gr, mn	ab	<1	sst, f							
		WW	36	hcl	10YR 3/2			3-5	sst, f, chlk, q	36	45	III	3a	WETNESS	Medium-Heavy	15m away from ditch. Impen at 60cm.
			50	hcl	10YR 4/2	o, mn	fw	5-10	sst, f							
194	508970, 442087		60	c	10YR 4/2	o, gr	ab	<1	sst, f							
		WW	30	gritty mcl	10YR 4/2			5-10	sst, f, chlk, grvl	30	50	III	3a	WETNESS	Medium-Heavy	
			80	gritty hcl	10YR 4/2	o, gr, mn	m	3-5	grvl							
195	508882, 442135		120	c	10YR 4/2	o, gr, mn	ab	1-2	sst, f							
		WW	33	mcl	10YR 4/2			3-5	sst, f, chlk, grvl	33	50	III	3a	WETNESS	Medium-Heavy	Bands of hevyer and lignter below 70cm.
			50	scl	10YR 5/4	y br, mn	fw	1-2	sst, f							
			120	scl	10YR 5/4	y, p gr, o	ab	1-2	sst, f							
196	508793, 442182		70	msl	10YR 5/4	y, gr, o	ab	1-2	sst, f							
		WW	29	mcl	10YR 4/2			1-2	sst, f, chlk, grvl, chlk	29	65	III	3a	WETNESS	Medium-Heavy	
			65	hcl	10YR 5/4	gr, o	m	1-2	sst, chlk							
197	508705, 442229		120	c	5YR 6/3	gr, mn	ab	<1	sst, f							
		WW	29	mcl	10YR 4/2			1-2	sst, f, chlk, q	29	35	IV	3b	WETNESS	Medium-Heavy	
			80	hcl	10YR 5/4	o, mn	cm	1-2	sst, chlk							
			100	gritty hcl	10YR 5/4	o, mn	cm	3-5	wthd sst, chlk							
198	508616, 442275		120	scl	10YR 5/4	o, mn	cm	3-5	wthd sst, chlk							
		WW	31	hcl	10YR 4/2			1-2	sst, f, chlk	31	35	IV	3b	WETNESS	Medium-Heavy	Fine sandy lenses infilling fissures below 50cm. Stability. Lms lenses below 100cm.
			50	c	10YR 5/4	o, gr br	cm	1-2	sst, f							
			83	mcl	10YR 5/4	o, gr	ab	<1	sst, f							
199	508540, 442318		120	scl	10YR 5/4	o, gr	ab	<1	sst, f							
		WW	32	hcl	10YR 3/2			<1	sst, f	32	35	IV	3b	WETNESS	Heavy	Waterlogged TS.
200	508453, 442367		120	c	10YR 5/4	o, gr	ab	3-5	chlk							

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					Munsell	Musell	Ab.	Total	Type							
		WW	30	hcl	10YR 3/2			1-2	grvl	30	35	IV	3b	WETNESS	Heavy	
			60	c	10YR 5/4	o, gr	ab	1-2	grvl							
201	508365, 442415		120	c	10YR 4/4	o, gr	ab	3-5	chlk							
		WW	35	hcl	10YR 4/2			1-2	grvl	35	35	IV	3b	WETNESS	Heavy	Fine sand lenses in SS.
202	508278, 442464		120	c	10YR 5/2	p gr, o, mn	ab	<1	grvl							
		WW	34	hcl	10YR 4/2			1-2	sm grvl	34	45	III	3b	WETNESS	Heavy	
			45	hcl	10YR 5/4	o, gr	cm	1-2	sst, f							
			70	c	5YR 4/3	o, gr	ab	1-2	sst, f							
			85	scl	5YR 4/3	o, gr	ab	1-2	sst, f							
202a	508192, 442413		120	c	5YR 4/3	o, gr	ab	1-2	sst, f							
		WW	29	scl	10YR 4/2			1-2	grvl	50	no spl	I	2	DROUGHT	Medium	Increasing sand content with depth.
			70	msl	10YR 4/4	mn	fw	1-2	grvl							
203	508190, 442513		120	lms	10YR 4/4			1-2	grvl							
		WW	32	hcl	10YR 4/2			1-2	grvl	30	45	III	3b	WETNESS	Heavy	
			45	hcl	10YR 5/2	o, gr	cm	<1	sst, f							
204	508103, 442562		120	c	5YR 4/3	o, gr, mn	m	3-5	chlk							
		WW	28	mcl	10YR 3/2			3-5	grvl	28	35	IV	3b	WETNESS	Medium	
			49	hcl	10YR 4/2			5-10	grvl							
205	508023, 442623		120	msl	10YR 4/4	o, mn, p gr	ab	10-20	grvl							
		WW	34	scl	10YR 3/2			5-10	grvl	35	35	IV	3b	WETNESS	Medium	
206	507962, 442701		120	msl	5YR 4/3	o, gr, mn	cm	30-40	grvl							
		POTS	34	scl	10YR 4/2			3-5	sm grvl	34	no spl	II	2	WETNESS	Medium	Standing water on surface. Severe poaching and structural damage, wet potato harvest. See photos. Gravel bands from 80cm. Turning heavier with depth afted 100cm.
			80	gritty scl	10YR 5/4	mn, gr		5-10	fine grvl							
207	507901, 442781		120	gritty scl	10YR 5/4	mn, gr		10-20	fine grvl							
		POTS	40	scl	10YR 4/2			1-2	sm grvl	40	80	II	2	WETNESS	Medium	Standing water on surface. Severe poaching and structural damage, wet potato harvest. See photos. Potential stability issues.
			80	scl	10YR 4/4	o, gr	cm	<1	sst, f							
208	507814, 442831		120	c	5YR 3/2			3-5	chlk							
		POTS	32	scl	10YR 4/2			1-2	sm sst, f	32	35	IV	3b	WETNESS	Medium-Heavy	Standing water on surface. Severe poaching and structural damage, wet potato harvest. See photos. Gets stonier with depth.
209	507722, 442871		120	scl	10YR 4/4	o, p gr, y	ab	1-2	chlk							
		POTS	29	fscl	10YR 4/2			1-2	sm grvl	30	35	IV	3b	WETNESS	Medium-Heavy	Standing water on surface. Severe poaching and structural damage, wet potato harvest. See photos.
210	507631, 442912		120	hcl app fs	10YR 4/2	o, gr, mn	ab	<1	sst, f							
		POTS	24	hcl	10YR 3/2			1-2	sm sst, f	24	35	IV	3b	WETNESS	Medium-Heavy	Standing water on surface. Severe poaching and structural damage, wet potato harvest. See photos.
			52	hcl	10YR 4/4	o, mn, y, p gr	ab	<1	sst, f							
211	507539, 442952		120	zcl	10YR 5/2	o, mn, y, p gr	ab	3-5	grvl							
		POTS	30	scl	10YR 4/2			1-2	grvl, f, chlk	30	35	IV	3b	WETNESS	Medium-Heavy	Standing water on surface. Severe poaching and structural damage, wet potato harvest. See photos.
212	507448, 442992		120	c	10YR 5/4	o, mn, p gr	ab	1-2	sst, f							
		POTS	40	scl	10YR 3/2			1-2	f grvl	40	80	II	3b	PV	Medium-Heavy	Standing water on surface. Severe poaching and structural damage, wet potato harvest. See photos. Downgraded on pattern variability.
			52	msl	10YR 6/4	o, gr	cm	1-2	f grvl							
			85	lms	10YR 4/4	o, gr	cm	1-2	f grvl							
213	507352, 443021		120	c	5YR 5/3	o, gr, mn	ab	3-5	f, chlk							

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					Munsell	Musell	Ab.	Total	Type							
214	507253, 443033	Grass	27	hcl	10YR 3/2			1-2	sst, f	27	35	IV	3b	WETNESS	Heavy	
			70	hcl	10YR 4/4	o, rd, p gr, mn	ab	3-5	sst, chlk							
			120	c	5YR 5/3	o, gr, mn	ab	3-5	chlk							
215	507154, 443045	Grass	27	hcl	10YR 3/2			1-2	sst, f	27	35	IV	3b	WETNESS	Heavy	
			70	hcl	10YR 4/4	o, rd, p gr, mn	ab	3-5	sst, chlk							
			120	c	5YR 5/3	o, gr, mn	ab	3-5	chlk							
216	507053, 443036	CC	32	hcl	10YR 3/2			1-2	f, chlk	27	35	IV	3b	WETNESS	Medium-Heavy	
			75	c	10YR 4/4	o, mn, gr	ab	1-2	wnd sst, chlk, f							
			120	c	5YR 3/2	gr, mn	cm	5-10	chlk							
217	506961, 442997	CC	31	sl o-hcl	10YR 3/2			1-2	rnd sst	31	45	III	3b	WETNESS	Medium-Heavy	msl textures in SS. Wetness increasing from 80cm.
			60	lms	10YR 6/1	o, mn, dk gr	cm	1-2	sst, f							
			120	msl	10YR 5/6	o, mn, dk gr	cm	1-2	sst, f							
218	506877, 442945	CC	31	mcl app s	10YR 3/2			1-2	f, sst, chlk	31	80	II	3b	PV	Medium-Heavy	Downgraded on pattern variability.
			80	msl	10YR 5/4	o, mn	cm	<1	sst, f							
			100	c	10YR 4/4	o, r	ab	<1	sst, f							
219	506792, 442891	CC	25	hcl	10YR 4/2			3-5	rnd sst, f	25	35	IV	3b	WETNESS	Heavy	Slightly disturbed AB, clay pipe fragments inboring. Historical drain hit at 80cm.
			80	hcl app s	10YR 3/3	gr, o, mn	ab	1-2	sst, f							
220	506708, 442837	CC	30	hcl	10YR 4/2			3-5	sm sst, f	30	45	IV	3b	WETNESS	Heavy	
			45	c	10YR 5/1	gr, o, mn	ab	3-5	sm sst, f							
			100	lms	10YR 5/4	o, gr, mn	cm	3-5	sm sst, f							
			120	c	5YR 5/3			10-20	chlk							
221	506624, 442784	CC	35	hcl app s	10YR 4/2			3-5	rnd sst, f	35	50	III	3b	WETNESS	Heavy	
			50	hcl	10YR 5/4	p gr, y, mn	fw	3-5	rnd sst, f							
			65	hcl	10YR 4/4	p gr, y, mn	m	3-5	rnd sst, f							
			120	c	5YR 5/3	p gr, y, mn	ab	5-10	f, chlk							
222	506539, 442732	STB	30	mcl	10YR 3/2			1-2	f grvl	35	35	IV	3b	WETNESS	Medium-Heavy	Marginal TS texture. Field spread with white non-crystalline material - coarse lime or gypsum. Sandy pockets around weathered sandstones. Large Mn concretions.
			60	c	10YR 5/4	o, gr	ab	3-5	f grvl, ssst							
			120	sc	10YR 5/4	o, gr, mn, fe	ab	5-10	f grvl, ssst							
223	506447, 442692	STB	30	mcl	10YR 3/2			3-5	hsst	35	35	IV	3b	WETNESS	Medium-Heavy	Field 302 previous crop was wheat. Fine chalk fragments. Drought calc test required. Chalk content incrasing with depth.
			120	hcl	10YR 5/4	o, gr	ab	1-2	hsst, f, chk							
224	506348, 442677	STB	31	mcl	10YR 3/2			1-2	f, hsst, chk	35	35	IV	3b	WETNESS	Medium-Heavy	>60cm stone and chalk fragment content increasing. Almost chalky boulder clay. Dry at depths below SPL. Potentially fissured at depth aiding drainage.
			85	c	7.5YR 5/6	o, mn, y br	ab	1-2	f, hsst, chk							
			120	c	5YR 4/3	o, mn, y br	ab	3-5	f, hsst, chlk							
225	506248, 442674	STB	32	mcl	10YR 4/2			1-2	f, hsst, chlk	40	no spl	II	2	WETNESS	Medium-Heavy	Fine white substance at TS surface as in field 302. Field headland. Check 300 and 302 for calc. App sand content in SS. Common chalk fragments at 60cm.
			45	hcl	10YR 4/6	o, gr	fw	3-5	f, sst, chlk							
			70	scl	7.5YR 5/6	o	fw	3-5	f, sst, chlk							
			120	c	7.5YR 5/6			30-40	f, chlk							
226	506148, 442672	STB	32	mcl	10YR 4/2			3-5	f, hsst, chlk	40	75	II	2	STONE CONTENT	Medium-Heavy	Check 300 and 302 for calc. Slight hump of field see cotours. DROUGHT CALC CONDUCTED, GRADE 2.
			70	msl	5YR 6/3	o, gr, y br	fw	3-5	f, hsst, chlk							
			120	hcl	5YR 6/3	o, y	cm	3-5	f, hsst, chlk							

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					Munsell	Musell	Ab.	Total	Type							
227	506048, 442669	STB	33	sl o-mzcl	10YR 3/3			3-5	f, hsst, chlk	40	55	III	3a	WETNESS	Medium-Heavy	Adjacent to ditch and arisings.
			55	scl	10YR 4/6	o, gr	cm	3-5	f, hsst, chlk							
			120	hcl	10YR 4/6	o, gr, mn	cm	3-5	f, hsst, chlk							
228	505948, 442666	STB	32	sl o-mzcl	10YR 3/3			1-2	f, chlk	35	45	III	3a	WETNESS	Medium-Heavy	Common chalk fragments. Check calc.
			45	mzcl	10YR 3/3	o, mn	cm	1-2	f, chlk							
			120	c	10YR 5/1	o	ab	1-2	f, chlk							
229	505848, 442664	STB	28	mzcl	10YR 4/2			3-5	f, chlk, hsst	35	40	IV	3a	WETNESS	Medium-Heavy	Common chalk fragments. Check calc.
			65	hcl	10YR 4/1	y br	cm	3-5	f, chlk, hsst							
			120	fsl	10YR 6/4	o, gr, y br	cm	3-5	f, chlk, hsst							
230	505748, 442662	STB	27	fscl	10YR 4/2			3-5	f, chlk, hsst	35	45	III	3a	WETNESS	Medium-Heavy	Common chalk fragments. Check calc. Mosses at surface.
			45	scl	10YR 6/5	o, gr	cm	3-5	f, chlk, hsst							
			120	hcl	5YR 4/3	mn , y br	cm	3-5	f, chlk, hsst							
231	505648, 442663	STB	28	fscl	10YR 4/2			1-2	f	40	no spl	II	3a	DROUGHT	Medium-Heavy	85-100cm charcoal-like material. Possibly burnt. DROUGHT CALC CONDUCTED, GRADE 3a
			120	lms	10YR 5/4	gr, mn	fw	<1	f							
232	505549, 442662	STB	30	mcl	10YR 4/2			1-2	f, chlk, ssst	40	65	III	3a	WETNESS	Medium-Heavy	Slightly undulating field. Fissures and cracks in clay subsoil filled with sand - sandy lenses. Boring located in ridge of undulation. Slightly better drained ridge? See contours.
			45	mcl	10YR 5/1	o, mn	cm	1-2	f, chlk, ssst							
			65	scl	5YR 6/3	o, mn	cm	1-2	f, chlk, ssst							
			120	hcl	5YR 6/3	o, mn	cm	1-2	f, chlk, ssst							
233	505449, 442659	FIELD NOT ACCESSED														
234	505266, 442655	CULT	30	hcl	10YR 3/2			1-2	pottery, chlk, sst	30	35	IV	3b	WETNESS	Heavy	
			70	c	10YR 4/3			<1	sst, f							
			120	c	10YR 6/1	o, gr	ab	<1	sst, f							
235	505166, 442653	CULT	29	hzcl	10YR 3/2			1-2	pottery, chlk, sst	29	35	IV	3b	WETNESS	Heavy	Area of field has been recently re-sown could be due to flooding as in close proximity to river hull. Evidence of night-spoiling in field
			120	zc	10YR 6/1	o, gr	ab	<1	sst, f							
236	505066, 442649	CULT	33	hcl	10YR 3/2			1-2	pottery, chlk, sst	33	no spl	II	3b	FLOOD RISK	Medium-Heavy	Area of field has been recently re-sown could be due to flooding as in close proximity to river hull. ALC subgrade 3b due to pattern varaibility and flood risk.
			65	scl	10YR 4/4	o	cm	3-5	sst grvl							
			120	mcl	10YR 4/4	o, gr	cm	3-5	sst grvl							
237	504966, 442645	WW	25	hzcl	10YR 4/2			1-2	sst, f	38	38	IV	3b	WETNESS	Heavy	
			84	hcl	10YR 5/2	o, gr, mn	cm	1-2	wthd sst							
			120	hcl	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							
238	504868, 442623	CULT	40	hzcl	10YR 4/2			<1	sst, f	60	60	IV	3b	WETNESS	Heavy	Slightly gleyed below 25cm. Presumed winter crop failed. Re-cultivated with SB. On mound in field. 4-7° slope.
			60	hcl	10YR 5/4	o, gr, mn	fw	1-2	wthd sst							
			120	c	5YR 4/3	o, gr, mn	ab	1-2	wthd sst							
239	504780, 442574	CULT	20	zc	10YR 4/2			<1	f	20	35	IV	3b	WETNESS	Heavy	Below 80cm 15-20% chalk fragements and wet. Groundwater. Low lying area of field near drainage ditch.
			50	c	10YR 6/1	o	ab	<1	sst, f							
			60	lms	10YR 7/1	o	cm	3-5	f, grvl							
			120	hcl	10YR 5/8			1-2	sst grvl, f							
240	504696, 442521	CULT	30	hzcl	10YR 3/2			<1	sst, f	30	35	IV	3b	WETNESS	Heavy	3-5% SS inclusions in TS. USS bands of sand and silt.
			45	c	10YR 4/1	o	cm	<1	sst, f							
			120	hcl	10YR 5/4			<1	sst, f							

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					Munsell	Musell	Ab.	Total	Type							
241	504609, 442471	CULT	24	hzcl	10YR 4/2			<1	sst, f	24	35	IV	3b	WETNESS	Organic-Mineral	
			52	c	10YR 5/4	o, gr, mn	ab	<1	sst, f							
			70	c	10YR 5/2	o, gr, mn	ab	<1	sst, f							
			120	scl	10YR 5/2			<1	sst, f							
241a	504658, 442386	STB	23	hcl	10YR 4/2			1-2	sst, f	23	35	IV	3b	WETNESS	Heavy	
			80	hcl app s	10YR 5/4	o, gr, mn	ab	1-2	sst							
			120	o-hcl	10YR 2/2			<1	sst							
241b	504583, 442335	Unmanaged	23	mcl	10YR 4/2			<1	sst	23	35	IV	3b	WETNESS	Heavy	
			120	hcl	10YR 5/8	o, gr, mn	cm	<1	sst							
241c	504543, 442269	Unmanaged	34	hcl	10YR 2/2			<1	sst	34	35	IV	3b	WETNESS	Heavy	
			55	hcl app s	10YR 5/4	o, gr, mn	ab	<1	sst, f							
			120	c	10YR 4/3	o, gr, mn	ab	<1	sst, f							
241d	504497, 442202	Unmanaged	21	mcl	10YR 4/2			<1	sst, f	30	no spl	II	2	DROUGHT	Medium	Drought calc conducted, grade 2.
			120	fscl	10YR 5/8	mn	ab	<1	sst, f							
241e	504402, 442210	Shrub	23	sl o-mcl	10YR 4/2			<1	sst, f	no gleying	no spl	I	2	PV	Medium	Drought calc conducted grade 1 confirmed. Down graded to grade 2 due to pattern variability.
			120	fsl	10YR 5/4			<1	sst, f							
241f	504312, 442278	PGR	28	sl o-hcl	10YR 2/2			<1	sst	28	35	IV	3b	WETNESS	Medium	
			83	mcl	10YR 5/4	o, gr, mn	ab	<1	sst							
			120	scl	10YR 5/4	o, gr, mn	ab	<1	sst							
242	504516, 442435	SPR B	25	mzcl	10YR 4/2			3-5	f, chlk	no gleying	no spl	I	3b	DROUGHT	Organic-Mineral	Impenetrable due to stone.
			65	msl	10YR 5/4			50+	chlk brash							
243	504422, 442401	SSSI	Un-surveyed due to SSSI.										Non-Ag	Non-Ag	Organic	Site of SSSI. Boring not accessable.
244	504328, 442365	SSSI	25	sl o-zcl	10YR 3/2			1-2	hdst	no gleying	no spl	I	Non-Ag	Non-Ag	Organic	Site of SSSI. Boring getting wetter and greyer with depth. Overgrown reeds and rushes.
			120	hzcl	10YR 3/2	o	fw	<1	sst, f							
245	504234, 442330	PGR	26	sl o-hzcl	10YR 4/1			<1	sst, f	26	35	IV	3b	WETNESS	Heavy	Mottling increases from 45cm.
			120	hcl	10YR 5/1	o, p gr, mn	ab	1-2	wthd sst, chlk							
246	504142, 442291	PGR	24	hzcl	10YR 3/1			<1	chlk	24	36	IV	3b	WETNESS	Heavy	Sandy lenses possible fissure infiling. Profile turns red brown at 80cm.
			120	c	10YR 6/1	o, p gr, mn	ab	<1	sst, f							
247	504054, 442241	PGR	28	hzcl	10YR 4/2			<1	sst, f	28	35	IV	3b	WETNESS	Heavy	Chalk fragments from 90cm.
			120	c	5YR 5/3	o, p gr, mn	ab	1-2	wthd sst, chlk							
248	503968, 442191	PGR	29	hzcl	10YR 4/2			<1	sst, f	30	no spl	II	3b	PV	Medium-Heavy	ALC subgrade 3b due to pattern variability.
			120	fscl	10YR 6/3	o	fw	<1	sst, f							
249	503877, 442150	PGR	35	hzcl	10YR 4/1			<1	sst, f	20	35	IV	3b	WETNESS	Heavy	Alluvial? Alluvial layers near stoneless. No significant colour difference in TS and USS.
			45	c	10YR 4/1	o	fw	<1	sst, f							
			120	c	10YR 6/2	o, gr	ab	<1	sst, f							
250	503778, 442135	PGR	29	hcl	10YR 4/2			1-2	sst	29	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, p gr, mn	ab	1-2	wthd sst, chlk							
251	503678, 442131	PGR	30	hzcl	10YR 4/2			1-2	sst	30	35	IV	3b	WETNESS	Heavy	Standing water on TS/SS interface. Chalk fragments increase at 70cm.
			120	c	10YR 6/1	o, p gr, mn	ab	1-2	sst							

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					Munsell	Musell	Ab.	Total	Type							
252	503579, 442124	PGR	28	hcl	10YR 3/3			<1	sst, f	28	35	IV	3b	WETNESS	Heavy	Dog field.
			120	c	10YR 5/4	o, gr, mn	ab	<1	sst, f							
253	503482, 442097	PGR	30	mzcl	10YR 4/1	o	fw	<1	sst, f	30	65	III	3b	PV	Medium-Heavy	SS texture borderline fscl / fsl. Downgraded on pattern variability.
			65	fscl	10YR 5/4	o	cm	3-5	wthd sst							
			120	hcl	10YR 4/4	o, p gr, mn	ab	3-5	wthd sst							
254	503396, 442046	PGR	28	hcl	10YR 4/2			1-2	wthd sst	28	35	IV	3b	WETNESS	Heavy	Taken on boundary boring moved to avoid dog walking area adjacent to new recenty planted hedgeline (TA 03518 42110) no soil sample taken for 21.10
			60	hcl	10YR 5/1	o, gr	m	3-5	wthd sst							
			120	c	10YR 5/1	o, gr	ab	5-10	chlk							
255	503311, 441993	TGR	32	mcl	10YR 4/2			1-2	sst, chlk	32	35	IV	3b	WETNESS	Medium-Heavy	Recently sown rye grass field, marginal mcl / hcl, water sat on TS/SS interface.
			120	c	10YR 5/4	o, gr	cm	3-5	sst, chlk							
256	503226, 441939	TGR	32	hcl	10Y 4/2			3-5	hdsst	32	35	IV	3b	WETNESS	Heavy	Water sat on TS/SS interface. TS wet and gleyed. Sandy lenses in fissures.
			120	hcl	10YR 5/8	o, gr	ab	1-2	wthd sst							
257	503141, 441887	TGR	34	hcl	10YR 4/1			1-2	chlk	34	35	IV	3b	WETNESS	Heavy	Common Mn under 60cm depth. 10m from ditch/field boundary. Less water on TS/SS interface than rest of field.
			120	c	10YR 5/4	o, gr	ab	3-5	hdsst, chlk							
258	503056, 441833	TGR	30	mcl	10YR 4/2			3-5	hdsst	30	35	IV	3b	WETNESS	Medium-Heavy	Marginal mcl/hcl. 5-10% SS contamination in TS. Mottling increases with depth, below 65cm turns red brown in colour. Chalk fragments below 80cm.
			120	hcl	10YR 5/4	o, gr	cm	3-5	sst							
259	502971, 441780	TGR	28	mcl	10YR 4/2			1-2	hdsst, chlk	35	45	III	3a	WETNESS	Medium-Heavy	Marginal mcl/hcl. 10m from open ditch, probability of ditch arisings. Fine sandy lenses throughout SS.
			45	mcl	10YR 5/2	o, gr	rare	3-5	hdsst, chlk							
			120	hcl	10YR 5/4	gr, mn, y br	ab	3-5	wthd sst							
260	502886, 441728	TGR	29	mcl	10YR 4/1			1-2	sst	29	40	IV	3b	WETNESS	Medium-Heavy	Possibly undersown after spring barley. Marginal mcl/hcl. Lots of local standing water. TS gleyed. 29-40cm mottles only few. Chalk fragments below
			120	hcl	10YR 4/4	o, gr, mn	ab	3-5	wthd sst							
261	502792, 441693	TGR	30	mcl	10YR 4/2			1-2	sst, chlk	30	35	IV	3b	WETNESS	Medium-Heavy	Chalk frag below 80cm.
			120	c	10YR 4/4	o, gr, mn	ab	3-5	sst, chlk							
262	502695, 441669	TGR	30	hcl	10YR 4/2			1-2	sst, chlk	30	35	IV	3b	WETNESS	Heavy	Marginal hcl/mcl. 5-10% SS contamination in TS. Below 60cm 3-5% chalk still SPL.
			120	hcl	10YR 4/4	o, gr, mn	ab	3-5	wthd sst							
263	502625, 441653	RYE	41	sl o-zcl	10YR 3/3			1-2	sst	50	50	III	3a	WETNESS	Medium-Heavy	Standing water. Hcl SS has sandy lenses in it. GW at 80cm.
			80	mcl	10YR 6/2	o, gr	cm	<1	sst, f							
			120	scl	10YR 5/8	o, gr	cm	<1	sst, f							
264	502527, 441629	RYE	40	o-zcl	10YR 3/3			1-2	sst	no gleying	no spl	I	2	PV	Organic	Standing surface water locally. Drought calc conducted grade 1 confirmed. Down graded on pattern viariability.
			120	zcl	10YR 5/8	gr	cm	1-2	sst							
265	502430, 441608	RYE	36	o-zcl	10YR 3/3			1-2	sst	45	no spl	I	2	WETNESS	Organic	
			120	fscl	10YR 5/8	gr	cm	1-2	sst							
266	502351, 441589	RYE	30	hzcl	10YR 3/3			1-2	sst	40	40	IV	3b	WETNESS	Heavy	10m in from hedge 2009.
			120	c	10YR 5/8	gr	cm	1-2	chlk							
267	502254, 441565	STB	30	mcl	10YR 4/2			1-2	sst, f, chlk	30	50	III	3a	WETNESS	Medium-Heavy	Appreciably sandy. Water standing in TS/SS boundary. Mottles abundant under 50cm. Becomes clay from 50cm.
			120	hcl	10YR 4/4	o, gr	f	3-5	sst, chlk							
268	502157, 441542	STB	34	mcl	10YR 4/2			3-5	sst, chlk	34	80	II	3a	WETNESS	Medium-Heavy	Increasing clay content with depth below 80cm. hcl/sc. No obvious evidence of SPL above 80cm.
			120	scl	10YR 5/3	mn	f	1-2	sst							
269	502059, 441519	STB	30	hcl	10YR 4/2			1-2	sst, chlk, q	30	35	IV	3b	WETNESS	Heavy	3-5% chalk 90cm.
			120	c	10YR 4/4	o, gr	cm	3-5	wthd sst							

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					Munsell	Musell	Ab.	Total	Type							
270	501962, 441497	WW	29	mcl	10YR 4/2			3-5	sst, f, q	36	36	IV	3b	WETNESS	Medium-Heavy	Soil surface extremely slaked.
			36	hcl	10YR 5/4	o	r	1-2	sst							
			120	c	10YR 5/4	o, gr	ab	1-2	wthd sst							
271	501864, 441474	WW	29	hcl	10YR 4/2			3-5	rnd sst	29	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o, gr, mn	ab	3-5	wthd sst							
272	501768, 441448	WW	29	mcl	10YR 4/2			3-5	sst, q	29	40	IV	3b	WETNESS	Medium-Heavy	Only subtle colour change between TS and USS. Chalk fragments below 80cm.
			40	hcl	10YR 5/3	o	r	3-5	sst, q							
			120	c	10YR 5/4	o, gr	ab	1-2	wthd sst							
273	501672, 441421	WW	30	mcl	10YR 4/2			3-5	sst, f, q	30	60	III	3a	WETNESS	Medium-Heavy	
			60	hcl	10YR 5/4	o, mn	r	1-2	wthd sst							
			120	c	10YR 5/4	o, gr	ab	3-5	wthd sst							
274	501575, 441398	CULT	31	mcl	10YR 4/2			3-5	sst, q	40	60	III	3a	WETNESS	Medium-Heavy	Appreciably sandy at 60cm.
			60	hcl	10YR 5/4	o	r	1-2	wthd sst							
			120	hcl	10YR 5/4	o, gr	ab	1-2	wthd sst							
275	501476, 441384	CULT	28	hcl	10YR 4/2			3-5	sst, f, chlk, q	30	35	IV	3b	WETNESS	Heavy	Small sandier lenses.
			120	c	10YR 5/8	o, gr, mn	cm	1-2	wthd sst							
276	501377, 441370	CULT	30	hcl	10YR 4/2			3-5	sst, f, chlk	30	35	IV	3b	WETNESS	Heavy	Below 80cm 3-5% whethered sandstone.
			120	c	10YR 5/8	o, gr, mn	m	1-2	wthd sst							
277	501278, 441355	CULT	30	hcl	10YR 4/2			3-5	sst, f, chlk	30	50	III	3b	WETNESS	Heavy	Mottles increasing with depth, abundant below 50cm.
			120	hcl	5YR 5/3	o, gr, mn	cm	1-2	wthd sst, f, chlk							
278	501180, 441337	CULT	29	mcl	10YR 4/2			3-5	sst, f, chlk	30	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	5YR 5/3	o, gr, mn	cm	1-2	wthd sst							
279	501109, 441267	CULT	29	mcl	10YR 4/2			3-5	sst, q, chlk	35	45	III	3b	WETNESS	Medium-Heavy	
			45	scl	10YR 4/4	o, gr, mn	r	3-5	sst, chlk							
			120	hcl	10YR 5/4	o, gr, mn	cm	3-5	wthd sst, chlk							
279a	501013, 441236	CULT	29	mcl	10YR 4/2			5-10	sst, q, chlk	35	60	III	3a	WETNESS	Medium-Heavy	Marginal TS. Heavier with depth. sst increasingly weathered with depth. 5-10% wthd sst part of sand augering grinds sst - texture = partial product of extraction. Clay bands.
			60	mcl	10YR 5/3	o, gr	fw	3-5	sst							
			120	scl	5YR 5/3	rd br, gr	cm	3-5	sst							
279b	500993, 441136	CULT	29	mcl	10YR 4/2			3-5	rnd sst, chlk, q	29	40	IV	3a	WETNESS	Medium-Heavy	
			40	mcl	10YR 5/3	mn, fe	cm	3-5	wthd sst							
			120	hcl	10YR 5/4	o, gr	cm	1-2	wthd sst							
279c	500972, 441038	CULT	29	mcl	10YR 4/2			1-2	sst, f, chlk	29	45	III	3a	WETNESS	Medium-Heavy	No visible crop, possibly no emergence as direct drilled.
			45	mcl	10YR 5/3	gr, mn	r	1-2	sst, chlk							
			120	hcl	5YR 3/2	o, gr, mn	ab	1-2	wthd sst							
279d	500958, 440938	PGR	26	mcl	10YR 4/2			1-2	sst	26	35	IV	3a	WETNESS	Medium-Heavy	
			120	c	5YR 3/2	o, gr, mn	ab	3-5	sst							
280	501088, 441169	CULT	31	mcl	10YR 4/2			3-5	chlk	35	55	III	3a	WETNESS	Medium-Heavy	Wheat?
			55	mcl	10YR 5/3	o, mn	r	1-2	sst, chlk							
			120	hcl	10YR 5/2	o, gr, mn	cm	1-2	wthd sst							
281	501071, 441071	Grass Margin	29	fscl	10YR 3/2			1-2	sst, f, chlk	29	45	III	3a	WETNESS	Medium-Heavy	Slaked surface.
			45	fscl	5YR 5/3	gr, mn	cm	1-2	sst, f, chlk, q							
			120	hcl	5YR 3/2	gr, mn	ab	1-2	sst, f, chlk, q							

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					Munsell	Musell	Ab.	Total	Type							
282	501057, 440983	Grass Margin	29	mcl	10YR 4/2			1-2	chlk	40	70	III	3a	WETNESS	Medium-Heavy	10m from road 3m from hedge.
			65	scl	10YR 5/3	mn	fw	1-2	chlk							
			120	hcl	5YR 3/2	gr, o, mn	cm	1-2	chlk							
283	501044, 440883	TGR	29	mcl	10YR 3/2			1-2	sst	29	60	III	3a	WETNESS	Medium-Heavy	Sown summer '23?
			60	hcl	10YR 4/4	gr, mn	fw	3-5	wthd sst							
			120	c	5YR 5/3	o, gr, mn	ab	1-2	wthd sst, chlk							
284	501026, 440785	TGR	28	mcl	10YR 3/2			1-2	sst	28	35	IV	3b	WETNESS	Medium-Heavy	On shoulder of valley - water sheding.
			120	c	5YR 5/3	o, gr	cm	1-2	wthd sst							
285	501010, 440686	TGR	30	hcl	10YR 4/2			1-2	sst, f	30	35	IV	3b	WETNESS	Medium-Heavy	47 degree slope.
			65	c	5YR 3/2	gr, y br, mn	cm	3-5	wthd sst, f, chlk							
			95	lms	5YR 5/3	gr, mn	cm	<1	sst							
			120	c	5YR 3/2	gr, mn	cm	1-2	sst							
286	500997, 440585	WW	35	mcl	10YR 4/2			3-5	sst, f, q	35	no spl	II	3b	SLOPE	Medium-Heavy	Bottom of slope 11-12 degree slope. Significant gully erosion within tramlines with deposition fans at bottom. Topsoil impacted by eroded sediment
			120	hcl	10YR 5/4	mn	r	<1	sst, f							
287	500993, 440484	WW	29	hcl	5YR 3/2			3-5	sst, q	29	35	IV	3b	WETNESS	Heavy	Marginal hcl to mcl. Below 70cm, 3-5% chalk.
			120	c	5YR 4/3	gr, mn	ab	1-2	wthd sst							
288	500990, 440384	WW	31	hcl	10YR 4/2			5-10	sst, f, chlk, q	31	55	III	3b	WETNESS	Heavy	impenetrablepast 90cm.
			55	hcl	10YR 4/2	y br	r	1-2	chlk							
			90	c	5YR 4/3	gr, y br, mn	ab	1-2	sst, f							
289	500986, 440284	WW	30	hcl	10YR 4/2			1-2	sst, chlk, q	30	35	IV	3b	WETNESS	Heavy	10m east of proposed AB point. Clay changed from yellow brown to red brown at 60cm including chalk 3-5%.
			120	c	10YR 5/4	gr, o, mn	ab	1-2	sst, f							
290	500983, 440183	WW	30	hcl	10YR 4/2			1-2	sst, chlk, q	30	35	IV	3b	WETNESS	Heavy	Water sitting on TS/SS boundary. At 75cm SS turns reddish brown with chalk.
			120	c	10YR 5/4	gr, o, mn	ab	1-2	sst							
291	500980, 440083	CC	32	hcl	5YR 4/3	o, gr, mn	ab	3-5	sst, f, chlk	35	35	IV	3b	WETNESS	Heavy	
			45	hcl	10YR 5/4	gr	fw	3-5	sst, f, chlk							
			120	hcl	10YR 5/4	o, gr	ab	3-5	sst, f, chlk							
292	500977, 439983	CC	32	hcl	5YR 4/3			3-5	sst, f, chlk	35	43	IV	3b	WETNESS	Heavy	Marginal TS texture.
			43	hcl	10YR 5/4	gr	fw	3-5	sst, f, chlk							
			120	hcl	10YR 5/4	o, gr	ab	3-5	sst, f, chlk							
293	500952, 439886	CULT	31	hcl	10YR 4/2			5-10	f	35	35	IV	3b	WETNESS	Heavy	Below 70cm 5-10% chalk.
			120	c	5YR 3/2	gr, mn	ab	3-5	chlk							
294	500904, 439798	CULT	30	hcl	10YR 4/2			5-10	f	35	35	IV	3b	WETNESS	Heavy	10m from headland, recently drilled.
			120	c	5YR 3/2	gr, mn	ab	3-5	chlk							
295	500855, 439711	OSR	31	hcl	10YR 4/2			3-5	sst, f, chlk	31	40	IV	3b	WETNESS	Heavy	Patches of severe gleying around crop residue.
			120	c	5YR 4/3	gr, mn	cm	1-2	sst, f							
296	500804, 439625	OSR	34	mcl	10YR 4/2			1-2	sst, f, chlk, q	34	35	IV	3b	WETNESS	Medium-Heavy	Marginal TS texture.
			120	c	7.5YR 5/8	o, mn, rd	ab	1-2	sst, f, chlk, q							
297	500749, 439541	OSR	32	mcl	10YR 4/2			3-5	sst, f, chlk, q	32	35	IV	3b	WETNESS	Medium-Heavy	Marginial TS texture.
			50	c	10YR 5/4	o, gr, mn	cm	3-5	wthd sst							
			120	c	5YR 5/3	gr, mn	ab	3-5	wthd sst, chlk							
298	500709, 439449	OSR	29	hcl	10YR 4/2			1-2	sst, f, q	29	35	IV	3b	WETNESS	Heavy	
			120	c	7.5YR 5/8	gr, mn	cm	1-2	sst, chlk							

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					Munsell	Musell	Ab.	Total	Type							
299	500691, 439351	WB	31	hcl	10YR 4/2			5-10	sst, f, chlk	40	40	IV	3b	WETNESS	Heavy	Calcareous.
			55	hcl	10YR 5/4	mn	fw	3-5	sst, f, chlk							
			120	c	5YR 4/3	gr, mn, rd	ab	1-2	sst, chlk							
300	500697, 439251	WB	33	hcl	10YR 4/2			3-5	sst, f, chlk	33	65	III	3b	WETNESS	Heavy	Marginal TS texture.
			65	hcl	10YR 4/6			<1	sst, f							
			120	hcl	10YR 4/6	o, gr, mn	ab	<1	sst, f							
301	500726, 439155	WB	32	hcl	10YR 4/2			3-5	sst, chlk, q	32	35	IV	3b	WETNESS	Heavy	Water on TS/SS boundary, 5% SS mixing TS.
			120	c	10YR 4/6	o, br, mn	ab	1-2	wthd sst, f, chlk							
302	500777, 439069	WB	32	hcl	10YR 3/2			3-5	sst, f, chlk, q	32	35	IV	3b	WETNESS	Heavy	Water on TS/SS boundary, adjacent to band of chalk outcrop on surface. Impenetrable below 55 due to chalk & flint.
			55	hcl	10YR 4/2			40-50	chlk							
303	500846, 438997	WB	31	hcl	10YE 3/2			10-20	sst, f, chlk, q	31	50	III	3b	WETNESS	Heavy	Calcareous. Severe gleying around previous crop residues.
			60	c	5YR 4/3	gr, mn	fw	30-40	f, chlk							
			120	c	5YR 3/2	gr, mn	cm	5-10	f, chlk							
304	500930, 438943	CULT	30	hcl	10YR 3/2			3-5	sst, f, chlk	30	35	IV	3b	WETNESS	Heavy	Marginal TS texture. Rough ploughed after OSR.
			50	hcl	7.5YR 5/8	o, gr, mn	cm	1-2	wthd sst, f, chlk							
			120	c	5YR 4/3	o, gr	ab	1-2	sst, f, q							
305	501020, 438901	CULT	30	hcl	10YR 3/2			3-5	sst, f, q	30	35	IV	3b	WETNESS	Heavy	
			120	c	7.5YR 5/8	o, gr, mn	ab	1-2	sst, f							
306	501110, 438857	CULT	30	mcl	10YR 4/2			3-5	f, chlk	30	35	IV	3b	WETNESS	Heavy	Marginal TS texture, 30-35 mixed sub/topsoil
			80	c	5YR 4/3	gr, mn	cm	1-2	f, chlk							
			120	c	5YR 3/2	gr, mn	cm	3-5	chlk							
307	501200, 438813	Grass Margin	34	mcl	10YR 3/3			1-2	sst, f	100	100	I	3b	SLOPE	Medium-Heavy	Top of slope.
			100	hcl	7.5YR 5/8	o, mn	cm	1-2	sst, chlk, q							
			120	c	10YR 5/8	o, gr, mn	ab	1-2	sst, f							
308	501291, 438771	WW	30	hcl	10YR 4/2			3-5	rnd sst, chlk, q	30	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/8	rd br	ab	3-5	sst							
309	501380, 438725	WW	33	hcl	10YR 3/3			3-5	sst, chlk, q	95	95	I	3b	WETNESS	Heavy	Down graded on pattern variability.
			95	hcl	10YR 4/3	o, gr	fw	3-5	grvl							
			120	c	10YR 4/3	gr, o, mn		<1	sst, f							
310	501456, 438662	WW	30	mcl	10YR 3/3			50+	f, chlk	no gleying	no spl	I	3b	PV	Medium over chalk	Impenetrable below 60cm. Bottom of 4-7 degree slope. ALC subgrade 3b due to pattern varaibility and marginal slope.
			60	chlk brash				50+	wthd chlk							
311	501530, 438594	WW	29	hcl	10YR 4/3			3-5	f, q	29	35	IV	3b	WETNESS	Heavy	Top of ridge notable gullying . 5-10% SS in TS.
			120	c	10YR 5/8	o, gr, mn	ab	3-5	wthd sst, chlk							
312	501583, 438508	WW	30	hcl	10YR 4/2			3-5	f, q	40	40	IV	3b	WETNESS	Heavy	4-7 slope.
			120	c	10YR 5/8	o, mn	ab	3-5	wthd sst							
313	501632, 438422	WW	29	hcl	10YR 3/3			3-5	rnd sst, f, q	40	40	IV	3b	WETNESS	Heavy	4-7° slope. Wet at 27cm. Chalk below 80cm.
			40	c	5YR 4/6	p gr, o, y	ab	3-5	wthd sst							
			120	c	5YR 4/6	p gr, o, y, mn	ab	<1	sst, f							
314	501682, 438335	WW	28	hcl	10YR 3/3			3-5	rnd sst, f, chlk	40	40	IV	3b	WETNESS	Heavy	
			40	hcl	10YR 6/3	o	cm	3-5	wthd sst							
			120	c	5YR 5/3	dk br, y, mn	m	3-5	wthd sst							

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					Munsell	Musell	Ab.	Total	Type							
315	501738, 438253	WW	30	mcl	10YR 4/2			3-5	rnd sst, f, q	40	40	IV	3b	WETNESS	Heavy	
			40	hcl	10YR 6/3	o	cm	3-5	wthd sst							
			120	c	5YR 5/3	dk br, y, mn	ab	3-5	wthd sst							
316	501789, 438166	WW	32	hcl	10YR 4/2			3-5	rnd sst, f, q	32	35	IV	3b	WETNESS	Heavy	Common Mn below 60cm.
			120	c	5YR 4/6	o, y br	ab	3-5	wthd sst							
316a	501691, 438148	Grass Margin	28	hcl	10YR 4/2			3-5	rnd sst, f, q	28	35	IV	3b	WETNESS	Heavy	5-10% clay SS inclusions.
			120	c	10YR 5/8	o, gr	ab	3-5	wthd sst							
317	501838, 438080	PGR	26	zcl	10YR 4/2			3-5	sst chlk	40	40	III	3a	WETNESS	Medium-Heavy	
			120	c	10YR 5/4	o, mn	ab	<1	sst, f							
318	501887, 437992	PGR	24	zcl	10YR 4/2	mn	fw	<1	f	24	35	III	3a	WETNESS	Medium-Heavy	
			120	c	10YR 5/4	gr, mn	cm	1-2	wthd sst							
319	501932, 437903	PGR	29	mzcl	10YR 4/2			1-2	sst	38	38	III	3a	WETNESS	Medium-Heavy	
			38	hcl	5YR 4/3	mn	fw	3-5	wthd sst							
			120	c	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							
320	501956, 437805	SPR B	28	zcl	10YR 4/2	mn	fw	<1	f	28	no spl	II	2	WETNESS	Medium	
			120	mcl	10YR 5/4	gr, mn	fw	1-2	wthd sst							
321	501944, 437706	CULT	28	hcl	10YR 4/2			1-2	hsst	28	35	IV	3b	WETNESS	Heavy	Flat surface, looks recently sown, but no obvious crop. Field edge, next to tree planting area. Slight capping of fine sand on top of the surface layer.
			120	c	5YR 3/3	gr, mn	ab	<1	wthd sst							
322	501887, 437624	CULT	29	hcl	10YR 4/2			1-2	hsst	29	35	IV	3b	WETNESS	Heavy	Flat surface, looks recently sown, but no obvious crop.
			120	c	5YR 5/3	y, gr, mn	ab	1-2	wthd sst							
323	501828, 437543	CULT	28	hcl	10YR 4/2			1-2	hsst	28	35	IV	3b	WETNESS	Heavy	Flat surface, looks recently sown, but no obvious crop.
			60	hcl	5YR 5/3	o, p gr, mn	ab	1-2	wthd sst							
			120	c	5YR 5/3	o, p gr, mn	ab	1-2	wthd sst							
324	501766, 437464	CULT	29	hcl	10YR 4/2			<1	sst, chlk	29	35	IV	3b	WETNESS	Heavy	Flat surface, looks recently sown, but no obvious crop. Becomes red below 60cm, chalk content increases.
			120	c	10YR 5/4	o, mn, p gr	ab	<1	sst							
325	501690, 437367	POTS	26	hcl	10YR 4/2			3-5	sst, f	26	35	IV	3b	WETNESS	Heavy	TS depth unreliable, potatos still in ground.
			120	c	7.5YR 5/8	o, gr, mn	ab	1-2	sst							
325a	501525, 437462	STB	28	hcl	10YR 4/2			3-5	sst, chlk	28	35	IV	3b	WETNESS	Heavy	Recent application of farmyard manure and woodchip.
			120	c	5YR 5/3	o, mn, p gr	ab	1-2	sst							
325b	501584, 437400	STB	28	mcl	10YR 4/2			3-5	sst, chlk	28	35	IV	3b	WETNESS	Heavy	Recent application of farmyard manure and woodchip.
			120	c	5YR 5/3	o, mn, p gr	ab	1-2	sst							
326	501624, 437292	POTS	22	hcl	10YR 4/2			3-5	sst, f, chlk	22	35	IV	3b	WETNESS	Heavy	TS depth unreliable, potatos still in ground.
			120	c	7.5YR 5/8	o, mn, gr	ab	1-2	sst							
326a	501497, 437357	POTS	27	hcl	10YR 4/2			3-5	rd sst, f, chlk	27	35	IV	3b	WETNESS	Heavy	SS turns red below 60cm. TS depth unreliable, potato crop still in place.
			120	c	7.5YR 5/8	o, gr, mn	ab	1-2	wthd sst							
327	501564, 437212	POTS	22	hcl	10YR 4/2			3-5	sst, f, chlk	22	35	IV	3b	WETNESS	Heavy	TS depth unreliable, potatos still in ground.
			120	c	7.5YR 5/8	o, mn, gr	ab	1-2	sst							
327a	501342, 437301	STB	28	hcl	10YR 4/2			3-5	sst, f	28	35	IV	3b	WETNESS	Heavy	TS depth unreliable, potatos still in ground.
			120	hcl	7.5YR 5/8	o, mn, gr	ab	1-2	wthd sst							
327b	501440, 43714	STB	26	hcl	10YR 4/2			3-5	sst, f	26	35	IV	3b	WETNESS	Heavy	TS depth unreliable, potatos still in ground.
			120	c	7.5YR 5/8	o, mn, gr	ab	1-2	wthd sst							

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					Munsell	Musell	Ab.	Total	Type							
327c	501518, 437246	POTS	20	hcl	10YR 4/2			3-5	sst, chlk	20	35	IV	3b	WETNESS	Heavy	TS depth unreliable, potato crop still in place.
			120	c	10YR 4/4	o, mn, p gr, rd	ab	1-2	sst							
328	501530, 437109	STB	31	hcl	10YR 4/2			3-5	sm & lge bsst	31	35	IV	3b	WETNESS	Heavy	4-7° slope. Sandy pockets in SS.
			120	c	7.5YR 5/8	o, mn, gr, rd	ab	1-2	wthd sst							
329	501529, 437008	STB	27	hcl	10YR 4/2			1-2	sst, chlk	27	35	IV	3b	WETNESS	Heavy	4-7° slope.
			120	c	10YR 4/4	o, mn, gr, rd	ab	1-2	wthd sst							
329a	501422, 437055	STB	28	hzcl	10YR 4/2			1-2	sst, f, chlk	28	35	IV	3b	WETNESS	Heavy	Turning dk rdbr below 60cm.
			120	c	7.5YR 5/8	o, br, mn, gr	ab	<1	sst							
330	501556, 436911	RYE	31	hcl	10YR 4/2			<1	f	31	35	IV	3b	WETNESS	Heavy	5-10% SS inclusions in TS. Chalk fragments below 90cm.
			120	c	10YR 4/4	o, mn, gr	ab	1-2	wthd sst, chlk							
330a	501452, 436935	RYE	28	hcl	10YR 4/2			<1	f	27	35	IV	3b	WETNESS	Heavy	Chalk fragments around 1m.
			120	c	10YR 4/4	o, mn, gr	ab	1-2	wthd sst, chlk							
331	501585, 436815	Grass Margin	26	hcl	10YR 4/2			1-2	sst, f, chlk.	26	35	IV	3b	WETNESS	Heavy	Saturated TS. SS becomes rd br below 60cm
			120	c	10YR 4/4	o, gr, mn	ab	1-2	chlk							
B6	503900, 442051	PGR	27	hcl	10YR 4/2			<1	sst, f	27	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 4/1	o	ab	<1	sst, f							
B7	503918, 441947	PGR	32	hcl	10YR 3/1			1-2	sst, f, chlk	32	35	IV	3b	WETNESS	Heavy	3-5% chlk below 90cm.
			42	hcl	10YR 5/1			1-2	sst, f							
			120	c	10YR 4/1	o	ab	1-2	sst, f							
B8	503937, 441821	PGR	40	hzcl	10YR 4/2			1-2	sst, f	40	40	IV	3b	WETNESS	Heavy	
			120	c	10YR 3/1	o	ab	1-2	sst, f							
B9	504003, 441745	Grass Margin	30	hcl	10YR 4/2			3-5	sst, f	30	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 4/1	o, mn	ab	3-5	chlk							
B10	504063, 441664	Grass Margin	40	hcl	10YR 3/2			<1	sst, f	40	40	IV	3b	WETNESS	Heavy	
			60	c	7.5YR 5/8	o, y br	m	<1	sst, f							
			65	hcl	10YR 4/2			<1	sst, f							
			120	scl	10YR 5/1	o, gr	ab	<1	sst, f							
B11	504136, 441594	Grass Margin	29	mzcl	10YR 4/2			3-5	sst, f	30	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/1	o, gr, mn	ab	3-5	chlk							
B12	504237, 441594	Grass Margin	30	mzcl	10YR 4/2			3-5	sst, f	30	38	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/1	o, gr, mn	ab	3-5	chlk							
B13	504337, 441588	Grass Margin	38	hcl	10YR 4/2			3-5	sst, f	38	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/1	o, gr, mn	ab	3-5	sst, f							
B14	504435, 441566	Grass Margin	26	hcl	10YR 4/2			<1	sst, f	26	52	III	3a	WETNESS	Heavy	Chalk fragments below 70cm.
			120	hcl	10YR 5/4	o, gr, mn	ab	5-10	chlk							
B15	504536, 441571	Grass Margin	29	hzcl	10YR 4/2			<1	sst, f	29	52	III	3a	WETNESS	Medium-Heavy	
			51	scl	10YR 5/4	o, gr	ab	<1	sst, f							
			120	hcl	10YR 4/4	o, gr, mn	ab	<1	sst, f							
B16	504597, 441491	Grass Margin	29	mcl	10YR 4/2			<1	sst, f	29	no spl	II	3a	WETNESS	Medium-Heavy	Down graded on pattern variability.
			50	scl	10YR 5/4	o, gr	cm	<1	sst, f							
			120	scl	10YR 4/4			<1	sst, f							

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					Munsell	Musell	Ab.	Total	Type							
B17	504630, 441396	Grass Margin	28	hzcl	10YR 4/2			<1	sst, f	28	60	III	3a	WETNESS	Medium-Heavy	
			45	lms	10YR 6/4	o	f	<1	sst, f							
			60	scl	10YR 4/4	o, gr	cm	<1	sst, f							
			120	hcl	10YR 4/2	o, gr	ab	1-2	sst, f							
B18	504646, 441298	Grass Margin	32	mzcl	10YR 3/3			<1	f, chlk	32	35	IV	3b	WETNESS	Medium-Heavy	
			59	c	10YR 5/1	o, gr	ab	<1	f, chlk							
			120	hcl	7.5YR 5/8	o, gr	ab	1-2	sst, f							
B19	504588, 441217	Grass Margin	30	mzcl	10YR 4/2			<1	f, chlk, pottery	30	35	IV	3b	WETNESS	Medium-Heavy	
			90	scl	10YR 5/4	o, gr, mn	ab	<1	f, chlk							
			120	lms	10YR 5/4	o, gr	ab	1-2	sst, f							
B33	502863, 441621	TGR	40	hcl	10YR 4/2			3-5	rnd sst	20	40	IV	3b	WETNESS	Heavy	Turning rd br with depth. Surface 20cm was saturated.
			120	c	10YR 5/4	o, gr, mn	ab	1-2	chlk							
B34	502897, 441527	TGR	29	hcl	10YR 4/2			3-5	rnd sst	29	29	IV	3b	WETNESS	Heavy	Turning rd br with depth.
			120	c	10YR 5/4	o, gr, mn	ab	1-2	chlk							
X1	502100, 437000	PGR	28	hcl	10YR 4/2			1-2	sst	35	35	IV	3b	WETNESS	Medium-Heavy	Reddish brown after 70cm.
			38	hcl	10YR 5/4	o, gr	cm	1-2	sst							
			120	c	10YR 6/1	o, gr, mn	ab	1-2	sst							
X2	502100, 436900	PGR	29	hcl	10YR 4/2			<1	sst	29	35	IV	3b	WETNESS	Medium-Heavy	5cm mixed intermediary TS/SS. Sandy lenses weathered SS.
			65	c	10YR 6/1	o, gr, mn	ab	<1	sst							
			120	scl	10YR 5/2	o, gr	cm	<1	sst							
X3	502200, 436900	WW	28	mcl	10YR 4/2			3-5	sst, f, chlk	28	no spl	II	3b	SLOPE	Medium-Heavy	Borderline msl. Significant slope degree slope TS glass pottery clinker.
			50	scl	10YR 4/3	o, mn	cm	1-2	sst							
			120	msl	10YR 5/4	o, gr, mn	m	1-2	sst							
X4	502300, 436900	WW	29	mcl	10YR 4/2			5-10	sst, f, chlk	29	35	IV	3b	WETNESS	Medium-Heavy	Below 90cm 5% chalk.
			65	hcl	10YR 5/4	o, gr, mn	cm	1-2	sst							
			120	c	5YR 5/3	o, gr, mn, y	ab	1-2	sst							
X5	501700, 436800	STB	32	mcl	10YR 4/2			5-10	hdsst, chlk	32	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	10YR 4/4	o, p gr, mn, rd	ab	1-2	hdsst							
X6	501800, 436800	STB	31	mcl	10YR 4/2	mn	r	1-2	sst, chlk	31	35	IV	3b	WETNESS	Medium-Heavy	Water sitting on TS/SS interface.
			120	c	10YR 4/4	o, mn, p gr	ab	<1	sst, chlk							
X7	501900, 436800	STB	29	mcl	10YR 4/2			1-2	sst, chlk	29	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	10YR 4/4	o, m, p gr	ab	<1	sst							
X8	502000, 436800	WW	26	mcl	10YR 4/2			3-5	sst, f, chlk	26	35	IV	3b	WETNESS	Medium-Heavy	Marginal TS texture. Offset 15m south avoid flooding 20% SS contamination in TS. Reddish br below 60cm. Chalk below 70cm.
			120	c	10YR 5/4	o, gr, mn	ab	1-2	sst							
X9	502100, 436800	WW	31	hcl	10YR 4/2			5-10	sst	31	35	IV	3b	WETNESS	Medium-Heavy	Marginal TS texture. Reddish at 60cm. Chalk below 80cm.
			120	c	10YR 5/4	o, gr, mn	ab	1-2	sst							
X10	502200, 436800	WW	30	hcl	10YR 4/2			3-5	sst, f, chlk	30	35	IV	3b	WETNESS	Medium-Heavy	Marginal TS texture. Reddish br 60cm. Mn below 60cm. Chalk below 80cm.
			120	c	7.5YR 5/8	o, gr	ab	<1	sst, f							
X11	502300, 436800	WW	28	hcl	10YR 4/2			3-5	sst, chlk	28	35	IV	3b	WETNESS	Medium-Heavy	Marginal TS texture.
			50	c	10YR 5/4	o, gr	ab	3-5	sst, chlk							
			85	hcl	7.5YR 5/8	o, gr	ab	1-2	sst							

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BORE NO.	OS GRID REF	LAND USE	DEPTH (cm)	TEXTURE	Soil Colour	MOTTLES		Stones		DEPTH TO GLEYING (cm)	DEPTH TO SPL (cm)	WETNESS CLASS	ALC	ALC limitation	SOIL TYPE	COMMENTS
					Munsell	Musell	Ab.	Total	Type							
X12	502400, 436800	SHRUB	26	hcl	10YR 4/2			1-2	sst	26	35	IV	3b	WETNESS	Medium-Heavy	
			54	hcl	10YR 5/4	o, gr	ab	1-2	sst, f							
			120	c	10YR 4/4	o, gr	ab	1-2	sst, f							
X13	501600, 436700	STB	31	hcl	10YR 4/2			3-5	hdsst, chlk	31	35	IV	3b	WETNESS	Medium-Heavy	AB located next to archeology pit which is full of water and on headland. Saturated throughout.
			49	c	10YR 6/4	o, p gr, mn	ab	1-2	hdsst							
			120	c	10YR 4/4	o, p gr, mn, y	ab	1-2	hdsst							
X14	501700, 436700	STB	28	hcl	10YR 4/2			3-5	hdsst, chlk	28	35	IV	3b	WETNESS	Medium-Heavy	AB located next to archeology pit which is full of water.
			120	c	10YR 4/4	o, p gr, mn, y	ab	1-2	hdsst							
X15	501800, 436700	STB	24	hcl	10YR 4/2			1-2	sst	24	55	III	3b	WETNESS	Medium-Heavy	
			55	zc	10YR 5/4	p gr	m	<1	sst							
			120	c	10YR 4/4	o, p gr, mn	ab	<1	sst							
X16	501900, 436700	STB	30	mcl	10YR 4/2			1-2	chlk, sst	30	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	10YR 4/4	o, mn, p gr, rd	ab	<1	chlk							
X17	502000, 436700	WW	24	hzcl	10YR 4/2			5-10	sst, f, q	24	35	IV	3b	WETNESS	Medium-Heavy	10% SS inclusions in TS.
			120	c	10YR 6/1	o, gr, mn	ab	1-2	sst							
X18	502100, 436700	WW	29	hcl	10YR 42			3-5	sst, q	29	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	10YR 5/2	o, gr, mn	ab	1-2	sst							
X19	502200, 436700	Woodland Edge	24	mcl	10YR 4/2	o	cm	1-2	sst	24	35	IV	3b	WETNESS	Medium-Heavy	Offset to edge of woodland. Reddish at 45cm. Chalk below 80cm.
			120	c	10YR 5/4	o, gr	ab	<1	sst, f							
X20	502300, 436700	Woodland, no ALC. Un-surveyed.														
X21.1	502452, 436670	PGR	24	hzcl	10YR 4/2	o	fw	<1	sst, f	24	35	IV	3b	WETNESS	Medium-Heavy	Horse paddock.
			120	hcl	10YR 4/1	o, gr, mn	ab	<1	sst, f							
X21	502400, 436700	PGR	24	hcl	10YR 4/2			<1	sst	24	35	IV	3b	WETNESS	Medium-Heavy	Horse paddock.
			120	c	10YR 4/4	o, p gr, dk gr, mn	ab	1-2	wthd sst							
X22	501600, 436600	STB	32	mzcl	10YR 4/2	mn	cm	1-2	hdsst, chlk	32	35	IV	3b	WETNESS	Medium-Heavy	AB located next to archeology pit which is full of water.
			120	c	10YR 4/4	o, p gr, mn, rd	ab	1-2	chlk							
X23	501700, 436600	STB	31	mcl	10YR 4/2	mn	cm	1-2	hdsst, chlk, pottery glass	31	35	IV	3b	WETNESS	Medium-Heavy	
			43	c	10YR 5/4	o, p gr, mn, pink	ab	1-2	hdsst							
			120	c	10YR 4/4	o, p gr, mn, pink	ab	1-2	wthd chlk							
X24	501800, 436600	STB	32	mcl	10YR 4/2			3-5	sst, chlk	32	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	10YR 3/4	o, mn, p gr, rd	ab	<1	sst							
X25	501900, 436600	STB	26	mcl	10YR 4/2			5-10	sst, f	26	45	III	3b	WETNESS	Medium-Heavy	Sandy pockets in SS.
			45	sc	10YR 4/4	o, mn	cm	5-10	sst							
			120	c	10YR 3/4	o, p gr, mn, rd	ab	3-5	sst							
X26	502000, 436600	WW	30	hcl	10YR 4/2			3-5	sst, chlk, q	31	35	IV	3b	WETNESS	Medium-Heavy	Water on TS/SS interface.
			120	c	5YR 4/3	mn	cm	1-2	sst							
X27	502100, 436600	WW	31	hcl	10YR 4/2			3-5	sst, f, q	30	35	IV	3b	WETNESS	Medium-Heavy	Water on TS/SS interface. Severe gleying around previous crop residue localised sandy lenses below 80cm.
			120	c	10YR 5/8	o, gr, mn	ab	1-2	f							

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					Munsell	Musell	Ab.	Total	Type							
X28	502200, 436600	Woodland, no ALC. Un-surveyed.														
X29	502300, 436600	PGR	26	sl o-mcl	10YR 3/3	mn	fw	<1	sst, f	26	35	IV	3b	WETNESS	Medium-Heavy	Horse paddock.
			120	c	10YR 4/4	p gr, dk gr, mn	ab	<1	sst, f							
X30	502400, 436600	PGR	19	sl o-mcl	10YR 3/3	mn	fw	<1	sst, f	19	35	IV	3b	WETNESS	Medium-Heavy	Horse paddock.
			120	c	10YR 4/4	o, p gr, dk gr, mn	ab	<1	sst, f							
X30.1	502469, 436605	PGR	29	sl o-hcl	10YR 4/2			1-2	sst, f	29	35	IV	3b	WETNESS	Medium-Heavy	Horse paddock.
			120	hzcl	10YR 4/4	o, gr, mn	ab	1-2	chlk, sst							
X30.2	502520, 436518	PGR	27	mcl	10YR 4/2			<1	sst	27	57	IV	3b	WETNESS	Medium-Heavy	Poached by horses.
			55	hcl	10YR 5/4	gr, mn		<1	sst							
			120	c	10YR 4/4			1-2	sst							
X31	501600, 436500	STB	30	mcl	10YR 4/2			1-2	hdsst, chlk	30	35	IV	3b	WETNESS	Medium-Heavy	AB located next to filled in archaeology pit.
			44	hcl	10YR 5/4	o, mn, p gr	ab	1-2	hdst							
			120	c	10YR 4/4	o, mn, p gr	ab	1-2	wthd sst, hdsst, brick							
X32	501700, 436500	STB	31	hcl	10YR 4/2			1-2	hdsst chlk	31	35	IV	3b	WETNESS	Medium-Heavy	AB located next to filled in archaeology pit.
			70	c	10YR 5/4	o, mn, p gr	ab	1-2	hdsst							
			120	c	10YR 4/4	o, mn, p gr	ab	1-2	wthd sst, hdsst							
X33	501800, 436500	STB	34	hcl	10YR 4/2			3-5	sst, f	34	35	IV	3b	WETNESS	Medium-Heavy	Saturated TS/SS interface.
			120	c	10YR 4/4	o, mn, p gr, rd	ab	<1	sst							
X34	501900, 436500	STB	30	mcl	10YR 4/2			3-5	sst	30	35	IV	3b	WETNESS	Medium-Heavy	
			120	hcl	10YR 4/4	mn, p gr, o, rd	ab	3-5	sst							
X35	502000, 436500	STB	32	mcl	10YR 4/2			1-2	sst	28	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	10YR 4/4	o, mn, p gr	ab	<1	sst							
X36	502114, 436491	STB	29	hcl	10YR 4/2			1-2	sst	29	35	IV	3b	WETNESS	Medium-Heavy	Pockets of wthd sst in SS. AB moved away from archeological pit.
			120	c	10YR 4/3	o, mn, p gr	ab	<1	wthd sst							
X37	502200, 436500	STB	34	hcl	10YR 4/2			1-2	sst, f, chlk	34	35	IV	3b	WETNESS	Medium-Heavy	Wet at TS/SS boundary.
			120	c	10YR 5/4	o, mn, p gr, rd	ab	<1	chlk							
X38	502300, 436500	STB	35	hcl	10YR 5/2			1-2	f, chlk, sst, glass	35	35	IV	3b	WETNESS	Medium-Heavy	Headland.
			76	hcl	10YR 5/4	o, p gr, mn	ab	<1	sst							
			120	fscl	10YR 5/2	o, mn, p gr, y	ab	<1	sst							
X39	501600, 436400	STB	26	hcl	10YR 5/2			1-2	hdsst, chlk, f	26	35	IV	3b	WETNESS	Medium-Heavy	
			44	hcl	10YR 5/2	o, mn, p gr, y	ab	1-2	hdsst							
			120	c	10YR 4/4	o, mn, p gr, y	ab	1-2	wthd sst, hdsst							
X40	501700, 436400	STB	28	mcl	10YR 4/2			1-2	hdsst, chlk f	28	35	IV	3b	WETNESS	Medium-Heavy	
			45	hcl	10YR 5/2	o, mn, p gr, y	ab	1-2	hdst							
			120	c	10YR 4/4	o, mn, p gr, y	ab	1-2	wthd sst, hdsst							
X41	501800, 436400	STB	29	mcl	10YR 4/2			1-2	sst	29	35	IV	3b	WETNESS	Medium-Heavy	Water sitting on TS/SS interface.
			120	c	10YR 4/4	o, mn, p gr	ab	<1	sst							
X42	501900, 436400	STB	29	mcl	10YR 4/2			1-2	sst	29	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	10YR 4/4	o, mn, p gr	ab	<1	sst							

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					Munsell	Musell	Ab.	Total	Type							
X43	502000, 436400	STB	31	mcl	10YR 4/2			1-2	sst	31	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	10YR 5/3	o, mn, p gr	ab	<1	sst							
X44	502100, 436400	STB	28	hcl	10YR 4/2			1-2	sst	28	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	10YR 5/3	o, mn, p gr	ab	3-5	chlk							
X45	502200, 436400	STB	21	hcl	10YR 5/2	mn	r	3-5	hdsst, f, chlk	21	35	IV	3b	WETNESS	Medium-Heavy	
			75	c	10YR 4/4	o, mn, p gr, rd	ab	1-2	hdsst							
			120	c	10YR 4/4	o, mn, p gr, rd	ab	3-5	wthd chlk							
X46	502300, 436400	STB	22	hcl	10YR 5/2			3-5	hdsst, f, chlk	22	35	IV	3b	WETNESS	Medium-Heavy	Wet at 20cm. Impenetrable at 92cm due to stone.
			80	hcl app s	10YR 5/4	gr, mn	ab	1-2	chlk							
			92	c	10YR 5/2	o, mn	cm	3-5	chlk							
X47	502400, 436400	STB	26	hcl	10YR 5/2			<1	chlk, sst	26	35	IV	3b	WETNESS	Medium-Heavy	Headland.
			78	hcl	10YR 5/4	o, p gr	ab	<1	sst							
			120	fscl	10YR 5/2	o, gr, mn	cm	<1	sst							
X48	501600, 436300	STB	24	mcl	10YR 4/2			1-2	hdsst, chlk, f	24	35	IV	3b	WETNESS	Medium-Heavy	4-11° slope.
			55	c	10YR 5/3	mn	fw	1-2	hdsst							
			120	c	10YR 4/3	o, mn, p gr, y		3-5	wthd sst							
X49	501700, 436300	STB	27	mcl	10YR 4/2			1-2	hdsst, chlk, f	27	35	IV	3b	WETNESS	Medium-Heavy	Headland. Top of slope.
			120	c	10YR 5/2	o, mn, p gr, y	ab	1-2	hdsst							
X50	501800, 436300	STB	27	hcl	10YR 4/2			3-5	sst, chlk	27	35	IV	3b	WETNESS	Medium-Heavy	Chlk increases below 90cm.
			120	c	7.5YR 5/8	o, mn, p gr	ab	3-5	chlk, wthd sst							
X51	501900, 436300	STB	28	hcl	10YR 4/2			3-5	sst	28	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	7.5YR 5/8	o, mn, p gr	ab	<1	sst							
X52	502000, 436300	STB	31	hcl	10YR 4/2			1-2	sst, chlk	31	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	7.5YR 5/6	o, mn, p gr	ab	<1	sst, chlk							
X53	502100, 436300	STB	29	hcl	10YR 4/2			1-2	sst	29	35	IV	3b	WETNESS	Medium-Heavy	AB near tree in field.
			120	c	7.5YR 5/6	o, mn, p gr	m	<1	sst							
X54	502200, 436300	STB	29	hcl	10YR 4/2			1-2	sst	29	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	7.5YR 5/6	o, mn, p gr	m	1-2	sst, chlk							
X55	502300, 436300	STB	32	hcl	10YR 4/2	mn	r	3-5	f, chlk, pottery	32	35	IV	3b	WETNESS	Medium-Heavy	
			120	c	10YR 5/2	o, mn, gr	m	1-2	chlk							
X56	502400, 436300	STB	29	hcl	10YR 4/2			3-5	f, sst	29	35	IV	3b	WETNESS	Medium-Heavy	Indistinct TS/SS boundary.
			50	scl	10YR 4/2	o, mn, pink	cm	1-2	sst							
			120	c	10YR 5/2	o, gr, mn	ab	1-2	hdsst, wthd chlk							
X127	502573, 436581	PGR	21	mcl	10YR 5/4	mn	fw	<1	sst	48	48	III	3b	WETNESS	Medium-Heavy	9cm O horizon in TS layer.
			48	hzcl	10YR 4/2			<1	sst							
			120	c	10YR 4/4	o, p gr, mn	ab	1-2	sst, chlk							
X128	502671, 436566	Un-surveyed.											3a	STONE CONTENT	Medium	No Boring. Road works compound. Soil type and ALC extrapolated from rest of field.

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					Munsell	Musell	Ab.	Total	Type							
X129	502771, 436556	STB	31	mcl	10YR 4/2			10-20	f, chlk	35	no spl	II	3a	STONE CONTENT	Medium	Alluvial ? Calcareous.
			45	mcl	10YR 5/3	mn, o	r	3-5	chlk							
			95	fscl	10YR 5/4	mn, o	r	1-2	chlk							
			120	mcl	10YR 4/4	mn, o	r	3-5	grvl							
X130	502779, 436456	STB	26	mcl	10YR 4/2			10-20	f, chlk	no gleying	no spl	I	3a	STONE CONTENT	Medium	Impen at 40cm due to stone content. Calcareous.
			40	mcl	10YR 5/4			30-50	chlk							
X131	502874, 436549	STB	28	sl o-mcl	10YR 3/2			10-20	f, chlk	no gleying	no spl	I	3a	STONE CONTENT	Medium	Calcareous. Impen at 75cm.
			55	mcl	10YR 3/3			10-20	f, chlk							
			75	mcl chlk brsh	10YR 6/4			30-50	f, chlk							
X132	502951, 436490	STB	34	mcl	10YR 4/2			10-20	f, chlk	no gleying	no spl	I	3a	STONE CONTENT	Medium	Impen at 38cm due to stone content. Calcareous.
			38	mcl	10YR 5/4			10-20	chlk							
X133	503025, 436423	STB	36	sl o-mcl	10YR 3/2			10-20	sst, f, chlk	no gleying	no spl	I	3a	STONE CONTENT	Medium	3-4° slope.
			120	gritty mcl	10YR 5/3			50+	f, chlk (10)							
X134	502665, 436252	STB	31	hcl	10YR 4/2			1-2	lge sst	31	35	IV	3b	WETNESS	Heavy	Chalk fragments increasing with depth.
			120	c	10YR 4/4	o, mn, gr	ab	1-2	f, chlk							
X135	502755, 436296	STB	23	mcl	10YR 4/2			1-2	f, chlk	60	60	III	3b	WETNESS	Heavy	
			60	hcl	10YR 4/4			<1	f, chlk							
			120	c	10YR 3/4	o, gr, mn	ab	<1	f, chlk							
X136	502851, 436321	STB	26	hcl	10YR 4/2			1-2	f, chlk	36	36	IV	3b	WETNESS	Heavy	
			36	hcl	10YR 3/3			1-2	f, chlk							
			120	c	10YR 4/4	o, gr, mn	ab	1-2	f, chlk							
X137	502941, 436364	STB	27	hcl	10YR 4/2			1-2	sst	27	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 3/4	o, mn, gr	ab	<1	wthd sst							
X138	503102, 436366	Fallow	20	msl	10YR 5/3			3-5	f, q grvl	34	no spl	II	3b	DROUGHT	Medium-Heavy	Notable gully erosion. Sandy outwash fans bottom of field. Eroded sand deposits. Possibly organic.
			34	scl	10YR 4/2			1-2	f							
			60	scl	10YR 4/3	Mn	r	3-5	f							
			120	scl	5YR 4/3	Mn	r	<1	f							
X139	503200, 436348	POTS	27	mcl	10YR 4/2			3-5	sst, f, chlk	27	35	IV	3b	WETNESS	Medium-Heavy	TS depth unreliable, potatos still in field.
			60	c	10YR 5/8	o, gr, mn	ab	<1	f							
			120	hcl	7.5YR 5/8	o, gr, mn	ab	<1	f							
X140	503299, 436350	POTS	17	hcl	10YR 4/2			3-5	sst, f, chlk	17	35	IV	3b	WETNESS	Heavy	TS depth unreliable, potatos still in field.
			120	c	10YR 4/4	o, gr mn	ab	<1	f							
X141	503390, 436310	POTS	29	hcl	10YR 4/2			3-5	sst, f, q	29	35	IV	3b	WETNESS	Heavy	TS depth unreliable, potatos still in field. Severe tractor wheelings, standing water. Turns rd br below 80cm, chalk increases.
			120	c	10YR 5/8	o, gr, mn	ab	<1	chlk							
X142	503460, 436241	POTS	27	hcl	10YR 4/2			3-5	sst, f	27	35	IV	3b	WETNESS	Heavy	TS depth unreliable, potatoes still in field.
			120	c	10YR 5/8	o, gr, mn	ab	<1	sst							
X143	503542, 436184	POTS	24	hcl	10YR 4/2			3-5	sst, f	24	35	IV	3b	WETNESS	Heavy	TS depth unreliable, potatoes still in field.
			120	c	10YR 5/8	o, gr, mn	ab	<1	sst							
X144	503630, 436136	PGR	26	hcl	10YR 4/2			1-2	sst, f	26	35	IV	3b	WETNESS	Heavy	
			70	hcl	10YR 5/6	o, gr, mn	ab	<1	f							
			120	c	10YR 5/8	o, gr, mn	ab	<1	f							

RWE_DBS

Description of Individual Soil Auger Borings

Updated: 01/08/2024 Survey Date: Assessor: SH & NS

BORE NO.	OS GRID REF	LAND USE	DEPTH (cm)	TEXTURE	Soil Colour	MOTTLES		Stones		DEPTH TO GLEYING (cm)	DEPTH TO SPL (cm)	WETNESS CLASS	ALC	ALC limitation	SOIL TYPE	COMMENTS
					Munsell	Musell	Ab.	Total	Type							
X145	503714, 436084	PGR	25	mcl	10YR 3/2			<1	sst	25	35	IV	3b	WETNESS	Heavy	
			120	hcl	10YR 4/4	o, gr, mn	ab	<1	sst							
X146	503761, 435997	STB	29	hcl	10YR 4/2			1-2	sst	29	60	III	3b	WETNESS	Heavy	Standing water on surface. Impen at 80cm.
			60	hcl	10YR 4/4	mn, o	cm	<1	sst							
			80	c	10YR 3/4	o, mn, gr	ab	<1	sst							
X147	503779, 435898	STB	27	hcl	10YR 4/2			3-5	sst, f	27	35	IV	3b	WETNESS	Heavy	Standing water at surface. Impen at 75cm.
			75	c	7.5YR 5/8	o gr, mn	ab	<1	sst							
X148	503800, 435800	WW	36	hcl	10YR 4/2			1-2	sst, chlk	36	36	IV	3b	WETNESS	Heavy	Pottery in TS, evidence ov night spoiling.
			120	c	5YR 4/3	o, gr, mn	ab	<1	wthd sst							
X149	503800, 435700	WW	30	hcl	10YR 4/2			1-2	sst, chlk, tile	41	41	III	3b	WETNESS	Heavy	
			41	scl	10YR 5/4			<1	sst							
			70	mcl	10YR 5/4	o, gr	ab	<1	sst							
			120	c	10YR 5/8	o, gr	ab	<1	sst							
X150	503900, 435700	WW	32	hcl	10YR 5/2			1-2	sst, f, chlk	32	35	IV	3b	WETNESS	Heavy	
			82	hcl	10YR 5/4	o g mn	ab	<1	f							
			120	hcl	10YR 3/3	dk gr, o, mn, rd	ab	<1	wthd sst							
X151	504000, 435700	WW	31	mcl	10YR 4/2			3-5	sst, chlk, f	31	35	IV	3b	WETNESS	Heavy	Check lab analysis for TS texture.
			75	hcl	10YR 4/4	o, mn, p gr	ab	<1	wthd sst							
			120	c	10YR 4/4	o, p gr, mn	ab	1-2	chlk							
X152	503700, 435600	STB	27	mcl	10YR 4/2			1-2	sst, f	27	35	IV	3b	WETNESS	Heavy	
			120	hcl	10YR 4/4	o, p gr, mn	ab	<1	chlk							
X153	503800, 435600	STB	29	mcl	10YR 5/2			<1	f	29	35	IV	3b	WETNESS	Heavy	
			120	hcl	10YR 5/4	o, gr, mn	ab	<1	chlk							
X154	503900, 435600	STB	35	hcl	10YR 3/2			<1	f	35	35	IV	3b	WETNESS	Heavy	
			120	c	5YR 4/3	o, gr, mn	cm	<1	f							
X155	504000, 435600	WW	32	hcl	10YR 5/2			1-2	sst, f, chlk	32	35	IV	3b	WETNESS	Heavy	
			120	hcl	10YR 5/4	o, gr, mn	ab	<1	f							
X156	504100, 435600	WW	28	hcl	10YR 4/2			3-5	sst, chlk	28	35	IV	3b	WETNESS	Heavy	
			75	c	10YR 4/4	o, mn, p gr	ab	1-2	wthd sst							
			120	c	10YR 3/3	o, p gr, mn	ab	1-2	chlk							
X157	503700, 435500	STB	31	hcl	10YR 4/2			1-2	sst	31	35	IV	3b	WETNESS	Heavy	Turbine in field. Water on TS/SS interface.
			120	c	10YR 4/4	o, p gr, dk gr, mn	ab	<1	sst							
X158	503800, 435500	STB	28	mcl	10YR 5/2			<1	f	28	35	IV	3b	WETNESS	Heavy	
			120	c	10YR 5/4	o g mn	ab	<1	r chlk							
X159	503900, 435500	STB	30	hcl	10YR 3/2			<1	f	30	30	IV	3b	WETNESS	Heavy	
			120	hcl	5YR 4/3	o, gr, mn	cm	<1	f							
x160	503052, 436328	Fallow	29	mcl	10YR 3/2			3-5	sst, f	29	35	IV	3b	WETNESS	Medium-Heavy	Severe gleying.
			120	hcl	5YR 4/3	o, gr, mn	cm	3-5	sst, f, chlk							
x161	503096, 436236	POTS	29	mcl	10YR 3/2			3-5	sst qz fl chlk	29	35	IV	3b	WETNESS	Medium-Heavy	Severe gleying.
			120	c	10YR 6/1	o, gr, mn	ab	3-5	wthd sst							
x162	503139, 436147	POTS	28	mcl	10YR 4/2			3-5	sst, f, q	28	35	IV	3b	WETNESS	Medium-Heavy	TS depth unreliable due potatoes. Marginal TS texture. Reddish below 60cm. Mn increases with depth.
			120	c	10YR 5/8	o, gr, mn	ab	1-2	sst							
x163	503195, 436064	Fallow	33	fscl	10YR 4/2			3-5	sst, f, chlk	33	35	IV	3b	WETNESS	Medium-Heavy	Offset due to flood water. Severe gleying around previous crop residue. Severe wheel rutting with standing water.
			120	c	10YR 4/4	o, gr, mn	ab	1-2	sst							

RWE_DBS

Description of Individual Soil Auger Borings

Updated: 01/08/2024 Survey Date: Assessor: SH & NS

BORE NO.	OS GRID REF	LAND USE	DEPTH (cm)	TEXTURE	Soil Colour	MOTTLES		Stones		DEPTH TO GLEYING (cm)	DEPTH TO SPL (cm)	WETNESS CLASS	ALC	ALC limitation	SOIL TYPE	COMMENTS
					Munsell	Musell	Ab.	Total	Type							
x164	503280, 436013	Fallow	29	mcl	10YR 3/2			3-5	chlk	29	35	IV	3b	WETNESS	Medium-Heavy	Calcareous. Rough ground after potatoes TS depth unreliable.
			120	c	10YR 5/4	o, gr, mn	ab	1-2	sst, f, chlk							
x165	503372, 435972	Fallow	25	mcl	10YR 4/2			3-5	rnd sst, f, chlk	25	35	IV	3b	WETNESS	Medium-Heavy	Rough ground after potatos TS depth unreliable. Mn more common with depth.
			120	hcl	10YR 5/2	o, gr, mn	ab	1-2	sst, f							
x166	503460, 435927	STB	32	hcl	10YR 4/2			1-2	sst, chlk	32	no spl	II	3b	WETNESS	Heavy	Standing water 55cm. Compact no change in texture or colour. Suspect over drain overfill.
			55	hcl	7.5YR 5/2	o, mn	r	1-2	sst							
			120	c	5YR 4/3	Mn	cm	5-10	sst, grvl							
x167	503547, 435878	STB	30	hcl	10YR 3/2			1-2	sst, chlk	30	35	IV	3b	WETNESS	Heavy	Reddish at 70cm.
			120	c	10YR 4/6	o, gr, mn	ab	<1	f							
x168	503637, 435833	Grass	31	hcl	10YR 4/2			1-2	sst chlk pot tile	31	35	IV	3b	WETNESS	Heavy	Check lab analysis.
			120	c	10YR 5/2	o, gr, mn	ab	1-2	brick							
x169	503728, 435788	Grass	30	hcl	10YR 4/2			1-2	sst chlk pot tile	30	35	IV	3b	WETNESS	Heavy	
			55	hcl	10YR 5/4	o, gr, mn	ab	1-2	brick							
			120	c	10YR 5/4	o, gr, mn	ab	1-2	wthd sst							

Appendix 3b Topsoil Stripping Depths by Enclosure

DBS Appendix 3B: TOPSOIL STRIPPING DEPTH PER ENCLOSURE

PLOT	MAX (CM)	MIN (CM)	AVERAGE (CM)
0.01E	43	18	32
0.01W	35	34	35
0.02	30	24	28
0.02a	34	31	33
0.03	34	27	31
1.01	31	30	30
2.01a	34	34	34
2.01	31	29	30
2.02	34	25	30
3.01	30	30	30
3.02	32	28	30
3.03	40	27	34
3.04	29	26	27
4.01	31	24	27
4.02	33	28	30
5.01	31	25	28
5.02	31	28	30
5.03	30	29	30
5.04	30	27	29
5.05	39	26	34
5.06	38	26	30
5.07	34	27	30
5.08	31	31	31
5.09	38	28	31
5.10	31	29	30
5.11	31	29	30
6.01	30	29	30
6.02	31	30	31
6.03	31	30	31
7.01	30	29	30
7.02	35	30	32
7.03	31	31	31
8.01	32	22	28
8.01a	31	31	31
8.02	45	29	34
9.01	35	29	31
9.02	33	30	31
9.03	31	30	30
9.04	33	33	33

DBS Appendix 3B: TOPSOIL STRIPPING DEPTH PER ENCLOSURE

PLOT	MAX (CM)	MIN (CM)	AVERAGE (CM)
9.05	OUTSIDE OF WORKING AREA, SOILS NOT EXPECTED TO BE STRIPPED		
9.06	31	27	29
9.07	35	29	31
10.01	40	32	36
10.02	WOODLAND, HDD UNDER		
10.03	WOODLAND, HDD UNDER		
11.01	35	35	35
11.02	33	32	33
11.03	STRIP WITH ADJOINING FIELD		33
12.01	37	30	32
12.02	30	28	29
12.03	30	30	30
13.01	33	33	33
13.02	35	35	35
13.03	35	33	34
14.01	40	29	32
14.02	35	29	32
14.03	34	29	31
15.01	31	30	31
15.02	35	34	35
15.03	33	28	30
15.04	34	29	31
15.04T	35	29	32
15.05	37	31	33
15.05T	30	28	29
16.01	31	40	36
16.02	33	27	31
16.03	33	32	33
16.04	40	37	38
16.05	32	28	30
16.05a	30	30	30
16.05b	35	29	31
16.05c	32	26	29
16.05d	40	28	33
16.06	34	34	34
16.07	29	29	29
16.08	34	29	31
17.01	30	29	30
18.01	36	29	31
19.01	35	29	32
19.02	3	28	31
20.01	40	24	33
20.02	27	27	27
20.03	32	25	30
20.04	35	30	33

DBS Appendix 3B: TOPSOIL STRIPPING DEPTH PER ENCLOSURE

PLOT	MAX (CM)	MIN (CM)	AVERAGE (CM)
21.01	31	30	30
21.02	32	32	32
21.03	32	32	32
21.04	28	27	28
21.05	30	30	30
21.06	FIELD NOT ACCESSED, HDD UNDER		
21.07	40	20	30
21.07W	25	24	25
21.07a	23	23	23
21.07b	34	21	26
21.08	26	26	26
21.08a	23	23	23
21.09	35	24	29
21.09a	40	32	36
21.09b	40	29	32
21.09c	STRIP WITH ADJOINING FIELD		30
21.09d	38	26	30
21.1	28	28	28
22.01	30	30	30
22.02	32	28	31
22.03	34	30	32
22.04	30	28	29
22.04C	40	29	35
22.05	30	30	30
22.06	30	30	30
22.07	40	40	40
22.08	36	36	36
22.09	30	30	30
23.01	30	30	30
23.02	34	30	32
24.01	30	29	29
24.02	31	28	30
24.03	31	29	29
24.03a	STRIP WITH ADJOINING FIELD		29
25.01	30	26	28
25.02	35	29	32
25.03	30	30	30
25.04	32	32	32
25.05	31	30	31
26.01	34	29	32
26.02a	33	31	32
26.02b	30	30	30
27.01	34	30	32
27.02	29	29	29
27.03	32	28	30

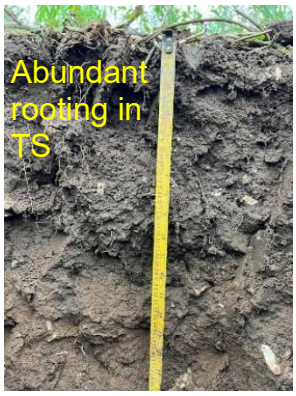
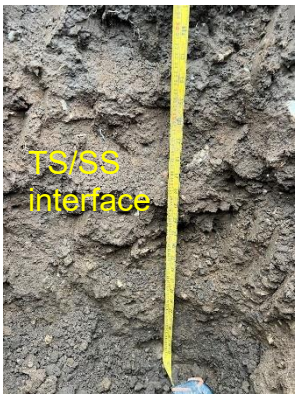
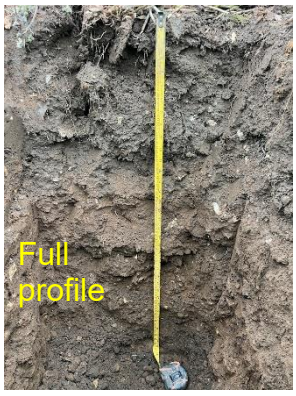
DBS Appendix 3B: TOPSOIL STRIPPING DEPTH PER ENCLOSURE

PLOT	MAX (CM)	MIN (CM)	AVERAGE (CM)
27.03a	28	28	28
28.01	29	24	26
28.02	28	28	28
28.03	29	28	29
29.01	27	20	23
29.01a	28	28	28
29.01b	28	26	27
29.02	31	27	29
29.03	31	26	28
29.04N	32	24	30
29.04S	31	24	28
29.05	34	26	29
29.06	35	21	29
29.07	31	24	29
29.07a	29	28	29
29.08	30	28	29
29.09	26	26	26
29.10	24	24	24
29.11	19	19	19
29.11W	26	26	26
29.12	24	24	24
29.13	29	29	29
29.14	27	27	27
29.15	21	21	21
30.01N	36	26	31
30.01S	31	23	27
30.02	33	20	28
30.02N	29	17	25
30.03	26	25	26
30.04	29	27	28
30.05	35	30	33
30.06	31	30	31
31.01	31	31	31
31.02	27	27	27
31.03	36	28	32
31.04	35	27	30

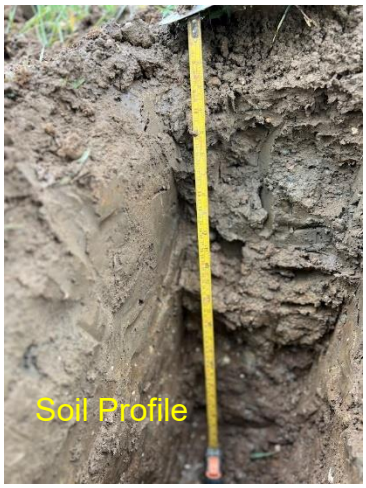
Appendix 4 Soil Profile Pit Descriptions

RWE Renewables: Dogger Bank South
Soil Profile Pit Description

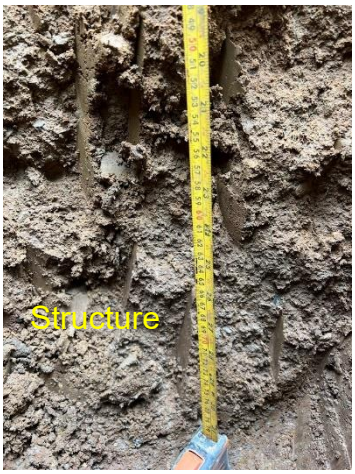
Profile Pit TP1	
Location:	**Plot 30.01**
OS Grid Reference:	**502824, 436556**
Land Use:	**Agriculture - Unmanaged**
Aspect:	0-1° slope
Soil type 2:	Medium soil type - Lightly stoney fine sandy clay loam topsoil overlying fine sandy clay loam and medium clay loam at depth. Weakly structured topsoil over moderately developed subsoils. No visible mottles throughout the soil profile.
Land Quality:	ALC Grade 2, (Wetness Class I).

Soil Profile	Depth (m)	Description
	**0-0.32 (topsoil)**	Brown (10YR 3/3) fine sandy clay loam; with no visible mottles; few (3-5%) small and medium flints. Moist; weak large well developed; medium and coarse subangular blocky breaking to granular subangular blocky structure; moderate to low packing density; weak soil strength. Abundant fine, few medium fissures; abundant fine and medium pores; abundant fine, fleshy, and few medium fleshy roots. Many small and medium earthworms. Merging boundary.
	**0.32– 0.80 (subsoil)**	Yellowish red (5YR 4/6) fine sandy clay loam; no visible mottling or gleying; common (5-10%) small, medium and rare flints. Moist, moderately developed coarse angular blocky; medium packing density; firm soil strength. No visible soil fissures; rare fine pores and large earthworm channels; few fine fibrous roots, no visible roots below 60cm. common earthworms. Less compact below 40-45cm with finer structure. More fissures and pores.
	**0.80 – 1.2 (subsoil)**	Below 80cm soil becomes heavier (medium clay loam) brown (7.5YR 5/4).

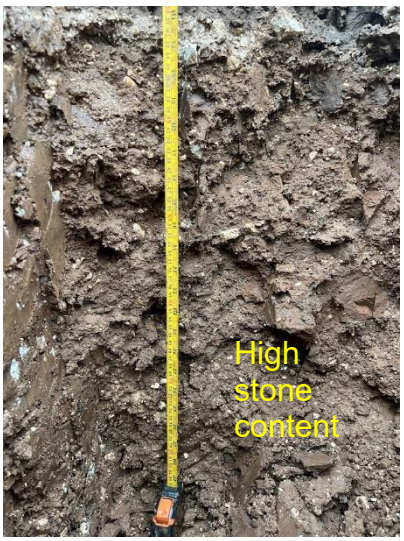
Profile Pit TP2	
Location:	**Plot 11.02**
OS Grid Reference:	**514630, 445757**
Land Use:	**Agriculture - beans**
Aspect:	0-1° slope
Soil type 3:	Medium over heavy soil type - Lightly stoney medium / sandy clay topsoil overlying heavy clay loam to depth. Moderately developed clay subsoils overlaid with unstructured severely compacted topsoils. Abundant mottles throughout profile, wetness class IV.
Land Quality:	ALC Grade 3b, (Wetness Class IV).

Soil Profile	Depth (m)	Description
	**0-0.31 (topsoil)**	Brown (10YR 3/3) medium / sandy clay loam becoming dark reddish grey (5YR 4/2) below 10cm; common distinct ochreous mottles; few (5%) small, medium and large hardstones. Wet on the surface, moist below 2cm; unstructured severely compacted. Very weak coarse subangular blocky; very high packing density; plastic soil strength becoming very firm below 10cm. Rare fine fissures; rare fine and medium pores; few fine, fibrous roots. Rare small and medium earthworms in the surface 5cm. Clear smooth boundary. 0-3cm cultivated layer. Very weak fine and medium subangular blocky. Recently sown crop. Redrilled after failed winter crop. Severely anaerobic in lower topsoil.
	**0.31– 1.20 (subsoil)**	Strong brown (7.5YR 5/6) heavy clay loam; abundant manganese mottling; few (3-5%) medium and large sandstones and flints with chalk increasing with depth. Moist, becoming slightly moist below 60cm; moderately developed medium and coarse angular blocky and prismatic; high packing density; firm soil strength. Rare fine and medium fissures; few fine and medium pores; few fine and very fine fibrous roots. No visible soil fauna and rare medium and large earthworm channels. Non calcareous. Residual rooting from previous crop at 70cm.

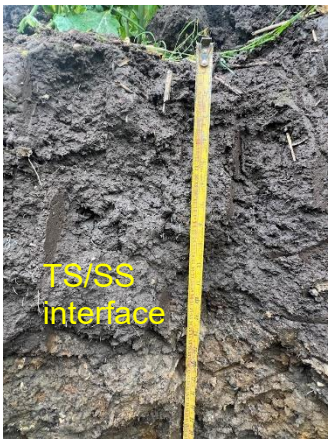
Profile Pit TP3	
Location:	**Plot 0.01**
OS Grid Reference:	**518045, 455268**
Land Use:	**Agricultural – beans**
Aspect:	4-7° slope
Soil type 4:	Heavy soil type - Lightly stoney heavy clay loam topsoil overlying clay to depth. Weakly developed slightly prismatic structured topsoil with moderately developed subsoils. Faintly mottled topsoils with mottled and gleyed subsoils.
Land Quality:	ALC Grade 3b, (Wetness Class IV).

Soil Profile	Depth (m)	Description
	**0 – 0.22 (topsoil)**	Dark greyish brown (10YR 4/2) heavy clay loam, with rare faint gleying at 10cm; few (3-5%) small and medium sandstones, flints, and hardstones. Moist and wet at the topsoil / subsoil interface; weakly developed medium prismatic structure above the plough layer, more compact below this layer. Medium packing density; slightly firm soil strength, weakly friable. Few fine and medium fissures; few fine and medium pores; rare fine fibrous roots. Few small and medium earthworms. Non calcareous, abrupt smooth boundary. Recently sown crop after ploughing.
	0.22– 0.68 (subsoil)	Light brownish grey (10YR 6/2) clay; common fine distinct brownish yellow (10YR 6/8) and strong brown (7.5YR 5/8) mottles; few (1-2%) chalk and weathered sandstones. Moist; moderate, medium and coarse subangular blocky; high packing density; low soil strength and friable. Common fine and medium fissures; common fine pores, no visible roots, but late cropping. No visible soil fauna. Merging smooth boundary. Chalky bands throughout the soil profile.
	**0.68 – 1.2 (subsoil)**	Red (2.5YR 4/6) clay; common reddish grey (2.5YR 6/1) and black mottles; few (1-2%) chalk and weathered sandstones. Slightly moist; moderate and friable developed medium and coarse slightly prismatic structure. Moderate packing density; moderate soil strength; rare fine fissures; rare fine pores; no visible roots. No visible soil fauna.

Profile Pit TP4	
Location:	**Plot 26.02**
OS Grid Reference:	**TA 00904 38981**
Land Use:	**Agriculture – SPR B**
Aspect:	0-1° slope
Soil type 4:	Heavy soil type - Stoney heavy clay loam topsoil overlying heavy clay loam / clay at depth. Weakly structured topsoil over moderately developed subsoils. Abundantly mottled and gleyed subsoils.
Land Quality:	ALC Grade 3b, (Wetness Class IV).

Soil Profile	Depth (m)	Description
	**0-0.31 (topsoil)**	Dark grey brown (10YR 4/2) heavy clay loam; with no visible mottles; common (5-10%) small and medium chalk fragments; few flints and sandstones. Moist, wet in fissures; weakly developed coarse angular blocky; high packing density; plastic very deformable soil strength. Few fine rare medium fissures; few fine rare medium and large pores; very rare fine fibrous roots, although dug in area of little crop. Common small and medium earthworms in upper 10cm. Calcareous. Clear smooth boundary. Recently cultivated. Areas of extreme grey anaerobic around organic plant matter from previous crop.
	**0.32– 1.00 (subsoil)**	Very dark grey, brown (10YR 3/2) clay; abundant faint grey (10YR 6/1), reddish brown (5YR 5/3), many (25-30%) medium and large chalk stones and abundant fine chalk fragments. Slightly moist; moderately developed very coarse angular prismatic; high packing density; very firm soil strength. Few medium fissures; rare very fine pores; rare fine fibrous roots. No visible soil fauna. Calcareous. Clear boundary.
	1.00 – 1.20 (subsoil)	Very dark grey, brown (10YR 3/2) clay; abundant faint grey (10YR 6/1), reddish brown (5YR 5/3), few (1-2%) small and medium chalk fragments. Slightly moist; moderately developed very coarse angular prismatic; high packing density; very firm soil strength. Few medium fissures; rare very fine pores; rare fine fibrous roots. No visible soil fauna. Calcareous. Clear boundary.

Profile Pit TP5	
Location:	**Plot 16.04**
OS Grid Reference:	**TA 10262 42472**
Land Use:	**Agriculture - OSR**
Aspect:	0-1° slope
Soil type 5:	Lightly stoney organic silty clay loam overlying clay and sandy clay loam at depth. Weakly developed lower subsoil layer, overlaid with well-developed clay and moderately developed topsoil. Slowly permeable clay layer with abundant mottles. (organic)
Land Quality:	ALC Grade 3a, (Wetness Class IV).

Soil Profile	Depth (m)	Description
	**0-0.30 (topsoil)**	Very dark brown (10YR 2/2) organic silty clay loam; with no visible mottles; rare (1-2%) very small chalk fragments and flints. Slight moist to moist; moderately developed coarse and medium subangular blocky; high packing density; moderately friable. Common medium and coarse fissures; common fine and medium pores, and rare large pores; many fine and very fine fibrous roots. Common small and medium earthworms, rare beetles. Non calcareous. Clear distinct wavy boundary. Cultivation layer in top 8cm. Platy and poorly structured. Medium and large few surface fissures.
	**0.30– 0.54 (subsoil)**	Dark grey (10YR 4/1) clay; abundant grey (10YR 6/1) and ochrous (10YR 6/8) mottles. Very rare (<1%) very small sandstones, flints, and chalk fragments. Moist; well-developed very coarse prismatic structure; high packing density; very firm but deformable soil strength. Rare small and medium fissures; few fine pores; few fine and very fine fibrous roots. No visible soil fauna, non-calcareous. Clear irregular boundary. Depth variable due to boundary. Localised patched of common chalk fragments.
	**0.54 – 0.88 (subsoil)**	Brown (7.5YR 5/3) sandy clay loam; no visible mottles. Few (3-5%) small chalk fragments. Wet; weakly developed, medium and coarse subangular blocky; moderate packing density; weakly friable but deformable soil strength. No visible soil fissures, pores, or roots. No visible soil fauna. Likely calcareous but won't affect ALC grade at this depth. Water sitting at the bottom of the profile.

Appendix 5 Soil Analysis Results

ANALYSIS REPORT

Appendix 5 : Dogger Bank South Soil Analysis Laboratory Sheets

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YO25 9LY
Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 64389/24

Date Received 07-Feb-24
Date Reported 16-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
349737/24	1	**FLD 0.01E 0-15CM** *Into Ploughed/Fallow*	**7.1**	**2**	**2-**	**3**	**15.8**	**178**	**115**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Katie Dunn* On behalf of NRM Date *16/02/24*

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 64389/24

DAVID ROYLE
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COWSLIP OFFICES
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
349737	1	FLD 0.01E 0-15CM	4.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 64389/24

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Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

DAVID ROYLE
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Reference: **64389/349737/24** Field Name: **FLD 0.01E 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	48	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 16th February 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 31-01-2024

SAMPLED BY

Report reference 64389/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 0.01E 0-15CM	**Not Given / Ploughed**	*Units/Acre*				*T/Ac*	**0**
349737 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Tel. : 01977 555869

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 64389/24

Date Received 07-Feb-24
Date Reported 16-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
349738/24	1	**FLD 0.01W 0-15CM** *Into Other Crop*	**7.3**	**3**	**2+**	**3**	**26.0**	**232**	**131**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 16/02/24

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 64389/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
349738	1	FLD 0.01W 0-15CM	5.5

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 64389/24

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EAST YORKSHIRE YO25 9LY
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **64389/349738/24** Field Name: **FLD 0.01W 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	45	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	27	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	16th February 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 31-01-2024
SAMPLED BY	
Report reference	64389/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 0.01W 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
349738 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 64389/24

Date Received 07-Feb-24
Date Reported 16-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
349740/24	1	**FLD 0.02 0-15CM** *Into Other Crop*	**7.7**	**2**	**2-**	**3**	**15.8**	**140**	**111**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 16/02/24

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 64389/24

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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
349740	1	FLD 0.02 0-15CM	4.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 64389/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

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Tel: 01977 555869

Reference: **64389/349740/24** Field Name: **FLD 0.02 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	43	
Silt (0.063 - 0.002mm) %	30	
Clay (< 0.002mm) %	27	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	16th February 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 31-01-2024
SAMPLED BY	
Report reference	64389/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 0.02 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
349740 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 64389/24

Date Received 07-Feb-24
Date Reported 16-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
349739/24	1	**FLD 0.02A 0-15CM** *Into Other Crop*	**7.8**	**2**	**2+**	**2**	**15.8**	**196**	**76**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 16/02/24

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 64389/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
349739	1	FLD 0.02A 0-15CM	4.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 64389/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

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Tel: 01977 555869

Reference: **64389/349739/24** Field Name: **FLD 0.02A 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	48	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	16th February 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 31-01-2024
SAMPLED BY	
Report reference	64389/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 0.02A 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
349739 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 64389/24

Date Received 07-Feb-24
Date Reported 16-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
349741/24	1	**FLD 0.03 0-15CM** *Into Ploughed/Fallow*	**7.6**	**2**	**2-**	**2**	**19.6**	**149**	**97**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Katie Dunn* On behalf of NRM Date *16/02/24*

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 64389/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
349741	1	FLD 0.03 0-15CM	5.1

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 64389/24

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Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **64389/349741/24** Field Name: **FLD 0.03 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	47	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 16th February 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 31-01-2024

SAMPLED BY

Report reference 64389/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 0.03 0-15CM	**Not Given / Ploughed**	*Units/Acre*				*T/Ac*	**0**
349741 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE
YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67985/24

Date Received 30-Apr-24
Date Reported 13-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365463/24	1	**FIELD 1.01** *Into Winter Wheat*	**6.8**	**2**	**1**	**3**	**17.8**	**113**	**107**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 13/05/24

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365463	1	FIELD 1.01	4.5

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

DAVID ROYLE
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Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **67985/365463/24** Field Name: **FIELD 1.01**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	58	
Silt (0.063 - 0.002mm) %	23	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	13th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67985/24

DAVID ROYLE
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Tel: 01377 236010
Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 1.01	**Not Given / W Wheat**	*Units/Acre*	**44**	**92**		*T/Ac*	**0**
365463 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**115**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
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Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
15-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 75258/23

Date Received 22-Nov-23
Date Reported 01-Dec-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
395320/23	1	**FIELD 2.01 0-15** *Into Winter Wheat*	**7.6**	**1**	**2+**	**2**	**13.4**	**185**	**100**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 01/12/23

ANALYSIS REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

Report Reference: 75258/23

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
395320	1	FIELD 2.01 0-15	4.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

Report Reference: 75258/23

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **75258/395320/23** Field Name: **FIELD 2.01 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	54	
Silt (0.063 - 0.002mm) %	23	
Clay (< 0.002mm) %	23	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	1st December 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 15-11-2023
SAMPLED BY	AMY MILLER
Report reference	75258/23

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE
Tel: 01977 555869
Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 2.01 0-15	**Not Given / W Wheat**	*Units/Acre*	**68**	**44**		*T/Ac*	**0**
395320 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
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Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
15-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 75258/23

Date Received 22-Nov-23
Date Reported 01-Dec-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
395319/23	1	**FIELD 2.01a 0-15** *Into Winter Wheat*	**7.6**	**2**	**2-**	**3**	**20.6**	**178**	**121**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 01/12/23

ANALYSIS REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

Report Reference: 75258/23

DAVID ROYLE
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COWSLIP OFFICES
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
395319	1	FIELD 2.01a 0-15	4.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

Report Reference: 75258/23

DAVID ROYLE
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Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **75258/395319/23** Field Name: **FIELD 2.01a 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	42	
Silt (0.063 - 0.002mm) %	33	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	1st December 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 15-11-2023
SAMPLED BY	AMY MILLER
Report reference	75258/23

DAVID ROYLE
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FIMBER
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EAST YORKSHIRE
Tel: 01977 555869
Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 2.01a 0-15	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
395319 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE
YO25 9LY
Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
15-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 75258/23

Date Received 22-Nov-23
Date Reported 01-Dec-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
395321/23	1	**FIELD 2.02 0-15** *Into Oilseed Rape*	**7.7**	**2**	**3**	**2**	**25.4**	**249**	**96**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 01/12/23

ANALYSIS REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

Report Reference: 75258/23

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
395321	1	FIELD 2.02 0-15	4.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

Report Reference: 75258/23

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **75258/395321/23** Field Name: **FIELD 2.02 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	69	
Silt (0.063 - 0.002mm) %	14	
Clay (< 0.002mm) %	17	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	1st December 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 15-11-2023
SAMPLED BY	AMY MILLER
Report reference	75258/23

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 2.02 0-15	**Not Given / Wint. Rape**	*Units/Acre*	**40**	**0**	**0**	*T/Ac*	**0**
395321 / Medium	**(Yield: 3.5 t/ha) / Straw Returned**	*Kg/Ha*	**50**	**0**	**0**	*Te/Ha*	**0**

Recommendations are for winter oilseed rape. Please contact the laboratory for recommendations for spring oilseed rape.

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1 soils they should be applied and worked into the seedbed. At Mg Index 0 and 1, magnesium fertiliser at 50 to 100 kg MgO/ha should be applied every 3 or 4 years.
The yield of most winter and spring sown oil seed rape grown on mineral soils will increase in response to an application of sulphur which will also help to minimise green seeds. Apply 50-80 kg SO3/ha as a sulphate containing fertiliser to all winter and spring sown oilseed rape grown on mineral soils, in late February to early March. Later, severely sulphur deficient oilseed rape crops will have pale flowers, however by this stage it will be too late to correct the deficiency.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
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Tel. : 01977 555869

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
15-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference

Card Number 75258/23

Date Received 22-Nov-23
Date Reported 01-Dec-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
395322/23	1	**FIELD 3.01 0-15** *Into Oilseed Rape*	**6.7**	**1**	**2-**	**2**	**12.4**	**144**	**62**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 01/12/23

ANALYSIS REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

Report Reference: 75258/23

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
395322	1	FIELD 3.01 0-15	4.1

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

Report Reference: 75258/23

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **75258/395322/23** Field Name: **FIELD 3.01 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	68	
Silt (0.063 - 0.002mm) %	17	
Clay (< 0.002mm) %	15	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	1st December 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 15-11-2023
SAMPLED BY	AMY MILLER
Report reference	75258/23

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 3.01 0-15	**Not Given / Wint. Rape**	*Units/Acre*	**64**	**32**	**0**	*T/Ac*	**0**
395322 / Medium	**(Yield: 3.5 t/ha) / Straw Returned**	*Kg/Ha*	**80**	**40**	**0**	*Te/Ha*	**0**

Recommendations are for winter oilseed rape. Please contact the laboratory for recommendations for spring oilseed rape.

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1 soils they should be applied and worked into the seedbed. At Mg Index 0 and 1, magnesium fertiliser at 50 to 100 kg MgO/ha should be applied every 3 or 4 years.
The yield of most winter and spring sown oil seed rape grown on mineral soils will increase in response to an application of sulphur which will also help to minimise green seeds. Apply 50-80 kg SO3/ha as a sulphate containing fertiliser to all winter and spring sown oilseed rape grown on mineral soils, in late February to early March. Later, severely sulphur deficient oilseed rape crops will have pale flowers, however by this stage it will be too late to correct the deficiency.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
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Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
15-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference

Card Number 75258/23

Date Received 22-Nov-23
Date Reported 01-Dec-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
395323/23	1	**FIELD 3.02 0-15** *Into Winter Wheat*	**7.0**	**1**	**2-**	**3**	**13.0**	**132**	**128**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 01/12/23

ANALYSIS REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

Report Reference: 75258/23

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
395323	1	FIELD 3.02 0-15	5.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

Report Reference: 75258/23

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 15-11-2023**

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Reference: **75258/395323/23** Field Name: **FIELD 3.02 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	52	
Silt (0.063 - 0.002mm) %	24	
Clay (< 0.002mm) %	24	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	1st December 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 15-11-2023
SAMPLED BY	AMY MILLER
Report reference	75258/23

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 3.02 0-15	**Not Given / W Wheat**	*Units/Acre*	**68**	**68**		*T/Ac*	**0**
395323 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67985/24

Date Received 30-Apr-24
Date Reported 13-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365464/24	1	**FIELD 3.03** *Into Winter Wheat*	**6.4**	**1**	**1**	**2**	**11.8**	**113**	**71**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 13/05/24

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365464	1	FIELD 3.03	3.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **67985/365464/24** Field Name: **FIELD 3.03**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	43	
Silt (0.063 - 0.002mm) %	30	
Clay (< 0.002mm) %	27	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	13th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67985/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 3.03	**Not Given / W Wheat**	*Units/Acre*	**68**	**92**		*T/Ac*	**0.8**
365464 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**115**		*Te/Ha*	**2.1**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67985/24

Date Received 30-Apr-24
Date Reported 13-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365465/24	1	**FIELD 3.04** *Into Winter Wheat*	**6.3**	**0**	**1**	**2**	**8.6**	**76**	**81**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 13/05/24

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365465	1	FIELD 3.04	4.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **13th May 2024**

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

DAVID ROYLE
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FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **67985/365465/24** Field Name: **FIELD 3.04**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	50	
Silt (0.063 - 0.002mm) %	27	
Clay (< 0.002mm) %	23	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	13th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67985/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 3.04	**Not Given / W Wheat**	*Units/Acre*	**92**	**92**		*T/Ac*	**1.1**
365465 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**115**	**115**		*Te/Ha*	**2.8**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67985/24

Date Received 30-Apr-24
Date Reported 13-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365466/24	1	**FIELD 4.01** *Into Winter Wheat*	**7.1**	**1**	**2-**	**3**	**14.0**	**125**	**117**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 13/05/24

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365466	1	FIELD 4.01	4.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

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Reference: **67985/365466/24** Field Name: **FIELD 4.01**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	50	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	13th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67985/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 4.01	**Not Given / W Wheat**	*Units/Acre*	**68**	**68**		*T/Ac*	**0**
365466 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63063/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343278/24	1	**FIELD 4.02 0-15** *Into Winter Wheat*	**7.6**	**3**	**2+**	**2**	**26.0**	**226**	**89**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343278	1	FIELD 4.02 0-15	3.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

DAVID ROYLE
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Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

DAVID ROYLE
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Reference: **63063/343278/24** Field Name: **FIELD 4.02 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	43	
Silt (0.063 - 0.002mm) %	33	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63063/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 4.02 0-15	**Not Given / W Wheat**	*Units/Acre*	**0**	**44**		*T/Ac*	**0**
343278 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67952/24

Date Received 29-Apr-24
Date Reported 08-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365284/24	1	**FIELD 5.01** *Into Oilseed Rape*	**6.3**	**2**	**2-**	**2**	**19.2**	**147**	**80**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/05/24

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

DAVID ROYLE
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Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365284	1	FIELD 5.01	4.1

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

DAVID ROYLE
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Reference: **67952/365284/24** Field Name: **FIELD 5.01**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	53	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	22	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67952/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 5.01	**Not Given / Wint. Rape**	*Units/Acre*	**40**	**32**	**0**	*T/Ac*	**1.1**
365284 / Medium	**(Yield: 3.5 t/ha) / Straw Returned**	*Kg/Ha*	**50**	**40**	**0**	*Te/Ha*	**2.8**

Recommendations are for winter oilseed rape. Please contact the laboratory for recommendations for spring oilseed rape.

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1 soils they should be applied and worked into the seedbed. At Mg Index 0 and 1, magnesium fertiliser at 50 to 100 kg MgO/ha should be applied every 3 or 4 years.
The yield of most winter and spring sown oil seed rape grown on mineral soils will increase in response to an application of sulphur which will also help to minimise green seeds. Apply 50-80 kg SO3/ha as a sulphate containing fertiliser to all winter and spring sown oilseed rape grown on mineral soils, in late February to early March. Later, severely sulphur deficient oilseed rape crops will have pale flowers, however by this stage it will be too late to correct the deficiency.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67952/24

Date Received 29-Apr-24
Date Reported 08-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365285/24	1	**FIELD 5.02** *Into Oilseed Rape*	**6.2**	**2**	**2-**	**2**	**20.4**	**140**	**91**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/05/24

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365285	1	FIELD 5.02	4.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **67952/365285/24** Field Name: **FIELD 5.02**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	52	
Silt (0.063 - 0.002mm) %	27	
Clay (< 0.002mm) %	21	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67952/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 5.02	**Not Given / Wint. Rape**	*Units/Acre*	**40**	**32**	**0**	*T/Ac*	**1.4**
365285 / Medium	**(Yield: 3.5 t/ha) / Straw Returned**	*Kg/Ha*	**50**	**40**	**0**	*Te/Ha*	**3.5**

Recommendations are for winter oilseed rape. Please contact the laboratory for recommendations for spring oilseed rape.

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1 soils they should be applied and worked into the seedbed. At Mg Index 0 and 1, magnesium fertiliser at 50 to 100 kg MgO/ha should be applied every 3 or 4 years.
The yield of most winter and spring sown oil seed rape grown on mineral soils will increase in response to an application of sulphur which will also help to minimise green seeds. Apply 50-80 kg SO3/ha as a sulphate containing fertiliser to all winter and spring sown oilseed rape grown on mineral soils, in late February to early March. Later, severely sulphur deficient oilseed rape crops will have pale flowers, however by this stage it will be too late to correct the deficiency.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67952/24

Date Received 29-Apr-24
Date Reported 08-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365286/24	1	**FIELD 5.03** *Into Oilseed Rape*	**6.7**	**4**	**2-**	**3**	**54.6**	**158**	**151**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/05/24

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365286	1	FIELD 5.03	4.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **67952/365286/24** Field Name: **FIELD 5.03**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	54	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	21	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67952/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 5.03	**Not Given / Wint. Rape**	*Units/Acre*	**0**	**32**	**0**	*T/Ac*	**0**
365286 / Medium	**(Yield: 3.5 t/ha) / Straw Returned**	*Kg/Ha*	**0**	**40**	**0**	*Te/Ha*	**0**

Recommendations are for winter oilseed rape. Please contact the laboratory for recommendations for spring oilseed rape.

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1 soils they should be applied and worked into the seedbed. At Mg Index 0 and 1, magnesium fertiliser at 50 to 100 kg MgO/ha should be applied every 3 or 4 years.
The yield of most winter and spring sown oil seed rape grown on mineral soils will increase in response to an application of sulphur which will also help to minimise green seeds. Apply 50-80 kg SO3/ha as a sulphate containing fertiliser to all winter and spring sown oilseed rape grown on mineral soils, in late February to early March. Later, severely sulphur deficient oilseed rape crops will have pale flowers, however by this stage it will be too late to correct the deficiency.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67952/24

Date Received 29-Apr-24
Date Reported 08-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365287/24	1	**FIELD 5.04** *Into Oilseed Rape*	**6.6**	**3**	**1**	**3**	**26.8**	**100**	**121**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/05/24

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365287	1	FIELD 5.04	3.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

DAVID ROYLE
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Reference: **67952/365287/24** Field Name: **FIELD 5.04**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	54	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	21	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67952/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 5.04	**Not Given / Wint. Rape**	*Units/Acre*	**0**	**56**	**0**	*T/Ac*	**0**
365287 / Medium	**(Yield: 3.5 t/ha) / Straw Returned**	*Kg/Ha*	**0**	**70**	**0**	*Te/Ha*	**0**

Recommendations are for winter oilseed rape. Please contact the laboratory for recommendations for spring oilseed rape.

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1 soils they should be applied and worked into the seedbed. At Mg Index 0 and 1, magnesium fertiliser at 50 to 100 kg MgO/ha should be applied every 3 or 4 years.
The yield of most winter and spring sown oil seed rape grown on mineral soils will increase in response to an application of sulphur which will also help to minimise green seeds. Apply 50-80 kg SO3/ha as a sulphate containing fertiliser to all winter and spring sown oilseed rape grown on mineral soils, in late February to early March. Later, severely sulphur deficient oilseed rape crops will have pale flowers, however by this stage it will be too late to correct the deficiency.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67952/24

Date Received 29-Apr-24
Date Reported 08-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365288/24	1	**FIELD 5.05** *Into Winter Wheat*	**6.5**	**3**	**2-**	**3**	**26.0**	**179**	**123**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/05/24

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365288	1	FIELD 5.05	3.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

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Reference: **67952/365288/24** Field Name: **FIELD 5.05**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	48	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67952/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 5.05	**Not Given / W Wheat**	*Units/Acre*	**0**	**68**		*T/Ac*	**0**
365288 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67952/24

Date Received 29-Apr-24
Date Reported 08-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365289/24	1	**FIELD 5.06** *Into Winter Wheat*	**6.9**	**2**	**2-**	**3**	**23.6**	**179**	**113**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/05/24

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365289	1	FIELD 5.06	4.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

DAVID ROYLE
LDCL
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FIMBER
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Tel: 01377 236010

Reference: **67952/365289/24** Field Name: **FIELD 5.06**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	44	
Silt (0.063 - 0.002mm) %	30	
Clay (< 0.002mm) %	26	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67952/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 5.06	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
365289 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67952/24

Date Received 29-Apr-24
Date Reported 08-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365290/24	1	**FIELD 5.07** *Into Winter Wheat*	**7.2**	**3**	**2+**	**3**	**27.8**	**197**	**117**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/05/24

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

DAVID ROYLE
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Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365290	1	FIELD 5.07	4.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67952/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

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Reference: **67952/365290/24** Field Name: **FIELD 5.07**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	54	
Silt (0.063 - 0.002mm) %	26	
Clay (< 0.002mm) %	20	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67952/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 5.07	**Not Given / W Wheat**	*Units/Acre*	**0**	**44**		*T/Ac*	**0**
365290 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM 31-05-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 69073/24

Date Received 04-Jun-24
Date Reported 11-Jun-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
369869/24	1	**FD 5.08 TS0-15CM** *Into Spring Barley*	**6.1**	**1**	**1**	**2**	**15.2**	**75**	**87**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 11/06/24

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
369869	1	FD 5.08 TS0-15CM	7.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **69073/369869/24** Field Name: **FD 5.08 TS0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	43	
Silt (0.063 - 0.002mm) %	30	
Clay (< 0.002mm) %	27	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 11th June 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM 31-05-2024

SAMPLED BY

Report reference 69073/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FD 5.08 TS0-15CM	**Not Given / S Barley**	*Units/Acre*	**60**	**76**		*T/Ac*	**1.7**
369869 / Medium	**(Yield: 5.5 t/ha) / Straw Removed**	*Kg/Ha*	**75**	**95**		*Te/Ha*	**4.2**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
24-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 75604/23

Date Received 30-Nov-23
Date Reported 11-Dec-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
396948/23	1	**FIELD 5.09** *Into Ploughed/Fallow*	**6.6**	**2**	**2-**	**3**	**18.0**	**149**	**130**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 11/12/23

ANALYSIS REPORT

DATE **11th December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM**

Report Reference: 75604/23

DAVID ROYLE
LDCL
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FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
396948	1	FIELD 5.09	4.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **11th December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM**

Report Reference: 75604/23

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **11th December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM**

DAVID ROYLE
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Reference: **75604/396948/23** Field Name: **FIELD 5.09**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	44	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 11th December 2023
SAMPLES FROM DBS, TOPSOIL 0-15CM

SAMPLED BY

Report reference 75604/23

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 5.09	**Not Given / Ploughed**	*Units/Acre*				*T/Ac*	**0**
396948 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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YO25 9LY
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
24-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 75604/23

Date Received 30-Nov-23
Date Reported 11-Dec-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
396947/23	1	**FIELD 5.1** *Into Winter Wheat*	**6.8**	**2**	**2+**	**4**	**21.6**	**185**	**189**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 11/12/23

ANALYSIS REPORT

DATE **11th December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM**

Report Reference: 75604/23

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
396947	1	FIELD 5.1	4.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **11th December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM**

Report Reference: 75604/23

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **11th December 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM**

DAVID ROYLE
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FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **75604/396947/23** Field Name: **FIELD 5.1**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	38	
Silt (0.063 - 0.002mm) %	34	
Clay (< 0.002mm) %	28	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 11th December 2023
SAMPLES FROM DBS, TOPSOIL 0-15CM

SAMPLED BY

Report reference 75604/23

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 5.1	**Not Given / W Wheat**	*Units/Acre*	**44**	**44**		*T/Ac*	**0**
396947 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66476/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
358925/24	1	**8 5.11 TS 0-7.5** *Into Winter Wheat*	**7.1**	**2**	**2-**	**3**	**18.4**	**141**	**116**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Myles Nicholson* On behalf of NRM Date *08/04/24*

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66476/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
358925	1	8 5.11 TS 0-7.5	4.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66476/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **66476/358925/24** Field Name: **8 5.11 TS 0-7.5**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	53	
Silt (0.063 - 0.002mm) %	26	
Clay (< 0.002mm) %	21	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 14-02-2024
SAMPLED BY	
Report reference	66476/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
8 5.11 TS 0-7.5	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
358925 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE
YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66549/24

Date Received 25-Mar-24
Date Reported 10-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359234/24	1	**6.01 TS 0-15CM** *Into Ploughed/Fallow*	**7.1**	**1**	**1**	**3**	**13.8**	**114**	**114**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 10/04/24

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359234	1	6.01 TS 0-15CM	4.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **66549/359234/24** Field Name: **6.01 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	44	
Silt (0.063 - 0.002mm) %	30	
Clay (< 0.002mm) %	26	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 10th April 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 14-02-2024

SAMPLED BY

Report reference 66549/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
6.01 TS 0-15CM	**Not Given / Ploughed**	*Units/Acre*				*T/Ac*	**0**
359234 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66549/24

Date Received 25-Mar-24
Date Reported 10-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359235/24	1	**6.02 TS 0-15CM** *Into Winter Barley*	**7.3**	**3**	**2-**	**3**	**39.2**	**169**	**120**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 10/04/24

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359235	1	6.02 TS 0-15CM	4.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **66549/359235/24** Field Name: **6.02 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	46	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 10th April 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 14-02-2024

SAMPLED BY

Report reference 66549/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
6.02 TS 0-15CM	**Not Given / W Barley**	*Units/Acre*	**0**	**56**		*T/Ac*	**0**
359235 / Medium	**(Yield: 6.5 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**70**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66549/24

Date Received 25-Mar-24
Date Reported 10-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359236/24	1	**6.03 TS 0-15CM** *Into Oilseed Rape*	**7.4**	**4**	**2+**	**3**	**46.0**	**214**	**116**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 10/04/24

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

DAVID ROYLE
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Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359236	1	6.03 TS 0-15CM	4.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

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Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **66549/359236/24** Field Name: **6.03 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	47	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 10th April 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 14-02-2024

SAMPLED BY

Report reference 66549/24

DAVID ROYLE
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Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
6.03 TS 0-15CM	**Not Given / Wint. Rape**	*Units/Acre*	**0**	**16**	**0**	*T/Ac*	**0**
359236 / Medium	**(Yield: 3.5 t/ha) / Straw Returned**	*Kg/Ha*	**0**	**20**	**0**	*Te/Ha*	**0**

Recommendations are for winter oilseed rape. Please contact the laboratory for recommendations for spring oilseed rape.

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1 soils they should be applied and worked into the seedbed. At Mg Index 0 and 1, magnesium fertiliser at 50 to 100 kg MgO/ha should be applied every 3 or 4 years.
The yield of most winter and spring sown oil seed rape grown on mineral soils will increase in response to an application of sulphur which will also help to minimise green seeds. Apply 50-80 kg SO3/ha as a sulphate containing fertiliser to all winter and spring sown oilseed rape grown on mineral soils, in late February to early March. Later, severely sulphur deficient oilseed rape crops will have pale flowers, however by this stage it will be too late to correct the deficiency.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63063/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343279/24	1	**FIELD 7.01 0-15** *Into Winter Wheat*	**7.0**	**4**	**2+**	**3**	**66.6**	**220**	**156**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343279	1	FIELD 7.01 0-15	3.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

DAVID ROYLE
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Tel: 01977 555869

Reference: **63063/343279/24** Field Name: **FIELD 7.01 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	46	
Silt (0.063 - 0.002mm) %	30	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63063/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 7.01 0-15	**Not Given / W Wheat**	*Units/Acre*	**0**	**44**		*T/Ac*	**0**
343279 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Tel. : 01977 555869

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63063/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343280/24	1	**FIELD 7.02 0-15** *Into Winter Wheat*	**7.1**	**4**	**3**	**3**	**52.8**	**257**	**158**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343280	1	FIELD 7.02 0-15	3.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63063/343280/24** Field Name: **FIELD 7.02 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	42	
Silt (0.063 - 0.002mm) %	32	
Clay (< 0.002mm) %	26	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63063/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 7.02 0-15	**Not Given / W Wheat**	*Units/Acre*	**0**	**0**		*T/Ac*	**0**
343280 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63063/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343281/24	1	**FIELD 7.03 0-15** *Into Winter Wheat*	**7.1**	**4**	**3**	**3**	**55.4**	**287**	**163**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343281	1	FIELD 7.03 0-15	4.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63063/343281/24** Field Name: **FIELD 7.03 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	47	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63063/24

DAVID ROYLE
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Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 7.03 0-15	**Not Given / W Wheat**	*Units/Acre*	**0**	**0**		*T/Ac*	**0**
343281 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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EAST YORKSHIRE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
22-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65294/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353664/24	1	**8.01 TS 0-15CM** *Into Ploughed/Fallow*	**7.4**	**3**	**2-**	**2**	**36.0**	**138**	**65**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353664	1	8.01 TS 0-15CM	3.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

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Reference: **65294/353664/24** Field Name: **8.01 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	68	
Silt (0.063 - 0.002mm) %	16	
Clay (< 0.002mm) %	16	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 8th March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 22-02-2024

SAMPLED BY

Report reference 65294/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
8.01 TS 0-15CM	**Not Given / Ploughed**	*Units/Acre*				*T/Ac*	**0**
353664 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
22-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65294/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353663/24	1	**8.01A TS 0-15CM** *Into Grassland*	**7.8**	**3**	**2+**	**3**	**41.0**	**201**	**109**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353663	1	8.01A TS 0-15CM	4.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

DAVID ROYLE
LDCL
COWSLIP OFFICES
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

DAVID ROYLE
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FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65294/353663/24** Field Name: **8.01A TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	48	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	23	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 8th March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 22-02-2024

SAMPLED BY

Report reference 65294/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
8.01A TS 0-15CM	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0**
353663 / Medium		*Kg/Ha*				*Te/Ha*	**0**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63063/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343282/24	1	**FIELD 8.02 0-15** *Into Winter Wheat*	**7.2**	**3**	**2-**	**2**	**28.8**	**134**	**95**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343282	1	FIELD 8.02 0-15	3.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

DAVID ROYLE
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Reference: **63063/343282/24** Field Name: **FIELD 8.02 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	68	
Silt (0.063 - 0.002mm) %	17	
Clay (< 0.002mm) %	15	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63063/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 8.02 0-15	**Not Given / W Wheat**	*Units/Acre*	**0**	**68**		*T/Ac*	**0**
343282 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63063/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343283/24	1	**FIELD 9.01 0-15** *Into Winter Wheat*	**7.0**	**3**	**2-**	**3**	**26.4**	**168**	**104**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343283	1	FIELD 9.01 0-15	4.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

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Tel: 01977 555869

Reference: **63063/343283/24** Field Name: **FIELD 9.01 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	44	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63063/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 9.01 0-15	**Not Given / W Wheat**	*Units/Acre*	**0**	**68**		*T/Ac*	**0**
343283 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63063/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343284/24	1	**FIELD 9.02 0-15** *Into Winter Wheat*	**7.6**	**2**	**2-**	**3**	**21.4**	**154**	**143**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343284	1	FIELD 9.02 0-15	4.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63063/343284/24** Field Name: **FIELD 9.02 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	38	
Silt (0.063 - 0.002mm) %	33	
Clay (< 0.002mm) %	29	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63063/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 9.02 0-15	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
343284 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
18-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63496/24

Date Received 17-Jan-24
Date Reported 26-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345452/24	1	**FLD 9.03 0-15CM** *Into Winter Wheat*	**7.1**	**2**	**2+**	**4**	**17.6**	**190**	**207**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 26/01/24

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 18-12-2023**

Report Reference: 63496/24

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345452	1	FLD 9.03 0-15CM	5.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 18-12-2023**

Report Reference: 63496/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 18-12-2023**

DAVID ROYLE
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Tel: 01977 555869

Reference: **63496/345452/24** Field Name: **FLD 9.03 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	36	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	33	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 26th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 18-12-2023

SAMPLED BY

Report reference 63496/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 9.03 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**44**		*T/Ac*	**0**
345452 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
22-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65294/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353665/24	1	**9.04 TS 0-15CM** *Into Ploughed/Fallow*	**7.8**	**2**	**1**	**2**	**24.0**	**114**	**74**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

DAVID ROYLE
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Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353665	1	9.04 TS 0-15CM	4.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65294/353665/24** Field Name: **9.04 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	53	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	22	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th March 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 22-02-2024
SAMPLED BY	
Report reference	65294/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
9.04 TS 0-15CM	**Not Given / Ploughed**	*Units/Acre*				*T/Ac*	**0**
353665 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
22-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65294/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353666/24	1	**9.06 TS 0-15CM** *Into Oilseed Rape*	**7.4**	**1**	**1**	**2**	**12.2**	**86**	**79**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

DAVID ROYLE
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FIMBER
DRIFFIELD
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Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353666	1	9.06 TS 0-15CM	4.1

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

DAVID ROYLE
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Reference: **65294/353666/24** Field Name: **9.06 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	49	
Silt (0.063 - 0.002mm) %	27	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 8th March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 22-02-2024

SAMPLED BY

Report reference 65294/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
9.06 TS 0-15CM	**Not Given / Wint. Rape**	*Units/Acre*	**64**	**56**	**0**	*T/Ac*	**0**
353666 / Medium	**(Yield: 3.5 t/ha) / Straw Returned**	*Kg/Ha*	**80**	**70**	**0**	*Te/Ha*	**0**

Recommendations are for winter oilseed rape. Please contact the laboratory for recommendations for spring oilseed rape.

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1 soils they should be applied and worked into the seedbed. At Mg Index 0 and 1, magnesium fertiliser at 50 to 100 kg MgO/ha should be applied every 3 or 4 years.
The yield of most winter and spring sown oil seed rape grown on mineral soils will increase in response to an application of sulphur which will also help to minimise green seeds. Apply 50-80 kg SO3/ha as a sulphate containing fertiliser to all winter and spring sown oilseed rape grown on mineral soils, in late February to early March. Later, severely sulphur deficient oilseed rape crops will have pale flowers, however by this stage it will be too late to correct the deficiency.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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EAST YORKSHIRE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63063/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343285/24	1	**FIELD 9.07 0-15** *Into Winter Wheat*	**7.4**	**2**	**2-**	**3**	**22.0**	**132**	**138**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343285	1	FIELD 9.07 0-15	3.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

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Tel: 01977 555869

Reference: **63063/343285/24** Field Name: **FIELD 9.07 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	41	
Silt (0.063 - 0.002mm) %	34	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63063/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 9.07 0-15	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
343285 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63063/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343286/24	1	**FIELD 10.01 0-15** *Into Winter Wheat*	**7.0**	**2**	**2-**	**2**	**24.0**	**179**	**88**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343286	1	FIELD 10.01 0-15	4.5

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

DAVID ROYLE
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Tel: 01977 555869

Reference: **63063/343286/24** Field Name: **FIELD 10.01 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	62	
Silt (0.063 - 0.002mm) %	19	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63063/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 10.01 0-15	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
343286 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63063/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343287/24	1	**FIELD 11.01 0-15** *Into Winter Wheat*	**7.5**	**2**	**2+**	**3**	**22.6**	**189**	**106**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343287	1	FIELD 11.01 0-15	3.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63063/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

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Reference: **63063/343287/24** Field Name: **FIELD 11.01 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	45	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63063/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 11.01 0-15	**Not Given / W Wheat**	*Units/Acre*	**44**	**44**		*T/Ac*	**0**
343287 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
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Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63064/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343288/24	1	**FIELD 11.02 0-15** *Into Winter Wheat*	**7.5**	**3**	**3**	**3**	**33.4**	**255**	**118**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
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The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63064/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343288	1	FIELD 11.02 0-15	4.1

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
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Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
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ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63064/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
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Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

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Reference: **63064/343288/24** Field Name: **FIELD 11.02 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	49	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	22	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63064/24

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(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 11.02 0-15	**Not Given / W Wheat**	*Units/Acre*	**0**	**0**		*T/Ac*	**0**
343288 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
22-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65294/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353667/24	1	**11.03 TS 0-15CM** *Into Winter Wheat*	**7.3**	**1**	**3**	**2**	**13.4**	**244**	**91**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
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The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

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Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353667	1	11.03 TS 0-15CM	4.1

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

DAVID ROYLE
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Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

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Reference: **65294/353667/24** Field Name: **11.03 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	50	
Silt (0.063 - 0.002mm) %	27	
Clay (< 0.002mm) %	23	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th March 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 22-02-2024
SAMPLED BY	
Report reference	65294/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
11.03 TS 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**68**	**0**		*T/Ac*	**0**
353667 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
18-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63496/24

Date Received 17-Jan-24
Date Reported 26-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345453/24	1	**FLD 12.01 0-15CM** *Into Winter Wheat*	**7.4**	**2**	**2+**	**3**	**19.6**	**191**	**103**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 26/01/24

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 18-12-2023**

Report Reference: 63496/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345453	1	FLD 12.01 0-15CM	3.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 18-12-2023**

Report Reference: 63496/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 18-12-2023**

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Tel: 01977 555869

Reference: **63496/345453/24** Field Name: **FLD 12.01 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	45	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	26	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 26th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 18-12-2023

SAMPLED BY

Report reference 63496/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 12.01 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**44**		*T/Ac*	**0**
345453 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
18-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63496/24

Date Received 17-Jan-24
Date Reported 26-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345454/24	1	**FLD 12.02 0-15CM** *Into Winter Wheat*	**7.1**	**1**	**1**	**3**	**14.2**	**107**	**103**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 26/01/24

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 18-12-2023**

Report Reference: 63496/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345454	1	FLD 12.02 0-15CM	3.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 18-12-2023**

Report Reference: 63496/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 18-12-2023**

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63496/345454/24** Field Name: **FLD 12.02 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	53	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	22	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 26th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 18-12-2023

SAMPLED BY

Report reference 63496/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 12.02 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**68**	**92**		*T/Ac*	**0**
345454 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**115**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63064/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343289/24	1	**FIELD 12.03 0-15** *Into Winter Wheat*	**7.3**	**2**	**2-**	**3**	**24.0**	**174**	**117**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63064/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343289	1	FIELD 12.03 0-15	5.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63064/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

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Tel: 01977 555869

Reference: **63064/343289/24** Field Name: **FIELD 12.03 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	36	
Silt (0.063 - 0.002mm) %	33	
Clay (< 0.002mm) %	31	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63064/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 12.03 0-15	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
343289 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-11-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63064/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343290/24	1	**FIELD 13.01 0-15** *Into Winter Wheat*	**6.6**	**3**	**3**	**2**	**28.2**	**268**	**80**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63064/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343290	1	FIELD 13.01 0-15	4.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

Report Reference: 63064/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-11-2023**

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Tel: 01977 555869

Reference: **63064/343290/24** Field Name: **FIELD 13.01 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	52	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	23	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-11-2023

SAMPLED BY

Report reference 63064/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 13.01 0-15	**Not Given / W Wheat**	*Units/Acre*	**0**	**0**		*T/Ac*	**0**
343290 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
13-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63066/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343297/24	1	**FIELD 13.02 0-15** *Into Other Crop*	**7.3**	**3**	**2+**	**3**	**29.2**	**215**	**149**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343297	1	FIELD 13.02 0-15	4.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63066/343297/24** Field Name: **FIELD 13.02 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	51	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	24	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	12th January 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 13-12-2023
SAMPLED BY	
Report reference	63066/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 13.02 0-15	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
343297 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
13-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63066/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343298/24	1	**FIELD 13.03 0-15** *Into Winter Wheat*	**7.3**	**2**	**2-**	**3**	**23.0**	**143**	**134**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343298	1	FIELD 13.03 0-15	4.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

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Reference: **63066/343298/24** Field Name: **FIELD 13.03 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	41	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	28	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 13-12-2023

SAMPLED BY

Report reference 63066/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 13.03 0-15	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
343298 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
13-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63066/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343299/24	1	**FIELD 14.01 0-15** *Into Winter Wheat*	**6.9**	**1**	**1**	**3**	**14.6**	**106**	**118**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343299	1	FIELD 14.01 0-15	4.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

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Tel: 01977 555869

Reference: **63066/343299/24** Field Name: **FIELD 14.01 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	39	
Silt (0.063 - 0.002mm) %	33	
Clay (< 0.002mm) %	28	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 13-12-2023

SAMPLED BY

Report reference 63066/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 14.01 0-15	**Not Given / W Wheat**	*Units/Acre*	**68**	**92**		*T/Ac*	**0**
343299 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**115**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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YO25 9LY
Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
13-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63066/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343300/24	1	**FIELD 14.02 0-15** *Into Winter Wheat*	**7.1**	**2**	**2-**	**2**	**21.8**	**153**	**87**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343300	1	FIELD 14.02 0-15	3.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63066/343300/24** Field Name: **FIELD 14.02 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	46	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	23	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 13-12-2023

SAMPLED BY

Report reference 63066/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 14.02 0-15	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
343300 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Client : DBS
TOPSOIL 0-20MM
13-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63066/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343301/24	1	**FIELD 14.03 0-15** *Into Winter Wheat*	**7.0**	**2**	**2-**	**2**	**19.0**	**122**	**71**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343301	1	FIELD 14.03 0-15	3.5

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

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Tel: 01977 555869

Reference: **63066/343301/24** Field Name: **FIELD 14.03 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	57	
Silt (0.063 - 0.002mm) %	24	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 13-12-2023

SAMPLED BY

Report reference 63066/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 14.03 0-15	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
343301 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Client : DBS
TOPSOIL 0-20MM
13-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63066/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343302/24	1	**FIELD 15.01 0-15** *Into Winter Wheat*	**7.1**	**2**	**2-**	**2**	**20.6**	**135**	**72**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343302	1	FIELD 15.01 0-15	3.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

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Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63066/343302/24** Field Name: **FIELD 15.01 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	55	
Silt (0.063 - 0.002mm) %	26	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 13-12-2023

SAMPLED BY

Report reference 63066/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 15.01 0-15	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
343302 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM 31-05-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 69073/24

Date Received 04-Jun-24
Date Reported 11-Jun-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
369870/24	1	**FD 15.02 TS0-15C** *Into Winter Barley*	**6.6**	**1**	**1**	**3**	**12.6**	**75**	**104**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 11/06/24

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
369870	1	FD 15.02 TS0-15C	4.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

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Reference: **69073/369870/24** Field Name: **FD 15.02 TS0-15C**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	46	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 11th June 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM 31-05-2024

SAMPLED BY

Report reference 69073/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FD 15.02 TS0-15C	**Not Given / W Barley**	*Units/Acre*	**68**	**80**		*T/Ac*	**0**
369870 / Medium	**(Yield: 6.5 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**100**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Client : DBS
TOPSOIL 0-20MM
22-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65294/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353668/24	1	**15.03 TS 0-15CM** *Into Winter Wheat*	**7.4**	**1**	**2-**	**2**	**13.2**	**178**	**81**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353668	1	15.03 TS 0-15CM	3.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

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Reference: **65294/353668/24** Field Name: **15.03 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	52	
Silt (0.063 - 0.002mm) %	26	
Clay (< 0.002mm) %	22	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th March 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 22-02-2024
SAMPLED BY	
Report reference	65294/24

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Fertiliser Recommendations

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The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
15.03 TS 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**68**	**68**		*T/Ac*	**0**
353668 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63528/24

Date Received 18-Jan-24
Date Reported 30-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345569/24	1	**FIELD 15.04** *Into Winter Wheat*	**7.7**	**2**	**2-**	**2**	**16.8**	**134**	**81**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 30/01/24

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345569	1	FIELD 15.04	3.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

DAVID ROYLE
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FIMBER
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

ANALYSIS REPORT

MICRO NUTRIENT REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

DAVID ROYLE
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Tel: 01977 555869

Reference: **63528/345569/24** Field Name: **FIELD 15.04**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	47	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	30th January 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 04-01-2024
SAMPLED BY	
Report reference	63528/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 15.04	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
345569 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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FIMBER
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EAST YORKSHIRE
YO25 9LY
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
22-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65294/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353669/24	1	**15.04T TS 0-15CM** *Into Winter Wheat*	**7.5**	**2**	**2-**	**2**	**16.6**	**152**	**96**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

DAVID ROYLE
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Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353669	1	15.04T TS 0-15CM	3.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

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Reference: **65294/353669/24** Field Name: **15.04T TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	48	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	27	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th March 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 22-02-2024
SAMPLED BY	
Report reference	65294/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
15.04T TS 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
353669 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63528/24

Date Received 18-Jan-24
Date Reported 30-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345570/24	1	**FIELD 15.05** *Into Winter Wheat*	**7.4**	**3**	**3**	**3**	**40.0**	**294**	**148**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 30/01/24

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345570	1	FIELD 15.05	5.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63528/345570/24** Field Name: **FIELD 15.05**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	47	
Silt (0.063 - 0.002mm) %	21	
Clay (< 0.002mm) %	32	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 30th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 04-01-2024

SAMPLED BY

Report reference 63528/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 15.05	**Not Given / W Wheat**	*Units/Acre*	**0**	**0**		*T/Ac*	**0**
345570 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE
YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
22-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65294/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353670/24	1	**15.05T TS 0-15CM** *Grassland into Grassland*	**7.5**	**3**	**2+**	**2**	**37.0**	**212**	**81**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353670	1	15.05T TS 0-15CM	3.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

Report Reference: 65294/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 22-02-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **65294/353670/24** Field Name: **15.05T TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	67	
Silt (0.063 - 0.002mm) %	14	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th March 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 22-02-2024
SAMPLED BY	
Report reference	65294/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
15.05T TS 0-15CM	**Grassland / Grassland**	*Units/Acre*				*T/Ac*	**0**
353670 / Medium		*Kg/Ha*				*Te/Ha*	**0**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
08-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 75127/23

Date Received 17-Nov-23
Date Reported 29-Nov-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
394749/23	1	**FIELD 16.01** *Into Other Crop*	**7.4**	**3**	**2+**	**2**	**43.0**	**237**	**87**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 29/11/23

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
394749	1	FIELD 16.01	4.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

DAVID ROYLE
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Tel: 01977 555869

Reference: **75127/394749/23** Field Name: **FIELD 16.01**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	62	
Silt (0.063 - 0.002mm) %	18	
Clay (< 0.002mm) %	20	
Textural Classification	Sandy Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	29th November 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 08-11-2023
SAMPLED BY	AMY MILLER
Report reference	75127/23

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 16.01	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
394749 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
08-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference

Card Number 75128/23

Date Received 17-Nov-23
Date Reported 29-Nov-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
394755/23	1	**FIELD 16.02** *Into Other Crop*	**7.5**	**3**	**2+**	**3**	**29.8**	**226**	**139**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 29/11/23

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75128/23

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
394755	1	FIELD 16.02	8.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75128/23

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **75128/394755/23** Field Name: **FIELD 16.02**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	27	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	42	
Textural Classification	Clay	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	29th November 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 08-11-2023
SAMPLED BY	AMY MILLER
Report reference	75128/23

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE
Tel: 01977 555869
Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 16.02	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
394755 / Heavy		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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EAST YORKSHIRE
YO25 9LY
Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
08-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference

Card Number 75128/23

Date Received 17-Nov-23
Date Reported 29-Nov-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
394754/23	1	**FIELD 16.03** *Into Other Crop*	**7.4**	**3**	**3**	**2**	**33.6**	**278**	**82**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 29/11/23

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75128/23

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
394754	1	FIELD 16.03	5.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75128/23

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **75128/394754/23** Field Name: **FIELD 16.03**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	64	
Silt (0.063 - 0.002mm) %	18	
Clay (< 0.002mm) %	18	
Textural Classification	Sandy Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	29th November 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 08-11-2023
SAMPLED BY	AMY MILLER
Report reference	75128/23

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 16.03	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
394754 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
08-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference

Card Number 75127/23

Date Received 17-Nov-23
Date Reported 29-Nov-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
394752/23	1	**FIELD 16.04** *Into Other Crop*	**7.2**	**2**	**3**	**2**	**23.2**	**247**	**77**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 29/11/23

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
394752	1	FIELD 16.04	6.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **75127/394752/23** Field Name: **FIELD 16.04**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	55	
Silt (0.063 - 0.002mm) %	18	
Clay (< 0.002mm) %	27	
Textural Classification	Sandy Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	29th November 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 08-11-2023
SAMPLED BY	AMY MILLER
Report reference	75127/23

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 16.04	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
394752 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
LDCL
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FIMBER
DRIFFIELD
EAST YORKSHIRE
YO25 9LY
Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
08-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference

Card Number 75127/23

Date Received 17-Nov-23
Date Reported 29-Nov-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
394750/23	1	**FIELD 16.05** *Into Oilseed Rape*	**7.4**	**3**	**2+**	**2**	**26.6**	**187**	**53**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 29/11/23

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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FIMBER
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
394750	1	FIELD 16.05	3.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

DAVID ROYLE
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Reference: **75127/394750/23** Field Name: **FIELD 16.05**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	61	
Silt (0.063 - 0.002mm) %	20	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	29th November 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 08-11-2023
SAMPLED BY	AMY MILLER
Report reference	75127/23

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
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EAST YORKSHIRE
Tel: 01977 555869
Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 16.05	**Not Given / Wint. Rape**	*Units/Acre*	**0**	**16**	**0**	*T/Ac*	**0**
394750 / Medium	**(Yield: 3.5 t/ha) / Straw Returned**	*Kg/Ha*	**0**	**20**	**0**	*Te/Ha*	**0**

Recommendations are for winter oilseed rape. Please contact the laboratory for recommendations for spring oilseed rape.

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1 soils they should be applied and worked into the seedbed. At Mg Index 0 and 1, magnesium fertiliser at 50 to 100 kg MgO/ha should be applied every 3 or 4 years.
The yield of most winter and spring sown oil seed rape grown on mineral soils will increase in response to an application of sulphur which will also help to minimise green seeds. Apply 50-80 kg SO3/ha as a sulphate containing fertiliser to all winter and spring sown oilseed rape grown on mineral soils, in late February to early March. Later, severely sulphur deficient oilseed rape crops will have pale flowers, however by this stage it will be too late to correct the deficiency.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
08-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 75127/23

Date Received 17-Nov-23
Date Reported 29-Nov-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
394753/23	1	**FIELD 16.05a** *Into Winter Wheat*	**7.3**	**3**	**2-**	**2**	**27.8**	**158**	**51**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 29/11/23

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
394753	1	FIELD 16.05a	4.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

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Reference: **75127/394753/23** Field Name: **FIELD 16.05a**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	76	
Silt (0.063 - 0.002mm) %	11	
Clay (< 0.002mm) %	13	
Textural Classification	Sandy Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	29th November 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 08-11-2023
SAMPLED BY	AMY MILLER
Report reference	75127/23

DAVID ROYLE
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Tel: 01977 555869
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 16.05a	**Not Given / W Wheat**	*Units/Acre*	**0**	**68**		*T/Ac*	**0**
394753 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
23-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65295/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353671/24	1	**16.05B TS 0-15CM** *Into Winter Wheat*	**7.4**	**2**	**3**	**2**	**23.2**	**257**	**61**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353671	1	16.05B TS 0-15CM	3.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

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Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65295/353671/24** Field Name: **16.05B TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	71	
Silt (0.063 - 0.002mm) %	14	
Clay (< 0.002mm) %	15	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th March 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 23-02-2024
SAMPLED BY	
Report reference	65295/24

DAVID ROYLE
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Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
16.05B TS 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**0**		*T/Ac*	**0**
353671 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
23-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65295/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353672/24	1	**16.05C TS 0-15CM** *Into Winter Wheat*	**7.6**	**2**	**3**	**2**	**25.2**	**244**	**64**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353672	1	16.05C TS 0-15CM	3.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65295/353672/24** Field Name: **16.05C TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	62	
Silt (0.063 - 0.002mm) %	16	
Clay (< 0.002mm) %	22	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 8th March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 23-02-2024

SAMPLED BY

Report reference 65295/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
16.05C TS 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**0**		*T/Ac*	**0**
353672 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
23-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65295/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353673/24	1	**16.05D TS 0-15CM** *Into Winter Wheat*	**7.6**	**3**	**3**	**2**	**32.4**	**276**	**91**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353673	1	16.05D TS 0-15CM	4.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65295/353673/24** Field Name: **16.05D TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	52	
Silt (0.063 - 0.002mm) %	20	
Clay (< 0.002mm) %	28	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th March 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 23-02-2024
SAMPLED BY	
Report reference	65295/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
16.05D TS 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**0**	**0**		*T/Ac*	**0**
353673 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
08-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 75127/23

Date Received 17-Nov-23
Date Reported 29-Nov-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
394751/23	1	**FIELD 16.06** *Into Oilseed Rape*	**7.0**	**2**	**3**	**2**	**19.4**	**259**	**86**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 29/11/23

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
394751	1	FIELD 16.06	8.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

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Reference: **75127/394751/23** Field Name: **FIELD 16.06**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	61	
Silt (0.063 - 0.002mm) %	16	
Clay (< 0.002mm) %	23	
Textural Classification	Sandy Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	29th November 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 08-11-2023
SAMPLED BY	AMY MILLER
Report reference	75127/23

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 16.06	**Not Given / Wint. Rape**	*Units/Acre*	**40**	**0**	**0**	*T/Ac*	**0**
394751 / Medium	**(Yield: 3.5 t/ha) / Straw Returned**	*Kg/Ha*	**50**	**0**	**0**	*Te/Ha*	**0**

Recommendations are for winter oilseed rape. Please contact the laboratory for recommendations for spring oilseed rape.

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1 soils they should be applied and worked into the seedbed. At Mg Index 0 and 1, magnesium fertiliser at 50 to 100 kg MgO/ha should be applied every 3 or 4 years.
The yield of most winter and spring sown oil seed rape grown on mineral soils will increase in response to an application of sulphur which will also help to minimise green seeds. Apply 50-80 kg SO3/ha as a sulphate containing fertiliser to all winter and spring sown oilseed rape grown on mineral soils, in late February to early March. Later, severely sulphur deficient oilseed rape crops will have pale flowers, however by this stage it will be too late to correct the deficiency.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
21-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63698/24

Date Received 23-Jan-24
Date Reported 02-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
346477/24	1	**FLD 16.07 0-15CM** *Into Winter Wheat*	**6.9**	**2**	**3**	**4**	**21.4**	**252**	**184**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 02/02/24

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
346477	1	FLD 16.07 0-15CM	10.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

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Tel: 01977 555869

Reference: **63698/346477/24** Field Name: **FLD 16.07 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	33	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	36	
Textural Classification	Organic Clay	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 2nd February 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 21-12-2023

SAMPLED BY

Report reference 63698/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 16.07 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**0**		*T/Ac*	**0**
346477 / Organ.	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
21-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63698/24

Date Received 23-Jan-24
Date Reported 02-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
346478/24	1	**FLD 16.08 0-15CM** *Into Radish*	**6.9**	**3**	**2-**	**3**	**26.6**	**158**	**114**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 02/02/24

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
346478	1	FLD 16.08 0-15CM	6.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63698/346478/24** Field Name: **FLD 16.08 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	51	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	24	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	2nd February 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 21-12-2023
SAMPLED BY	
Report reference	63698/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 16.08 0-15CM	**Not Given / Radish**	*Units/Acre*	**20**	**120**	**0**	*T/Ac*	**0**
346478 / Medium		*Kg/Ha*	**25**	**150**	**0**	*Te/Ha*	**0**

Where sulphur deficiency is possible, apply 25 kg SO3/ha as a sulphate containing fertiliser at or soon after planting.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
21-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63698/24

Date Received 23-Jan-24
Date Reported 02-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
346479/24	1	**FLD 17.01 0-15CM** *Into Winter Wheat*	**7.6**	**3**	**3**	**3**	**44.8**	**305**	**103**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 02/02/24

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
346479	1	FLD 17.01 0-15CM	5.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

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Reference: **63698/346479/24** Field Name: **FLD 17.01 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	55	
Silt (0.063 - 0.002mm) %	24	
Clay (< 0.002mm) %	21	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 2nd February 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 21-12-2023

SAMPLED BY

Report reference 63698/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 17.01 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**0**	**0**		*T/Ac*	**0**
346479 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
18-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63496/24

Date Received 17-Jan-24
Date Reported 26-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345455/24	1	**FLD 18.01 0-15CM** *Into Winter Wheat*	**7.8**	**3**	**3**	**3**	**42.0**	**326**	**110**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 26/01/24

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 18-12-2023**

Report Reference: 63496/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345455	1	FLD 18.01 0-15CM	3.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 18-12-2023**

Report Reference: 63496/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 18-12-2023**

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Tel: 01977 555869

Reference: **63496/345455/24** Field Name: **FLD 18.01 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	56	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 26th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 18-12-2023

SAMPLED BY

Report reference 63496/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 18.01 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**0**	**0**		*T/Ac*	**0**
345455 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
21-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63698/24

Date Received 23-Jan-24
Date Reported 02-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
346480/24	1	**FLD 19.01 0-15CM** *Into Winter Wheat*	**7.4**	**3**	**2+**	**3**	**32.0**	**212**	**168**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 02/02/24

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
346480	1	FLD 19.01 0-15CM	4.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

DAVID ROYLE
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Tel: 01977 555869

Reference: **63698/346480/24** Field Name: **FLD 19.01 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	52	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	23	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 2nd February 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 21-12-2023

SAMPLED BY

Report reference 63698/24

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Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 19.01 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**0**	**44**		*T/Ac*	**0**
346480 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
21-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63698/24

Date Received 23-Jan-24
Date Reported 02-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
346481/24	1	**FLD 19.02 0-15CM** *Into Winter Wheat*	**7.0**	**3**	**3**	**3**	**31.4**	**293**	**101**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 02/02/24

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
346481	1	FLD 19.02 0-15CM	3.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

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Tel: 01977 555869

Reference: **63698/346481/24** Field Name: **FLD 19.02 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	66	
Silt (0.063 - 0.002mm) %	18	
Clay (< 0.002mm) %	16	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 2nd February 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 21-12-2023

SAMPLED BY

Report reference 63698/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 19.02 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**0**	**0**		*T/Ac*	**0**
346481 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
21-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63698/24

Date Received 23-Jan-24
Date Reported 02-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
346482/24	1	**FLD 20.01 0-15CM** *Into Potatoes Main*	**7.4**	**3**	**2+**	**2**	**34.8**	**234**	**79**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 02/02/24

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
346482	1	FLD 20.01 0-15CM	3.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63698/346482/24** Field Name: **FLD 20.01 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	66	
Silt (0.063 - 0.002mm) %	21	
Clay (< 0.002mm) %	13	
Textural Classification	Sandy Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 2nd February 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 21-12-2023

SAMPLED BY

Report reference 63698/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
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Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 20.01 0-15CM	**Not Given / Potatoes**	*Units/Acre*	**80**	**240**	**32**	*T/Ac*	**0**
346482 / Medium	**(Yield: 50 t/ha)**	*Kg/Ha*	**100**	**300**	**40**	*Te/Ha*	**0**

The phosphate recommendations are intended to achieve optimum yield and should not be adjusted even if larger or smaller yields than 50 t/ha are expected. However, the potash recommendation at target or lower indices can be adjusted when yield is likely to be larger or smaller than 50t/ha by multiplying the difference in expected yield by 5.8kg/t. The amount of phosphate recommended for soils at P Index 2 or 3 is more than sufficient to replace the phosphate removed by a 50 t/ha crop (about 50 kg P2O5). The surplus phosphate will help to maintain the soil at a target P Index 2 for an arable crop rotation and should be allowed for when assessing the need for phosphate for following crops. On soils at P Index 0 and 1 the surplus phosphate will help increase the soil P Index and no allowance should be made when deciding the phosphate requirement of a subsequent crop. On soils at P Index 2 or below a large proportion of the phosphate should be water-soluble. The amount of potash recommended at K Index 2 will only replace the amount removed by a 50 t/ha crop and potash should be applied for the next crop in the rotation to maintain the soil at K Index 2. The extra amounts of potash shown for K Index 0 and 1 soils will slowly increase the soil K Index. All the phosphate should be applied in the spring and either worked into the seedbed or placed at planting. Where more than 300 kg K2O/ha is required, apply half in late autumn/winter and half in spring. On light sandy soils, all the potash fertiliser should be applied after ploughing and no sooner than late winter. These recommendations should be used for both bed and ridge furrow systems. Where fertiliser is placed, a small reduction in the recommended rate of phosphate could be considered.
Potato crops are not generally thought to be responsive to sulphur. However, atmospheric sulphur emissions have declined significantly and a yield response is possible. If deficiency does occur, it is most likely to show first in crops grown on deep sand soils with low organic matter and in areas that are well away from industrial pollution. Farmers are advised to monitor the sulphur requirements of their crops. Where sulphur deficiency has previously occurred or is expected, apply 25kgSO3/ha as a sulphate containing fertiliser in the seed bed. When grown in soil with a good structure, potatoes are capable of producing extensive root systems that are efficient in taking up water and nutrients, therefore every effort should be made to ensure seedbeds are free of compaction. The value of potato crop is dictated by the marketable yield, not the total yield, and, in consequence, decisions about fertiliser rates should be considered together with factors such as site selection and seed rates. Because of the wide range of varietal characteristics and quality requirements for different market outlets, guidance from a FACTS Qualified Adviser should be used when making decisions for specific crops.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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EAST YORKSHIRE
YO25 9LY
Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
21-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63698/24

Date Received 23-Jan-24
Date Reported 02-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
346483/24	1	**FLD 20.02 0-15CM** *Into Grassland*	**7.4**	**3**	**3**	**3**	**27.4**	**299**	**122**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 02/02/24

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
346483	1	FLD 20.02 0-15CM	4.5

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

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Reference: **63698/346483/24** Field Name: **FLD 20.02 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	50	
Silt (0.063 - 0.002mm) %	27	
Clay (< 0.002mm) %	23	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	2nd February 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 21-12-2023
SAMPLED BY	
Report reference	63698/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 20.02 0-15CM	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0**
346483 / Medium		*Kg/Ha*				*Te/Ha*	**0**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Client : DBS
TOPSOIL 0-20MM
21-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63698/24

Date Received 23-Jan-24
Date Reported 02-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
346484/24	1	**FLD 20.03 0-15CM** *Into Other Crop*	**6.9**	**2**	**2-**	**3**	**17.6**	**165**	**133**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 02/02/24

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
346484	1	FLD 20.03 0-15CM	4.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

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Reference: **63698/346484/24** Field Name: **FLD 20.03 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	60	
Silt (0.063 - 0.002mm) %	22	
Clay (< 0.002mm) %	18	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	2nd February 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 21-12-2023
SAMPLED BY	
Report reference	63698/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 20.03 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
346484 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
21-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63698/24

Date Received 23-Jan-24
Date Reported 02-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
346485/24	1	**FLD 20.04 0-15CM** *Into Other Crop*	**6.9**	**2**	**2+**	**3**	**20.2**	**222**	**109**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 02/02/24

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
346485	1	FLD 20.04 0-15CM	4.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63698/346485/24** Field Name: **FLD 20.04 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	61	
Silt (0.063 - 0.002mm) %	20	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	2nd February 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 21-12-2023
SAMPLED BY	
Report reference	63698/24

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE
Tel: 01977 555869
Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 20.04 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
346485 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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FIMBER
DRIFFIELD
EAST YORKSHIRE
YO25 9LY
Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
08-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 75127/23

Date Received 17-Nov-23
Date Reported 29-Nov-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
394747/23	1	**FIELD 21.01** *Into Other Crop*	**7.0**	**0**	**1**	**2**	**9.4**	**86**	**58**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 29/11/23

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
394747	1	FIELD 21.01	4.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **75127/394747/23** Field Name: **FIELD 21.01**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	64	
Silt (0.063 - 0.002mm) %	18	
Clay (< 0.002mm) %	18	
Textural Classification	Sandy Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	29th November 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 08-11-2023
SAMPLED BY	AMY MILLER
Report reference	75127/23

DAVID ROYLE
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COWSLIP OFFICES
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EAST YORKSHIRE
Tel: 01977 555869
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 21.01	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
394747 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE
YO25 9LY
Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
08-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 75127/23

Date Received 17-Nov-23
Date Reported 29-Nov-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
394746/23	1	**FIELD 21.02** *Into Other Crop*	**7.4**	**1**	**1**	**1**	**11.2**	**95**	**37**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 29/11/23

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
394746	1	FIELD 21.02	4.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **75127/394746/23** Field Name: **FIELD 21.02**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	66	
Silt (0.063 - 0.002mm) %	18	
Clay (< 0.002mm) %	16	
Textural Classification	Sandy Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	29th November 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 08-11-2023
SAMPLED BY	AMY MILLER
Report reference	75127/23

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 21.02	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
394746 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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YO25 9LY
Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
08-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference

Card Number 75127/23

Date Received 17-Nov-23
Date Reported 29-Nov-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
394744/23	1	**FIELD 21.03** *Into Other Crop*	**7.2**	**1**	**1**	**2**	**12.0**	**83**	**83**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 29/11/23

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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COWSLIP OFFICES
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
394744	1	FIELD 21.03	8.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **75127/394744/23** Field Name: **FIELD 21.03**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	34	
Silt (0.063 - 0.002mm) %	34	
Clay (< 0.002mm) %	32	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	29th November 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 08-11-2023
SAMPLED BY	AMY MILLER
Report reference	75127/23

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 21.03	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
394744 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Tel. : 01977 555869

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
08-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 75127/23

Date Received 17-Nov-23
Date Reported 29-Nov-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
394745/23	1	**FIELD 21.04** *Into Other Crop*	**7.1**	**0**	**1**	**2**	**9.4**	**73**	**52**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 29/11/23

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
394745	1	FIELD 21.04	5.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

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Reference: **75127/394745/23** Field Name: **FIELD 21.04**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	59	
Silt (0.063 - 0.002mm) %	22	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	29th November 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 08-11-2023
SAMPLED BY	AMY MILLER
Report reference	75127/23

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 21.04	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
394745 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-15CM
08-11-2023

Local Rep : AMY MILLER

Telephone :

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 75127/23

Date Received 17-Nov-23
Date Reported 29-Nov-23

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
394748/23	1	**FIELD 21.05** *Into Other Crop*	**7.4**	**1**	**1**	**2**	**9.8**	**85**	**58**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 29/11/23

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
394748	1	FIELD 21.05	5.1

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

Report Reference: 75127/23

DAVID ROYLE
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Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **29th November 2023**

SAMPLES FROM **DBS, TOPSOIL 0-15CM, 08-11-2023**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **75127/394748/23** Field Name: **FIELD 21.05**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	62	
Silt (0.063 - 0.002mm) %	18	
Clay (< 0.002mm) %	20	
Textural Classification	Sandy Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	29th November 2023
SAMPLES FROM	DBS, TOPSOIL 0-15CM, 08-11-2023
SAMPLED BY	AMY MILLER
Report reference	75127/23

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 21.05	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
394748 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM 31-05-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 69073/24

Date Received 04-Jun-24
Date Reported 11-Jun-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
369871/24	1	**FD 21.07 TS0-15C** *Into Other Crop*	**6.9**	**2**	**2-**	**3**	**23.2**	**149**	**125**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 11/06/24

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
369871	1	FD 21.07 TS0-15C	7.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **69073/369871/24** Field Name: **FD 21.07 TS0-15C**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	32	
Silt (0.063 - 0.002mm) %	35	
Clay (< 0.002mm) %	33	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	11th June 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM 31-05-2024
SAMPLED BY	
Report reference	69073/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FD 21.07 TS0-15C	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
369871 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67985/24

Date Received 30-Apr-24
Date Reported 13-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365467/24	1	**FIELD 21.07A** *Into Winter Wheat*	**7.4**	**2**	**2-**	**2**	**24.2**	**176**	**95**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 13/05/24

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365467	1	FIELD 21.07A	7.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **67985/365467/24** Field Name: **FIELD 21.07A**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	38	
Silt (0.063 - 0.002mm) %	32	
Clay (< 0.002mm) %	30	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	13th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67985/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 21.07A	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
365467 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67985/24

Date Received 30-Apr-24
Date Reported 13-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365468/24	1	**FIELD 21.07B** *Into Winter Wheat*	**7.3**	**2**	**2-**	**2**	**23.0**	**147**	**73**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 13/05/24

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

DAVID ROYLE
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Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365468	1	FIELD 21.07B	7.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

DAVID ROYLE
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Reference: **67985/365468/24** Field Name: **FIELD 21.07B**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	41	
Silt (0.063 - 0.002mm) %	32	
Clay (< 0.002mm) %	27	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	13th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67985/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 21.07B	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
365468 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM 31-05-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 69073/24

Date Received 04-Jun-24
Date Reported 11-Jun-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
369872/24	1	**FD 21.07W TS0-15** *Into Other Crop*	**7.2**	**2**	**2+**	**3**	**25.2**	**213**	**138**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 11/06/24

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
369872	1	FD 21.07W TS0-15	11.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

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Tel: 01377 236010

Reference: **69073/369872/24** Field Name: **FD 21.07W TS0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	21	
Silt (0.063 - 0.002mm) %	37	
Clay (< 0.002mm) %	42	
Textural Classification	Organic Clay	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	11th June 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM 31-05-2024
SAMPLED BY	
Report reference	69073/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FD 21.07W TS0-15	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
369872 / Organ.		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM 31-05-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 69073/24

Date Received 04-Jun-24
Date Reported 11-Jun-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
369873/24	1	**FD 21.08 TS0-15C** *Into Other Crop*	**6.2**	**2**	**3**	**4**	**20.6**	**375**	**186**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 11/06/24

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
369873	1	FD 21.08 TS0-15C	20.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **69073/369873/24** Field Name: **FD 21.08 TS0-15C**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	21	
Silt (0.063 - 0.002mm) %	36	
Clay (< 0.002mm) %	43	
Textural Classification	Peat	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 11th June 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM 31-05-2024

SAMPLED BY

Report reference 69073/24

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE
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Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FD 21.08 TS0-15C	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
369873 / Peaty		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
19-04-2024

Distributor : TOPSOIL 0-15CM

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 67985/24

Date Received 30-Apr-24
Date Reported 13-May-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
365469/24	1	**FIELD 21.08A** *Into Winter Wheat*	**6.7**	**2**	**2-**	**2**	**23.6**	**179**	**85**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 13/05/24

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
365469	1	FIELD 21.08A	7.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

Report Reference: 67985/24

DAVID ROYLE
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Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **13th May 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 19-04-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **67985/365469/24** Field Name: **FIELD 21.08A**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	62	
Silt (0.063 - 0.002mm) %	21	
Clay (< 0.002mm) %	17	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	13th May 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 19-04-2024
SAMPLED BY	TOPSOIL 0-15CM
Report reference	67985/24

DAVID ROYLE
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Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 21.08A	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
365469 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
YO25 9LY
Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63528/24

Date Received 18-Jan-24
Date Reported 30-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345571/24	1	**FIELD 21.09** *Into Winter Wheat*	**7.5**	**3**	**2+**	**2**	**29.4**	**186**	**90**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 30/01/24

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

DAVID ROYLE
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COWSLIP OFFICES
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345571	1	FIELD 21.09	5.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

DAVID ROYLE
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Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

DAVID ROYLE
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Tel: 01977 555869

Reference: **63528/345571/24** Field Name: **FIELD 21.09**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	45	
Silt (0.063 - 0.002mm) %	26	
Clay (< 0.002mm) %	29	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 30th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 04-01-2024

SAMPLED BY

Report reference 63528/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 21.09	**Not Given / W Wheat**	*Units/Acre*	**0**	**44**		*T/Ac*	**0**
345571 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Tel. : 01377 236010

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65061/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352732/24	1	**21.09A T/S 0-15** *Into Grassland*	**7.0**	**2**	**1**	**2**	**24.8**	**108**	**97**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

DAVID ROYLE
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COWSLIP OFFICES
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352732	1	21.09A T/S 0-15	6.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65061/352732/24** Field Name: **21.09A T/S 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	36	
Silt (0.063 - 0.002mm) %	32	
Clay (< 0.002mm) %	32	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 31-01-2024

SAMPLED BY

Report reference 65061/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
21.09A T/S 0-15	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0**
352732 / Medium		*Kg/Ha*				*Te/Ha*	**0**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65061/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352733/24	1	**21.09B T/S 0-15** *Into Grassland*	**6.9**	**3**	**2+**	**3**	**26.4**	**186**	**139**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352733	1	21.09B T/S 0-15	3.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

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Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65061/352733/24** Field Name: **21.09B T/S 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	80	
Silt (0.063 - 0.002mm) %	11	
Clay (< 0.002mm) %	9	
Textural Classification	Loamy Sand	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 31-01-2024

SAMPLED BY

Report reference 65061/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
21.09B T/S 0-15	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0**
352733 / Light		*Kg/Ha*				*Te/Ha*	**0**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65061/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352734/24	1	**21.09C T/S 0-15** *Into Grassland*	**7.0**	**3**	**3**	**3**	**33.0**	**290**	**166**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352734	1	21.09C T/S 0-15	7.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

DAVID ROYLE
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Reference: **65061/352734/24** Field Name: **21.09C T/S 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	42	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	29	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 31-01-2024

SAMPLED BY

Report reference 65061/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
21.09C T/S 0-15	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0**
352734 / Medium		*Kg/Ha*				*Te/Ha*	**0**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE
YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65061/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352735/24	1	**21.09D T/S 0-15** *Into Grassland*	**7.3**	**2**	**3**	**3**	**25.0**	**243**	**143**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352735	1	21.09D T/S 0-15	9.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

DAVID ROYLE
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COWSLIP OFFICES
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65061/352735/24** Field Name: **21.09D T/S 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	45	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	26	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 31-01-2024

SAMPLED BY

Report reference 65061/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
21.09D T/S 0-15	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0**
352735 / Medium		*Kg/Ha*				*Te/Ha*	**0**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
21-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63698/24

Date Received 23-Jan-24
Date Reported 02-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
346486/24	1	**FLD 21.10 0-15CM** *Into Grassland*	**5.7**	**2**	**2-**	**3**	**16.2**	**152**	**121**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 02/02/24

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
346486	1	FLD 21.10 0-15CM	8.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

Report Reference: 63698/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **2nd February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 21-12-2023**

DAVID ROYLE
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Tel: 01977 555869

Reference: **63698/346486/24** Field Name: **FLD 21.10 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	51	
Silt (0.063 - 0.002mm) %	27	
Clay (< 0.002mm) %	22	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	2nd February 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 21-12-2023
SAMPLED BY	
Report reference	63698/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 21.10 0-15CM	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**1.1**
346486 / Medium		*Kg/Ha*				*Te/Ha*	**2.6**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Tel. : 01977 555869

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63528/24

Date Received 18-Jan-24
Date Reported 30-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345572/24	1	**FIELD 22.01** *Into Winter Wheat*	**6.8**	**1**	**1**	**2**	**11.0**	**120**	**85**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 30/01/24

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345572	1	FIELD 22.01	5.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63528/345572/24** Field Name: **FIELD 22.01**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	43	
Silt (0.063 - 0.002mm) %	33	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 30th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 04-01-2024

SAMPLED BY

Report reference 63528/24

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Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 22.01	**Not Given / W Wheat**	*Units/Acre*	**68**	**92**		*T/Ac*	**0**
345572 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**115**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE
YO25 9LY
Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63528/24

Date Received 18-Jan-24
Date Reported 30-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345573/24	1	**FIELD 22.02** *Into Winter Wheat*	**6.9**	**2**	**2-**	**3**	**23.2**	**122**	**103**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 30/01/24

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345573	1	FIELD 22.02	5.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

DAVID ROYLE
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Tel: 01977 555869

Reference: **63528/345573/24** Field Name: **FIELD 22.02**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	44	
Silt (0.063 - 0.002mm) %	30	
Clay (< 0.002mm) %	26	
Textural Classification	Clay Loam	1

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 30th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 04-01-2024

SAMPLED BY

Report reference 63528/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 22.02	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
345573 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Tel. : 01977 555869

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63528/24

Date Received 18-Jan-24
Date Reported 30-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345574/24	1	**FIELD 22.03** *Into Winter Wheat*	**7.2**	**2**	**2-**	**2**	**21.8**	**154**	**99**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 30/01/24

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345574	1	FIELD 22.03	5.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
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		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

DAVID ROYLE
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Tel: 01977 555869

Reference: **63528/345574/24** Field Name: **FIELD 22.03**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	43	
Silt (0.063 - 0.002mm) %	30	
Clay (< 0.002mm) %	27	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 30th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 04-01-2024

SAMPLED BY

Report reference 63528/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 22.03	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
345574 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63493/24

Date Received 17-Jan-24
Date Reported 26-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345431/24	1	**FLD 22.04 0-15CM** *Into Winter Wheat*	**6.3**	**2**	**2-**	**3**	**22.2**	**147**	**123**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 26/01/24

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63493/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345431	1	FLD 22.04 0-15CM	5.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63493/24

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63493/345431/24** Field Name: **FLD 22.04 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	42	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	27	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 26th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 04-01-2024

SAMPLED BY

Report reference 63493/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 22.04 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**1.1**
345431 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**2.8**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE
YO25 9LY
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66549/24

Date Received 25-Mar-24
Date Reported 10-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359233/24	1	**22.04C TS 0-15CM** *Into Grassland*	**6.9**	**1**	**2-**	**3**	**12.8**	**167**	**125**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 10/04/24

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359233	1	22.04C TS 0-15CM	4.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **66549/359233/24** Field Name: **22.04C TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	45	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	26	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 10th April 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 14-02-2024

SAMPLED BY

Report reference 66549/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
22.04C TS 0-15CM	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0**
359233 / Medium		*Kg/Ha*				*Te/Ha*	**0**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63493/24

Date Received 17-Jan-24
Date Reported 26-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345432/24	1	**FLD 22.05 0-15CM** *Into Winter Wheat*	**6.4**	**1**	**1**	**3**	**11.4**	**116**	**119**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 26/01/24

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63493/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345432	1	FLD 22.05 0-15CM	6.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
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ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63493/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63493/345432/24** Field Name: **FLD 22.05 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	45	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	26	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	26th January 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 04-01-2024
SAMPLED BY	
Report reference	63493/24

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Fertiliser Recommendations

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The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 22.05 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**68**	**92**		*T/Ac*	**0.8**
345432 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**115**		*Te/Ha*	**2.1**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
13-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63066/24

Date Received 02-Jan-24
Date Reported 17-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343303/24	1	**FIELD 22.06 0-15** *Into Other Crop*	**6.7**	**1**	**1**	**3**	**12.6**	**100**	**112**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Joe Cherrie On behalf of NRM Date 17/01/24

ANALYSIS REPORT

DATE **17th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343303	1	FIELD 22.06 0-15	6.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **17th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **17th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63066/343303/24** Field Name: **FIELD 22.06 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	53	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	22	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 17th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 13-12-2023

SAMPLED BY

Report reference 63066/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 22.06 0-15	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
343303 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
13-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63066/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343304/24	1	**FIELD 22.07 0-15** *Into Other Crop*	**7.0**	**0**	**1**	**2**	**9.4**	**78**	**100**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343304	1	FIELD 22.07 0-15	11.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63066/343304/24** Field Name: **FIELD 22.07 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	57	
Silt (0.063 - 0.002mm) %	24	
Clay (< 0.002mm) %	19	
Textural Classification	Organic Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	12th January 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 13-12-2023
SAMPLED BY	
Report reference	63066/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 22.07 0-15	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
343304 / Organ.		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
13-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63066/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343305/24	1	**FIELD 22.08 0-15** *Into Other Crop*	**6.7**	**0**	**0**	**2**	**5.8**	**56**	**75**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

DAVID ROYLE
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DRIFFIELD
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343305	1	FIELD 22.08 0-15	12.1

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63066/343305/24** Field Name: **FIELD 22.08 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	58	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	14	
Textural Classification	Organic Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	12th January 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 13-12-2023
SAMPLED BY	
Report reference	63066/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 22.08 0-15	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
343305 / Organ.		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
YO25 9LY
Tel. : 01977 555869

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
13-12-2023

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63066/24

Date Received 02-Jan-24
Date Reported 12-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
343306/24	1	**FIELD 22.09 0-15** *Into Perm Pasture*	**6.8**	**1**	**2-**	**3**	**12.4**	**121**	**113**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 12/01/24

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
343306	1	FIELD 22.09 0-15	6.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

Report Reference: 63066/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **12th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-12-2023**

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Reference: **63066/343306/24** Field Name: **FIELD 22.09 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	52	
Silt (0.063 - 0.002mm) %	27	
Clay (< 0.002mm) %	21	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 12th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 13-12-2023

SAMPLED BY

Report reference 63066/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 22.09 0-15	**Not Given / P Pasture**	*Units/Acre*	**40**	**0**		*T/Ac*	**0**
343306 / Medium		*Kg/Ha*	**50**	**0**		*Te/Ha*	**0**

Grass/clover swards are more sensitive to phosphate and potash shortages than pure grass swards. Phosphate may be applied in several small applications during the season, though there may be a small response if it all applied in early spring for the 1st grazing. Potash maybe applied in one application in June or July, or in several small applications during the season. At index 0, apply 30kg K2O/ha for the first grazing. Herbage analysis can also be useful to assess the adequacy of recent phosphate and potash applications. Phosphorus deficiency is indicated if the P concentration is below 0.35% and potassium deficiency is indicated if the herbage potassium is below 2.5% (DM basis) or the N:K ratio of the herbage is above 1:1.3.
Where there is a known risk of hypomagnesaemia, application of potash in spring should be avoided. Grass swards must contain a sufficiently high level of magnesium if the risk of hypomagnesaemia (grass staggers) is to be reduced. At soil Mg Index 0, apply 50 to 100 kg MgO/ha every three or four years. However the uptake of herbage magnesium decreases as nitrogen and potash increase: consequently hypomagnesaemia can occur when soil magnesium appears adequate. If there is a risk of hypomagnesaemia, 100kg/ha MgO may be justified to maintain soil Mg Index 2. Direct treatment of livestock may also be needed to avoid hypomagnesaemia. Where liming is also needed, use of magnesian limestone may be most cost effective. Herbage analysis is a useful indicator of the need for additional magnesium and for assessing the risk of hypomagnesaemia. Maintain magnesium concentrations above 0.20% (DM basis) and ensure the K:Mg ratio does not exceed 20:1.
Sulphur is an essential nutrient in maximising dry matter yield protein levels in both grazed and conserved grass. Sulphur deficiency is increasingly common in grassland, especially at second and later cuts in multi-cut silage systems using high rates of nitrogen, but also sometimes at first cut. Sulphur deficiency is indicated by yellowing of the sward. In contrast to N deficiency where the older leaves are most affected, sulphur deficiency can be identified by yellowing of the youngest leaves. Analysis of uncontaminated herbage sampled just before cutting is a useful indicator of deficiency. The information can be used to assess the need for sulphur for future cuts. The critical level is 0.25% total sulphur or an N:S ratio greater than 13:1.
Some soils are more at risk of sulphur deficiency than others. Apply sulphur to all grass grown on sandy and shallow soils, loamy and coarse silty soils in areas with >200mm rainfall between November and February, or clay, fine silty or peat soils in areas with >400 rainfall between November and February. On soils at risk of sulphur deficiency apply 40kg/ SO3/ha before each cut of silage or 20-30kg SO3/ha when up to 100kg N/ha is applied and an additional 20-30kg SO3/ha for each additional 100kg N/ha .
Sodium will not have any effect on grass growth but an adequate amount in the diet is essential for livestock health (0.15% DM basis) and can improve the palatability of grass. Herbage analysis is useful to assess the sodium status of grass and its balance with potassium. Where sodium levels are low (below 0.15%) or the K:Na ratio is higher than 20:1, mineral supplements may be required for some classes of stock or a sodium containing fertiliser may be used. Apply sodium in fertiliser at 140kg/ha Na2O in early spring, either in a single or split application, to improve herbage mineral balances. To improve pasture palatability, apply regular dressings of 10kg/ha Na2O throughout the season.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

Report continued.....

ANALYSIS REPORT

DATE	12th January 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 13-12-2023
SAMPLED BY	
Report reference	63066/24

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Fertiliser Recommendations

The amount of phosphate and potash applied for establishment may be deducted from the first season's grazing or silage/hay requirement.
Liming fields above pH 7 should be avoided as it can induce deficiencies of trace elements such as copper,cobalt and selenium which can adversely affect livestock growth but will not affect grass growth. Where a deficiency does occur, treatment of the animal with the appropriate trace element is usually the most effective means of control, though application of cobalt and selenium to grazing pastures can be effective.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63528/24

Date Received 18-Jan-24
Date Reported 30-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345575/24	1	**FIELD 23.01** *Into Winter Wheat*	**7.2**	**2**	**2-**	**2**	**16.8**	**123**	**68**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 30/01/24

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345575	1	FIELD 23.01	3.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63528/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **30th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63528/345575/24** Field Name: **FIELD 23.01**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	47	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 30th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 04-01-2024

SAMPLED BY

Report reference 63528/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
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Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FIELD 23.01	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
345575 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63493/24

Date Received 17-Jan-24
Date Reported 26-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345433/24	1	**FLD 23.02 0-15CM** *Into Winter Wheat*	**6.8**	**2**	**2-**	**2**	**20.6**	**140**	**88**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 26/01/24

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63493/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345433	1	FLD 23.02 0-15CM	4.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63493/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

DAVID ROYLE
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Tel: 01977 555869

Reference: **63493/345433/24** Field Name: **FLD 23.02 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	53	
Silt (0.063 - 0.002mm) %	27	
Clay (< 0.002mm) %	20	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	26th January 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 04-01-2024
SAMPLED BY	
Report reference	63493/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 23.02 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
345433 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63493/24

Date Received 17-Jan-24
Date Reported 26-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345434/24	1	**FLD 24.01 0-15CM** *Into Winter Wheat*	**7.1**	**3**	**2-**	**2**	**27.6**	**150**	**77**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 26/01/24

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63493/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345434	1	FLD 24.01 0-15CM	3.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63493/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

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Reference: **63493/345434/24** Field Name: **FLD 24.01 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	52	
Silt (0.063 - 0.002mm) %	27	
Clay (< 0.002mm) %	21	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	26th January 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 04-01-2024
SAMPLED BY	
Report reference	63493/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 24.01 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**0**	**68**		*T/Ac*	**0**
345434 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63493/24

Date Received 17-Jan-24
Date Reported 26-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345435/24	1	**FLD 24.02 0-15CM** *Into Winter Wheat*	**6.9**	**3**	**3**	**2**	**27.8**	**255**	**72**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 26/01/24

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63493/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345435	1	FLD 24.02 0-15CM	3.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63493/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **63493/345435/24** Field Name: **FLD 24.02 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	50	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	21	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	26th January 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 04-01-2024
SAMPLED BY	
Report reference	63493/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 24.02 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**0**	**0**		*T/Ac*	**0**
345435 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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EAST YORKSHIRE
YO25 9LY
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
04-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 63493/24

Date Received 17-Jan-24
Date Reported 26-Jan-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
345436/24	1	**FLD 24.03 0-15CM** *Into Winter Wheat*	**7.2**	**3**	**3**	**2**	**28.8**	**266**	**59**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 26/01/24

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63493/24

DAVID ROYLE
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Tel: 01977 555869

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
345436	1	FLD 24.03 0-15CM	3.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

Report Reference: 63493/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **26th January 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 04-01-2024**

DAVID ROYLE
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Tel: 01977 555869

Reference: **63493/345436/24** Field Name: **FLD 24.03 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	46	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	23	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 26th January 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 04-01-2024

SAMPLED BY

Report reference 63493/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 24.03 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**0**	**0**		*T/Ac*	**0**
345436 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
12-03-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66545/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359208/24	1	**24.03A TS0-7.5CM** *Into Winter Wheat*	**7.1**	**2**	**2-**	**2**	**20.0**	**137**	**83**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Myles Nicholson On behalf of NRM Date 08/04/24

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

Report Reference: 66545/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359208	1	24.03A TS0-7.5CM	4.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

Report Reference: 66545/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

DAVID ROYLE
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FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **66545/359208/24** Field Name: **24.03A TS0-7.5CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	52	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 8th April 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 12-03-2024

SAMPLED BY

Report reference 66545/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
24.03A TS0-7.5CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
359208 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
12-03-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66545/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359207/24	1	**25.01 TS 0-7.5CM** *Into Winter Wheat*	**6.5**	**1**	**1**	**1**	**14.4**	**79**	**45**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Myles Nicholson* On behalf of NRM Date *08/04/24*

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

Report Reference: 66545/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359207	1	25.01 TS 0-7.5CM	4.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

Report Reference: 66545/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **66545/359207/24** Field Name: **25.01 TS 0-7.5CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	52	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 12-03-2024
SAMPLED BY	
Report reference	66545/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
25.01 TS 0-7.5CM	**Not Given / W Wheat**	*Units/Acre*	**68**	**92**		*T/Ac*	**0**
359207 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**115**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65062/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352738/24	1	**25.02 T/S 0-15CM** *Into Winter Wheat*	**7.2**	**3**	**3**	**2**	**31.0**	**267**	**91**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352738	1	25.02 T/S 0-15CM	4.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **65062/352738/24** Field Name: **25.02 T/S 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	49	
Silt (0.063 - 0.002mm) %	30	
Clay (< 0.002mm) %	21	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 14-01-2024

SAMPLED BY

Report reference 65062/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
25.02 T/S 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**0**	**0**		*T/Ac*	**0**
352738 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**0**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65062/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352739/24	1	**25.03 T/S 0-15CM** *Into Winter Wheat*	**7.1**	**2**	**2-**	**3**	**17.0**	**162**	**135**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352739	1	25.03 T/S 0-15CM	4.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

DAVID ROYLE
LDCL
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FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65062/352739/24** Field Name: **25.03 T/S 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	35	
Silt (0.063 - 0.002mm) %	37	
Clay (< 0.002mm) %	28	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 14-01-2024

SAMPLED BY

Report reference 65062/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
25.03 T/S 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
352739 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Tel. : 01377 236010

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65062/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352740/24	1	**25.04 T/S 0-15CM** *Into Winter Wheat*	**7.0**	**1**	**2-**	**3**	**11.8**	**126**	**121**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Katie Dunn* On behalf of NRM Date *01/03/24*

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352740	1	25.04 T/S 0-15CM	4.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65062/352740/24** Field Name: **25.04 T/S 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	38	
Silt (0.063 - 0.002mm) %	36	
Clay (< 0.002mm) %	26	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 14-01-2024

SAMPLED BY

Report reference 65062/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
25.04 T/S 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**68**	**68**		*T/Ac*	**0**
352740 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Tel. : 01377 236010

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65062/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352741/24	1	**25.05 T/S 0-15CM** *Into Winter Wheat*	**7.1**	**2**	**2+**	**2**	**20.4**	**192**	**94**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352741	1	25.05 T/S 0-15CM	4.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65062/352741/24** Field Name: **25.05 T/S 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	46	
Silt (0.063 - 0.002mm) %	30	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 14-01-2024

SAMPLED BY

Report reference 65062/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
25.05 T/S 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**44**		*T/Ac*	**0**
352741 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65062/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352742/24	1	**26.01 T/S 0-15CM** *Into Winter Wheat*	**7.1**	**3**	**2+**	**3**	**26.4**	**231**	**101**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Katie Dunn* On behalf of NRM Date *01/03/24*

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352742	1	26.01 T/S 0-15CM	4.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65062/352742/24** Field Name: **26.01 T/S 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	48	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	23	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 14-01-2024

SAMPLED BY

Report reference 65062/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
26.01 T/S 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**0**	**44**		*T/Ac*	**0**
352742 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**0**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE
YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65062/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352743/24	1	**26.02A T/S 0-15** *Into Winter Wheat*	**7.7**	**2**	**1**	**2**	**23.6**	**89**	**82**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352743	1	26.02A T/S 0-15	4.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65062/352743/24** Field Name: **26.02A T/S 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	43	
Silt (0.063 - 0.002mm) %	32	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 14-01-2024

SAMPLED BY

Report reference 65062/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
26.02A T/S 0-15	**Not Given / W Wheat**	*Units/Acre*	**44**	**92**		*T/Ac*	**0**
352743 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**115**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65062/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352744/24	1	**26.02B T/S 0-15** *Into Winter Wheat*	**7.0**	**1**	**1**	**2**	**14.0**	**106**	**96**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

DAVID ROYLE
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COWSLIP OFFICES
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352744	1	26.02B T/S 0-15	4.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

Report Reference: 65062/24

DAVID ROYLE
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Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-01-2024**

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65062/352744/24** Field Name: **26.02B T/S 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	41	
Silt (0.063 - 0.002mm) %	33	
Clay (< 0.002mm) %	26	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 14-01-2024

SAMPLED BY

Report reference 65062/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
26.02B T/S 0-15	**Not Given / W Wheat**	*Units/Acre*	**68**	**92**		*T/Ac*	**0**
352744 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**115**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65061/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352729/24	1	**27.01 T/S 0-15CM** *Into Winter Wheat*	**6.5**	**1**	**1**	**2**	**14.8**	**119**	**81**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352729	1	27.01 T/S 0-15CM	4.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **65061/352729/24** Field Name: **27.01 T/S 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	38	
Silt (0.063 - 0.002mm) %	33	
Clay (< 0.002mm) %	29	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 31-01-2024

SAMPLED BY

Report reference 65061/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
27.01 T/S 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**68**	**92**		*T/Ac*	**0**
352729 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**115**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65061/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352730/24	1	**27.02 T/S 0-15CM** *Into Winter Wheat*	**7.2**	**1**	**1**	**2**	**15.4**	**103**	**99**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352730	1	27.02 T/S 0-15CM	4.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65061/352730/24** Field Name: **27.02 T/S 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	43	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	26	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 31-01-2024

SAMPLED BY

Report reference 65061/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
27.02 T/S 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**68**	**92**		*T/Ac*	**0**
352730 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**115**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65061/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352731/24	1	**27.03 T/S 0-15CM** *Into Winter Wheat*	**7.2**	**2**	**1**	**2**	**17.2**	**86**	**62**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352731	1	27.03 T/S 0-15CM	3.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65061/352731/24** Field Name: **27.03 T/S 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	40	
Silt (0.063 - 0.002mm) %	32	
Clay (< 0.002mm) %	28	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 31-01-2024

SAMPLED BY

Report reference 65061/24

DAVID ROYLE
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Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
27.03 T/S 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**92**		*T/Ac*	**0**
352731 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**115**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
12-03-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66545/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359206/24	1	**27.03A TS 0-15CM** *Into Winter Wheat*	**6.0**	**2**	**1**	**2**	**16.0**	**81**	**78**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Myles Nicholson On behalf of NRM Date 08/04/24

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

Report Reference: 66545/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359206	1	27.03A TS 0-15CM	4.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

Report Reference: 66545/24

DAVID ROYLE
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Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **66545/359206/24** Field Name: **27.03A TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	50	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	22	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 12-03-2024
SAMPLED BY	
Report reference	66545/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
27.03A TS 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**92**		*T/Ac*	**2.0**
359206 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**115**		*Te/Ha*	**4.9**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM 31-05-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 69073/24

Date Received 04-Jun-24
Date Reported 11-Jun-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
369874/24	1	**FD 28.01 TS0-15C** *Into Perm Pasture*	**7.0**	**2**	**1**	**2**	**23.2**	**100**	**91**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 11/06/24

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

DAVID ROYLE
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FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
369874	1	FD 28.01 TS0-15C	8.1

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

DAVID ROYLE
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Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

DAVID ROYLE
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COWSLIP OFFICES
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **69073/369874/24** Field Name: **FD 28.01 TS0-15C**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	39	
Silt (0.063 - 0.002mm) %	33	
Clay (< 0.002mm) %	28	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 11th June 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM 31-05-2024

SAMPLED BY

Report reference 69073/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FD 28.01 TS0-15C	**Not Given / P Pasture**	*Units/Acre*	**16**	**24**		*T/Ac*	**0**
369874 / Medium		*Kg/Ha*	**20**	**30**		*Te/Ha*	**0**

Grass/clover swards are more sensitive to phosphate and potash shortages than pure grass swards. Phosphate may be applied in several small applications during the season, though there may be a small response if it all applied in early spring for the 1st grazing. Potash maybe applied in one application in June or July, or in several small applications during the season. At index 0, apply 30kg K2O/ha for the first grazing. Herbage analysis can also be useful to assess the adequacy of recent phosphate and potash applications. Phosphorus deficiency is indicated if the P concentration is below 0.35% and potassium deficiency is indicated if the herbage potassium is below 2.5% (DM basis) or the N:K ratio of the herbage is above 1:1.3.
Where there is a known risk of hypomagnesaemia, application of potash in spring should be avoided. Grass swards must contain a sufficiently high level of magnesium if the risk of hypomagnesaemia (grass staggers) is to be reduced. At soil Mg Index 0, apply 50 to 100 kg MgO/ha every three or four years. However the uptake of herbage magnesium decreases as nitrogen and potash increase: consequently hypomagnesaemia can occur when soil magnesium appears adequate. If there is a risk of hypomagnesaemia, 100kg/ha MgO may be justified to maintain soil Mg Index 2. Direct treatment of livestock may also be needed to avoid hypomagnesaemia. Where liming is also needed, use of magnesian limestone may be most cost effective. Herbage analysis is a useful indicator of the need for additional magnesium and for assessing the risk of hypomagnesaemia. Maintain magnesium concentrations above 0.20% (DM basis) and ensure the K:Mg ratio does not exceed 20:1.
Sulphur is an essential nutrient in maximising dry matter yield protein levels in both grazed and conserved grass. Sulphur deficiency is increasingly common in grassland, especially at second and later cuts in multi-cut silage systems using high rates of nitrogen, but also sometimes at first cut. Sulphur deficiency is indicated by yellowing of the sward. In contrast to N deficiency where the older leaves are most affected, sulphur deficiency can be identified by yellowing of the youngest leaves. Analysis of uncontaminated herbage sampled just before cutting is a useful indicator of deficiency. The information can be used to assess the need for sulphur for future cuts. The critical level is 0.25% total sulphur or an N:S ratio greater than 13:1.
Some soils are more at risk of sulphur deficiency than others. Apply sulphur to all grass grown on sandy and shallow soils, loamy and coarse silty soils in areas with >200mm rainfall between November and February, or clay, fine silty or peat soils in areas with >400 rainfall between November and February. On soils at risk of sulphur deficiency apply 40kg/ SO3/ha before each cut of silage or 20-30kg SO3/ha when up to 100kg N/ha is applied and an additional 20-30kg SO3/ha for each additional 100kg N/ha .
Sodium will not have any effect on grass growth but an adequate amount in the diet is essential for livestock health (0.15% DM basis) and can improve the palatability of grass. Herbage analysis is useful to assess the sodium status of grass and its balance with potassium. Where sodium levels are low (below 0.15%) or the K:Na ratio is higher than 20:1, mineral supplements may be required for some classes of stock or a sodium containing fertiliser may be used. Apply sodium in fertiliser at 140kg/ha Na2O in early spring, either in a single or split application, to improve herbage mineral balances. To improve pasture palatability, apply regular dressings of 10kg/ha Na2O throughout the season.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

Report continued.....

ANALYSIS REPORT

DATE	11th June 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM 31-05-2024
SAMPLED BY	
Report reference	69073/24

DAVID ROYLE
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Fertiliser Recommendations

The amount of phosphate and potash applied for establishment may be deducted from the first season's grazing or silage/hay requirement.
Liming fields above pH 7 should be avoided as it can induce deficiencies of trace elements such as copper,cobalt and selenium which can adversely affect livestock growth but will not affect grass growth. Where a deficiency does occur, treatment of the animal with the appropriate trace element is usually the most effective means of control, though application of cobalt and selenium to grazing pastures can be effective.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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COWSLIP OFFICES
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DRIFFIELD
EAST YORKSHIRE
YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM 31-05-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 69073/24

Date Received 04-Jun-24
Date Reported 11-Jun-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
369875/24	1	**FD 28.02 TS0-15C** *Into Perm Pasture*	**7.8**	**2**	**0**	**2**	**24.0**	**59**	**51**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Sandy Cameron* On behalf of NRM Date *11/06/24*

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
369875	1	FD 28.02 TS0-15C	5.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

Report Reference: 69073/24

DAVID ROYLE
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Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **11th June 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM 31-05-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **69073/369875/24** Field Name: **FD 28.02 TS0-15C**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	35	
Silt (0.063 - 0.002mm) %	35	
Clay (< 0.002mm) %	30	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 11th June 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM 31-05-2024

SAMPLED BY

Report reference 69073/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FD 28.02 TS0-15C	**Not Given / P Pasture**	*Units/Acre*	**16**	**48**		*T/Ac*	**0**
369875 / Medium		*Kg/Ha*	**20**	**60**		*Te/Ha*	**0**

Grass/clover swards are more sensitive to phosphate and potash shortages than pure grass swards. Phosphate may be applied in several small applications during the season, though there may be a small response if it all applied in early spring for the 1st grazing. Potash maybe applied in one application in June or July, or in several small applications during the season. At index 0, apply 30kg K2O/ha for the first grazing. Herbage analysis can also be useful to assess the adequacy of recent phosphate and potash applications. Phosphorus deficiency is indicated if the P concentration is below 0.35% and potassium deficiency is indicated if the herbage potassium is below 2.5% (DM basis) or the N:K ratio of the herbage is above 1:1.3.
Where there is a known risk of hypomagnesaemia, application of potash in spring should be avoided. Grass swards must contain a sufficiently high level of magnesium if the risk of hypomagnesaemia (grass staggers) is to be reduced. At soil Mg Index 0, apply 50 to 100 kg MgO/ha every three or four years. However the uptake of herbage magnesium decreases as nitrogen and potash increase: consequently hypomagnesaemia can occur when soil magnesium appears adequate. If there is a risk of hypomagnesaemia, 100kg/ha MgO may be justified to maintain soil Mg Index 2. Direct treatment of livestock may also be needed to avoid hypomagnesaemia. Where liming is also needed, use of magnesian limestone may be most cost effective. Herbage analysis is a useful indicator of the need for additional magnesium and for assessing the risk of hypomagnesaemia. Maintain magnesium concentrations above 0.20% (DM basis) and ensure the K:Mg ratio does not exceed 20:1.
Sulphur is an essential nutrient in maximising dry matter yield protein levels in both grazed and conserved grass. Sulphur deficiency is increasingly common in grassland, especially at second and later cuts in multi-cut silage systems using high rates of nitrogen, but also sometimes at first cut. Sulphur deficiency is indicated by yellowing of the sward. In contrast to N deficiency where the older leaves are most affected, sulphur deficiency can be identified by yellowing of the youngest leaves. Analysis of uncontaminated herbage sampled just before cutting is a useful indicator of deficiency. The information can be used to assess the need for sulphur for future cuts. The critical level is 0.25% total sulphur or an N:S ratio greater than 13:1.
Some soils are more at risk of sulphur deficiency than others. Apply sulphur to all grass grown on sandy and shallow soils, loamy and coarse silty soils in areas with >200mm rainfall between November and February, or clay, fine silty or peat soils in areas with >400 rainfall between November and February. On soils at risk of sulphur deficiency apply 40kg/ SO3/ha before each cut of silage or 20-30kg SO3/ha when up to 100kg N/ha is applied and an additional 20-30kg SO3/ha for each additional 100kg N/ha .
Sodium will not have any effect on grass growth but an adequate amount in the diet is essential for livestock health (0.15% DM basis) and can improve the palatability of grass. Herbage analysis is useful to assess the sodium status of grass and its balance with potassium. Where sodium levels are low (below 0.15%) or the K:Na ratio is higher than 20:1, mineral supplements may be required for some classes of stock or a sodium containing fertiliser may be used. Apply sodium in fertiliser at 140kg/ha Na2O in early spring, either in a single or split application, to improve herbage mineral balances. To improve pasture palatability, apply regular dressings of 10kg/ha Na2O throughout the season.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

Report continued.....

ANALYSIS REPORT

DATE	11th June 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM 31-05-2024
SAMPLED BY	
Report reference	69073/24

DAVID ROYLE
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Fertiliser Recommendations

The amount of phosphate and potash applied for establishment may be deducted from the first season's grazing or silage/hay requirement.
Liming fields above pH 7 should be avoided as it can induce deficiencies of trace elements such as copper,cobalt and selenium which can adversely affect livestock growth but will not affect grass growth. Where a deficiency does occur, treatment of the animal with the appropriate trace element is usually the most effective means of control, though application of cobalt and selenium to grazing pastures can be effective.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66476/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
358919/24	1	**1 28.03 TS 0-15** *Into Other Crop*	**6.7**	**1**	**2-**	**2**	**15.4**	**139**	**69**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Myles Nicholson* On behalf of NRM Date *08/04/24*

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66476/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
358919	1	1 28.03 TS 0-15	4.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66476/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

DAVID ROYLE
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COWSLIP OFFICES
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **66476/358919/24** Field Name: **1 28.03 TS 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	47	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 14-02-2024
SAMPLED BY	
Report reference	66476/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
1 28.03 TS 0-15	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
358919 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66476/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
358920/24	1	**2 29.01 TS 0-15** *Into Potatoes Main*	**6.6**	**2**	**2+**	**2**	**19.4**	**211**	**94**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Myles Nicholson On behalf of NRM Date 08/04/24

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66476/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
358920	1	2 29.01 TS 0-15	3.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66476/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **66476/358920/24** Field Name: **2 29.01 TS 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	50	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	22	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 14-02-2024
SAMPLED BY	
Report reference	66476/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
2 29.01 TS 0-15	**Not Given / Potatoes**	*Units/Acre*	**136**	**240**	**32**	*T/Ac*	**0**
358920 / Medium	**(Yield: 50 t/ha)**	*Kg/Ha*	**170**	**300**	**40**	*Te/Ha*	**0**

The phosphate recommendations are intended to achieve optimum yield and should not be adjusted even if larger or smaller yields than 50 t/ha are expected. However, the potash recommendation at target or lower indices can be adjusted when yield is likely to be larger or smaller than 50t/ha by multiplying the difference in expected yield by 5.8kg/t. The amount of phosphate recommended for soils at P Index 2 or 3 is more than sufficient to replace the phosphate removed by a 50 t/ha crop (about 50 kg P2O5). The surplus phosphate will help to maintain the soil at a target P Index 2 for an arable crop rotation and should be allowed for when assessing the need for phosphate for following crops. On soils at P Index 0 and 1 the surplus phosphate will help increase the soil P Index and no allowance should be made when deciding the phosphate requirement of a subsequent crop. On soils at P Index 2 or below a large proportion of the phosphate should be water-soluble. The amount of potash recommended at K Index 2 will only replace the amount removed by a 50 t/ha crop and potash should be applied for the next crop in the rotation to maintain the soil at K Index 2. The extra amounts of potash shown for K Index 0 and 1 soils will slowly increase the soil K Index. All the phosphate should be applied in the spring and either worked into the seedbed or placed at planting. Where more than 300 kg K2O/ha is required, apply half in late autumn/winter and half in spring. On light sandy soils, all the potash fertiliser should be applied after ploughing and no sooner than late winter. These recommendations should be used for both bed and ridge furrow systems. Where fertiliser is placed, a small reduction in the recommended rate of phosphate could be considered.
Potato crops are not generally thought to be responsive to sulphur. However, atmospheric sulphur emissions have declined significantly and a yield response is possible. If deficiency does occur, it is most likely to show first in crops grown on deep sand soils with low organic matter and in areas that are well away from industrial pollution. Farmers are advised to monitor the sulphur requirements of their crops. Where sulphur deficiency has previously occurred or is expected, apply 25kgSO3/ha as a sulphate containing fertiliser in the seed bed. When grown in soil with a good structure, potatoes are capable of producing extensive root systems that are efficient in taking up water and nutrients, therefore every effort should be made to ensure seedbeds are free of compaction. The value of potato crop is dictated by the marketable yield, not the total yield, and, in consequence, decisions about fertiliser rates should be considered together with factors such as site selection and seed rates. Because of the wide range of varietal characteristics and quality requirements for different market outlets, guidance from a FACTS Qualified Adviser should be used when making decisions for specific crops.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66476/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
358921/24	1	**3 29.01A TS 0-15** *Into Other Crop*	**6.0**	**1**	**2+**	**2**	**14.4**	**224**	**86**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Myles Nicholson* On behalf of NRM Date *08/04/24*

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66476/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
358921	1	3 29.01A TS 0-15	4.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66476/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **66476/358921/24** Field Name: **3 29.01A TS 0-15**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	47	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 14-02-2024
SAMPLED BY	
Report reference	66476/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
3 29.01A TS 0-15	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**2.0**
358921 / Medium		*Kg/Ha*				*Te/Ha*	**4.9**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66476/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
358922/24	1	**4 29.01B TS0-7.5** *Into Other Crop*	**6.3**	**1**	**2-**	**2**	**10.6**	**150**	**93**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Myles Nicholson* On behalf of NRM Date *08/04/24*

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66476/24

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
358922	1	4 29.01B TS0-7.5	3.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66476/24

DAVID ROYLE
LDCL
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FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

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Tel: 01377 236010

Reference: **66476/358922/24** Field Name: **4 29.01B TS0-7.5**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	46	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	25	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 14-02-2024
SAMPLED BY	
Report reference	66476/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
4 29.01B TS0-7.5	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**1.1**
358922 / Medium		*Kg/Ha*				*Te/Ha*	**2.8**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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EAST YORKSHIRE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66476/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
358923/24	1	**6 29.02 TS 0-7.5** *Into Other Crop*	**7.2**	**2**	**2-**	**2**	**20.0**	**134**	**85**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Myles Nicholson On behalf of NRM Date 08/04/24

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66476/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
358923	1	6 29.02 TS 0-7.5	4.5

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66476/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
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Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

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Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

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Tel: 01377 236010

Reference: **66476/358923/24** Field Name: **6 29.02 TS 0-7.5**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	49	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	23	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 14-02-2024
SAMPLED BY	
Report reference	66476/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
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All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
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Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
6 29.02 TS 0-7.5	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
358923 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

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Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66476/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
358924/24	1	**7 29.03 TS 0-7.5** *Into Other Crop*	**6.8**	**2**	**1**	**3**	**23.0**	**98**	**136**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
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The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Myles Nicholson On behalf of NRM Date 08/04/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
358924	1	7 29.03 TS 0-7.5	5.1

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
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		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
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Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
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Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

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Reference: **66476/358924/24** Field Name: **7 29.03 TS 0-7.5**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	50	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	22	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

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Report reference	66476/24

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(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
7 29.03 TS 0-7.5	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
358924 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 64404/24

Date Received 07-Feb-24
Date Reported 16-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
349813/24	1	**FLD 29.04 0-15CM** *Into Winter Wheat*	**7.3**	**2**	**2-**	**2**	**21.0**	**147**	**100**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Katie Dunn* On behalf of NRM Date *16/02/24*

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-01-2024**

Report Reference: 64404/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
349813	1	FLD 29.04 0-15CM	4.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-01-2024**

Report Reference: 64404/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-01-2024**

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Reference: **64404/349813/24** Field Name: **FLD 29.04 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	48	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 16th February 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 30-01-2024

SAMPLED BY

Report reference 64404/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 29.04 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
349813 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Client : DBS
TOPSOIL 0-20MM
30-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 64404/24

Date Received 07-Feb-24
Date Reported 16-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
349814/24	1	**FD 29.04S 0-15CM** *Into Other Crop*	**7.3**	**2**	**2-**	**2**	**16.0**	**143**	**72**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 16/02/24

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-01-2024**

Report Reference: 64404/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
349814	1	FD 29.04S 0-15CM	4.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-01-2024**

Report Reference: 64404/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-01-2024**

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Reference: **64404/349814/24** Field Name: **FD 29.04S 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	42	
Silt (0.063 - 0.002mm) %	32	
Clay (< 0.002mm) %	26	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	16th February 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 30-01-2024
SAMPLED BY	
Report reference	64404/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FD 29.04S 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
349814 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 64404/24

Date Received 07-Feb-24
Date Reported 16-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
349815/24	1	**FLD 29.05 0-15CM** *Into Other Crop*	**7.4**	**2**	**2-**	**2**	**22.2**	**175**	**92**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Katie Dunn* On behalf of NRM Date *16/02/24*

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-01-2024**

Report Reference: 64404/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
349815	1	FLD 29.05 0-15CM	4.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-01-2024**

Report Reference: 64404/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-01-2024**

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01977 555869

Reference: **64404/349815/24** Field Name: **FLD 29.05 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	48	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	23	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	16th February 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 30-01-2024
SAMPLED BY	
Report reference	64404/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 29.05 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
349815 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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EAST YORKSHIRE
YO25 9LY
Tel. : 01977 555869

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
30-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 64404/24

Date Received 07-Feb-24
Date Reported 16-Feb-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
349816/24	1	**FLD 29.06 0-15CM** *Into Other Crop*	**7.2**	**2**	**2-**	**3**	**19.2**	**134**	**122**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Katie Dunn* On behalf of NRM Date *16/02/24*

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-01-2024**

Report Reference: 64404/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
349816	1	FLD 29.06 0-15CM	3.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-01-2024**

Report Reference: 64404/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **16th February 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 30-01-2024**

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Reference: **64404/349816/24** Field Name: **FLD 29.06 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	54	
Silt (0.063 - 0.002mm) %	26	
Clay (< 0.002mm) %	20	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	16th February 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 30-01-2024
SAMPLED BY	
Report reference	64404/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
FLD 29.06 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
349816 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS RWE TOPSOIL 0-15

Sample Matrix : Agricultural Soil

Laboratory Reference

Card Number 65150/24

Date Received 23-Feb-24
Date Reported 06-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353128/24	1	**DBS RWE 29.07 TS** *No cropping details given*	**6.7**	**1**	**1**	**3**	**10.4**	**99**	**151**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 06/03/24

ANALYSIS REPORT

DATE **6th March 2024**

SAMPLES FROM **DBS RWE TOPSOIL 0-15**

Report Reference: 65150/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353128	1	DBS RWE 29.07 TS	5.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **6th March 2024**

SAMPLES FROM **DBS RWE TOPSOIL 0-15**

Report Reference: 65150/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **6th March 2024**

SAMPLES FROM **DBS RWE TOPSOIL 0-15**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65150/353128/24** Field Name: **DBS RWE 29.07 TS**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	47	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 6th March 2024
SAMPLES FROM DBS RWE TOPSOIL 0-15

SAMPLED BY

Report reference 65150/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*	*Lime (Arable)*	*(Grass)*
DBS RWE 29.07 TS	**Not Given / Not Given**	*Units/Acre*				*T/Ac* **0**	**0**
353128 / Medium		*Kg/Ha*				*Te/Ha* **0**	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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EAST YORKSHIRE
YO25 9LY
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
12-03-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66545/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359205/24	1	**29.08 TS 0-15CM** *Into Winter Wheat*	**7.0**	**1**	**1**	**2**	**15.4**	**97**	**98**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Myles Nicholson On behalf of NRM Date 08/04/24

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

Report Reference: 66545/24

DAVID ROYLE
LDCL
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359205	1	29.08 TS 0-15CM	5.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

Report Reference: 66545/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

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Reference: **66545/359205/24** Field Name: **29.08 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	57	
Silt (0.063 - 0.002mm) %	24	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 8th April 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 12-03-2024

SAMPLED BY

Report reference 66545/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
29.08 TS 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**68**	**92**		*T/Ac*	**0**
359205 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**115**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Client : DBS
TOPSOIL 0-20MM
12-03-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66545/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359204/24	1	**29.09 TS 0-15CM** *No cropping details given*	**7.0**	**1**	**1**	**3**	**13.2**	**94**	**106**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Myles Nicholson On behalf of NRM Date 08/04/24

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

Report Reference: 66545/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359204	1	29.09 TS 0-15CM	4.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

Report Reference: 66545/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 12-03-2024**

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Reference: **66545/359204/24** Field Name: **29.09 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	66	
Silt (0.063 - 0.002mm) %	18	
Clay (< 0.002mm) %	16	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 8th April 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 12-03-2024

SAMPLED BY

Report reference 66545/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime (Arable)*	*(Grass)*
29.09 TS 0-15CM	**Not Given / Not Given**	*Units/Acre*				*T/Ac*	**0**	**0**
359204 / Medium		*Kg/Ha*				*Te/Ha*	**0**	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
23-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65295/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353674/24	1	**29.10 TS 0-7.5CM** *Into Grassland*	**6.7**	**3**	**2+**	**2**	**37.2**	**196**	**94**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353674	1	29.10 TS 0-7.5CM	6.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65295/353674/24** Field Name: **29.10 TS 0-7.5CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	52	
Silt (0.063 - 0.002mm) %	26	
Clay (< 0.002mm) %	22	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 8th March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 23-02-2024

SAMPLED BY

Report reference 65295/24

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Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
29.10 TS 0-7.5CM	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0**
353674 / Medium		*Kg/Ha*				*Te/Ha*	**0**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE
YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
23-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65295/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353675/24	1	**29.11 TS 0-7.5CM** *Into Grassland*	**6.2**	**2**	**2-**	**3**	**20.2**	**123**	**109**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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COWSLIP OFFICES
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353675	1	29.11 TS 0-7.5CM	7.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65295/353675/24** Field Name: **29.11 TS 0-7.5CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	49	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	22	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 8th March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 23-02-2024

SAMPLED BY

Report reference 65295/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
29.11 TS 0-7.5CM	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0**
353675 / Medium		*Kg/Ha*				*Te/Ha*	**0**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
23-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65295/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353676/24	1	**29.11W TS 0-7.5** *Into Grassland*	**6.2**	**3**	**1**	**3**	**27.4**	**81**	**112**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353676	1	29.11W TS 0-7.5	8.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
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		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

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OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **65295/353676/24** Field Name: **29.11W TS 0-7.5**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	51	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	21	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th March 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 23-02-2024
SAMPLED BY	
Report reference	65295/24

DAVID ROYLE
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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
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Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
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Target Indices:
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Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
29.11W TS 0-7.5	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0**
353676 / Medium		*Kg/Ha*				*Te/Ha*	**0**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Client : DBS
TOPSOIL 0-20MM
23-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65295/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353677/24	1	**29.12 TS 0-7.5CM** *Into Grassland*	**5.9**	**1**	**2+**	**3**	**12.4**	**235**	**124**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353677	1	29.12 TS 0-7.5CM	8.5

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

DAVID ROYLE
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COWSLIP OFFICES
FIMBER
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65295/353677/24** Field Name: **29.12 TS 0-7.5CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	52	
Silt (0.063 - 0.002mm) %	27	
Clay (< 0.002mm) %	21	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 8th March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 23-02-2024

SAMPLED BY

Report reference 65295/24

DAVID ROYLE
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Fax:

Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
29.12 TS 0-7.5CM	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0.6**
353677 / Medium		*Kg/Ha*				*Te/Ha*	**1.6**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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EAST YORKSHIRE
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Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
23-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65295/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353678/24	1	**29.13 TS 0-7.5CM** *Into Grassland*	**5.9**	**0**	**2-**	**3**	**7.0**	**132**	**126**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353678	1	29.13 TS 0-7.5CM	7.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

DAVID ROYLE
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Reference: **65295/353678/24** Field Name: **29.13 TS 0-7.5CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	54	
Silt (0.063 - 0.002mm) %	26	
Clay (< 0.002mm) %	20	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 8th March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 23-02-2024

SAMPLED BY

Report reference 65295/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
29.13 TS 0-7.5CM	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0.6**
353678 / Medium		*Kg/Ha*				*Te/Ha*	**1.6**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
23-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65295/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353679/24	1	**29.14 TS 0-7.5CM** *Into Grassland*	**6.1**	**4**	**2-**	**3**	**51.0**	**169**	**117**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

DAVID ROYLE
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Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353679	1	29.14 TS 0-7.5CM	8.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65295/24

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Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

DAVID ROYLE
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **65295/353679/24** Field Name: **29.14 TS 0-7.5CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	48	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th March 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 23-02-2024
SAMPLED BY	
Report reference	65295/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
29.14 TS 0-7.5CM	**Not Given / Grassland**	*Units/Acre*				*T/Ac*	**0**
353679 / Medium		*Kg/Ha*				*Te/Ha*	**0**

In the first season after Autumn or Spring sowing, deduct the amount of phosphate and potash applied to the seedbed from the recommendations.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
23-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65296/24

Date Received 27-Feb-24
Date Reported 08-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
353680/24	1	**29.15 TS 0-7.5CM** *Into Other Crop*	**5.8**	**4**	**2+**	**3**	**57.4**	**188**	**133**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 08/03/24

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65296/24

DAVID ROYLE
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COWSLIP OFFICES
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DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
353680	1	29.15 TS 0-7.5CM	8.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

Report Reference: 65296/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 23-02-2024**

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Reference: **65296/353680/24** Field Name: **29.15 TS 0-7.5CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	50	
Silt (0.063 - 0.002mm) %	26	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th March 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 23-02-2024
SAMPLED BY	
Report reference	65296/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
29.15 TS 0-7.5CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**2.5**
353680 / Medium		*Kg/Ha*				*Te/Ha*	**6.3**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66549/24

Date Received 25-Mar-24
Date Reported 10-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359228/24	1	**30.01N TS 0-15CM** *Into Other Crop*	**7.1**	**3**	**2+**	**2**	**37.6**	**192**	**67**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 10/04/24

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359228	1	30.01N TS 0-15CM	4.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

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Tel: 01377 236010

Reference: **66549/359228/24** Field Name: **30.01N TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	69	
Silt (0.063 - 0.002mm) %	19	
Clay (< 0.002mm) %	12	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	10th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 14-02-2024
SAMPLED BY	
Report reference	66549/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
30.01N TS 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
359228 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66549/24

Date Received 25-Mar-24
Date Reported 10-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359229/24	1	**30.01S TS 0-15CM** *Into Other Crop*	**7.6**	**3**	**2-**	**2**	**29.2**	**156**	**63**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 10/04/24

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359229	1	30.01S TS 0-15CM	4.3

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **66549/359229/24** Field Name: **30.01S TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	58	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	17	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	10th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 14-02-2024
SAMPLED BY	
Report reference	66549/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
30.01S TS 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
359229 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65061/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352736/24	1	**30.02 T/S 0-15CM** *Into Winter Wheat*	**6.8**	**2**	**2-**	**2**	**18.0**	**148**	**80**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Katie Dunn* On behalf of NRM Date *01/03/24*

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352736	1	30.02 T/S 0-15CM	4.4

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

DAVID ROYLE
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Tel: 01377 236010

Reference: **65061/352736/24** Field Name: **30.02 T/S 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	45	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	24	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 31-01-2024

SAMPLED BY

Report reference 65061/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
30.02 T/S 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**44**	**68**		*T/Ac*	**0**
352736 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**55**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66549/24

Date Received 25-Mar-24
Date Reported 10-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359230/24	1	**30.02N TS 0-15CM** *Into Potatoes Main*	**7.6**	**2**	**2-**	**2**	**22.0**	**129**	**78**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 10/04/24

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359230	1	30.02N TS 0-15CM	3.9

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

DAVID ROYLE
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Reference: **66549/359230/24** Field Name: **30.02N TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	57	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	18	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 10th April 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 14-02-2024

SAMPLED BY

Report reference 66549/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
30.02N TS 0-15CM	**Not Given / Potatoes**	*Units/Acre*	**136**	**240**	**32**	*T/Ac*	**0**
359230 / Medium	**(Yield: 50 t/ha)**	*Kg/Ha*	**170**	**300**	**40**	*Te/Ha*	**0**

The phosphate recommendations are intended to achieve optimum yield and should not be adjusted even if larger or smaller yields than 50 t/ha are expected. However, the potash recommendation at target or lower indices can be adjusted when yield is likely to be larger or smaller than 50t/ha by multiplying the difference in expected yield by 5.8kg/t. The amount of phosphate recommended for soils at P Index 2 or 3 is more than sufficient to replace the phosphate removed by a 50 t/ha crop (about 50 kg P2O5). The surplus phosphate will help to maintain the soil at a target P Index 2 for an arable crop rotation and should be allowed for when assessing the need for phosphate for following crops. On soils at P Index 0 and 1 the surplus phosphate will help increase the soil P Index and no allowance should be made when deciding the phosphate requirement of a subsequent crop. On soils at P Index 2 or below a large proportion of the phosphate should be water-soluble. The amount of potash recommended at K Index 2 will only replace the amount removed by a 50 t/ha crop and potash should be applied for the next crop in the rotation to maintain the soil at K Index 2. The extra amounts of potash shown for K Index 0 and 1 soils will slowly increase the soil K Index. All the phosphate should be applied in the spring and either worked into the seedbed or placed at planting. Where more than 300 kg K2O/ha is required, apply half in late autumn/winter and half in spring. On light sandy soils, all the potash fertiliser should be applied after ploughing and no sooner than late winter. These recommendations should be used for both bed and ridge furrow systems. Where fertiliser is placed, a small reduction in the recommended rate of phosphate could be considered.
Potato crops are not generally thought to be responsive to sulphur. However, atmospheric sulphur emissions have declined significantly and a yield response is possible. If deficiency does occur, it is most likely to show first in crops grown on deep sand soils with low organic matter and in areas that are well away from industrial pollution. Farmers are advised to monitor the sulphur requirements of their crops. Where sulphur deficiency has previously occurred or is expected, apply 25kgSO3/ha as a sulphate containing fertiliser in the seed bed. When grown in soil with a good structure, potatoes are capable of producing extensive root systems that are efficient in taking up water and nutrients, therefore every effort should be made to ensure seedbeds are free of compaction. The value of potato crop is dictated by the marketable yield, not the total yield, and, in consequence, decisions about fertiliser rates should be considered together with factors such as site selection and seed rates. Because of the wide range of varietal characteristics and quality requirements for different market outlets, guidance from a FACTS Qualified Adviser should be used when making decisions for specific crops.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

Contact : DAVID ROYLE
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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66549/24

Date Received 25-Mar-24
Date Reported 10-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359231/24	1	**30.03 TS 0-15CM** *Into Other Crop*	**6.7**	**2**	**1**	**2**	**17.8**	**87**	**96**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 10/04/24

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359231	1	30.03 TS 0-15CM	5.7

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

DAVID ROYLE
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Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

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Tel: 01377 236010

Reference: **66549/359231/24** Field Name: **30.03 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	51	
Silt (0.063 - 0.002mm) %	27	
Clay (< 0.002mm) %	22	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	10th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 14-02-2024
SAMPLED BY	
Report reference	66549/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
30.03 TS 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
359231 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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EAST YORKSHIRE
YO25 9LY
Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
31-01-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 65061/24

Date Received 21-Feb-24
Date Reported 01-Mar-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
352737/24	1	**30.04 T/S 0-15CM** *Into Winter Wheat*	**6.7**	**1**	**2+**	**3**	**14.4**	**197**	**122**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Katie Dunn On behalf of NRM Date 01/03/24

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
352737	1	30.04 T/S 0-15CM	4.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

Report Reference: 65061/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **1st March 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 31-01-2024**

DAVID ROYLE
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Reference: **65061/352737/24** Field Name: **30.04 T/S 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	34	
Silt (0.063 - 0.002mm) %	33	
Clay (< 0.002mm) %	33	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 1st March 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 31-01-2024

SAMPLED BY

Report reference 65061/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
30.04 T/S 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**68**	**44**		*T/Ac*	**0**
352737 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**55**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
14-02-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66549/24

Date Received 25-Mar-24
Date Reported 10-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359232/24	1	**30.05 TS 0-15CM** *Into Other Crop*	**7.0**	**1**	**2-**	**3**	**14.4**	**162**	**125**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Sandy Cameron On behalf of NRM Date 10/04/24

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359232	1	30.05 TS 0-15CM	4.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

Report Reference: 66549/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **10th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 14-02-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **66549/359232/24** Field Name: **30.05 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	40	
Silt (0.063 - 0.002mm) %	31	
Clay (< 0.002mm) %	29	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	10th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 14-02-2024
SAMPLED BY	
Report reference	66549/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
30.05 TS 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
359232 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
13-03-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66546/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359210/24	1	**30.06 TS 0-15CM** *Into Other Crop*	**6.8**	**1**	**1**	**1**	**13.4**	**97**	**49**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Myles Nicholson* On behalf of NRM Date *08/04/24*

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-03-2024**

Report Reference: 66546/24

DAVID ROYLE
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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359210	1	30.06 TS 0-15CM	5.8

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-03-2024**

Report Reference: 66546/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-03-2024**

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **66546/359210/24** Field Name: **30.06 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	48	
Silt (0.063 - 0.002mm) %	30	
Clay (< 0.002mm) %	22	
Textural Classification	Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 13-03-2024
SAMPLED BY	
Report reference	66546/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
30.06 TS 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
359210 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
13-03-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66546/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359211/24	1	**31.01 TS 0-15CM** *Into Other Crop*	**7.7**	**1**	**2-**	**2**	**12.2**	**144**	**60**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Myles Nicholson On behalf of NRM Date 08/04/24

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-03-2024**

Report Reference: 66546/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359211	1	31.01 TS 0-15CM	4.6

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-03-2024**

Report Reference: 66546/24

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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-03-2024**

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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **66546/359211/24** Field Name: **31.01 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	53	
Silt (0.063 - 0.002mm) %	28	
Clay (< 0.002mm) %	19	
Textural Classification	Sandy Clay Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 13-03-2024
SAMPLED BY	
Report reference	66546/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
31.01 TS 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
359211 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
13-03-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66546/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359212/24	1	**31.02 TS 0-15CM** *Into Other Crop*	**7.1**	**1**	**1**	**1**	**12.0**	**107**	**47**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Myles Nicholson On behalf of NRM Date 08/04/24

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-03-2024**

Report Reference: 66546/24

DAVID ROYLE
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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359212	1	31.02 TS 0-15CM	4.0

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-03-2024**

Report Reference: 66546/24

DAVID ROYLE
LDCL
COWSLIP OFFICES
FIMBER
DRIFFIELD
EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-03-2024**

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Tel: 01377 236010

Reference: **66546/359212/24** Field Name: **31.02 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	56	
Silt (0.063 - 0.002mm) %	26	
Clay (< 0.002mm) %	18	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE	8th April 2024
SAMPLES FROM	DBS, TOPSOIL 0-20MM, 13-03-2024
SAMPLED BY	
Report reference	66546/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.
For Vegetables and Bulbs:
There are instances where small amounts of phosphate fertiliser placed beneath seedlings or transplants can improve establishment, early growth and subsequent use of nutrients. The use of thses techniques is encouraged but the amount in any starter close applied should be deducted from the total application required.
Some vegetable crops are susceptible to magnesium deficiency and may show yield responses to magnesium fertiliser on soils at Mg Index 0 and 1. Magnesium recommendations for all field vegetable crops are for 150kg MgO/ha at Index 0 and 100kg MgO/ha at Index 1.
There is evidence that Brassica crops respond to Sulphur. Where sulphur deficiency has been recognised or is expected in vegetable Brassicas, apply 50-75 kg/ha SO3. For other vegetable crops there have been no UK trials, but because of the decline in atmospheric sulphur emissions a yield response is possible. Where sulphur deficiency has been recognised or is expected in other vegetable crops, apply 25 kg/ha SO3. Sulphur should be applied as a sulphate-containing fertiliser at or soon after planting. Crops are most at risk of sulphur deficiency where they are grown on light sandy soils, soils with a low organic matter content, and in high rainfall areas.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
31.02 TS 0-15CM	**Not Given / Other Crop**	*Units/Acre*				*T/Ac*	**0**
359212 / Medium		*Kg/Ha*				*Te/Ha*	**0**

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYSIS REPORT

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Tel. : 01377 236010

J143

Please quote the above code for all enquiries

Client : DBS
TOPSOIL 0-20MM
13-03-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66546/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359213/24	1	**31.03 TS 0-15CM** *Into Winter Wheat*	**6.8**	**1**	**1**	**2**	**11.4**	**108**	**57**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by *Myles Nicholson* On behalf of NRM Date *08/04/24*

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-03-2024**

Report Reference: 66546/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359213	1	31.03 TS 0-15CM	4.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
Grassland (Lowland)	All	Light	<=2.1	2.2-4.9	5.0-7.9	8.0-14.9
		Medium	<=3.4	3.5-6.4	6.5-9.3	9.3-19.9
		Heavy	<=4.6	4.7-7.6	7.7-10.5	10.6-19.9

ANALYSIS REPORT

DATE **8th April 2024**

SAMPLES FROM **DBS, TOPSOIL 0-20MM, 13-03-2024**

Report Reference: 66546/24

DAVID ROYLE
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Explanatory Note: Cropping

High	Above average and associated with crop residues returns and regular OM inputs, including ley-arable rotations. Organic and conservation agricultural systems would appear in this group.	On target --- **Continue Rotational Monitoring**
Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
Low	Lower than average for the climate and soil type, intensively managed or recently reseeded and/or low OM inputs. If the soil is compacted and regularly poached by livestock, then OM soil incorporation by biological activity will have been reduced.	Lower than average --- **Review**
Very Low	Very low for climate/soil type. Intensively managed or recently reseeded and/or very low OM inputs. If the soil is compact and regularly poached by livestock, then OM incorporation by biological activity will have been reduced. Add more OM inputs to build SOM levels.	Very Low --- **Investigate**

Traffic light system: These advisory categories only apply to mineral soils. The benchmarks **are not appropriate for peats/ organic soils, i.e. soils with >20% organic matter to 40cm depth.**

In grassland situations only: SOM results >=15% on light & >=20% on med/heavy soil types suggest accumulation at the soil surface often indicating poor biological activity due to soil acidity or wetness on mineral soils.

Cropping & grassland: There is no defined **critical SOM value to aim for,** feeding the soil with organic inputs is more important than reaching an absolute target value.

Please note: A different set of benchmarks would also be required for upland grass and semi-natural systems.

OM = Organic Matter, **SOM** = Soil Organic Matter

Reference: ADHB-BBRO Soil Biology & Soil Health Partnership protocol and benchmarking document July 2022. Rainfall categories for the SOM benchmarks in AHDB report:91140002 final report 02.pdf (windows.net) see pages 7-11, based on work originally in Defra project SP0310

MICRO NUTRIENT REPORT

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EAST YORKSHIRE YO25 9LY
Tel: 01377 236010

Reference: **66546/359213/24** Field Name: **31.03 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	59	
Silt (0.063 - 0.002mm) %	25	
Clay (< 0.002mm) %	16	
Textural Classification	Sandy Loam	**1**

Notes (*)

(1) In calcareous soils the sand, silt and clay sized fractions are likely to contain particles of carbonate which may result in the incorrect classification of soil type.

ANALYSIS REPORT

DATE 8th April 2024
SAMPLES FROM DBS, TOPSOIL 0-20MM, 13-03-2024

SAMPLED BY

Report reference 66546/24

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Fertiliser Recommendations

The phosphate and potash recommendations shown below, are those required to replace the offtake and maintain target soil indices. The larger recommended applications for soils below target index will allow the soil to build up to this target index over a number of years. Not applying fertiliser to soils which are above target index will allow the soil to run down over a number of years to the target index.
The recommendation should be increased or decreased where yields are substantially more or less than that specified. The amount to apply can be calculated using the expected yield and values for the offtake of phosphate and potash per tonne of yield given in the RB209 9th edition.
All recommendations are given for the mid-point of each Index.
Where a soil analysis value (as given by the laboratory) is close to the range of an adjacent Index, the recommendation may be reduced or increased slightly taking account of the recommendation given for the adjacent Index. Small adjustments of less than 10 kg/ha are generally not justified.
Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
Don't forget to deduct nutrients applied as organic manures.
For Nitrogen recommendations please refer to the RB209 9th edition or seek advice from an FACTS qualified adviser.
Target Indices:
Arable, Forage, Grassland and Potato Crops: P Index 2, K Index 2-
(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
31.03 TS 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**68**	**92**		*T/Ac*	**0**
359213 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**115**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

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Client : DBS
TOPSOIL 0-20MM
13-03-2024

Sample Matrix : Agricultural Soil

Laboratory Reference
Card Number 66546/24

Date Received 25-Mar-24
Date Reported 08-Apr-24

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details			Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details	Soil pH	P	K	Mg	P	K	Mg
359214/24	1	**31.04 TS 0-15CM** *Into Winter Wheat*	**7.1**	**1**	**2-**	**2**	**10.0**	**122**	**70**

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.
The analytical methods used are as described in DEFRA Reference Book 427
The index values are determined from the AHDB Fertiliser Recommendations RB209 9th Edition.

Released by Myles Nicholson On behalf of NRM Date 08/04/24

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Report Reference: 66546/24

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Lab Ref.	Field Details		Soil Organic Matter [LOI%] Result
	No.	Field Name or Reference	
359214	1	31.04 TS 0-15CM	4.2

Your Organic Matter Results Interpretation

Land use	Rainfall	Soil type	Very Low	Low	Target	High
Arable	Low <650mm	Light	<=1.0	1.1-2.1	2.2-3.2	>=3.3
		Medium	<=1.7	1.8-3.3	3.4-5.0	>=5.1
		Heavy	<=2.2	2.3-4.4	4.5-6.5	>=6.6
	Moderate 650-800mm	Light	<=1.0	1.1-3.0	3.1-4.5	>=4.6
		Medium	<=1.9	2.0-4.0	4.1-6.0	>=6.1
		Heavy	<= 2.7	2.8-5.2	5.3-7.6	>=7.7
	High 800-1100mm	Light	<=1.3	1.4-3.7	3.8-6.1	>=6.2
		Medium	<=2.5	2.6-5.0	5.1-7.5	>=7.6
		Heavy	<=3.6	3.7-6.2	6.3-8.8	>=8.9
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Typical	Typical levels and is associated with crop residue returns and regular OM inputs, such as cover crops, compost or FYM.	
Low	Lower than average associated with intensive cropping & few organic matter inputs. Plan to add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Lower than average --- **Review**
Very Low	Very low associated with very intensive cropping and very few organic matter returns. Plan to regularly add OM inputs and retain crop residues in the field. **Be aware: changes in SOM as a result of a change in practice can take a long time.**	Very Low --- **Investigate**

Explanatory Note: Grassland Fields [Lowland]

High	Above average for the climate and soil type. Well drained, near neutral pH, well managed returns through grazing and inputs. Be aware that high levels could suggest an accumulation of undecomposed SOM near the soil surface due to a deteriorating pH and drainage, for example due to compaction.	On target --- **Continue Rotational Monitoring**
Typical	Typical for the climate and soil type. Associated with well drained near neutral pH, well managed returns through grazing and inputs.	
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Reference: **66546/359214/24** Field Name: **31.04 TS 0-15CM**	**Result**	**(*)**
Sand (2.00 - 0.063mm) %	53	
Silt (0.063 - 0.002mm) %	29	
Clay (< 0.002mm) %	18	
Textural Classification	Sandy Loam	**1**

Notes (*)

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SAMPLED BY

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Fertiliser Recommendations

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Efficient use of P and K is most likely to be achieved on soils that are well structured and enable good rooting.
For visual evaluation of soil structure (VESS), a score on 1 or 2 would be considered adequate.
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(In rotations where most crops are Autumn-sown, soils are in good condition and P is applied annually, high index 1 can be an adequate target.)
Vegetables and Bulbs: P Index 3, K Index 2+
(If vegetables are only grown occasionally as part of an arable rotation, it would be most economic to target index 2 for arable and forage crops.)
Fruit Vines and Hops: P Index 2, K Index 2, Mg Index 2
(Note: Cider apples respond to K Index 3, Mg Index 3)
A lime recommendation is usually for a 20cm depth of cultivated soil or a 15cm depth of grassland soil. Where soil is acid below 20 cm and soils are ploughed for arable crops, a proportionately larger quantity of lime should be applied. However, if more than 10 t/ha is needed, half should be deeply cultivated into the soil and ploughed down, with the remainder applied to the surface and worked in.
For established grassland or other situations where there is no, or only minimal soil cultivation, no more than 7.5 t/ha of lime should be applied in one application.
In these situations, applications of lime change the pH below the surface very slowly. Consequently, the underlying soil should not be allowed to become too acidic because this will affect the root growth and thus limit nutrient and water uptake, which will adversely affect yield.

Field Name / Ref / Soil Type	*Last Crop / Next Crop*		*P2O5*	*K2O*	*MgO*		*Lime*
31.04 TS 0-15CM	**Not Given / W Wheat**	*Units/Acre*	**68**	**68**		*T/Ac*	**0**
359214 / Medium	**(Yield: 8 t/ha) / Straw Removed**	*Kg/Ha*	**85**	**85**		*Te/Ha*	**0**

At Index 2, phosphate and potash can be applied when convenient during the year but at Index 0 and 1, they should be applied and worked into the seedbed.
At Mg Index 0, magnesium fertiliser should be applied every 3-4 years at 50 to 100 kg MgO/ha.
Monitoring sulphur requirements of crops is advisable because the risk of deficiency is increasing, as atmospheric deposition of sulphur declines. Not all cereal crops will require sulphur and the responsiveness of a crop to the application of sulphur is dependant on soil texture and winter rainfall. Where deficiency has been recognised or is expected in winter or spring-sown cereals, apply 25-50 kg SO3/ha as a sulphate-containing fertiliser in early March to end of April for all cereals, taking into account the drilling date.

Fertiliser recommendations are based on **AHDB RB209 (Ninth Edition).** If a nutrient is deficient and no recommendation is given, either no recommendation is given in RB209 or we have insufficient data to give a recommendation. Apply Lime to the nearest half Ton / Tonne.
NRM is a UKAS accredited laboratory to ISO/IEC 17025

ANALYTICAL REPORT

Report Number	**38474-24**	**J143**	**DAVID ROYLE**	**Client**	**DBS**
Date Received	**04-JUN-2024**		**LDCL**		**SOIL 31-05-2024**
Date Reported	**01-JUL-2024**		**COWSLIP OFFICES**		
Project	**SOIL**		**FIMBER**		
Reference	**DBS**		**DRIFFIELD**		
Order Number			**EAST YORKSHIRE YO25 9LY**		

Laboratory Reference		**SOIL700525**	**SOIL700526**	**SOIL700527**	**SOIL700528**	**SOIL700529**					
Sample Reference		**TP1 TS**	**TP1 UPPER SS**	**TP1 LOWER SS**	**TP4 TS**	**TP4 SS**					
Determinand	**Unit**	**SOIL**	**SOIL**	**SOIL**	**SOIL**	**SOIL**					
Sand 2.00-0.063mm	% w/w	62	58	41	45	33					
Silt 0.063-0.002mm	% w/w	22	25	38	30	36					
Clay <0.002mm	% w/w	16	17	21	25	31					
Textural Class **		SL	SL	MCL	MCL	HCL					

Notes

Analysis Notes

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

Document Control

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

Reported by

Teresa Clyne

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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.

ANALYTICAL REPORT

Report Number	**38625-24**	**J143**	**DAVID ROYLE**	**Client**	**DBS SOIL 31-05-2024**
Date Received	**04-JUN-2024**		**LDCL**		
Date Reported	**01-JUL-2024**		**COWSLIP OFFICES**		
Project	**SOIL**		**FIMBER**		
Reference	**DBS**		**DRIFFIELD**		
Order Number			**EAST YORKSHIRE YO25 9LY**		

Laboratory Reference		**SOIL700711**	**SOIL700712**	**SOIL700713**
Sample Reference		**TP3 TS**	**TP3 SS**	**TP3 LSS**
Determinand	**Unit**	**SOIL**	**SOIL**	**SOIL**
Sand 2.00-0.063mm	% w/w	50	30	42
Silt 0.063-0.002mm	% w/w	24	32	30
Clay <0.002mm	% w/w	26	38	28
Textural Class **		SCL/MCL	C	HCL

Notes

Analysis Notes

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

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Class	Code
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Loamy sand	LS
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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).

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ANALYTICAL REPORT

Report Number	**38475-24**	**J143**	**DAVID ROYLE**	**Client**	**DBS**
Date Received	**04-JUN-2024**		**LDCL**		**SOIL 31-05-2024**
Date Reported	**01-JUL-2024**		**COWSLIP OFFICES**		
Project	**SOIL**		**FIMBER**		
Reference	**DBS**		**DRIFFIELD**		
Order Number			**EAST YORKSHIRE YO25 9LY**		

Laboratory Reference		**SOIL700530**	**SOIL700531**	**SOIL700532**	**SOIL700533**	**SOIL700534**					
Sample Reference		**TP5 TS**	**TP5 UPPER SS**	**TP5 LOWER SS**	**TP2 TS**	**TP2 SS**					
Determinand	**Unit**	**SOIL**	**SOIL**	**SOIL**	**SOIL**	**SOIL**					
Sand 2.00-0.063mm	% w/w	46	40	82	52	44					
Silt 0.063-0.002mm	% w/w	15	19	5	22	27					
Clay <0.002mm	% w/w	39	41	13	26	29					
Textural Class **		O-SC	C	SL	SCL	HCL					

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.

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

Reported by

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ADAS (UK) Textural Class Abbreviations

The texture classes are denoted by the following abbreviations:

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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

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- 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).

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