Cruachan Expansion Project – Outline Peat Management Plan

1 Introduction

1.1 Report Background

1.1.1 This report has been prepared to support the Section 36 application for the proposed Cruachan Expansion Project (hereafter referred to as The Proposed Development). The objective of the report is to assess the potential impact of the Proposed Development on existing peat deposits within the site boundary, and to provide the basic peat management principles that will be incorporated into later stages of development. The location of the Site is shown in **Figure 1**.

1.1.2 This report is an outline plan incorporating the data collected to date. The design of the above ground infrastructure which will have the potential to impact peat is at a preliminary design stage. During the future detailed stage, further data collection will be undertaken, and this report will be updated to a final peat management plan.

1.2 Proposed Development

1.2.1 The Proposed Development seeks to optimise use of the existing Cruachan Reservoir and Dam through development of a new underground power station and associated infrastructure adjacent to Cruachan power station, on the northern banks of Loch Awe in Argyll and Bute, to provide up to 600 megawatts (MW) of additional generating capacity. The Proposed Development will be operated independently of the existing 440 MW Cruachan 1 power station. Both power stations will use Loch Awe as the lower reservoir and Cruachan Reservoir as the upper reservoir. For the purposes of this assessment the Site has been divided into three sections:

- 'The West Area' comprising the existing Cruachan 1 Power Station and the Proposed Development, including the upper compound area, new intake structure at Cruachan reservoir, below ground works (headrace and tailrace tunnels, access tunnels, waterways, powerhouse cavern), inlet and outlet structures and the new quayside along the northern shoreline of Loch Awe.
- 'The Access Track' comprising the existing access road routing from the A85 to the upper reservoir via St Conan's Road which will be upgraded; and
- 'The East Area' comprising a lower construction compound area off the A85 east of Lochawe.

1.2.2 A site location plan is included on **Figure 1**.

1.2.3 For ease of reference, the following terms have been used in this report:

- EIA – Environmental Impact Assessment;
- The Applicant – Drax Cruachan Expansion Limited;
- The Site – the area of land to the east of the existing Cruachan Power Station (Cruachan 1) where the Proposed Development will be located;
- The Proposed Development – the development of a new underground power station and associated infrastructure adjacent to Cruachan 1, as described in Chapter 3 of the EIA Report– The Proposed Development;

- The EIA Regulations – the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. These regulations are directly applicable to this EIA for the Proposed Development;

- Cruachan 1 – the existing 440MW pumped storage hydro Cruachan Power Station

1.3 Scope of Work

1.3.1 The Proposed Development has been determined as requiring an Environmental Impact Assessment (EIA), and this report provides the concepts of the mitigation measures for the Site, in relation to Peat.

1.3.2 It is a SEPA requirement that proposed development in areas of Peat occurrence should be accompanied by a Peat Management Plan (PMP) whose guiding principles are to protect and preserve the Peat as far as is reasonably practicable and provide a quantitative assessment of the volumes of Peat affected by the proposed development. There is guidance provided in 'Developments on Peatland', (SEPA 2012) regarding the typical contents of a PMP.

1.4 Consultation

1.4.1 SEPA have been contacted for environmental information about the Site on several occasions during the EIA assessment, the most recent being on 5th April 2022. The project team continue to seek a response to this request with a view to making a more robust assessment. Unfortunately, it is understood that freedom of information requests to SEPA are currently on hold due to the December 2020 cyber-attack.

1.4.2 The outline PMP is based on preliminary, site-specific information available at the time of writing, with the final PMP to be undertaken at the detailed design and construction stage and subject to discussion and approval by SEPA prior to implementation.

1.5 Related Documents

This report should be read in conjunction with related documents based on studies of the site:

- Cruachan Expansion Project – Preliminary Investigation Report on Ground Conditions (Contamination and Stability) Environmental Impact Assessment Appendix 6.1, Stantec, 2022

- Cruachan Expansion Project – Environmental Impact Assessment, in particular Chapters 3 (Site Description), 8 (Ecology) and 9 (Ground Conditions), Stantec, 2022

2 Peat Background

2.1 Definition & Formation of Peat

2.1.1 The definition of Peat provided in Guidance on Developments on Peatlands (SG, 2017) is as follows; "peat soil is an organic soil which contains more than 60 per cent of organic matter and exceeds 50 centimetres in thickness".

2.1.2 Peat is a type of soil which forms under water-logged conditions from dead plant material and accumulates where rainfall is high and evapotranspiration losses are low. Peatlands in Scotland are mainly blanket bogs with the largest areas located in the Highlands and Western Isles.

2.2 Description of Peat

2.2.1 The soil profile of Peat is composed of two main zones: the acrotelm and catotelm.

2.2.2 The acrotelm is the upper more fibrous layer above the level of the permanently saturated Peat, comprising a matrix of living plants and recently deposited dead material.

2.2.3 The catotelm is the lower permanently waterlogged Peat that exists in an anaerobic environment (Marsden and Ebmeier, 2012) and is generally unable to withstand any excavation and handling without complete disintegration.

2.3 Carbon and Ecology

2.3.1 Peat can hold large quantities of carbon that is poorly protected, which means that excavation of Peat can lead to large carbon losses/emissions. Maintaining peatlands in good condition can reduce net greenhouse gas emissions as peatlands are able to sequester further carbon dioxide. However, degraded peatlands release stored greenhouse gases as the exposed peat decomposes. Furthermore, Scottish peatlands support many species of European importance and play a key role in upland water systems (Marsden and Ebmeier, 2012).

3 Policy and Guidance

3.1 Guidance

3.1.1 The following guidance has informed this assessment

- SEPA Regulatory Position Statement – Developments on Peat, SEPA, 2010.
- Developments on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste, SEPA, 2012.
- Developments on Peat and Off-Site Uses of Waste Peat, WST-G-052, SEPA, 2017; and
- Peatland Survey. Guidance on Developments on Peatland, on-line version only. Scottish Government, Scottish Natural Heritage, SEPA, 2017.

3.2 Peat Management Hierarchy

3.2.1 SEPA (2010) state that 'Developments on peat should seek to minimise peat excavation and disturbance to prevent the unnecessary production of waste soils and peat.'

3.2.2 SEPA (2012) states that it is required to demonstrate that the extent of the peat at the site has been investigated. Furthermore, it is necessary to show:

- how, through thorough site investigation and iterative design, the proposed development has been structured and designed to minimise, so far as reasonably practicable, the quantity of peat which will be excavated.
- that volumes of peat anticipated to be excavated by the proposed development have been considered; and
- how excavated peat will be managed.

The peat management hierarchy is summarised in table 1 below.

Table 1: Peat Management Hierarchy

Peat Management Hierarchy	Use	Restrictions / Limitations
Prevent Creation of Waste Peat	Minimise peat excavation and disturbance to prevent the unnecessary production of waste peat using a Peat Management Plan.	
Re-Use on site Re-Use off-site for peatland restoration.	Use of peat on-site in construction or reinstatement e.g., restoration of hardstanding areas, borrow pits, road verges, peatland restoration etc. or off-site to restore peatland areas.	Depends on the physical nature of the peat. Use of unsuitable material and/or excessive quantities (i.e., more than needed) will be regarded as disposal and will require an environmental authorisation. Off-site use will require an environment authorisation.

Recycling/Recovery	Where peat cannot be re-used on site or off site for peatland restoration it may be spread on land for agricultural benefit, recycled through blending with other materials to form a soil substitute or used in other relevant works.	Will require a waste management licence or registration as an exempt activity and compliance with the legal requirements.
Disposal	Off-site disposal of surplus Peat	Only after all other options have been explored and discounted. Liquid peat cannot be landfilled without pre-treatment.

Prevention

3.2.3 SEPA (2012) outlines the guiding principles for preventing disturbance and reducing peat excavation at the design stage, these are presented below:

- "Position site infrastructure in areas of shallower peat, or design appropriate engineering solutions to avoid or minimise peat excavation."
- "Minimise infrastructure that could impact peat."
- "Minimise the detriment to peat if excavation cannot be fully avoided."
- "Prevent peat displacement from the development of borrow pits."

Reuse

3.2.4 SEPA (2012) states that the key guiding principle for re-use is "to only re-use Peat where it is suitable for the identified and required use", and that "careful handling is essential to retain any existing structure and integrity of the excavated materials and thereby maximise the potential for excavated material to be reused". This document also provides several principals which should be considered at all stages relating to the reuse of peat:

- Minimise plant movements and haul distances in relation to any earthworks activity including peat management.
- Develop appropriate temporary storage areas for excavated peat close to the excavation. Suitable storage areas are more appropriately sited in areas with lower ecological value and low stability risk.
- Reuse should occur as soon as possible after excavation where practicable.

Storage

3.2.5 SEPA (2017) states that "care must be taken to ensure that peat storage does not cause environmental pollution" and that the peat must be used as soon as possible after excavation. If excavated peat is stockpiled without any certainty of use or becomes unsuitable it will be classified as waste. Furthermore, "if waste peat is stored on or off site, prior to treatment or recovery, for more than three years (or where storage prior to disposal is for more than one year) then it is likely to constitute a landfill and a Pollution Prevention and Control Permit (PPC) will be required".

3.2.6 Further discussion of temporary peat storage is given in **Section 6.8**.

4 Site Context

4.1 Site Location

4.1.1 The Site is located approximately 21km east of Oban and around 4.5km west of Lochawe village on the northern banks of Loch Awe and to the north of the A85 in Argyll and Bute. The nearest postcode to the Site at the Cruachan Visitor Centre is PA33 1AN and the existing Cruachan 1 pumped storage hydro scheme is located at national grid reference (NGR) NN 080 277. The location of the site is presented in **Figure 1**.

4.2 Site Topography

4.2.1 In the north and west of the Site, the Cruachan Reservoir and the base of Cruachan Dam are located within Coire Cruachan which is approximately 400m above Ordnance Datum (AOD) according to OS mapping. The ground levels fall steeply in a southerly direction from the base of the dam wall (390m AOD) to the A85 at approximately 40m AOD.

4.2.2 Land to the north and south of the access track is generally steep (45% in areas) until the access road meets the village of Lochawe.

4.2.3 The area being considered for the lower compound area (north-east of Lochawe and the A85) has a hummocky nature and is overall relatively flat lying with a slope falling to the southeast in the southwest corner.

4.3 Published Geology

4.3.1 The BGS GeoIndex Onshore mapping and the 1:50,000 scale geological series Scotland, Dalmally, Sheet 45E (BGS, 1992) indicate the following geological sequence underlying the Site:

Superficial Deposits

4.3.2 The Site is largely shown to be absent of superficial deposits suggesting that bedrock is at or near to the surface.

4.3.3 The far north of Cruachan Reservoir and the East Area are shown to be underlain by Hummocky (Moundy) Glacial Deposits described by the BGS as 'Lithologically diverse and complex glacial deposits that have characteristic moundy topographic form. Composed of rock debris, clayey till and poorly- to well-stratified sand and gravel'.

Solid Geology

4.3.4 The published BGS geological mapping indicates that the Proposed Development is located on the contact between the Dalradian Group of metasediments known as Ardrishaig Phyllite Formation of Neoproterozoic age to the southwest, and the late Devonian Quarry Intrusion to the northeast which is part of the Etive Pluton. This contact is observed at the Site in surface outcrops and within existing underground workings within Cruachan 1 as a change from a Phyllite to a Quartz-Diorite across a contact zone where apparent xenoliths of the country rock (phyllites) were present within the Quartz-Diorite. The following units are also present:

- Lorn Plateau Volcanic Formation – Andesite and Basalt described as mainly basalts, including orthopyroxene-bearing types, with rare rhyolites, dacites, tuffs, agglomerates and some intercalated conglomerate.

- Ardrishaig Phyllite Formation - Quartzite, Metalimestone and Phyllitic Semipelite across the southwest of the Site in the area of the tunnels and new jetty.
- Quarry Intrusion – Quartz-Diorite in the area of the upper compound area.
- Monzodiorite Facies, Cruachan Intrusion in the far north of Cruachan Reservoir.
- The access track routes through the Easdale Slate Formation – Pelite, Graphitic and the Islay Quartzite – Semipelite; and
- Glen Coe Quartzite Member – Quartzite beneath the lower compound area.

4.4 Peat Deposits

East Area

4.4.1 Initial peat probing of the East Area (proposed Lower Construction Compound Area) on a 100x100m grid was undertaken by Stantec during a Site walkover in March 2022 to provide a preliminary understanding of the presence and extent of peat at the East Area. Peat depths were generally found to be shallow and between 0.0m to 0.5m below ground level (bgl) however some areas of localised deeper peat were encountered particularly in the northern corner of the East Area to depths of more than 2m bgl. In the central portion of the East Area, peat depths were up to 2m bgl. These results are shown on **Figure 2**.

West Area

4.4.2 For the West Area at the lower inlet/outlet it was confirmed that no peat is present due to the presence of existing Cruachan 1 infrastructure, road and railway, very steep slopes and bedrock at surface.

4.4.3 For the West Area at the upper compound area it was confirmed that in-situ peat is not present. During the walkover it was observed that the ground conditions at the proposed upper compound area presently comprise a thickness of soft mixed made ground material comprising organic soil with sand, gravel and cobbles. It is understood that in-situ soil was removed at this location to form a temporary compound area for a recent filming project at the location.

Access Track

4.4.4 For the margins of the existing access road routing from the A85 to the upper reservoir was confirmed that no peat is present due to the presence of the access track make up, very steep slopes and bedrock at surface.

4.5 Hydrological Setting

4.5.1 The site is bounded to the south by Loch Awe and in the far east of the site by the mouth of the River Orchy where it meets Loch Awe.

4.5.2 Allt Cruachan enters the Site from the north, flows southwards into Cruachan Reservoir, then from Cruachan Reservoir south to Loch Awe.

4.5.3 Several small watercourses also pass through the Site broadly flowing southwards with the topographic gradient.

4.6 Ecological Setting

4.6.1 The Glen Etive and Glen Fyne Special Protection Area is present on site to the west of Allt Cruachan and around Coire Cruachan excluding the Cruachan Reservoir.

4.6.2 The Loch Etive Woods Special Area of Conservation and Coille Leitire Site of Special Scientific Interest covers an area of the site to the north of the existing railway line at the southwest of the site within the West Area, and immediately to the south of the central section of the Access Track.

4.6.3 The Cruachan Reservoir Geological Conservation Review site covers the upper compound, gate shaft and upper access track areas within the West Area of the site.

5 Site Investigations

5.1 Scope and Findings

Initial Peat Probing

5.1.1 Initial peat probing at a 100x100m grid spacing was undertaken by Stantec during the Site walkover to provide a preliminary understanding of the presence and extent of peat at the limited areas of above ground development included within the outline design of the Site.

5.1.2 As described above, peat was shown to be present at the East Area of the site including within the area of the proposed lower construction compound area.

5.1.3 Peat / organic soil depths were generally found to be shallow and between 0m to 0.5m below ground level (bgl) however some areas of localised deeper peat were encountered particularly in the northern corner of the East Area to depths of more than 2m bgl. In the central portion of the East Area, peat depths were up to 2m bgl.

5.1.4 As described above, for the West Area at the lower inlet/outlet it was confirmed that no peat is present due to the presence of existing Cruachan Power Station infrastructure, road and railway, very steep slopes and bedrock at surface. For the West Area at the upper compound area it was confirmed that no in-situ peat is present.

Detailed Survey of East Area

5.1.5 A detailed peat survey was commissioned by Stantec at the East Area being considered for the lower compound area and is summarised in **Section 6** below.

5.1.6 SKF Ltd, under the technical direction of Stantec, conducted the Detailed Peat Survey on the lower compound area during April 2022 to provide information on the extent and nature of the peat deposits across the site and comprised the following:

- 907 full depth peat probes.
- 21 peat samples by Russian Corer with description of the soil core column including surface firmness, Von Post classification, fibre description and shear strength by hand vane.
- Laboratory testing to determine the moisture content, bulk and dry density, organic content of the peat material.

5.1.7 The peat depths across the site area at each of the 907 positions are displayed in **Figure 2**.

Summary

5.1.8 These investigations confirmed that a layer of peat or thin organic soil is present across the East Area (proposed lower compound area). The peat was recorded to be variable in thickness across the Site, ranging up to a maximum thickness of 2.20m at a single location, a general peat depth of <1.00m has been encountered.

5.1.9 No peat was encountered at the areas of above ground infrastructure in the West Area or Access Track area.

5.1.10 The results are presented in the Peat Baseline section below.

6 Peat Management

6.1 Peat Baseline

Peat Survey

6.1.1 During the Peat Probing Study (SKF, 2022) a total of 907 locations were probed across the proposed lower construction compound area in a 10m x 10m grid to determine the thickness of peat. The extent of peat coverage and depth of peat across the site is shown in **Figure 2**.

6.1.2 **Table 2** summarises the number of locations and the corresponding percentage of the total results for each depth category. As described in section 1.2 above, in analysis of the probing results, peat is considered as the probe locations with a depth greater than 0.5m, whilst organic soil is considered as those probe locations less than 0.5m (SG, 2017).

Table 2: Summary of Organic Soil and Peat Depth Probing Results.

Surveyed organic soil depth, m	Number of probe points	Percentage of total probe points
<0.5	705	77.73%
Surveyed peat depth, m	**Number of probe points**	**Percentage of total probe points**
0.5 – 1.0	140	15.44%
1.0 – 1.5	52	5.73%
1.5 – 2.0	9	0.99%
2.0 – 2.2	1	0.11%

East Area

6.1.3 In general, the majority (over 77%) of the proposed lower construction compound area was found to be covered with organic soil with a depth less than 0.5m. Areas of peat are located in pockets generally associated with topographical lows associated with the hummocky terrain present on site. The thickest pockets of peat are localised and distributed across the site, with the majority located towards the northern boundary of the site and the topographical low to the eastern centre of the site. Peat was encountered in these areas from 0.5m bgl up to a maximum depth of 2.20m bgl. Deep peat greater than 1.0m was found only at 6.8% of the site probe locations across the whole site area.

Western Area and Access Track

6.1.4 No peat was encountered in these areas.

Peat Classification

6.1.5 The peat deposits were generally recorded as dark brown pseudo-fibrous Peat with roots.

6.1.6 A von Post classification of the deeper areas of peat showed a range of H6 to H8. This indicates that the peat is moderately decomposed to strongly decomposed.

6.1.7 The acrotelm is the fibrous surface to the peat bog, which exists between the growing bog surface and the lowest position of the water table in dry summers. Much of the peat found on the site is classified as upper acrotelm, slightly decomposed with some fibrous content and moderate water content up to about 1.0 m in depth. This material would be suitable for reuse for landscaping purposes in open space areas without the need for any engineering measures.

6.1.8 The deeper peat generally in excess of 1.0 m is classified as the catotelm, moderately to strongly decomposed with a high fibrous content and moderate water content. The outline site design process has ensured that the layout avoids the requirement for excavation of the catotelm as much as reasonably practicable.

6.1.9 The peat is generally flat lying with very little hagging associated with it.

6.1.10 The area considered for the lower compound area site is predominantly modified peatland with a known history utilised as a construction compound for Cruachan 1, grazing by sheep and cattle, and small areas of bare peat.

6.2 Avoidance of Deeper Areas of Peat

6.2.1 Peat with depths in topographical depressions ranging from 0.5m bgl to 2.2m bgl is encountered locally across the lower compound area. In order to minimise the volume of peat being excavated on site, areas of deeper peat have been avoided within the design of the site. Much of the site infrastructure is located in areas of peat with depths less than 1m.

6.2.2 The evolution of the development design considered the need for borrow pits and by careful design has allowed tunnel spoil reuse so that borrow pits can be excluded from the design. Thus the prevention of peat displacement by excluding the development of borrow pits has been incorporated within the design of the development.

6.3 Peat Excavation

6.3.1 The first principle of peat management is to prevent the loss of peat habitat wherever possible (See **Table 1**). This section sets out the measures used to minimise the loss of peat habitat and the expected peat excavation volumes.

6.3.2 During construction of the Proposed Development, all reasonable measures will be taken to avoid or minimise excavations and minimise disturbance of peat and peatland habitats. Ground disturbance areas around excavations will be kept to a minimum and will be clearly defined on site through a Construction Environmental Management Plan (CEMP) and Risk Assessment Method Statements (RAMS) for the works. Access to working areas during construction will be restricted to specific routes, which will be within the portion of the site comprising the development envelope required for the construction of the above ground infrastructure.

6.3.3 Robust working practices based on the CEMP and RAMS, appropriate plant and experienced operators will be used to avoid unnecessary disturbance to the ground surface and restrict any disturbance to within the development envelope.

Peat Excavation Estimated Volumes

6.3.4 The table below indicates the peat excavation requirement calculated using data from investigations to date. This calculated volume estimate is considered a worst-case scenario based on the proposed development layout as the calculations assume the removal of the full depth of peat down to the underlying glacial deposits or bedrock strata over the full footprint of the development. Furthermore, all organic soils less than 0.5m thick comprising the majority of the material encountered, have been classified as peat as part of the analysis in this report which is considered a conservative approach.

6.3.5 These preliminary calculations suggest that during the development of the site an estimated 28,900m^3 of peat will require to be excavated to allow the construction of the temporary and permanent above ground elements of the Proposed Development.

Table 3 Peat Excavation Requirement Calculated Using Data from Investigations to Date

Measurement	Peat excavation footprint for site infrastructure
Area, m^2	90,000
Volume, m^3	28,989

6.3.6 Within the detailed design stage final Peat Management Plan, it is expected that actual volume of peat may be substantially smaller subject to data obtained from further investigation and testing and this worst-case position will be reduced.

6.4 Peat Strategy

6.4.1 The peat management strategy for the site can be set out as follows, in order of the hierarchy for management of peat:

a. Avoid and minimise peat excavation. Through the design strategy and evolution process as detailed in Chapter 3 of the EIA Report Volume 1 – Main Report (Stantec, 2022), the site layout has been designed to avoid peat excavation where possible and avoid areas of deep peat as far as is reasonably practicable based on the information available to date.

b. Reuse as much as is practicable on site in heathland restoration and to reinstate development margins.

c. Following full exercise of option b, remove surplus to an off-site location where it can be used in nearby areas. The developer will work with Argyll and Bute Council and local landowners regarding identifying appropriate re-use receptors in the local area. *

*Where this (option c) is not practicable then the ultimate option will be disposal of suitable peat. It is recognised that this disposal option is the worst-case option but that it has been considered by the developer and included in the cost plan for the development.

6.5 On-site Peat Re-Use

6.5.1 Due to the limited extent of above ground works to be carried out during the Proposed Development, it is expected that there are limited opportunities for re-use of excavated peat / organic soil. It is anticipated that limited volumes of peat will be used to reinstate certain areas of the site as follows:

- **Disturbed margins of the development area for infrastructure**. Formation of the limited above ground infrastructure for construction of the development will necessitate disturbed margins around the completed infrastructure of roads, parking areas and compound areas. These disturbed margins will be restored using peat from the site as landscaped open space areas mimicking natural conditions.

- **Restoration of heathland**. The modified nature of the peatland in the eastern area of the site around the proposed compound area has been noted. There may be opportunities for re-use of suitable excavated peat to improve these areas. The Developer will work with the landowner of

this area to maximise on site re-use in this way and set out within the final PMP at the detailed design stage.

6.5.2 Due to the outline stage of design at the time of writing, it is not possible to estimate the quantity of peat which may be re-used on site. During the detailed design stage this will be carried out and the PMP updated.

6.6 Off-Site including Peat Recovery/Recycling

6.6.1 Based on the data available to date at this outline stage of above ground site design it is anticipated that the worst-case position is that the majority of the excavated peat / organic soil may require to be taken off site. As discussed above, the Developer will work with Argyll and Bute Council and local landowners to identify suitable re-use receptors in the local area, and this will be included within the updated PMP and presented to SEPA for approval.

6.7 Peat Handling Method Statement

6.7.1 The excavation of soils will be undertaken to avoid cross contamination between distinct horizons, where possible. This will be detailed within the CEMP. The different soil horizons would be kept and stored separately for re-use.

6.7.2 During and after excavation, storage, haulage and reuse of excavated material will be planned to minimise material movement around the site. Where possible, immediate reuse will be preferred to temporary storage.

6.7.3 Turves will be stripped and handled with care and kept vegetation side up such that damage to the living vegetation mat will be prevented or minimised as far as possible. The condition of stored turves would be monitored for signs of desiccation and deterioration.

6.7.4 Stripped materials will be carefully excavated and separated to keep separate peat types apart and stored in appropriately designed and clearly defined separate stockpiles. Excavated peat will be excavated as turves which should be as large as possible and kept wet in order to minimise desiccation during storage.

6.7.5 Temporary storage may be required where material is not required for immediate reinstatement. This will be detailed in the CEMP. To minimise handling and haulage distances, where possible excavated material will be stored locally to the site of excavation and/or local to the area where it will be required for re-use.

6.7.6 Temporary storage of peat will be located on site, within the disturbed development envelope. The exact storage location(s) will be agreed with SEPA prior to commencement of works and provided on a plan to accompany the updated Peat Management Plan and relevant Method Statements.

6.7.7 Temporary storage locations would be appropriately located and designed to minimise impact to sensitive habitats and species, prevent risks from material instability and runoff into watercourses.

6.7.8 Temporary storage will be isolated from any surface drains and a minimum of 70m away from watercourses, unless otherwise agreed. Storage would include appropriate bunding to minimise any pollution risks where required, stored on geotextile matting to a maximum of 1m thickness.

6.7.9 Peat would not be stockpiled for more than 6 months, unless otherwise agreed with SEPA.

6.7.10 The final method statement will follow the principles detailed below, in accordance with the best practice guidance including SEPA (2017) and SEPA (2012).

Summary

- Temporary storage of peat will be minimised.
- Suitable storage areas will be sited in areas avoiding watercourses, stability risk, groundwater dependent terrestrial ecosystems or other sensitive areas.
- Reinstatement will, in all instances, be undertaken at the earliest opportunity to minimise storage of turves and other materials.
- Timing of the construction work, as much as possible, to avoid periods when the peat materials are likely to be wetter; and
- Transport of peat within the Development site from excavation to temporary storage and restoration site will be minimised.

7 Conclusions

7.1.1 The peat baseline is based on ground conditions encountered during a site walkover peat probing exercise and a subsequent Peat Survey commissioned by Stantec and carried out in April 2022 (SKF, 2022). Measures to reduce the volume of peat excavated based on best practice guidance have been incorporated into the outline design of the Proposed Development (Chapter 3 of the EIA Report Volume 1 – Main Report (Stantec, 2022)) and include the avoidance of above ground development in the deepest areas of peat.

7.1.2 Measures to prevent the loss of peat habitat have been incorporated into the design stage of the Proposed Development through the avoidance of the areas of peat in general and the deeper areas of peat where reasonably practicable. The worst-case volume of excavated peat is estimated to be 28,900m^3.

7.1.3 Due to the limited extent of above ground infrastructure included within the Proposed Development there are limited opportunities for onsite re-use. These limited on-site peat re-use opportunities have been identified based on best practice and include restoration of disturbed development margins and restoration of heathland in the proximity of the proposed compound area in the east of the site. It is anticipated that a minority of excavated peat will be reused within the Development Area in this way.

7.1.4 Based on the information currently available, worst-case estimates of peat extraction and re-use volumes have been calculated. A volume of circa 28,900m^3 is currently calculated as a worst-case excess. Following completion of the detailed design including laboratory testing and groundwater monitoring results, post consent, the peat balance will be re-calculated, and the volume of excavated peat is expected to be significantly less than currently calculated when the detailed site design work is undertaken.

7.1.5 The Applicant will work with the Argyll and Bute Council and local landowners to identify suitable re-use receptors for the excess peat in the local area.

7.1.6 Where further re-use options prove not practicable then the ultimate option will be disposal of suitable peat. It is recognised that this disposal option is the worst-case option but that it has been considered by the developer and included in the cost plan for the development.

7.1.7 The principles of a peat handling method statement have been set out above.

8 References

BGS (1992) Geological Survey of Scotland 1:50,000 Series, Sheet 45E (Scotland) Dalmally, Solid Geology, Keyworth. Nottingham, British Geological Survey.

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Figures

Client

Drax Generation Enterprise Ltd

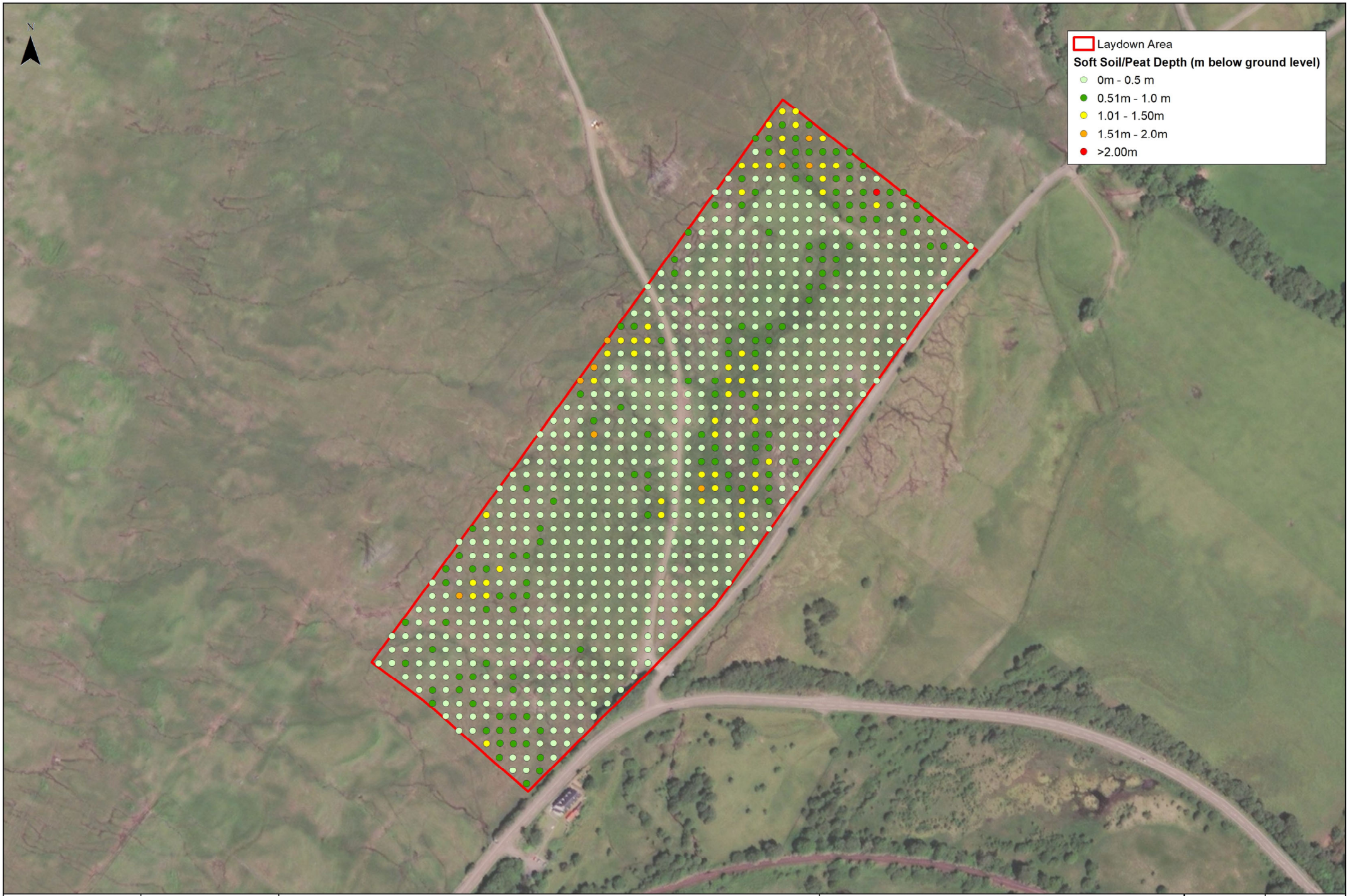
CRUACHAN EXPANSION PROJECT

Peat Probing Location Plan

0 0.5 1 km

1:17,500 @ A3	Date: 29/06/2022
Drawn: JP	Checked: AM
Figure 01	Rev A

Document Path: Z:\Projects\331201086\02_mxd\331201086_SiteLocationPlan_PeatProbing.mxd



Stantec

Client: Drax Hydro Ltd.

CRUACHAN EXPANSION PROJECT

Peat Depth Plan

0 100 200 m

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Figure 10.2	Rev A

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Appendix A Peat Survey Data

6762 CRUACHAN 2 LAYDOWN AREA - PEAT PROBING

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
1	213138.86	728303.43	50.07	0.60
2	213128.70	728313.39	52.76	0.05
3	213138.72	728313.37	51.62	0.30
4	213148.71	728312.95	49.97	0.55
5	213118.89	728322.95	53.67	0.80
6	213128.81	728322.93	53.49	0.25
7	213139.22	728322.65	52.98	0.10
8	213149.20	728322.81	50.65	0.90
9	213159.10	728322.78	49.90	0.35
10	213109.21	728333.12	54.71	1.05
11	213119.20	728333.15	54.14	0.90
12	213129.13	728332.91	53.76	0.95
13	213138.79	728332.78	53.15	0.75
14	213148.81	728333.12	51.76	0.40
15	213159.12	728333.27	50.28	0.30
16	213168.98	728333.08	49.89	0.15
17	213088.85	728342.85	56.32	0.20
18	213098.81	728342.84	55.71	0.45
19	213109.07	728342.83	55.20	0.70
20	213119.03	728342.96	54.45	0.80
21	213128.82	728342.96	54.05	1.00
22	213138.88	728342.90	53.93	0.10
23	213149.22	728342.73	52.43	0.85
24	213159.08	728343.06	50.05	0.45
25	213169.23	728343.00	49.54	0.30
26	213179.21	728343.20	48.54	0.15
27	213079.10	728353.24	58.01	0.10
28	213088.93	728353.05	56.94	0.40
29	213099.20	728352.87	56.34	0.30
30	213109.08	728353.09	55.38	0.25
31	213119.06	728353.10	54.64	0.60
32	213129.01	728353.01	54.30	0.55
33	213139.18	728353.01	53.96	0.90
34	213148.89	728352.89	53.97	0.20
35	213159.06	728352.95	51.33	0.50
36	213169.03	728352.81	50.06	0.40
37	213179.08	728352.81	48.82	0.10
38	213188.88	728353.00	48.51	0.20
39	213069.01	728363.04	60.15	0.55
40	213078.99	728363.06	58.50	0.35
41	213089.04	728362.94	57.44	0.25
42	213099.08	728362.94	56.76	0.55
43	213108.98	728362.94	55.47	0.20
44	213119.03	728362.88	55.09	0.10
45	213129.09	728363.10	54.75	0.20
46	213138.86	728362.94	54.27	0.15
47	213148.99	728363.00	53.81	0.10
48	213159.04	728362.99	52.63	0.15

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
49	213169.12	728363.03	50.25	0.35
50	213179.05	728363.04	49.48	0.20
51	213189.07	728362.86	49.21	0.10
52	213198.97	728363.01	48.95	0.15
53	213059.02	728372.98	63.60	0.25
54	213069.10	728372.88	61.16	0.65
55	213079.01	728373.06	58.86	0.10
56	213089.02	728372.97	57.60	0.55
57	213099.04	728372.95	57.01	0.45
58	213109.10	728372.97	55.98	0.20
59	213119.06	728372.96	55.49	0.20
60	213129.00	728373.02	54.80	0.65
61	213139.08	728372.98	54.38	0.50
62	213149.01	728372.97	53.40	0.45
63	213159.07	728372.98	53.26	0.05
64	213169.13	728372.97	51.12	0.30
65	213179.04	728373.04	50.37	0.05
66	213188.94	728372.79	49.79	0.10
67	213199.09	728373.04	49.82	0.05
68	213209.05	728372.98	49.72	0.15
69	213049.05	728382.99	65.96	0.15
70	213059.02	728382.99	64.88	0.10
71	213069.05	728382.93	62.73	0.05
72	213079.03	728382.83	60.16	0.20
73	213088.88	728382.92	58.17	0.70
74	213099.05	728383.04	57.52	0.80
75	213109.03	728382.99	56.76	0.45
76	213118.99	728383.01	55.78	0.05
77	213129.01	728383.03	54.77	1.00
78	213138.92	728383.08	54.08	0.15
79	213149.03	728383.01	53.34	0.05
80	213159.07	728382.90	52.06	0.35
81	213169.06	728383.00	50.92	0.30
82	213178.96	728383.16	50.81	0.05
83	213189.07	728382.99	50.83	0.10
84	213198.71	728382.93	51.11	0.05
85	213208.97	728382.85	50.77	0.05
86	213218.97	728382.99	50.23	0.00
87	213029.02	728392.98	67.81	0.50
88	213039.05	728393.10	66.84	0.10
89	213048.97	728392.95	65.10	0.75
90	213059.04	728392.91	66.53	0.25
91	213069.08	728393.00	63.56	0.50
92	213079.01	728392.98	61.93	0.15
93	213088.97	728393.04	59.07	0.15
94	213099.03	728392.99	57.95	0.45
95	213109.04	728392.99	57.08	0.60
96	213119.03	728392.93	56.32	0.20

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
97	213128.99	728393.06	54.85	0.10
98	213139.02	728392.96	54.04	0.15
99	213149.03	728393.01	53.32	0.25
100	213159.05	728392.97	52.39	0.05
101	213168.98	728393.01	51.61	0.05
102	213179.04	728392.92	51.11	0.25
103	213189.08	728393.00	51.44	0.25
104	213199.04	728393.00	51.32	0.25
105	213209.06	728393.00	51.13	0.15
106	213219.00	728392.97	50.75	0.05
107	213229.05	728393.04	50.09	0.00
108	213039.08	728402.96	65.84	0.05
109	213049.09	728403.08	64.46	0.10
110	213059.02	728402.85	63.49	0.40
111	213068.98	728402.98	62.52	0.80
112	213078.90	728403.04	61.43	0.15
113	213088.98	728403.00	59.48	0.20
114	213099.13	728402.92	58.73	0.15
115	213109.11	728402.84	57.97	0.40
116	213118.80	728402.93	56.82	0.10
117	213128.94	728402.86	55.82	0.20
118	213139.30	728403.33	55.08	0.25
119	213148.89	728402.83	53.88	0.15
120	213159.01	728403.05	54.38	0.10
121	213168.95	728403.09	53.16	0.10
122	213179.00	728403.01	51.73	0.70
123	213188.99	728403.01	51.52	0.40
124	213199.02	728402.98	51.83	0.20
125	213208.99	728402.98	51.66	0.05
126	213218.99	728402.99	51.45	0.05
127	213229.01	728403.05	50.70	0.00
128	213239.05	728403.02	50.17	0.20
129	213039.02	728413.06	65.79	0.35
130	213049.02	728413.00	64.30	0.35
131	213059.09	728412.92	63.20	0.20
132	213068.96	728413.06	62.30	0.25
133	213079.00	728412.91	60.73	0.00
134	213089.01	728413.02	60.10	0.10
135	213098.98	728413.07	59.41	0.25
136	213109.00	728413.04	58.49	0.40
137	213119.03	728413.09	57.59	0.50
138	213128.96	728412.93	56.90	0.45
139	213139.11	728413.12	55.44	0.40
140	213148.99	728413.04	54.95	0.25
141	213158.99	728413.00	54.83	0.05
142	213169.02	728413.04	54.12	0.10
143	213179.00	728412.97	53.15	0.05
144	213189.03	728413.01	52.55	0.15

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
145	213199.03	728413.00	52.40	0.05
146	213209.04	728413.03	51.93	0.10
147	213218.96	728413.02	51.84	0.10
148	213228.99	728412.95	51.43	0.00
149	213238.96	728412.97	51.04	0.05
150	213249.01	728413.01	50.39	0.15
151	213048.95	728422.98	65.22	0.60
152	213058.97	728423.06	64.05	0.15
153	213069.01	728422.97	62.18	0.30
154	213078.98	728423.02	61.33	0.60
155	213088.95	728422.94	60.21	0.25
156	213098.94	728422.94	59.30	0.35
157	213108.95	728422.97	58.60	0.50
158	213118.95	728422.99	57.65	0.20
159	213129.05	728423.07	56.41	0.25
160	213139.14	728423.03	56.13	0.50
161	213148.96	728423.05	55.89	0.10
162	213159.05	728422.98	54.84	0.30
163	213169.07	728423.06	54.74	0.10
164	213179.03	728423.07	54.54	0.05
165	213189.02	728423.01	53.47	0.10
166	213199.07	728422.95	53.31	0.05
167	213209.00	728422.98	52.65	0.05
168	213218.98	728422.96	52.29	0.10
169	213229.00	728422.99	51.87	0.00
170	213238.97	728423.03	51.59	0.05
171	213248.95	728422.99	51.29	0.05
172	213259.09	728422.89	50.30	0.15
173	213058.97	728433.02	64.58	0.20
174	213068.98	728432.99	63.34	0.10
175	213079.03	728433.01	61.49	0.20
176	213088.98	728433.05	60.56	0.20
177	213098.93	728433.04	59.52	0.30
178	213108.97	728432.95	58.71	0.55
179	213119.04	728432.98	57.47	0.30
180	213129.03	728432.95	57.33	0.60
181	213138.97	728432.97	56.58	0.25
182	213148.99	728432.97	57.01	0.10
183	213159.04	728432.92	56.14	0.25
184	213168.94	728433.05	55.70	0.10
185	213179.00	728432.92	55.89	0.10
186	213188.99	728433.03	54.66	0.05
187	213199.04	728432.99	54.12	0.05
188	213208.97	728432.96	53.63	0.05
189	213219.02	728433.00	53.22	0.05
190	213228.96	728433.03	52.50	0.05
191	213238.99	728433.04	52.14	0.05
192	213248.99	728433.00	51.85	0.00

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
193	213259.00	728432.97	51.39	0.05
194	213269.02	728433.02	50.63	0.10
195	213068.92	728442.90	64.13	0.10
196	213079.05	728443.03	62.90	0.25
197	213089.02	728443.04	60.95	1.70
198	213099.05	728442.92	60.34	1.50
199	213109.02	728442.98	59.32	1.40
200	213119.00	728442.92	58.30	0.95
201	213129.03	728442.97	57.72	0.75
202	213139.05	728442.98	57.23	0.80
203	213149.00	728442.98	57.16	0.25
204	213158.96	728443.00	56.93	0.50
205	213169.01	728443.02	56.94	0.10
206	213179.02	728442.97	56.58	0.10
207	213189.10	728442.96	55.89	0.05
208	213199.01	728443.02	54.86	0.05
209	213209.02	728443.04	54.34	0.05
210	213219.09	728443.08	53.83	0.05
211	213229.01	728442.97	52.92	0.05
212	213238.98	728443.00	52.74	0.05
213	213248.99	728443.01	52.16	0.00
214	213259.05	728443.01	51.86	0.05
215	213269.04	728443.00	51.01	0.10
216	213279.01	728443.00	50.31	0.10
217	213069.04	728453.01	64.10	0.35
218	213079.09	728453.08	62.63	0.80
219	213088.99	728453.04	61.68	0.20
220	213099.02	728453.06	60.65	1.30
221	213109.05	728453.03	59.43	1.20
222	213118.89	728453.10	59.15	0.40
223	213129.01	728452.99	58.51	0.40
224	213139.00	728453.01	57.98	1.00
225	213149.00	728452.97	57.63	0.20
226	213158.98	728452.98	57.21	0.50
227	213169.02	728452.98	57.02	0.25
228	213179.02	728452.98	56.87	0.10
229	213189.00	728453.00	56.28	0.05
230	213199.05	728452.98	55.42	0.05
231	213208.99	728452.99	54.91	0.05
232	213218.99	728453.01	54.40	0.05
233	213229.06	728452.98	53.82	0.05
234	213238.99	728453.01	53.36	0.00
235	213248.98	728453.03	52.24	0.05
236	213259.03	728453.02	52.14	0.05
237	213269.02	728452.99	51.72	0.05
238	213279.04	728453.01	50.86	0.05
239	213288.99	728453.02	50.44	0.05
240	213079.02	728462.99	63.29	0.55

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
241	213088.95	728463.00	62.89	0.10
242	213099.01	728462.98	61.72	0.70
243	213108.99	728463.04	60.61	0.70
244	213119.00	728463.02	59.66	1.35
245	213128.98	728463.01	59.49	0.30
246	213139.05	728462.99	58.38	0.15
247	213148.89	728462.94	58.37	0.05
248	213158.98	728462.96	58.00	0.05
249	213168.99	728462.94	57.24	0.10
250	213178.98	728463.04	56.87	0.10
251	213188.98	728463.01	56.36	0.05
252	213198.99	728462.99	55.88	0.05
253	213209.02	728463.08	55.13	0.10
254	213219.02	728463.03	54.89	0.05
255	213229.01	728462.99	54.48	0.05
256	213238.97	728463.01	53.67	0.00
257	213249.00	728462.99	53.00	0.05
258	213259.00	728463.01	52.32	0.05
259	213268.97	728463.10	51.78	0.05
260	213279.04	728462.98	51.09	0.05
261	213289.02	728462.98	51.04	0.05
262	213089.04	728472.98	63.48	0.80
263	213098.96	728472.91	62.73	0.10
264	213108.98	728472.99	62.03	0.20
265	213118.97	728472.98	60.66	0.10
266	213128.97	728473.01	59.61	0.90
267	213139.02	728472.96	59.03	0.75
268	213149.02	728472.95	58.75	0.05
269	213159.01	728473.00	58.54	0.10
270	213168.88	728472.94	58.10	0.05
271	213179.03	728472.97	57.42	0.10
272	213188.99	728472.99	56.89	0.05
273	213199.03	728472.99	56.38	0.05
274	213209.06	728473.03	55.45	0.45
275	213219.00	728472.96	54.99	0.10
276	213229.05	728472.98	54.88	0.05
277	213239.07	728473.09	54.16	0.05
278	213248.90	728473.11	53.22	0.05
279	213259.00	728472.98	52.40	0.10
280	213268.98	728472.97	51.86	0.10
281	213279.06	728473.03	51.21	0.10
282	213289.06	728472.94	51.10	0.05
283	213299.03	728472.98	50.80	0.05
284	213089.03	728483.02	64.97	0.30
285	213098.99	728482.99	63.48	0.40
286	213108.97	728482.98	63.76	0.15
287	213119.02	728483.00	61.67	0.10
288	213128.99	728483.00	60.68	0.10

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
289	213139.01	728483.02	59.97	0.25
290	213148.99	728483.03	58.99	1.00
291	213158.96	728483.02	59.29	0.10
292	213169.01	728482.90	59.00	0.05
293	213179.00	728483.06	58.38	0.05
294	213188.98	728483.01	57.57	0.05
295	213199.03	728482.92	56.97	0.05
296	213208.99	728483.11	55.85	0.15
297	213219.05	728483.00	55.20	0.25
298	213229.05	728482.92	55.06	0.10
299	213238.97	728482.99	54.73	0.05
300	213249.04	728483.05	53.82	0.10
301	213259.04	728482.91	52.82	0.15
302	213268.95	728483.02	52.41	0.10
303	213279.03	728483.01	51.51	0.10
304	213288.97	728482.89	51.27	0.05
305	213298.86	728482.86	50.40	0.10
306	213308.96	728482.99	50.99	0.05
307	213098.99	728492.81	64.37	0.95
308	213109.05	728492.81	63.78	0.20
309	213119.09	728493.00	63.20	0.15
310	213129.10	728493.09	61.35	0.20
311	213138.98	728492.99	60.40	0.20
312	213149.01	728493.02	59.48	0.65
313	213158.96	728492.93	59.39	0.05
314	213169.16	728493.05	59.29	0.05
315	213178.99	728493.04	58.77	0.10
316	213188.92	728493.00	58.20	0.10
317	213199.10	728493.11	57.26	0.10
318	213209.04	728492.96	56.36	0.10
319	213219.05	728492.98	55.16	0.25
320	213228.93	728492.96	55.22	0.10
321	213238.94	728492.99	54.98	0.05
322	213248.98	728493.05	54.31	0.00
323	213259.06	728492.89	53.22	0.05
324	213269.03	728493.05	52.40	0.10
325	213279.07	728492.88	51.84	0.05
326	213289.08	728492.97	51.17	0.10
327	213298.97	728492.96	50.30	1.50
328	213308.97	728492.98	50.81	0.10
329	213318.98	728492.93	51.02	0.15
330	213108.99	728503.02	64.36	1.20
331	213119.02	728502.97	63.11	0.10
332	213128.96	728502.98	61.69	0.15
333	213139.02	728503.01	60.75	0.50
334	213148.98	728503.06	60.12	0.10
335	213158.97	728502.98	59.91	0.10
336	213169.03	728503.00	59.52	0.10

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
337	213178.95	728503.03	58.77	0.05
338	213189.04	728503.03	57.72	0.20
339	213198.97	728503.01	57.09	0.10
340	213209.02	728503.01	56.68	0.10
341	213218.99	728502.94	55.90	0.05
342	213228.99	728503.02	54.86	0.85
343	213238.98	728503.05	54.63	1.10
344	213248.99	728502.99	54.54	0.00
345	213259.00	728503.03	53.63	0.05
346	213268.97	728502.96	52.29	0.10
347	213278.99	728502.95	52.08	0.10
348	213289.02	728502.96	51.12	0.05
349	213298.98	728503.02	50.40	1.45
350	213308.99	728502.96	50.72	0.05
351	213318.96	728502.95	52.04	0.05
352	213119.00	728512.98	63.26	0.35
353	213129.03	728512.96	62.08	0.50
354	213139.03	728512.96	61.38	0.15
355	213149.05	728513.02	60.46	0.35
356	213158.98	728512.99	59.79	0.75
357	213168.98	728513.02	59.58	0.15
358	213179.00	728512.99	59.40	0.05
359	213189.02	728512.95	58.45	0.05
360	213199.04	728512.97	57.81	0.10
361	213208.98	728512.98	57.09	0.35
362	213219.04	728512.97	56.70	0.10
363	213229.02	728512.98	55.24	0.50
364	213239.01	728512.95	54.68	1.10
365	213248.99	728513.04	54.78	0.00
366	213259.02	728512.92	53.30	0.40
367	213269.08	728513.00	51.61	1.20
368	213279.06	728513.02	51.24	0.10
369	213289.02	728512.97	50.53	0.35
370	213298.96	728513.00	50.63	1.25
371	213309.01	728513.04	51.48	0.15
372	213319.00	728512.95	51.53	0.80
373	213329.00	728512.97	53.16	0.10
374	213119.02	728522.99	62.87	0.25
375	213128.98	728523.03	62.47	0.50
376	213138.99	728522.97	61.54	0.75
377	213148.98	728522.96	60.82	0.30
378	213159.05	728523.03	60.31	0.10
379	213169.02	728523.01	59.87	0.20
380	213178.98	728523.02	59.57	0.10
381	213189.00	728523.01	59.00	0.05
382	213199.01	728523.00	58.22	0.05
383	213209.07	728522.95	56.98	0.25
384	213218.99	728523.00	56.40	0.35

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
385	213229.04	728523.00	55.64	0.60
386	213239.02	728522.93	55.20	0.50
387	213249.03	728523.03	54.95	0.00
388	213258.96	728523.01	53.47	0.50
389	213268.99	728522.94	51.87	1.75
390	213279.02	728523.02	50.91	1.15
391	213289.01	728522.99	50.47	0.85
392	213298.99	728522.99	51.19	0.60
393	213308.98	728522.98	51.61	1.20
394	213318.97	728523.00	51.74	0.60
395	213329.02	728522.99	53.30	0.05
396	213339.00	728523.01	54.54	0.05
397	213129.00	728532.99	62.70	0.15
398	213138.98	728533.03	62.32	0.25
399	213148.99	728532.98	61.74	0.20
400	213158.97	728532.96	60.51	0.05
401	213169.03	728532.94	60.18	0.05
402	213178.99	728532.97	59.88	0.10
403	213189.00	728532.92	59.14	0.05
404	213199.01	728533.03	58.58	0.05
405	213209.01	728533.01	57.46	0.05
406	213219.05	728533.03	56.76	0.95
407	213229.08	728532.88	55.71	0.60
408	213239.04	728533.04	55.46	0.40
409	213249.06	728532.98	55.39	0.05
410	213259.02	728533.09	53.79	0.35
411	213269.03	728532.97	51.73	1.20
412	213279.02	728533.02	50.96	1.20
413	213288.97	728532.88	50.74	0.65
414	213299.00	728532.94	51.54	0.50
415	213309.09	728533.08	51.67	1.05
416	213319.02	728532.96	52.28	0.80
417	213329.05	728532.91	55.34	0.05
418	213338.91	728533.12	55.45	0.10
419	213139.02	728543.00	62.25	0.20
420	213149.01	728543.01	61.04	0.30
421	213158.98	728542.96	60.75	0.10
422	213168.96	728542.99	60.55	0.05
423	213179.01	728542.97	60.43	0.10
424	213188.99	728542.97	59.83	0.10
425	213199.05	728543.00	59.14	0.05
426	213208.97	728543.02	57.86	0.30
427	213219.02	728542.98	57.66	0.05
428	213229.01	728543.04	57.28	0.05
429	213239.03	728542.97	56.56	0.05
430	213248.94	728543.01	55.74	0.05
431	213258.99	728542.99	54.10	0.25
432	213268.98	728542.99	51.47	0.75

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
433	213279.02	728543.06	51.05	1.00
434	213289.01	728543.01	51.19	0.20
435	213299.01	728542.98	51.82	0.30
436	213309.05	728543.03	52.08	0.80
437	213318.96	728542.97	52.94	1.10
438	213329.01	728543.00	56.90	0.05
439	213339.03	728543.00	55.76	0.70
440	213349.00	728542.98	55.59	0.10
441	213149.05	728553.04	61.21	0.20
442	213158.99	728552.92	60.72	0.15
443	213169.05	728552.99	60.67	0.25
444	213178.98	728552.95	60.50	0.20
445	213188.96	728552.97	59.91	0.10
446	213199.01	728552.98	59.41	0.05
447	213209.01	728552.99	58.61	0.30
448	213219.01	728552.99	58.41	0.05
449	213229.02	728553.02	57.74	0.05
450	213239.02	728552.98	56.52	0.10
451	213249.00	728552.96	56.35	0.00
452	213259.02	728552.99	54.54	0.05
453	213269.03	728552.99	51.73	0.50
454	213278.99	728553.04	51.33	1.00
455	213289.00	728552.97	51.57	0.35
456	213299.02	728553.03	51.95	0.45
457	213309.01	728553.01	52.38	1.00
458	213319.00	728553.04	53.22	0.70
459	213329.03	728552.99	56.12	0.05
460	213338.93	728552.97	56.71	0.10
461	213349.03	728552.97	56.33	0.50
462	213358.98	728553.03	57.02	0.10
463	213149.02	728563.02	61.73	0.05
464	213158.95	728563.01	60.67	0.30
465	213169.01	728563.01	60.88	0.05
466	213178.98	728563.00	60.33	0.20
467	213188.99	728563.04	59.84	1.95
468	213199.01	728563.01	59.10	0.25
469	213209.04	728563.01	59.15	0.05
470	213219.01	728563.02	58.47	0.10
471	213229.01	728563.02	57.38	0.65
472	213238.96	728563.00	56.68	0.20
473	213249.01	728562.92	56.76	0.00
474	213259.03	728563.01	54.88	0.05
475	213269.00	728562.96	51.71	0.55
476	213279.00	728563.00	51.33	1.10
477	213288.99	728563.02	51.72	0.25
478	213299.04	728562.98	52.22	0.50
479	213309.01	728563.03	52.43	0.70
480	213319.00	728563.00	53.64	0.90

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
481	213329.01	728563.03	55.84	0.05
482	213339.05	728562.98	56.74	0.05
483	213349.05	728563.04	56.70	0.40
484	213358.98	728563.02	56.81	0.35
485	213369.00	728563.01	56.50	0.10
486	213159.07	728572.98	62.44	0.10
487	213169.00	728573.01	61.89	0.10
488	213179.01	728573.01	60.73	0.05
489	213188.98	728573.02	60.01	1.00
490	213198.96	728573.00	59.54	0.10
491	213209.00	728572.94	59.17	0.05
492	213219.04	728573.02	58.04	0.40
493	213228.97	728573.02	57.61	0.50
494	213238.99	728572.96	58.46	0.05
495	213249.02	728573.03	57.22	0.10
496	213259.03	728573.03	57.03	0.00
497	213268.98	728572.95	52.78	0.10
498	213278.99	728572.97	51.72	1.20
499	213289.08	728573.01	51.90	0.15
500	213299.02	728573.00	52.18	0.45
501	213308.96	728572.99	52.66	1.25
502	213318.91	728573.09	54.90	0.05
503	213329.06	728573.03	55.09	0.10
504	213339.05	728572.99	55.89	0.05
505	213349.00	728572.98	56.96	0.05
506	213358.98	728572.96	56.92	0.05
507	213369.02	728572.99	57.02	0.05
508	213169.01	728582.98	62.25	0.10
509	213179.05	728582.99	61.32	0.10
510	213189.03	728583.02	60.10	0.10
511	213199.01	728582.97	59.57	0.10
512	213209.01	728582.98	59.15	0.60
513	213219.03	728583.01	58.34	0.10
514	213228.99	728583.01	59.06	0.10
515	213239.01	728583.01	58.64	0.10
516	213249.00	728583.04	57.44	0.00
517	213258.99	728582.93	57.09	0.00
518	213268.98	728583.01	53.76	0.10
519	213278.98	728583.02	52.25	0.15
520	213288.99	728583.01	51.90	0.35
521	213298.99	728582.97	52.25	0.20
522	213309.01	728582.99	52.73	1.00
523	213319.03	728583.04	55.12	0.10
524	213329.06	728582.99	56.31	0.05
525	213339.00	728583.02	55.31	0.05
526	213348.97	728582.98	56.37	0.05
527	213359.00	728583.00	57.17	0.05
528	213369.02	728582.98	57.38	0.15

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
529	213379.00	728583.05	56.55	0.10
530	213178.99	728592.95	60.62	0.60
531	213189.02	728592.96	60.06	0.25
532	213199.04	728592.97	59.55	0.10
533	213209.00	728593.00	58.81	0.30
534	213219.03	728593.05	59.41	0.05
535	213228.99	728593.04	58.93	0.05
536	213239.05	728592.98	58.26	0.05
537	213249.02	728592.99	57.57	0.00
538	213259.00	728592.98	57.08	0.05
539	213268.99	728593.01	53.76	0.20
540	213279.01	728592.96	52.81	1.00
541	213289.02	728593.02	51.86	1.20
542	213299.05	728593.00	52.47	0.70
543	213309.03	728592.97	52.81	1.15
544	213319.01	728592.99	54.81	0.05
545	213328.97	728592.98	55.48	0.10
546	213339.03	728593.00	57.57	0.05
547	213348.98	728593.01	55.87	0.10
548	213359.00	728592.95	56.47	0.05
549	213369.01	728592.99	57.45	0.10
550	213378.97	728592.97	57.38	0.05
551	213388.99	728593.00	56.52	0.05
552	213179.02	728602.99	60.61	1.55
553	213189.03	728602.98	60.22	1.20
554	213198.99	728602.94	60.40	0.05
555	213209.05	728603.02	60.05	0.05
556	213219.02	728602.99	60.30	0.00
557	213229.03	728603.03	58.74	0.10
558	213239.02	728602.98	58.29	0.05
559	213249.05	728602.97	57.06	0.15
560	213259.05	728602.96	55.36	0.70
561	213269.03	728603.02	54.79	0.40
562	213279.00	728603.00	53.23	0.65
563	213288.98	728603.01	52.47	1.45
564	213299.02	728602.97	52.39	1.35
565	213309.01	728602.94	54.08	0.05
566	213319.03	728603.02	54.66	0.10
567	213328.99	728603.00	54.85	0.10
568	213339.00	728603.02	55.55	0.05
569	213349.01	728603.07	55.73	0.10
570	213359.01	728603.05	56.42	0.00
571	213368.95	728603.05	56.47	0.00
572	213378.98	728603.02	57.09	0.00
573	213389.05	728602.95	56.52	0.00
574	213399.00	728603.00	56.01	0.05
575	213189.02	728612.96	60.20	1.95
576	213199.00	728612.98	59.61	0.50

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
577	213209.01	728613.01	60.33	0.00
578	213219.01	728613.00	59.60	0.20
579	213229.03	728612.99	58.76	0.10
580	213238.94	728612.95	57.29	0.50
581	213249.00	728612.99	57.71	0.00
582	213258.99	728613.01	57.41	0.40
583	213268.97	728612.96	55.89	0.20
584	213279.00	728613.03	54.76	0.15
585	213288.97	728613.00	52.91	1.10
586	213299.02	728612.95	52.67	0.10
587	213309.04	728612.96	52.55	1.50
588	213318.98	728612.99	54.49	0.05
589	213329.01	728613.06	55.00	0.05
590	213339.03	728612.97	55.27	0.05
591	213348.89	728613.06	55.74	0.05
592	213359.04	728612.97	55.82	0.05
593	213368.99	728612.99	56.32	0.05
594	213378.95	728613.01	56.67	0.00
595	213389.02	728612.98	56.58	0.00
596	213399.05	728612.99	56.32	0.00
597	213198.99	728623.02	59.44	1.10
598	213209.00	728623.09	59.30	0.25
599	213219.02	728623.04	58.96	1.40
600	213229.02	728622.96	58.32	0.25
601	213238.98	728622.98	58.03	0.40
602	213249.01	728623.01	58.13	0.00
603	213258.99	728622.97	57.58	0.15
604	213269.01	728622.99	56.13	0.40
605	213279.03	728623.00	55.13	0.10
606	213289.00	728622.98	53.26	0.90
607	213298.99	728622.97	53.00	1.20
608	213308.99	728622.99	52.55	1.00
609	213319.02	728622.99	53.80	0.10
610	213328.99	728623.00	55.16	0.10
611	213339.01	728622.98	55.59	0.05
612	213349.02	728623.00	55.66	0.05
613	213359.00	728623.02	56.32	0.05
614	213369.02	728623.01	56.21	0.05
615	213378.97	728622.99	56.40	0.05
616	213388.97	728622.98	56.50	0.00
617	213398.94	728623.03	56.38	0.05
618	213409.05	728623.00	56.29	0.10
619	213199.02	728632.97	58.15	2.00
620	213208.97	728632.98	59.13	1.50
621	213218.99	728633.04	58.66	1.25
622	213228.95	728632.97	58.35	1.10
623	213239.00	728633.03	58.00	0.75
624	213249.02	728632.95	58.43	0.05

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
625	213259.00	728632.97	57.53	0.20
626	213269.01	728632.95	56.39	0.10
627	213279.05	728632.99	55.61	0.40
628	213289.02	728633.03	53.64	0.80
629	213299.00	728632.94	53.39	0.30
630	213309.07	728633.02	52.81	0.60
631	213319.02	728633.01	53.02	0.70
632	213329.02	728633.02	54.53	0.05
633	213339.01	728633.05	55.49	0.05
634	213349.01	728632.98	55.66	0.05
635	213359.00	728633.00	56.20	0.05
636	213369.03	728632.94	56.14	0.05
637	213379.01	728632.99	56.30	0.05
638	213389.04	728633.04	56.33	0.05
639	213398.97	728632.96	56.42	0.05
640	213409.02	728632.99	56.41	0.10
641	213418.97	728632.96	56.34	0.10
642	213209.04	728643.02	57.84	1.00
643	213219.03	728643.01	57.55	1.00
644	213229.06	728642.96	57.27	1.30
645	213238.97	728643.01	57.23	0.10
646	213249.00	728643.01	57.10	0.15
647	213259.04	728642.98	56.19	0.20
648	213268.97	728642.94	56.42	0.20
649	213279.05	728642.99	56.26	0.30
650	213289.00	728643.01	54.10	0.50
651	213299.02	728643.03	54.05	0.75
652	213308.96	728642.97	53.67	0.10
653	213319.03	728642.96	53.09	0.60
654	213329.03	728642.98	53.29	0.85
655	213338.99	728642.99	53.77	0.20
656	213349.01	728643.03	55.42	0.05
657	213359.03	728642.97	55.53	0.05
658	213369.02	728643.00	55.82	0.05
659	213379.05	728643.04	56.11	0.05
660	213388.98	728643.04	56.14	0.05
661	213398.97	728642.99	56.22	0.05
662	213409.04	728642.94	56.34	0.10
663	213418.99	728642.98	56.39	0.05
664	213218.98	728653.02	59.17	0.10
665	213228.98	728652.94	58.70	0.20
666	213238.99	728653.03	59.05	0.00
667	213249.04	728653.01	58.06	0.15
668	213258.98	728653.01	57.02	0.05
669	213269.01	728652.98	55.32	0.00
670	213278.98	728653.03	55.77	0.05
671	213289.05	728653.01	56.07	0.05
672	213299.02	728652.98	55.64	0.10

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
673	213309.03	728652.99	55.59	0.05
674	213319.02	728652.99	55.61	0.10
675	213329.01	728652.95	53.68	0.50
676	213338.99	728652.97	53.28	0.40
677	213349.01	728653.00	53.50	0.50
678	213358.98	728653.04	54.82	0.05
679	213369.00	728652.98	55.26	0.05
680	213379.04	728653.02	55.63	0.05
681	213389.05	728652.97	55.83	0.05
682	213398.99	728652.98	55.90	0.05
683	213408.98	728652.99	56.06	0.05
684	213419.00	728652.98	56.29	0.05
685	213429.03	728653.00	56.01	0.05
686	213228.97	728663.03	58.99	0.10
687	213238.95	728662.97	58.53	0.05
688	213248.99	728663.00	57.68	0.20
689	213259.03	728663.01	56.40	0.40
690	213269.05	728663.04	56.74	0.50
691	213278.96	728662.97	56.32	0.10
692	213288.97	728662.94	56.15	0.05
693	213299.02	728662.96	55.77	0.10
694	213309.02	728663.03	55.86	0.05
695	213319.06	728662.98	55.83	0.10
696	213328.96	728663.03	55.28	0.05
697	213338.98	728662.98	54.19	0.25
698	213348.88	728662.82	53.41	1.00
699	213359.03	728662.98	54.62	0.05
700	213368.99	728663.04	55.21	0.05
701	213378.96	728662.99	55.50	0.05
702	213389.01	728663.01	55.48	0.05
703	213399.04	728662.95	55.72	0.05
704	213409.05	728663.00	56.11	0.05
705	213418.98	728662.95	56.05	0.05
706	213429.01	728663.03	56.01	0.10
707	213439.03	728662.98	55.67	0.10
708	213229.01	728672.98	59.50	0.00
709	213239.04	728673.02	57.96	0.25
710	213249.05	728673.01	57.39	0.10
711	213259.07	728672.97	57.81	0.10
712	213269.01	728673.00	57.55	0.05
713	213279.07	728672.99	56.65	0.05
714	213289.01	728672.98	56.25	0.10
715	213299.04	728673.00	56.00	0.20
716	213309.02	728672.96	56.19	0.05
717	213319.01	728673.01	56.19	0.10
718	213328.99	728673.02	55.97	0.05
719	213339.02	728672.98	55.13	0.10
720	213349.02	728672.98	53.67	0.60

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
721	213359.00	728672.99	53.70	0.65
722	213368.98	728672.94	54.66	0.20
723	213378.93	728673.01	55.24	0.05
724	213389.04	728672.99	55.46	0.10
725	213399.00	728672.97	55.67	0.05
726	213409.06	728672.96	56.02	0.05
727	213419.01	728673.00	56.11	0.05
728	213429.03	728672.97	56.40	0.05
729	213438.98	728672.99	56.13	0.05
730	213449.03	728673.11	55.02	0.05
731	213239.02	728683.00	57.31	0.00
732	213249.02	728682.95	57.52	0.80
733	213258.98	728682.97	57.83	0.10
734	213268.97	728683.00	57.69	0.10
735	213278.99	728683.00	57.39	0.05
736	213288.99	728682.93	56.76	0.05
737	213298.95	728682.99	56.69	0.05
738	213309.00	728682.95	56.58	0.10
739	213318.96	728683.03	56.30	0.10
740	213329.03	728683.04	55.97	0.10
741	213338.99	728682.99	54.86	0.20
742	213349.04	728683.00	54.50	0.15
743	213358.92	728683.00	53.92	0.60
744	213368.97	728682.95	54.31	0.55
745	213378.98	728682.98	55.04	0.10
746	213389.01	728683.00	55.74	0.05
747	213398.98	728683.05	55.83	0.10
748	213409.03	728682.96	56.17	0.05
749	213418.97	728683.01	56.47	0.05
750	213429.02	728683.03	56.41	0.05
751	213439.00	728683.03	55.75	0.05
752	213449.05	728683.03	55.57	0.05
753	213249.00	728692.99	57.74	0.80
754	213258.96	728692.99	57.84	0.15
755	213269.04	728692.95	57.99	0.05
756	213279.03	728693.00	57.77	0.05
757	213288.99	728692.93	57.31	0.05
758	213299.03	728693.00	56.97	0.10
759	213309.01	728692.94	56.64	0.30
760	213318.99	728692.97	56.42	0.05
761	213328.97	728693.02	55.96	0.10
762	213339.05	728692.99	55.68	0.05
763	213349.03	728692.97	54.81	0.65
764	213359.02	728693.00	54.03	0.60
765	213369.01	728693.04	54.64	0.55
766	213379.05	728692.96	55.05	0.10
767	213389.02	728693.01	55.32	0.15
768	213399.02	728692.89	55.94	0.05

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
769	213409.03	728692.95	56.28	0.00
770	213419.03	728692.96	55.92	0.05
771	213429.05	728693.01	55.93	0.05
772	213438.97	728693.00	55.96	0.05
773	213449.04	728693.01	55.88	0.20
774	213459.06	728692.95	54.87	0.05
775	213259.02	728702.97	58.10	0.20
776	213269.04	728702.96	58.20	0.40
777	213278.99	728703.02	57.97	0.10
778	213288.98	728702.98	57.74	0.10
779	213299.04	728702.98	57.32	0.10
780	213308.96	728702.97	56.69	0.40
781	213319.02	728703.01	56.46	0.20
782	213329.03	728702.98	56.00	0.10
783	213339.01	728703.03	56.00	0.05
784	213348.97	728703.08	55.10	0.60
785	213359.02	728703.00	54.58	0.60
786	213369.01	728702.98	55.02	0.50
787	213378.98	728703.02	54.87	0.75
788	213389.00	728702.95	55.99	0.05
789	213399.03	728703.01	56.09	0.00
790	213408.96	728703.02	55.69	0.40
791	213418.99	728702.96	55.80	0.50
792	213429.03	728702.98	56.05	0.30
793	213439.04	728703.01	55.99	0.70
794	213448.99	728703.02	56.09	0.60
795	213459.00	728702.98	56.50	0.05
796	213469.02	728703.01	54.35	0.40
797	213259.05	728712.98	58.43	0.60
798	213269.03	728713.00	58.42	0.50
799	213279.02	728713.04	58.14	0.25
800	213288.97	728713.02	57.65	0.10
801	213298.98	728712.96	57.48	0.05
802	213308.99	728713.04	56.94	0.10
803	213319.00	728713.03	56.02	0.65
804	213328.99	728713.00	56.07	0.05
805	213338.99	728713.01	56.14	0.05
806	213349.01	728712.95	56.13	0.05
807	213359.00	728713.00	55.86	0.05
808	213369.04	728713.03	55.70	0.05
809	213378.99	728712.94	55.97	0.05
810	213389.05	728712.97	56.06	0.00
811	213398.95	728713.00	55.52	0.25
812	213409.01	728712.98	55.80	0.45
813	213419.01	728712.96	55.94	0.55
814	213429.07	728713.01	56.03	0.50
815	213438.98	728712.97	55.99	0.50
816	213449.03	728712.99	56.25	0.20

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
817	213268.99	728723.02	58.43	0.50
818	213278.96	728723.01	58.17	0.20
819	213289.00	728723.03	57.69	0.15
820	213298.98	728723.00	57.33	0.10
821	213309.02	728723.08	57.14	0.05
822	213319.00	728723.04	56.68	0.10
823	213329.00	728722.99	56.62	0.05
824	213339.02	728723.01	56.42	0.05
825	213348.99	728723.00	56.24	0.10
826	213359.04	728723.03	56.11	0.05
827	213369.03	728722.98	55.89	0.00
828	213379.00	728723.01	55.34	0.80
829	213389.02	728723.01	55.46	0.90
830	213398.98	728722.98	55.49	1.00
831	213408.99	728722.99	55.83	0.45
832	213418.98	728722.97	56.03	0.50
833	213429.03	728723.03	55.98	0.65
834	213438.96	728723.02	56.06	0.75
835	213279.07	728733.00	58.42	1.00
836	213288.99	728732.95	57.81	0.10
837	213299.01	728732.98	57.22	0.75
838	213309.00	728733.00	57.02	0.10
839	213318.95	728732.97	56.87	0.05
840	213329.00	728732.96	56.94	0.05
841	213339.00	728732.96	56.76	0.05
842	213349.00	728733.01	56.35	0.05
843	213358.98	728732.94	55.97	0.05
844	213368.99	728733.05	55.49	1.00
845	213379.00	728732.97	55.53	0.70
846	213389.00	728732.96	55.57	1.00
847	213398.99	728733.03	55.67	1.15
848	213409.01	728733.00	55.74	0.65
849	213418.95	728732.99	55.83	0.20
850	213429.01	728732.94	56.09	0.55
851	213278.97	728742.92	58.32	0.20
852	213289.03	728743.02	57.91	0.15
853	213299.02	728742.98	57.63	1.40
854	213308.98	728743.06	56.98	1.00
855	213319.05	728743.02	56.98	0.10
856	213329.00	728743.04	57.00	0.05
857	213339.05	728742.97	56.72	0.05
858	213348.99	728743.00	56.03	0.10
859	213359.04	728742.99	55.86	1.30
860	213369.05	728742.99	55.71	1.00
861	213379.04	728742.99	55.72	0.50
862	213389.02	728743.03	55.58	0.60
863	213398.99	728742.95	55.71	2.20
864	213409.02	728742.98	55.79	0.60

PROBE LOCATION	EASTING	NORTHING	LEVEL (mAOD)	SOFT SOIL / PEAT DEPTH (m BGL)
865	213419.03	728742.99	55.88	0.65
866	213289.05	728752.96	58.73	0.20
867	213299.02	728752.98	57.55	0.75
868	213309.03	728752.93	57.14	0.50
869	213319.01	728752.99	56.84	0.20
870	213329.02	728753.02	56.69	0.05
871	213339.03	728753.04	56.10	0.70
872	213349.06	728752.98	55.83	0.65
873	213359.00	728752.99	55.93	1.40
874	213369.05	728753.03	55.92	0.55
875	213378.99	728753.00	56.20	1.00
876	213388.97	728752.94	55.92	0.45
877	213399.03	728753.02	55.94	0.50
878	213299.04	728762.99	57.39	1.35
879	213309.04	728763.01	57.10	1.40
880	213319.01	728762.99	56.73	1.25
881	213329.02	728762.99	56.39	1.65
882	213339.03	728762.95	56.17	0.70
883	213349.02	728763.02	56.23	1.60
884	213358.99	728762.97	56.24	1.20
885	213369.03	728762.98	56.28	1.10
886	213378.97	728763.02	56.36	0.70
887	213389.02	728762.99	56.17	0.60
888	213309.00	728772.99	56.92	0.45
889	213319.04	728772.95	56.71	0.80
890	213329.02	728772.99	56.39	1.20
891	213339.02	728772.97	56.32	0.65
892	213348.99	728772.97	56.29	1.00
893	213359.03	728773.02	56.30	0.70
894	213368.97	728773.01	56.38	1.00
895	213378.96	728773.00	56.44	1.00
896	213309.01	728783.05	57.06	0.80
897	213319.01	728782.97	56.70	0.55
898	213328.99	728783.04	56.67	1.40
899	213339.01	728782.97	56.57	0.70
900	213348.97	728783.01	56.73	1.75
901	213359.05	728782.99	56.60	1.15
902	213319.04	728793.00	56.80	1.25
903	213328.98	728792.99	56.84	0.70
904	213339.00	728793.00	56.82	1.15
905	213348.97	728792.99	56.81	1.00
906	213329.01	728803.00	57.09	1.20
907	213339.00	728803.01	56.90	1.35

6762 CRUACHAN 2 LAY DOWN AREA - PEAT SAMPLING & TESTING

SKF Ltd
Ground Investigation & Site Surveys

PROBE LOCATION	SOFT SOIL / PEAT DEPTH (m BGL)	PHOTO	FIRMNESS OF SURFACE [P0-P3]	VEG IN 15M	VON POST [H1-H10]	FINE FIBRES [F0-F3]	ROOT FIBRES [R0-R3]	WOOD REMAINS [W0-W3]	HV @0.50 KPa	HV @1.00 KPa	HV @1.50 KPa	HV @2.00 KPa	SAMPLE	DESCRIPTION
10	1.05		P3	ROUGH GRASS, MOSS	H6	F2	R1	W1	26	28			0.55-1.05	Very soft dark brown pseudo fibrous PEAT.
197	0.70		P2	ROUGH GRASS, MOSS	H7	F2	R1	W0	21				0.20-0.70	Very soft dark brown pseudo fibrous PEAT.
220	1.30		P2	ROUGH GRASS, MOSS	H7	F1	R1	W1	12	15			0.80-1.30	Very soft dark brown pseudo fibrous PEAT.
244	1.35		P2	ROUGH GRASS, MOSS	H8	F1	R1	W1	18	18			0.85-1.35	Very soft dark brown and brown pseudo fibrous PEAT.
327	1.50		P1	ROUGH GRASS, MOSS, RUSH	H7	F1	R2	W0	18	32	42		1.00-1.50	Very soft dark brown slightly sandy pseudo fibrous PEAT. Ground rutted. Next to burn.

6762 CRUACHAN 2 LAY DOWN AREA - PEAT SAMPLING & TESTING

SKF Ltd
Ground Investigation & Site Surveys

PROBE LOCATION	SOFT SOIL / PEAT DEPTH (m BGL)	PHOTO	FIRMNESS OF SURFACE [P0-P3]	VEG IN 15M	VON POST [H1-H10]	FINE FIBRES [F0-F3]	ROOT FIBRES [R0-R3]	WOOD REMAINS [W0-W3]	HV @0.50 KPa	HV @1.00 KPa	HV @1.50 KPa	HV @2.00 KPa	SAMPLE	DESCRIPTION
349	1.45		P1	ROUGH GRASS, MOSS, RUSH	H7	F1	R2	W0	18	20			0.95-1.45	Very soft dark brown pseudo fibrous PEAT. Ground rutted.
389	1.75		P2	ROUGH GRASS, MOSS, RUSH	H7	F1	R2	W0	18	20	38		1.25-1.75	Very soft dark brown pseudo fibrous PEAT.
412	1.20		P1	ROUGH GRASS, MOSS, RUSH	H7	F1	R1	W0	18	24			0.70-1.20	Very soft dark brown pseudo fibrous PEAT. Slightly sandy at base. Standing water / flooded
467	1.95		P2	ROUGH GRASS, MOSS, RUSH	H7	F1	R1	W0	23	25	30		1.45-1.95	Very soft dark brown pseudo fibrous PEAT.
501	1.25		P2	ROUGH GRASS, MOSS, RUSH	H8	F1	R1	W0	26	34			10.75-1.25	Very soft dark brown pseudo fibrous PEAT.

6762 CRUACHAN 2 LAY DOWN AREA - PEAT SAMPLING & TESTING

SKF Ltd
Ground Investigation & Site Surveys

PROBE LOCATION	SOFT SOIL / PEAT DEPTH (m BGL)	PHOTO	FIRMNESS OF SURFACE [P0-P3]	VEG IN 15M	VON POST [H1-H10]	FINE FIBRES [F0-F3]	ROOT FIBRES [R0-R3]	WOOD REMAINS [W0-W3]	HV @0.50 KPa	HV @1.00 KPa	HV @1.50 KPa	HV @2.00 KPa	SAMPLE	DESCRIPTION
552	1.55		P2	ROUGH GRASS, MOSS, RUSH	H7	F1	R1	W1	18	20	32		1.05-1.55	Very soft dark brown pseudo fibrous PEAT.
575	1.95		P2	ROUGH GRASS, MOSS, RUSH	H8	F1	R1	W0	24	26	22		1.45-1.95	Very soft dark brown pseudo fibrous PEAT.
599	1.40		P1	ROUGH GRASS, MOSS, RUSH	H7	F2	R1	W1	26	26			0.90-1.40	Very soft dark brown pseudo fibrous PEAT. Standing water / flooded
619	2.00		P2	ROUGH GRASS, MOSS	H7	F1	R1	W1	24	28	28	42	1.50-2.00	Very soft dark brown pseudo fibrous PEAT.
644	1.30		P1	ROUGH GRASS, MOSS	H8	F1	R1	W0	18	38			0.80-1.30	Very soft dark brown pseudo fibrous PEAT. Locally dark greyish brown. Close to road. Standing water / flooded

6762 CRUACHAN 2 LAY DOWN AREA - PEAT SAMPLING & TESTING

SKF Ltd
Ground Investigation & Site Surveys

PROBE LOCATION	SOFT SOIL / PEAT DEPTH (m BGL)	PHOTO	FIRMNESS OF SURFACE [P0-P3]	VEG IN 15M	VON POST [H1-H10]	FINE FIBRES [F0-F3]	ROOT FIBRES [R0-R3]	WOOD REMAINS [W0-W3]	HV @0.50 KPa	HV @1.00 KPa	HV @1.50 KPa	HV @2.00 KPa	SAMPLE	DESCRIPTION
863	2.20		P1	ROUGH GRASS, MOSS	H7	F2	R2	W0	18	20	34	34	1.70-2.20	Very soft brown pseudo fibrous PEAT. Standing water / flooded
881	1.65		P2	ROUGH GRASS, RUSH	H8	F1	R1	W0	16	20	20		1.15-1.65	Very soft dark greyish brown pseudo fibrous PEAT. Slightly sandy.
883	1.60		P1	ROUGH GRASS, MOSS	H8	F1	R1	W0	12	16	18		1.10-1.60	Very soft dark brown pseudo fibrous PEAT.
890	1.20		P1	ROUGH GRASS, MOSS	H7	F1	R1	W0	26	34			0.70-1.20	Very soft dark brown pseudo fibrous PEAT. Slightly sandy at base. Standing water / flooded
900	1.75		P1	ROUGH GRASS, MOSS	H8	F1	R1	W1	20	26	30		1.25-1.75	Very soft dark brown pseudo fibrous PEAT. Traces of sand and gravel.

6762 CRUACHAN 2 LAY DOWN AREA - PEAT SAMPLING & TESTING

SKF Ltd
Ground Investigation & Site Surveys

PROBE LOCATION	SOFT SOIL / PEAT DEPTH (m BGL)	PHOTO	FIRMNESS OF SURFACE [P0-P3]	VEG IN 15M	VON POST [H1-H10]	FINE FIBRES [F0-F3]	ROOT FIBRES [R0-R3]	WOOD REMAINS [W0-W3]	HV @0.50 KPa	HV @1.00 KPa	HV @1.50 KPa	HV @2.00 KPa	SAMPLE	DESCRIPTION
904	1.15		P1	ROUGH GRASS, MOSS	H8	F1	R1	W0	16	18			0.65-1.15	Very soft dark brown pseudo fibrous PEAT.

LABORATORY TEST CERTIFICATE

MATtest Limited
materials testing & consultancy

10 Queenslie Point
Queenslie Industrial Estate
120 Stepps Road
Glasgow
G33 3NQ

Tel: 0141 774 4032

email: info@mattest.org
Website: www.mattest.org

Certificate No : **22/484 - 01**

To : **Scott Farquhar**

Client : **SKF Ltd.**
Constablewood Estate
Brisbane Glen
Largs
KA30 8SN

LABORATORY TESTING OF SOIL

Introduction

We refer to samples taken from Cruachan 2 Lay Down Area and delivered to our laboratory on 22nd April 2022.

Material & Source

Sample Reference	:	See Report Plates
Sampled By	:	Client
Sampling Certificate	:	Not Supplied
Location	:	See Report Plates
Description	:	See Page 2
Date Sampled	:	Not Supplied
Date Tested	:	22nd April 2022 Onwards
Source	:	6762 - Cruachan 2 Lay Down Area

Test Results

As Detailed On Page 2 to Page 6 inclusive

Comments

The results contained in this report relate to the sample(s) as received
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
All remaining samples for this project will be disposed of 28 days after issue of this test certificate

Remarks

Approved for Issue

T McLelland (Director)

Date 06/05/2022

UKAS TESTING
2643

MATtest Limited
materials testing & consultancy

BOREHOLE	SAMPLE	DEPTH (m)	
10	C	0.55-1.05	
197	C	0.20-0.70	
220	C	0.80-1.30	
244	C	0.85-1.35	
327	C	1.00-1.50	
349	C	0.95-1.45	
389	C	1.25-1.75	
412	C	0.70-1.20	
467	C	1.45-1.95	
501	C	10.75-11.25	
552	C	1.05-1.55	
575	C	1.45-1.95	
599	C	0.90-1.40	
619	C	1.50-2.00	
644	C	0.80-1.30	
863	C	1.70-2.20	
881	C	1.15-1.65	
883	C	1.10-1.60	
890	C	0.70-1.20	
900	C	1.25-1.75	
904	C	0.65-1.15	

SUMMARY OF SAMPLES

BOREHOLE	SAMPLE	DEPTH (m)	MOISTURE CONTENT (%)
10	C	0.55-1.05	547
197	C	0.20-0.70	465
220	C	0.80-1.30	720
244	C	0.85-1.35	598
327	C	1.00-1.50	239
349	C	0.95-1.45	704
389	C	1.25-1.75	508
412	C	0.70-1.20	403
467	C	1.45-1.95	558
501	C	10.75-11.25	722
552	C	1.05-1.55	711
575	C	1.45-1.95	765
599	C	0.90-1.40	557
619	C	1.50-2.00	560
644	C	0.80-1.30	691
863	C	1.70-2.20	801
881	C	1.15-1.65	397
883	C	1.10-1.60	697
890	C	0.70-1.20	319
900	C	1.25-1.75	463
904	C	0.65-1.15	783

Tested in accordance with BS 1377: Part 2: 1990: Clause 3

SUMMARY OF MOISTURE CONTENT TEST RESULTS

BOREHOLE	SAMPLE	DEPTH (m)	MOISTURE CONTENT (%)	BULK DENSITY (Mg/m^3)	DRY DENSITY (Mg/m^3)
10	C	0.55-1.05	547	1.02	0.16
197	C	0.20-0.70	465	1.03	0.18
220	C	0.80-1.30	720	1.08	0.13
244	C	0.85-1.35	598	1.05	0.15
327	C	1.00-1.50	239	1.05	0.31
349	C	0.95-1.45	704	1.04	0.13
389	C	1.25-1.75	508	1.07	0.18
412	C	0.70-1.20	403	1.08	0.21
467	C	1.45-1.95	558	1.05	0.16
501	C	10.75-11.25	722	1.05	0.13
552	C	1.05-1.55	711	1.04	0.13
575	C	1.45-1.95	765	1.03	0.12
599	C	0.90-1.40	557	1.05	0.16
619	C	1.50-2.00	560	1.07	0.16
644	C	0.80-1.30	691	1.03	0.13
863	C	1.70-2.20	801	1.05	0.12
881	C	1.15-1.65	397	1.03	0.21
883	C	1.10-1.60	697	1.05	0.13
890	C	0.70-1.20	319	1.08	0.26
900	C	1.25-1.75	463	1.04	0.18
904	C	0.65-1.15	783	1.04	0.12

Tested in accordance with BS1377 Part 2 : 1990
Bulk Density : Linear Measurement

SUMMARY OF MOISTURE CONTENT AND DENSITY TEST RESULTS

BOREHOLE	SAMPLE	DEPTH (m)	SPECIMEN § ORIENTATION	SAMPLE PASSING 2mm SIEVE (%)	SULPHIDES DETECTED IN SAMPLE	CHLORIDES DETECTED IN SAMPLE	AVERAGE ORGANIC CONTENT (%)
327	C	1.00-1.50	N/A	98	N	N	19.9
412	C	0.70-1.20	N/A	99	N	N	16.2
467	C	1.45-1.95	N/A	96	N	N	24.0
881	C	1.15-1.65	N/A	99	N	N	19.9
890	C	0.70-1.20	N/A	94	N	N	17.6
900	C	1.25-1.75	N/A	95	N	N	23.5

All samples tested in accordance with Clause 4 of BS 1377: Part 3 : 2018 + A1 2021.
All tests performed on fraction of sample passing 2mm sieve

§ Specimen orientation :

N/A	Not applicable due to preparation method and/or sample type
V	Cut vertically from undisturbed sample
H	Cut horizontally from undisturbed sample

SUMMARY OF ORGANIC MATTER CONTENT TEST RESULTS

BOREHOLE	SAMPLE	DEPTH (m)	% MATERIAL LESS THAN 2mm	LOSS ON IGNITION (%)
10	C	0.55-1.05	86	78.4
197	C	0.20-0.70	92	76.3
220	C	0.80-1.30	95	86.3
244	C	0.85-1.35	94	87.6
349	C	0.95-1.45	99	75.0
389	C	1.25-1.75	85	76.4
501	C	10.75-11.25	93	93.5
552	C	1.05-1.55	92	91.0
575	C	1.45-1.95	98	82.4
599	C	0.90-1.40	96	80.6
619	C	1.50-2.00	93	65.3
644	C	0.80-1.30	79	92.6
863	C	1.70-2.20	96	96.5
883	C	1.10-1.60	86	79.3
904	C	0.65-1.15	90	79.1

All samples tested in accordance with Clause 6 of BS 1377: Part 3: 2018 + A1 2021. All tests performed on fraction of sample passing 2mm sieve

§ Specimen orientation :	
N/A	Not applicable due to preparation method and/or sample type
V	Cut vertically from undisturbed sample
H	Cut horizontally from undisturbed sample

SUMMARY OF MASS LOSS ON IGNITION TEST RESULTS