SSEN Transmission Cambushinnie 400kV Substation Upgrade

Additional Peat Probe Survey

Client name	Project name	Project number
Scottish & Southern Electricity Networks (SSEN) Transmission	Cambushinnie 400kV Substation Upgrade	60721943

Prepared by	Checked by	Verified by	Approved by
Sally Bennett	Claire Vallis	David Raeside	
Date: 20.12.2024	Date: 10.01.2025	Date: 17.02.2025	Date:

Document No.	Revision	Date
-	1	20th March 2025

Introduction

Scottish & Southern Electricity Networks (SSEN) Transmission is proposing to upgrade the existing Beauly-Denny 275 kV circuit to 400 kV to mirror the ratings of the existing 400 kV circuit which runs along the route. SSEN Transmission have therefore proposed to construct a new 400kV substation in the proximity of the existing Braco West Substation. As part of the works a new overhead line link is also required to tie-in the new substation to the existing network and a new underground cable connection is required to tie the existing substation into the new. There is also a requirement for a new access track to lead into the new proposed substation, as well as the potential for upgrading the existing, if this does not meet the requirement for construction and operation of the new proposed substation.

AECOM have been commissioned to undertake the Environmental Appraisal (EA) for the new proposed substation, associated access track and the new overhead line link. Based on information provided by the Client and review of the BGS Geoindex[1], the site is known to be underlain by peat deposits which must be taken into consideration as part of the EIAR process. An initial phase of peat investigation was undertaken by Igne in late 2023 comprising of a 10m x 10m grid of peat probing covering two potential sites of the proposed substation and proposed overhead line. Since this probing was undertaken, the site of the proposed substation and access track into the new substation has been finalised with the probing undertaken identified as not covering the full footprint of the proposed works. Additional peat probing was conducted by AECOM in March 2024 to cover some of the areas not previously investigated with further probing and coring undertaken in December 2024 to complete the investigation of areas included in the proposed restoration and landscaping.

This technical note provides details of the additional peat probing undertaken by AECOM in December 2024.

Site Description

The site is located on the eastern slopes of Feddal Hill approximately 4.0km west of Braco within Perth and Kinross. The site is within an area of commercial forestry comprising of mature and semi mature trees as well as areas of felled trees. The existing Braco West Substation (275kV) is present to the northeast with overhead electrical cables from the Beauly to Denny line leading into the existing substation. The overhead cables intersect the site from the northeast heading in a southwest direction.

[1] BGS (2024) Geoindex Onshore Viewer, available: GeoIndex - British Geological Survey [accessed December 2024]

Site Investigation

Peat Probing

The additional peat probing was carried out by AECOM during December 2024 and was split into three areas as shown in figure 1 below:

- General site – south eastern area (947 probes),
- Overhead Line (OHL) – 2 no. areas (158 probes),
- Site 1 area (175 probes),

The peat probes across the south eastern area and the OHL were taken on a 10m x 10m grid. The additional probes for the Site 1 area were taken on a 25m x 25m grid. The probing covered areas of the site which were not investigated as part of the initial peat probing by Igne in late 2023 and AECOM in March 2024.

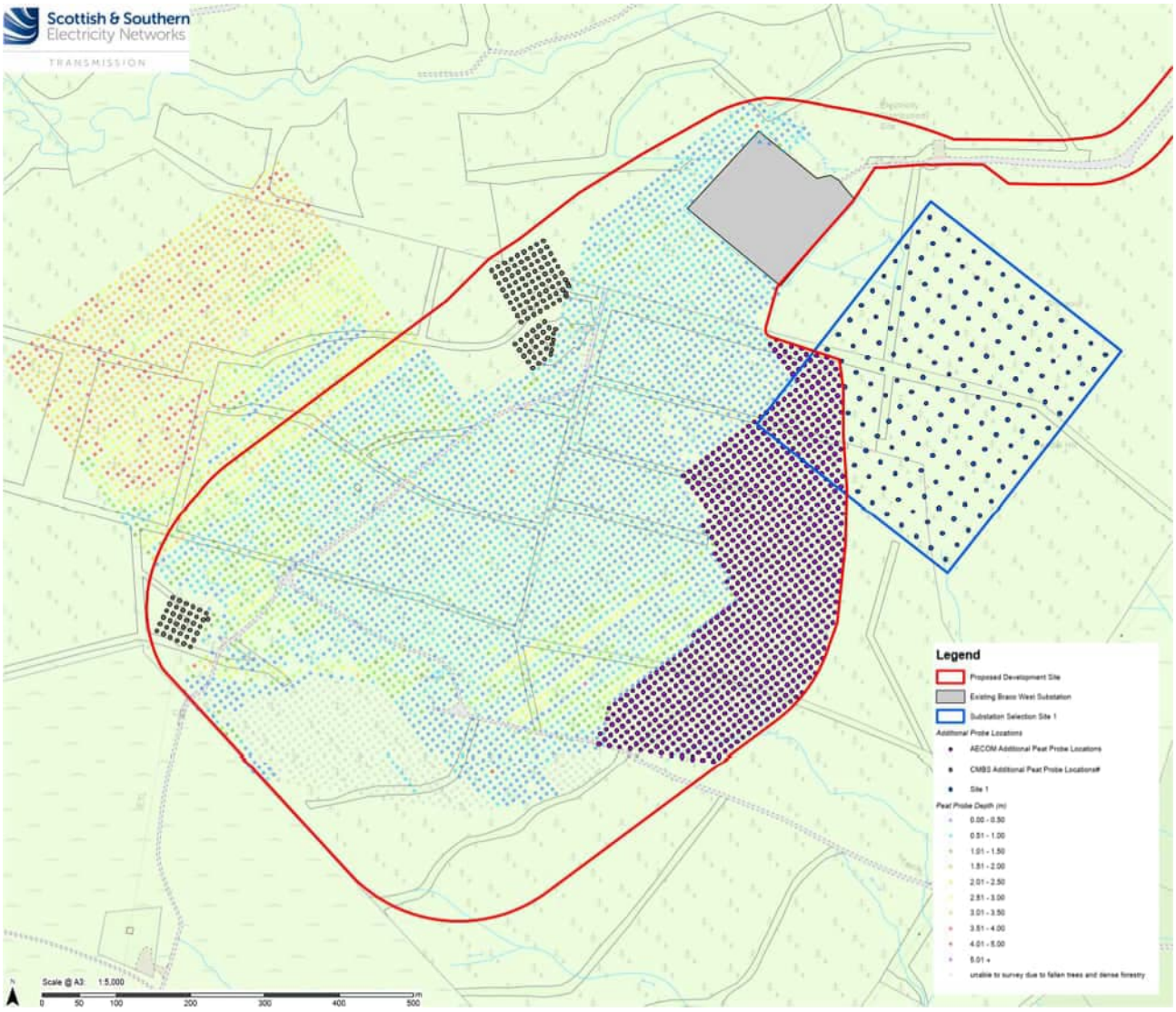


Figure 1: Proposed additional peat probe locations and previous peat probe locations & depths.

The probes used consisted of lightweight non-conductive fibreglass rods and handles which are nominally 1.0m in length with threaded joints allowing extension of the probe as required by the depth of the peat encountered. The probe was manually pushed through the peat at each location until one of the following occurred:

- Refusal of the peat probe;
- Recognisable change in the stiffness in the ground; or,
- Regular granular material could be felt scrapping along the probe.

Due to the nature of peat probing and as no sample is recovered during the advancement of the probe, the peat depth determined is only an estimate based on the judgment of the probe operator. More intrusive investigation techniques, which recover samples, is required to determine the depth of peat more accurately.

Peat Coring

The initial ground investigation undertaken by Igne did not include sampling or testing of the peat deposits encountered in the exploratory holes. In order to assess the peat further and classify it in terms of the Von Post scale, additional peat cores were taken during the site works using a Russian Corer. The cores were undertaken at 7 locations across the site, adjacent to existing trial pits completed during the original investigation. The co-ordinates and ground level of the core location has been taken from the log of the original trial pit.

The cores were logged/photographed and tub samples taken with laboratory testing scheduled and issued to Terra Tek Ltd.

Site Investigation Results

Peat Probing

The drawing within Appendix A shows the locations of all probing completed across the site (i.e. inclusive of original and additional probing), as well as providing details on the depths of peat estimated for each probe location. The drawing also shows where the additional probes were cancelled as access could not be obtained due to either dense mature trees or an underground 33kv electricity cable.

AECOM Additional Probes

In total only 449 of the original planned 947 probe holes were completed (47%). Within the area, probed depths were generally shallow throughout, ranging from 0.0m to 1.0m. As a result, the spacing of the probed grid was widened with only every other row of peat probes undertaken. Where a deeper area of peat was found, the grid was tightened again to 10 x 10m grid.

During the site works, an area of dense trees obstructed access within the southern area of the site and it was not possible to safely undertake all of the probe locations.

OHL Probes

In total 155 of the original planned158 probes were completed (98%). Within the area probe depths ranged from 0.0m to 2.4m and was generally relatively shallow across the site with deeper localised areas. The OHL in the north closer to the existing substation generally had deeper peat than the OHL in the south east of the site.

Site 1 Probes

In total only 79 of the original planned 175 probes were completed (45%). Within the area probed, depths ranged from 0.0m to 0.8m and therefore the peat was relatively shallow across the site.

During the site works, an area of dense mature trees prevented access and an underground 33kv electricity cable were identified and therefore these areas were avoided and the peat probes were cancelled.

Peat Coring

Peat cores were undertaken using a Russian Corer adjacent to existing trial pits TP's 01, 03, 04, 09, 10, 11 & 13 which were completed during the original Igne ground investigation. The depth of peat identified in each core is provided in Table 1 along with a description of the peat and its Von Post classification.

Core / Location	Depth of Peat (m)	Description	Von Post Classification
PC01 (TP11)	GL – 0.37	Soft dark brown to brown fibrous Peat with occasional pieces of wood.	H4/5 B1
PC02 (TP01)	GL – 0.25	Soft dark brown to brown fibrous Peat	H4/5 B2
PC03 (TP10)	GL – 0.4	Soft dark brown fibrous Peat	H4/5 B2
PC04 (TP13)	GL – 0.3	Soft brown fibrous Peat	H4/5 B2
PC05 (TP03)	GL – 0.6	Soft dark brown to brown fibrous to pseudo fibrous Peat	H4/5 B2
PC06 (TP04)	GL – 0.56	Soft dark brown to brown fibrous to pseudo fibrous Peat with occasional pieces of wood	H4/5 – H5/6 B2 – B3
PC07 (TP09)	GL – 1.0	Soft dark brown to brown fibrous to pseudo fibrous Peat	H4/5 – H5/6 B2 – B3

Table 1: Peat Coring Details

Logs and Photographs of each core are included in Appendix C.

Samples of peat were sent to Igne's laboratory for moisture content, pH, organic matter content and bulk density testing, the results from which are summarised in Table 2 below, with a copy of their lab report included in Appendix D.

Core/Location	Depth of Peat (m)	Water Content (%)	Bulk Density (Mg/m^3)	Dry Density (Mg/m^3)	pH	Organic Matter Content (%)
PC01/TP11	0 – 0.37	568			4.1	63.5
PC02/TP01	0 – 0.25	621			4.3	60.8
PC03/TP10	0 – 0.4	486	1.21	0.21	4.6	59.1
PC04/TP13	0 – 0.3	533			5.0	14.7
PC05/TP03	0 – 0.42	822	1.11	0.12	4.3	67.8
PC05/TP03	0.42 – 0.6	53.6			4.9	9.7
PC06/TP04	0 – 0.43	765	1.09	0.13	4.4	68.5
PC06/TP04	0.43 – 0.56	655			4.4	70.2
PC07/TP09	0 – 0.5	511			4.0	69.5
PC07/TP09	0.5 – 1.0	498	1.16	0.19	4.3	71.7

Table 2: Summary of Lab Test Results

Appendix A – Drawings

79

09

09

79

Scottish & Southern Electricity Networks

TRANSMISSION

Electricity Distribution Site

Shieldour

Pastal Hill

ETL

ETL

Track

N

Scale @ A3: 1:5,000

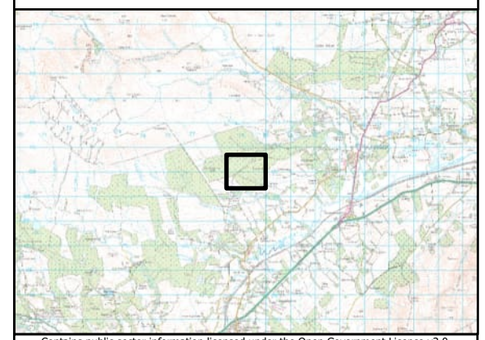
0 50 100 200 300 400 500 m

Legend

- Proposed Development Site
- Existing Braco West Substation
- Substation Selection Site 1
- Approximate line of 33kV cable. Based on BB drawing and marker posts viewed on site.
- Dense mature trees, no access available

Peat Probe Depth (m)

- N/A
- 0.00 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.50
- 3.50 - 4.00
- 4.00 - 5.00
- 5.00 +



Project No: LT000520

Project: Cambushinnie 400kV Substation

Title:

Peat Probe Locations and Depths
December 2024

Drawn by: JBARR Date: 17/12/2024

Drawing:

Appendix B – Peat Probe Results

ProbeID	XCoord	YCoord	Results
AECOM_pp_0001	279398	708678	
AECOM_pp_0002	279406	708684	
AECOM_pp_0003	279414	708690	
AECOM_pp_0004	279422	708697	
AECOM_pp_0005	279429	708703	
AECOM_pp_0006	279437	708709	
AECOM_pp_0007	279445	708715	
AECOM_pp_0008	279453	708721	
AECOM_pp_0009	279461	708727	
AECOM_pp_0010	279469	708733	
AECOM_pp_0011	279477	708739	
AECOM_pp_0012	279485	708745	
AECOM_pp_0013	279493	708751	
AECOM_pp_0014	279501	708757	
AECOM_pp_0015	279509	708763	0.1
AECOM_pp_0016	279517	708769	0.2
AECOM_pp_0017	279384	708680	0.45
AECOM_pp_0018	279392	708686	
AECOM_pp_0019	279400	708692	
AECOM_pp_0020	279408	708698	
AECOM_pp_0021	279415	708704	
AECOM_pp_0022	279423	708711	
AECOM_pp_0023	279431	708717	
AECOM_pp_0024	279439	708723	
AECOM_pp_0025	279447	708729	
AECOM_pp_0026	279455	708735	
AECOM_pp_0027	279463	708741	
AECOM_pp_0028	279471	708747	
AECOM_pp_0029	279479	708753	
AECOM_pp_0030	279487	708759	
AECOM_pp_0031	279495	708765	0.1
AECOM_pp_0032	279503	708771	0
AECOM_pp_0033	279511	708777	0.3
AECOM_pp_0034	279519	708783	0.7
AECOM_pp_0035	279527	708789	0
AECOM_pp_0036	279535	708795	0.1
AECOM_pp_0037	279370	708682	0.4
AECOM_pp_0038	279378	708688	
AECOM_pp_0039	279386	708694	
AECOM_pp_0040	279394	708700	
AECOM_pp_0041	279401	708706	
AECOM_pp_0042	279409	708712	
AECOM_pp_0043	279417	708718	
AECOM_pp_0044	279425	708725	
AECOM_pp_0045	279433	708731	
AECOM_pp_0046	279441	708737	
AECOM_pp_0047	279449	708743	

AECOM_pp_0048	279457	708749	
AECOM_pp_0049	279465	708755	
AECOM_pp_0050	279473	708761	0.2
AECOM_pp_0051	279481	708767	0.2
AECOM_pp_0052	279489	708773	0.5
AECOM_pp_0053	279497	708779	0.35
AECOM_pp_0054	279505	708785	0.1
AECOM_pp_0055	279513	708791	0.15
AECOM_pp_0056	279521	708797	0.1
AECOM_pp_0057	279529	708803	0.4
AECOM_pp_0058	279537	708809	0.4
AECOM_pp_0059	279545	708815	0.2
AECOM_pp_0060	279356	708684	
AECOM_pp_0061	279364	708690	
AECOM_pp_0062	279372	708696	
AECOM_pp_0063	279379	708702	
AECOM_pp_0064	279387	708708	
AECOM_pp_0065	279395	708714	
AECOM_pp_0066	279403	708720	
AECOM_pp_0067	279411	708726	
AECOM_pp_0068	279419	708733	
AECOM_pp_0069	279427	708739	
AECOM_pp_0070	279435	708745	
AECOM_pp_0071	279443	708751	
AECOM_pp_0072	279451	708757	
AECOM_pp_0073	279459	708763	
AECOM_pp_0074	279467	708769	0.3
AECOM_pp_0075	279475	708775	0.3
AECOM_pp_0076	279483	708781	0.6
AECOM_pp_0077	279491	708787	0.2
AECOM_pp_0078	279499	708793	0.4
AECOM_pp_0079	279507	708799	0.3
AECOM_pp_0080	279515	708805	0.3
AECOM_pp_0081	279523	708811	0.4
AECOM_pp_0082	279531	708817	0.2
AECOM_pp_0083	279539	708823	0.25
AECOM_pp_0084	279547	708829	0.1
AECOM_pp_0085	279342	708686	
AECOM_pp_0086	279350	708692	
AECOM_pp_0087	279358	708698	
AECOM_pp_0088	279365	708704	
AECOM_pp_0089	279373	708710	
AECOM_pp_0090	279381	708716	
AECOM_pp_0091	279389	708722	
AECOM_pp_0092	279397	708728	
AECOM_pp_0093	279405	708734	
AECOM_pp_0094	279413	708740	
AECOM_pp_0095	279421	708747	

AECOM_pp_0096	279429	708753	
AECOM_pp_0097	279437	708759	
AECOM_pp_0098	279445	708765	
AECOM_pp_0099	279453	708771	
AECOM_pp_0100	279461	708777	
AECOM_pp_0101	279469	708783	
AECOM_pp_0102	279477	708789	
AECOM_pp_0103	279485	708795	
AECOM_pp_0104	279493	708801	
AECOM_pp_0105	279501	708807	
AECOM_pp_0106	279509	708813	
AECOM_pp_0107	279517	708819	
AECOM_pp_0108	279525	708825	
AECOM_pp_0109	279533	708831	
AECOM_pp_0110	279541	708837	
AECOM_pp_0111	279549	708843	
AECOM_pp_0112	279328	708688	
AECOM_pp_0113	279336	708694	0.2
AECOM_pp_0114	279344	708700	
AECOM_pp_0115	279351	708706	
AECOM_pp_0116	279359	708712	
AECOM_pp_0117	279367	708718	
AECOM_pp_0118	279375	708724	
AECOM_pp_0119	279383	708730	
AECOM_pp_0120	279391	708736	
AECOM_pp_0121	279399	708742	
AECOM_pp_0122	279407	708748	
AECOM_pp_0123	279415	708754	
AECOM_pp_0124	279423	708761	
AECOM_pp_0125	279431	708767	0.1
AECOM_pp_0126	279439	708773	0.25
AECOM_pp_0127	279447	708779	0.1
AECOM_pp_0128	279455	708785	0.5
AECOM_pp_0129	279463	708791	0.2
AECOM_pp_0130	279471	708797	0.2
AECOM_pp_0131	279479	708803	0.4
AECOM_pp_0132	279487	708809	0.3
AECOM_pp_0133	279495	708815	0.2
AECOM_pp_0134	279503	708821	0.1
AECOM_pp_0135	279511	708827	0.5
AECOM_pp_0136	279519	708833	0.4
AECOM_pp_0137	279527	708839	0.45
AECOM_pp_0138	279535	708845	0.2
AECOM_pp_0139	279543	708851	0.2
AECOM_pp_0140	279551	708857	0.2
AECOM_pp_0141	279559	708863	0.3
AECOM_pp_0142	279314	708690	
AECOM_pp_0143	279322	708696	0.2

AECOM_pp_0144	279329	708702	
AECOM_pp_0145	279337	708708	
AECOM_pp_0146	279345	708714	
AECOM_pp_0147	279353	708720	
AECOM_pp_0148	279361	708726	
AECOM_pp_0149	279369	708732	
AECOM_pp_0150	279377	708738	
AECOM_pp_0151	279385	708744	
AECOM_pp_0152	279393	708750	
AECOM_pp_0153	279401	708756	
AECOM_pp_0154	279409	708762	
AECOM_pp_0155	279417	708768	
AECOM_pp_0156	279425	708775	
AECOM_pp_0157	279433	708781	
AECOM_pp_0158	279441	708787	
AECOM_pp_0159	279449	708793	
AECOM_pp_0160	279457	708799	
AECOM_pp_0161	279465	708805	
AECOM_pp_0162	279473	708811	
AECOM_pp_0163	279481	708817	
AECOM_pp_0164	279489	708823	
AECOM_pp_0165	279497	708829	
AECOM_pp_0166	279505	708835	
AECOM_pp_0167	279513	708841	
AECOM_pp_0168	279521	708847	
AECOM_pp_0169	279529	708853	
AECOM_pp_0170	279537	708859	
AECOM_pp_0171	279545	708865	
AECOM_pp_0172	279553	708871	
AECOM_pp_0173	279560	708877	
AECOM_pp_0174	279300	708692	0.1
AECOM_pp_0175	279308	708698	0.1
AECOM_pp_0176	279315	708704	0.1
AECOM_pp_0177	279323	708710	0.2
AECOM_pp_0178	279331	708716	0.2
AECOM_pp_0179	279339	708722	0.2
AECOM_pp_0180	279347	708728	0.1
AECOM_pp_0181	279355	708734	0.1
AECOM_pp_0182	279363	708740	0.2
AECOM_pp_0183	279371	708746	0
AECOM_pp_0184	279379	708752	0.1
AECOM_pp_0185	279387	708758	0.1
AECOM_pp_0186	279395	708764	0.1
AECOM_pp_0187	279403	708770	0.2
AECOM_pp_0188	279411	708776	0.1
AECOM_pp_0189	279419	708783	0.1
AECOM_pp_0190	279427	708789	0.25
AECOM_pp_0191	279435	708795	0.3

AECOM_pp_0192	279443	708801	0.3
AECOM_pp_0193	279451	708807	0.4
AECOM_pp_0194	279459	708813	0.1
AECOM_pp_0195	279467	708819	0.2
AECOM_pp_0196	279475	708825	0.6
AECOM_pp_0197	279483	708831	0.2
AECOM_pp_0198	279491	708837	0.1
AECOM_pp_0199	279499	708843	0.2
AECOM_pp_0200	279507	708849	0.2
AECOM_pp_0201	279515	708855	0.1
AECOM_pp_0202	279523	708861	0.4
AECOM_pp_0203	279531	708867	0.5
AECOM_pp_0204	279539	708873	0.3
AECOM_pp_0205	279546	708879	0
AECOM_pp_0206	279554	708885	0.4
AECOM_pp_0207	279562	708891	0.2
AECOM_pp_0208	279286	708694	
AECOM_pp_0209	279294	708700	
AECOM_pp_0210	279301	708706	
AECOM_pp_0211	279309	708712	
AECOM_pp_0212	279317	708718	
AECOM_pp_0213	279325	708724	
AECOM_pp_0214	279333	708730	
AECOM_pp_0215	279341	708736	
AECOM_pp_0216	279349	708742	
AECOM_pp_0217	279357	708748	
AECOM_pp_0218	279365	708754	
AECOM_pp_0219	279373	708760	
AECOM_pp_0220	279381	708766	
AECOM_pp_0221	279389	708772	
AECOM_pp_0222	279397	708778	
AECOM_pp_0223	279405	708784	
AECOM_pp_0224	279413	708790	
AECOM_pp_0225	279421	708797	
AECOM_pp_0226	279429	708803	
AECOM_pp_0227	279437	708809	
AECOM_pp_0228	279445	708815	
AECOM_pp_0229	279453	708821	
AECOM_pp_0230	279461	708827	
AECOM_pp_0231	279469	708833	
AECOM_pp_0232	279477	708839	
AECOM_pp_0233	279485	708845	
AECOM_pp_0234	279493	708851	
AECOM_pp_0235	279501	708857	
AECOM_pp_0236	279509	708863	
AECOM_pp_0237	279517	708869	
AECOM_pp_0238	279524	708875	
AECOM_pp_0239	279532	708881	

AECOM_pp_0240	279540	708887	
AECOM_pp_0241	279548	708893	
AECOM_pp_0242	279556	708899	
AECOM_pp_0243	279564	708905	
AECOM_pp_0244	279272	708696	
AECOM_pp_0245	279279	708702	0.3
AECOM_pp_0246	279287	708708	0.2
AECOM_pp_0247	279295	708714	0.4
AECOM_pp_0248	279303	708720	
AECOM_pp_0249	279311	708726	
AECOM_pp_0250	279319	708732	
AECOM_pp_0251	279327	708738	
AECOM_pp_0252	279335	708744	
AECOM_pp_0253	279343	708750	
AECOM_pp_0254	279351	708756	
AECOM_pp_0255	279359	708762	
AECOM_pp_0256	279367	708768	
AECOM_pp_0257	279375	708774	
AECOM_pp_0258	279383	708780	
AECOM_pp_0259	279391	708786	0.2
AECOM_pp_0260	279399	708792	0.2
AECOM_pp_0261	279407	708798	0.2
AECOM_pp_0262	279415	708804	0.25
AECOM_pp_0263	279423	708811	0.2
AECOM_pp_0264	279431	708817	0.2
AECOM_pp_0265	279439	708823	0.6
AECOM_pp_0266	279447	708829	0.1
AECOM_pp_0267	279455	708835	0.1
AECOM_pp_0268	279463	708841	0.6
AECOM_pp_0269	279471	708847	0
AECOM_pp_0270	279479	708853	0.2
AECOM_pp_0271	279487	708859	0.3
AECOM_pp_0272	279495	708865	0.25
AECOM_pp_0273	279503	708871	0.15
AECOM_pp_0274	279510	708877	0.1
AECOM_pp_0275	279518	708883	0.3
AECOM_pp_0276	279526	708889	0.4
AECOM_pp_0277	279534	708895	0.45
AECOM_pp_0278	279542	708901	0.2
AECOM_pp_0279	279550	708907	0.4
AECOM_pp_0280	279558	708913	0.4
AECOM_pp_0281	279566	708919	0.6
AECOM_pp_0282	279258	708698	
AECOM_pp_0283	279265	708704	0
AECOM_pp_0284	279273	708710	0.3
AECOM_pp_0285	279281	708716	0.3
AECOM_pp_0286	279289	708722	
AECOM_pp_0287	279297	708728	

AECOM_pp_0288	279305	708734	
AECOM_pp_0289	279313	708740	
AECOM_pp_0290	279321	708746	
AECOM_pp_0291	279329	708752	
AECOM_pp_0292	279337	708758	
AECOM_pp_0293	279345	708764	
AECOM_pp_0294	279353	708770	
AECOM_pp_0295	279361	708776	
AECOM_pp_0296	279369	708782	
AECOM_pp_0297	279377	708788	
AECOM_pp_0298	279385	708794	
AECOM_pp_0299	279393	708800	
AECOM_pp_0300	279401	708806	
AECOM_pp_0301	279409	708812	
AECOM_pp_0302	279417	708818	
AECOM_pp_0303	279425	708825	
AECOM_pp_0304	279433	708831	
AECOM_pp_0305	279441	708837	
AECOM_pp_0306	279449	708843	
AECOM_pp_0307	279457	708849	
AECOM_pp_0308	279465	708855	
AECOM_pp_0309	279473	708861	
AECOM_pp_0310	279481	708867	
AECOM_pp_0311	279489	708873	
AECOM_pp_0312	279496	708879	
AECOM_pp_0313	279504	708885	
AECOM_pp_0314	279512	708891	
AECOM_pp_0315	279520	708897	
AECOM_pp_0316	279528	708903	
AECOM_pp_0317	279536	708909	
AECOM_pp_0318	279544	708915	
AECOM_pp_0319	279552	708921	
AECOM_pp_0320	279560	708927	
AECOM_pp_0321	279568	708933	
AECOM_pp_0322	279244	708699	
AECOM_pp_0323	279251	708706	0.4
AECOM_pp_0324	279259	708712	0.2
AECOM_pp_0325	279267	708718	
AECOM_pp_0326	279275	708724	
AECOM_pp_0327	279283	708730	
AECOM_pp_0328	279291	708736	
AECOM_pp_0329	279299	708742	
AECOM_pp_0330	279307	708748	
AECOM_pp_0331	279315	708754	
AECOM_pp_0332	279323	708760	
AECOM_pp_0333	279331	708766	
AECOM_pp_0334	279339	708772	
AECOM_pp_0335	279347	708778	

AECOM_pp_0336	279355	708784	
AECOM_pp_0337	279363	708790	
AECOM_pp_0338	279371	708796	0.2
AECOM_pp_0339	279379	708802	0
AECOM_pp_0340	279387	708808	0.2
AECOM_pp_0341	279395	708814	0.4
AECOM_pp_0342	279403	708820	0.4
AECOM_pp_0343	279411	708826	0.15
AECOM_pp_0344	279419	708833	0.3
AECOM_pp_0345	279427	708839	0.55
AECOM_pp_0346	279435	708845	0.4
AECOM_pp_0347	279443	708851	0.3
AECOM_pp_0348	279451	708857	0.6
AECOM_pp_0349	279459	708863	0.2
AECOM_pp_0350	279467	708869	0.4
AECOM_pp_0351	279474	708875	0.2
AECOM_pp_0352	279482	708881	0.25
AECOM_pp_0353	279490	708887	0.1
AECOM_pp_0354	279498	708893	0.6
AECOM_pp_0355	279506	708899	0.4
AECOM_pp_0356	279514	708905	0.6
AECOM_pp_0357	279522	708911	0.3
AECOM_pp_0358	279530	708917	0.2
AECOM_pp_0359	279538	708923	0.4
AECOM_pp_0360	279546	708929	0.2
AECOM_pp_0361	279554	708935	0.1
AECOM_pp_0362	279562	708941	0.55
AECOM_pp_0363	279570	708947	0.7
AECOM_pp_0364	279245	708713	
AECOM_pp_0365	279253	708720	0.3
AECOM_pp_0366	279261	708726	
AECOM_pp_0367	279269	708732	
AECOM_pp_0368	279277	708738	
AECOM_pp_0369	279285	708744	
AECOM_pp_0370	279293	708750	
AECOM_pp_0371	279301	708756	
AECOM_pp_0372	279309	708762	
AECOM_pp_0373	279317	708768	
AECOM_pp_0374	279325	708774	
AECOM_pp_0375	279333	708780	
AECOM_pp_0376	279341	708786	
AECOM_pp_0377	279349	708792	
AECOM_pp_0378	279357	708798	
AECOM_pp_0379	279365	708804	
AECOM_pp_0380	279373	708810	
AECOM_pp_0381	279381	708816	
AECOM_pp_0382	279389	708822	
AECOM_pp_0383	279397	708828	

AECOM_pp_0384	279405	708834	
AECOM_pp_0385	279413	708840	
AECOM_pp_0386	279421	708847	
AECOM_pp_0387	279429	708853	
AECOM_pp_0388	279437	708859	
AECOM_pp_0389	279445	708865	
AECOM_pp_0390	279453	708871	
AECOM_pp_0391	279460	708877	
AECOM_pp_0392	279468	708883	
AECOM_pp_0393	279476	708889	
AECOM_pp_0394	279484	708895	
AECOM_pp_0395	279492	708901	
AECOM_pp_0396	279500	708907	
AECOM_pp_0397	279508	708913	
AECOM_pp_0398	279516	708919	
AECOM_pp_0399	279524	708925	
AECOM_pp_0400	279532	708931	
AECOM_pp_0401	279540	708937	
AECOM_pp_0402	279548	708943	
AECOM_pp_0403	279556	708949	
AECOM_pp_0404	279564	708955	
AECOM_pp_0405	279572	708961	
AECOM_pp_0406	279255	708734	
AECOM_pp_0407	279263	708740	
AECOM_pp_0408	279271	708746	
AECOM_pp_0409	279279	708752	
AECOM_pp_0410	279287	708758	
AECOM_pp_0411	279295	708764	
AECOM_pp_0412	279303	708770	
AECOM_pp_0413	279311	708776	
AECOM_pp_0414	279319	708782	
AECOM_pp_0415	279327	708788	
AECOM_pp_0416	279335	708794	
AECOM_pp_0417	279343	708800	0.2
AECOM_pp_0418	279351	708806	0.3
AECOM_pp_0419	279359	708812	0.2
AECOM_pp_0420	279367	708818	0.1
AECOM_pp_0421	279375	708824	0.4
AECOM_pp_0422	279383	708830	0.1
AECOM_pp_0423	279391	708836	0.2
AECOM_pp_0424	279399	708842	0.3
AECOM_pp_0425	279407	708848	0.1
AECOM_pp_0426	279415	708854	0.1
AECOM_pp_0427	279423	708861	0.1
AECOM_pp_0428	279431	708867	0.2
AECOM_pp_0429	279439	708873	0.1
AECOM_pp_0430	279446	708879	0.1
AECOM_pp_0431	279454	708885	0.45

AECOM_pp_0432	279462	708891	0.4
AECOM_pp_0433	279470	708897	0.1
AECOM_pp_0434	279478	708903	0.2
AECOM_pp_0435	279486	708909	0.3
AECOM_pp_0436	279494	708915	0.2
AECOM_pp_0437	279502	708921	0.2
AECOM_pp_0438	279510	708927	0.3
AECOM_pp_0439	279518	708933	0.2
AECOM_pp_0440	279526	708939	0.65
AECOM_pp_0441	279534	708945	0.3
AECOM_pp_0442	279542	708951	0.35
AECOM_pp_0443	279550	708957	0.7
AECOM_pp_0444	279558	708963	0.7
AECOM_pp_0445	279566	708969	0.9
AECOM_pp_0446	279574	708975	
AECOM_pp_0447	279385	708844	
AECOM_pp_0448	279393	708850	
AECOM_pp_0449	279401	708856	
AECOM_pp_0450	279409	708862	
AECOM_pp_0451	279417	708868	
AECOM_pp_0452	279424	708875	
AECOM_pp_0453	279432	708881	
AECOM_pp_0454	279440	708887	
AECOM_pp_0455	279448	708893	
AECOM_pp_0456	279456	708899	
AECOM_pp_0457	279464	708905	
AECOM_pp_0458	279472	708911	
AECOM_pp_0459	279480	708917	
AECOM_pp_0460	279488	708923	
AECOM_pp_0461	279496	708929	
AECOM_pp_0462	279504	708935	
AECOM_pp_0463	279512	708941	
AECOM_pp_0464	279520	708947	
AECOM_pp_0465	279528	708953	
AECOM_pp_0466	279536	708959	
AECOM_pp_0467	279544	708965	
AECOM_pp_0468	279552	708971	
AECOM_pp_0469	279560	708977	
AECOM_pp_0470	279568	708983	
AECOM_pp_0471	279371	708846	0.3
AECOM_pp_0472	279379	708852	0.2
AECOM_pp_0473	279387	708858	0.3
AECOM_pp_0474	279395	708864	0.2
AECOM_pp_0475	279403	708870	0.1
AECOM_pp_0476	279410	708876	0.4
AECOM_pp_0477	279418	708883	0.2
AECOM_pp_0478	279426	708889	0.1
AECOM_pp_0479	279434	708895	0.45

AECOM_pp_0480	279442	708901	0.3
AECOM_pp_0481	279450	708907	0.2
AECOM_pp_0482	279458	708913	0.1
AECOM_pp_0483	279466	708919	0.1
AECOM_pp_0484	279474	708925	0.2
AECOM_pp_0485	279482	708931	0.2
AECOM_pp_0486	279490	708937	0.1
AECOM_pp_0487	279498	708943	0.1
AECOM_pp_0488	279506	708949	0.1
AECOM_pp_0489	279514	708955	0.2
AECOM_pp_0490	279522	708961	0.2
AECOM_pp_0491	279530	708967	0.2
AECOM_pp_0492	279538	708973	0.4
AECOM_pp_0493	279546	708979	0.7
AECOM_pp_0494	279554	708985	0.7
AECOM_pp_0495	279562	708991	0.2
AECOM_pp_0496	279570	708997	0.5
AECOM_pp_0497	279428	708903	
AECOM_pp_0498	279436	708909	
AECOM_pp_0499	279444	708915	
AECOM_pp_0500	279452	708921	
AECOM_pp_0501	279460	708927	
AECOM_pp_0502	279468	708933	
AECOM_pp_0503	279476	708939	
AECOM_pp_0504	279484	708945	
AECOM_pp_0505	279492	708951	
AECOM_pp_0506	279500	708957	
AECOM_pp_0507	279508	708963	
AECOM_pp_0508	279516	708969	
AECOM_pp_0509	279524	708975	
AECOM_pp_0510	279532	708981	
AECOM_pp_0511	279540	708987	
AECOM_pp_0512	279548	708993	
AECOM_pp_0513	279556	708999	
AECOM_pp_0514	279564	709005	
AECOM_pp_0515	279572	709011	
AECOM_pp_0516	279422	708911	0.1
AECOM_pp_0517	279430	708917	0.5
AECOM_pp_0518	279438	708923	0.2
AECOM_pp_0519	279446	708929	0.3
AECOM_pp_0520	279454	708935	0.6
AECOM_pp_0521	279462	708941	0.3
AECOM_pp_0522	279470	708947	0.1
AECOM_pp_0523	279478	708953	0.35
AECOM_pp_0524	279486	708959	0.3
AECOM_pp_0525	279494	708965	0.5
AECOM_pp_0526	279502	708971	0.35
AECOM_pp_0527	279510	708977	0.35

AECOM_pp_0528	279518	708983	0.3
AECOM_pp_0529	279526	708989	0.4
AECOM_pp_0530	279534	708995	0.8
AECOM_pp_0531	279542	709001	0.4
AECOM_pp_0532	279550	709007	0.4
AECOM_pp_0533	279558	709013	0.65
AECOM_pp_0534	279566	709019	
AECOM_pp_0535	279574	709025	
AECOM_pp_0536	279416	708918	
AECOM_pp_0537	279424	708925	
AECOM_pp_0538	279432	708931	
AECOM_pp_0539	279440	708937	
AECOM_pp_0540	279448	708943	
AECOM_pp_0541	279456	708949	
AECOM_pp_0542	279464	708955	
AECOM_pp_0543	279472	708961	
AECOM_pp_0544	279480	708967	
AECOM_pp_0545	279488	708973	
AECOM_pp_0546	279496	708979	
AECOM_pp_0547	279504	708985	
AECOM_pp_0548	279512	708991	
AECOM_pp_0549	279520	708997	
AECOM_pp_0550	279528	709003	
AECOM_pp_0551	279536	709009	
AECOM_pp_0552	279544	709015	
AECOM_pp_0553	279552	709021	
AECOM_pp_0554	279560	709027	
AECOM_pp_0555	279568	709033	
AECOM_pp_0556	279576	709039	
AECOM_pp_0557	279418	708933	0.2
AECOM_pp_0558	279426	708939	0.1
AECOM_pp_0559	279434	708945	0.2
AECOM_pp_0560	279442	708951	0.4
AECOM_pp_0561	279450	708957	0.5
AECOM_pp_0562	279458	708963	0.8
AECOM_pp_0563	279466	708969	0.6
AECOM_pp_0564	279474	708975	0.4
AECOM_pp_0565	279482	708981	0.6
AECOM_pp_0566	279490	708987	0.25
AECOM_pp_0567	279498	708993	0.5
AECOM_pp_0568	279506	708999	0.5
AECOM_pp_0569	279514	709005	0.2
AECOM_pp_0570	279522	709011	0.3
AECOM_pp_0571	279530	709017	0.3
AECOM_pp_0572	279538	709023	0.9
AECOM_pp_0573	279546	709029	0.7
AECOM_pp_0574	279554	709035	0.3
AECOM_pp_0575	279562	709041	

AECOM_pp_0576	279569	709047	
AECOM_pp_0577	279412	708940	
AECOM_pp_0578	279420	708947	
AECOM_pp_0579	279428	708953	
AECOM_pp_0580	279436	708959	
AECOM_pp_0581	279444	708965	
AECOM_pp_0582	279452	708971	
AECOM_pp_0583	279460	708977	
AECOM_pp_0584	279468	708983	
AECOM_pp_0585	279476	708989	
AECOM_pp_0586	279484	708995	
AECOM_pp_0587	279492	709001	
AECOM_pp_0588	279500	709007	
AECOM_pp_0589	279508	709013	
AECOM_pp_0590	279516	709019	
AECOM_pp_0591	279524	709025	0.35
AECOM_pp_0592	279532	709031	0.2
AECOM_pp_0593	279540	709037	0.25
AECOM_pp_0594	279548	709043	0.2
AECOM_pp_0595	279555	709049	0.3
AECOM_pp_0596	279563	709055	0.7
AECOM_pp_0597	279571	709061	0.1
AECOM_pp_0598	279406	708948	0.5
AECOM_pp_0599	279414	708954	0.1
AECOM_pp_0600	279422	708961	0.1
AECOM_pp_0601	279430	708967	0
AECOM_pp_0602	279438	708973	0.3
AECOM_pp_0603	279446	708979	0.1
AECOM_pp_0604	279454	708985	0.1
AECOM_pp_0605	279462	708991	0.1
AECOM_pp_0606	279470	708997	0.2
AECOM_pp_0607	279478	709003	0
AECOM_pp_0608	279486	709009	0.3
AECOM_pp_0609	279494	709015	0.2
AECOM_pp_0610	279502	709021	0.2
AECOM_pp_0611	279510	709027	0.3
AECOM_pp_0612	279518	709033	0.3
AECOM_pp_0613	279526	709039	0.5
AECOM_pp_0614	279534	709045	0.6
AECOM_pp_0615	279541	709051	0.1
AECOM_pp_0616	279549	709057	0.2
AECOM_pp_0617	279557	709063	0.6
AECOM_pp_0618	279565	709069	0.2
AECOM_pp_0619	279400	708956	
AECOM_pp_0620	279408	708962	
AECOM_pp_0621	279416	708968	
AECOM_pp_0622	279424	708975	
AECOM_pp_0623	279432	708981	

AECOM_pp_0624	279440	708987	
AECOM_pp_0625	279448	708993	
AECOM_pp_0626	279456	708999	
AECOM_pp_0627	279464	709005	
AECOM_pp_0628	279472	709011	
AECOM_pp_0629	279480	709017	
AECOM_pp_0630	279488	709023	
AECOM_pp_0631	279496	709029	
AECOM_pp_0632	279504	709035	
AECOM_pp_0633	279512	709041	
AECOM_pp_0634	279519	709047	
AECOM_pp_0635	279527	709053	
AECOM_pp_0636	279535	709059	
AECOM_pp_0637	279543	709065	
AECOM_pp_0638	279551	709071	
AECOM_pp_0639	279559	709077	
AECOM_pp_0640	279567	709083	
AECOM_pp_0641	279402	708970	0.55
AECOM_pp_0642	279410	708976	0.3
AECOM_pp_0643	279418	708983	0.1
AECOM_pp_0644	279426	708989	0.15
AECOM_pp_0645	279434	708995	0.1
AECOM_pp_0646	279442	709001	0.1
AECOM_pp_0647	279450	709007	0.5
AECOM_pp_0648	279458	709013	0.1
AECOM_pp_0649	279466	709019	0.3
AECOM_pp_0650	279474	709025	0.2
AECOM_pp_0651	279482	709031	0.1
AECOM_pp_0652	279490	709037	0
AECOM_pp_0653	279498	709043	0.55
AECOM_pp_0654	279505	709049	0.25
AECOM_pp_0655	279513	709055	0.2
AECOM_pp_0656	279521	709061	0.45
AECOM_pp_0657	279529	709067	0.1
AECOM_pp_0658	279537	709073	0.4
AECOM_pp_0659	279545	709079	0.45
AECOM_pp_0660	279553	709085	0.2
AECOM_pp_0661	279561	709091	0.4
AECOM_pp_0662	279569	709097	0.3
AECOM_pp_0663	279396	708978	
AECOM_pp_0664	279404	708984	
AECOM_pp_0665	279412	708990	
AECOM_pp_0666	279420	708997	
AECOM_pp_0667	279428	709003	
AECOM_pp_0668	279436	709009	
AECOM_pp_0669	279444	709015	
AECOM_pp_0670	279452	709021	
AECOM_pp_0671	279460	709027	

AECOM_pp_0672	279468	709033	
AECOM_pp_0673	279476	709039	
AECOM_pp_0674	279484	709045	
AECOM_pp_0675	279491	709051	
AECOM_pp_0676	279499	709057	
AECOM_pp_0677	279507	709063	
AECOM_pp_0678	279515	709069	
AECOM_pp_0679	279523	709075	
AECOM_pp_0680	279531	709081	
AECOM_pp_0681	279539	709087	
AECOM_pp_0682	279547	709093	
AECOM_pp_0683	279555	709099	
AECOM_pp_0684	279563	709105	
AECOM_pp_0685	279390	708986	0.1
AECOM_pp_0686	279398	708992	0.1
AECOM_pp_0687	279406	708998	0.1
AECOM_pp_0688	279414	709004	0.1
AECOM_pp_0689	279422	709011	0.2
AECOM_pp_0690	279430	709017	0.2
AECOM_pp_0691	279438	709023	0.3
AECOM_pp_0692	279446	709029	0.1
AECOM_pp_0693	279454	709035	0.1
AECOM_pp_0694	279462	709041	0.1
AECOM_pp_0695	279469	709047	0.25
AECOM_pp_0696	279477	709053	0.3
AECOM_pp_0697	279485	709059	0.1
AECOM_pp_0698	279493	709065	0
AECOM_pp_0699	279501	709071	0.4
AECOM_pp_0700	279509	709077	0.5
AECOM_pp_0701	279517	709083	0.4
AECOM_pp_0702	279525	709089	0.1
AECOM_pp_0703	279533	709095	0.4
AECOM_pp_0704	279541	709101	0.2
AECOM_pp_0705	279549	709107	0.1
AECOM_pp_0706	279557	709113	0.2
AECOM_pp_0707	279565	709119	0.4
AECOM_pp_0708	279384	708994	
AECOM_pp_0709	279392	709000	
AECOM_pp_0710	279400	709006	
AECOM_pp_0711	279408	709012	
AECOM_pp_0712	279416	709018	
AECOM_pp_0713	279424	709025	
AECOM_pp_0714	279432	709031	
AECOM_pp_0715	279440	709037	
AECOM_pp_0716	279448	709043	
AECOM_pp_0717	279455	709049	
AECOM_pp_0718	279463	709055	
AECOM_pp_0719	279471	709061	

AECOM_pp_0720	279479	709067	
AECOM_pp_0721	279487	709073	
AECOM_pp_0722	279495	709079	
AECOM_pp_0723	279503	709085	
AECOM_pp_0724	279511	709091	
AECOM_pp_0725	279519	709097	
AECOM_pp_0726	279527	709103	
AECOM_pp_0727	279535	709109	
AECOM_pp_0728	279543	709115	
AECOM_pp_0729	279551	709121	
AECOM_pp_0730	279559	709127	
AECOM_pp_0731	279567	709133	
AECOM_pp_0732	279394	709014	0.5
AECOM_pp_0733	279402	709020	0.1
AECOM_pp_0734	279410	709026	0.2
AECOM_pp_0735	279418	709032	0.25
AECOM_pp_0736	279426	709039	0.2
AECOM_pp_0737	279434	709045	0.2
AECOM_pp_0738	279441	709051	0.1
AECOM_pp_0739	279449	709057	0.1
AECOM_pp_0740	279457	709063	0.1
AECOM_pp_0741	279465	709069	0.4
AECOM_pp_0742	279473	709075	0.1
AECOM_pp_0743	279481	709081	0.3
AECOM_pp_0744	279489	709087	0.3
AECOM_pp_0745	279497	709093	0
AECOM_pp_0746	279505	709099	0.2
AECOM_pp_0747	279513	709105	0.3
AECOM_pp_0748	279521	709111	0.45
AECOM_pp_0749	279529	709117	0.2
AECOM_pp_0750	279537	709123	0.35
AECOM_pp_0751	279545	709129	0.5
AECOM_pp_0752	279553	709135	0.5
AECOM_pp_0753	279561	709141	0.1
AECOM_pp_0754	279569	709147	0.1
AECOM_pp_0755	279388	709022	
AECOM_pp_0756	279396	709028	
AECOM_pp_0757	279404	709034	
AECOM_pp_0758	279412	709040	
AECOM_pp_0759	279419	709047	
AECOM_pp_0760	279427	709053	
AECOM_pp_0761	279435	709059	
AECOM_pp_0762	279443	709065	
AECOM_pp_0763	279451	709071	
AECOM_pp_0764	279459	709077	
AECOM_pp_0765	279467	709083	
AECOM_pp_0766	279475	709089	
AECOM_pp_0767	279483	709095	

AECOM_pp_0768	279491	709101	
AECOM_pp_0769	279499	709107	
AECOM_pp_0770	279507	709113	
AECOM_pp_0771	279515	709119	
AECOM_pp_0772	279523	709125	
AECOM_pp_0773	279531	709131	
AECOM_pp_0774	279539	709137	
AECOM_pp_0775	279547	709143	
AECOM_pp_0776	279555	709149	
AECOM_pp_0777	279563	709155	
AECOM_pp_0778	279571	709161	
AECOM_pp_0779	279382	709030	0.1
AECOM_pp_0780	279390	709036	0.3
AECOM_pp_0781	279398	709042	0.3
AECOM_pp_0782	279405	709048	0.4
AECOM_pp_0783	279413	709054	0.1
AECOM_pp_0784	279421	709061	0.1
AECOM_pp_0785	279429	709067	0.3
AECOM_pp_0786	279437	709073	0.3
AECOM_pp_0787	279445	709079	0.25
AECOM_pp_0788	279453	709085	0.2
AECOM_pp_0789	279461	709091	0.1
AECOM_pp_0790	279469	709097	0.3
AECOM_pp_0791	279477	709103	0.3
AECOM_pp_0792	279485	709109	0
AECOM_pp_0793	279493	709115	0.65
AECOM_pp_0794	279501	709121	0.2
AECOM_pp_0795	279509	709127	0.1
AECOM_pp_0796	279517	709133	0.1
AECOM_pp_0797	279525	709139	0.1
AECOM_pp_0798	279533	709145	0.1
AECOM_pp_0799	279541	709151	0.4
AECOM_pp_0800	279549	709157	0.1
AECOM_pp_0801	279557	709163	0.1
AECOM_pp_0802	279565	709169	0.2
AECOM_pp_0803	279376	709038	
AECOM_pp_0804	279384	709044	
AECOM_pp_0805	279391	709050	
AECOM_pp_0806	279399	709056	
AECOM_pp_0807	279407	709062	
AECOM_pp_0808	279415	709068	
AECOM_pp_0809	279423	709075	
AECOM_pp_0810	279431	709081	
AECOM_pp_0811	279439	709087	
AECOM_pp_0812	279447	709093	
AECOM_pp_0813	279455	709099	
AECOM_pp_0814	279463	709105	
AECOM_pp_0815	279471	709111	

AECOM_pp_0816	279479	709117	
AECOM_pp_0817	279487	709123	
AECOM_pp_0818	279495	709129	
AECOM_pp_0819	279503	709135	
AECOM_pp_0820	279511	709141	
AECOM_pp_0821	279519	709147	
AECOM_pp_0822	279527	709153	
AECOM_pp_0823	279535	709159	
AECOM_pp_0824	279543	709165	
AECOM_pp_0825	279551	709171	
AECOM_pp_0826	279559	709177	
AECOM_pp_0827	279567	709183	
AECOM_pp_0828	279370	709046	0.35
AECOM_pp_0829	279377	709052	0.2
AECOM_pp_0830	279385	709058	0.2
AECOM_pp_0831	279393	709064	0.8
AECOM_pp_0832	279401	709070	0.2
AECOM_pp_0833	279409	709076	0.25
AECOM_pp_0834	279417	709082	0.4
AECOM_pp_0835	279425	709089	0.1
AECOM_pp_0836	279433	709095	0.3
AECOM_pp_0837	279441	709101	0.1
AECOM_pp_0838	279449	709107	0.3
AECOM_pp_0839	279457	709113	0.1
AECOM_pp_0840	279465	709119	0.1
AECOM_pp_0841	279473	709125	0.2
AECOM_pp_0842	279481	709131	0.1
AECOM_pp_0843	279489	709137	0.1
AECOM_pp_0844	279497	709143	0.1
AECOM_pp_0845	279505	709149	0.5
AECOM_pp_0846	279513	709155	0.5
AECOM_pp_0847	279521	709161	0.2
AECOM_pp_0848	279529	709167	0.1
AECOM_pp_0849	279537	709173	0.1
AECOM_pp_0850	279545	709179	0.4
AECOM_pp_0851	279553	709185	0.4
AECOM_pp_0852	279561	709191	
AECOM_pp_0853	279569	709197	
AECOM_pp_0854	279363	709054	0.4
AECOM_pp_0855	279371	709060	0.1
AECOM_pp_0856	279379	709066	0.5
AECOM_pp_0857	279387	709072	0
AECOM_pp_0858	279395	709078	0.3
AECOM_pp_0859	279403	709084	0.4
AECOM_pp_0860	279411	709090	0.3
AECOM_pp_0861	279419	709097	0.4
AECOM_pp_0862	279427	709103	0.3
AECOM_pp_0863	279435	709109	0.45

AECOM_pp_0864	279443	709115	0.4
AECOM_pp_0865	279451	709121	0.1
AECOM_pp_0866	279459	709127	0.2
AECOM_pp_0867	279467	709133	0.1
AECOM_pp_0868	279475	709139	0.45
AECOM_pp_0869	279483	709145	0.1
AECOM_pp_0870	279491	709151	0.35
AECOM_pp_0871	279499	709157	0.2
AECOM_pp_0872	279507	709163	0.1
AECOM_pp_0873	279515	709169	0.45
AECOM_pp_0874	279523	709175	0.5
AECOM_pp_0875	279531	709181	0.1
AECOM_pp_0876	279539	709187	0.4
AECOM_pp_0877	279547	709193	0.7
AECOM_pp_0878	279555	709199	0.7
AECOM_pp_0879	279563	709205	0.6
AECOM_pp_0880	279357	709062	0.25
AECOM_pp_0881	279365	709068	0.3
AECOM_pp_0882	279373	709074	0.1
AECOM_pp_0883	279381	709080	0.3
AECOM_pp_0884	279389	709086	0.1
AECOM_pp_0885	279397	709092	0.55
AECOM_pp_0886	279405	709098	0.15
AECOM_pp_0887	279413	709104	0.4
AECOM_pp_0888	279421	709111	1
AECOM_pp_0889	279429	709117	0.2
AECOM_pp_0890	279437	709123	0.1
AECOM_pp_0891	279445	709129	0.4
AECOM_pp_0892	279453	709135	0.1
AECOM_pp_0893	279461	709141	0.3
AECOM_pp_0894	279469	709147	0.25
AECOM_pp_0895	279477	709153	0.3
AECOM_pp_0896	279485	709159	0.2
AECOM_pp_0897	279493	709165	0.2
AECOM_pp_0898	279501	709171	0.2
AECOM_pp_0899	279509	709177	0.6
AECOM_pp_0900	279517	709183	0.3
AECOM_pp_0901	279525	709189	0.1
AECOM_pp_0902	279533	709195	0.3
AECOM_pp_0903	279541	709201	0.4
AECOM_pp_0904	279549	709207	0.2
AECOM_pp_0905	279557	709213	0.5
AECOM_pp_0906	279511	709191	0.15
AECOM_pp_0907	279519	709197	0.2
AECOM_pp_0908	279527	709203	0.4
AECOM_pp_0909	279535	709209	0.3
AECOM_pp_0910	279543	709215	0.55
AECOM_pp_0911	279550	709221	

AECOM_pp_0912	279505	709199	0.1
AECOM_pp_0913	279513	709205	0
AECOM_pp_0914	279521	709211	0
AECOM_pp_0915	279529	709217	0.1
AECOM_pp_0916	279536	709223	
AECOM_pp_0917	279499	709207	0.4
AECOM_pp_0918	279507	709213	0.1
AECOM_pp_0919	279515	709219	0.1
AECOM_pp_0920	279522	709225	0.6
AECOM_pp_0921	279493	709215	0.1
AECOM_pp_0922	279500	709221	0
AECOM_pp_0923	279508	709227	0.2
AECOM_pp_0924	279516	709233	
AECOM_pp_0925	279486	709223	
AECOM_pp_0926	279494	709229	0.2
AECOM_pp_0927	279502	709235	0.1
AECOM_pp_0928	279480	709231	
AECOM_pp_0929	279488	709237	0.2
AECOM_pp_0930	279474	709239	0.3
AECOM_pp_0931	279482	709245	
AECOM_pp_0932	279337	708808	
AECOM_pp_0933	279305	708784	
AECOM_pp_0934	279289	708772	
AECOM_pp_0935	279313	708790	
AECOM_pp_0936	279369	708832	
AECOM_pp_0937	279321	708796	
AECOM_pp_0938	279353	708820	
AECOM_pp_0939	279345	708814	
AECOM_pp_0940	279329	708802	
AECOM_pp_0941	279273	708760	
AECOM_pp_0942	279361	708826	
AECOM_pp_0943	279377	708838	
AECOM_pp_0944	279257	708748	
AECOM_pp_0945	279297	708778	
AECOM_pp_0946	279265	708754	
AECOM_pp_0947	279281	708766	
OHL_0121	279173	709288	1
OHL_0001	279169	709297	1.1
OHL_0002	279164	709306	1
OHL_0003	279159	709314	1.2
OHL_0004	279154	709323	1.3
OHL_0005	279149	709332	1.3
OHL_0006	279144	709341	1.6
OHL_0007	279139	709349	1.5
OHL_0008	279134	709358	0.5
OHL_0009	279165	709283	0.9
OHL_0010	279160	709292	1.1
OHL_0011	279155	709301	1.1

OHL_0012	279150	709310	1.1
OHL_0013	279145	709318	1.3
OHL_0014	279140	709327	1.4
OHL_0015	279135	709336	1.1
OHL_0016	279130	709344	1.65
OHL_0017	279125	709353	1.6
OHL_0018	279139	709269	0.8
OHL_0019	279134	709277	2
OHL_0020	279129	709286	0.9
OHL_0021	279124	709295	1.2
OHL_0022	279119	709303	1.1
OHL_0023	279114	709312	0.75
OHL_0024	279109	709321	1.3
OHL_0025	279104	709329	0.8
OHL_0026	279099	709338	0.8
OHL_0027	279147	709274	1.2
OHL_0028	279142	709282	1
OHL_0029	279138	709291	0.95
OHL_0030	279133	709300	0.9
OHL_0031	279128	709308	1.2
OHL_0032	279123	709317	1.4
OHL_0033	279118	709326	1.7
OHL_0034	279113	709334	1.4
OHL_0035	279108	709343	1.4
OHL_0036	279156	709279	1.2
OHL_0037	279151	709287	1.1
OHL_0038	279146	709296	1.1
OHL_0039	279141	709305	1.1
OHL_0040	279136	709313	1.6
OHL_0041	279131	709322	1.5
OHL_0042	279126	709331	1.6
OHL_0043	279121	709339	1.5
OHL_0044	279116	709348	1.4
OHL_0045	279165	709283	0.9
OHL_0046	279160	709292	1.1
OHL_0047	279155	709301	1.1
OHL_0048	279150	709310	1.1
OHL_0049	279145	709318	1.3
OHL_0050	279140	709327	1.4
OHL_0051	279135	709336	1.1
OHL_0052	279130	709344	1.65
OHL_0053	279125	709353	1.6
OHL_0054	279182	709293	1.1
OHL_0055	279177	709302	1
OHL_0056	279172	709311	1
OHL_0057	279167	709319	1.4
OHL_0058	279162	709328	1.4
OHL_0059	279157	709337	1.3

OHL_0060	279152	709345	1
OHL_0061	279148	709354	1
OHL_0062	279143	709363	1.5
OHL_0063	279191	709298	1.2
OHL_0064	279186	709307	1.2
OHL_0065	279181	709316	0.7
OHL_0066	279176	709324	1.2
OHL_0067	279171	709333	1.1
OHL_0068	279166	709342	1
OHL_0069	279161	709350	0.7
OHL_0070	279156	709359	1.2
OHL_0071	279151	709368	1.2
OHL_0072	279200	709303	0.8
OHL_0073	279195	709312	0.9
OHL_0074	279190	709321	1.2
OHL_0075	279185	709329	1.1
OHL_0076	279180	709338	1.1
OHL_0077	279175	709347	0.9
OHL_0078	279170	709355	0.85
OHL_0079	279165	709364	1.1
OHL_0080	279160	709373	1.2
OHL_0081	279203	709317	0.8
OHL_0082	279198	709326	1
OHL_0083	279193	709334	1
OHL_0084	279188	709343	0.9
OHL_0085	279183	709352	0.6
OHL_0086	279179	709360	0.4
OHL_0087	279174	709369	1.1
OHL_0088	279169	709378	1.1
OHL_0089	279154	709207	0
OHL_0090	279148	709215	0.7
OHL_0091	279142	709223	0.55
OHL_0092	279137	709231	0.7
OHL_0093	279131	709239	0.5
OHL_0094	279162	709213	0.55
OHL_0095	279156	709221	0.75
OHL_0096	279151	709229	0.4
OHL_0097	279145	709237	0.75
OHL_0098	279139	709245	0.7
OHL_0099	279170	709219	0.45
OHL_0100	279165	709227	0.65
OHL_0101	279159	709235	0.5
OHL_0102	279153	709243	0.5
OHL_0103	279147	709251	0.8
OHL_0104	279179	709225	0.6
OHL_0105	279173	709233	1
OHL_0106	279167	709241	0.7
OHL_0107	279161	709249	0.35

OHL_0108	279155	709257	1
OHL_0109	279181	709239	0.85
OHL_0110	279175	709247	0.4
OHL_0111	279169	709255	0.4
OHL_0112	279163	709263	0.8
OHL_0113	279183	709253	0
OHL_0114	279177	709261	0.45
OHL_0115	279171	709269	0.9
OHL_0116	279201	709321	
OHL_0117	279199	709307	
OHL_0118	279185	709259	0.4
OHL_0119	279182	709245	1
OHL_0120	279180	709231	
OHL_0122	278648	708852	0.8
OHL_0123	278694	708831	1
OHL_0124	278685	708835	1.25
OHL_0125	278676	708839	1.9
OHL_0126	278666	708844	2
OHL_0127	278657	708848	2.4
OHL_0128	278653	708861	0.85
OHL_0129	278698	708840	0.6
OHL_0130	278689	708844	0.75
OHL_0131	278680	708848	1
OHL_0132	278671	708853	1
OHL_0133	278662	708857	2
OHL_0134	278657	708870	0.85
OHL_0135	278702	708849	0.1
OHL_0136	278693	708853	0.1
OHL_0137	278684	708857	0.1
OHL_0138	278675	708862	0.3
OHL_0139	278666	708866	0.8
OHL_0140	278661	708879	0.2
OHL_0141	278706	708858	0.5
OHL_0142	278697	708862	0.1
OHL_0143	278688	708867	0.7
OHL_0144	278679	708871	0
OHL_0145	278670	708875	0
OHL_0146	278666	708889	0.65
OHL_0147	278711	708867	0.55
OHL_0148	278702	708871	0.45
OHL_0149	278693	708876	0.3
OHL_0150	278684	708880	0.7
OHL_0151	278675	708884	0.7
OHL_0152	278670	708898	0.8
OHL_0153	278715	708876	0.8
OHL_0154	278706	708880	0.1
OHL_0155	278697	708885	0.1
OHL_0156	278688	708889	0.5

OHL_0157	278679	708893	0.2
OHL_0158	278717	708868	0.4
S_001	279710	708949	0.4
S_002	279726	708968	0.1
S_003	279741	708988	0.3
S_004	279756	709008	0.1
S_005	279772	709028	0.1
S_006	279787	709047	0.2
S_007	279802	709067	0.1
S_008	279818	709087	0.1
S_009	279833	709106	0.2
S_010	279849	709126	0.2
S_011	279864	709146	
S_012	279879	709166	
S_013	279895	709185	
S_014	279910	709205	
S_015	279925	709225	
S_016	279690	708964	0.5
S_017	279706	708984	0.8
S_018	279721	709004	0.5
S_019	279737	709023	0.35
S_020	279752	709043	0.1
S_021	279767	709063	0
S_022	279783	709082	0.2
S_023	279798	709102	0.1
S_024	279813	709122	0.2
S_025	279829	709142	0.3
S_026	279844	709161	
S_027	279860	709181	
S_028	279875	709201	
S_029	279890	709220	
S_030	279906	709240	
S_031	279671	708980	0.1
S_032	279686	708999	0.2
S_033	279702	709019	0.8
S_034	279717	709039	0
S_035	279732	709058	0
S_036	279748	709078	0.1
S_037	279763	709098	0.4
S_038	279778	709118	0.3
S_039	279794	709137	0.1
S_040	279809	709157	0.1
S_041	279825	709177	
S_042	279840	709196	
S_043	279855	709216	
S_044	279871	709236	
S_045	279886	709256	
S_046	279651	708995	0.4

S_047	279666	709015	0.8
S_048	279682	709034	0.4
S_049	279697	709054	0.1
S_050	279713	709074	0.1
S_051	279728	709093	0.4
S_052	279743	709113	0.4
S_053	279759	709133	0.2
S_054	279774	709153	0.5
S_055	279789	709172	
S_056	279805	709192	
S_057	279820	709212	
S_058	279836	709231	
S_059	279851	709251	
S_060	279866	709271	
S_061	279631	709010	0.6
S_062	279647	709030	0.3
S_063	279662	709050	0.3
S_064	279677	709069	0.2
S_065	279693	709089	0.25
S_066	279708	709109	0.1
S_067	279724	709129	0.1
S_068	279739	709148	0.1
S_069	279754	709168	0.2
S_070	279770	709188	
S_071	279785	709207	
S_072	279800	709227	
S_073	279816	709247	
S_074	279831	709267	
S_075	279847	709286	
S_076	279612	709026	
S_077	279627	709045	
S_078	279642	709065	0.5
S_079	279658	709085	0.1
S_080	279673	709105	0.2
S_081	279689	709124	0.3
S_082	279704	709144	0.4
S_083	279719	709164	0.3
S_084	279735	709183	
S_085	279750	709203	
S_086	279765	709223	
S_087	279781	709243	
S_088	279796	709262	
S_089	279812	709282	
S_090	279827	709302	
S_091	279592	709041	0.6
S_092	279607	709061	0.8
S_093	279623	709080	0.6
S_094	279638	709100	0.1

S_095	279653	709120	0.1
S_096	279669	709140	0.5
S_097	279684	709159	0.4
S_098	279700	709179	0.2
S_099	279715	709199	
S_100	279730	709218	
S_101	279746	709238	
S_102	279761	709258	
S_103	279776	709278	
S_104	279792	709297	
S_105	279807	709317	
S_106	279588	709076	0.4
S_107	279603	709096	0.35
S_108	279618	709116	0
S_109	279634	709135	0.6
S_110	279649	709155	0.3
S_111	279664	709175	0.25
S_112	279680	709194	
S_113	279695	709214	
S_114	279711	709234	
S_115	279726	709254	
S_116	279741	709273	
S_117	279757	709293	
S_118	279772	709313	
S_119	279787	709332	
S_120	279583	709111	0.1
S_121	279599	709131	0.1
S_122	279614	709151	0.5
S_123	279629	709170	0.4
S_124	279645	709190	0.6
S_125	279660	709210	
S_126	279676	709229	
S_127	279691	709249	
S_128	279706	709269	
S_129	279722	709289	
S_130	279737	709308	
S_131	279752	709328	
S_132	279768	709348	
S_133	279579	709146	0.5
S_134	279594	709166	0.4
S_135	279610	709186	0.6
S_136	279625	709205	
S_137	279640	709225	
S_138	279656	709245	
S_139	279671	709265	
S_140	279687	709284	
S_141	279702	709304	
S_142	279717	709324	

S_143	279733	709343	
S_144	279748	709363	
S_145	279575	709181	0.8
S_146	279590	709201	0.6
S_147	279605	709221	
S_148	279621	709241	
S_149	279636	709260	
S_150	279651	709280	
S_151	279667	709300	
S_152	279682	709319	
S_153	279698	709339	
S_154	279713	709359	
S_155	279728	709379	
S_156	279570	709216	0.6
S_157	279586	709236	
S_158	279601	709256	
S_159	279616	709276	
S_160	279632	709295	
S_161	279647	709315	
S_162	279663	709335	
S_163	279678	709354	
S_164	279693	709374	
S_165	279709	709394	
S_166	279551	709232	
S_167	279566	709252	
S_168	279581	709271	
S_169	279597	709291	
S_170	279612	709311	
S_171	279627	709330	
S_172	279643	709350	
S_173	279658	709370	
S_174	279674	709390	
S_175	279689	709409	

Appendix C – Peat Core Logs & Photographs

APPENDIX C – Peat Core Logs and Photographs

Peat Core 1 (PC01) at Trial Pit 11

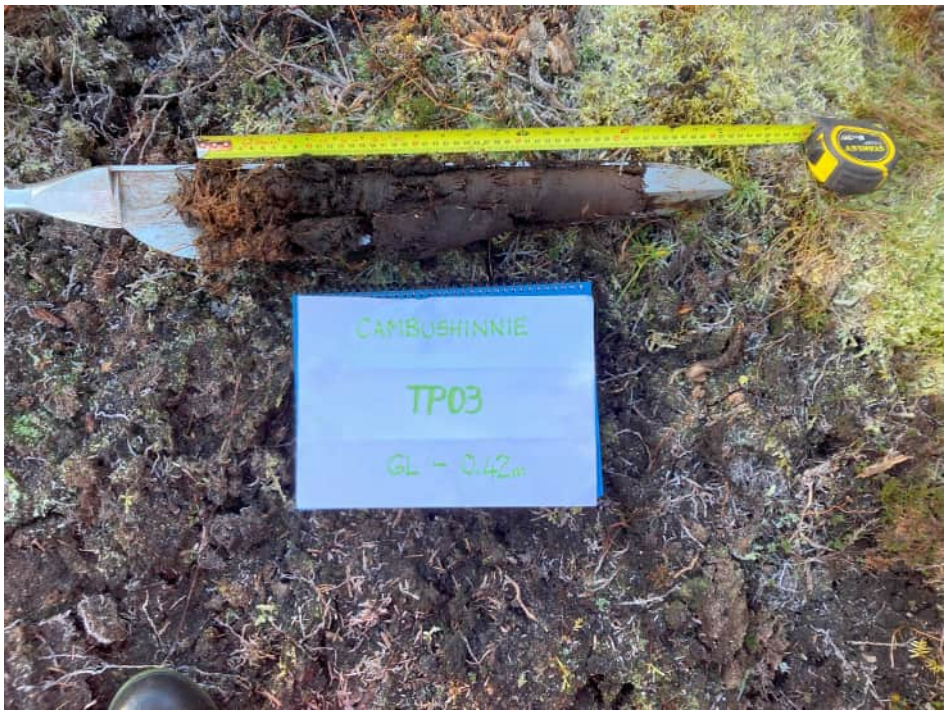
Peat Core 2 (PC02) at Trial Pit 1

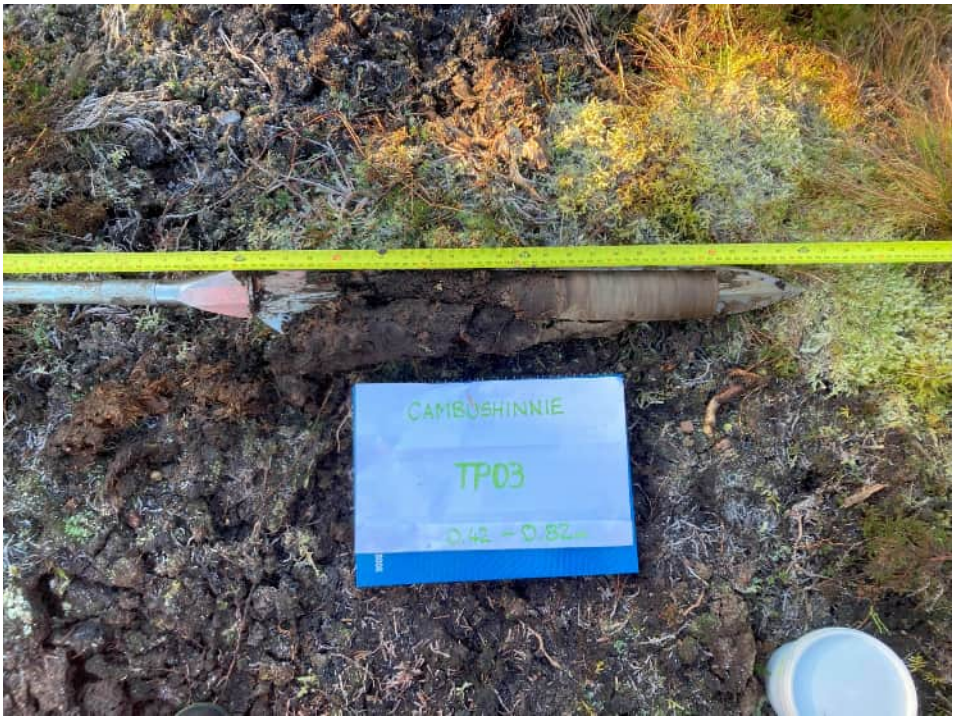
Peat Core 3 (PC03) at Trial Pit 10

Peat Core 4 (PC04) at Trial Pit 13

SSEN Cambushinnie 400kV Substation Upgrade
Additional Peat Probe Survey

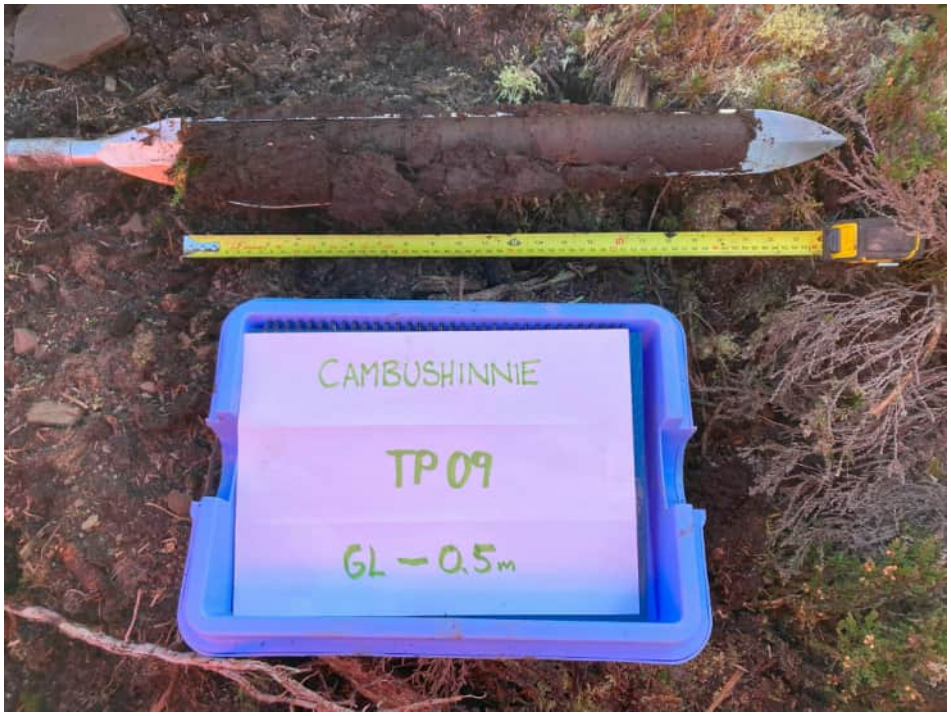
Peat Core 5 (PC05) at Trial Pit 3





Peat Core 6 (PC06) at Trial Pit 4

Peat Core 7 (PC07) at Trial Pit 09



Appendix D – Peat Lab Test Results

AECOM
-

For the attention of David Raeside

Report No: A15474-1
Issue No: 01
Date of issue: 20/03/2025

LABORATORY TEST REPORT

Project Name	**CAMBUSHINNIE SUB STATION**		
Project Number	**A15474-1**	Date samples received	21/02/2025
Your Ref	A15474-1	Date written instructions received	21/02/2025
Purchase Order	60721943	Date testing commenced	08/03/2025

Please find enclosed the results as summarised below

Figure / Table	Test Quantity	Description	ISO 17025 Accredited
	10	Determination of Water Content	Yes
	4	Bulk Desnity	Yes
	10	Chemical Analysis	Yes s/c
App A	~	Notes on Laboratory Procedures - Soil	N/A

Remarks:
Complete

Key to symbols used in this report
S/C : Testing was sub-contracted

Issued by: S McDonagh
Laboratory Coordinator
20/03/2025

Approved Signatories: C Donnelly - Lab Manager, C Loudon - Field Services Manager, S McDonagh - Laboratory Coordinator, S Gilchrist - Quality Supervisor, A Lavery - Concrete and Asphalt Supervisor, J Simpson - Field Testing Training Manager, D Whyte - Senior Lab Technician

6 Belgrave Street, Bellshill Industrial Estate, Bellshill, North Lanarkshire, ML4 3NP
Tel: +44 (0)1236 747 949
bellshill.testing@igne.com
www.igne.com
Terra Tek Ltd is registered in Scotland. SC121594
Offices in Aston Clinton, Barnsley, Bellshill, Daventry
Head Office: Whistleberry Road, Hamilton, Glasgow, Scotland, ML3 0HP

0126

igne

Site: CAMBUSHINNIE SUB STATION

Client: SSEN

Engineer: AECOM

Contract No A15474-1

Sample Identification				Lab Sample ID	Non Enginering Description	Water Content %
Exploratory Hole	Depth m	Sample Ref	Sample Type			
PC01 / TP11	0.00-0.37		D	2041278	Brown fibrous Peat	568
PC02 / TP01	0.00-0.25		D	2041279	Brown fibrous Peat	621
PC03 / TP10	0.00-0.40		D	2041280	Brown fibrous Peat	486
PC04 / TP13	0.00-0.30		D	2041281	Brown fibrous Peat	533
PC05 / TP03	0.00-0.42		D1	2041282	Brown fibrous Peat	822
PC05 / TP03	0.42-0.60		D2	2041283	Brown gravelly very silty SAND with organic matter. Gravel is fine to medium	53.6
PC06 / TP04	0.00-0.43		D1	2041284	Brown fibrous Peat	765
PC06 / TP04	0.43-0.56		D2	2041285	Brown fibrous Peat	655
PC07 / TP09	0.00-0.50		D1	2041286	Brown fibrous Peat	511
PC07 / TP09	0.50-1.00		D2	2041287	Brown fibrous Peat	498

Notes

Originator	Checked & Approved
SM	20/03/2025

Determination of the Water Content

BS EN ISO 17892-1:2014

6 Belgrave Street, Bellshill Industrial Estate, Bellshill, North Lanarkshire, ML4 3NP

igne	Site: CAMBUSHINNIE SUB STATION Client: SSEN Engineer: AECOM	Contract No: **A15474-1**

Sample Identification				Lab Sample ID	Non Enginering Description	Bulk Density	Dry Density	Water Content
Hole ID	Depth m	Sample Ref	Sample Type			Mg/m³	Mg/m³	%
PC03 / TP10	0.00-0.40		D	2041280	Brown fibrous Peat	1.21	0.21	486
PC05 / TP03	0.00-0.42		D1	2041282	Brown fibrous Peat	1.11	0.12	822
PC06 / TP04	0.00-0.43		D1	2041284	Brown fibrous Peat	1.09	0.13	765
PC07 / TP09	0.50-1.00		D2	2041287	Brown fibrous Peat	1.16	0.19	498

Notes

Originator	Checked & Approved
SM	20/03/2025

BULK DENSITY

BS EN ISO 17892-2 Determination of bulk density
Linear measurement method

6 Belgrave Street, Bellshill Industrial Estate, Bellshill, North Lanarkshire, ML4 3NP
Lab Project No A15474-1 : 20/03/2025 10:34:26

Project Number: 25031439

Client: Terra Tek Ltd T/A Igne
Date Issued: 20/03/2025
Project Name: A15474-1 - Cambushinnie Sub Station 1

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
25031439-001	PC01/TP11-0-D-0.00-0.37		SOLID	Peat Sample
25031439-002	PC02/TP01-0-D-0.00-0.25		SOLID	Peat Sample
25031439-003	PC03/TP10-0-D-0.00-0.40		SOLID	Peat Sample
25031439-004	PC04/TP13-0-D-0.00-0.30		SOLID	Peat Sample
25031439-005	PC05/TP03-0-D-0.00-0.42		SOLID	Peat Sample
25031439-006	PC05/TP03-0-D-0.42-0.60		SOLID	Clay Sample
25031439-007	PC06/TP04-0-D-0.00-0.43		SOLID	Peat Sample
25031439-008	PC06/TP04-0-D-0.43-0.56		SOLID	Peat Sample
25031439-009	PC07/TP09-0-D-0.00-0.50		SOLID	Peat Sample
25031439-010	PC07/TP09-0-D-0.50-1.00		SOLID	Peat Sample

Project Number: 25031439

Client: Terra Tek Ltd T/A Igne
Date Issued: 20/03/2025
Project Name: A15474-1 - Cambushinnie Sub Station 1

1252

Analysis Results

Method Code	Analysis	MDL	Accred.	SOCOTEC Sample ID:	25031439-001	25031439-002	25031439-003	25031439-004	25031439-005
				Sampling Date:					
				Customer ID:	PC01/TP11-0-D-0.00 -0.37	PC02/TP01-0-D-0.0 0-0.25	PC03/TP10-0-D-0.0 0-0.40	PC04/TP13-0-D-0.0 0-0.30	PC05/TP03-0-D-0.0 0-0.42
CLANDPREP	Total Moisture at 35°C	0.1 %	N		74.3	77.5	79.9	48.4	79.8
	Major Constituents	-	N		PEAT	PEAT	PEAT	PEAT	PEAT
	Minor Constituents	-	N		None	None	None	None	None
	Miscellaneous Constituents	-	N		Organic Matter	Organic Matter	Organic Matter	Organic Matter	Organic Matter
	Colour of Material	-	N		Brown	Brown	Brown	Brown	Brown
PHSOIL	pH (2.5:1 extraction)	1 pH units	U		4.1*	4.3*	4.6*	5.0*	4.3*
ORGMAT	Organic Matter	0.2 % m/m	N		63.5	60.8	59.1	14.7	67.8

Project Number: 25031439

Client: Terra Tek Ltd T/A Igne
Date Issued: 20/03/2025
Project Name: A15474-1 - Cambushinnie Sub Station 1

1252

Analysis Results

Method Code	Analysis	MDL	Accred.	SOCOTEC Sample ID:	25031439-006	25031439-007	25031439-008	25031439-009	25031439-010
				Sampling Date:					
				Customer ID:	PC05/TP03-0-D-0.42-0.60	PC06/TP04-0-D-0.00-0.43	PC06/TP04-0-D-0.43-0.56	PC07/TP09-0-D-0.00-0.50	PC07/TP09-0-D-0.50-1.00
CLANDPREP	Total Moisture at 35°C	0.1 %	N		33.4	82.3	85.7	86.6	81.6
	Major Constituents	-	N		CLAY	PEAT	PEAT	PEAT	PEAT
	Minor Constituents	-	N		Silt	None	None	None	None
	Miscellaneous Constituents	-	N		Organic Matter	Organic Matter	Organic Matter	Organic Matter	Organic Matter
	Colour of Material	-	N		Brown	Brown	Brown	Brown	Brown
PHSOIL	pH (2.5:1 extraction)	1 pH units	U		4.9	4.4*	4.4*	4.0*	4.3*
ORGMAT	Organic Matter	0.2 % m/m	N		9.7	68.5	70.2	69.5	71.7

Project Number: 25031439

Client: Terra Tek Ltd T/A Igne
Date Issued: 20/03/2025
Project Name: A15474-1 - Cambushinnie Sub Station 1

Deviating Sample Report

Sample Reference	Text ID	Method Code	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
PC01/TP11-0-D-0.00-0.37	25031439-001	CLANDPREP					✓	✓
PC01/TP11-0-D-0.00-0.37	25031439-001	ORGMAT					✓	✓
PC01/TP11-0-D-0.00-0.37	25031439-001	PHSOIL					✓	✓
PC02/TP01-0-D-0.00-0.25	25031439-002	CLANDPREP					✓	✓
PC02/TP01-0-D-0.00-0.25	25031439-002	ORGMAT					✓	✓
PC02/TP01-0-D-0.00-0.25	25031439-002	PHSOIL					✓	✓
PC03/TP10-0-D-0.00-0.40	25031439-003	CLANDPREP					✓	✓
PC03/TP10-0-D-0.00-0.40	25031439-003	ORGMAT					✓	✓
PC03/TP10-0-D-0.00-0.40	25031439-003	PHSOIL					✓	✓
PC04/TP13-0-D-0.00-0.30	25031439-004	CLANDPREP					✓	✓
PC04/TP13-0-D-0.00-0.30	25031439-004	ORGMAT					✓	✓
PC04/TP13-0-D-0.00-0.30	25031439-004	PHSOIL					✓	✓
PC05/TP03-0-D-0.00-0.42	25031439-005	CLANDPREP					✓	✓
PC05/TP03-0-D-0.00-0.42	25031439-005	ORGMAT					✓	✓
PC05/TP03-0-D-0.00-0.42	25031439-005	PHSOIL					✓	✓
PC05/TP03-0-D-0.42-0.60	25031439-006	CLANDPREP					✓	✓
PC05/TP03-0-D-0.42-0.60	25031439-006	ORGMAT					✓	✓
PC05/TP03-0-D-0.42-0.60	25031439-006	PHSOIL					✓	✓
PC06/TP04-0-D-0.00-0.43	25031439-007	CLANDPREP					✓	✓
PC06/TP04-0-D-0.00-0.43	25031439-007	ORGMAT					✓	✓
PC06/TP04-0-D-0.00-0.43	25031439-007	PHSOIL					✓	✓
PC06/TP04-0-D-0.43-0.56	25031439-008	CLANDPREP					✓	✓
PC06/TP04-0-D-0.43-0.56	25031439-008	ORGMAT					✓	✓
PC06/TP04-0-D-0.43-0.56	25031439-008	PHSOIL					✓	✓
PC07/TP09-0-D-0.00-0.50	25031439-009	CLANDPREP					✓	✓
PC07/TP09-0-D-0.00-0.50	25031439-009	ORGMAT					✓	✓
PC07/TP09-0-D-0.00-0.50	25031439-009	PHSOIL					✓	✓
PC07/TP09-0-D-0.50-1.00	25031439-010	CLANDPREP					✓	✓
PC07/TP09-0-D-0.50-1.00	25031439-010	ORGMAT					✓	✓
PC07/TP09-0-D-0.50-1.00	25031439-010	PHSOIL					✓	✓

Analysis Method

Method Code	Method Description	Analysis Method
CLANDPREP	Moisture Content @ 35°C	As Received
CLANDPREP	Solid Material Description	As Received

Project Number: 25031439

Client: Terra Tek Ltd T/A Igne
Date Issued: 20/03/2025
Project Name: A15474-1 - Cambushinnie Sub Station 1

ORGMAT	Organic Matter Content by Colorimetry	Air Dried & Ground
PHSOIL	pH (2.5:1)	As Received

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

Project Number: 25031439

Client: Terra Tek Ltd T/A Igne
Date Issued: 20/03/2025
Project Name: A15474-1 - Cambushinnie Sub Station 1

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any accreditation marked with ^ signify results are reported on a dry weight basis of 105 ° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any results marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by another SOCOTEC department or by an external subcontracted laboratory. Further information is available upon request.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

AIRDRIE LABORATORY NOTES ON LABORATORY PROCEDURES

Samples of various soil types taken during the ground investigation are examined in the laboratory and assessments of their characteristics are used to supplement field observations and laboratory test results.
Preparation and testing is carried out to the requirements of British, European and International Test Standards where applicable, or otherwise in accordance with good practice. All other tests reported or opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.

	Test Title/Method	Test Standard/Clause
Soils	Determination of water content - oven drying method (U)	BS 1377-2:2022 cl. 4.2 (BS EN ISO 17892-1:2014+A1:2022 cl. 5)
	Determination of water content - oven drying method (U)	BS 1377-2:1990 cl. 3.2 (W)
	Determination of liquid limit by cone penetrometer method (U)	BS 1377-2:2022 cl. 5.2 (BS EN ISO 17892-12:2018+A2:2022 cl. 5.3)
	Determination of liquid limit by cone penetrometer method (U)	BS 1377-2:1990 cl. 4.3 (W)
	Determination of plastic limit and plasticity index (U)	BS 1377-2:2022 cl. 6 (BS EN ISO 17892-12:2018+A2:2022 cl. 5.5)
	Determination of plastic limit and plasticity index (U)	BS 1377-2:1990 cl. 5.3 (W)
	Determination of density - linear measurement (U)	BS 1377-2:2022 cl. 8 (BS EN ISO 17892-2:2014 cl. 5.1)
	Determination of density - linear measurement (U)	BS 1377-2:1990 cl. 7.2 (W)
	Determination of particle density by gas jar method (U)	BS 1377-2:2022 cl. 9.2
	Determination of particle density by gas jar method (U)	BS 1377-2:1990 cl. 8.2 (W)
	Determination of particle size distribution - sieving method (U)	BS 1377-2:2022 cl. 10 (BS EN ISO 17892-4:2016)
	Particle size distribution - wet sieving method (U)	BS 1377-2:1990 cl. 9.2 (W)
	Particle size distribution - dry sieving method (U)	BS 1377-2:1990 cl. 9.3 (W)
	Determination of particle size distribution - pipette method (U)	BS 1377-2:2022 cl. 10 (BS EN ISO 17892-4:2016)
	Particle size distribution - pipette method (U)	BS 1377-2:1990 cl. 9.4 (W)
	Dry density/water content relationship - 2.5kg rammer method (U)	BS 1377-2:2022 cl. 11.3/11.4
	Dry density/water content relationship - 2.5kg rammer method (U)	BS 1377-4:1990 cl. 3.3/3.5 (W)
	Dry density/water content relationship - 4.5kg rammer method (U)	BS 1377-2:2022 cl. 11.5/11.6
	Dry density/water content relationship - 4.5kg rammer method (U)	BS 1377-4:1990 cl. 3.4/3.6 (W)
	Dry density/water content relationship - Vibrating hammer (U)	BS 1377-2:2022 cl. 11.7
	Dry density/water content relationship - Vibrating hammer (U)	BS 1377-4:1990 cl. 3.7 (W)
	Determination of max/min dry densities for granular soils	BS 1377-2:2022 cl. 12
	Moisture Condition Value - natural water content (U)	BS 1377-2:2022 cl. 13.4
	Moisture Condition Value - natural water content (U)	BS 1377-4:1990 cl. 5.4 (W)
	Moisture Condition Value - water content relationship (U)	BS 1377-2:2022 cl. 13.5
	Moisture Condition Value - water content relationship (U)	BS 1377-4:1990 cl. 5.5 (W)
	Determination of the California Bearing Ratio (U)	BS 1377-2:2022 cl. 15
	Determination of the California Bearing Ratio (U)	BS 1377-4:1990 cl. 7 (W)
	One-dimensional consolidation properties (U)	BS 1377-2:2022 cl. 16 (BS EN ISO 17892-5:2017 cl. 6)
	One-dimensional consolidation properties (U)	BS 1377-5:1990 cl. 3 (W)
	Determination of shear strength by laboratory vane method	BS 1377-2:2022 cl. 24
	Determination of shear strength - small shear box	BS 1377-2:2022 cl. 25 (BS EN ISO 17892-10:2018 cl. 6)
	Determination of shear strength - small shear box (U)	BS 1377-7:1990 cl. 4 (W)
	Determination of unconfined compressive strength	BS 1377-2:2022 cl. 27 (BS EN ISO 17892-7:2018 cl. 6)
	Unconsolidated undrained triaxial test (U)	BS 1377-2:2022 cl. 28 (BS EN ISO 17892-8:2018 cl. 6)
	Undrained shear strength triaxial test single stage (U)	BS 1377-7:1990 cl. 8 (W)
	Undrained shear strength triaxial test multi-stage (U)	BS 1377-7:1990 cl. 9 (W)
	Reference density and water content - Proctor compaction (U)	BS EN 13286-2:2010
	Reference density and water content - Vibrating hammer (U)	BS EN 13286-4:2021
	Determination of the compressive strength	BS EN 13286-41:2021
	Moisture condition value (U)	BS EN 13286-46:2003
	Determination of California bearing ratio (U)	BS EN 13286-47:2021
	Determination of degree of pulverisation (U)	BS EN 13286-48:2005

(U) Denotes UKAS accreditation held; (W) Denotes test standard/method withdrawn/superseded

Soil Description
Laboratory soil descriptions (non-engineering) and classifications are generally given in accordance with Section 6 of BS 5930:2015+A1:2020 & Section 6 of BS EN ISO 14688-1:2018