Patrick Stephenson Ltd
Agricultural Consultants

LAND CAPABILITY CLASSIFICATION FOR AGRICULTURE REPORT

Westport BESS

Proposed Development

April 2025

Prepared by: Patrick Stephenson BSc (Hons) Agriculture

Contents

1.0 Introduction

Patrick Stephenson Limited was approached by Arthian Ltd. (Arthian) on behalf of Westport Energy Storage Ltd, to undertake a detailed Agricultural Land Capability Survey of the agricultural land quality at Westport, Killoch. (Grid Ref NS 48112089). The site is for the construction and operation of a Battery Energy Storage System (BESS) development and its associated infrastructure.

Patrick Stephenson has a degree in Agriculture from Newcastle University, has undertaken the Ministry of Agriculture, Fisheries and Food (MAFF)[1] Agricultural Soil and Land Classification course and has the passed the BASIS Soil and Water exam. He has over 30 years' experience in Environmental Impact Assessments and ALC studies.

1.1 Method

The method used to create this report was primary research in the form of a detailed-on site ALC survey, following the guidelines and criteria as stated in the documents listed below.

- *The Revised Guidelines and Criteria for Grading the Quality of Agricultural Land* DEFRA 1988[1]
- *The Macaulay Institute for Soil Research Aberdeen. 1984 Soil Survey of Scotland* outlined the method and organisation for the grading of land[2].
- "Specifications for Topsoil" British Standards Institute
- Soil Survey of Scotland Staff (1970-1987). Soil maps of Scotland (partial coverage). Digital version 10 release. James Hutton Institute, Aberdeen. DOI 10.5281/zenodo. 6908156.

Survey work was carried out on a parcel of land covering approximately 18 ha. Soil was examined using a one metre handheld Dutch Auger at one hundred metre intervals and GPS located. The soil profile at each sample location was described using the *Soil Survey Field Handbook: Describing and Sampling Soil Profiles* (Ed. J.M. Hodgson, Cranfield University, 1997)[2]. *The Macaulay Institute for Soil Research Aberdeen. 1984 Soil Survey of Scotland* outlined the method and organisation for the grading of the land. Representative soil samples were taken from the soil pits to confirm soil type and the physical and chemical characteristics (Appendix 8). Additional boring and soil pits were dug to confirm soil boundaries.

[1] The Ministry of Agriculture, Fisheries and Food (MAFF) was incorporated within the Department for Environment, Food and Rural Affairs (Defra) in June 2001

[2] Soil Survey Technical Monograph No 5 Soil Survey Handbook Describing and Sampling Soil Profiles J. M Hodgson 1974 1997

1.2 Secondary Research

Desktop research was conducted alongside the fieldwork as described in the method statement, to establish if the Proposed Development would have an effect on Prime Agricultural Land (PAL), which is defined by Macaulay as Grades 1, 2, 3 Division 1. The following sources were used to help in compiling the report.

- Soil Survey of Scotland 1950's to 1980's Sheet 14 and Pt 13.
- Goole viewed on Google Maps (Tele Atlas 2012)
- Natural England MAGIC web site (http://magic.defra.gov.uk/website/magic)
- Handbook Soil Survey of Scotland. Book 5.
- The Ordnance Survey Landranger 70 1:50,000
- The British Geological Survey Digital Mapping (49)
- Land Capabilty for Agriculture in Scotland.
- National Soil Map of Scotland.

1.3 Planning Policy

Current planning policy is found in the National Planning Framework 4 (NPF4) 4 (published 13th February 2023)[3] and East Ayrshire Local Development Plan Volume 1[4].

From NPF4 Policy 5: Soils:

a) *"Development proposals will only be supported if they are designed and constructed:*
   i) *In accordance with the mitigation hierarchy by first avoiding and then minimising the amount of disturbance to soils on undeveloped land; and*
   ii) *In a manner that protects soil from damage including from compaction and erosion, and that minimises soil sealing.*

b) *Development proposals on prime agricultural land, or land of lesser quality that is culturally or locally important for primary use, as identified by the LDP, will only be supported where it is for:*

[3] Scottish Government: National Planning Framework 4. Available online: National Planning Framework 4: Revised Draft

[4] East Ayrshire Council Local Development Plan. Available online: LDP2 - Proposed PLan - Volume 1 - April 2024

i) *Essential infrastructure and there is a specific locational need and no other suitable site;*
ii) *Small-scale development directly linked to a rural business, farm or croft or for essential workers for the rural business to be able to live onsite.*
iii) *The development of production and processing facilities associated with the land produce where no other local site is suitable.*
iv) *The generation of energy from renewable sources or the extraction of minerals and there is secure provision for restoration; and*

In all the above exceptions, the layout and design of the proposal minimises the amount of protected land that is required."

From East Ayrshire Local Development Plan Volume 1 Policy NE10: Protection of Agricultural Land:

"The Council will seek to ensure that there is no unacceptable and irreversible loss of prime quality and good quality, locally important agricultural land. Prime quality land is defined as land identified in classes 2 and 3.1 on the Macauley Land Capability for Agriculture maps of Scotland. Good quality, locally important agricultural land is defined as land identified in class 3.2 on these maps."

2.0 Location

"The Site" is located to the North of the A70 and above the disused Killoch mine centred on Grid Ref NS 48112089.

2.1 Site characteristics

The topographical survey shows that the site slopes from approximately 168.49 metres Above Ordnance Datum (m AOD) in the south-east in the north-eastern boundary to 133.61m AOD in the northern boundary. The geology of the area is described in the *Soils of Scotland* as having parent material of Coal Measure Marls and being Non-Calcareous Marls. The British Geological Survey describes the geology as Mauchline volcanic formation with

igneous bedrock. This is further supplemented with superficial cover of Till Devensian diamicton sedimentary. The described soil types are Drongan soils imperfectly drained, and Killoch poorly drained.

2.2 Climate and Relief

Climate has a major, and in places overriding, influence on land quality affecting both the range of potential agricultural uses and the cost and level of production.

There is published agro-climatic data for Scotland provided by the Meteorological Office. Data for the area as used by The Macauley Institute provided the following data.

Table 1 - Agro-Climatic Data (Girvan Met Station nearest)

Grid Reference	NS 48112089
Altitude (ALT)	163 M
Average Annual Rainfall (AAR)	1072 mm
Accumulated temperature above 0°C January- June Lower Quartile Value	1630
Field Capacity Days	232

The main parameters used in assessing the climatic limitation are average annual rainfall (AAR), as a measure of overall wetness; and accumulated temperature, as a measure of the relative warmth of a locality. The surveyed site would have restrictions and could not be classified as Grade 1 and 2

Most of the site is not within a flood risk area however, Trabboch Burn will have areas of localised flooding.

3.0 Land Use

The current cropping is grassland.

4.0 Land Quality

The Macaulay Institute for Soil Research Aberdeen. 1984 Soil Survey of Scotland outlined the method and organisation for the grading of land. This amalgamated the data available and completed the survey of all land in Scotland. The Lowland productive areas had largely been covered at a scale of 1:63 360 maps. These maps were made by taking samples of between 5 and 15 per square kilometre and were used to comply the Land Use Capability maps and soil formations. The 1984 amalgamations produced an ALC system classifies land into 1 through to 7 classes, with Grade 3 and 4 having 2 divisions and Grades 5 and 6 three divisions. Prime Agricultural Land (PAL) is classed as land in Grades 1, 2, and 3 Division 1. Although the 1984 survey provides good guidance of the likelihood of finding PAL, for planning purposes a detailed PAL survey should be carried out. The land surveyed only contained land within the range Class 4.

PAL is based on the long-term physical limitations of land for agricultural use. Factors affecting the Grade are climate, site and soil characteristics.

- **Climate:** temperature and rainfall; aspects, exposure and frost risk
- **Site**: gradient, micro relief and flood risk
- **Soil:** texture, structure, depth and stoniness; chemical properties which cannot be corrected

The combination of climate and soil factors determines soil wetness and droughtiness. Wetness and droughtiness influence the choice of crops grown and the level and consistency of yields, as well as use of land for grazing livestock. The PAL is also concerned with the inherent potential of land under a range of farming systems. The current agricultural use, or intensity of use, does not affect the PAL Grade. The physical limitations of land have four main effects on the way land is farmed. These are:

- the range of crops which can be grown
- the level of yield
- the consistency of yield
- the cost of obtaining the crop

Higher Grade land should provide greater flexibility in the range of crops that can be grown (its 'versatility') and require lower inputs. The higher Grades (1, 2, 3 Division 1) also consider the ability to produce consistently high yields of a narrower range of crops.

Definitions of Land Classification Grades

Land suited to arable cropping.

Class 1 - Land capable of producing a very wide range of arable crops Cropping is highly flexible and includes the more exacting crops such as winter harvested vegetables. The levels of yield are consistently high.

Class 2- Land capable of producing a wide range of arable crops Cropping is very flexible and a wide range of crops may be grown but difficulties with winter vegetables may be encountered in some years. The level of yield is high but less consistently obtained than in Class 1.

Class 3 - Land capable of producing a moderate range of crops.

Division I - The land can produce consistently high yields of a narrow range of crops (cereals and grass) or moderate yields of a wider range (potatoes, field beans and other vegetables and root crops). Grass leys of short duration are common.

Division 2 - The land is capable of average production, but high yields of grass, barley and oats are often obtained. Grass leys are common and longer than in Division 1.

Class 4 - Land capable of producing a narrow range of crops.

Division 1 - Long ley grassland is commonly encountered but the land can produce some forage crops and cereal for stock.

Division 2 - Primarily grassland with some limited potential for other crops.

5.0 Published Survey Information

The Provisional PAL amalgamated organisation and method document 1984 carried out by *Macauley Institute for Soil Research Aberdeen*, (updated 19/06/2024) showed the whole surveyed site to be Grade 4 Division 1 and 2. These reports are based on assessments 1:65,000 or 1:250,000 and are purely for guidance purposes.

6.0 Survey Results

The field survey work was carried out in accordance with the method described in the PAL Guidelines. The presence of stones restricted auger borings to a maximum of 1000mm. Confirmation of soil types and physical details was supported by the laboratory results in Appendix 8.

The following soil grades were found within the survey area. Appendix 3 has a description of the sample point profiles. Appendix 4 has a map showing the respective grades and details of auger boring points. Table 3 shows a summary of the ALC grades found on the site as shown in Appendix 2.

Table 3 Summary of ALC Grades

Grade/Subgrade	Approximate Area Ha	Area %
4 Division 1	12	67.00
4 Division 2	6	33.00
Total	18	100

The detailed survey showed that the topsoil's were predominantly silty sandy loam, with smaller areas of sandy clay loam and sandy loam. The topsoil depth varied between 250 mm and 350 mm. Subsoils varied between 250 and 1000 mm in depth across the site. Sub-soils were predominantly coarse sandy clay loams and clay loams. Medium stones were common on the sloped area in the north of the site. The main grade limits were wetness, slope and topsoil depth.

4 Division 1:

This was the larger part of the site and was located to the north of the site down to Trabboch Burn. Lighter soils generally varying from sandy loam to sandy silty loam. Stones were more common and often depth was restricted by the presence of stones. There was a distinct boundary to the subsoil and gleying was common at depth. Occasional arable crops maybe possible. Grade restricted by wetness class, slope, and stone content.

4 Division 2

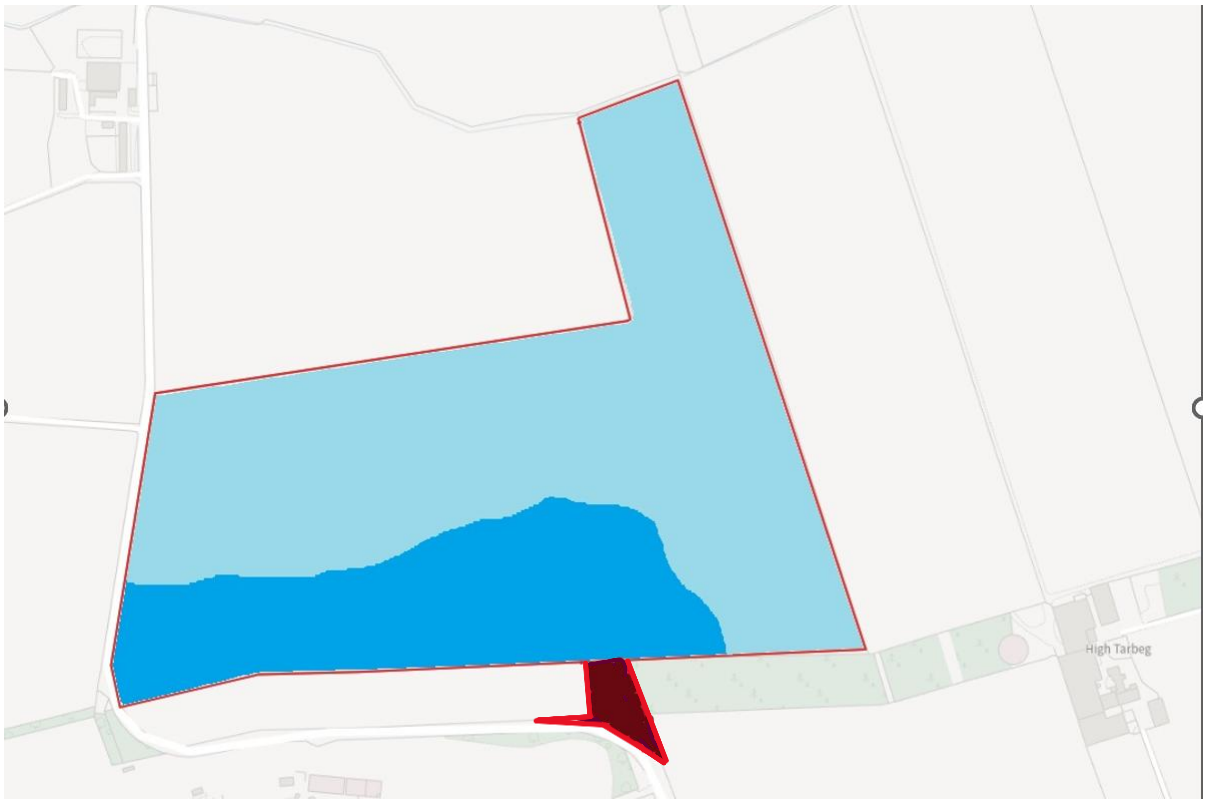
These soils are sandy silty loams to sandy clay loams water was common down the profile. Subsoils were clay loam dominated and had gleying throughout. Stones less common but present along with coal and iron ore particles. Less suitable for arable cropping. Grade restricted by wetness class

7.0 Conclusion

The published works shows the entire site to be 4 division 1 and 2. The detailed survey confirms that both Class 4 Division 1 and 2 dominate the site. Soil makeup and wetness are the divining factors for the grade distinction. From a local and regional basis the loss of 18 ha of Class 4 land would not be a significant factor.

Appendix 1 – Location of Development Site

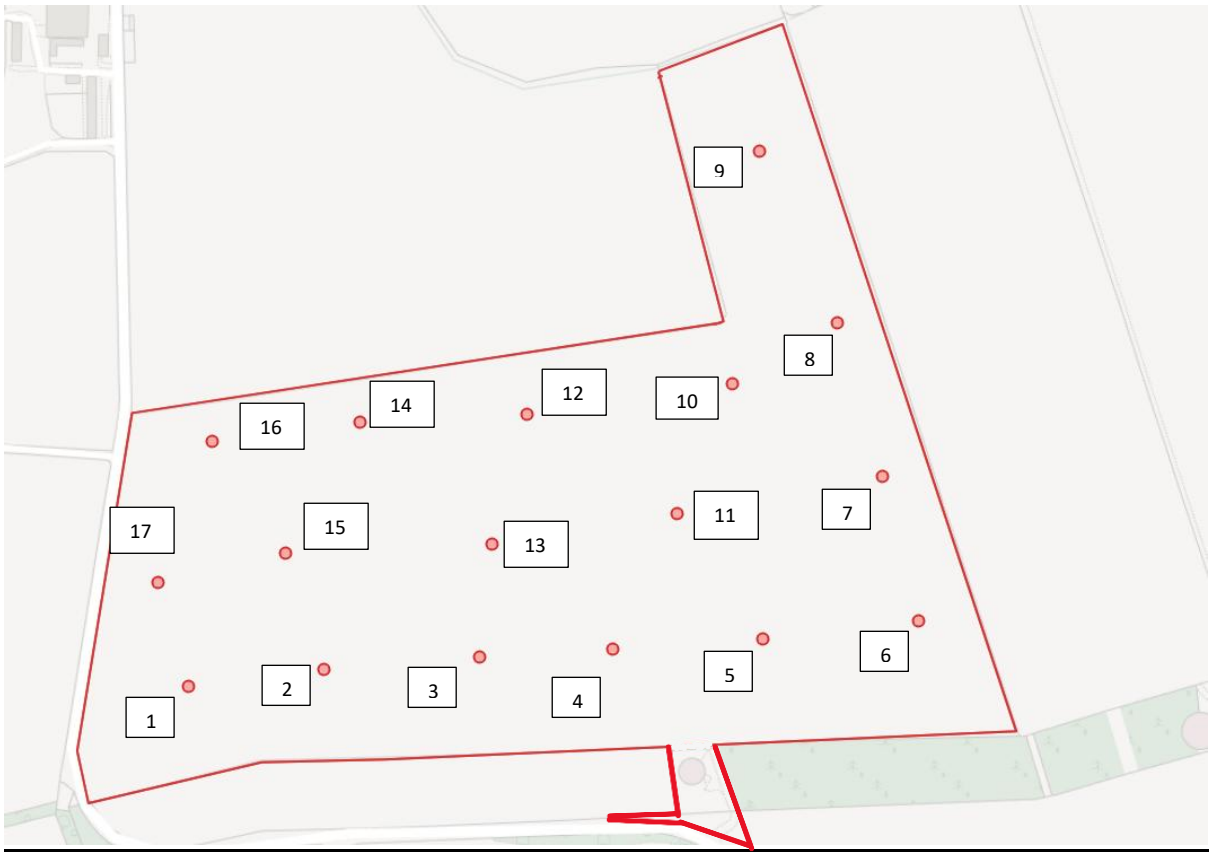
Appendix 2 - Detailed ALC map



Key

Grade 4 Division 1	
Grade 4 Division 2	
Non-Agricultural	

Appendix 3 Sample points



Appendix 4 - Sampling Point Descriptions

SOIL PROFILE SURVEY RESULTS

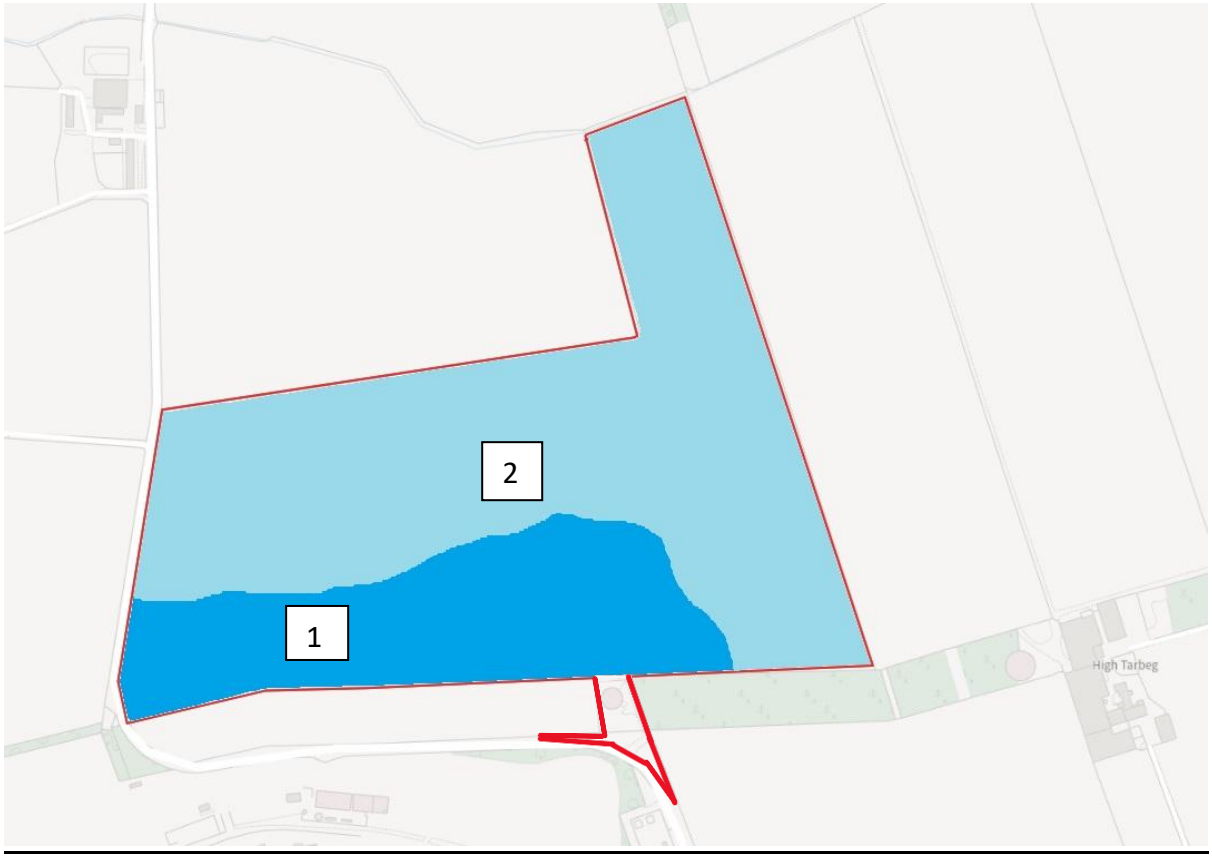
Soil Type Key:
O- ORGANIC
C- CLAY
S- SAND
L- LOAM
Z- SILT
P- PEAT

Hole	Grid ref	Texture	Depth MM	Stones Comments	Wetness Class
1 166M	N55° 27. 418 W004° 24.502	SZL /SCL SCL SCL-CL	0-300 300-450 450-1000	Mottled Small medium stones Coarse sandy loam Gleyed throughout coal pieces	IV
2 169M	N55° 27. 426 W004° 24. 418	SZL SCL SCL/CL	0-300 300-450 450-1000	Mottled Small stones Coarse sandy loam Gleyed throughout coal pieces	IV
3 169M	N55° 27. 434 W004° 24. 312	SZL SCL SCL/ZL	0-300 300-450 450-1000	Mottled Small stones Coarse sandy loam Gleyed throughout coal pieces	IV
4 170M	N55° 27. 442 W004° 24.213	SZL SCL CL	0-250 250-500	Small Stones Coarse sandy loam gleyed and coal pieces Strongly gleyed with coal	IV

5 169M	N55° 27. 450 W004° 24. 103	SZL /SCL SCL/CL	0-30 300-700	Small Stones Small medium stones Coarse sandy loam. Coal gleyed	III
6 165M	N55° 27. 456 W004° 23. 999	SZL/SCL SCL- CL	0-350 350-700 700+	Coarse sandy loam Leading to clay loam Coal Heavily gleyed	III
7 163M	N55° 27. 510 W004° 24. 016	SL/SZL SZL/SCL	0-350 350-500 500-1000	Mottling Coarse sandy clay loam with pocket of SL Coarse SCL Coal Gleyed	III
8 155M	N55° 27. 572 W004° 24. 041	SL/SZL SCL Coarse SCL	0-350 350-500 500+	Small medium stones Coal and gleyed	III
9 144M	N55° 27. 634 W004° 24. 088	SL/SZL SCL	0-250 250-600	Shallow Small stones Coarse sandy loam. Mottled	III
10 150M	N55° 27. 507 W004° 24. 114	SZL CL Glacial Till	0-300 300-500 500-750	Small Stones Gleyed mottled Coal Coarse sandy clay loam	III
11 163M	N55° 27. 515 W004° 24. 163	SL/SZL Coarse Sandy Clay Loam	0-300 300- 500	Small Stones Small stones Coarse sandy loam Gleyed and Coal	III

			500+ stones	Medium to large Stones	
12 159M	N55° 27. 543 W004° 24. 244	SL/SZL SZL	0-300 300-500 500+	Small Stones Small medium stones Coarse sandy loam. Gleyed and coal Limited by Medium stones	III
13 165M	N55° 27. 500 W004° 41. 306	SZL SCL/CL Glacial Till	0-35 35+	Coarse sandy loam to clay loam gleyed and coal	IV
14 159M	N55° 27. 529 W004° 24. 365	SL/SZL SCL/CL	0-300 300-600	Coarse sandy loam to clay loam gleyed and coal	III
15 163M	N55° 27. 483 W004° 24. 418	SZL CL	0-300 300-600	Small medium stones Coarse sandy loam. Gleyed and coal	III
16 160M	N55° 27. 506 W004° 24. 481	SL/SZL SCL CL	0-300 300-500 500-800	Medium Stones Small medium stones Coarse sandy loam. Gleyed and coal	IV
17 166M	N55° 27. 443 W004° 24. 506	SZL /SCL SCL SCL-CL	0-300 300-450 450-1000	Mottled Small medium stones Coarse sandy loam Gleyed throughout coal pieces	IV

Appendix 5
Soil Pit Location



Appendix 6

Soil pit details

Pit	Texture	Depth cm	Colour	Munsell	Comments	AP WW	AP Pots	Wetness	Grade
1 Top	Sandy Silty Loam	0-30	Light Brown	Value 5 Chroma 4	Larger stones greater than 5% rounded few mottles fine to medium granular peds	110	94	IV	3 Div 1
1 Sub	Clay Loam	30-50	Reddish, Brown	Value 6 Chroma 12	Distinct boundary small and large stones 5-10% coarse peds Fine Mottling. Gleyed at 50 Till at depth				
2 Top	Sandy Silty Loam	0-40	Light Brown	Value 5 Chroma 4	Very slightly stoney, medium granular peds, slight mottling	120	98	III	2
2 Sub	Clay Loam	40-60	Reddish to light Brown	Value 6 Chroma 12	Slightly stoney, fine to Medium to angular blocky structure no gleying				

Appendix 7 - Soil Pit Description

Pit 1 Topsoil

Very few stones fine granular peds, slight mottling, distinct sub soil boundary. Good root penetration and pore space.

Pit 1 Subsoil

Distinct boundary fine to medium granular peds. Limited pore space gleyed and distinctly mottled throughout. Limited rooting.

Pit 2 Topsoil

Fine granular ped structure. Fine mottling with some stones small and medium in size. Roots throughout. Good pore space.

Pit 2 Subsoil

Slightly stoney, fine to Medium to angular blocky structure gleying throughout with mottling through profile. Some pore space roots present.

Appendix 8 - Lab results

Pit 1 Topsoil

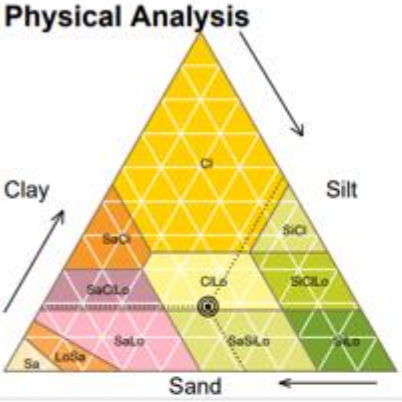
Lancrop Laboratories

Analysis Results (SOIL)

Customer	KILLOCH	**Distributor**	MR P STEPHENSON SWAINSEA HOUSE 74 MIDDLETON ROAD PICKERING NORTH YORKSHIRE YO18 8NH
Sample Ref	PIT 1 TOP	**Date Received**	14/10/2024 (Date Issued: 30/10/2024)
Sample No	G093440/01	**Area**	18
Crop	GRAZED GRASS (CATTLE)		

Analysis	Result	Guideline	Interpretation	Comments
pH	6.3	6.0	Normal	Adequate level. Maintain pH to ensure optimum nutrient availability and ideal conditions for an active soil biology.
Phosphorus (ppm)	35	16	High	**(Index 3)** Adequate level.
Potassium (ppm)	65	121	Low	**(Index 1)** 30 kg/ha K2O (24 units/acre). Avoid applications in spring if there is a history of Hypomagnesaemia.
Magnesium (ppm)	184	51	Very High	**(Index 4)** Possible interference with availability of Potassium.
Organic Matter (LOI) (%)	7.0	3.0	Normal	Good. Soils with medium to high levels of organic matter would generally be expected to have a good potential fertility and good structure, moisture retention and water infiltration. Ensure appropriate soil management practices are used to maintain organic matter levels.
Organic Carbon (LOI) (%)	4.1	1.7	Normal	Normal (See Organic Matter comment). Organic carbon is the measurable component of organic matter. Organic carbon and organic matter can be broken into distinct 'pools'. These pools include labile/active (particulate, almost entirely decomposed, readily available microbe foodsource), humus carbon (decomposing carbon) and recalcitrant organic carbon (resistant to decomposition). Each of these pools are involved in different soil processes (see: Active Carbon).

Physical Analysis



Analysis	Result (%)
Sand	38.54
Silt	42.41
Clay	19.05
Soil Type	ClLo Clay Loam

Property	Assessment
Available Water	Medium to High
Drainage Rate	Medium to Slow
Inherent Fertility	Medium to High
Potential C.E.C.	Medium to High
Leaching Risk	Moderate to Low
Warming Rate	Medium

Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	N/A	>70
Organic Carbon (%)	N/A	
Total Nitrogen (%)	N/A	
C:N Ratio	N/A	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	N/A
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	N/A
Soil Assessment Score	N/A/100

Pit 1 Subsoil

Lancrop Laboratories

Analysis Results (SOIL)

Customer KILLOCH

Distributor MR P STEPHENSON
SWAINSEA HOUSE
74 MIDDLETON ROAD
PICKERING
NORTH YORKSHIRE
YO18 8NH

Sample Ref PIT 1 SUB

Date Received 14/10/2024 (Date Issued: 30/10/2024)

Sample No G093440/02

Area 18

Crop GRAZED GRASS (CATTLE)

Analysis	Result	Guideline	Interpretation	Comments
pH	6.4	6.0	Normal	Adequate level. Maintain pH to ensure optimum nutrient availability and ideal conditions for an active soil biology.
Phosphorus (ppm)	5	16	Very Low	**(Index 0)** 80 kg/ha P2O5 (64 units/acre).
Potassium (ppm)	40	121	Very Low	**(Index 0)** 60 kg/ha K2O (48 units/acre). Avoid applications in spring if there is a history of Hypomagnesaemia.
Magnesium (ppm)	258	51	Very High	**(Index 5)** Possible interference with availability of Potassium.
Organic Matter (LOI) (%)	2.4	3.0	Slightly Low	Slightly low. Soils with medium to high levels of organic matter would generally be expected to have a good potential fertility and good structure, moisture retention and water infiltration. Investigate soil conditons to establish if soil management practices can improve levels of organic matter.
Organic Carbon (LOI) (%)	1.4	1.7	Slightly Low	Slightly Low (See Organic Matter comment). Organic carbon is the measurable component of organic matter. Organic carbon and organic matter can be broken into distinct 'pools'. These pools include labile/active (particulate, almost entirely decomposed, readily available microbe foodsource), humus carbon (decomposing carbon) and recalcitrant organic carbon (resistant to decomposition). Each of these pools are involved in different soil processes (see: Active Carbon).

Pit 2 Topsoil

Lancrop Laboratories

Analysis Results (SOIL)

Customer	KILLOCH	**Distributor**	MR P STEPHENSON SWAINSEA HOUSE 74 MIDDLETON ROAD PICKERING NORTH YORKSHIRE YO18 8NH
Sample Ref	PIT 2 TOP	**Date Received**	14/10/2024 (Date Issued: 30/10/2024)
Sample No	G093440/03	**Area**	18
Crop	GRAZED GRASS (CATTLE)		

Analysis	Result	Guideline	Interpretation	Comments
pH	6.0	6.0	Normal	Adequate level. Maintain pH to ensure optimum nutrient availability and ideal conditions for an active soil biology.
Phosphorus (ppm)	16	16	Normal	**(Index 2)** 20 kg/ha P2O5 (16 units/acre).
Potassium (ppm)	64	121	Low	**(Index 1)** 30 kg/ha K2O (24 units/acre). Avoid applications in spring if there is a history of Hypomagnesaemia.
Magnesium (ppm)	249	51	Very High	**(Index 4)** Possible interference with availability of Potassium.
Organic Matter (LOI) (%)	4.7	3.0	Normal	Good. Soils with medium to high levels of organic matter would generally be expected to have a good potential fertility and good structure, moisture retention and water infiltration. Ensure appropriate soil management practices are used to maintain organic matter levels.
Organic Carbon (LOI) (%)	2.7	1.7	Normal	Normal (See Organic Matter comment). Organic carbon is the measurable component of organic matter. Organic carbon and organic matter can be broken into distinct 'pools'. These pools include labile/active (particulate, almost entirely decomposed, readily available microbe foodsource), humus carbon (decomposing carbon) and recalcitrant organic carbon (resistant to decomposition). Each of these pools are involved in different soil processes (see: Active Carbon).

Physical Analysis

Analysis	Result (%)
Sand	33.26
Silt	53.17
Clay	13.57
Soil Type	SaSiLo Sandy Silt Loam

Property	Assessment
Available Water	Low to Medium
Drainage Rate	Rapid
Inherent Fertility	Low to Medium
Potential C.E.C.	Low to Medium
Leaching Risk	High to Moderate
Warming Rate	Rapid

Biological Analysis

SOLVITA®

Analysis	Result	Ideal
Solvita Burst CO2-C (ppm)	N/A	>70
Organic Carbon (%)	N/A	
Total Nitrogen (%)	N/A	
C:N Ratio	N/A	10-12

Calculated Parameters	Result
Microbial Biomass (mg/kg)	N/A
Solvita Potentially Mineralizable Nitrogen (kg N/ha)	N/A
Soil Assessment Score	N/A/100

Pit 2 Subsoil

Lancrop Laboratories

Analysis Results (SOIL)

Customer KILLOCH

Distributor MR P STEPHENSON
SWAINSEA HOUSE
74 MIDDLETON ROAD
PICKERING
NORTH YORKSHIRE
YO18 8NH

Sample Ref PIT 2 SUB

Date Received 14/10/2024 (Date Issued: 30/10/2024)

Sample No G093440/04

Area 18

Crop GRAZED GRASS (CATTLE)

Analysis	Result	Guideline	Interpretation	Comments
pH	6.6	6.0	Normal	Adequate level. Maintain pH to ensure optimum nutrient availability and ideal conditions for an active soil biology.
Phosphorus (ppm)	2	16	Very Low	**(Index 0)** 80 kg/ha P2O5 (64 units/acre).
Potassium (ppm)	65	121	Low	**(Index 1)** 30 kg/ha K2O (24 units/acre). Avoid applications in spring if there is a history of Hypomagnesaemia.
Magnesium (ppm)	391	51	Very High	**(Index 6)** Possible interference with availability of Potassium.
Organic Matter (LOI) (%)	2.3	3.0	Slightly Low	Slightly low. Soils with medium to high levels of organic matter would generally be expected to have a good potential fertility and good structure, moisture retention and water infiltration. Investigate soil conditons to establish if soil management practices can improve levels of organic matter.
Organic Carbon (LOI) (%)	1.3	1.7	Slightly Low	Slightly Low (See Organic Matter comment). Organic carbon is the measurable component of organic matter. Organic carbon and organic matter can be broken into distinct 'pools'. These pools include labile/active (particulate, almost entirely decomposed, readily available microbe foodsource), humus carbon (decomposing carbon) and recalcitrant organic carbon (resistant to decomposition). Each of these pools are involved in different soil processes (see: Active Carbon).