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Project:
CORBY ENERGY-FROM-WASTE (EFW)

Title:
Geotechnical Ground Investigation and Interpretive Report

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DeltaSimons

DeltaSimons

Geotechnical Ground Investigation and Interpretive Report

Corby EfW

Presented to: Mytilineos

Issued: March 2022

Delta-Simons Project No: 15-0645.05

Protecting people and planet

Report Details

Client	Mytilineos
Report Title	Geotechnical Ground Investigation and Interpretative Report
Site Address	Corby EfW, Shelton Road, Willowbrook East Industrial Estate, Corby NN17 5XH
Report No.	15-0645.05_REP_Corby_GGI_20220314
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As part of Lucion Services, our combined team of 500 in the UK has a range of specialist skill sets in over 50 environmental consultancy specialisms including asbestos, hazardous materials, ecology, air and water services, geo-environmental and sustainability amongst others.

Delta-Simons is proud to be a founder member of the Inogen Environmental Alliance, enabling us to efficiently deliver customer projects worldwide by calling upon over 5000 resources in our global network of consultants, each committed to providing superior EH&S and sustainability consulting expertise to our customers. Through Inogen we can offer our Clients more consultants, with more expertise in more countries than traditional multinational consultancy.

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Executive Summary

Brief	Delta-Simons Limited ("Delta-Simons") was instructed by Mytilineos (the "Client") to undertake a Geotechnical Ground Investigation for Corby EfW, Shelton Road, Willowbrook East Industrial Estate, Corby, NN17 5XH (the "Site"). The Site is to be redeveloped for a single-line energy from waste (EfW) plant. Mytilineos request that the aim of the geotechnical investigation is: • "To obtain an accurate picture of the geometry of the geological and tectonic elements of the background • To identify the stratigraphy of the ground, the geotechnical design parameters of each layer and provide guidelines for the development of the New EfW facility."
Site Setting	The Site is 2.53Ha of a previously restored quarry and is currently a flat area covered by roadways and gravel surfaced parking bays, used for open storage of cars. A landscaped strip was noted to run along the northern and eastern edges of the Site. The Site was part of a wider area used for storage of cars. It is understood that the Site is to be developed for a new single line Energy from Waste (EfW) Facility.
Ground Conditions	The geological ground model can be summarised as Made Ground of varying thickness underlain by the Northampton Sand Formation. The Northampton Sand Formation being of variable thickness. Underlying the Northampton Sand Formation or the Made Ground where the Northampton Sand Formation isn't present is the Whitby Mudstone Formation. The Whitby Mudstone Formation had a Limestone band on its upper boundary of varying thickness. Groundwater levels during monitoring are highly variable and indicate perched water within the Made Ground across the site.
Geotechnical Assessment	The Made Ground is considered to be too variable, weak and compressible in its existing condition for conventional shallow foundations at the Site. As such alternative foundation solutions, including Ground Improvement Techniques or Piling should be explored in consultation with appropriately experienced contractors. Ground bearing floor slabs are not considered appropriate for the site given the Made Ground present at founding depth. It is recommended that a conservative CBR value of 5% should be adopted for the shallow Made Ground, for preliminary pavement design for external areas. Geotechnical and Geochemical testing is still on going for this project. The above conclusions are subject to change upon receipt of final laboratory testing results.
Data Gaps and Uncertainty	• The investigation scope and geotechnical assessment provided are specific to the Energy from Waste development anticipated, and may not be relevant for other development schemes should these be considered in the future. • The scope of investigation was specified by the Client. • Schedule of geotechnical testing was specified by the Client. • No proposed loadings provided by the Client/engineer.
This is intended as a summary only. Further detail and the limitations of the assessment are provided within the main body of the Report.	

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1.0 Introduction

1.1 Appointment

Delta-Simons Environmental Consultants Limited ("Delta-Simons") was instructed by Mytilineos (the "Client") to undertake a Geotechnical Ground Investigation at Corby EfW, Shelton Road, Willowbrook East Industrial Estate, Corby, NN17 5XH (the "Site").

1.2 Context & Purpose

The Site is to be redeveloped for a single-line energy from waste (EfW) plant.

Mytilineos request that the aim of the geotechnical investigation is:

- "To obtain an accurate picture of the geometry of the geological and tectonic elements of the background
- To identify the stratigraphy of the ground, the geotechnical design parameters of each layer and provide guidelines for the development of the New EfW facility."

1.3 Scope of Works

The project was undertaken to an agreed brief as set out in Delta-Simons' proposal (reference 15-0645.05, dated 18th January 2022).

The detailed scope of works is outlined in Section 3.

Specific sections of this Report may generally follow guidance set out in Eurocode 7 for a Ground Investigation Report (GIR), as defined in BS EN 1997-1:2004 and BS EN 1997-2:2007. Eurocode 7 includes specific guidance on the number and spacing of investigation positions, methods of investigation and sample quality to be achieved which may not have been met by this investigation. The Report also includes information which may support a Geotechnical Design Report (GDR) as defined in BS EN 1997-1:2004; however, unless otherwise explicitly stated, the investigation has not been undertaken in accordance with Eurocode 7 and the preliminary geotechnical interpretation, assessments, risk register (if included) and recommendations presented within this Report may not meet the full requirements of a GDR.

1.4 Proposed Development

The Site is 2.53Ha of a previously restored quarry and is currently a flat area covered by roadways and gravel surfaced parking bays, used for open storage of cars. A landscaped strip was noted to run along the northern and eastern edges of the Site. The Site was part of a wider area used for storage of cars. It is understood that the Site is to be developed for a new single line Energy from Waste (EfW) Facility.

The proposed site layout plan is included as Drawing 1 (ref: 112101-00-YF-GDA-SNL-001-REV0C).

1.5 Existing Information

This Report must be considered in the context of the previous Reports undertaken by Delta-Simons for which the Client has reliance:

- Environmental and Geotechnical Site Assessment, Proposed Site for Gasification Plant, Shelton, Road, Willowbrook East Industrial Estate, Corby, NN17 5XH, Clean Power Properties Ltd., Delta-Simons Project No. 15-0645.02, Issued: December 2015.

1.6 Limitations

The assessment is limited to the issues agreed within the proposal for the works. General notes on limitations associated with this assessment are provided in Appendix A.

1.7 Data Gaps and Uncertainty

In addition, the following specific data gaps and uncertainty apply to this assessment:

- The investigation scope and geotechnical assessment provided are specific to the Energy from Waste development anticipated, and may not be relevant for other development schemes should these be considered in the future.
- The scope of investigation was specified by the Client.
- Schedule of geotechnical testing was specified by the Client.
- No proposed loadings were provided by the Client/engineer.

2.0 Site Details

2.1 Site Setting

A summary of the current Site status, environmental setting and key historical features is presented below. This has been summarised from the existing Report(s) listed in Section 1.5 which should be consulted for further detail.

Co-ordinates	Centred approximately at National Grid Reference 490989, 290880.	Elevation	105 m AOD
		Area	2.53 Ha
Site Address and Location	Shelton Road, Willowbrook East Industrial Estate, Corby, NN17 5XH. The Site is located to the west of Shelton Road in the Willowbrook East Industrial Estate, 3 km north-east of Corby town centre, with an area of approximately 2.53 Ha. A Site location map is provided as Figure 1. Google Maps Link		
Current Site Description	The Site currently comprises a flat area covered by roadways and gravel surfaced parking bays, used for open storage of cars. A landscaped strip was noted to run along the northern and eastern edges of the Site.		
Physical Setting	The site is relatively flat with a slight downward slope from north to south. The site was formerly an opencast ironstone mine, as such, the site is underlain by approximately 16 to 21m of Made Ground over the bedrock geology of the Northampton Sand Formation overlying the Whitby Mudstone Formation. Given the mining on site the majority of the Northampton Sand Formation is understood to have been removed. The Northampton Sand Formation is classified as a Secondary A Aquifer and the site is not within a groundwater Source Protection Zone (SPZ). The environmental sensitivity of the Site setting is considered to be low to moderate given the proximity of the Willow Brook North Arm watercourse to the northern Site boundary, the significant thickness of low permeability reworked soils, the designation of the bedrock as a Secondary A aquifer, and the lack of proximate ground and surface water abstractions.		
Key Historical Features	Historically the Site has been associated with opencast ironstone mining and backfilling with steelworks wastes and reworked overburden materials, prior to surface remediation works carried out in 2001-2002 for construction of the current vehicle storage area.		
Summary of Previous /Third Party Reports	Delta Simons undertook an Environmental and Geotechnical Assessment of the site in December 2015. The findings of this are summarised below. A ground investigation comprising the following: • 20No. dynamic sampler boreholes (DS101 to 119) to a maximum depth of 3.0 m bgl; • 10No. cable percussion boreholes (BH101 to BH110) to a maximum depth of 20.45 m bgl; • Four rotary boreholes (BHR1 to BHR4) to a maximum depth of 30.0 m bgl;		

	• Installation of 19 boreholes with 50 mm internal diameter gas and groundwater monitoring wells; • Standard penetration tests (SPTs) were undertaken throughout the boreholes, along with environmental and geotechnical sampling; • Ten Cone Penetrometer Tests (CPTs) to a maximum depth of 25.15 m bgl; • Collection of groundwater samples and undertaking four rounds of gas and groundwater level monitoring. Encountered ground conditions comprised a thin layer of granite aggregate and topsoil, topsoil or asphalt hardstanding at each intrusive location. Made Ground (Fill) was encountered in each borehole location advanced and generally comprised greyish black/brown and greenish brown, slightly silty/sandy/gravelly clays with variable layers of pseudo-fibrous and fibrous peat. Gravels generally consisted of fine to coarse sandstone and chalk. Fill material with encountered to a maximum depth of 20.5 m bgl. The underlying Northampton Sand Formation, consisting of strong, massive orangey brown sandstone was encountered in boreholes R1, R3 and R4 and BH109. The Northampton Sand Formation was not present in all locations drilled indicating this had been potentially extracted to its full depth in parts of the Site. Underlying the fill, or Northampton Sand Formation, were deposits of the Whitby Mudstone Formation comprising, weak, dark grey, slightly weathered, laminated mudstone and was proven to a maximum depth of 29.8 m bgl. Resting groundwater levels recorded during the return monitoring visits were between 0.10 m bgl and 20.33 m bgl. The chemical analysis undertaken on selected soil samples did not identify widespread significantly elevated concentrations of contamination in the tested locations. Groundwater chemical analysis results indicate only slightly elevated concentrations of boron and selenium, limited to the rotary borehole R4. Slightly elevated concentrations of Mercury were identified in six of the locations sampled. These exceedances were not considered significant as the Site is not located within a Source Protection Zone. Ground gas monitoring indicated low level gas flow rates and slightly elevated concentrations of methane and carbon dioxide giving the Site a Characterisation Situation 2 (CS2 – Low Risk). Basic ground gas protection measures was recommended for the development. From a geotechnical standpoint the following conclusions were given: • Made Ground Fill material was considered to be too soft, variable, compressible and unpredictable in its existing condition for conventional shallow foundations at the Site given the expected large design loads. • A piled foundation solution using bored piles transferring loads to competent bedrock geology encountered at depth was likely to be suitable for the expected design loads. • It was considered that ground improvement techniques may not be appropriate for the expected design loads given the depth of Made Ground Fill encountered beneath the Site; • Due to significant thickness of Made Ground, soils are considered too variable and unpredictable in its existing state for ground bearing floor slabs;

	• The use of soakaways as a form of drainage was not recommended for the Site given the depth of Made Ground encountered; and • The conditions of the soils at the Site would be classified as Design Sulphate Class DS-4 and ACEC Class AC-4 for soils and groundwater.

3.0 Ground Investigation

3.1 Intrusive Investigation

Delta-Simons carried out intrusive investigation work from 3rd February to 1st March 2022 to provide additional geotechnical information.

3.2 Ground Investigation and Rationale

3.2.1 Intrusive Works

The ground investigation comprised the following items:

- Service avoidance exercise and topographic survey of exploratory holes to x,y,z co-ordinates;
- Supervision of all works by a Delta-Simons Geo-Environmental engineer. All intrusive locations were logged to BS 5930:2015+A1:2020 Code of Practice for Ground Investigations;
- Drilling of thirteen cable percussive boreholes with rotary drilled follow on (BH1 to BH13) to a maximum depth of 30 m bgl;
- Excavation of five trial pits (TR-1 to TR-5) to a maximum depth of 3.00 m bgl. The trial pits were installed with a gravel pack and monitoring pipes to facilitate soakaway testing in accordance with BRE365;
- Undertaking of 12 Static Piezocone Penetration Tests (CPT01 to CPT12A) to a maximum depth of 23.29n bgl;
- Undertaking of one Seismic Dilatometer Marchetti Test (SCPT) to a maximum depth of 29.02m bgl;
- Undertaking of five soil resistivity tests (R1 to R5).

An intrusive exploratory hole location plan is presented as Figure 2.

Specific limitations affecting the proposed scope of works are summarised in Section 1.7.

Delta-Simons exploratory hole engineer verified borehole logs are presented as Appendix B together with the SPT Calibration Certificates, in accordance with BS EN ISO 22476-3:2005+A1:2011 (incorporating corrigendum No. 1 2007), Geotechnical investigation and testing - Field testing - Part 3: Standard penetration test for SPT trip hammers.

3.2.2 Rationale

The exploratory hole positions were spread across the Site to provide site wide coverage with the exact location specified by the Client, to meet their requirements.

3.3 Geotechnical Sampling and In-Situ Testing

3.3.1 Sampling

Sampling comprised disturbed jar/tab and bulk samples as well as undisturbed U100/ UT100 samples collected where possible in cohesive so and core sampling and sub-sampling, details on the samples collected are available on the borehole logs (Appendix B).

3.3.2 In-Situ Tests

SPT tests were undertaken in all boreholes at 1.00 m intervals until 5.00 m bgl, then every 1.5 m bgl thereafter until bedrock was encountered. The results of these tests are presented on the borehole logs included as Appendix B. A plot of Corrected SPT N values versus Depth is included as Figure 3.

Hand Shear Vanes (HSV) were undertaken at regular intervals in cohesive soils within the trial pits. The tests were undertaken in accordance with the procedure detailed in Delta-Simons' Standard Operating Procedure on disturbed samples of clay which had been excavated from the trial pits.

In-situ Cone Penetrometer Tests (CPT) were undertaken using a wheeled 14 tonne rig to hydraulically ram a cone penetrometer into the ground continuously using a series of steel rods. A piezocone was used to collect data from which soil parameters have been derived. The CPT Report is included in Appendix C.

Soil resistivity testing was undertaken in five locations across the site using vertical electrical sounding (4-pin testing) in accordance with the specification IEEE std 81-2012. The Geophysical Survey Report is included in Appendix D.

3.3.3 Soakaway Tests

Soakage testing was undertaken in 5 locations (TR1 to TR5) in accordance with BRE Digest 365 Soakaway Design (2016) to derive soil infiltration rates for use in soakaway design. The results from these tests are presented in Appendix F.

3.4 Geotechnical Laboratory Testing

A selection of soil and rock samples were submitted to the UKAS accredited laboratory for a range of geotechnical testing, the results of which are included in Appendix E. The number and type of testing was schedule by the Client. At the time of writing, laboratory testing is still on going and the final number of samples tested is subject to their completion.

Laboratory Test	Test Standard	Number of Samples Tested
Classification		
Water Content	BS1377-2:3 or BS EN ISO 17892-1	37
Liquid and Plastic Limits	BS1377-2:4 – 5 or BS EN ISO 17892-12	37
Particle Size Analysis and sedimentation	BS1377-2:9.2 & 9.3 or BS EN ISO 17892-4	24
Particle Density	BS1377-2:8 or BS EN ISO 17892-3	5
Compaction		
Water Content / Dry Density Relationship Testing (2.5 kg, 4.5 kg or vibrating hammer)	BS1377-4:3	5
Pavement Design		
Remoulded California Bearing Ratio (CBR) at Optimum Moisture Content	BS1377-4:7	5
Soil Strength		
Quick Undrained Triaxial (multi-stage)	BS1377-7:8 or BS EN ISO 17892-8	46
Deformation		
Oedometer Consolidation	BS1377-5:3 or BS EN ISO 17892-5	14
Rock Testing		
Point Load Test	ISRM 2007	40
Uniaxial Compressive Strength	ISRM 2007	42
Geo-Chemical – Soil Samples		
pH	BRE Special Digest 1 or other	25
Water-Soluble Sulphate (2:1 water/soil extract)	BRE Special Digest 1 or other	25
Acid Soluble Sulphate	BRE Special Digest 1 or other	25
Total Sulphur	BRE Special Digest 1 or other	25
Magnesium (2:1 water/soil extract)	BRE Special Digest 1 or other	25

Laboratory Test	Test Standard	Number of Samples Tested
Nitrate (2:1 water/soil extract)	BRE Special Digest 1 or other	25
Chloride (2:1 water/soil extract)	BRE Special Digest 1 or other	25
Organic Matter	BRE Special Digest 1 or other	23
Geo-Chemical – Water Samples		
pH	BRE Special Digest 1 or other	2
Soluble Sulphate	BRE Special Digest 1 or other	2
Soluble Magnesium	BRE Special Digest 1 or other	2
Nitrate Ion	BRE Special Digest 1 or other	2
Chloride Ion	BRE Special Digest 1 or other	2
Aggressive Carbon Dioxide	BRE Special Digest 1 or other	2

3.5 Monitoring Programme

One round of groundwater level and ground gas monitoring was undertaken on serviceable historical wells (BH103, BH106, DS104, DS107, DS107a, DS109, DS113 and DS116 to DS118) on the 23rd February 2022.

Two rounds of groundwater level and ground gas monitoring were undertaken on newly installed wells (BH1, BH2, BH7, BH10, BH12 and BH13) between 3rd and 9th March 2022.

Measurements of the depth to groundwater within the monitoring wells were taken using an electronic dip meter.

To characterise the ground gas regime at the Site, an infrared gas meter was used to measure gas flow, concentrations of carbon dioxide (CO_2), methane (CH_4) and oxygen (O_2) in percentage by volume. Initial and steady state concentrations were recorded. The atmospheric pressure before and during monitoring, together with the weather conditions, was recorded.

All monitoring results obtained to date are contained within Appendix F.

4.0 Ground Summary

4.1 Introduction

The sections below summarise the ground and groundwater conditions encountered during the Site investigation in December 2015 and February 2022.

4.2 Ground Summary

A summary of the observed ground conditions at the Site is provided below and should be read in conjunction with the exploratory hole logs. A contour plot showing the base of the Made Ground is provided as Figure 4a and Figure 4b which shows indicative depths based on the investigation undertaken and existing Site elevations.

Strata	Typical Strata Description	Depth Range of Strata Top (m)	Depth Range of Strata Base (m)	Thickness Range (m)	Comments
Made Ground	Dark grey sandy gravelly clay with organic material. Gravel is generally angular to rounded of sandstone, brick, concrete, chalk and flint. Sand is fine to coarse.	*Ground Level*	*15.50 to 19.50*	*15.50 to 19.50*	
Northampton Sand Formation	Reddish brown sandstone, generally recovered as angular to subangular fine to coarse gravel.	*15.50 to 20.50*	*18.00 to 22.75*	*0.10 to 3.50*	*Only encountered in BH3, BH6, BH8, BH11, BH109, BHR1, BHR3 & BHR4*
Whitby Mudstone Formation	Very weak to weak thinly laminated Mudstone with an upper layer of weak to medium strength grey Limestone.	*15.70 to 22.75*	*Proven to a maximum depth of 30.00m bgl*	*Not Proven*	

The geological ground model can be summarised as Made Ground of varying thickness (15.50 to 19.50m) underlain by the Northampton Sand Formation in 8 locations. The Northampton Sand Formation being of variable thickness between 0.10 and 3.50.

Underlying Northampton Sand Formation or the Made Ground where the Northampton Sand Formation isn't present is the Whitby Mudstone Formation, to a proven depth of 30.00m bgl. The Whitby Mudstone Formation had a Limestone band on its upper boundary of varying thickness.

4.3 Groundwater

4.3.1 Strikes During Investigations

No groundwater strikes were encountered during the ground investigation.

4.3.2 Levels During Monitoring Programme

Groundwater levels were monitored on a total of four occasions between 7th September and 29th September 2015 as part of the initial ground investigation and are summarised in the table below.

Exploratory Hole	Water level during monitoring Max to Min Range		Stratum
	m bgl	m AOD.	
BHR1	14.80 to 15.96	91.034 to 89.874	Whitby Mudstone Formation
BHR2	18.48 to 20.33	87.023 to 85.173	Whitby Mudstone Formation
BHR3	18.39 to 16.66	86.173 to 85.908	Northampton Sand Formation and Whitby Mudstone Formation
BHR4	16.57 to 18.71	87.216 to 87.547	Northampton Sand Formation and Whitby Mudstone Formation
BH101	14.35 to 16.63	92.848 to 91.568	Made Ground
BH102	14.37 to 14.68	92.174 to 91.864	Made Ground
BH104	18.44 to 18.91	87.216 to 86.746	Made Ground
DS101	0.46 to 1.14	103.2772 to 103.092	Made Ground
DS104	0.40 to 0.44	104.555 to 104.515	Made Ground
DS105	0.13 to 0.31	104.359 to 104.179	Made Ground
DS107	0.16 to 0.71	105.620 to 105.070	Made Ground
DS107a	0.33 to 0.80	105.221 to 104.751	Made Ground
DS109	0.91 to 2.25	104.411 to 103.071	Made Ground
DS113	0.12 to 0.36	106.430 to 106.190	Made Ground
DS114	0.13 to 0.72	105.628 to 105.038	Made Ground
DS116	0.12 to 0.73	105.425 to 104.815	Made Ground
DS117	0.10 to 1.82	106.297 to 104.577	Made Ground
DS118	0.29 to 0.96	106.898 to 106.608	Made Ground

Groundwater levels within historical wells were monitored on one occasion on the 23rd February 2022 and within the new boreholes on a total of two occasions between 3rd and 9th March 2022 as part of the recent ground investigation. Monitoring data measurements are provided in Appendix F and summarised in the table below.

Exploratory Hole	Water level during monitoring Max to Min Range		Stratum
	m bgl	m AOD.	
BH103	17.60	88.18	Made Ground
BH106	16.96	88.74	Made Ground
DS104	0.20	104.24	Made Ground
DS107	0.22	105.56	Made Ground
DS107a	0.00	105.55	Made Ground
DS109	0.97	104.35	Made Ground
DS113	0.90	105.62	Made Ground

Exploratory Hole	Water level during monitoring Max to Min Range		Stratum
	m bgl	m AOD.	
DS116	0.00	105.54	Made Ground
DS117	0.62	105.78	Made Ground
DS118	0.00	106.90	Made Ground
BH1	14.97	90.29	Made Ground
BH2	17.69 to 17.87	87.61 to 87.79	Made Ground
BH7	14.99 to 15.02	91.22 to 91.25	Made Ground
BH10	0.75 to 5.72	99.92 to 104.89	Made Ground
BH12	13.23 to 13.95	90.52 to 91.24	Made Ground
BH13	12.63 to 13.04	93.64 to 94.05	Made Ground

Groundwater levels during monitoring are highly variable and indicate perched water within the Made Ground across the site.

4.4 Visual and Olfactory Evidence of Contamination

No visual or olfactory evidence of potential gross contamination was observed during the investigation.

4.5 Material Properties

The table below summarises the factual material properties based upon the results of in-situ and laboratory test data and where appropriate provides derived geotechnical parameters.

At the time of reporting not all laboratory data has been received.

Parameter	Unit	Range	Justification
Made Ground			
w (Water Content)	%	13 to 64	Laboratory Testing
IP (Plasticity Index)	-	13 to 54	Laboratory Testing
PL (Plastic Limit)	%	14 to 46	Laboratory Testing
LL (Liquid Limit)	%	27 to 89	Laboratory Testing
Volume Change Potential	-	Low to High	NHBC
CU (Uniformity coefficient)	-	>7.4 to >79	Laboratory Testing
Corrected SPT 'N60'	-	5 to 54	SPT N values corrected for energy ration (Er) after BS EN ISO 22476-3:2005. Er stated on borehole logs.
γ (Bulk Density)	Mg/m3	1.98 to 2.14	Laboratory Testing
γd (Dry Density)	Mg/m3	1.60 to 1.86	Laboratory Testing
cu (Undrained Shear Strength)	kPa	5 to 285	Laboratory Testing and Inferred from PI and N-Value after Stroud (1975)
mv (Coefficient of Volume of Compressibility	m2/MN	0.087 to 0.171	Laboratory Testing
E' (Drained Elastic Modulus)	MPa	0.6 to 37	Laboratory Testing

Parameter	Unit	Range	Justification
γmax (Maximum Dry Density) 2.5kg	Mg/m3	1.78 to 1.83	Laboratory Testing
OMC (Optimum Moisture Content)	%	13 to 15	Laboratory Testing
NMC (Natural Moisture Content)	%	19 to 21	Laboratory Testing
Hand Shear Vane at OMC	kPa	42 to 100	In-Situ Testing
CBR at OMC	%	17 to 23	Laboratory Testing
Northampton Sand Formation			
Point Load Testing Is(50)	MPa	0.2	Laboratory Testing
Whitby Mudstone Formation			
w (Water Content)	%	9 to 20	Laboratory Testing
IP (Plasticity Index)	-	25 to 32	Laboratory Testing
PL (Plastic Limit)	%	23 to 28	Laboratory Testing
LL (Liquid Limit)	%	48 to 60	Laboratory Testing
Volume Change Potential	-	Medium	NHBC
Corrected SPT 'N60'	-	22 to 62	SPT N values corrected for energy ration (Er) after BS EN ISO 22476-3:2005. Er stated on borehole logs.
γ (Bulk Density)	Mg/m3	2.10 to 2.41	Laboratory Testing
γd (Dry Density)	Mg/m3	1.70 to 2.32	Laboratory Testing
Point Load Testing Is(50)	MPa	0.28 to 1.35	Laboratory Testing
Unconfined Compressive Strength Testing (UCS)	kPa	162 to 14400	Laboratory Testing

A plot of corrected SPT N value versus depth per strata is presented as Figure 3. A plot of undrained shear strength versus depth per strata is presented as Figure 5. A plasticity chart is presented as Figure 6.

4.6 Geochemical Testing

Geochemical analysis was scheduled on soil samples from the Made Ground tested for selective contaminants (BRE Special Digest 1:2005 (3rd Edition), Concrete in Aggressive Ground and organic content. At the time of this report, these tests are still in process and this section will be updated upon their receipt.

5.0 Geotechnical Assessment

5.1 Introduction

5.1.1 Summary of Development Proposals

The Site is 2.53Ha of a previously restored quarry and is currently a flat area covered by roadways and gravel surfaced parking bays, used for open storage of cars. A landscaped strip was noted to run along the northern and eastern edges of the Site. The Site was part of a wider area used for storage of cars. It is understood that the Site is to be developed for a new single line Energy from Waste (EfW) Facility.

At the time of writing, structural and floor loadings and final levels were unknown. Consequently, the information provided below should be treated as preliminary and will be subject to review once a scheme and levels have been finalised, and further detailed assessment and design may be required.

5.1.2 Preliminary Geotechnical Hazards

The geohazards listed below have been identified to follow guidance presented in the HE document CD622 'Managing Geotechnical Risk' (2020) which aims to identify and manage the geotechnical risks associated with a scheme throughout its lifespan, from planning to construction to maintenance.

The following geohazards are considered to be substantial ground related risks associated with the proposed development. A substantial risk is defined by Delta-Simons in Appendix G.

- Made Ground: - The investigation at the Site has demonstrated the Made Ground to be of significant thickness and variable in nature. SPT results have suggested potentially low bearing capacity and, therefore, unacceptable levels of total/differential settlement may occur;
- Compressible / soft ground in the shallow soils (>5m bgl): - Low SPT results have been encountered in the Made Ground. Organic material was also encountered;
- Variable depths to bedrock – given the nature of the site being an infilled quarry, the depth to the top of bedrock varies across the site; and
- Perched groundwater: - Whilst groundwater was not encountered during intrusive investigations monitoring has indicated variable depths to groundwater. Excavations may require groundwater control measures.

5.1.3 Ground Model and Characteristic Ground Parameters

At the time of this report, geotechnical testing was still on going. The ground model and characteristic ground parameters will be prepared once testing is complete.

5.2 Earthworks

At the time of writing, details on finished levels are unavailable, although it is anticipated to be at similar level to the current site. Whilst no significant cut and full operation is anticipated some degree of earthworks will be required as part of the proposed development.

Shallow earthworks on the Site will predominantly encounter Made Ground. The suitability of these materials for re-use has been preliminary assessed on the basis of the compaction testing carried out as part of this investigation.

Compaction test results indicate that the natural moisture content may typically be wet of the optimum moisture content (OMC) – therefore modification to these materials maybe required. Also based on their description the material may not be suitable for re-use as engineered fill without modification or consideration of significant organic content encountered in places.

Any Materials used as fill will need to be placed to a suitable engineering specification with the degree of compaction required will be dependent on end usage and serviceability criteria. Uplift in areas where vibro replacement is to be used should comprise granular fill placed loosely, or with nominal compaction.

Unprotected stockpiled materials often deteriorate due to water infiltration and they may become unsuitable for incorporation in the works. In particular, cohesive soils are very susceptible to 'wet

weathering working' and we strongly recommend that consideration should be given to lime and/or cement stabilisation of these materials if the earthworks are undertaken during inclement weather or the winter period.

A suitably detailed earthworks specification for the works should be produced prior to undertaking any earthworks.

5.3 Foundations

5.3.1 Spread Foundations

The Made Ground is considered to be highly variable, weak and compressible in its existing condition for conventional shallow foundations at the Site.

As such, it is considered that the adoption of traditional shallow foundations will not be feasible on the site unless ground improvement is undertaken.

5.3.2 Ground Improvement Techniques

A piled foundation solution will be suitable for the main proposed structures on site. However, for small lightly loaded ancillary buildings and external areas, ground improvement could be employed to densify soils to achieve suitable allowable bearing pressures and reduce the potential for differential settlement beneath traditional foundations and ground bearing floor slabs. Any ground improvement would need to incapsulate the pressure bulb of the proposed foundation.

Suggested ground improvement options include Vibro Concrete Columns (VCCs), rigid inclusions and soil mixing. Vibro Stone Columns are not considered appropriate due to the potential issues with hole stability due to low strength soils, and also the possible creation of a gas migration pathway.

VCCs or Rigid Inclusions improve the near surface ground conditions by creating a concrete column to laterally displace or replace the near surface soils to thereby stiffening the soil mass and reducing post construction settlements. These columns would need to be installed on a closely spaced grid, within and partially beyond the footprint of the proposed structures.

It is considered that ground improvement via soil mixing in conjunction with a load transfer platform may be feasible to improve the strength characteristics of the loose / low strength shallow soils to allow the adoption of traditional foundations bearing within these strata for more lightly loaded structures. This would also reduce the potential for excessive total and/or differential settlement.

Soil mixing improves the strength characteristics of strata using a hollow stem auger, which penetrates the ground to the required depth. A cement mix is then introduced into the ground via the hollow stem and mixed with the surrounding ground to form a column of stiff soil. Soil mixing should extend to a depth sufficient to encapsulate the pressure bulb of footings from the proposed development. Should soil mixing prove suitable at the site, an appropriate grid of columns should be designed to extend just beyond the footprint of settlement sensitive structures along with the incorporation of a suitable load transfer platform. However, the presence of organic material, variable soil types and groundwater within the Made Ground may preclude this form of ground improvement.

Due to variations in installation technique, it is recommended that a ground improvement contractor be consulted to determine suitability of the ground conditions, the nature of the most suitable improvement technique, and the likely improvement which may be achieved and costs for the differing techniques. It should be noted that both soil mixing and VCC/rigid inclusions have difficulty in overcoming soils which have significant obstructions within them. Such obstructions can affect the depth of treatment and the performance of the improved soil/concrete column.

In this scenario each position may have to be pre-drilled/probed to ensure it is free from obstruction. Similarly, both techniques rely on some inherent strength within the host soil to prevent the finished soil/concrete column from "barrelling" which may result in lower column performance and onerous long-term settlements. Such issues would need to be discussed in advance of any detailed design work to ensure the proposed improvement technique is feasible given the depth of Made Ground encountered.

The precise ground improvement technique/proprietary methods, suitability of the ground, suitability of fill materials and allowable bearing capacity that can be achieved would need to be confirmed by discussions with a suitably experienced contractor; whose design should be warranted.

5.3.3 Piling

A piled foundation solution using traditional bored or continuous flight auger (CFA) piles transferring loads to competent geology would be suitable for the anticipated design loads, utilising both skin friction and end bearing capacity.

The precise method of pile installation and applicability of proprietary systems, diameters and depths required would need to be informed based on the results of this investigation, by discussions with a piling contractor with suitable experience, whose design should be warranted.

Normal static and dynamic load testing (including uplift tests) should be considered to achieve satisfactory quality control/assurance in accordance with good practice.

There will be a requirement for the placement of a suitably engineered piling mat, which should be designed and validated by a suitably qualified and experienced engineer.

5.3.4 Floor Slabs

It is considered the significant thickness of Made Ground soils are too variable and compressible in their existing state for ground bearing floor slabs. Ground bearing floor slabs are therefore not anticipated to be suitable for the proposed development unless suitable ground improvement is undertaken.

If ground improvement is not feasible to support a ground bearing floor slab solution, then suspended floor slabs would be required to prevent excessive total and differential settlement, whereby settlement beneath the slab would be controlled by the foundations of the building. Additional loads from suspended floor slabs should be taken into account when designing foundations for the proposed development.

5.4 Roads and Pavements

It is understood areas of hardstanding car parking and access roads will be present across the Site. Exact levels have not been decided but it is understood these are likely to be constructed similar to existing levels within the Made Ground.

Five samples of the Made Ground from depths between 0.40 and 1.30m bgl where subject to remoulded California Bearing Ratio (CBR) test within the lab. The results are presented in the table below.

Location ID	Depth (m bgl)	Optimum Moisture Content (%)	Average CBR Values
TR-1	1.30	15	23
TR-2	0.40	13	19
TR-3	1.00	14	19.5
TR-4A	0.60	15	17
TR-5	0.50	14	17

It is recommended that a conservative CBR value of 5% should be adopted for the shallow Made Ground, for preliminary pavement design for external areas. It is recommended that plate CBR tests are undertaken at formation level after site levels are determined to finalising pavement design.

5.5 Drainage and Soakage Tests

Soil infiltration tests were carried out in five soakage test pits in general accordance with BRE 365. The soakage test pits were targeted at the Made Ground Formation. All pits were prepared with a gravel pack and monitoring standpipe.

All soakaways failed to complete a single test within 24hrs and furthermore, Made Ground is not considered to be an acceptable soakaway stratum; as such soakaways are not considered practical for the Site.

The full results are presented in Appendix F.

5.6 Excavations & Obstructions

It is expected that conventional mechanical excavators will readily remove the Made Ground likely to be encountered in shallow excavations although a breaker may be required to remove any existing concrete hardstanding.

Instability of excavations in granular material should be expected, especially during periods of adverse weather. Suitable shoring measures or battering back of slopes may be required for any excavations greater than 1.20m bgl. All temporary excavations should be undertaken in accordance with CIRIA Report 97 – Trenching Practice.

5.7 Groundwater

Groundwater was encountered as perched water within the Made Ground at depths between ground level and 17.87 m bgl.

Shallow excavations are therefore likely to encounter groundwater. Local dewatering by sump and pump may be appropriate, however, other forms of groundwater control may need to be considered if excavations become quickly inundated. Treatment prior to disposal to sewer may also be required.

5.8 Chemical Attack on Buried Concrete

The previous investigation indicated a Design Sulphate Class DS-4 and ACEC Class of AC-4 for soils and groundwater.

Geochemical testing is still on going on the samples taken from the site during the latest intrusive investigation. An updated concrete classification will be provided once these test results are received.

6.0 Conclusions & Recommendations

6.1 Ground Model Summary

The geological ground model can be summarised as Made Ground of varying thickness (15.50 to 19.50m) underlain by the Northampton Sand Formation in 8 locations. The Northampton Sand Formation being of variable thickness between 0.10 and 3.50 m.

Underlying Northampton Sand Formation or the Made Ground where the Northampton Sand Formation isn't present is the Whitby Mudstone Formation, to a proven depth of 30.00m bgl. The Whitby Mudstone Formation had a Limestone band on its upper boundary of varying thickness.

Groundwater levels during monitoring are highly variable and indicate perched water within the Made Ground across the site.

6.2 Geotechnical Summary

The Made Ground is considered to be too variable, weak and compressible in its existing condition for conventional shallow foundations at the Site.

As such alternative foundation solutions, including Ground Improvement Techniques or Piling should be explored in consultation with appropriately experienced contractors.

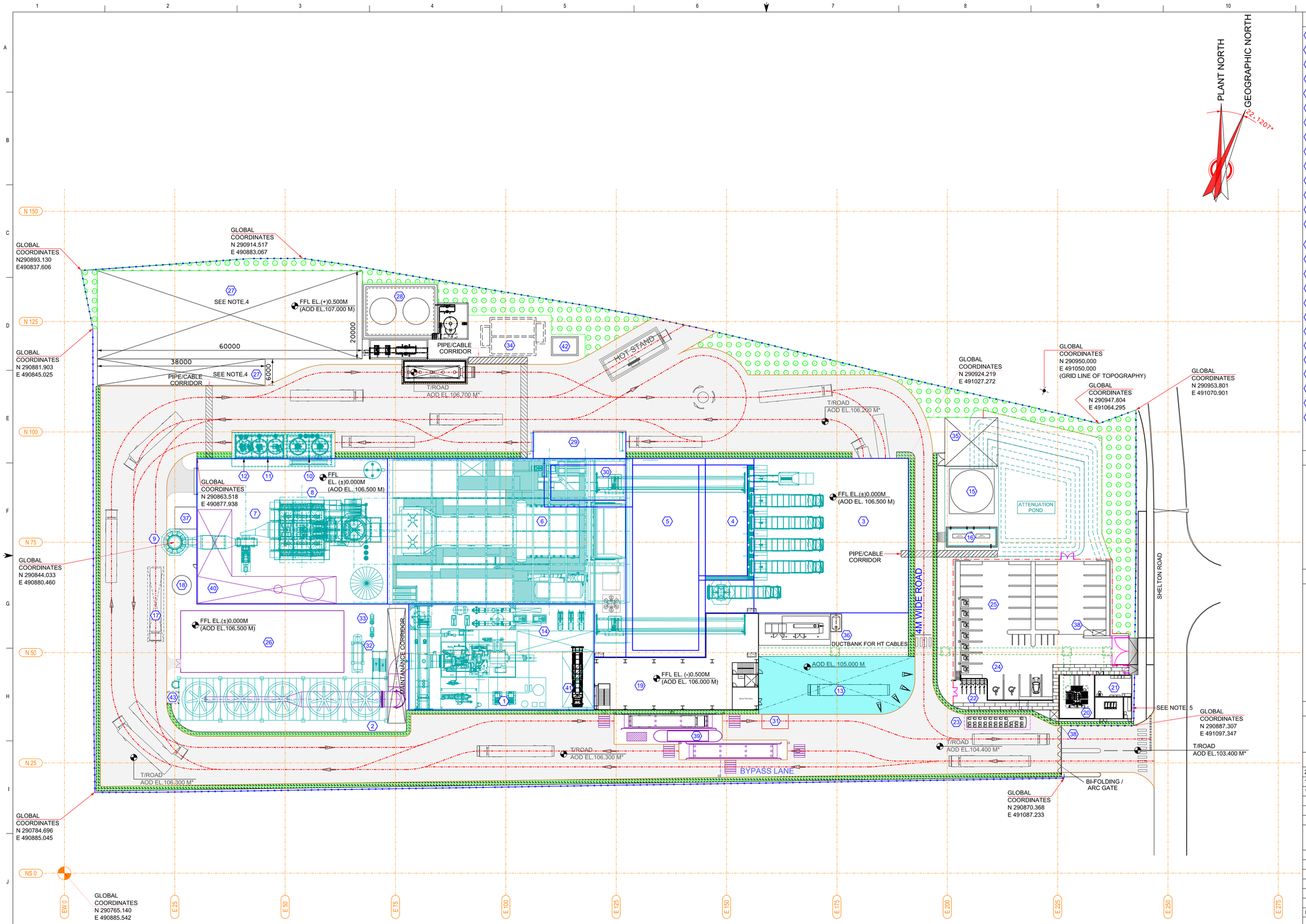
Ground bearing floor slabs are not considered appropriate for the site given the Made Ground present at founding depth.

It is recommended that a conservative CBR value of 5% should be adopted for the shallow Made Ground, for preliminary pavement design for external areas.

Geotechnical and Geochemical testing is still on going for this project. The above conclusions are subject to change upon receipt of final laboratory testing results.

Drawings

Drawing 1 – Proposed Development Plan



EQUIPMENT LIST

1	STEAM TURBINE HALL	28	FUEL OIL AREA
2	AIR COOLED CONDENSER	29	IBA LOADING
3	TIPPING HALL	30	IBA BUNKER
4	TIPPING BUNKER	31	TRUCK WHEEL WASHING AREA
5	MAIN WASTE BUNKER	32	ACC CONDENSATE COLLECTION TANK
6	BOILER HOUSE	33	CONDENSATE EXTRACTION PUMPS
7	FLUE GAS TREATMENT AREA	34	SETTLING BASIN
8	BAG HOUSE FILTER	35	SPACE FOR FUTURE INSTALLATION FOR DH EQUIPMENT
9	STACK	36	EMERGENCY DIESEL GENERATOR (EDG)
10	FGT RESIDUE SILOS	37	CEMS SHELTER
11	HYDRATED LIME/Ca(OH)2 SILO	38	SECURITY CABIN (2 NOS.)
12	ACTIVATED CARBON SILO	39	GATE HOUSE & WEIGHBRIDGE
13	QUARANTINE/ LAYDOWN AREA	40	WATER TREATMENT PLANT & MISCELLANEOUS TANKS
14	AUXILIARY COOLING FIN FAN COOLERS (ON THE ROOF OF STEAM TURBINE HALL)	41	AIR COMPRESSOR ROOM
15	FIRE WATER TANK	42	OILY WATER SEPARATOR
16	FIRE WATER PUMPHOUSE CONTAINER	43	ACC MOTOR DROP ZONE
17	UREA UNLOADING TRUCK AREA		
18	UREA STORAGE TANK		
19	ELECTRICAL, ADMINISTRATION & CONTROL BUILDING		
20	33 / 11kV STEP-UP TRANSFORMER		
21	ONSITE SUBSTATION		
22	CYCLE PARKING		
23	COACH DROPOFF		
24	DISABLED PARKING		
25	STAFF / VISITOR PARKING		
26	MECHANICAL MAINTENANCE WORKSHOP & STORE		
27	FUTURE ENVIRONMENTAL IMPROVEMENT AREA (2 AREAS)		

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS AND COORDINATES ARE IN METERS, UNLESS NOTED OTHERWISE.
2. ALL ELEVATIONS REFER TO EL (±)0.000M EQUIVALENT TO (+)106.500 M ABOVE ORDNANCE DATUM (AOD).
3. LOCATION AND TYPE OF TANK SHALL BE UPDATED WITH DESIGN PROGRESS.
4. INDICATED AREA IS FOR FUTURE INSTALLATION OF THE CCS FACILITY.
5. EXTERNAL PLANT CABLES (POWER AND COMMUNICATION) CABLE SHALL INTERFACE UNDERGROUND AT SUBSTATION BUILDING.
6. EMISSIONVENT SOURCES CO -ORDINATE SHOWN IN TABLE IS TENTATIVE. SAME SHALL BE VERIFIED AFTER RECEIPT OF VENDOR INPUT.
7. "*" MARKED ELEVATION WILL BE FINALIZED DURING DETAIL ENGINEERING AND SAME WILL COVERED IN SEPERATE ROAD LAYOUT.

LEGENDS

SITE BOUNDARY		FFL	FINISHED FLOOR LEVEL
ROAD		FGL	FINISHED GRADE LEVEL
FIRE BARRIER WALL		T/ROAD	TOP OF ROAD
BIODIVERSITY AREA			VEHICLE TRAVEL DIRECTION
CYCLE TRACK			SLOPE DIRECTION FOR ROAD
UNDERGROUND CABLE CORRIDOR			GRATING
FENCE			
WALK WAY			
PIPE/CABLE CORRIDOR			

HOLD

REFERENCE DRAWINGS

220049-001 REV.P7	SITE PLAN
112101-00-YTC-CDA-MET-201	TOPO SURVEY DRAWING
1275.1.20.36.952.IC02.130.01	BOILER LAYOUT PLAN - TOP VIEW

REV.	REVIEWED	DATE	PREP.	CHECK.	APPRVD.	ISSUED FOR
0C	WORK IN PROGRESS	03-03-22	PND	SVP	SUB	WORK IN PROGRESS
0B	FOR REVIEW	08-02-22	PND	SVP	SUB	FOR REVIEW
0A	FOR REVIEW	03-02-22	PND	SVP	SUB	FOR REVIEW

WORK IN PROGRESS

EMISSION/VENT SOURCES TABLE

SR.NO.	FACILITIES NAME	CO-ORDINATES (IN METERS)		
		NORTH	EAST	ELEVATION
1	CHIMNEY	N 75.000	E 25.000	75.000
2	EDG (VENT)	N 56.023	E 170.876	LATER
3	FIRE WATER DIESEL PUMP	N 76.417	E 209.629	LATER
4	FGT RESIDUE SILOS (VENT)-1	E 57.303	N 97.746	26.570
5	FGT RESIDUE SILOS (VENT)-2	E 52.303	N 97.746	26.570
6	Ca(OH)2 SILO (VENT)-1	E 47.188	N 97.746	28.695
7	Ca(OH)2 SILO (VENT)-2	E 43.588	N 97.746	28.695
8	AC SILO (VENT)	E 40.035	N 97.746	19.885
9	FUEL OIL TANK VENT-1	E 81.797	N 121.306	LATER
10	FUEL OIL TANK VENT-2	E 81.797	N 126.106	LATER

TERMINAL POINT

SR.NO.	FACILITIES NAME	CO-ORDINATES (IN METERS)		
		NORTH	EAST	ELEVATION
1	TOWN WATER	LATER	LATER	LATER
2	POWER EVACUATION	LATER	LATER	LATER
3	STORM WATER DISCHARGE	LATER	LATER	LATER

Corby Energy from Waste (EfW)

DESCRIPTION

PLOT PLAN

Drawing No. Purchaser:	112101-00-YF-GDA-SNL-001	Drawing No. Supplier: 00-YF-GDA-SNL-001	Rev.: 0B
Drawing No. Subcontractor:	00-YF-GDA-SNL-001		

Contains information for the design of structures, systems and components..... YES ☐ NO ☐

VERIFICATION: N/A ☐ HOU/SUP. ☐ VERIFIER L1 ☐ L2 ☐

DOCUMENT PREPARED WITH CAD DO NOT MODIFY MANUALLY

DIN A0

SCALE 1:300

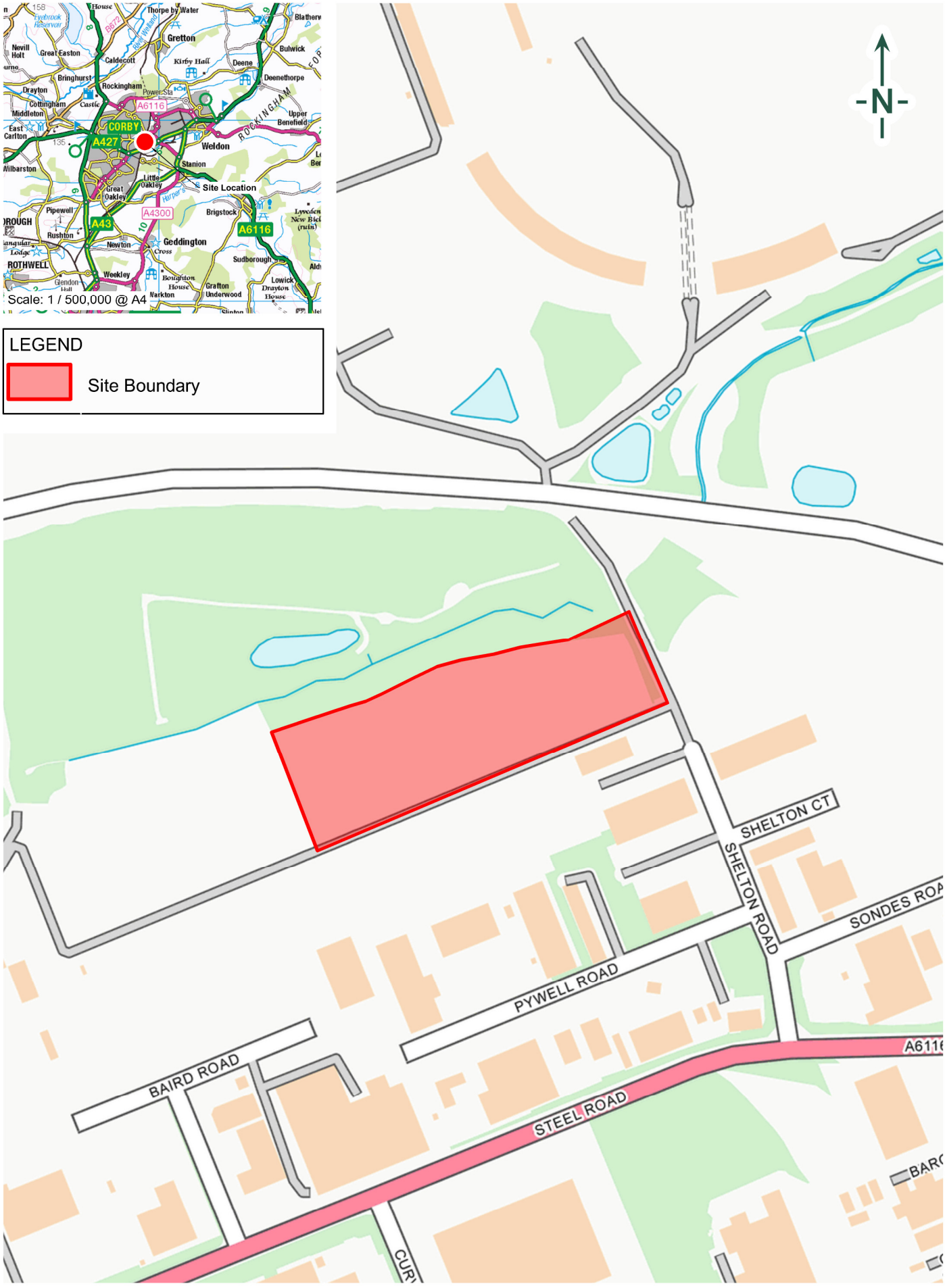
SHEET 1 OF 1

Figures

Figure 1 – Site Location Map

LEGEND

Site Boundary



Scale: 1 / 20,000 @ A4

deltasimons
Environment - Health & Safety - Sustainability

TITLE:
Site Location Map
Shelton Road
Corby

DRAWN BY: YA	SCALE: To Scale@A4
CHECKED BY: MH	REVISION: 1
DATE: 12 March 2022	

PROJECT NO: 15-0645.05

FIGURE NO: 1

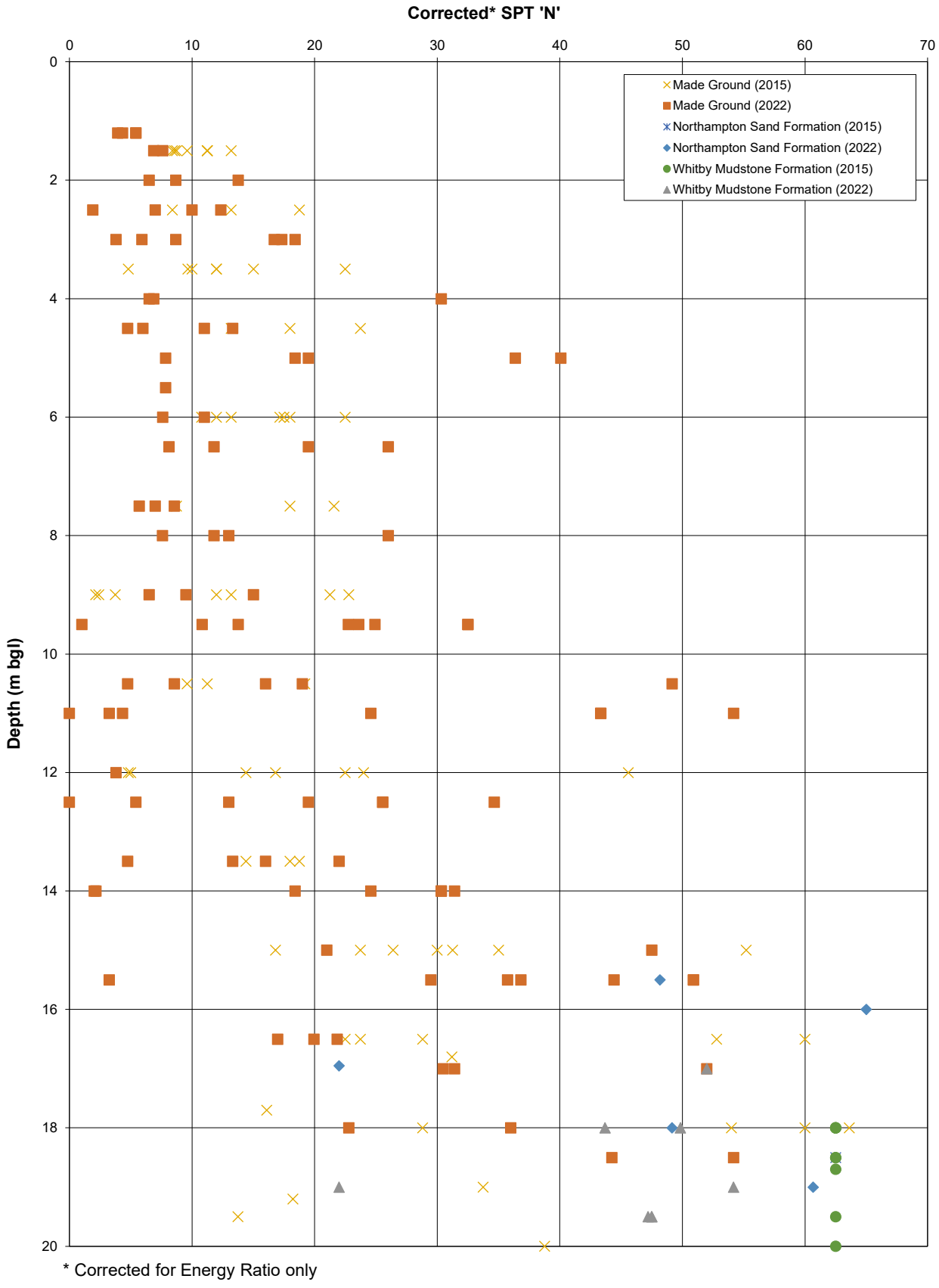
Figure 2 – Exploratory Hole Location Plan

deltasimons
Environment - Health & Safety - Sustainability

TITLE:
Exploratory Hole Location Plan
Shelton Road
Corby

DRAWN BY: YA	SCALE: Not to Scale	PROJECT NO: 15-0645.05	
CHECKED BY: MH	REVISION: 1	FIGURE NO: 2	
DATE: 12 March 2022			

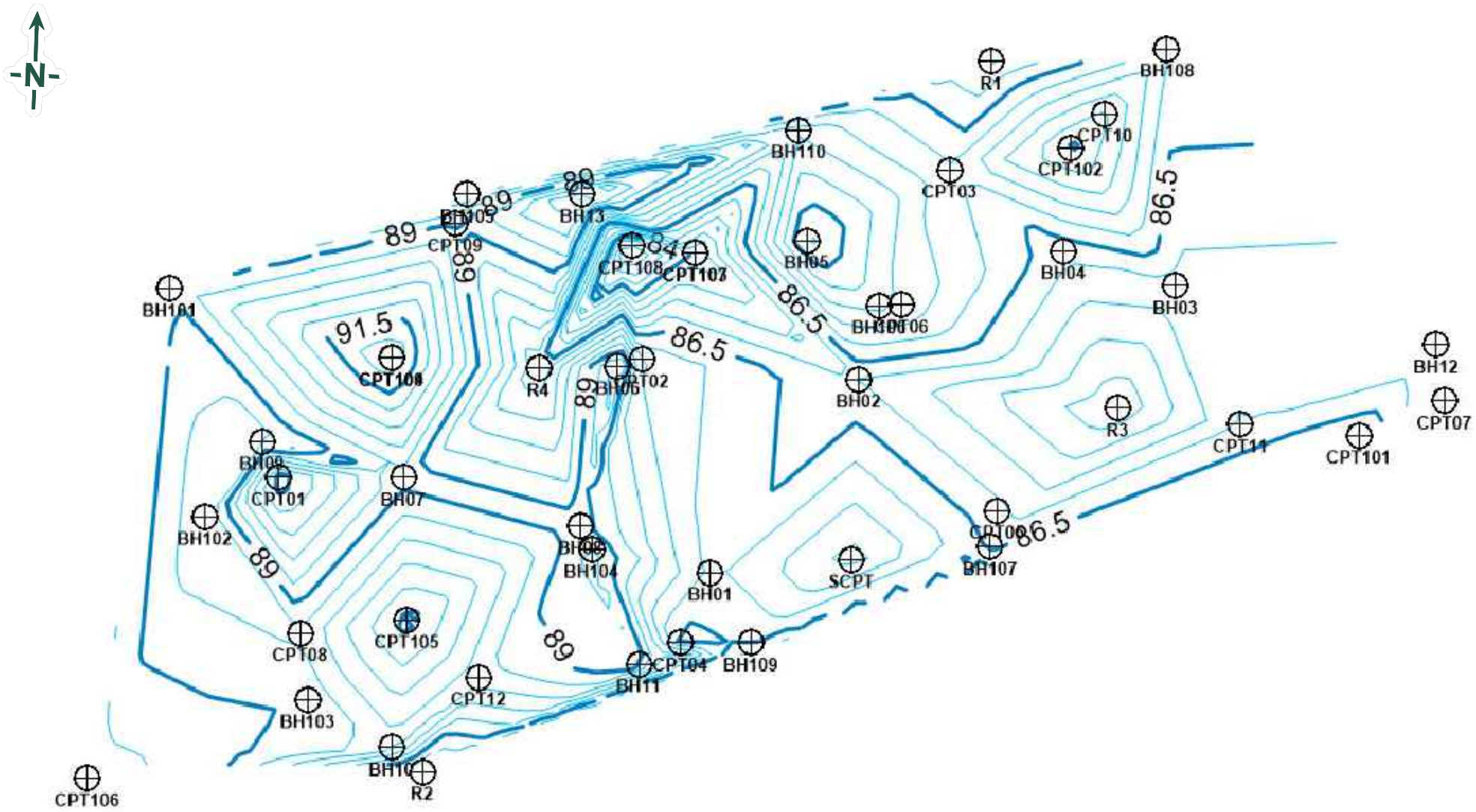
Figure 3 – Corrected SPT vs Depth Graph



* Corrected for Energy Ratio only

deltasimons	TITLE: Corrected* SPT, Depth and Strata Type Corby EfW	DWN: MH	PROJECT NO: 15-0645.05
		DATE: 14/03/2022	FIGURE NO: 3

Figure 4a – Depth to base of Made Ground (2D)



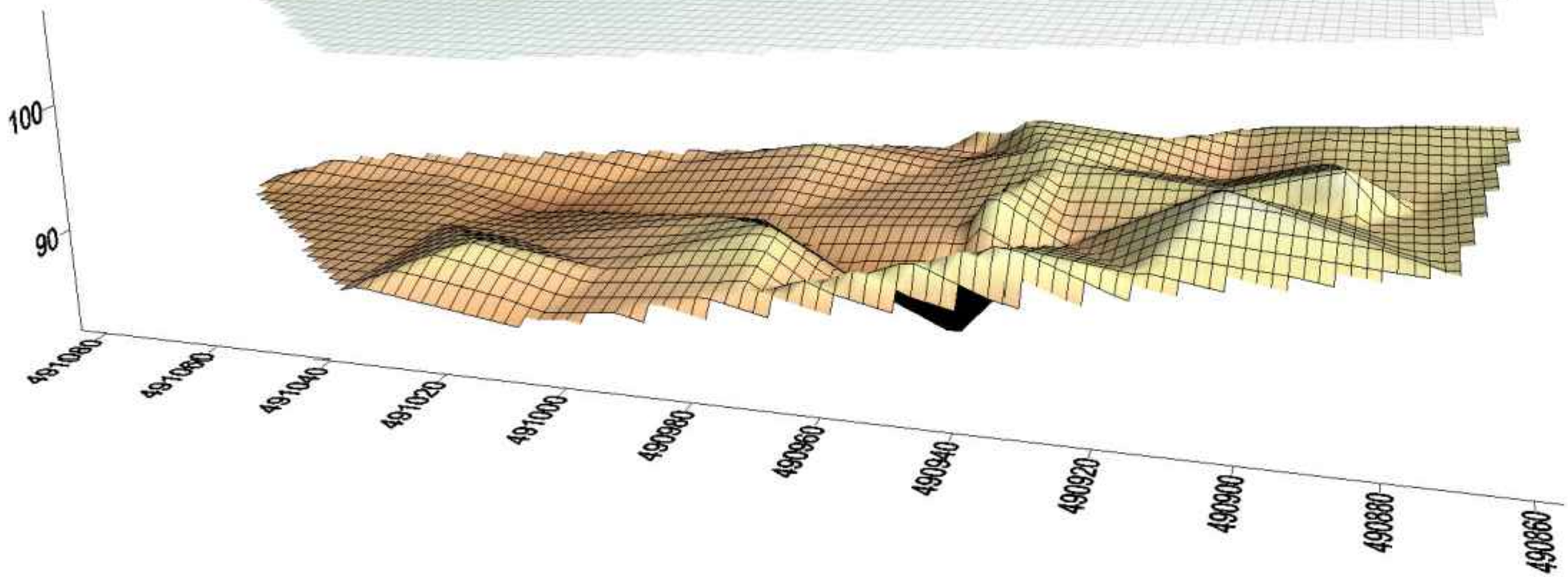
deltasimons
Environment - Health & Safety - Sustainability

TITLE:
Interpolated Top of Bedrock (2D)
Shelton Road
Corby

DRAWN BY: YA	SCALE: Not to Scale
CHECKED BY: MH	REVISION: 1
DATE: 12 March 2022	

PROJECT NO: 15-0645.05
FIGURE NO: 4a

Figure 4b – Depth to base of Made Ground (3D)

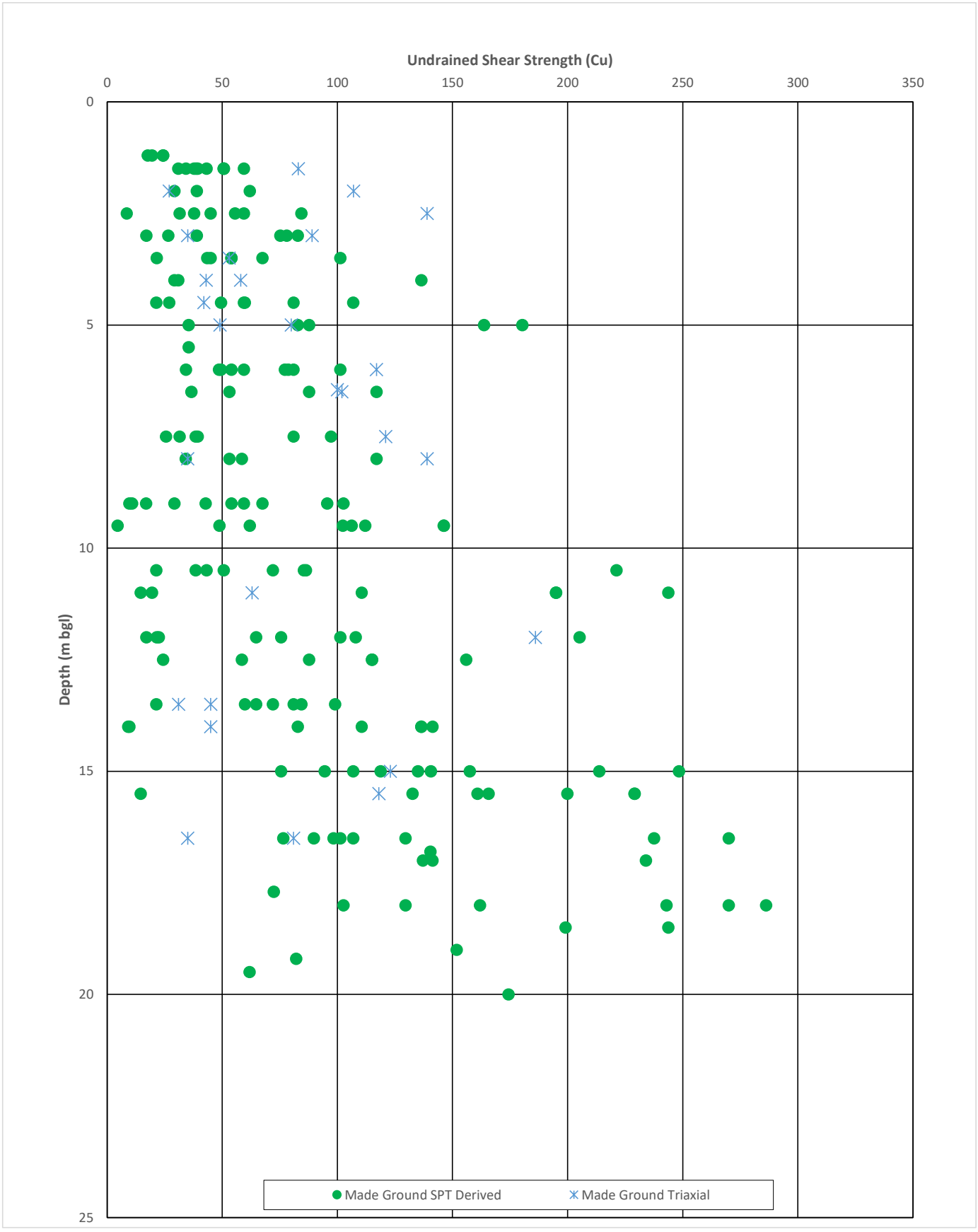


deltasimons
Environment - Health & Safety - Sustainability

TITLE:
Interpolated Top of Bedrock (3D)
Shelton Road
Corby

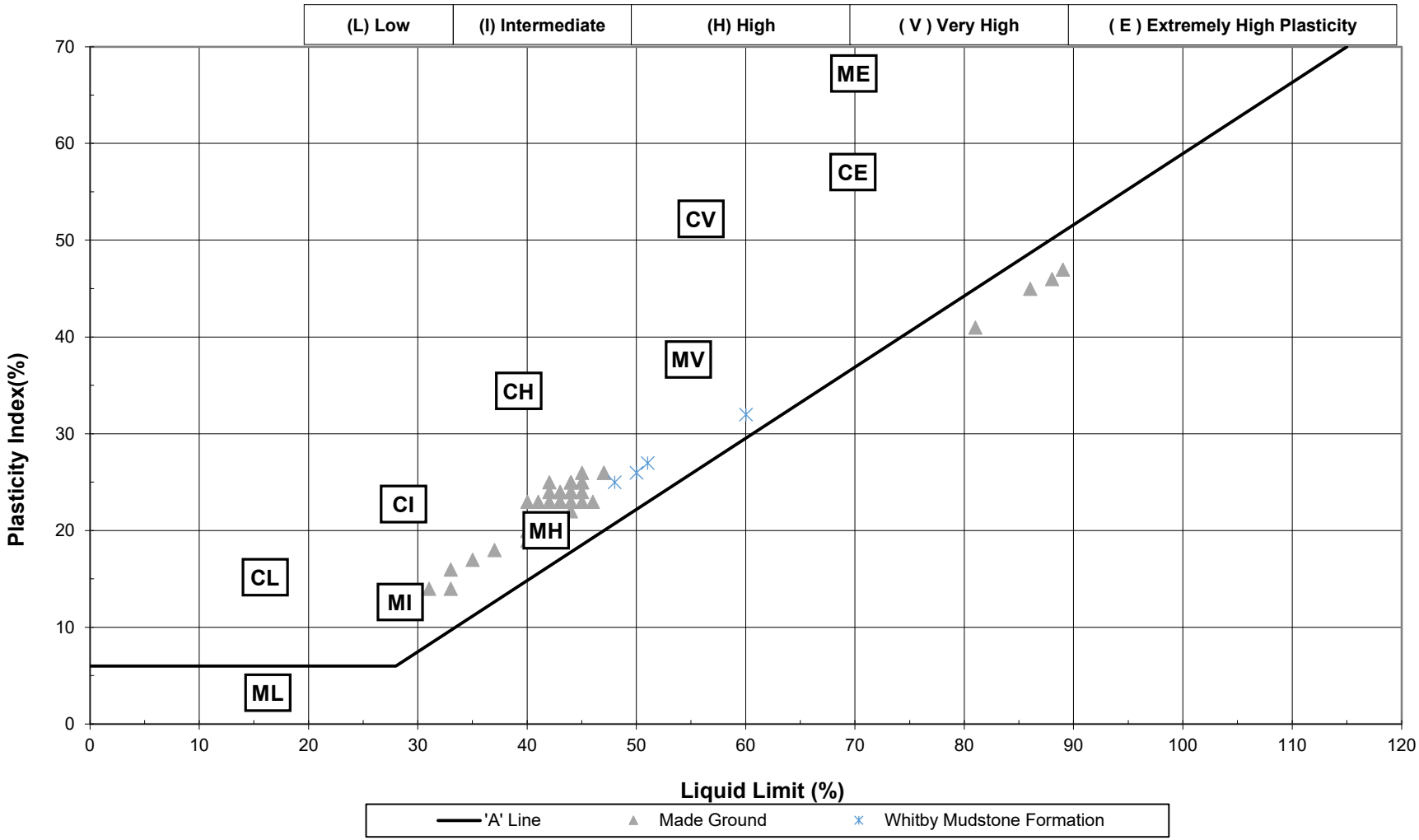
DWN: YA	DES: -	PROJECT NO.: 15-0645.05
CHK: MH	APP: -	FIGURE NO.: **4b**
DATE: 12 March 2022	REV: 1	

Figure 5 – Undrained Shear Strength vs Depth



deltasimons	TITLE: Undrained Shear Strength vs Depth Corby EfW	DWN: MH	PROJECT NO: 15-0645.05
		DATE: 14/03/2022	FIGURE NO: 5

Figure 6 – A-line Plot



deltasimons	TITLE: Plasticity Chart - All Soils Corby EfW	DWN: MH	PROJECT NO: 15-0645.05
		DATE: 14 March 2022	FIGURE NO: 6

Appendices

Appendix A – Limitations

Limitations

This Report was prepared by Delta-Simons Ltd (Delta-Simons) for the sole and exclusive use of the Client and for the specific purpose for which Delta-Simons was instructed. Nothing contained in this Report shall be construed to give any rights or benefits to anyone other than the Client and Delta-Simons, and all duties and responsibilities undertaken are for the sole and exclusive benefit of the Client and not for the benefit of any other party. Delta-Simons does not intend, without its written consent through a formal letter of reliance or warranty, for this Report to be disseminated to any party other than the named Client or to be used or relied upon by any party other than the named Client. Use of the Report by any other party is unauthorised and such use is at the sole risk of the user. Any party using or relying upon this Report, other than the Client, agrees by virtue of its use to indemnify and hold harmless Delta-Simons from and against all claims, losses and damages (of whatsoever nature and howsoever or whensoever arising), arising out of or resulting from the performance of the work by Delta-Simons. Unless explicitly agreed otherwise, in writing, this Report has been prepared under Delta-Simons' Standard Terms and Conditions as included within our proposal to the Client.

The recommendations contained within this Report represent Delta-Simons professional opinions, based upon the information detailed within the Report, exercising the reasonable skill and care to be expected of a professional consultant holding itself out as having the competence, experience and resources necessary for the purpose of carrying out similar work in scope and character to the services performed. The Report needs to be considered in the light of the proposal and associated limitations of scope. The Report needs to be read and considered in full and isolated sections cannot be used without full reference to other elements of the Report and any previous works referenced within the Report.

Where Delta-Simons has obtained, reviewed and evaluated information in preparing this Report from the Client and others and Delta-Simons conclusions, opinions and recommendations has been reasonably determined using this information, Delta-Simons does not warrant the accuracy of the third-party information provided to it and cannot be responsible for any opinions which Delta-Simons has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

Site surveys document the conditions encountered at the time of survey only and conditions may change due to natural processes or human intervention. As such, surveys represent an assessment at a specific point in time and Delta-Simons cannot be responsible for adverse conditions which arise or become apparent after the time of the survey or for conditions which sit outside the scope for which the survey or Report was commissioned.

Where intrusive investigations have been completed, information, comments and opinions given in this Report are based on the ground conditions encountered during the site work period and on the results of laboratory and field tests performed during the investigation. Ground conditions are inherently variable such that no investigation can be exhaustive to the extent that all adverse conditions are revealed. Conditions may therefore be present beneath the site that were not apparent in the data reviewed or obtained as part of this assessment. It should be noted that groundwater levels vary due to seasonal and other effects and may at times differ to those measured during the investigation. Delta-Simons does not warrant or guarantee that the Site is free of hazardous or potentially hazardous materials or conditions. Where risk assessment is undertaken, this is based upon the standards, guidance and common practice at the time of the assessment and Delta-Simons cannot be responsible for conditions which become apparent following changes in guidance or practice or advancements in scientific knowledge which change the position in relation to assessment of risk.

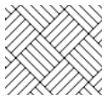
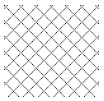
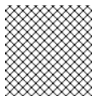
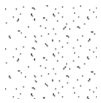
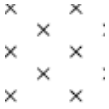
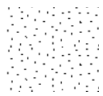
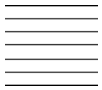
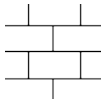
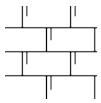
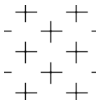
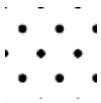
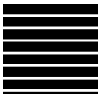
No aspect of this Report constitutes a design. Where this information is used in design, the designer should verify the information has been used appropriately.

Where budgets are prepared and presented within the Report, these are for information only to indicate the likely magnitude of a cost and do not represent an invitation to treat for the works. All budgets and programmes presented should be reviewed and verified by appropriately qualified and experienced independent Project Managers and Cost Consultants.

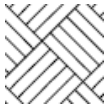
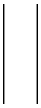
Appendix B – Borehole Logs & SPT Calibrations Certificate

KEY TO BOREHOLE AND TRIAL PIT LOGS

MATERIAL LEGENDS

	Topsoil		Made Ground		Bituminous Material
	Concrete		Clay		Silt
	Sand		Gravel		Peat
	Cobbles		Boulders		Mudstone
	Siltstone		Sandstone		Limestone
	Chalk		Coal		Breccia
	Conglomerate		Igneous		Metamorphic
	Pyroclastic (volcanic ash)		Gypsum		Shale
	Ironstone		Bedrock (Unidentified)		Void

INSTALLATION/BACKFILL LEGENDS

	Sand		Gravel		Bentonite/Grout
	Arisings		Concrete		Plain Pipe
	Slotted Pipe				

Legend symbols in general accordance with BS 5930:2015+A1:2020 and standard industry practice.

SAMPLE TYPES

ACM	Asbestos Containing Material Sample
B	Bulk Disturbed Sample
BLK	Block Sample
C	Core Sample
CBR	Undisturbed Sample for California Bearing Ratio Test – 154mm diameter
D	Disturbed Sample - Tub
ES	Soil Sample for Environmental Testing
EW	Water Sample for Environmental Testing
G	Gas Sample
U	Undisturbed Driven Tube Sample – 70/102mm diameter, 450mm long
W	Water Sample

TEST TYPES

CPT	Cone Penetrometer Test (kN/m^2)
FID	Flame Ionisation Detector Test (ppm)
HV	In-Situ Hand Shear Vane Test (kN/m^2)
PID	Photoionisation Detector Test (ppm)
SPT (S)	Standard Penetration Test – Split Spoon Sampler
SPT (C)	Standard Penetration Test – Solid 60 Degree Cone

CORE DETAILS

If	Fracture Spacing (mm) – Minimum, Average, Maximum
NI	Non-Intact where >25 fracture spacings per metre
TCR	Total Core Recovery (%)
SCR	Solid Core Recovery (%)
RQD	Rock Quality Designation (%)
AF	Air Flush Return (%)
WF	Water Flush Return (%)
NIDD	Non-Intact - Drilling Disturbed
AZCL	Assessed Zone of Core Loss

WATER COLUMN DETAILS

	Water Strike
	Water Level

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Project No: **15-0645.05** | Hole ID: **BH1** | Page: **1 of 3**

Project: **Corby EfW**

Rotary Core Borehole Log

Date: **15/02/2022 - 22/02/2022** | Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Pinkish grey angular to subangular medium to coarse GRAVEL of granite.		0.05		105.21												
		0.30	(0.25)	104.96								0.30 - 0.60	B1			
MADE GROUND: Yellow sandy subrounded fine to coarse GRAVEL of limestone. Black fabric geotextile at 0.30m bgl.												0.60 - 1.00	B2			
MADE GROUND: Soft becoming firm dark grey gravelly CLAY. Gravel is subangular to subrounded fine to coarse limestone and quartzite.			(3.70)									1.50 - 1.95 1.50 - 2.00	U0 B3	1.50	U=16 Blows for 0%	
												2.50 - 2.95	D1	2.50	SPT(S) N=10 (2,3/2,2,3,3)	
												3.50 - 3.95 3.50 - 4.00	U0 B1	3.50	U=19 Blows for 0%	
		4.00		101.26												
MADE GROUND: Soft brownish grey slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium mixed lithologies.			(2.20)									4.50 - 4.95	D2	4.50	SPT(S) N=11 (1,2/3,3,3,2)	
												5.50	D3			
		6.20		99.06								6.00 - 6.45	D4	6.00	SPT(S) N=11 (2,2/3,3,2,3)	
MADE GROUND: Firm becoming stiff orangish brown and grey mottled sandy gravelly CLAY. Gravel is subangular to subrounded fine to medium quartzite and flint. Sand is fine to medium.												6.50 - 7.00	B2			
												7.50 - 7.95	U1	7.50	U=40 Blows for 80%	
			(3.80)									8.00	D5			
												8.50	D6			
												9.00 - 9.45	D7	9.00	SPT(S) N=15 (2,2/3,3,4,5)	
		10.00		95.26								10.00 - 10.50	B3			
MADE GROUND: Orangish brown very clayey fine to medium SAND.			(1.30)									10.50 - 10.95	D8	10.50	SPT(S) N=16 (2,3/3,3,5,5)	

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: AR3828. Energy Ratio 60%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490961.10 N290847.52	**105.26**	**SDA Site Investigations/ Delta Drilling**	**Dando 2000**	**BK**			**1:57**

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Project No: 15-0645.05 | Hole ID: BH1 | Page: 2 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 15/02/2022 - 22/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Orangish brown very clayey fine to medium SAND.		11.30		93.96												
MADE GROUND: Firm dark grey fine to medium sandy CLAY. Sand is fine to medium.			(1.70)									11.50	D9			
												12.00 - 12.45	U2	12.00	U=39 Blows for 100%	
												12.50	D10			
		13.00		92.26								13.00 - 13.50	B4			
MADE GROUND: Stiff orangish brown and dark grey mottled slightly sandy CLAY with low cobble content of concrete and quartzite. Sand is fine to medium.			(2.70)									13.50 - 13.95	D11	13.50	SPT(S) N=22 (3,3/2,4,6,10)	
												14.50	D12			
		15.70		89.56								15.00 - 15.45	D13	15.00	SPT(S) N=21 (3,3/4,4,8,5)	
MADE GROUND: Firm slightly gravelly sandy dark grey CLAY. Gravel is subangular to subrounded fine to medium flint and mixed lithologies. Sand is fine to medium.			(2.70)									16.00 - 16.50	B5			
												16.50 - 16.95	D14	16.50	SPT(S) N=17 (3,3/2,4,4,7)	
												17.00	D15			
		18.40		86.86				100	95	57		18.00 - 18.45	D16	18.00	SPT(S) N=36 (5,4/7,6,9,14)	
Stiff dark grey CLAY. (WHITBY MUDSTONE FORMATION)		18.82	(0.42)	86.44								18.85 - 19.14	U1	18.85		
Moderately weak grey LIMESTONE with interbedded orangish brown (oxidised fractures). (WHITBY MUDSTONE FORMATION)							1.5	75	69	60	10 120 340	19.00 - 19.45	D17	19.00	SPT(S) 22 (14,15/22 for 75mm)	
												19.43 - 19.63	U2	19.43		
			(2.28)									20.03 - 21.39	U3	20.03		
												20.40 - 20.77	U4	20.40		
							1.5				200 320 400	20.77 - 21.00	U5	20.77		
		21.10		84.16								21.03 - 21.33	U6	21.03		
Weak dark grey thinly bedded MUDSTONE. (WHITBY MUDSTONE FORMATION)								100	100	100						
							0.2	100	100	100		21.55 - 21.80	U7	21.55		
							0.4	86	85	85	240 240					
											240					

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: AR3828. Energy Ratio 60%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490961.10 N290847.52	105.26	SDA Site Investigations/ Delta Drilling	Dando 2000	BK			1:57

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Project No: **15-0645.05** | Hole ID: **BH1** | Page: **3 of 3**

Project: **Corby EfW**

Rotary Core Borehole Log

Date: **15/02/2022 - 22/02/2022** | Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
Weak dark grey thinly bedded MUDSTONE. (WHITBY MUDSTONE FORMATION)			(8.90)				1.5	100	81	69		22.22 - 22.38	U8	22.22		
												22.56 - 22.91	U9	22.56		
												22.91 - 23.11	U10	22.91		
							1.5	100	100	100	20 90 210					
							1.5	97	97	97	40 32 1100					
							1.5	87	83	83	90 150 290					
							1.5				10 350 700					
		30.00		75.26												
Borehole complete at 30.00 m bgl.																

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: AR3828. Energy Ratio 60%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490961.10 N290847.52	**105.26**	**SDA Site Investigations/ Delta Drilling**	**Dando 2000**	**BK**			**1:57**

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Project No: 15-0645.05 | Hole ID: BH2 | Page: 1 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 09/02/2022 - 15/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Pink angular to subangular medium to coarse GRAVEL of granite.		0.05		105.43								0.10	B1			
MADE GROUND: Yellowish brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of sandstone and granite.		0.10	(1.60)	105.38								1.00	B2			
MADE GROUND: Soft to firm dark grey gravelly CLAY with low cobble content. Gravel is angular to rounded fine to coarse of chalk and sandstone.		1.70		103.78								1.65 - 1.70	D1			
MADE GROUND: Firm dark grey gravelly CLAY. Gravel is angular to rounded fine to coarse of sandstone and chalk.		2.45	(0.75)	103.03								2.00 2.00 - 2.45	B3 D2	2.00	SPT(S) N=14 (4,4/10,1,1,2)	
MADE GROUND: Soft dark grey slightly gravelly very sandy CLAY. Gravel is angular to rounded fine to coarse of sandstone. Sand is fine to coarse.												3.00	B4			
												4.00 4.00 - 4.45	B5 D3	4.00	SPT(S) N=7 (1,1/2,1,2,2)	
			(5.55)									5.00	B6			
												5.50 - 5.95	D4	5.50	SPT(S) N=8 (1,1/1,3,2,2)	
														6.50	SPT(S) N=12 (1,2/2,3,3,4)	
		8.00		97.48								8.00 - 8.45	U1	8.00	U=30 Blows for 100%	
MADE GROUND: Soft to firm yellow and grey slightly gravelly very sandy CLAY. Gravel is angular to subrounded fine to medium of sandstone. Sand is fine to coarse.												8.45 - 8.95	D6			
			(2.00)									9.00	B7			
												9.50 - 9.95	D7	9.50	SPT(S) N=24 (4,6/6,4,7,7)	
		10.00		95.48												
MADE GROUND: Soft dark grey slightly gravelly clayey fine to coarse SAND. Gravel is angular to subrounded fine to medium of sandstone.														10.50	SPT(S) N=50 (4,5/5,5,10,30)	
												11.00 11.00 - 11.45	B8 D8	11.00	SPT(S) N=25 (2,4/6,6,7,6)	

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: CABLE01. Energy Ratio 59%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490986.03 N290880.03	105.48	Borehole Surveys/ CC Ground Investigations	Dando 2000	RS			1:57

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Project No:	Hole ID:	Page:
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Project: **Corby EfW**

Rotary Core Borehole Log

Date: **09/02/2022 - 15/02/2022**

Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Soft dark grey slightly gravelly clayey fine to coarse SAND. Gravel is angular to subrounded fine to medium of sandstone.			(2.50)													
		12.50		92.98								12.50 - 12.95	D9	12.50	SPT(S) N=26 (2,6/6,6,6,8)	
MADE GROUND: Stiff dark grey mottled brownish orange slightly gravelly sandy CLAY. Gravel is angular to subrounded fine to coarse of sandstone. Sand is fine to coarse.												13.00	B9			
			(2.50)									14.00 - 14.45	D10	14.00	SPT(S) N=25 (2,4/4,6,7,8)	
		15.00		90.48								15.00	B10			
MADE GROUND: Dark yellowish grey slightly gravelly very sandy CLAY. Gravel is subangular to subrounded fine to medium of flint. Sand is fine to medium.												15.50 - 15.95	U2	15.50	U=71 Blows for 100%	
												15.95 - 16.00	D11			
			(3.00)									17.00	B11	17.00	SPT(S) N=31 (2,6/6,8,8,9)	
												17.00 - 17.45	D12			
		18.00		87.48												
MADE GROUND: Dark orangish brown slightly gravelly very sandy CLAY. Gravel is subangular to subrounded fine to coarse of sandstone. Sand is fine to medium.												18.50 - 18.95	D13	18.50	SPT(S) N=45 (18,14/18,10,9,8)	
			(1.50)									19.00	B12			
		19.50		85.98				96	81	62		19.50 - 19.95	D14	19.50	SPT(S) N=48 (7,9/9,10,14,15)	
Weak to moderate weathered grey thinly bedded LIMESTONE with interbedded brown staining. (WHITBY MUDSTONE FORMATION)			(1.50)				1.5				20 100 220	20.10 - 20.31	U1	20.10		
		21.00		84.48				83	75	65		20.50 - 20.95	D15			
Weak homogeneous MUDSTONE with weathered clay content with Limestone bedding. (WHITBY MUDSTONE FORMATION)												21.06 - 21.20	U2	21.06		
							1.5				210 303 400	21.72 - 21.84	U3	21.72		
												21.93 - 22.24	U5	21.93		
												21.93 - 22.84	U4	21.93		

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: CABLE01. Energy Ratio 59%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490986.03 N290880.03	105.48	Borehole Surveys/ CC Ground Investigations	Dando 2000	RS			1:57

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Project No: 15-0645.05 | Hole ID: BH2 | Page: 3 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 09/02/2022 - 15/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
Weak homogeneous MUDSTONE with weathered clay content with Limestone bedding. (WHITBY MUDSTONE FORMATION)								100	100	91		22.23 - 22.45	U6	22.23		
			(3.00)				1.5				130 140 150	22.95 - 23.26	U7	22.95		
												23.26 - 23.58	U8	23.26		
		24.00		81.48				100	100	96		23.84 - 23.99	U9	23.84		
Weak to moderate thinly laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)												24.50 - 24.70	U10	24.50		
			(1.50)				1.5				250 250 250	24.83 - 25.09	U11	24.83		
		25.50		79.98				100	97	93		25.29 - 25.50	U12	25.29		
Light grey weak to moderate laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)												25.50 - 25.79	U13	25.50		
							1.5				50 80 110	26.26 - 26.65	U15	26.26		
												26.65 - 26.96	U16	26.65		
								100	100	100		26.93	U14	26.93		
												27.14 - 27.49	U17	27.14		
			(4.50)				1.5				190 400 610	27.65 - 28.02	U18	27.65		
								100	99	96		28.22 - 28.49	U19	28.22		
												29.06 - 29.37	U20	29.06		
							1.5				210 250 400	29.37 - 29.77	U21	29.37		
		30.00		75.48												
Borehole complete at 30.00 m bgl.																

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: CABLE01. Energy Ratio 59%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490986.03 N290880.03	105.48	Borehole Surveys/ CC Ground Investigations	Dando 2000	RS			1:57

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Project No:	Hole ID:	Page:
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Project: **Corby EfW**

Rotary Core Borehole Log

Date: **07/02/2022 - 21/02/2022**

Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Reddish brown angular to subangular medium to coarse GRAVEL of granite.		0.05		104.78												
		0.30	(0.25)	104.52								0.50	D1			
MADE GROUND: Brown slightly sandy clayey angular to subangular fine to coarse GRAVEL of granite. Sand is fine to coarse. Black fabric geotextile at 0.30m bgl.			(0.70)									0.50 - 1.20	B1			
		1.00		103.82								1.00	D2			
												1.20 - 1.65	B2	1.20	SPT(S) N=4 (1,1/1,1,1,1)	
MADE GROUND: Soft grey sandy gravelly CLAY. Gravel is angular to subrounded find to coarse granite, chalk and mudstone. Sand is fine to coarse.												1.65 - 2.00	D3			
												2.00 - 2.45	U1	2.00		
			(3.00)									2.45 - 2.65	D4			
												2.65 - 3.00	D5			
MADE GROUND: Firm dark grey gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk and mudstone.												3.00 - 3.45	B3	3.00	SPT(S) N=17 (2,2/4,4,4,5)	
												3.45 - 4.00	D6			
		4.00		100.82								4.00 - 4.45	U2	4.00		
MADE GROUND: Firm to stiff brown mottled grey slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse sandstone and flint. Sand is fine to coarse.												4.45 - 4.65	D7			
												4.65 - 5.00	D8			
												5.00 - 5.45	B4	5.00	SPT(S) N=37 (4,6/8,8,10,11)	
			(2.80)									5.45 - 6.00	D9			
												6.50 - 6.95	U3	6.50		
		6.80		98.02								6.95 - 7.15	D10			
MADE GROUND: Soft firm blackish brown organic CLAY with rootlets.												7.15 - 8.00	D11			
			(2.20)									8.00 - 8.45	B5	8.00	SPT(S) N=12 (2,3/3,3,3,3)	
												8.45 - 9.50	D12			
		9.00		95.82												
MADE GROUND: Yellowish brown slightly clayey fine to coarse SAND.												9.50	B6	9.50	SPT(S) N=23 (3,3/4,5,7,7)	
			(3.50)									9.95 - 11.00	D13			
												11.00 - 11.45	B7	11.00	SPT(S) 50 (9,15/50 for 95mm)	

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E491039.42 N290895.67	104.82	VC Drilling/ CC Ground Investigation	Dando 2000	EC/BK			1:57

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Project No: 15-0645.05 | Hole ID: BH3 | Page: 2 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 07/02/2022 - 21/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details Depth (m)	Type & Ref	Test Details Depth (m)	Test Details Results	Backfill
MADE GROUND: Yellowish brown slightly clayey fine to coarse SAND.												11.45 - 12.50	D14			
		12.50		92.32								12.50 - 12.95	D8	12.50	SPT(S) N=32 (5,7/7,9,9,7)	
MADE GROUND: Firm grey slightly gravelly very sandy CLAY. Gravel is angular to subrounded fine to coarse of sandstone. Sand is fine to coarse.												12.95 - 14.00	D15			
			(4.50)									14.00 - 14.45	B9	14.00	SPT(S) N=29 (3,3/4,9,8,8)	
												14.45 - 15.50	D16			
												15.50 - 15.95	B10	15.50	SPT(S) N=34 (3,3/6,9,7,12)	
												15.95 - 17.00	D17			
		17.00		87.82								17.00 - 17.45	B18	17.00	SPT(S) N=48 (7,9/11,11,13,13)	
MADE GROUND: Firm locally stiff grey slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone.		17.50	(0.50)	87.32												
MADE GROUND: Yellowish brown fine to coarse SAND. (REWORKED NATURAL).			(1.50)									18.50 - 18.95	B19	18.50	SPT(S) 50 (25 for 95mm/50 for 180mm)	
		19.00		85.82				91	81	46				19.00	SPT(S) 56 (35 for 110mm/56 for 45mm)	
Blueish grey SANDSTONE recovered as angular to subangular fine to coarse gravel of sandstone. (NORTHAMPTON SAND FORMATION)		19.20	(0.20)	85.62			1.5				2 13 280	19.65 - 19.84	U1	19.65		
												19.84 - 19.99	U2	19.84		
Moderately weak bluish grey shelly carbonaceous MUDSTONE. Fractures are horizontal bedding, close to medium spacing, rough to planar, undulating rough in places, partly open to moderately wide. Orangish brown iron staining on fracture surfaces. (WHITBY MUDSTONE FORMATION)			(2.80)					50	47	40		20.23 - 20.50	U3	20.23		
												20.50 - 20.66	U4	20.50		
							1.5				30 100 240	20.72 - 20.85	U5	20.72		
												21.03 - 21.25	U6	21.03		
		22.00		82.82				0	0	0						

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E491039.42 N290895.67	104.82	VC Drilling/ CC Ground Investigation	Dando 2000	EC/BK			1:57

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Project: Corby EfW

Rotary Core Borehole Log

Date: 07/02/2022 - 21/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
Thinly laminated dark grey MUDSTONE. (WHITBY MUDSTONE FORMATION)							1.0	100	100	100						
Thinly laminated dark grey MUDSTONE.							1.5	100	100	100		23.13 - 23.44	U7	23.13		
												23.88 - 24.20	U8	23.88		
							1.5	100	100	90		24.70 - 25.00	U9	24.70		
												25.30 - 25.60	U10	25.30		
			(8.04)									26.20 - 26.40	U11	26.20		
			(7.04)				1.5	97	97	93	20 305 1240	26.60 - 26.85	U12	26.60		
												26.85 - 27.05	U13	26.85		
												27.60 - 27.80	U14	27.60		
							1.5	100	100	100		27.90 - 28.20	U15	27.90		
												28.68 - 28.90	U16	28.68		
												29.00 - 29.24	U17	29.00		
							1.0					29.24 - 29.50	U18	29.24		
		30.04		74.78								29.85 - 30.04	U19	29.85		
Borehole complete at 30.04 m bgl.		30.04		74.78												

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E491039.42 N290895.67	104.82	VC Drilling/ CC Ground Investigation	Dando 2000	EC/BK			1:57

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Project No:	Hole ID:	Page:
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Project: **Corby EfW**

Rotary Core Borehole Log

Date: **10/02/2022 - 21/02/2022**

Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Reddish brown subrounded to subangular medium to coarse GRAVEL of granite.		0.05	(0.45)	105.11								0.00 - 1.20	B1			
		0.50		104.66								0.50	D1			
MADE GROUND: Yellowish brown slightly gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of granite and red brick.			(1.50)									1.00	D2			
												1.20 - 1.65	B2	1.20	SPT(S) N=5 (1,1/1,2,1,1)	
MADE GROUND: Soft dark brown sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of mudstone, redbrick and chalk. Sand is fine to coarse.												1.65 - 2.00	D3			
		2.00		103.16								2.00 - 2.45	U1	2.00		
Black geotextile membrane.												2.45 - 2.65	D4			
MADE GROUND: Soft becoming firm dark grey slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse mudstone, chalk and sandstone. Sand is fine to coarse.												2.65 - 3.00	D5			
												3.00 - 3.45	B3	3.00	SPT(S) N=8 (1,1/2,2,2,2)	
												3.45 - 4.00	D6			
												4.00 - 4.45	U2	4.00		
												4.45 - 4.65	D7			
			(5.15)									4.65 - 5.00	D8			
												5.00 - 5.45	B4	5.00	SPT(S) N=17 (2,2/3,4,4,6)	
												5.45 - 6.50	D9			
												6.45 - 6.95	U3	6.45		
												6.95 - 7.15	D10			
		7.15		98.01								7.15 - 8.00	D11			
MADE GROUND: Soft black organic CLAY with some rootlets.												8.00 - 8.45	B5	8.00	SPT(S) N=7 (1,2/2,2,2,1)	
												8.45 - 9.50	D12			
			(4.30)									9.50 - 9.95	B6	9.50	SPT(S) N=10 (2,3/2,2,3,3)	
												9.50 - 9.95	D13			
												9.95 - 11.00	D14			
												11.00 - 11.45	B7	11.00	SPT(S) N=4 (1,0/1,1,1,1)	

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole terminated at 23.5 m bgl due to casing becoming detached within the borehole.7. Recovery attempts failed to recover metal casing which has been backfilled.8. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E491020.56 N290901.58	105.16	VC Drilling/ CC Ground Investigation	Dando 2000	EC/BK			1:57

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Project: Corby EfW

Rotary Core Borehole Log

Date: 10/02/2022 - 21/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Soft black organic CLAY with some rootlets.		11.45		93.71								11.45 - 12.50	D15			
MADE GROUND: Yellowish brown mottled grey sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse sandstone, mudstone and chalk. Sand is fine to coarse.			(4.05)									12.50 - 12.95	B8	12.50	SPT(S) N=12 (1,2/3,3,3,3)	
												12.95 - 14.00	D16			
												14.00 - 14.45	B9	14.00	SPT(S) N=17 (2,3/3,3,5,6)	
												14.45 - 15.50	D17			
		15.50		89.66												
MADE GROUND: Firm to stiff grey slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded of sandstone and mudstone.			(1.50)									15.50 - 15.95	B10	15.50	SPT(S) N=47 (5,7/10,11,13,13)	
												15.95 - 17.00	D18			
MADE GROUND: Firm to stiff grey slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone and mudstone. Sand is fine to coarse.		17.00		88.16												
			(3.50)													
		19.00		86.16				88	66	35						
Weak weathered grey thinly bedded LIMESTONE. (WHITBY MUDSTONE FORMATION)			(0.82)								60 132 250	19.54 - 19.74	UC1	19.54		
		19.82		85.34			1.5					19.80 - 20.04	UC2	19.80		
Weak grey thinly bedded LIMESTONE. (WHITBY MUDSTONE FORMATION)												20.21 - 20.33	UC3	20.21		
								98	98	90		20.50 - 20.69	UC4	20.50		
			(1.48)								60 262 690					
		21.30		83.86			1.5					20.95 - 21.36	UC5	20.95		
Very weak becoming weak dark grey thinly laminated MUDSTONE (WHITBY MUDSTONE												21.67 - 22.00	UC6	21.67		
								56								

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole terminated at 23.5 m bgl due to casing becoming detached within the borehole.7. Recovery attempts failed to recover metal casing which has been backfilled.8. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E491020.56 N290901.58	105.16	VC Drilling/ CC Ground Investigation	Dando 2000	EC/BK			1:57

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Project: Corby EfW

Rotary Core Borehole Log

Date: 10/02/2022 - 21/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	Core Recovery: TCR %	Core Recovery: SCR %	Core Recovery: RQD %	Core Recovery: Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results	Backfill
Very weak becoming weak dark grey thinly laminated MUDSTONE (WHITBY MUDSTONE FORMATION)			(2.20)				0.9	100								
							0.6									
		23.50		81.66												
Borehole complete at 23.50 m bgl.																

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole terminated at 23.5 m bgl due to casing becoming detached within the borehole.7. Recovery attempts failed to recover metal casing which has been backfilled.8. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E491020.56 N290901.58	105.16	VC Drilling/ CC Ground Investigation	Dando 2000	EC/BK			1:57

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Project No:	Hole ID:	Page:
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Project: **Corby EfW**

Rotary Core Borehole Log

Date: **08/02/2022 - 24/02/2022**

Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Pink subrounded to subangular medium to coarse GRAVEL of granite.		0.05		105.98												
		0.30	(0.25)	105.73								0.30	B1			
MADE GROUND: Yellow sandy subrounded fine to coarse GRAVEL of limestone. Sand is fine to coarse.			(1.20)													
MADE GROUND: Brown and grey very gravelly CLAY with high cobble content of concrete and brick. Gravel is rounded to subangular fine to medium chalk, brick and concrete.		1.50		104.53								1.50	B2	1.50	SPT(S) N=7	
												1.50 - 1.95	D1		(2,2/1,1,2,3)	
			(1.00)									2.00	B3	2.00	U=29 Blows	
												2.00 - 2.45	U1		for 89%	
MADE GROUND: Soft grey slightly sandy CLAY. Sand is fine to medium. (REWORKED NATURAL)		2.50		103.53												
MADE GROUND: Firm grey slightly gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk. (REWORKED NATURAL).												3.00	B4	3.00	SPT(S) N=6	
												3.00 - 3.45	D2		(0,1/1,2,1,2)	
			(2.50)													
												4.00	B5	4.00	U=30 Blows	
												4.00 - 4.45	U2		for 100%	
												4.45 - 4.50	D3			
		5.00		101.03												
MADE GROUND: Soft dark grey gravelly CLAY. Gravel is angular to subrounded fine to coarse granite and limestone. *Limestone recovered as 20cm core.*												5.00	B6	5.00	SPT(S) N=8	
												5.00 - 5.45	D4		(1,1/1,2,2,3)	
			(1.90)													
												6.40 - 6.50	D5	6.50	SPT(S) N=8	
												6.50 - 6.95	D6		(1,0/1,2,2,3)	
		6.90		99.13												
MADE GROUND: Firm dark grey gravelly CLAY. Gravel is subangular to subrounded fine to medium chalk.												7.00 - 7.50	B7			
			(1.10)													
		8.00		98.03												
MADE GROUND: Soft greenish brown slightly gravelly CLAY. Gravel is angular to subrounded fine to medium chalk and flint.												8.00 - 8.45	U3	8.00		
												8.45 - 8.55	D7			
			(1.20)									8.50 - 9.00	B8			
		9.20		96.83												
MADE GROUND: Very soft black organic rich slightly gravelly CLAY. Gravel is subangular fine granite and chalk. No recovery from 14.00 m bgl to 15.50 m bgl.												9.50 - 10.00	B9	9.50	SPT(S) N=1	
												9.50 - 9.95	D9		(1,0/1,0,0,0)	
												10.50	D10			
												11.00 - 11.25	D8	11.00	SPT(S) N=0	
															(1,0/0,0,0,0)	

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: CC03. Energy Ratio 61%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490977.30 N290903.34	106.03	Borehole Surveys/ CC Ground Investigations	Dando 2000	RS/BK			1:57

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Project No: 15-0645.05 | Hole ID: BH5 | Page: 2 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 08/02/2022 - 24/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Very soft black organic rich slightly gravelly CLAY. Gravel is subangular fine granite and chalk. No recovery from 14.00 m bgl to 15.50 m bgl.			(7.15)									11.50 - 12.00	B10			
												12.50 - 13.90	D11	12.50	SPT(S) N=0 (0,0/0,0,0,0)	
												14.00 - 14.43	D12	14.00	SPT(S) N=2 (1,0/0,2,0,0)	
												15.50 - 15.95	D13	15.50	SPT(S) N=29 (3,4/5,7,8,9)	
		16.35		89.68												
Weak weathered brown thinly bedded LIMESTONE. Grey unweathered limestone band between 18.85 m bgl and 19.36 m bgl. (WHITBY MUDSTONE FORMATION)								87	78	70						
							1.5									
			(3.65)					86	79	54	115 40 460					
												18.87 - 19.36	U1	18.87		
							1.5									
		20.00		86.03				100	100	100						
Weak dark grey thinly laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)												20.00 - 20.30	U2	20.00		
												20.48 - 20.80	U3	20.48		
							1.5									
												21.19 - 21.50	U4	21.19		
								100	100	100						
												21.84 - 22.18	U5	21.84		

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: CC03. Energy Ratio 61%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490977.30 N290903.34	106.03	Borehole Surveys/ CC Ground Investigations	Dando 2000	RS/BK			1:57

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Project No: 15-0645.05 | Hole ID: BH5 | Page: 3 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 08/02/2022 - 24/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
Weak dark grey thinly laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)							1.5	92	92	92		22.48 - 22.74	U6	22.48		
												23.00 - 23.30	U7	23.00		
							1.5	13	13	13		23.30 - 23.60	U8	23.30		
												23.94 - 24.20	U9	23.94		
							1.5	90	79	79	20 273 890					
			(10.00)									26.17 - 26.33	U10	26.17		
												26.50 - 26.68	U11	26.50		
							1.5	100	100	94		26.92 - 27.09	U12	26.92		
												27.75 - 28.00	U13	27.75		
							1.5	100	100	95		28.26 - 28.51	U14	28.26		
												28.78 - 28.93	U15	28.78		
												29.05 - 29.29	U16	29.05		
							1.0					29.29 - 49.49	U17	29.29		
												29.64 - 30.00	U18	29.64		
		30.00		76.03												
Borehole complete at 30.00 m bgl.																

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: CC03. Energy Ratio 61%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490977.30 N290903.34	106.03	Borehole Surveys/ CC Ground Investigations	Dando 2000	RS/BK			1:57

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Project No: 15-0645.05 | Hole ID: BH6 | Page: 1 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 16/02/2022 - 21/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Reddish brown subrounded to subangular medium to coarse GRAVEL of granite.		0.08		106.06								0.00 - 1.20	B18			
		0.30	(0.22)	105.84								0.50	D18			
MADE GROUND: Yellow sandy subrounded fine to coarse GRAVEL of limestone.												1.00	D18			
MADE GROUND: Soft grey slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium chalk. (REWORKED NATURAL)												1.20 - 1.65	B18	1.20	SPT(S) N=5 (1,2/2,1,1,1)	
												1.20 - 1.65	D18			
												1.65 - 2.00	D18			
												2.00	U18	2.00		
												2.45 - 2.65	D18			
			(4.70)									2.65 - 3.00	D18			
												3.00	B18	3.00	SPT(S) N=16 (2,2/4,4,4,4)	
												3.00 - 3.45	D18			
												3.45 - 4.00	D18			
												4.00	U18	4.00		
												4.45 - 4.65	D18			
		5.00		101.14								4.65 - 5.00	D18			
MADE GROUND: Firm grey gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk. (REWORKED NATURAL)												5.00	B18	5.00	SPT(S) N=18 (2,4/6,3,3,6)	
												5.00 - 5.45	D18			
												5.45 - 6.50	D18			
												6.50	U18	6.50		
			(4.00)									6.95 - 7.15	D18			
												8.00	B18	8.00	SPT(S) N=24 (2,4/4,6,6,8)	
												8.00 - 8.45	D18			
												8.45 - 9.05	D18			
		9.00		97.14										9.00	SPT(S) N=6 (1,2/2,1,1,2)	
MADE GROUND: Soft black very organic CLAY.												9.50	B18			
												9.50 - 9.95	D18			
												9.95 - 11.00	D18			
												11.00	B18	11.00	SPT(S) N=3 (1,1/1,0,1,1)	
												11.00 - 11.45	D18			

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490945.48 N290882.18	106.14	VC Drilling/ Delta Drilling	Dando 2000	RS/ TR			1:57

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Project No: 15-0645.05 | Hole ID: BH6 | Page: 2 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 16/02/2022 - 21/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Soft black very organic CLAY.												11.45 - 12.50	D18			
												12.50	B18	12.50	SPT(S) N=5 (1,1/1,2,1,1)	
												12.50 - 12.95	D18			
												12.95 - 14.00	D18			
			(6.70)													
												14.00	B18	14.00	SPT(S) N=2 (0,1/0,0,1,1)	
												14.45 - 15.00	D18			
		15.70		90.44												
												15.50	B18	15.50	SPT(S) N=3 (1,0/1,1,0,1)	
Very weak weathered orange LIMESTONE.		16.00	(0.30)	90.14								15.80	D18			
Very weak weathered orange LIMESTONE. (NORTHAMPTON SAND FORMATION)			(1.30)									16.00	D18	16.00	SPT(S) 60 (25 for 70mm/60 for 140mm)	
		17.00		89.14				20	0	0						
Orange brown coarse grained weak SANDSTONE. (NORTHAMPTON SAND FORMATION) *Recovered as medium to coarse angular gravel.*							1.0	31	21	73						
			(2.50)				1.5									
		19.50		86.64				76	67	48		19.50 - 19.77	U1	19.50		
Moderately weak grey thinly bedded LIMESTONE with orange stained fractures. (WHITBY MUDSTONE FORMATION)												19.91 - 20.35	U2	19.91		
			(1.50)				1.5									
		21.00		85.14				93	100	100						
Weak dark grey thinly laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)												21.10 - 21.38	U3	21.10		
							1.5					21.66 - 21.92	U4	21.66		

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490945.48 N290882.18	106.14	VC Drilling/ Delta Drilling	Dando 2000	RS/ TR			1:57

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Project: **Corby EfW**

Rotary Core Borehole Log

Date: **16/02/2022 - 21/02/2022**

Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery					Sample Details		Test Details		Backfill
							Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Depth (m)	Type & Ref	Depth (m)	Results	
Weak dark grey thinly laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)			(9.00)					89	89	84		22.10 - 22.30	U5	22.10		
							1.5					22.67 - 22.96	U6	22.67		
								91	90	75		23.13 - 23.47	U7	23.13		
							1.5					25.18 - 25.27	U8	25.18		
								100	100	100		25.37 - 25.46	U9	25.37		
												25.50 - 25.80	U10	25.50		
							1.5					26.17 - 26.40	U11	26.17		
								95	95	78						
							1.5					27.25 - 27.50	U12	27.25		
												27.90 - 28.20	U14	27.90		
												28.14 - 28.30	U13	28.14		
								96	96	83		28.50 - 28.61	U15	28.50		
							1.5					29.12 - 29.30	U16	29.12		
												29.67 - 29.94	U17	29.67		
		30.00		76.14												
Borehole complete at 30.00 m bgl.																

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490945.48 N290882.18	106.14	VC Drilling/ Delta Drilling	Dando 2000	RS/ TR			1:57

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Project No: 15-0645.05 | Hole ID: BH7 | Page: 1 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 17/02/2022 - 25/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Pinkish grey angular to subangular medium to coarse GRAVEL of granite.		0.10		106.14								0.20 - 0.60	B1			
		0.40	(0.30)	105.84								0.60 - 1.00	B2			
MADE GROUND: Yellow sandy subrounded fine to coarse GRAVEL of limestone.																
MADE GROUND: Firm dark grey slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to medium granite and limestone. Sand is fine to coarse.												1.50 - 1.95	U0	1.50	U=12 Blows for 0%	
												1.50 - 2.00	B3			
														2.50	SPT(S) N=13 (2,2/3,3,3,4)	
			(4.60)													
												3.50 - 3.95	U1	3.50	U=32 Blows for 60%	
														4.50	SPT(S) N=14 (2,2/3,4,3,4)	
		5.00		101.24								5.00	D1			
MADE GROUND: Stiff blackish brown slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of flint and limestone.												6.00 - 6.45	U1	6.00	U=17 Blows for 85%	
			(2.00)									6.50	D1			
												6.80	D2			
		7.00		99.24												
MADE GROUND: Soft greenish black slightly gravelly organic CLAY. Gravel is fine to coarse angular to subrounded of limestone.														7.50	SPT(S) N=6 (1,1/1,2,1,2)	
												7.80 - 7.95	D3			
												8.20	D4			
												9.00 - 9.45	U2	9.00	U=49 Blows for 100%	
												9.50	D5			
												10.00	D6			
												10.50 - 10.95	D7	10.50	SPT(S) N=5 (1,0/1,2,1,1)	

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: AR2102. Energy Ratio 57%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490909.36 N290863.44	106.24	SDA Site Investigations/ Delta Drilling	Dando 115	BK/ TR/ EC			1:57

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Project No: 15-0645.05 | Hole ID: BH7 | Page: 2 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 17/02/2022 - 25/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Soft greenish black slightly gravelly organic CLAY. Gravel is fine to coarse angular to subrounded of limestone.			(10.00)									11.80	D8			
												12.00 - 12.45	U3	12.00	U=11 Blows for 100%	
												12.50	D9			
												13.00	D10			
												13.50 - 13.95	D11	13.50	SPT(S) N=5 (1,2/2,1,1,1)	
												14.80	D12			
												15.00 - 15.45	U4	15.00	U=9 Blows for 100%	
												15.50	D13			
												16.00	D14			
												16.50 - 16.95	D15	16.50	SPT(S) N=21 (11,8/4,5,5,7)	
		17.00		89.24												
Orange slightly clayey sandy angular to subrounded fine to medium GRAVEL of limestone. (WHITBY MUDSTONE FORMATION)			(2.50)									17.80	D16			
												18.00 - 18.45	D17	18.00	SPT(S) N=46 (2,2/2,4,13,27)	
												19.20	D18			
		19.50		86.74				79	61	61		19.45 - 19.95	D19	19.50	SPT(S) N=50 (25 for 115mm/50 for 265mm)	
Moderately weak dark grey LIMESTONE. (WHITBY MUDSTONE FORMATION)			(0.53)									19.78 - 19.98	U1	19.78		
		20.03		86.21												
Recovered as gravel.							1.5				30 280 530	20.16 - 20.52	U2	20.16		
Weak dark grey thinly laminated MUDSTONE.																
Weak dark grey thinly laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)								97	7	85						
												21.42 - 21.79	U3	21.42		
							1.5				10 110 300					

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: AR2102. Energy Ratio 57%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490909.36 N290863.44	106.24	SDA Site Investigations/ Delta Drilling	Dando 115	BK/ TR/ EC			1:57

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Project No: 15-0645.05 | Hole ID: BH7 | Page: 3 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 17/02/2022 - 25/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
Weak dark grey thinly laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)			(9.92)					98	94	94		22.22 - 22.34	U4	22.22		
							1.5				20 240 670	22.70 - 22.90	U5	22.70		
												23.33 - 23.76	U6	23.33		
								94	94	86		23.83 - 24.00	U7	23.83		
							1.5				30 320 840	24.20 - 24.50	U8	24.20		
												24.70 - 25.00	U9	24.70		
								96	96	80		25.24 - 25.41	U10	25.24		
							1.5				50 200 380	25.62 - 25.95	U11	25.62		
												26.51 - 26.70	U12	26.51		
								92	1	81		27.00 - 27.25	U13	27.00		
							1.5				20 120 360	27.55 - 27.86	U14	27.55		
												28.23 - 28.37	U15	28.23		
								97	97	97		28.57 - 28.81	U16	28.57		
							1.5				100 170 240	29.72 - 29.95	U17	29.72		
		29.95		76.29												
Borehole complete at 30.00 m bgl.		30.00		76.24												

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: AR2102. Energy Ratio 57%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490909.36 N290863.44	106.24	SDA Site Investigations/ Delta Drilling	Dando 115	BK/ TR/ EC			1:57

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Project No: **15-0645.05** | Hole ID: **BH8** | Page: **1 of 3**

Project: **Corby EfW**

Rotary Core Borehole Log

Date: **16/02/2022 - 23/02/2022** | Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Pinkish grey angular to subangular medium to coarse GRAVEL of granite.		0.05		105.70												
		0.40	(0.35)	105.36								0.30 - 0.60	B1			
MADE GROUND: Yellow sandy subrounded fine to coarse GRAVEL of limestone and quartzite.												0.60 - 1.00	B2			
MADE GROUND: Firm black and dark grey mottled gravelly CLAY. Gravel is angular to subrounded fine to medium flint and quartzite.												1.50 - 1.95	U1	1.50	U=20 Blows for 60%	
												2.00	D1			
			(3.80)											2.50	SPT(S) N=7 (1,1/1,2,2,2)	
												3.50 - 3.95	U2	3.50	U=31 Blows for 50%	
		4.20		101.56								4.00	D2			
MADE GROUND: Stiff blackish brown slightly gravelly CLAY. Gravel is angular to subrounded fine flint and mixed lithologies.														4.50	SPT(S) N=6 (1,1/1,1,2,2)	
			(2.30)									5.50	B3			
												6.00 - 6.45	U3	6.00	U=38 Blows for 100%	
		6.50		99.26								6.50	D3			
MADE GROUND: Soft black slightly gravelly organic rich CLAY. Gravel is angular to subrounded fine to medium flint and mixed lithologies.												6.50 - 7.00	B4			
														7.50	SPT(S) N=7 (1,1/1,2,2,2)	
												8.50	D4			
			(4.50)													
												9.00 - 9.45	U4	9.00	U=28 Blows for 100%	
												10.00 - 10.50	B5			
														10.50	SPT(S) N=19 (2,4/5,6,4,4)	
		11.00		94.76												

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.2 m bgl.7. SPT Hammer ID: AR3828. Energy Ratio 60%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490939.16 N290855.38	**105.76**	**SDA Site Investigations/ Delta Drilling**	**Dando 115**	**BK/TR**			**1:57**

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Project: **Corby EfW**

Rotary Core Borehole Log

Date: **16/02/2022 - 23/02/2022**

Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Firm dark grey and orange mottled slightly gravelly sandy CLAY. Gravel is angular to subrounded fine to medium flint, sandstone and mudstone. Sand is fine to medium.												11.50	D5			
												12.00 - 12.45	U5	12.00	U=42 Blows for 90%	
												12.50	D6			
			(5.50)											13.50	SPT(S) N=16 (2,3/4,4,4,4)	
												14.50 - 15.00	B6			
												15.00 - 15.45	U6	15.00	U=42 Blows for 90%	
												15.50	D7			
												16.00 - 16.50	B7			
		16.50		89.26				56	33	33						
Orange brown weak SANDSTONE. (NORTHAMPTON SAND FORMATION)														16.95	SPT(S) N=22 (4,8/7,7,4,4)	
Recovered as medium to coarse angular gravel.							1.5				60 130 170					
Recovered as medium to coarse angular gravel.								75	69	53						
Recovered as medium to coarse angular gravel.																
Pocket of gravel.			(3.50)													
Pocket of gravel.																
Pocket of gravel.							1.5				70 110 190	18.75 - 18.84	U1	18.75		
												19.00 - 19.10	U2	19.00		
								67	44	22						
		20.00		85.76								20.00 - 20.21	U3	20.00		
Moderately weak weathered blue grey thinly bedded LIMESTONE with orange stained fractures. (WHITBY MUDSTONE FORMATION)		20.40	(0.40)	85.36			1.5				30 70 220					
								100	100	100		21.00 - 21.30	U4	21.00		
Weak dark grey thinly laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)												21.55 - 21.85	U5	21.55		
							1.6									

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.2 m bgl.7. SPT Hammer ID: AR3828. Energy Ratio 60%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490939.16 N290855.38	105.76	SDA Site Investigations/ Delta Drilling	Dando 115	BK/TR			1:57

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Project: **Corby EfW**

Rotary Core Borehole Log

Date: **16/02/2022 - 23/02/2022**

Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery					Sample Details		Test Details		Backfill
							Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Depth (m)	Type & Ref	Depth (m)	Results	
Weak dark grey thinly laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)			(9.80)					77	77	73		22.20 - 22.50	U6	22.20		
												22.60 - 22.95	U7	22.60		
							1.5					23.15 - 23.30	U8	23.15		
												23.75 - 23.81	U9	23.75		
								100	100	100		24.10 - 24.40	U11	24.10		
							1.6				20 170 480	25.08 - 25.33	U10	25.08		
								83	75	75		25.60 - 25.75	U12	25.60		
							1.5				120 250 370	26.00 - 26.38	U13	26.00		
												26.52 - 26.80	U14	26.52		
								100	33	93		27.28 - 27.52	U15	27.28		
												27.52 - 27.80	U16	27.52		
							1.5				50 210 400	28.14 - 28.73	U17	28.14		
								100	100	97		28.75 - 29.02	U18	28.75		
												29.08	U19	29.08		
							1.5					29.55 - 29.85	U20	29.55		
												29.85 - 30.20	U21	29.85		
		30.20		75.56												
Borehole complete at 30.20 m bgl.																

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.2 m bgl.7. SPT Hammer ID: AR3828. Energy Ratio 60%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490939.16 N290855.38	105.76	SDA Site Investigations/ Delta Drilling	Dando 115	BK/TR			1:57

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Project: Corby EfW

Rotary Core Borehole Log

Date: 21/02/2022 - 24/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Pink subrounded to subangular medium to coarse GRAVEL of granite.		0.20	(0.20)	106.51												
MADE GROUND: Yellow sandy subrounded fine to coarse GRAVEL of limestone.		0.50	(0.30)	106.21												
MADE GROUND: Soft grey slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium chalk. (REWORKED NATURAL)			(2.50)									1.50 - 1.95	D3	1.50	SPT(S) N=8 (1,0/2,2,2,2)	
												2.00 - 2.50	B1			
												2.50 - 2.95	U1	2.50	U=13 Blows for 100%	
		3.00		103.71												
MADE GROUND: Soft grey gravelly CLAY. Gravel is subangular to subrounded fine to medium chalk. (REWORKED NATURAL)												3.00	D1	3.00	SPT(S) N=4 (1,0/1,1,1,1)	
												3.50	D4			
												3.50 - 3.95	D5			
												4.20	D6			
												4.50 - 4.95	U2	4.50	U=27 Blows for 50%	
			(4.10)									5.00	D7			
												5.00 - 5.50	B2			
												6.00	D2	6.00	SPT(S) N=8 (1,2/2,2,2,2)	
												6.00 - 6.45	D8			
		7.10		99.61												
MADE GROUND: Soft black organic rich CLAY.												7.10 - 7.50	B3			
												7.50 - 7.95	U3	7.50	U=14 Blows for 100%	
												8.00	B4			
												8.50	D9			
			(7.10)									9.00 - 9.45	D10	9.00	SPT(S) N=10 (6,2/3,2,2,3)	
												9.50 - 10.00	B5			
												10.50	D11	10.50	U=33 Blows for 100%	
												10.50 - 10.95	U4			
												11.00	D12			

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: AR2102. Energy Ratio 57%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490885.59 N290869.55	106.71	SDA Site Investigations/ Delta Drilling	Dando 115	RS/EC			1:57

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Rotary Core Borehole Log

Date: 21/02/2022 - 24/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Soft black organic rich CLAY.												11.50	D13			
												12.00 - 12.35	D14	12.00	SPT(S) N=4 (1,0/1,1,1,1)	
												12.50 - 13.00	B6			
												13.50	D15	13.50	U=12 Blows for 100%	
												13.50 - 13.95	U5			
		14.20		92.51								14.00	D16			
MADE GROUND: Orange slightly clayey sandy angular to subrounded fine to medium GRAVEL of weathered limestone.												14.40 - 14.70	B7			
												15.00 - 15.45	D17	15.00	SPT(S) 50 (9,15/50 for 97mm)	
			(4.30)									16.20	D18			
												16.50 - 16.95	D19	16.50	SPT(S) N=23 (3,5/5,7,5,6)	
												17.20	D20			
												18.00 - 18.45	D21	18.00	SPT(S) N=24 (3,4/3,7,7,7)	
		18.50		88.21								18.50 - 19.00	B8			
Extremely weak grey LIMESTONE. (WHITBY MUDSTONE FORMATION)												19.20	D22			
			(1.50)									19.50 - 19.95	D23	19.50	SPT(S) 50 (7,12/50 for 173mm)	
		20.00		86.71				100	100	100		20.00 - 20.15	U1	20.00		
Weak dark grey thinly laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)												20.00 - 27.33	U13	20.00		
							1.5					20.63 - 20.70	U2	20.63		
												20.80 - 28.00	U14	20.80		
												21.07 - 21.25	U3	21.07		
								93	93	93		21.50 - 21.60	U4	21.50		
												21.80 - 22.10	U5	21.80		

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: AR2102. Energy Ratio 57%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490885.59 N290869.55	106.71	SDA Site Investigations/ Delta Drilling	Dando 115	RS/EC			1:57

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Project: **Corby EfW**

Rotary Core Borehole Log

Date: **21/02/2022 - 24/02/2022**

Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery					Sample Details		Test Details		Backfill
							Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Depth (m)	Type & Ref	Depth (m)	Results	
Weak dark grey thinly laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)			(10.00)				1.5	95	95	95		22.64 - 22.90 23.00 - 23.22	U6 U7	22.64 23.00		
							1.5	100	100	100		24.00 - 24.17 24.50 - 24.95	U8 U11	24.00 24.50		
							1.5	100	100	93		25.20 - 25.44 25.45 - 25.70	U10 U9	25.20 25.45		
							1.5	87	87	73		26.07 - 26.43	U12	26.07		
							1.5	47	47	47		28.06 - 28.20 28.41 - 28.73	U15 U16	28.06 28.41		
							1.0					29.20 - 29.47	U17	29.20		
		30.00		76.71												
Borehole complete at 30.00 m bgl.																

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. SPT Hammer ID: AR2102. Energy Ratio 57%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490885.59 N290869.55	106.71	SDA Site Investigations/ Delta Drilling	Dando 115	RS/EC			1:57

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Project: Corby EfW

Rotary Core Borehole Log

Date: 22/02/2022 - 23/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Pink subrounded to subangular medium to coarse GRAVEL of granite.		0.20	(0.20)	105.44								0.40	D1			
		0.70	(0.50)	104.94								0.70	D2			
MADE GROUND: Yellow sandy subrounded fine to coarse GRAVEL of limestone.																
MADE GROUND: Soft grey slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium chalk. (REWORKED NATURAL)												1.50 - 1.95	U1	1.50	U=9 Blows for 100%	
												2.00	D3			
												2.00 - 2.50	B1			
												2.50 - 2.95	D4	2.50	SPT() N=2 (1,0/0,1,0,1)	
												3.20	D5			
												3.50 - 3.95	U2	3.50	U=27 Blows for 100%	
			(6.80)									4.00	D6			
												4.50	D7	4.50	SPT() N=5 (1,1/1,1,2,1)	
												5.20	D8			
												5.50 - 6.00	B2			
												6.00 - 6.45	U3	6.00	U=30 Blows for 90%	
												6.50	D9			
		7.50		98.14												
MADE GROUND: Soft grey sandy CLAY. Sand is fine to medium. (REWORKED NATURAL)												7.50 - 7.95	D10	7.50	SPT() N=9 (1,1/2,2,2,3)	
												8.20	D11			
												8.50 - 9.00	B3			
												9.00 - 9.45	U4	9.00	U=23 Blows for 100%	
			(6.45)									9.50	D12			
												10.00	D13			
												10.50 - 10.95	D14	10.50	SPT() N=9 (5,4/3,2,2,2)	
												11.00 - 11.50	B4			

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: AR2102. Energy Ratio 57%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490907.41 N290818.12	105.64	SDA Site Investigations/ CC Ground Investigation	Dando 115	RS			1:57

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Rotary Core Borehole Log

Date: 22/02/2022 - 23/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Soft grey sandy CLAY. Sand is fine to medium. (REWORKED NATURAL)												11.80	D15			
												12.00 - 12.45	U5	12.00	U=24 Blows for 100%	
												12.50	D16			
												13.00	D17			
												13.50 - 13.95	D18	13.50	SPT() N=14 (2,3/3,4,3,4)	
		13.95		91.68												
MADE GROUND: Stiff yellow, brown and grey mottled sandy gravelly CLAY. Gravel is rounded to subangular fine to medium chalk. Sand is medium to coarse. (REWORKED NATURAL)			(1.85)									15.00	B5			
												15.50 - 15.95	D19			
		15.80		89.84												
MADE GROUND: Stiff brown and grey mottled sandy gravelly CLAY. Gravel is rounded to subangular fine to medium chalk. Sand is medium to coarse. (REWORKED NATURAL)		16.00	(0.20)	89.64								16.00	B6			
			(1.38)					79	73	13						
MADE GROUND: Soft grey sandy CLAY. Sand is fine to medium. (REWORKED NATURAL)		17.38		88.26								17.00 - 17.45	D20			
Extremely weak orange weathered LIMESTONE. (WHITBY MUDSTONE FORMATION)							1.5				90 230 560	17.89 - 18.00	U1	17.89		
			(2.19)					100	98	44						
							1.5				100 210 420	18.90 - 19.08	U2	18.90		
												19.08 - 19.22	U3	19.08		
		19.57		86.06												
Medium strength grey medium bedded LIMESTONE. (WHITBY MUDSTONE FORMATION)			(0.43)									19.65 - 19.87	U4	19.65		
		20.00		85.64				88	75	71		19.87 - 20.00	U5	19.87		
Weak grey laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)												20.40 - 20.67	U6	20.40		
							1.5					21.00 - 21.32	U7	21.00		
								99	99	93		21.50 - 21.87	U8	21.50		
												21.87 - 22.15	U9	21.87		

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: AR2102. Energy Ratio 57%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490907.41 N290818.12	105.64	SDA Site Investigations/ CC Ground Investigation	Dando 115	RS			1:57

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Project: **Corby EfW**

Rotary Core Borehole Log

Date: **22/02/2022 - 23/02/2022**

Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery					Sample Details		Test Details		Backfill
							Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Depth (m)	Type & Ref	Depth (m)	Results	
Weak grey laminated MUDSTONE. (WHITBY MUDSTONE FORMATION)			(10.00)				1.5	100	100	100		22.60 - 22.90	U10	22.60		
												23.00 - 23.40	U11	23.00		
							1.5	100	100	96		23.44 - 23.73	U12	23.44		
							1.5	100	100	100	290 420 540	25.10 - 25.50	U13	25.10		
												25.50 - 25.93	U14	25.50		
												26.00 - 26.30	U15	26.00		
							1.5	99	99	92		27.20 - 27.50	U16	27.20		
												27.68 - 28.02	U17	27.68		
							1.5	100	100	100		28.02 - 28.28	U18	28.02		
												28.37 - 28.57	U19	28.37		
												28.74 - 28.96	U20	28.74		
											90 320 960	29.00 - 29.30	U21	29.00		
							1.0					29.30 - 29.60	U22	29.30		
												29.60 - 29.96	U23	29.60		
		30.00		75.64												
Borehole complete at 30.00 m bgl.																

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: AR2102. Energy Ratio 57%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490907.41 N290818.12	105.64	SDA Site Investigations/ CC Ground Investigation	Dando 115	RS			1:57

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Project No: 15-0645.05 | Hole ID: BH11 | Page: 1 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 07/02/2022 - 09/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Test Details: Results	Backfill
MADE GROUND: Reddish brown subrounded to subangular medium to coarse GRAVEL of granite.		0.10		105.05												
		0.30	(0.20)	104.85								0.30	B1			
MADE GROUND: Reddish brown sandy rounded to subangular fine to coarse GRAVEL of sandstone and limestone. Sand is fine to medium.												1.00	B2			
												1.20 - 1.65	D1	1.20	SPT(S) N=4 (1,1/1,1,1,1)	
MADE GROUND: Soft becoming firm grey mottled brown slightly gravelly silty CLAY. Gravel is rounded to subrounded fine to medium of limestone.												2.00	B3	2.00		
												2.00 - 2.45	U1			
												2.45 - 2.50	D2			
			(5.70)									3.00	B4	3.00	SPT(S) N=17 (2,2/4,4,4,5)	
												3.00 - 3.45	D3			
												4.00	B5	4.00		
												4.00 - 4.45	U2			
												4.45 - 4.50	D4			
												5.00	B6	5.00	SPT(S) N=37 (4,6/8,8,10,11)	
												5.00 - 5.45	D5			
		6.00		99.15												
MADE GROUND: Firm to stiff grey mottled orange slightly gravelly sandy CLAY with lenses of dark grey silt. Gravel is subangular to rounded fine to medium sandstone.												6.00	B7			
												6.50 - 6.95	D6			
			(4.00)									8.00	B8	8.00	SPT(S) N=12 (2,3/3,3,3,3)	
												8.00 - 8.45	D7			
												9.50 - 9.95	D8	9.50	SPT(S) N=14 (9,1/2,3,2,7)	
		10.00		95.15								10.00	B9			
MADE GROUND: Stiff grey mottled orange and red slightly gravelly silty CLAY. Gravel is subangular to rounded fine to medium sandstone.																
												11.00 - 11.45	U3	11.00		

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: CABLE01. Energy Ratio 59%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490949.02 N290832.20	105.15	Borehole Surveys/ VC Drilling	Dando 2000	LB			1:57

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Project No: 15-0645.05 | Hole ID: BH11 | Page: 2 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 07/02/2022 - 09/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Stiff grey mottled orange and red slightly gravelly silty CLAY. Gravel is subangular to rounded fine to medium sandstone.			(2.00)													
		12.00		93.15								12.00	B10			
MADE GROUND: Stiff grey slightly sandy gravelly CLAY. Gravel is subangular to rounded fine to coarse of sandstone. Sand is fine to coarse.			(3.50)									12.50 - 12.95	D9	12.50	SPT(S) N=26 (4,5/5,6,7,8)	
												14.00	B11	14.00		
												14.00 - 14.45	U4			
												14.45 - 14.50	D10			
		15.50		89.65												
Reddish brown SANDSTONE, recovered as very gravelly fine to coarse SAND with small clay lenses. Gravel is subrounded to subangular fine to medium of sandstone. (NORTHAMPTON SAND FORMATION)			(2.50)									15.50 - 15.95	D11	15.50	SPT(S) N=49 (2,5/9,15,12,13)	
												16.00	B12			
												17.00 - 17.45	U5	17.00		
												17.45 - 17.50	D12			
		18.00		87.15												
Grey mottled brown slightly gravelly sandy CLAY. Gravel is subrounded coarse of sandstone. Sand is fine to coarse. (NORTHAMPTON SAND FORMATION)		18.30	(0.30)	86.85				96	97	80		18.00 - 18.15	D18	18.00	SPT(S) 50 (44 for 75mm/50 for 0mm)	
												18.30 - 18.46	U1	18.30		
							1.2				40 130 200	18.88 - 19.04	U2	18.88		
Weak fractured shelly grey MUDSTONE. Fractured are horizontal to inclination of 45 degrees, close to medium spacing, rough plane, partly open. (WHITBY MUDSTONE FORMATION)			(2.82)					73	73	58						
							1.5				50 120 490	19.85 - 20.34	U3	19.85		
		21.12		84.03				94	86	86						
Very weak red thinly laminated MUDSTONE. Fractures are horizontal, wide spacing, smooth planes, very tight. (WHITBY MUDSTONE												21.26 - 21.33	U4	21.26		
							1.4				640 640 640	21.94 - 22.34	U6	21.94		

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: CABLE01. Energy Ratio 59%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490949.02 N290832.20	105.15	Borehole Surveys/ VC Drilling	Dando 2000	LB			1:57

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Project No: **15-0645.05** | Hole ID: **BH11** | Page: **3 of 3**

Project: **Corby EfW**

Rotary Core Borehole Log

Date: **07/02/2022 - 09/02/2022** | Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
Very weak red thinly laminated MUDSTONE. Fractures are horizontal, wide spacing, smooth planes, very tight. (WHITBY MUDSTONE FORMATION)								100	48	34		22.40 - 22.56	U5	22.40		
Calcite nodule with clay infill at 21.79m bgl.							1.6				30 150 230	22.94 - 23.11	U7	22.94		
Calcite nodule with clay infill at 21.92m bgl.								65	56	37		23.27 - 23.57	U8	23.27		
							1.5				50 130 200	24.17 - 24.30	U9	24.17		
Calcite nodule with clay infill at 25.5m bgl.			(8.93)					65	61	41						
							1.5				60 70 420	25.89 - 26.30	U10	25.89		
								100	99	84						
							1.5				30 340 340	27.45 - 27.77	U11	27.45		
								100	97	100		28.07 - 28.34	U12	28.07		
							1.6				140 220 490	28.64 - 28.84	U13	28.64		
		30.05		75.10								29.66 - 30.05	U14	29.66		
Borehole complete at 30.05 m bgl.																

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: CABLE01. Energy Ratio 59%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490949.02 N290832.20	**105.15**	**Borehole Surveys/ VC Drilling**	**Dando 2000**	**LB**			**1:57**

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Project No: **15-0645.05** | Hole ID: **BH12** | Page: **1 of 3**

Project: **Corby EfW**

Rotary Core Borehole Log

Date: **11/02/2022 - 16/02/2022** | Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Reddish brown subrounded to subangular medium to coarse GRAVEL of granite.		0.05	(0.55)	104.42								0.50	D1			
		0.60		103.87								0.60 - 1.20	B1			
MADE GROUND: Brown slightly clayey gravelly fine to medium SAND. Gravel is angular to subangular fine to coarse granite, sandstone and brick.												1.00	D2			
												1.00	D3	1.20		
												1.20 - 1.65	U1			
Cobble of brick.												1.65 - 1.80	D4			
Black geotextile membrane.			(2.40)													
MADE GROUND: Soft dark greyish brown sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk, sandstone and mudstone. Sand is fine to coarse.												2.00 - 2.45	B2	2.00	SPT(S) N=8 (1,2/2,2,2,2)	
												2.45 - 3.00	D5			
		3.00		101.47								3.00 - 3.45	U2	3.00		
MADE GROUND: Soft dark grey slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk and sandstone. Sand is fine to coarse.												3.45 - 3.65	D6			
												3.65 - 4.00	D7			
												4.00 - 4.45	B3	4.00	SPT(S) N=6 (1,1/1,2,2,1)	
												4.45 - 5.00	D8			
												5.00 - 5.45	U3	5.00		
												5.45 - 5.65	D9			
												5.65 - 6.50	D10			
												6.50 - 6.95	B4	6.50	SPT(S) N=24 (2,4/4,6,6,8)	
			(11.90)									6.95 - 8.00	D12			
												8.00 - 8.45	U4	8.00		
												9.50 - 9.95	D13	9.50	SPT(S) N=21 (4,4/5,5,5,6)	
												9.50 - 9.95	D14			
												9.95 - 11.00	D15			
												11.00 - 11.45	U5	11.00		

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E491083.29 N290885.81	**104.47**	**VC Drilling/ CC Ground Investigation**	**Dando 2000**	**BK**			**1:57**

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Project No: 15-0645.05 | Hole ID: BH12 | Page: 2 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 11/02/2022 - 16/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Soft dark grey slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk and sandstone. Sand is fine to coarse.												11.45 - 11.63	D16			
												12.50 - 12.95	B5	12.50	SPT(S) N=18 (1,2/4,4,4,6)	
												12.95 - 14.00	D17			
												14.00 - 14.45	U6	14.00		
												14.45 - 14.63	D18			
		14.90		89.57												
MADE GROUND: Yellowish brown slightly clayey gravelly fine to medium SAND. Gravel is angular to subrounded fine to coarse mudstone and chalk.			(0.60)													
		15.50		88.97								15.50 - 15.95	B6	15.50	SPT(S) 41 (5,7/41 for 225mm)	
MADE GROUND: Firm dark grey slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse mudstone and limestone.												15.95 - 17.00	D19			
												17.00 - 17.45	B7	17.00	SPT(S) N=29 (3,6/9,9,6,5)	
			(3.50)									17.45 - 17.95	D20			
												17.80	D21			
		19.00		85.47				100	86	42						
Weak weathered grey thinly bedded LIMESTONE. Weathered brown staining at 19.35 m to 19.50 m. Interbedded weathered brown staining from 19.66 m to 20.39 m. (WHITBY MUDSTONE FORMATION)														19.00	SPT(S) 50 (10,14/50 for 145mm)	
												19.53 - 19.69	U1	19.53		
			(1.68)				1.5				10 105 300					
								98	98	98		20.37 - 20.50	U2	20.37		
		20.68		83.79								20.50 - 20.63	U3	20.50		
Weak grey thinly bedded LIMESTONE. (WHITBY MUDSTONE FORMATION)			(0.70)								90 50 130					
		21.38		83.09												
Very weak becoming weak dark grey thinly laminated MUDSTONE							2.0					21.50	U4	21.50		

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E491083.29 N290885.81	104.47	VC Drilling/ CC Ground Investigation	Dando 2000	BK			1:57

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Project No: **15-0645.05** | Hole ID: **BH12** | Page: **3 of 3**

Project: **Corby EfW**

Rotary Core Borehole Log

Date: **11/02/2022 - 16/02/2022** | Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
Very weak becoming weak dark grey thinly laminated MUDSTONE (WHITBY MUDSTONE FORMATION)								61	60	60		22.50 - 22.67	U5	22.50		
							1.5					22.96 - 23.42	U6	22.96		
								100	100	94		24.13 - 24.34	U7	24.13		
							1.5					24.78 - 25.20	U8	24.78		
												25.05 - 25.87	U9	25.05		
								100	100	100						
			(8.62)				1.5				40 280 910	26.20 - 26.47	U10	26.20		
												26.60 - 27.00	U11	26.60		
								100	100	100						
							1.5					27.30 - 27.64	U12	27.30		
												27.95 - 28.18	U13	27.95		
												28.18 - 28.50	U14	28.18		
								97	97	94		28.50 - 28.94	U15	28.50		
							1.5					28.94 - 29.37	U16	28.94		
												29.70 - 29.93	U17	29.70		
		30.00		74.47												
Borehole complete at 30.00 m bgl.																

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 30.0 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E491083.29 N290885.81	**104.47**	**VC Drilling/ CC Ground Investigation**	**Dando 2000**	**BK**			**1:57**

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Project No:	Hole ID:	Page:
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Project: Corby EfW

Rotary Core Borehole Log

Date: 17/02/2022 Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Pink subrounded to subangular medium to coarse GRAVEL of granite.		0.08		106.60								0.00 - 1.20	B1			
		0.30	(0.22)	106.38								0.50	D1			
MADE GROUND: Yellow sandy subrounded fine to coarse GRAVEL of limestone. Sand is medium to coarse.												1.00	D2			
												1.20 - 1.65	U1	1.20		
MADE GROUND: Stiff grey gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk. (REWORKED NATURAL)												1.65 - 1.85	D3			
												1.85 - 2.00	D4			
												2.00	B2	2.00	SPT() N=6	
												2.00 - 2.45	D5		(1,1/1,1,1,3)	
												2.45 - 3.00	D6			
												3.00	U2	3.00		
												3.45 - 3.65	D7			
			(6.60)									3.65 - 4.00	D8			
												4.00	B3	4.00	SPT() N=28	
												4.00 - 4.45	D9		(2,4/6,6,8,8)	
												4.45 - 5.00	D10			
												5.00	U3	5.00		
												5.45 - 5.65	D11			
												5.65 - 6.50	D12			
												6.50	B4	6.50	SPT() N=18	
												6.50 - 6.95	D13		(2,4/4,4,4,6)	
		6.90		99.78								6.95 - 8.00	D14			
MADE GROUND: Firm grey and brown mottled slightly sandy gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk. Sand is medium to coarse. (REWORKED NATURAL)												8.00	U4	8.00		
			(2.60)									8.45 - 8.65	D15			
												8.65 - 9.50	D16			
MADE GROUND: Soft grey slightly sandy CLAY. Sand is fine to medium. (REWORKED NATURAL)		9.50		97.18								9.50	B5	9.50	SPT() N=30	
												9.50 - 11.00	D17		(4,4/6,6,8,10)	
MADE GROUND: Soft grey slightly sandy CLAY. Sand is fine to medium. (REWORKED NATURAL)												11.00	B6	11.00	SPT() N=40	
												11.00 - 11.45	D18		(5,9/9,10,10,11)	

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 27 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490939.56 N290911.15	106.68	VC Drilling/ Delta Drilling	Dando 2000	RS			1:57

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Project: Corby EfW

Rotary Core Borehole Log

Date: 17/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. FI Av. FI Max. FI	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
MADE GROUND: Soft grey slightly sandy CLAY. Sand is fine to medium. (REWORKED NATURAL)												11.45 - 12.50	D19			
												12.00	U5	12.00		
												12.95 - 13.15	D20			
			(6.50) (6.70)									13.15 - 14.00	D21			
												14.00	B7	14.00	SPT() N=28 (2,5/6,7,7,8)	
												14.45 - 15.30	D22			
		15.50		91.18								15.50	B8	15.50	SPT() N=33 (3,5/7,8,9,9)	
		15.70		90.98								15.50 - 15.95	D23			
Extremely weak weathered orange LIMESTONE. (WHITBY MUDSTONE FORMATION)												15.95 - 17.00	D24			
			(1.75)									17.00	B9	17.00	SPT() 48 (8,4/48 for 180mm)	
		17.45		89.23								17.00 - 17.45	D25			
Very weak grey MUDSTONE. (WHITBY MUDSTONE FORMATION)			(0.55)									17.45 - 18.00	D26			
		18.00		88.68								18.00	D27	18.00	SPT() N=46 (3,5/9,9,14,14)	
Very weak grey MUDSTONE recovered as soft grey clay. (WHITBY MUDSTONE FORMATION)			(1.76)					96	82	73						
		19.76		86.92												
Very weak grey laminated MUDSTONE. Bedding 0°. (WHITBY MUDSTONE FORMATION)			(1.18)				1.5				40 90 ~~170~~	20.00 - 20.30	U6	20.00		
												20.30 - 20.54	U7	20.30		
												20.54 - 20.87	U8	20.54		
		20.94		85.74				100	99	95						
No recovery - MUDSTONE. (WHITBY MUDSTONE FORMATION)		21.00		85.68								21.00 - 21.74	U9	21.00		
Weak dark grey finely laminated thinly bedded MUDSTONE.			(1.50)				1.5					21.46 - 21.87	U10	21.46		
												21.87 - 22.26	U11	21.87		

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 27 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490939.56 N290911.15	106.68	VC Drilling/ Delta Drilling	Dando 2000	RS			1:57

deltasimons
Environment - Health & Safety - Sustainability

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3 Henley Way, Doddington Road
Lincoln, LN6 3QR
Tel: +44 (0) 1522 882555
Email: info@deltasimons.com

Project No: 15-0645.05 | Hole ID: BH13 | Page: 3 of 3

Project: Corby EfW

Rotary Core Borehole Log

Date: 17/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Core Recovery: Run (m)	TCR %	SCR %	RQD %	Min. Fl Av. Fl Max. Fl	Sample Details: Depth (m)	Type & Ref	Test Details: Depth (m)	Results	Backfill
Weak dark grey finely laminated thinly bedded MUDSTONE. (WHITBY MUDSTONE FORMATION)		22.50		84.18				100	97	96						
Sideritic																
Weak grey laminated medium bedded MUDSTONE.			(1.20)				1.5					22.90 - 23.39	U12	22.90		
Weak grey laminated medium bedded MUDSTONE. (WHITBY MUDSTONE FORMATION)		23.70		82.98								23.39 - 23.64	U13	23.39		
Sideritic								100	60	14		23.64 - 23.84	U14	23.64		
Weak grey laminated medium bedded MUDSTONE.											50 210 680					
Sideritic			(4.50)				1.5					24.58 - 24.68	U15	24.58		
			(3.30)					89	87	81						
							1.5									
		27.00		79.68												
Borehole complete at 27.00 m bgl.		27.00		79.68												

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020. 2. Borehole location cleared for underground utilities prior to excavation.3. Hand dug service inspection pit advanced to 1.20 m bgl.4. Elevation and location data from GPS survey.5. Borehole commenced as cable percussive with rotary core follow-on.6. Borehole complete at 27 m bgl.7. Hole installed with 50mm HDPE pipe and flush cover.8. SPT Hammer ID: AR2417. Energy Ratio 65%.

Water Level Observations				Flush	
Date	Depth Strike (m)	Duration (min)	Standing (m)	Depth (m)	Return %

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale (m):
E490939.56 N290911.15	106.68	VC Drilling/ Delta Drilling	Dando 2000	RS			1:57

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Project No:	Hole ID:	Page:
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Project: **Corby EfW**

Trial Pit Log

Date: **04/02/2022** | Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results
MADE GROUND: Reddish brown subrounded to subangular medium to coarse GRAVEL of granite.		0.05	104.46					
MADE GROUND: Light yellowish brown sandy subrounded fine to coarse GRAVEL of limestone.		0.30	104.21					
MADE GROUND: Stiff grey gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk. (REWORKED NATURAL)					0.50	D1	0.50	HV=49 kPa
							1.00	HV=56 kPa
		1.20	103.31					
MADE GROUND: Stiff grey mottled brown slightly sandy gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk. Sand is medium to coarse. (REWORKED NATURAL)		1.40	103.11		1.30	B1		
MADE GROUND: Stiff grey slightly gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk.							1.50	HV=83 kPa
					2.00	D2	2.00	HV=90 kPa
					2.40	B2		
							2.60	HV=54 kPa
		3.00	101.51					
Trial pit complete at 3.00 m bgl.								

Dimensions and Orientation:

Orientation:

Inclination:

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020.2. Location cleared for services by specialist utilities avoidance contractor prior to excavation. Elevation and location data from GPS survey.3. Installed for infiltration testing.

Coordinates:	Elevation (mAOD):	Excavated By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491034.03 N290872.00	104.51	F.W. Pammenter & Son	JCB 3CX	RS			1:30

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Project No: 15-0645.05 | Hole ID: TR-2 | Page: 1 of 1

Project: Corby EfW

Trial Pit Log

Date: 04/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results
MADE GROUND: Reddish brown subrounded to subangular medium to coarse GRAVEL of granite.		0.10	104.11					
MADE GROUND: Light yellowish brown sandy subrounded fine to coarse GRAVEL of limestone.		0.30	103.91					
MADE GROUND: Firm grey gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk. (REWORKED NATURAL)		0.60	103.61		0.40	B1	0.50	HV=42 kPa
MADE GROUND: Stiff brown sandy gravelly CLAY. Gravel is rounded to subangular fine to medium chalk. Sand is medium to coarse. (REWORKED NATURAL)		1.00	103.21		0.70	B2	0.90	HV=49 kPa
MADE GROUND: Stiff grey slightly gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk.					2.00	B3	2.00	HV=92 kPa
					2.60	D1		
		2.90	101.31					
Trial pit complete at 2.90 m bgl.								

Dimensions and Orientation:

Orientation:

Inclination:

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020.2. Location cleared for services by specialist utilities avoidance contractor prior to excavation. Elevation and location data from GPS survey.3. Installed for infiltration testing.

Coordinates:	Elevation (mAOD):	Excavated By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491027.08 N290852.71	104.21	F.W. Pammenter & Son	JCB 3CX	RS			1:30

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Project No: **15-0645.05** | Hole ID: **TR-3** | Page: **1 of 1**

Project: **Corby EfW**

Trial Pit Log

Date: **04/02/2022** | Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results
MADE GROUND: Reddish brown subrounded to subangular medium to coarse GRAVEL of granite.		0.07	104.41					
MADE GROUND: Light yellowish brown sandy subrounded fine to coarse GRAVEL of limestone.		0.30	104.18					
MADE GROUND: Firm grey gravelly CLAY with moderate concrete cobble content. Gravel is rounded to subrounded fine to medium chalk. (REWORKED NATURAL)					0.50	D1		
					1.00	B1	1.00	HV=45 kPa
		1.30	103.18					
MADE GROUND: Stiff grey slightly gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk. (REWORKED NATURAL)					1.50	D2		
					2.00	B2	2.00	HV=63 kPa
					2.50	D3		
		2.80	101.68					
Trial pit complete at 2.80 m bgl.							3.00	HV=69 kPa

Dimensions and Orientation:

Orientation:

Inclination:

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020.2. Location cleared for services by specialist utilities avoidance contractor prior to excavation. Elevation and location data from GPS survey.3. Installed for infiltration testing.

Coordinates:	Elevation (mAOD):	Excavated By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E490994.54 N290839.14	**104.48**	**F.W. Pammenter & Son**	**JCB 3CX**	**RS**			**1:30**

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Project No:	Hole ID:	Page:
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Project: **Corby EfW**

Trial Pit Log

Date: **04/02/2022** | Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results
MADE GROUND: Reddish brown subrounded to subangular medium to coarse GRAVEL of granite.		0.10	104.85					
MADE GROUND: Light yellowish brown sandy subrounded fine to coarse GRAVEL of limestone.		0.30	104.65					
MADE GROUND: Stiff grey slightly gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk. (REWORKED NATURAL)							1.00	HV=90 kPa
							1.50	HV=50 kPa
Trial pit complete at 1.60 m bgl.		1.60	103.35					

Dimensions and Orientation:

Orientation:

Inclination:

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020.2. Location cleared for services by specialist utilities avoidance contractor prior to excavation. Elevation and location data from GPS survey.3. Installed for infiltration testing.

Coordinates:	Elevation (mAOD):	Excavated By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E490948.39 N290817.79	104.95	F.W. Pammenter & Son	JCB 3CX	RS			1:30

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Project No: **15-0645.05**

Hole ID: **TR-4A**

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Project: **Corby EfW**

Trial Pit Log

Date: **04/02/2022**

Client: **Mytilineos**

Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results
MADE GROUND: Reddish brown subrounded to subangular medium to coarse GRAVEL of granite.		0.10	104.85					
MADE GROUND: Light yellowish brown sandy subrounded fine to coarse GRAVEL of limestone. Sand is fine to coarse.		0.35	104.60					
MADE GROUND: Stiff grey slightly gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk and brick.					0.60	B1	0.60	HV=66 kPa
					1.00	D1		
							1.20	HV=83 kPa
					1.50	B2		
							1.60	HV=66 kPa
					2.00	D2		
							2.30	HV=73 kPa
		2.50	102.45		2.50	B3		
MADE GROUND: Stiff light yellowish brown and grey mottled sandy gravelly CLAY. Gravel is rounded to subangular fine to medium chalk. Sand is medium to coarse. (REWORKED NATURAL)		3.00	101.95					
Trial pit complete at 3.00 m bgl.								

Dimensions and Orientation:

Orientation:

Inclination:

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020.2. Location cleared for services by specialist utilities avoidance contractor prior to excavation. Elevation and location data from GPS survey.3. Installed for infiltration testing.

Coordinates:	Elevation (mAOD):	Excavated By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E490948.39 N290817.79	**104.95**	**F.W. Pammenter & Son**	**JCB 3CX**	**RS**			**1:30**

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Project No: 15-0645.05 | Hole ID: TR-5 | Page: 1 of 1

Project: Corby EfW

Trial Pit Log

Date: 04/02/2022 | Client: Mytilineos

Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results
MADE GROUND: Reddish brown subrounded to subangular medium to coarse GRAVEL of granite.		0.10	104.53					
MADE GROUND: Light yellowish brown sandy subrounded fine to coarse GRAVEL of limestone.		0.35	104.28		0.30	B1		
MADE GROUND: Stiff reddish brown and grey mottled slightly gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk.					0.50	B2		
					1.00	D1		
		1.40	103.23					
MADE GROUND: Stiff brown and grey mottled slightly gravelly CLAY. Gravel is rounded to subrounded fine to medium chalk.					1.50	B3	1.50	HV=100 kPa
					2.00	D2		
							2.50	HV=90 kPa
		2.90	101.73					
Trial pit complete at 2.90 m bgl.								

Dimensions and Orientation:

Orientation:

Inclination:

Remarks:
1. Logged in general accordance with BS5930:2015+A1:2020.2. Location cleared for services by specialist utilities avoidance contractor prior to excavation. Elevation and location data from GPS survey.3. Installed for infiltration testing.

Coordinates:	Elevation (mAOD):	Excavated By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491070.78 N290897.09	104.63	F.W. Pammenter & Son	JCB 3CX	RS			1:30

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005 + A1:2011

SPT Hammer Ref:	CABLE 01
Test Date:	10/02/2022
Report Date:	14/02/2022
File Name:	CABLE 01.spt
Test Operator:	RW

Instrumented Rod Data

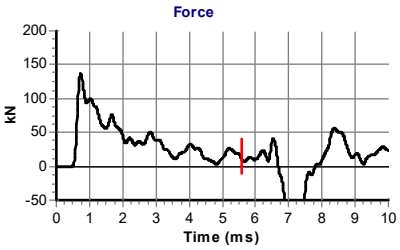
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.6
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	63177
Accelerometer No.2:	63178

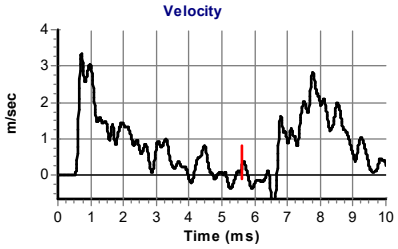
SPT Hammer Information

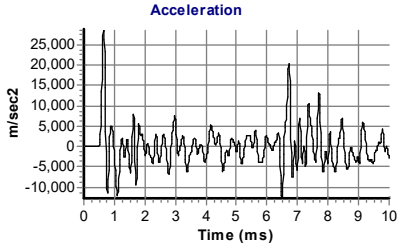
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	13.6

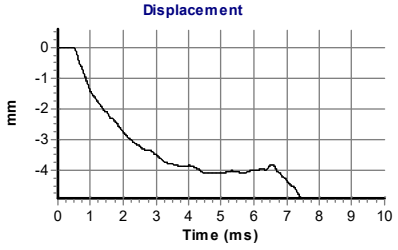
Comments / Location

Test performed at J&M yard.









Calculations

Area of Rod A (mm2):	983
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	281

Energy Ratio E_r (%): 59

Signed: Richard Walter BEng (Hons)

Title: Drilling Manager (J&M Drilling Ltd)

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING (UK) LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	AR2417
Test Date:	21/12/2021
Report Date:	21/12/2021
File Name:	AR2417.spt
Test Operator:	JL

Instrumented Rod Data

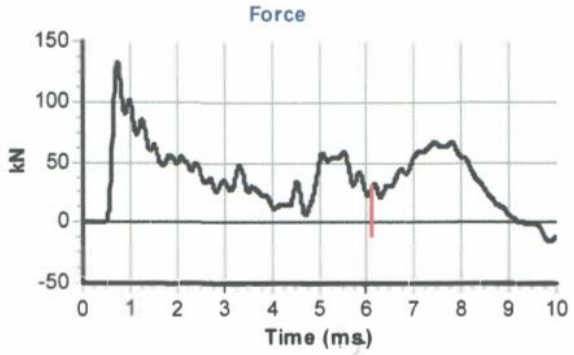
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.3
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	7080
Accelerometer No.2:	11609

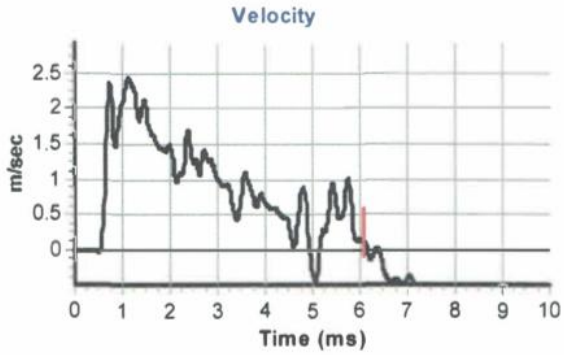
SPT Hammer Information

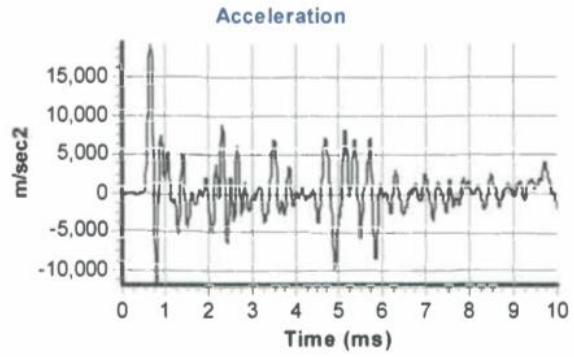
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	10.0

Comments / Location

VC DRILLING - 73802







Calculations

Area of Rod A (mm2):	944
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	307

Energy Ratio E_r (%): 65

Signed: J.LOCK

Title: FITTER

The recommended calibration interval is 12 months

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

Southern Testing
Unit 11
Charlwood Road
East Grinstead
West Sussex
RH19 2HU

SPT Hammer Ref:	AR2102
Test Date:	15/05/2021
Report Date:	15/05/2021
File Name:	AR2102.spt
Test Operator:	NPB

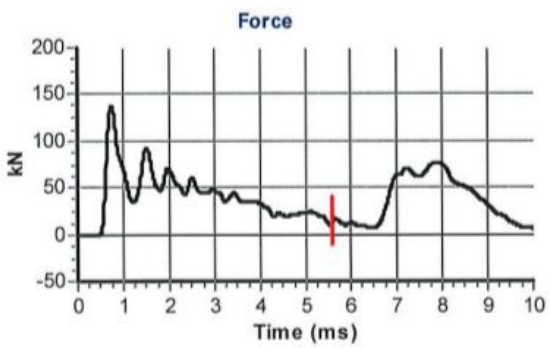
Instrumented Rod Data

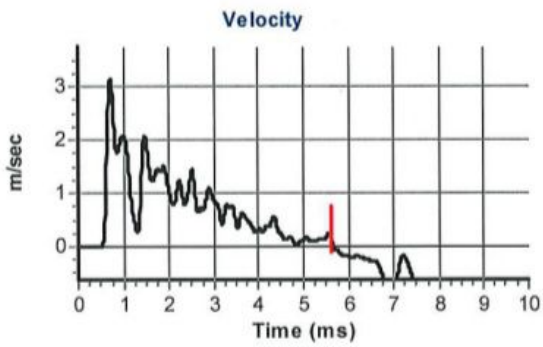
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.6
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	64786
Accelerometer No.2:	64789

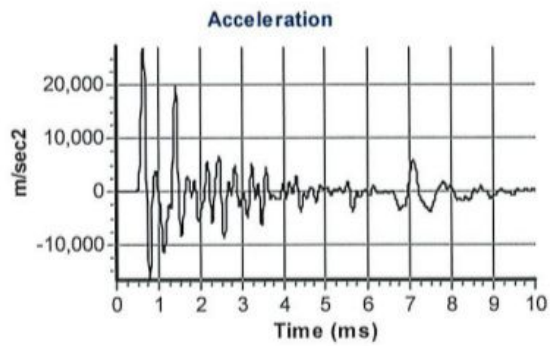
SPT Hammer Information

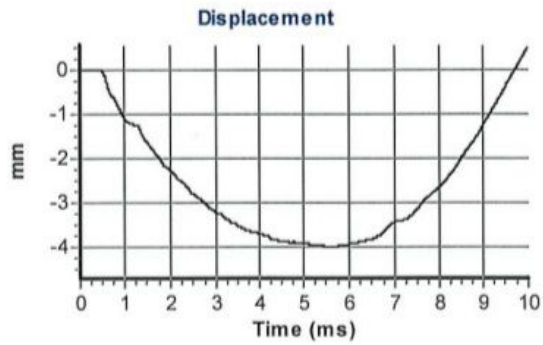
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	14.5

Comments / Location
CHARLWOODS









Calculations

Area of Rod A (mm2):	983
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	269

Energy Ratio E_r (%): **57**

N P Burrows

Signed: N P Burrows
Title: Field Operations Manager

The recommended calibration interval is 12 months

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING (UK) LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	AR3828
Test Date:	16/12/2021
Report Date:	16/12/2021
File Name:	AR3828.spt
Test Operator:	JL

Instrumented Rod Data

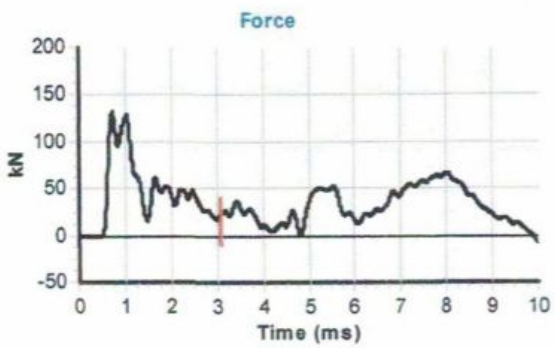
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.0
Assumed Modulus E_a (GPa):	200
Accelerometer No.1:	7080
Accelerometer No.2:	11609

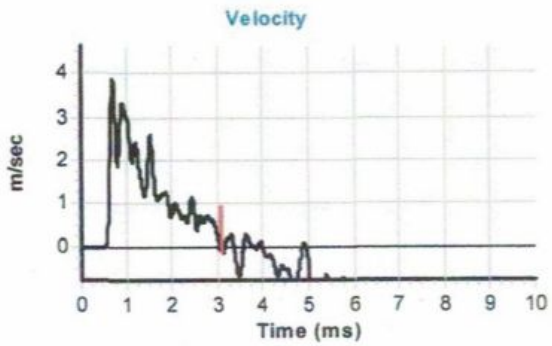
SPT Hammer Information

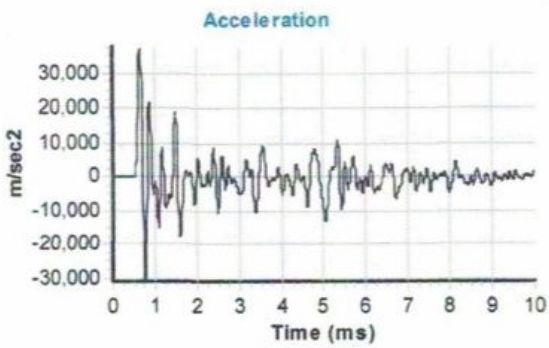
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	10.0

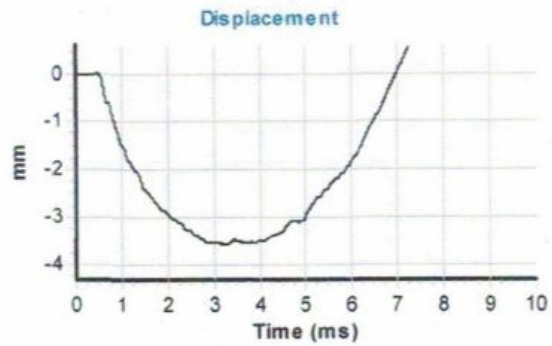
Comments / Location

SDA SITE INVESTIGATION LTD - 78525









Calculations

Area of Rod A (mm2):	905
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	284

Energy Ratio E_r (%): **60**

Signed: J.LOCK

Title: FITTER

The recommended calibration interval is 12 months

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005 +A1:2011

James and Milton Drilling Ltd
63 Fakenham Road
Great Ryburgh
NR21 7AW

SPT Hammer Ref:	CC03..
Test Date:	26/02/2022
Report Date:	01/03/2022
File Name:	CC03.spt
Test Operator:	RW

Instrumented Rod Data

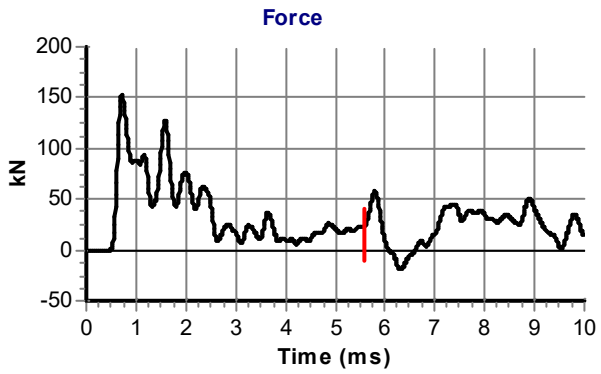
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.6
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	63177
Accelerometer No.2:	63178

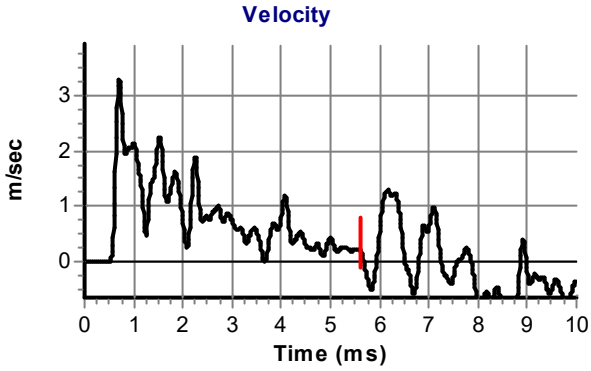
SPT Hammer Information

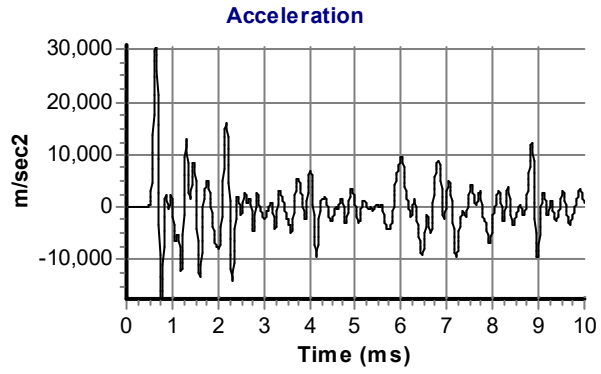
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	13.7

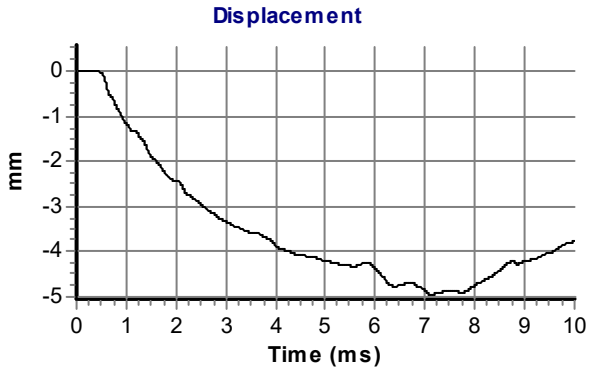
Comments / Location

CC YARD









Calculations

Area of Rod A (mm2):	983
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	289

Energy Ratio E_r (%): **61**

Signed: Richard Walter BEng (Hons)

Title: Drilling Manager (J&M Drilling Ltd)

Appendix C – Cone Penetration Testing (CPT) Report

IN SITU
SITE INVESTIGATION

STATIC CONE PENETRATION TEST

FACTUAL REPORT

CLIENT: Delta Simons

PROJECT: Corby EFW

Project	**Corby EFW**
Project No.	**1220144**
Client	**Delta Simons**
Address	**3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR**

Attention: Mr Harry Whittle

Dear Mr Whittle,

We have pleasure in providing a digital copy of our report and data in AGS format for the above project.

We hope that you are satisfied with the performance of our staff, equipment and reporting on this project. If you should have any queries about any aspect of the works carried out, please do not hesitate to contact us. We look forward to being of service to you in the future.

Yours faithfully,

In Situ Site Investigation Limited

Darren Ward

Director

Report Issue

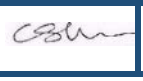
Issue	Date	Prepared	Sign	Checked	Sign	Approved	Sign
01	21/02/2022	Chloe Donovan		Luisa Dhimitri		Darren Ward	

Table of Contents

1.0 INTRODUCTION

In Situ Site Investigation Limited (In Situ) was engaged in a geotechnical site investigation at Corby EFW at the request of Delta Simons. The site investigation consisted of completing 20 Static Piezocone Penetration Tests (CPTU) and 1 Seismic Dilatometer Marchetti Tests (SDMT) to provide information on the soil conditions and derived geotechnical parameters at:

Shelton Road,
Willowbrook East Industrial Estate,
Corby
NN17 5XH

All test locations were provided by the client. A site map is included in the end of Appendix A of this report (if provided by the client). The tests were stopped when they reached the target depth as per the client's technical specifications or for other technical reasons, as detailed in the *Project Summary Table* in *Appendix A.1* and on each CPTU log included in Appendix B of this report.

The fieldwork was carried out from 9th February 2022 to 11th February 2022 as per the client's request.

The work on site and the final factual reporting have been undertaken in accordance with the international technical standard *BS EN ISO 22476-1:2012*.

2.0 FIELDWORK

2.1 CONE PENETRATION TESTS

The fieldwork activity is summarised in Table 2.1.

Table 2.1 Fieldwork Summary	
CPT Operator/s	Tom Rademaker
Date Started	9th February 2022
Date Finished	11th February 2022
In Situ S.I. Project Manager	Darren Ward
Main Contractor's Site Manager	Robert Stafford

2.1.1 Rig Information

Details of CPTU rig used in this project are shown in Table 2.2. Full data sheet for the rig is presented in *Appendix A.2*.

Table 2.2 Rig Summary	
Rig Name	**Rig Description**
CPT016	20 Tonne Wheel Mounted CPT Rig

2.1.2 CPTU Cone

Details of electric CPTU cones (Type TE2) used in this project conforming to the requirements of Application Class 2 of *ISO 22476-1:2012*, are shown in Table 2.3.

Table 2.3 Cone Summary		
Number	**Cross-section area**	**Filter position**
S15-CFIP.1867	15cm^2	u_2
DP10-CFPTxy.60154	10cm^2	

A full datasheet of the cones used are shown in *Appendix A.3*.

The cone's measured parameters are shown in Table 2.4.

Table 2.4 Completed Fieldwork Summary
20 CPTU to a maximum depth of 29.02m. Each test measured Cone Resistance, q_c, Sleeve Friction, f_s, Porewater Pressure in the shoulder position, u_2, Inclination in X and Y axes.
Provision of factual report with estimated soil type, derived geotechnical parameters & AGS data file.

2.1.3 CPTU Cone Calibration

The cone resistance and sleeve friction are recorded by calibrated load cells in the cone. The CPTU load cells and pressure transducers are regularly calibrated in line with *ISO 22476-1:2012* standard by the cone manufacturer. The cone calibration certificate for the cone used at this site are presented in *Appendix A.4*.

2.1.4 CPTU Cone Saturation

The pore water pressure is recorded using a calibrated pressure transducer located in the piezocone. To ensure pore water pressure measurements are not affected by the presence of air in the measuring transducer, a de-airing procedure is carried out prior to each test. The cone and filter are saturated using a glycerine fluid with a viscosity of 10,000 CST.

2.1.5 Test Procedure

The tests are carried out in accordance with the *International Standard for Electrical Cone and Piezocone Penetration Test (ISO 22476-1:2012)*.

The final depths of the tests were determined by either completion to the specified test depth or when the maximal safe capacity of the equipment was reached. A schedule of the tests performed is shown in *Appendix A.1*, which has been compiled from the operators' daily progress reports.

The data is transmitted from the digital CPTU through an umbilical cable that runs through the push rods to the data acquisition system. Results are displayed instantaneously on the computer logging screen. The results are recorded on the computer hard disc.

The rate of penetration is kept constant at 20 mm/s ± 5 mm/s except when penetrating very dense or hard strata. Before each test is carried out zero values are taken of the cone to check if it is within calibration. At the end of each test, zero values are taken again to see if there has been any drift during the test. These values are inspected during the post processing stage. This is a quality check on the data and the testing procedure. Individual test zero values are shown on their corresponding test results in *Appendix B*.

2.1.6 In Situ Pore Pressure (u_0)

The in situ or hydrostatic pore pressure is required for the calculation of several derived parameters included in this report. For this report, the groundwater level is assumed at 2.00 m below ground surface, for calculation purposes. The in situ pore pressure (u_0) values are presented on the pore pressure plot, on *CPT Log 01,* which is included in *Appendix B*.

2.2 POSITIONING

Positioning and surveying of all investigated locations was the responsibility of the client.

2.4 SEISMIC TESTS

The shear wave velocity, V_s data was measured every 50 cm, by using Seismic Dilatometer Marchetti, *SDMT* probe. Results of the tests are shown in *CPT Log 06, Appendix B* also in Appendix C, where a SDMT report generated from SDMT software is included.

2.3.1 S Wave Test Procedure

SDMT tests are carried out in accordance with *ASTM D7400-14* standard and ISSMGE TC10 guideline (*Butcher et al., 2015*). The seismic module is a tubular element equipped with two S wave receivers, at a distance of 0.5 m and two P wave receivers at a distance of 0.604 m apart. The test interval varies from 0.5m to 1m depending on the client's requirements.

The S wave is generated at the ground surface by hitting a steel beam that sits under the tracks of the CPT rig with a hammer. The S wave reaches the upper and then the lower receivers and V_S is obtained by the following formula and Figure 2.1:

$$V_s = \frac{S_2 - S_1}{\Delta t}$$

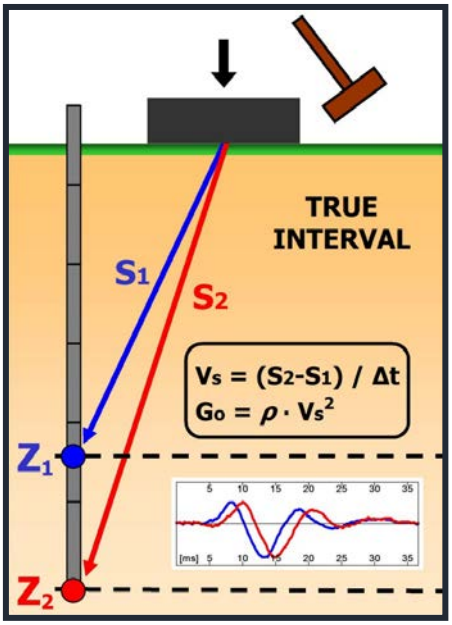


***Figure 2.1**: Test procedure to obtain Vs.*

This process is carried out 3 times and if the coefficient of variation is less than 10% then the test is accepted. If it is more than 10% further hits are taken until the variation is less than 10%.

Once collected the Vs is calculates by re-phasing the S2 wave over the S1 wave as shown in Figure 2.2. All Vs results are presented alongside the CPT results in *Appendix B*. All seismogram data and tabular data are presented in *Appendix C*.

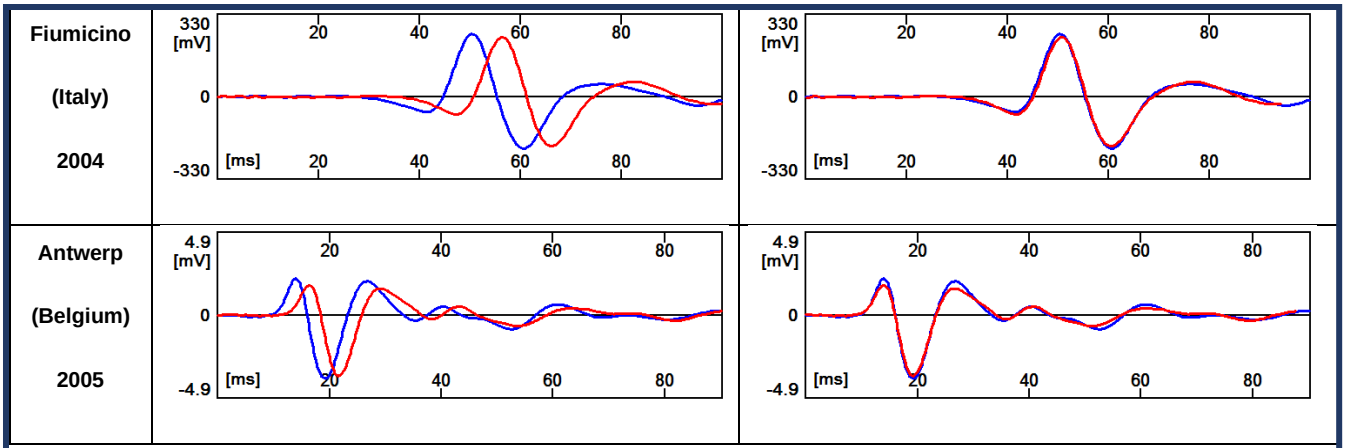


***Figure 2.2**: Vs wave re-phasing.*

3.0 CONE PENETRATION MEASURED PARAMETERS

All measured parameters of tests carried with the CPTU cone are shown in *Appendix B* and all the information about data processing and results are given in sections *3.1*, *3.2* and *3.3*.

3.1 DATA PROCESSING

The measured parameters, cone end resistance, q_c, sleeve friction, f_s, porewater pressure measurements with filter in shoulder position, u_2 and inclination for *x* and *y* axis, I_x, I_y, were recorded for every *10 mm* of penetration keeping a constant speed of *20 mm/s ± 5 mm/s*, which may slightly change when the cone is penetrating hard strata.

The measured data from the site works is processed and presented using specialised CPT software. The interpretations on the CPTU results were carried out following the recommendations of *Lunne et al. (1997)*, *Robertson (2015)* and *BS EN ISO 22476-1:2012.* Measured parameters, mentioned in *Sections 3.2* and *3.3*, were used to derive all the geotechnical parameters, which are presented in *Chapter 4.0*. The soil behaviour type method used on this report is *Robertson et al. (1986)*, shown in *Figure 3.2*.

3.1.1 Zero Measurements

Before and after each CPTU test, zero measurements are recorded for each channel of the cone. The zero measurements are presented on the logs in *Appendix B*. This is a routine quality check carried out on site.

3.2 MEASURED PARAMETERS

3.2.1 Cone Resistance (q_c)

Cone resistance, q_c, is measured as the total force acting on the cone, divided by the projected area of the cone. The results are presented in *MPa*, on *CPT Log 01*, in *Appendix B*, scale *0-20 MPa* with a minor scale printing on the same graph at *0-4 MPa*.

3.2.2 Sleeve Friction (f_s)

Sleeve friction, f_s, is measured as the total frictional force acting on the friction sleeve divided by its surface area. The results are presented in *kPa*, on *CPT Log 01*, in *Appendix B*, using a scale of *0-500 kPa*.

3.2.3 Porewater pressure (u_2)

The pore pressure, u_2, is measured during the test. If the material is free draining and saturation is maintained it will normally measure hydrostatic pore pressure. In materials that are not free draining, it will record the total pore pressure (hydrostatic plus any excess pore pressures generated) created by the cone penetration through this material.

The filter element can be mounted in one of three positions. For all tests carried out in this project the filter was mounted in the u_2 position (see *Figure 3.1*).

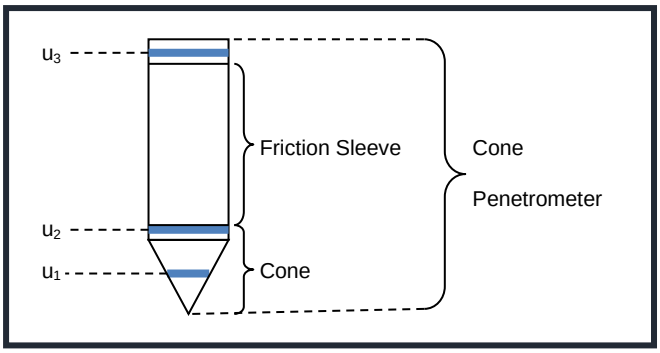


Figure 3.1: *Diagram showing pore pressure filter locations (after Lunne et al., 1997)*

3.2.4 Inclination (I_x, I_y)

The CPT rig was set up to obtain a thrust direction as near as possible to vertical. The CPTU cones have inclinometers incorporated to measure the non-verticality of the test. For test depths less than *15 m*, significant non-verticality is unusual, provided the initial thrust direction is vertical.

3.3 ESTIMATED SOIL BEHAVIOUR TYPE

3.3.1 Friction Ratio (R_f)

The friction ratio, R_f is the ratio between the sleeve friction and the cone resistance (Lunne *et al.,* 1997).

$$Fricton\ Ratio\ (R_f) = \left(\frac{Sleeve\ Friction\ (f_s)}{Cone\ Resistance\ (q_c)}\right) \times 100$$

3.3.2 Estimated Soil Behaviour Type (SBT)

The estimation of soil behaviour type, *SBT*, using measurements of cone resistance and sleeve friction is based upon the variations of the friction ratio and cone resistance. The friction

ratio varies depending upon whether the soil is cohesive or granular. The cone resistance varies depending on the strength and densities of the soil.

The interpretation used in this report is *Robertson et al. (1986)*, which is shown in Figure 3.2. The results are presented on *CPT Log 01*, in *Appendix B*.

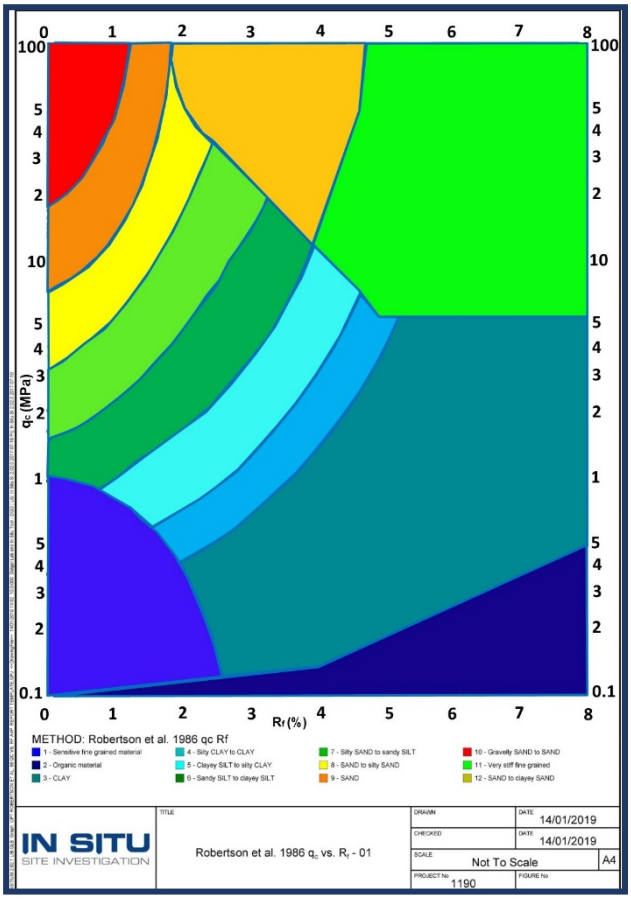


Figure 3.2: *Robertson et al., 1986 soil behaviour type chart.*

3.3.3 Pore Pressure Ratio (B_q)

Pore pressure ratio, B_q is the ratio between the measured pore pressure generated during penetration and the corrected cone resistance minus the total overburden stress.

Pore pressure ratio as defined by *Senneset and Janbu (1985)* is defined as:

$$B_q = \frac{u_2 - u_0}{q_t - \sigma_{vo}}$$

where

u_2	is pore pressure measured between the cone and the friction sleeve
u_0	is equilibrium pore pressure
σ_{vo}	is total overburden stress
q_t	is cone resistance corrected for unequal end area effects

3.4 APPLIED CORRECTIONS

3.4.1 Corrected Cone Resistance (q_t)

For each penetration test, the measured cone resistance, q_c, can be corrected for the ''unequal area effect'' due to the influence of the ambient pore water pressure acting on the cone.

The correction has been applied using the following equation by Lunne et *al.,* 1997:

$$q_t = q_c + [u_2.(1 - \alpha)]$$

where

α is the cone area ratio

The cone used on this project has a cone area ratio of *0.79*. This value is geometrically measured.

3.4.2 Depth Correction

All tests in the report have been corrected for depth difference caused by inclination. This has been calculated using the method described in *ISO 22476-1:2012*.

To calculate the corrected depth the following formula is used:

$$z = \int_0^l C_{inc} \cdot dl$$

where

z is penetration depth, in *m*
l is penetration length, in *m*
C_{inc} is correction factor for the effect of the inclination of the CPTU relative to the vertical axis.

The equation for calculating the correction factor for the influence of the inclination for a bi-axial inclinometer is:

$$C_{inc} = \frac{1}{\sqrt{(1 + tan^2\beta_1 + tan^2\beta_2}}$$

where

β_1 is the angle between the vertical axis and the projection of the axis of the CPTU on a vertical plane, in degrees
β_2 is the angle between the vertical axis and the projection of the axis of the CPTU on a vertical plane that is perpendicular to the plane of angle β_1, in degrees

4.0 GEOTECHNICAL DERIVED PARAMETERS

A number of empirical correlations can be used to derive geotechnical parameters from CPTU data. This report includes only the parameters which are described in this chapter. The results of all correlations used to obtain the geotechnical derived parameters are presented on *CPT Log 02* and *CPT Log 03* in *Appendix B*.

Please, note that each empirical correlation is derived for a certain type of soil, and may not be appropriate for all the soil types encountered on this project.

4.1 SOIL BEHAVIOUR TYPE INDEX (I_c)

The soil behaviour type index, I_c, was derived by *Jefferies and Davies (1991)*, and was created to simplify the application of CPTU SBT chart shown in *Chapter 3*, *Figure 3.2*. This approach has been modified for use with the *Robertson (1990)* normalised CPT soil classification chart, *Figure 4.1*. The normalised cone parameters Q_t and F_r (for definitions see *Appendix A5* Symbol List) can be combined into one Soil Behaviour Type Index, I_c, *(Lunne et al., 1997)*.

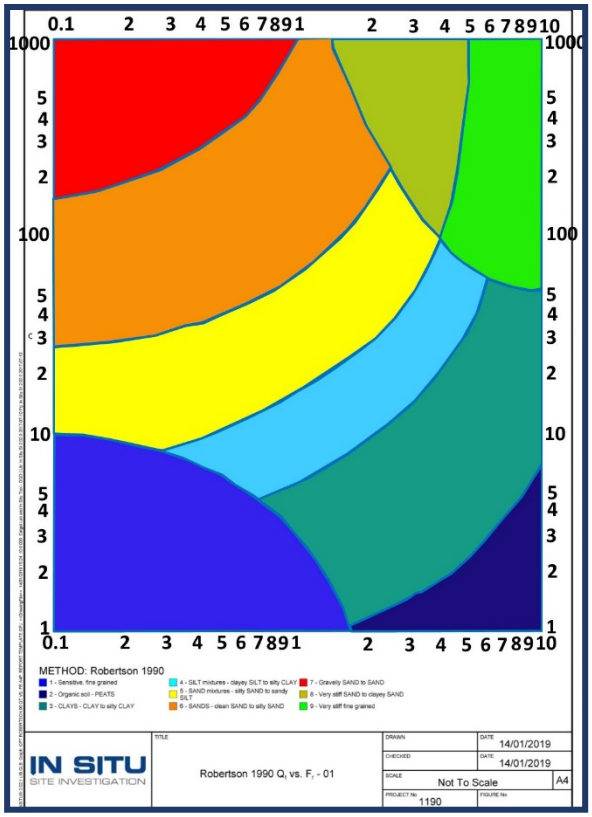


Figure 4.1: *Robertson 1990 soil behaviour type chart.*

The soil behaviour type index, I_c, can then be defined using *Robertson (2010)* formula, given below:

$$I_c = ((3.47 - logQ_t)^2 + (logF_r + 1.22)^2)^{0.5}$$

where

Q_t is the normalized cone resistance which represents the simple normalization with a stress exponent (n) of *1.0*, which applies well to clay-like soils

F_R is the normalized friction ratio, in *%*

The boundaries of soil behaviour type are then given in terms of the index, I_c, presented in *Table 4.1* below.

The soils behaviour type index does not apply to zones *1*, *8* and *9*. The profiles of I_c provide a simple guide to the continuous variation of soil behaviour type in a given soil profile based on CPTU results, with a reliability greater than *80%* compared with soil samples *(Robertson, 2015).*

Zone	Soil Behaviour Type	I_c
1	Sensitive fine grained	N/A
2	Organic Soils – clay	>3.6
3	Clays – silty clay to clay	2.95 – 3.6
4	Silt mixtures – clayey silt to silty clay	2.60 – 2.95
5	Sand mixtures – silty sand to sandy silt	2.05 – 2.6
6	Sands – clean sand to silty sand	1.31 – 2.05
7	Gravelly sand to dense sand	<1.31
8	Very stiff sand to clayey sand*	N/A
9	Very stiff fine grained *	N/A

** Heavily over consolidated or cemented*

Table 4.1: *Normalized CPTU Soil Behaviour Type (SBT_n) Index values, I_c.(Robertson, 2010)*

4.2 N VALUE OF STANDARD PENETRATION TEST (SPT) (N_{60})

The derived *N* value of *SPT,* N_{60}, is strongly and directly related to the cone resistance, q_c.

In this report the N_{60} value is derived using the following correlations, developed by *Robertson and Wride (1998)* and *Jefferies and Davies (1998)*

1) *Robertson & Wride (1998)*

$$N_{60} = \frac{q_c}{8.5 \cdot p_a \left(1 - \frac{I_C}{4.6}\right)}$$

2) *Jefferies and Davies (1993)*

$$N_{60} = \frac{q_c}{0.85 \cdot \left(1 - \frac{I_C}{4.75}\right)}$$

where

q_c	is the cone resistance
p_a	is the atmospheric pressure equal to *100 kPa*
I_c	is the soil behaviour type index calculated as given in *section 4.1*

It is suggested that this method provides a better estimation of the *N* value than the actual *SPT* test, due to its poor repeatability. But in fine grained soil with high sensitivity these methods of estimating N_{60} may overestimate it *(Jefferies and Davies, 1991).*

4.3 RELATIVE DENSITY (D_r)

Relative density, D_r, is an intermediate parameter for coarse grained soils, widely used to describe sand deposits. All the research on deriving the relative density from CPTU tests results are carried out for ***clean predominantly quartz sands***. The studies have shown that CPTU resistance in granular soils is controlled by sand relative density, in situ effective stresses and compressibility. The more compressible sands tend to give lower penetration resistance for a given relative density then less compressible sands.

In this report relative density is calculated using the methods suggested by *Baldi et al., (1986)*, *Jamiolkowski et al., (2001)* and *Kulhawy and Mayne (1990)* as shown in the equations below:

1) Baldi et al., (1986)

$$D_r = \frac{1}{C_2} \cdot ln\left(\frac{q_c \cdot Wehr}{C_1 \cdot (\sigma'_{v0})^{0.55}}\right) \cdot 100$$

where

C_1 is a consolidation coefficient which is *157* for normally consolidated soils and *181* for over consolidated soils

C_2 is a consolidation coefficient which is *2.41* for normally consolidated soils and *2.46* for over consolidated soils

Wehr is a correction coefficient for calcareous soils

2) Jamiolkowski et al., (2001)

$$D_r = 100 \cdot \left[0.268 \cdot ln\left(\frac{q_t/\sigma_{atm}}{\sqrt{\sigma'_{v0}/\sigma_{atm}}}\right) + C_1\right]$$

where

C_1 is a compressibility coefficient which is *-0.675* for average compressible soils, *≤1.0* for high compressible soils and carbonate or calcareous sands and *≥-2.0* for low compressible soils

q_t is corrected cone resistance

σ_{atm} is the atmospheric pressure

3) Kulhawy and Mayne, (1990)

$$D_r = \left[\frac{q_{c1}}{305 \cdot C_1 \cdot OCR^{0.18} \cdot \left(1.2 + 0.05 \cdot log(t/100)\right)}\right]^{0.5} \cdot 100$$

where

q_{c1} is the cone resistance corrected for initial vertical effective stress and atmospheric pressure, calculated by the following formula

$$q_{c1} = \frac{q_c}{\sqrt{\sigma'_{v0} \cdot \sigma_{atm}}}$$

where

q_c is the cone resistance in *kPa*

σ'_{v0} is the initial vertical effective stress in *kPa*

C_1 is a compressibility coefficient which is *-0.91* for low compressible sands, *1.0* for medium compressible sands and *1.09* for high compressible sands

t is time in years

4.4 FRICTION ANGLE (φ')

Friction angle, *φ*', is used to express the shear strength of uncemented, coarse grained soils. In this report friction angle is derived by the correlations of *Mayne and Campanella (2005)*, *Robertson and Campanella (1983)* and *Kulhawy and Mayne (1990)*.

1) Mayne and Campanella, (2005)

$$\varphi' = 29.5^0 \cdot B_q^{0.121} \cdot \left[0.256 + 0.336 \cdot B_q + logQ_t\right]$$

where

B_q is the pore pressure ratio, calculated as in Session 3.3

Q_t is the normalized cone resistance

2) Robertson and Campanella, (1983)

$$\varphi' = \tan^{-1}\left(0.1 + 0.38 \cdot log\left(\frac{q_t}{\sigma'_{v0}}\right)\right)$$

where

q_c is the cone resistance in *kPa*

σ'_{v0} is the initial vertical effective stress in *kPa*

3) Kulhawy and Mayne, (1990)

$$\varphi' = 17.6^0 + 11.0^0 \cdot log(q_{t1})$$

where

q_{t1} is the corrected cone resistance corrected for initial vertical effective stress and atmospheric pressure, calculated by the following formula

$$q_{t1} = \frac{q_t}{\sqrt{\sigma'_{v0} \cdot \sigma_{atm}}}$$

The method suggested by *Mayne and Campanella (2005)* will not provide reliable results for heavily over consolidated soils, fissured geomaterials and highly cemented or structures clays. This approach gives reliable results when pore pressure is positive and varies $0.1 < B_q < 1.0$. The correlation suggested by *Robertson and Campanella (1983)* estimates the peak friction angle for uncemented, unaged, moderately compressible, predominately quartz sands. For sands of higher compressibility, the method will tend to predict low friction angles. The method suggested by *Kulhawy and Mayne (1990)* is an alternate relationship for clean, rounded, uncemented, quartz sands.

4.5 FINES CONTENT (*FC*)

The fines content, *FC*, in this report is estimated using two different methods, one from *Robertson and Wride (1998)* and the other, *Suzuki et al. (1998)* as presented below:

1) Robertson and Wride (1998)

$$I_C < 1.26: FC = 0$$
$$1.26 \leq I_C \leq 3.5: FC(\%) = 1.75I_C^{3.25} - 3.7$$
$$3.5 < I_C: FC = 100\%$$

2) Suzuki et al. (1998)

$$FC(\%) = 2.8I_C^{2.6}$$

where

I_c is the soil behaviour type index, calculated as in section 4.1

4.6 UNDRAINED SHEAR STRENGTH (s_u)

Estimation of undrained shear strength, s_u, from CPTU tests using corrected cone resistance is carried out using the following correlation from *Lunne et al. (1981)*:

$$S_u = \frac{(q_t - \sigma_{v0})}{N_{kt}}$$

where

N_{kt} is the empirical cone factor, which varies from *10* (*6* for very soft sensitive fine grained soils) to *20*. In this report 3 values are considered: *15*, *17.5* and *20*. N_{kt} tends to increase with increasing plasticity and decrease with increasing soil sensitivity. It decreases as B_q increases. (*Lunne et al., 1997*)

σ_{vo} = total overburden stress.

This report only presents the undrained shear strength data on soils with soil behaviour type index, I_c values greater than *2.60*.

The value of undrained shear strength, s_u to be used in analysis depends on the design problem. In general, the simple shear in the direction of loading often represents the average undrained strength. For larger, moderate to high risk projects, where high quality field and laboratory data may be available, site specific correlations should be developed based on appropriate and reliable values of s_u.

4.7 SENSITIVITY (S_t)

The sensitivity, S_t of clays is defined as the ratio of undisturbed peak undrained shear strength to totally remoulded undrained shear strength.

In this report S_t is calculated using two correlations developed by *Schmertmann (1978)* and *Mayne (2007)*.

1) Schmertmann (1978)

$$S_t = \frac{s_u}{s_{u(rem)}} = \frac{q_t - \sigma_v}{N_{kt}} \left(\frac{1}{f_s}\right)$$

where

$s_{u(rem)}$ is the remoulded undrained shear strength. It can be assumed equal to the sleeve resistance, f_s.

2) Mayne (2007)

$$S_t = \frac{0.073 \cdot (q_t - \sigma_{v0})}{f_s}$$

For relatively sensitive clays, $S_t > 10$, the value of f_s can be very low and not very accurate, hence the estimate of sensitivity should be used as a guide only.

4.8 SOIL UNIT WEIGHT (γ)

Soil unit weight, γ in this report is calculated by using one method for sands, considered under dry conditions and two methods for clays, considered under saturated conditions. These relationships are developed by *Mayne (2007)* and the equations are presented below:

1) Mayne (2007)

Dry unit weight for sands:

$$\gamma_{dry} = 1.89 \cdot log(q_{t1}) + 11.82$$

Saturated unit weight for clays method 1

$$\gamma_{sat} = 8.32 \cdot log(V_S) - 1.61 \cdot log(z)$$

Saturated unit for clays method 2

$$\gamma_{sat} = 2.60 \cdot log(f_s) + 15 \cdot G_s - 26.5$$

where

q_{t1} is the corrected cone resistance corrected for initial vertical effective stress and atmospheric pressure, calculated by the following formula:

$$q_{t1} = \frac{q_t}{\sqrt{\sigma'_{v0} \cdot \sigma_{atm}}}$$

z is the depth

V_s is the shear wave velocity, calculated as $V_S = 118.8 \cdot log\left(f_s\right) + 18.5$

G_s is the specific gravity of solids, typically between *2.40* and *2.90*

4.9 STATE PARAMETER (ψ)

The state parameter, *ψ* is defined as the difference between the current void ratio, *e* and the void ratio at critical state e_{cs}, at the same mean effective stress for granular soils.

The problem of evaluating the state parameter from CPTU response is complex and depends on several soil parameters, including shear stiffness, shear strength, compressibility and plastic hardening. (*Jefferies and Been, 2006*)

In this report, the state parameter is calculated based on five methods as follows:

1) Been et al. (1987)

$$\psi = -\frac{ln\left(\frac{Q_p}{k}\right)}{m}$$

and

$$Q_p = \left(\frac{3Q_t}{1+2K_0}\right)$$

where

Q_t is the normalized cone resistance
K_0 is the coefficient of lateral earth pressure

2) Shuttle and Jefferies (1998)

$$\psi = -\frac{ln\left(\frac{Q_p}{k}\right)}{m}$$

where

$$k = \Big(\big(3.79 + 1.12ln(I_r)\big)\big(1 + 1.06(M - 1.25)\big)\big(1 - 0.30(N - 0.2)\big)(H/1000)^{0.326}\big(-1.55(\lambda - 0.01)\big)\Big)^{1.45}$$

$$m = 1.45\big(1.04 + 0.46ln(I_r)\big)\big(1 - 0.4(M - 1.25)\big)\big(1 - 0.30(N - 0.2)\big)(H/100)^{0.15}\big(1 - 2.21(\lambda - 0.01)\big)$$

where

Q_t is the normalised cone resistance
I_r is rigidity index
K_0 is the coefficient of lateral earth pressure
M is critical state ratio
N is dilation parameter
H is plastic hardening modulus;
λ is slope *CSL* line

3) Shuttle and Jefferies (1998)

The state parameter calculated according this third method is similar to state parameter calculated as presented in the second method, except for the rigidity index that is calculated as follows:

$$I_r = I_{r100}\left(\frac{P_a}{\sigma'_{v0}}\right)^{0.5}$$

where

I_{r100}	is rigidity index in reference pressure
P_a	is the reference pressure equal to 100 kPa
σ'_{v0}	is effective vertical overburden stress

4) Plewes (1992)

$$\psi = -\frac{ln\left(\frac{Q_p/(1-B_q)}{k'}\right)}{m'}$$

where

$$k' = M\left(3 + \frac{0.85}{\lambda}\right)$$
$$m' = 11.9 - 13.3\lambda$$
$$\lambda = \frac{F_r}{10}$$

where

Q_t	is the normalised cone resistance
B_q	is pore pressure ratio
K_0	is the coefficient of lateral earth pressure
F_R	is normalised friction ratio
M	is critical state ration

5) Been and Jefferies (1992)

$$\psi = -\frac{ln\left(\frac{Q_p/(1-B_q)}{k'}\right)}{m'}$$

where

$$k' = M\left(3 + \frac{0.85}{\lambda}\right)$$
$$m' = 11.9 - 13.3\lambda$$
$$\lambda = \frac{1}{34 - 10I_C}$$

For high-risk projects a detailed interpretation of CPTU results using laboratory results and numerical modelling can be appropriate (e.g. *Shuttle* and *Cunning*, *2007*), although soil variability can complicate the interpretation procedure. For low risk projects and in the initial screening for high-risk projects there is a need for a simple estimate of soil state.

Plewes et al (1991) provided a mean to estimate soil state using the normalised soil behaviour type, *SBTn* chart suggested by *Jefferies and Davies (1991)*. *Jefferies and Been (2006)* suggested that soils with a state parameter less than *-0.05* are dilative at large strains.

4.10 IN SITU STRESS RATIO (K_0)

There are various estimations to determine in situ stress ratio, K_0, from CPTU in fine grained soils. In this report the methods suggested by *Mayne (2007)* and *Kulhawy and Mayne (1990)* are used, as given below:

1) Mayne (2007)

$$K_0 = (1 - sin\varphi')OCR^{sin\varphi'}$$

$$Max\ K_0 = K_p = \frac{(1 + sin\varphi')}{(1 - sin\varphi')}$$

$$K_0 = 0.192\left(\frac{q_t}{\sigma_{atm}}\right)^{0.22}\left(\frac{\sigma_{atm}}{\sigma_{v0}}\right)^{0.22}OCR^{0.27}$$

where

OCR is the overconsolidation ratio, calculated as presented in session *4.12*

2) Kulhawy and Mayne (1990)

$$K_0 = 0.1\left(\frac{q_t - \sigma_{v0}}{\sigma_{v0}'}\right)$$

These approaches are generally limited to mechanically overconsolidated, fine grained soils. As considerable scatter exits in the database used for these correlations, in moderate to high risk projects further tests should be performed and these correlations must be considered only as a guide.

4.11 OVERCONSOLIDATION RATIO (OCR)

Overconsolidation ratio, *OCR* is defined as the ratio of the maximum past effective consolidation stress and the present effective overburden stress:

$$OCR = \frac{\sigma'_p}{\sigma'_{v0}}$$

This definition is appropriate for mechanically overconsolidated soils, where the only change has been the removal of overburden stress. For cemented and aged soils, the *OCR* may represent the ratio of the yield stress and the present effective overburden stress.

In this report σ'_p is calculated based on six methods as presented below:

1) Mayne (1995)

$$\sigma'_p = 0.33(q_t - \sigma_{v0})$$

2) Chen and Mayne (1996)

$$\sigma'_p = 0.53\Delta u$$

3) Mayne (2005)

$$\sigma'_p = 0.6(q_t - u_2)$$

4) Robertson (2009)

$$\sigma'_p = 0.25(Q_t^{1.25} - \sigma'_{v0})$$

5) Mayne (2005)

$$\sigma'_p = \left[\frac{0.192\left(\frac{q_t}{\sigma_{atm}}\right)^{0.125}}{(1 - sin\varphi')\left(\frac{\sigma'_{v0}}{\sigma_{atm}}\right)^{0.31}}\right]^{\left(\frac{1}{sin\varphi' - 0.27}\right)}\sigma'_{v0}$$

6) Mayne (2007)

$$\sigma'_p = 0.101\sigma_{atm}^{0.102}(G_0)^{0.478}\sigma'^{0.420}_{v0}$$

For larger, moderate to high risk projects, where additional high-quality field and laboratory data may be available, site specific correlations should be developed based in consistent and relevant values of *OCR*.

4.12 SMALL STRAIN YOUNG'S MODULUS (E_0)

Deriving small strain undrained Young's modulus, E_0, from CPTU is difficult. There is insufficient data available to make a direct correlation and it is recommended that c_u should be derived, then E_U estimated as a rough order of value from one of the available correlations between E_U and c_u (*Meigh, 1987*).

In this report the small strain Young's modulus is derived as follows:

1) Defined from elastic theory:

$$E_0 = 2(1 + \nu)G_0$$

where

v is the Poisson ratio, equal to *0.2*

G_0 is the small strain shear modulus calculated by the formula given below:

$$G_0 = 1634(\frac{q_c}{\sqrt{\sigma'_{v0}}})^{-0.75} q_c$$

2) Calculated based on the degree of loading, q_c, effective stress and reduction factor

$$E_0 = \alpha q_c$$

where

α is calculated from degree of loading, q_c, effective stress and reduction factor, given in *Figure 4.2*

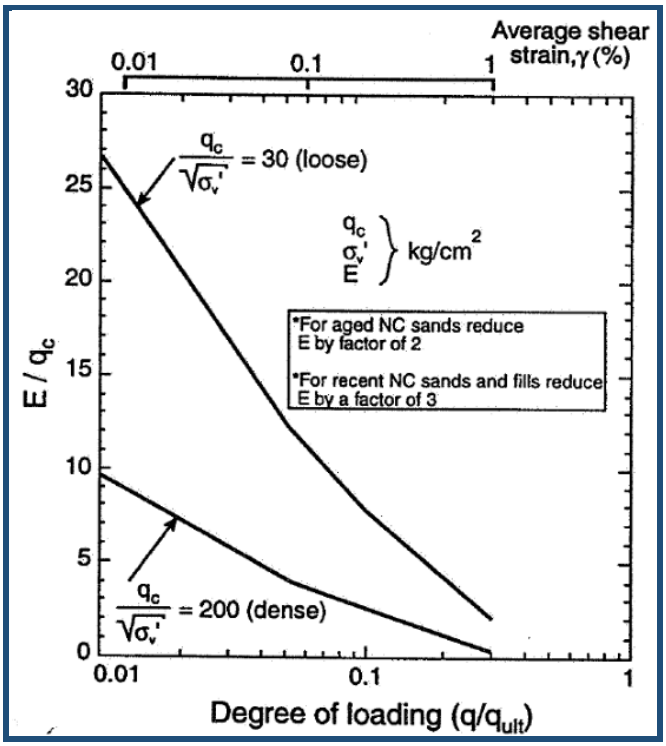


Figure 4.2: *Estimation of equivalent Young's modulus for sand based on degree of loading (Robertson, 1990)*

4.13 CONSTRAINED MODULUS (M)

Constrained Modulus, *M*, can be estimated by CPTU using the following empirical relationship:

$$M = \alpha_M (q_t - \sigma_{v0})$$

where

α_M varies with soil plasticity and natural water content for a wide range of fine-grained soils and organic soils. *Meigh (1987)* suggested that α_M lies in the range of *2 to 8*, whereas *Mayne (2001)* suggested the value of *5*.

Robertson (2001) suggested that α_M varies with Q_t, such that:

When $I_c > 2.2$ (fine grained soils) use: $\alpha_M = Q_t$ when $Q_t < 14$

$\alpha_M = 14$ when $Q_t > 14$

When I_c < *2.2* (coarse grained soils) use: $\alpha_M = 0.0188[10^{(0.55I_c+1.68)}]$

In this report the Constrained Modulus, *M*, is calculated after *Kulhawy and Mayne (1990)* using the equation below:

$$M = 8.25(q_t - \sigma_{v0})$$

Also, an alternative method is included in the results, developed by *Burns and Mayne (2002)* using the following relationship:

$$M = 0.02G_0$$

4.13.1 Equivalent Oedometer Coefficient of Compressibility (mv)

Equivalent oedometer coefficient of compressibility, m_v can be calculated directly by the Constrained Modulus, *M*, as follows:

$$m_v = \frac{1}{M}$$

4.14 SMALL STRAIN SHEAR MODULUS (G_0)

Elastic theory states that the small strain shear modulus, G_0, can be determined from the following equation:

$$G_0 = \rho v_s^2$$

where

ρ	is the mass density of the soil
v_s	is the shear wave velocity

In this report the small strain shear modulus, G_0, will be presented calculated by the two methods shown below, developed by *Rix and Stoke (1992)* and *BE, UB Rix* and *Stoke (1992)*, respectively.

$$G_0 = 1634\left(\frac{q_c}{\sqrt{\sigma'_{v0}}}\right)^{-0.75} q_c$$

$$G_0 = \frac{\gamma_{bulk}}{g} v_s^2$$

where

q_c	is the net cone tip resistance in kPa
σ'_{v0}	is the effective initial vertical stress in kPa
γ_{bulk}	is the bulk density of the soil
v_s	is the shear wave velocity

This correlation of G_0 is applicable to all soil types.

4.14.1 Mass Density of Soil (ρ)

Mass density of soil, ρ, is defined as:

$$\rho = \frac{\gamma}{g}$$

where

γ is the elastic stiffness of the soils at shear strain less than 10^{-4} %, $\gamma < 10^{-4}$ %.

4.15 HYDRAULIC CONDUCTIVITY (k)

An approximate estimate of soil hydraulic conductivity or coefficient of permeability, *k*, can be made from an estimate of soil behaviour type using the CPTU *SBT chart* as presented in the table below:

SBT Zone	SBT	Range of k (m/s)	SBT_n I_c
1	Sensitive fine grained	$3x10^{-10}$ to $3x10^{-8}$	NA
2	Organic soils-clay	$1x10^{-10}$ to $1x10^{-8}$	I_c>3.60
3	Clay	$1x10^{-10}$ to $1x10^{-9}$	2.95<I_c<3.60
4	Silt Mixture	$3x10^{-9}$ to $1x10^{-7}$	2.60<I_c<2.95
5	Sand Mixture	$1x10^{-7}$ to $1x10^{-5}$	2.05<I_c<2.60
6	Sand	$1x10^{-5}$ to $1x10^{-3}$	1.31<I_c<2.05
7	Dense sand to gravelly sand	$1x10^{-3}$ to 1	I_c<1.31
8	*Very dense/ stiff soil	$1x10^{-8}$ to $1x10^{-3}$	NA
9	*Very stiff fine grained soil	$1x10^{-9}$ to $1x10^{-7}$	NA

**Overconsolidated and/ or cemented*

Table 4.2: *Estimated soils' permeability (k) based on the CPTU SBT chart by Robertson (2009)*

The average relationship between soils' permeability, *k* and SBT_n I_c, shown in *Table 4.2*, can be represented by the following relationships:

When $1.0 < I_c \leq 3.27$ $\quad k = 10^{(0.952-3.04I_c)}$

When $3.27 < I_c \leq 4.0$ $\quad k = 10^{(-4.52-1.37I_c)}$

In this report, the hydraulic conductivity is estimated as a function of soil types from 2 CPTU classification charts, *Robertson et al. (1986)* and *Robertson et al. (1990)*, considering both minimum and maximum values.

The hydraulic conductivity (coefficient of permeability), *k*, values (minimum and maximum), defined after soils' behaviour type by *Robertson et al. (1986)* are presented in *Table 4.3*, below:

SBT Zone	Soil Behaviour Type (SBT)	Range of hydraulic conductivity, *k (m/s)*
1	Sensitive fine grained	$3x10^{-9}$ to $3x10^{-8}$
2	Organic soils	$1x10^{-8}$ to $1x10^{-6}$
3	Clay	$1x10^{-10}$ to $1x10^{-9}$
4	Silty CLAY to CLAY	$3x10^{-9}$ to $1x10^{-8}$
5	Clayey SILT to silty CLAY	$1x10^{-8}$ to $1x10^{-7}$
6	Sandy SILT to clayey SILT	$1x10^{-7}$ to $1x10^{-6}$
7	Silty SAND to sandy SILT	$1x10^{-5}$ to $1x10^{-6}$
8	SAND to silty SAND	$1x10^{-5}$ to $1x10^{-4}$
9	SAND	$1x10^{-4}$ to $1x10^{-3}$
10	Gravelly SAND to SAND	$1x10^{-3}$ to 1
11	Very stiff fine grained	$1x10^{-8}$ to $1x10^{-6}$
12	SAND to clayey SAND	$3x10^{-7}$ to $3x10^{-4}$

Table 4.3: *Estimated soil permeability (k) based on SBT chart by Robertson et al. (1986)*

The hydraulic conductivity (coefficient of permeability), *k* values (min and max), defined after soils' behaviour type by *Robertson et al. (1990)* are presented in *Table 4.4*, below:

SBT Zone	Soil Behaviour Type (SBT)	Range of hydraulic conductivity, *k (m/s)*
1	Sensitive fine grained	$3x10^{-9}$ to $3x10^{-8}$
2	Organic soils	$1x10^{-8}$ to $1x10^{-6}$
3	Clay	$1x10^{-10}$ to $1x10^{-9}$
4	Silt Mixture	$3x10^{-9}$ to $1x10^{-7}$
5	Sand Mixture	$1x10^{-7}$ to $1x10^{-5}$
6	Sand	$1x10^{-5}$ to $1x10^{-3}$
7	Gravelly sands to dense sands	$1x10^{-3}$ to 1
8	Very stiff sand to clayey sand	$1x10^{-8}$ to $1x10^{-6}$
9	Very stiff fine grained	$1x10^{-8}$ to $1x10^{-6}$

Table 4.4: *Estimated soils' permeability (k) based on SBT chart by Robertson et al. (1990).*

4.16 RIGIDITY INDEX (IR)

The rigidity index, I_R, for fine grained soils is defined using the following formula, developed by *Mayne (2001)*:

$$I_R = \exp\left[\left(\frac{1.5}{M} + 2.925\right)\left(\frac{q_t - \sigma_{v0}}{q_t - u_2}\right) - 2.925\right.$$

where

M is the Cam-Clay constant, slope of the critical state line defined as:

$$M = \frac{6sin\varphi'}{3 - sin\varphi'}$$

where

φ' is the internal friction angle.

The second method used to define the rigidity index, I_R, for fine grained soils is based on plasticity index and overconsolidation ratio, *OCR* and calculated after the relationship developed by *Keaveny and Mitchell (1986)* as follows:

$$I_R = \frac{\exp\left(0.0435(137 - PI)\right.}{[1 + \ln\{1 + 0.385(OCR - 1)^{3.2}\}]^{0.8}}$$

where

PI is the plasticity index of the soil, equal to 20.
OCR is the overconsolidation ratio of the soil

4.17 CORRELATED SHEAR WAVE VELOCITY (V_S)

Correlated Shear wave velocity, V_s in this report is estimated after Mayne (2006), Hegazy and Mayne (1995), Mayne and Rix (1995) and Baldi et al. (1989) as follows:

1) Mayne (2006)

$$V_s = 118.8 log f_s + 18.5$$

where

f_s is *in kPa*

2) Hegazy and Mayne (1995)

$$V_s = (10.1 log q_t - 11.4)^{1.67}\left(\frac{f_s}{q_t} \cdot 100\right)^{0.3}$$

where

q_t, f_s are *in kPa*

3) Mayne and Rix (1995)

$$V_s = 1.75(q_t)^{0.627}$$

where

q_t is *in kPa*

4) Baldi et al. (1989)

$$V_s = 277(q_t)^{0.13}(\sigma'_{v0})^{0.13}$$

where

q_t, σ'_{v0} are *in kPa*

5.0 CPTU RESULTS APPLICATIONS

5.1 SOIL PROFILING AND APPLICATIONS IN GEOTECHNICAL DESIGN

5.1.1 Soil Behaviour Type

The major applications of CPTU are on *soil behaviour type and soil profiling*. Typically, the cone resistance, q_c is high in sands and low in clays, and the friction ratio, $R_f = f_s/q_t$ is low in sands and high in clays. The CPTU cannot be expected to provide accurate predictions of soil type based on *physical characteristics,* e.g. *grain size distribution*, but provides a guide to the *mechanical characteristics*, including: *strength*, *stiffness*, and *compressibility* of the soils, or the *soil behaviour type*, *SBT*.

The most commonly used CPTU soil behaviour type chart, suggested by *Robertson et al. (1986)* uses the basic CPTU measured parameters of cone resistance, q_c and friction ratio, R_f. The chart is global in nature and can provide reasonable predictions of soil behaviour type for CPTU testing. The expected overlap in some zones is modified in the interpretations of this report somewhat based on previous experience or local knowledge of the site.

Since both the penetration resistance and sleeve resistance increase with depth due to the increase in effective overburden stress, the CPTU data requires normalization for overburden stress for very shallow and/or very deep tests. A popular CPTU soil behaviour chart based on normalized CPTU data is firstly proposed by *Robertson (1990)*. The chart identifies general trends in ground response, such as: *increasing soil density*, *OCR*, *age* and *cementation* for granular soils, and *increasing stress history*, *OCR* and *soil sensitivity* for cohesive soils.

A more general normalized CPTU *SBT* chart, using large strain *soil behaviour* descriptions, proposed by *Robertson (2012)* is shown in *Figure 5.1*.

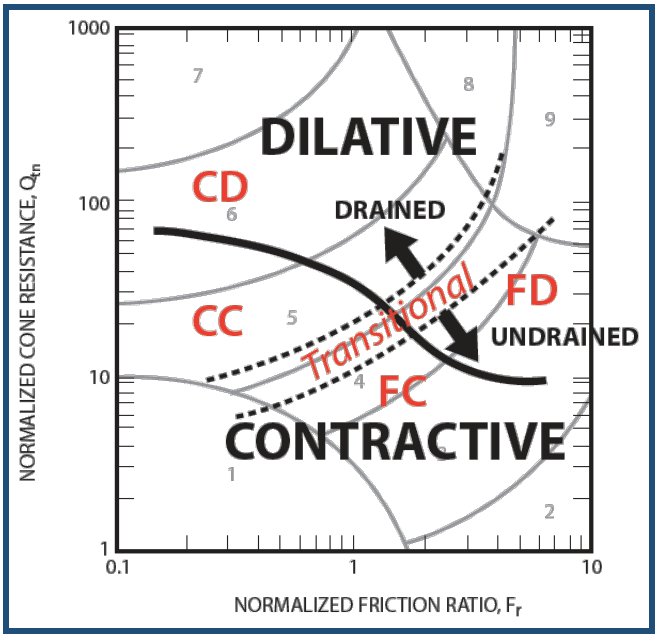


Figure 5.1: Normalized CPTU Soil Behaviour Type (SBT_n) chart, Q_{tn}-F_R using general large strain soil behaviour description (Robertson, 2012).

*

CD	is coarse grained dilative soil-predominately drained CPTU
CC	is coarse grained contractive soil-predominately drained CPTU
FD	is fine grained dilative soil-predominately undrained CPTU
FC	is fine grained contractive soil-predominately undrained CPTU

5.1.2 Soil Profiling

CPTU is an excellent test for soil profiling. The continuous monitoring of pore pressure during the cone penetration improves the soil stratigraphy descriptions. The pore pressure develops in response to the soil type being penetrated in the area where the pore pressure element is located. Soft, firm or stiff clays and contractive silts can show very high pore pressure. Very stiff overconsolidated clays and dilative silts can give very low or negative pore pressures same as very dense silty sands.

The thin layers of sand, or silt in a thick layer of clay, or thin layers of clay or silt in a thick layer of sand are easily distinguished during a CPTU test, which will give a response time sufficiently fast to observe pore pressure changes even in the very thin layers of soils (< *5mm*), depending on the response of soil to the advancing of cone.

The sandy soils tend to produce high cone resistance and low friction ratio, whereas soft clayey soils tend to produce low cone resistance and high friction ratio. Organic soils such as peat tend to have very low cone resistance and very high friction ratio. Soils with high horizontal stresses (*high OCR*) tend to have higher cone resistance and friction ratio.

CPTU is an excellent tool to classify the soils based on their behaviour type, and not based on grain size distribution.

The measurement of sleeve friction, f_s is often less reliable than the measurement of cone resistance, q_c (*Lunne et al., 1986*), but to overpass these problems pore pressure parameter ratio, B_q, and the classification charts based on it.

For more reliability in soil profiling, the soil interpretations in this report are carried out based on three parameters measured on site, cone resistance, sleeve friction and pore pressure and three derived geotechnical parameters soil behaviour type index for all soils, undrained shear strength for cohesive soils and relative density for granular soils.

Generally, soils that fall in zones *8*, *9* and *10* of *Robertson et al. (1986)* chart (*6* and *7* of *Robertson (1990)* chart) represent approximately drained penetration, whereas, soils in zones 1, 2, 3, 4, 5 and 6 of *Robertson et al. (1986)* chart (1, 2, 3 and 4 of *Robertson (1990)* chart) represent approximately undrained penetration. Soils in zones 7, 11 and 12 of *Robertson et al. (1986)* (5, 8 and 9 of *Robertson (1990)* chart) may represent partially drained penetration. The classification is often influenced by changes in *stress history*, *in situ stresses*, *sensitivity*, *stiffness*, *mineralogy*, etc. An advantage of pore pressure measurements during cone penetration is the ability to evaluate drainage conditions more directly. (*Lunne et al., 1997*)

The information about the rate and manner of excess pore pressures during the dissipations significantly helps the accurate classification in the corresponding depths of dissipation tests. In very stiff, overconsolidated clayey soils, the pore pressure behind the cone is very low and sometimes negative of the equilibrium pore pressure, u_0, whereas the pore pressure on the face of the cone is very large due to the large increase in normal stresses created by the cone penetration. When penetration is stopped in overconsolidated clays, pore pressure recorded behind the cone may initially increase before decreasing to the equilibrium pore pressure. The rise is caused by local equalization of the high pore pressure gradient around the cone.

Cone penetration in fine grained soils, such as clays and silts, is generally undrained. Cone penetration tests under undrained conditions generate high pore pressure and this reading is extremely useful, because it affects both cone resistance and sleeve friction measurements. These parameters should be corrected using the measured pore pressure.

CPTU in coarse gained soils, such as sandy or gravelly soils is generally drained. In these conditions there is no excess pore pressure generated as a result of cone penetration. Relative density has been used as the main parameter for description of sandy deposits.

5.1.3 Applications in geotechnical design

CPTU measured parameters are used to derive geotechnical parameters, which are the input in several geotechnical analyses. An alternate approach is to directly apply CPTU results to the geotechnical calculations.

As a guide, *Table 7.1* shows a summary of the applicability of CPTU results for direct design applications. The ratings shown in the table have been assigned based on current experience and represent a qualitative evaluation of the confidence level assessed to each design problem and general soil type. Details of ground conditions and project requirements can influence these ratings.

Type of soil	Pile Design	Bearing Capacity	Settlement	Compaction Control	Liquefaction
Sand	A-B	A-B	B-C	A-B	A-B
Clay	A-B	A-B	B-C	C-D	A-B
Intermediate Soils	A-B	B-C	B-C	B-C	A-B

Table 5.1: *Perceived applicability of CPTU for various direct design problems.*

A is high
B is high to moderate
C is moderate
D is moderate to low

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APPENDIX A

APPENDIX A1 – Project Summary Sheet

Piezocone Tests Summary Sheet

HOLE ID	Final Depth (m)	Date of Test	Cone Used	Test Remarks
CPT01	6.18	09/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT01A	14.61	09/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT02	18.69	09/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT03	2.06	10/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT03A	18.62	10/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT04	18.82	10/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT05	10.66	10/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT05A	18.39	10/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT06	1.70	09/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT06A	1.28	09/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT06B	2.48	10/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT07	18.85	10/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT08	4.27	09/02/2022	S15-CFIP.1867	Test refused on inclination.
CPT08A	17.82	09/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT09	23.29	09/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT10	16.86	10/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT11	18.27	10/02/2022	S15-CFIP.1867	Test refused on tip resistance.
CPT12	9.65	09/02/2022	S15-CFIP.1867	Test refused on inclination.
CPT12A	17.18	09/02/2022	S15-CFIP.1867	Test refused on tip resistance.
SCPT	29.02	11/02/2022	DP10-CFPTxy.60154	Test refused on tip resistance.

Piezocone Test Coordinates

HOLE ID	Eastings	Northings	Elevation
CPT01	490888.44	290863.51	106.56
CPT01A	490888.44	290863.51	106.56
CPT02	490949.52	290883.38	106.11
CPT03	491001.39	290915.22	105.72
CPT03A	491001.39	290915.22	105.72
CPT04	490956.09	290835.72	105.14
CPT05	491009.42	290857.94	104.53
CPT05A	491009.42	290857.94	104.53
CPT06	490993.29	290892.52	105.63
CPT06A	490993.29	290892.52	105.63
CPT06B	490993.29	290892.52	105.63
CPT07	491084.70	290876.35	104.07
CPT08	490892.03	290837.38	106.23
CPT08A	490892.03	290837.38	106.23
CPT09	490918.12	290906.18	106.87
CPT10	491027.58	290924.64	105.48
CPT11	491050.41	290872.44	104.30
CPT12	490922.10	290829.93	105.49
CPT12A	490922.10	290829.93	105.49
SCPT	490984.81	290849.71	105.22

APPENDIX A2 – CPT Rig Datasheet

RIGS

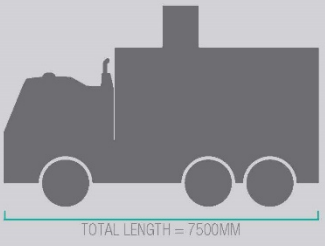
22 TONNE CPT WHEEL MOUNTED RIG (CPT 016)

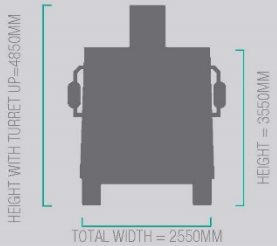
This 6 x 6 wheeled drive CPT rig is ideal for geotechnical testing on hardstanding sites such as roads and car parks. It can also be used on dry non-hardstanding sites making it one of our versatile rigs as it can be deployed to many different types of site. It weighs 22 tonnes and can push up to 100-150 metres per day, depending on the ground conditions.

CPT RIG DETAILS

DRIVE SYSTEM	6x6 WHEEL DRIVE
TOTAL WEIGHT	22 TONNES
GROUND BEARING PRESSURE	56kPa
CPT RAM THRUST CAPACITY	20 TONNES
MAXIMUM PENETRATION	30-40M DEPENDING ON THE GROUND CONDITIONS.
PERFORMANCE RATES	100-150M OF TESTING IN A DAY, DEPENDING ON ACCESS TO POSITIONS.
TYPICAL SITES FOR THIS RIG	HARDSTANDING SITES, E.G. ROADS INCLUDING MOTORWAYS, CAR PARKS AND DOCKS. DRY NON-HARDSTANDING SITES.

CPT RIG DIMENSIONS





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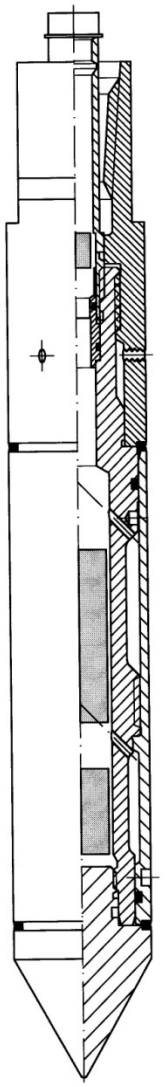
APPENDIX A3 – Cone Datasheet

GeoPoint Systems bv
Rijksstraatweg 22F
2171 AL Sassenheim
Tel. : +31 71 301 92 51
Fax : +31 71 301 92 52
E-mail : info@geopoint.nl
ING bank : 68.23.01.396
Postbank : 5226758
BTW nr. : NL806331677B01



SPECIFICATIONS S15 SERIES ELECTRICAL CONES

The electronic subtraction cones have been developed to address the durability problems inherent in other cone designs. The unit consists of a single element temperature compensated strain gauge transducer for measuring both cone resistance and local sleeve friction. This design is therefore more robust than a compression type cone. The cone support electronics package is located directly behind the transducer. The precision strain gauge amplifiers and power supply eliminate the effects of cable resistance on the measurements. A standard subtraction cone is capable of measuring simultaneously the following channels: Tip, Local friction, Pore pressure, Temperature and Inclination.

GENERAL SPECIFICATIONS

Cone Tip Section Area	1,500 mm2
Friction Sleeve Surface	22,500 mm2
Total Length	325 mm
Weight	4200 g
Power Supply	± 15 VDC, 100 mA.
Output	0 – 10 VDC*
Working Temperature	0 - 60˚C
Storage Temperature	- 40 to + 85˚C
Connector	Lemo 10 pins (others on request)

TIP RESISTANCE

Range	100/150* kN
Accuracy	0.25 % FS
Maximum Load	150 % of range
Cone Area Ratio	0.75

LOCAL SLEEVE FRICTION

Range	100/150* kN
Accuracy	0.50 % FS
Maximum Load	150 %
Sleeve Area Ratio	1.0 (EA)

PORE PRESSURE

Range	1/2/5/10* MPa
Accuracy	0.5 % FS
Maximum Load	150 % of range

INCLINATION

Range	25 ˚ (biaxial)
Accuracy	< 2 ˚

All our equipment complies with the ISSMGE, ASTM, DIN and NEN Standards.

**Other output and voltage ranges available on request. Loadcells may be calibrated for lower ranges.*

All cones are temperature compensated and provided with a built-in precision strain-gauge amplifier. The cone characteristics and available measurement ranges are listed below.

2 Technical Specifications	**P10CFPTxy**	**P15CFPTxy**
Overall length	: 254 mm	307 mm
Section area of conical tip	: 1,000 mm²	1,500 mm²
Apex angle of conical tip	: 60°	60°
Surface of friction sleeve	: 15,000 mm²	22,500 mm²
Weight	: 1,480 gr	2,250 gr
Power supply	: 5 Vdc	5 Vdc
Analogue signal output	: 0 – 5 Vdc	0 – 5 Vdc
Digital signal output	: RS-485	RS-485
Screw thread	: Female GHD-36	Female GHD-44
Connector	: Gold-plated 10 pins	Gold-plated 10 pins
Working temperature	: 0 till 60 °C	0 till 60 °C
Storage temperature	: -40 till 85 °C	-40 till 85 °C
Cone Resistance (q_C)		
Available measuring ranges *)	: 0 – 100 MPa	0 – 100 MPa
Accuracy	: 0.25% of the full scale (FS)	0.25% of the full scale
Maximum allowable load	: 150% of the measuring range	150% of the range
Cone area factor	: 0.71	0.75
Local Sleeve Friction (f_S) + Cone Resistance (q_C)		
Available measuring ranges *)	: 0 – 100 kN	0 – 150 kN
Accuracy local sleeve friction	: 0.50% of the full scale (FS)	0.50% of the full scale
Maximum allowable load	: 150% of the measuring range	150% of the range
Sleeve area ratio	: 1.0	1.0
Inclination	**(biaxial)**	
Available measuring range	: 0 – 25° (biaxial)	0 – 25° (biaxial)
Accuracy	: < 0,5°	< 0,5°
Pore Pressure (p)		
Available measuring ranges *)	: 0 – 5 MPa (standard)	0 – 5 MPa
Accuracy	: 0.5% of the full scale (FS)	0.5% of the full scale
Temperature (T)		
Available measuring ranges	: 0 – 50 °C	0 – 50 °C

APPENDIX A4 – Cone Calibration Certificate

Certificate Number: S15-CFIIP.1867-05.03.2021

CPT CONE CALIBRATION CERTIFICATE

SOCOTEC

Cone No.	S15-CFIIP.1867	Date of Calibration	05.03.2021
Manufacturer	Geopoint	Reference Standards	BS 1377 : 1990 Part 9
Compression/ Subtraction	Subtraction	Reference Equipment	Pressure meter LTR01
			Vernier callipers GCV4
Pore Pressure Channel (Y/N)	Y		Load cell 22541
			Voltmeter 6402486
Cone end area ratio (by dimension measurement), a	0.70	Sleeve end area ratio (by dimension measurement), b	1.0

Expanded Combined Uncertainty (U) C1	9.93337 mV	Expanded Combined Uncertainty (U) C2	1.51553 mV	Expanded Combined Uncertainty (U) C3	296.958 mV

Note: Calibration Zero taken as no load in free air, Output taken as slope of linear regression line x maximum load.

Temperature differential during calibration 0 °C

Cone Type (S/ C/ M/ D/ T): S

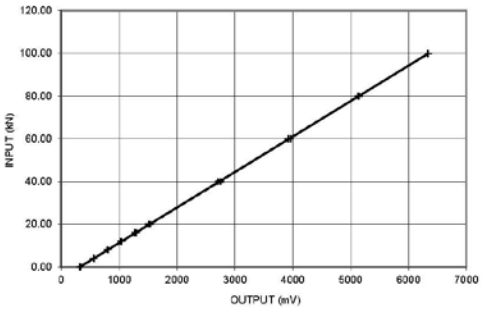
Ch 3 (P/ C/ T/ N/ F): P

	Output	Input	Zero	Area	Alarm
Channel 1	6026 mV	100 kN	311 mV	15 cm^2	80 kN
Channel 2	6225 mV	100 kN	280 mV	225 cm^2	80 kN
Channel 3	8517 mV	20 Bar	214 mV		12 Bar

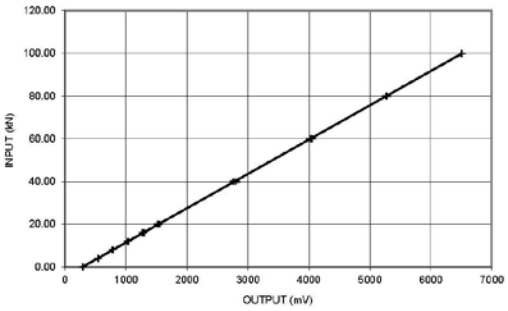
Inclination	-20°	0°	20°	Alarm
X	448 mV	2524 mV	4629 mV	12 °
Y	369 mV	2437 mV	4456 mV	Extra Channels N

UKAS TESTING

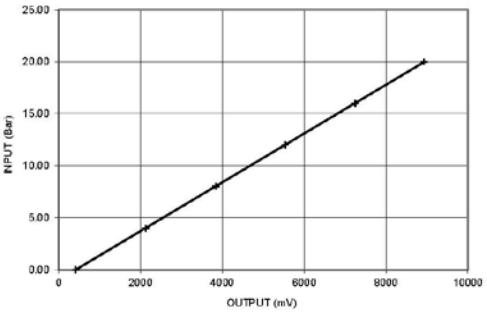
CHANNEL 1 - TIP



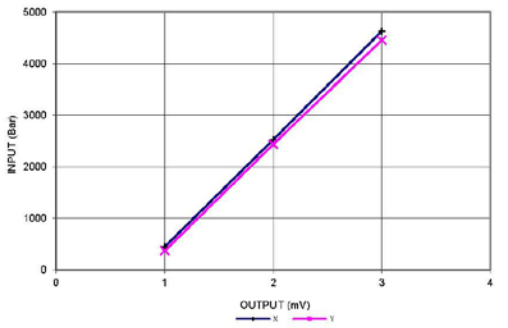
CHANNEL 2 - FRICTION SLEEVE



CHANNEL 3 - PORE PRESSURE



CHANNEL 4 - INCLINATION



Calibration Manual		Cone calibrated by:	Authorised for use by:
Calibration Sheet No.	NNN-CP201	db	Craig Curtis (In Situ Testing Manager)
Issue Number:	2020-10		
Issue Date:	26/10/2020		
CalibrationProcedure.	CP201		

This certificate relates to the item calibrated only

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

WWW.GOUDA-GEO.COM
Down to Earth

Gouda Geo-Equipment B.V.
Satellietbaan 8
2181 MH Hillegom
The Netherlands

Tel. + 31 (0)715.318.475
E-mail: info@gouda-geo.com

Certificate of Calibration

Certificate No. CMI 20.12.3547

Instrument

Instrument Type:	Electrical Subtraction Cone	Calibration Result: Certified	
Manufacturer:	Gouda Geo-Equipment B.V		
Model No.:	DP10-CFPTxy	Date Calibrated:	3-12-2020
Serial No.:	60214	Next Due Date:	3-6-2021
Cone area factor:	0,71		
Used Calibration Procedure: GGECP004, ISO22476		Location: Hillegom (The Netherlands)	

Customer

In Situ Site Investigation Ltd.

Calibration Instruments

Instrument Type: CPT Logger	Instrument Type: CPT Logger	Instrument Type: Load-cell + amplifier
Manufacturer: Gouda Geo Equipment	Manufacturer: Gouda Geo Equipment	Manufacturer: Futek
Model No.: A	Model No.: A	Model No.: LCF500 + IAA100
Serial No.: 3010	Serial No.: 3129	Serial No.: 847498 + 782865
Accuracy: 0.01% + 2 Counts	Accuracy: 0.01% + 2 Counts	Accuracy: 0.1%
Date Calibrated: 11 September, 2020	Date Calibrated: 2 July, 2020	Date Calibrated: 16 September, 2020
Next Due Date: 11 March, 2021	Next Due Date: 2 January, 2021	Next Due Date: 16 September, 2021
Calibrated By: Manufacturer	Calibrated By: Manufacturer	Calibrated By: Futek
Traceability: CMI 20.09.3375	Traceability: CMI 20.07.3208	Traceability: 2009160027

Calibration Conditions

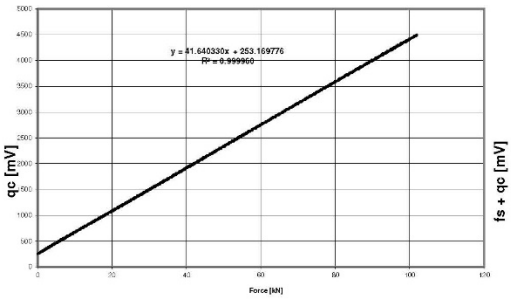
Environmental conditions whilst performing the calibration:

Ambient Temperature: 21.3 ºC
Relative Humidity: 35.7 %

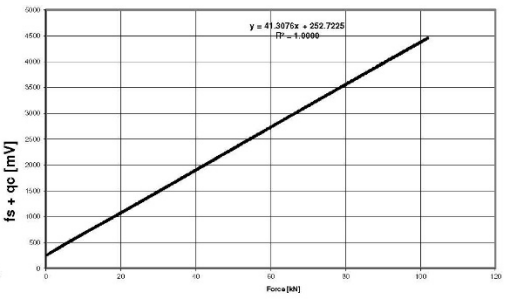
Condition of Calibrated Apparatus when Received: Fair

Measurement Parameters

zero value 253 mV
Full scale 4164 @ 100 kN



zero value 252 mV
Full scale 4131 @ 100 kN



Remarks

Data "As Received" = "As Left" unless otherwise noted. Calibration data for this item was derived from one or more of the following sources: the Nederlands Meetinstituut (NMI) or other national laboratory, a natural physical constant, or a ratio technique. The data is on file at the NMI. This calibration is compliant with Gouda Geo-Equipment's internal quality system, internal calibration procedure and meets the requirements of standard ISO22476.

The Calibration Interval will vary from customer use and different conditions. All calibrations are verified at a moment in time; and confirmed within controlled temperature and humidity specified standards. Gouda Geo-Equipment is not responsible for future calibrations. Improper use of the apparatus (e.g. dropping) may cause loss of calibration.

Calibration performed by:

Vincent Vermeer
(Engineer)

Approved by:

Rogier Tijm
(Senior Engineer)

APPENDIX A5 – Symbol List

English

a	is area ratio of the cone ($= {}^{A_n}/_{A_c}$)
A	is area
A_c	is projected area of the cone
A_n	is cross sectional area of load cell or shaft
A_s	is area of friction sleeve
A_{sb}	is bottom end area of friction sleeve
A_{st}	is top end area of friction sleeve
B_q	is pore pressure parameter ($= {}^{(u_2 - u_0)}/_{(q_t - \sigma_{v0})}$)
c_h	is horizontal coefficient of consolidation
c_v	is vertical coefficient of consolidation
D	is diameter
D_r	is relative density ($= \frac{e_{max} - e}{e_{max} - e_{min}} x100\%$)
e	is void ratio
e_{max}	is maximum void ratio
e_{min}	is minimum void ratio
E	is Young's modulus
f_s	is unit sleeve friction resistance
f_t	is sleeve friction corrected for pore pressure effects
F_s	is total force acting on friction sleeve
F_R	is normalized friction ratio ($= {}^{f_s}/_{(q_t - \sigma_{v0})}$)
FoS	is factor of safety
FC	is fines content
g	is acceleration due to gravity
G_0	is initial or maximum shear modulus, shear stiffness
I_c	is soil behavior type index
I_r	is rigidity index ($= {}^{G}/_{s_u}$)
I_p	is plasticity index
k	is coefficient of permeability
k_h	is coefficient of permeability in horizontal direction
k_v	is coefficient of permeability in vertical direction
K_0	is coefficient of earth pressure at rest ($= {}^{\sigma'_{h0}}/_{\sigma'_{v0}}$)
L	is length
m_v	is coefficient of volume change
M	is constrained deformation modulus
M7.5	is earthquake magnitude of 7.5 Richter scale
N	is number of blows of SPT
N_{60}	is SPT energy ratio
N_k	is cone factor
N_{ke}	is cone factor
N_{kt}	is cone factor
$N_{\Delta u}$	is cone factor
p_a	is reference stress ($= 100\ kPa$)
q_c	is measured cone resistance
q_e	is effective cone resistance ($= q_t - u_2$)
q_n	is net cone resistance ($= q_t - \sigma_{v0}$)
q_t	is corrected cone resistance ($= q_c - (1 - a)u_2$)
Q_c	is total force acting on the cone
Q_t	is normalized cone resistance ($= {}^{q_t - \sigma_{v0}}/_{\sigma'_{v0}}$)

R_f is friction ratio ($= \left({}^{f_t}/_{q_t}\right) x100\%$ or alternatively $= \left({}^{f_t}/_{q_t}\right) x100\%$)
s_u is undrained shear strength
s_{ur} is remoulded undrained shear strength
S_t is sensitivity
t is time
t_{50} is time for 50% dissipation of excess pore water pressure
T_{50} is time factor at $U = 50\ \%$
u is pore water pressure
u_0 is in situ pore pressure
u_1 is pore pressure measured on the cone
u_2 is pore pressure measured behind the cone
u_3 is pore pressure measured behind sleeve friction
Δu is excess pore water pressure
U is normalized excess pore pressure
V_s is shear wave velocity
z is depth

Greek

α is constant
α is cone roughness
β is constant
β_1 is the angle between the vertical axis and the projection of the axis of the CPTU on a vertical plane, in degrees
β_2 is the angle between the vertical axis and the projection of the axis of the CPTU on a vertical plane that is perpendicular to the plane of angle β_1, in degrees
γ is unit weight of soil
γ_w unit weight of water
Δ is change
Δu is excess pore pressure ($= u - u_0$)
μ is Poisson's ratio
ρ is density
ψ is state parameter
σ, σ' is normal stress (total, effective)
σ_h, σ_h' is horizontal stress (total, effective)
σ_v, σ_v' is horizontal stress (total, effective)
σ_{v0},σ_{v0}' is overburden stress (total, effective)
τ_{av} is average cyclic shear stress
τ_{cy} is cyclic shear stress
φ' is effective friction angle

APPENDIX A6 – Abbreviations

ASTM	American Society for Testing and Materials
CPTU	Cone Penetration Test with Pore Pressure Measurement (Piezocone Test)
CRR	Cyclic Resistance Ratio
CSR	Cyclic Stress Ratio
GWT	Ground Water Table
NC	Normally Consolidated
OC	Over consolidated
OCR	Over consolidation Ratio
PL	Limit Pressure
SDMT	Seismic Dilatometer Marchetti
SPT	Standard Penetration Test
TC	Technical Committee

APPENDIX A7 – Glossary

CPT
Cone Penetration Test.

Cone
The part of the cone penetrometer on which the end bearing is developed.

Cone Penetrometer
The assembly containing the *cone*, *friction sleeve*, any other sensors and measuring systems, as well as the connections to the *push-rods.*

Cone resistance, q_c
The total force acting on the cone, Q_c, divided by the projected area of the cone, A_c. $q_c = {Q_c}/{A_c}$

Corrected cone resistance, q_t
The *cone resistance*, q_c corrected for pore water pressure effects.

Corrected sleeve friction, f_t
The *sleeve friction* corrected for pore water pressure effects on the ends of the *friction sleeve*.

Data acquisition system
The system used to measure and record the measurements made by the *cone penetrometer*.

Dissipation Test
A test when the decay of the pore water pressure is monitored during a pause in penetration.

Filter element
The porous element inserted into the cone penetrometer to allow transmission of the pore water pressure to the pore pressure sensor, while maintaining the correct profile of the *cone penetrometer*.

Friction ratio, R_f
The ratio, expressed as a percentage of the *sleeve friction*, f_s, to the *cone resistance*, q_c, both measured at the same depth.

Friction reducer
A local enlargement on the push-rod surface, placed at a distance above the cone penetrometer, and provided to reduce the friction on the *push-rods*.

Friction sleeve
The section of the *cone penetrometer* upon which the *sleeve friction* is measured.

Normalized cone resistance, Q_c or Q_t
The *cone resistance* expressed in a non-dimensional form and taking account of stress changes *in situ*, $Q_c = {(q_c - \sigma_{v0})}/{\sigma'_{v0}}$, or when the *corrected cone resistance* is used $Q_t = {(q_t - \sigma_{v0})}/{\sigma'_{v0}}$. where σ_{v0} and σ'_{v0} are the total and effective vertical stress respectively.

Net cone resistance, q_n
The *corrected cone resistance* minus the vertical total stress. $q_n = q_t - \sigma_{v0}$

Normalized friction ratio, F_r
The *sleeve friction* normalized by the *net cone resistance*.

Piezocone
A *cone penetrometer* containing a pore pressure sensor.

Pore pressure, *u*
The pore pressure generated during penetration and measured by a pore pressure sensor, u_1 when measured on the cone, u_2 when measured just behind the cone and u_3 when measured just behind the friction sleeve.

Pore pressure ratio, B_q
The *net pore pressure* normalized with respect to the *net cone resistance*.

Push-rods
The thick-walled tubes or rods used for advancing the cone penetrometer.

Rig machine
The equipment which pushes the cone penetrometer and rods into the ground.

Sleeve friction, f_s
The total frictional force acting on the *friction sleeve*, F_s, divided by its *surface area*, A_s. $f_s = {F_s}/{A_s}$

APPENDIX A8 – Soils Description Tables

GRANULAR SOILS (Sands and Gravels)

Description	Relative Density D_r (%)	SPT N value, N_{SPT}
Very Loose	0 – 15	0 - 4
Loose	15 – 35	4 - 10
Medium Dense	35 – 65	10 - 30
Dense	65 – 85	30 - 50
Very Dense	>85	>50

COHESIVE SOILS (Clays and Silts)

Term based on measurement	Undrained Shear Strength Classification, s_u (kPa)
Extremely low	<10
Very low	10 - 20
Low	20 - 40
Medium	40 - 75
High	75 - 150
Very high	150 - 300
Extremely high	>300

APPENDIX B

Cone Penetration Measured Parameters and Geotechnical Derived Parameters

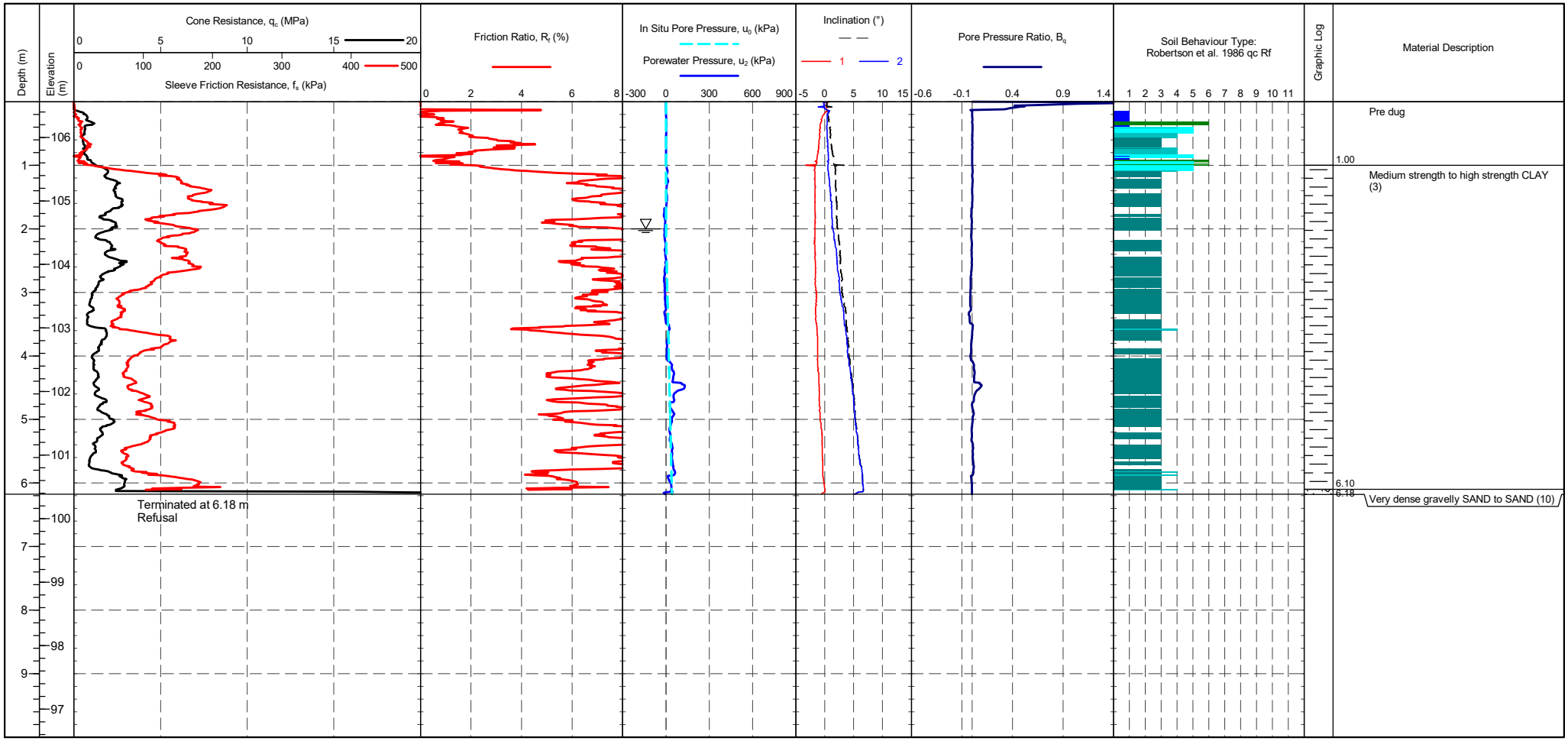
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT01**

CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	365 mV	364 mV	-0.011 MPa
Sleeve	289 mV	287 mV	-0.001 kPa
Pore Pressure 2	220 mV	251 mV	0.007 kPa
X-Y Inclinometer	2599 mV	2501 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

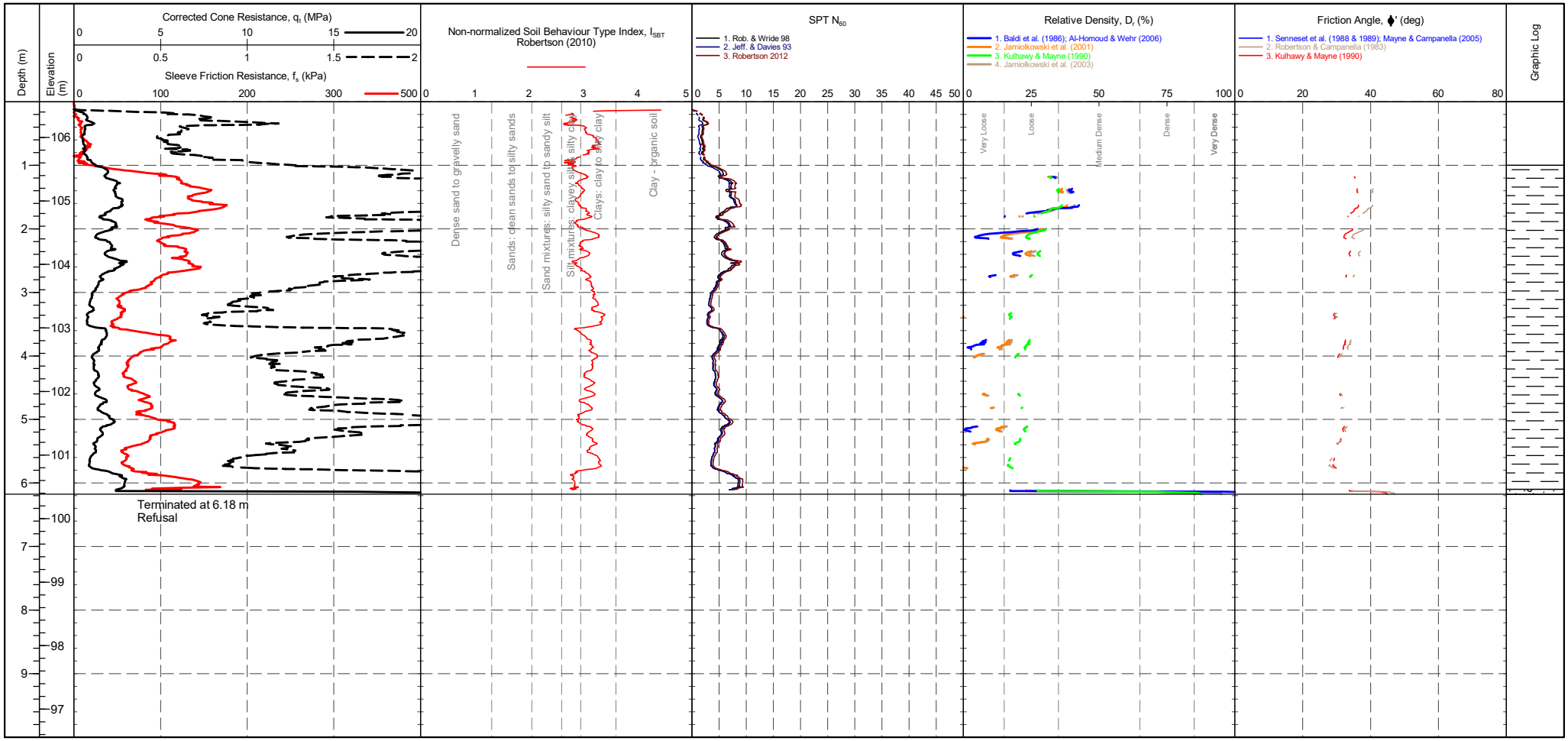
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID: **CPT01**

CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	365 mV	364 mV
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	287 mV
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	220 mV	251 mV
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2599 mV	2501 mV

Difference
-0.011 MPa
-0.001 kPa
0.007 kPa

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic
Clays	2.95-3.60
Silt mixtures	2.60-2.95
Sand mixtures	2.05-2.60
Sands	1.31-2.05
Gravelly sand	<1.31

Description	SPT N value, NSPT
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	>50

Description	Relative Density Dr (%)
Very Loose	0 - 15
Loose	15 - 35
Medium Dense	35 - 65
Dense	65 - 85
Very Dense	>85

Groundwater Level

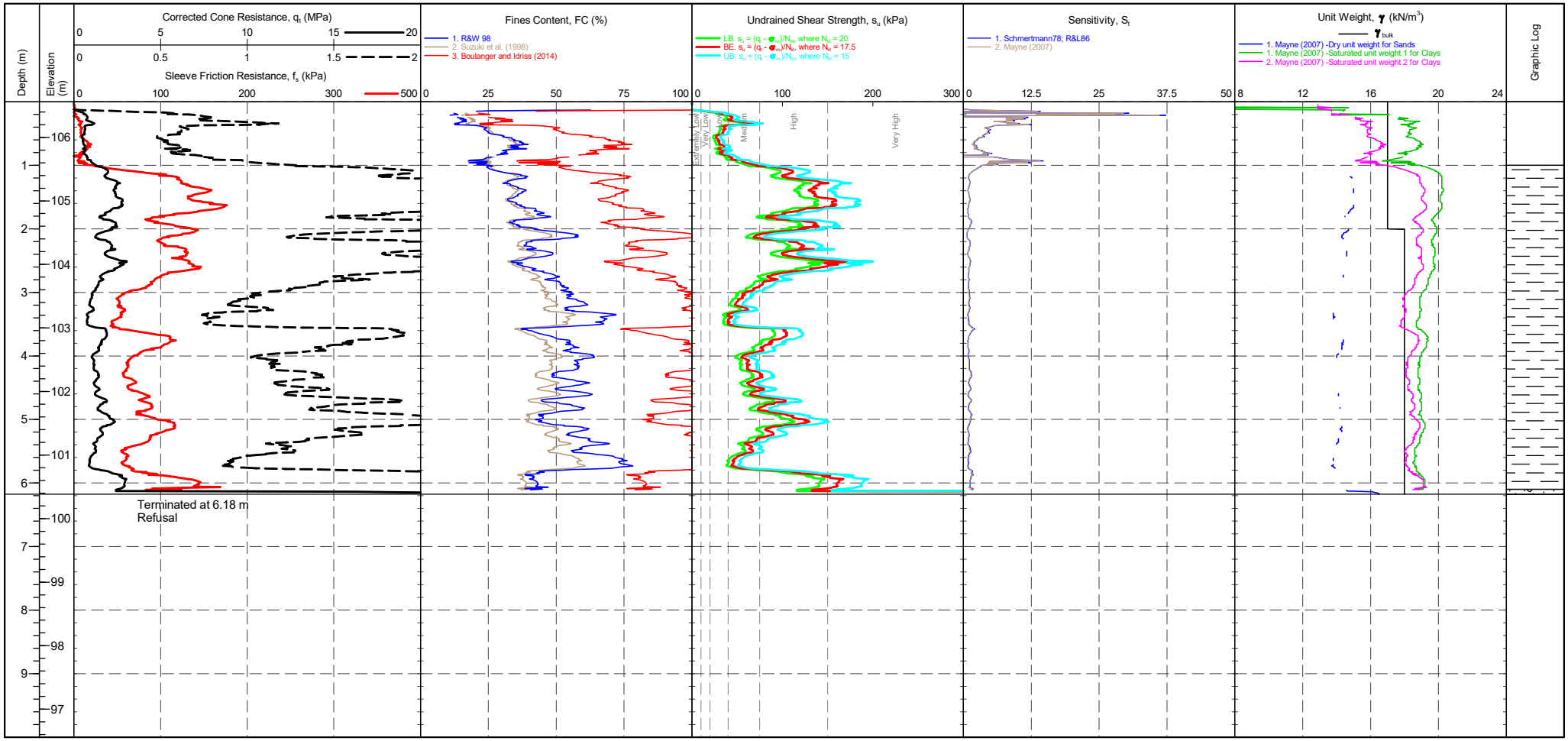
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT01**

CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	365 mV	364 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	287 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	220 mV	251 mV	0.007 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2599 mV	2501 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

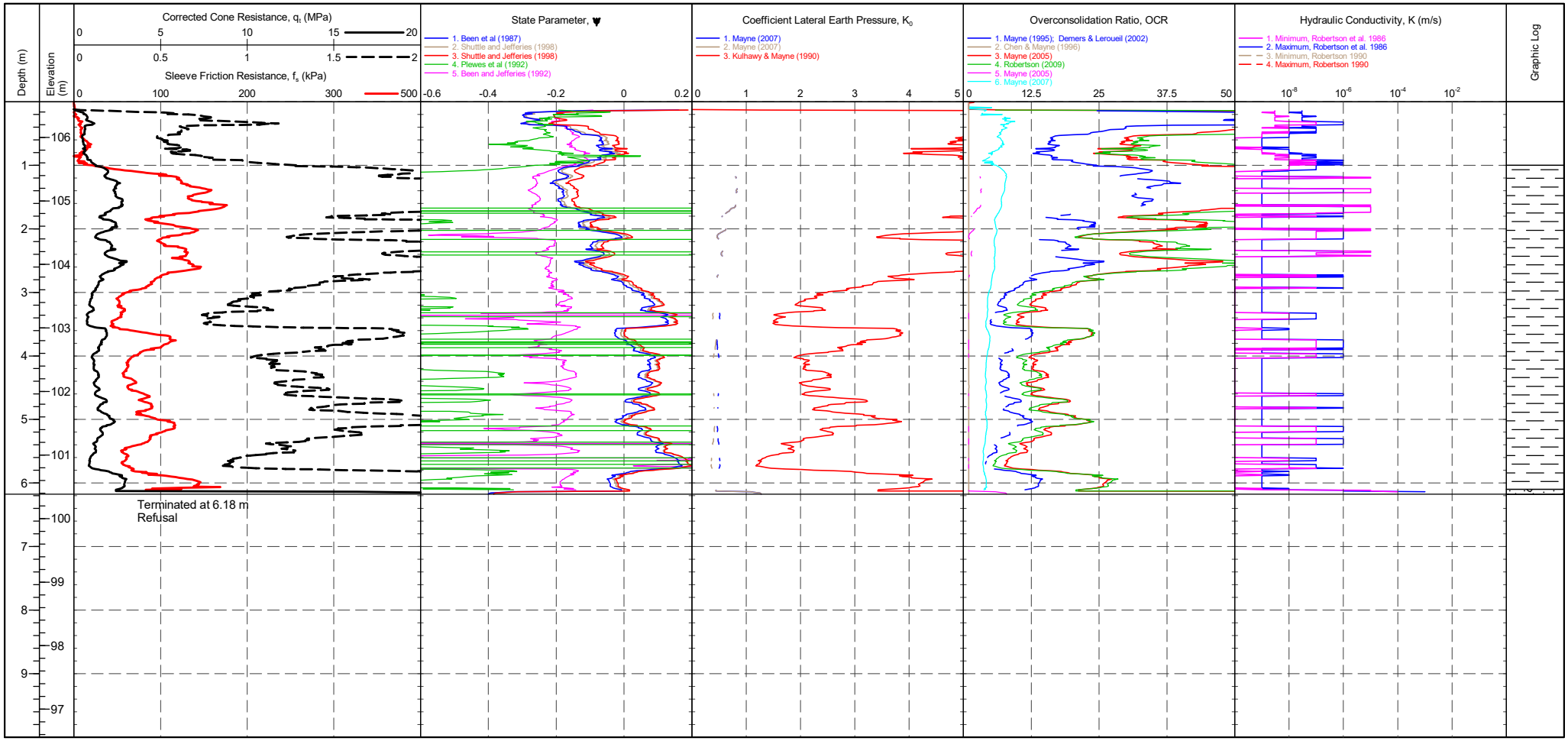
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT01**

CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post / Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	365 mV	364 mV / -0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	287 mV / -0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	220 mV	251 mV / 0.007 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2599 mV	2501 mV

Groundwater Level

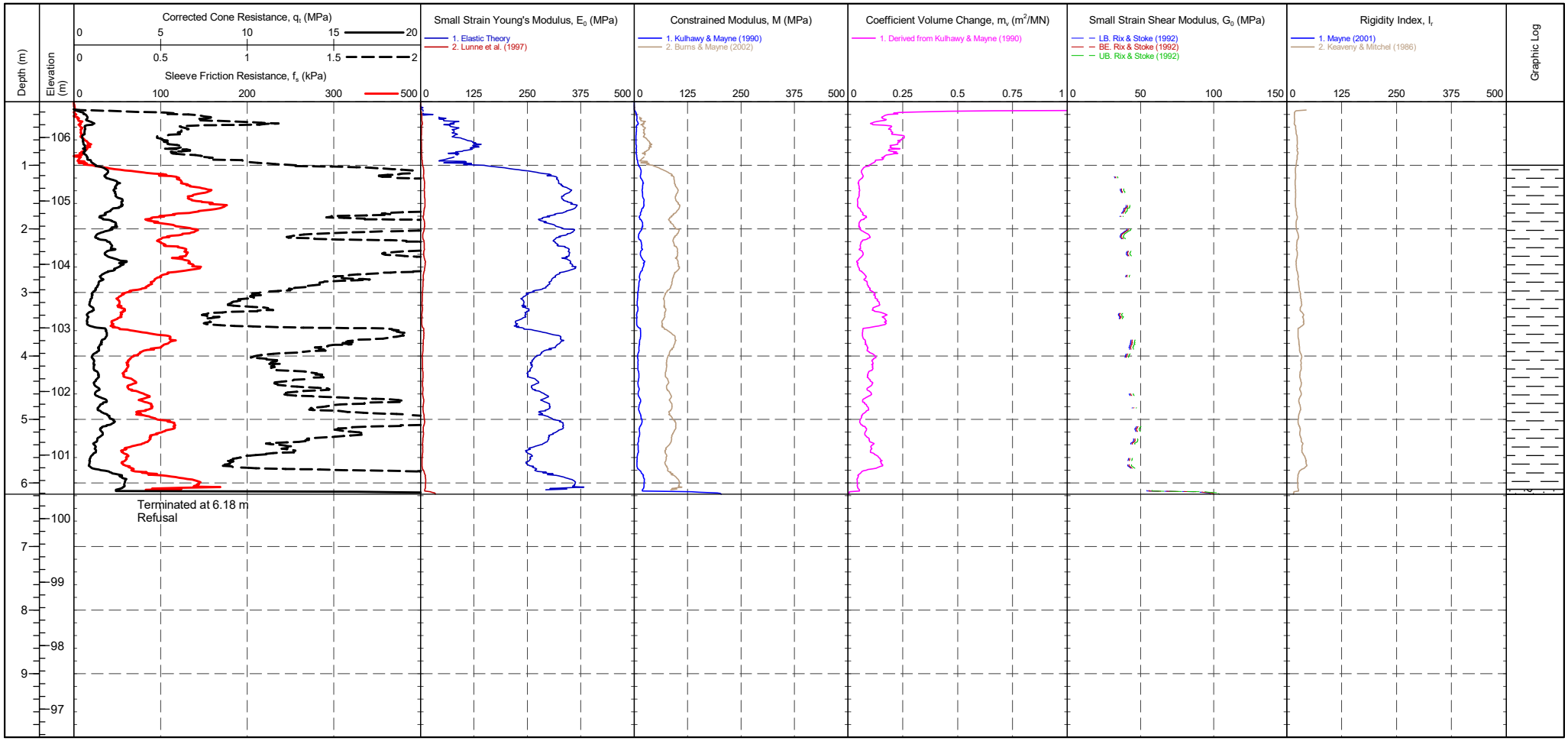
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT01**

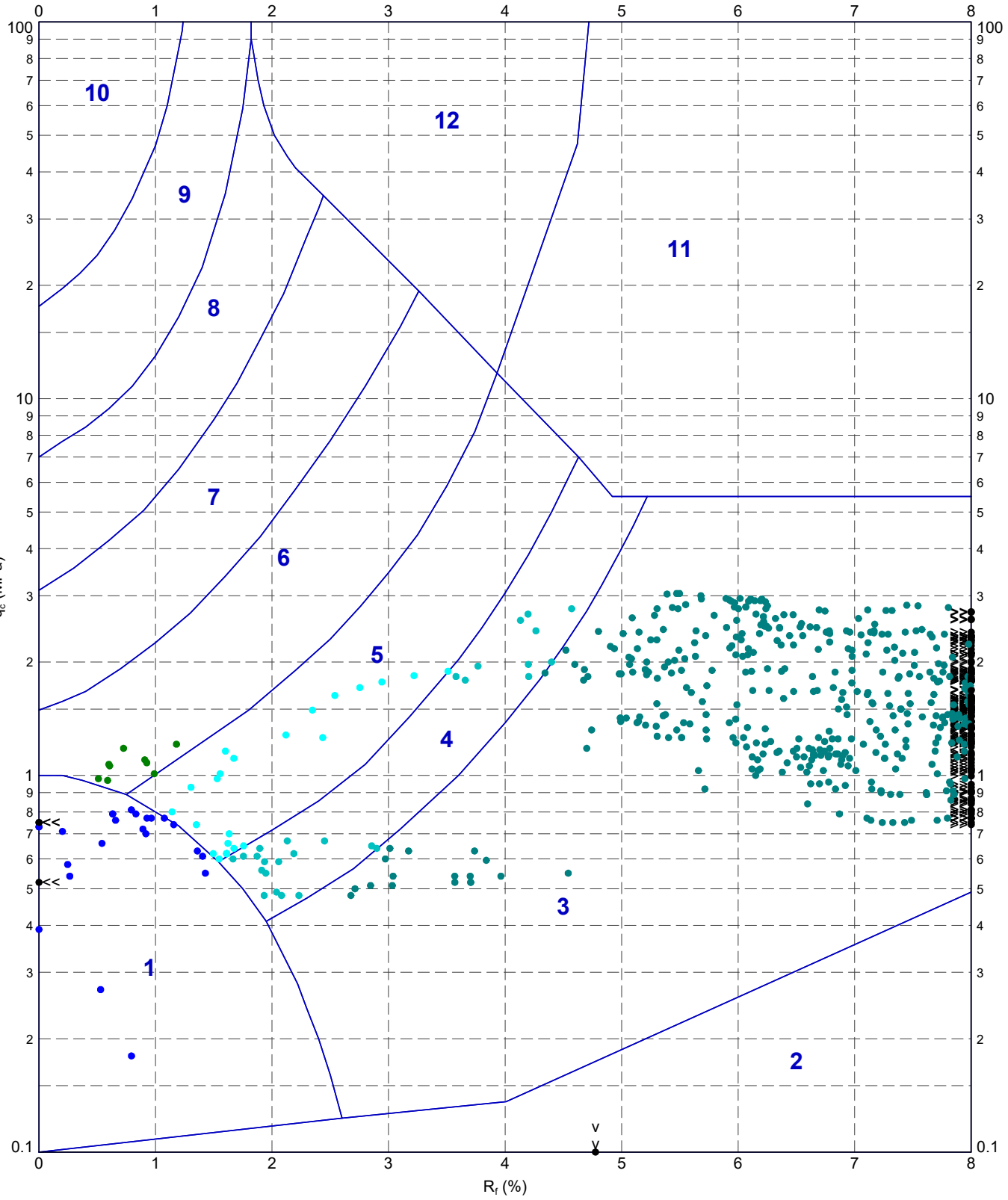
CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	365 mV	364 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	287 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	220 mV	251 mV	0.007 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2599 mV	2501 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT01

DRAWN		DATE	04/03/2022
CHECKED		DATE	04/03/2022
SCALE	Not To Scale		A4
PROJECT No	1220144	FIGURE No	

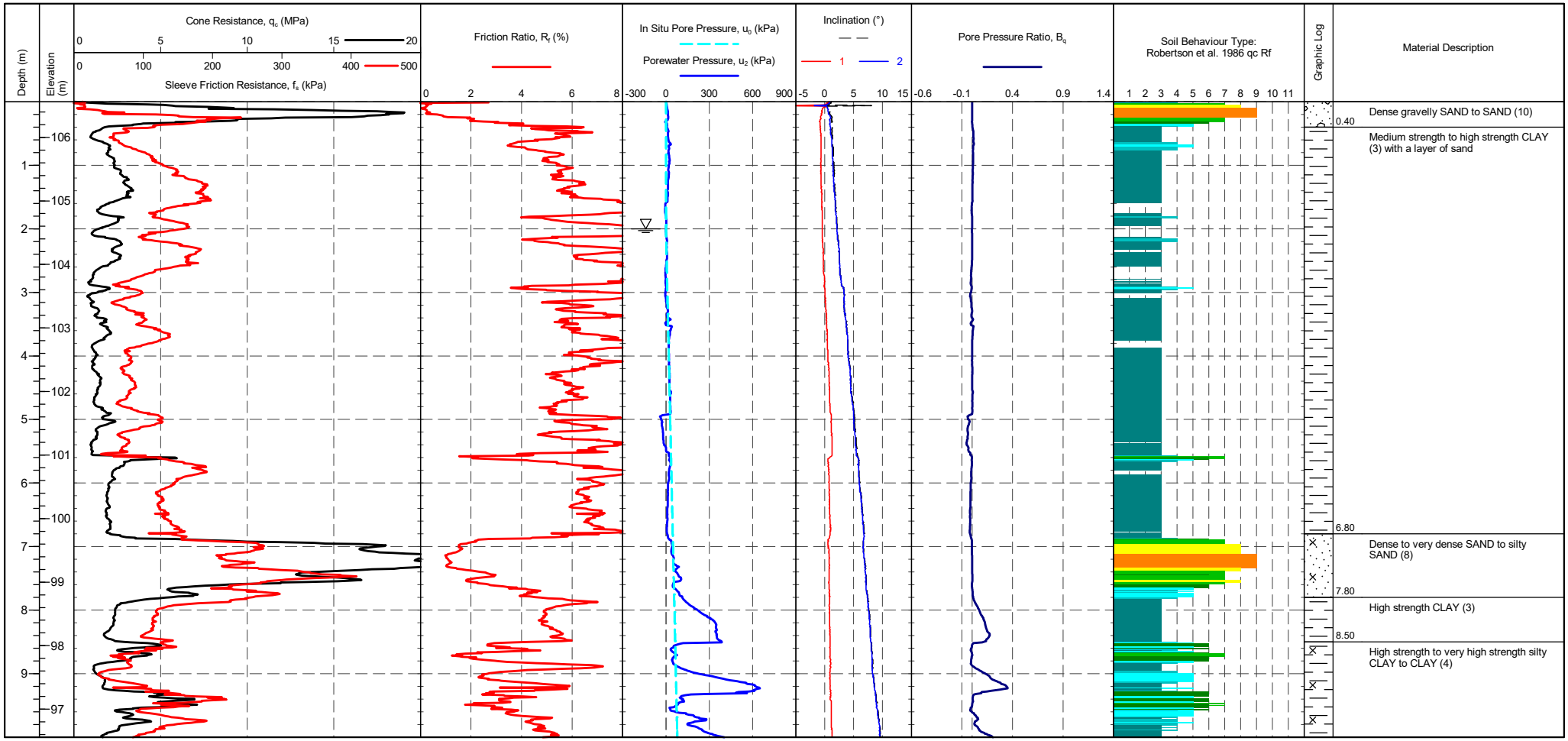
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT01A**

CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	367 mV	359 mV	-0.089 MPa
Sleeve	290 mV	287 mV	-0.002 kPa
Pore Pressure 2	224 mV	296 mV	0.017 kPa
X-Y Inclinometer	2603 mV	2576 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

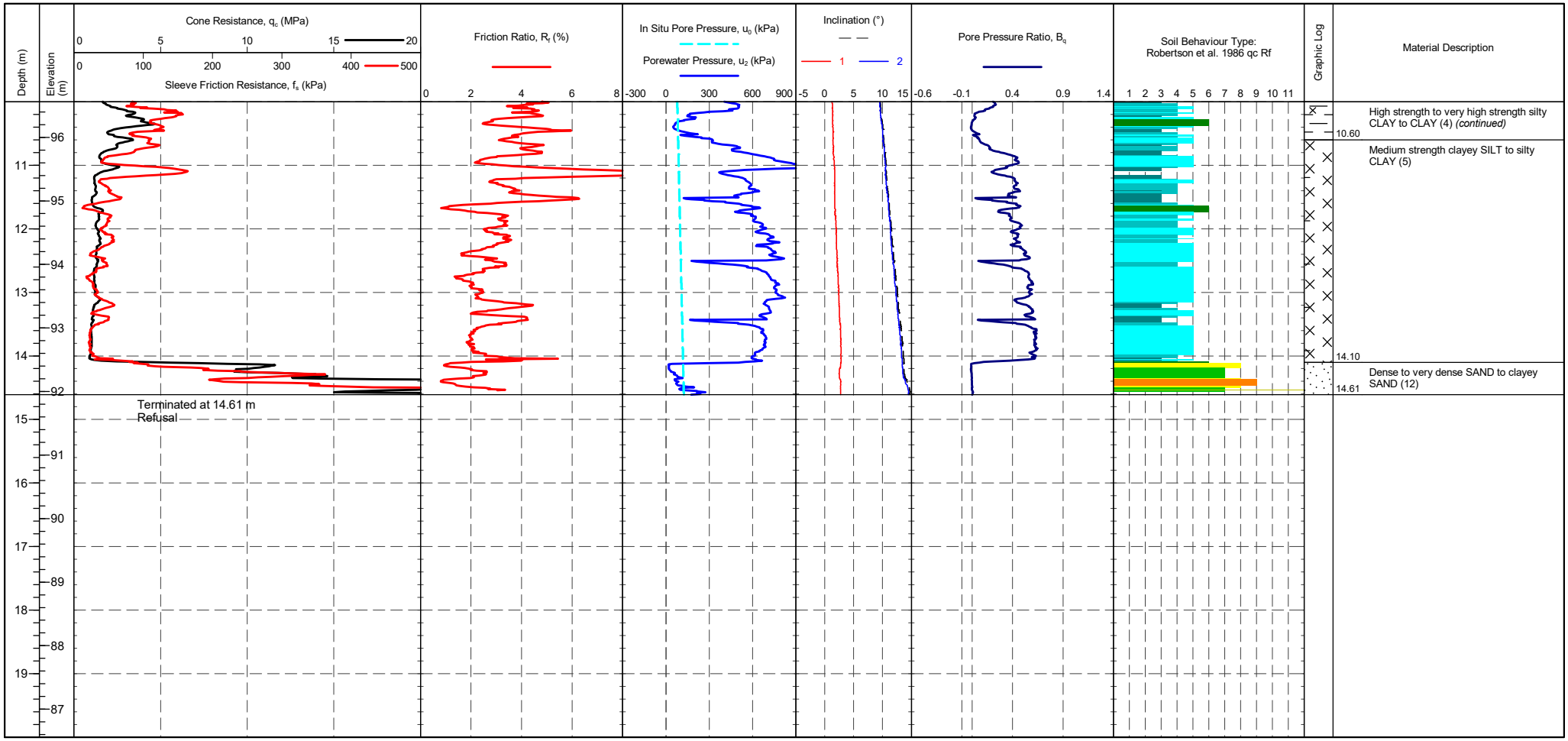
PointID: **CPT01A**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490888.438 m
NORTHING : 290863.511 m
ELEVATION : 106.560 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	367 mV	359 mV	-0.089 MPa
Sleeve	290 mV	287 mV	-0.002 kPa
Pore Pressure 2	224 mV	296 mV	0.017 kPa
X-Y Inclinometer	2603 mV	2576 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

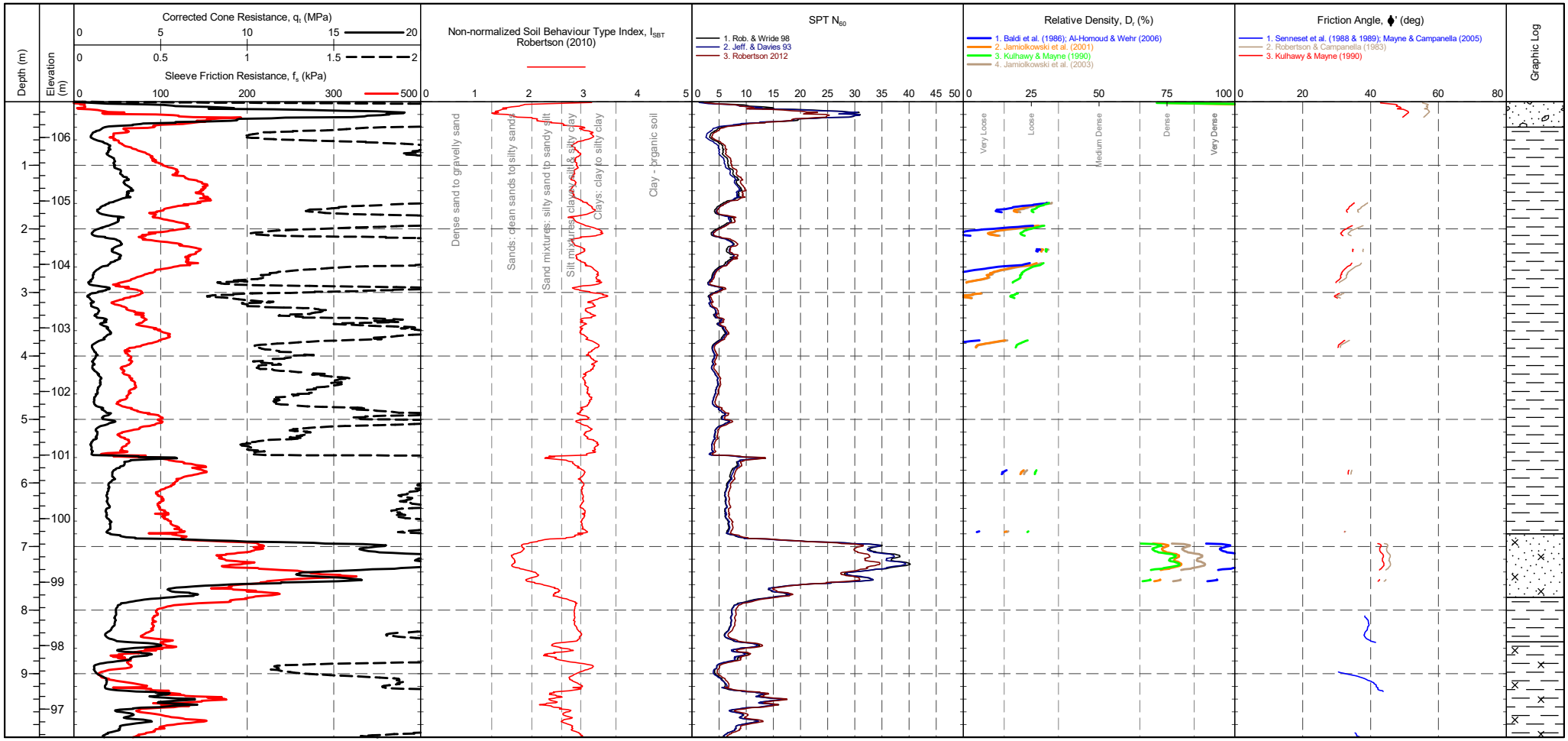
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT01A**

CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post / Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	367 mV	359 mV / -0.089 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	290 mV	287 mV / -0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	224 mV	296 mV / 0.017 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2603 mV	2576 mV

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

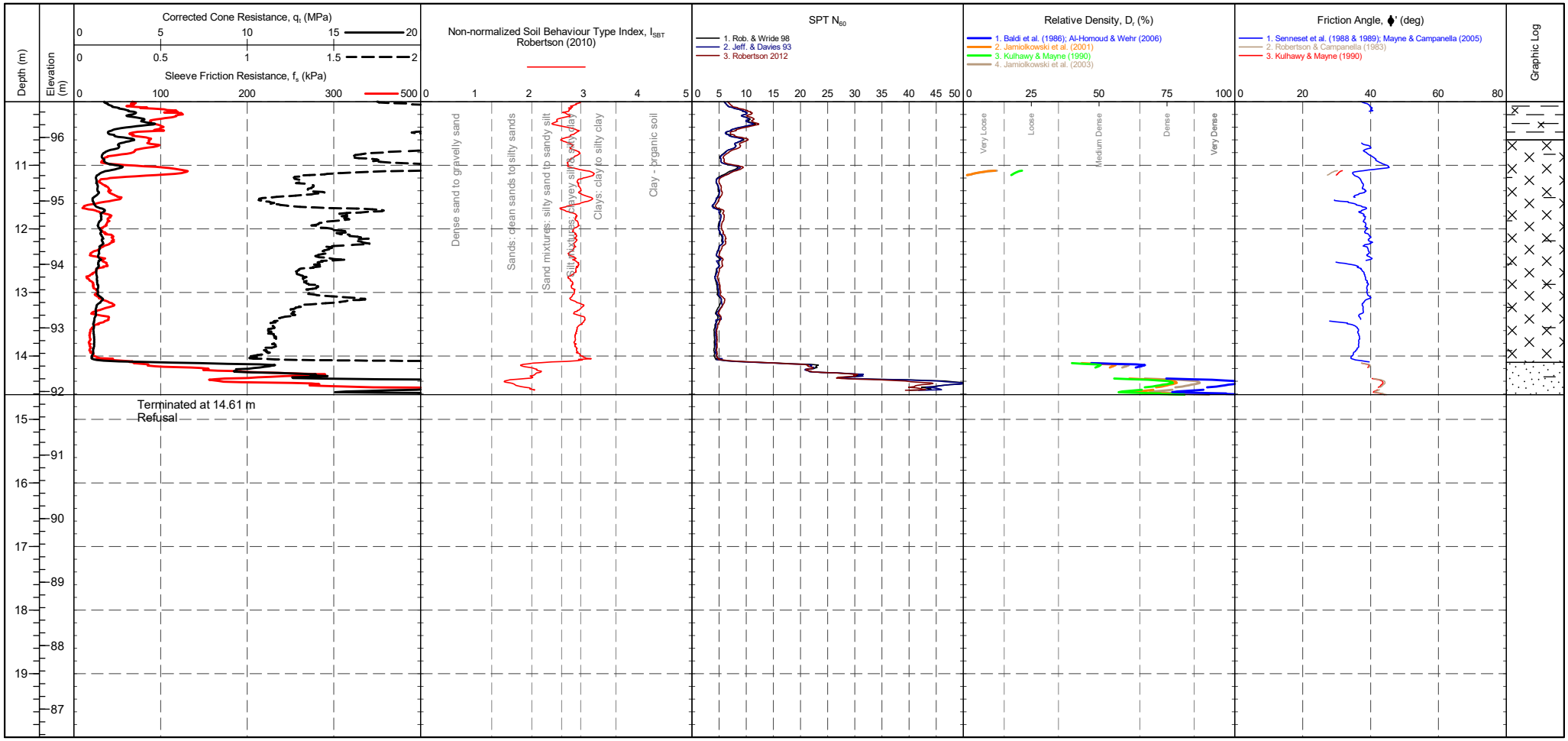
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT01A**

CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	367 mV	359 mV	-0.089 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	290 mV	287 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	224 mV	296 mV	0.017 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2603 mV	2576 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

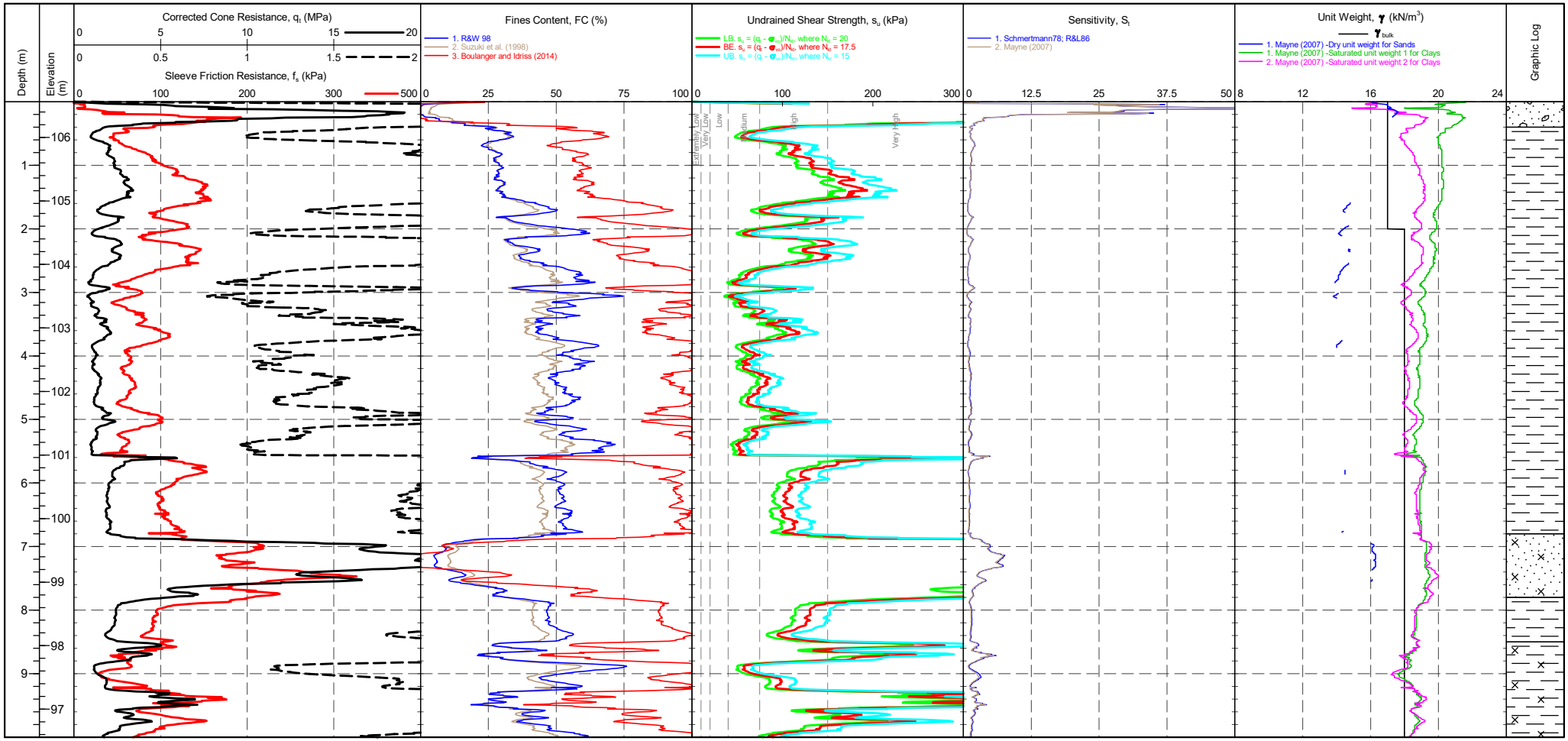
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID **CPT01A**

CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	367 mV	359 mV	-0.089 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	290 mV	287 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	224 mV	296 mV	0.017 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2603 mV	2576 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

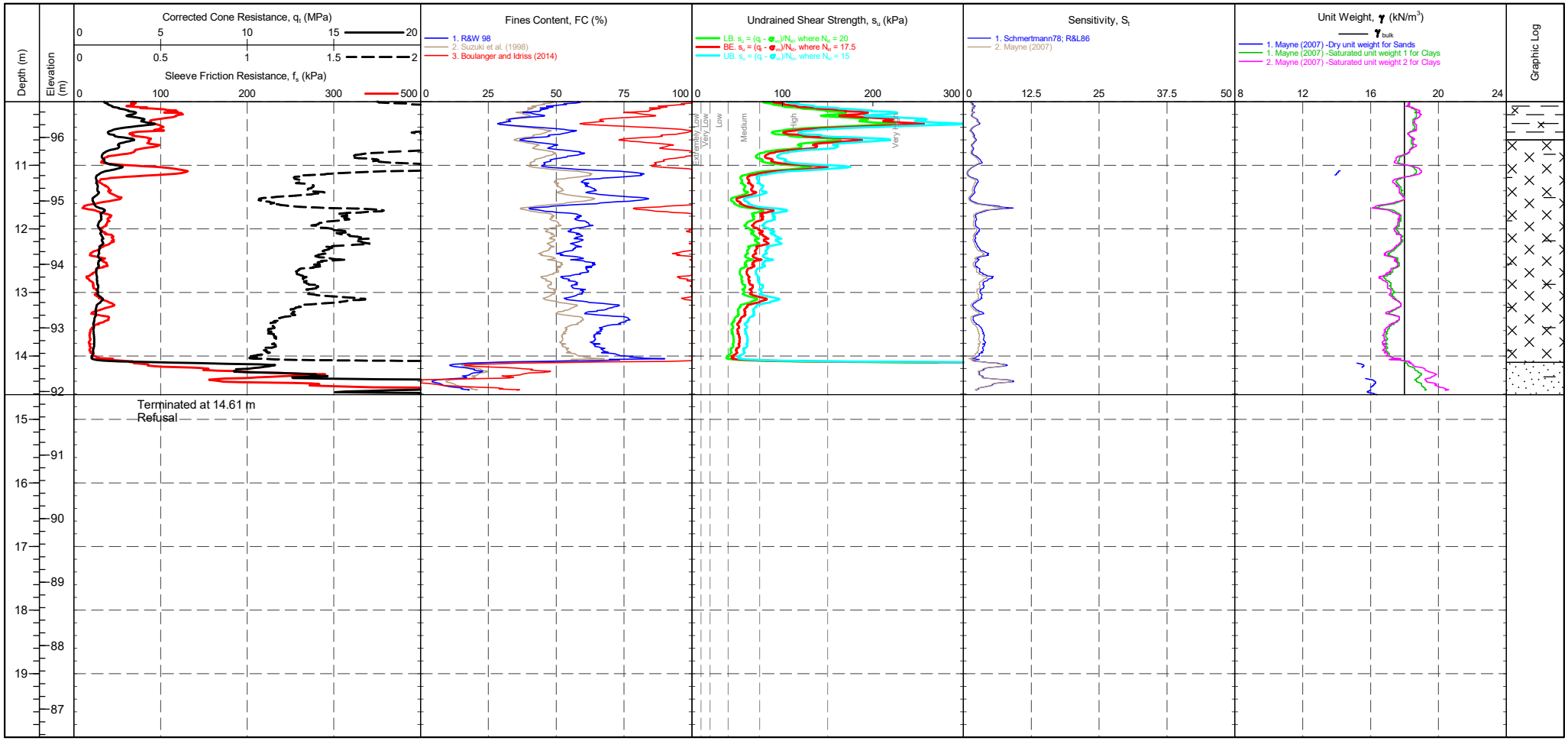
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT01A**

CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	367 mV	359 mV	-0.089 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	290 mV	287 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	224 mV	296 mV	0.017 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2603 mV	2576 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test

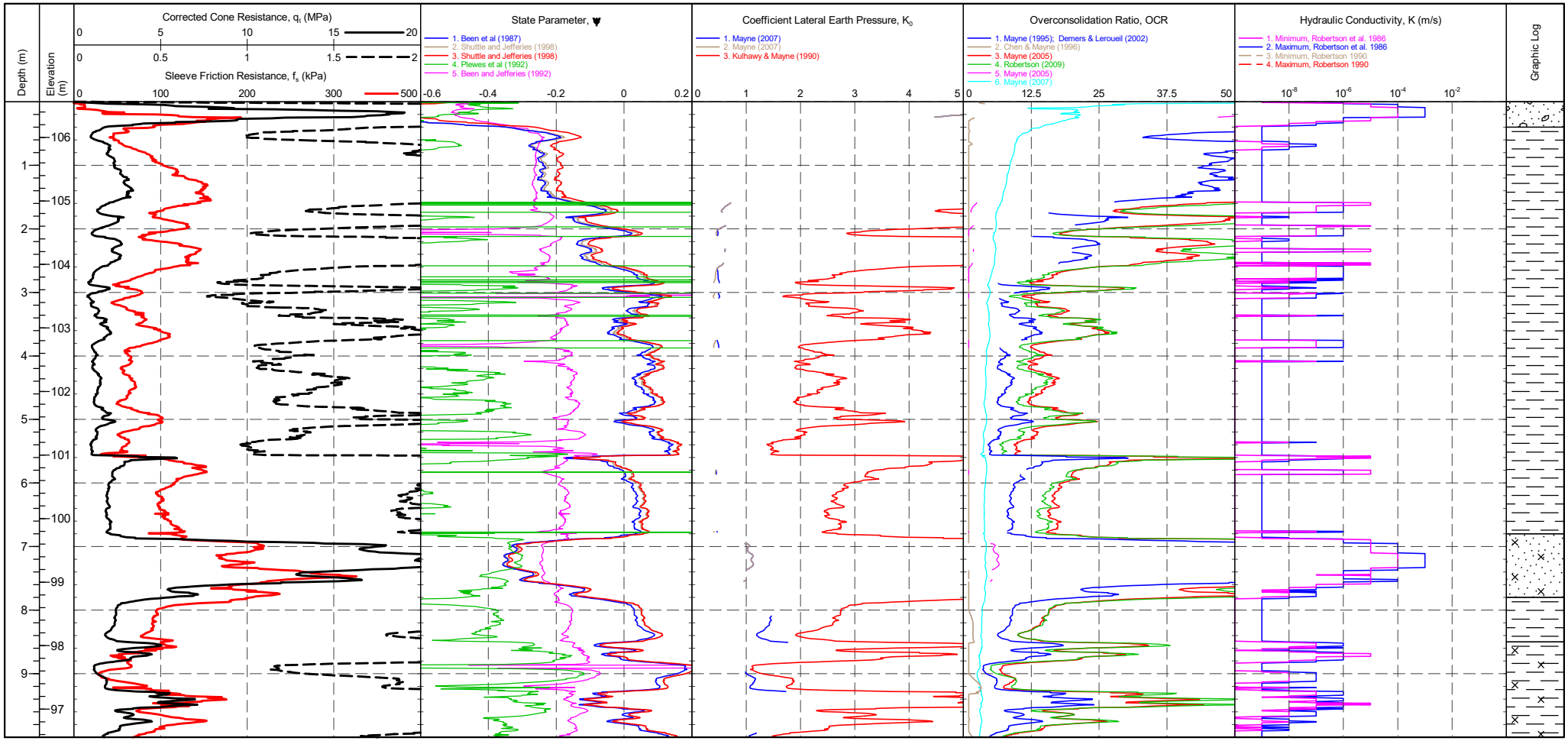
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT01A**

CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	367 mV	359 mV
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	290 mV	287 mV
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	224 mV	296 mV
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2603 mV	2576 mV

Difference
-0.089 MPa
-0.002 kPa
0.017 kPa

Groundwater Level

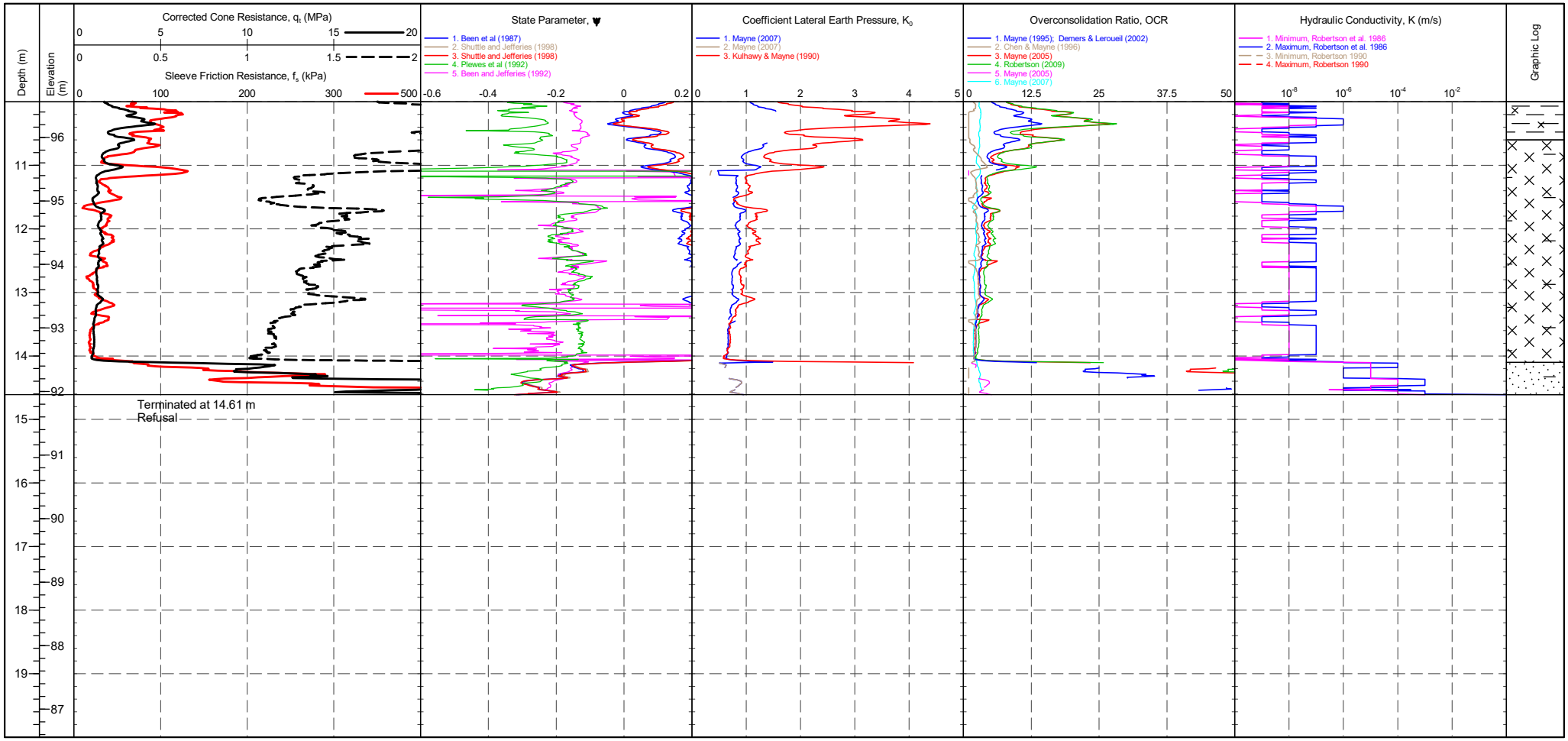
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT01A**

CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	367 mV	359 mV	-0.089 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	290 mV	287 mV	-0.002 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	224 mV	296 mV	0.017 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2603 mV	2576 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

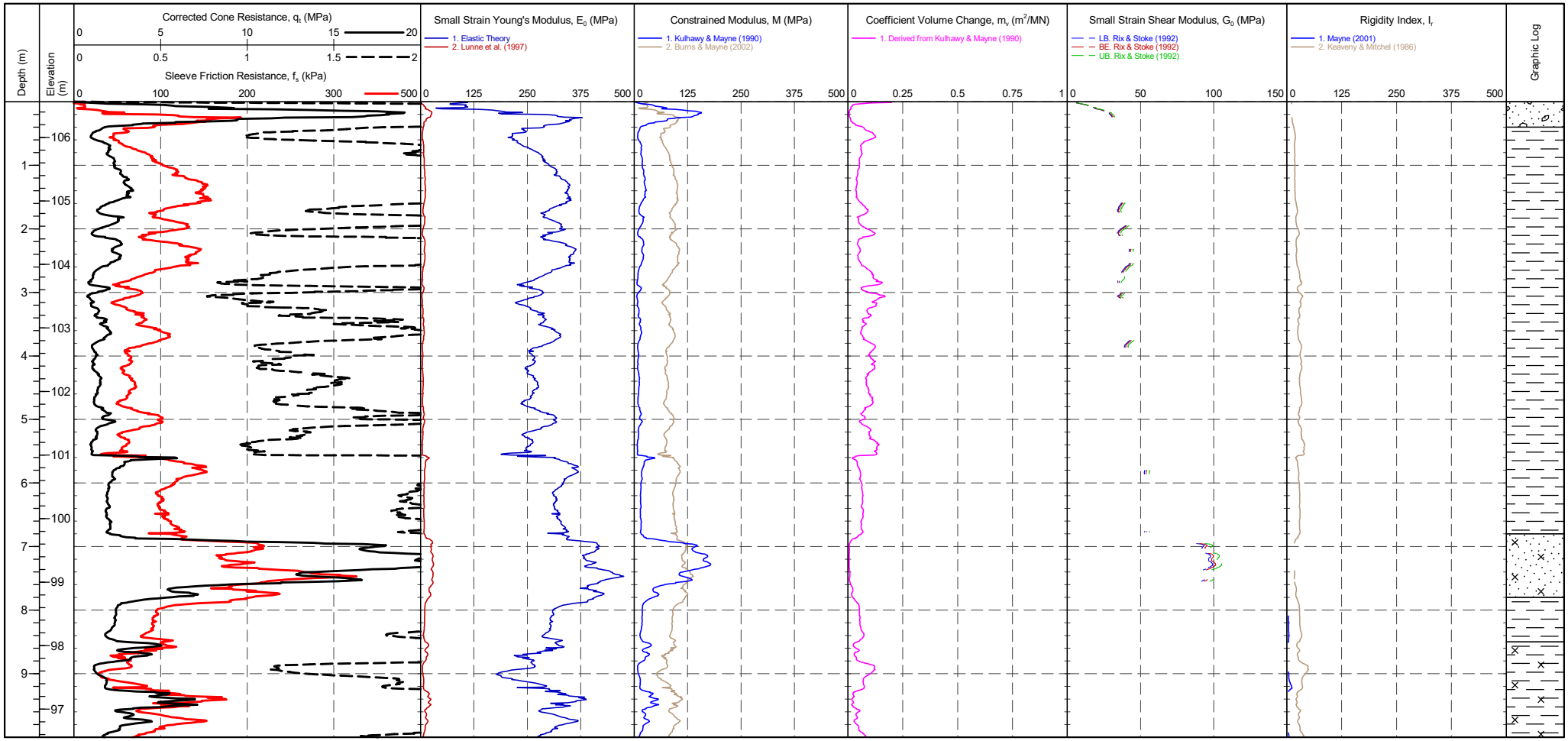
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT01A**

CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	367 mV	359 mV	-0.089 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	290 mV	287 mV	-0.002 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	224 mV	296 mV	0.017 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2603 mV	2576 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

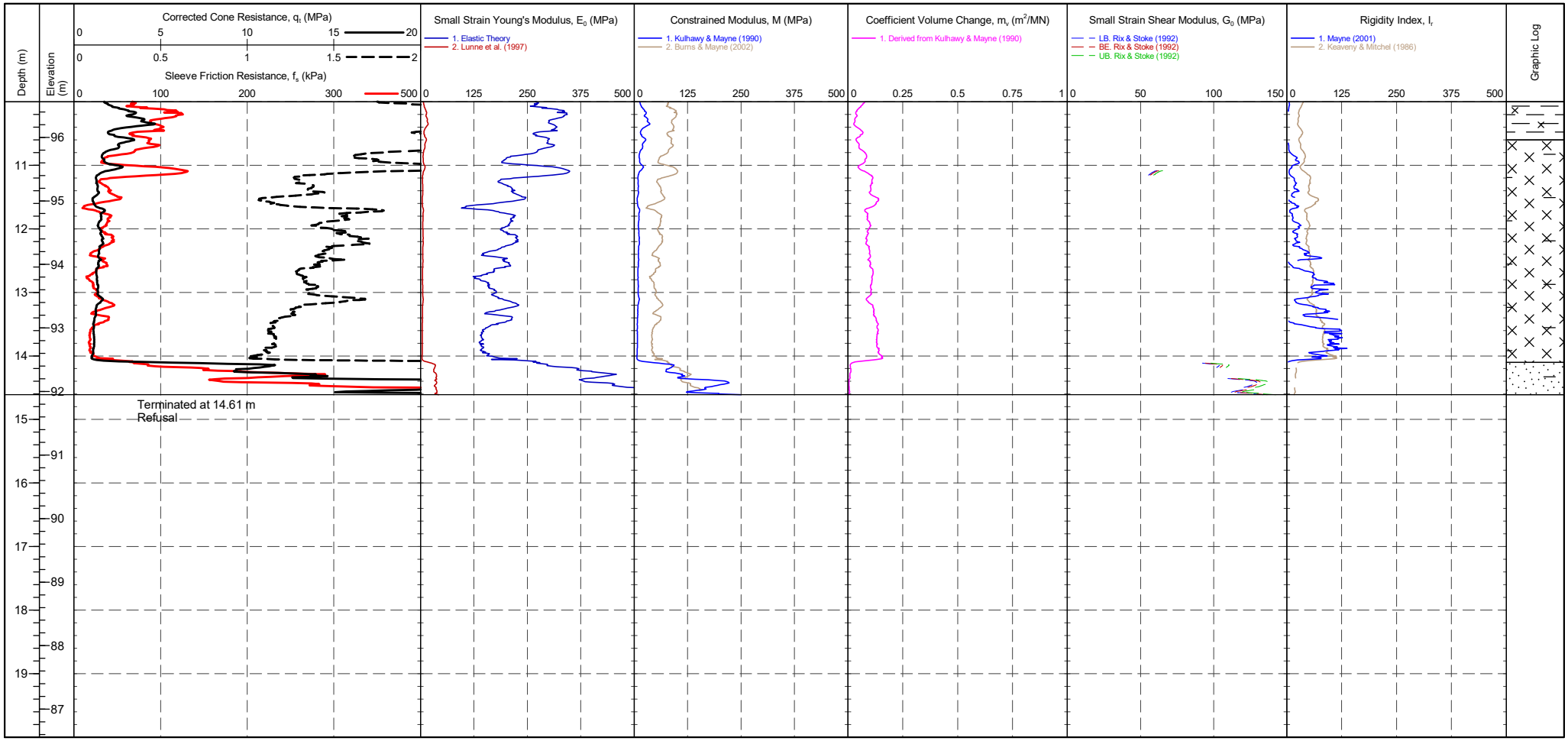
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT01A**

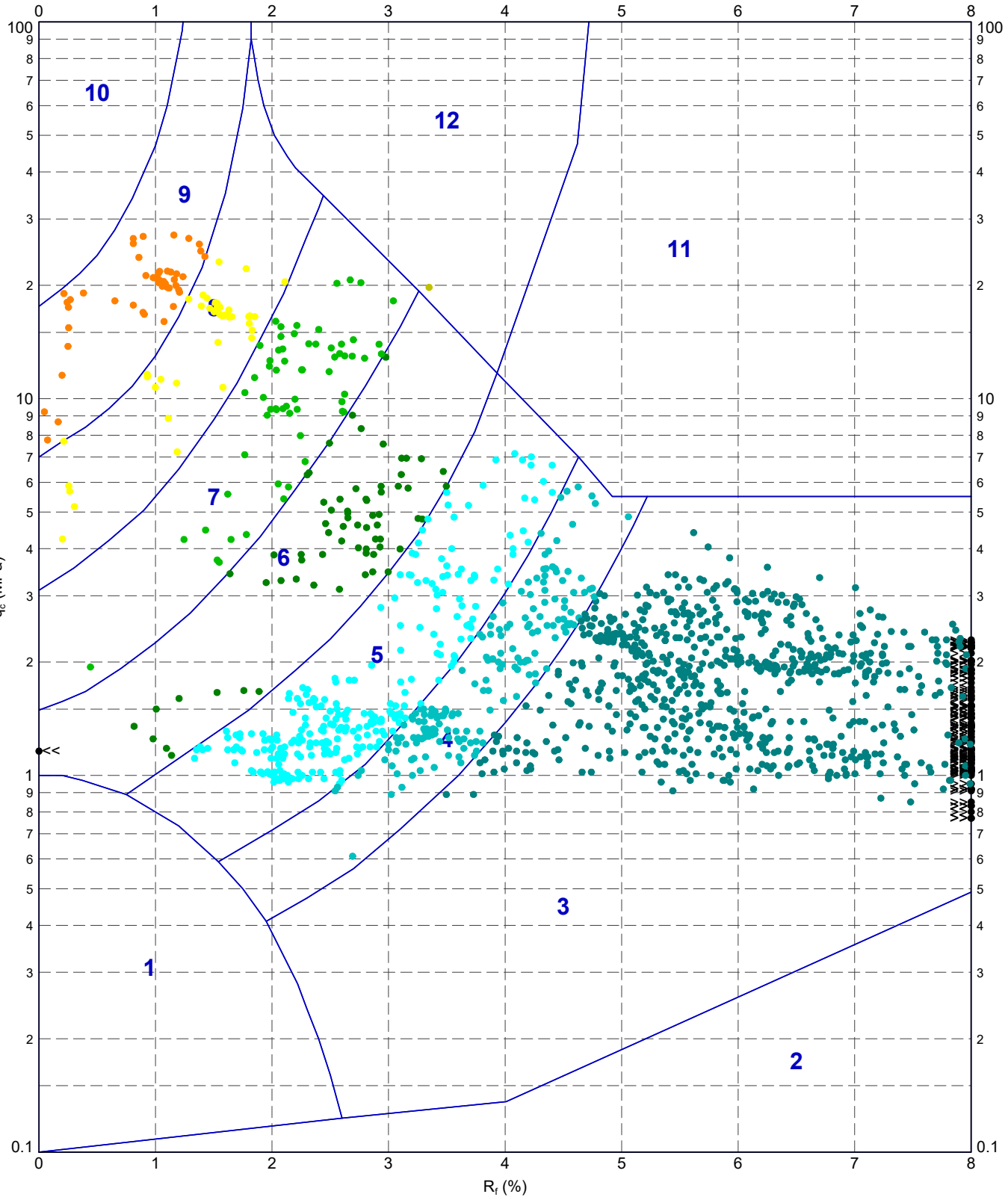
CLIENT : Delta Simons	EASTING : 490888.438 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290863.511 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.560 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	367 mV	359 mV	-0.089 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	290 mV	287 mV	-0.002 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	224 mV	296 mV	0.017 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2603 mV	2576 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT01A

DRAWN	DATE 04/03/2022
CHECKED	DATE 04/03/2022
SCALE Not To Scale	A4
PROJECT No 1220144	FIGURE No

IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

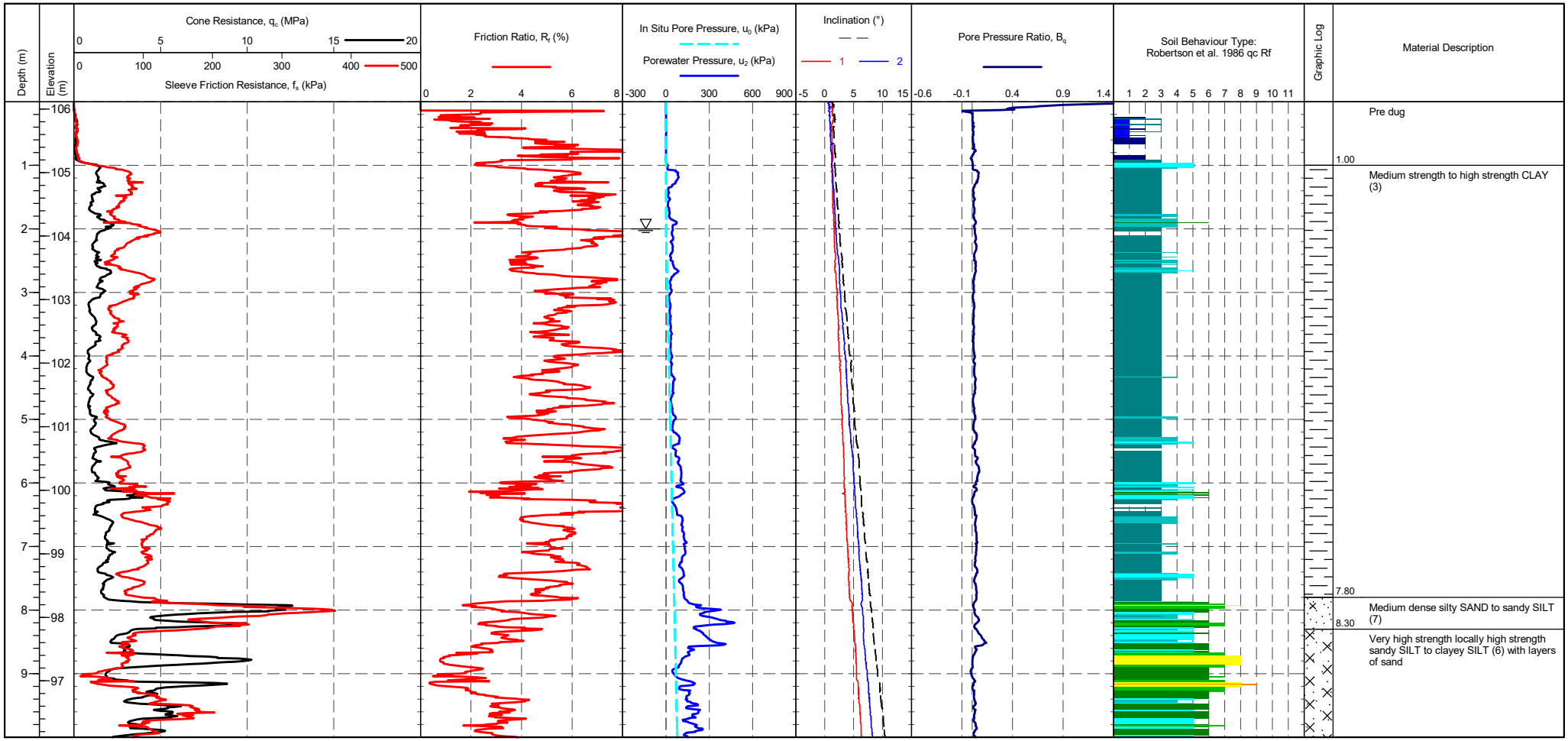
PointID: **CPT02**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490949.518 m
NORTHING : 290883.378 m
ELEVATION : 106.114 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	362 mV	391 mV	0.321 MPa
Sleeve	285 mV	284 mV	-0.001 kPa
Pore Pressure 2	203 mV	254 mV	0.012 kPa
X-Y Inclinometer	2671 mV	2620 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

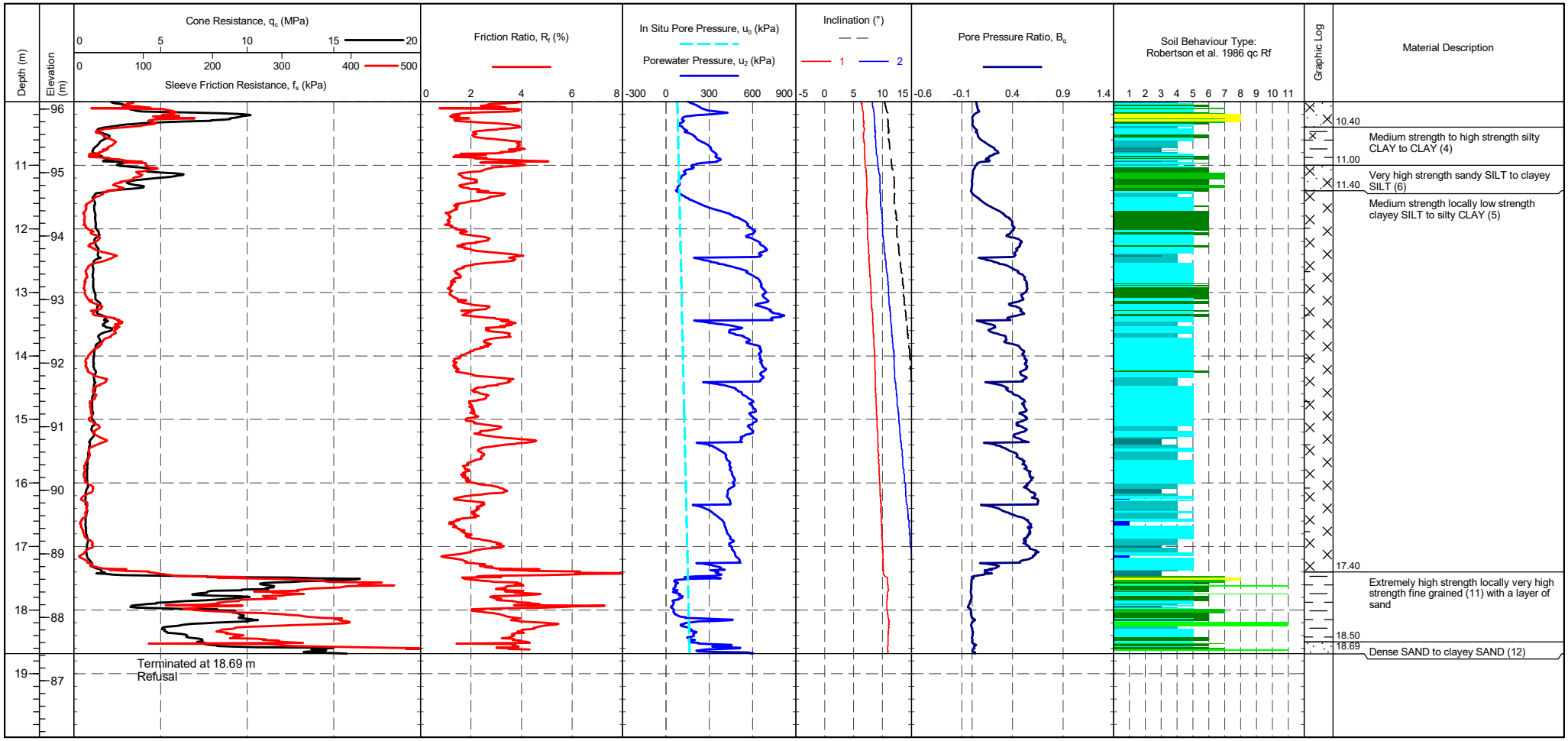
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT02**

CLIENT : Delta Simons	EASTING : 490949.518 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290883.378 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.114 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm^2	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	362 mV	391 mV	0.321 MPa
Sleeve	285 mV	284 mV	-0.001 kPa
Pore Pressure 2	203 mV	254 mV	0.012 kPa
X-Y Inclinometer	2671 mV	2620 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

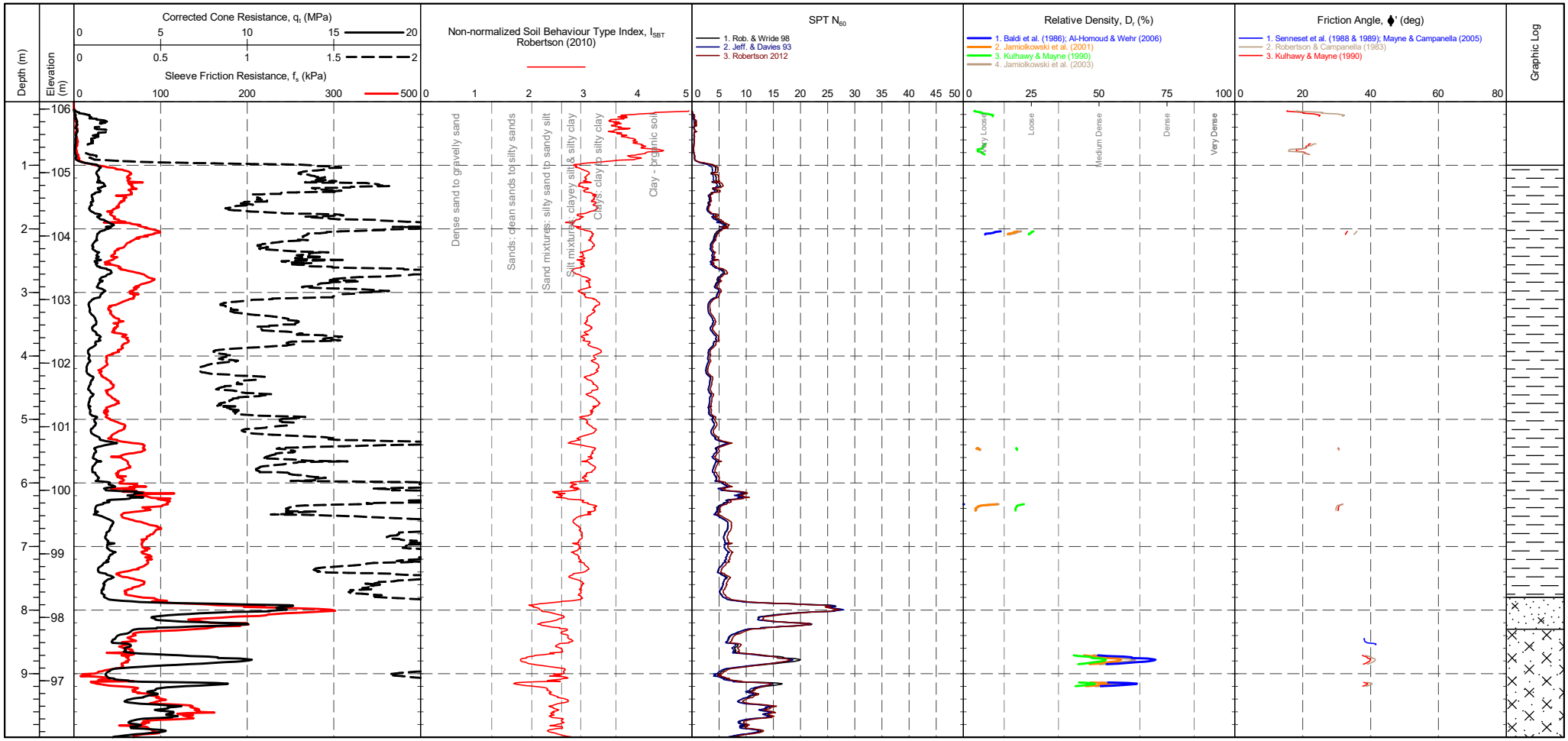
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID: **CPT02**

CLIENT : Delta Simons	EASTING : 490949.518 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290883.378 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.114 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip	362 mV	391 mV	0.321 MPa
Sleeve	285 mV	284 mV	-0.001 kPa
Pore Pressure 2	203 mV	254 mV	0.012 kPa
X-Y Inclinometer	2671 mV	2620 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

CPT LOG 02

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

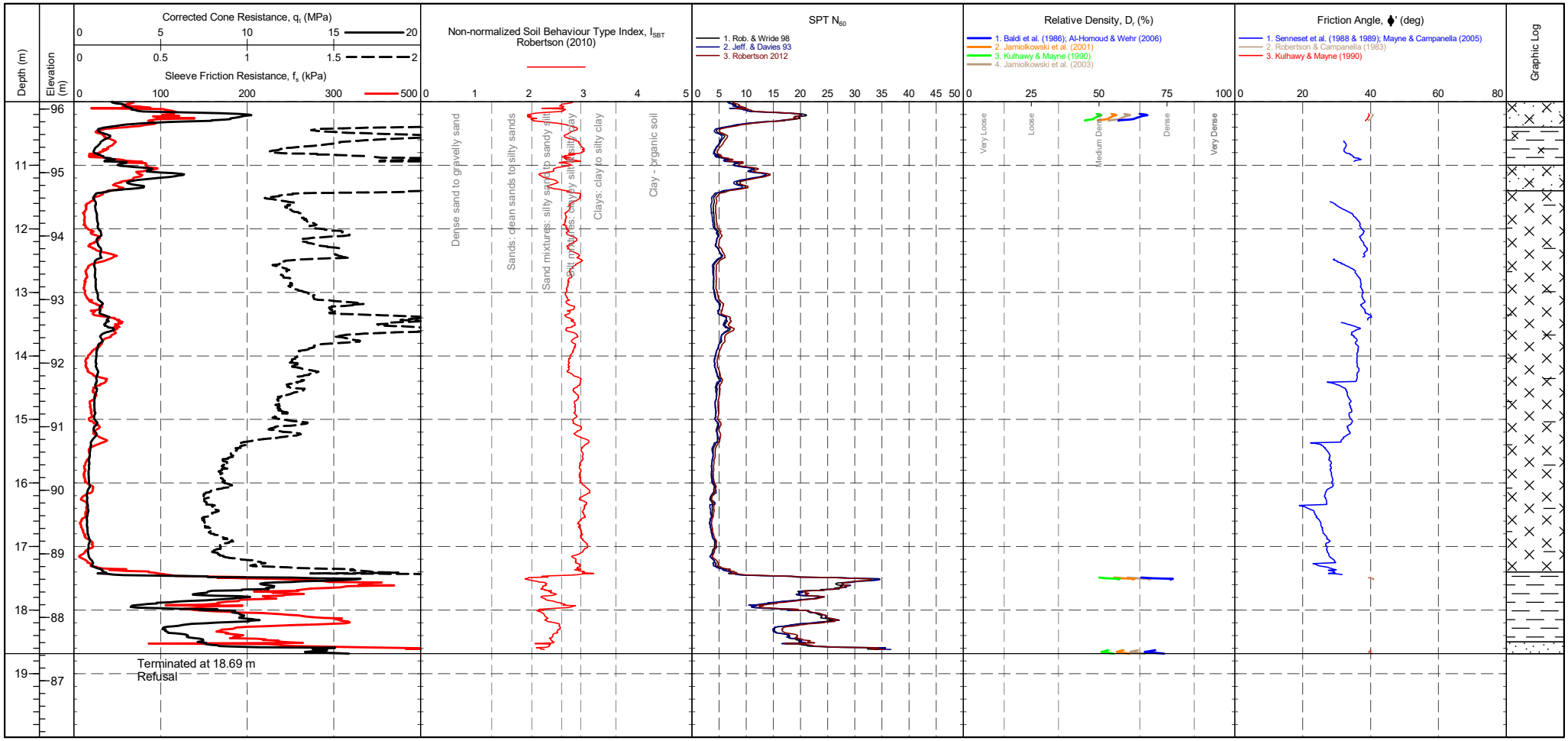
PointID: **CPT02**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490949.518 m
NORTHING : 290883.378 m
ELEVATION : 106.114 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	362 mV	391 mV	0.321 MPa
Sleeve	285 mV	284 mV	-0.001 kPa
Pore Pressure 2	203 mV	254 mV	0.012 kPa
X-Y Inclinometer	2671 mV	2620 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

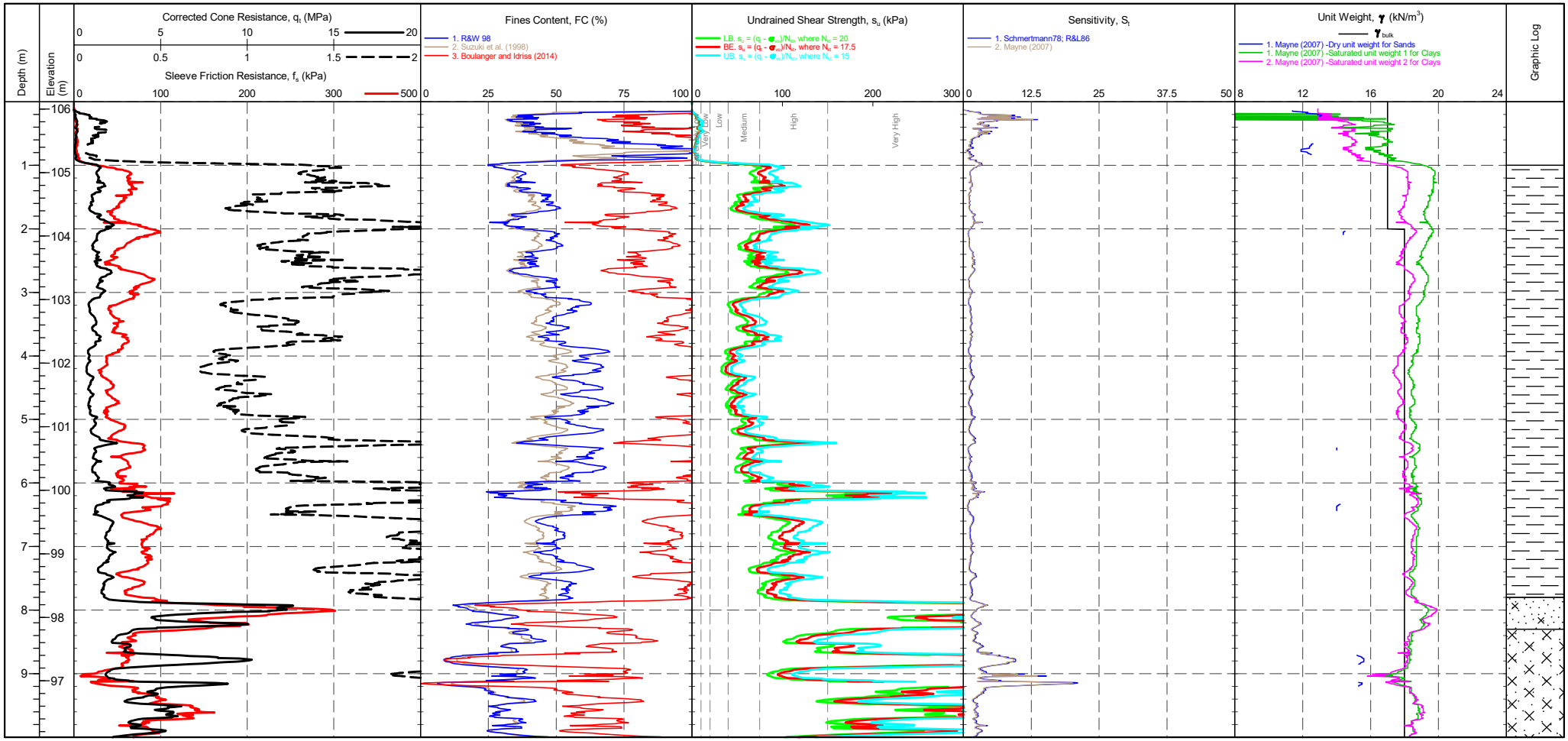
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT02**

CLIENT : Delta Simons	EASTING : 490949.518 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290883.378 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.114 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	362 mV	391 mV	0.321 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	285 mV	284 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	203 mV	254 mV	0.012 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2671 mV	2620 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test

CPT LOG 03

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

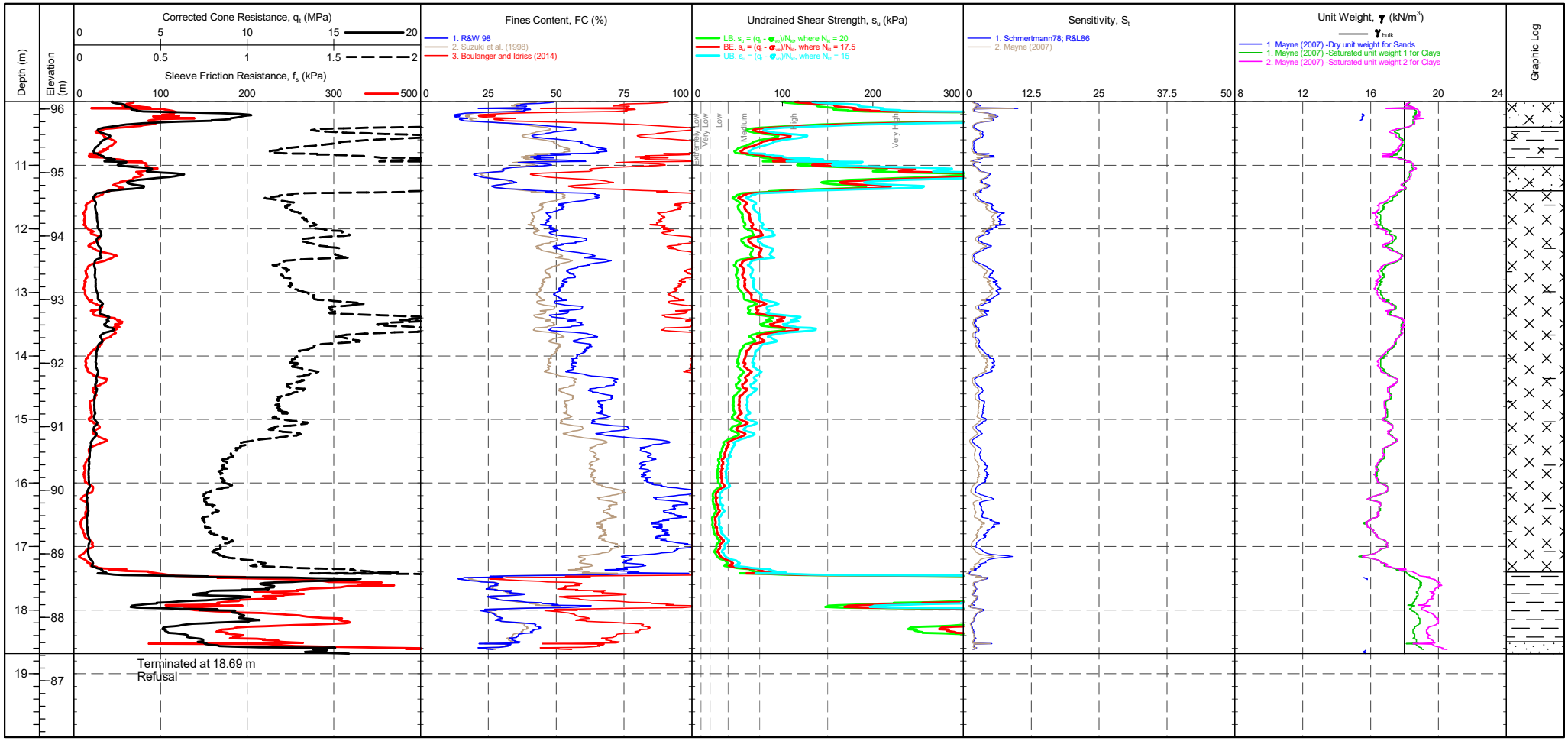
PointID: **CPT02**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490949.518 m
NORTHING : 290883.378 m
ELEVATION : 106.114 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	362 mV	391 mV	0.321 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	285 mV	284 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	203 mV	254 mV	0.012 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2671 mV	2620 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test

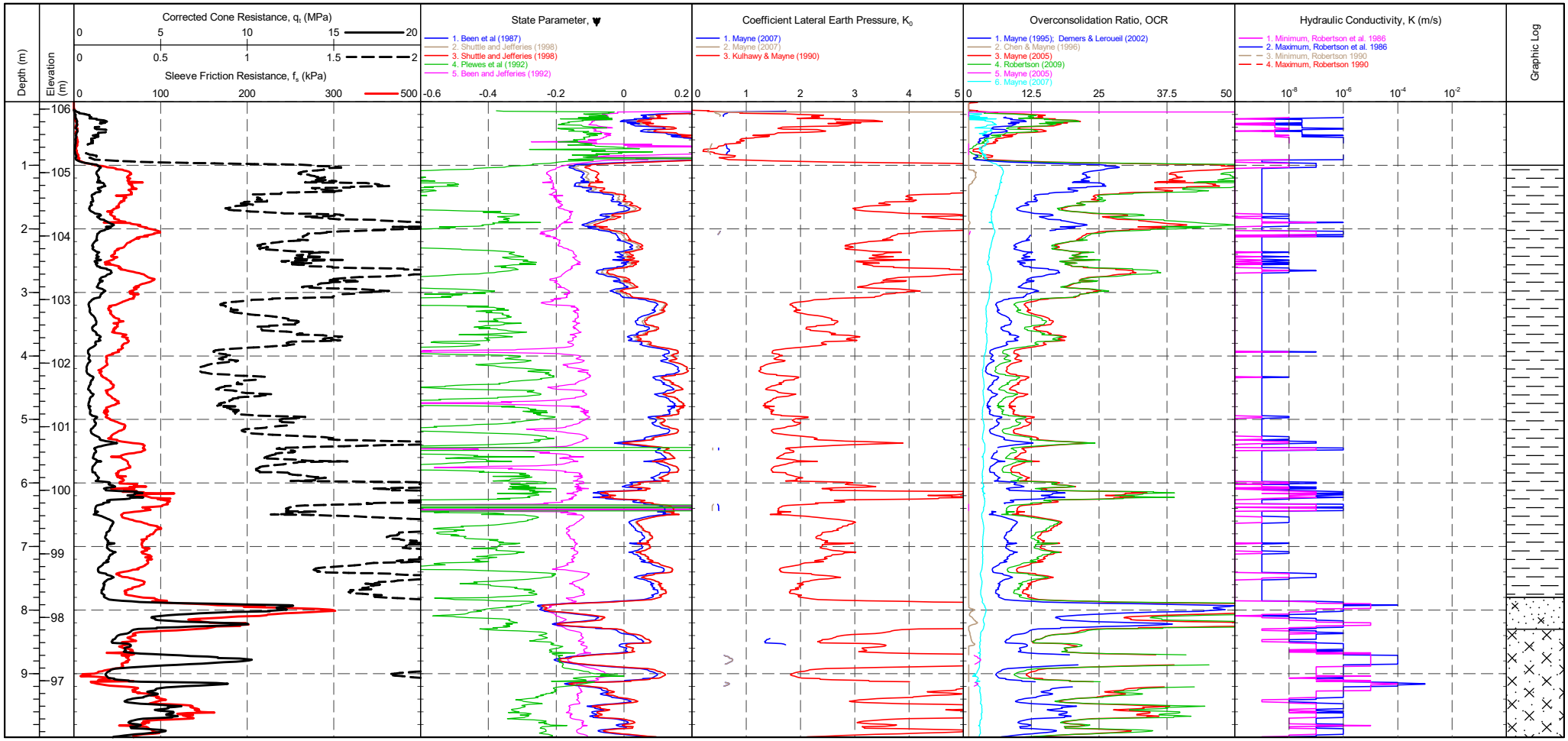
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT02**

CLIENT : Delta Simons	EASTING : 490949.518 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290883.378 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.114 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	362 mV	391 mV	0.321 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	285 mV	284 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	203 mV	254 mV	0.012 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2671 mV	2620 mV	

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

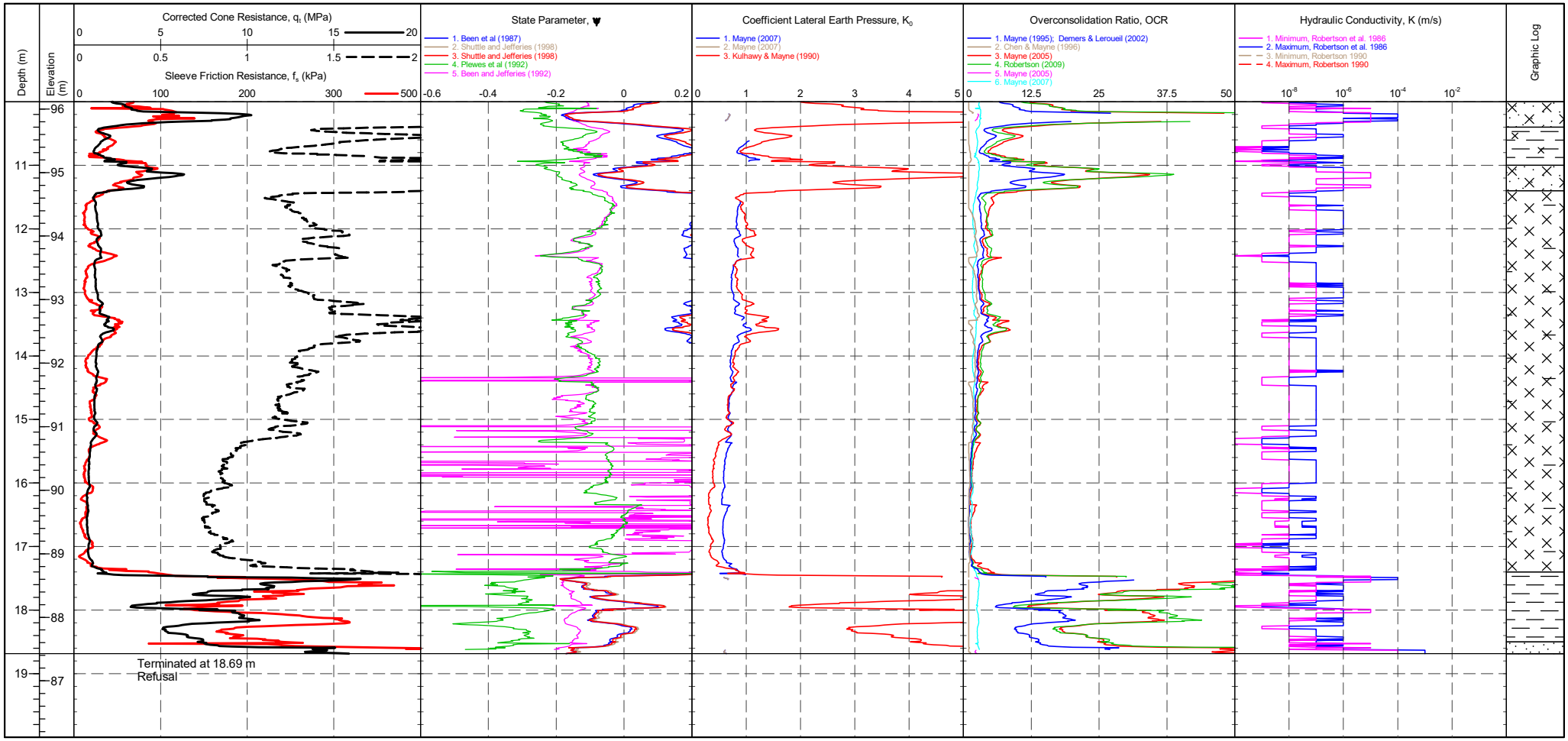
PointID **CPT02**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490949.518 m
NORTHING : 290883.378 m
ELEVATION : 106.114 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	362 mV	391 mV	0.321 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	285 mV	284 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	203 mV	254 mV	0.012 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2671 mV	2620 mV	

Groundwater Level

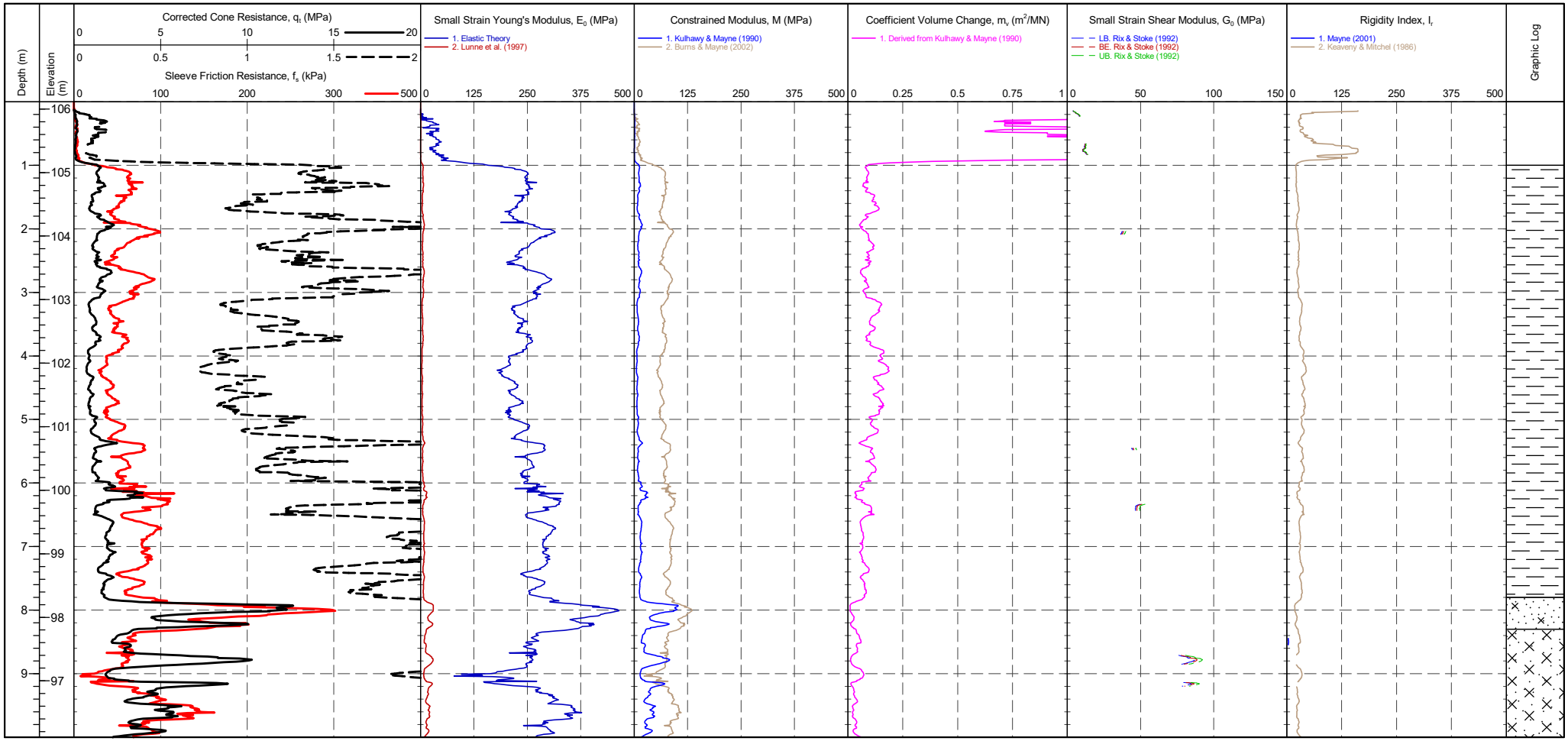
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT02**

CLIENT : Delta Simons	EASTING : 490949.518 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290883.378 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.114 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	362 mV	391 mV	0.321 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	285 mV	284 mV	-0.001 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	203 mV	254 mV	0.012 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2671 mV	2620 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

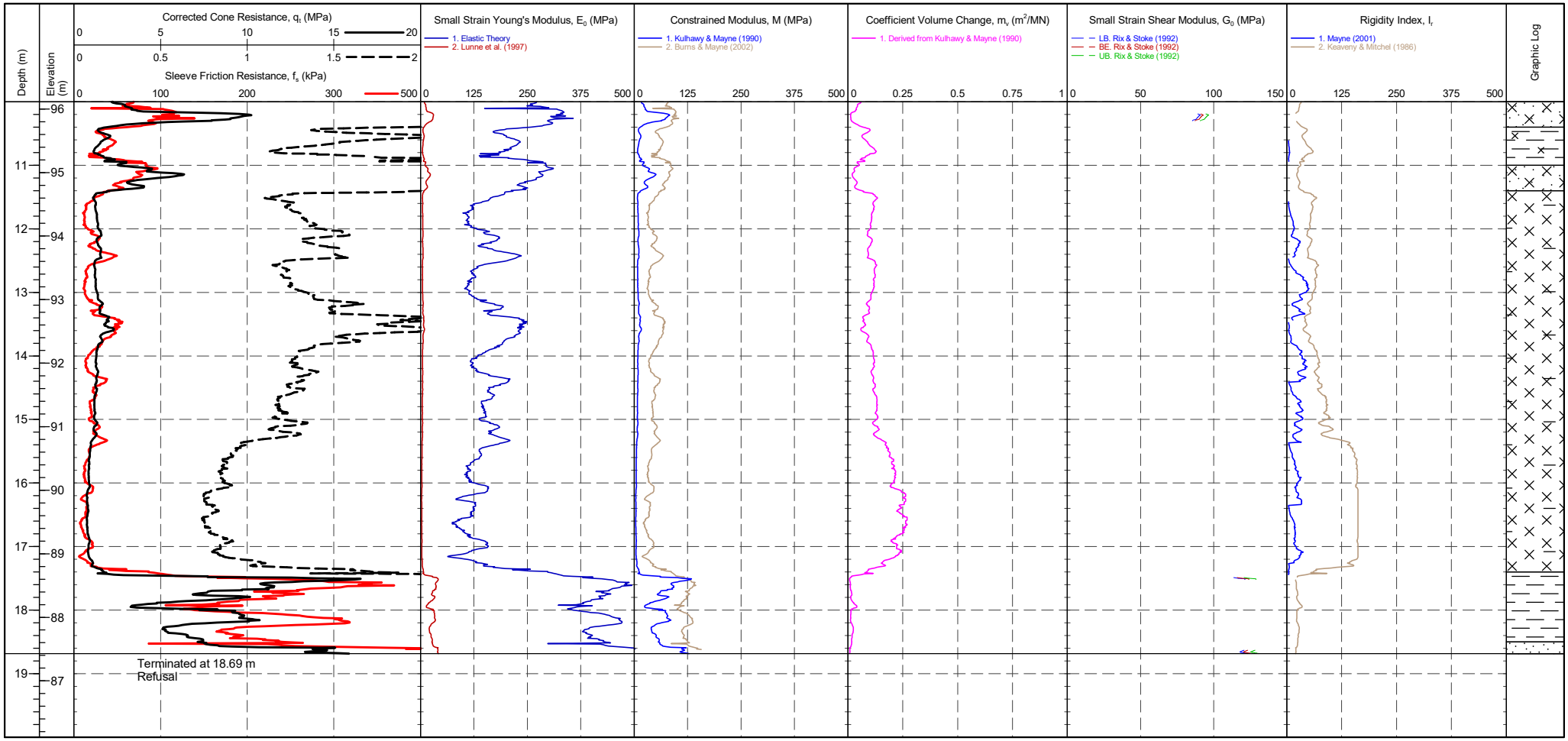
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT02**

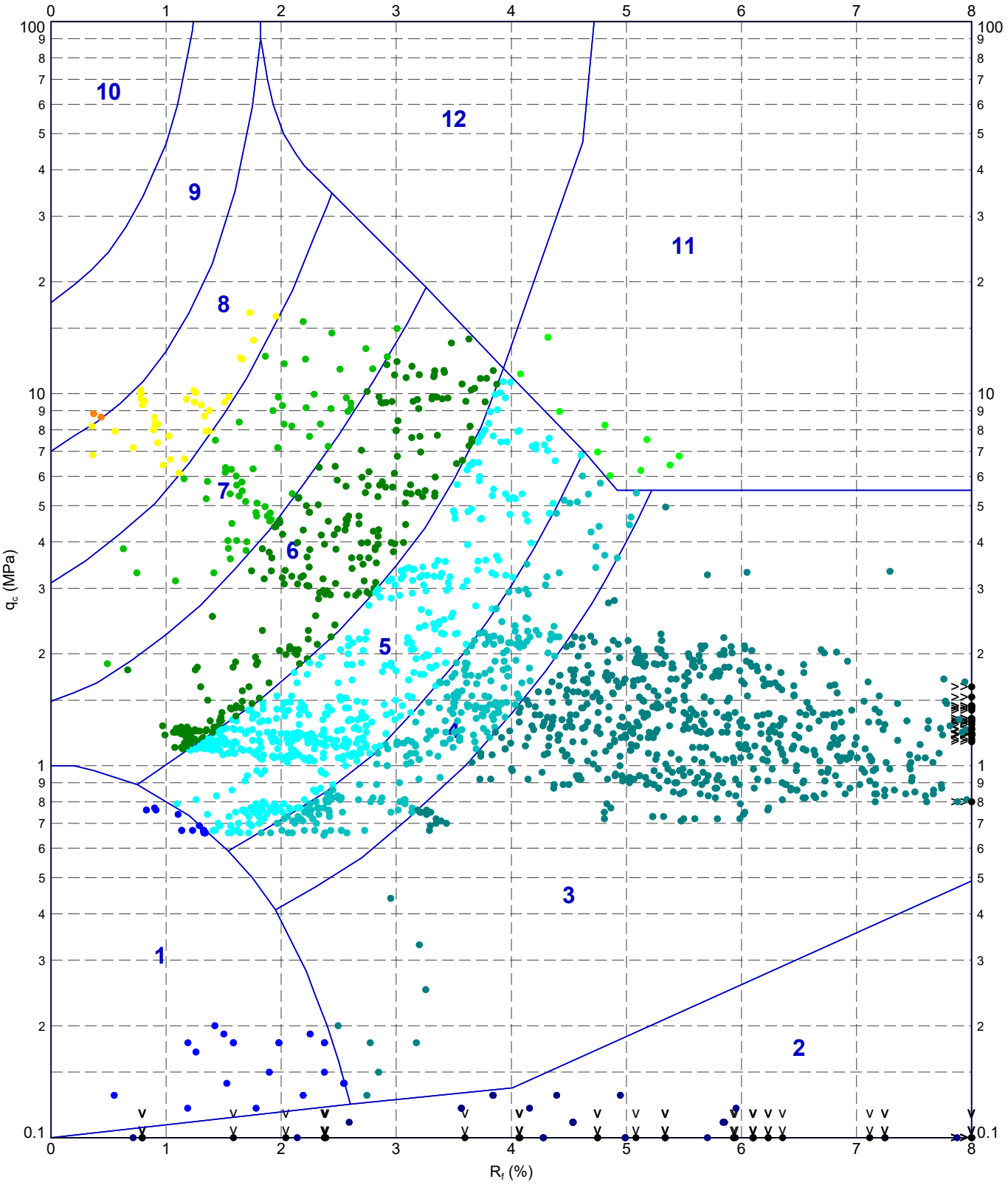
CLIENT : Delta Simons	EASTING : 490949.518 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290883.378 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.114 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	362 mV	391 mV	0.321 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	285 mV	284 mV	-0.001 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	203 mV	254 mV	0.012 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2671 mV	2620 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU
SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT02

DRAWN	DATE 04/03/2022	
CHECKED	DATE 04/03/2022	
SCALE Not To Scale		A4
PROJECT No 1220144	FIGURE No	

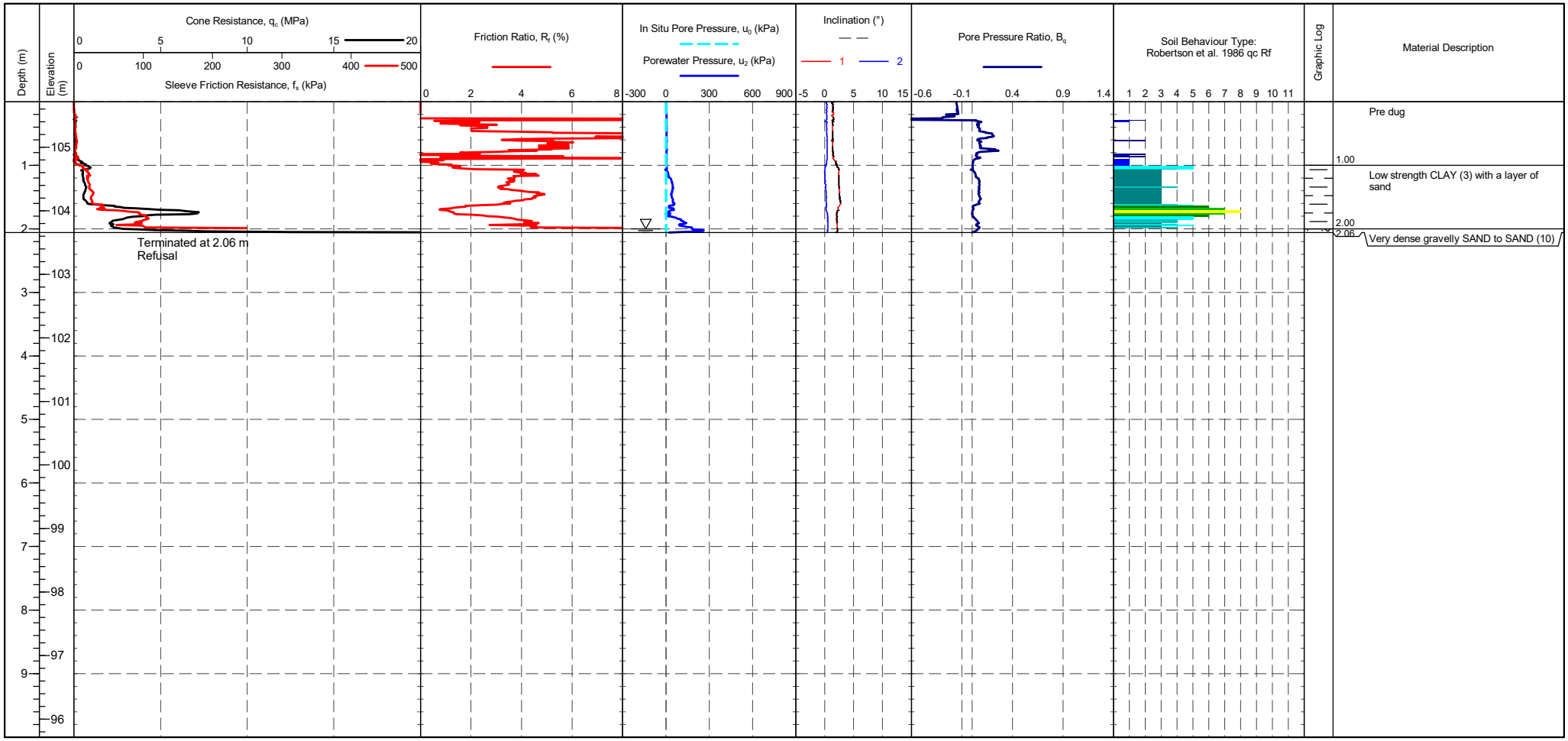
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT03**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm^2	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	360 mV	361 mV	0.011 MPa
Sleeve	288 mV	288 mV	0 kPa
Pore Pressure 2	200 mV	200 mV	0 kPa
X-Y Inclinometer	2686 mV	2655 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

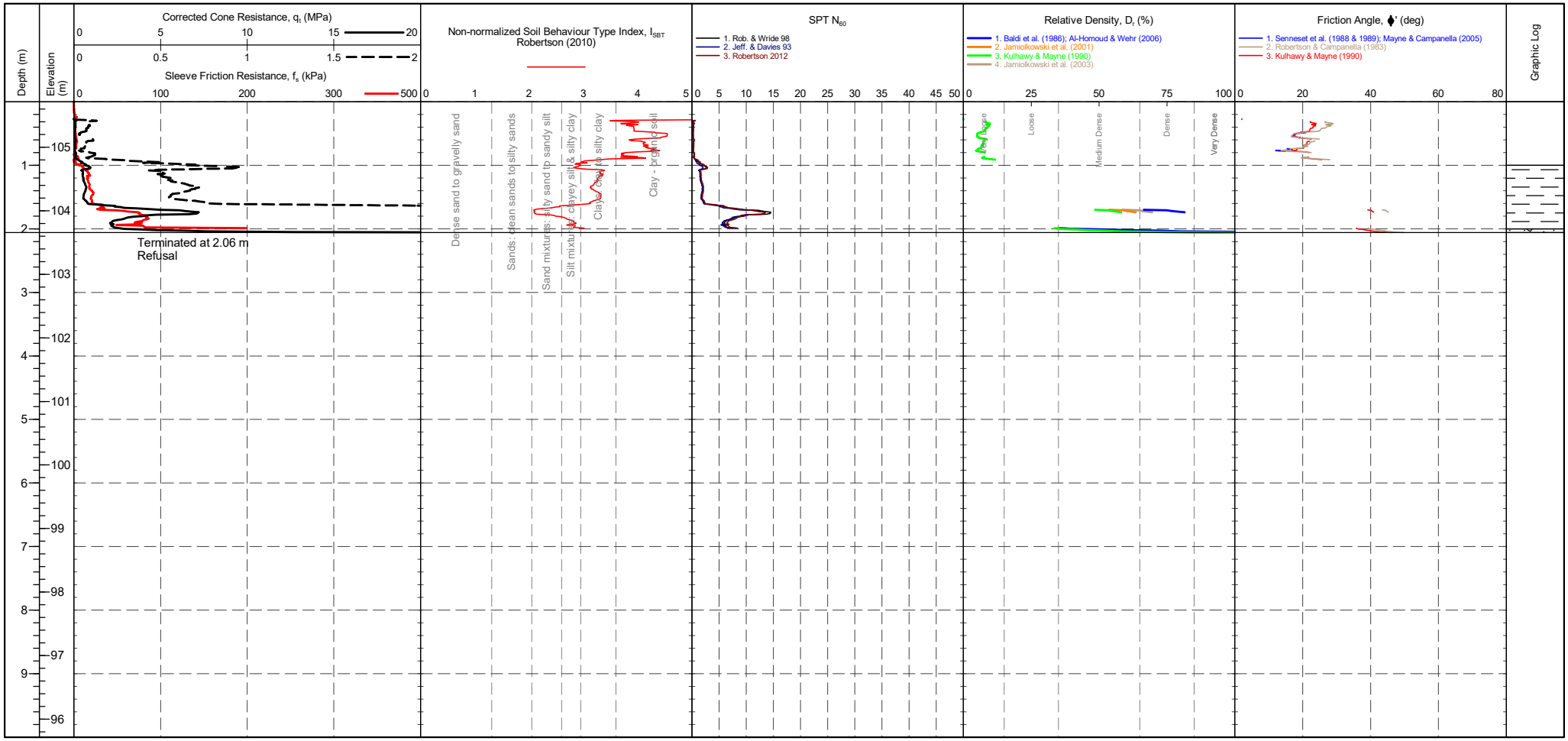
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID: **CPT03**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	360 mV	361 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	288 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	200 mV	200 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2686 mV	2655 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

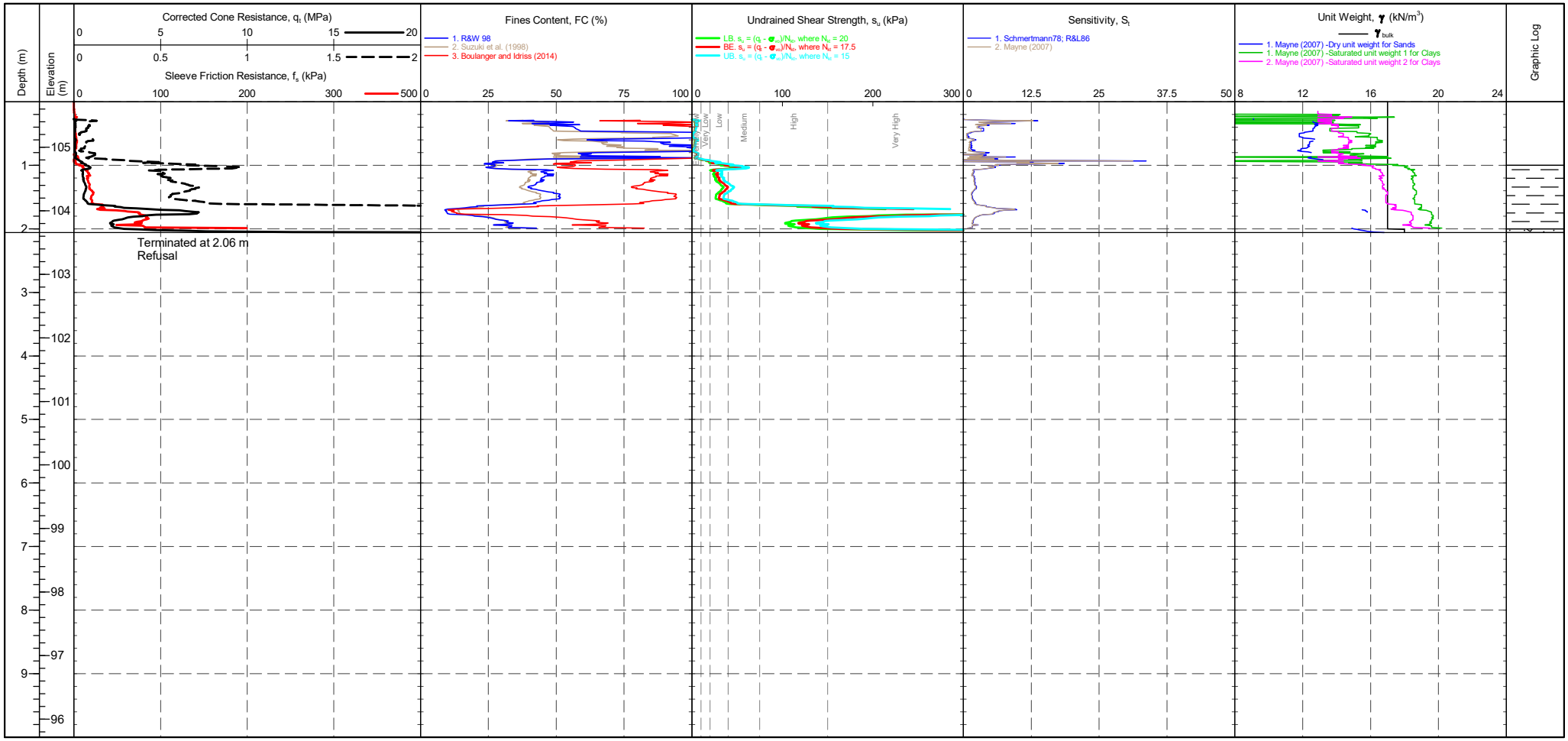
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT03**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	360 mV	361 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	288 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	200 mV	200 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2686 mV	2655 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

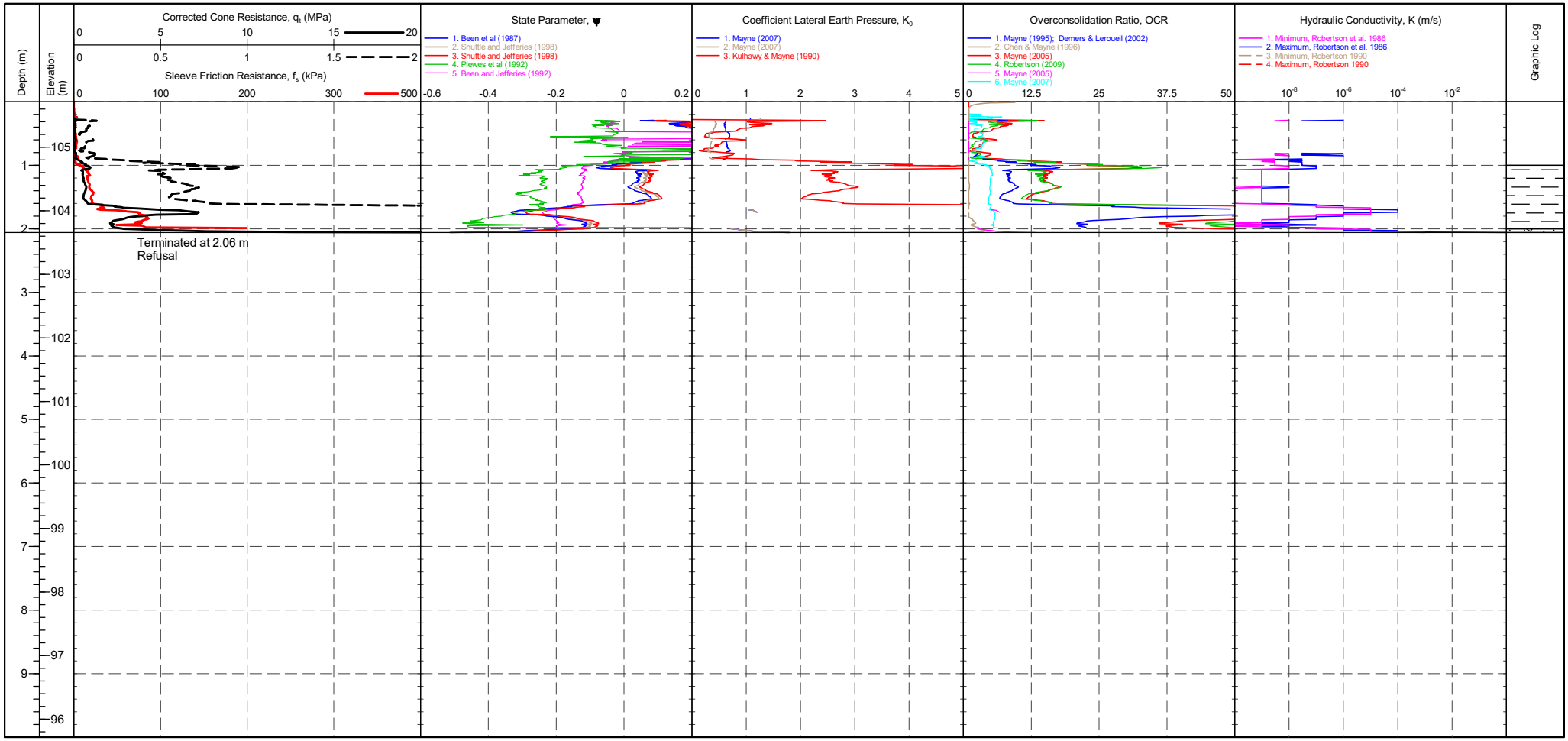
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT03**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	360 mV	361 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	288 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	200 mV	200 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2686 mV	2655 mV	

Groundwater Level

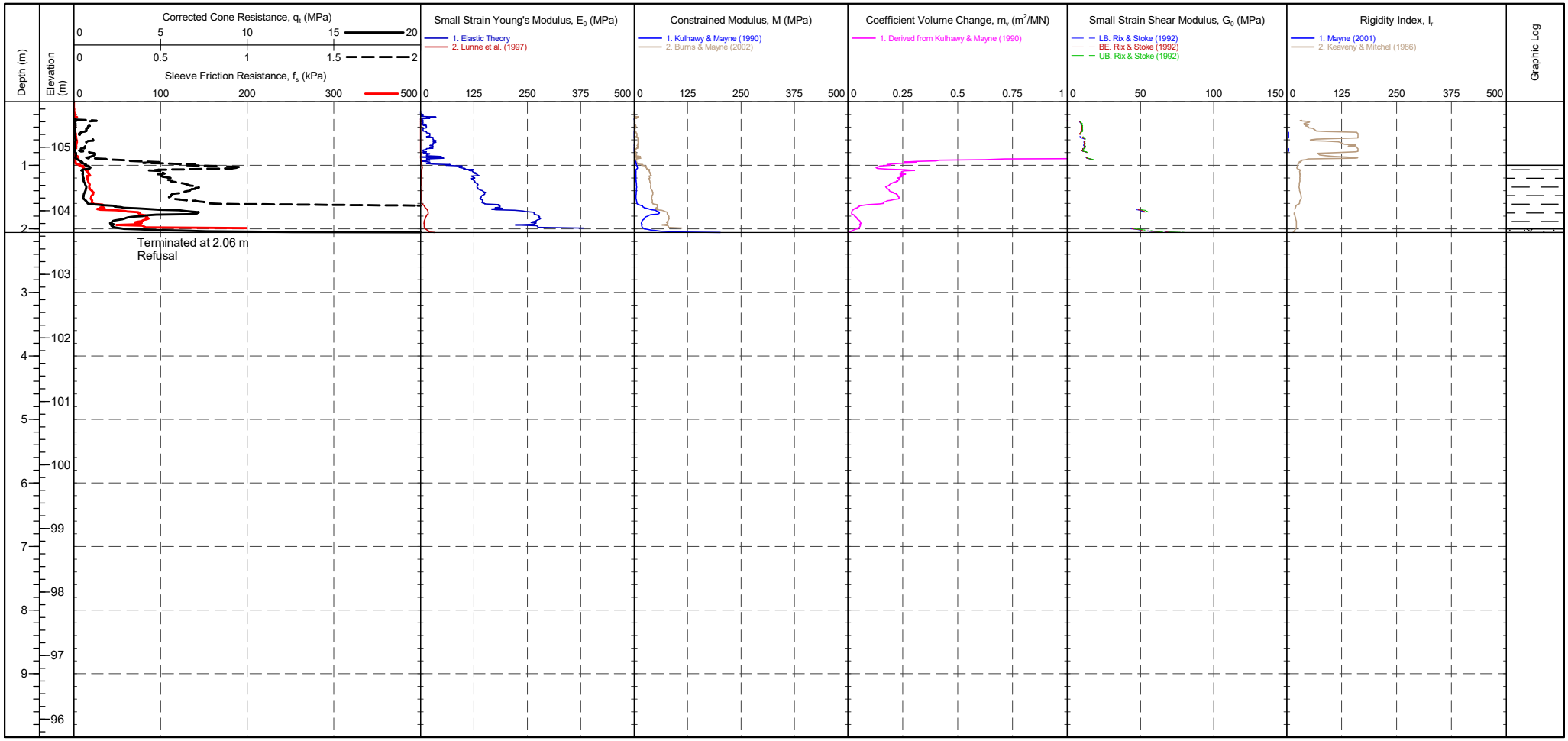
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT03**

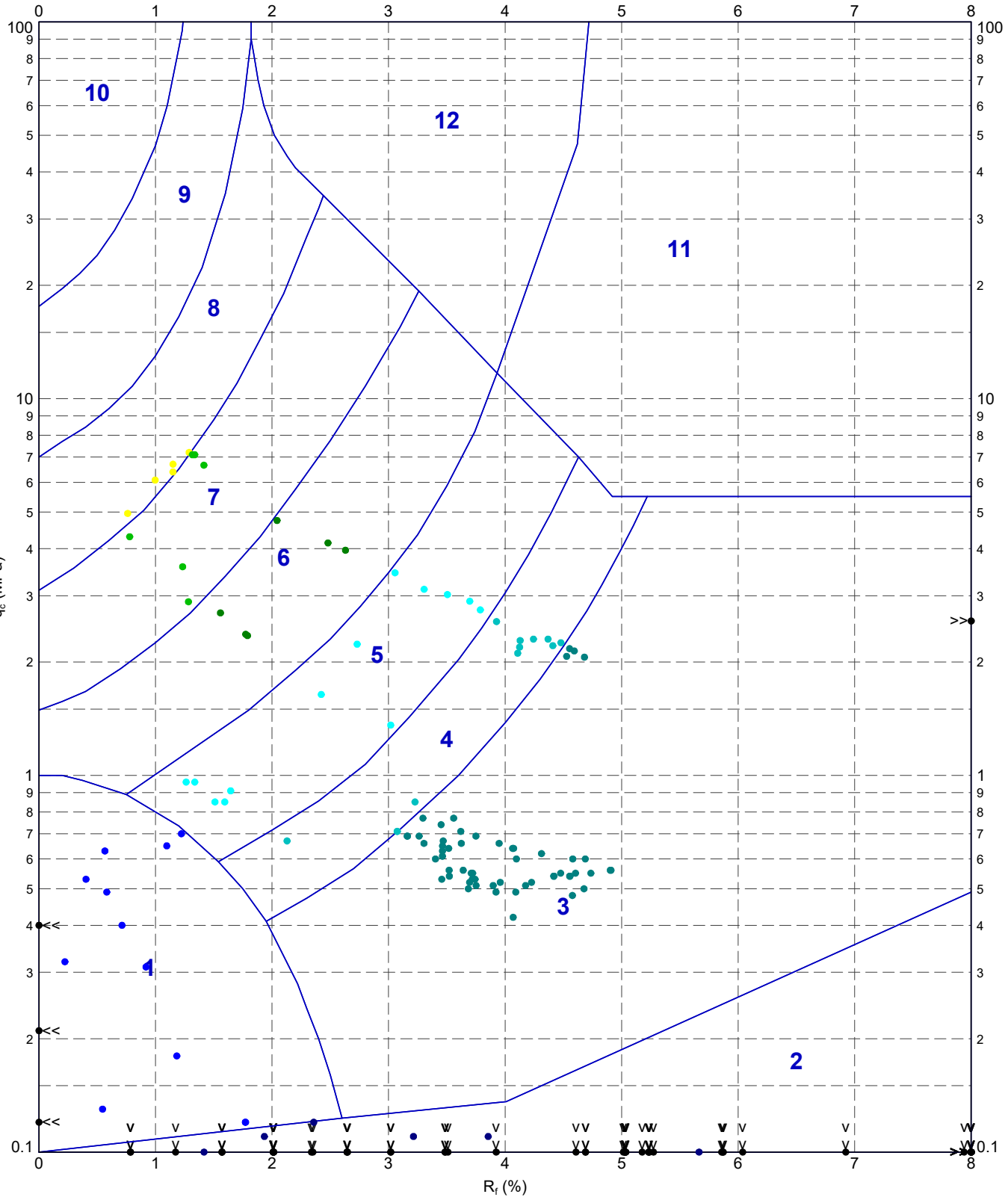
CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	360 mV	361 mV	0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	288 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	200 mV	200 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2686 mV	2655 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT03

DRAWN	DATE 04/03/2022
CHECKED	DATE 04/03/2022
SCALE Not To Scale	A4
PROJECT No 1220144	FIGURE No

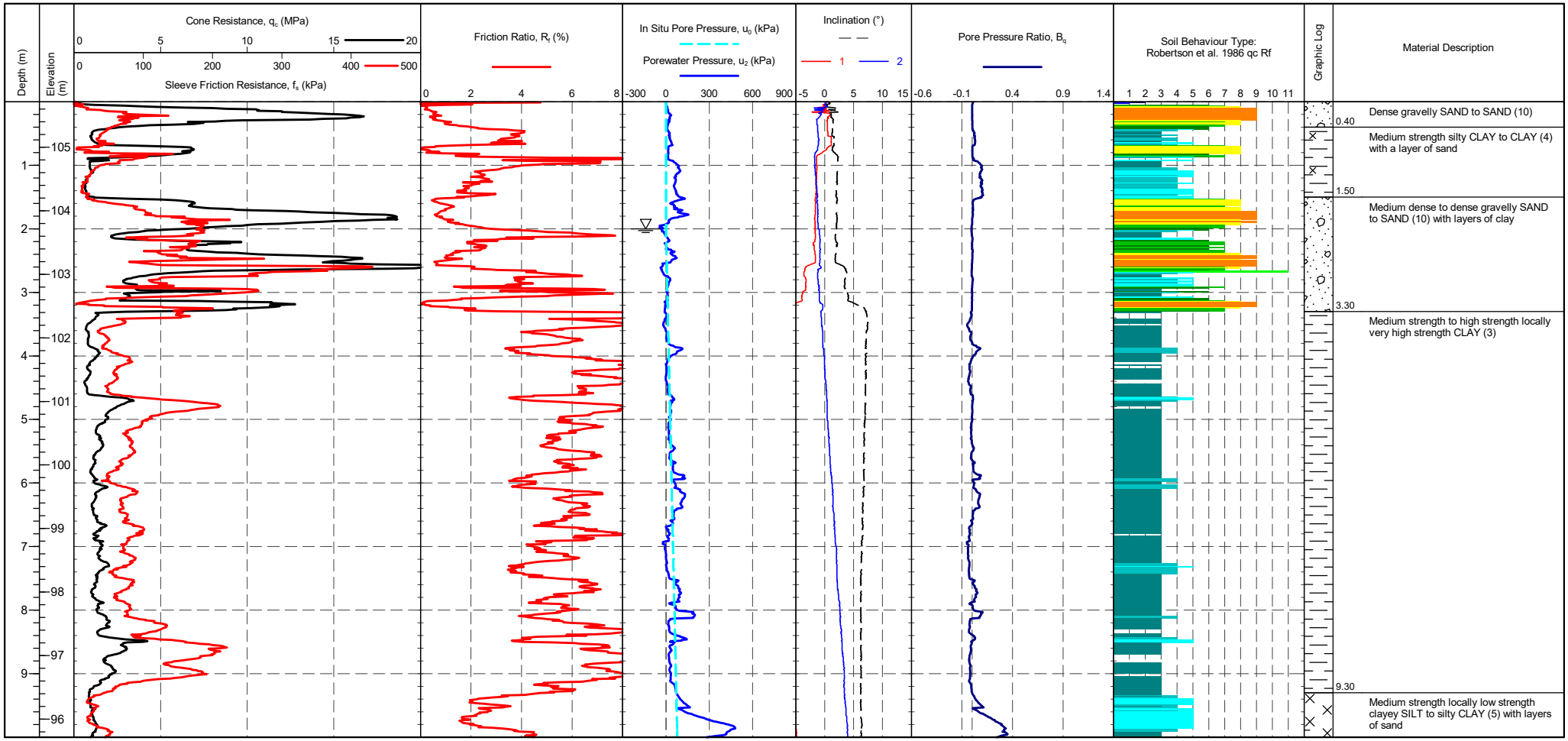
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT03A**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	361 mV	360 mV	-0.011 MPa
Sleeve	289 mV	286 mV	-0.002 kPa
Pore Pressure 2	206 mV	216 mV	0.002 kPa
X-Y Inclinometer	2552 mV	2612 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

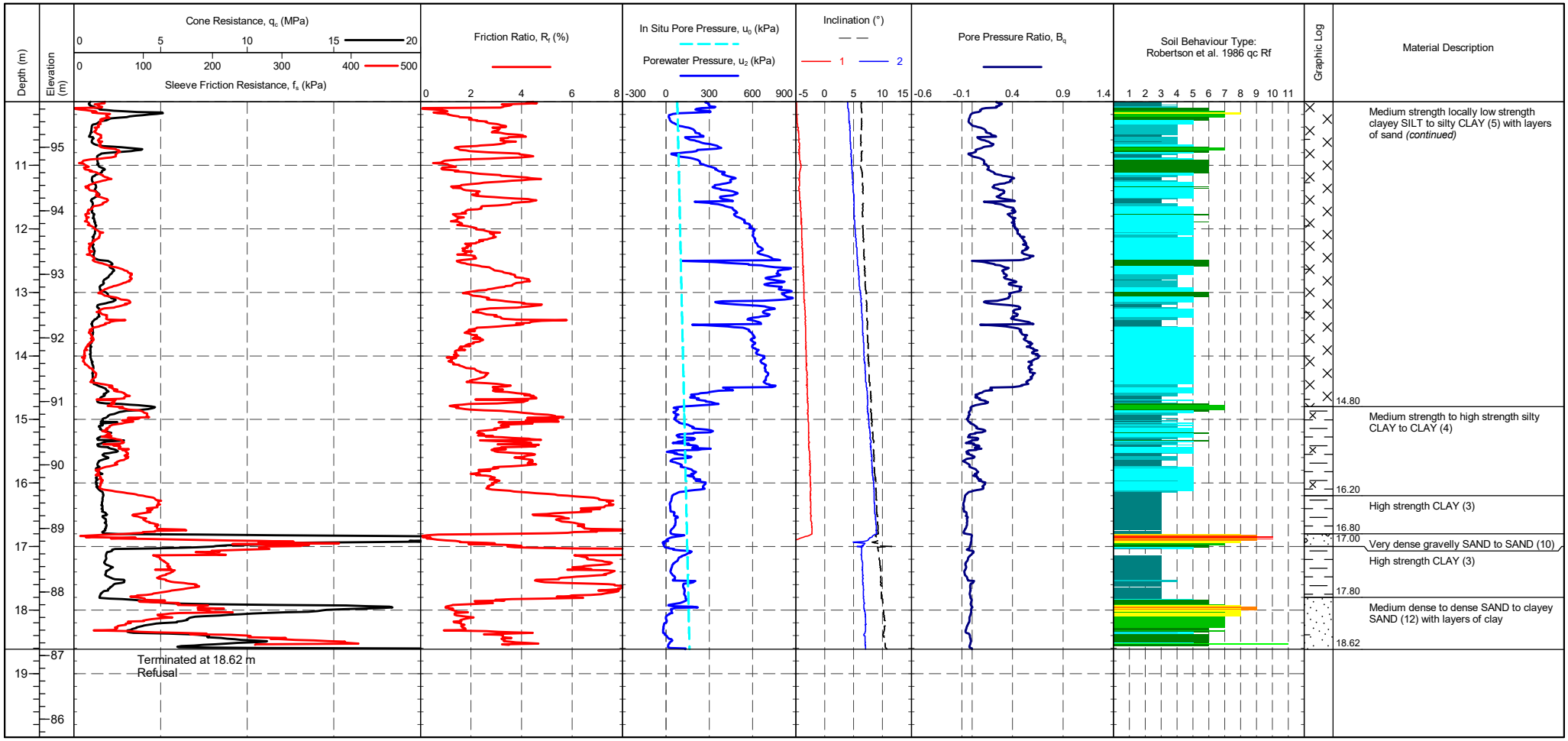
IN SITU SITE INVESTIGATION

Working with: deltasimons (Lincoln | Durham | Norwich | Leeds | Manchester | London)

CPT LOG 01

PointID: **CPT03A**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	361 mV	360 mV	-0.011 MPa
Sleeve	289 mV	286 mV	-0.002 kPa
Pore Pressure 2	206 mV	216 mV	0.002 kPa
X-Y Inclinometer	2552 mV	2612 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

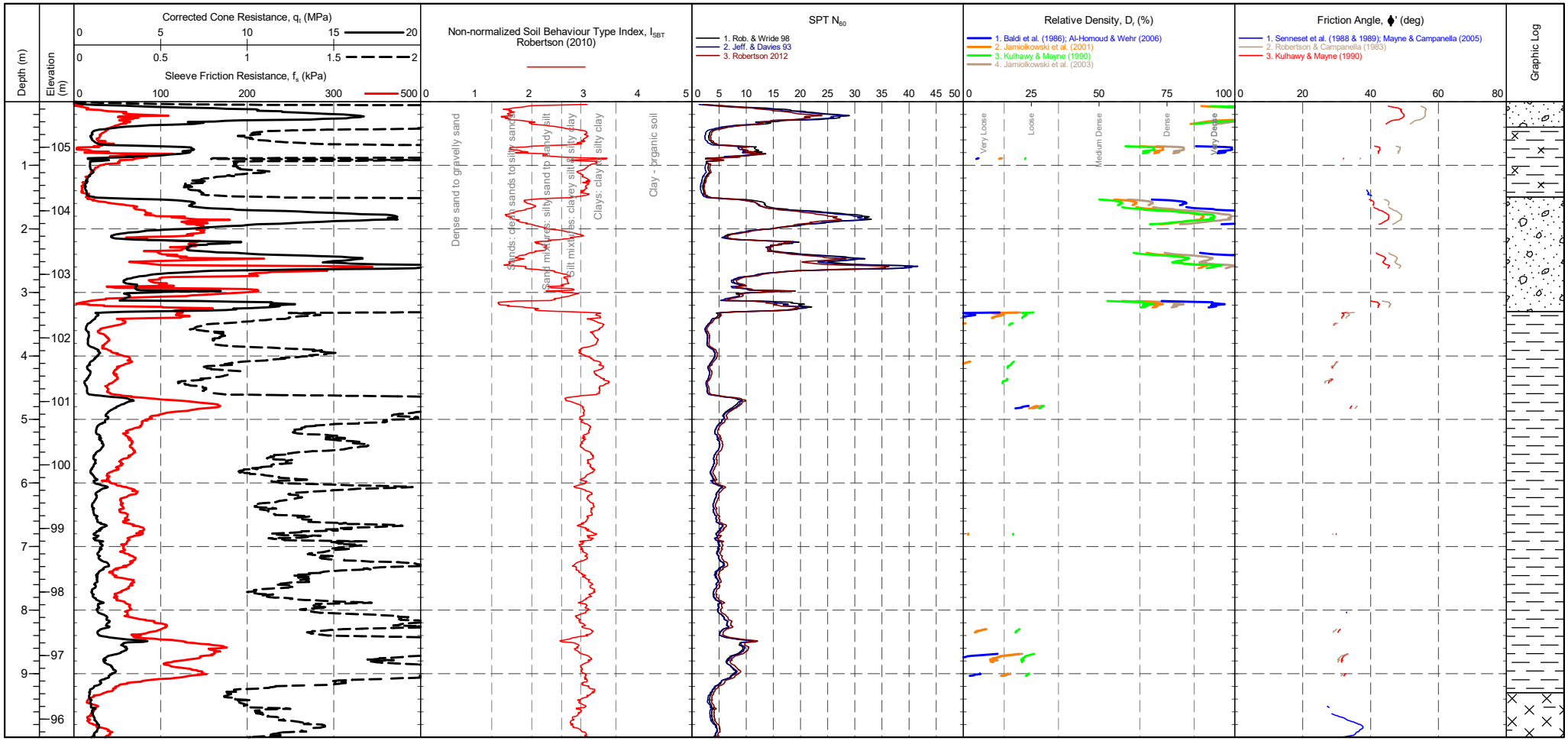
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT03A**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	361 mV	360 mV	-0.011 MPa
Sleeve	289 mV	286 mV	-0.002 kPa
Pore Pressure 2	206 mV	216 mV	0.002 kPa
X-Y Inclinometer	2552 mV	2612 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

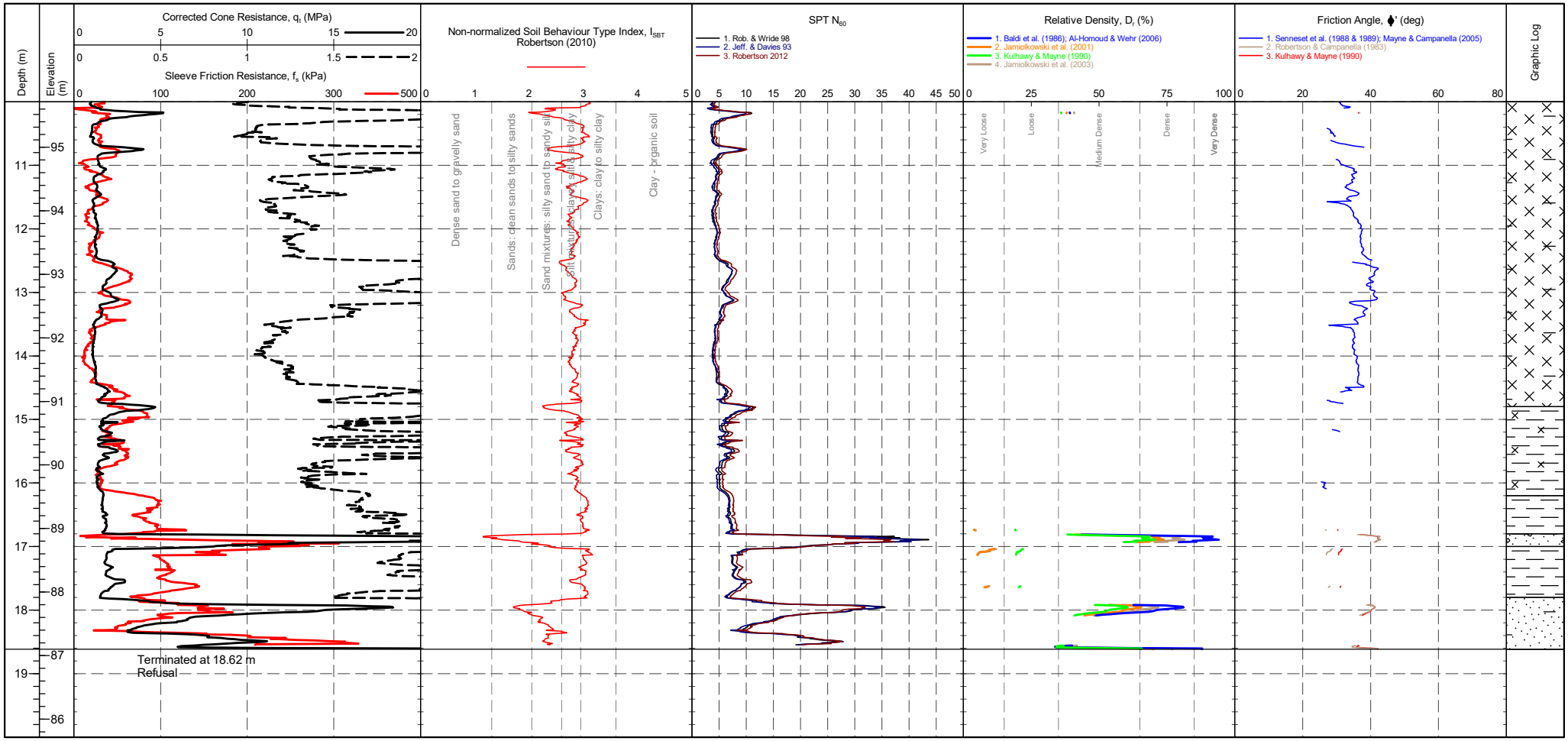
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT03A**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	361 mV	360 mV
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	286 mV
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	206 mV	216 mV
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2552 mV	2612 mV

Difference
-0.011 MPa
-0.002 kPa
0.002 kPa

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

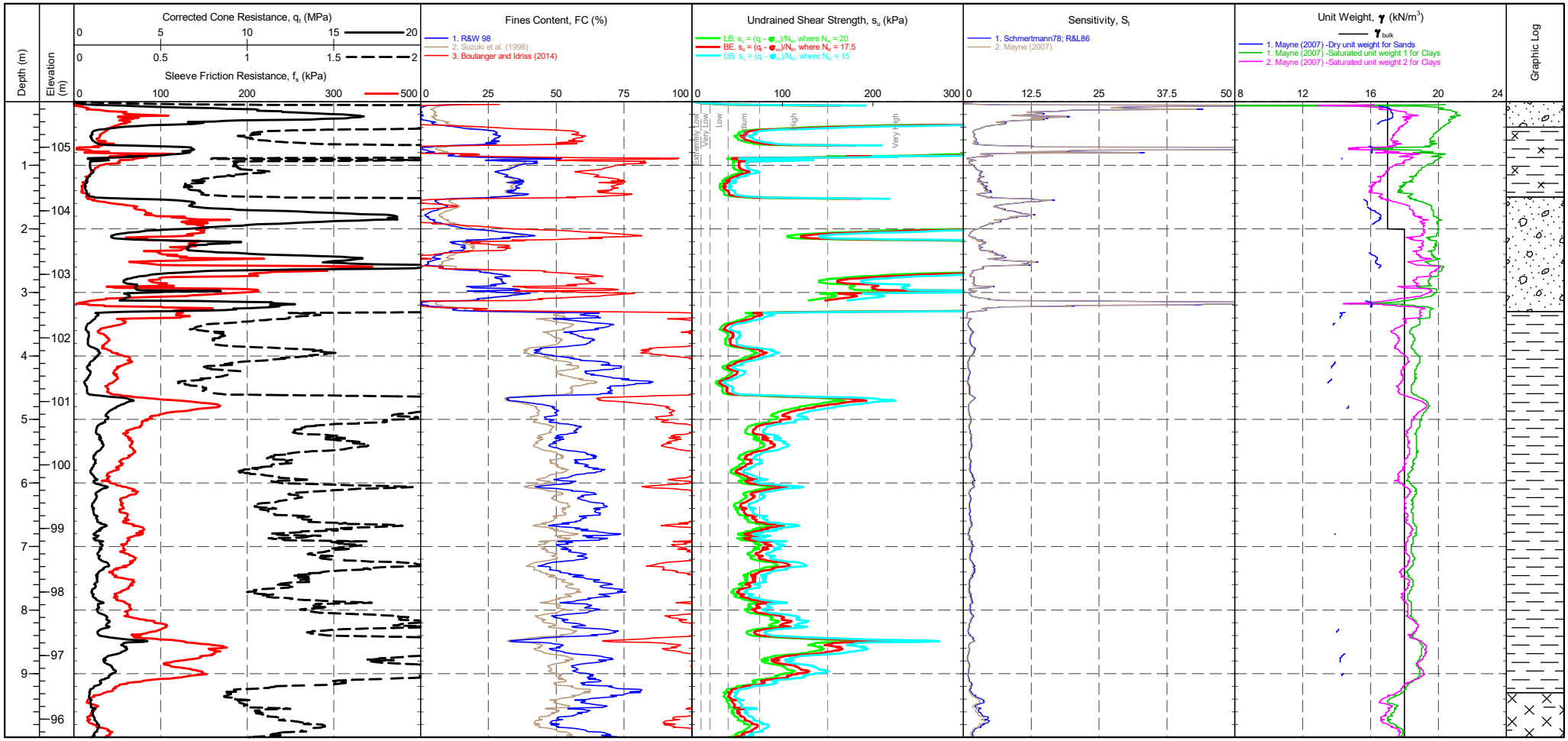
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID **CPT03A**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	361 mV	360 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	286 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	206 mV	216 mV	0.002 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2552 mV	2612 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

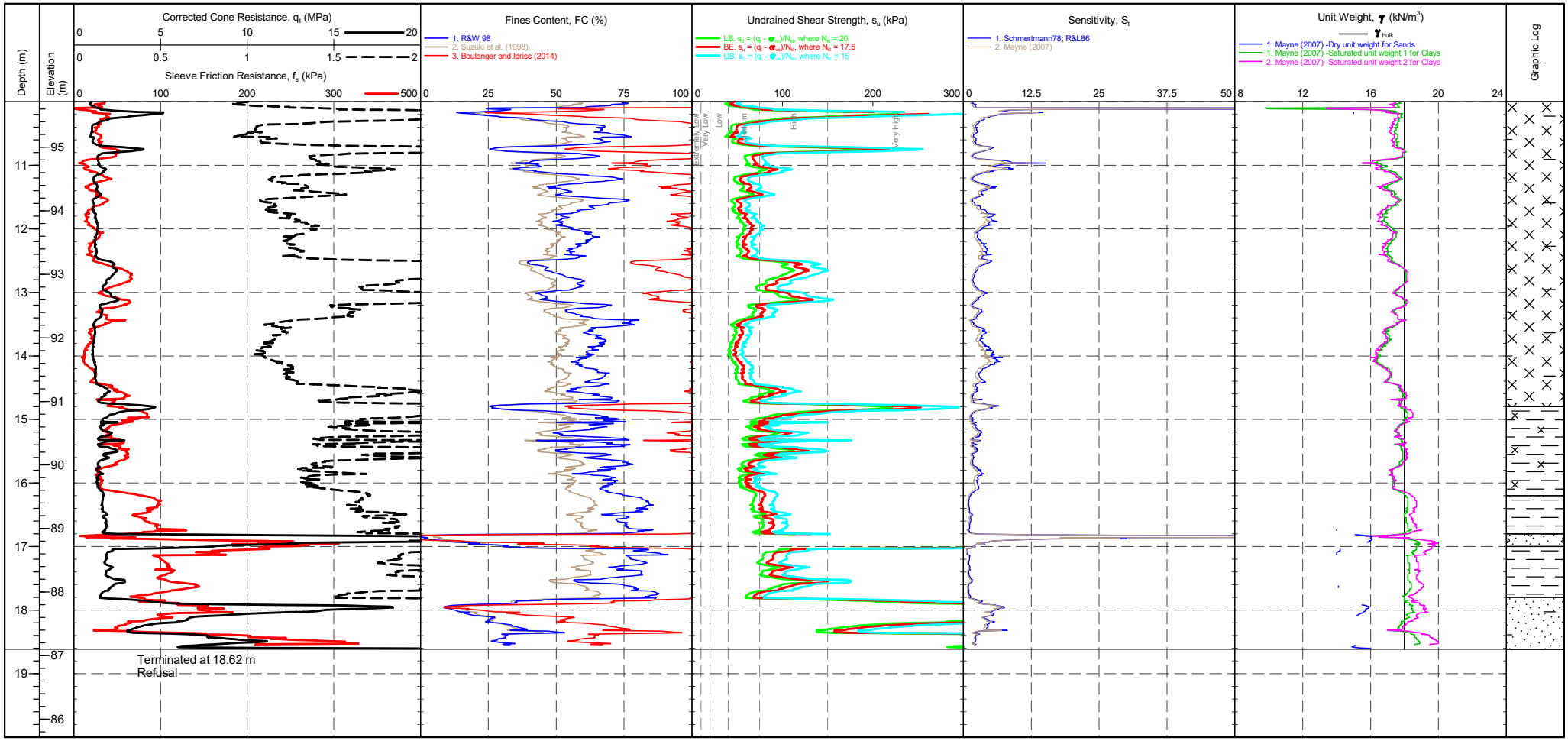
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID **CPT03A**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	361 mV	360 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	286 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	206 mV	216 mV	0.002 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2552 mV	2612 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

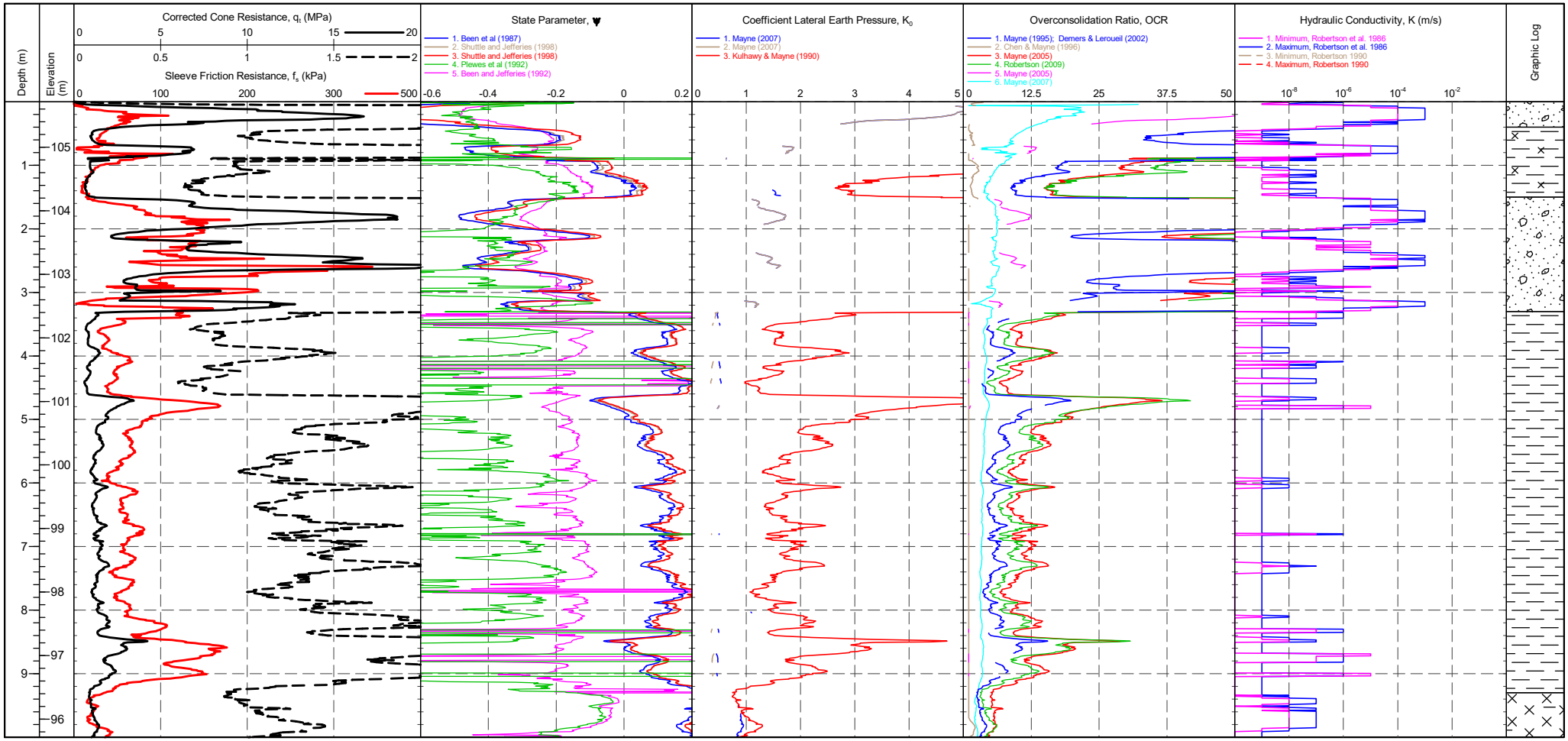
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID **CPT03A**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	361 mV	360 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	286 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	206 mV	216 mV	0.002 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2552 mV	2612 mV	

Groundwater Level

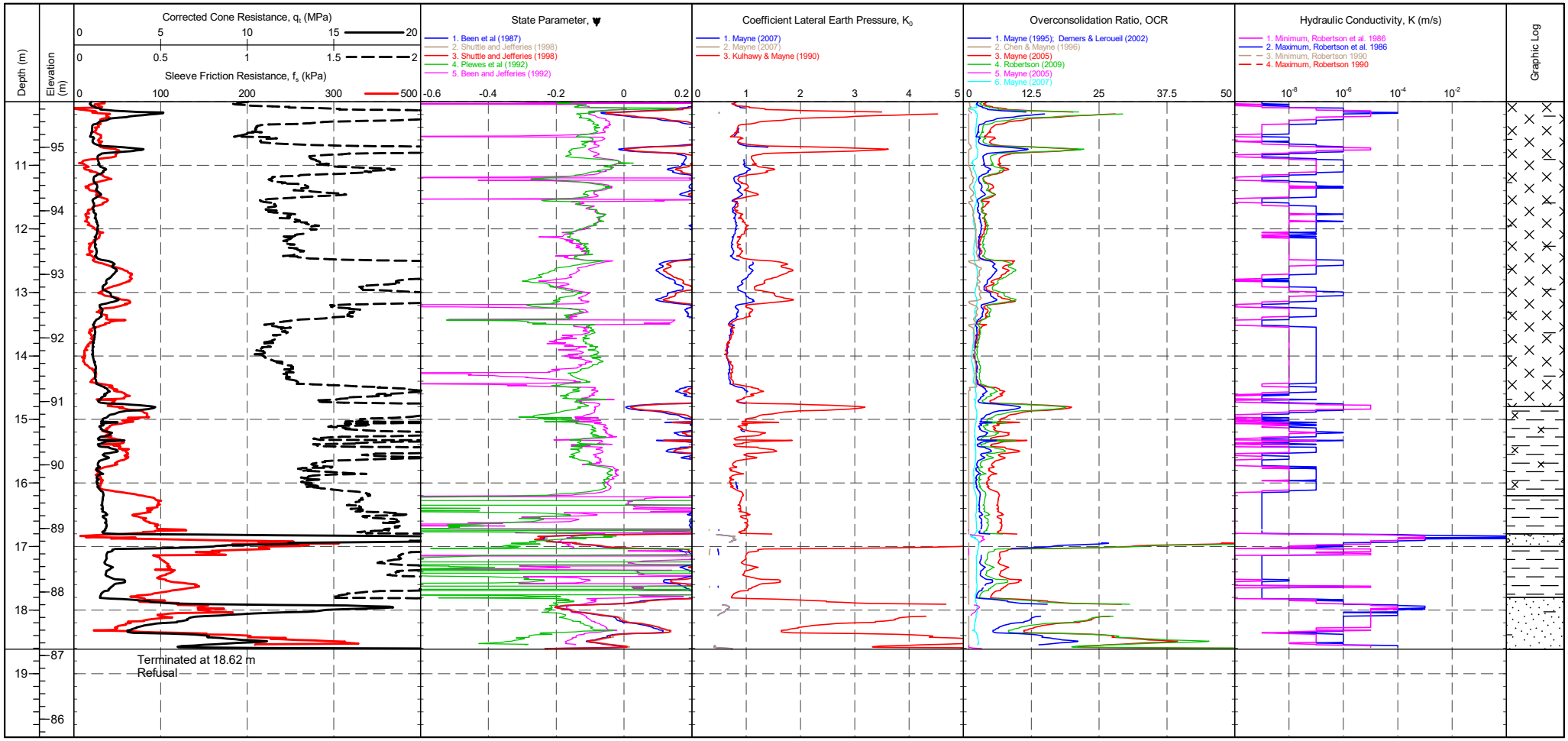
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT03A**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	361 mV	360 mV	-0.011 MPa
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Sleeve	289 mV	286 mV	-0.002 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	206 mV	216 mV	0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2552 mV	2612 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

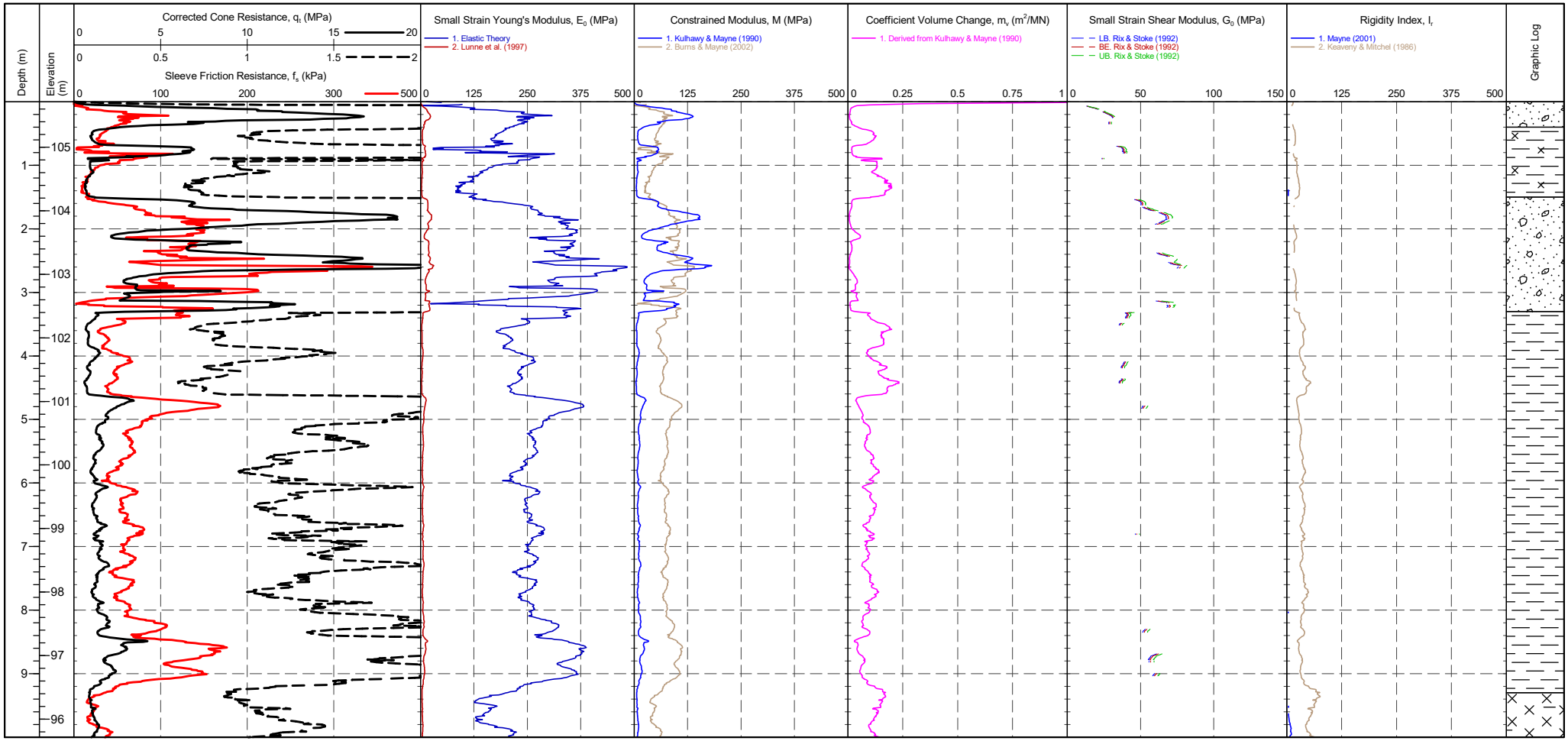
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT03A**

CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	361 mV	360 mV	-0.011 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	289 mV	286 mV	-0.002 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	206 mV	216 mV	0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2552 mV	2612 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

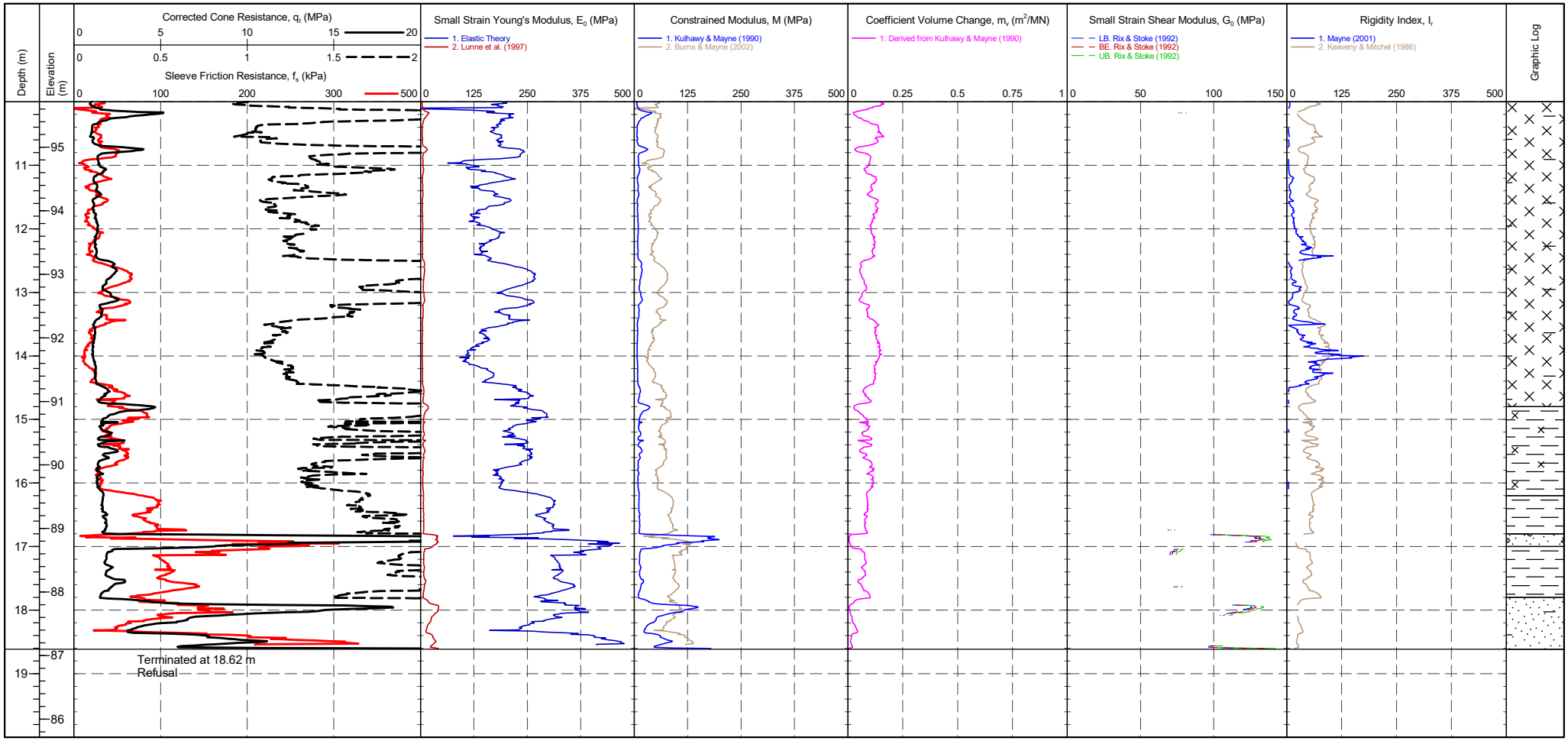
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID **CPT03A**

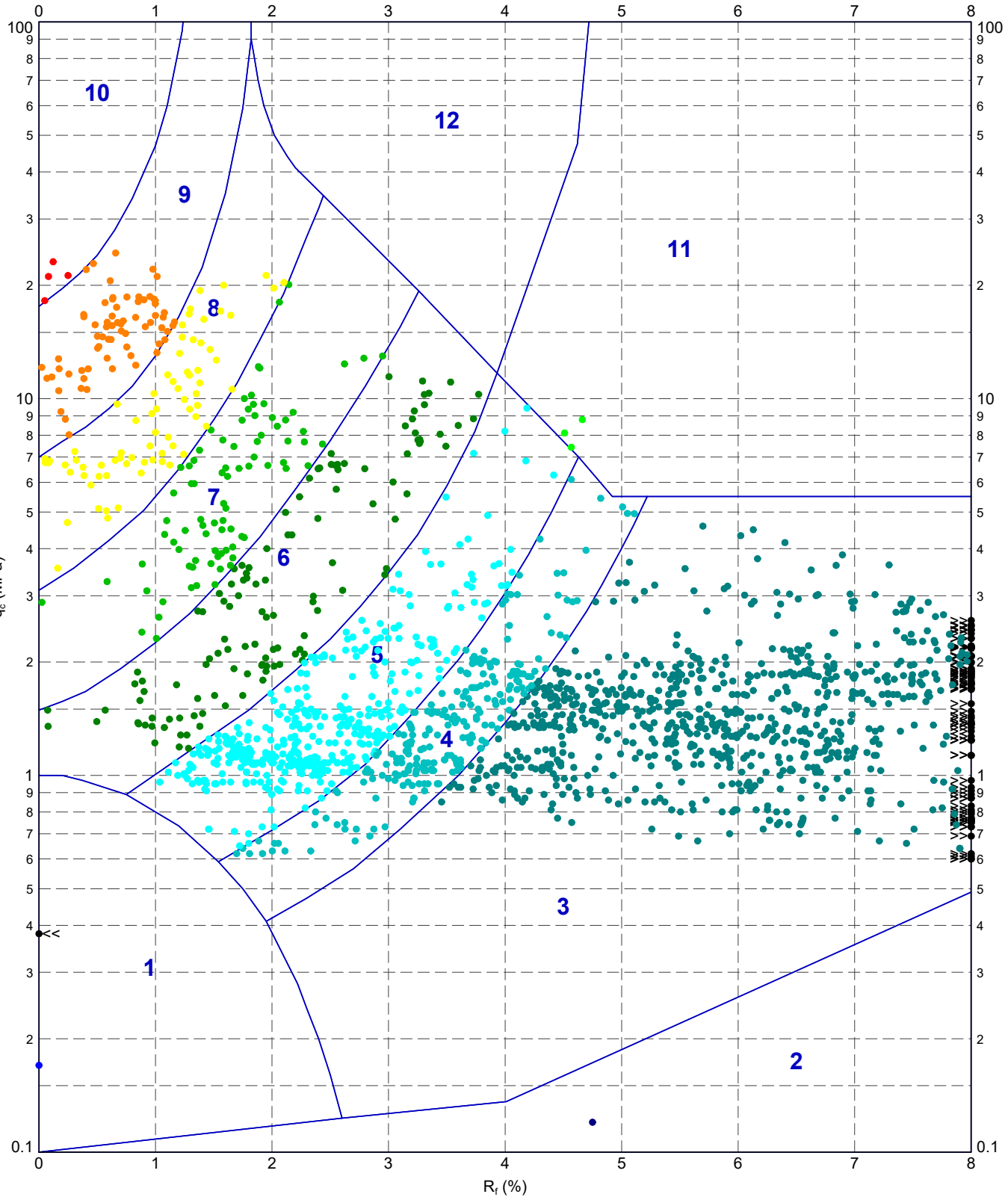
CLIENT : Delta Simons	EASTING : 491001.394 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290915.219 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.716 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	361 mV	360 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	286 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	206 mV	216 mV	0.002 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2552 mV	2612 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT03A

DRAWN	DATE 04/03/2022
CHECKED	DATE 04/03/2022
SCALE Not To Scale	A4
PROJECT No 1220144	FIGURE No

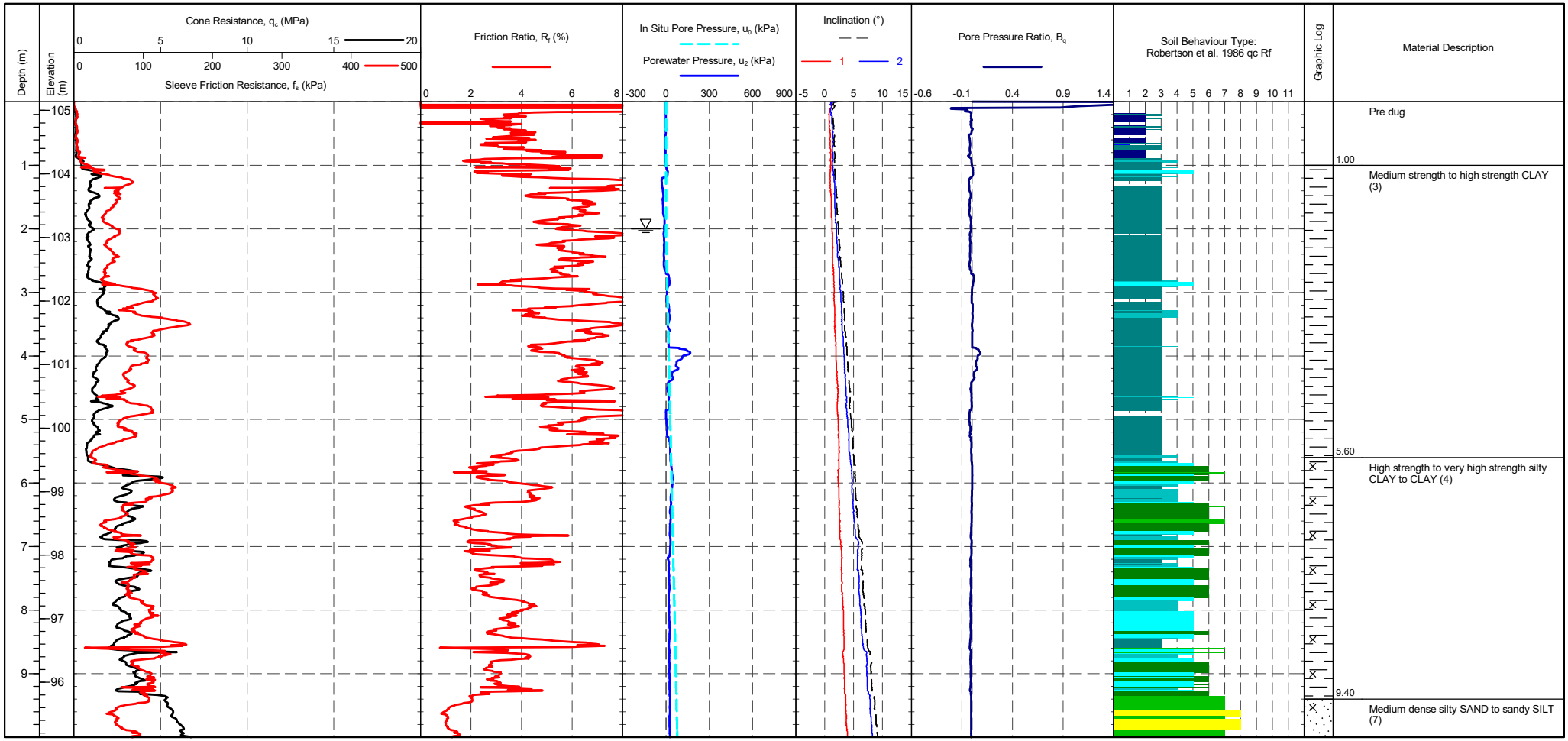
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT04**

CLIENT : Delta Simons	EASTING : 490956.086 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290835.720 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.136 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	361 mV	357 mV	-0.044 MPa
Sleeve	287 mV	284 mV	-0.002 kPa
Pore Pressure 2	279 mV	235 mV	-0.01 kPa
X-Y Inclinometer	2664 mV	2630 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

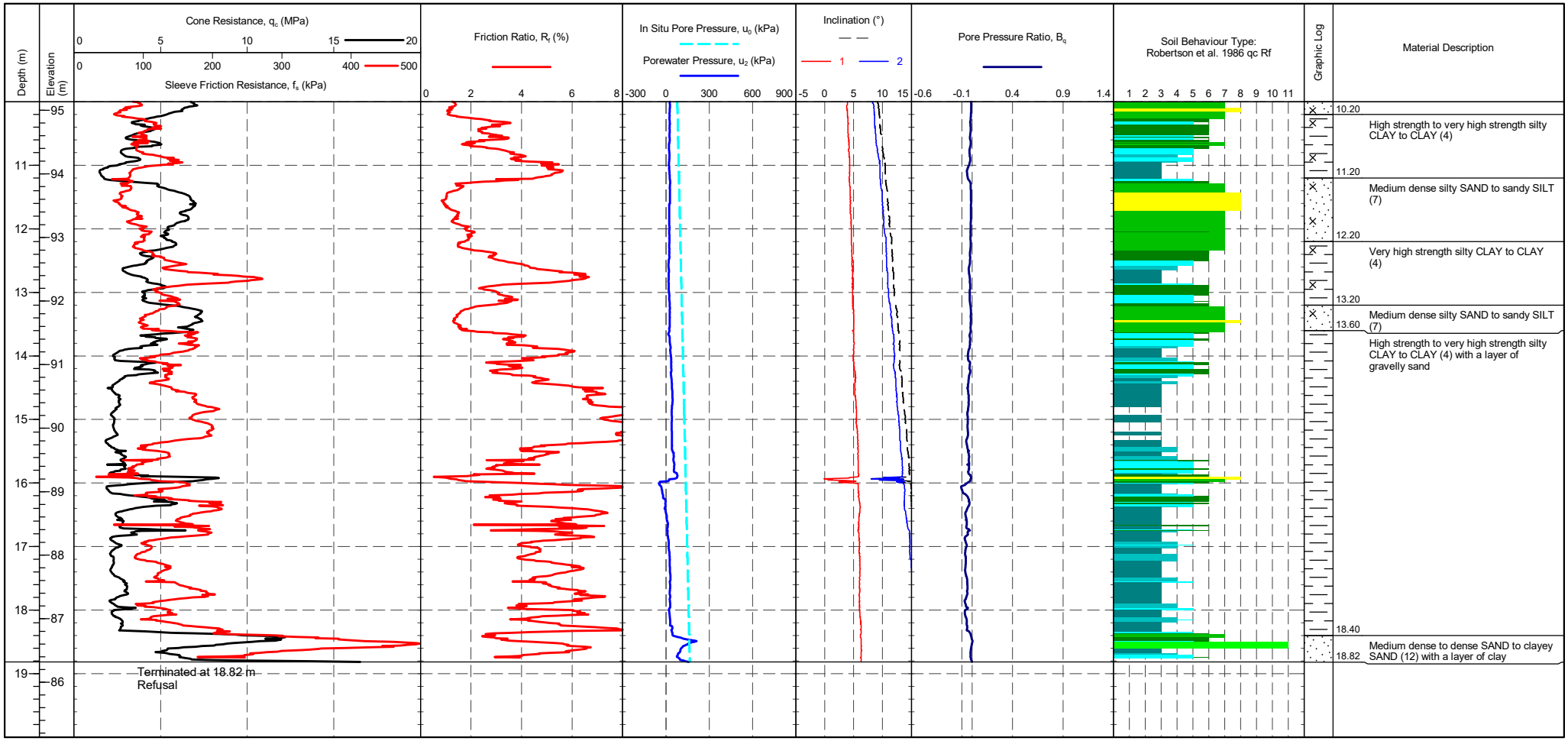
PointID: **CPT04**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490956.086 m
NORTHING : 290835.720 m
ELEVATION : 105.136 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 10/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm^2	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	361 mV	357 mV	-0.044 MPa
Sleeve	287 mV	284 mV	-0.002 kPa
Pore Pressure 2	279 mV	235 mV	-0.01 kPa
X-Y Inclinometer	2664 mV	2630 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

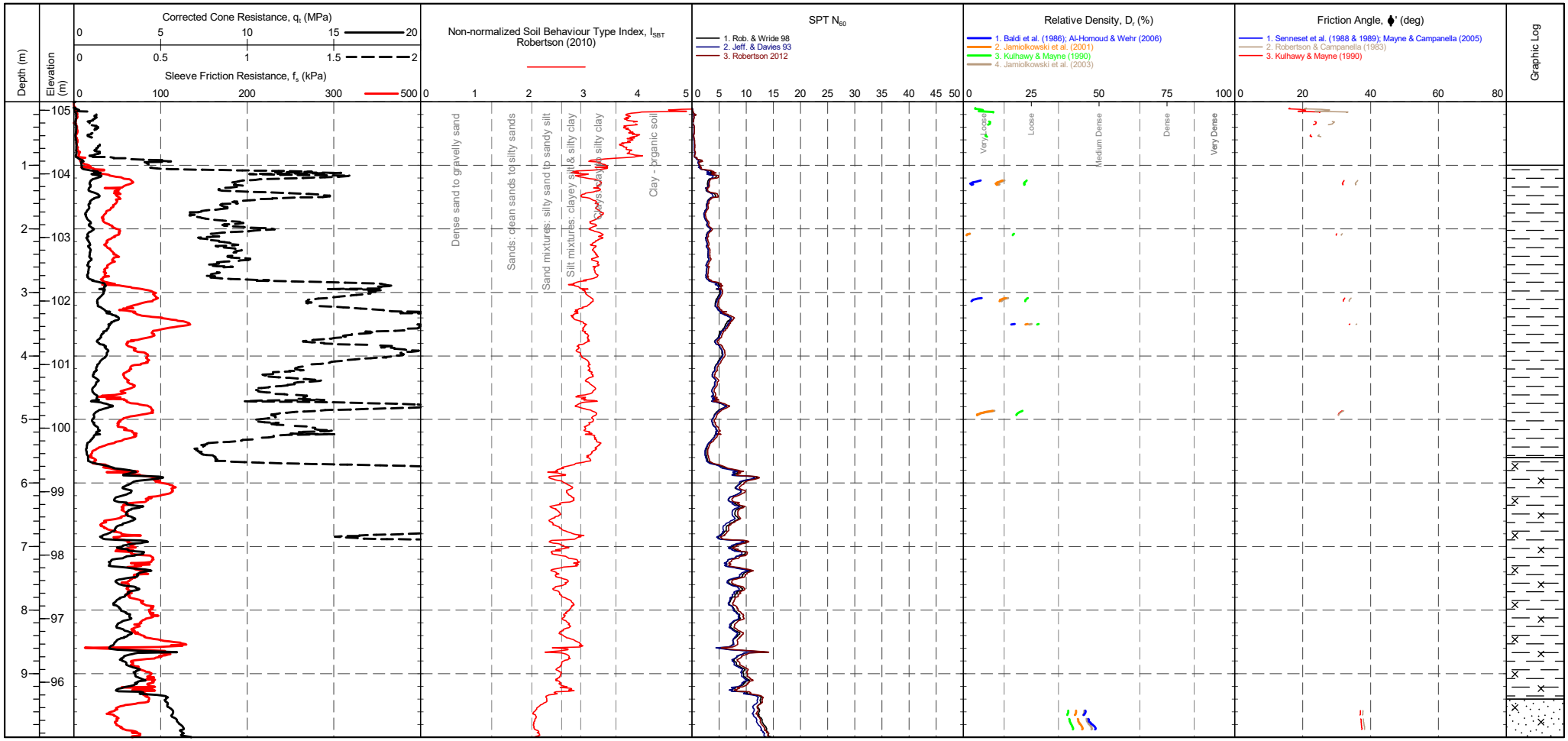
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT04**

CLIENT : Delta Simons	EASTING : 490956.086 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290835.720 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.136 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	361 mV	357 mV	-0.044 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	284 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	279 mV	235 mV	-0.01 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2664 mV	2630 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

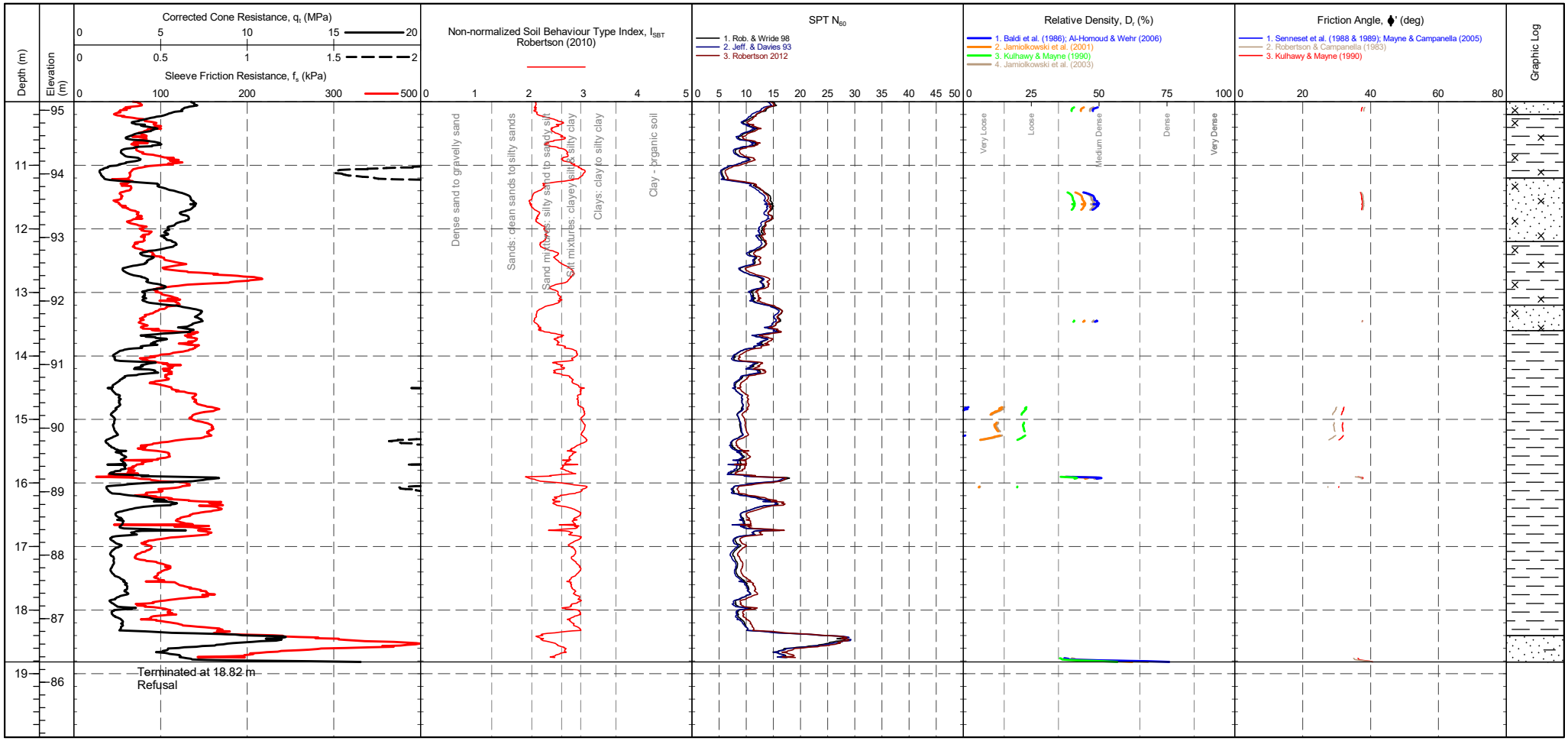
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID: **CPT04**

CLIENT : Delta Simons	EASTING : 490956.086 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290835.720 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.136 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2			
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall			
CONE AREA RATIO	: 0.79	OPERATOR	: TR			
FILTER POSITION	: u2	FRICTION REDUCER	: None			
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot			

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	361 mV	357 mV	-0.044 MPa
Sleeve	287 mV	284 mV	-0.002 kPa
Pore Pressure 2	279 mV	235 mV	-0.01 kPa
X-Y Inclinometer	2664 mV	2630 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

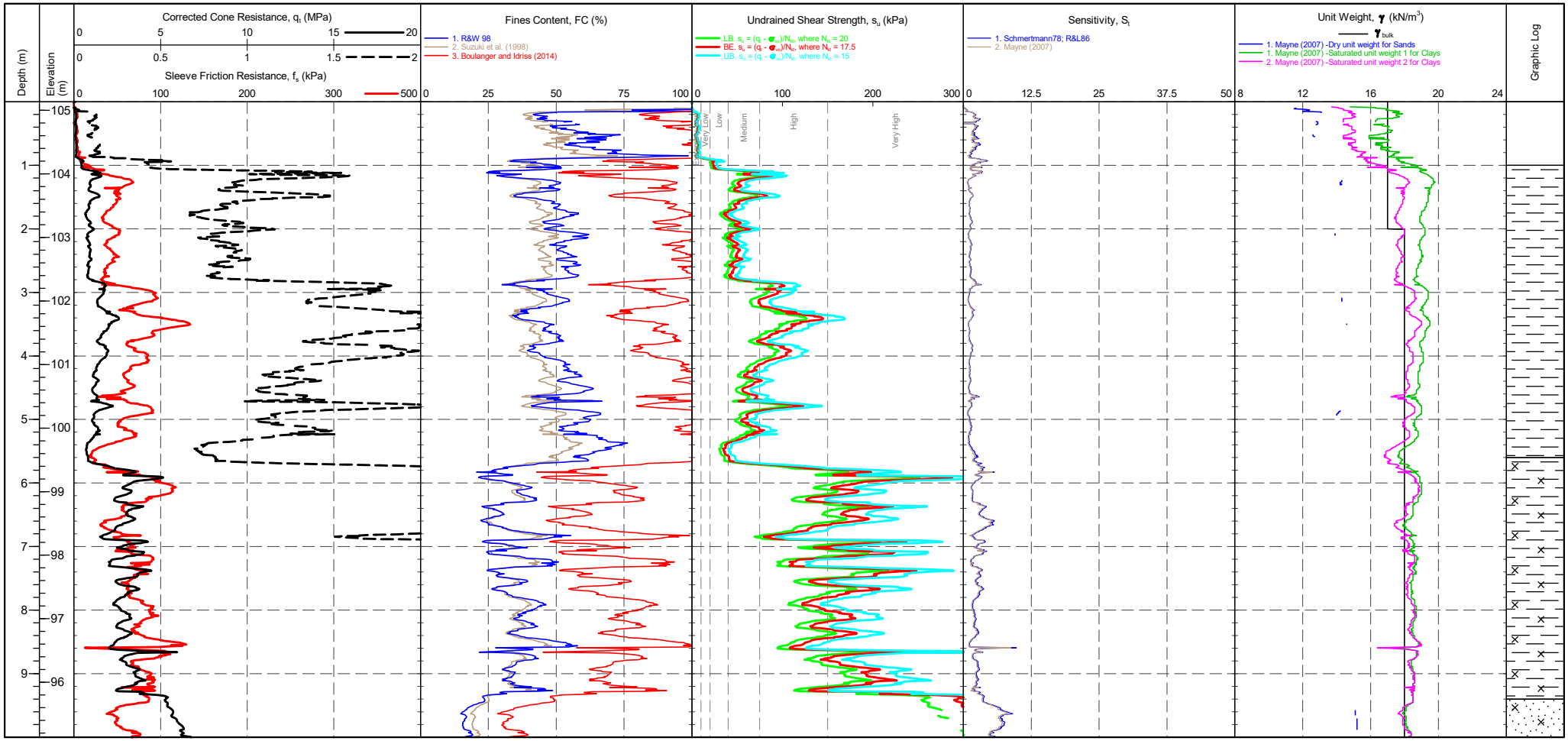
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT04**

CLIENT : Delta Simons	EASTING : 490956.086 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290835.720 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.136 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	361 mV	357 mV	-0.044 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	284 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	279 mV	235 mV	-0.01 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2664 mV	2630 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

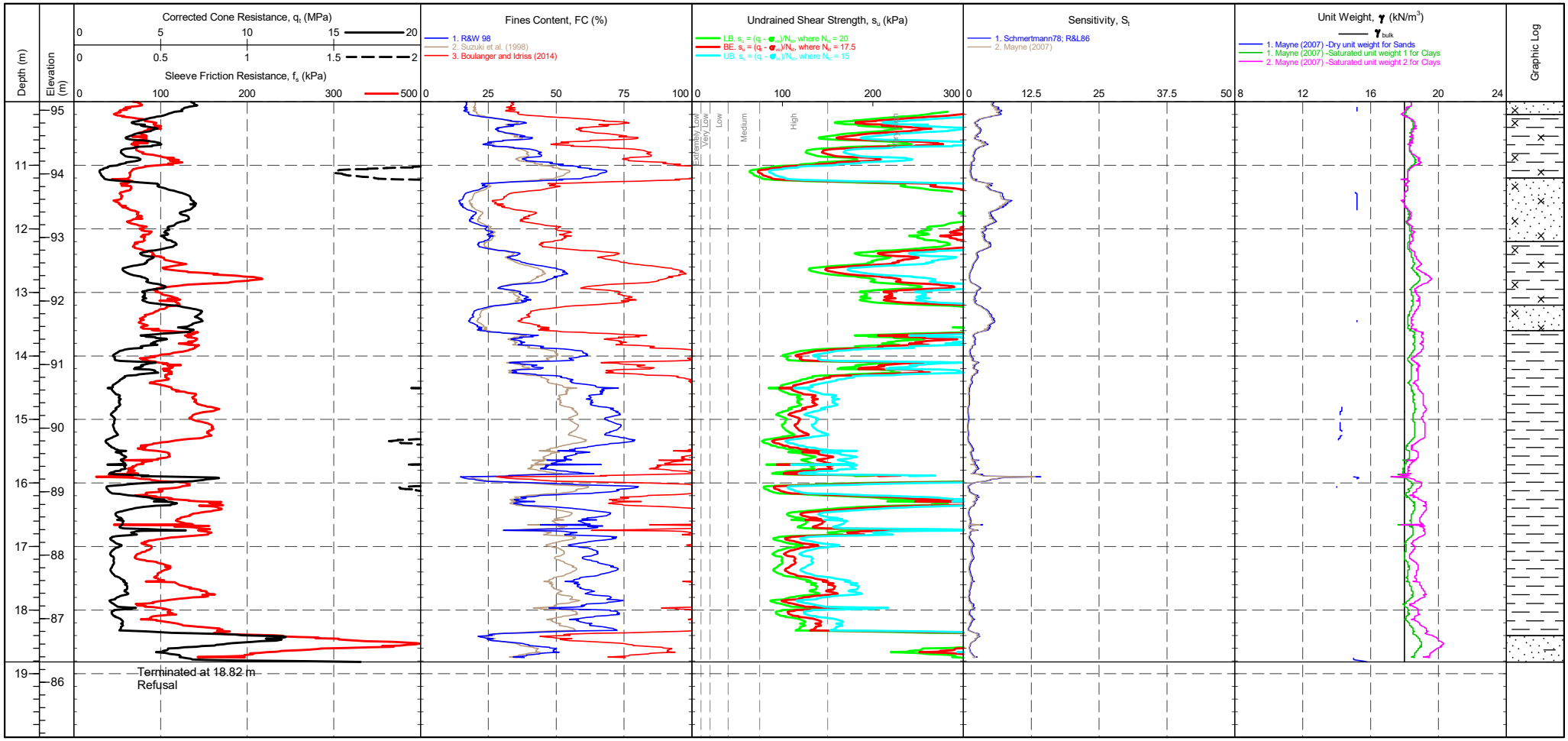
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT04**

CLIENT : Delta Simons	EASTING : 490956.086 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290835.720 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.136 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	361 mV	357 mV	-0.044 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	284 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	279 mV	235 mV	-0.01 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2664 mV	2630 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

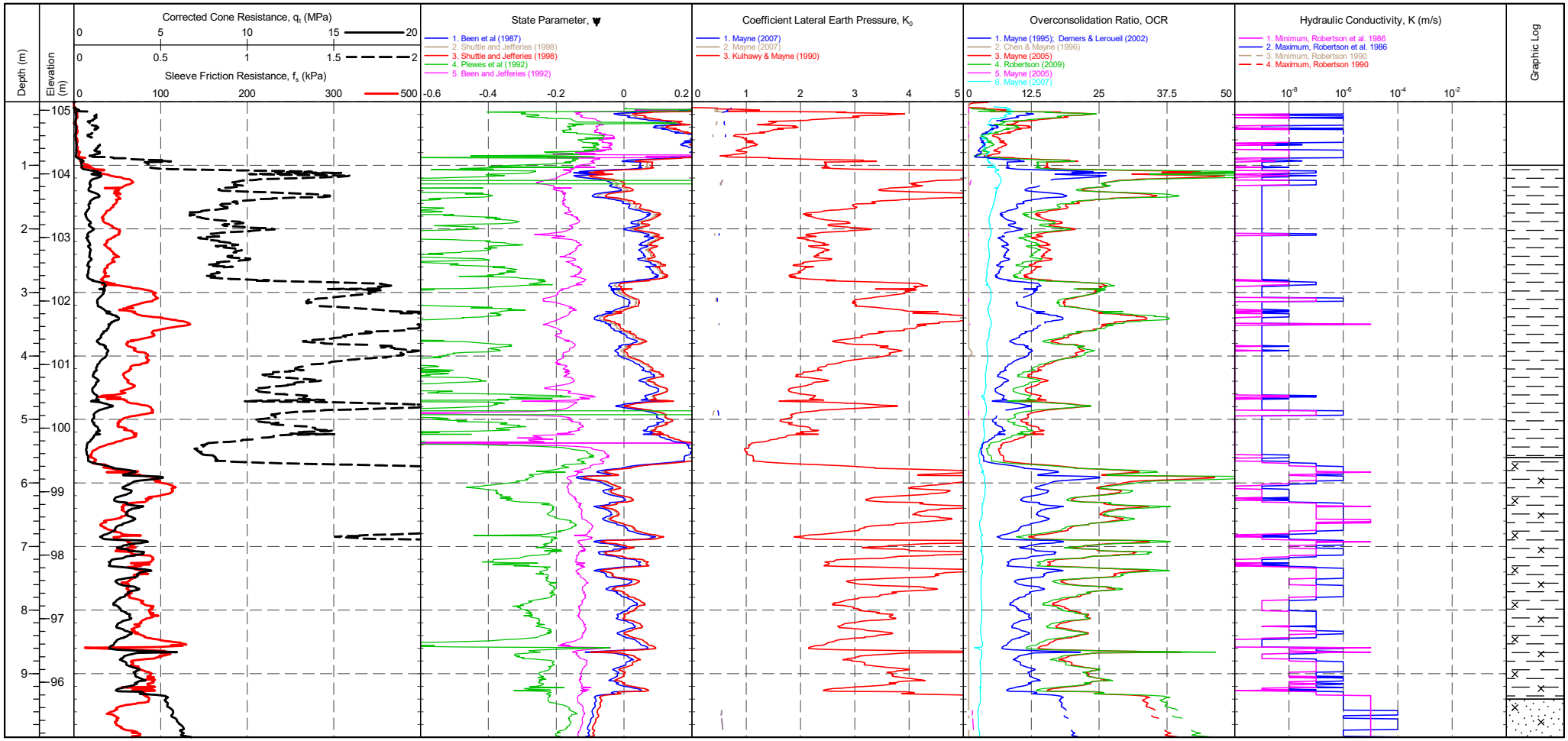
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID **CPT04**

CLIENT : Delta Simons PROJECT : Corby LOCATION : Cordby PROJECT No. : 1220144	EASTING : 490956.086 m NORTHING : 290835.720 m ELEVATION : 105.136 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on tip resistance.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 10/02/2022 PLOT DATE : 04/03/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	361 mV	357 mV	-0.044 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	284 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	279 mV	235 mV	-0.01 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2664 mV	2630 mV	

Groundwater Level

Dissipation Test

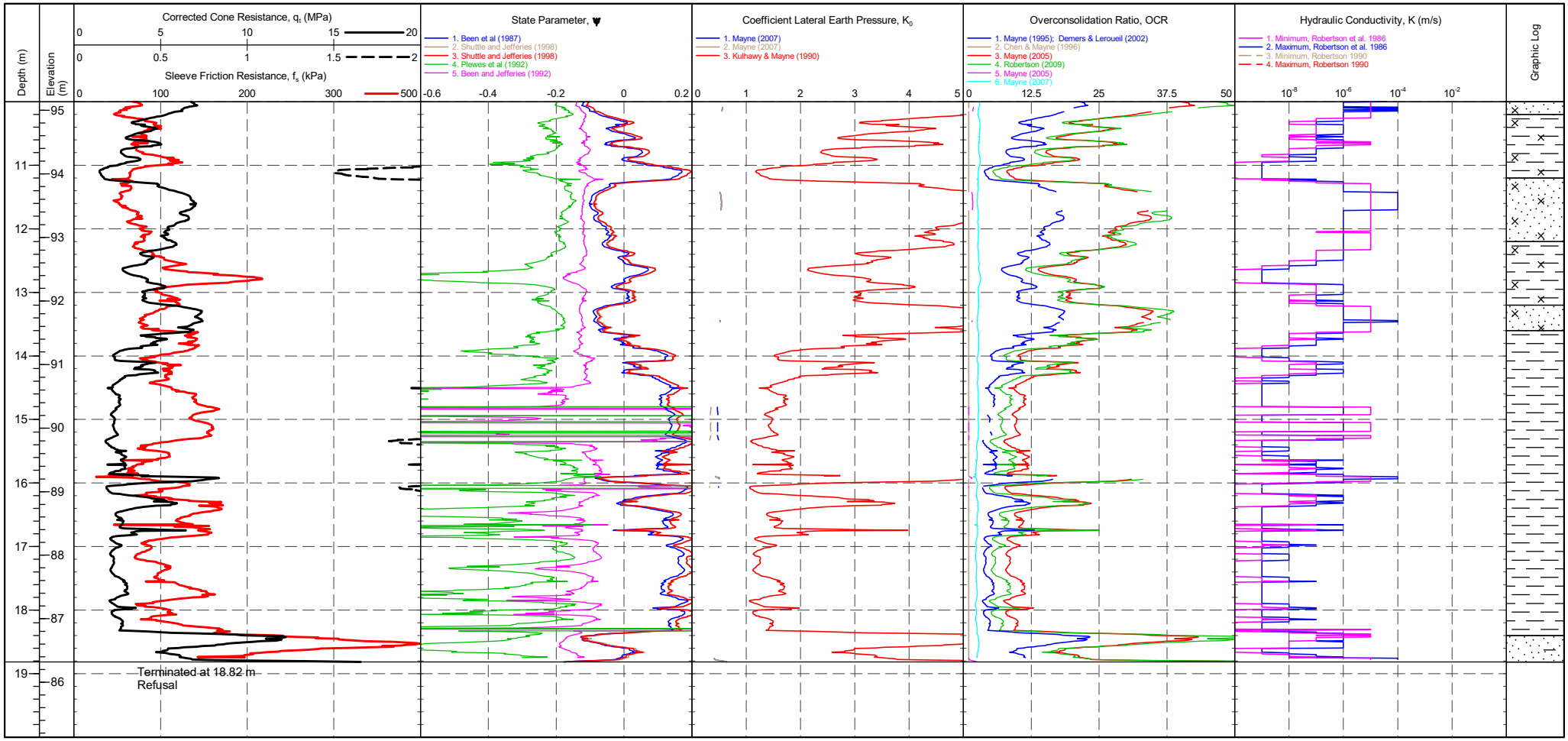
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT04**

CLIENT : Delta Simons	EASTING : 490956.086 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290835.720 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.136 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	361 mV	357 mV	-0.044 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	287 mV	284 mV	-0.002 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	279 mV	235 mV	-0.01 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2664 mV	2630 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

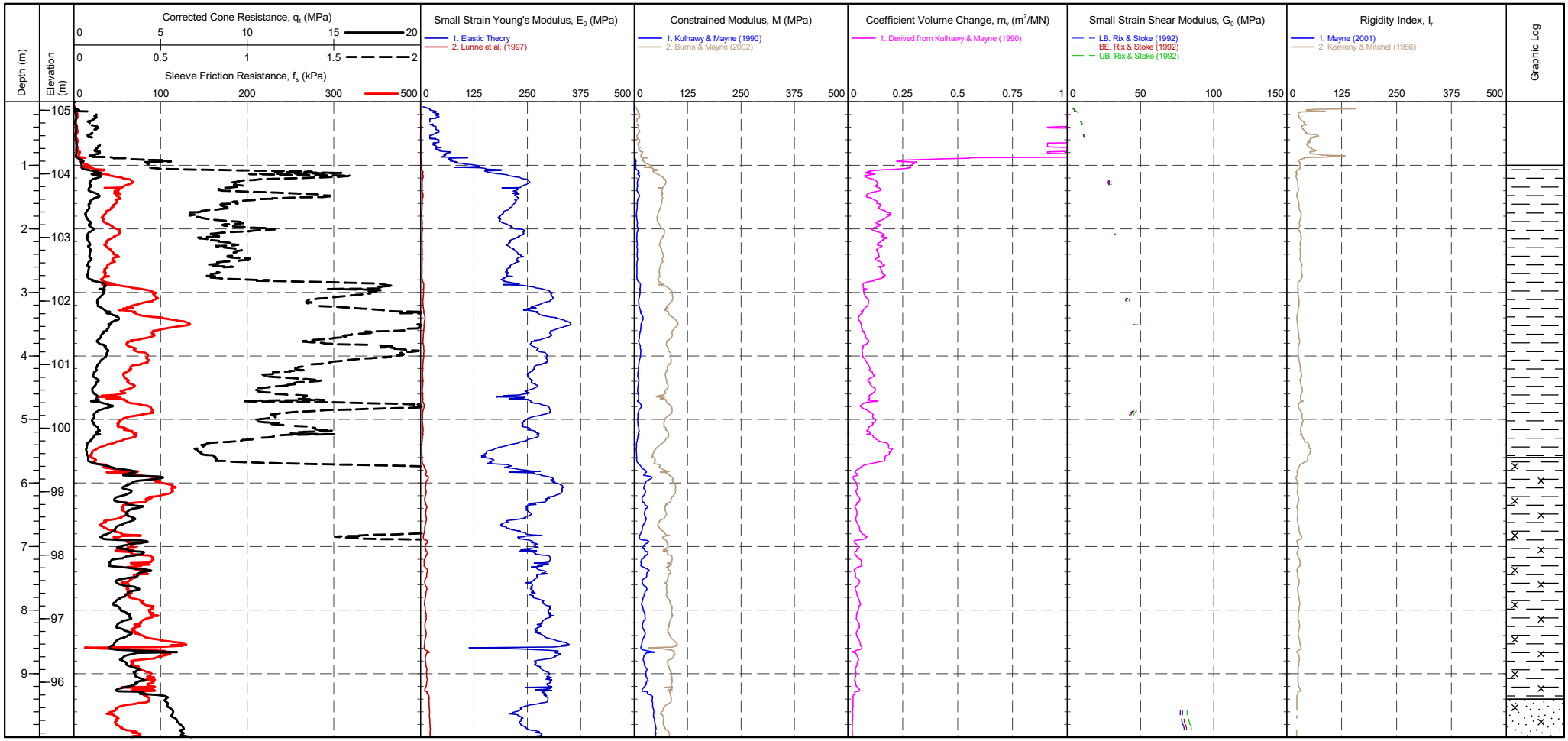
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT04**

CLIENT : Delta Simons	EASTING : 490956.086 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290835.720 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.136 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	361 mV	357 mV	-0.044 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	287 mV	284 mV	-0.002 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	279 mV	235 mV	-0.01 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2664 mV	2630 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

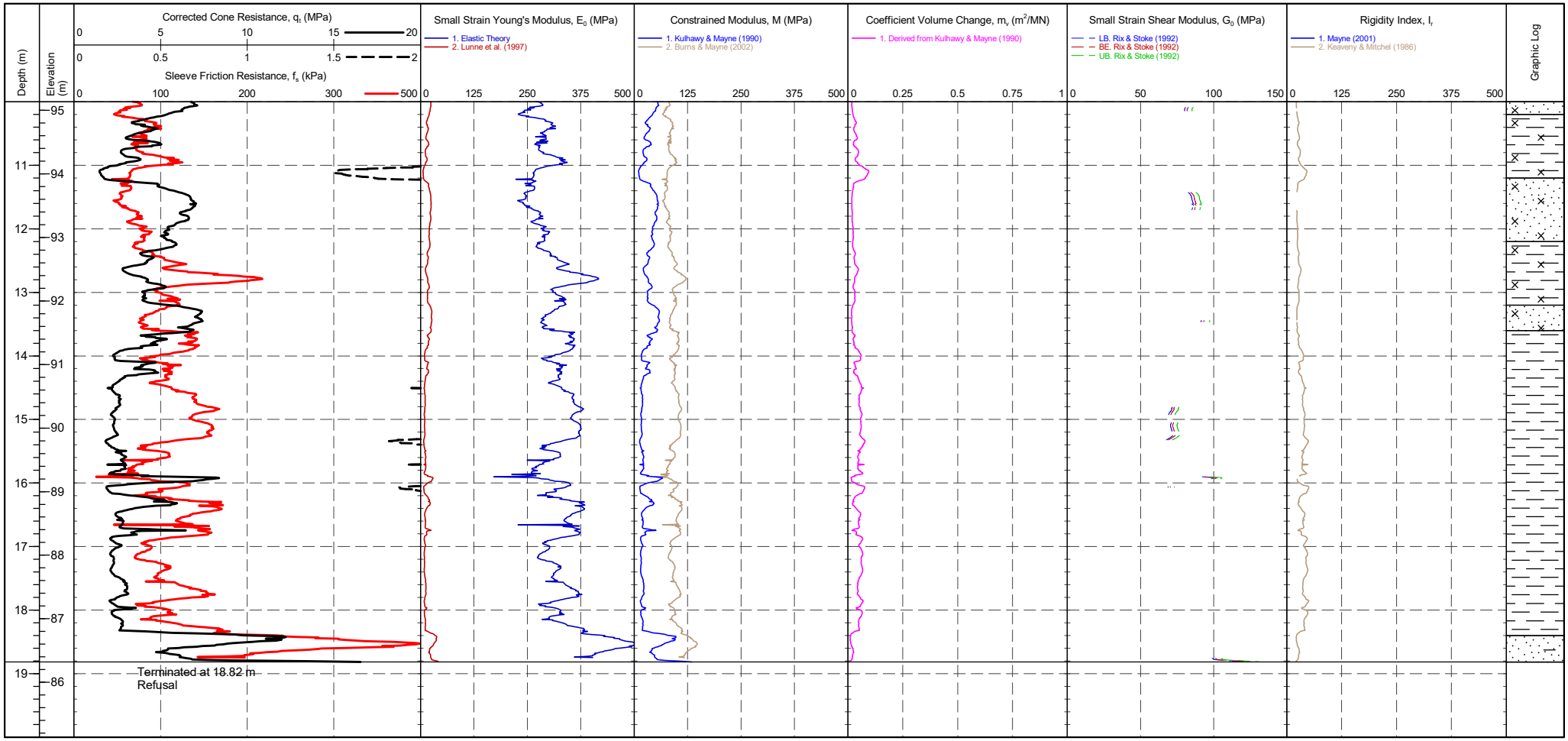
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT04**

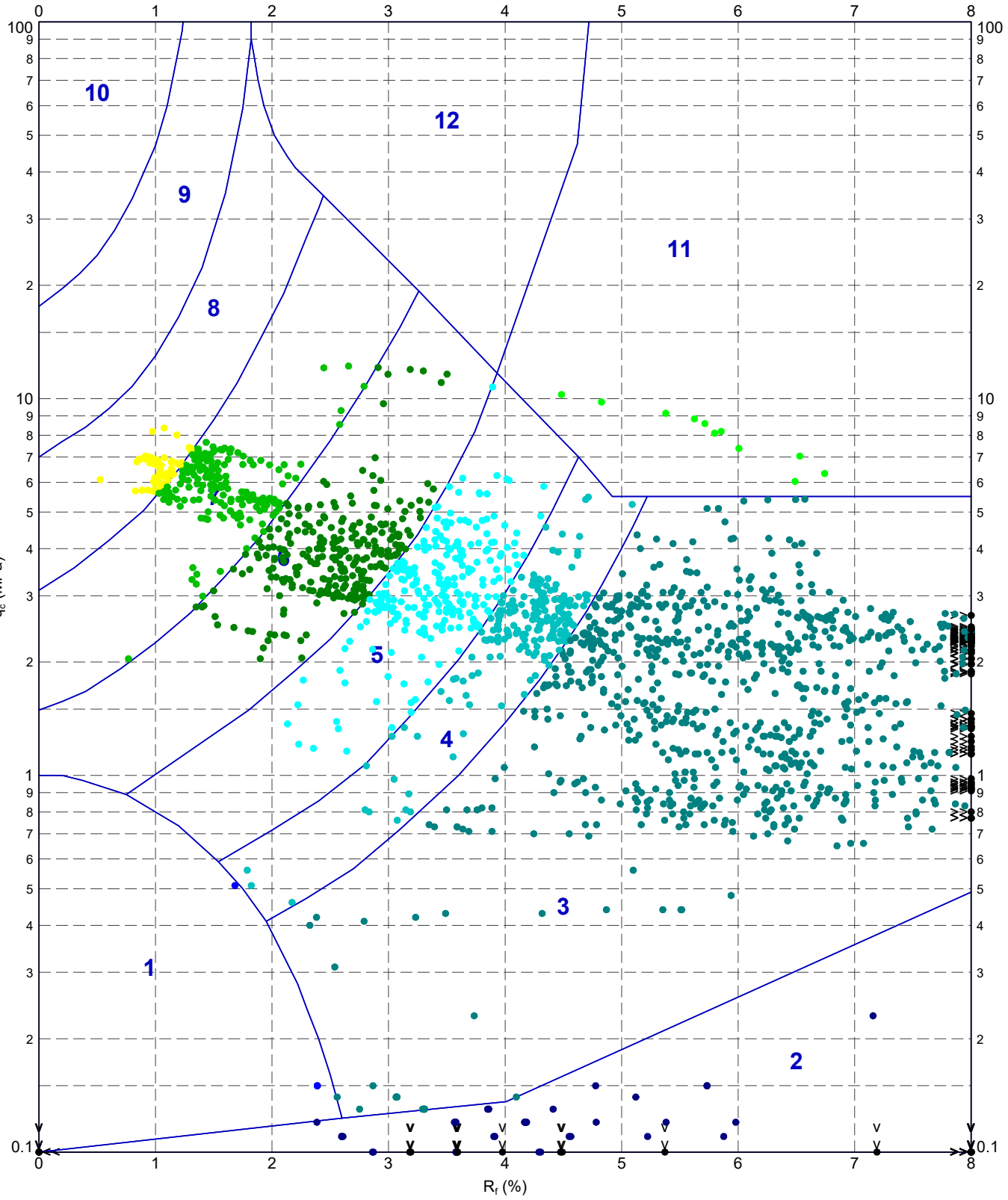
CLIENT : Delta Simons	EASTING : 490956.086 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290835.720 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.136 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	361 mV	357 mV	-0.044 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	287 mV	284 mV	-0.002 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	279 mV	235 mV	-0.01 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2664 mV	2630 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU
SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT04

DRAWN		DATE	04/03/2022
CHECKED		DATE	04/03/2022
SCALE	Not To Scale		A4
PROJECT No	1220144	FIGURE No	

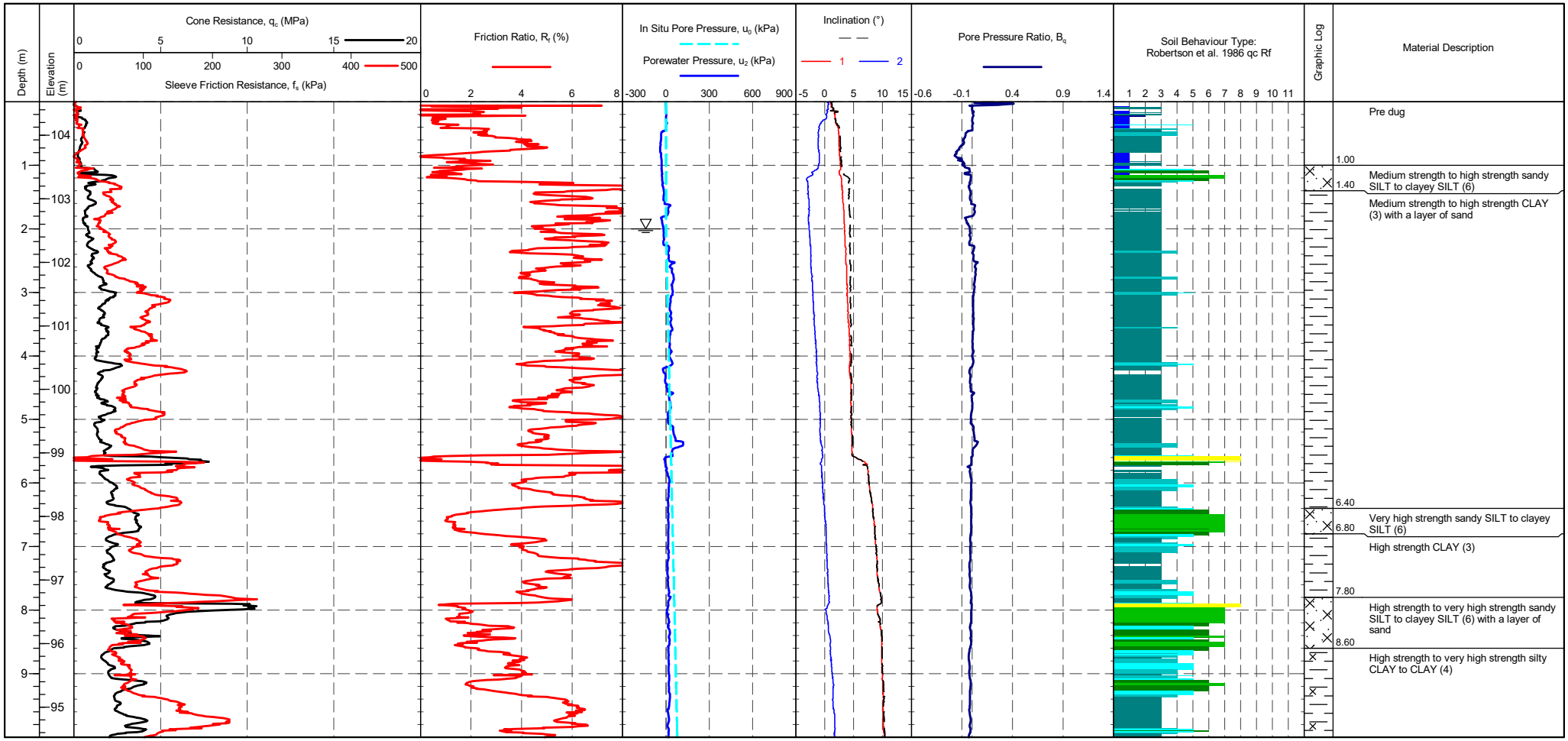
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT05**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	363 mV	358 mV	-0.055 MPa
Sleeve	291 mV	284 mV	-0.005 kPa
Pore Pressure 2	218 mV	218 mV	0 kPa
X-Y Inclinometer	2641 mV	2643 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

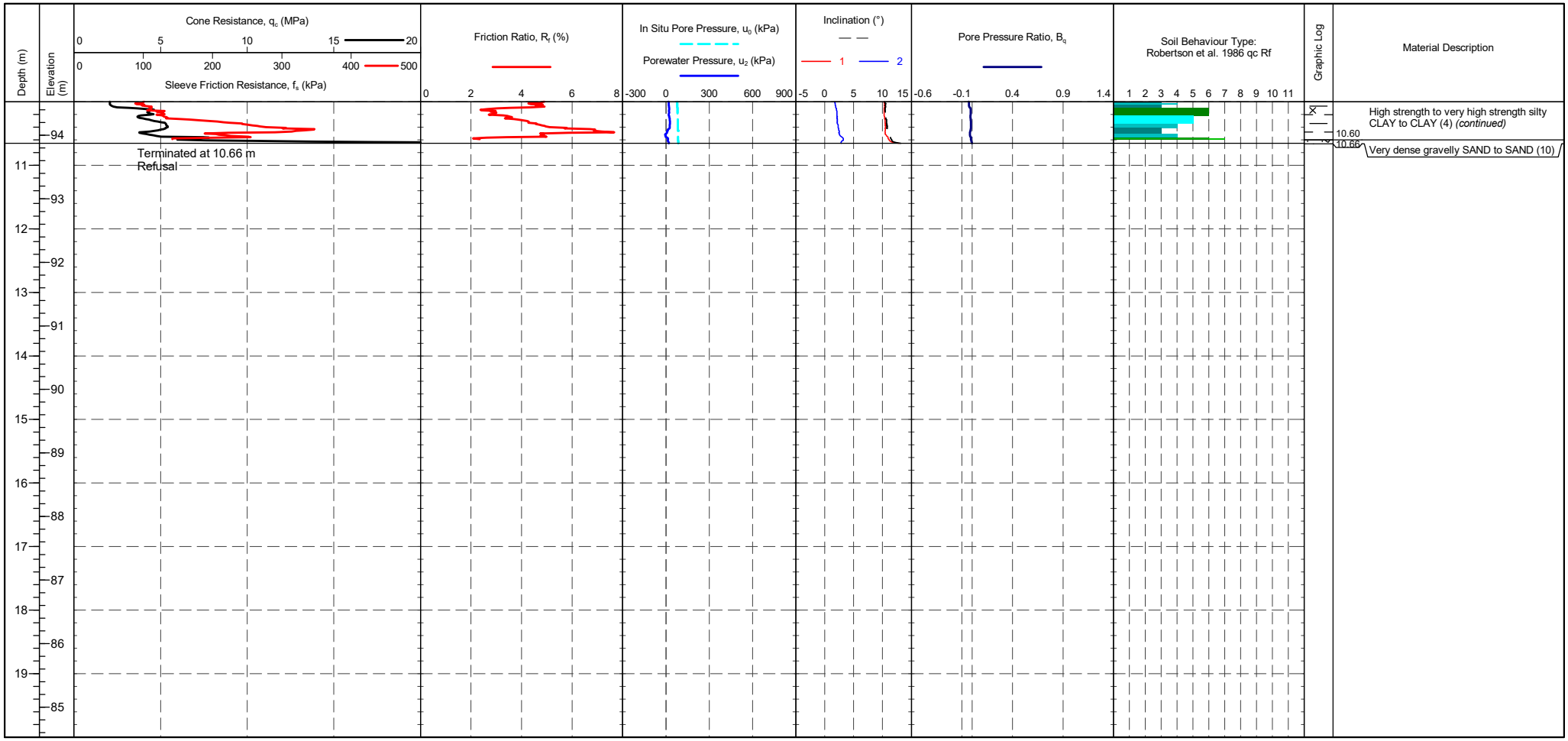
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT05**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	363 mV	358 mV	-0.055 MPa
Sleeve	291 mV	284 mV	-0.005 kPa
Pore Pressure 2	218 mV	218 mV	0 kPa
X-Y Inclinometer	2641 mV	2643 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

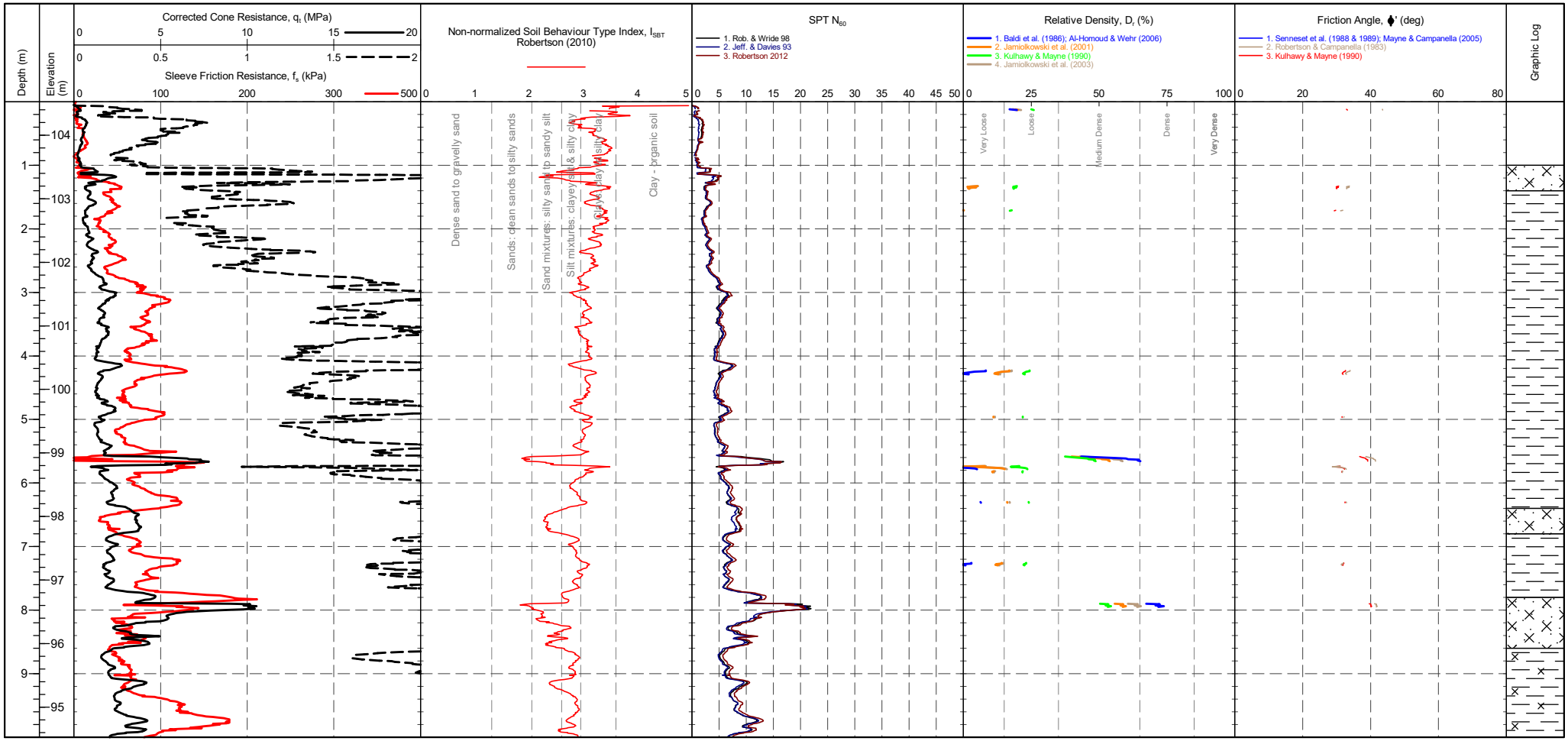
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID: **CPT05**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	363 mV	358 mV
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	284 mV
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	218 mV	218 mV
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2641 mV	2643 mV

Difference
-0.055 MPa
-0.005 kPa
0 kPa

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

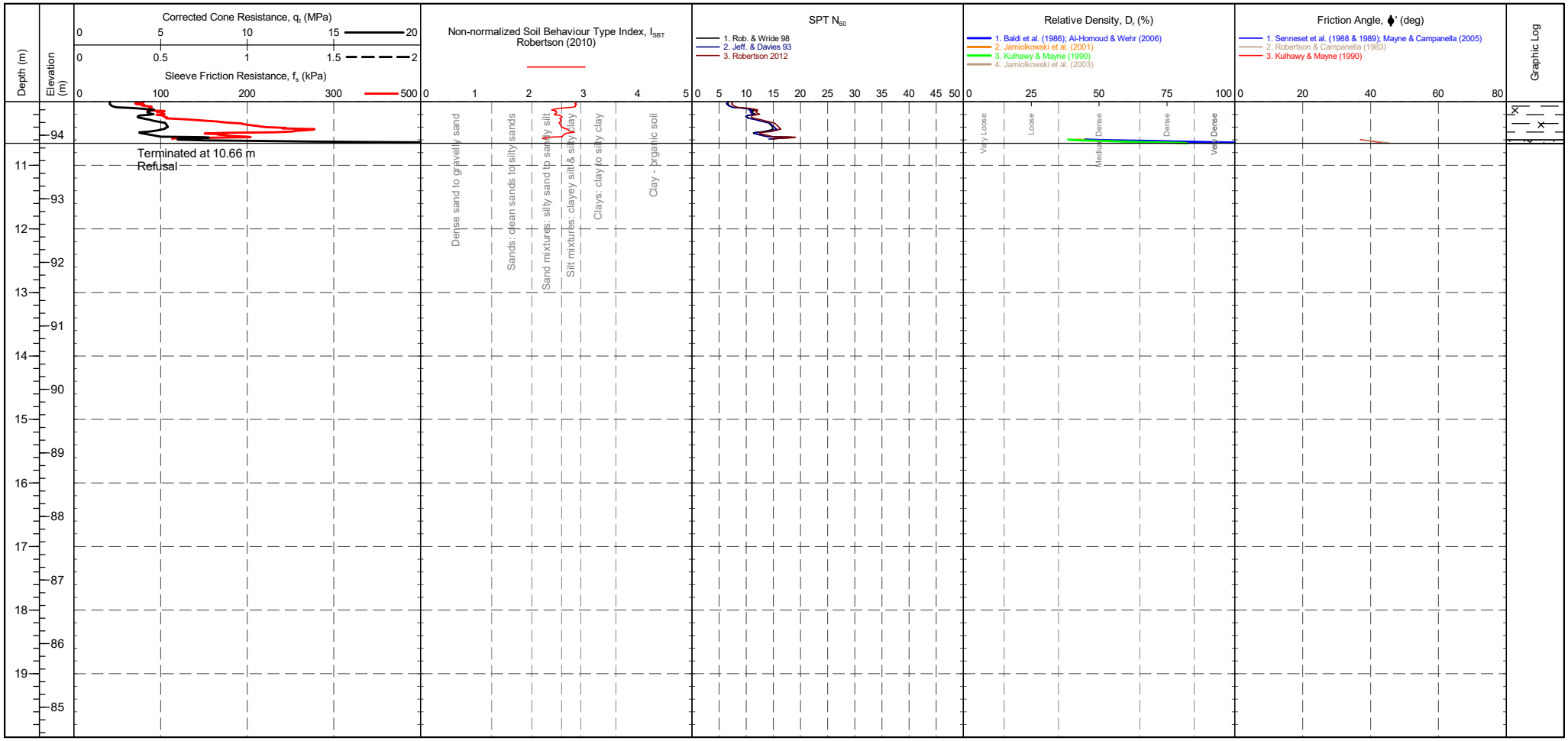
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT05**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	363 mV	358 mV	-0.055 MPa
Sleeve	291 mV	284 mV	-0.005 kPa
Pore Pressure 2	218 mV	218 mV	0 kPa
X-Y Inclinometer	2641 mV	2643 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

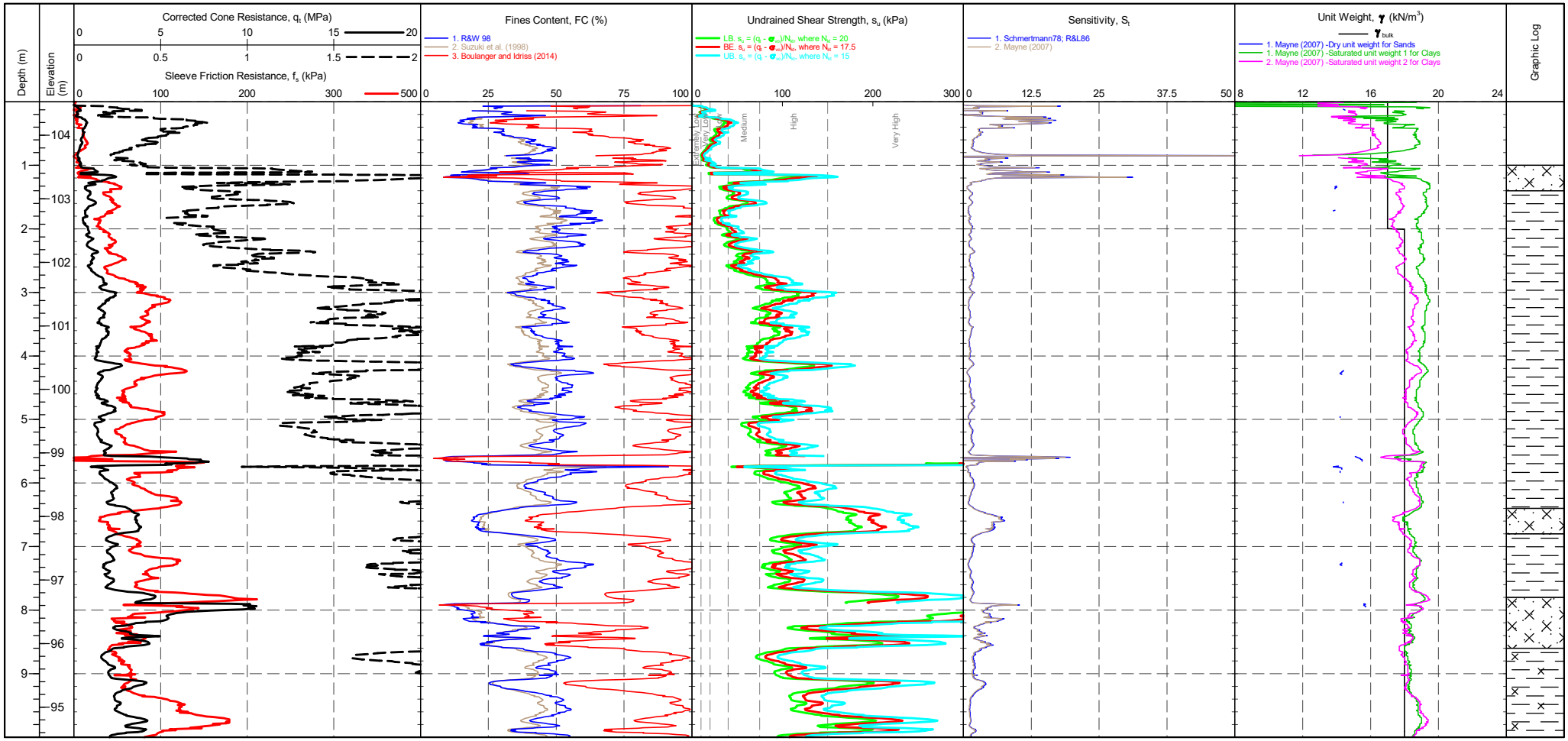
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT05**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	363 mV	358 mV	-0.055 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	284 mV	-0.005 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	218 mV	218 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2641 mV	2643 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

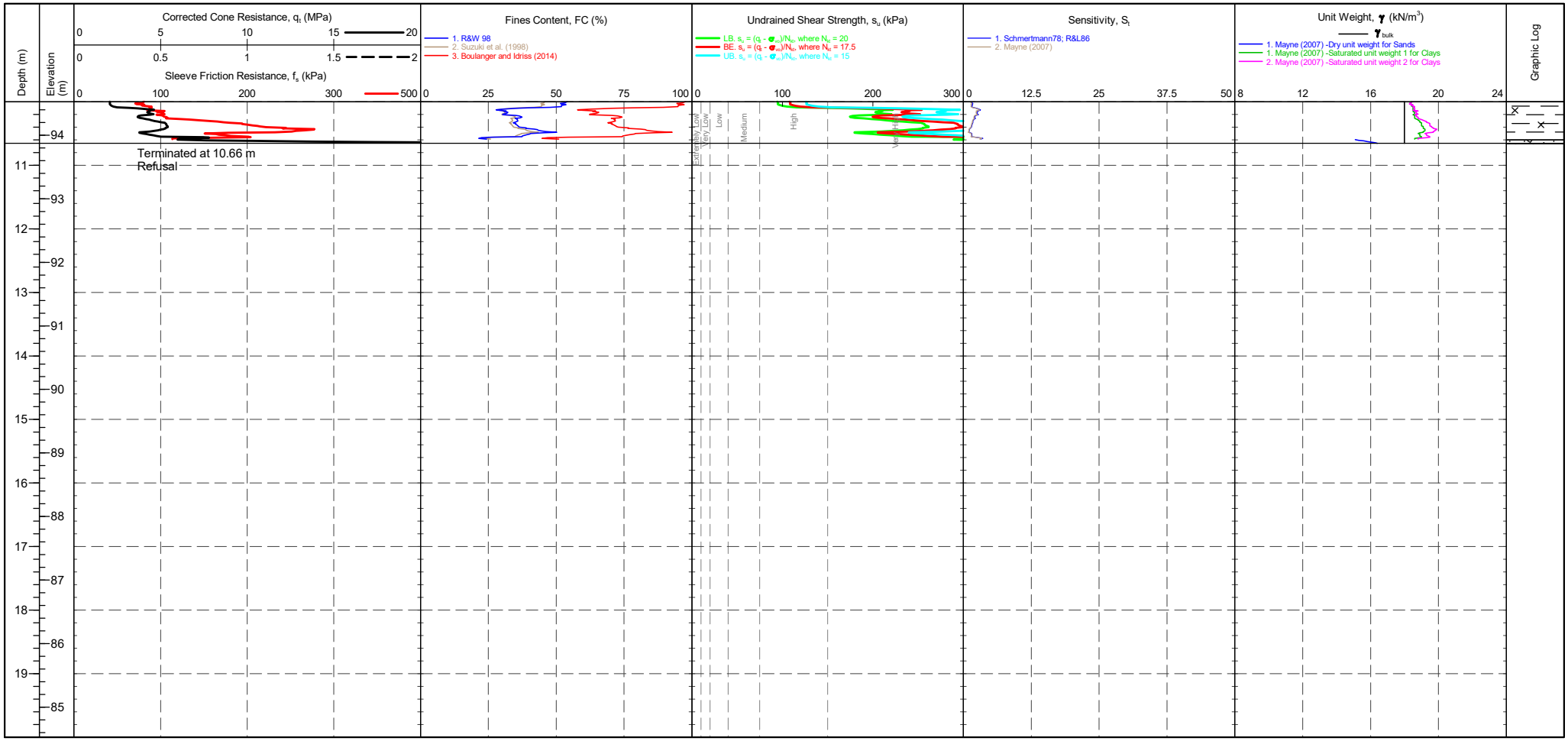
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT05**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	363 mV	358 mV	-0.055 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	284 mV	-0.005 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	218 mV	218 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2641 mV	2643 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test

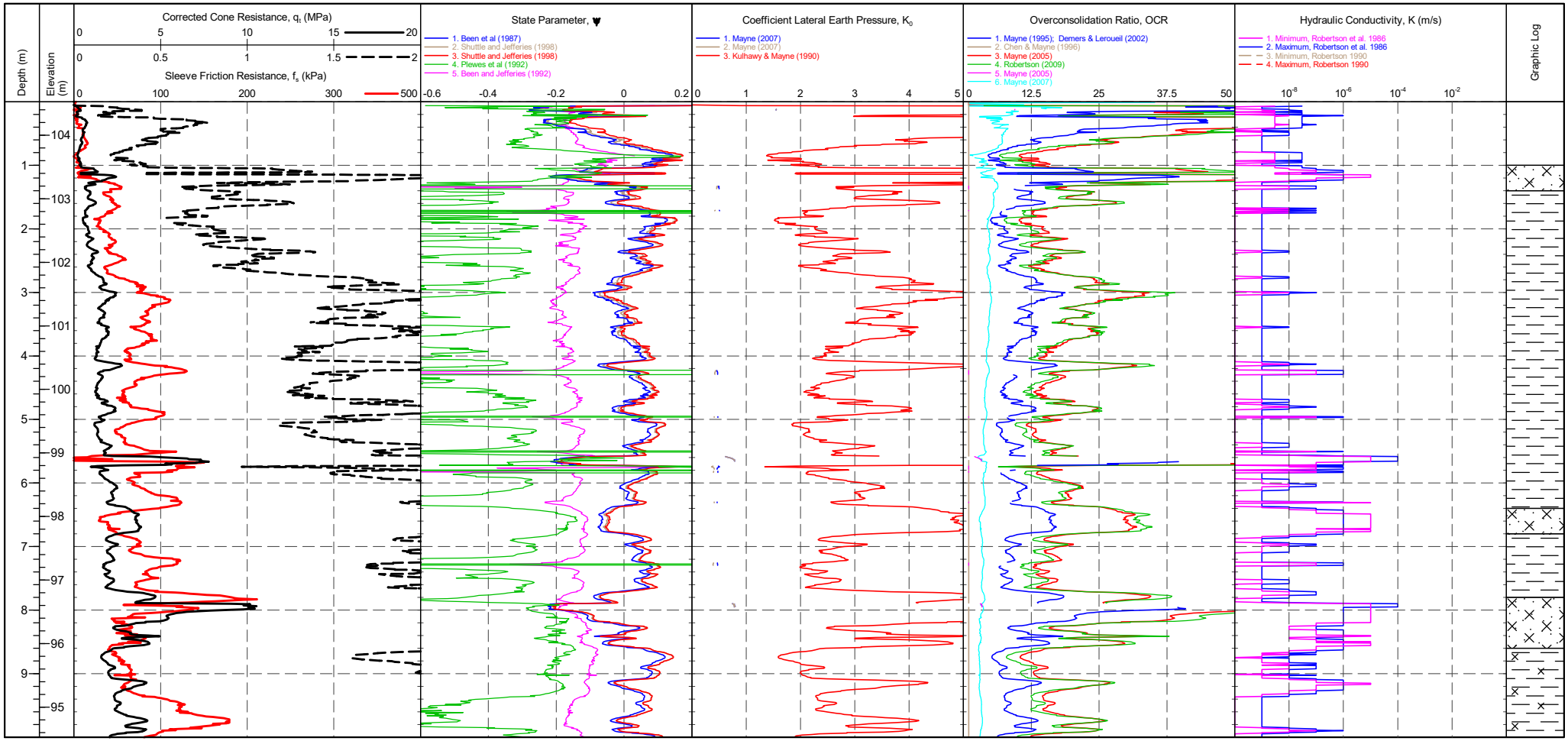
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT05**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post / Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	363 mV	358 mV / -0.055 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	284 mV / -0.005 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	218 mV	218 mV / 0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2641 mV	2643 mV

Groundwater Level

Dissipation Test

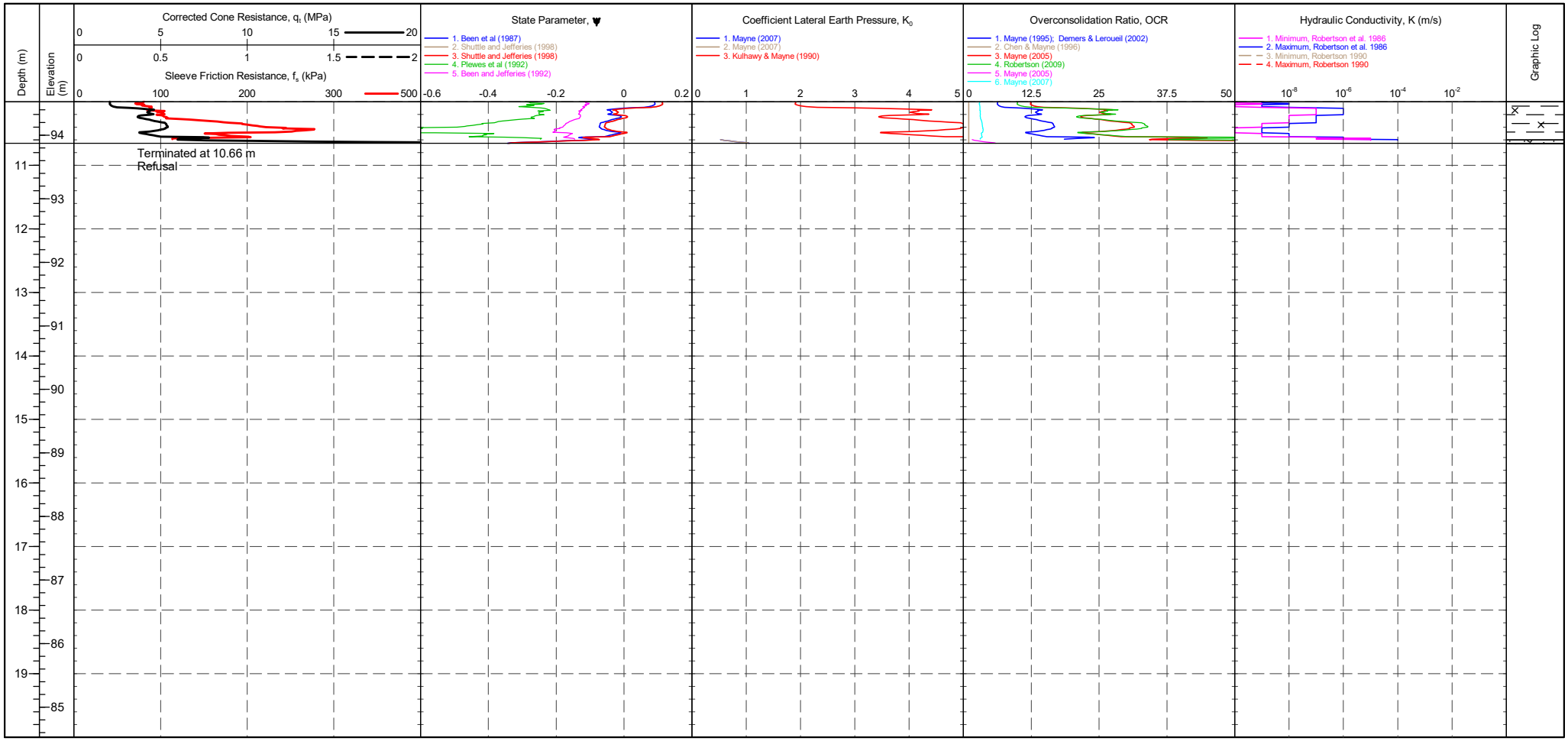
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT05**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	363 mV	358 mV	-0.055 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	284 mV	-0.005 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	218 mV	218 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2641 mV	2643 mV	

Groundwater Level

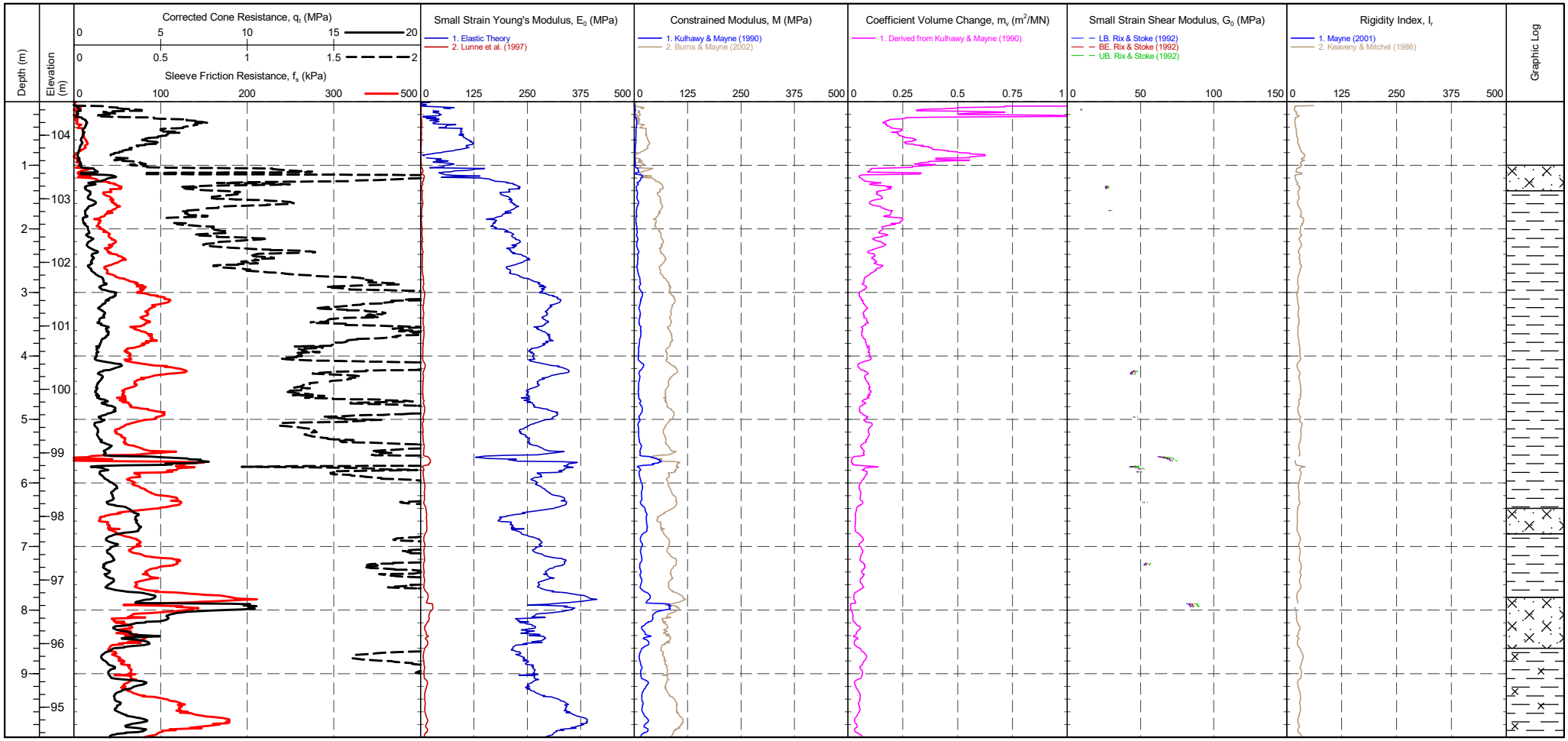
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT05**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	363 mV	358 mV	-0.055 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	284 mV	-0.005 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	218 mV	218 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2641 mV	2643 mV	

Groundwater Level

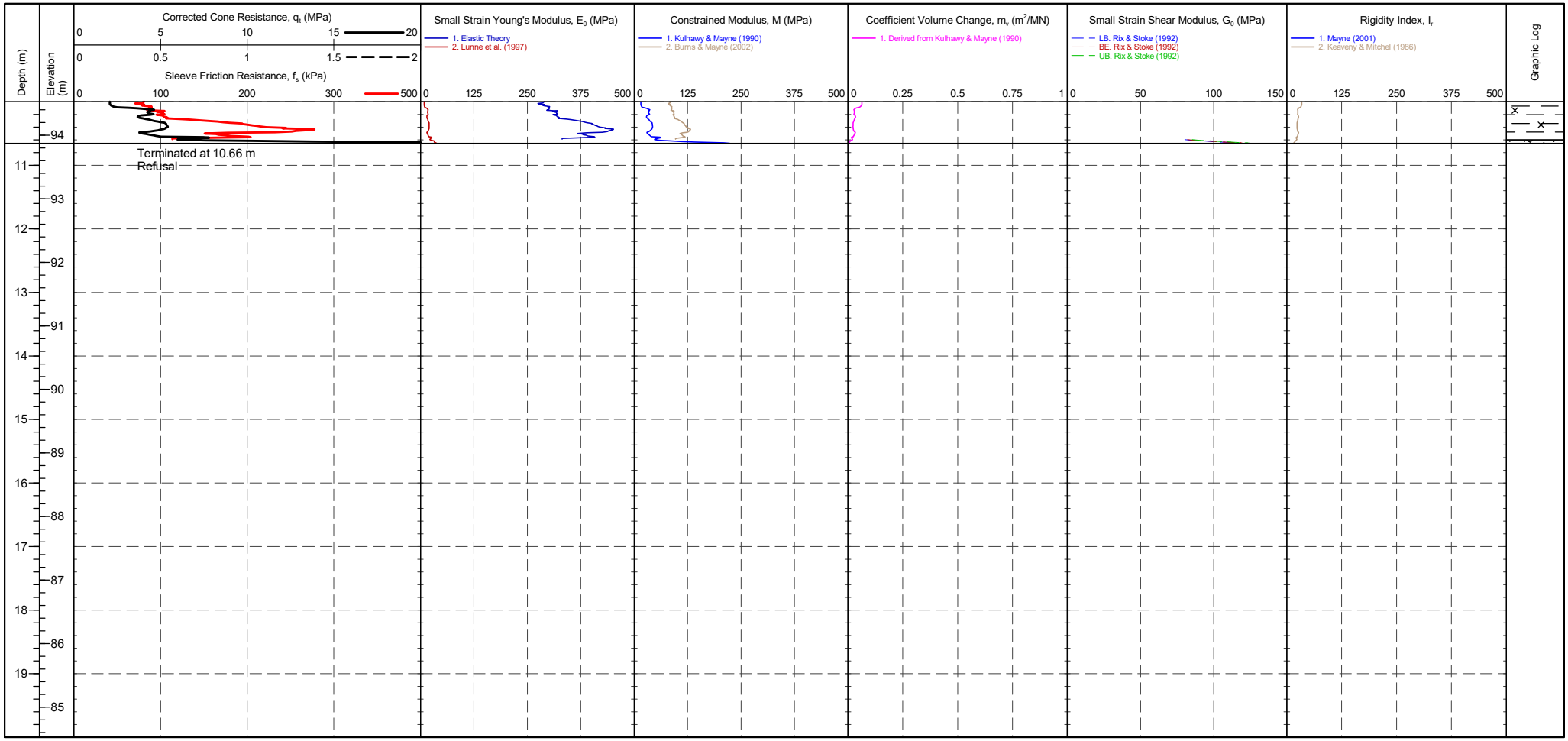
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT05**

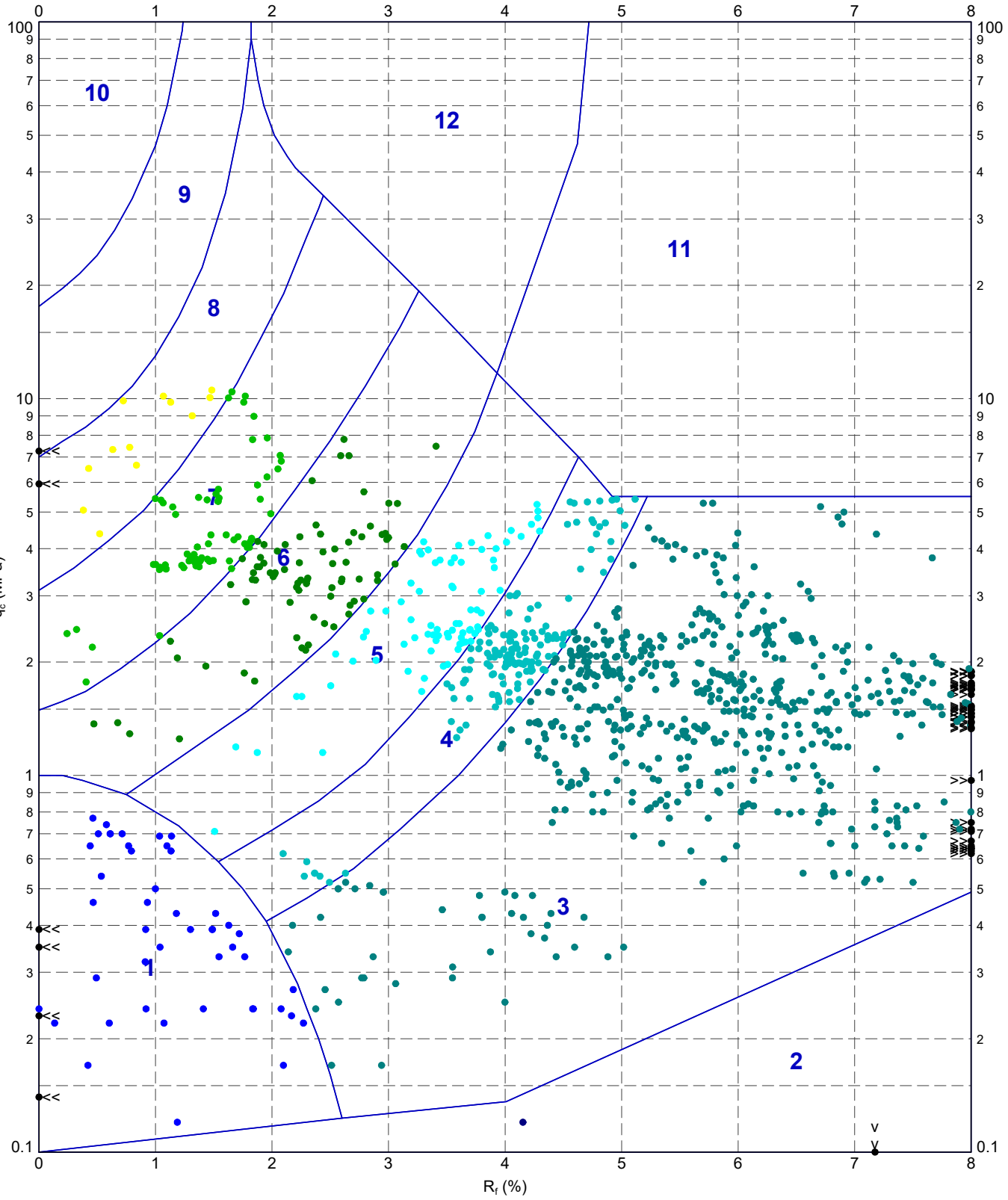
CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	363 mV	358 mV	-0.055 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	284 mV	-0.005 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	218 mV	218 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2641 mV	2643 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT05

DRAWN		DATE	04/03/2022
CHECKED		DATE	04/03/2022
SCALE	Not To Scale		A4
PROJECT No	1220144	FIGURE No	

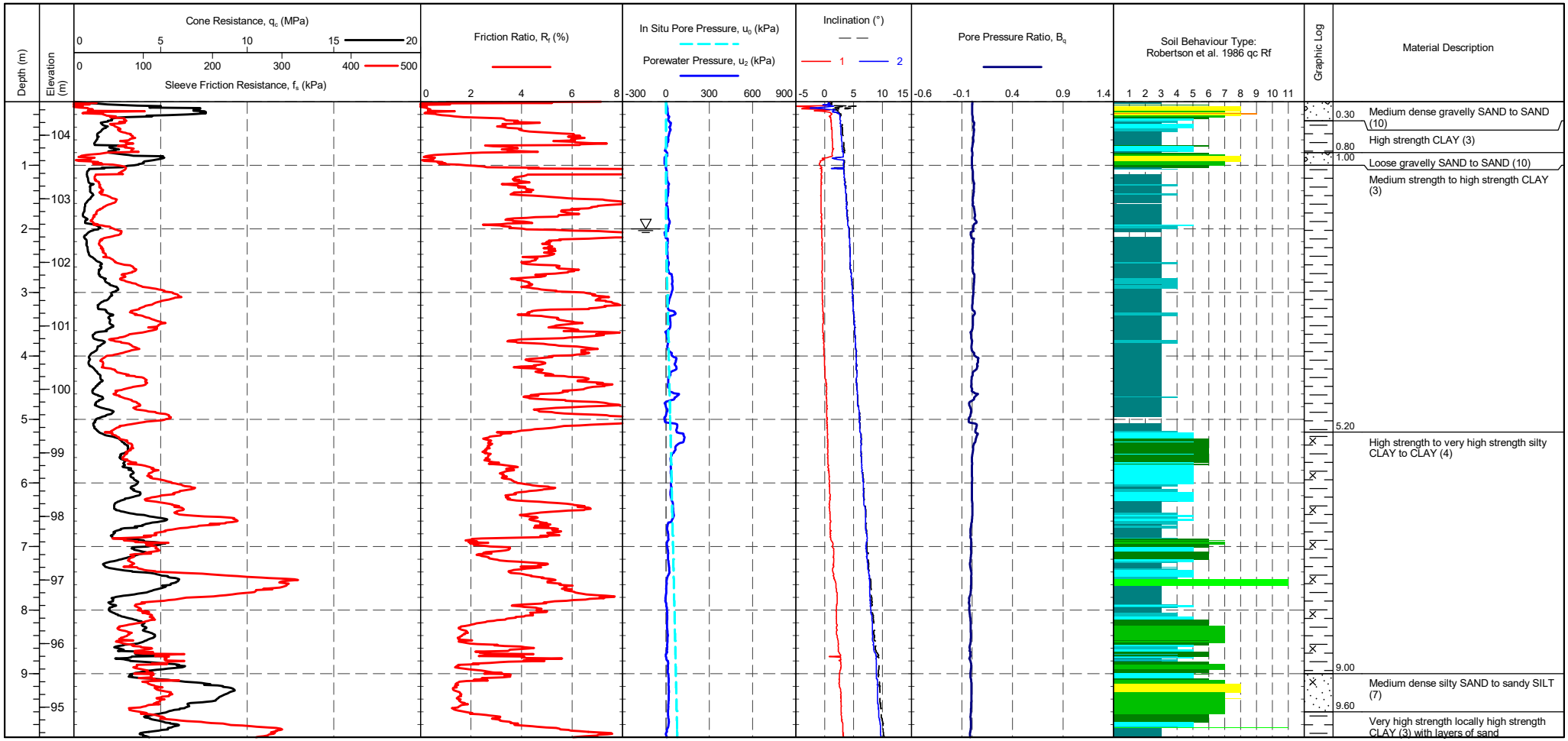
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT05A**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	360 mV	359 mV	-0.011 MPa
Sleeve	286 mV	284 mV	-0.001 kPa
Pore Pressure 2	225 mV	294 mV	0.016 kPa
X-Y Inclinometer	2529 mV	2633 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

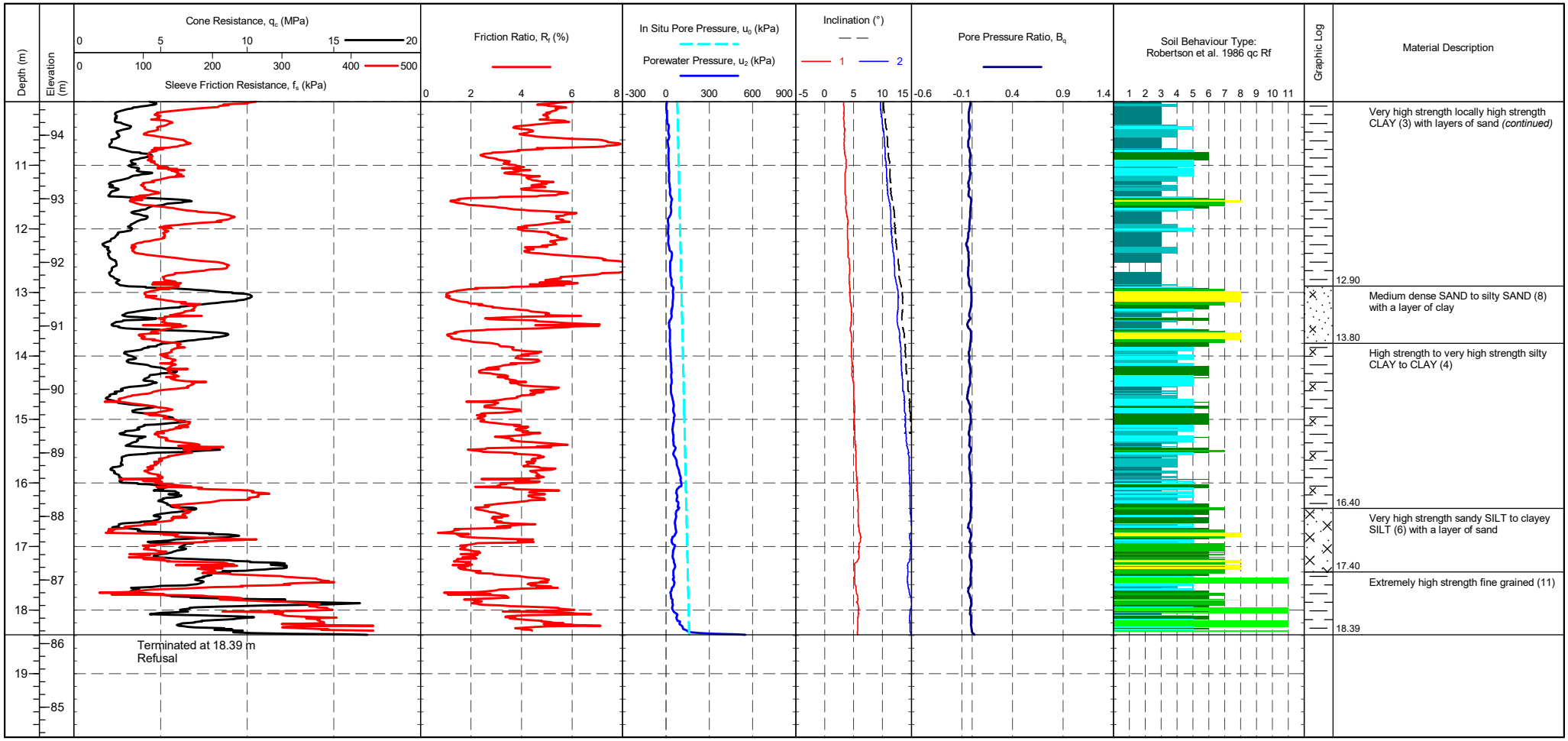
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT05A**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	360 mV	359 mV	-0.011 MPa
Sleeve	286 mV	284 mV	-0.001 kPa
Pore Pressure 2	225 mV	294 mV	0.016 kPa
X-Y Inclinometer	2529 mV	2633 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

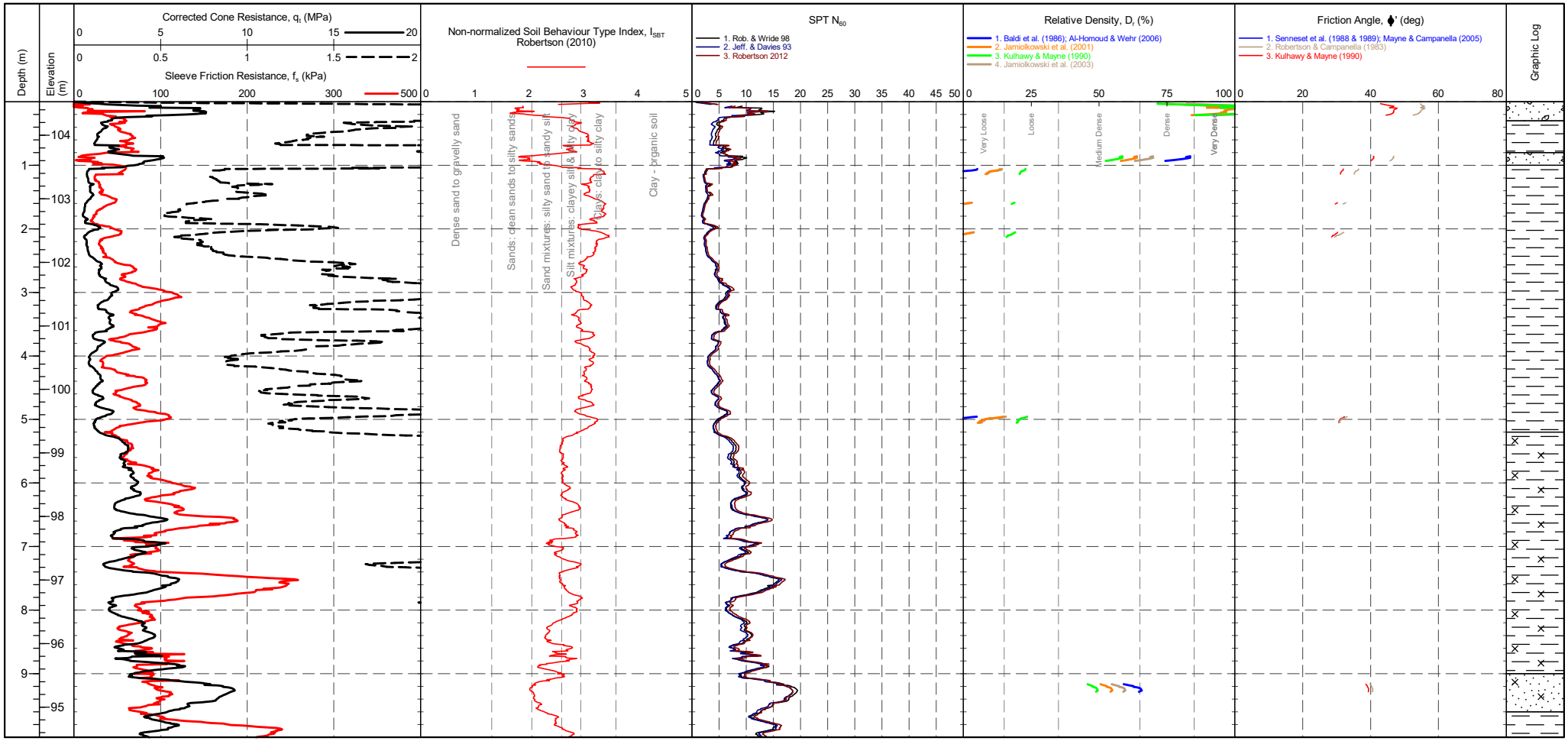
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT05A**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	360 mV	359 mV	-0.011 MPa
Sleeve	286 mV	284 mV	-0.001 kPa
Pore Pressure 2	225 mV	294 mV	0.016 kPa
X-Y Inclinometer	2529 mV	2633 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

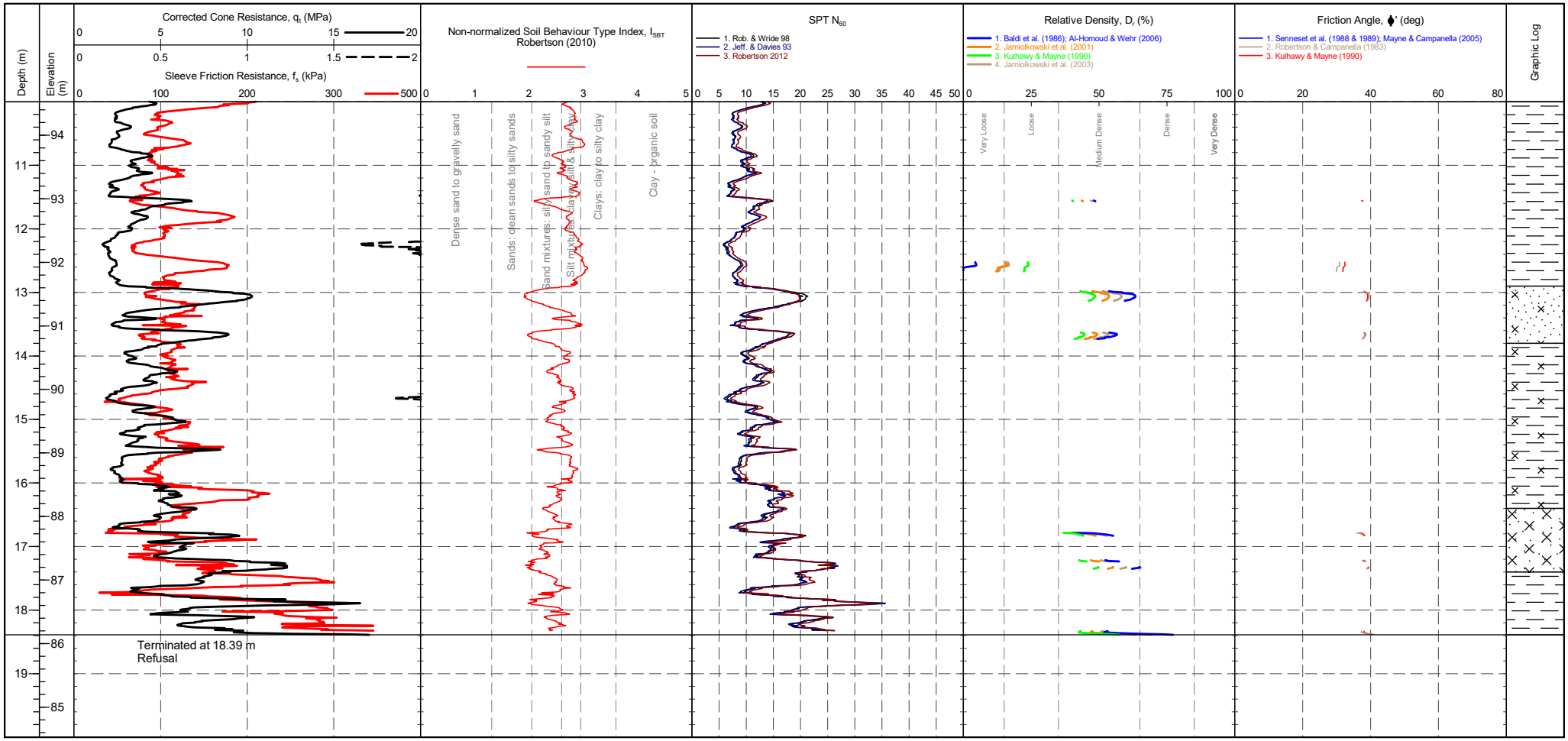
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID: **CPT05A**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	360 mV	359 mV	-0.011 MPa
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Sleeve	286 mV	284 mV	-0.001 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	225 mV	294 mV	0.016 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2529 mV	2633 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

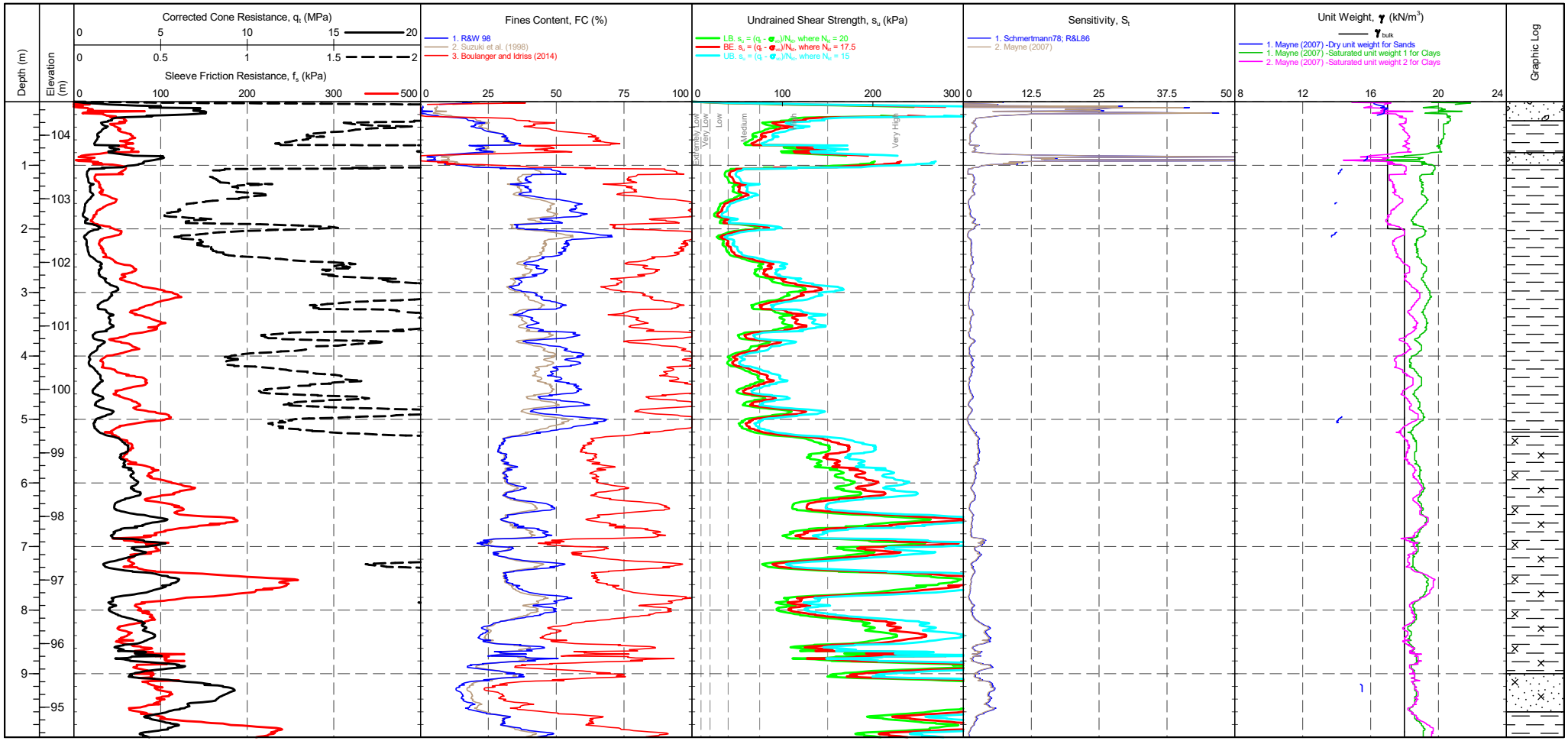
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID **CPT05A**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	360 mV	359 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	286 mV	284 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	225 mV	294 mV	0.016 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2529 mV	2633 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

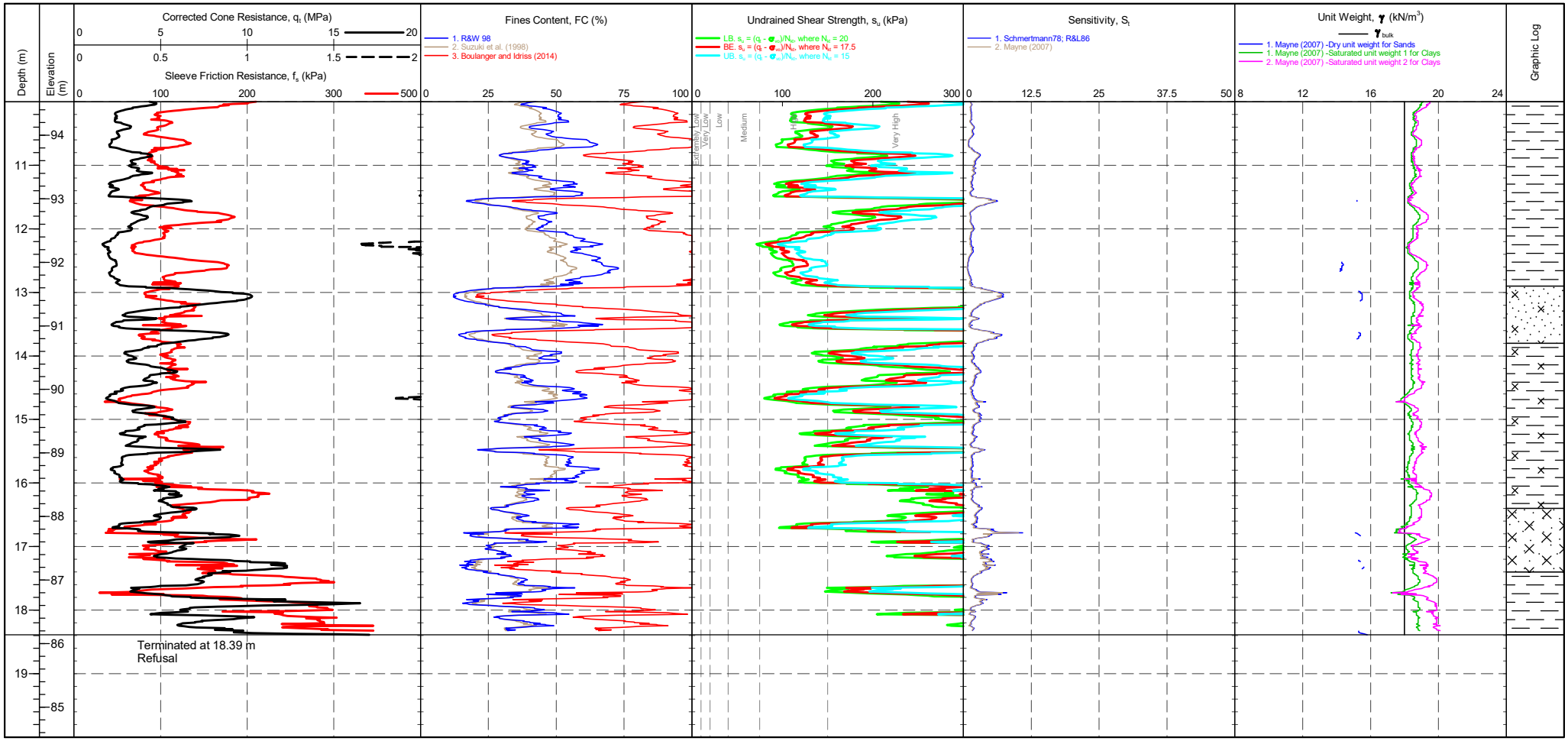
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID **CPT05A**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	360 mV	359 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	286 mV	284 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	225 mV	294 mV	0.016 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2529 mV	2633 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

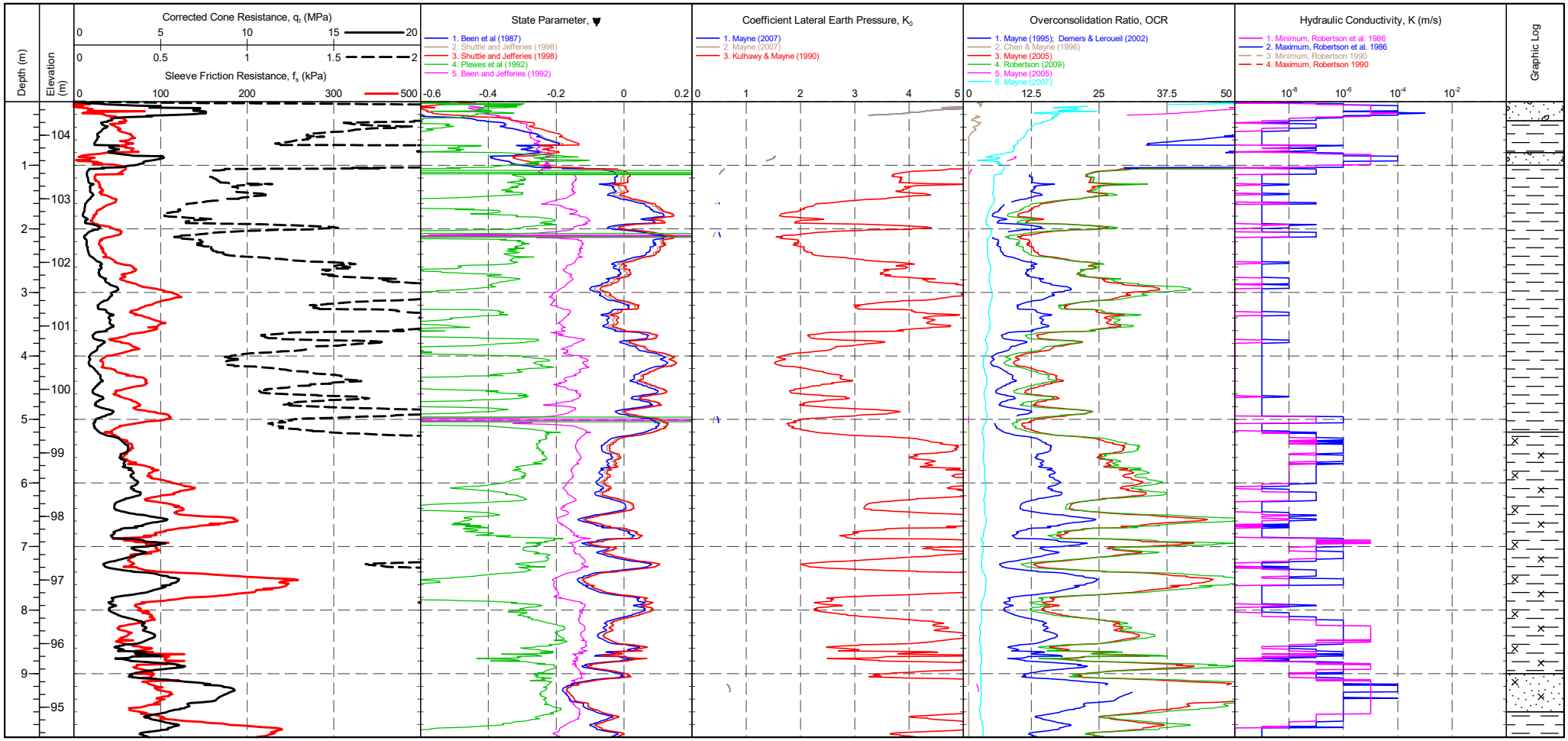
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID **CPT05A**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	360 mV	359 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	286 mV	284 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	225 mV	294 mV	0.016 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2529 mV	2633 mV	

Groundwater Level

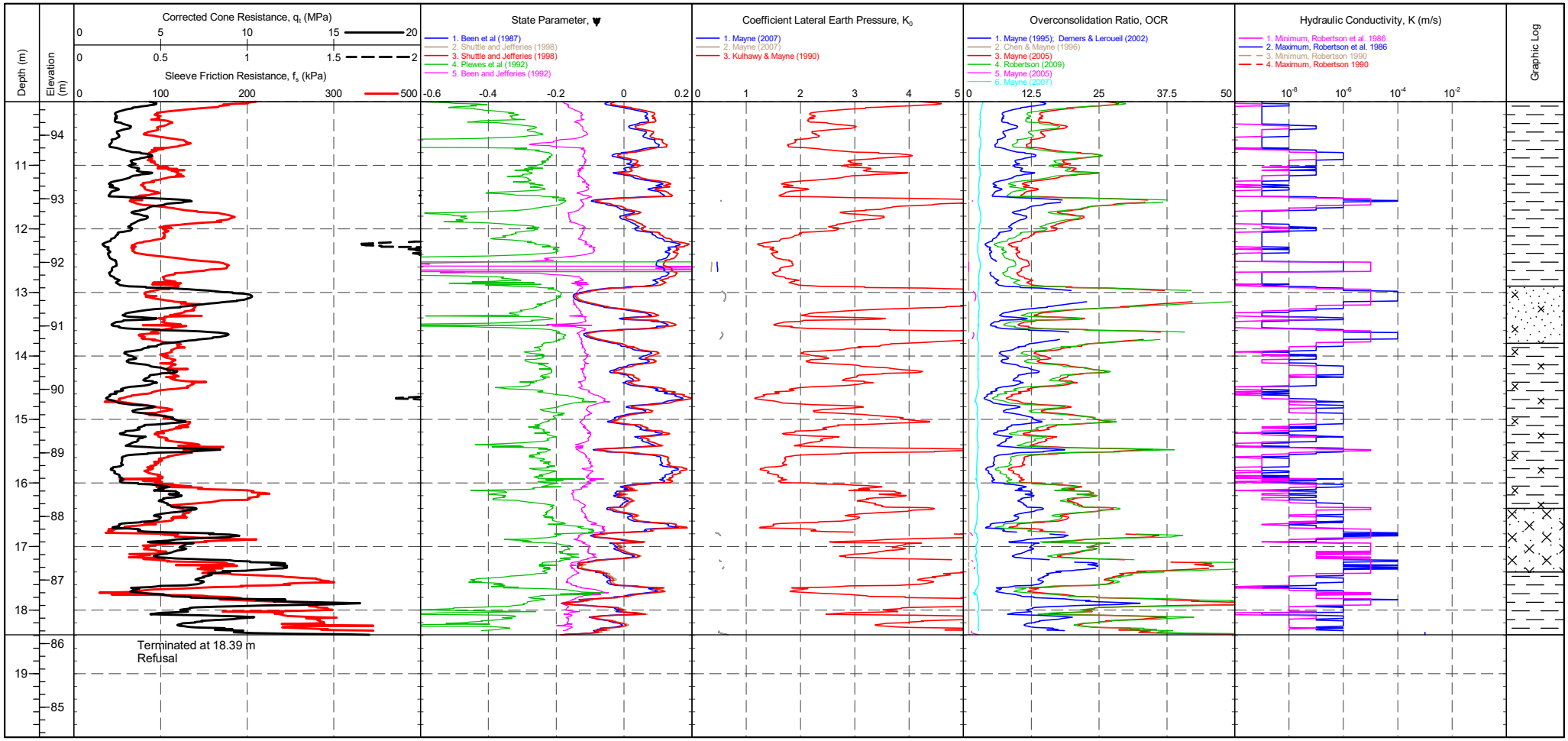
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID **CPT05A**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	360 mV	359 mV	-0.011 MPa
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Sleeve	286 mV	284 mV	-0.001 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	225 mV	294 mV	0.016 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2529 mV	2633 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

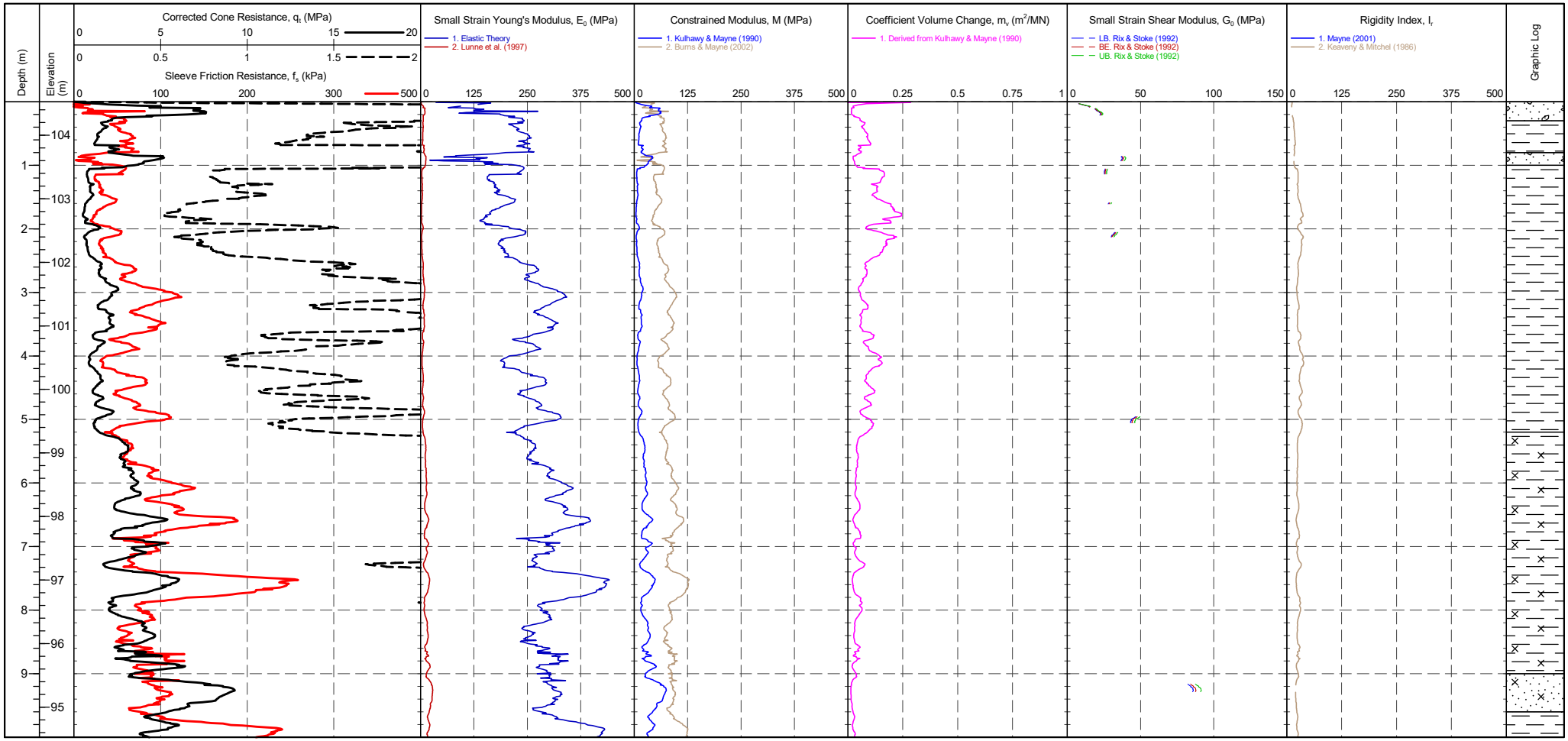
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID **CPT05A**

CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	360 mV	359 mV	-0.011 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	286 mV	284 mV	-0.001 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	225 mV	294 mV	0.016 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2529 mV	2633 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

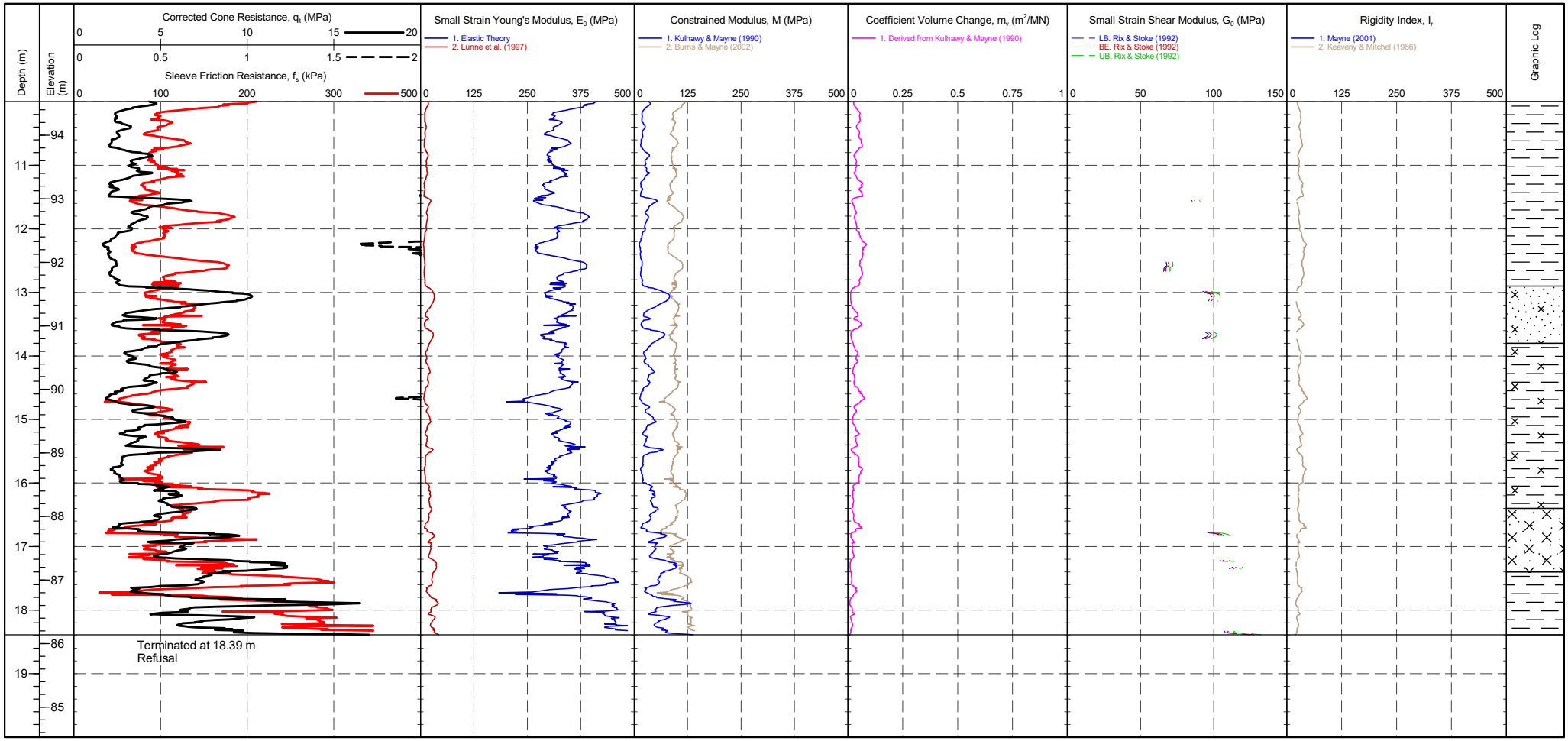
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT05A**

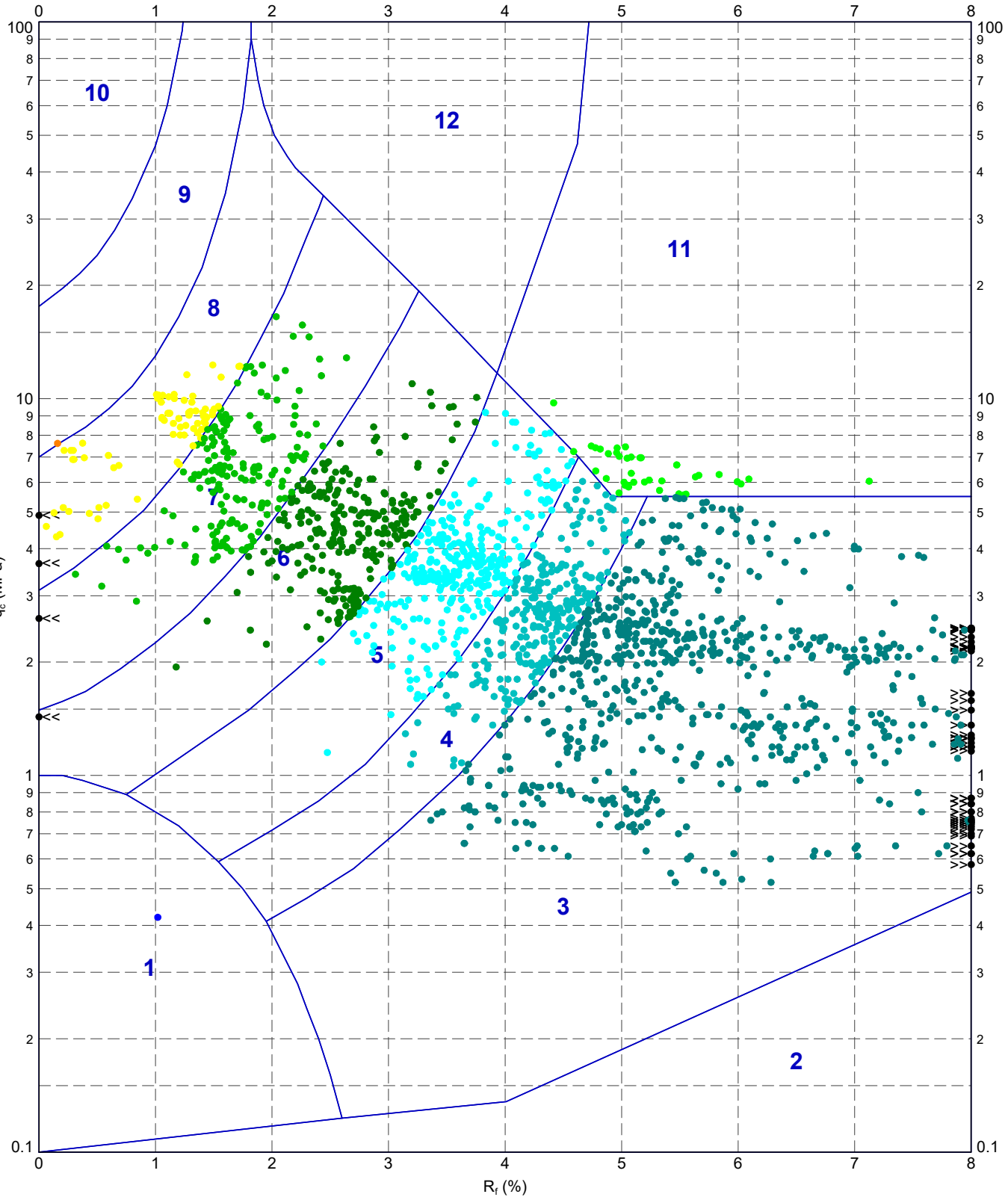
CLIENT : Delta Simons	EASTING : 491009.419 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290857.935 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.527 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	360 mV	359 mV	-0.011 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	286 mV	284 mV	-0.001 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	225 mV	294 mV	0.016 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2529 mV	2633 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT05A

DRAWN	DATE 04/03/2022
CHECKED	DATE 04/03/2022
SCALE Not To Scale	A4
PROJECT No 1220144	FIGURE No

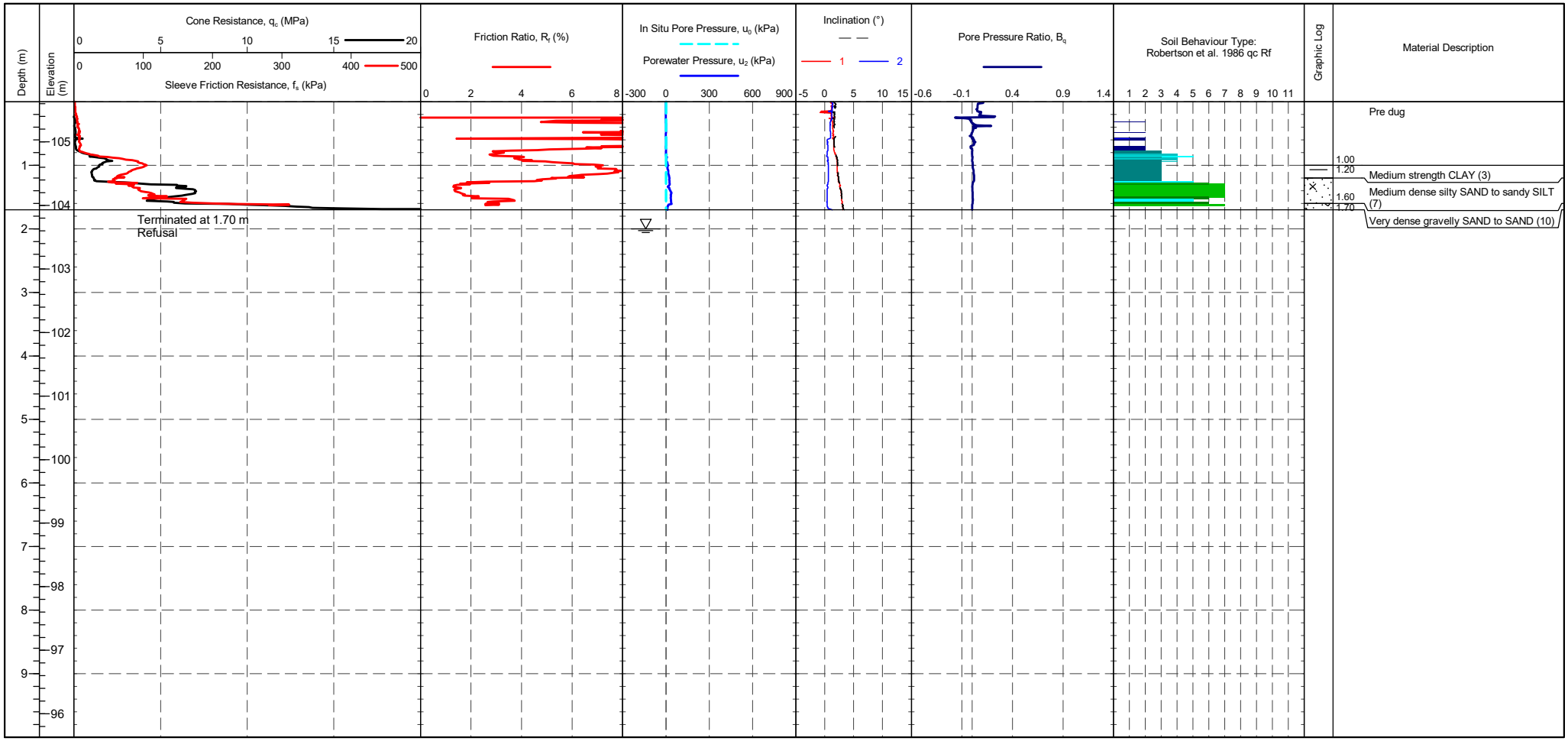
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT06**

CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm^2	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	388 mV	390 mV	0.022 MPa
Sleeve	286 mV	286 mV	0 kPa
Pore Pressure 2	246 mV	195 mV	-0.012 kPa
X-Y Inclinometer	2631 mV	2622 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

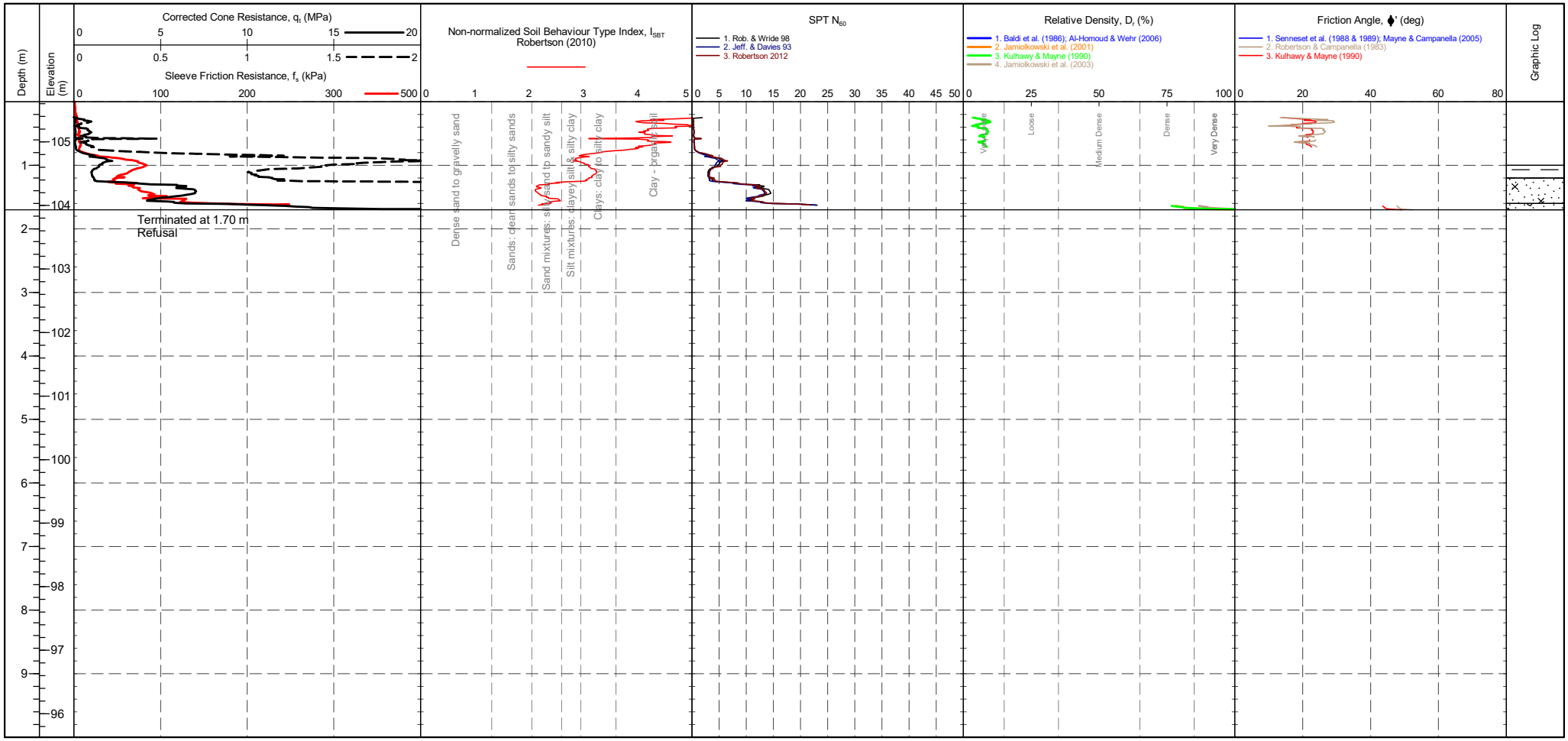
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID: **CPT06**

CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	388 mV	390 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	286 mV	286 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	246 mV	195 mV	-0.012 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2631 mV	2622 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

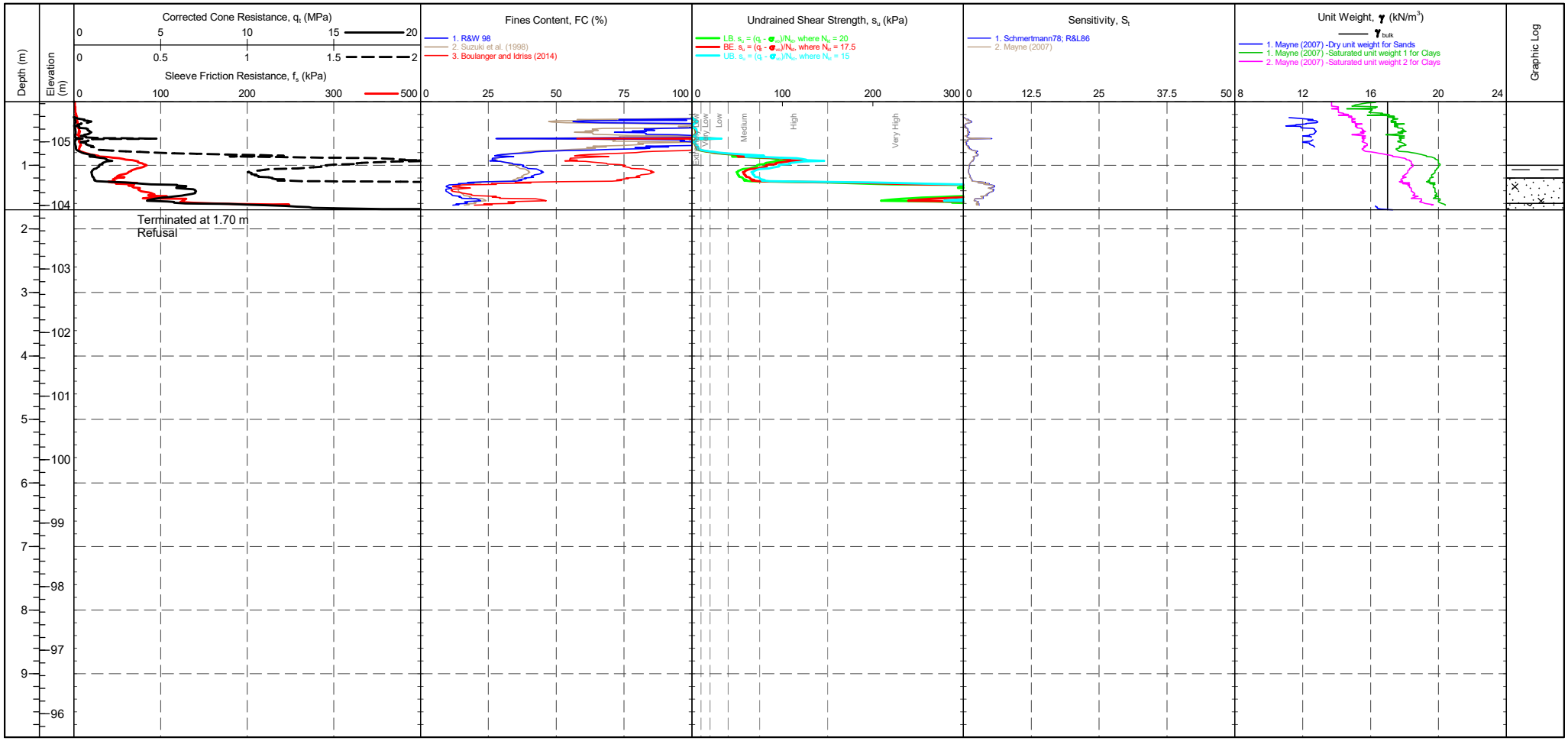
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT06**

CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	388 mV	390 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	286 mV	286 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	246 mV	195 mV	-0.012 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2631 mV	2622 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

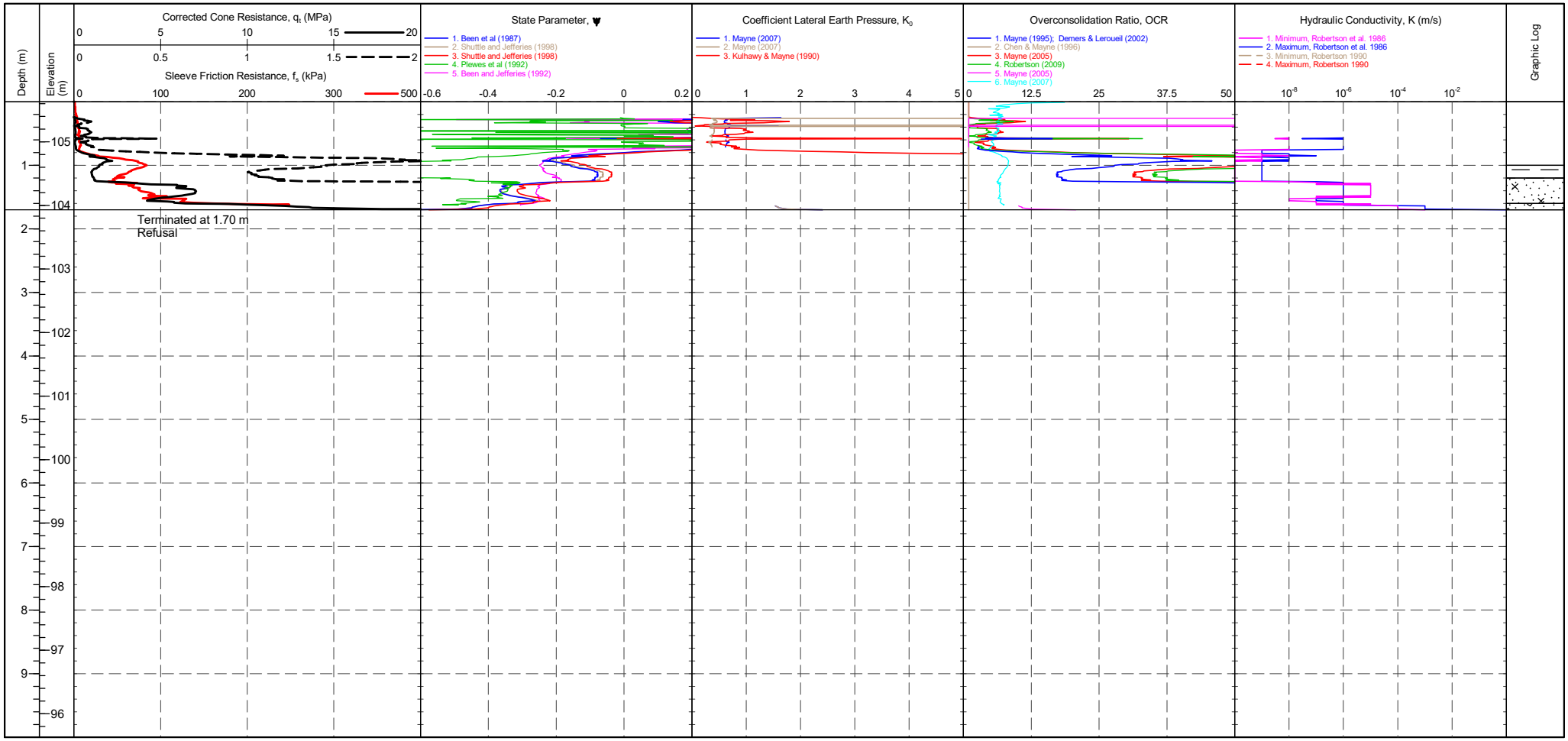
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT06**

CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	388 mV	390 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	286 mV	286 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	246 mV	195 mV	-0.012 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2631 mV	2622 mV	

Groundwater Level

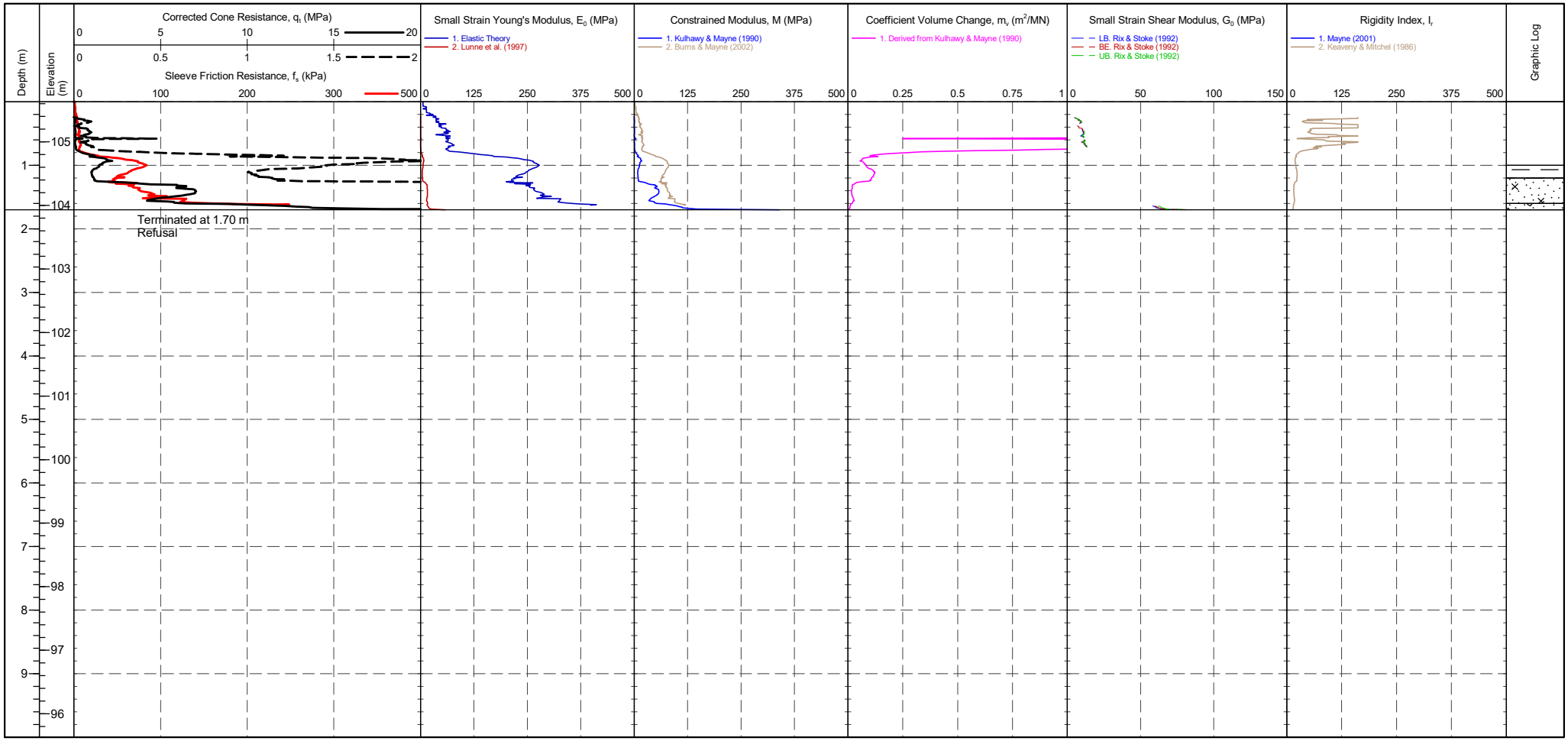
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT06**

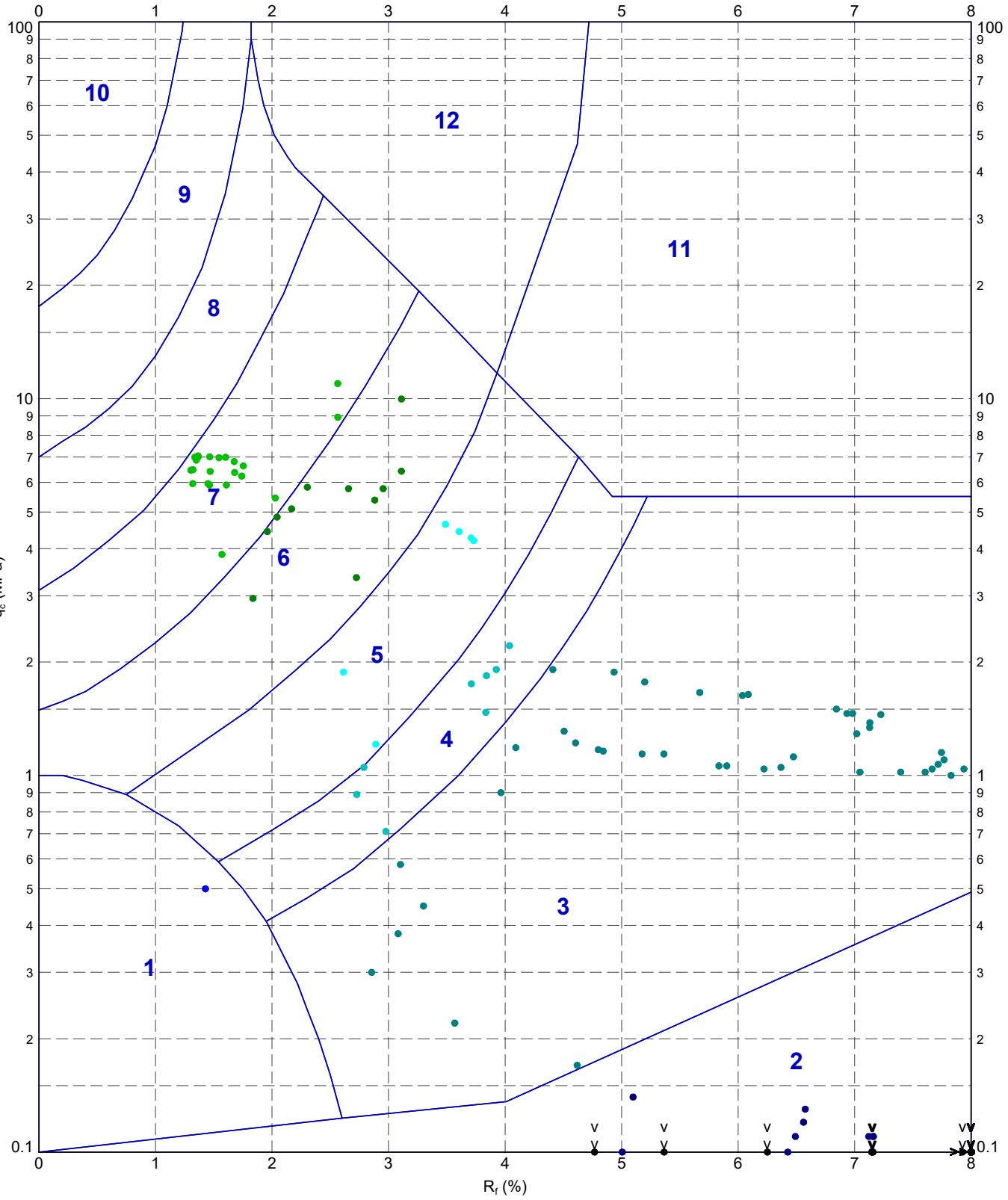
CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	388 mV	390 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	286 mV	286 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	246 mV	195 mV	-0.012 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2631 mV	2622 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT06

DRAWN	DATE 04/03/2022
CHECKED	DATE 04/03/2022
SCALE Not To Scale	A4
PROJECT No 1220144	FIGURE No

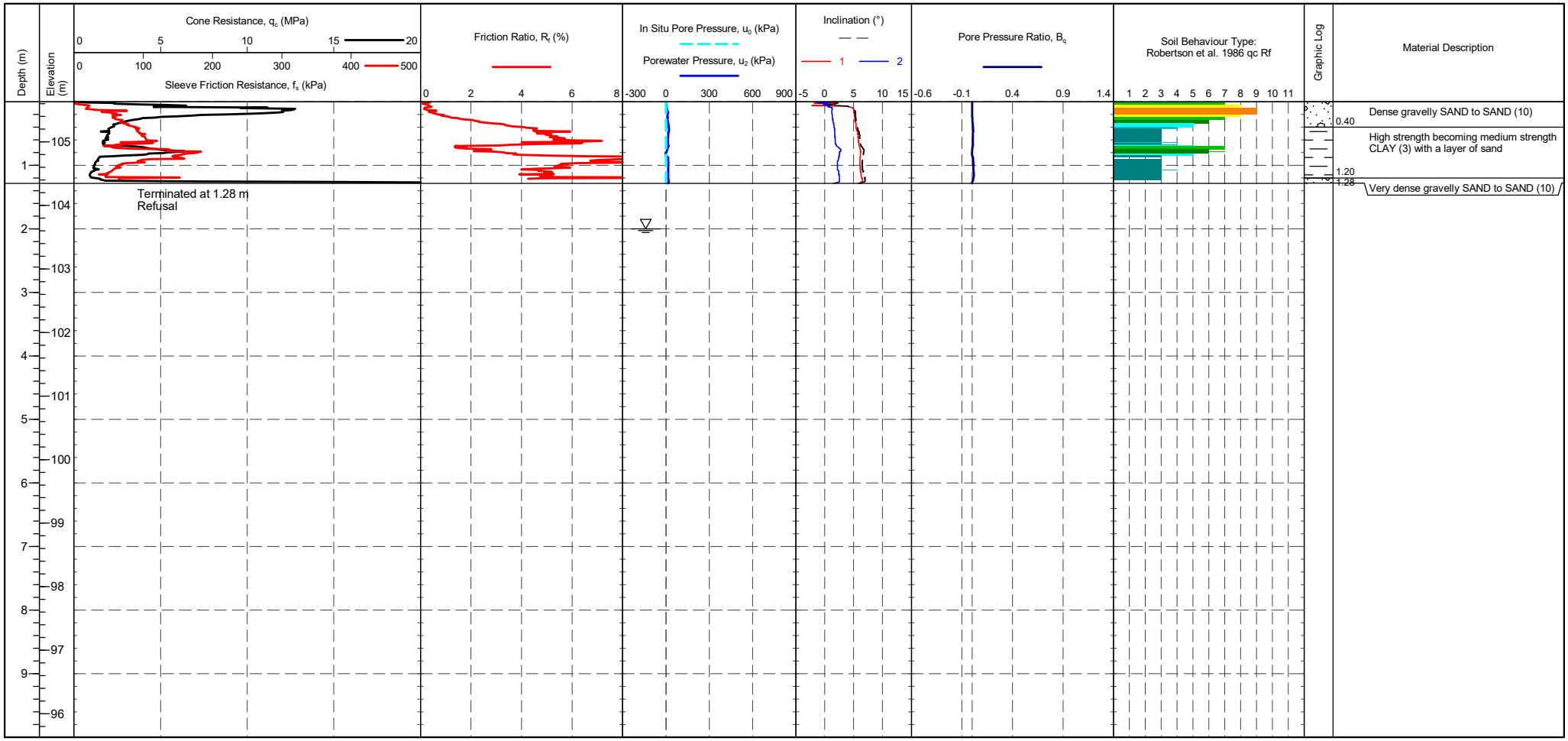
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT06A**

CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm^2	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	389 mV	392 mV	0.033 MPa
Sleeve	288 mV	289 mV	0.001 kPa
Pore Pressure 2	204 mV	199 mV	-0.001 kPa
X-Y Inclinometer	2672 mV	2665 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

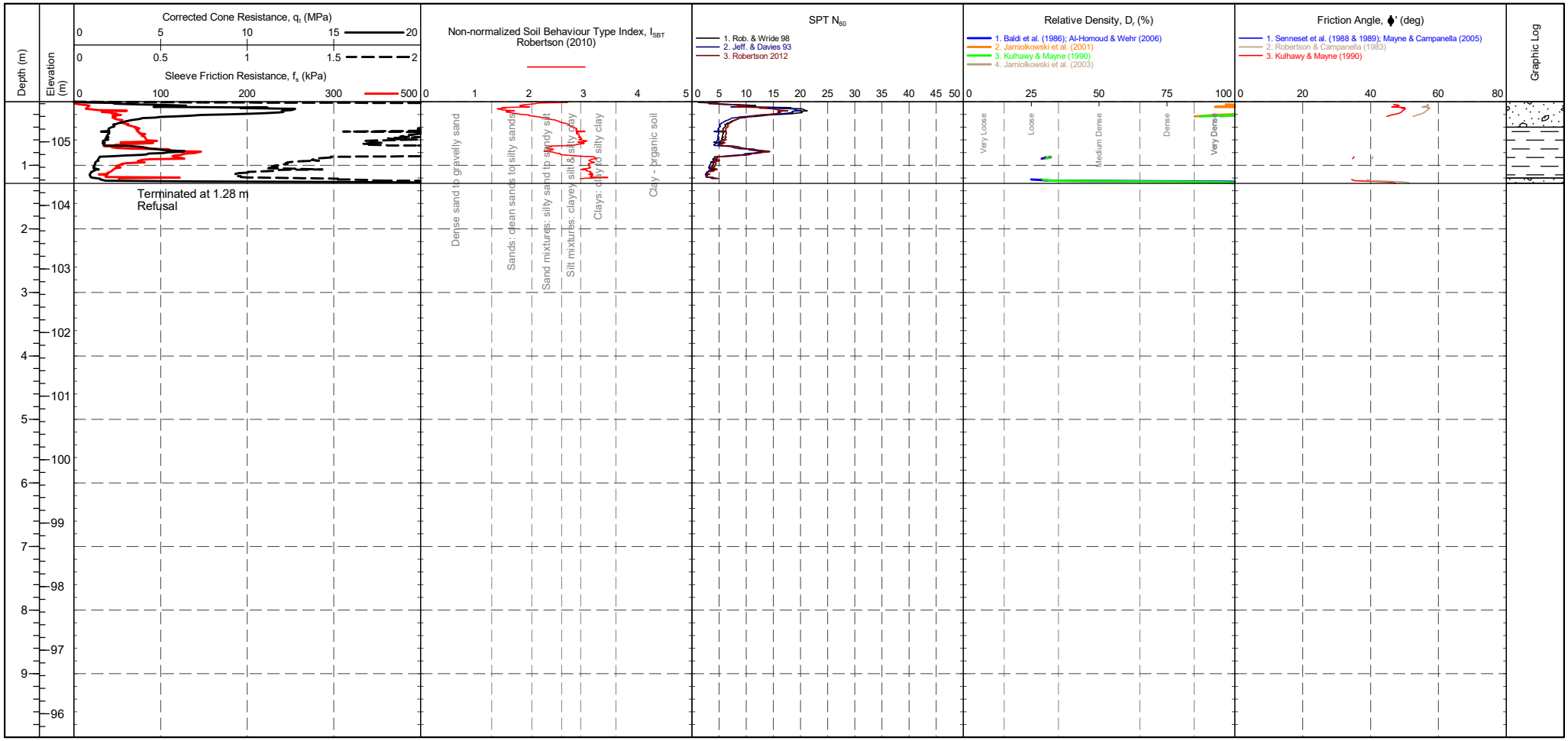
Dissipation Test

CPT LOG 02

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

PointID: **CPT06A**

CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	389 mV	392 mV	0.033 MPa
Sleeve	288 mV	289 mV	0.001 kPa
Pore Pressure 2	204 mV	199 mV	-0.001 kPa
X-Y Inclinometer	2672 mV	2665 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

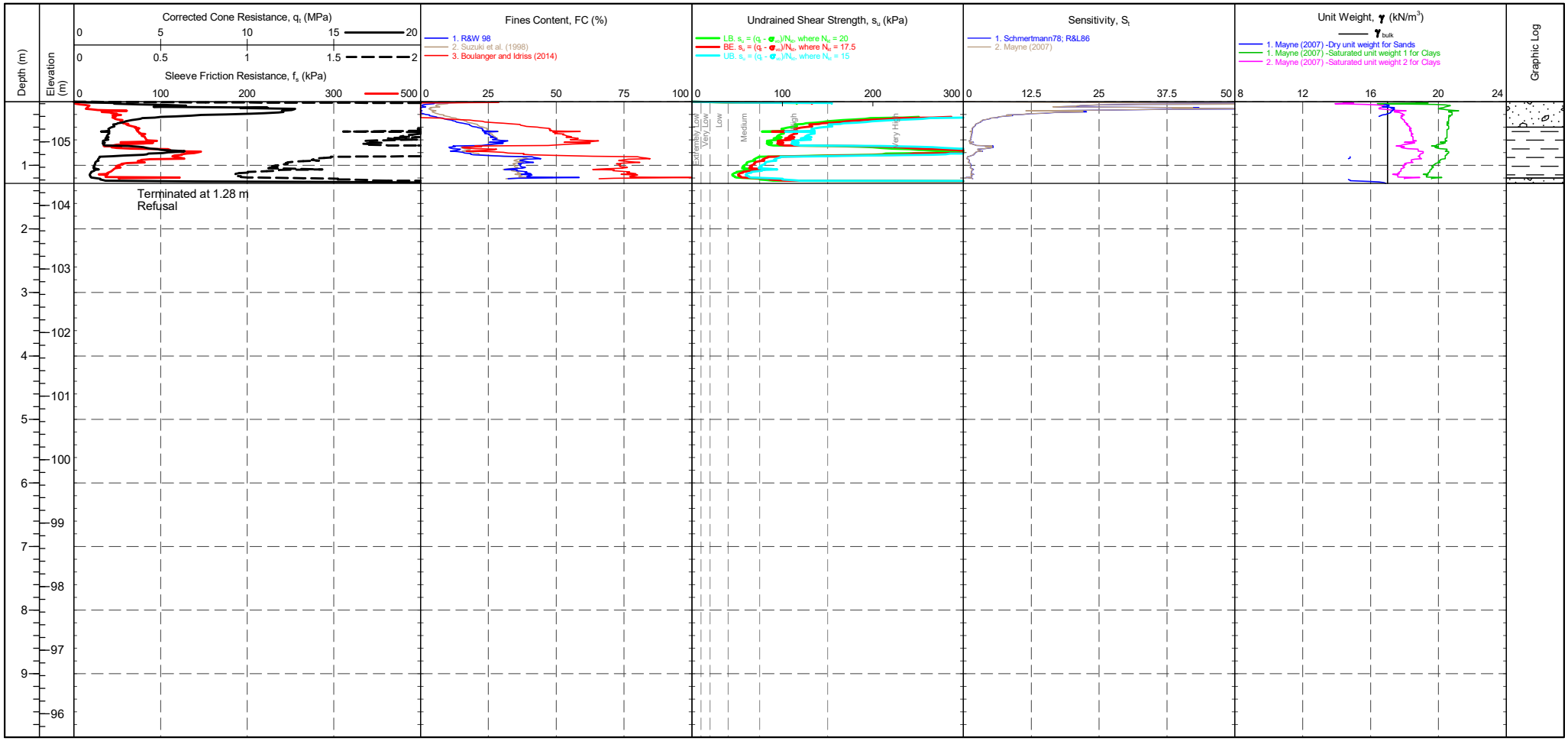
PointID: **CPT06A**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490993.287 m
NORTHING : 290892.523 m
ELEVATION : 105.632 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 1 OF 1
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	389 mV	392 mV	0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	289 mV	0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	204 mV	199 mV	-0.001 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2672 mV	2665 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test

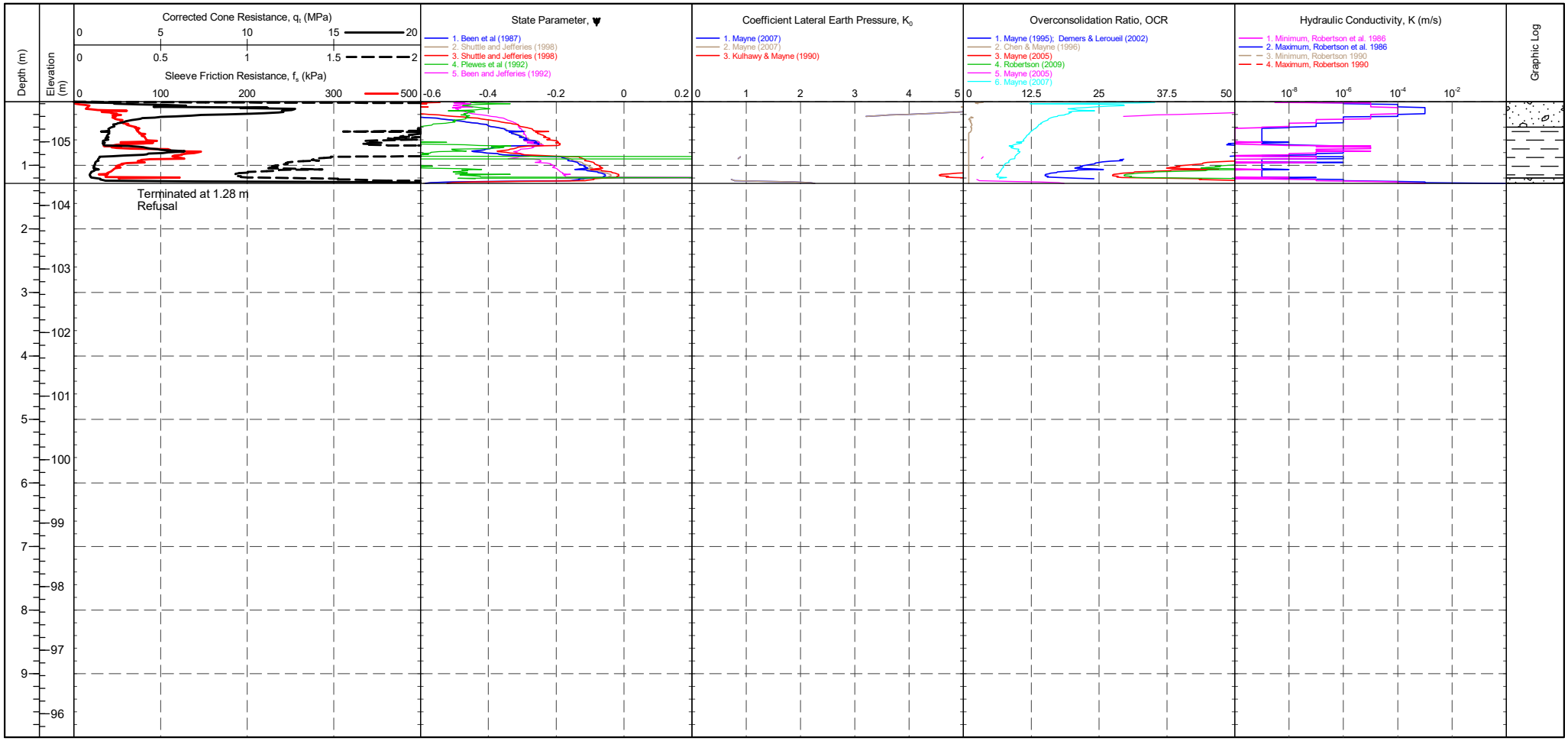
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT06A**

CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	389 mV	392 mV	0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	289 mV	0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	204 mV	199 mV	-0.001 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2672 mV	2665 mV	

Groundwater Level

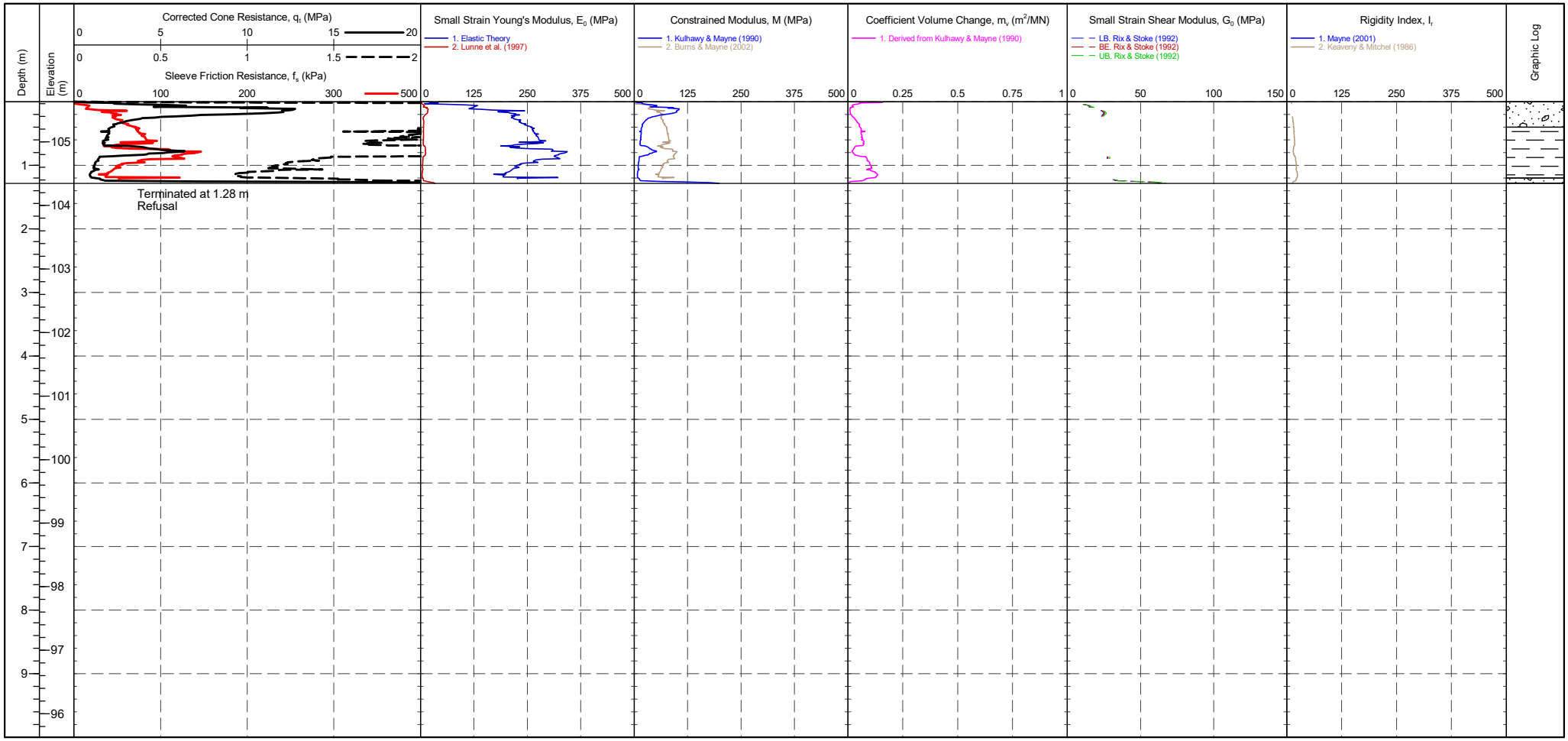
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT06A**

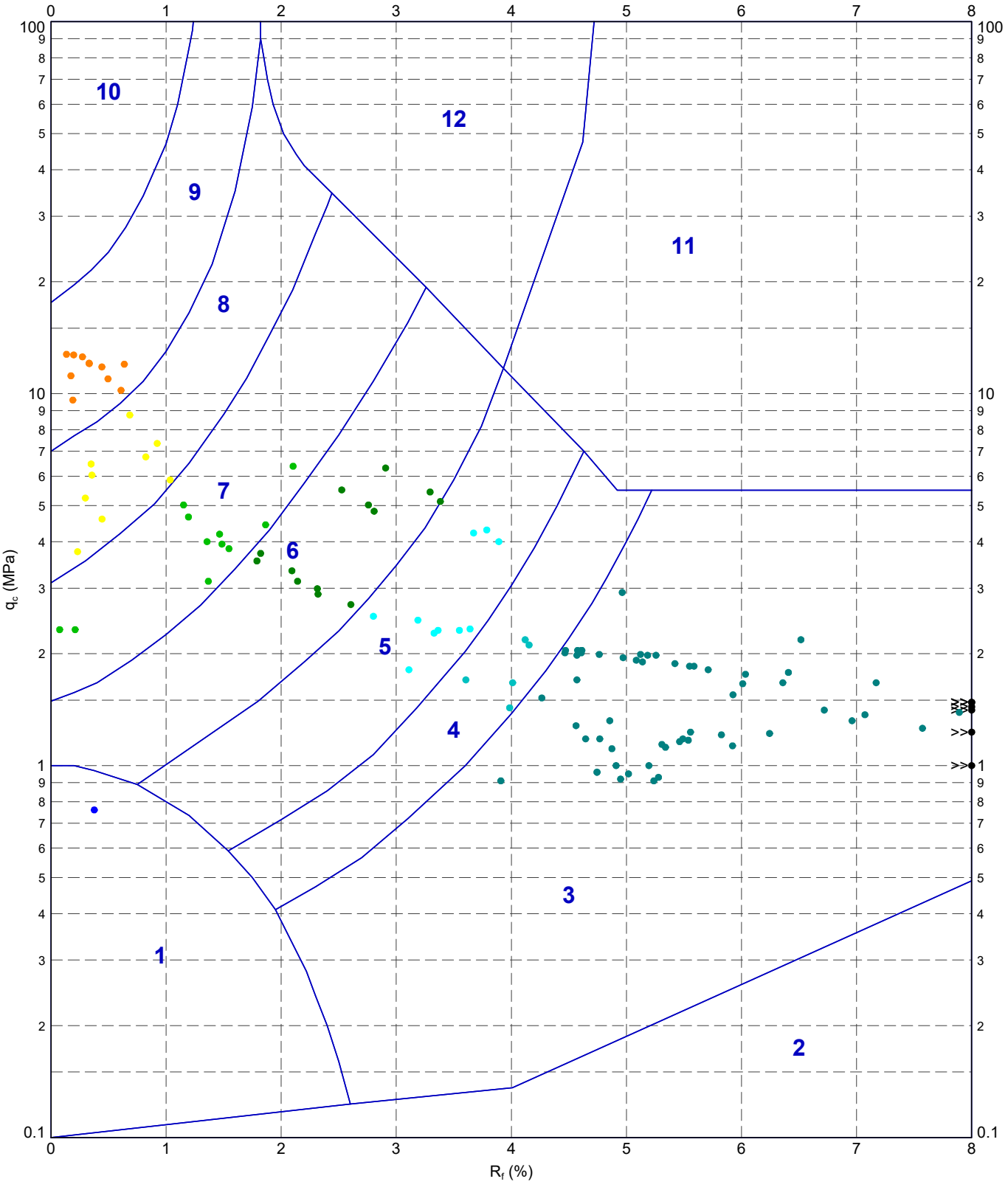
CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	389 mV	392 mV	0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	289 mV	0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	204 mV	199 mV	-0.001 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2672 mV	2665 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT06A

DRAWN	DATE 04/03/2022
CHECKED	DATE 04/03/2022
SCALE Not To Scale	A4
PROJECT No 1220144	FIGURE No

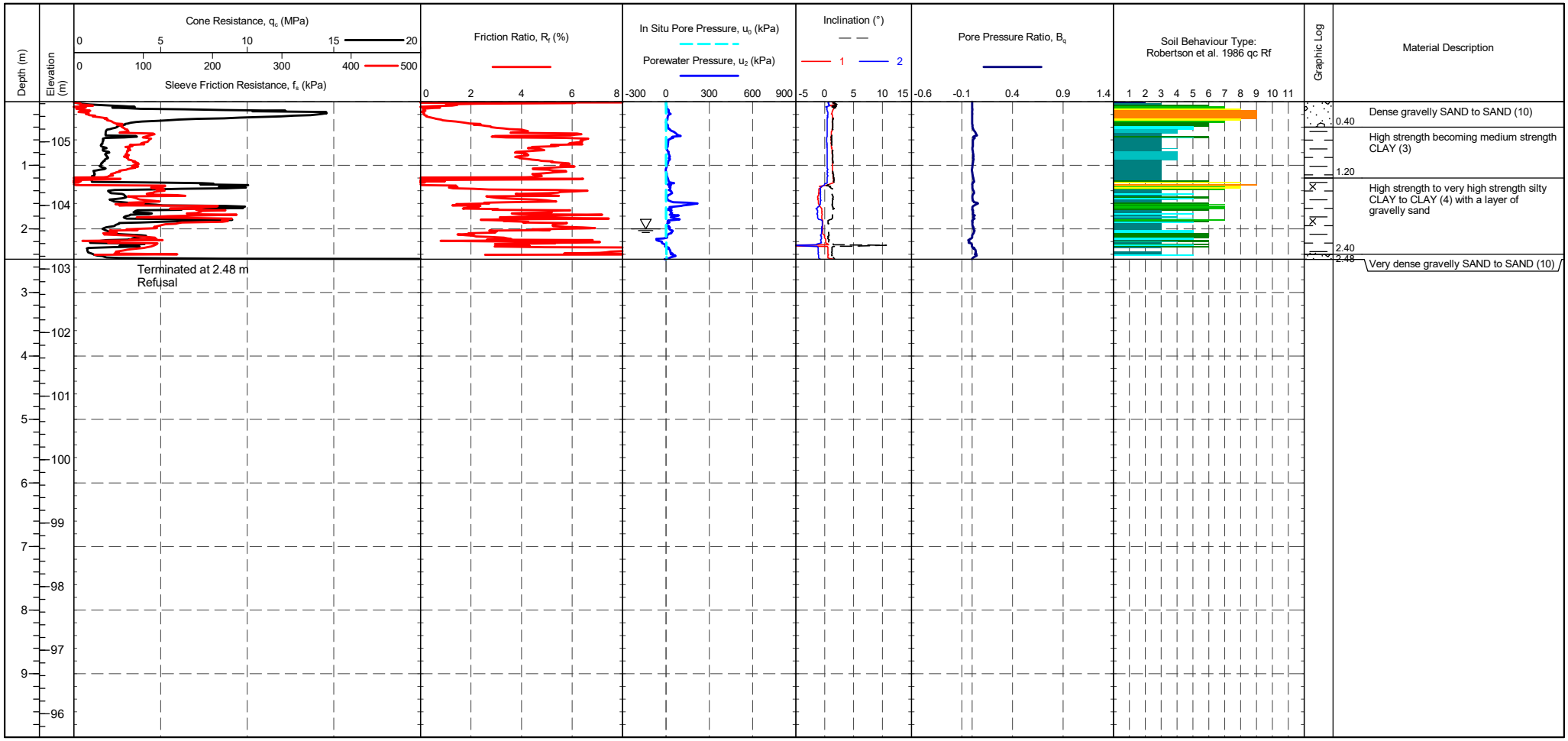
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT06B**

CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	367 mV	366 mV	-0.011 MPa
Sleeve	291 mV	290 mV	-0.001 kPa
Pore Pressure 2	232 mV	216 mV	-0.004 kPa
X-Y Inclinometer	2702 mV	2639 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

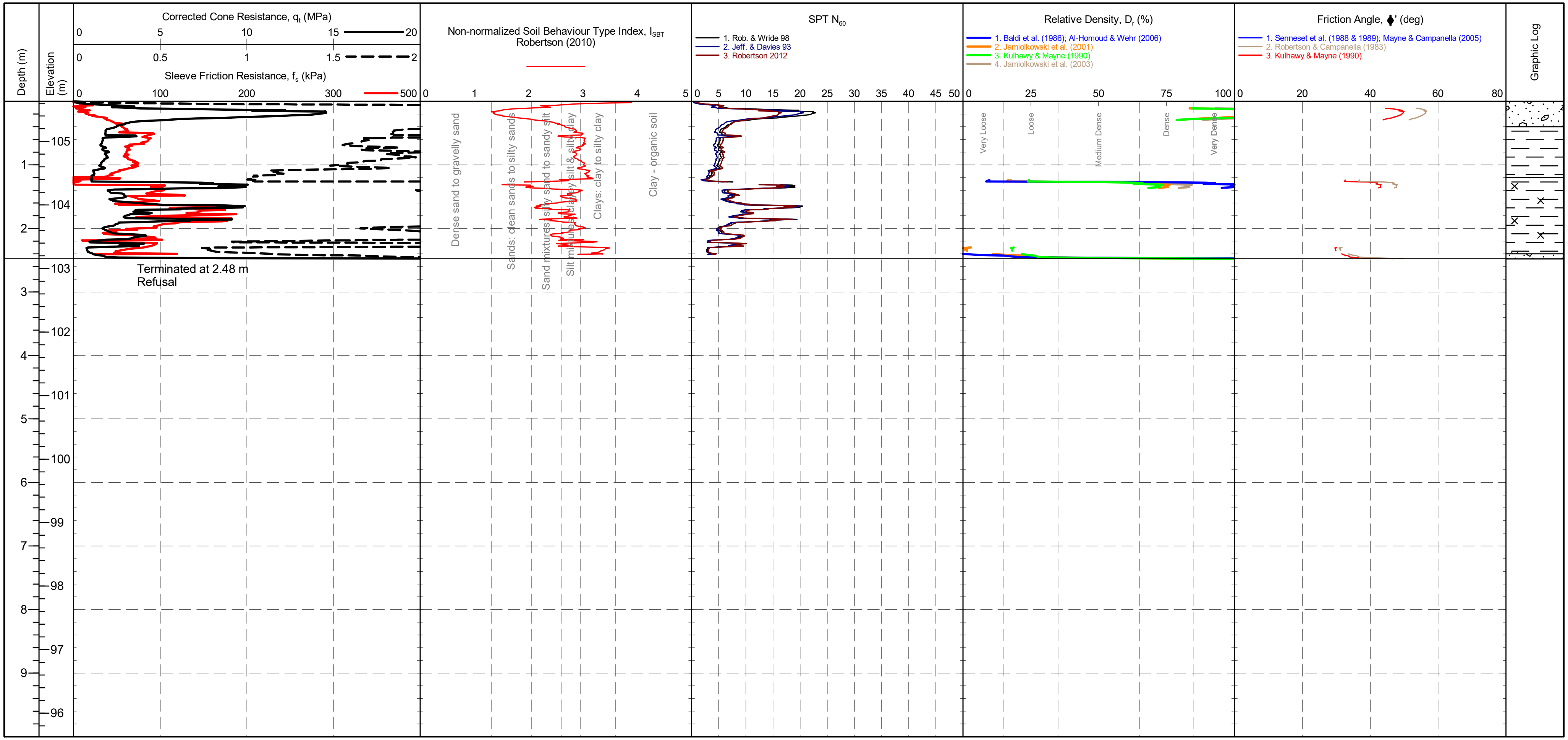
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID
CPT06B

CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	:	S15-CFIP.1867
CONE MODEL	:	Subtraction
CONE AREA	:	15cm^2
CONE AREA RATIO	:	0.79
FILTER POSITION	:	u2
FILTER TYPE	:	HDPE

TEST TYPE	:	TE2
APPLICATION CLASS	:	2
RIG	:	CPT 016 - Broomhall
OPERATOR	:	TR
FRICTION REDUCER	:	None
WEATHER	:	Sunny & Hot

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	367 mV	366 mV	-0.011 MPa
Sleeve	291 mV	290 mV	-0.001 kPa
Pore Pressure 2	232 mV	216 mV	-0.004 kPa
X-Y Inclinometer	2702 mV	2639 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

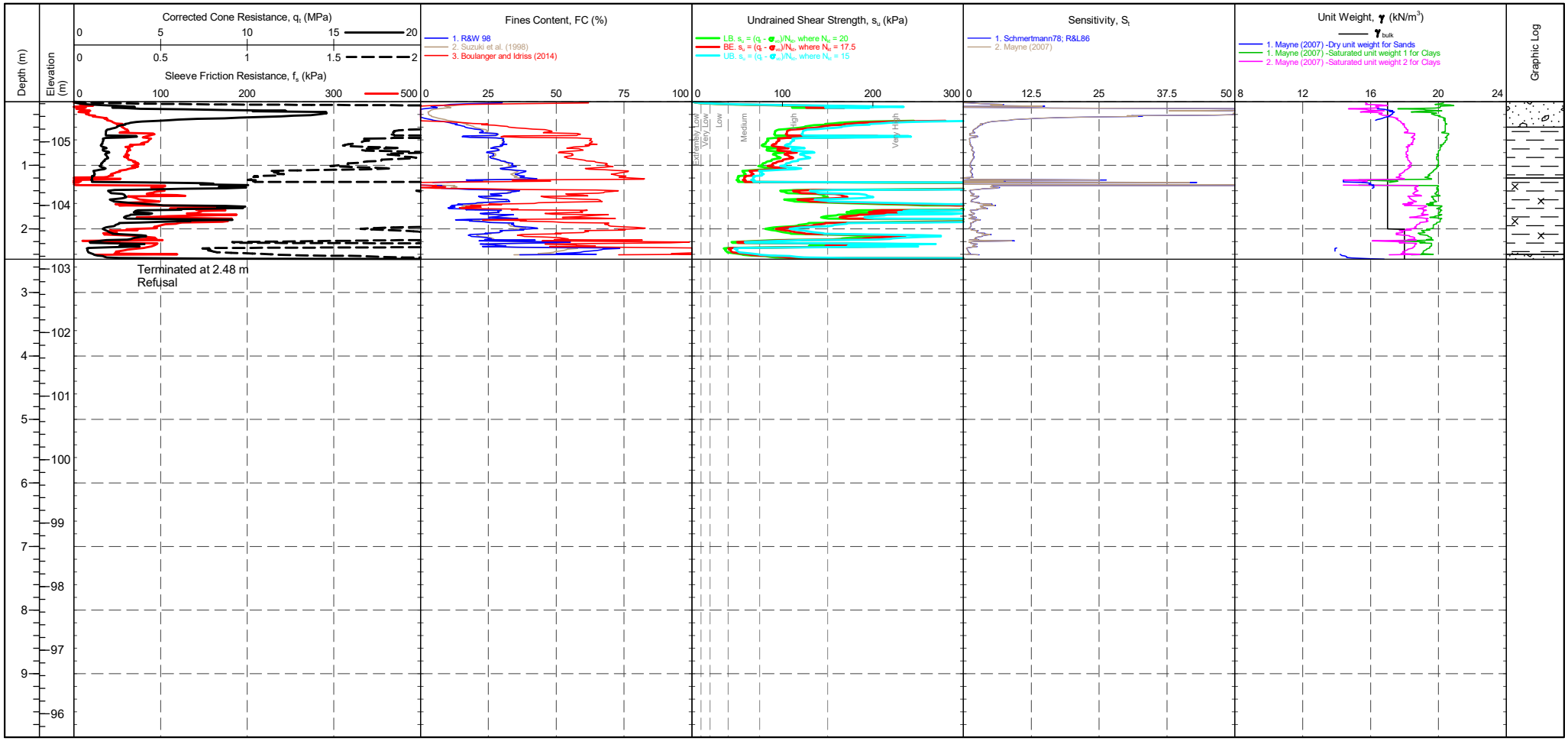
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT06B**

CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	367 mV	366 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	290 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	232 mV	216 mV	-0.004 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2702 mV	2639 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

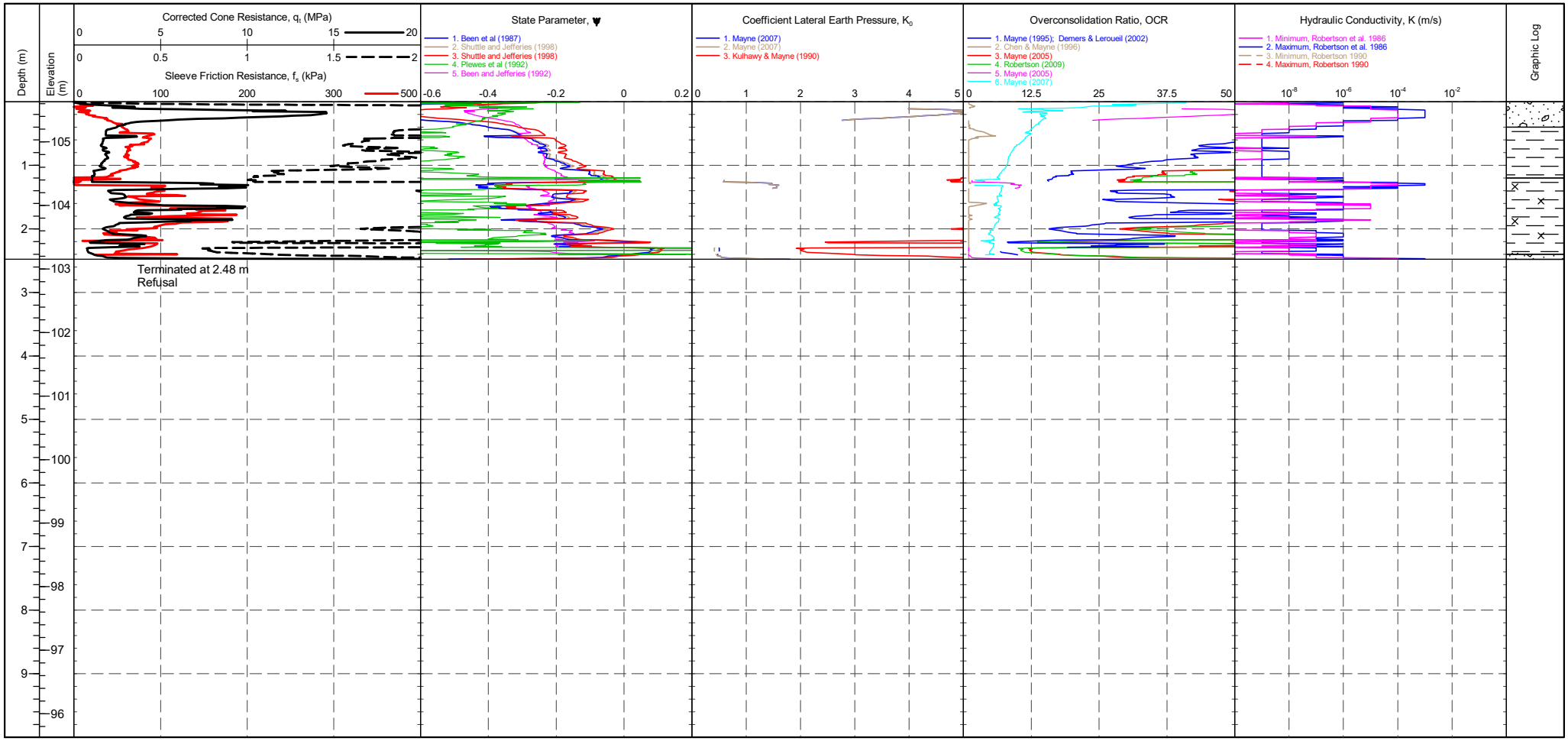
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT06B**

CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	367 mV	366 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	290 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	232 mV	216 mV	-0.004 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2702 mV	2639 mV	

Groundwater Level

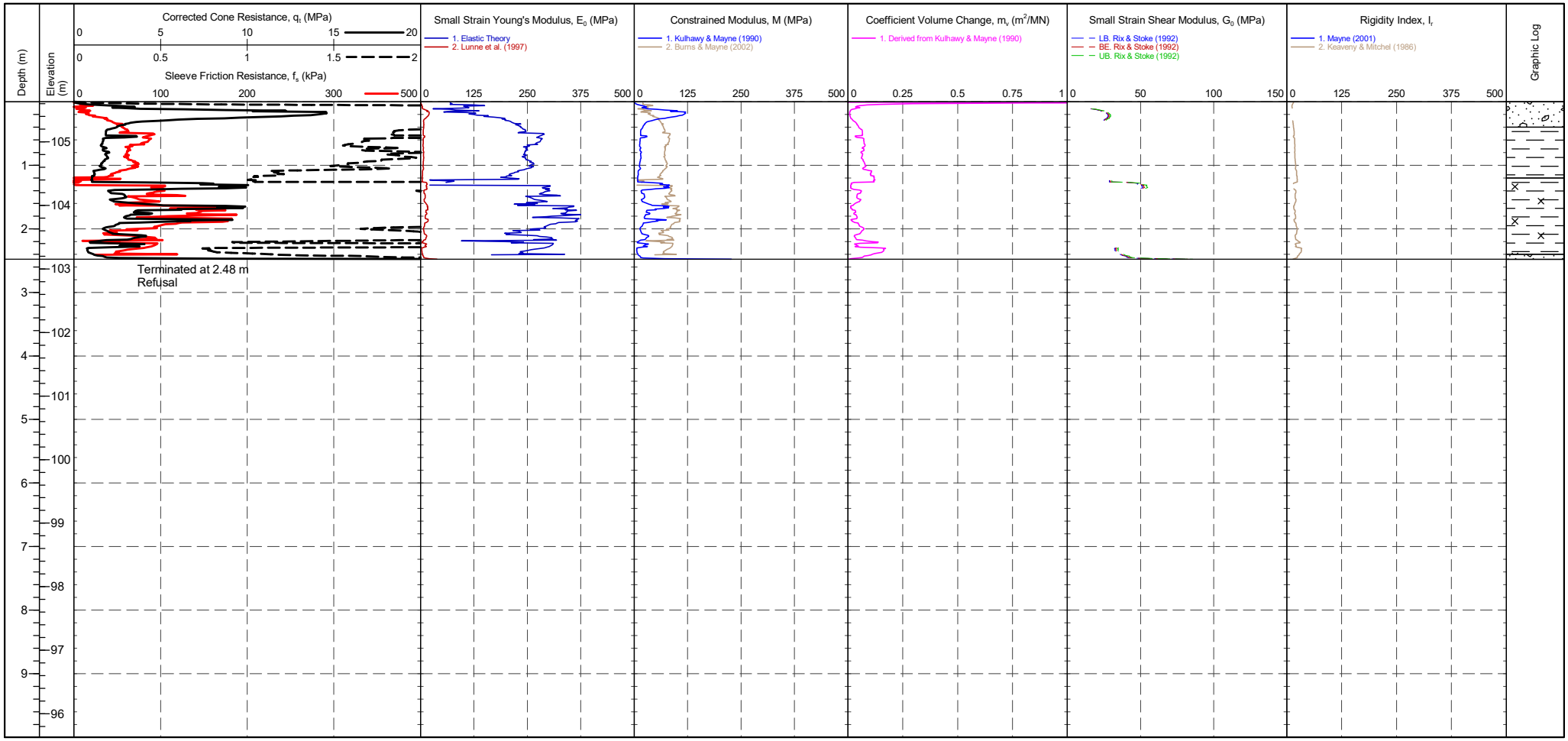
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT06B**

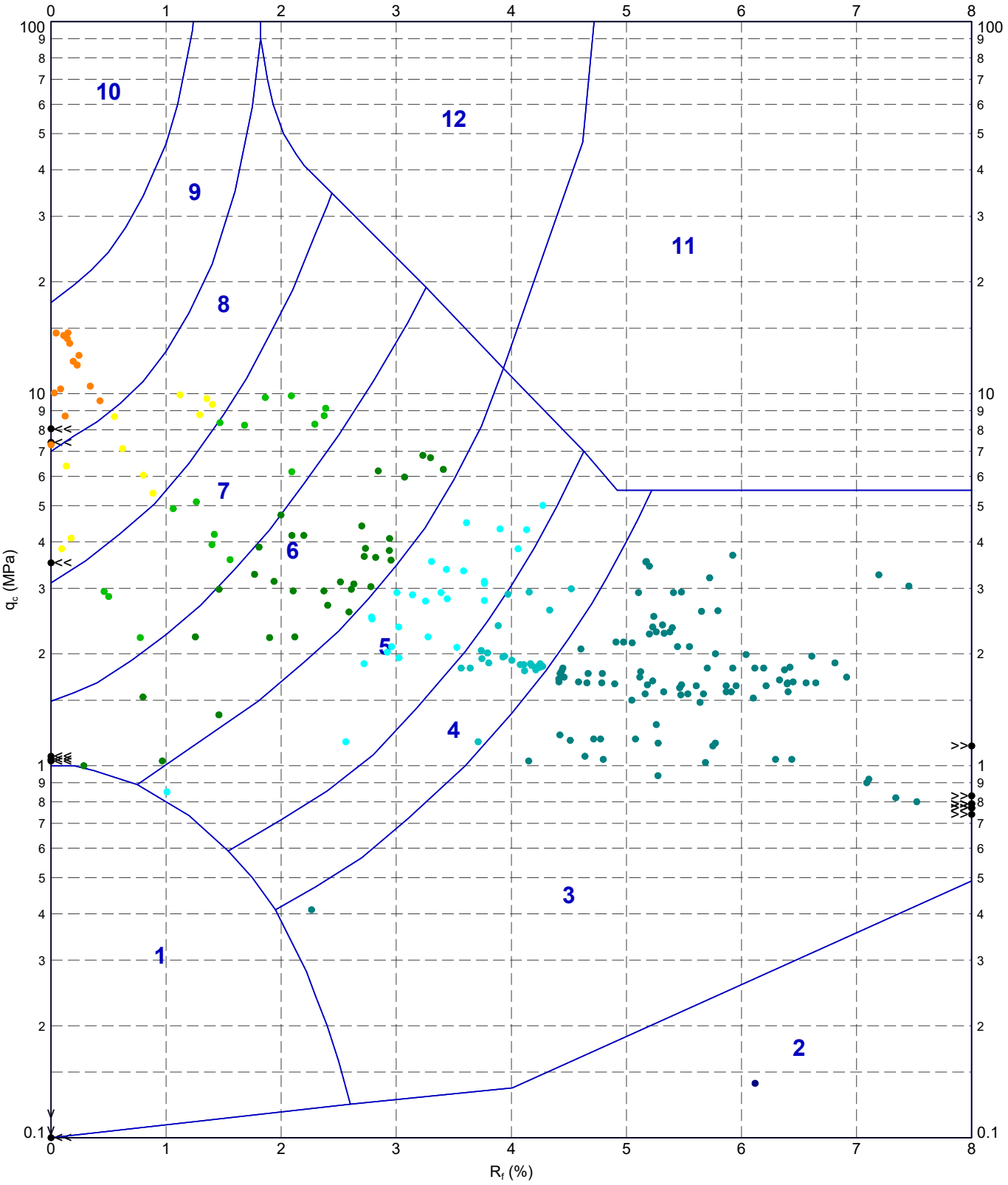
CLIENT : Delta Simons	EASTING : 490993.287 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290892.523 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.632 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	367 mV	366 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	290 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	232 mV	216 mV	-0.004 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2702 mV	2639 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT06B

DRAWN	DATE 04/03/2022
CHECKED	DATE 04/03/2022
SCALE Not To Scale	A4
PROJECT No 1220144	FIGURE No

IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

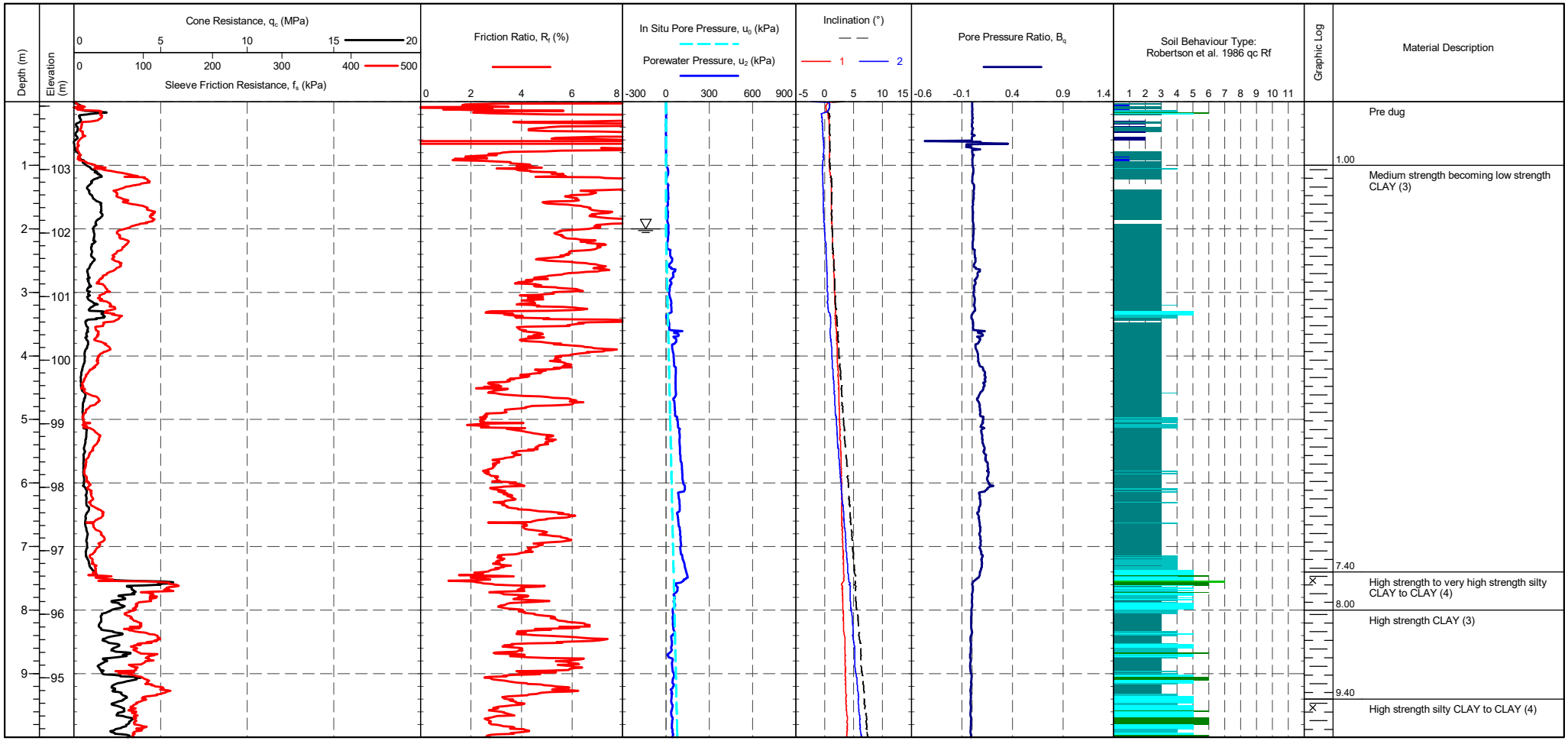
PointID: **CPT07**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 491084.703 m
NORTHING : 290876.351 m
ELEVATION : 104.067 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 10/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm^2	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	363 mV	363 mV	0 MPa
Sleeve	287 mV	287 mV	0 kPa
Pore Pressure 2	248 mV	246 mV	0 kPa
X-Y Inclinometer	2762 mV	2588 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

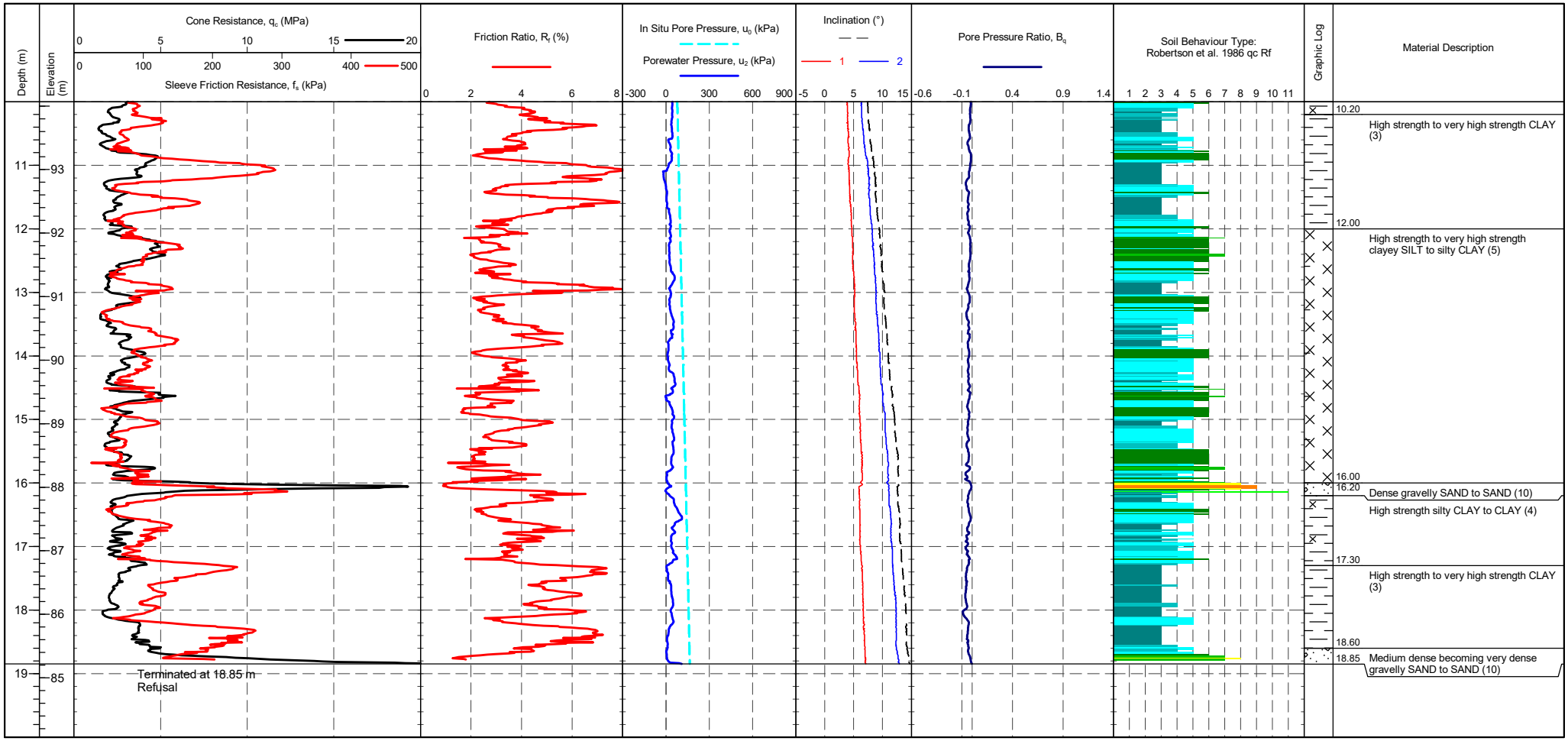
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT07**

CLIENT : Delta Simons	EASTING : 491084.703 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290876.351 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.067 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm^2	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	363 mV	363 mV	0 MPa
Sleeve	287 mV	287 mV	0 kPa
Pore Pressure 2	248 mV	246 mV	0 kPa
X-Y Inclinometer	2762 mV	2588 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

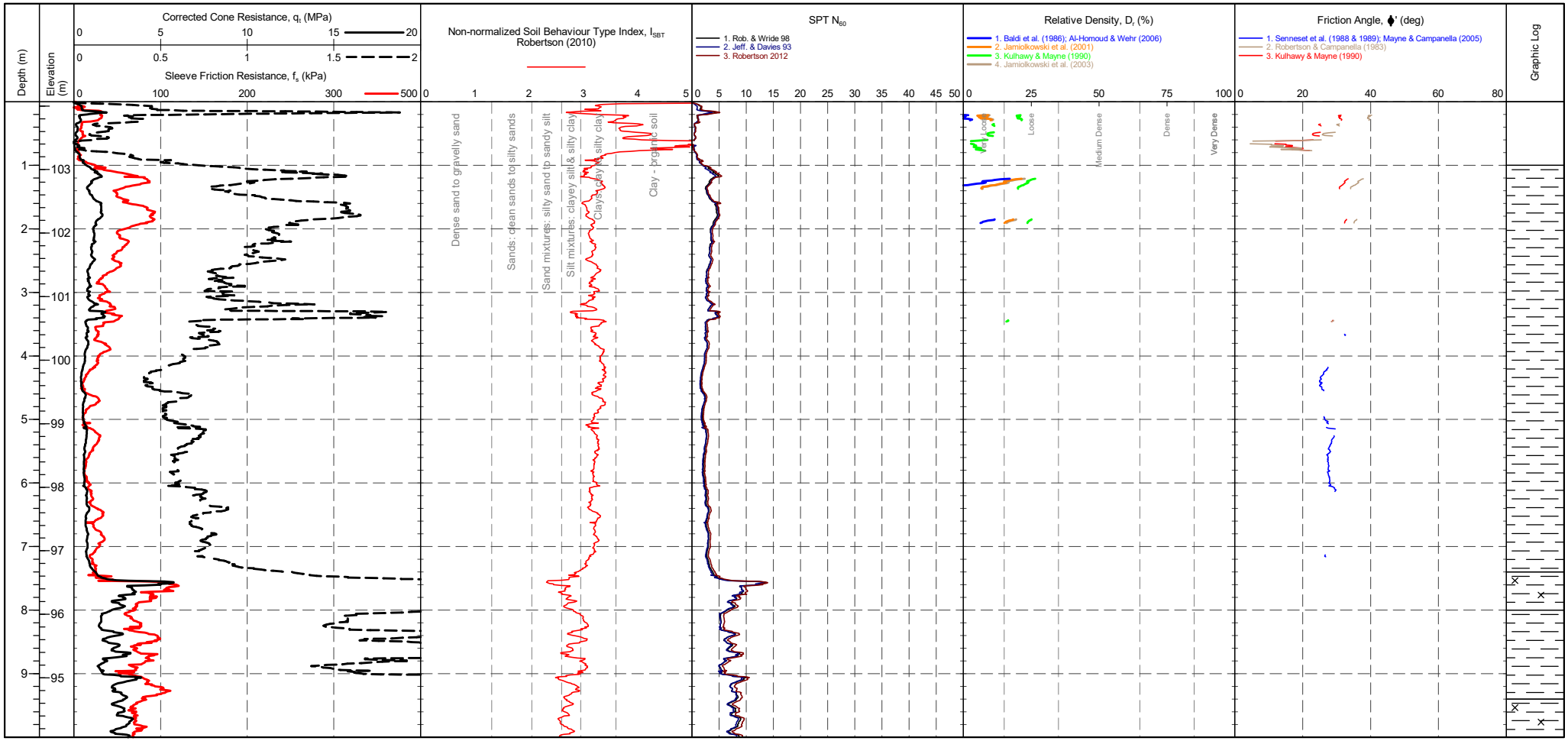
PointID **CPT07**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 491084.703 m
NORTHING : 290876.351 m
ELEVATION : 104.067 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 10/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	363 mV	363 mV	0 MPa
Sleeve	287 mV	287 mV	0 kPa
Pore Pressure 2	248 mV	246 mV	0 kPa
X-Y Inclinometer	2762 mV	2588 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

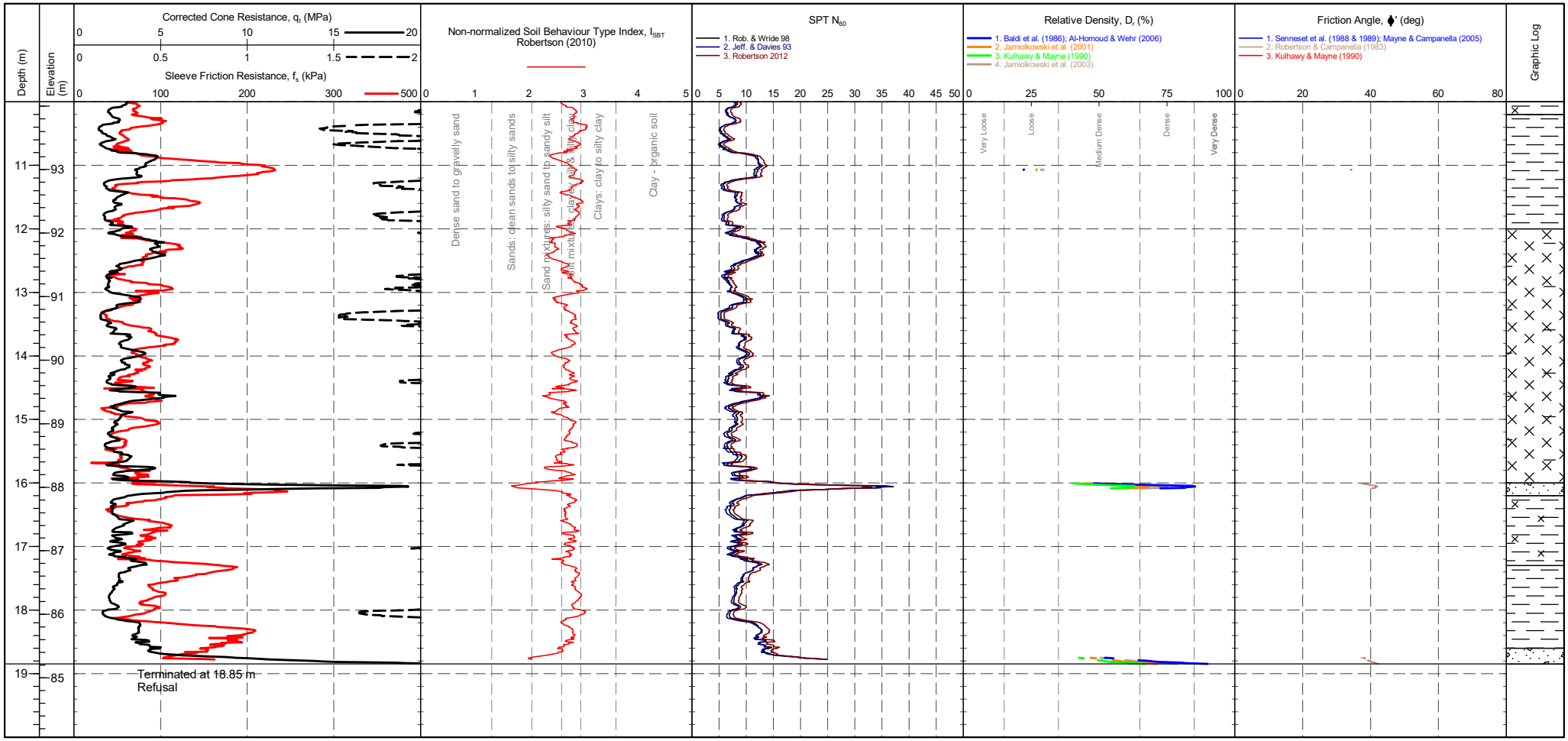
PointID: **CPT07**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 491084.703 m
NORTHING : 290876.351 m
ELEVATION : 104.067 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 10/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	363 mV	363 mV	0 MPa
Sleeve	287 mV	287 mV	0 kPa
Pore Pressure 2	248 mV	246 mV	0 kPa
X-Y Inclinometer	2762 mV	2588 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

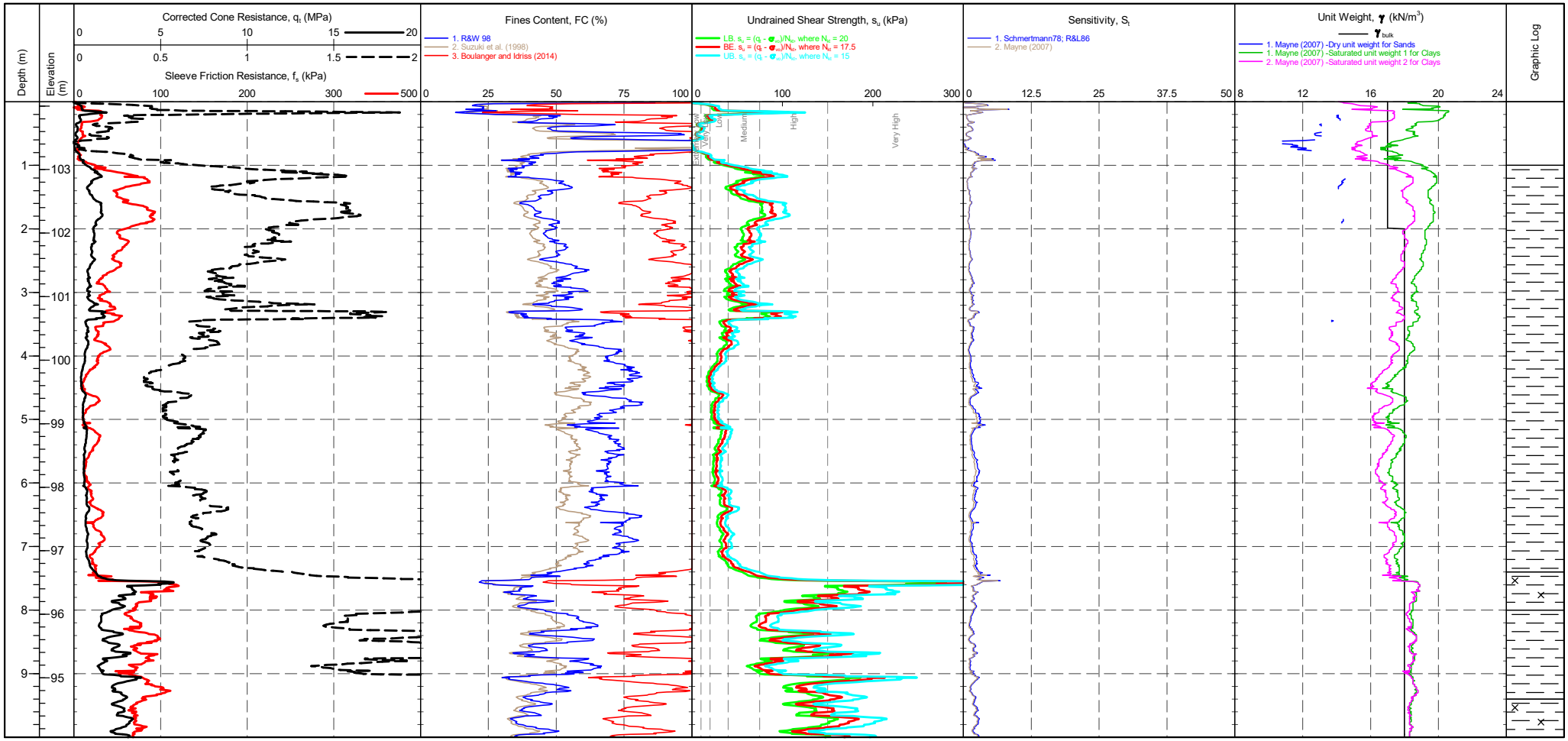
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT07**

CLIENT : Delta Simons	EASTING : 491084.703 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290876.351 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.067 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	363 mV	363 mV	0 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	287 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	248 mV	246 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2762 mV	2588 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

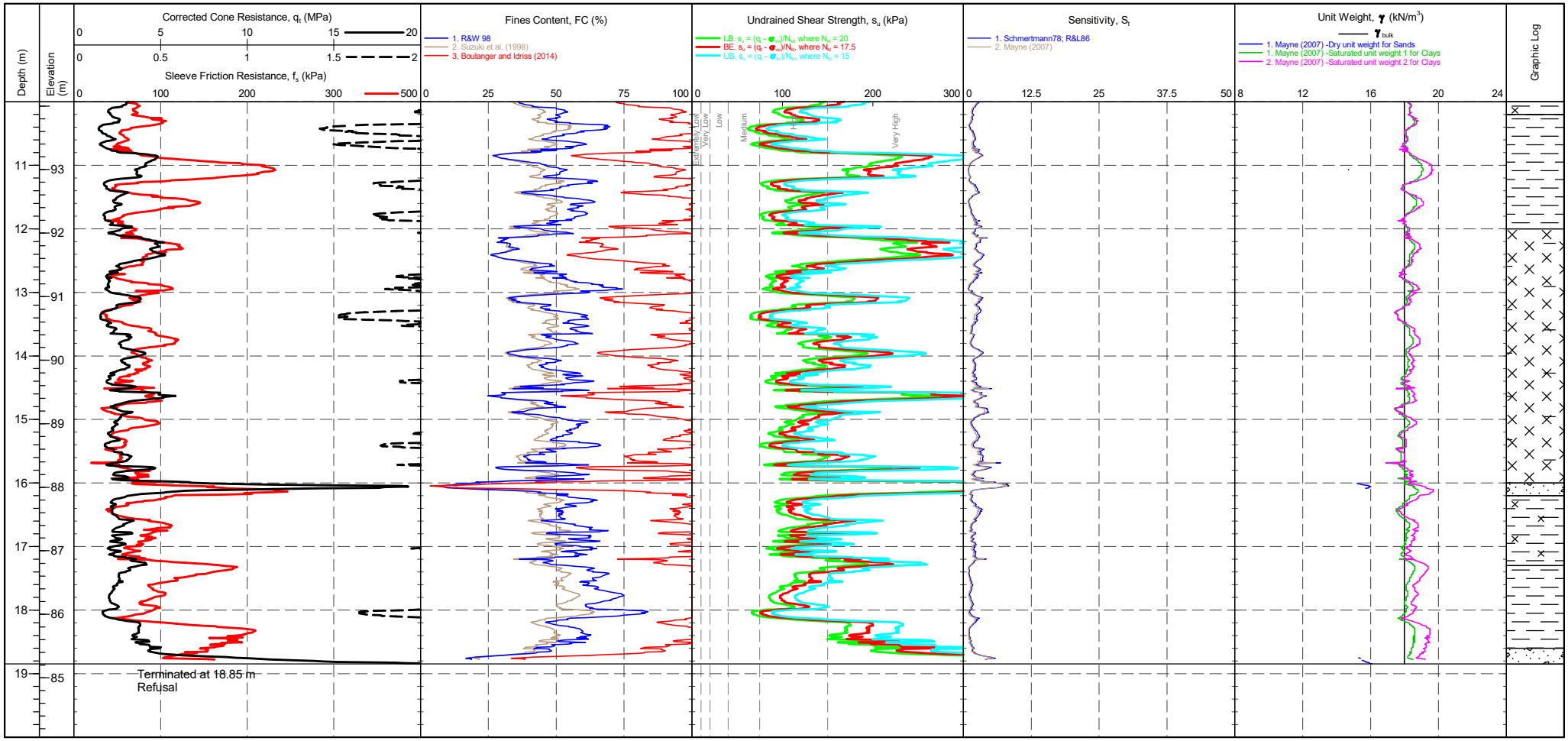
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT07**

CLIENT : Delta Simons	EASTING : 491084.703 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290876.351 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.067 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	363 mV	363 mV	0 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	287 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	248 mV	246 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2762 mV	2588 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test

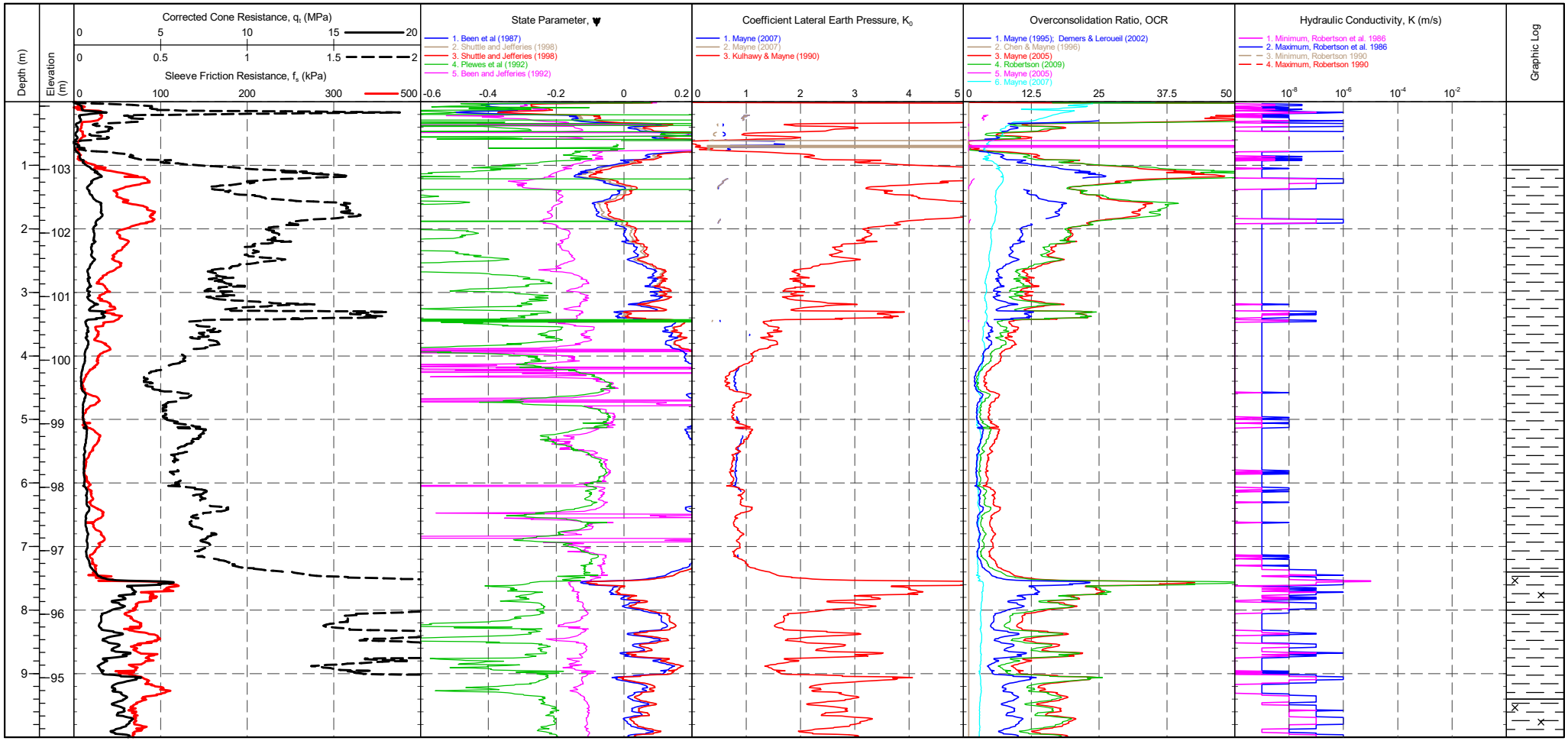
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT07**

CLIENT : Delta Simons	EASTING : 491084.703 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290876.351 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.067 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	363 mV	363 mV	0 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	287 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	248 mV	246 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2762 mV	2588 mV	

Groundwater Level

Dissipation Test

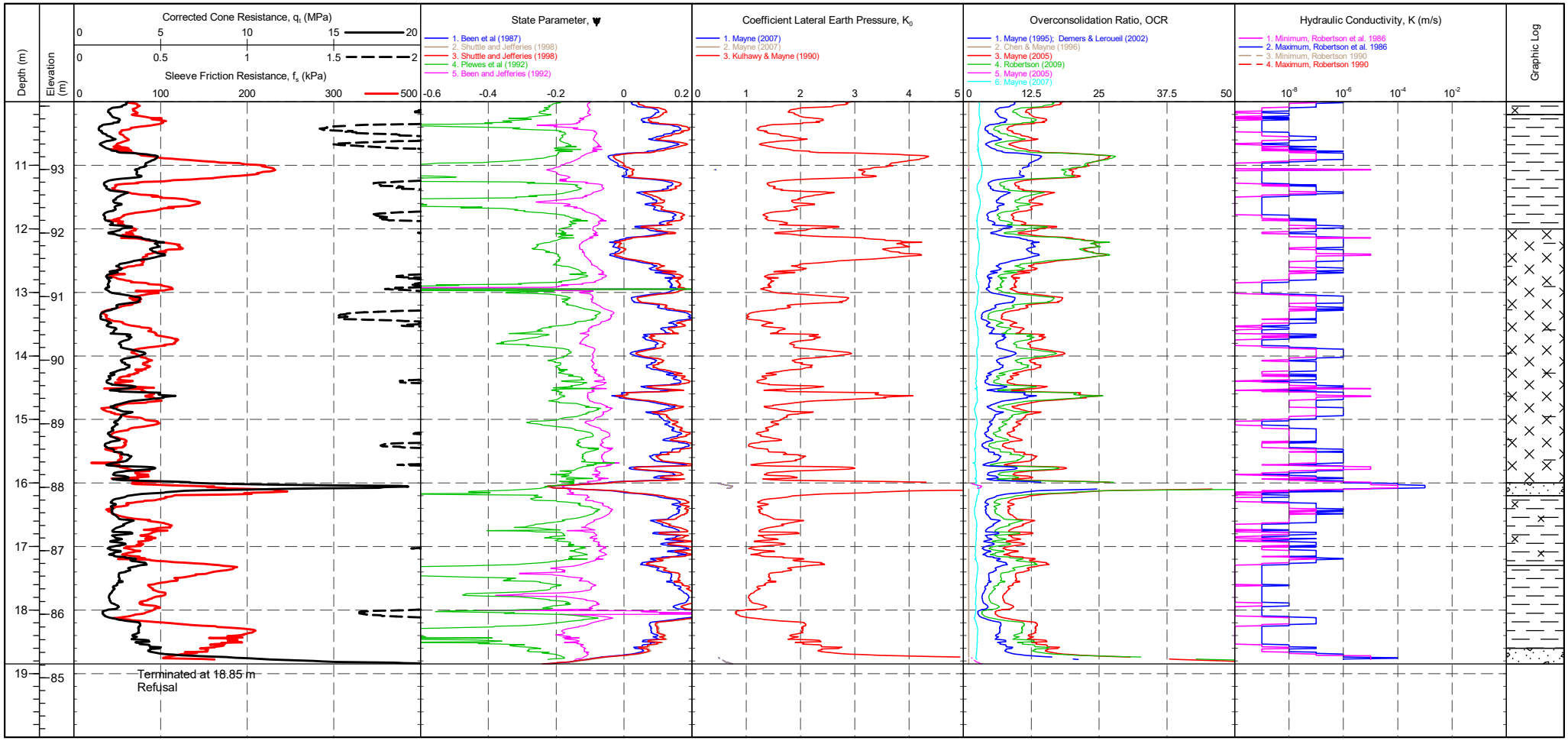
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT07**

CLIENT : Delta Simons	EASTING : 491084.703 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290876.351 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.067 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	363 mV	363 mV	0 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	287 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	248 mV	246 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2762 mV	2588 mV	

Groundwater Level

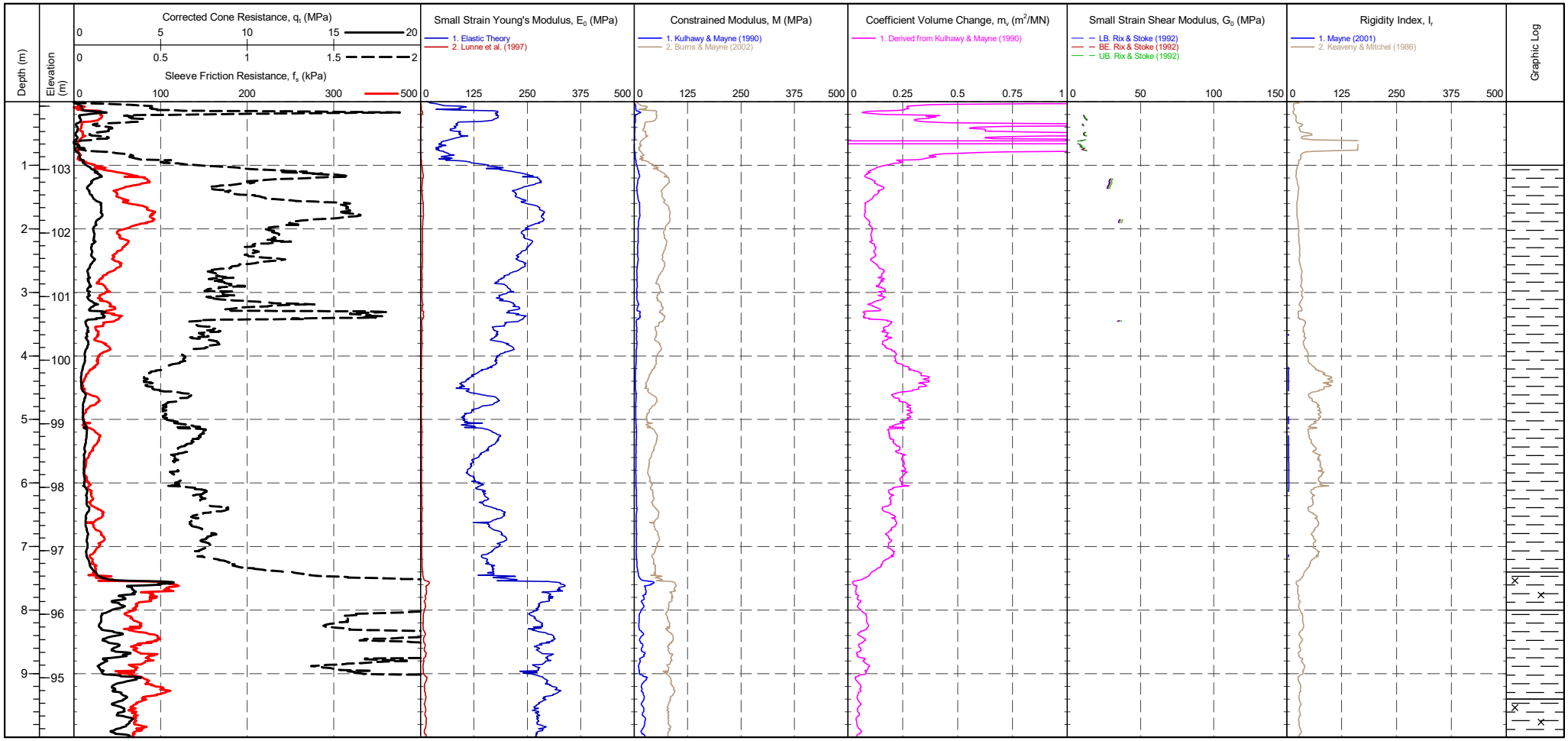
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT07**

CLIENT : Delta Simons	EASTING : 491084.703 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290876.351 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.067 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	363 mV	363 mV	0 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	287 mV	287 mV	0 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	248 mV	246 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2762 mV	2588 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

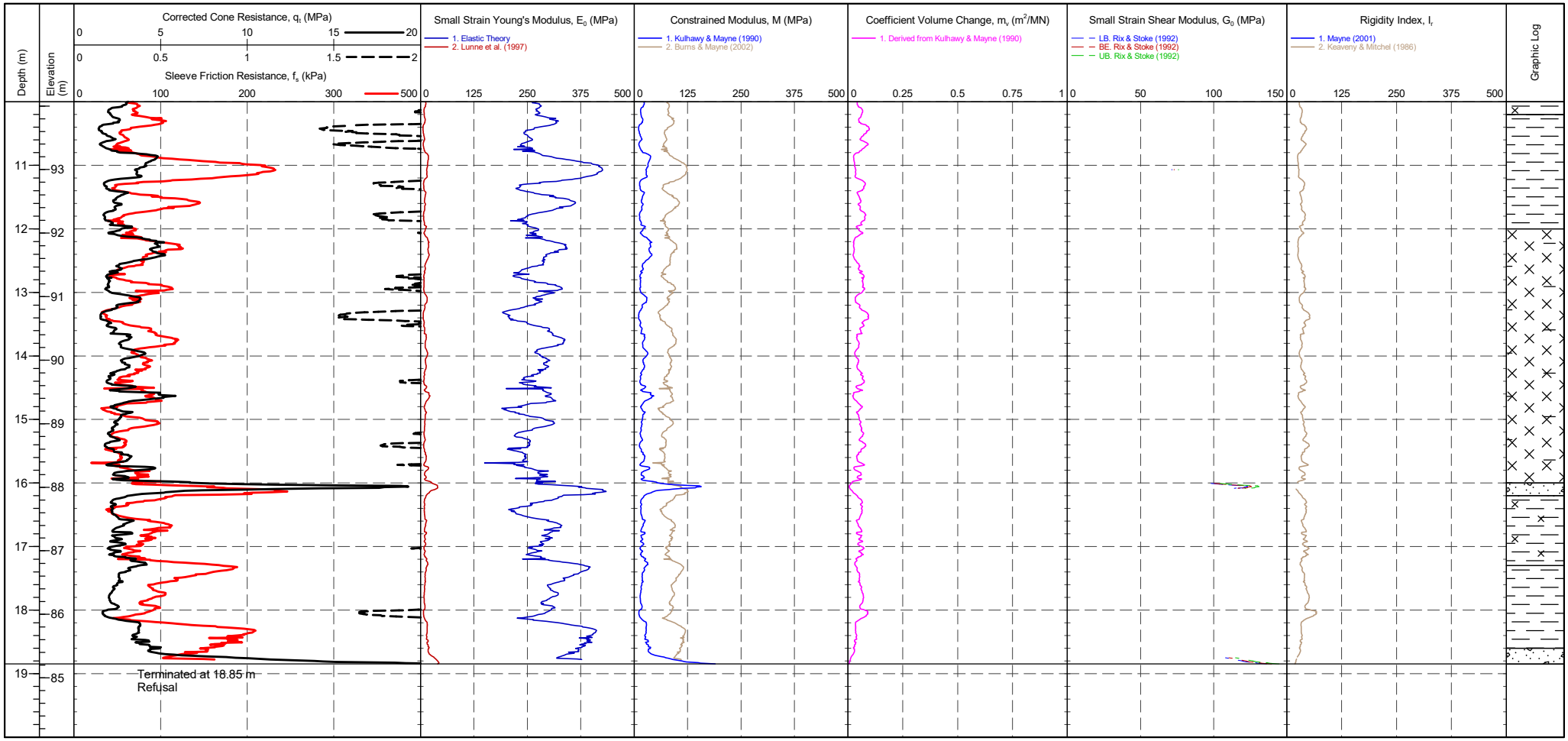
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT07**

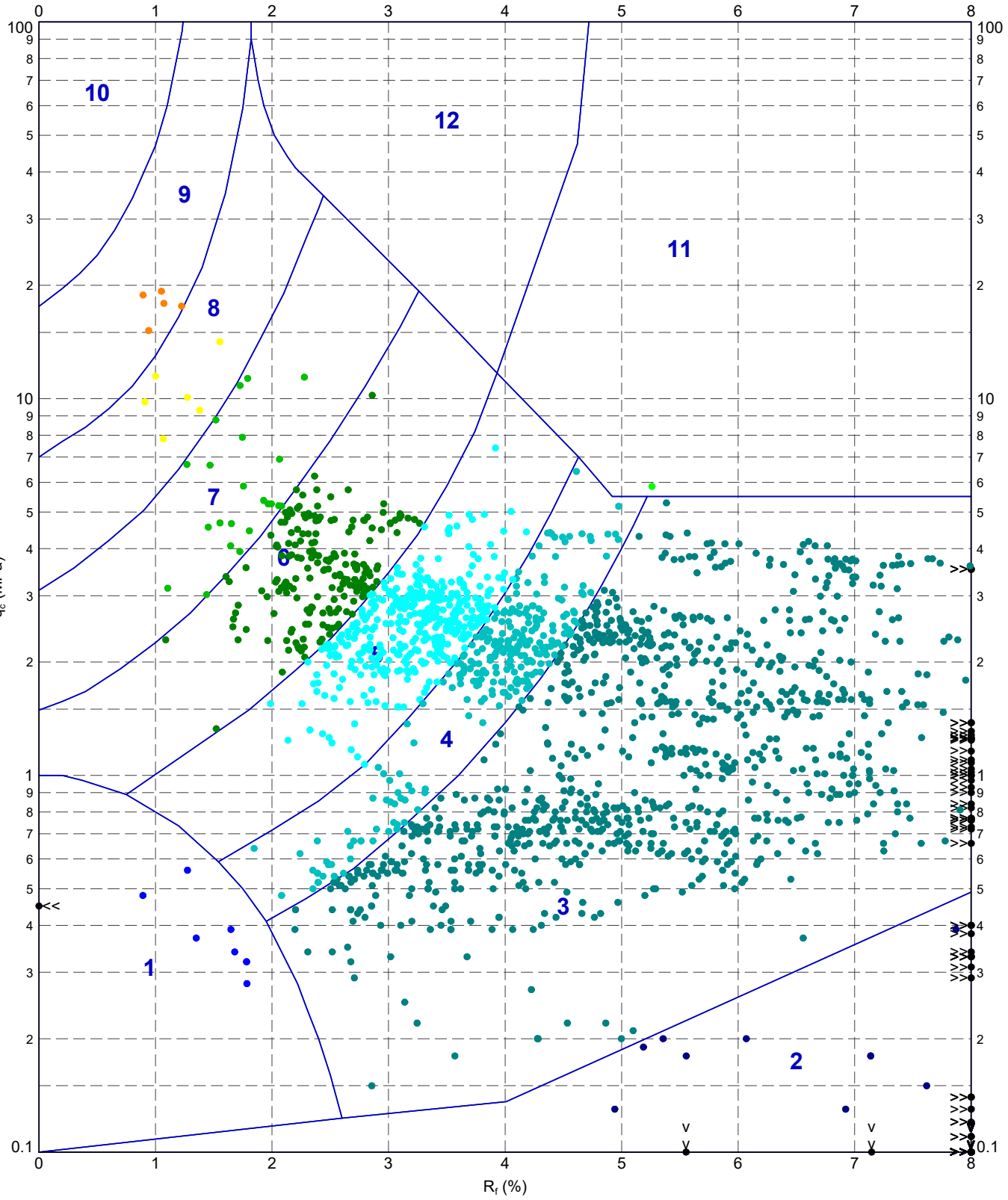
CLIENT : Delta Simons	EASTING : 491084.703 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290876.351 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.067 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	363 mV	363 mV	0 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	287 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	248 mV	246 mV	0 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2762 mV	2588 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU
SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT07

DRAWN		DATE	04/03/2022
CHECKED		DATE	04/03/2022
SCALE	Not To Scale		A4
PROJECT No	1220144	FIGURE No	

IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

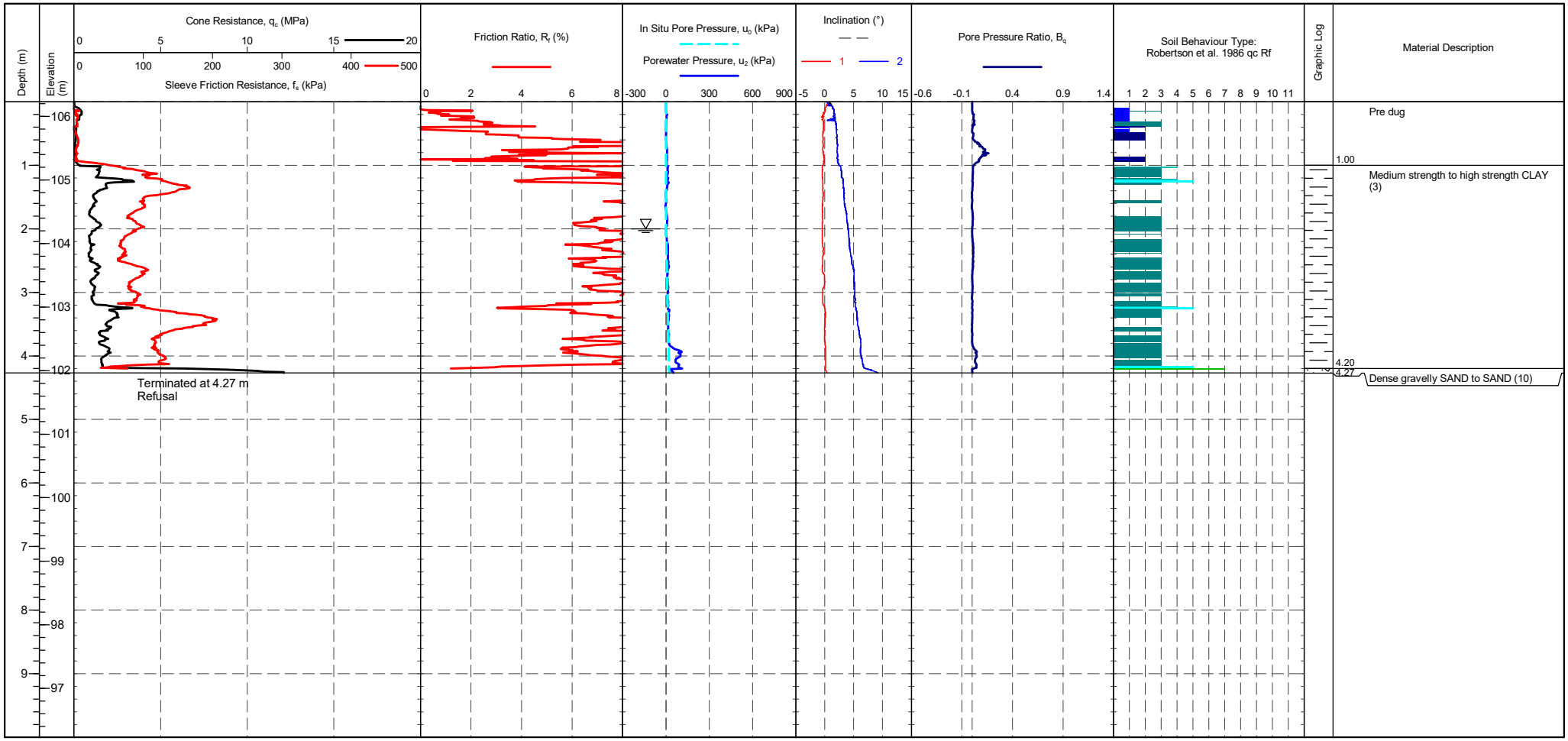
PointID: **CPT08**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490892.029 m
NORTHING : 290837.383 m
ELEVATION : 106.232 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on inclination.

SHEET : 1 OF 1
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm^2	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	375 mV	372 mV	-0.033 MPa
Sleeve	291 mV	288 mV	-0.002 kPa
Pore Pressure 2	206 mV	246 mV	0.009 kPa
X-Y Inclinometer	2587 mV	2569 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

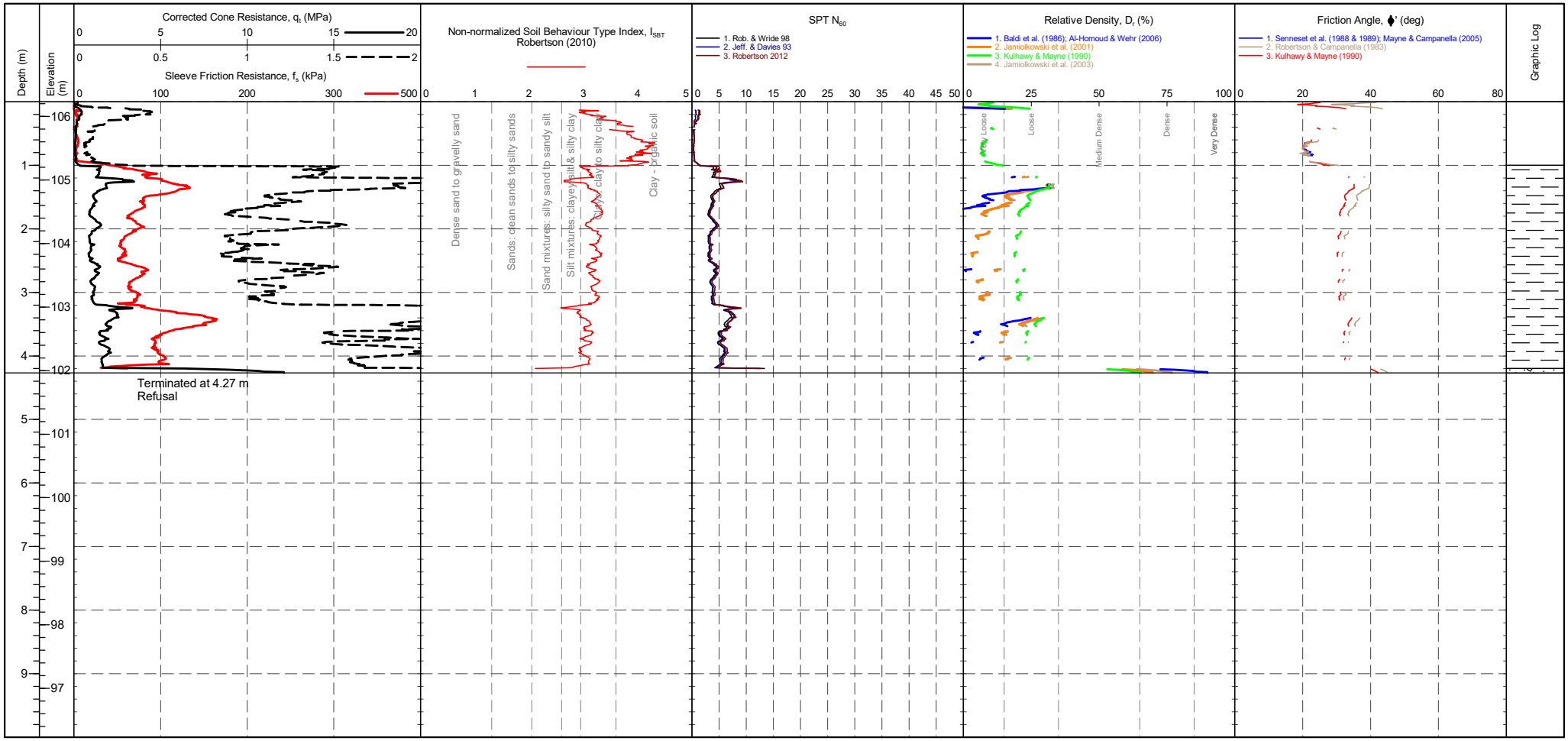
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT08**

CLIENT : Delta Simons	EASTING : 490892.029 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290837.383 m	Test refused on inclination.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.232 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	375 mV	372 mV	-0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	288 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	206 mV	246 mV	0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2587 mV	2569 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

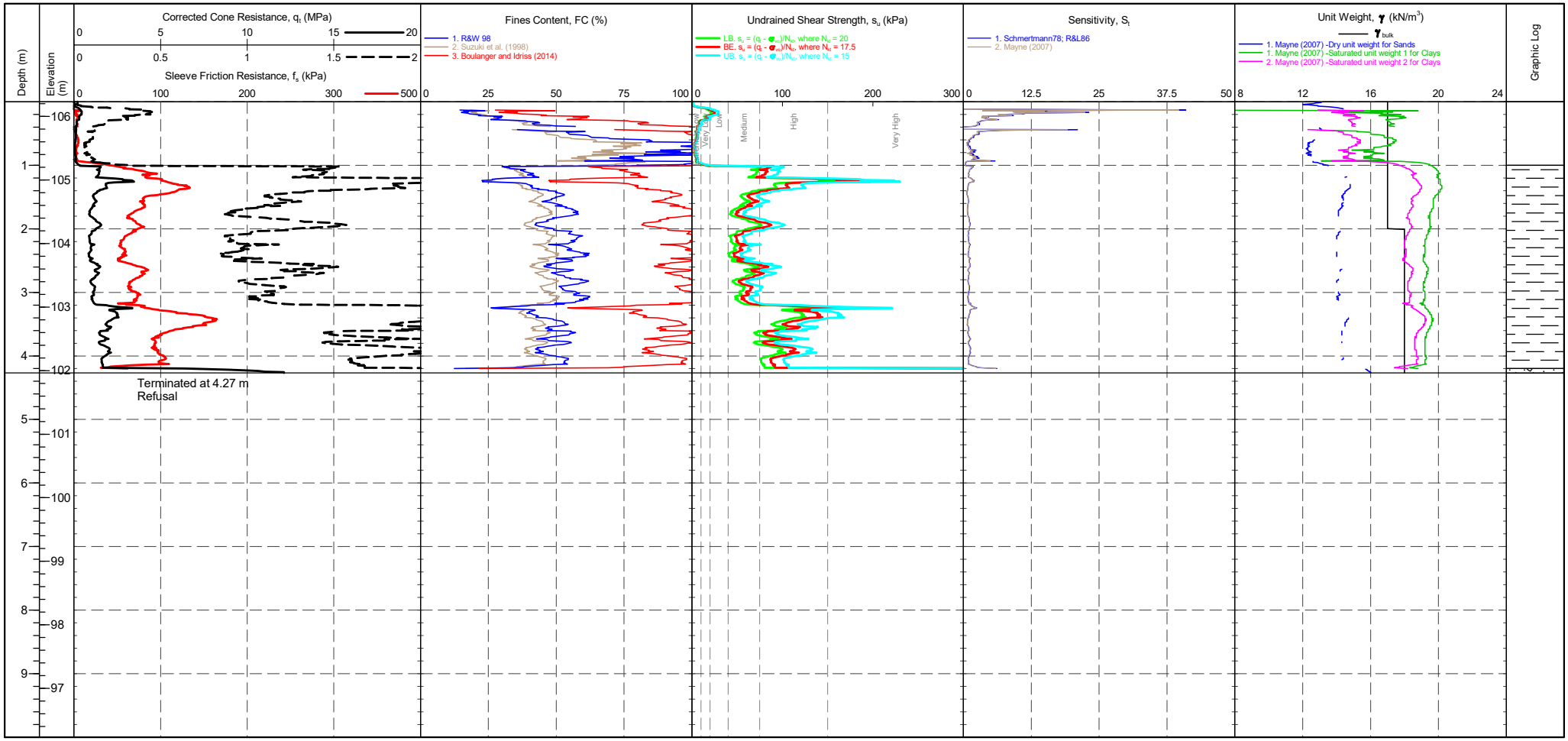
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT08**

CLIENT : Delta Simons	EASTING : 490892.029 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290837.383 m	Test refused on inclination.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.232 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	375 mV	372 mV	-0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	288 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	206 mV	246 mV	0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2587 mV	2569 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

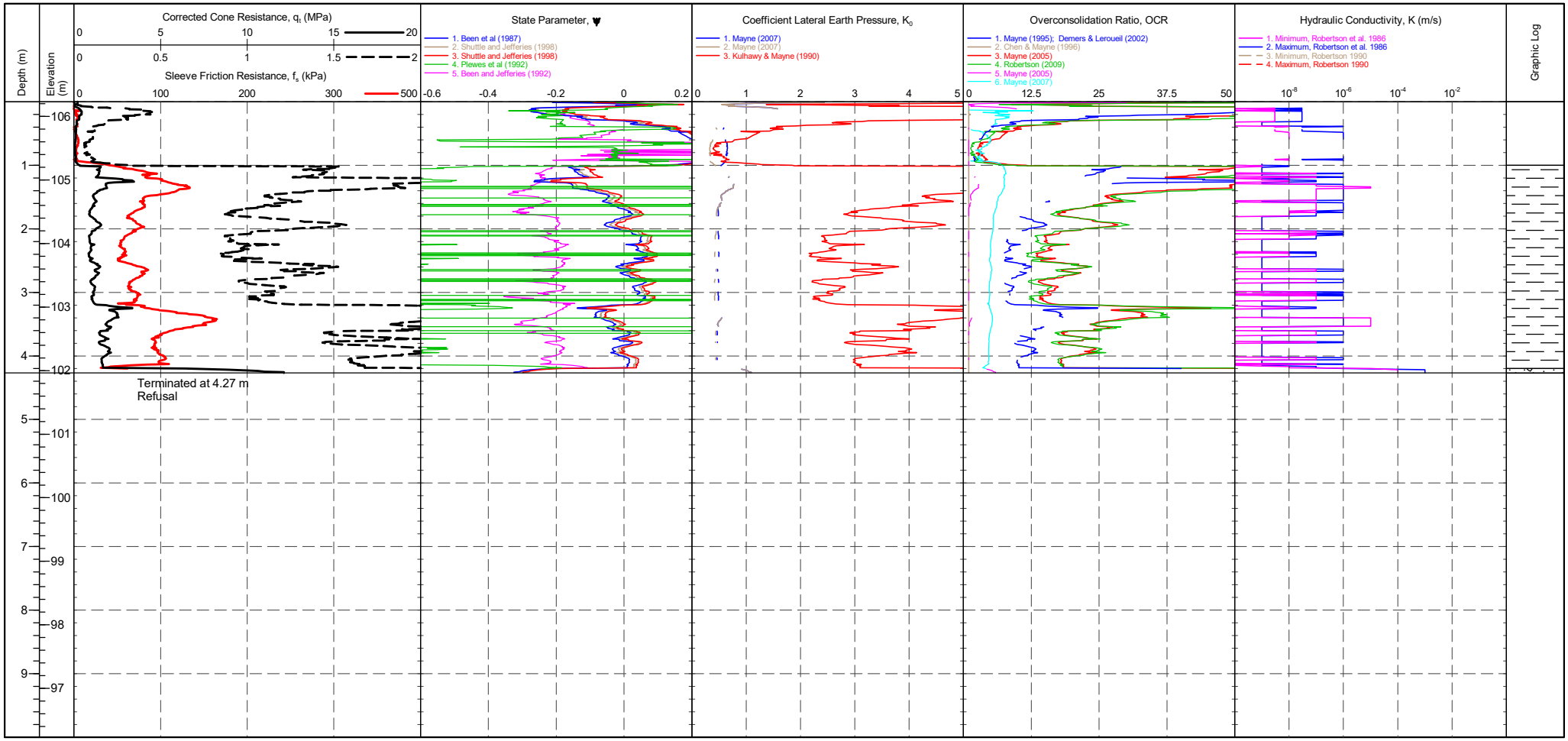
PointID **CPT08**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490892.029 m
NORTHING : 290837.383 m
ELEVATION : 106.232 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on inclination.

SHEET : 1 OF 1
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	375 mV	372 mV	-0.033 MPa
Sleeve	291 mV	288 mV	-0.002 kPa
Pore Pressure 2	206 mV	246 mV	0.009 kPa
X-Y Inclinometer	2587 mV	2569 mV	

Groundwater Level

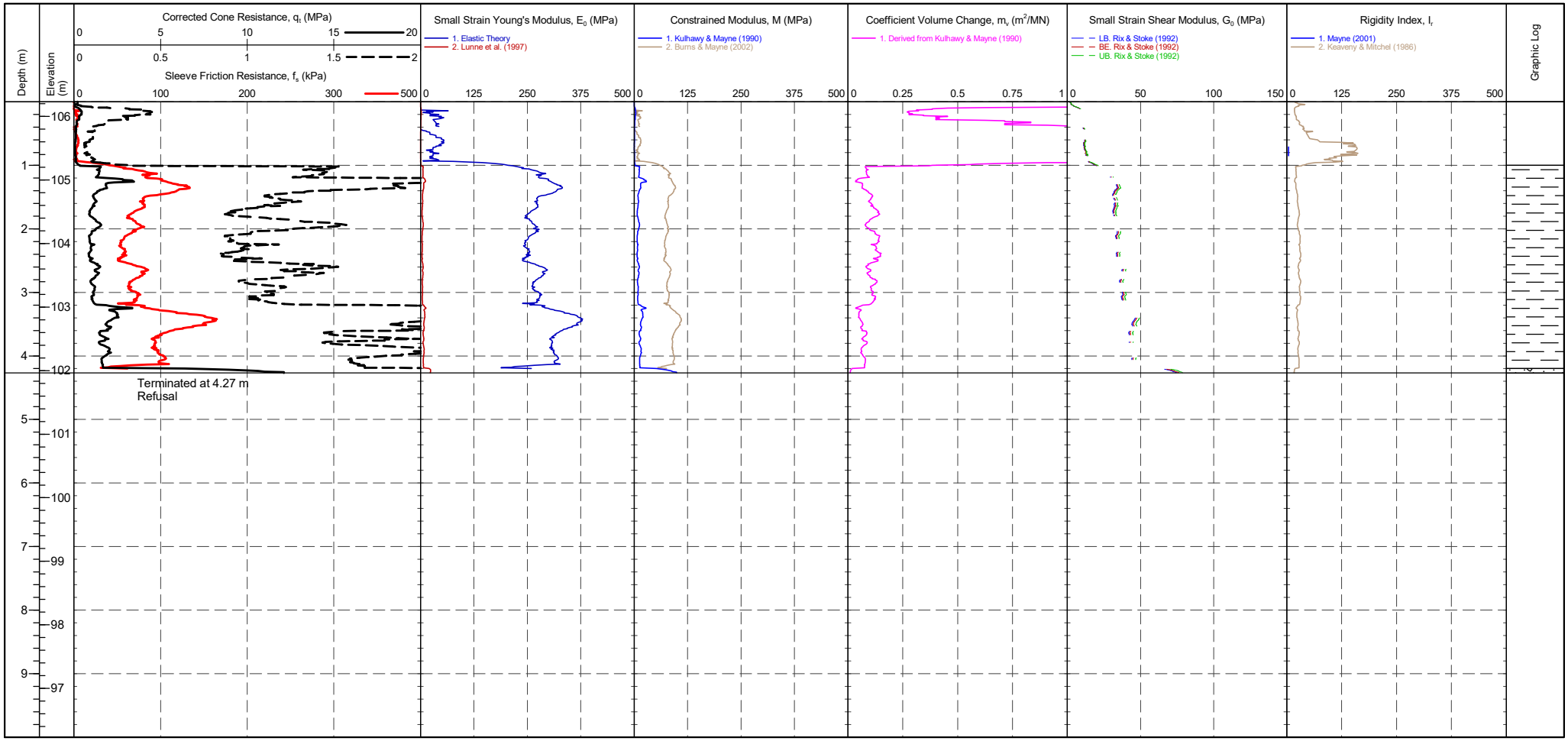
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT08**

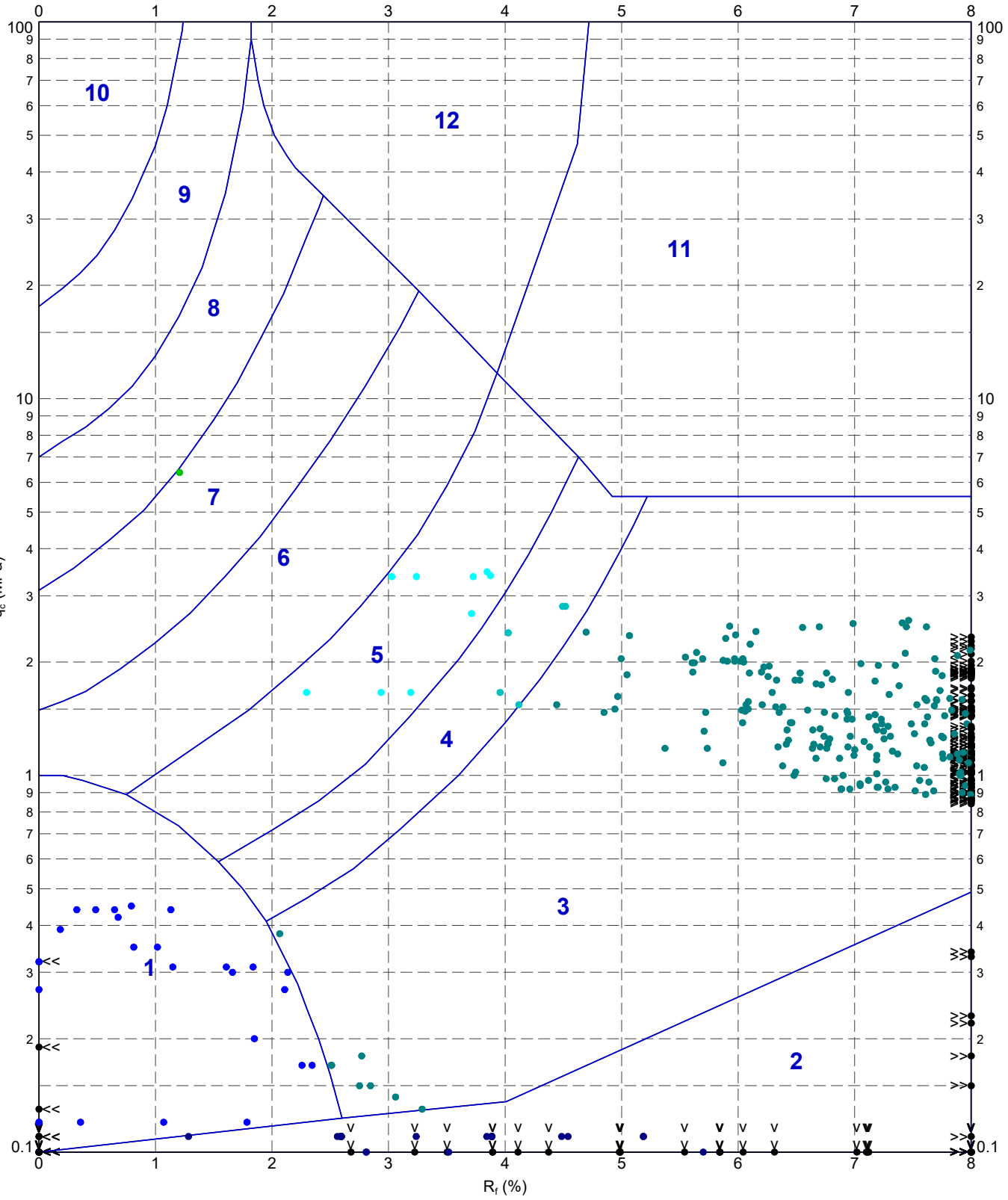
CLIENT : Delta Simons	EASTING : 490892.029 m	Remark:	SHEET : 1 OF 1
PROJECT : Corby	NORTHING : 290837.383 m	Test refused on inclination.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.232 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	375 mV	372 mV	-0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	291 mV	288 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	206 mV	246 mV	0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2587 mV	2569 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT08

DRAWN	DATE 04/03/2022
CHECKED	DATE 04/03/2022
SCALE Not To Scale	A4
PROJECT No 1220144	FIGURE No

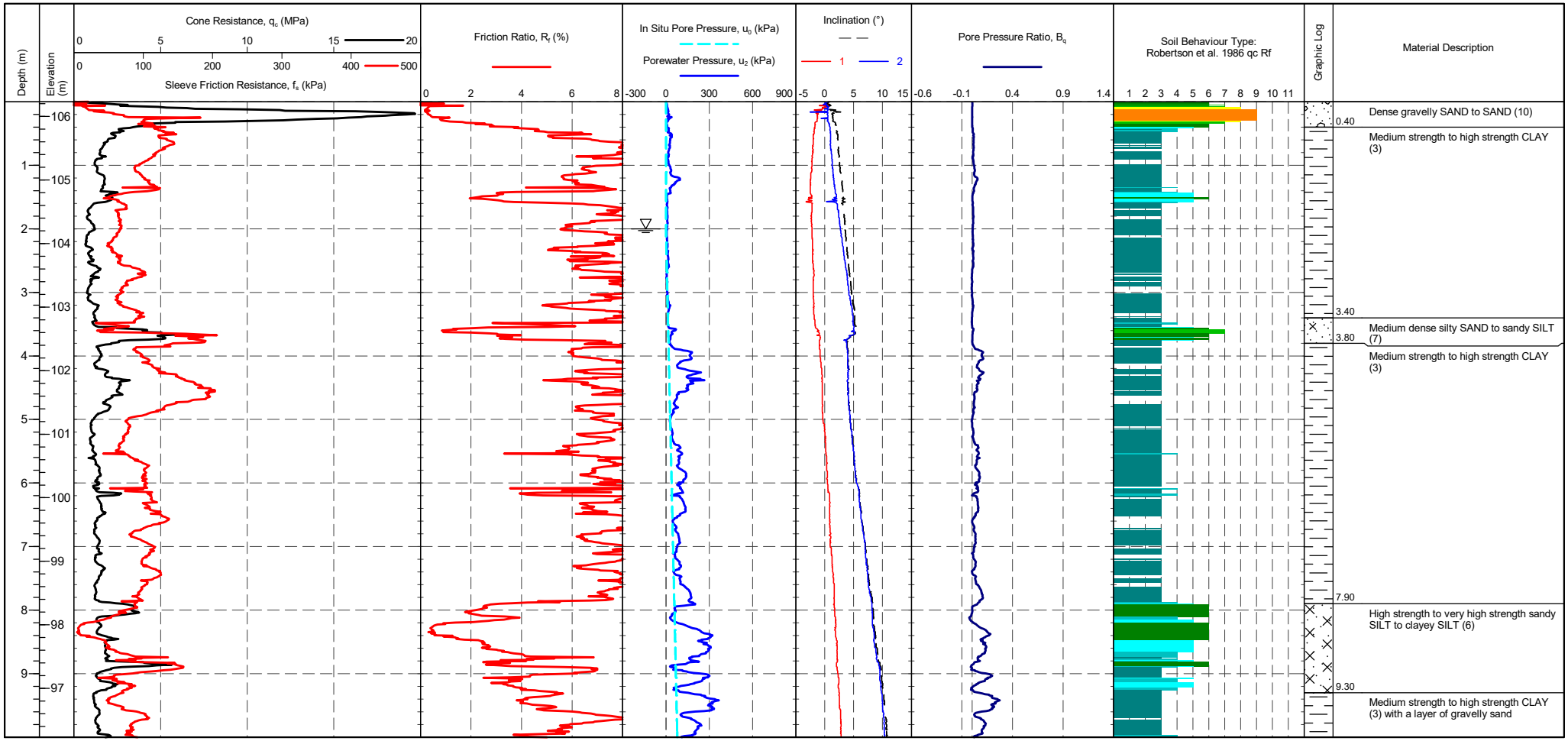
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT08A**

CLIENT : Delta Simons	EASTING : 490892.029 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290837.383 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.232 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	372 mV	363 mV	-0.1 MPa
Sleeve	290 mV	287 mV	-0.002 kPa
Pore Pressure 2	220 mV	243 mV	0.005 kPa
X-Y Inclinometer	2593 mV	2686 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

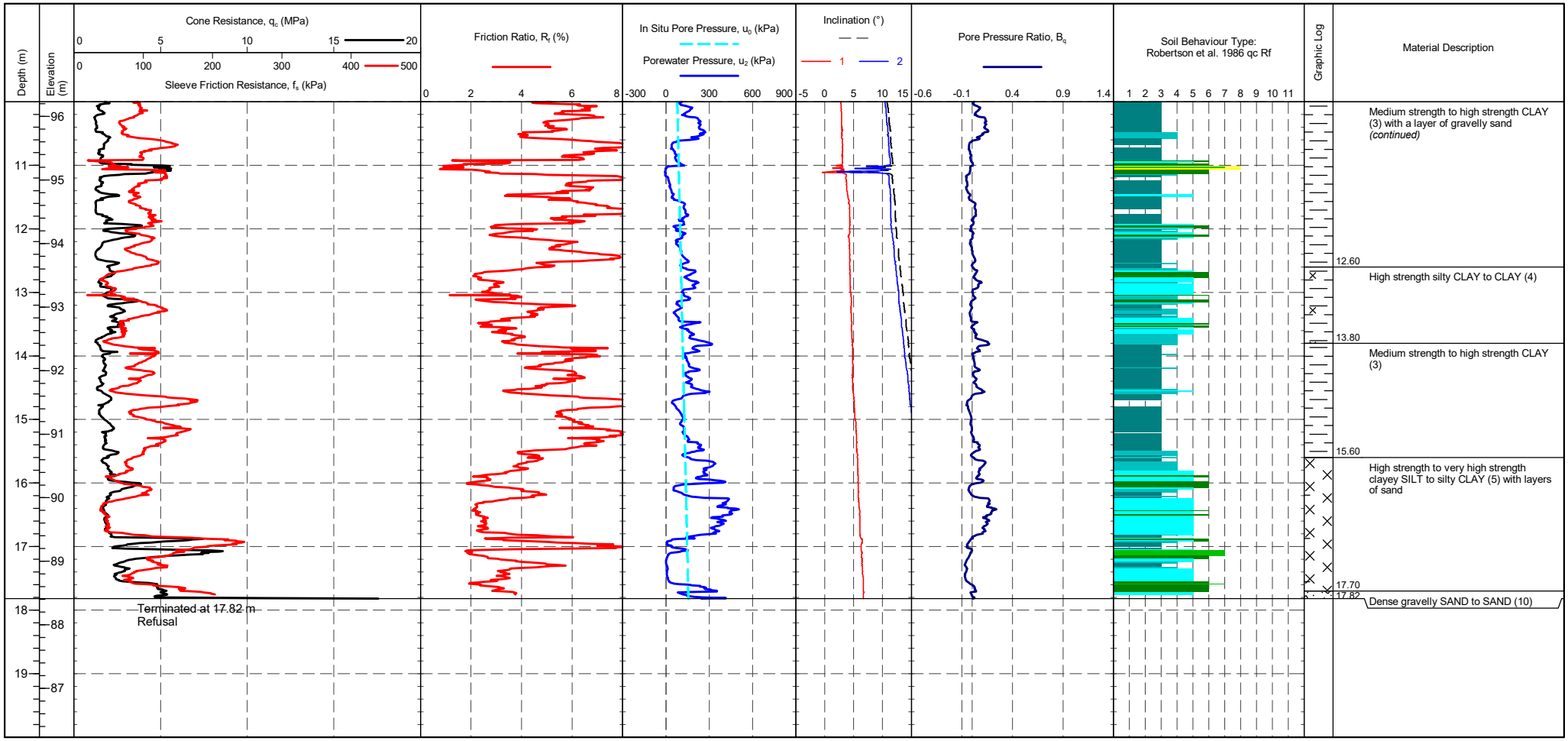
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT08A**

CLIENT : Delta Simons	EASTING : 490892.029 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290837.383 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.232 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm^2	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	372 mV	363 mV	-0.1 MPa
Sleeve	290 mV	287 mV	-0.002 kPa
Pore Pressure 2	220 mV	243 mV	0.005 kPa
X-Y Inclinometer	2593 mV	2686 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

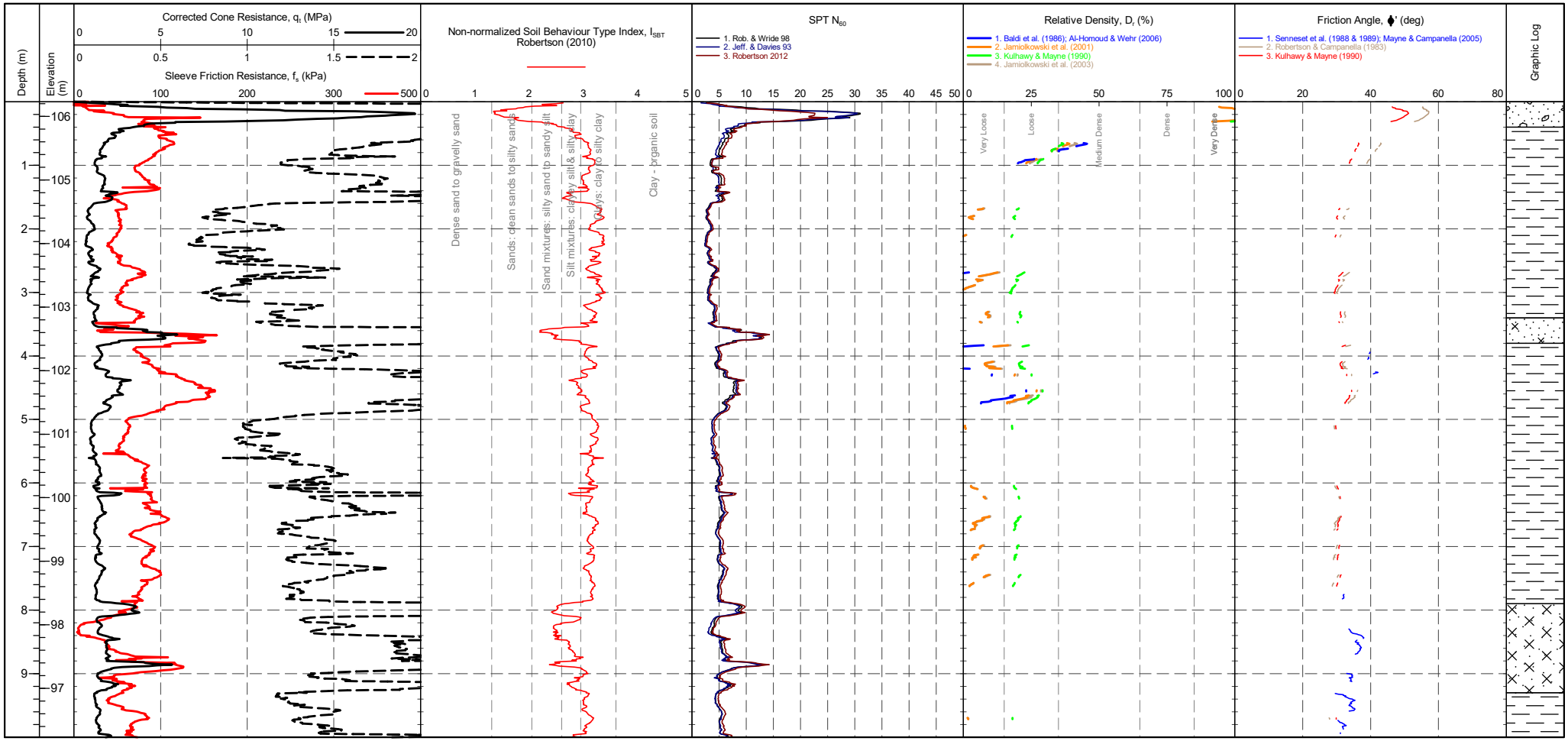
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT08A**

CLIENT : Delta Simons	EASTING : 490892.029 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290837.383 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.232 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	372 mV	363 mV	-0.1 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	290 mV	287 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	220 mV	243 mV	0.005 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2593 mV	2686 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

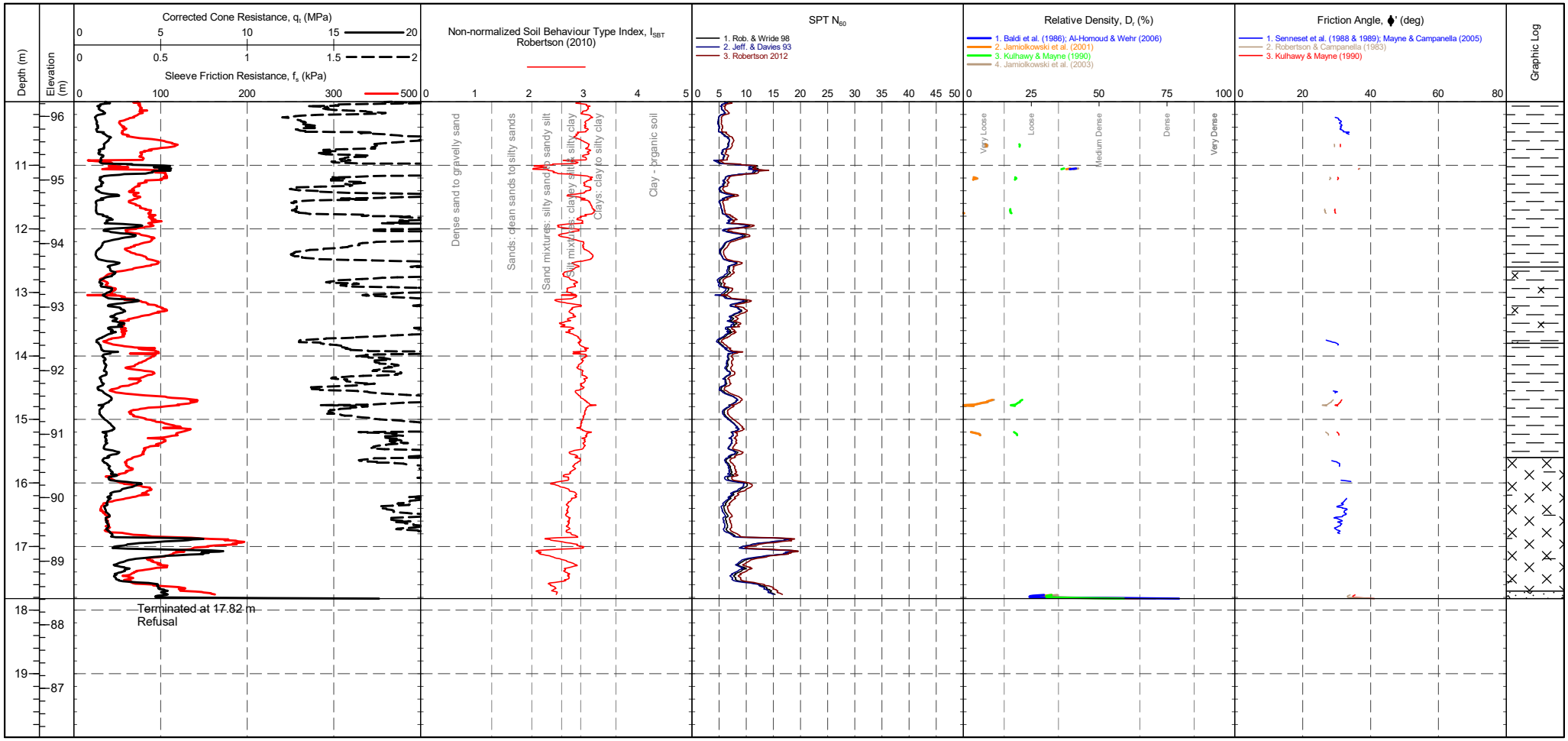
PointID **CPT08A**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490892.029 m
NORTHING : 290837.383 m
ELEVATION : 106.232 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	372 mV	363 mV	-0.1 MPa
Sleeve	290 mV	287 mV	-0.002 kPa
Pore Pressure 2	220 mV	243 mV	0.005 kPa
X-Y Inclinometer	2593 mV	2686 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

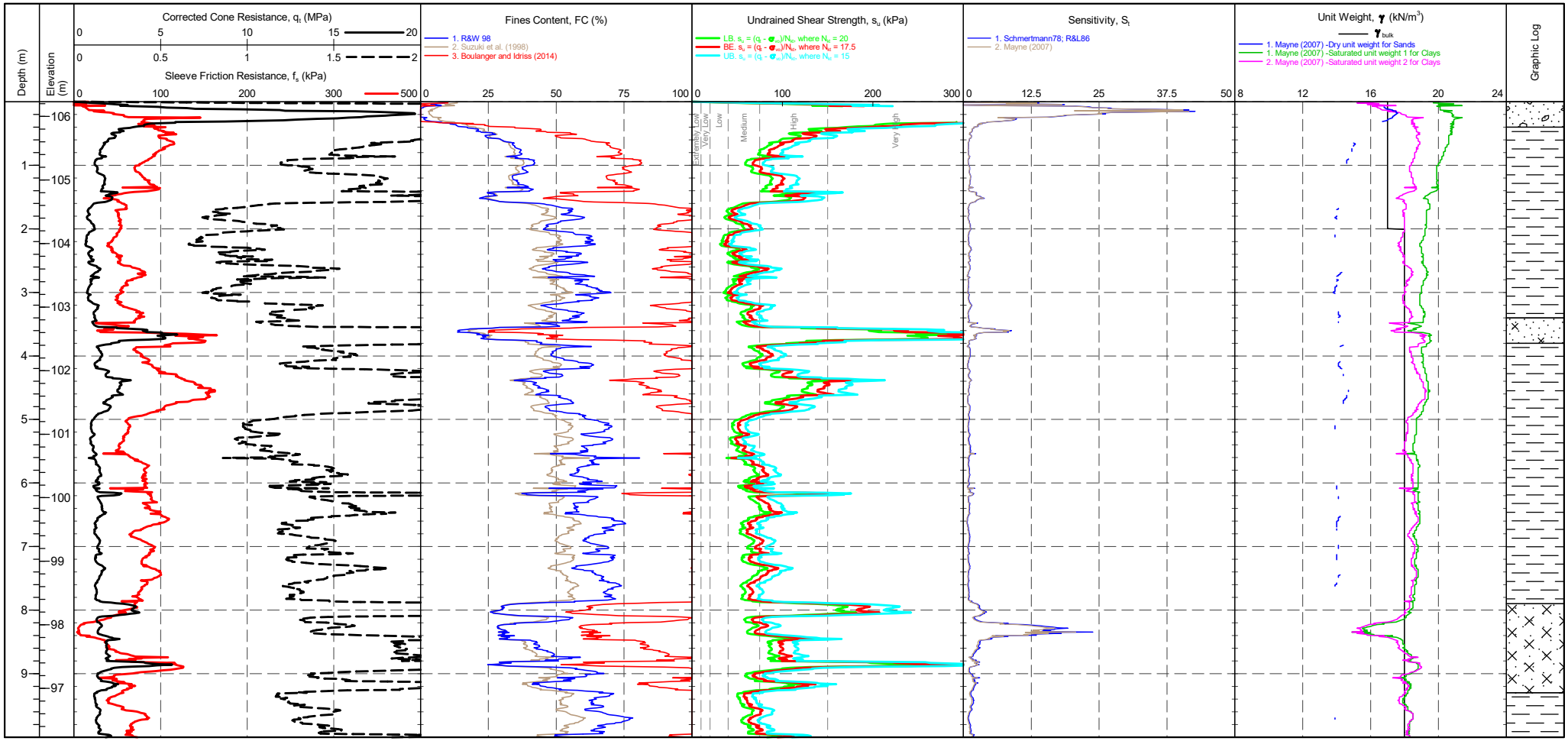
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID **CPT08A**

CLIENT : Delta Simons	EASTING : 490892.029 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290837.383 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.232 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	372 mV	363 mV	-0.1 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	290 mV	287 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	220 mV	243 mV	0.005 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2593 mV	2686 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

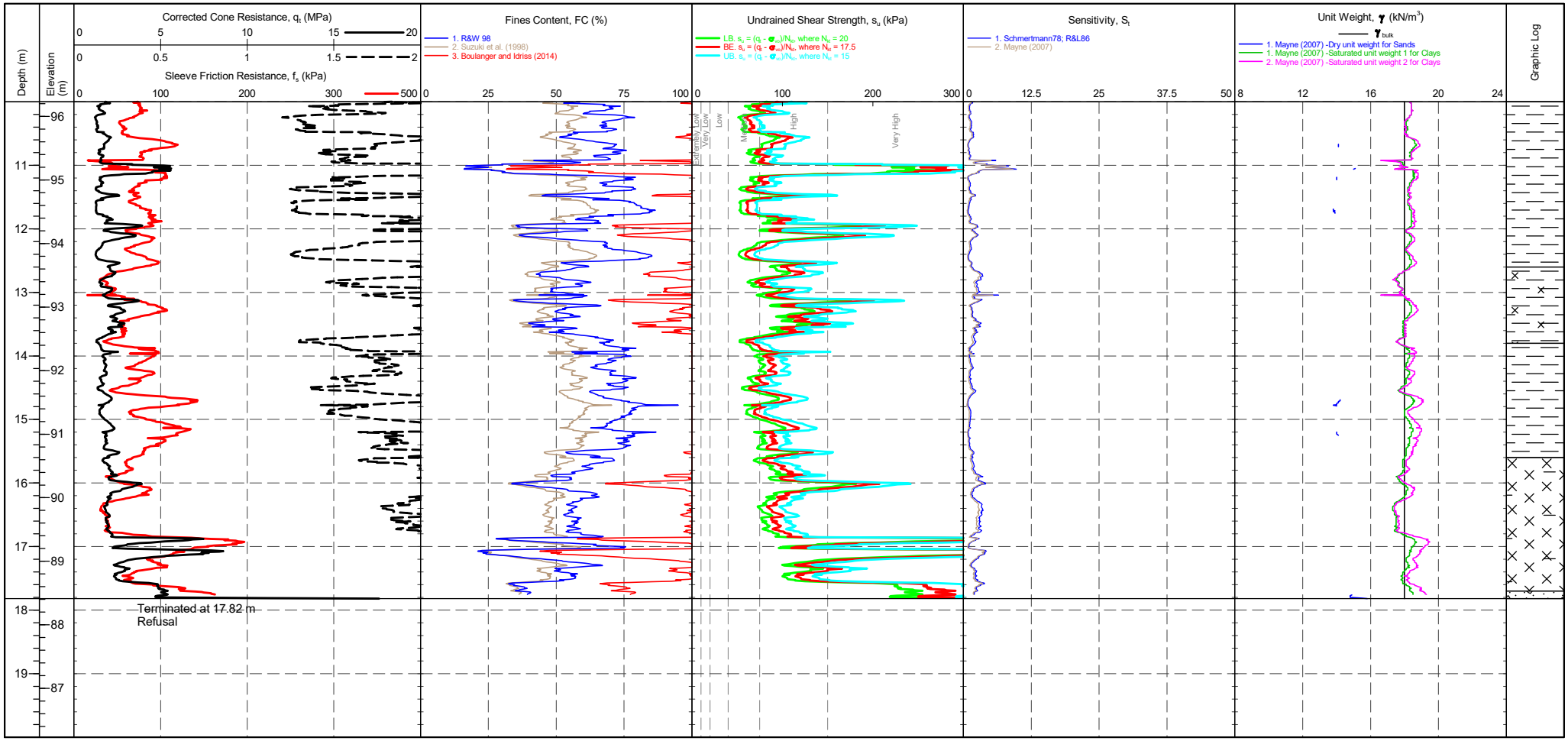
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT08A**

CLIENT : Delta Simons	EASTING : 490892.029 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290837.383 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.232 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	372 mV	363 mV	-0.1 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	290 mV	287 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	220 mV	243 mV	0.005 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2593 mV	2686 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

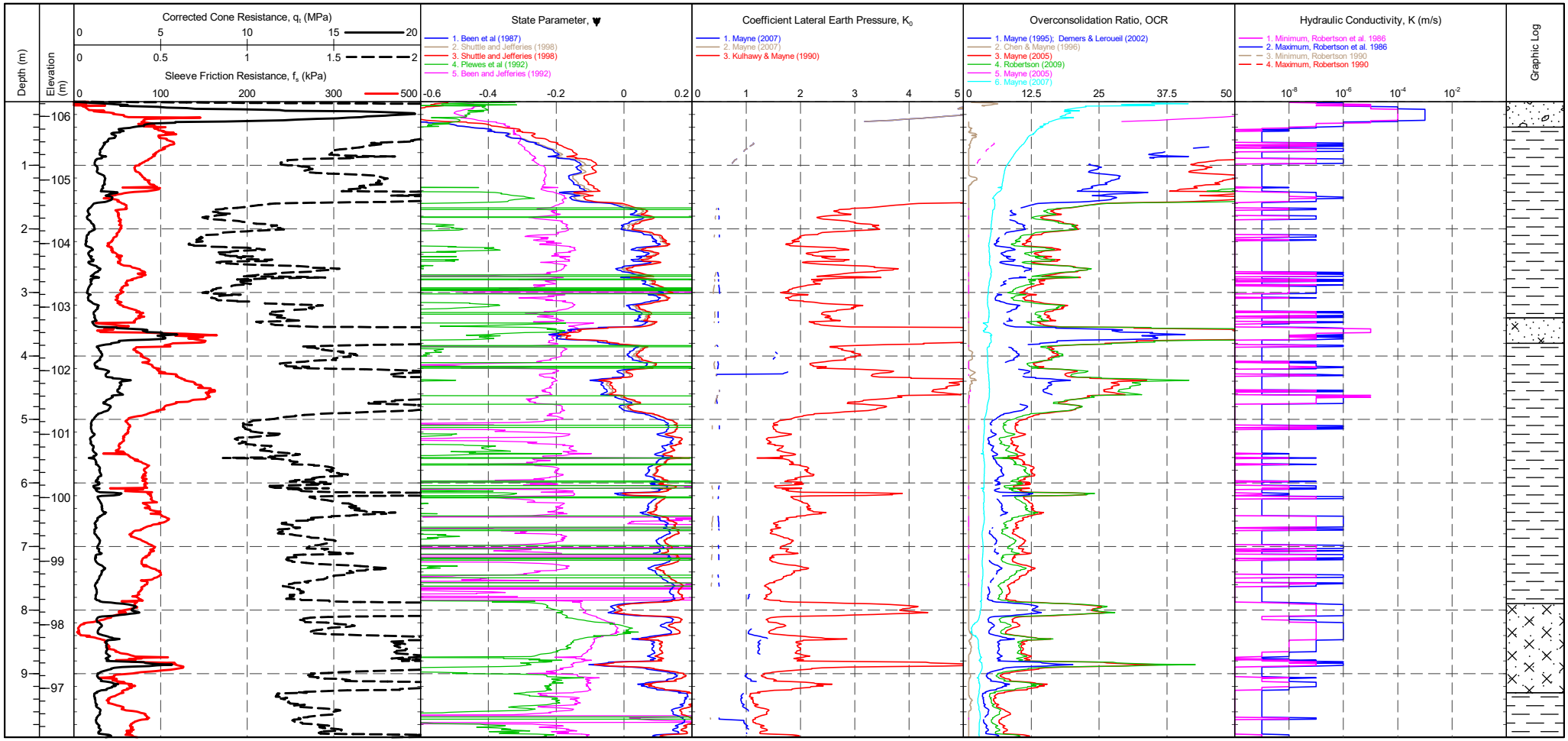
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID **CPT08A**

CLIENT : Delta Simons	EASTING : 490892.029 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290837.383 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.232 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	372 mV	363 mV
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	290 mV	287 mV
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	220 mV	243 mV
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2593 mV	2686 mV

Difference
-0.1 MPa
-0.002 kPa
0.005 kPa

Groundwater Level

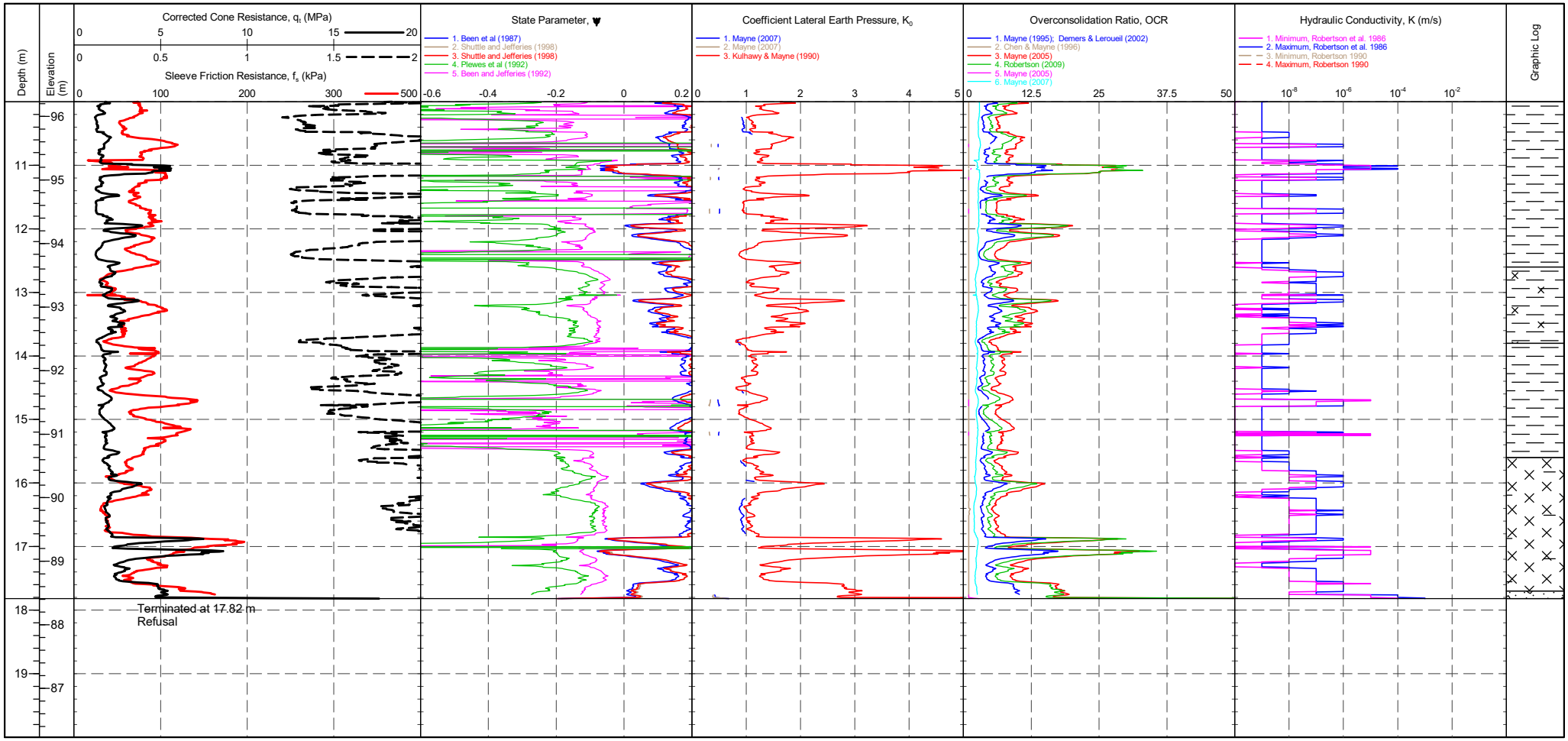
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID **CPT08A**

CLIENT : Delta Simons PROJECT : Corby LOCATION : Cordby PROJECT No. : 1220144	EASTING : 490892.029 m NORTHING : 290837.383 m ELEVATION : 106.232 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on tip resistance.	SHEET : 2 OF 2 STATUS : Final TEST DATE : 09/02/2022 PLOT DATE : 04/03/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	372 mV	363 mV	-0.1 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	290 mV	287 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	220 mV	243 mV	0.005 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2593 mV	2686 mV	

Groundwater Level

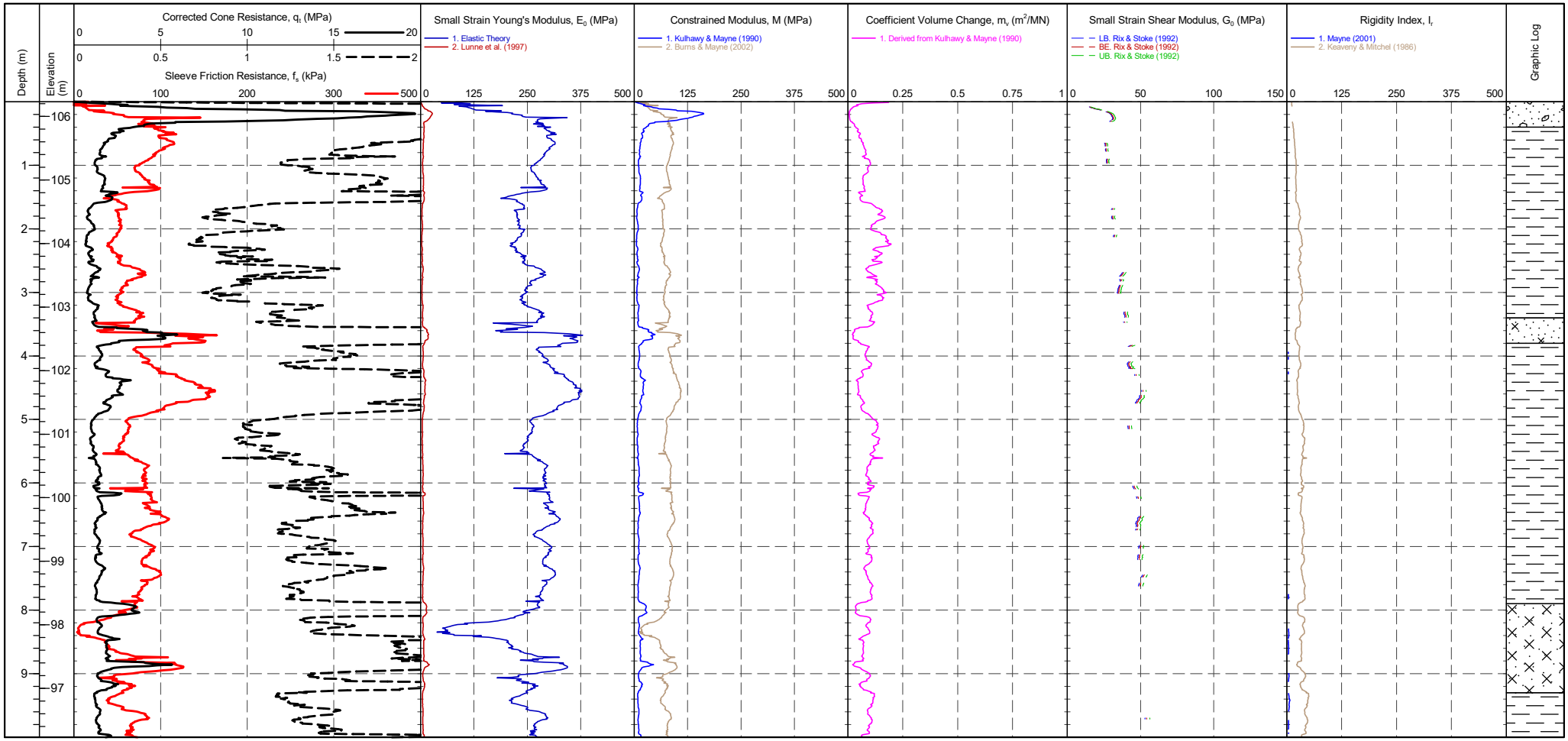
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT08A**

CLIENT : Delta Simons	EASTING : 490892.029 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290837.383 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.232 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	372 mV	363 mV	-0.1 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	290 mV	287 mV	-0.002 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	220 mV	243 mV	0.005 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2593 mV	2686 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

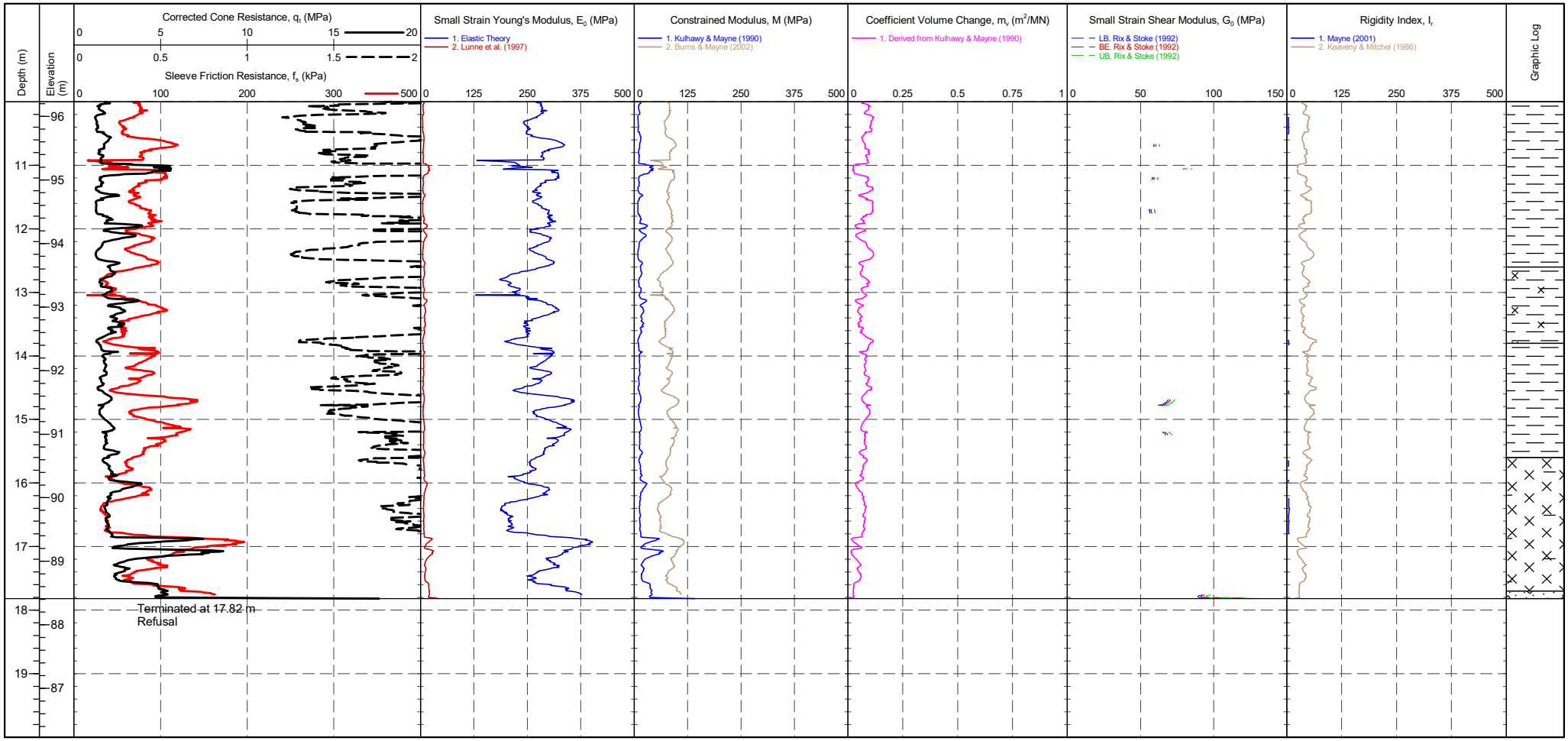
PointID: **CPT08A**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490892.029 m
NORTHING : 290837.383 m
ELEVATION : 106.232 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

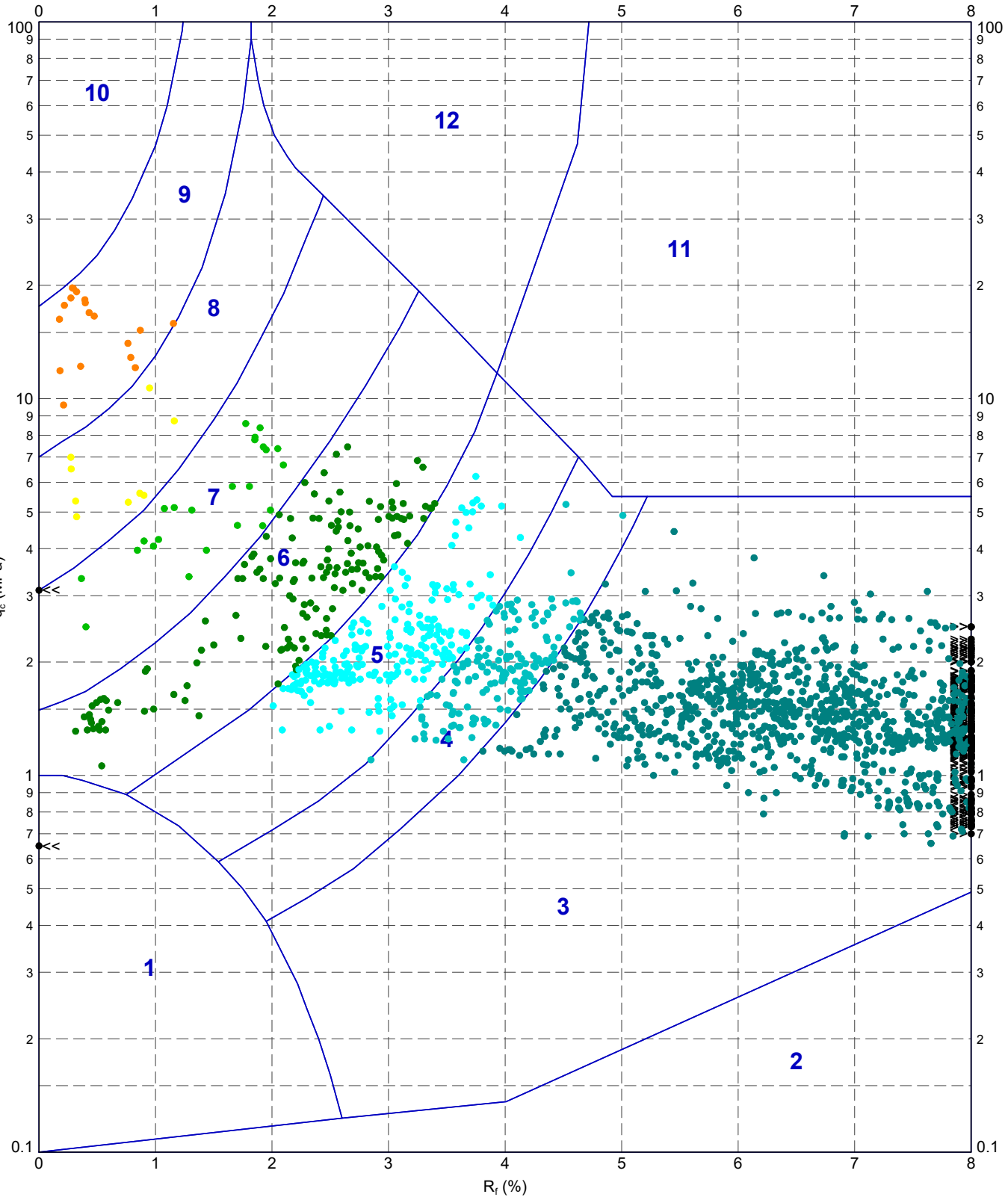
SHEET : 2 OF 2
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	372 mV	363 mV	-0.1 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	290 mV	287 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	220 mV	243 mV	0.005 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2593 mV	2686 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT08A

DRAWN		DATE	04/03/2022
CHECKED		DATE	04/03/2022
SCALE	Not To Scale		A4
PROJECT No	1220144	FIGURE No	

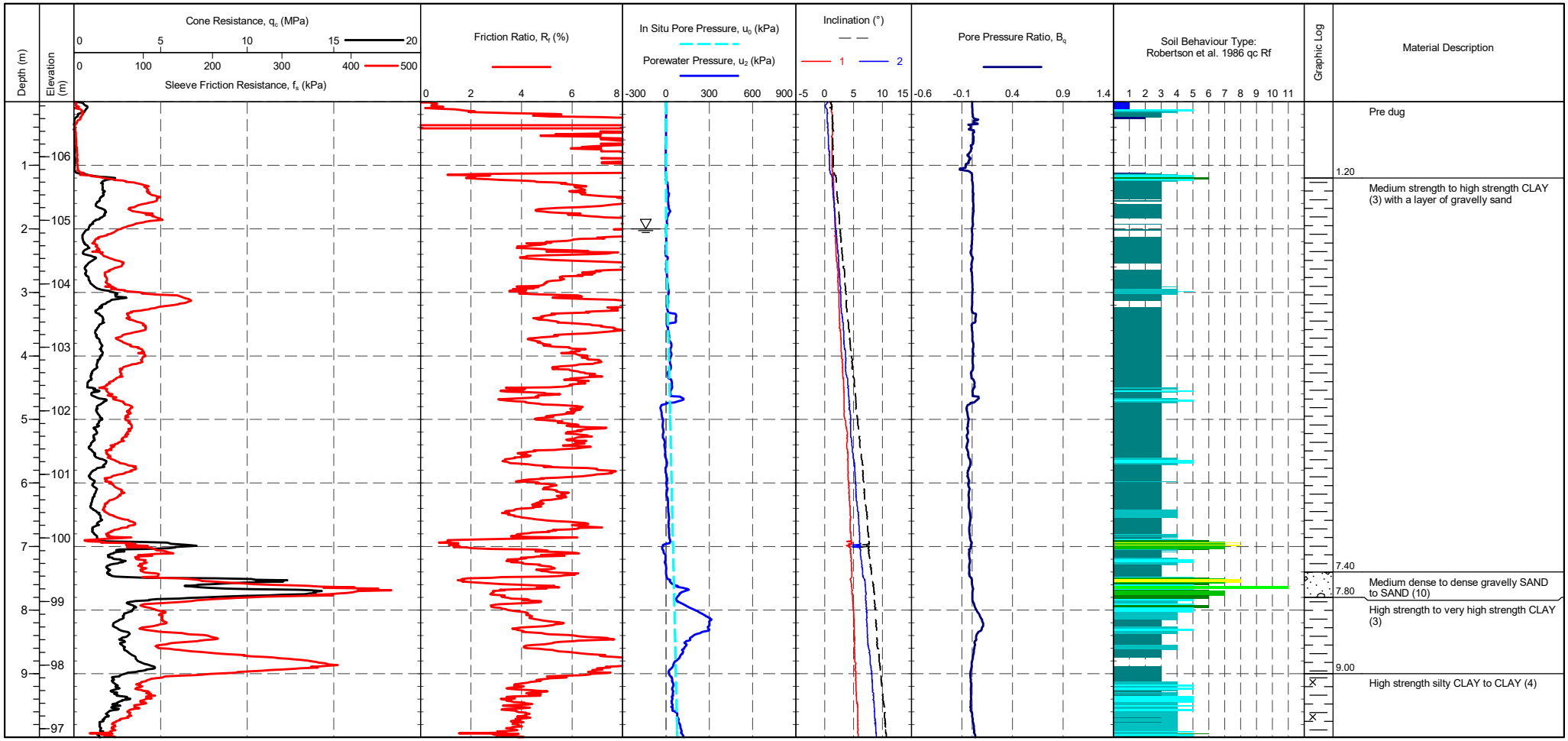
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT09**

CLIENT : Delta Simons	EASTING : 490918.124 m	Remark:	SHEET : 1 OF 3
PROJECT : Corby	NORTHING : 290906.184 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.865 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1867	TEST TYPE : TE2		
CALIBRATION DATE : 05/03/2021	APPLICATION CLASS : 2		
CONE MODEL : Subtraction	RIG : CPT 016 - Broomhall		
CONE AREA : 15cm²	OPERATOR : TR		
CONE AREA RATIO : 0.79	FRICTION REDUCER : None		
FILTER POSITION : u2	WEATHER : Sunny & Hot		
FILTER TYPE : HDPE	GROUNDWATER DEPTH : Assumed for calculation purposes		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	363 mV	357 mV	-0.066 MPa
Sleeve	288 mV	283 mV	-0.004 kPa
Pore Pressure 2	235 mV	197 mV	-0.009 kPa
X-Y Inclinometer	2618 mV	2599 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

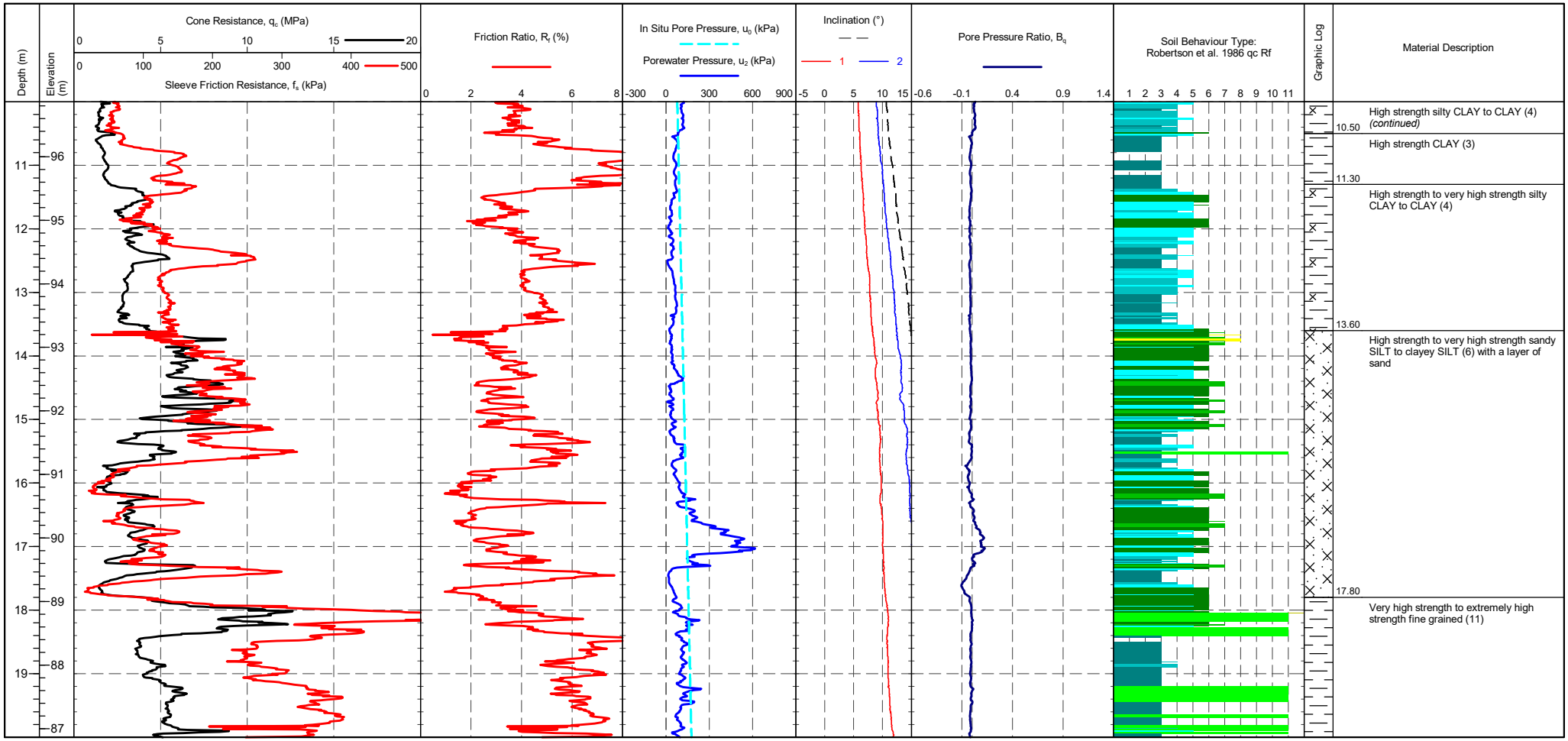
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT09**

CLIENT : Delta Simons	EASTING : 490918.124 m	Remark:	SHEET : 2 OF 3
PROJECT : Corby	NORTHING : 290906.184 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.865 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID : S15-CFIP.1867	TEST TYPE : TE2	CPTU ZERO VALUES	
CALIBRATION DATE : 05/03/2021	APPLICATION CLASS : 2	Transducer / Pre / Post / Difference	
CONE MODEL : Subtraction	RIG : CPT 016 - Broomhall	Tip / 363 mV / 357 mV / -0.066 MPa	
CONE AREA : 15cm²	OPERATOR : TR	Sleeve / 288 mV / 283 mV / -0.004 kPa	
CONE AREA RATIO : 0.79	FRICTION REDUCER : None	Pore Pressure 2 / 235 mV / 197 mV / -0.009 kPa	
FILTER POSITION : u2	WEATHER : Sunny & Hot	X-Y Inclinometer / 2618 mV / 2599 mV	
FILTER TYPE : HDPE	GROUNDWATER DEPTH : Assumed for calculation purposes.		

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material; 2 - Organic material; 3 - CLAY; 4 - Silty CLAY to CLAY; 5 - Clayey SILT to silty CLAY; 6 - Sandy SILT to clayey SILT; 7 - Silty SAND to sandy SILT; 8 - SAND to silty SAND; 9 - SAND; 10 - Gravelly SAND to SAND; 11 - Very stiff fine grained; 12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

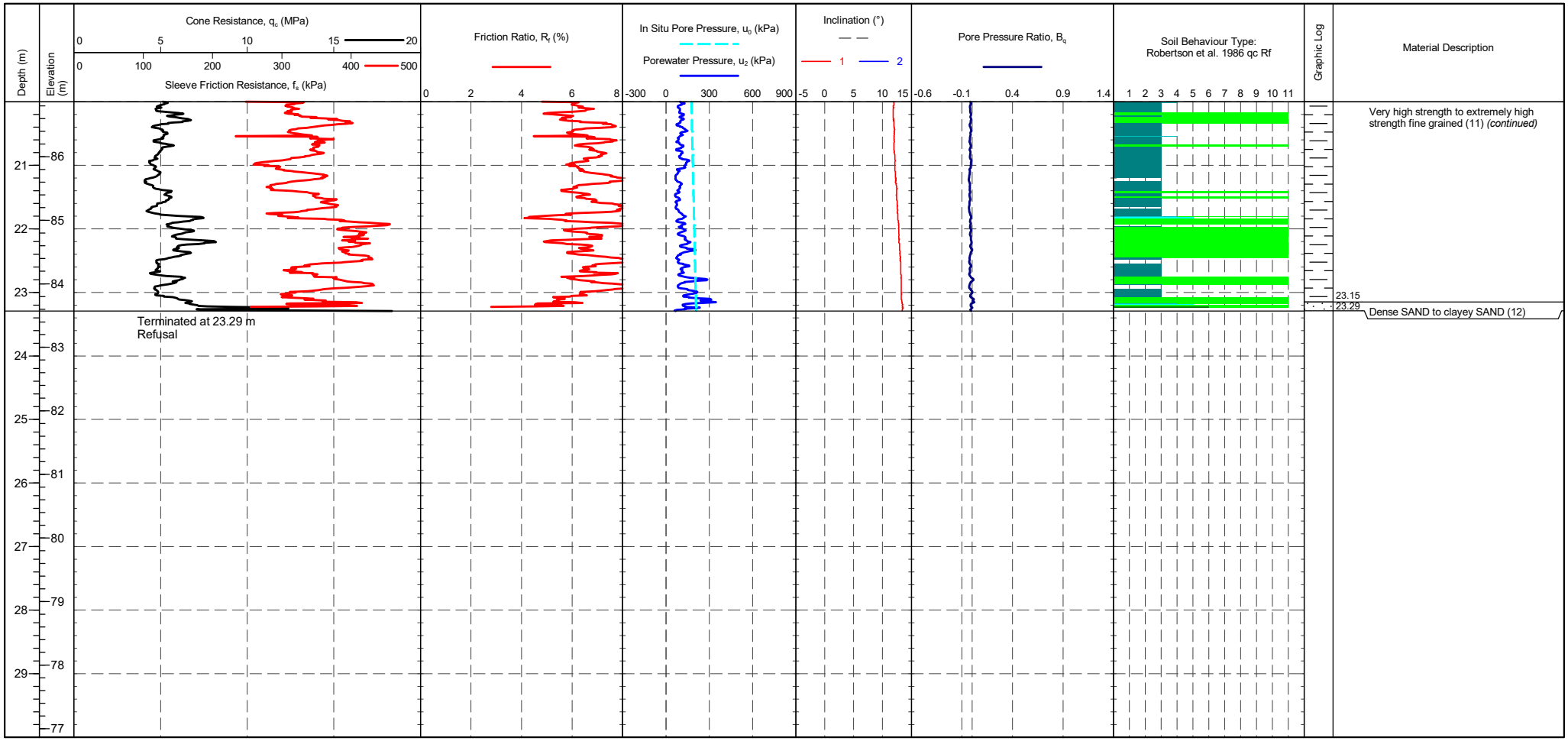
PointID: **CPT09**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490918.124 m
NORTHING : 290906.184 m
ELEVATION : 106.865 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 3 OF 3
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	363 mV	357 mV	-0.066 MPa
Sleeve	288 mV	283 mV	-0.004 kPa
Pore Pressure 2	235 mV	197 mV	-0.009 kPa
X-Y Inclinometer	2618 mV	2599 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

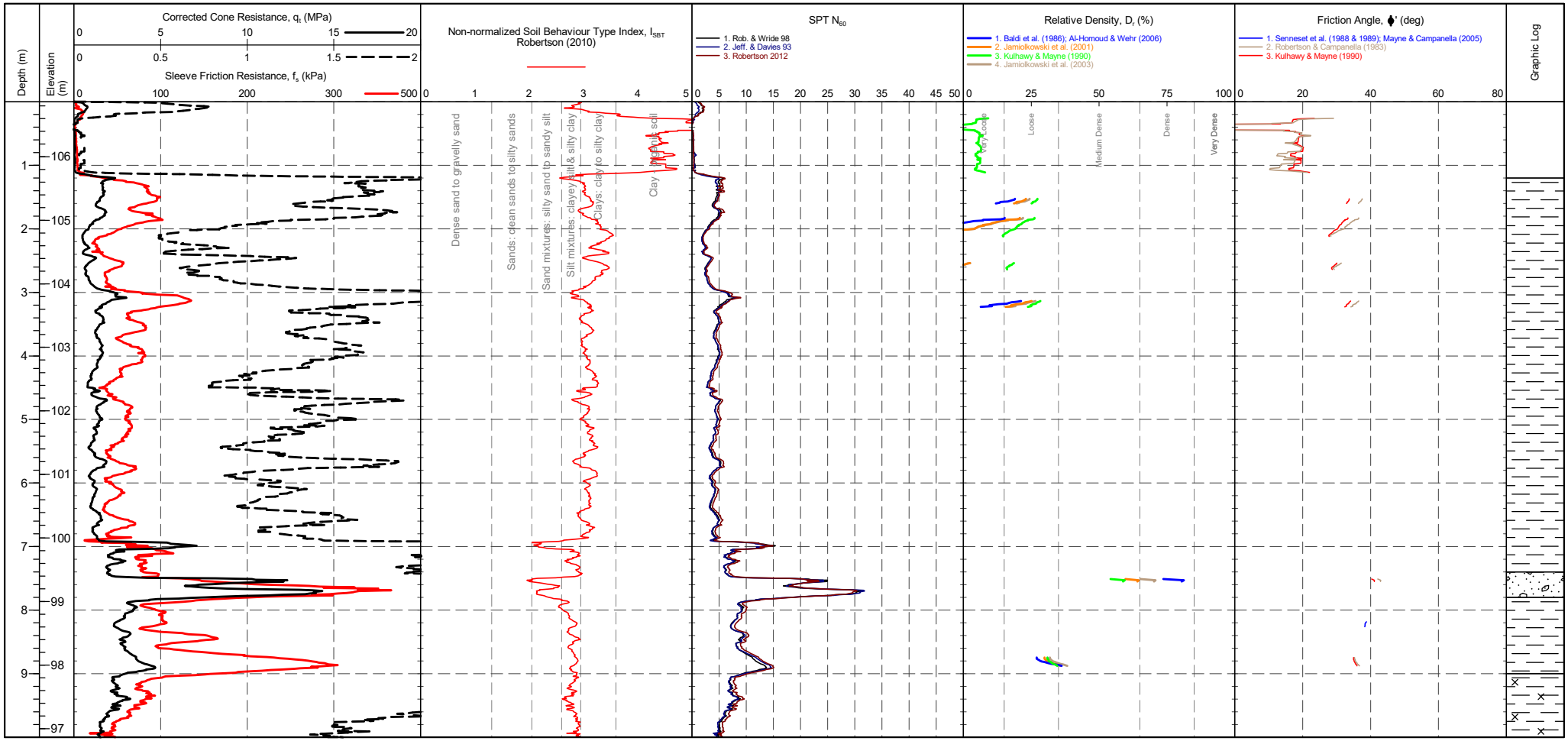
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID: **CPT09**

CLIENT : Delta Simons	EASTING : 490918.124 m	Remark:	SHEET : 1 OF 3
PROJECT : Corby	NORTHING : 290906.184 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.865 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	363 mV	357 mV	-0.066 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	283 mV	-0.004 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	235 mV	197 mV	-0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2618 mV	2599 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

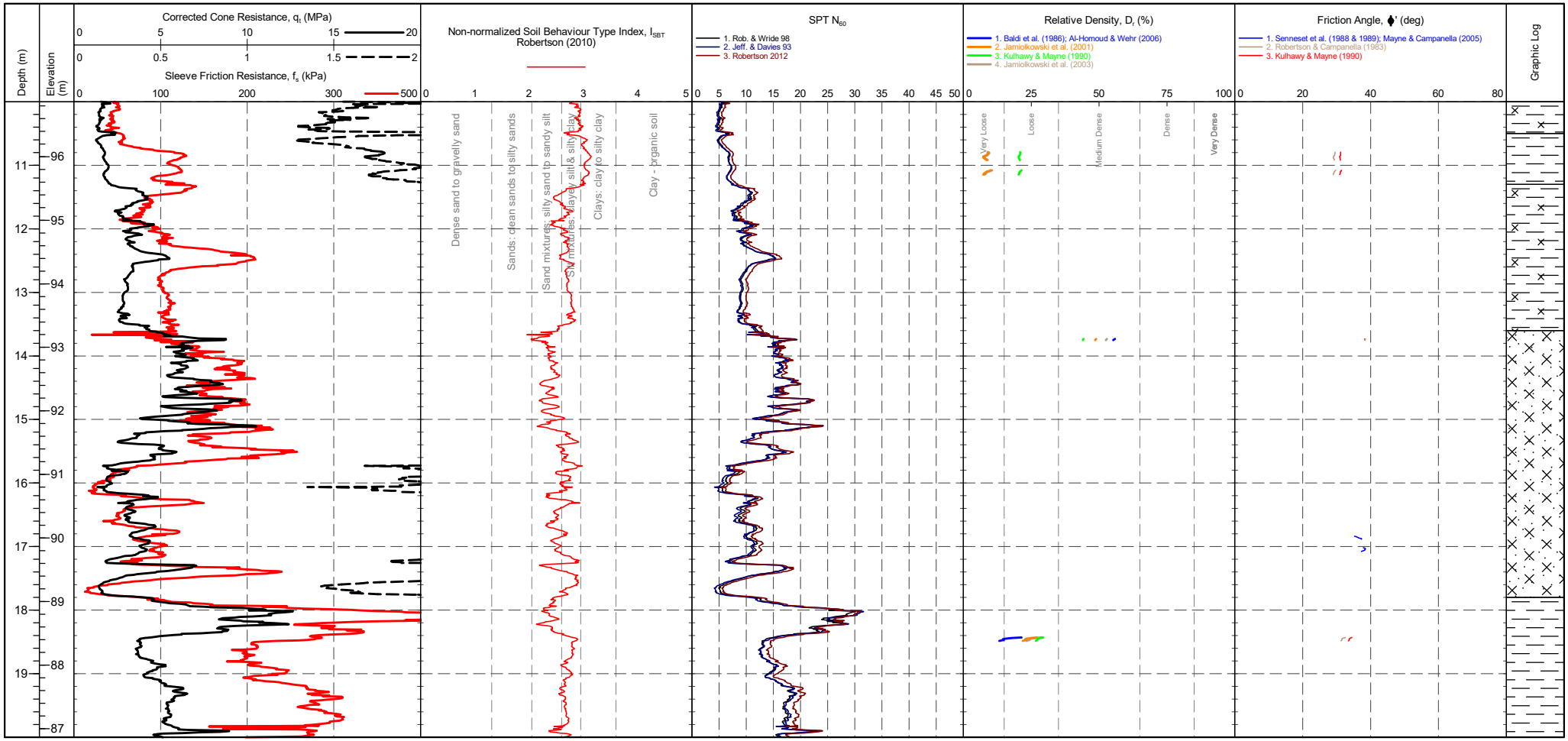
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT09**

CLIENT : Delta Simons	EASTING : 490918.124 m	Remark:	SHEET : 2 OF 3
PROJECT : Corby	NORTHING : 290906.184 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.865 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	363 mV	357 mV	-0.066 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	283 mV	-0.004 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	235 mV	197 mV	-0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2618 mV	2599 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

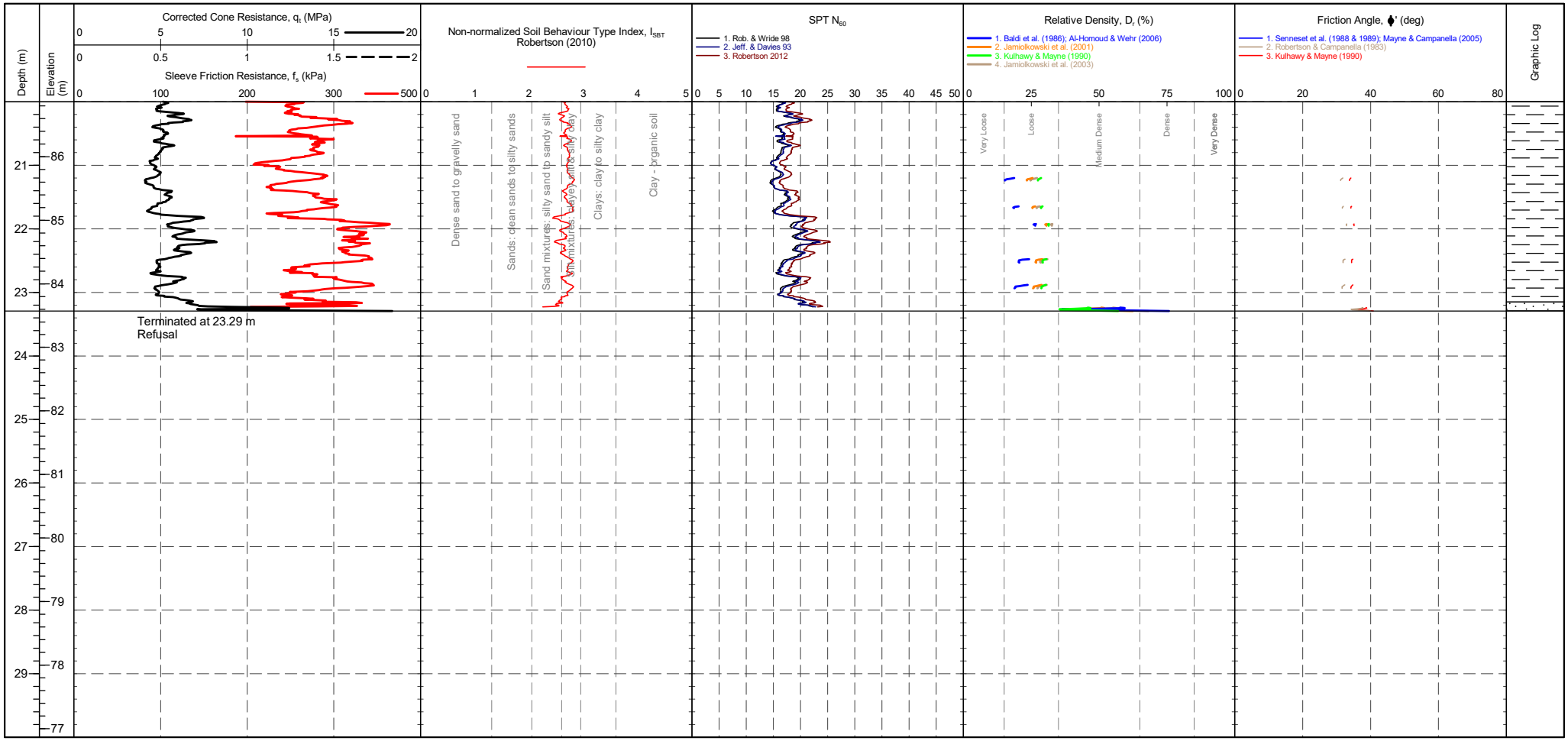
PointID: **CPT09**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490918.124 m
NORTHING : 290906.184 m
ELEVATION : 106.865 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 3 OF 3
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	363 mV	357 mV	-0.066 MPa
Sleeve	288 mV	283 mV	-0.004 kPa
Pore Pressure 2	235 mV	197 mV	-0.009 kPa
X-Y Inclinometer	2618 mV	2599 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

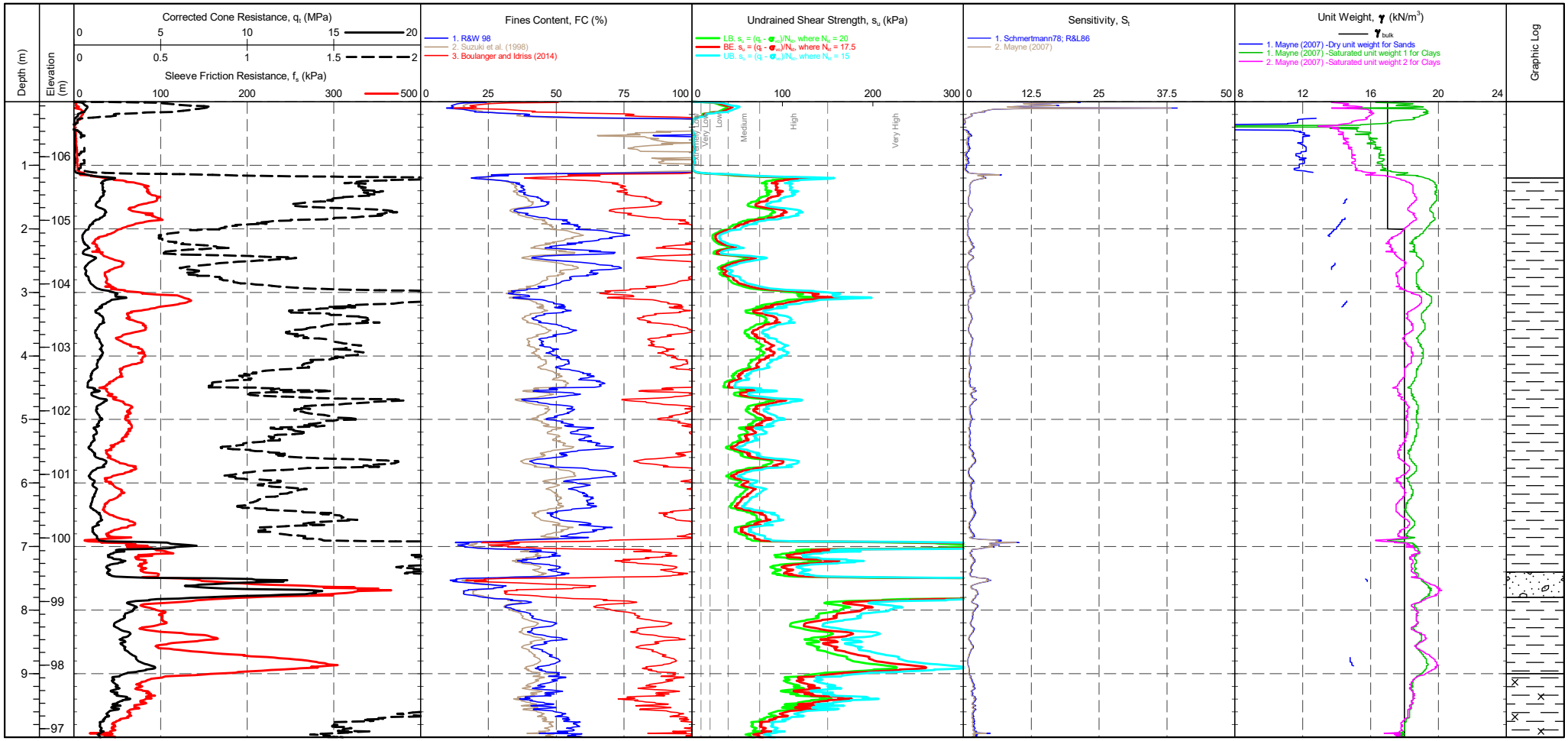
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT09**

CLIENT : Delta Simons	EASTING : 490918.124 m	Remark:	SHEET : 1 OF 3
PROJECT : Corby	NORTHING : 290906.184 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.865 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	363 mV	357 mV	-0.066 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	283 mV	-0.004 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	235 mV	197 mV	-0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2618 mV	2599 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

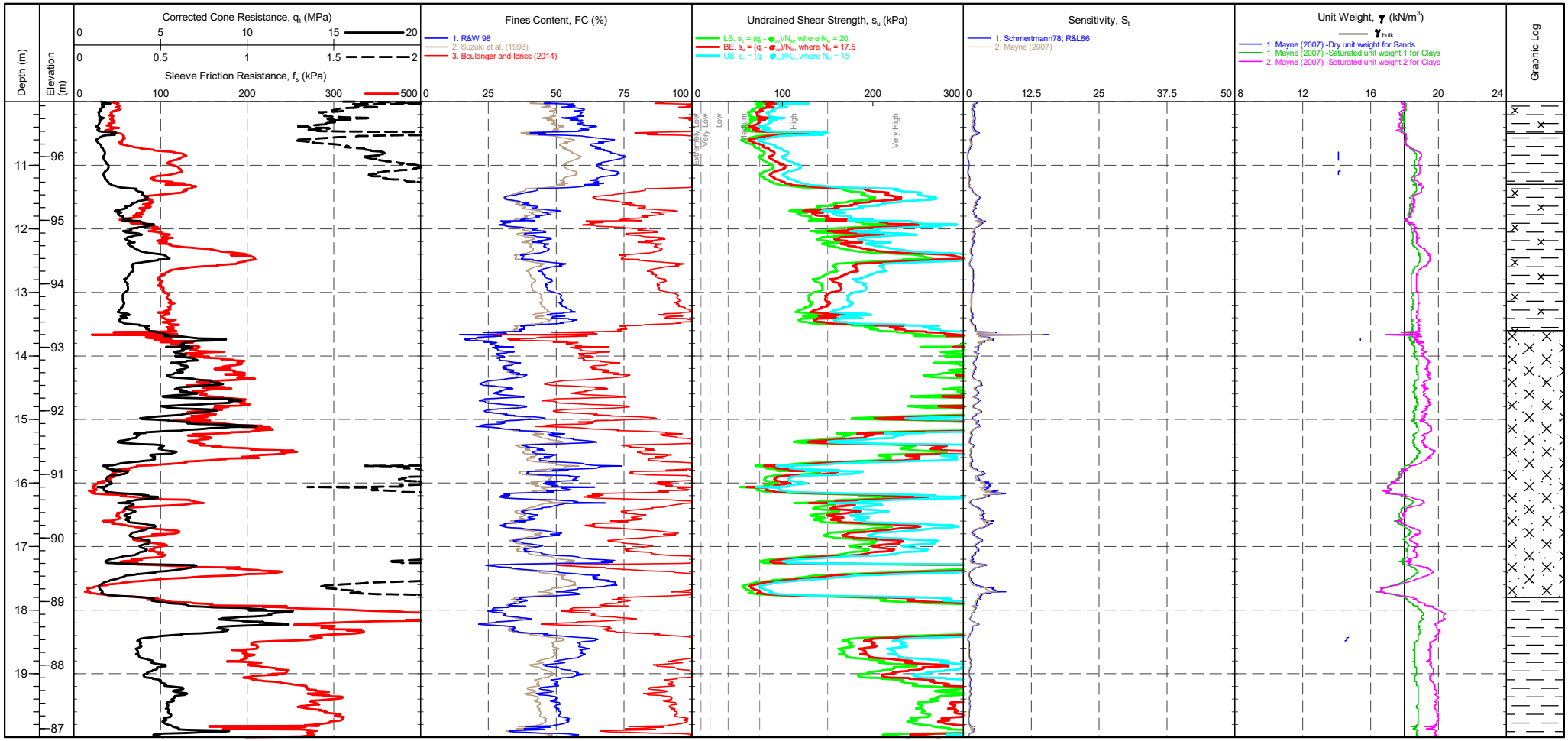
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID **CPT09**

CLIENT : Delta Simons	EASTING : 490918.124 m	Remark:	SHEET : 2 OF 3
PROJECT : Corby	NORTHING : 290906.184 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.865 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	363 mV	357 mV	-0.066 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	283 mV	-0.004 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	235 mV	197 mV	-0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2618 mV	2599 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

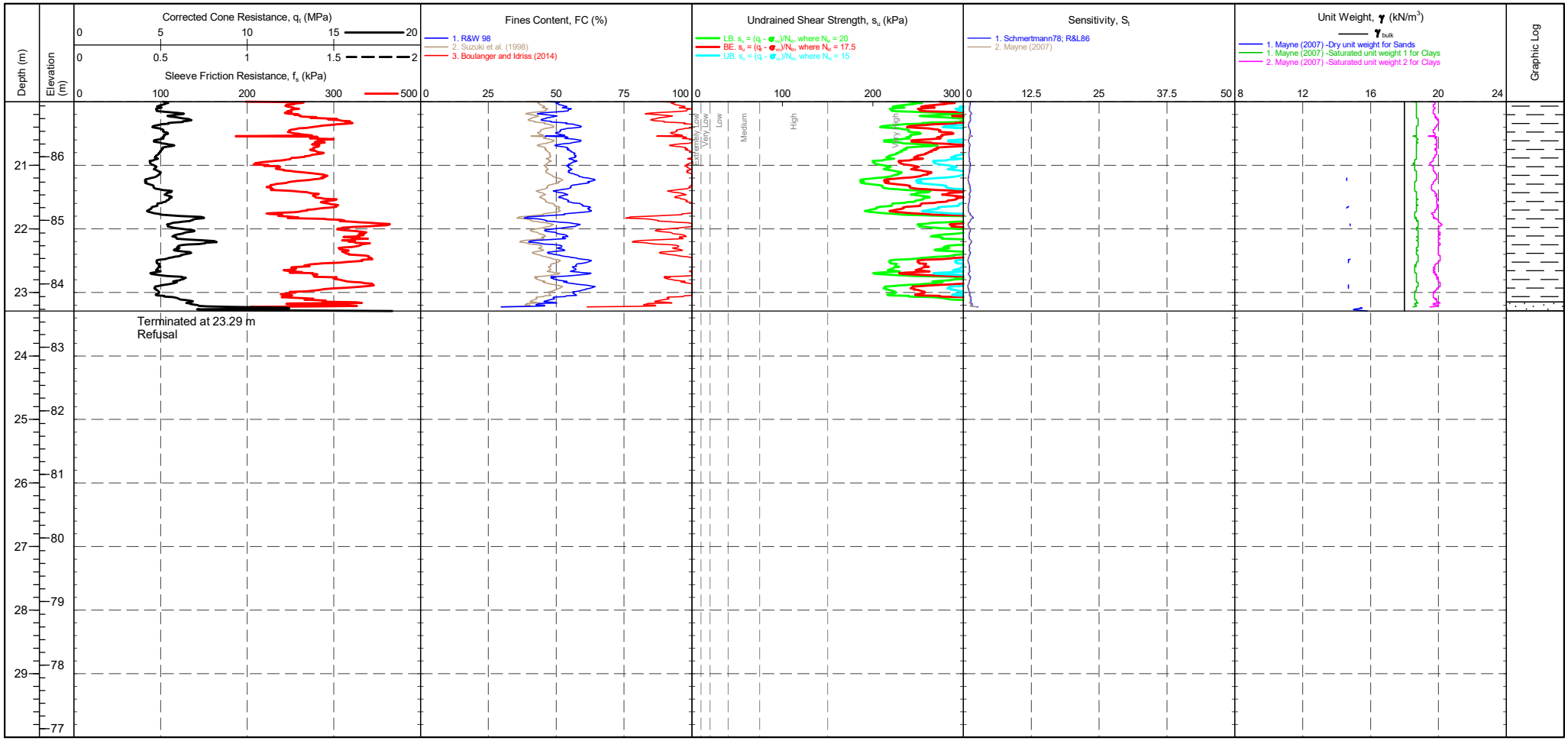
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT09**

CLIENT : Delta Simons	EASTING : 490918.124 m	Remark:	SHEET : 3 OF 3
PROJECT : Corby	NORTHING : 290906.184 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.865 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	363 mV	357 mV	-0.066 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	283 mV	-0.004 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	235 mV	197 mV	-0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2618 mV	2599 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test

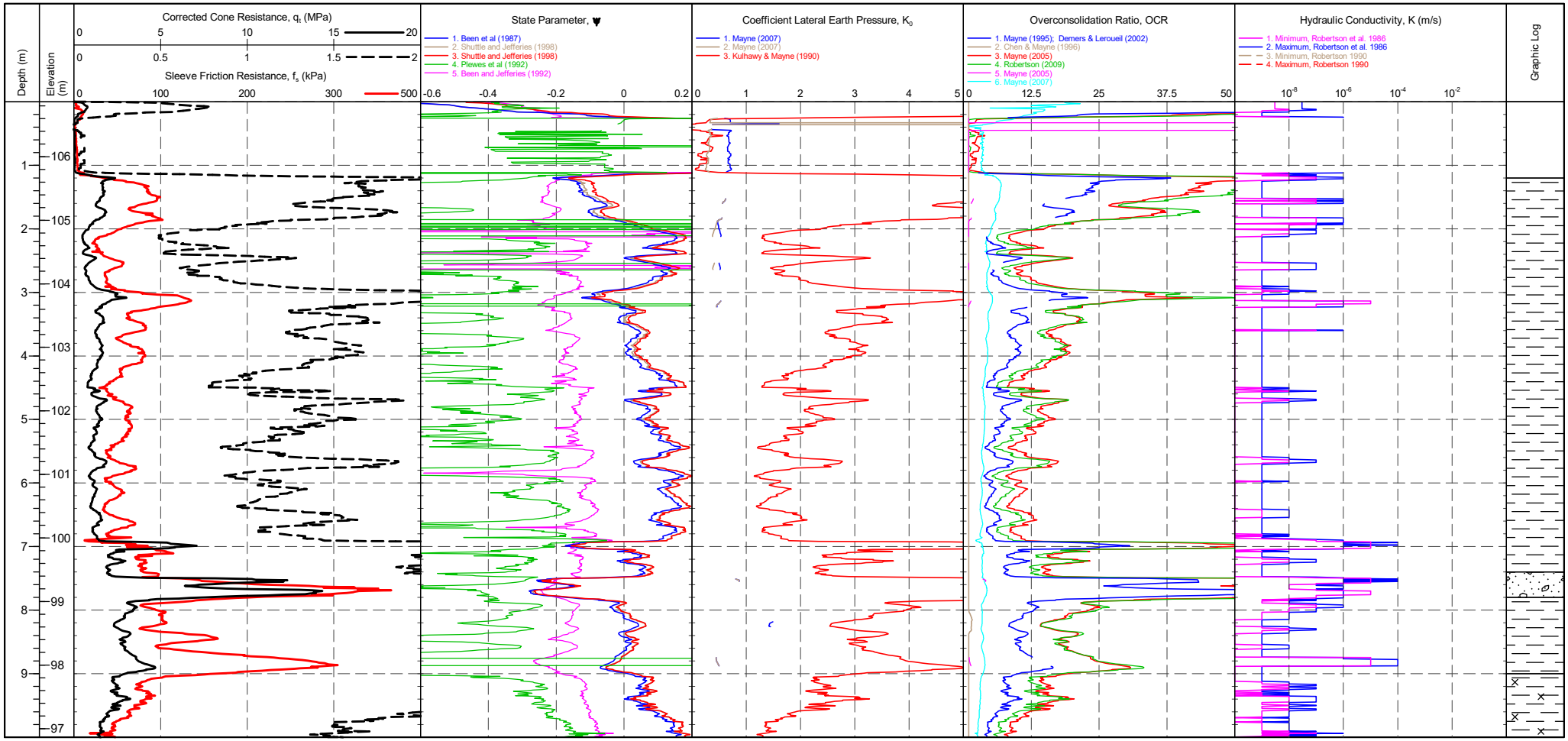
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT09**

CLIENT : Delta Simons	EASTING : 490918.124 m	Remark:	SHEET : 1 OF 3
PROJECT : Corby	NORTHING : 290906.184 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.865 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	363 mV	357 mV
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	283 mV
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	235 mV	197 mV
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2618 mV	2599 mV

Difference
-0.066 MPa
-0.004 kPa
-0.009 kPa

Groundwater Level

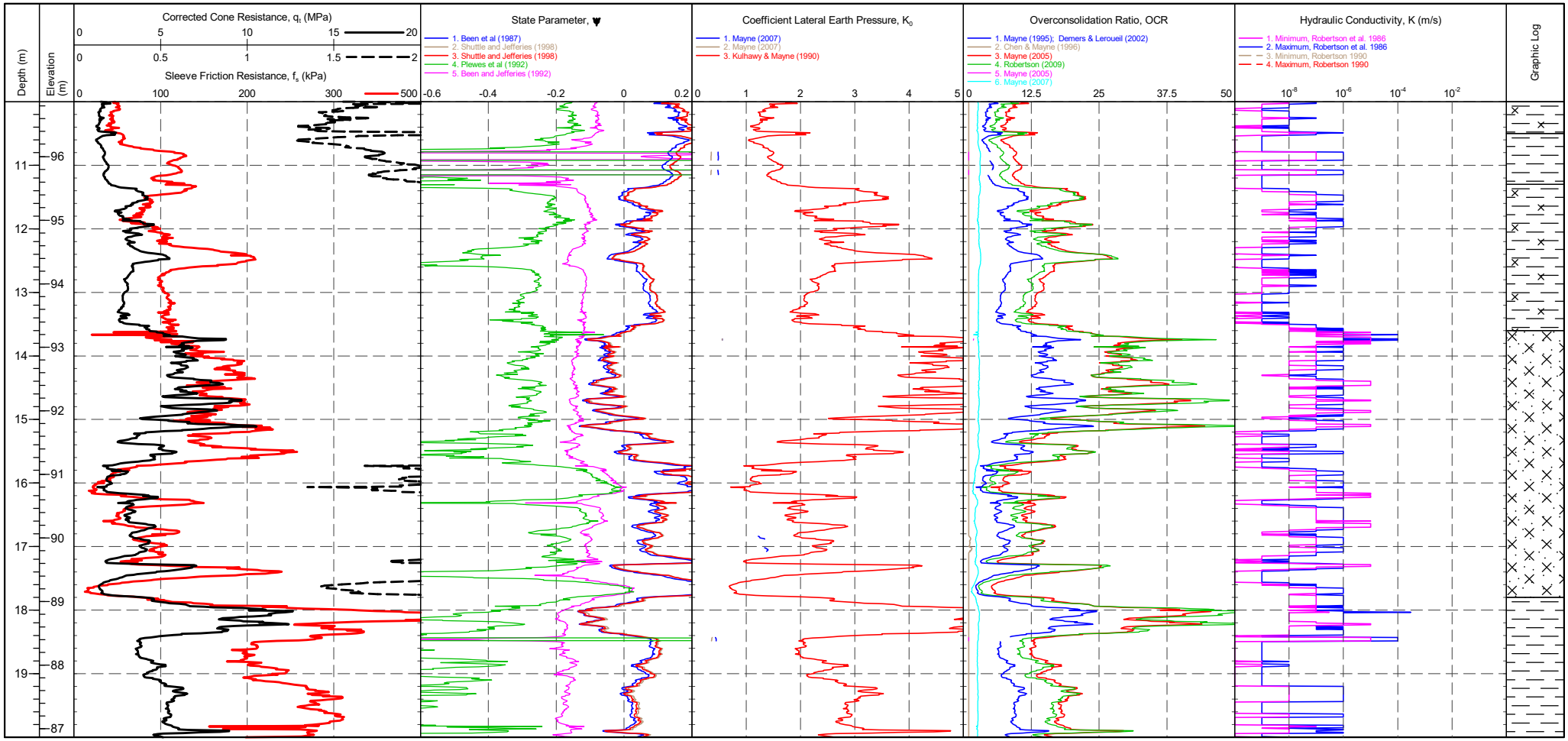
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID **CPT09**

CLIENT : Delta Simons PROJECT : Corby LOCATION : Cordby PROJECT No. : 1220144	EASTING : 490918.124 m NORTHING : 290906.184 m ELEVATION : 106.865 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on tip resistance.	SHEET : 2 OF 3 STATUS : Final TEST DATE : 09/02/2022 PLOT DATE : 04/03/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	363 mV	357 mV	-0.066 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	283 mV	-0.004 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	235 mV	197 mV	-0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2618 mV	2599 mV	

Groundwater Level

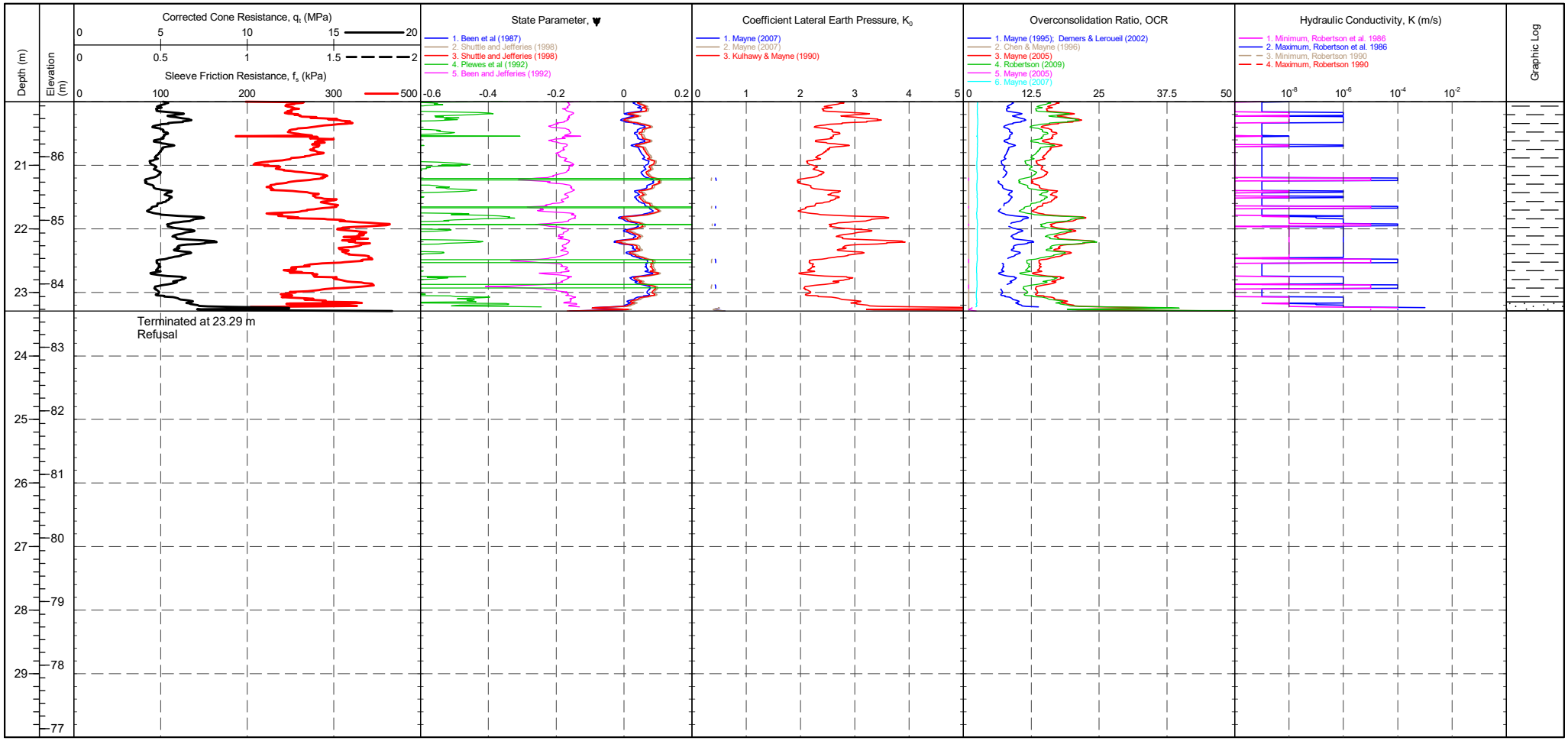
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT09**

CLIENT : Delta Simons	EASTING : 490918.124 m	Remark:	SHEET : 3 OF 3
PROJECT : Corby	NORTHING : 290906.184 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.865 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	363 mV	357 mV	-0.066 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	288 mV	283 mV	-0.004 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	235 mV	197 mV	-0.009 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2618 mV	2599 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

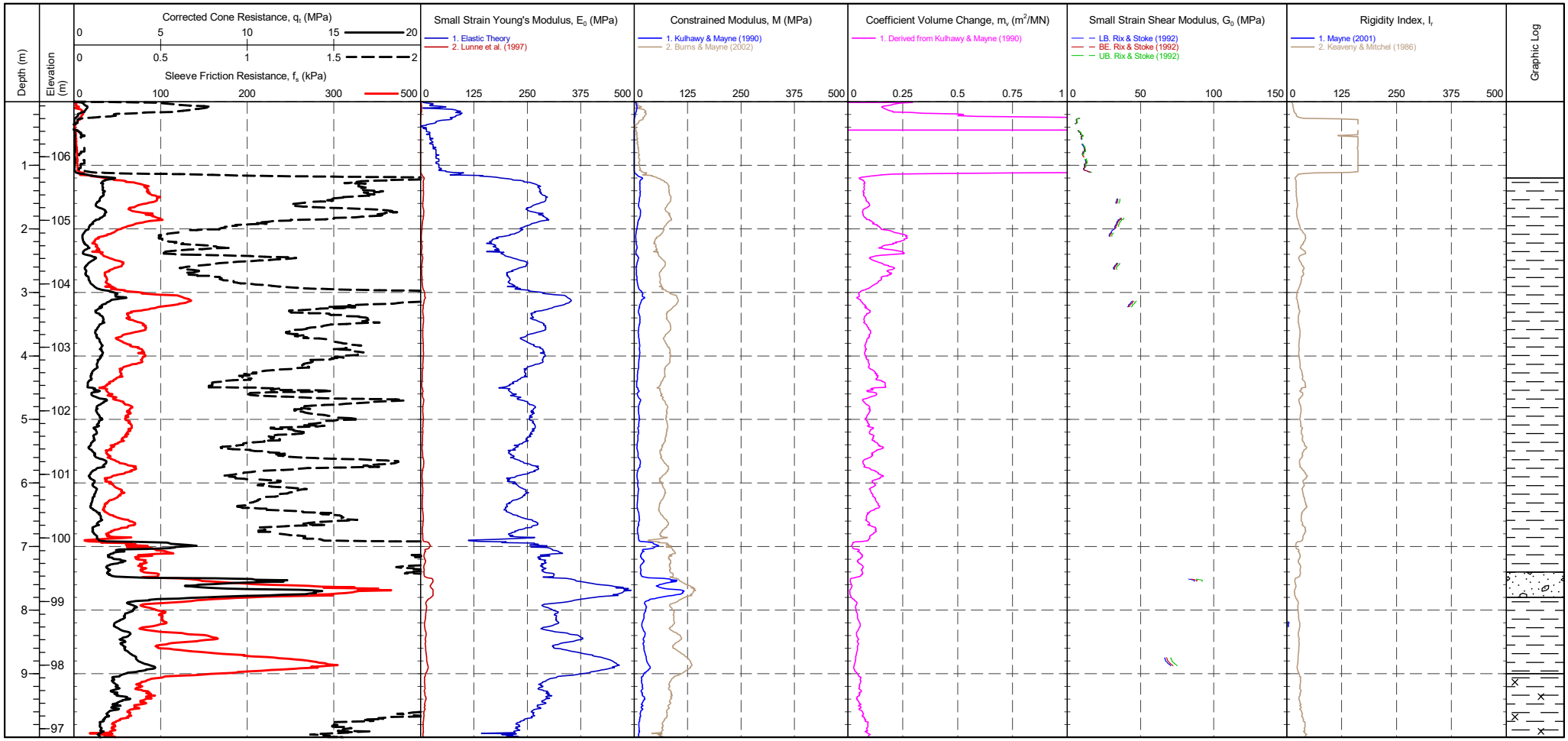
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT09**

CLIENT : Delta Simons	EASTING : 490918.124 m	Remark:	SHEET : 1 OF 3
PROJECT : Corby	NORTHING : 290906.184 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.865 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	363 mV	357 mV	-0.066 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	288 mV	283 mV	-0.004 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	235 mV	197 mV	-0.009 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2618 mV	2599 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

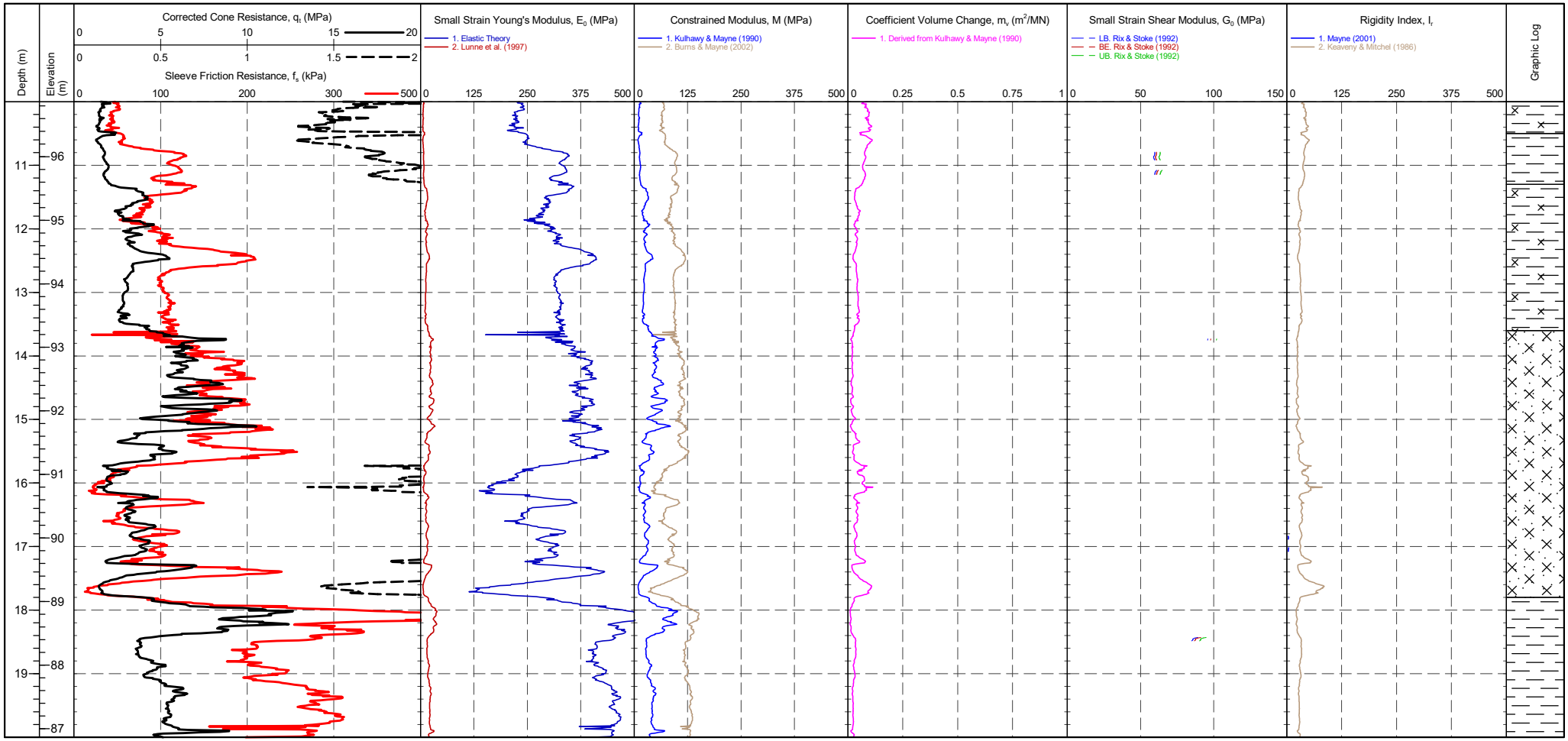
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT09**

CLIENT : Delta Simons	EASTING : 490918.124 m	Remark:	SHEET : 2 OF 3
PROJECT : Corby	NORTHING : 290906.184 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.865 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	363 mV	357 mV	-0.066 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	283 mV	-0.004 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	235 mV	197 mV	-0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2618 mV	2599 mV	

Groundwater Level

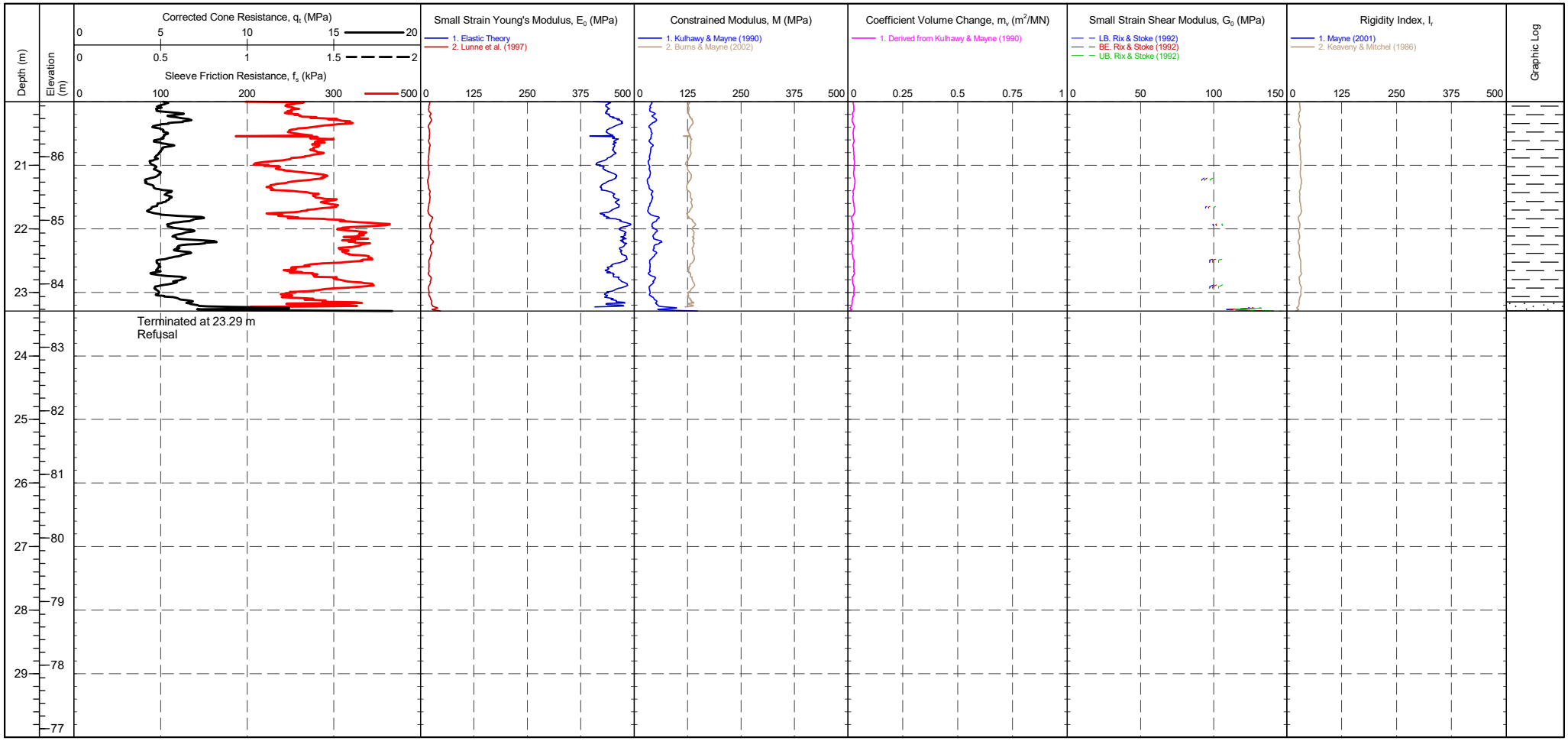
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT09**

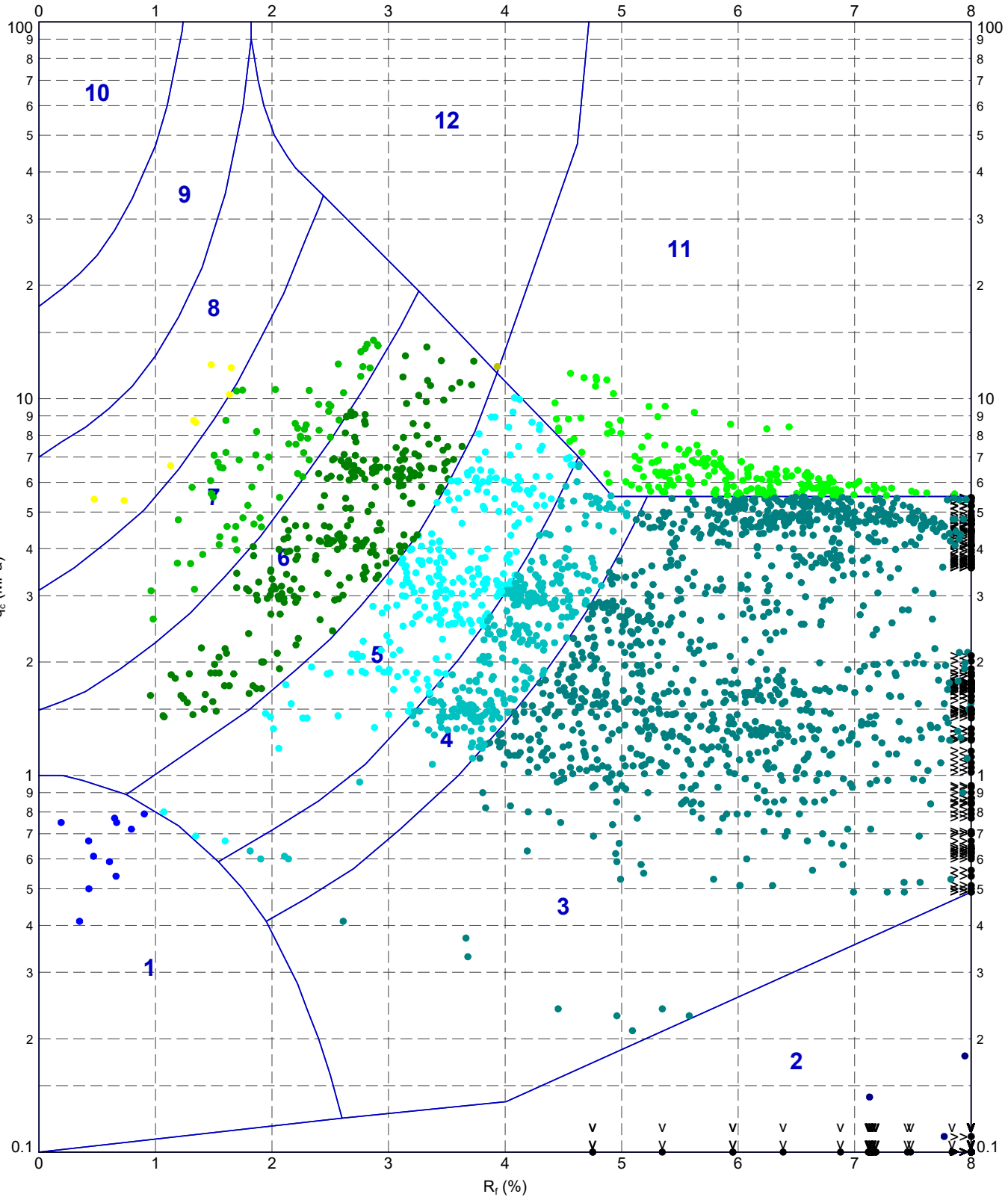
CLIENT : Delta Simons	EASTING : 490918.124 m	Remark:	SHEET : 3 OF 3
PROJECT : Corby	NORTHING : 290906.184 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 106.865 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	363 mV	357 mV	-0.066 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	288 mV	283 mV	-0.004 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	235 mV	197 mV	-0.009 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2618 mV	2599 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT09

DRAWN		DATE	04/03/2022
CHECKED		DATE	04/03/2022
SCALE	Not To Scale		A4
PROJECT No	1220144	FIGURE No	

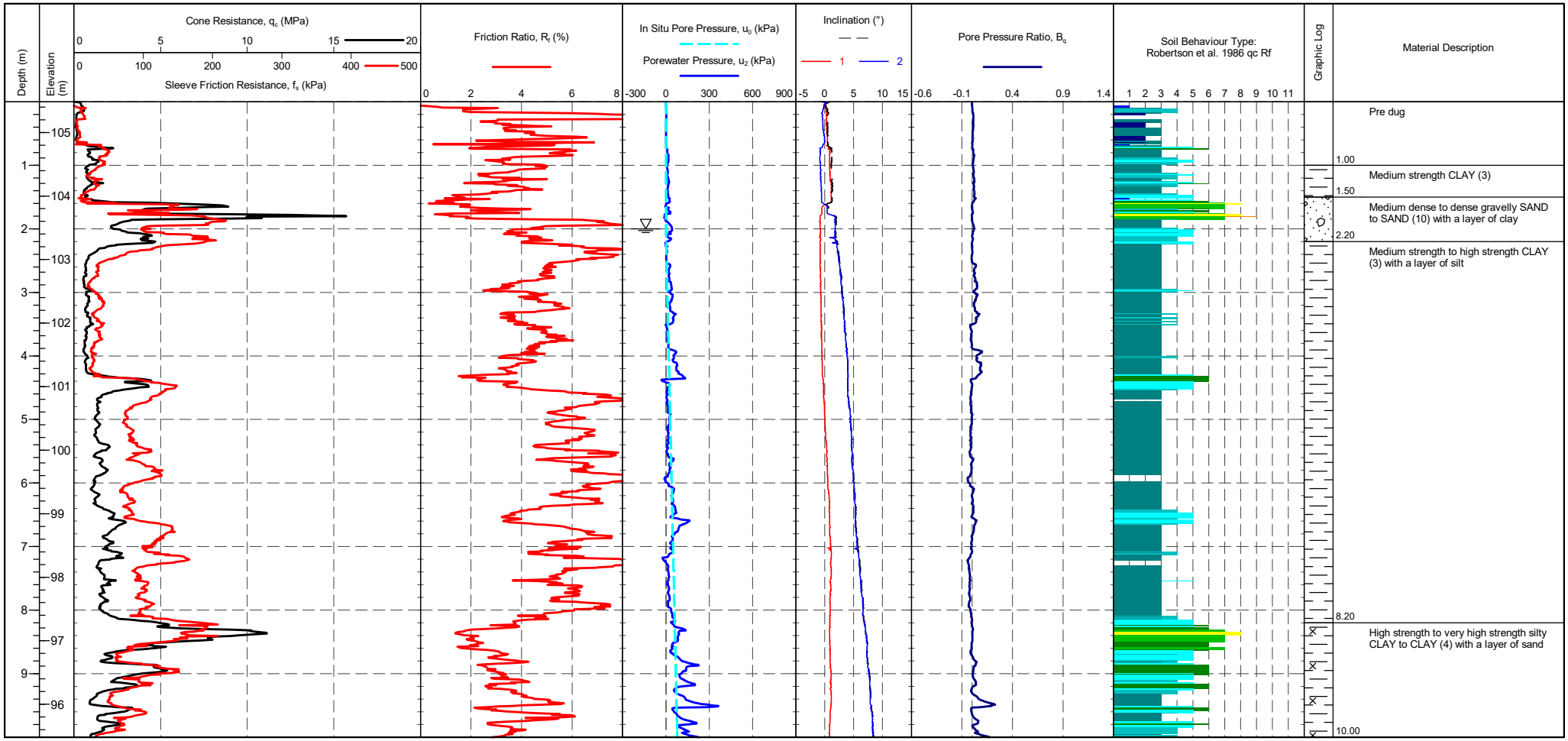
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT10**

CLIENT : Delta Simons	EASTING : 491027.577 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290924.637 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.483 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	360 mV	362 mV	0.022 MPa
Sleeve	287 mV	286 mV	-0.001 kPa
Pore Pressure 2	213 mV	255 mV	0.01 kPa
X-Y Inclinometer	2476 mV	2598 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

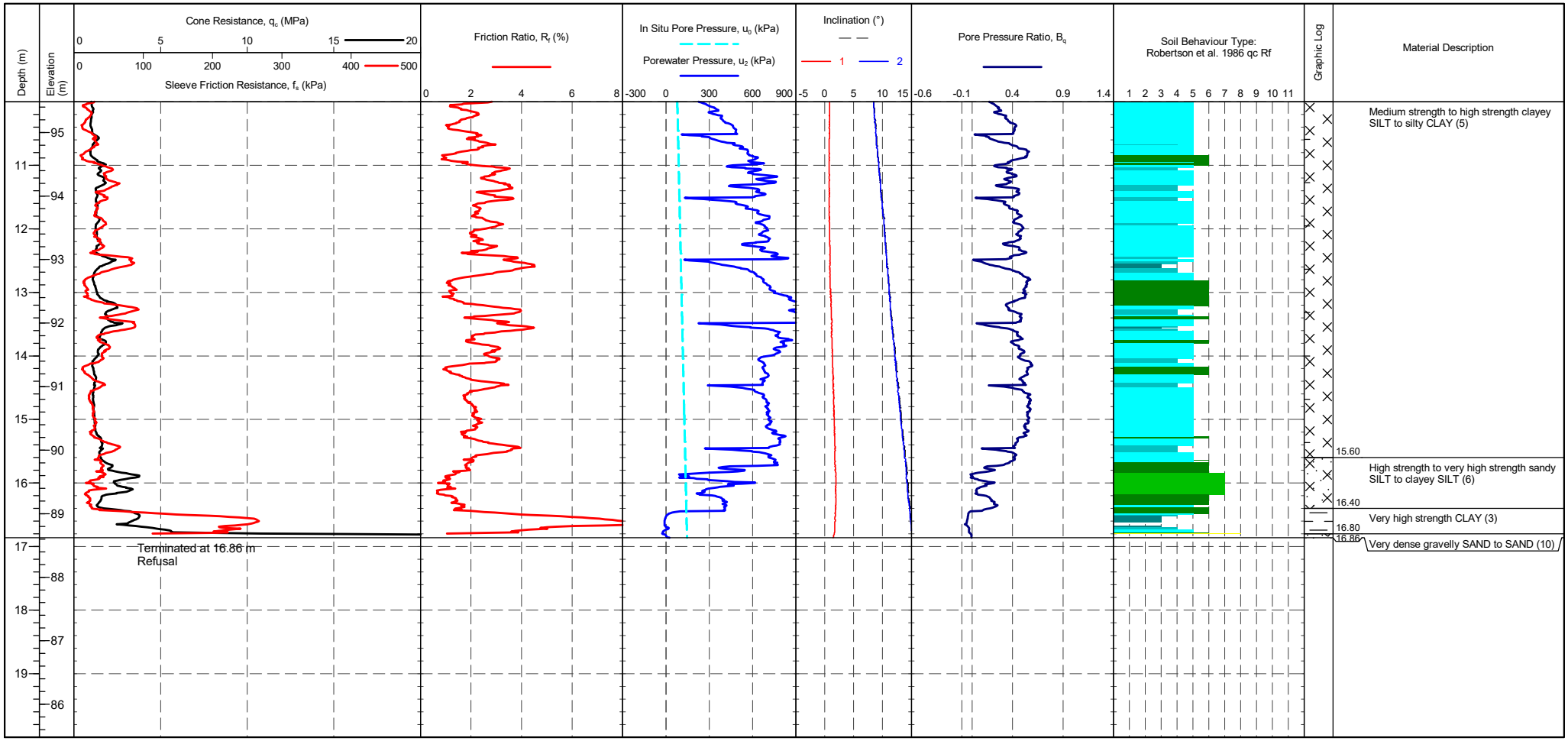
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT10**

CLIENT : Delta Simons	EASTING : 491027.577 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290924.637 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.483 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	360 mV	362 mV	0.022 MPa
Sleeve	287 mV	286 mV	-0.001 kPa
Pore Pressure 2	213 mV	255 mV	0.01 kPa
X-Y Inclinometer	2476 mV	2598 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

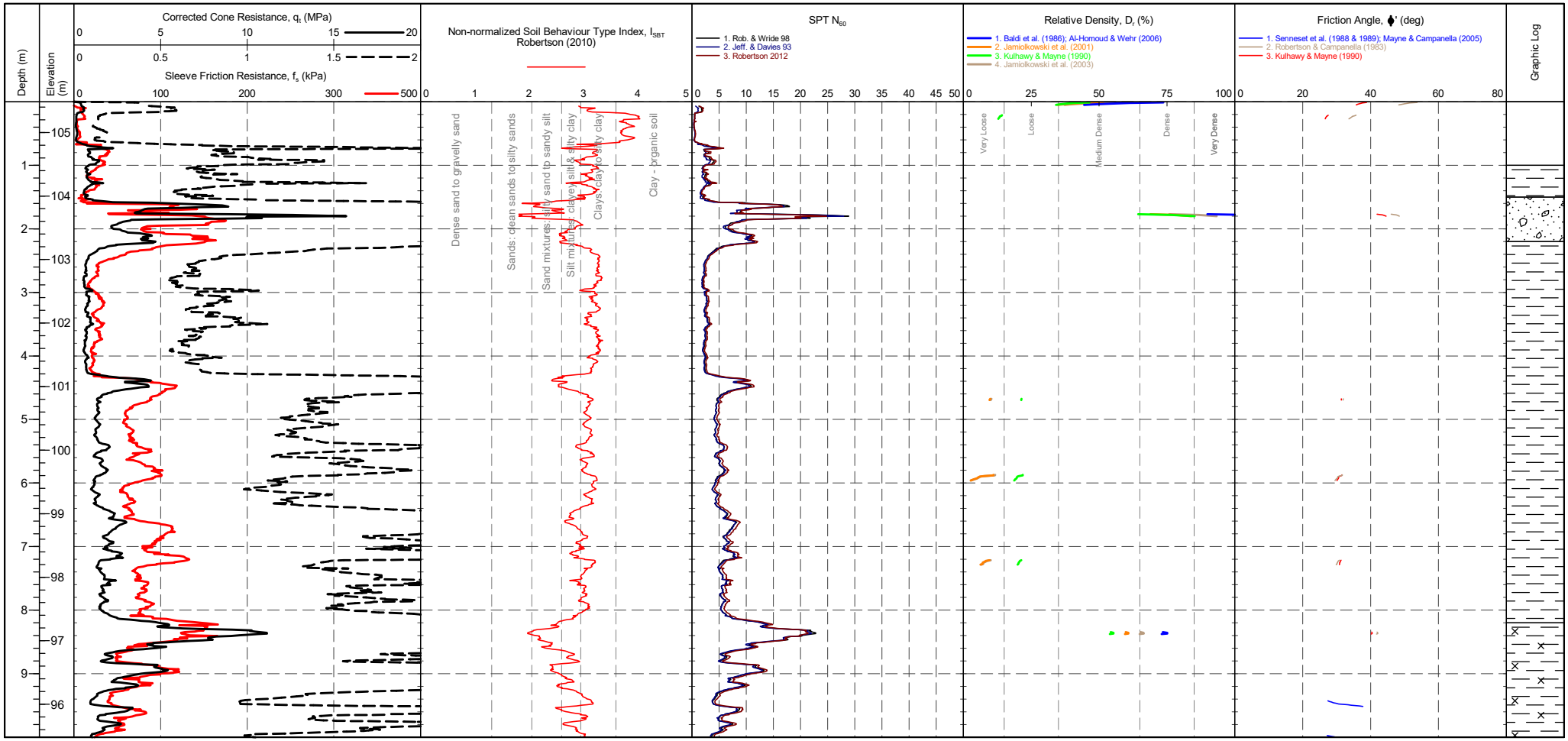
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT10**

CLIENT : Delta Simons	EASTING : 491027.577 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290924.637 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.483 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	360 mV	362 mV	0.022 MPa
Sleeve	287 mV	286 mV	-0.001 kPa
Pore Pressure 2	213 mV	255 mV	0.01 kPa
X-Y Inclinometer	2476 mV	2598 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

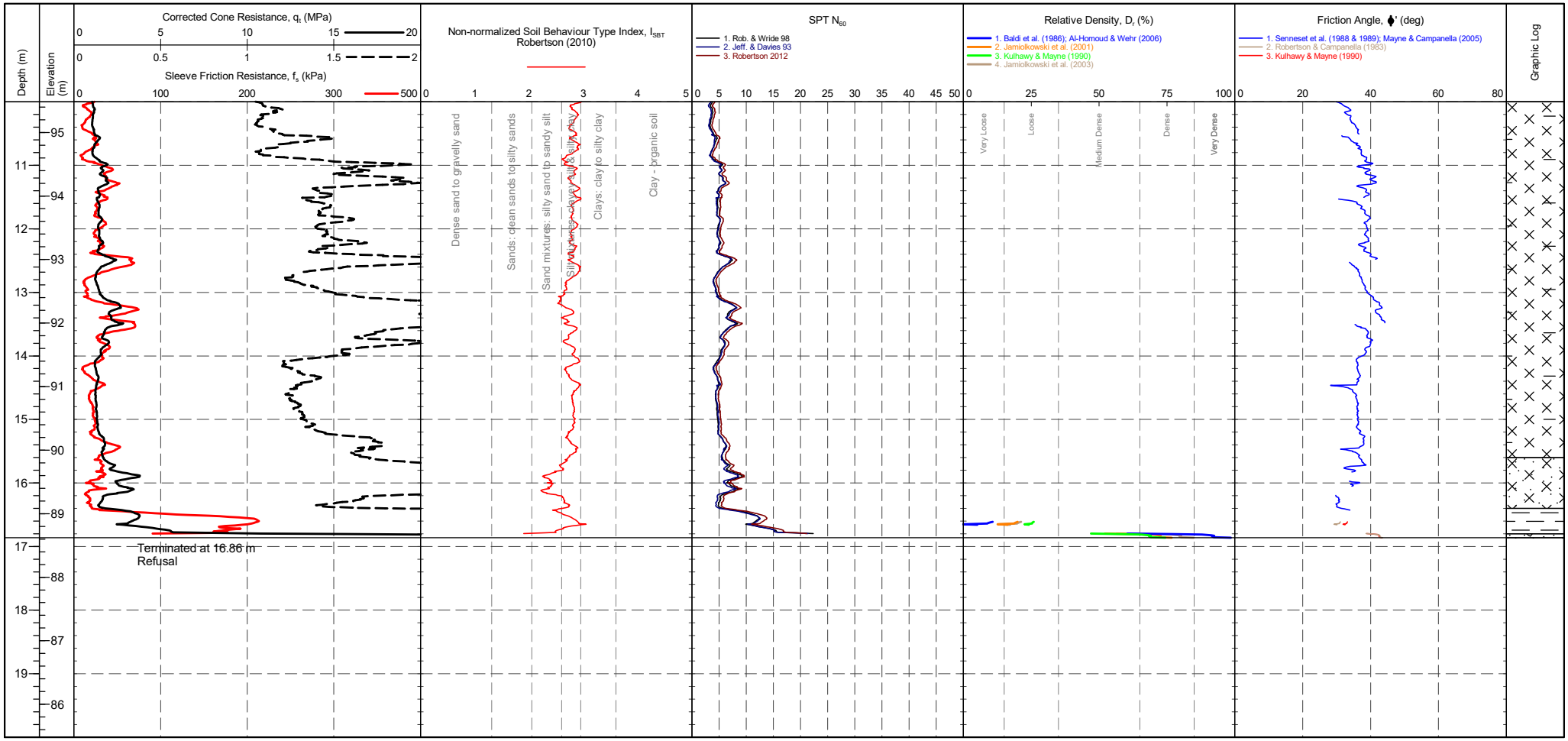
PointID: **CPT10**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 491027.577 m
NORTHING : 290924.637 m
ELEVATION : 105.483 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 2 OF 2
STATUS : Final
TEST DATE : 10/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	360 mV	362 mV	0.022 MPa
Sleeve	287 mV	286 mV	-0.001 kPa
Pore Pressure 2	213 mV	255 mV	0.01 kPa
X-Y Inclinometer	2476 mV	2598 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

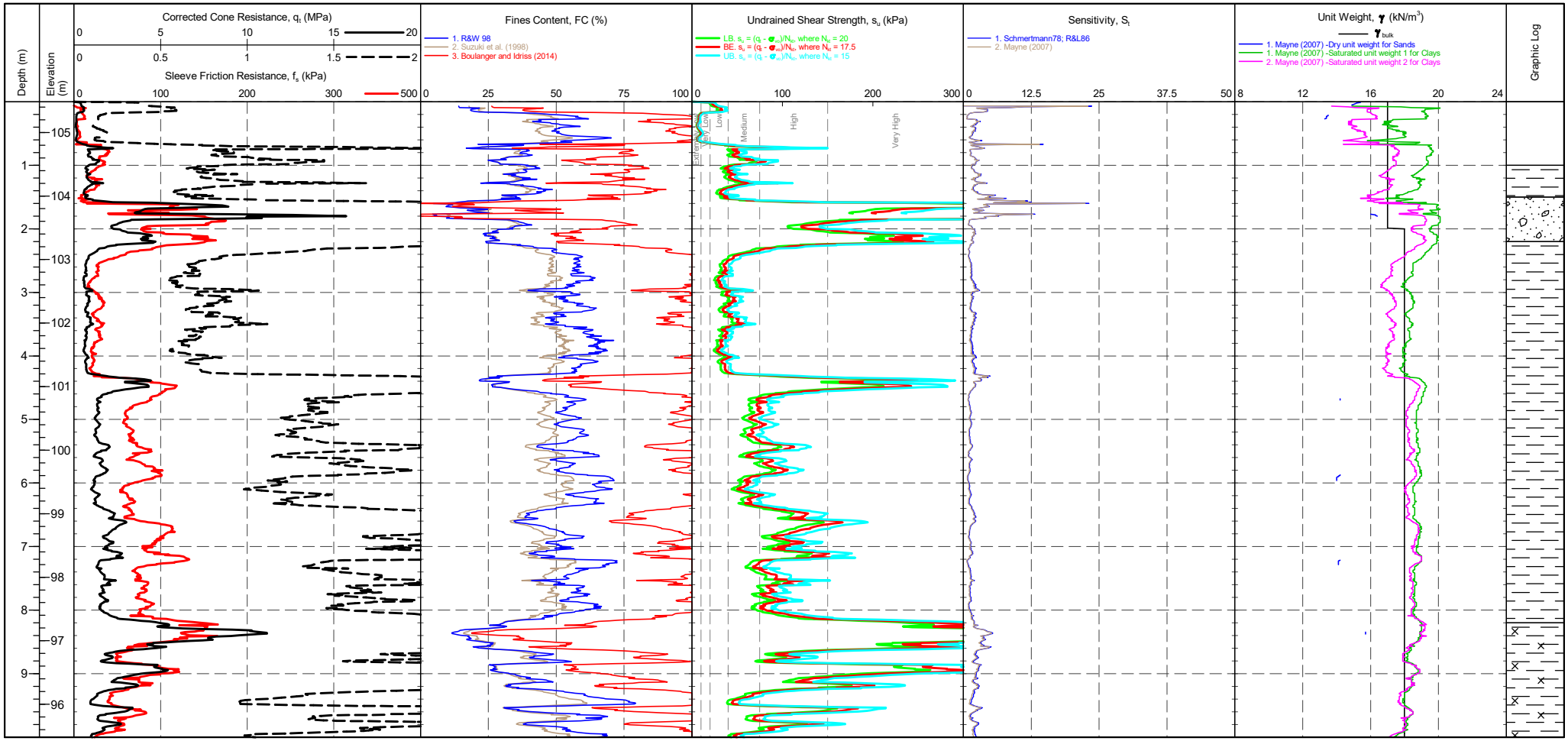
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT10**

CLIENT : Delta Simons	EASTING : 491027.577 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290924.637 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.483 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	360 mV	362 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	286 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	213 mV	255 mV	0.01 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2476 mV	2598 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

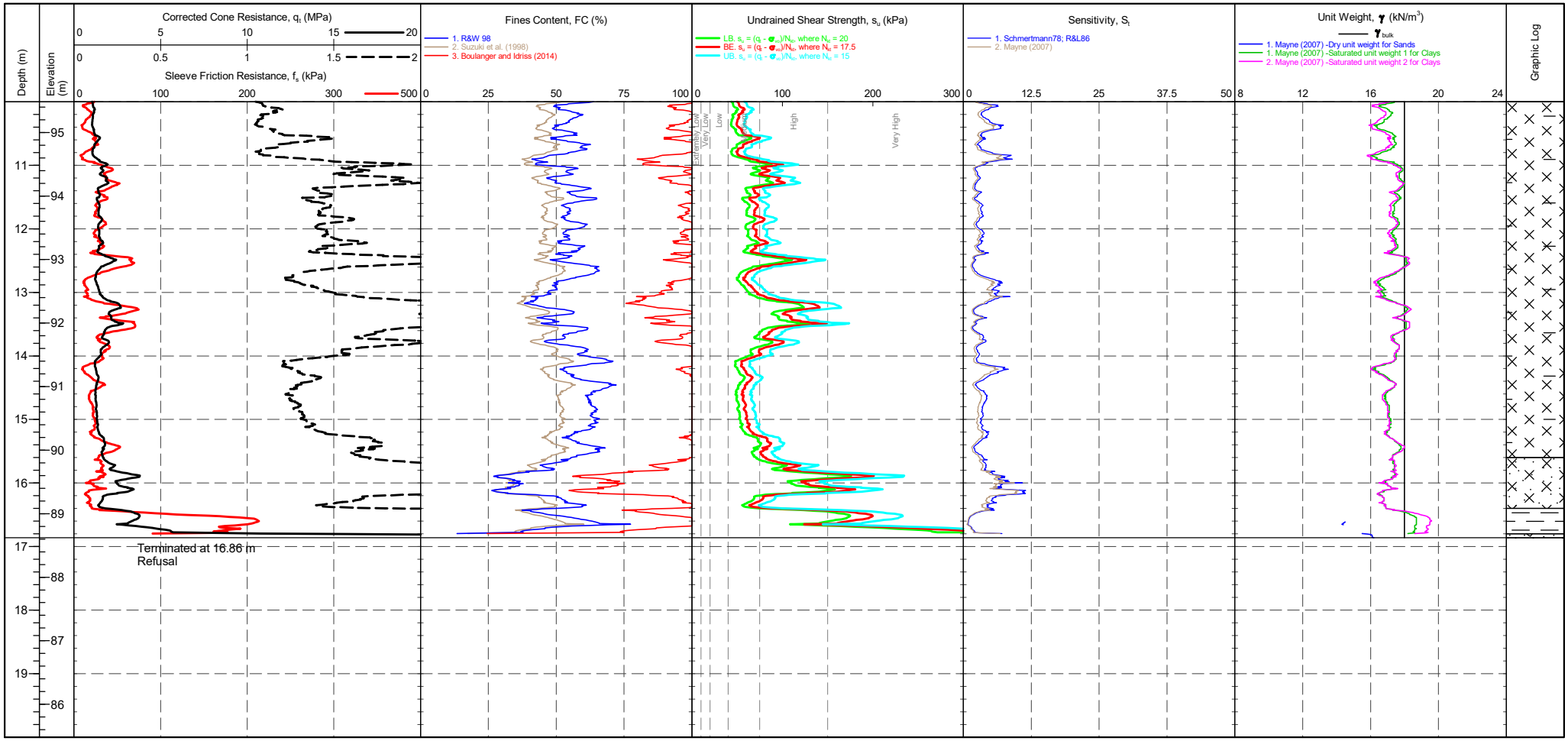
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT10**

CLIENT : Delta Simons	EASTING : 491027.577 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290924.637 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.483 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	360 mV	362 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	286 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	213 mV	255 mV	0.01 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2476 mV	2598 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

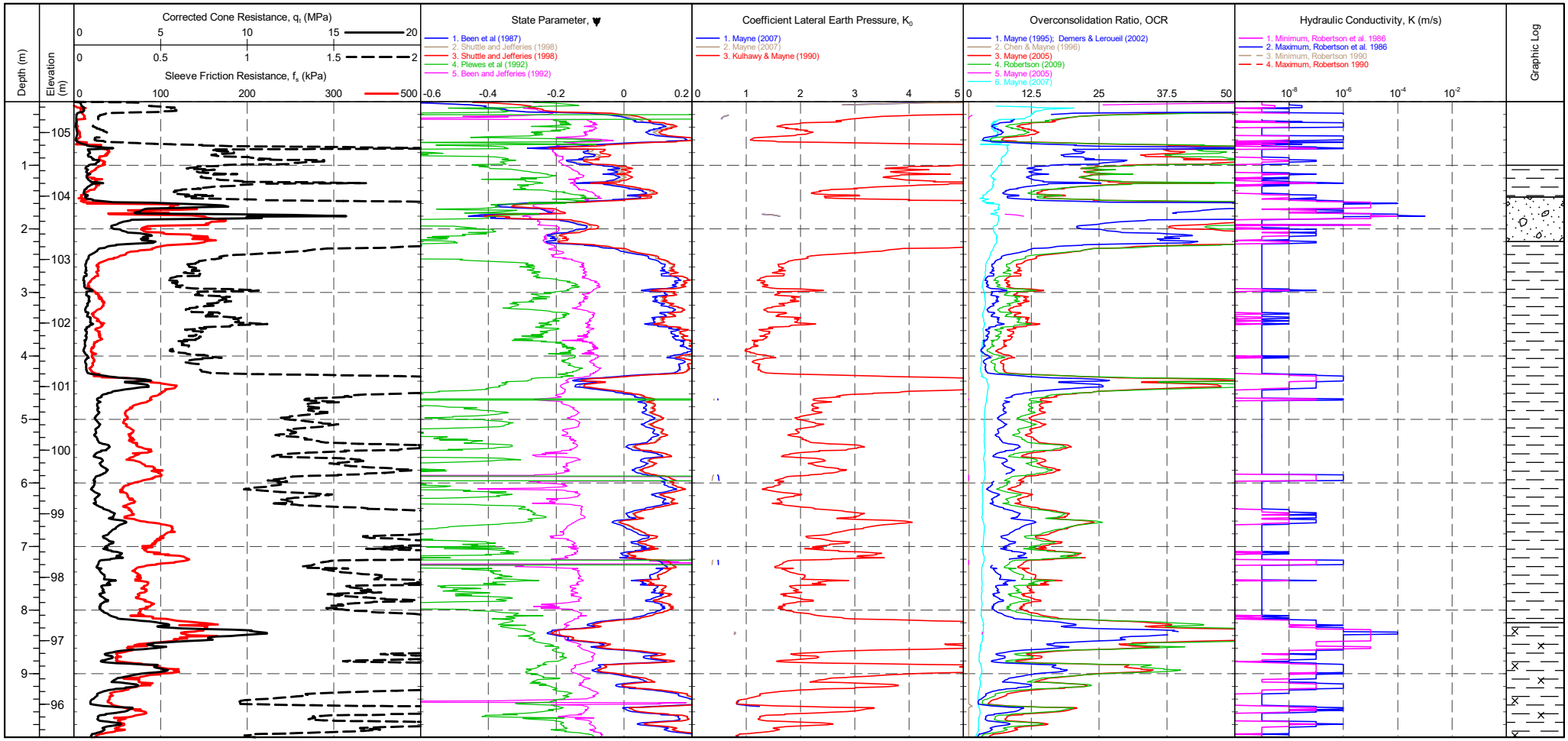
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID **CPT10**

CLIENT : Delta Simons PROJECT : Corby LOCATION : Cordby PROJECT No. : 1220144	EASTING : 491027.577 m NORTHING : 290924.637 m ELEVATION : 105.483 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on tip resistance.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 10/02/2022 PLOT DATE : 04/03/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	360 mV	362 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	286 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	213 mV	255 mV	0.01 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2476 mV	2598 mV	

Groundwater Level

Dissipation Test

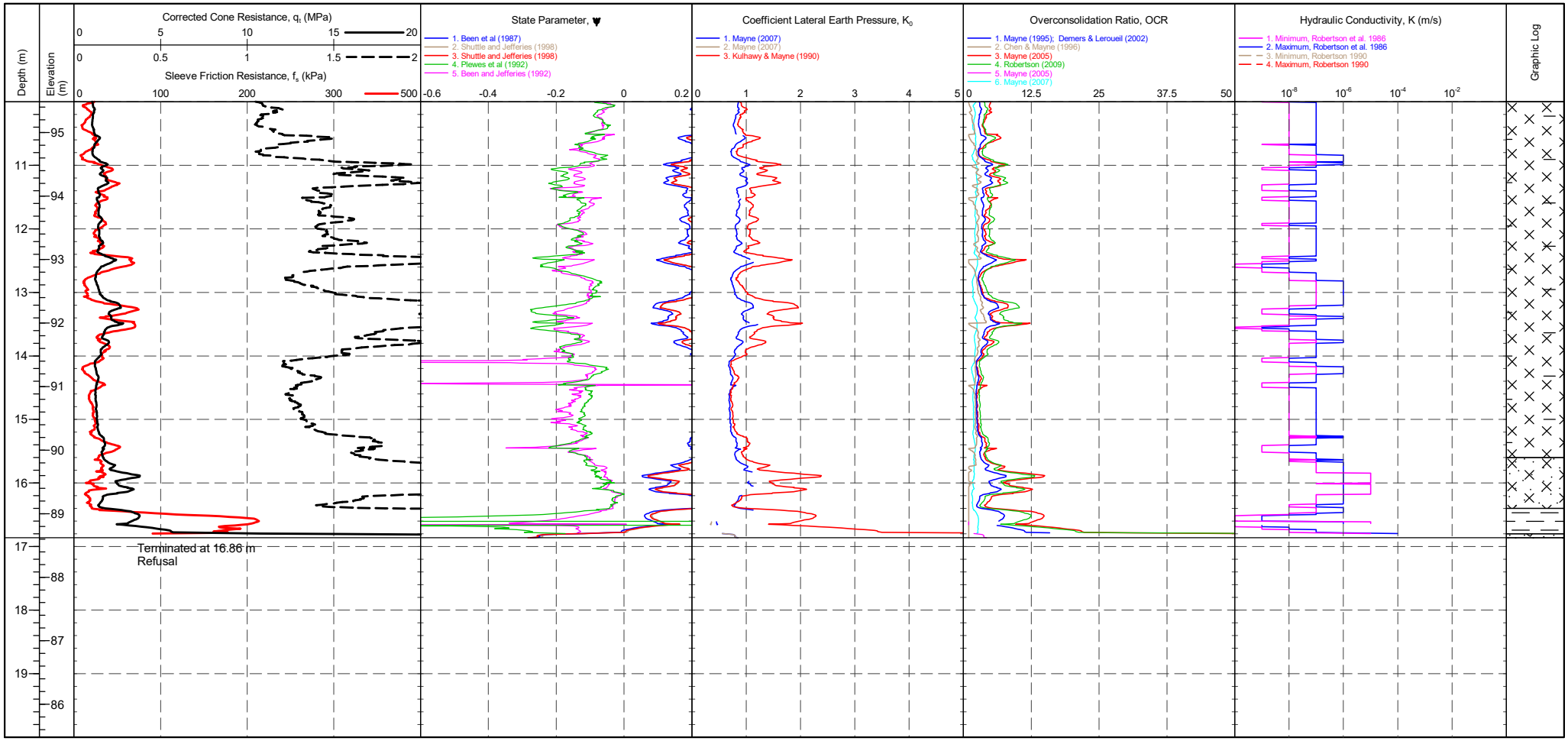
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT10**

CLIENT : Delta Simons	EASTING : 491027.577 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290924.637 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.483 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	360 mV	362 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	287 mV	286 mV	-0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	213 mV	255 mV	0.01 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2476 mV	2598 mV	

Groundwater Level

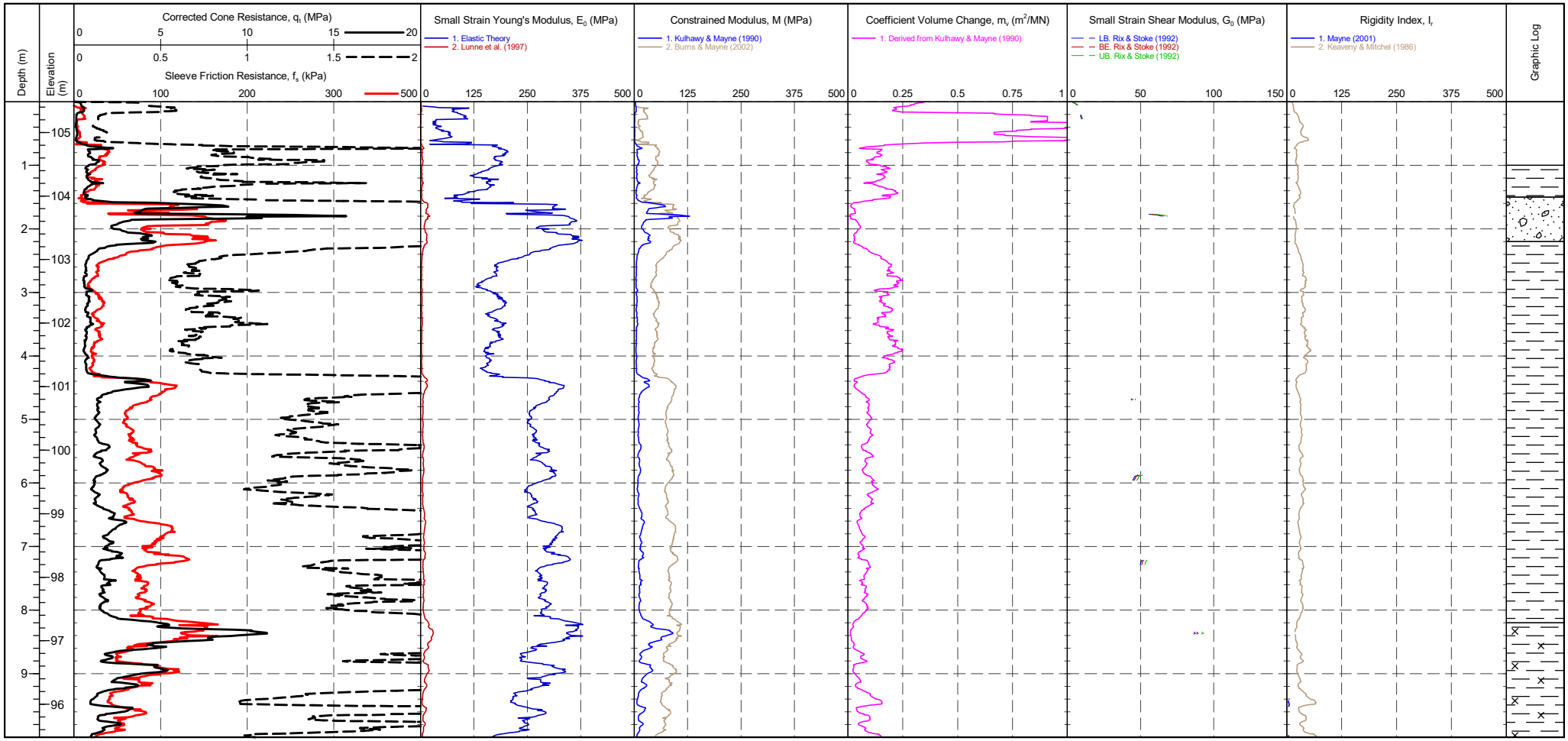
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT10**

CLIENT : Delta Simons	EASTING : 491027.577 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290924.637 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.483 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	360 mV	362 mV	0.022 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	287 mV	286 mV	-0.001 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	213 mV	255 mV	0.01 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2476 mV	2598 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

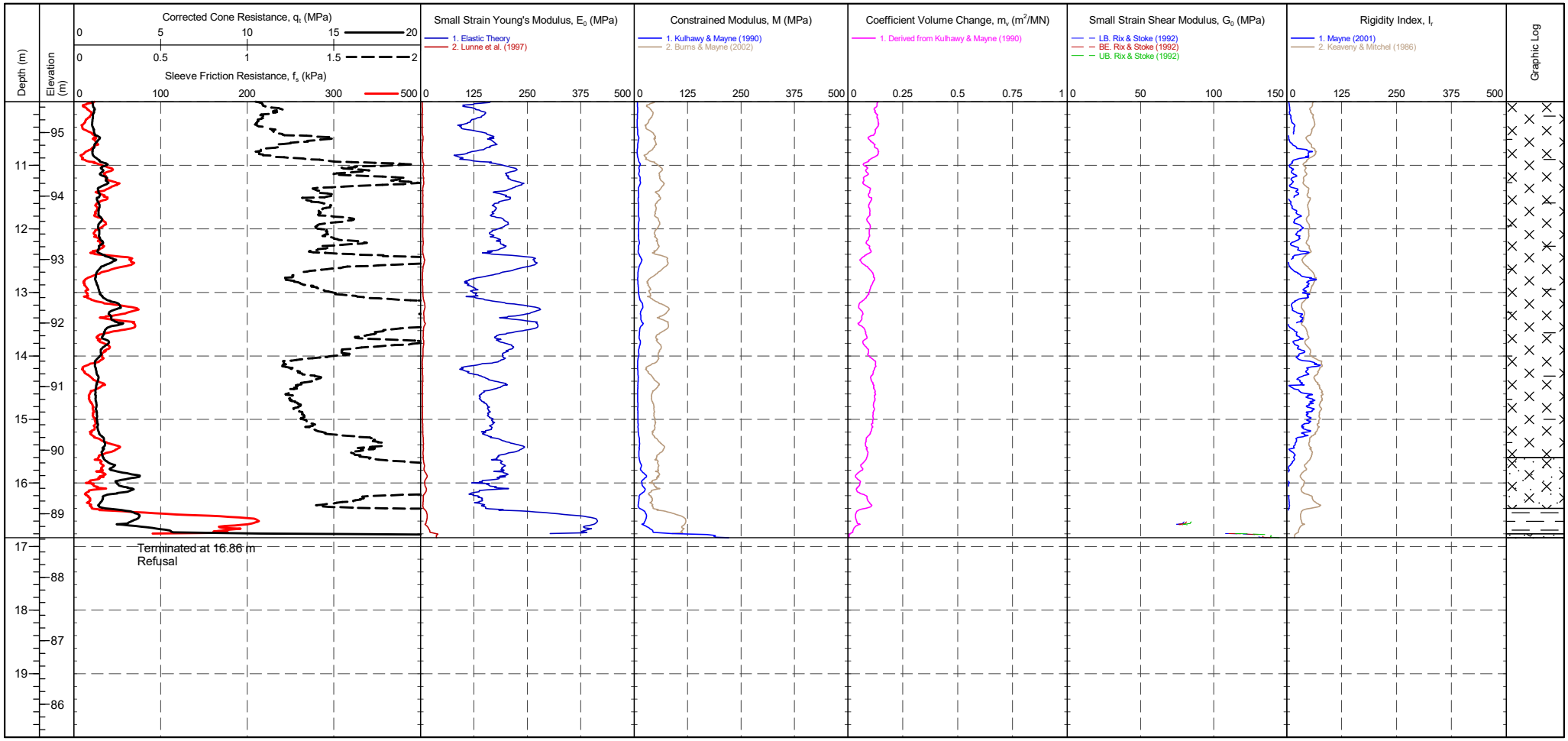
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT10**

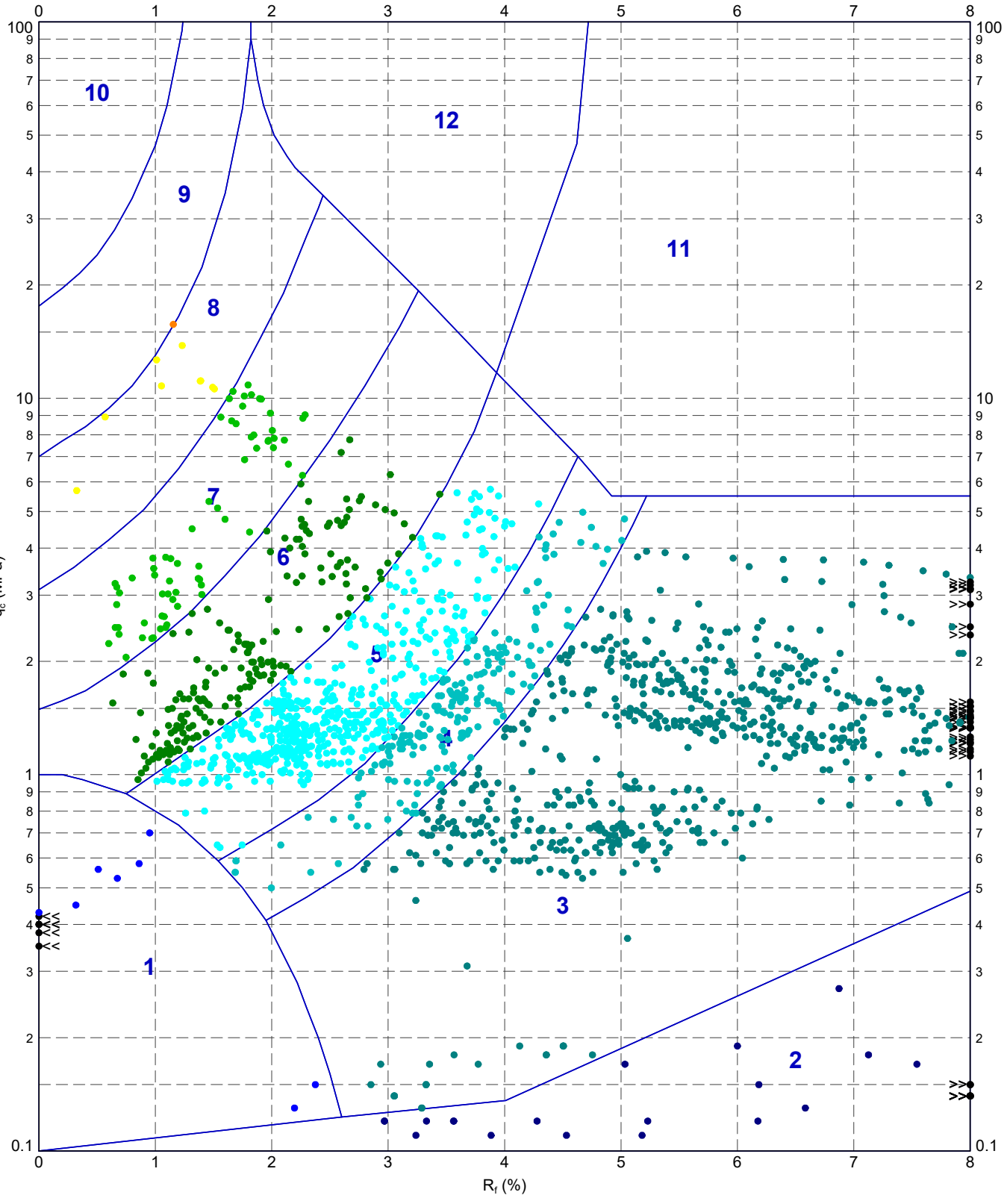
CLIENT : Delta Simons	EASTING : 491027.577 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290924.637 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.483 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	360 mV	362 mV	0.022 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	287 mV	286 mV	-0.001 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	213 mV	255 mV	0.01 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2476 mV	2598 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT10

DRAWN	DATE 04/03/2022	
CHECKED	DATE 04/03/2022	
SCALE Not To Scale		A4
PROJECT No 1220144	FIGURE No	

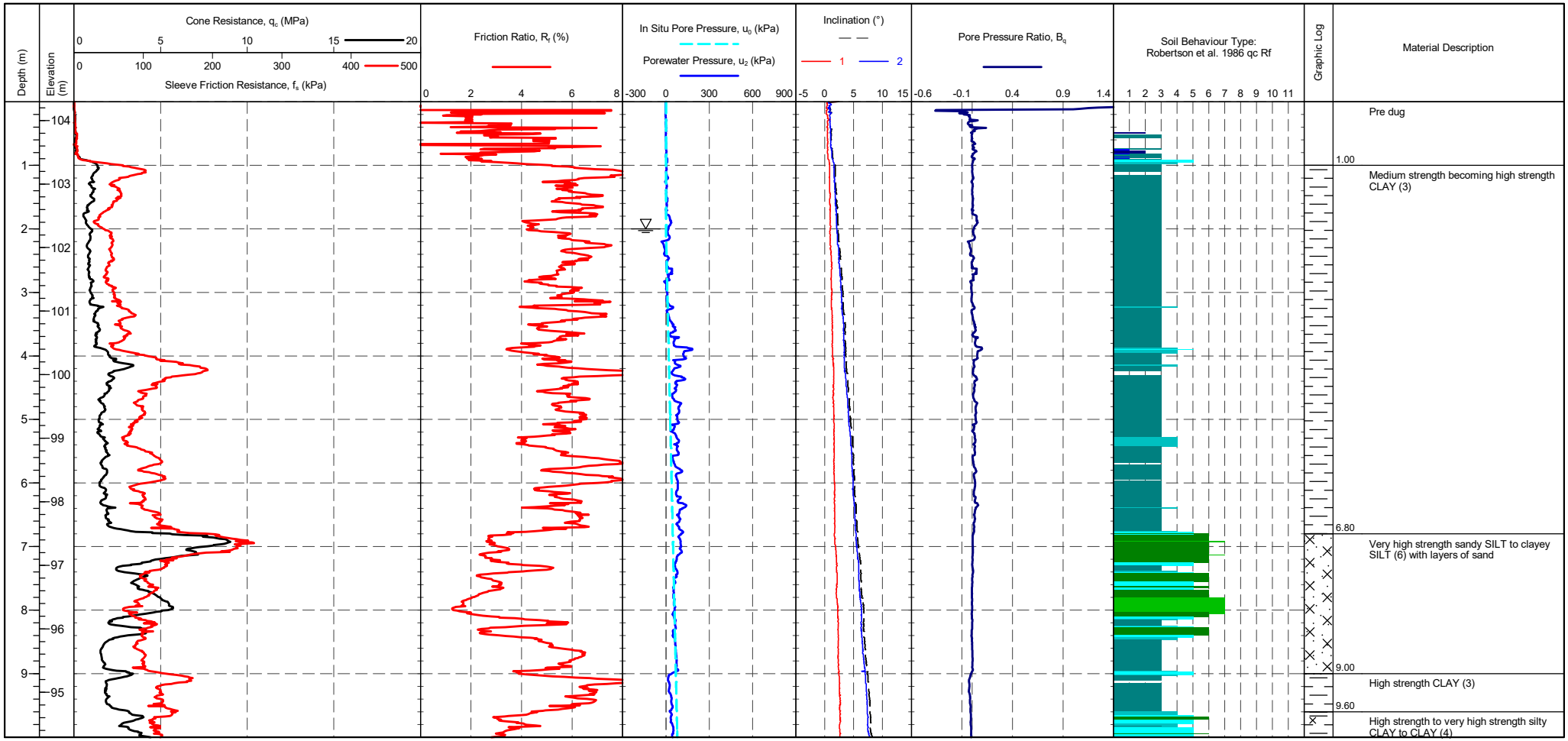
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT11**

CLIENT : Delta Simons	EASTING : 491050.407 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290872.435 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.295 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	362 mV	361 mV	-0.011 MPa
Sleeve	286 mV	286 mV	0 kPa
Pore Pressure 2	244 mV	247 mV	0.001 kPa
X-Y Inclinometer	2757 mV	2569 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

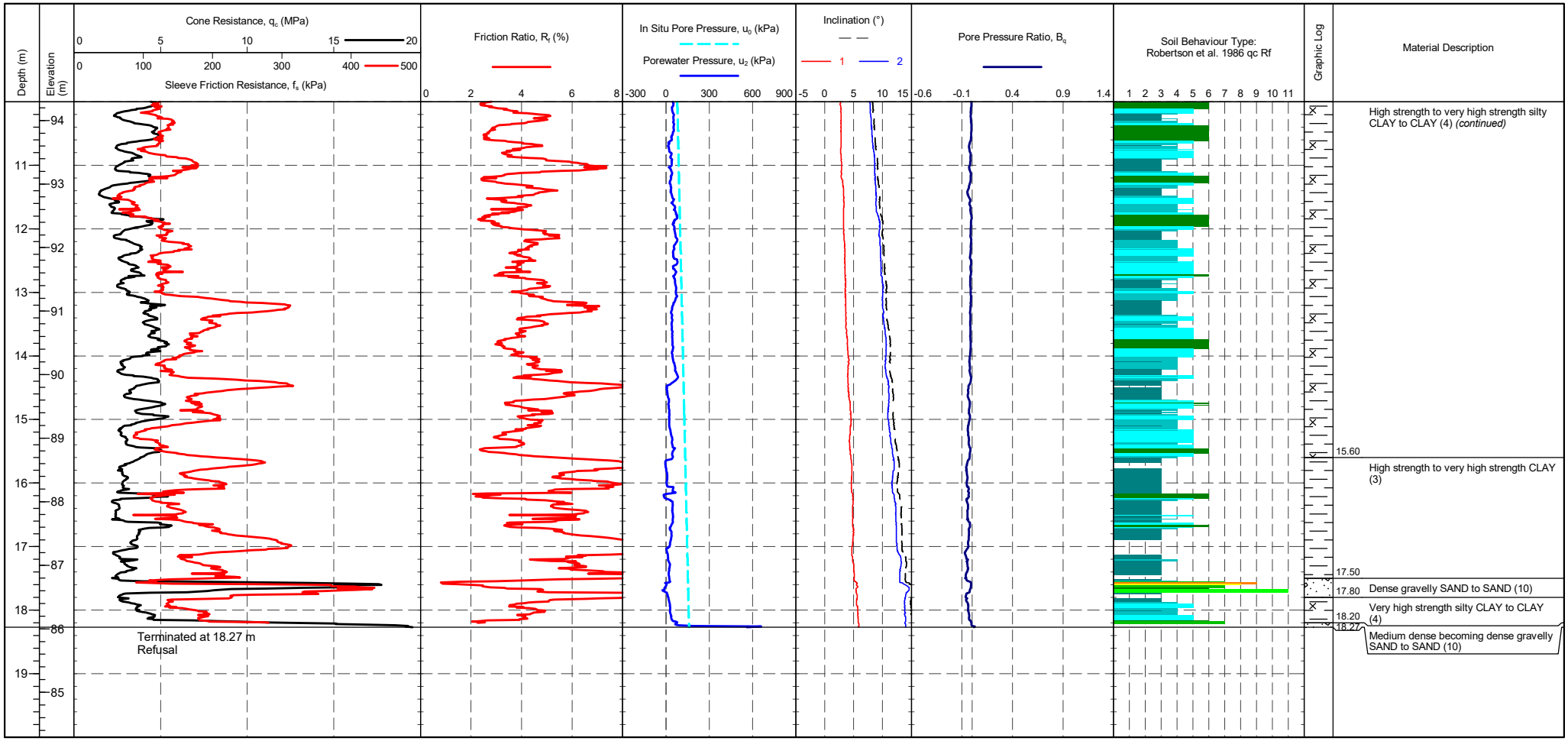
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT11**

CLIENT : Delta Simons	EASTING : 491050.407 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290872.435 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.295 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	362 mV	361 mV	-0.011 MPa
Sleeve	286 mV	286 mV	0 kPa
Pore Pressure 2	244 mV	247 mV	0.001 kPa
X-Y Inclinometer	2757 mV	2569 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

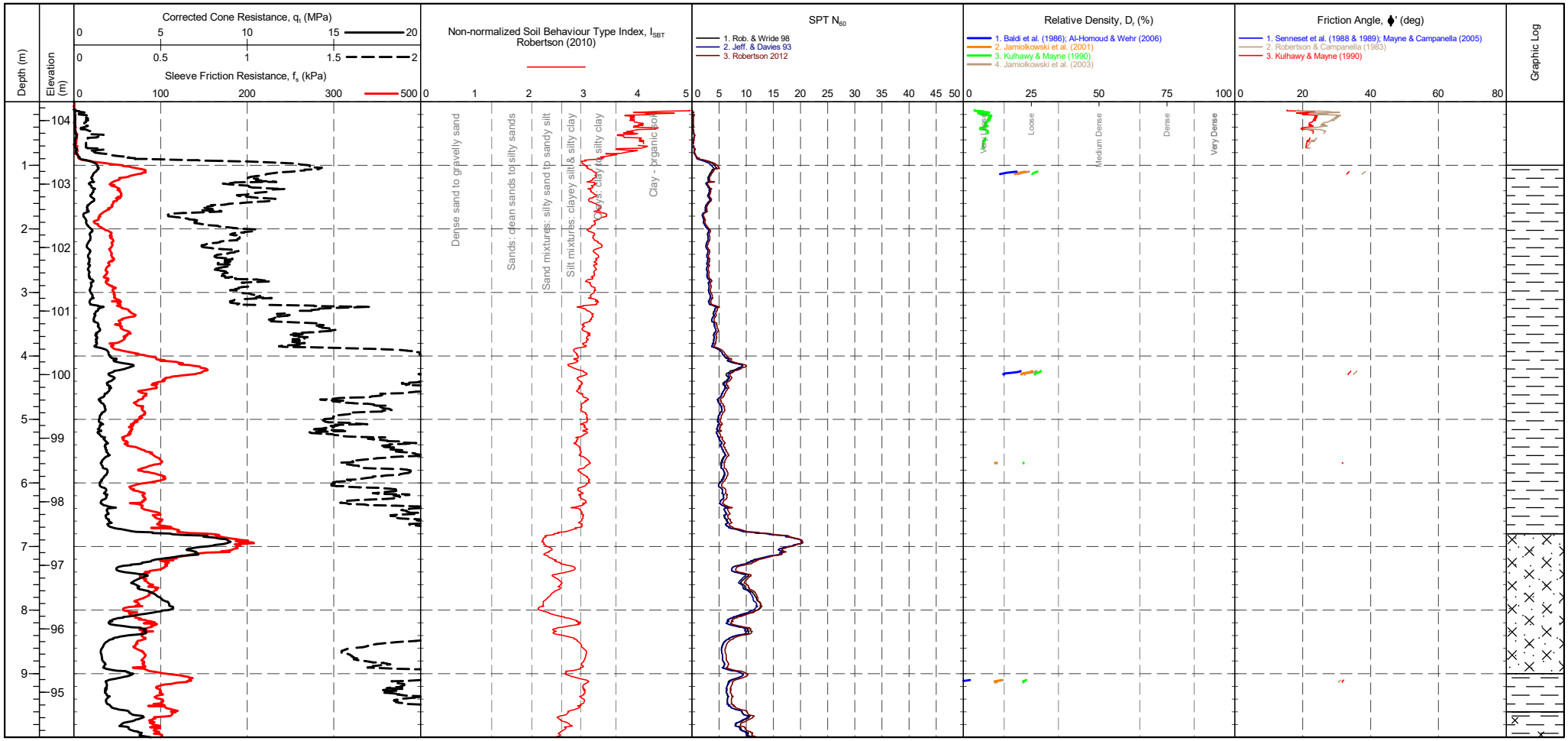
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID: **CPT11**

CLIENT : Delta Simons	EASTING : 491050.407 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290872.435 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.295 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2			
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall			
CONE AREA RATIO	: 0.79	OPERATOR	: TR			
FILTER POSITION	: u2	FRICTION REDUCER	: None			
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot			

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip	362 mV	361 mV	-0.011 MPa
Sleeve	286 mV	286 mV	0 kPa
Pore Pressure 2	244 mV	247 mV	0.001 kPa
X-Y Inclinometer	2757 mV	2569 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

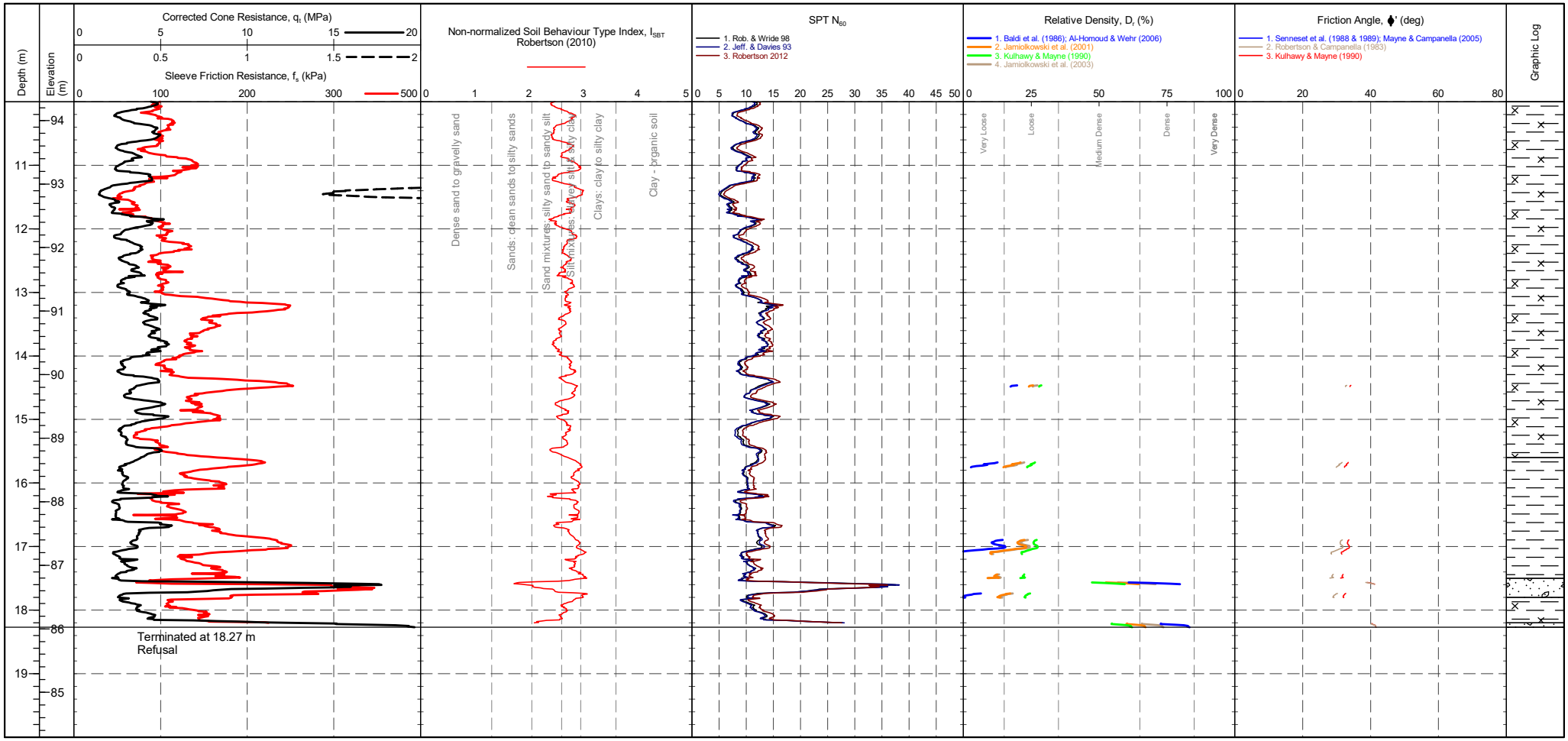
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT11**

CLIENT : Delta Simons	EASTING : 491050.407 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290872.435 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.295 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	362 mV	361 mV
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	286 mV	286 mV
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	244 mV	247 mV
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2757 mV	2569 mV

Difference
-0.011 MPa
0 kPa
0.001 kPa

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

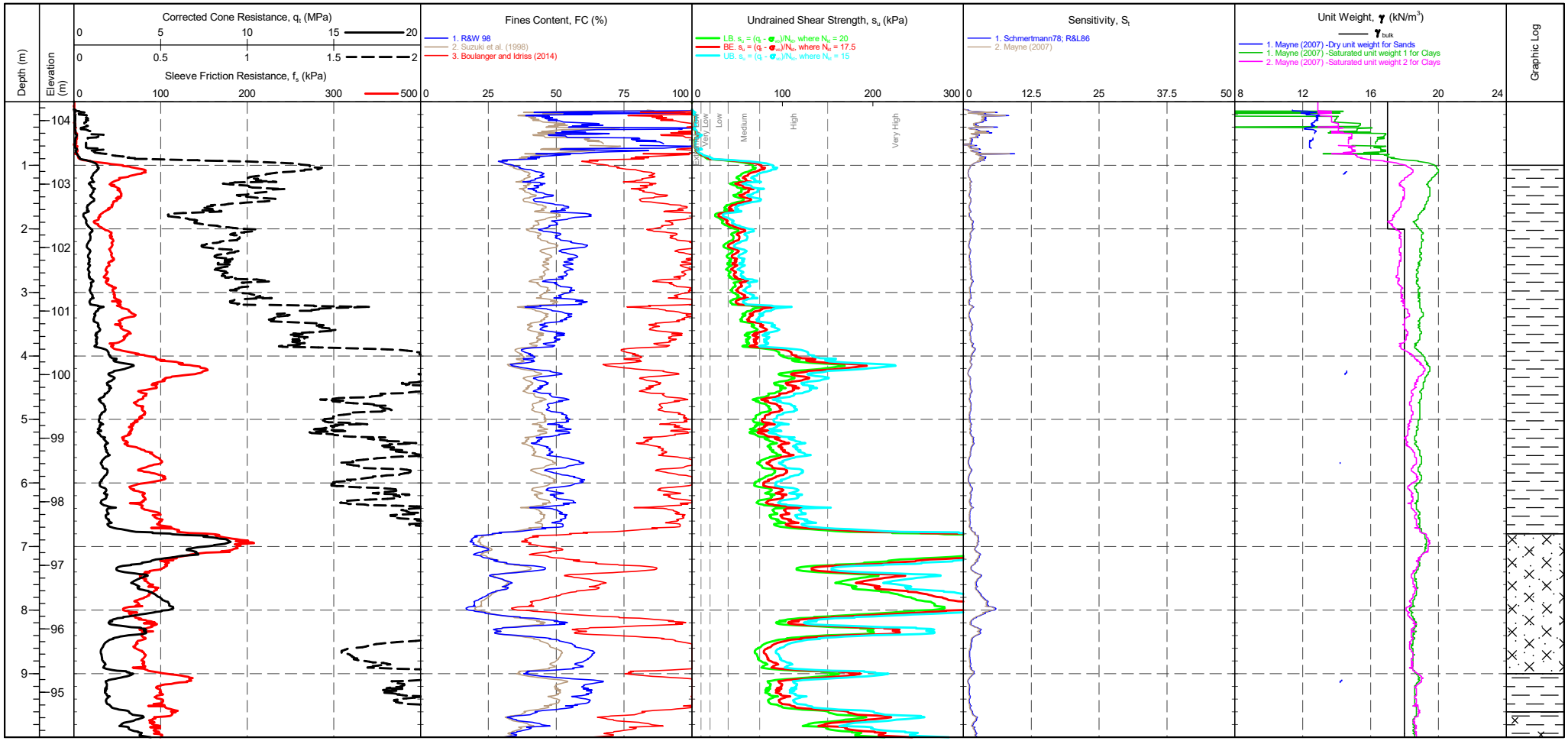
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT11**

CLIENT : Delta Simons	EASTING : 491050.407 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290872.435 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.295 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	362 mV	361 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	286 mV	286 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	244 mV	247 mV	0.001 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2757 mV	2569 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

Dissipation Test

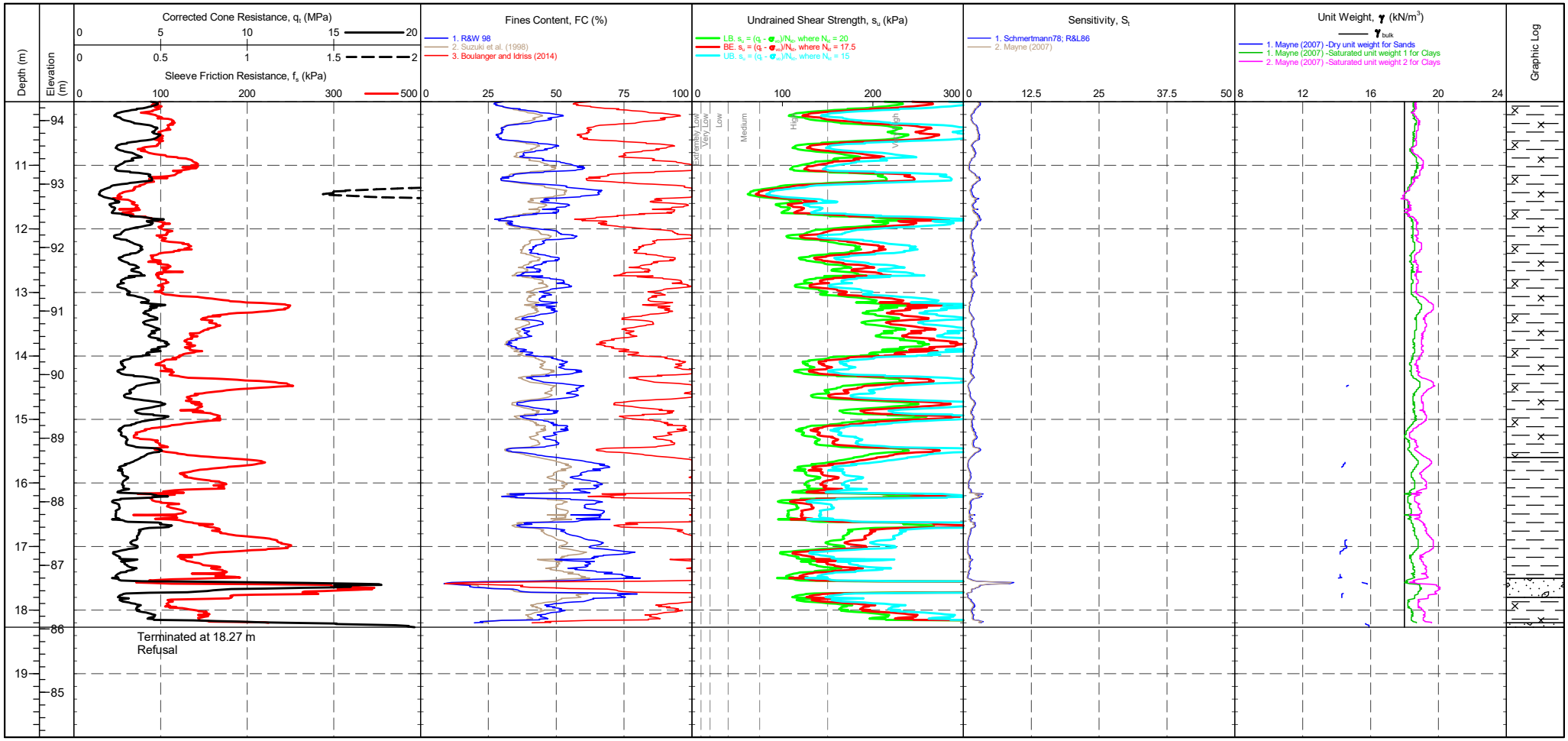
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT11**

CLIENT : Delta Simons	EASTING : 491050.407 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290872.435 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.295 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	362 mV	361 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	286 mV	286 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	244 mV	247 mV	0.001 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2757 mV	2569 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

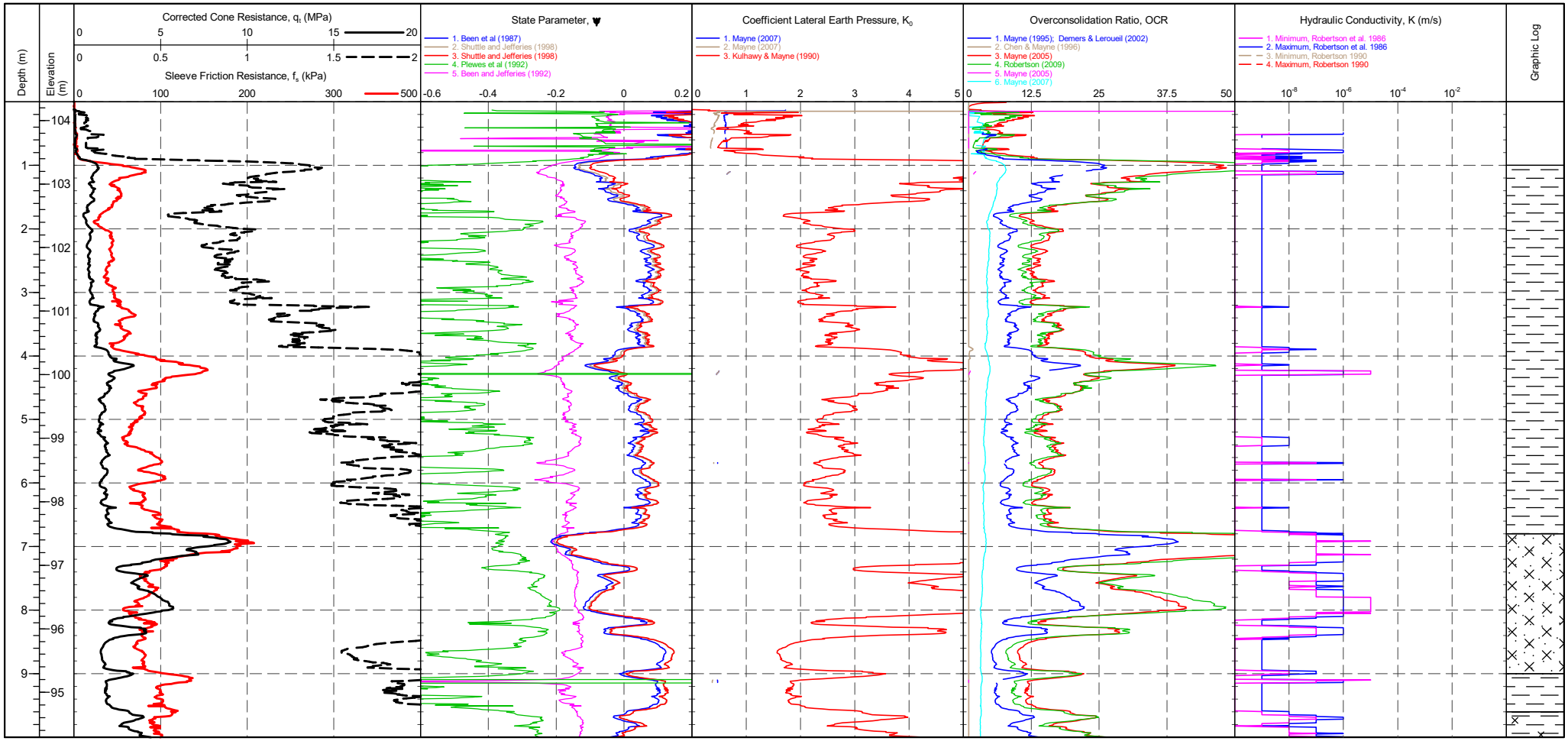
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID **CPT11**

CLIENT : Delta Simons PROJECT : Corby LOCATION : Cordby PROJECT No. : 1220144	EASTING : 491050.407 m NORTHING : 290872.435 m ELEVATION : 104.295 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on tip resistance.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 10/02/2022 PLOT DATE : 04/03/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	362 mV	361 mV	-0.011 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	286 mV	286 mV	0 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	244 mV	247 mV	0.001 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2757 mV	2569 mV	

Groundwater Level

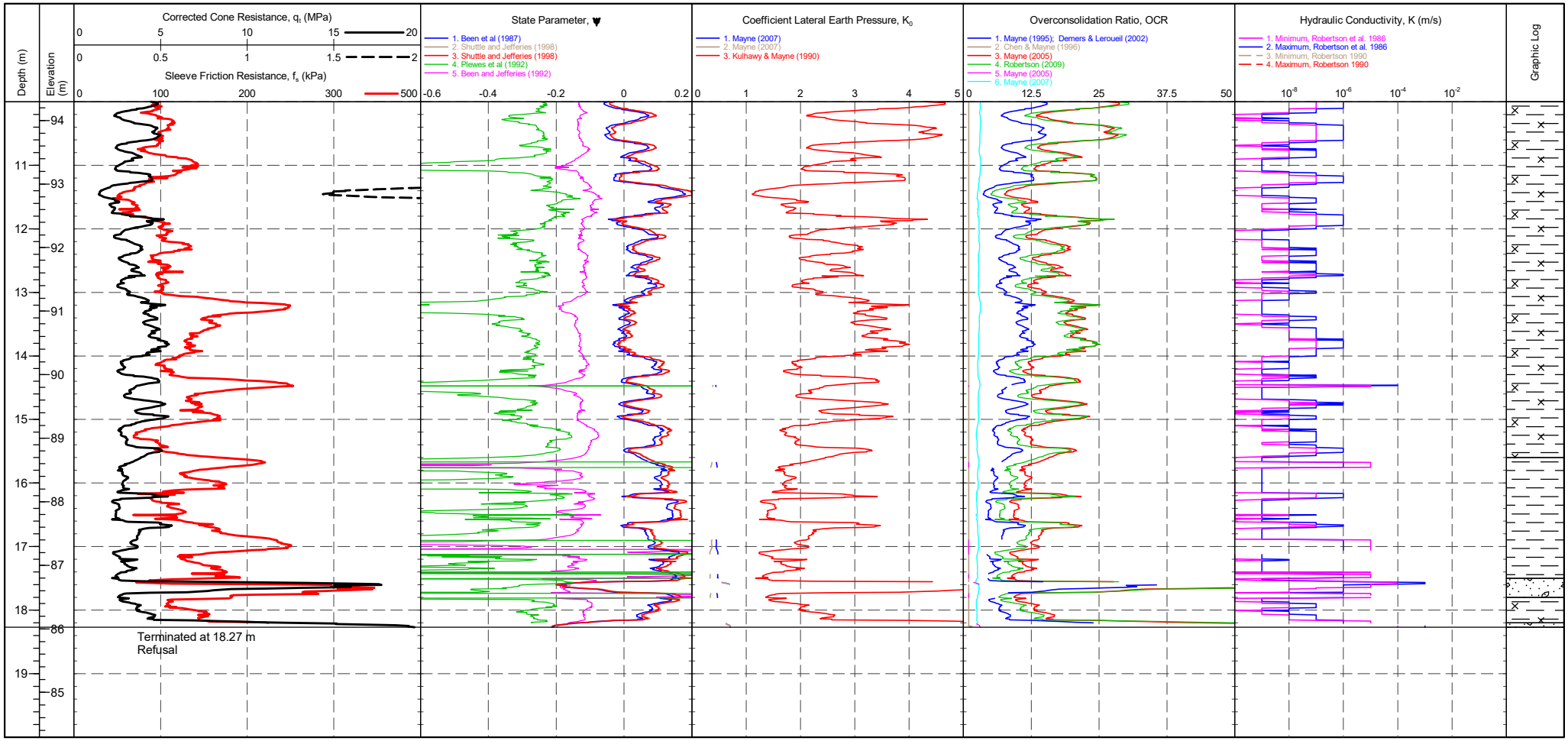
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT11**

CLIENT : Delta Simons	EASTING : 491050.407 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290872.435 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.295 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	362 mV	361 mV	-0.011 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	286 mV	286 mV	0 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	244 mV	247 mV	0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2757 mV	2569 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

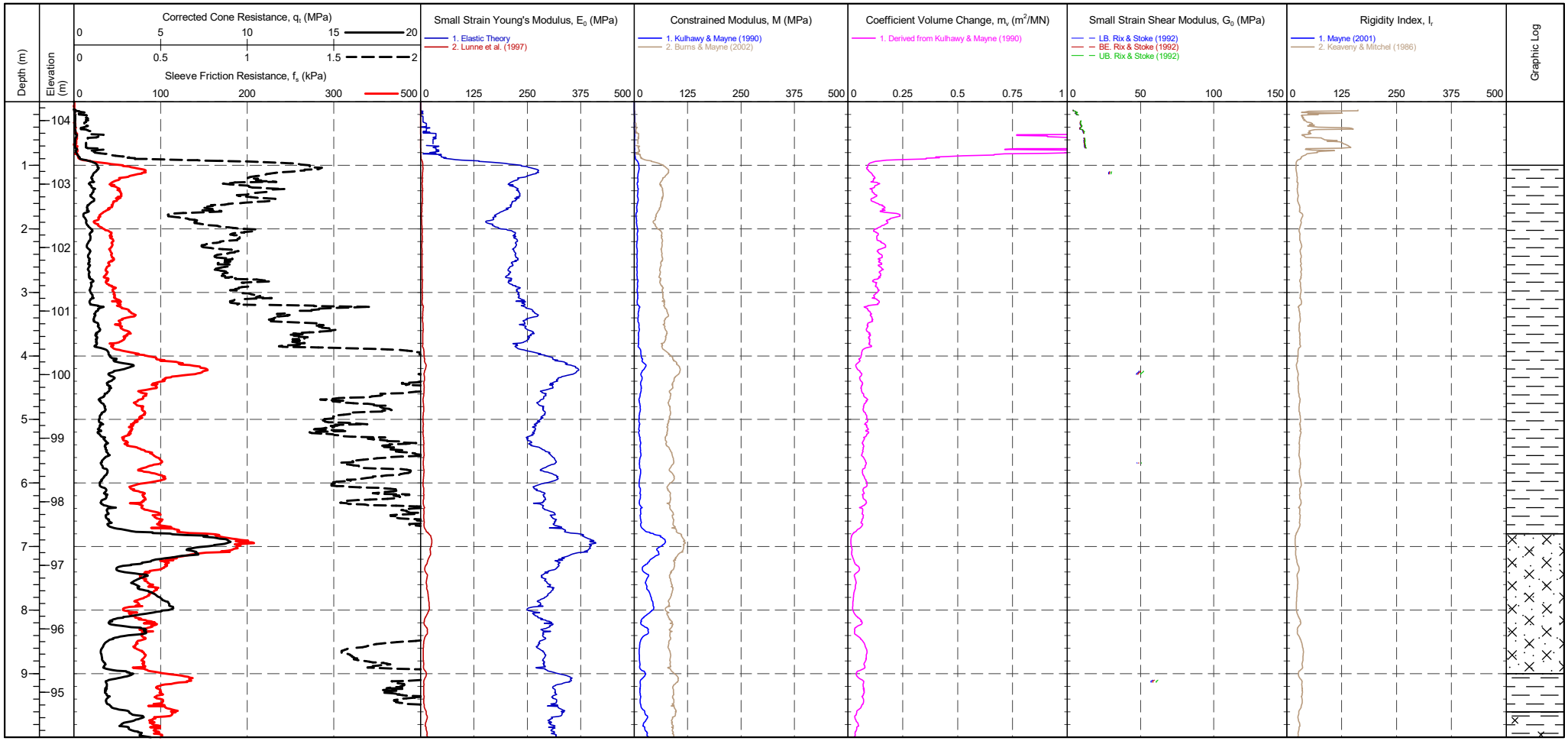
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT11**

CLIENT : Delta Simons	EASTING : 491050.407 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290872.435 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.295 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	362 mV	361 mV	-0.011 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	286 mV	286 mV	0 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	244 mV	247 mV	0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2757 mV	2569 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

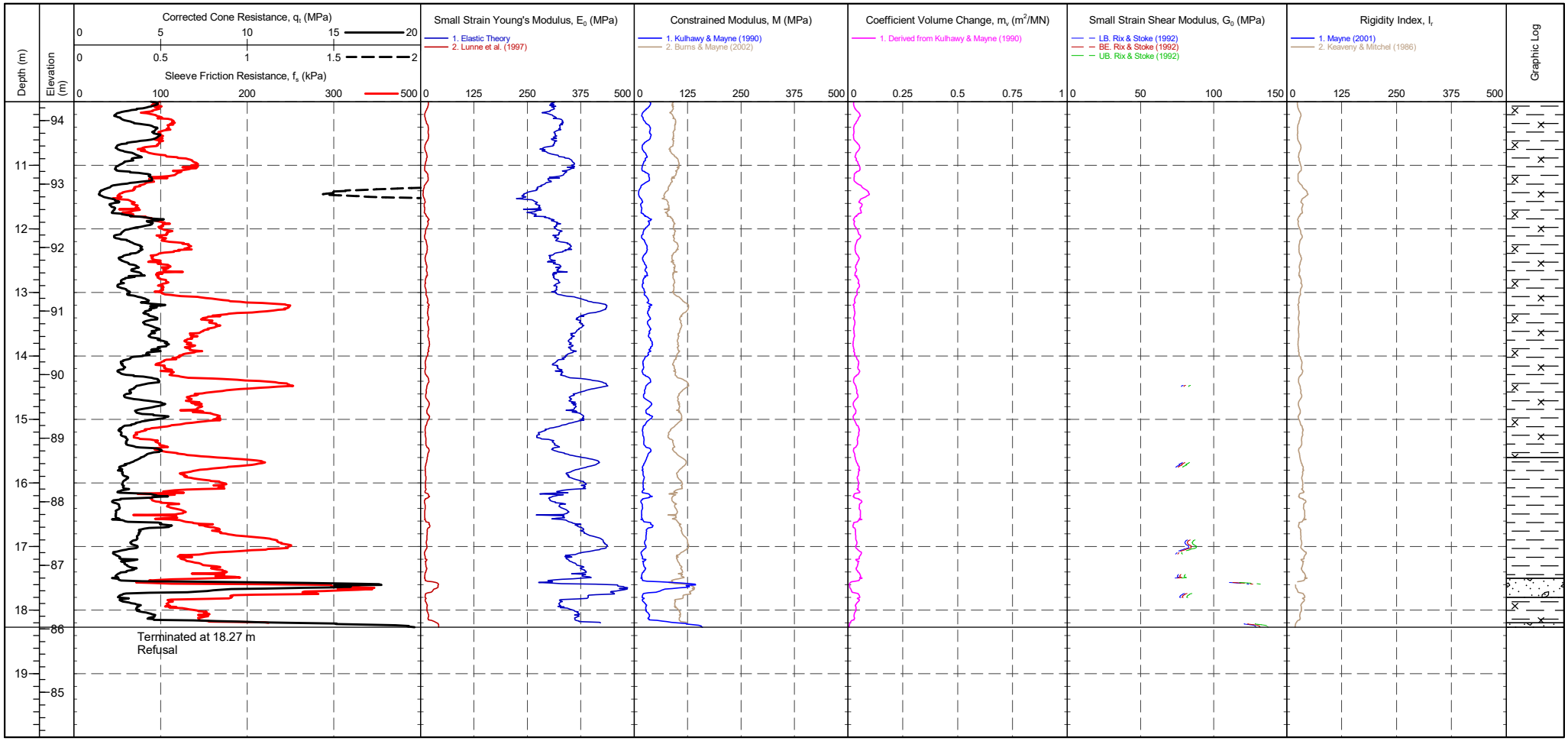
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT11**

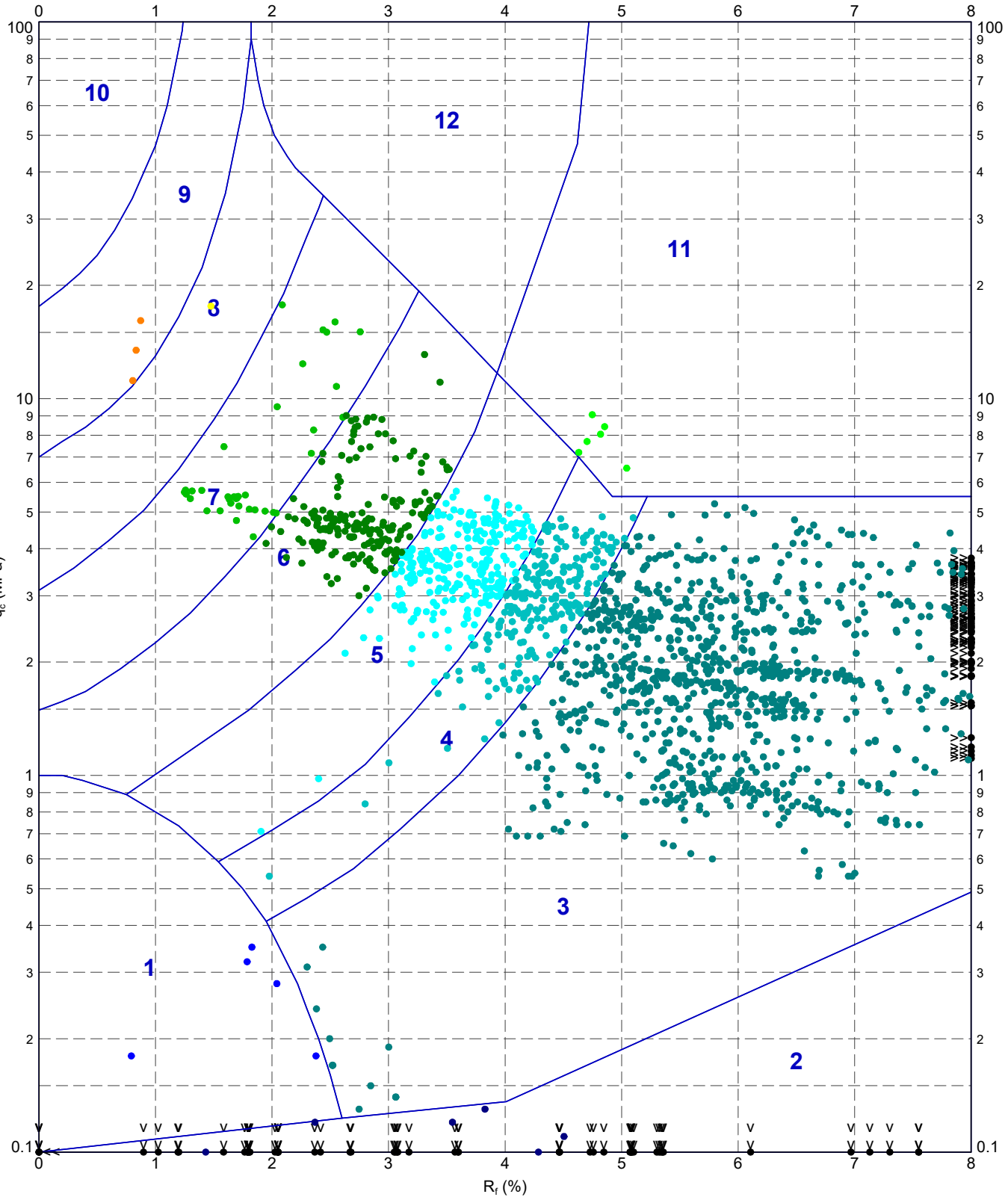
CLIENT : Delta Simons	EASTING : 491050.407 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290872.435 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 104.295 m OD		TEST DATE : 10/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	362 mV	361 mV	-0.011 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	286 mV	286 mV	0 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	244 mV	247 mV	0.001 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2757 mV	2569 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU
SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT11

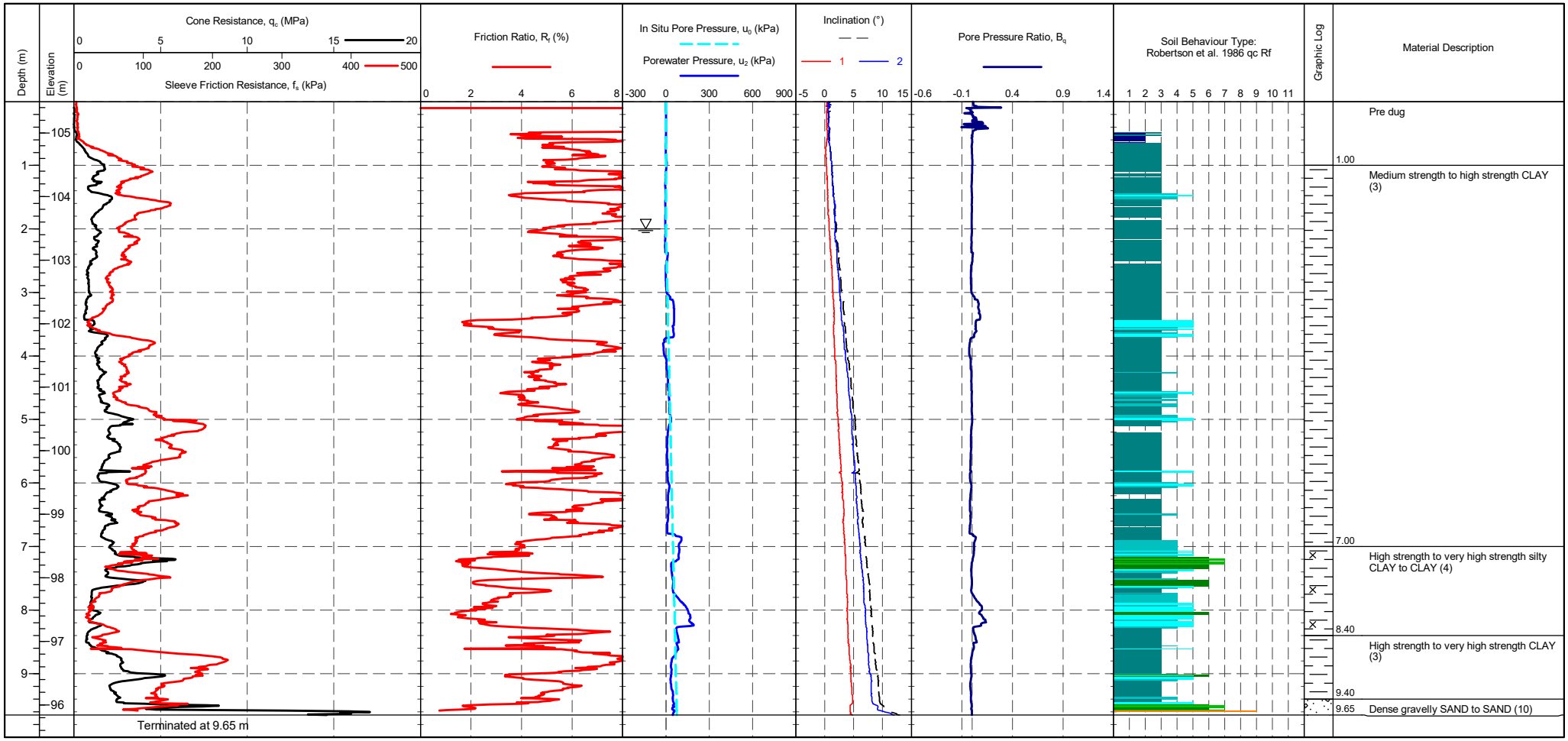
DRAWN		DATE	04/03/2022
CHECKED		DATE	04/03/2022
SCALE	Not To Scale		A4
PROJECT No	1220144	FIGURE No	

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT12**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on inclination.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm^2	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip	358 mV	355 mV	-0.033 MPa
Sleeve	289 mV	285 mV	-0.003 kPa
Pore Pressure 2	250 mV	190 mV	-0.014 kPa
X-Y Inclinometer	2604 mV	2553 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

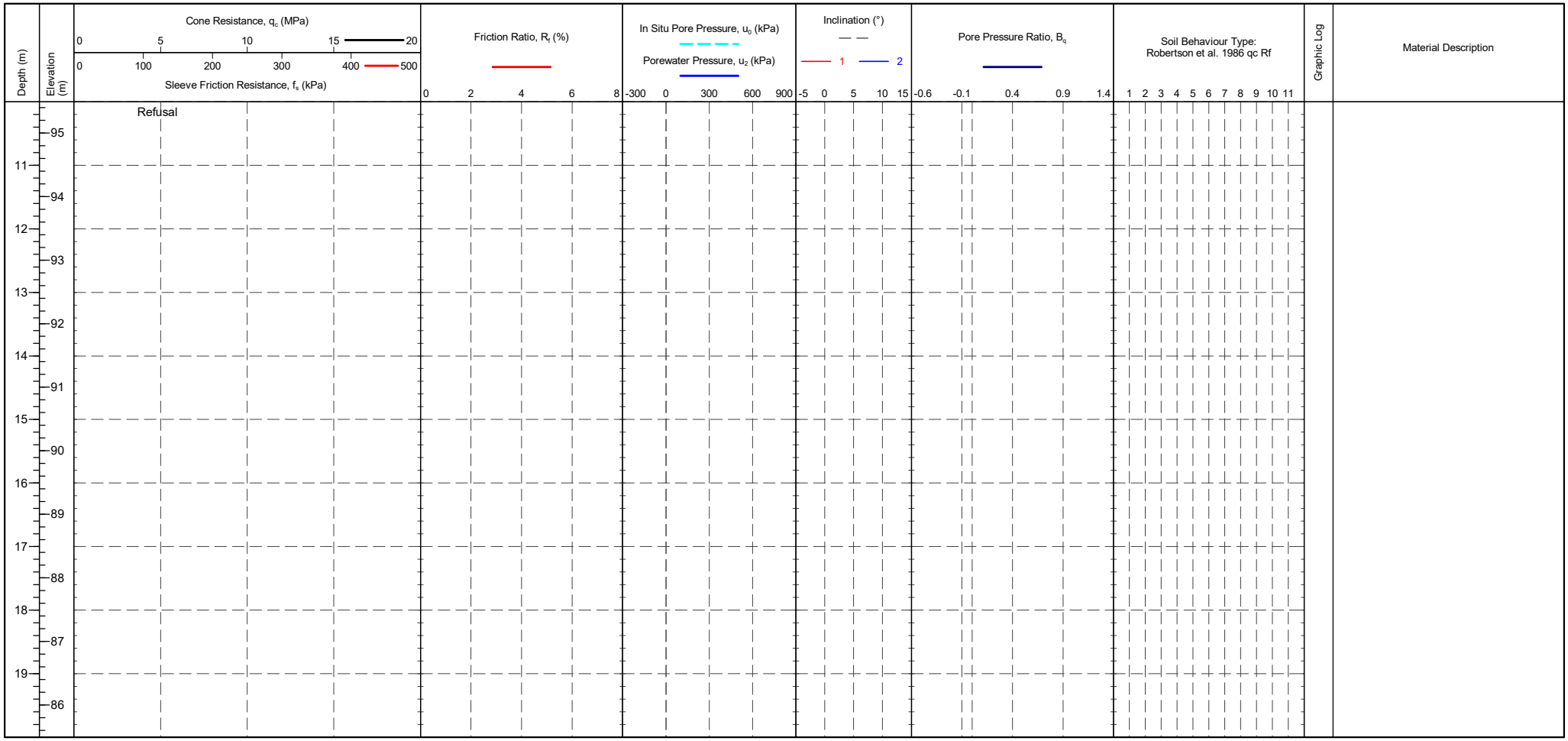
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT12**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on inclination.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm^2	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	358 mV	355 mV	-0.033 MPa
Sleeve	289 mV	285 mV	-0.003 kPa
Pore Pressure 2	250 mV	190 mV	-0.014 kPa
X-Y Inclinometer	2604 mV	2553 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

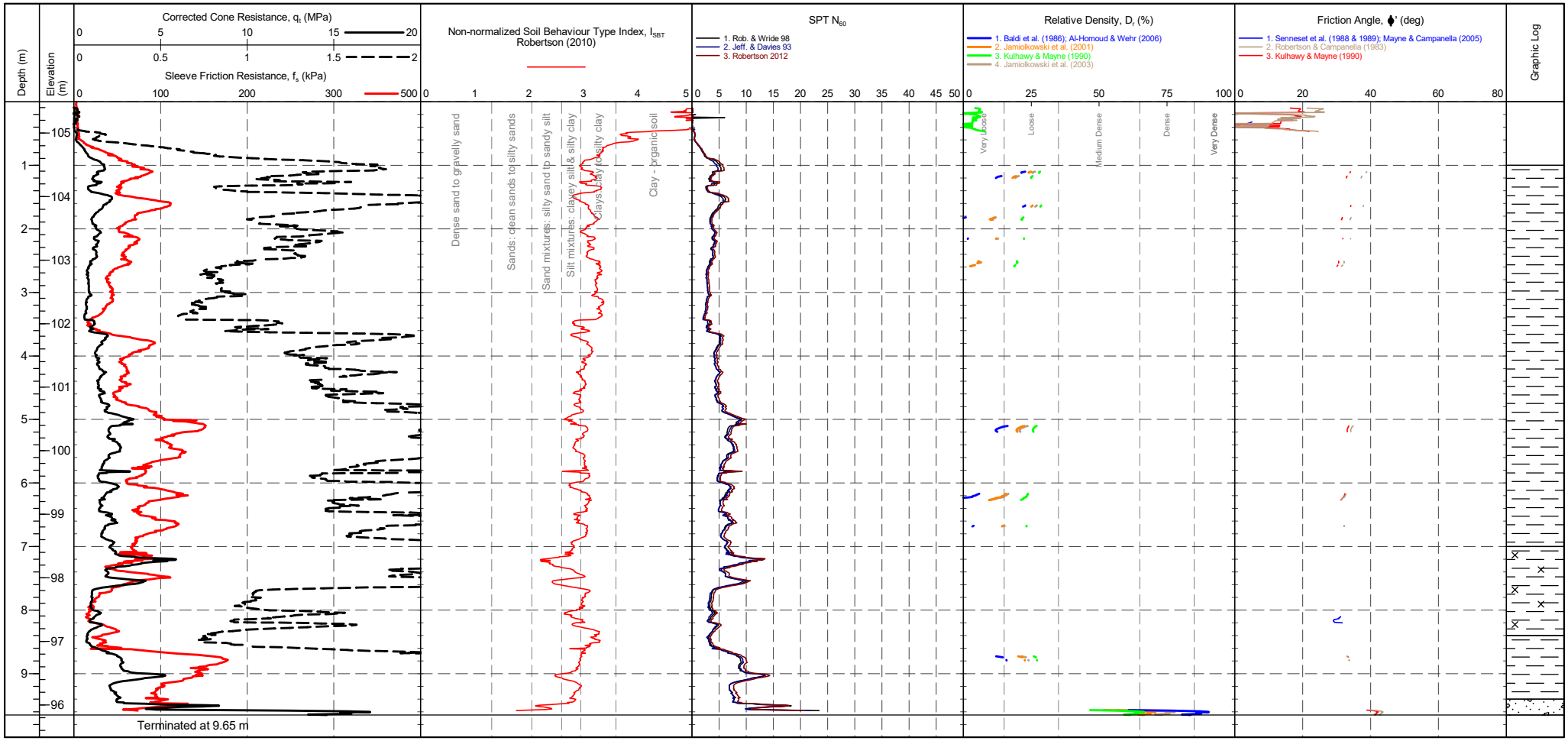
PointID **CPT12**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490922.098 m
NORTHING : 290829.929 m
ELEVATION : 105.492 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on inclination.

SHEET : 1 OF 2
STATUS : Final
TEST DATE : 09/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2		
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall		
CONE AREA RATIO	: 0.79	OPERATOR	: TR		
FILTER POSITION	: u2	FRICTION REDUCER	: None		
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot		

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	358 mV	355 mV	-0.033 MPa
Sleeve	289 mV	285 mV	-0.003 kPa
Pore Pressure 2	250 mV	190 mV	-0.014 kPa
X-Y Inclinometer	2604 mV	2553 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

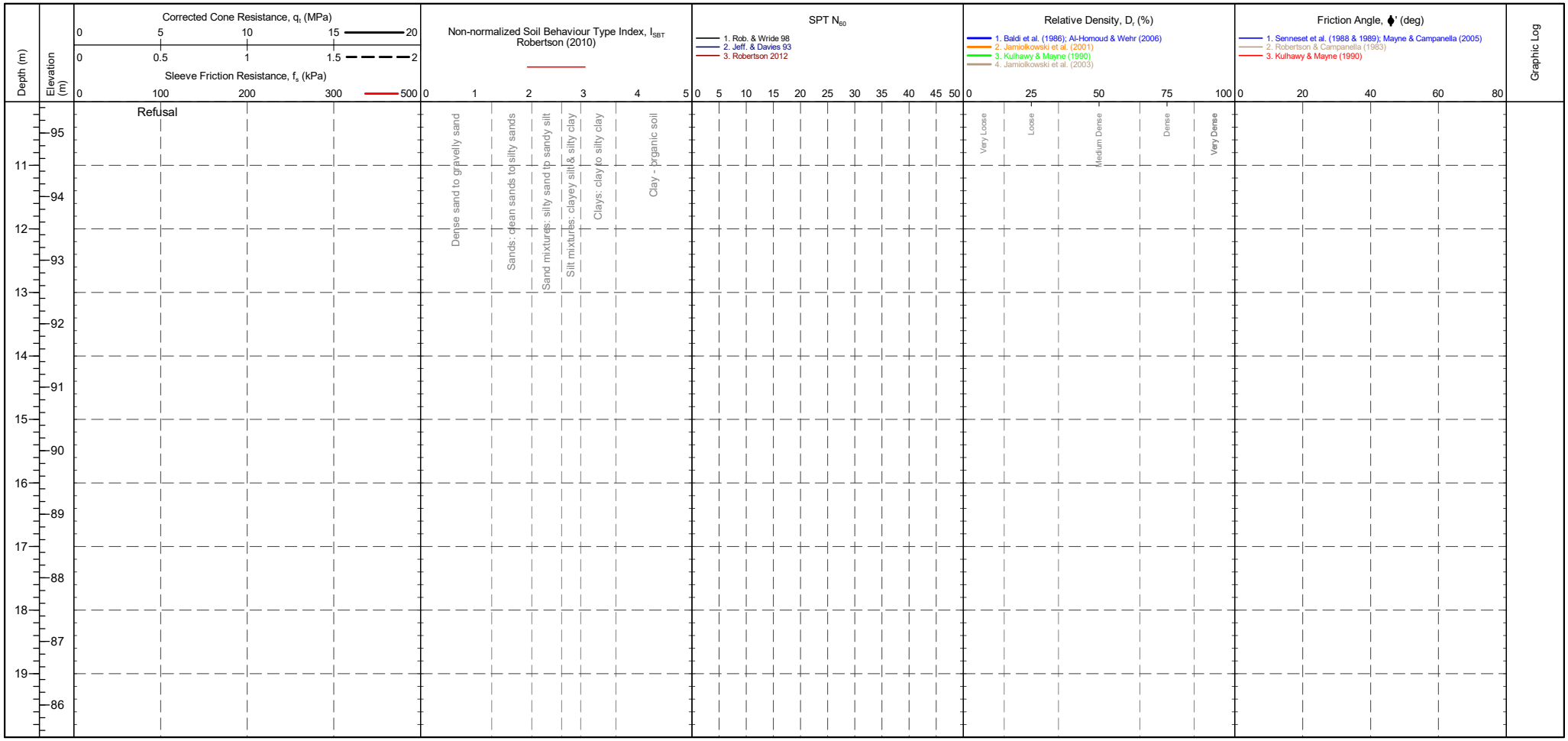
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID: **CPT12**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on inclination.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2			
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall			
CONE AREA RATIO	: 0.79	OPERATOR	: TR			
FILTER POSITION	: u2	FRICTION REDUCER	: None			
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot			

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	358 mV	355 mV	-0.033 MPa
Sleeve	289 mV	285 mV	-0.003 kPa
Pore Pressure 2	250 mV	190 mV	-0.014 kPa
X-Y Inclinometer	2604 mV	2553 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

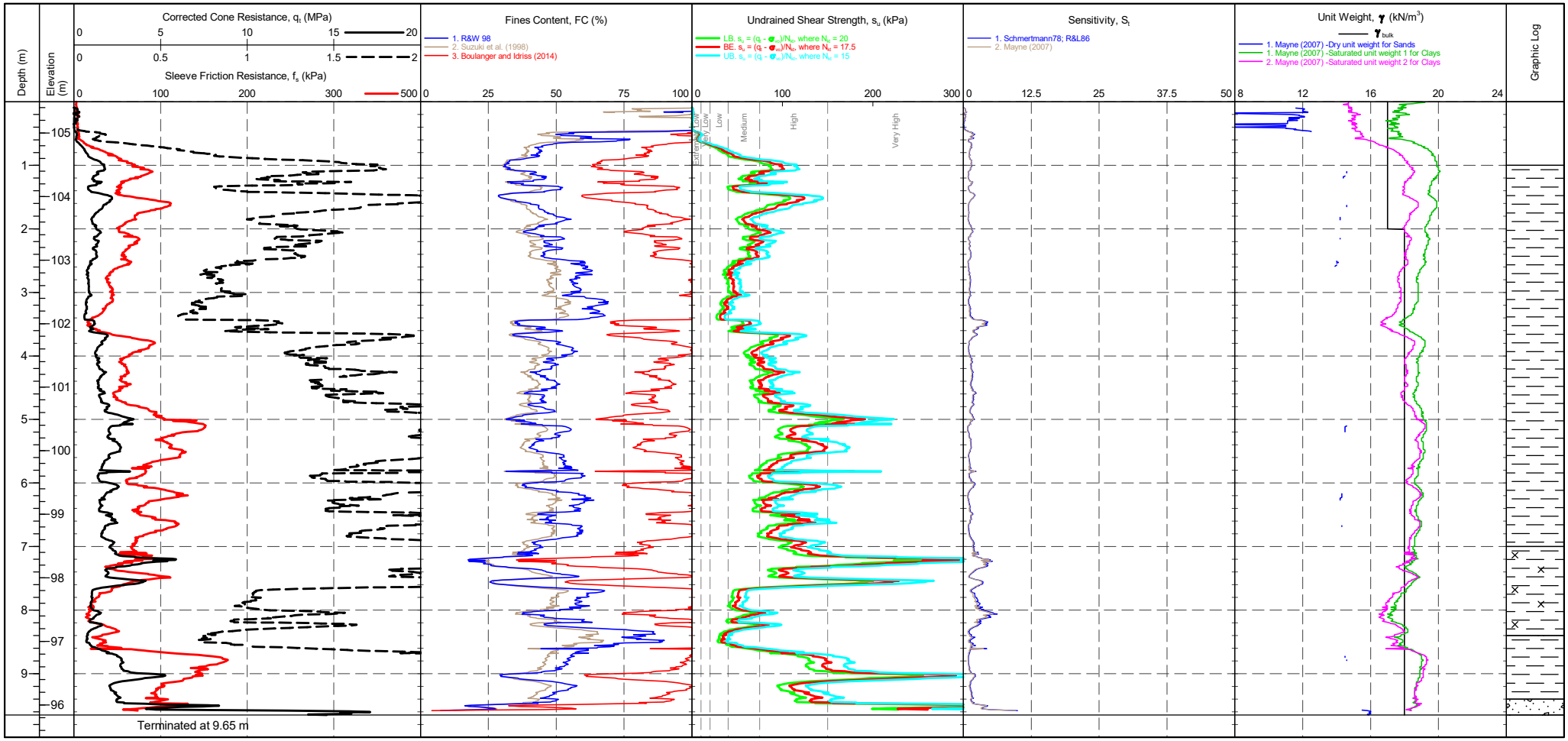
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT12**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on inclination.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	358 mV	355 mV	-0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	285 mV	-0.003 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	250 mV	190 mV	-0.014 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2604 mV	2553 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

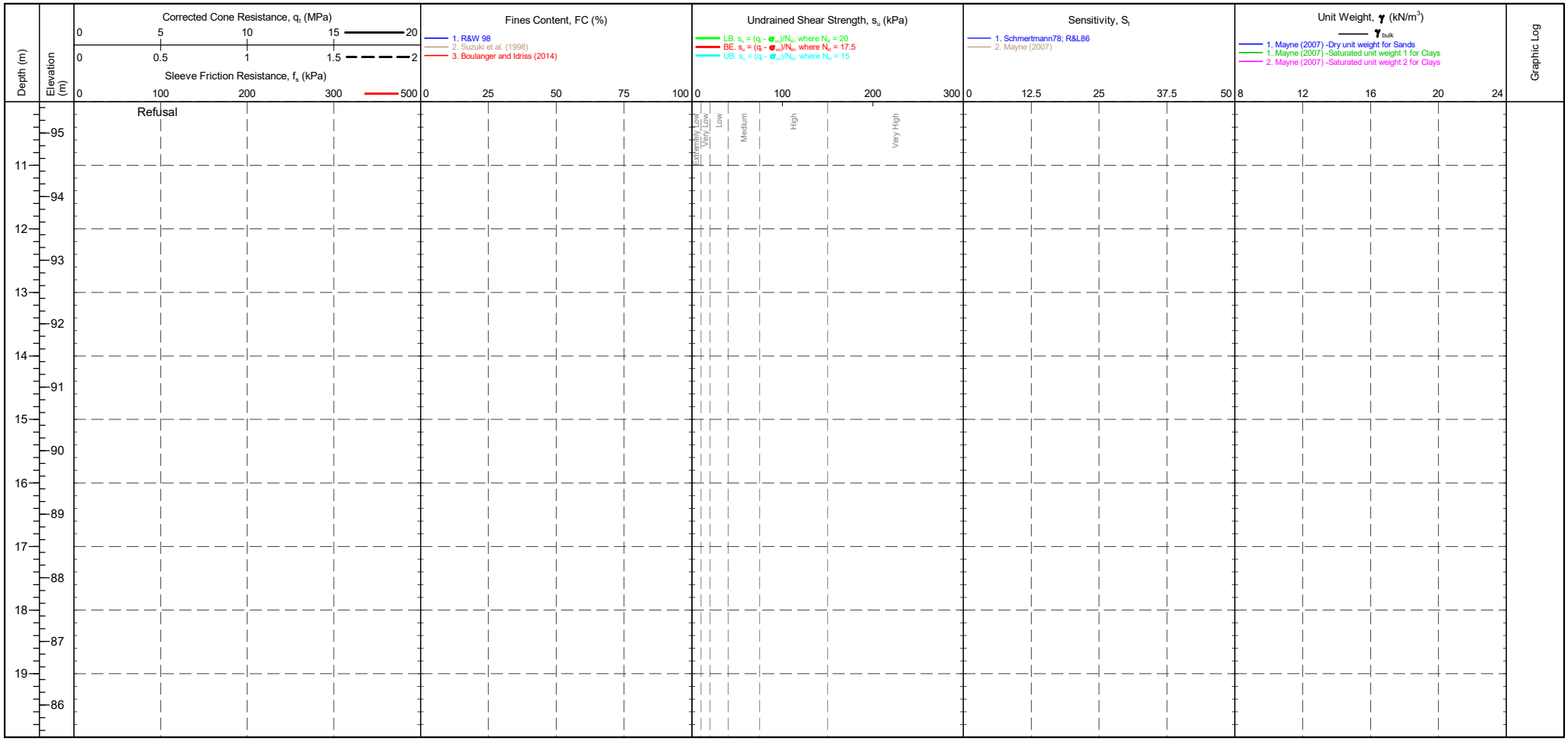
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT12**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on inclination.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	358 mV	355 mV	-0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	285 mV	-0.003 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	250 mV	190 mV	-0.014 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2604 mV	2553 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

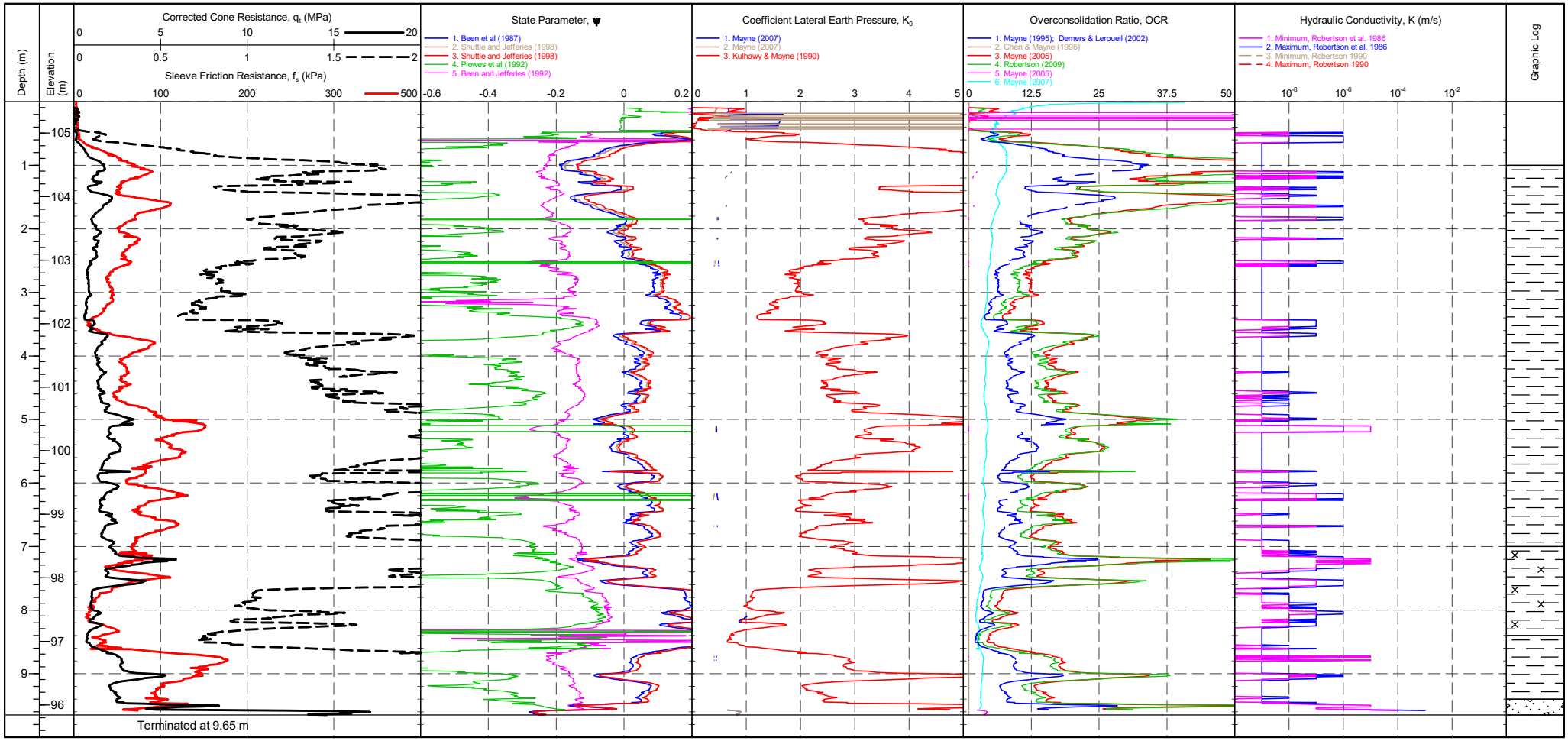
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID **CPT12**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on inclination.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post / Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	358 mV	355 mV / -0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	285 mV / -0.003 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	250 mV	190 mV / -0.014 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2604 mV	2553 mV

Groundwater Level

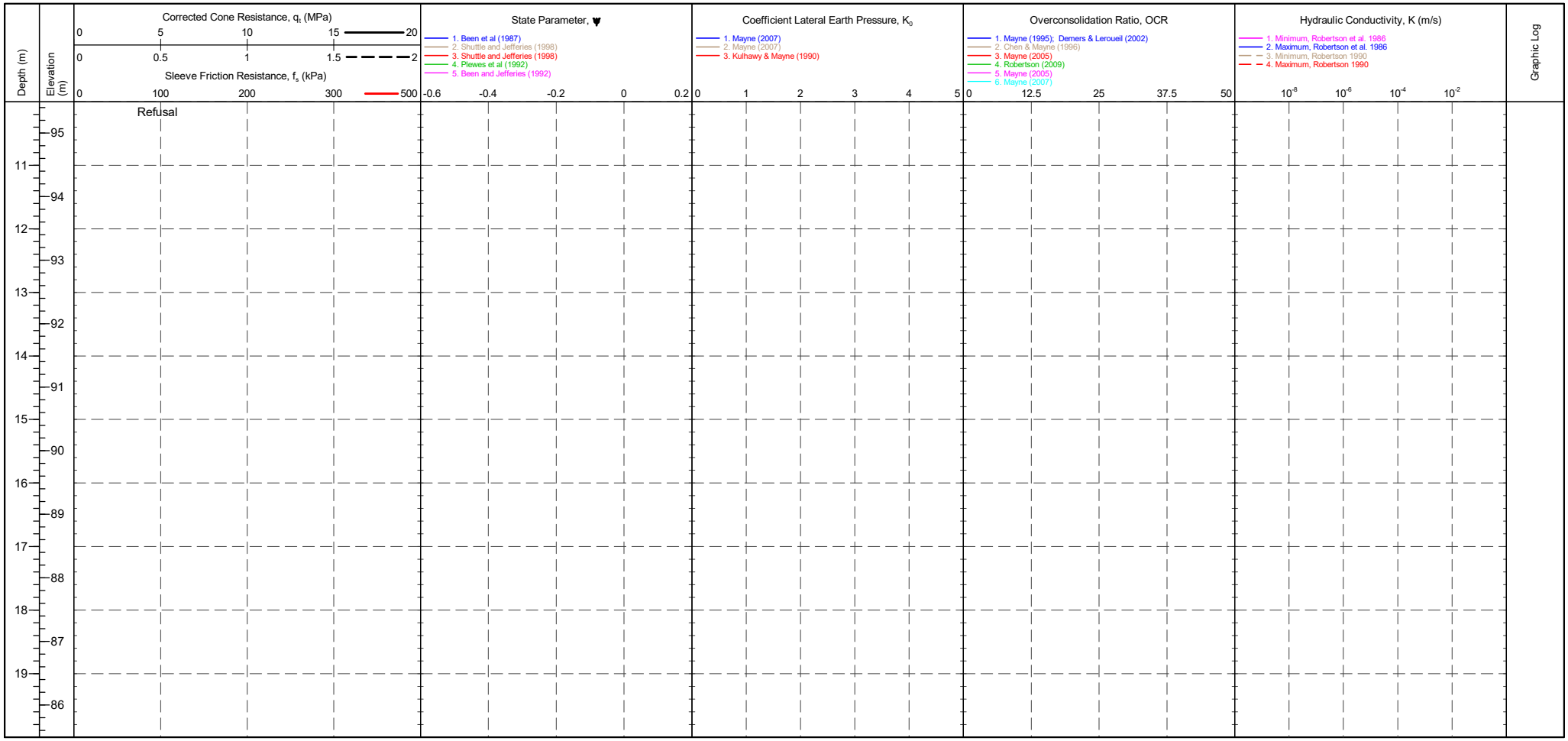
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT12**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on inclination.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	358 mV	355 mV	-0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	285 mV	-0.003 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	250 mV	190 mV	-0.014 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2604 mV	2553 mV	

Groundwater Level

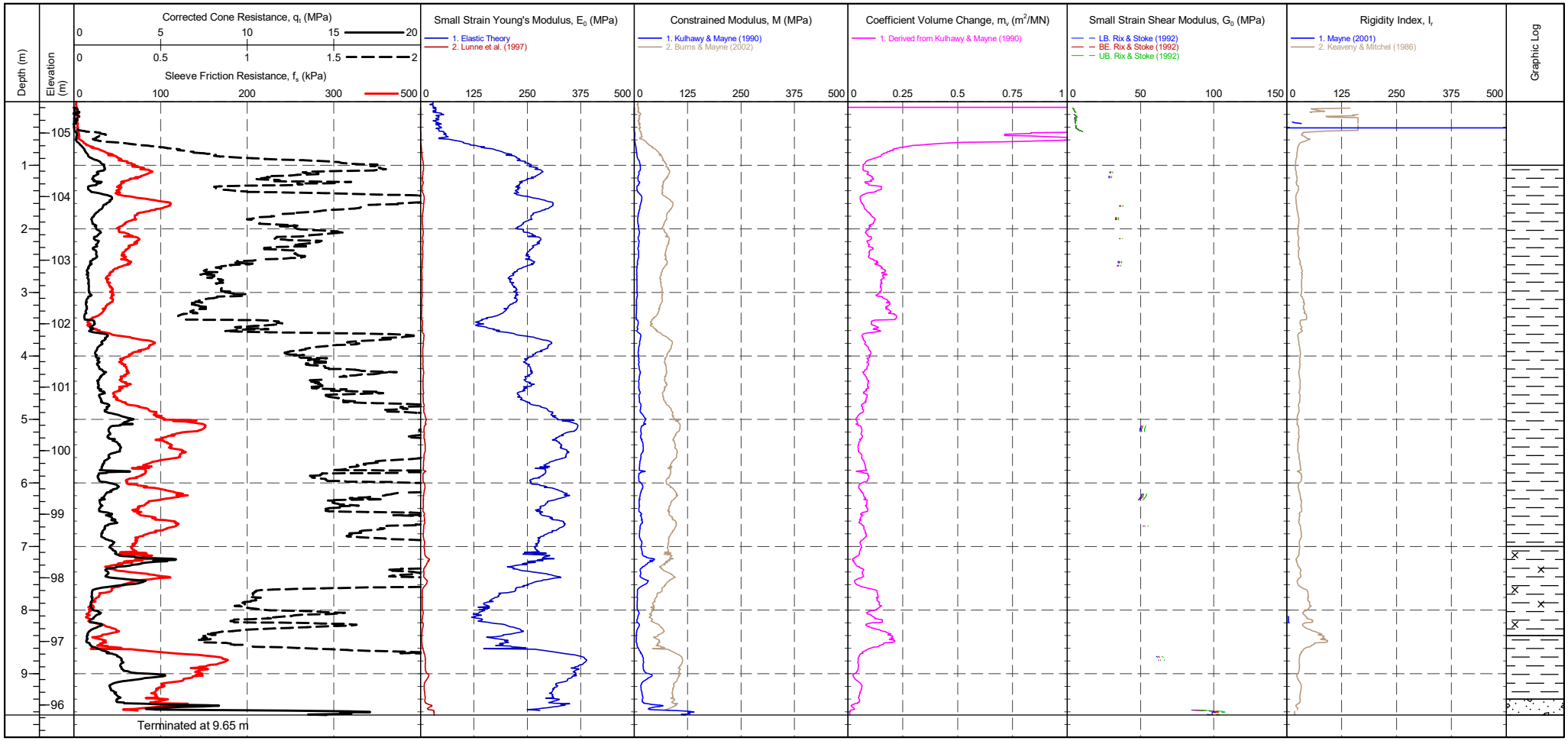
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT12**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on inclination.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	358 mV	355 mV	-0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	285 mV	-0.003 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	250 mV	190 mV	-0.014 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2604 mV	2553 mV	

Groundwater Level

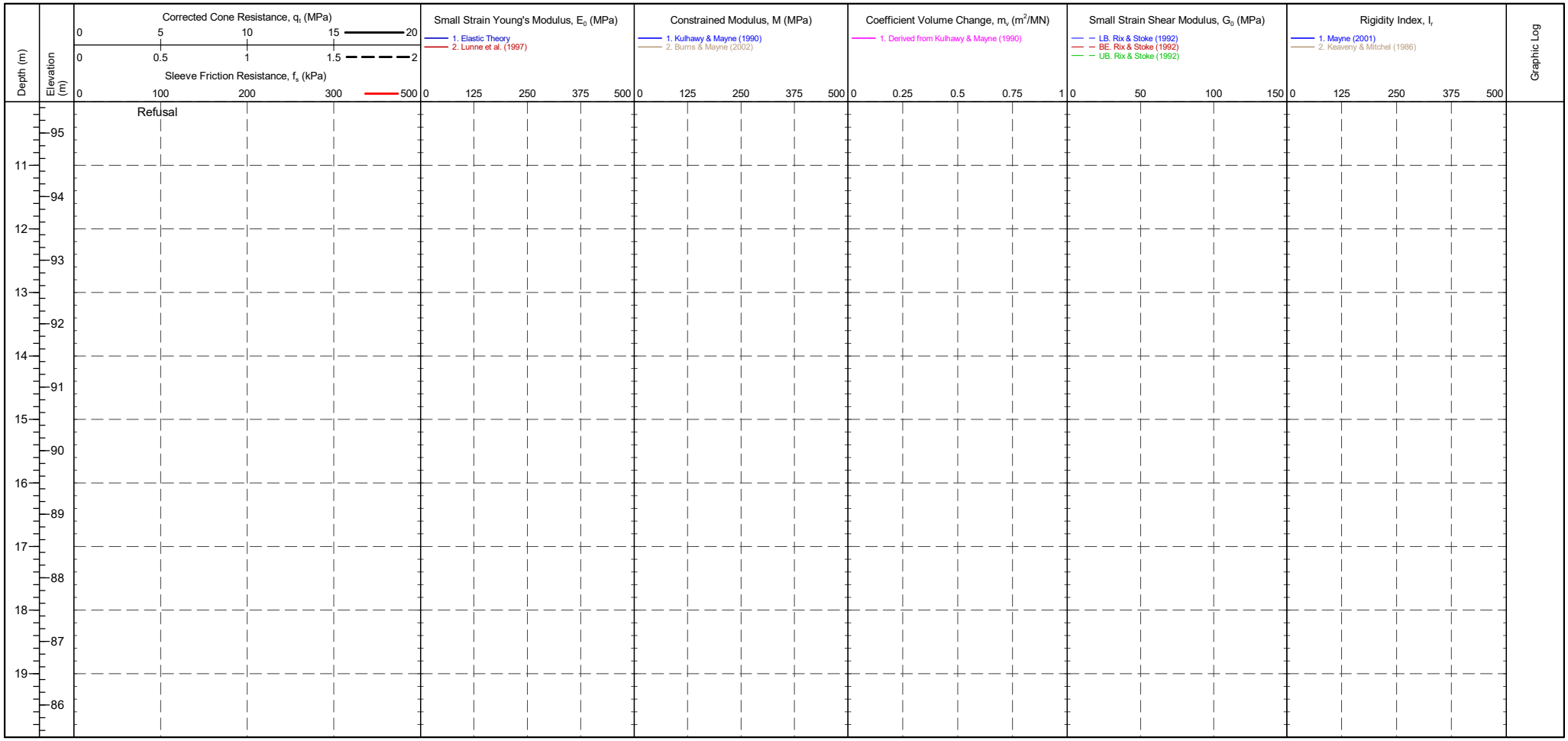
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT12**

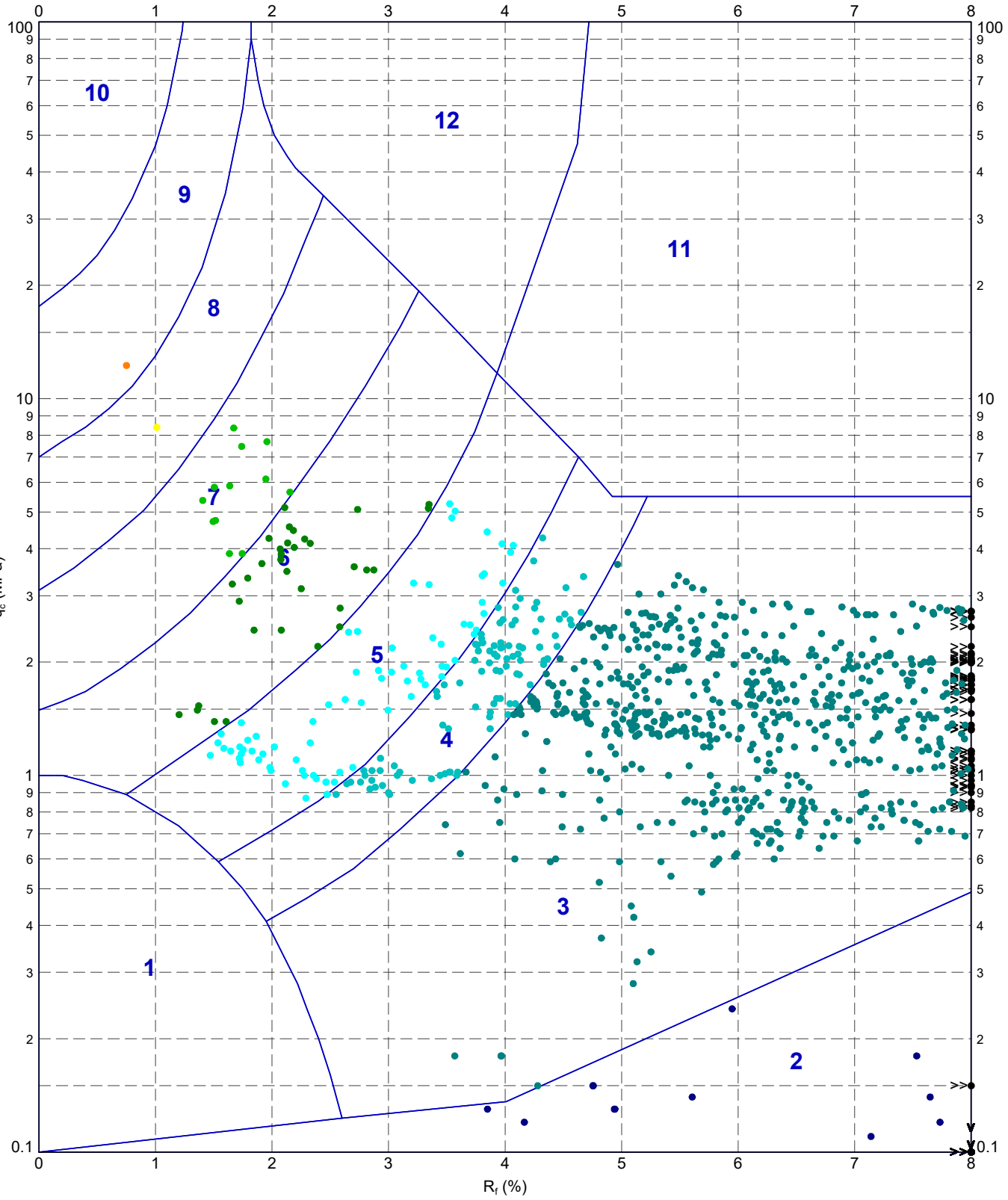
CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on inclination.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	358 mV	355 mV	-0.033 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	285 mV	-0.003 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	250 mV	190 mV	-0.014 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2604 mV	2553 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

- 1 - Sensitive fine grained material
- 2 - Organic material
- 3 - CLAY
- 4 - Silty CLAY to CLAY
- 5 - Clayey SILT to silty CLAY
- 6 - Sandy SILT to clayey SILT
- 7 - Silty SAND to sandy SILT
- 8 - SAND to silty SAND
- 9 - SAND
- 10 - Gravelly SAND to SAND
- 11 - Very stiff fine grained
- 12 - SAND to clayey SAND

IN SITU SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT12

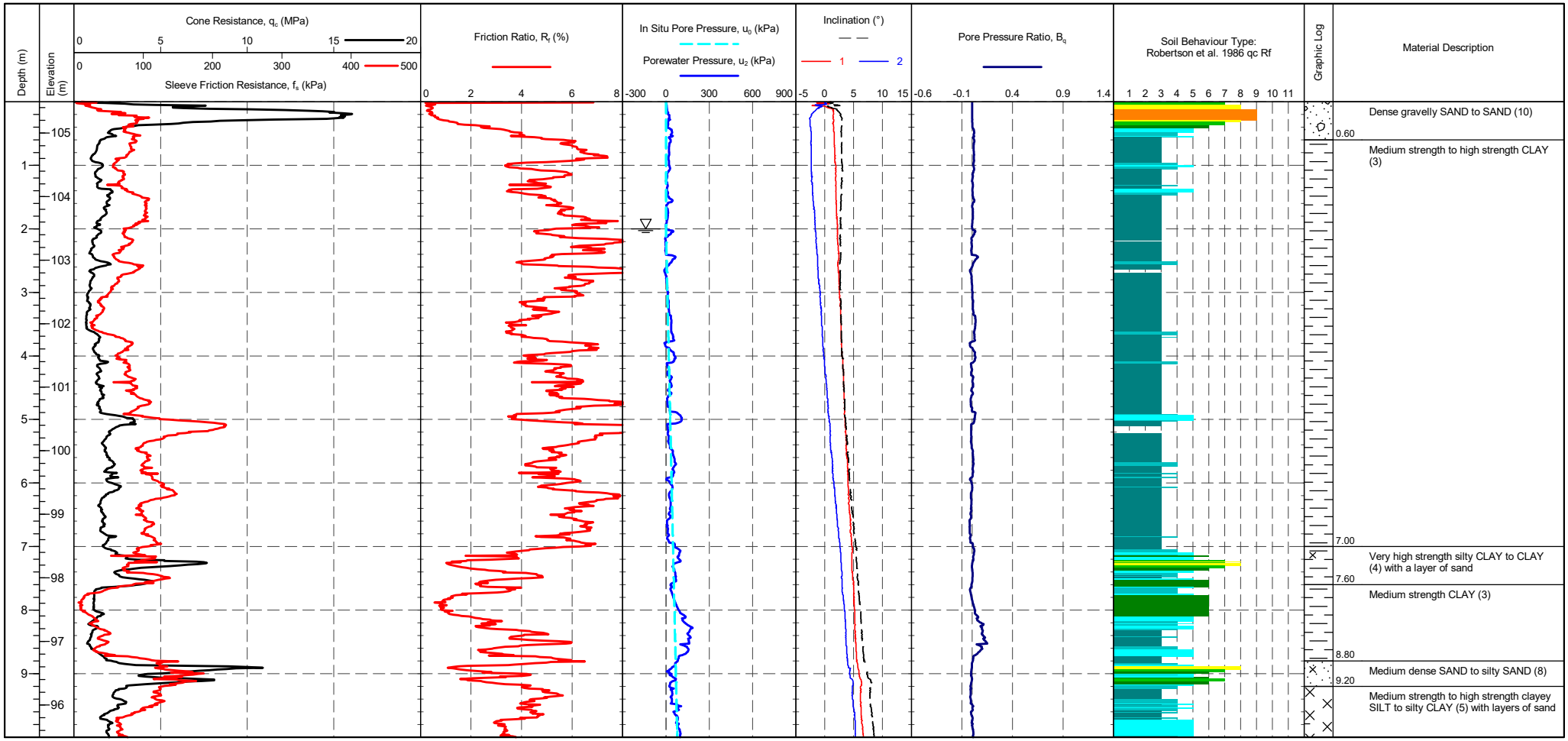
DRAWN	DATE 04/03/2022
CHECKED	DATE 04/03/2022
SCALE Not To Scale	A4
PROJECT No 1220144	FIGURE No

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **CPT12A**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	359 mV	361 mV	0.022 MPa
Sleeve	289 mV	286 mV	-0.002 kPa
Pore Pressure 2	215 mV	250 mV	0.008 kPa
X-Y Inclinometer	2609 mV	2630 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

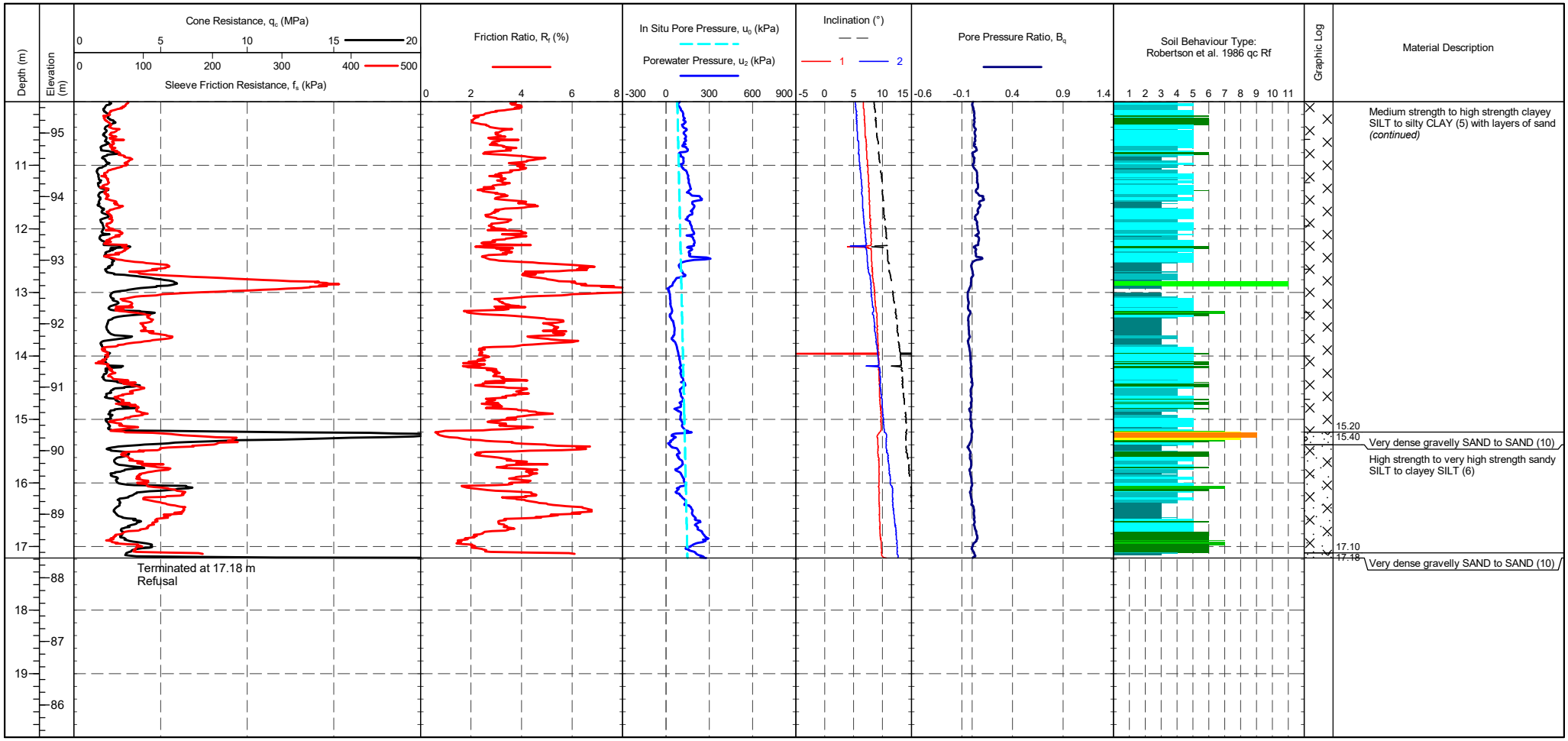
IN SITU SITE INVESTIGATION

Working with: deltasimons (Lincoln | Durham | Norwich | Leeds | Manchester | London)

CPT LOG 01

PointID: **CPT12A**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2
CALIBRATION DATE	: 05/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 15cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.79	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip	359 mV	361 mV	0.022 MPa
Sleeve	289 mV	286 mV	-0.002 kPa
Pore Pressure 2	215 mV	250 mV	0.008 kPa
X-Y Inclinometer	2609 mV	2630 mV	

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

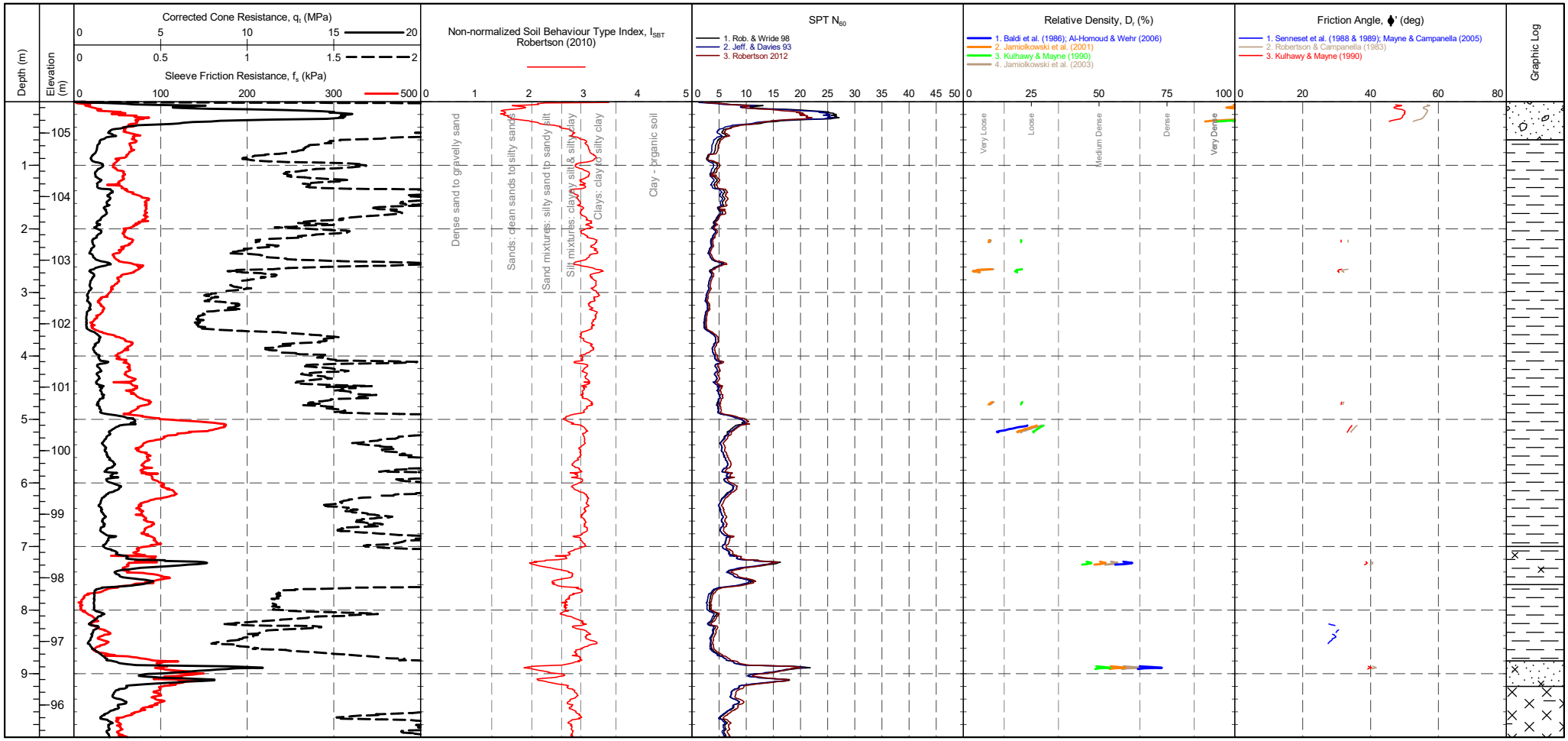
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT12A**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	359 mV	361 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	286 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	215 mV	250 mV	0.008 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2609 mV	2630 mV	

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

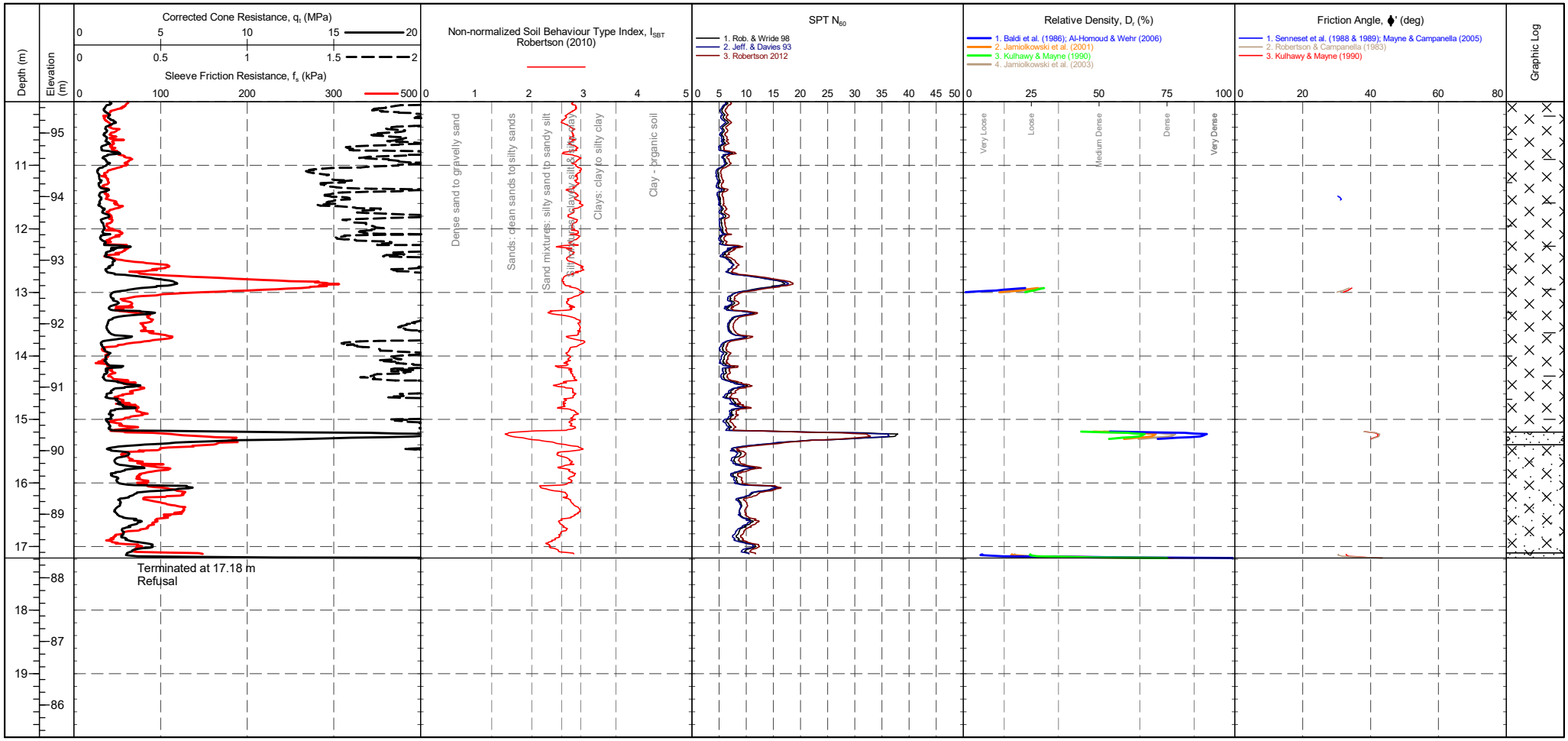
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

PointID **CPT12A**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	359 mV	361 mV
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	286 mV
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	215 mV	250 mV
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2609 mV	2630 mV

Transducer	Difference
Tip	0.022 MPa
Sleeve	-0.002 kPa
Pore Pressure 2	0.008 kPa

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic
Clays	2.95-3.60
Silt mixtures	2.60-2.95
Sand mixtures	2.05-2.60
Sands	1.31-2.05
Gravelly sand	<1.31

Description	SPT N value, NSPT
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	>50

Description	Relative Density Dr (%)
Very Loose	0 - 15
Loose	15 - 35
Medium Dense	35 - 65
Dense	65 - 85
Very Dense	>85

Groundwater Level

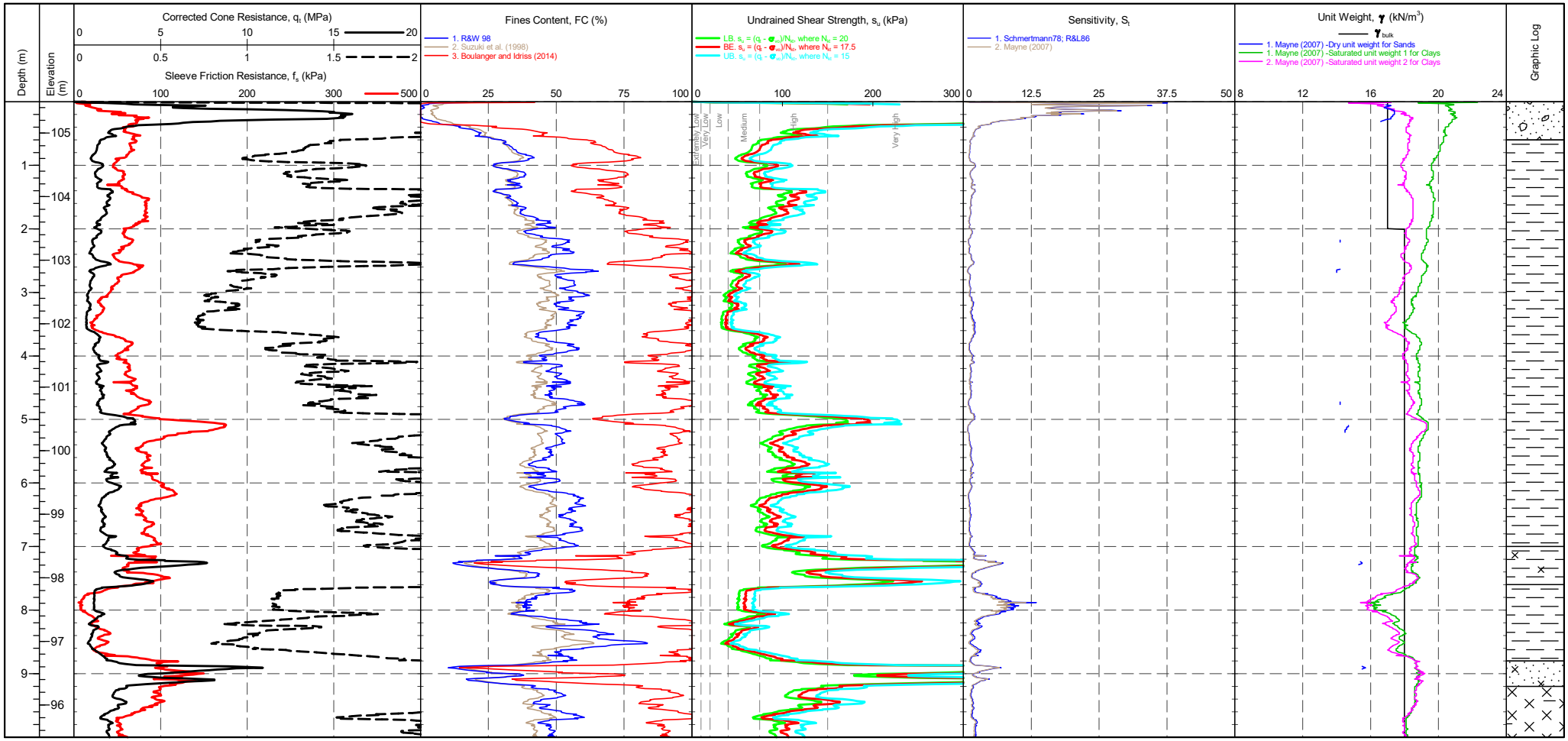
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID **CPT12A**

CLIENT : Delta Simons PROJECT : Corby LOCATION : Cordby PROJECT No. : 1220144	EASTING : 490922.098 m NORTHING : 290829.929 m ELEVATION : 105.492 m OD CHECKED BY : LD TERMINATION REASON : Refusal	Remark: Test refused on tip resistance.	SHEET : 1 OF 2 STATUS : Final TEST DATE : 09/02/2022 PLOT DATE : 04/03/2022 METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	359 mV	361 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	286 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	215 mV	250 mV	0.008 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2609 mV	2630 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

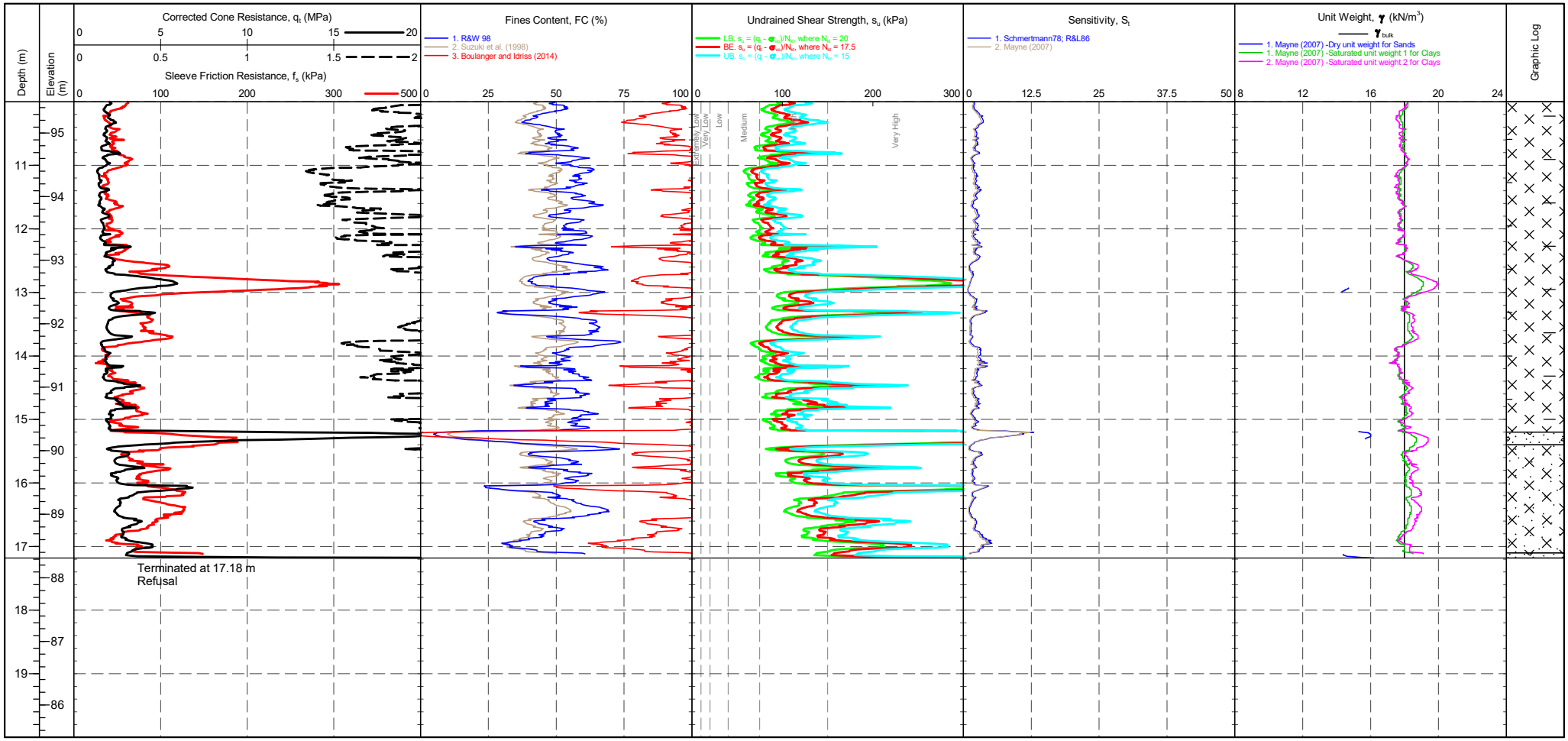
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **CPT12A**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	359 mV	361 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	286 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	215 mV	250 mV	0.008 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2609 mV	2630 mV	

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)	Term based on measurement	su (kPa)
Extremely low strength	<10	Medium strength	40-75
Very low strength	10-20	High strength	75-150
Low strength	20-40	Very high strength	150-300
		Extremely high strength	>300

Groundwater Level

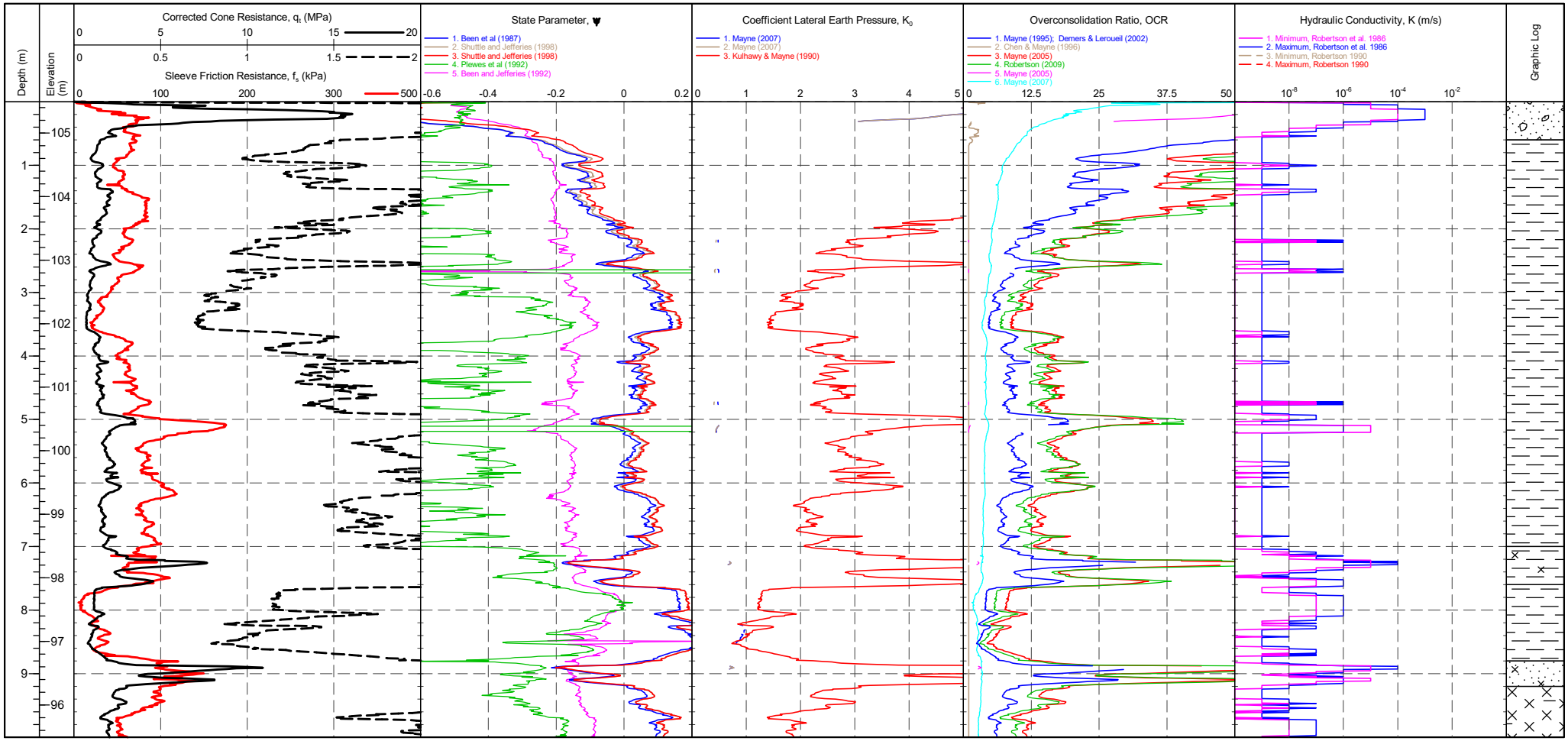
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID **CPT12A**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	359 mV	361 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	286 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	215 mV	250 mV	0.008 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2609 mV	2630 mV	

Groundwater Level

Dissipation Test

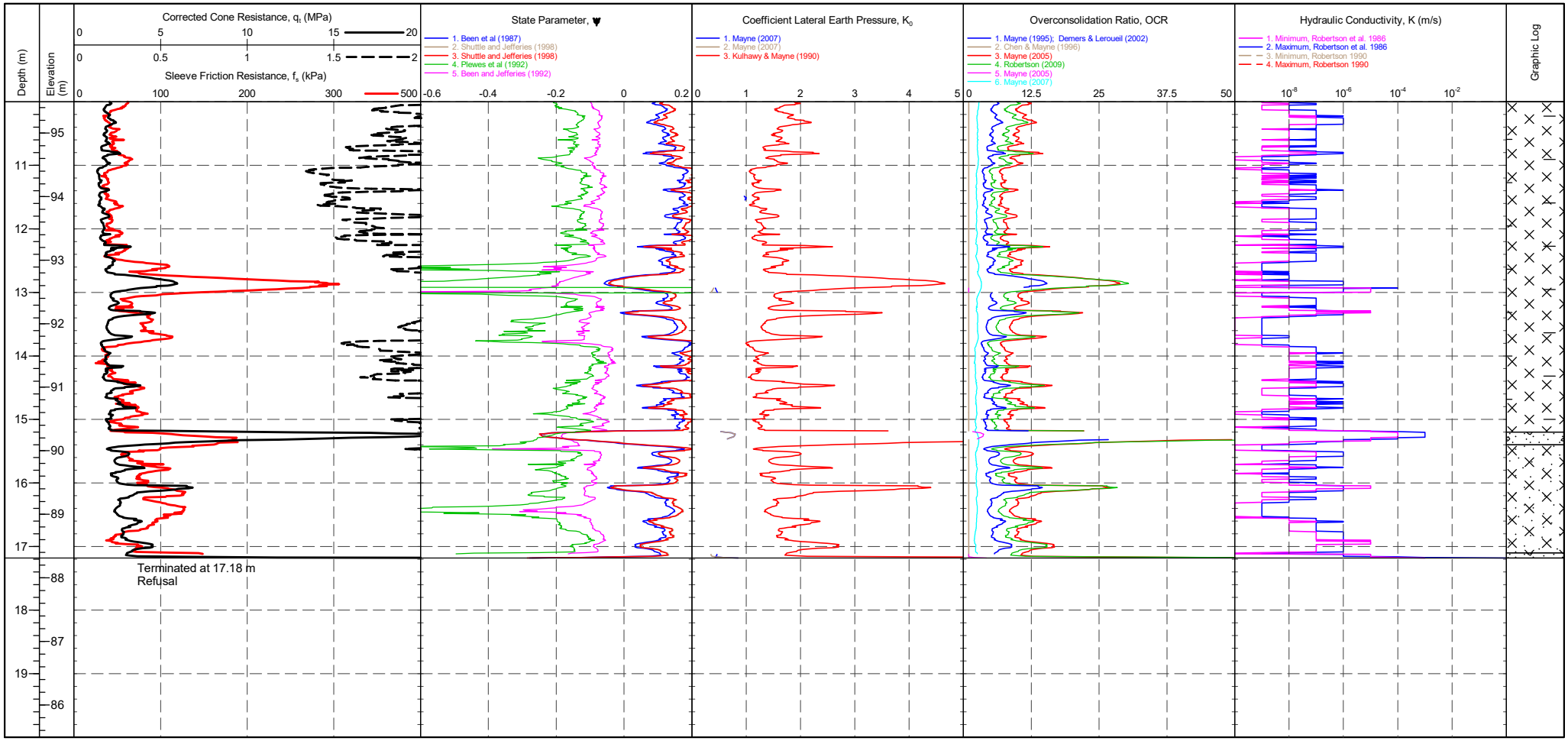
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **CPT12A**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm²	RIG	: CPT 016 - Broomhall	Tip	359 mV	361 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	286 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	215 mV	250 mV	0.008 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2609 mV	2630 mV	

Groundwater Level

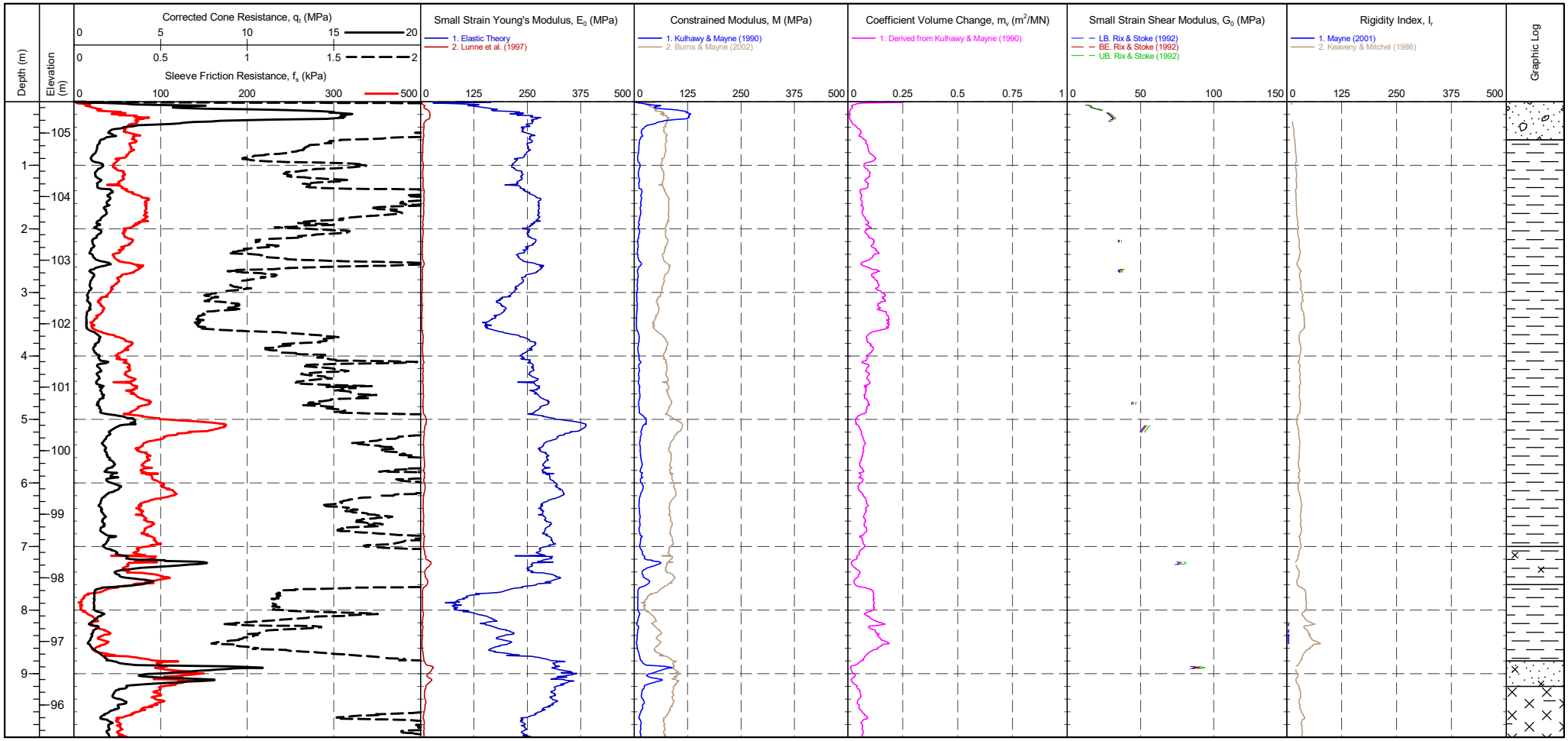
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID **CPT12A**

CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 1 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip	359 mV	361 mV	0.022 MPa
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Sleeve	289 mV	286 mV	-0.002 kPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Pore Pressure 2	215 mV	250 mV	0.008 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	X-Y Inclinometer	2609 mV	2630 mV	
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

Groundwater Level

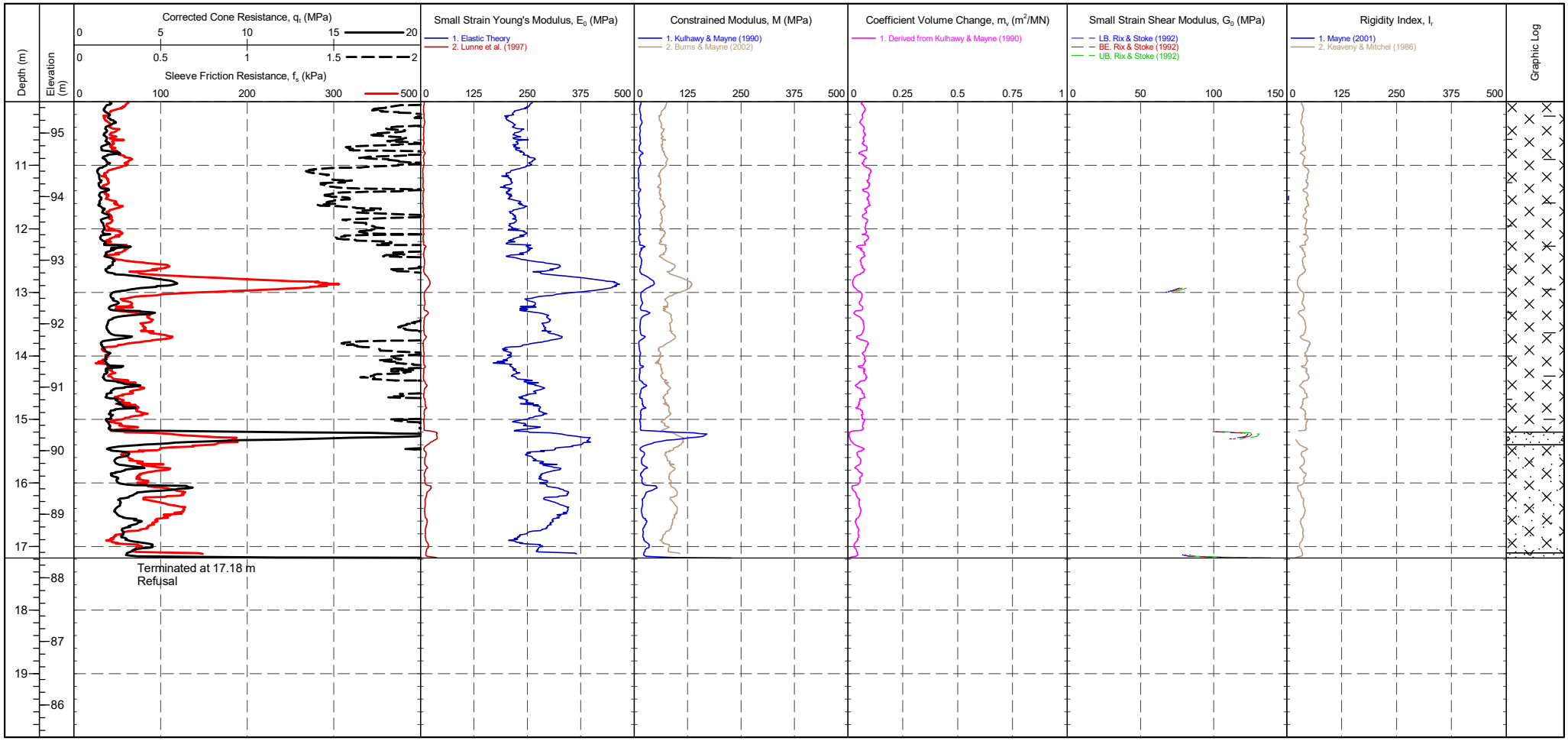
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **CPT12A**

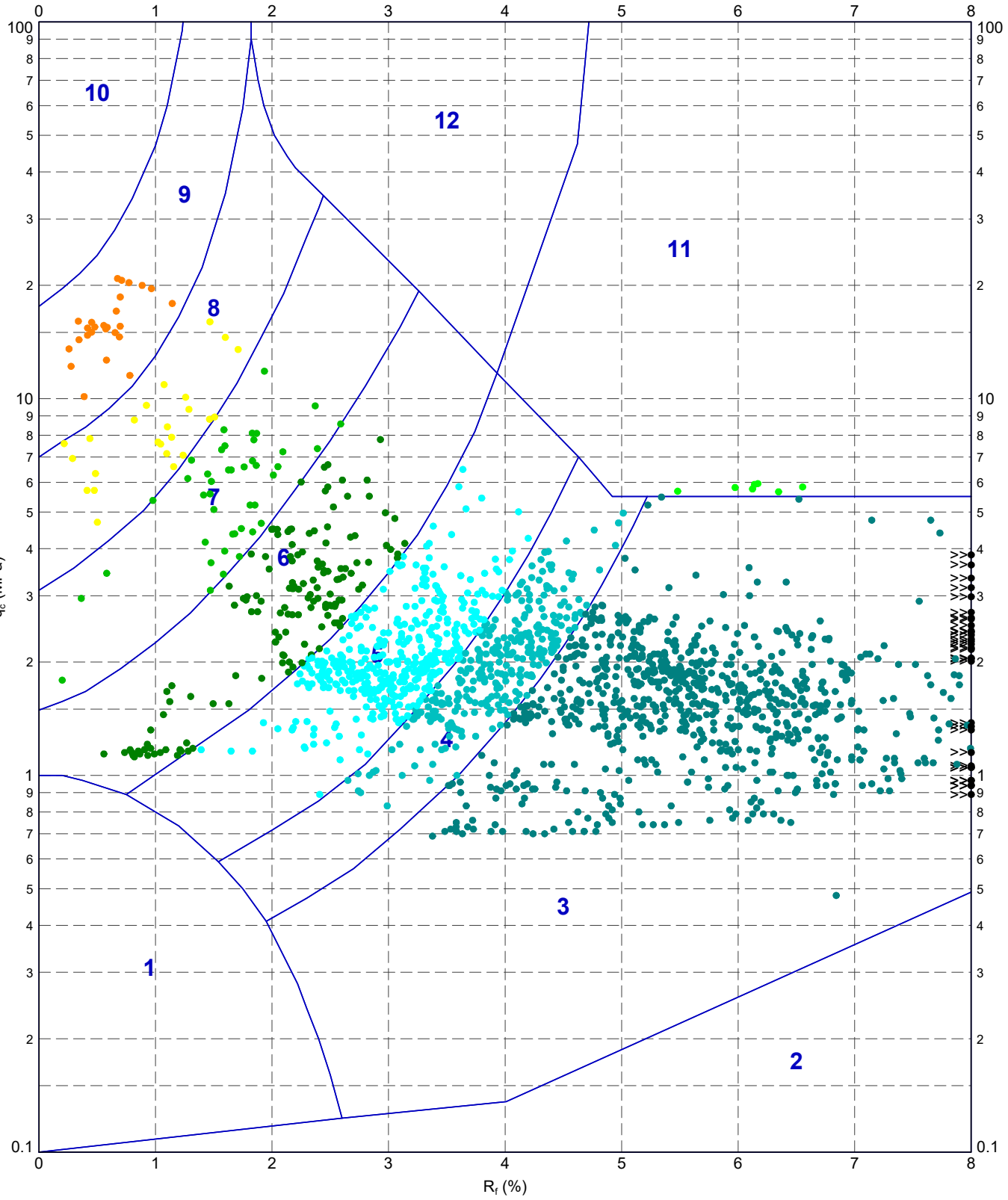
CLIENT : Delta Simons	EASTING : 490922.098 m	Remark:	SHEET : 2 OF 2
PROJECT : Corby	NORTHING : 290829.929 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.492 m OD		TEST DATE : 09/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: S15-CFIP.1867	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 15cm^2	RIG	: CPT 016 - Broomhall	Tip	359 mV	361 mV	0.022 MPa
CONE AREA RATIO	: 0.79	OPERATOR	: TR	Sleeve	289 mV	286 mV	-0.002 kPa
FILTER POSITION	: u2	FRICTION REDUCER	: None	Pore Pressure 2	215 mV	250 mV	0.008 kPa
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	X-Y Inclinometer	2609 mV	2630 mV	

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU
SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - CPT12A

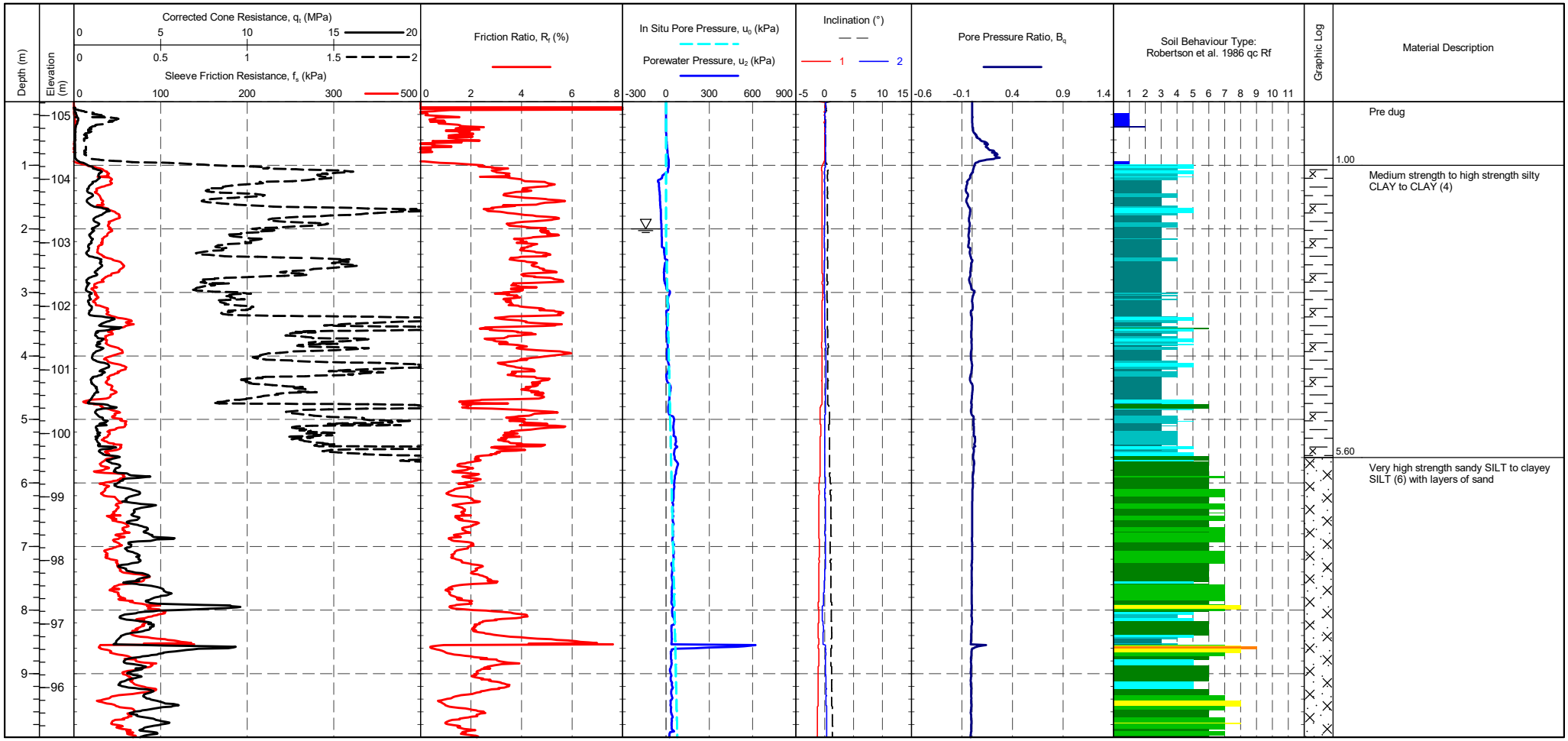
DRAWN		DATE	04/03/2022
CHECKED		DATE	04/03/2022
SCALE	Not To Scale		A4
PROJECT No	1220144	FIGURE No	

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **SCPT**

CLIENT : Delta Simons	EASTING : 490984.811 m	Remark:	SHEET : 1 OF 3
PROJECT : Corby	NORTHING : 290849.714 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.220 m OD		TEST DATE : 11/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2
CALIBRATION DATE	: 30/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 10cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.71	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip (MPa)	0.305	0.321	-0.016485
Sleeve (kPa)	0.0173	0.0168	0.000551
u2 (kPa)	-0.00254	0.0127	-0.015223
Inclinometer 1 (°)	-0.927	0.440	-1.366902
Inclinometer 2 (°)	0.455	-0.326	0.781173

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

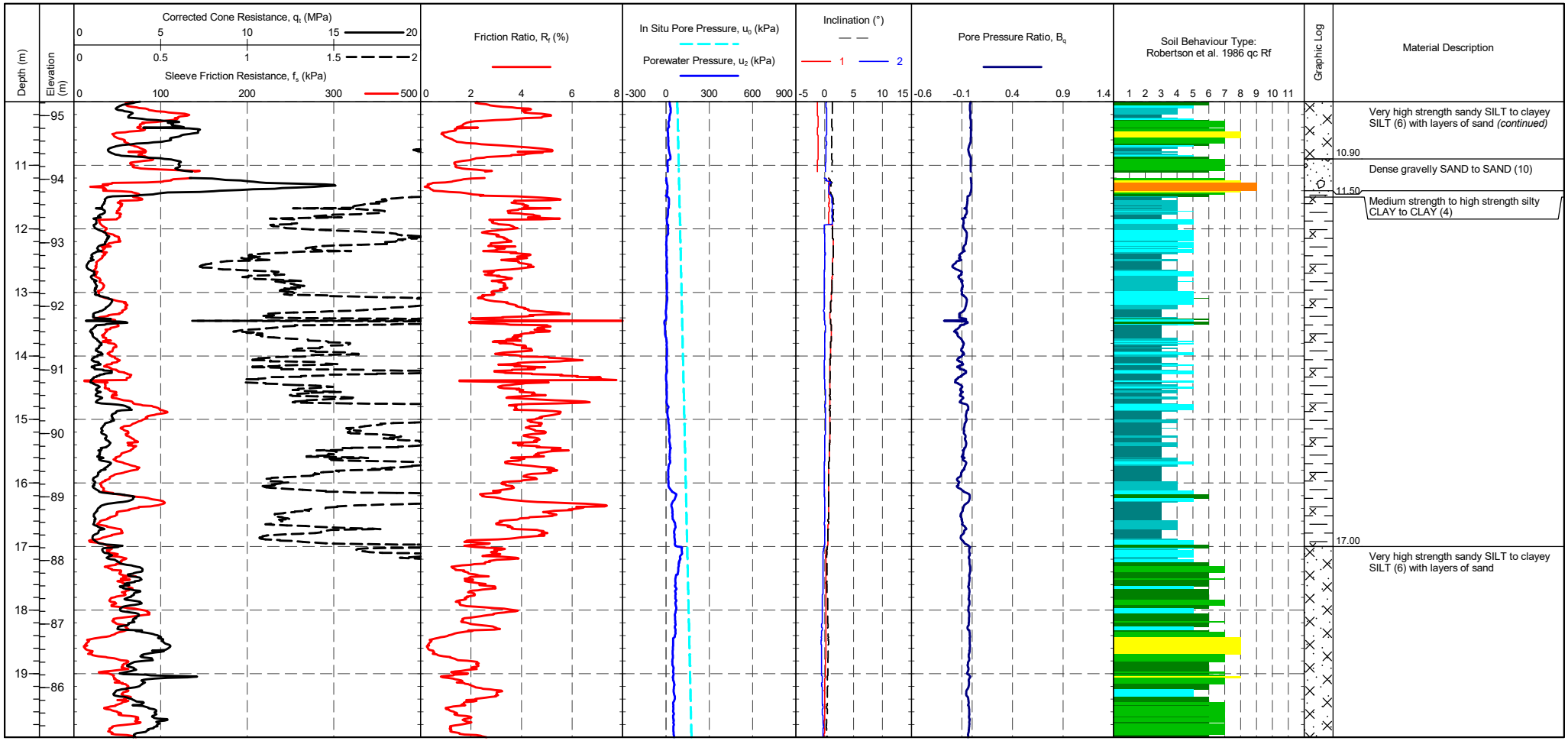
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **SCPT**

CLIENT : Delta Simons	EASTING : 490984.811 m	Remark:	SHEET : 2 OF 3
PROJECT : Corby	NORTHING : 290849.714 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.220 m OD		TEST DATE : 11/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2
CALIBRATION DATE	: 30/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 10cm²	OPERATOR	: TR
CONE AREA RATIO	: 0.71	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip (MPa)	0.305	0.321	-0.016485
Sleeve (kPa)	0.0173	0.0168	0.000551
u2 (kPa)	-0.00254	0.0127	-0.015223
Inclinometer 1 (°)	-0.927	0.440	-1.366902
Inclinometer 2 (°)	0.455	-0.326	0.781173

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

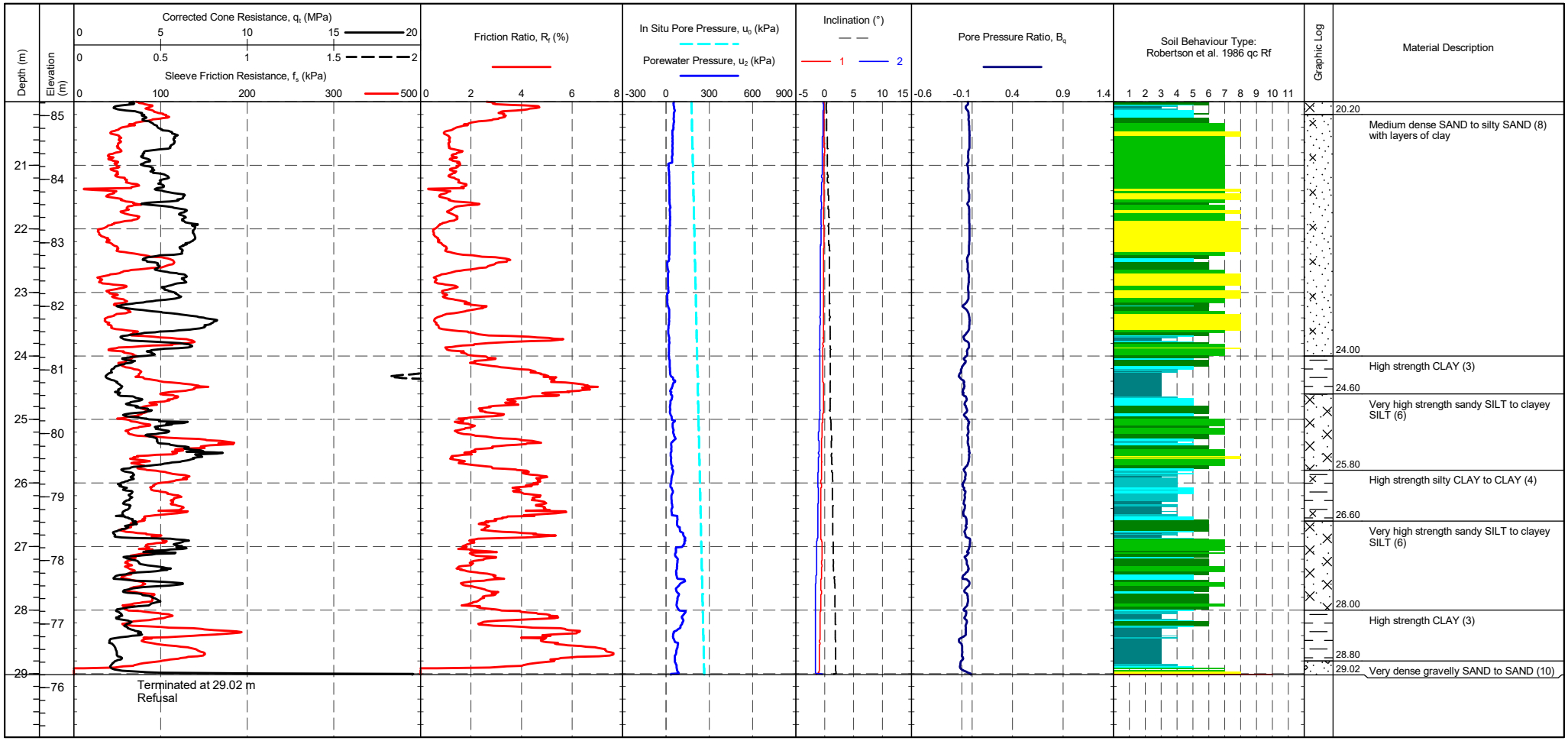
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 01

PointID: **SCPT**

CLIENT : Delta Simons	EASTING : 490984.811 m	Remark:	SHEET : 3 OF 3
PROJECT : Corby	NORTHING : 290849.714 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.220 m OD		TEST DATE : 11/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2
CALIBRATION DATE	: 30/03/2021	APPLICATION CLASS	: 2
CONE MODEL	: Subtraction	RIG	: CPT 016 - Broomhall
CONE AREA	: 10cm^2	OPERATOR	: TR
CONE AREA RATIO	: 0.71	FRICTION REDUCER	: None
FILTER POSITION	: u2	WEATHER	: Sunny & Hot
FILTER TYPE	: HDPE	GROUNDWATER DEPTH	: Assumed for calculation purposes

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip (MPa)	0.305	0.321	-0.016485
Sleeve (kPa)	0.0173	0.0168	0.000551
u2 (kPa)	-0.00254	0.0127	-0.015223
Inclinometer 1 (°)	-0.927	0.440	-1.366902
Inclinometer 2 (°)	0.455	-0.326	0.781173

METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material
2 - Organic material
3 - CLAY
4 - Silty CLAY to CLAY
5 - Clayey SILT to silty CLAY
6 - Sandy SILT to clayey SILT
7 - Silty SAND to sandy SILT
8 - SAND to silty SAND
9 - SAND
10 - Gravelly SAND to SAND
11 - Very stiff fine grained
12 - SAND to clayey SAND

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

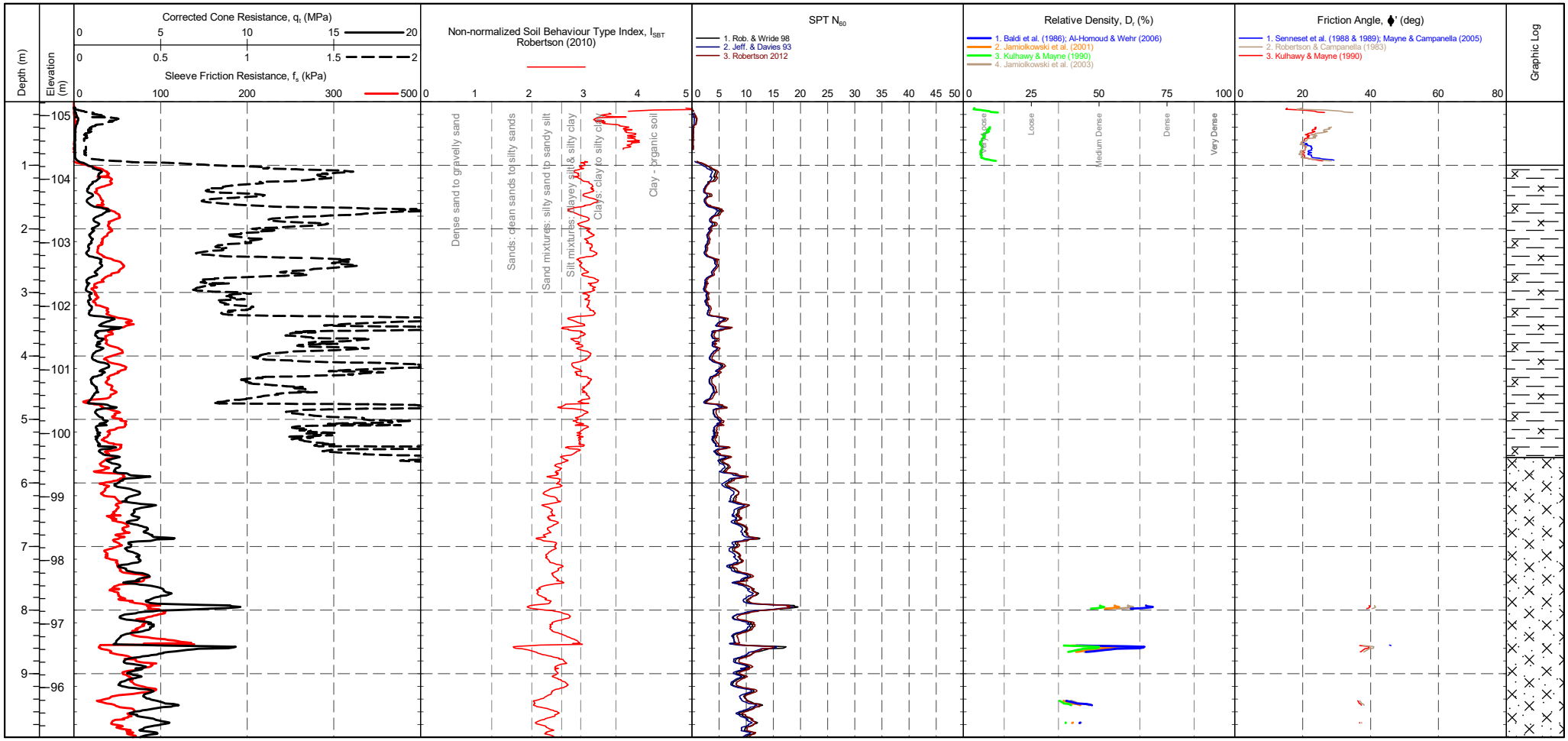
PointID: **SCPT**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490984.811 m
NORTHING : 290849.714 m
ELEVATION : 105.220 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 1 OF 3
STATUS : Final
TEST DATE : 11/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2
CONE AREA	: 10cm²	RIG	: CPT 016 - Broomhall
CONE AREA RATIO	: 0.71	OPERATOR	: TR
FILTER POSITION	: u2	FRICTION REDUCER	: None
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip (MPa)	0.305	0.321	-0.016485
Sleeve (kPa)	0.0173	0.0168	0.000551
u2 (kPa)	-0.00254	0.0127	-0.015223
Inclinometer 1 (°)	-0.927	0.440	-1.366902
Inclinometer 2 (°)	0.455	-0.326	0.781173

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

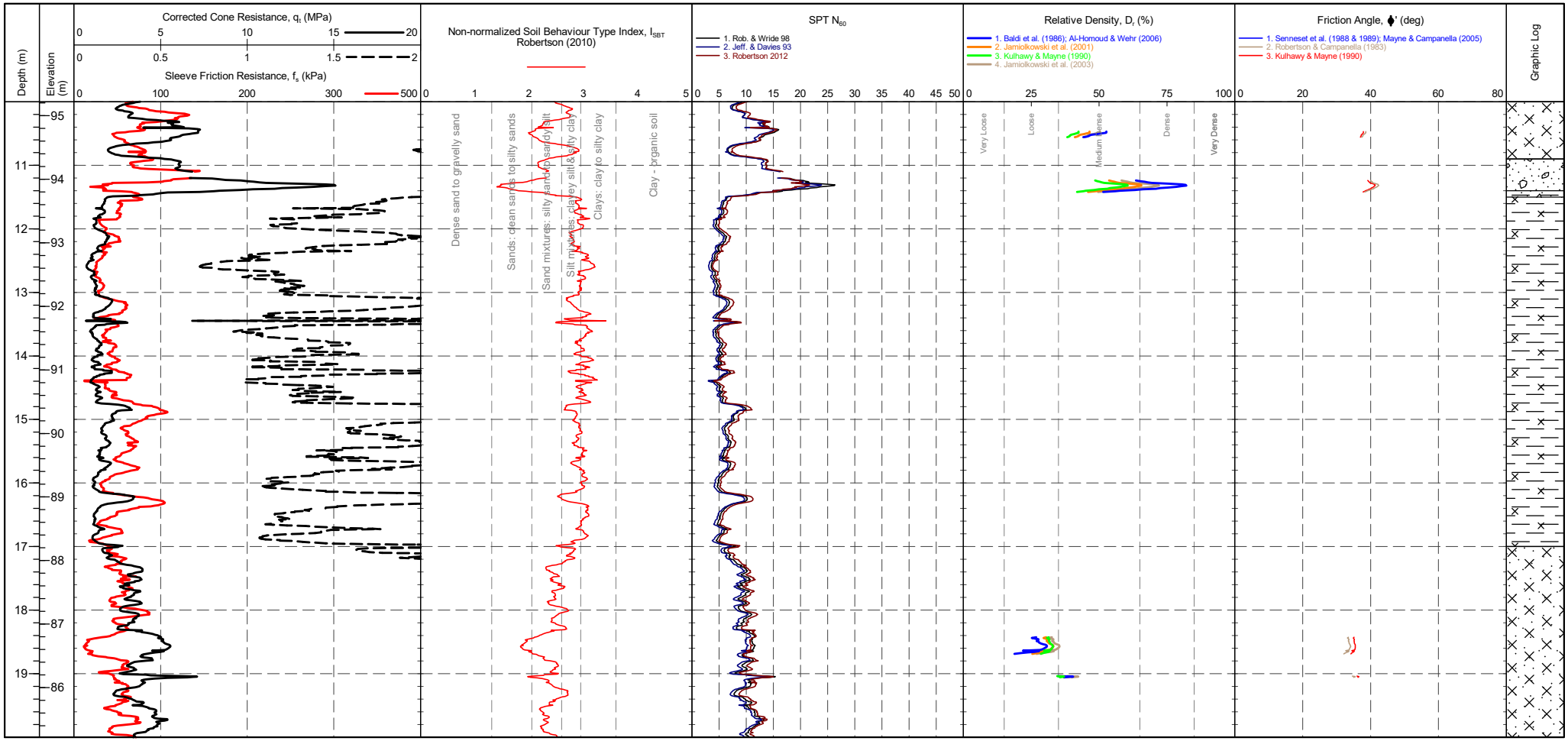
PointID: **SCPT**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490984.811 m
NORTHING : 290849.714 m
ELEVATION : 105.220 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 2 OF 3
STATUS : Final
TEST DATE : 11/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2
CONE AREA	: 10cm²	RIG	: CPT 016 - Broomhall
CONE AREA RATIO	: 0.71	OPERATOR	: TR
FILTER POSITION	: u2	FRICTION REDUCER	: None
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip (MPa)	0.305	0.321	-0.016485
Sleeve (kPa)	0.0173	0.0168	0.000551
u2 (kPa)	-0.00254	0.0127	-0.015223
Inclinometer 1 (°)	-0.927	0.440	-1.366902
Inclinometer 2 (°)	0.455	-0.326	0.781173

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

Dissipation Test

IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 02

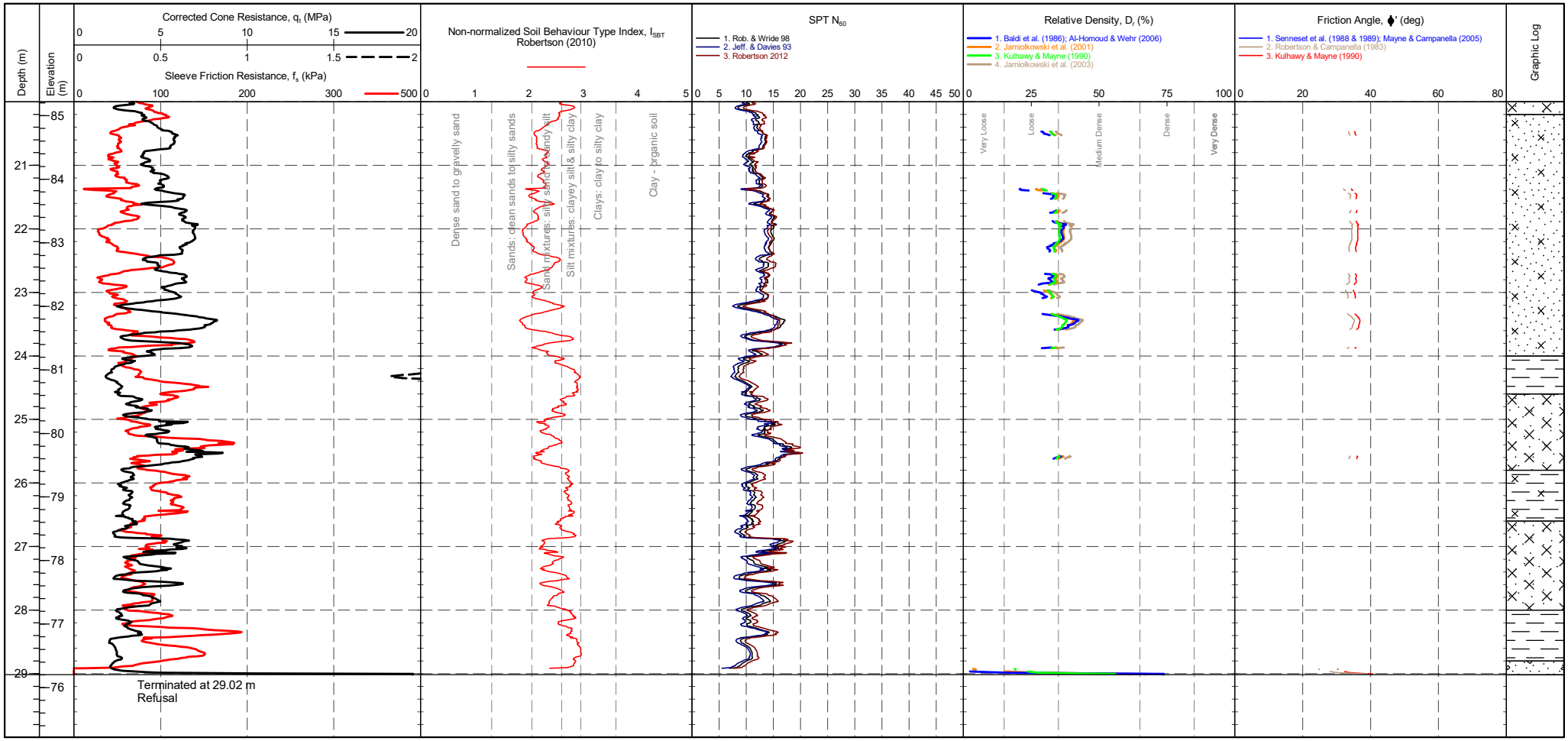
PointID: **SCPT**

CLIENT : Delta Simons
PROJECT : Corby
LOCATION : Cordby
PROJECT No. : 1220144

EASTING : 490984.811 m
NORTHING : 290849.714 m
ELEVATION : 105.220 m OD
CHECKED BY : LD
TERMINATION REASON : Refusal

Remark:
Test refused on tip resistance.

SHEET : 3 OF 3
STATUS : Final
TEST DATE : 11/02/2022
PLOT DATE : 04/03/2022
METHOD : ISO 22476-1:2012



CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2
CONE AREA	: 10cm²	RIG	: CPT 016 - Broomhall
CONE AREA RATIO	: 0.71	OPERATOR	: TR
FILTER POSITION	: u2	FRICTION REDUCER	: None
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot

CPTU ZERO VALUES

	Pre	Post	Difference
Transducer			
Tip (MPa)	0.305	0.321	-0.016485
Sleeve (kPa)	0.0173	0.0168	0.000551
u2 (kPa)	-0.00254	0.0127	-0.015223
Inclinometer 1 (°)	-0.927	0.440	-1.366902
Inclinometer 2 (°)	0.455	-0.326	0.781173

GRANULAR SOILS (Sands & Gravels) Robertson et al. 1986 Zones 7-10 and Zone 12

Description	SBT Index, Ic	Description	SPT N value, NSPT	Description	Relative Density Dr (%)
Clays	2.95-3.60	Very Loose	0 - 4	Very Loose	0 - 15
Silt mixtures	2.60-2.95	Loose	4 - 10	Loose	15 - 35
Sand mixtures	2.05-2.60	Medium Dense	10 - 30	Medium Dense	35 - 65
Sands	1.31-2.05	Dense	30 - 50	Dense	65 - 85
Gravelly sand	<1.31	Very Dense	>50	Very Dense	>85

Groundwater Level

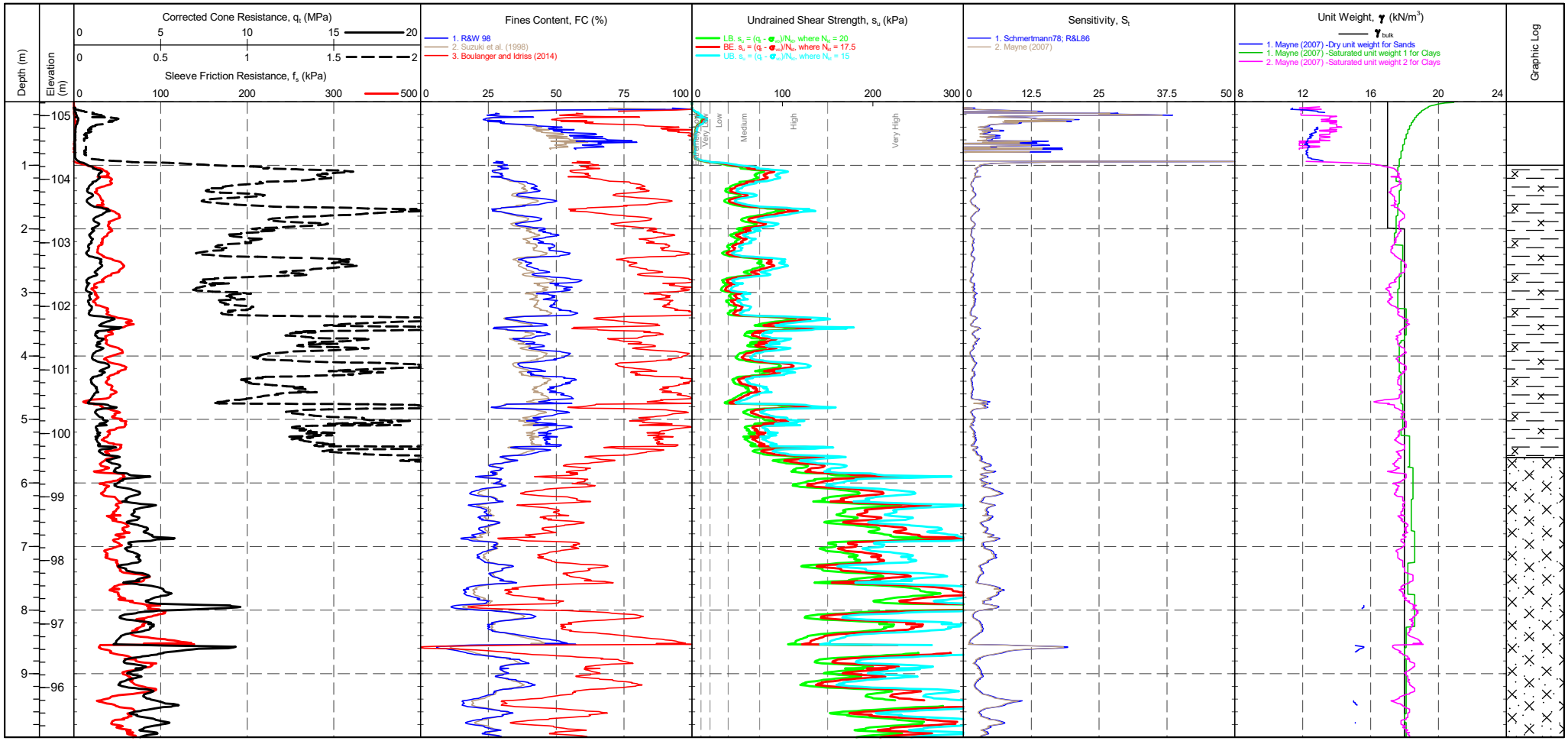
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **SCPT**

CLIENT : Delta Simons	EASTING : 490984.811 m	Remark:	SHEET : 1 OF 3
PROJECT : Corby	NORTHING : 290849.714 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.220 m OD		TEST DATE : 11/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2				
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2				
CONE AREA	: 10cm^2	RIG	: CPT 016 - Broomhall				
CONE AREA RATIO	: 0.71	OPERATOR	: TR				
FILTER POSITION	: u2	FRICTION REDUCER	: None				
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip (MPa)	0.305	0.321	-0.016485
Sleeve (kPa)	0.0173	0.0168	0.000551
u2 (kPa)	-0.00254	0.0127	-0.015223
Inclinometer 1 (°)	-0.927	0.440	-1.366902
Inclinometer 2 (°)	0.455	-0.326	0.781173

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)
Extremely low strength	<10
Very low strength	10-20
Low strength	20-40
Medium strength	40-75
High strength	75-150
Very high strength	150-300
Extremely high strength	>300

Groundwater Level

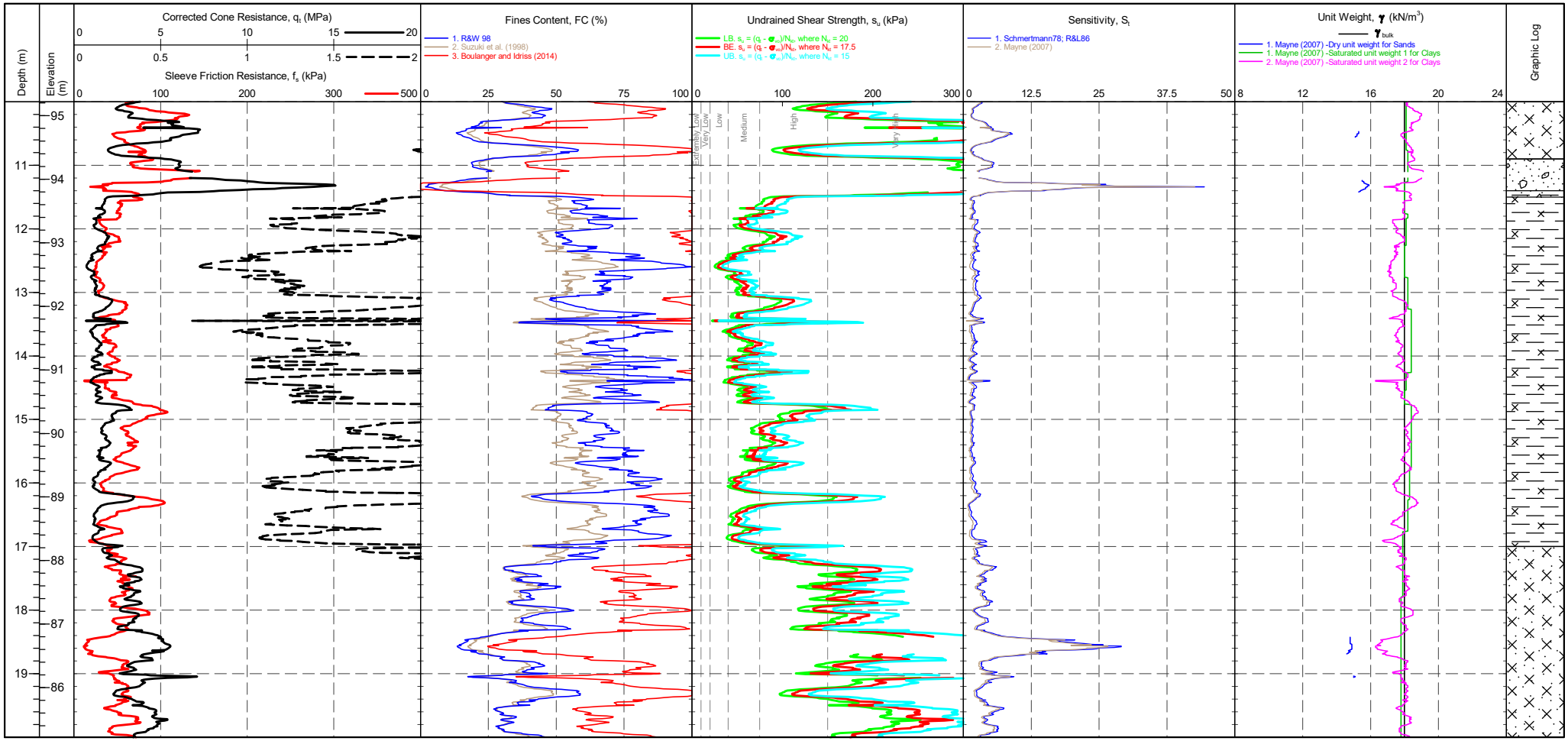
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **SCPT**

CLIENT : Delta Simons	EASTING : 490984.811 m	Remark:	SHEET : 2 OF 3
PROJECT : Corby	NORTHING : 290849.714 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.220 m OD		TEST DATE : 11/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2				
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2				
CONE AREA	: 10cm^2	RIG	: CPT 016 - Broomhall				
CONE AREA RATIO	: 0.71	OPERATOR	: TR				
FILTER POSITION	: u2	FRICTION REDUCER	: None				
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip (MPa)	0.305	0.321	-0.016485
Sleeve (kPa)	0.0173	0.0168	0.000551
u2 (kPa)	-0.00254	0.0127	-0.015223
Inclinometer 1 (°)	-0.927	0.440	-1.366902
Inclinometer 2 (°)	0.455	-0.326	0.781173

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)
Extremely low strength	<10
Very low strength	10-20
Low strength	20-40
Medium strength	40-75
High strength	75-150
Very high strength	150-300
Extremely high strength	>300

Groundwater Level

Dissipation Test

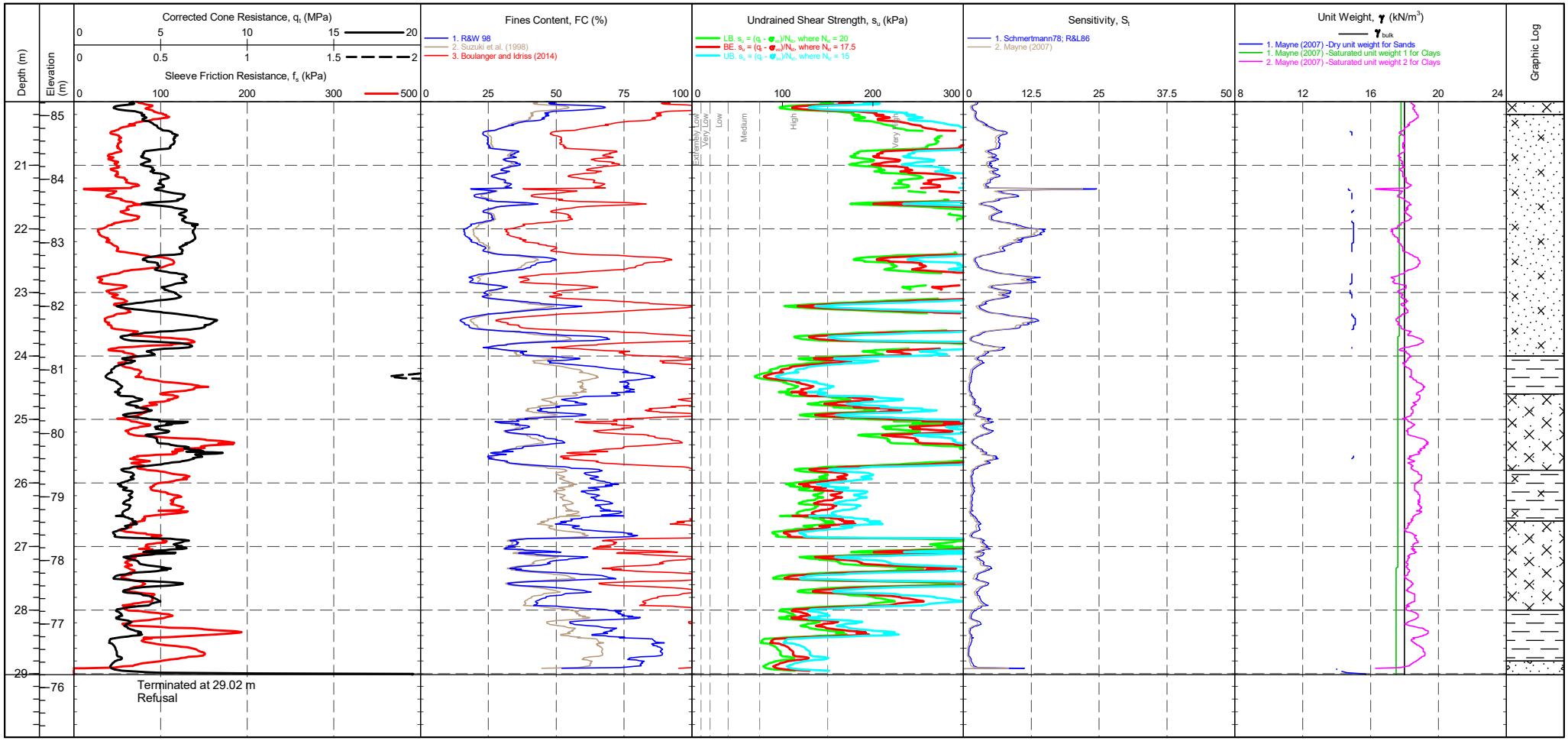
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 03

PointID: **SCPT**

CLIENT : Delta Simons	EASTING : 490984.811 m	Remark:	SHEET : 3 OF 3
PROJECT : Corby	NORTHING : 290849.714 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.220 m OD		TEST DATE : 11/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2				
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2				
CONE AREA	: 10cm^2	RIG	: CPT 016 - Broomhall				
CONE AREA RATIO	: 0.71	OPERATOR	: TR				
FILTER POSITION	: u2	FRICTION REDUCER	: None				
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot				

CPTU ZERO VALUES

Transducer	Pre	Post	Difference
Tip (MPa)	0.305	0.321	-0.016485
Sleeve (kPa)	0.0173	0.0168	0.000551
u2 (kPa)	-0.00254	0.0127	-0.015223
Inclinometer 1 (°)	-0.927	0.440	-1.366902
Inclinometer 2 (°)	0.455	-0.326	0.781173

COHESIVE SOILS (Clays & Silts) Robertson et al. 1986 Zones 1-6 and Zone 11

Term based on measurement	su (kPa)
Extremely low strength	<10
Very low strength	10-20
Low strength	20-40
Medium strength	40-75
High strength	75-150
Very high strength	150-300
Extremely high strength	>300

Groundwater Level

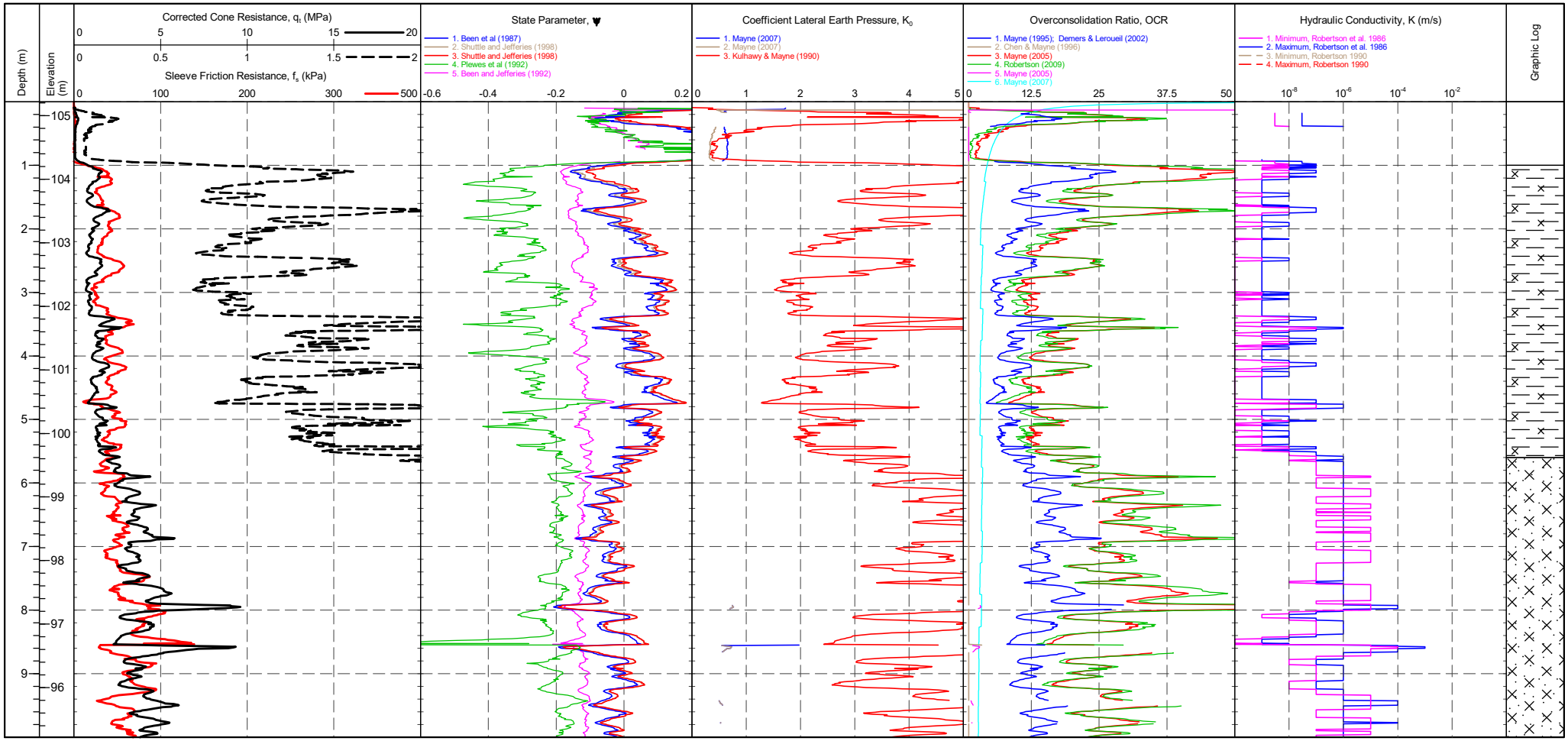
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **SCPT**

CLIENT : Delta Simons	EASTING : 490984.811 m	Remark:	SHEET : 1 OF 3
PROJECT : Corby	NORTHING : 290849.714 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.220 m OD		TEST DATE : 11/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 10cm²	RIG	: CPT 016 - Broomhall	Tip (MPa)	0.305	0.321	-0.016485
CONE AREA RATIO	: 0.71	OPERATOR	: TR	Sleeve (kPa)	0.0173	0.0168	0.000551
FILTER POSITION	: u2	FRICTION REDUCER	: None	u2 (kPa)	-0.00254	0.0127	-0.015223
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	Inclinometer 1 (°)	-0.927	0.440	-1.366902
				Inclinometer 2 (°)	0.455	-0.326	0.781173

Groundwater Level

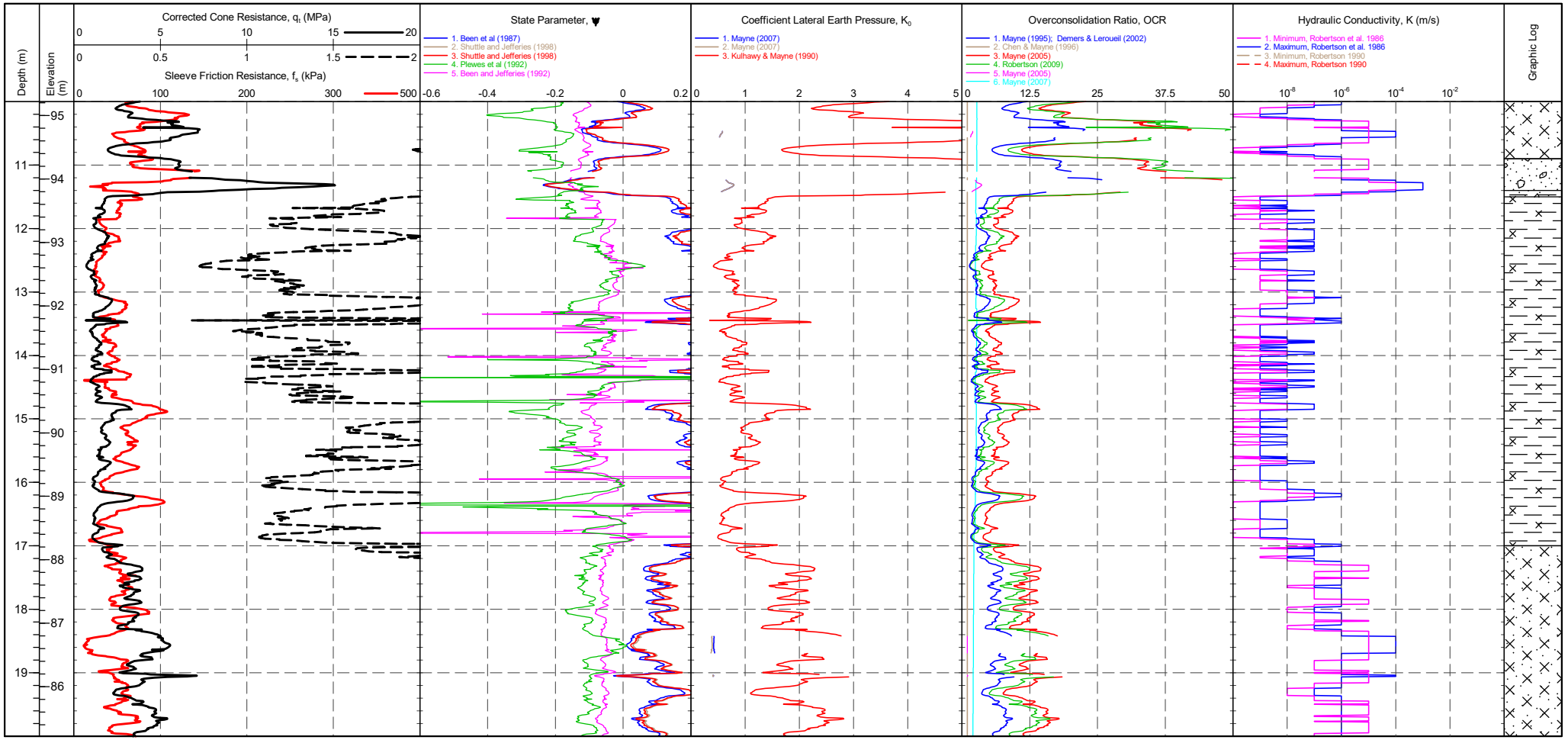
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **SCPT**

CLIENT : Delta Simons	EASTING : 490984.811 m	Remark:	SHEET : 2 OF 3
PROJECT : Corby	NORTHING : 290849.714 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.220 m OD		TEST DATE : 11/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip (MPa)	0.305	0.321	-0.016485
CONE AREA	: 10cm²	RIG	: CPT 016 - Broomhall	Sleeve (kPa)	0.0173	0.0168	0.000551
CONE AREA RATIO	: 0.71	OPERATOR	: TR	u2 (kPa)	-0.00254	0.0127	-0.015223
FILTER POSITION	: u2	FRICTION REDUCER	: None	Inclinometer 1 (°)	-0.927	0.440	-1.366902
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	Inclinometer 2 (°)	0.455	-0.326	0.781173

Groundwater Level

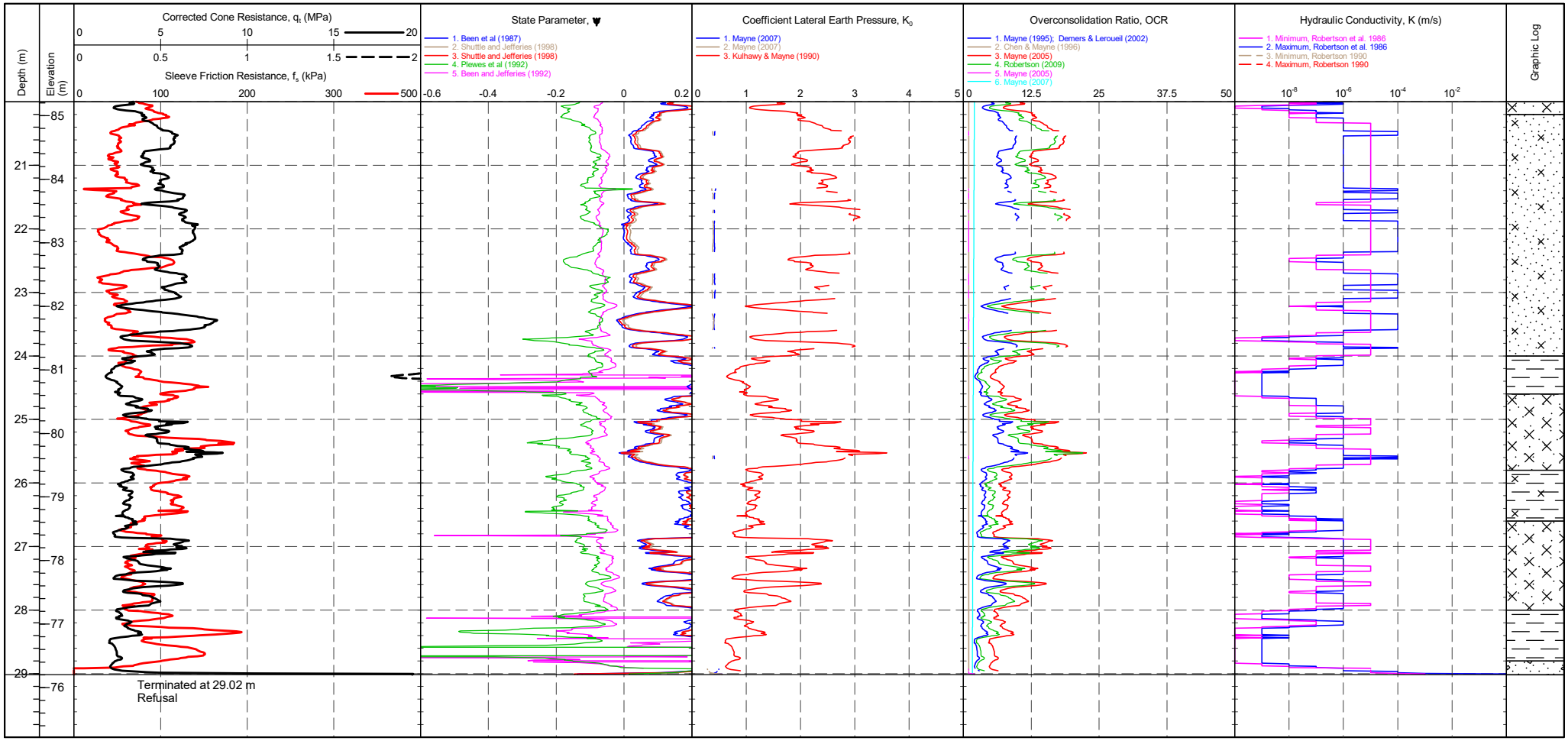
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 04

PointID: **SCPT**

CLIENT : Delta Simons	EASTING : 490984.811 m	Remark:	SHEET : 3 OF 3
PROJECT : Corby	NORTHING : 290849.714 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.220 m OD		TEST DATE : 11/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2	CPTU ZERO VALUES			
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post	Difference
CONE AREA	: 10cm²	RIG	: CPT 016 - Broomhall	Tip (MPa)	0.305	0.321	-0.016485
CONE AREA RATIO	: 0.71	OPERATOR	: TR	Sleeve (kPa)	0.0173	0.0168	0.000551
FILTER POSITION	: u2	FRICTION REDUCER	: None	u2 (kPa)	-0.00254	0.0127	-0.015223
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	Inclinometer 1 (°)	-0.927	0.440	-1.366902
				Inclinometer 2 (°)	0.455	-0.326	0.781173

Groundwater Level

Dissipation Test

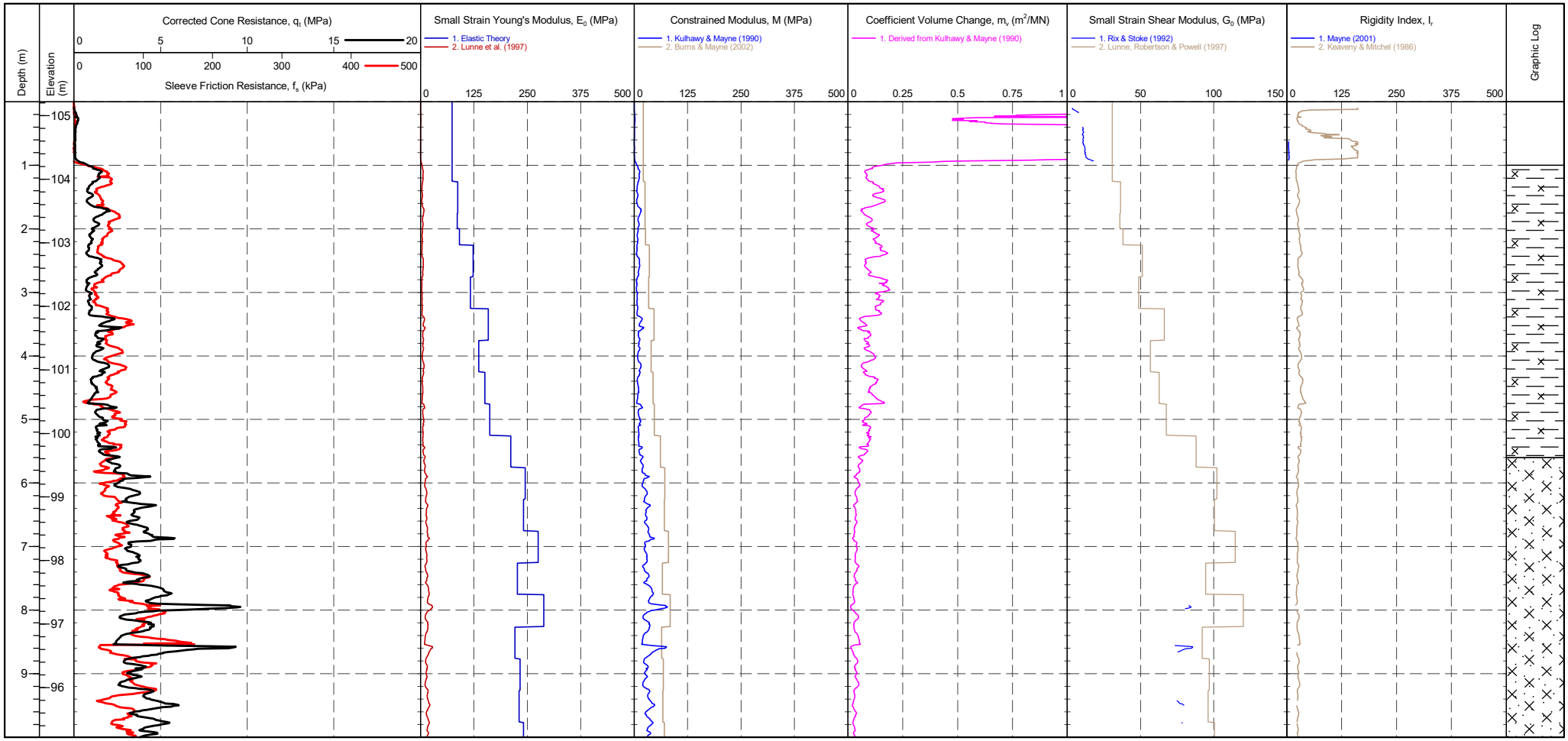
IN SITU SITE INVESTIGATION

Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **SCPT**

CLIENT : Delta Simons	EASTING : 490984.811 m	Remark:	SHEET : 1 OF 3
PROJECT : Corby	NORTHING : 290849.714 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.220 m OD		TEST DATE : 11/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip (MPa)	0.305	0.321	-0.016485
CONE AREA	: 10cm^2	RIG	: CPT 016 - Broomhall	Sleeve (kPa)	0.0173	0.0168	0.000551
CONE AREA RATIO	: 0.71	OPERATOR	: TR	u2 (kPa)	-0.00254	0.0127	-0.015223
FILTER POSITION	: u2	FRICTION REDUCER	: None	Inclinometer 1 (°)	-0.927	0.440	-1.366902
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	Inclinometer 2 (°)	0.455	-0.326	0.781173

Groundwater Level

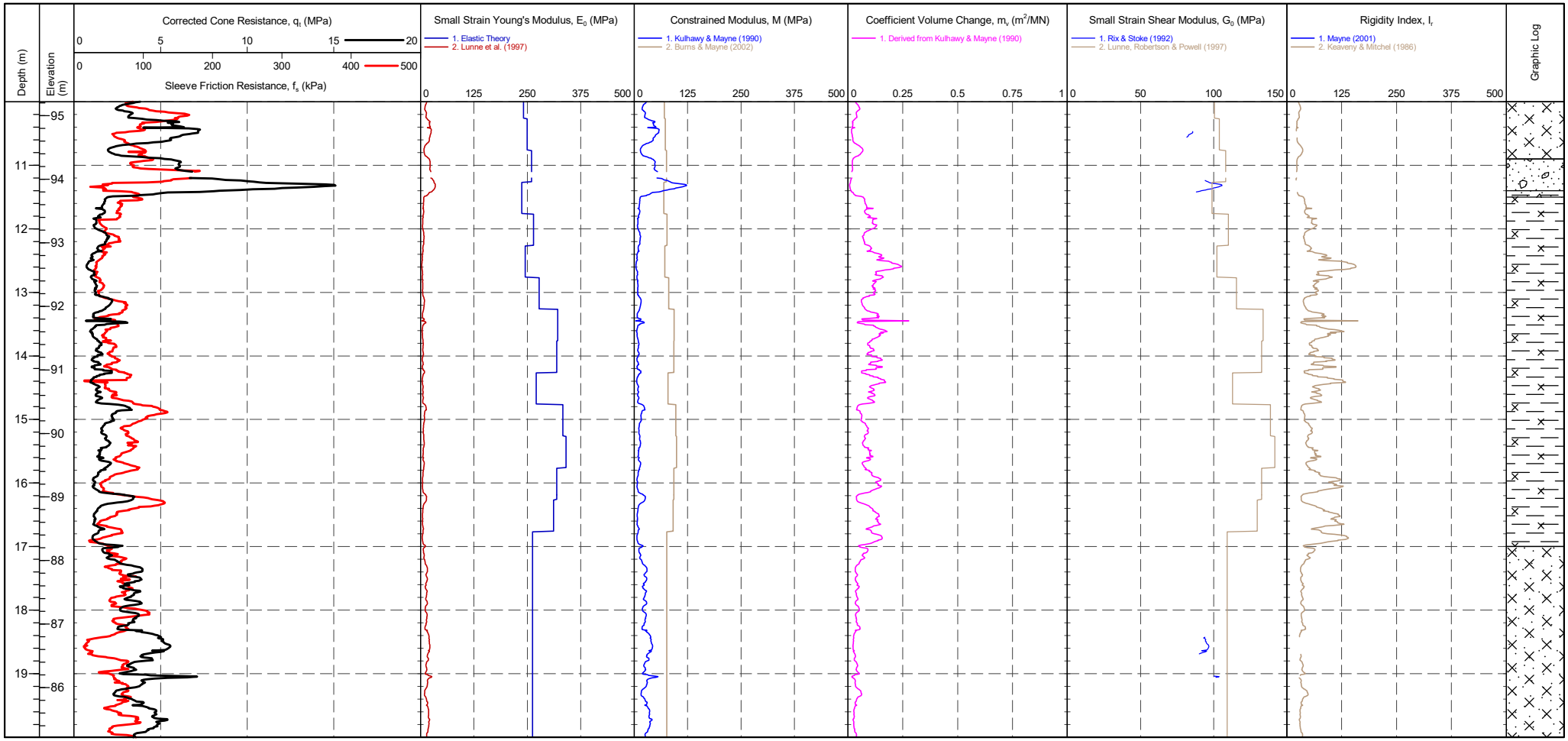
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **SCPT**

CLIENT : Delta Simons	EASTING : 490984.811 m	Remark:	SHEET : 2 OF 3
PROJECT : Corby	NORTHING : 290849.714 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.220 m OD		TEST DATE : 11/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



				CPTU ZERO VALUES			
CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2	Transducer	Pre	Post	Difference
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Tip (MPa)	0.305	0.321	-0.016485
CONE AREA	: 10cm^2	RIG	: CPT 016 - Broomhall	Sleeve (kPa)	0.0173	0.0168	0.000551
CONE AREA RATIO	: 0.71	OPERATOR	: TR	u2 (kPa)	-0.00254	0.0127	-0.015223
FILTER POSITION	: u2	FRICTION REDUCER	: None	Inclinometer 1 (°)	-0.927	0.440	-1.366902
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	Inclinometer 2 (°)	0.455	-0.326	0.781173

Groundwater Level

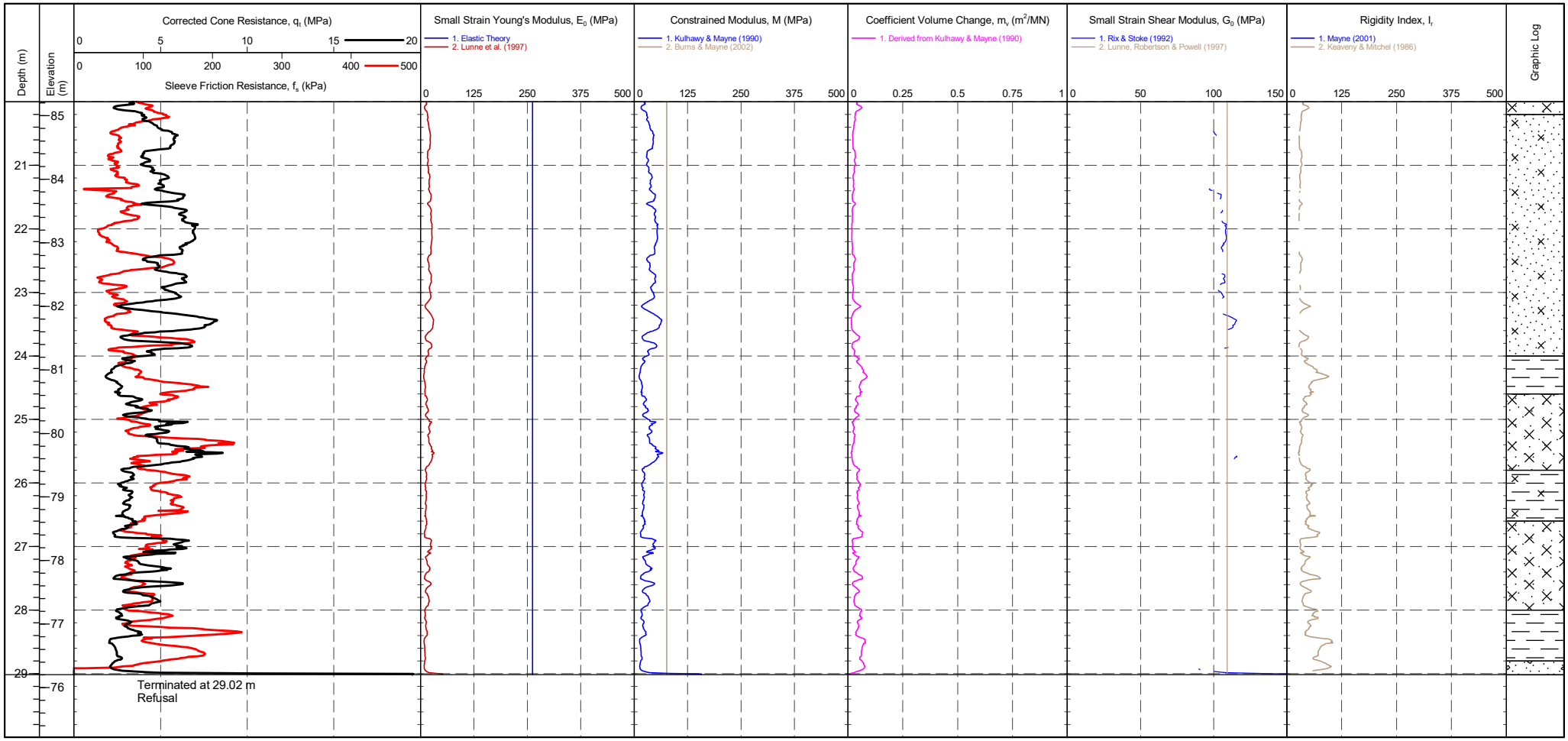
Dissipation Test

IN SITU SITE INVESTIGATION Working with: deltasimons Lincoln | Durham | Norwich | Leeds | Manchester | London

CPT LOG 05

PointID: **SCPT**

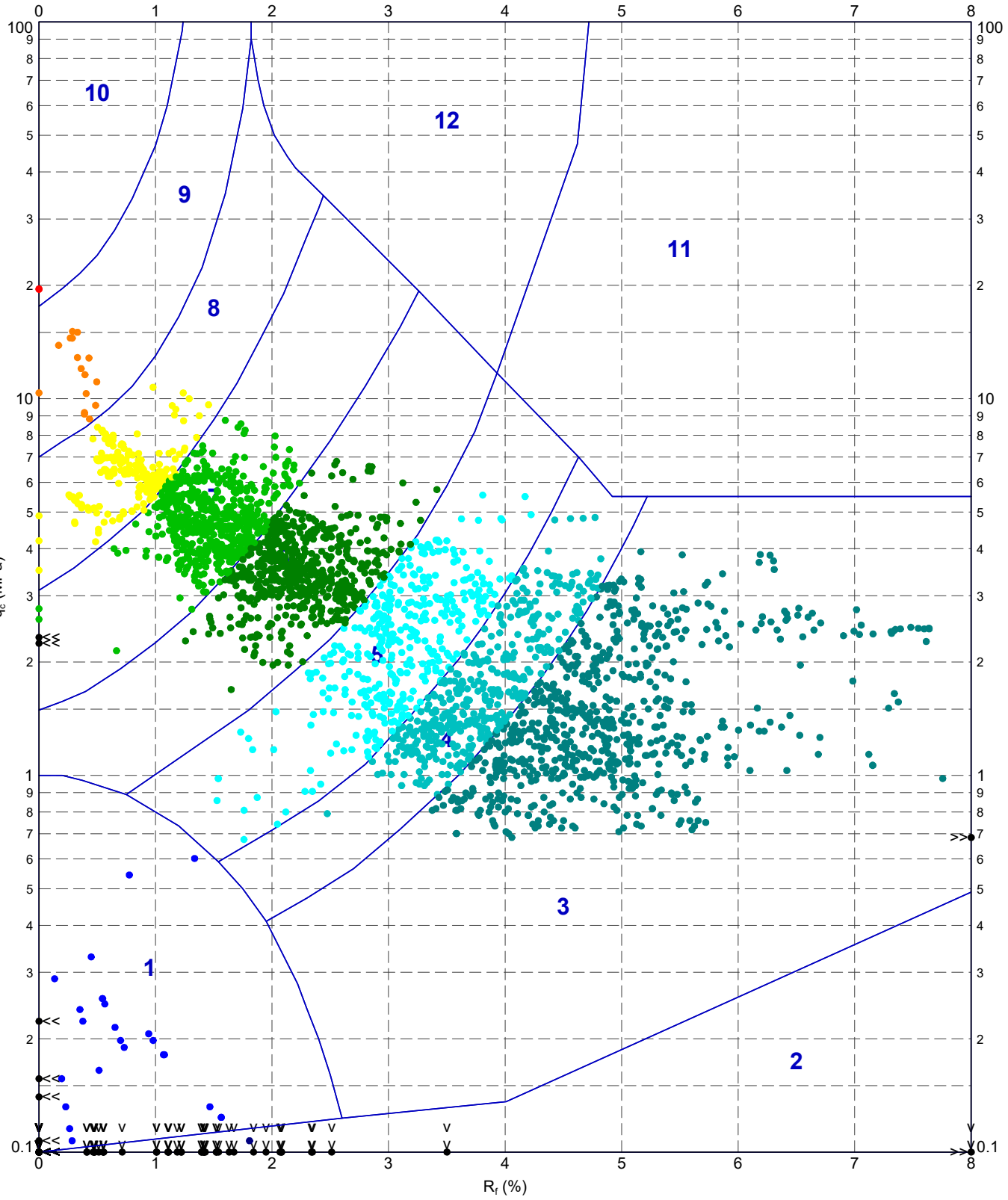
CLIENT : Delta Simons	EASTING : 490984.811 m	Remark:	SHEET : 3 OF 3
PROJECT : Corby	NORTHING : 290849.714 m	Test refused on tip resistance.	STATUS : Final
LOCATION : Cordby	ELEVATION : 105.220 m OD		TEST DATE : 11/02/2022
PROJECT No. : 1220144	CHECKED BY : LD		PLOT DATE : 04/03/2022
	TERMINATION REASON : Refusal		METHOD : ISO 22476-1:2012



CONE ID	: DP10-CFPTxy.60154	TEST TYPE	: TE2	CPTU ZERO VALUES		
CONE MODEL	: Subtraction	APPLICATION CLASS	: 2	Transducer	Pre	Post / Difference
CONE AREA	: 10cm²	RIG	: CPT 016 - Broomhall	Tip (MPa)	0.305	0.321 / -0.016485
CONE AREA RATIO	: 0.71	OPERATOR	: TR	Sleeve (kPa)	0.0173	0.0168 / 0.000551
FILTER POSITION	: u2	FRICTION REDUCER	: None	u2 (kPa)	-0.00254	0.0127 / -0.015223
FILTER TYPE	: HDPE	WEATHER	: Sunny & Hot	Inclinometer 1 (°)	-0.927	0.440 / -1.366902
				Inclinometer 2 (°)	0.455	-0.326 / 0.781173

Groundwater Level

Dissipation Test



METHOD: Robertson et al. 1986 qc Rf

1 - Sensitive fine grained material	4 - Silty CLAY to CLAY	7 - Silty SAND to sandy SILT	10 - Gravelly SAND to SAND
2 - Organic material	5 - Clayey SILT to silty CLAY	8 - SAND to silty SAND	11 - Very stiff fine grained
3 - CLAY	6 - Sandy SILT to clayey SILT	9 - SAND	12 - SAND to clayey SAND

IN SITU
SITE INVESTIGATION

TITLE

Delta Simons
Cordby
Corby
Robertson et al. 1986 q_c vs. R_f - SCPT

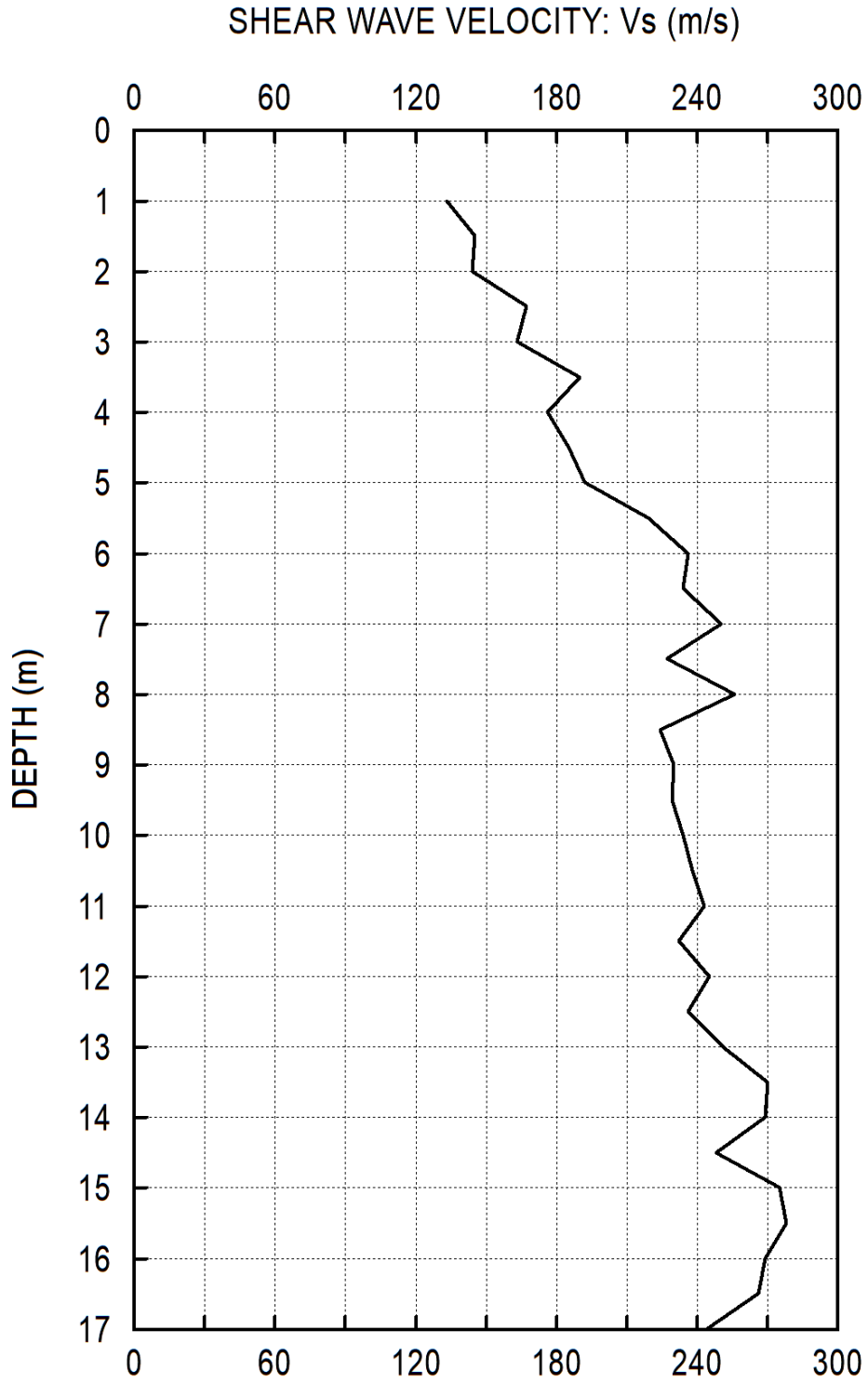
DRAWN		DATE	04/03/2022
CHECKED		DATE	04/03/2022
SCALE	Not To Scale		A4
PROJECT No	1220144	FIGURE No	

APPENDIX C

Seismic Dilatometer Marchetti (SDMT) Measurements

SEISMIC DILATOMETER TEST (S D M T)

In Situ SI	Delta Simons	TEST
1220144-Corby	Corby	SCPT 01
		11 FEB 2022



SCPT 01 - Vs

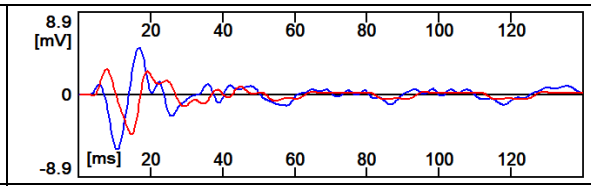
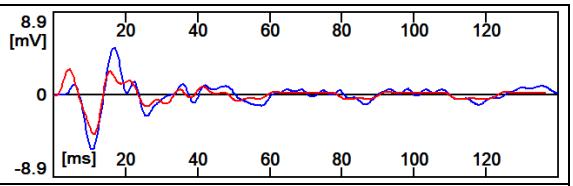
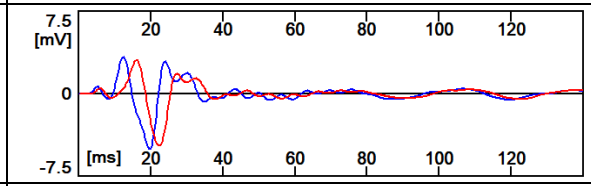
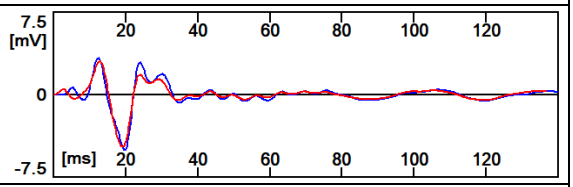
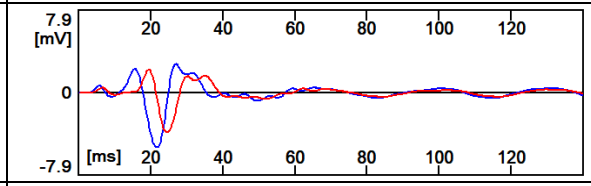
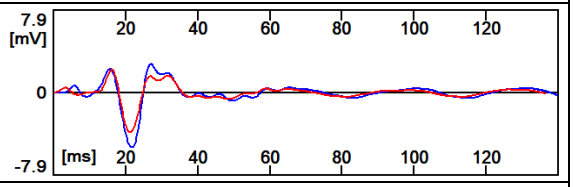
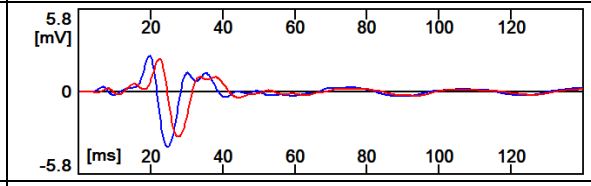
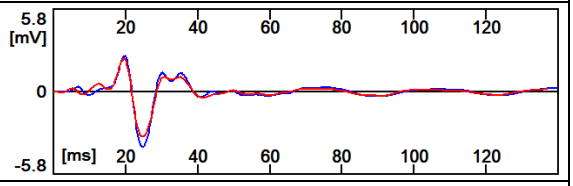
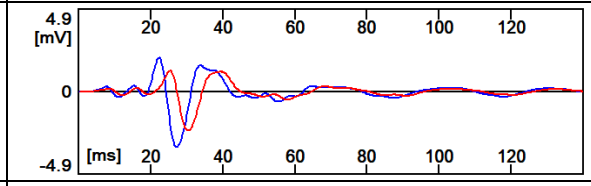
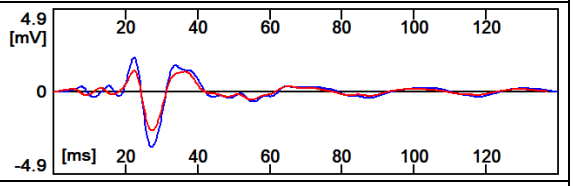
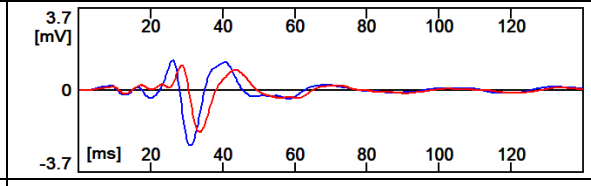
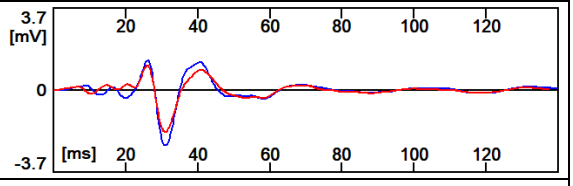
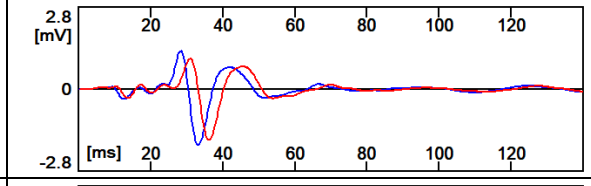
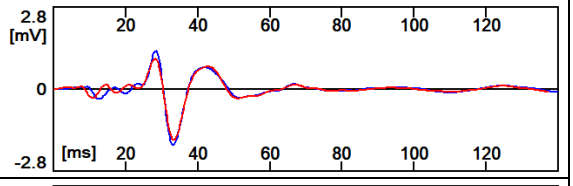
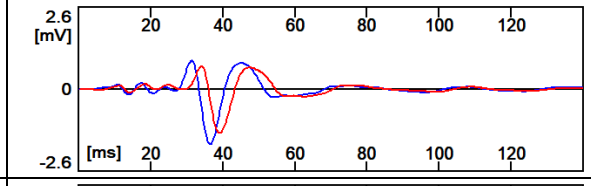
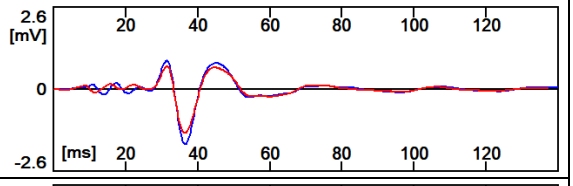
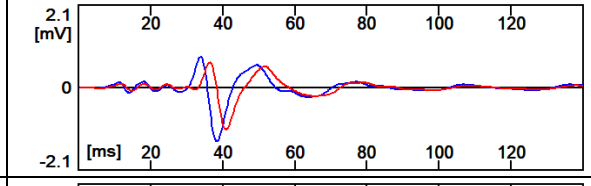
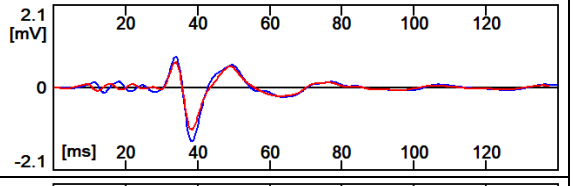
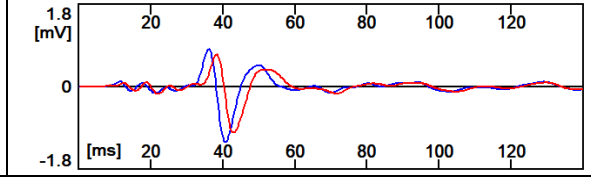
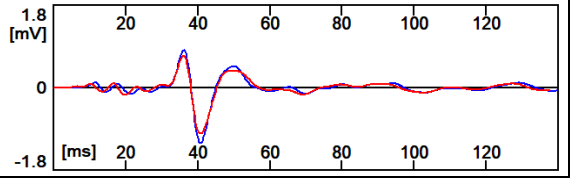
RECORDED **RE-PHASED**

SCPT 01 - Tabular data: Vs, Go, Vs Repeatability

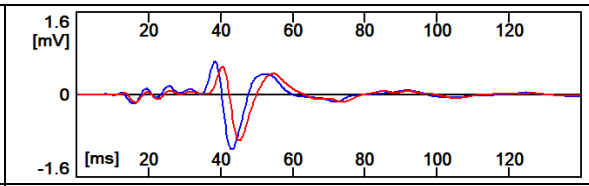
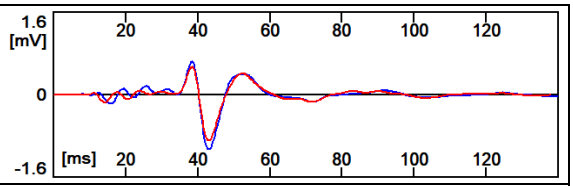
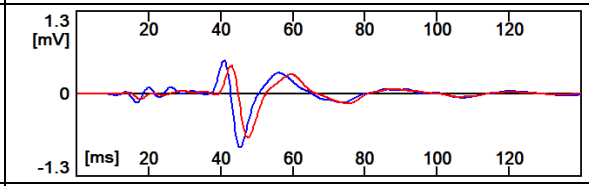
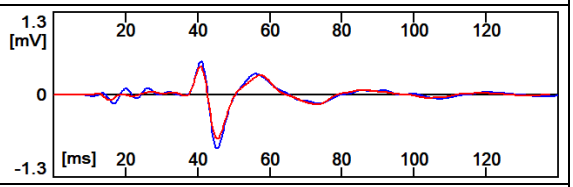
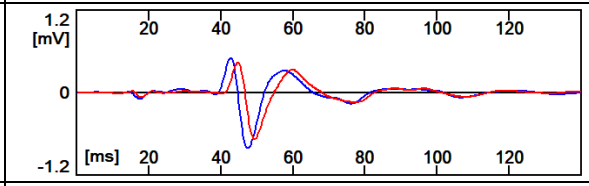
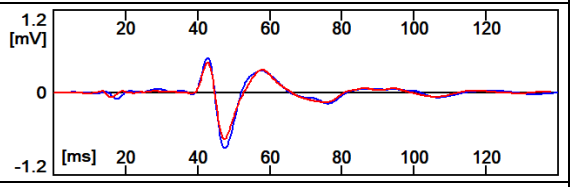
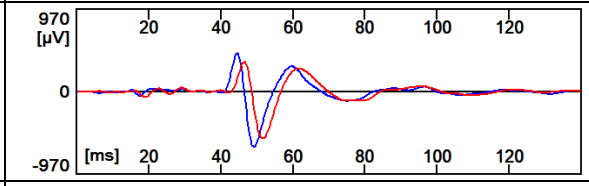
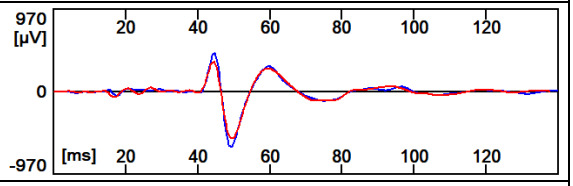
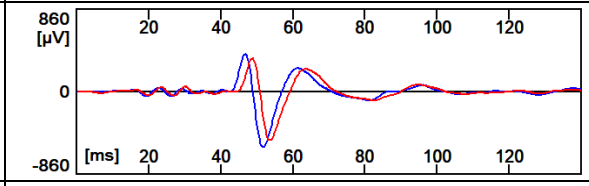
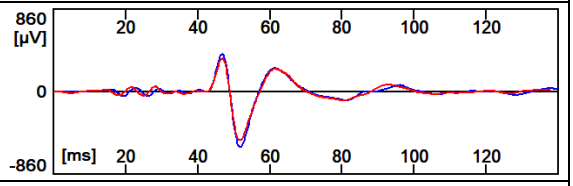
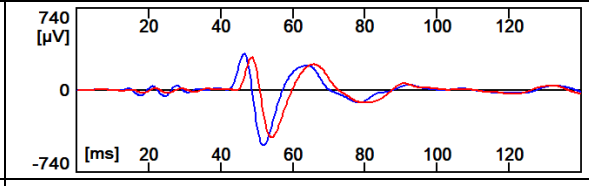
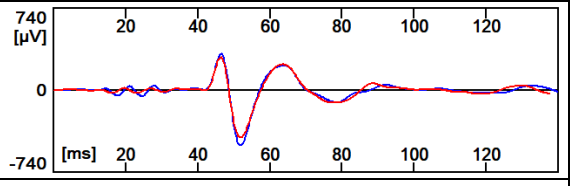
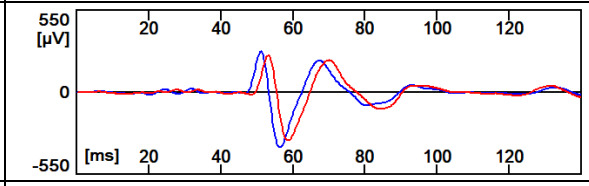
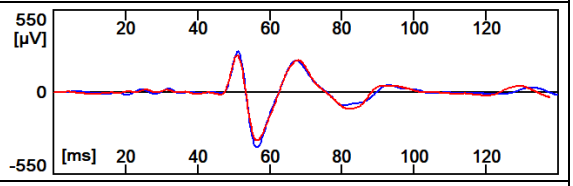
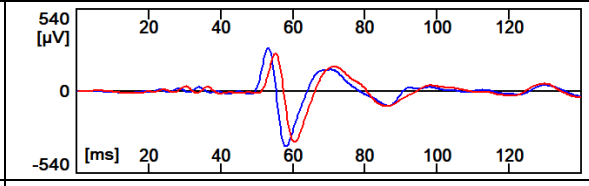
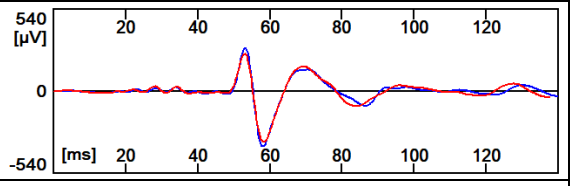
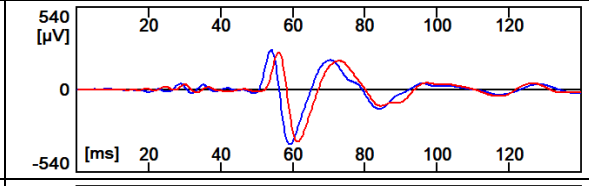
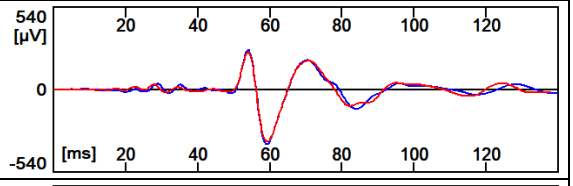
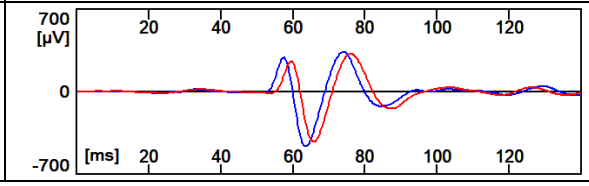
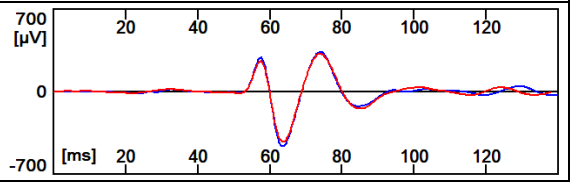
Each Vs value in the 'Vs Repeatability' column corresponds to a distinct energization.

Z	Vs	Go	Rho	Vs Repeatability	Var Coeff.
[m]	[m/s]	[MPa]	[kg/m^3]	[m/s]	[%]
1.00	133	30.7	1733	129,130,139	4.15
1.50	145	36.4	1733	145,144,147	1.09
2.00	144	35.9	1733	145,143,144	0.69
2.50	167	48.3	1733	166,169,166	1.04
3.00	163	46.0	1733	161,162,166	1.62
3.50	190	62.6	1733	190,187,192	1.34
4.00	176	53.7	1733	176,175	0.57
4.50	185	59.3	1733	184,185,187	0.85
5.00	192	63.9	1733	192,190,193	0.82
5.50	219	83.1	1733	219,216,222	1.37
6.00	236	96.5	1733	238,236,233	1.08
6.50	234	94.9	1733	234,234,233	0.30
7.00	250	108	1733	250,248,251	0.63
7.50	227	89.3	1733	229,226,225	0.93
8.00	256	114	1733	255,255,257	0.48
8.50	224	87.0	1733	223,226,223	0.77
9.00	230	91.7	1733	228,233,228	1.27
9.50	229	90.9	1733	230,229,228	0.44
10.00	234	94.9	1733	237,234,230	1.51
10.50	238	98.2	1733	236,239,239	0.73
11.00	243	102	1733	243,246,241	1.05
11.50	232	93.3	1733	233,229,234	1.14
12.00	245	104	1733	246,243,247	0.87
12.50	236	96.5	1733	236,237,234	0.67
13.00	251	109	1733	252,252,250	0.49
13.50	270	126	1733	268,271,270	0.59
14.00	269	125	1733	273,264,271	1.76
14.50	248	107	1733	250,246,249	0.86
15.00	275	131	1733	281,272,273	1.80
15.50	278	134	1733	278,283,272	1.99
16.00	269	125	1733	265,277,266	2.48
16.50	266	123	1733	263,262,273	2.29
17.00	244	103	1733	246,246,241	1.19

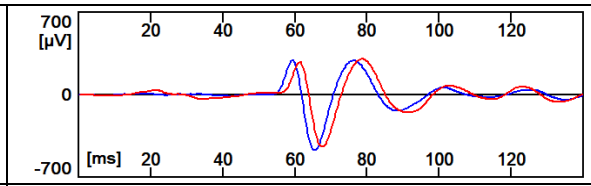
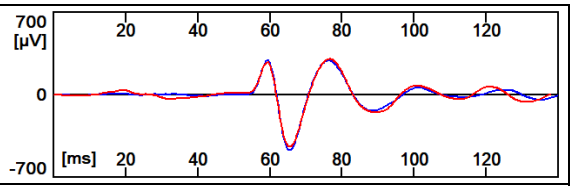
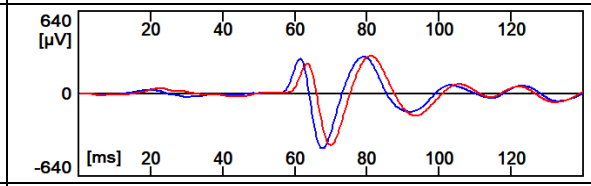
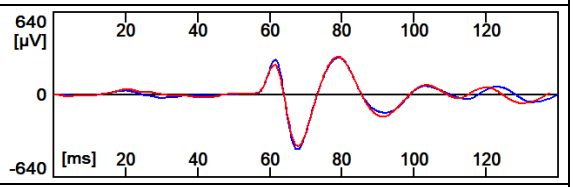
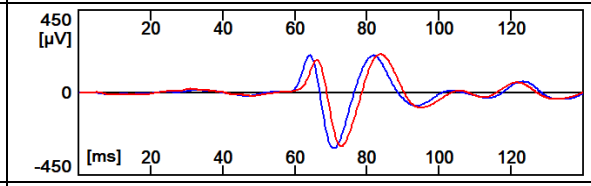
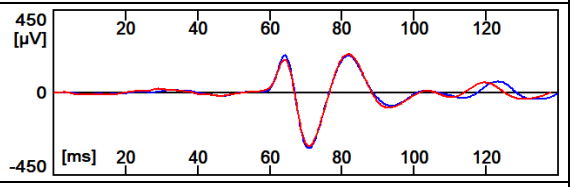
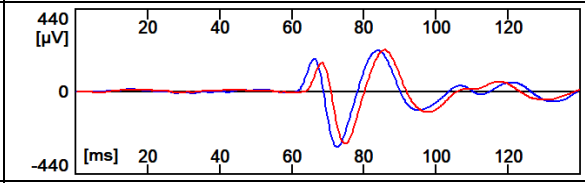
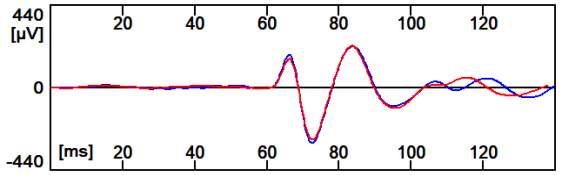
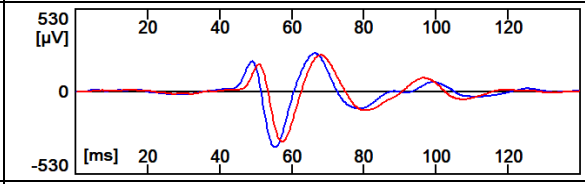
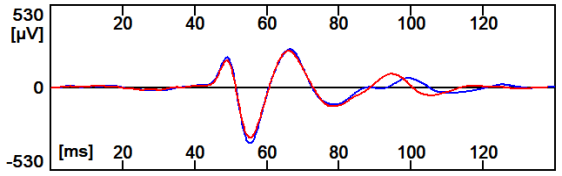
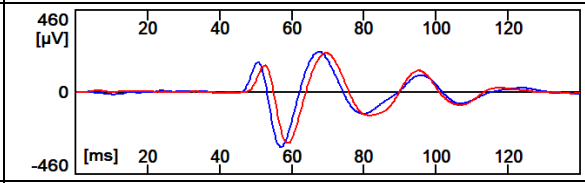
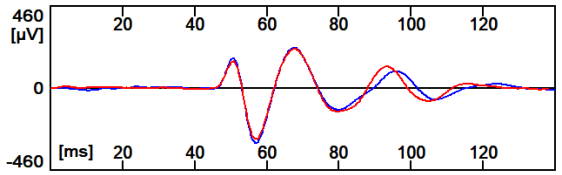
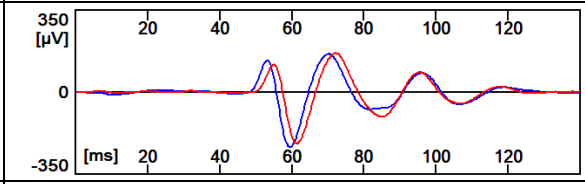
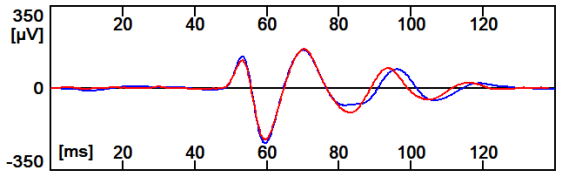
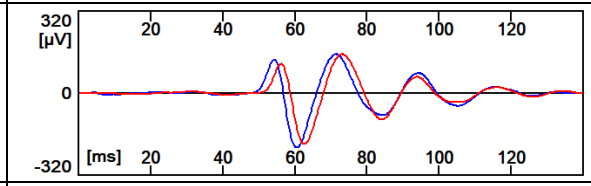
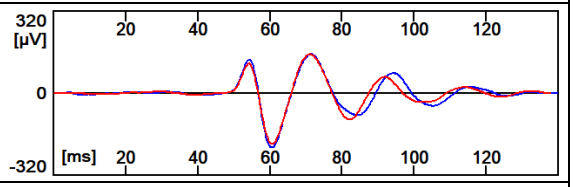
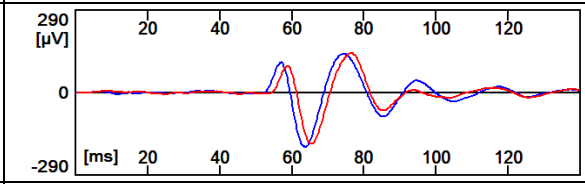
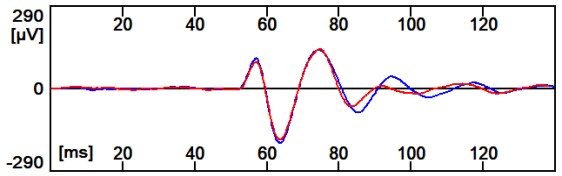
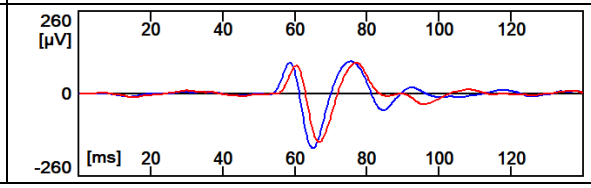
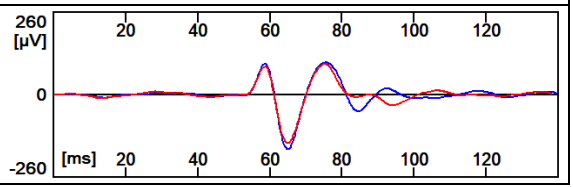
SCPT 01 - Vs

	RECORDED	RE-PHASED
Z = 1.00 m Ds = 0.44 m Dt = 3.46 ms Vs = 129 m/s 11 FEB 2022 12:18:21		
Z = 1.50 m Ds = 0.47 m Dt = 3.26 ms Vs = 145 m/s 11 FEB 2022 12:41:56		
Z = 2.00 m Ds = 0.48 m Dt = 3.34 ms Vs = 145 m/s 11 FEB 2022 12:43:44		
Z = 2.50 m Ds = 0.49 m Dt = 2.95 ms Vs = 166 m/s 11 FEB 2022 12:48:29		
Z = 3.00 m Ds = 0.49 m Dt = 3.07 ms Vs = 161 m/s 11 FEB 2022 12:50:13		
Z = 3.50 m Ds = 0.49 m Dt = 2.61 ms Vs = 190 m/s 11 FEB 2022 12:52:13		
Z = 4.00 m Ds = 0.50 m Dt = 2.81 ms Vs = 176 m/s 11 FEB 2022 12:53:53		
Z = 4.50 m Ds = 0.50 m Dt = 2.70 ms Vs = 184 m/s 11 FEB 2022 12:55:54		
Z = 5.00 m Ds = 0.50 m Dt = 2.59 ms Vs = 192 m/s 11 FEB 2022 12:57:27		
Z = 5.50 m Ds = 0.50 m Dt = 2.27 ms Vs = 219 m/s 11 FEB 2022 12:59:39		

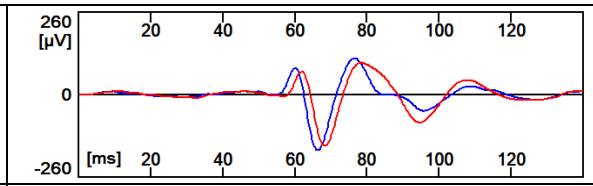
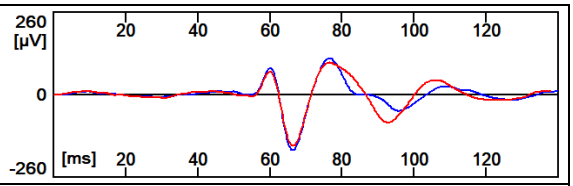
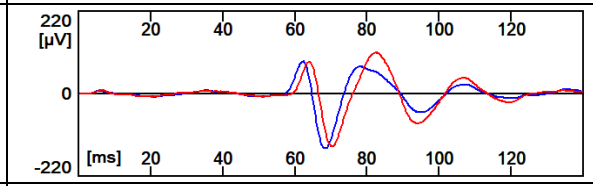
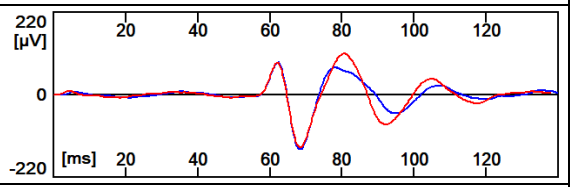
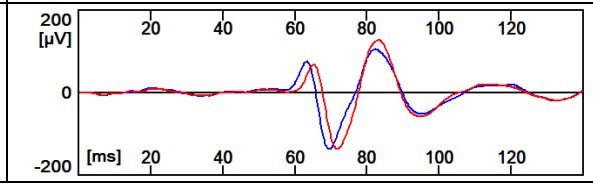
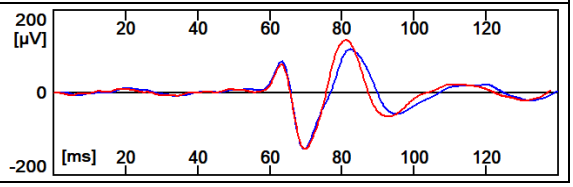
SCPT 01 - Vs

	RECORDED	RE-PHASED
Z = 6.00 m Ds = 0.50 m Dt = 2.09 ms Vs = 238 m/s 11 FEB 2022 13:01:43		
Z = 6.50 m Ds = 0.50 m Dt = 2.13 ms Vs = 234 m/s 11 FEB 2022 13:03:20		
Z = 7.00 m Ds = 0.50 m Dt = 2.00 ms Vs = 250 m/s 11 FEB 2022 13:05:08		
Z = 7.50 m Ds = 0.50 m Dt = 2.18 ms Vs = 229 m/s 11 FEB 2022 13:06:46		
Z = 8.00 m Ds = 0.50 m Dt = 1.96 ms Vs = 255 m/s 11 FEB 2022 13:08:48		
Z = 8.50 m Ds = 0.50 m Dt = 2.24 ms Vs = 223 m/s 11 FEB 2022 13:10:32		
Z = 9.00 m Ds = 0.50 m Dt = 2.19 ms Vs = 228 m/s 11 FEB 2022 13:12:19		
Z = 9.50 m Ds = 0.50 m Dt = 2.17 ms Vs = 230 m/s 11 FEB 2022 13:15:25		
Z = 10.00 m Ds = 0.50 m Dt = 2.11 ms Vs = 237 m/s 11 FEB 2022 13:17:05		
Z = 10.50 m Ds = 0.50 m Dt = 2.12 ms Vs = 236 m/s 11 FEB 2022 14:18:39		

SCPT 01 - Vs

	RECORDED	RE-PHASED
Z = 11.00 m Ds = 0.50 m Dt = 2.06 ms Vs = 243 m/s 11 FEB 2022 14:25:42		
Z = 11.50 m Ds = 0.50 m Dt = 2.15 ms Vs = 233 m/s 11 FEB 2022 14:27:49		
Z = 12.00 m Ds = 0.50 m Dt = 2.03 ms Vs = 246 m/s 11 FEB 2022 14:29:15		
Z = 12.50 m Ds = 0.50 m Dt = 2.12 ms Vs = 236 m/s 11 FEB 2022 14:31:18		
Z = 13.00 m Ds = 0.50 m Dt = 1.98 ms Vs = 252 m/s 11 FEB 2022 14:32:44		
Z = 13.50 m Ds = 0.50 m Dt = 1.86 ms Vs = 268 m/s 11 FEB 2022 14:34:56		
Z = 14.00 m Ds = 0.50 m Dt = 1.83 ms Vs = 273 m/s 11 FEB 2022 14:36:32		
Z = 14.50 m Ds = 0.50 m Dt = 2.00 ms Vs = 250 m/s 11 FEB 2022 14:38:14		
Z = 15.00 m Ds = 0.50 m Dt = 1.78 ms Vs = 281 m/s 11 FEB 2022 14:39:42		
Z = 15.50 m Ds = 0.50 m Dt = 1.80 ms Vs = 278 m/s 11 FEB 2022 14:41:24		

SCPT 01 - Vs

	RECORDED	RE-PHASED
Z = 16.00 m **Ds = 0.50 m** **Dt = 1.89 ms** **Vs = 265 m/s** **11 FEB 2022** **14:43:26**		
Z = 16.50 m **Ds = 0.50 m** **Dt = 1.90 ms** **Vs = 263 m/s** **11 FEB 2022** **14:45:33**		
Z = 17.00 m **Ds = 0.50 m** **Dt = 2.03 ms** **Vs = 246 m/s** **11 FEB 2022** **14:47:35**		

IN SITU SITE INVESTIGATION

Unit 23 Hastings Innovation
Centre,
Highfield Drive
St. Leonards on Sea, East Sussex,
TN38 9UH, U.K.

Company No.: 6339499
VAT No.: 922 3561 41

Appendix D – Geophysical Survey Report

GEOPHYSICAL SURVEY REPORT

Project

Soil Resistivity Survey

Location

Corby

Client

DeltaSimons

Head Office
Unit 1
Link Trade Park
Penarth Road
Cardiff CF11 8TQ
United Kingdom

Telephone: +44 (0)2920 700127
www.terradat.co.uk

Job reference: 7823
Date: February 2022
Version: 1

GEOPHYSICAL SURVEY REPORT

Project

Soil Resistivity Survey

Location

Corby

Client

DeltaSimons

Project Geophysicist: R Stevens MESci (Int) FGS

Reviewer: S Hughes PhD BSc FGS

Job Reference: 7823

Date: February 2022

CONTENTS

Figure

Appendices

1 EXECUTIVE SUMMARY

This report describes five soil resistivity tests performed as part of a ground investigation at Corby. The survey work was commissioned by DeltaSimons (the Client) and took place on the 8th and 9th of February 2022.

The electrode “a” spacings utilised during this survey were (in meters) 0.3, 0.9, 1.5, 3, 4.5, 6.1, 9.1, 15.2, 21.3, 27.4, 33.5, 39.6 and 45.7. The specification followed was IEEE Std 81-2012. The data is tabulated and plotted will be used in the design of a proposed energy-from-waste facility.

2 INTRODUCTION

This report describes five soil resistivity tests performed as part of a ground investigation at Corby. The survey work was commissioned by DeltaSimons (the Client) and took place on the 8th and 9th of February 2022.

2.2 Site Description

Five tests were performed at the location of a proposed energy-from-waste Facility (Figure 1). Each test was positioned using GPS coordinates provided by the Client. The site covers a 2.3 Ha area that comprises a predominantly gravel surface with some tarmacadam surfaces roadways that run across the site (Plate 1).

At present, the site is utilized as an additional car park area, but historically it was an ironstone quarry from 1951 to 1980, after being decommissioned the quarry was subsequently backfilled with waste material from the quarry.

Plate 1: *Survey area at RH-1, looking north*

2.3 Geological setting

The underlying bedrock strata are the Northampton Sand Formation which has been noted to be up to 21 m thick and is described by the British Geological Survey (BGS) as *"Sandy, berthierine-ooidal and sideritic ironstone, greenish-grey where fresh, weathering to brown limonitic sandstone… The unit includes lenses of mudstone and limestone in places…"*.

Historical borehole data suggests the rockhead is around 21.20 m deep (BGS reference: SP99SW1330), with the overlying material being backfill from the decommissioning of the quarry. The fill is dominated by firm to stiff silty clays with regular occurrences of gravel and "bands of fine orange-brown sand".

3 Survey objectives

The objective of the survey is as follows:

- Produce apparent resistivity data from vertical electrical soundings at five specified locations.

3.1 Survey design

The Client specified vertical electrical soundings from 4-pin testing to aid earthing design. The 4-pin testing was carried out at the five specified locations.

3.1 Quality control

The geophysical data were collected in line with normal operating procedures as outlined by the instrument manufacturer and TerraDat company policy. On completion of the survey, the data sets were downloaded from the survey instrument to a computer and backed up appropriately. The acquired datasets were checked initially for errors that may be caused by instrument noise, weak batteries, and positional discrepancies. Any field notes are subsequently written up or incorporated in the data processing stage. The data sets are then processed using standard processing routines, and once completed, the resulting plots are subject to peer review to

ensure the integrity of the interpretation. The quality control standards are BS EN ISO 9001:2015 certified.

4 SURVEY DESCRIPTION

The survey was carried out using the following geophysical method:

- **Vertical electrical sounding (4-pin testing)**: These measurements are used to aid the design of earthing installation design.

4.1 Survey layout and topographic survey

For the vertical electrical soundings, two approximately orthogonal soundings were acquired at each position provided by the Client (Table 1). The locations were positioned on-site using a Topcon Hiper-SR network-corrected RTK GPS. As it was not possible to acquire positions outside the site, several of the larger “a” spacings were excluded from the survey.

4.2 Survey design – vertical electrical soundings

The electrode “a” spacings utilised during this survey were (in meters) 0.3, 0.9, 1.5, 3, 4.5, 6.1, 9.1, 15.2, 21.3, 27.4, 33.5, 39.6 and 45.7. The specification followed was IEEE Std 81-2012.

These spacings measure the apparent resistivity (R) of the ground at depths of investigation approximately equivalent to ¾ of the “a” spacing. Assuming a depth of ¾ of the electrode spacings, this provides resistivity readings between 0.23 and 34.26 m BGL. The resistivity is calculated as V / I where V = measured voltage (volts) and I = injected current (Amps).

Due to the ‘electrical’ insulating properties of the tarmacadam, the Client was required to drill a 38 mm deep hole through the tarmacadam to allow the electrodes to be inserted into the sub-base material.

These positions have been noted in the results.

Each resistivity reading was stacked three times and then repeated twice at each electrode spacing. Therefore, the final values presented in the table are an average of six individual readings.

The instrument used for the testing was an *IRIS SYSCAL Junior Switch 72* resistivity meter (Serial number 242). The calibration certificate for this meter is included in the Appendix.

The coordinates of the test locations are presented in Table 1.

Location	Eastings	Northings	Elevation (m aOD)
RH-1	491071.20	290890.88	104.49
RH-2	491019.56	290905.95	104.42
RH-3	491008.07	290865.93	104.56
RH-4	490957.69	290862.88	105.43
RH-5	490896.28	290852.64	106.16

***Table 1**: Test locations in OSGB36 coordinates.*

Vertical electrical sounding – background information

Resistivity measurements are made by passing a DC electrical current through the ground using a pair of electrodes and measuring the resulting potential gradient within the subsurface using a second electrode pair. There are several different electrode configurations; the most common type used is the Wenner array, which uses equal spaced electrodes (Plate 2).

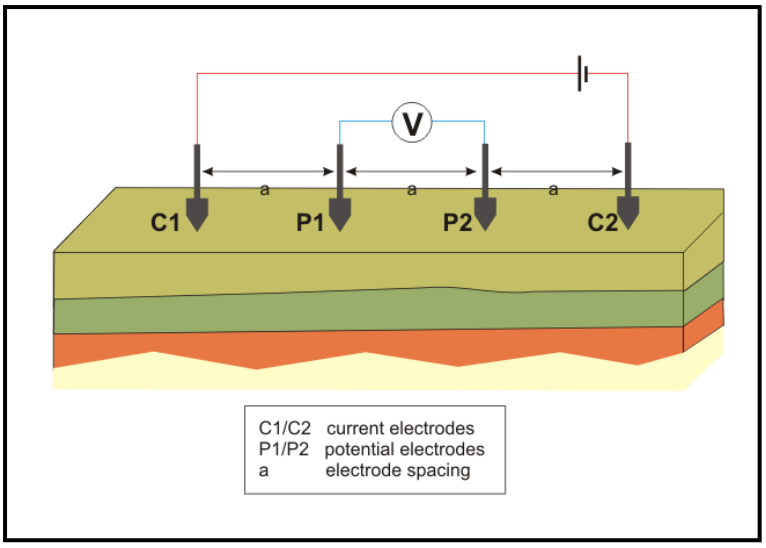


Plate 2: *Resistivity testing setup (Wenner array)*

For a given electrode spacing ‘a’, the resistivity calculation is based on

$$\rho a = 2paR$$

where

ρa Apparent resistivity

a electrode spacing

R voltage/current (V/I)

By gradually increasing the spacing between the current/potential electrodes, the depth of investigation is increased.

5 RESULTS

The results of the vertical electrical soundings are given in appendix 1 (*Corby_VES_soundings _TD7823.xlsx*). Potential (V) and current (I) measurements are provided, and Resistivity values (Rho) are shown in Ohm meters as calculated by the resistivity meter. Resistivity (***ρ)*** for the Wenner array is calculated using the formula ($\boldsymbol{\rho}=2\pi\boldsymbol{aR}$), where resistance is derived from the current and potential readings as ($\boldsymbol{R}=\boldsymbol{V/I}$). The results for the apparent resistivity have been plotted in Plate 3 for comparison.

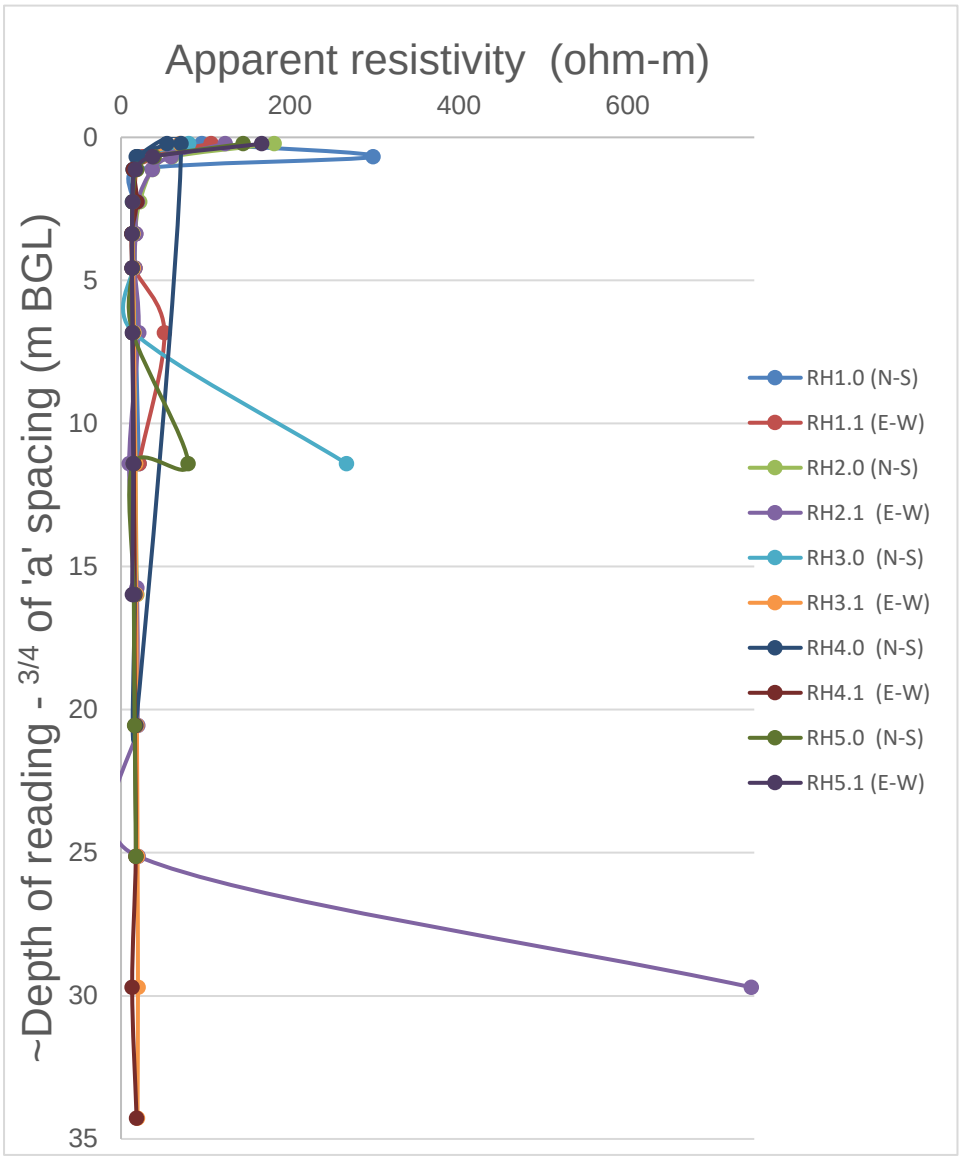


Plate *3*: *Summary apparent resistivity v depth plot of each resistivity sounding*

Field notes:

Weather conditions –

08/02/2022: Cloudy overcast temperature 8 °c pressure 1027 mbar, readings taken between 8:30 and 16:20 (RH-1, RH-2, RH-3, RH-4)

09/02/2022: Cloudy overcast temperature 10 °c pressure 1022 mbar readings taken between 8:10 and 10:00 (RH-5)

General observations:

There is a general trend showing resistivity values decreasing with depth; the moderate resistivity values for all the subsurface are within a range of 9.6 to 298.51 ohm.m (excluding the anomalous 746.51 ohm.m reading), which is indicative of a clay-rich lithology.

There are two anomalous results; the first is RH-2 line 2 (E-W), which has an anomalous result for “a” spacing 39.6. This is probably a result of the easternmost current electrode being inserted into a bank of very loose material. All possible actions were taken to decrease the resistance between the ground and electrode. Even though the resulting resistance check was within the acceptable range (6 Kohm), it was relatively higher than the others. RH-3 line 1 also has an anomalous reading at “a” spacing 15.2; this is potentially a result of interference from the service that is 2 m south of the southernmost current electrode.

FIGURES

A) Location of sections through specified point

B) Coordinates of sounding location

Location	Eastings	Northings	Elevation (m aOD)
RH-1	491071.20	290890.88	104.49
RH-2	491019.56	290905.95	104.42
RH-3	491008.07	290865.93	104.56
RH-4	490957.69	290862.88	105.43
RH-5	490896.28	290852.64	106.16

Insert map (NTS)

KEY

Resistivity sounding line

Centre point of sounding location

Site boundary

Notes

Source: Map data ©2022 Google.

Contains client basemap:*112101-00-YTC-CDA-MET-101-Locations of In Situ Geotechnical Tests.dwg*

TERRA DAT
down to earth geophysics
Tel: +44 (0) 2920 700127
Web:www.terradat.co.uk
Email: web@terradat.co.uk

Title:

LOCATION PLAN

Project:

Soil resistivity survey, Coby

Scale: 1:1000 at A3

Drawn by/Ref: RS/7823/1

Date:21 February 2022

FIGURE 1

APPENDICES

Serial Number: 242	SYSCAL JUNIOR switch 72	IRIS INSTRUMENTS
Tested by: SA	Test report & Certificate of calibration	
Date: 10/24/19		
Page 1 / 1		

Test equipment used		
Multimeter : FLUKE 189	Serial Number : PM02	Calibration due date : 10/01/20
Multimeter : FLUKE 189	Serial Number : PM03	Calibration due date : 10/01/20
Battery tester	Serial Number : PTB01	Calibration due date : 08/03/20
SWITCH Tester	Model with Extension Link connector	
COMSYS Module	Model with COMSYS SP option	

Detailed Test Report				
Nature of the test	Test conditions, reference data (ammeter, voltmeter, ohmmeter, battery tester...)	Expected Specifications	Unit under test	Pass / Fail
Software				
Software	Version 12.0a			
Measures				
Vmn measure	From Save Energy to Vp max	< 0.2 % typ	0.17%	ok
Precision of the current measure	Deviation from I = 805.8 mA	< 0.2 % typ	0.02%	ok
Input voltage saturation	Injection of voltage > 5 V	5 V	5.0V	ok
Functional tests				
Test of the full output power	For Vab maximum and Rab ≈ 1700 Ω	100 W ± 2.5%	94.78 W	ok
Test of the short circuit output current	For Vab = 50 V and Rab = 20 Ω	1.15 A min	1.195 A	ok
Test of the maximum output voltage	Pointed out during the full output power test	≈ 400 V	400 V	ok
Electrodes switching tested	Check with Prosys II			ok
Leakage Test	Rmn = 33 kΩ, In ≈ 14 mA, 250 ms	Vp < 2 mV	0.100 mV	ok
Isolation test with the front panel	Performed during injection			ok
Batteries				
Type of internal batteries	Sealed lead acid battery type			
Tx battery : Ref & values from the battery tester	Batch ref. number: 181205AB JK01MA	12V / 7.2 Ah	13.1V / 8.7 Ah	ok
Rx battery : Ref & values from the battery tester	Batch ref. number: 181107B JK01MA	12V / 7.2 Ah	13.1V / 8.3 Ah	ok
Internal and external Tx battery operation	Tests performed in both settings			ok
Visual indication of very low Tx battery	Voltage below which the LED lights red		9.63 V	ok
Visual indication of good Tx battery	Voltage below which the LED lights green		11.32 V	ok
Lithium backup battery	Level voltage	3.6 V	3.67 V	ok
Data				
Check internal data storage and copy to PC	With USB cable and Prosys II software			ok
Download data to the IRIS SD Card reader	Reading data with Prosys II software			ok
Load a sequence from ELECTRE Pro software	Check file in Syscal memory			ok
Options				
Check "Extension link" connector	Connector not available on this device			NA
COMSYS SP Option	Option not avalaibale on this device			NA
In the field test of endurance				
Electrical survey	Wenner - Schlumberger, 15 different spacing			ok
Multi-electrode survey	To Vp max and external battery: Dipôle-Dipôle, Pôle-Dipôle, Pôle-Pôle, Wenner-Schlumberger et Dipôle-Dipôle multi spacing			ok

Made at IRIS Instruments in Orleans, France,
October 30th, 2019

L. Cabaret, Production manager

IRIS INSTRUMENTS
1, Avenue Buffon
45100 ORLEANS - FRANCE
Tél. : 02 38 63 81 00 - Fax : 02 38 63 81 82
S.A.S. au capital de 1 260 480 €
SIRET N° 380 202 390 00023 / APE 2651B

Appendix E – Geotechnical Analysis Results

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

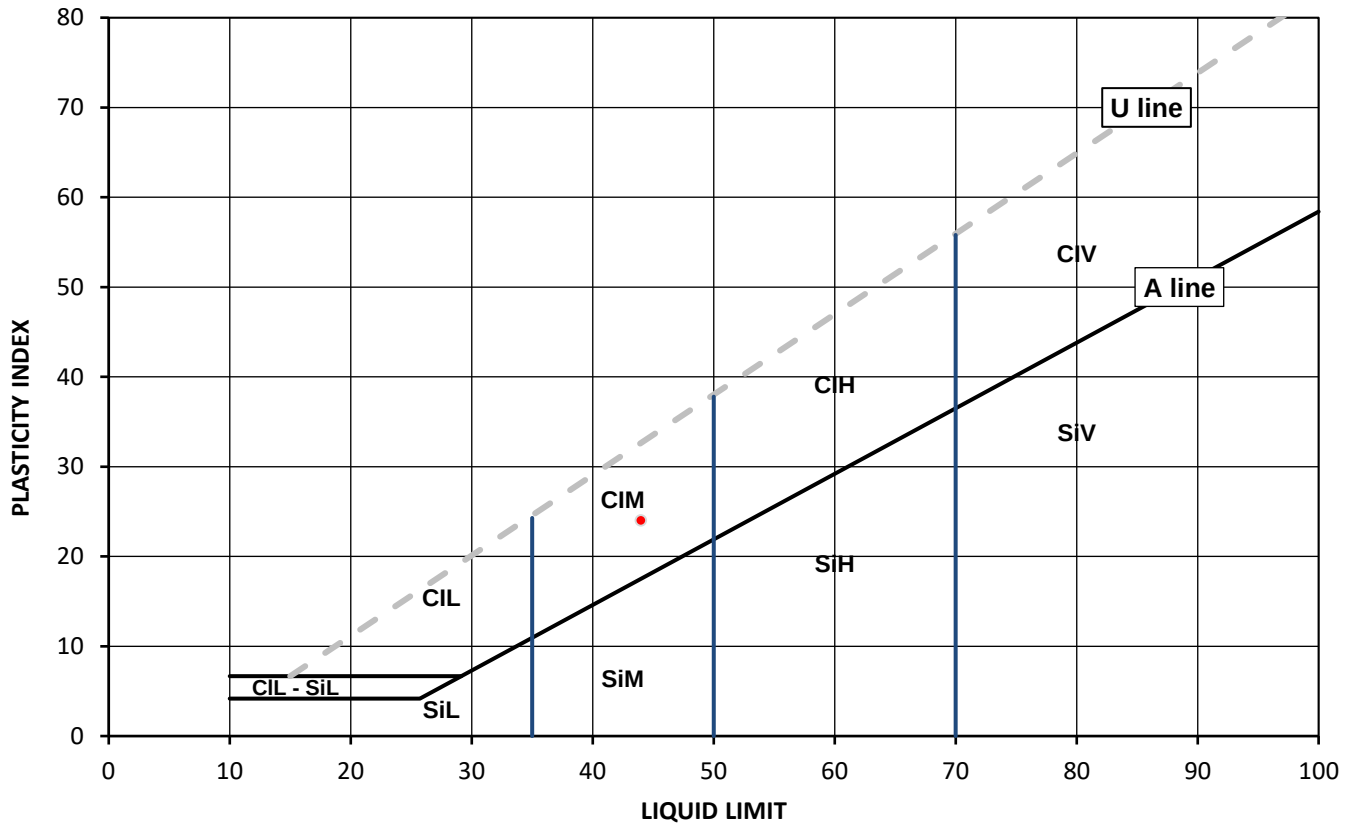
Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178519	Depth Top [m]:	2.00
Hole No.:	BH3	Depth Base [m]:	2.45
Sample Reference:	1	Sample Type:	U
Sample Description:	Greyish brown slightly gravelly sandy very clayey SILT with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
22	44	20	24	90



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

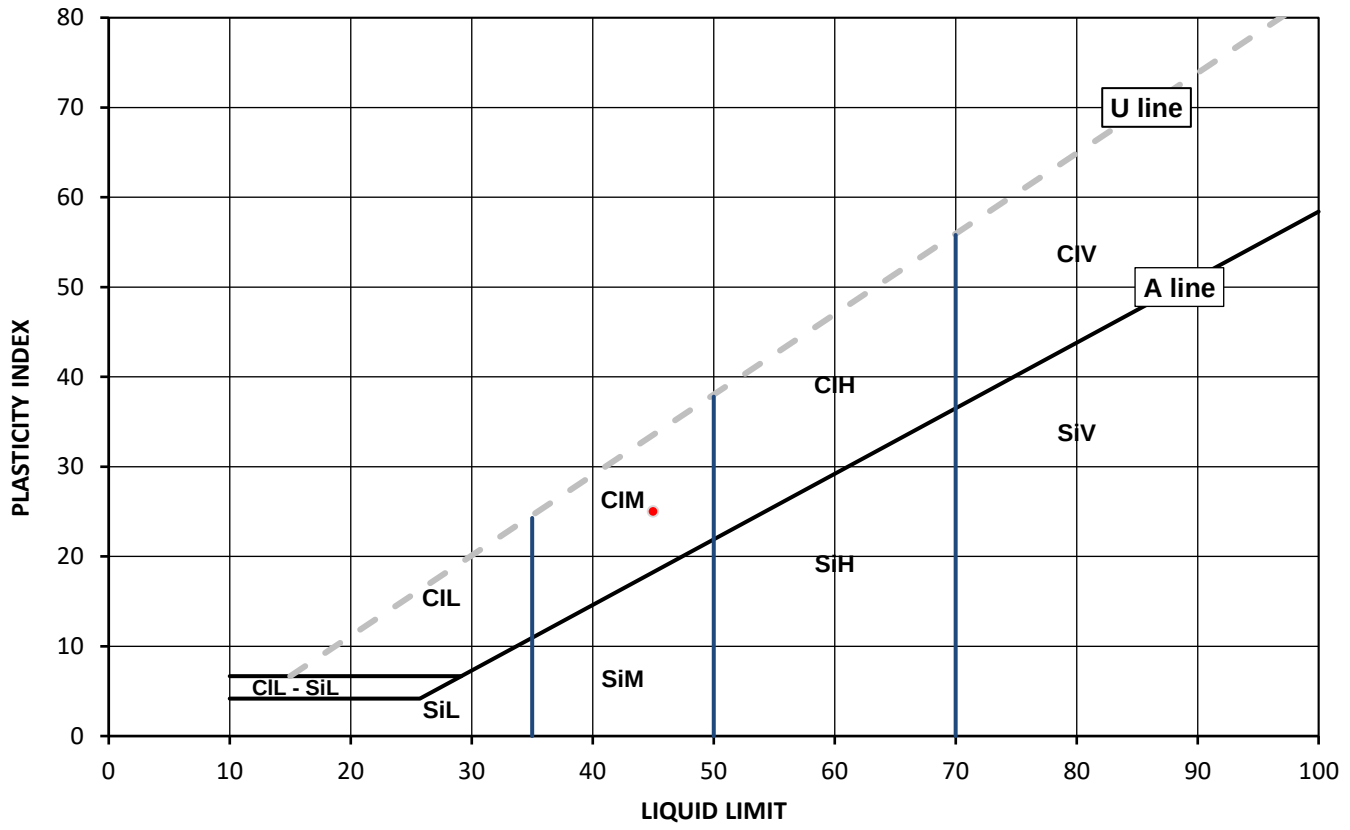
Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178520	Depth Top [m]:	4.00
Hole No.:	BH3	Depth Base [m]:	4.45
Sample Reference:	2	Sample Type:	U
Sample Description:	Grey gravelly sandy very silty CLAY with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	45	20	25	76



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

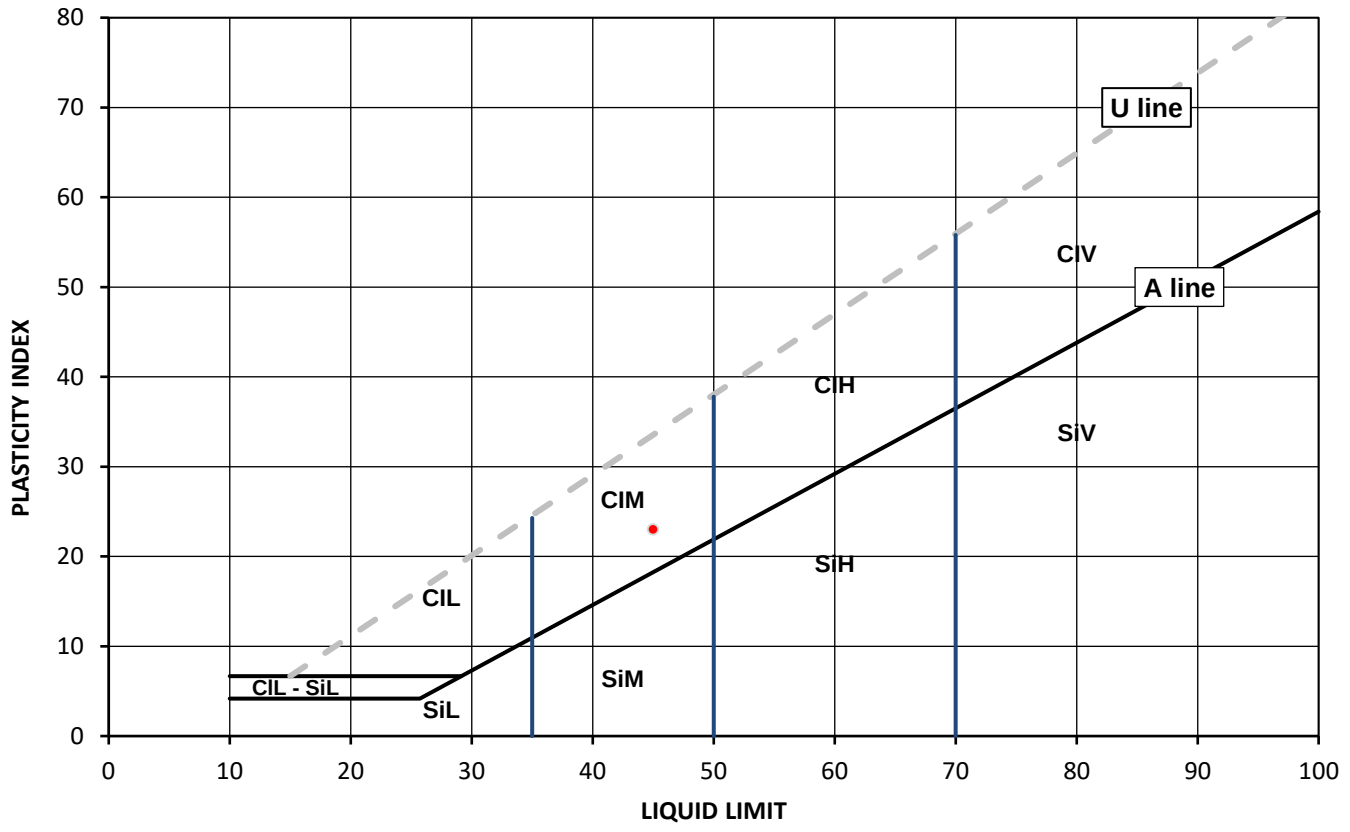
Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178521	Depth Top [m]:	6.50
Hole No.:	BH3	Depth Base [m]:	6.95
Sample Reference:	3	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy very silty CLAY with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
21	45	22	23	89



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

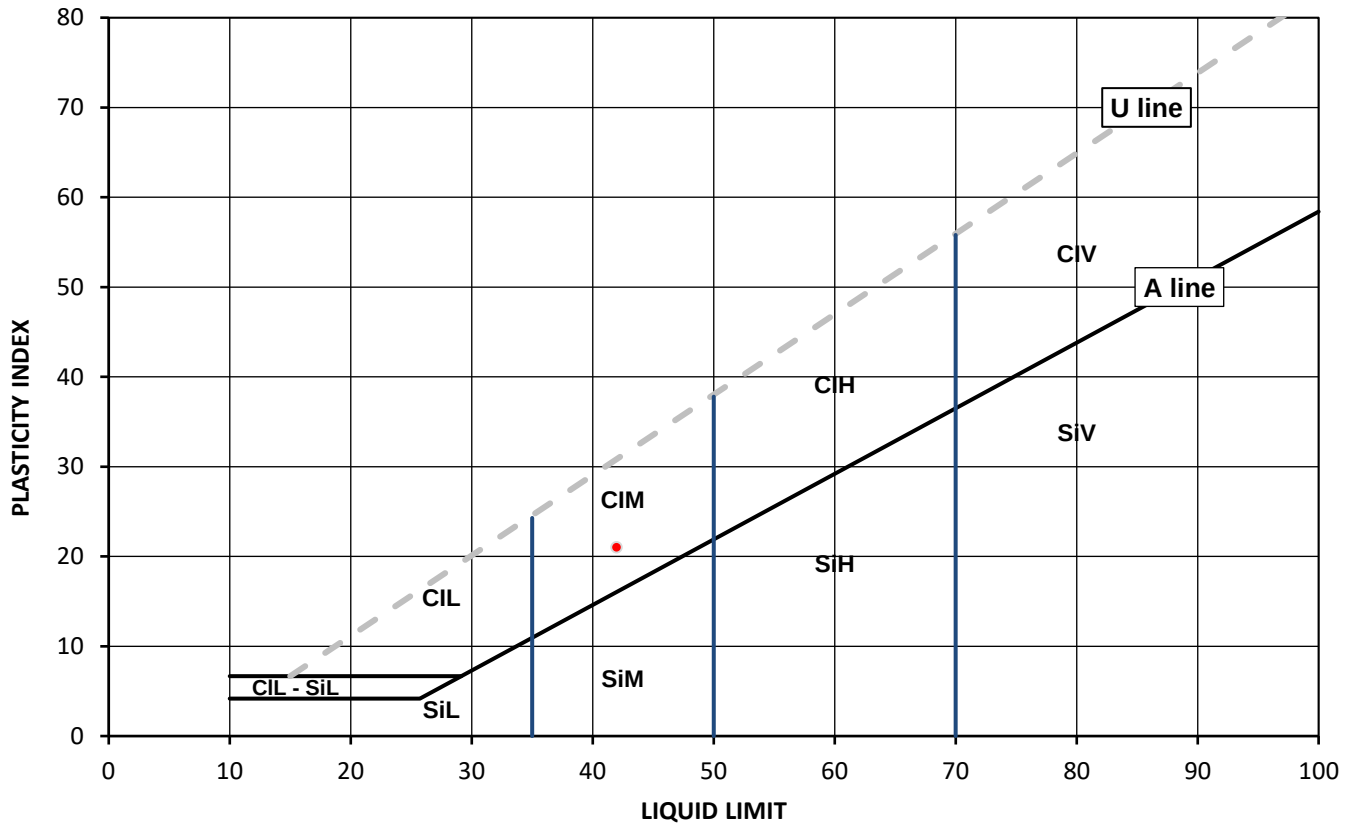
Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178522	Depth Top [m]:	2.00
Hole No.:	BH11	Depth Base [m]:	2.45
Sample Reference:	1	Sample Type:	U
Sample Description:	Grey slightly gravelly sandy very clayey SILT		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
19	42	21	21	86



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

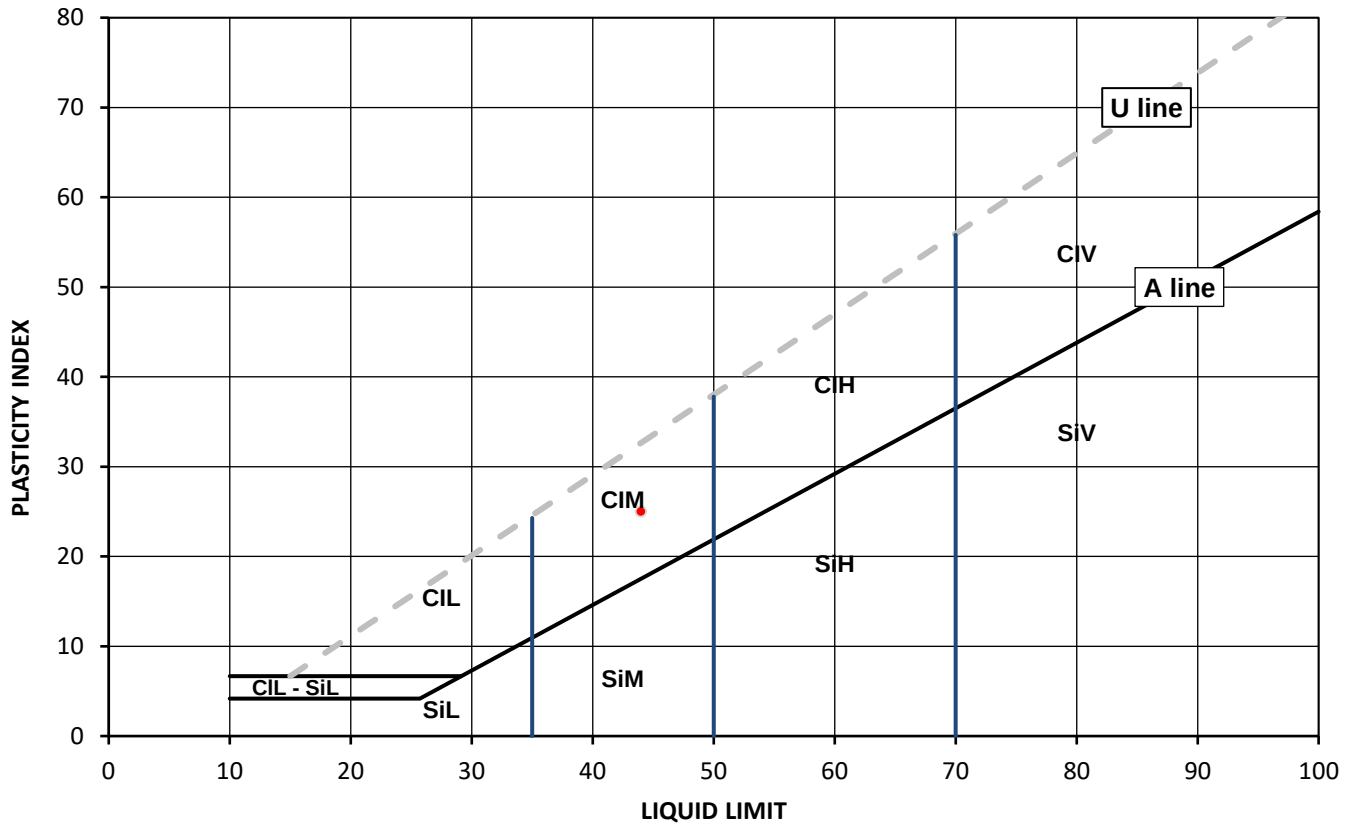
Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178523	Depth Top [m]:	4.00
Hole No.:	BH11	Depth Base [m]:	4.45
Sample Reference:	2	Sample Type:	U
Sample Description:	Greyish brown gravelly sandy very clayey SILT with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
20	44	19	25	90



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

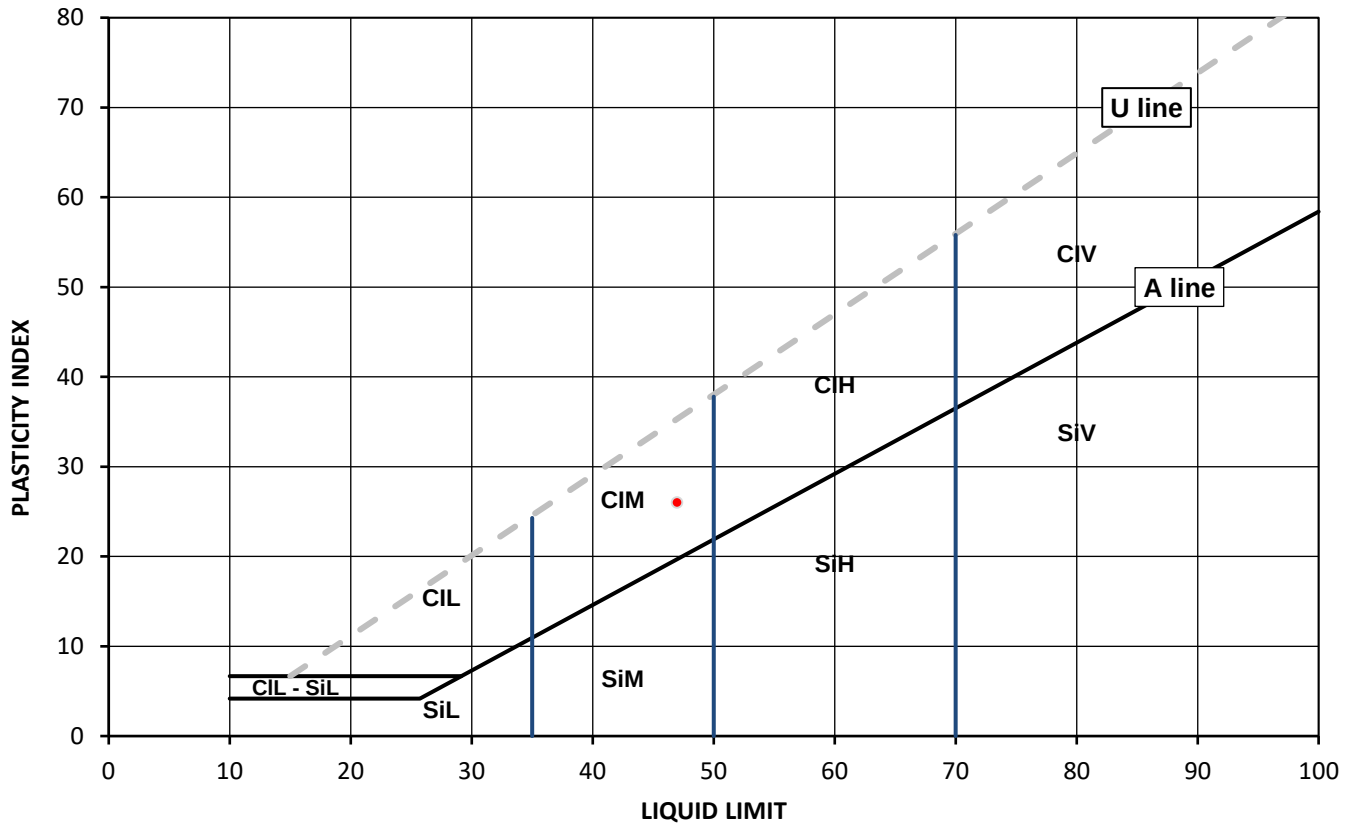
Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178524	Depth Top [m]:	11.00
Hole No.:	BH11	Depth Base [m]:	11.45
Sample Reference:	3	Sample Type:	U
Sample Description:	Grey to yellowish brown gravelly sandy very silty CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
16	47	21	26	88



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 236.12

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

Water Content by BS 1377-2:1990: Clause 3.2; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR

Contact: Harry Whittle

Site Address: Corby EFW

Client Reference: 15 0645 05
Job Number: 22-40679
Date Sampled: 07/02/2022
Date Received: 08/02/2022
Date Tested: 24/02/2022
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W]	Water Content BS EN ISO 17892-2 [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%		
2178522	BH11	1	2.00	2.45	U	Grey slightly gravelly sandy very clayey SILT	Atterberg 4 Point	19		86	42	21	21			2.70			
2178523	BH11	2	4.00	4.45	U	Greyish brown gravelly sandy very clayey SILT with fragments of chalk	Atterberg 4 Point	20		90	44	19	25			2.69			
2178524	BH11	3	11.00	11.45	U	Grey to yellowish brown gravelly sandy very silty CLAY	Atterberg 4 Point	16		88	47	21	26						
2178519	BH3	1	2.00	2.45	U	Greyish brown slightly gravelly sandy very clayey SILT with fragments of chalk	Atterberg 4 Point	22		90	44	20	24						
2178520	BH3	2	4.00	4.45	U	Grey gravelly sandy very silty CLAY with fragments of chalk	Atterberg 4 Point	18		76	45	20	25						
2178521	BH3	3	6.50	6.95	U	Brownish grey slightly gravelly sandy very silty CLAY with fragments of chalk	Atterberg 4 Point	21		89	45	22	23						

Note: # Non accredited; NP - Non plastic

Comments: Preliminary report

Signed:

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 238.14

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Harry Whittle

Site Address: Corby EFW

Client Reference: 15 0645 05
Job Number: 22-40679
Date Sampled: 07/02/2022
Date Received: 08/02/2022
Date Tested: 24/02/2022
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type			%				
2178522	BH11	1	2.00	2.45	U	Grey slightly gravelly sandy very clayey SILT		19	Sample was quartered, oven dried at 106.4 °C			
2178523	BH11	2	4.00	4.45	U	Greyish brown gravelly sandy very clayey SILT with fragments of chalk		20	Sample was quartered, oven dried at 106.4 °C			
2178524	BH11	3	11.00	11.45	U	Grey to yellowish brown gravelly sandy very silty CLAY		16	Sample was quartered, oven dried at 106.4 °C			
2178519	BH3	1	2.00	2.45	U	Greyish brown slightly gravelly sandy very clayey SILT with fragments of chalk		22	Sample was quartered, oven dried at 106.4 °C			
2178520	BH3	2	4.00	4.45	U	Grey gravelly sandy very silty CLAY with fragments of chalk		18	Sample was quartered, oven dried at 106.4 °C			
2178521	BH3	3	6.50	6.95	U	Brownish grey slightly gravelly sandy very silty CLAY with fragments of chalk		21	Sample was quartered, oven dried at 106.4 °C			

Comments: Preliminary report

Signed:

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 099.16

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

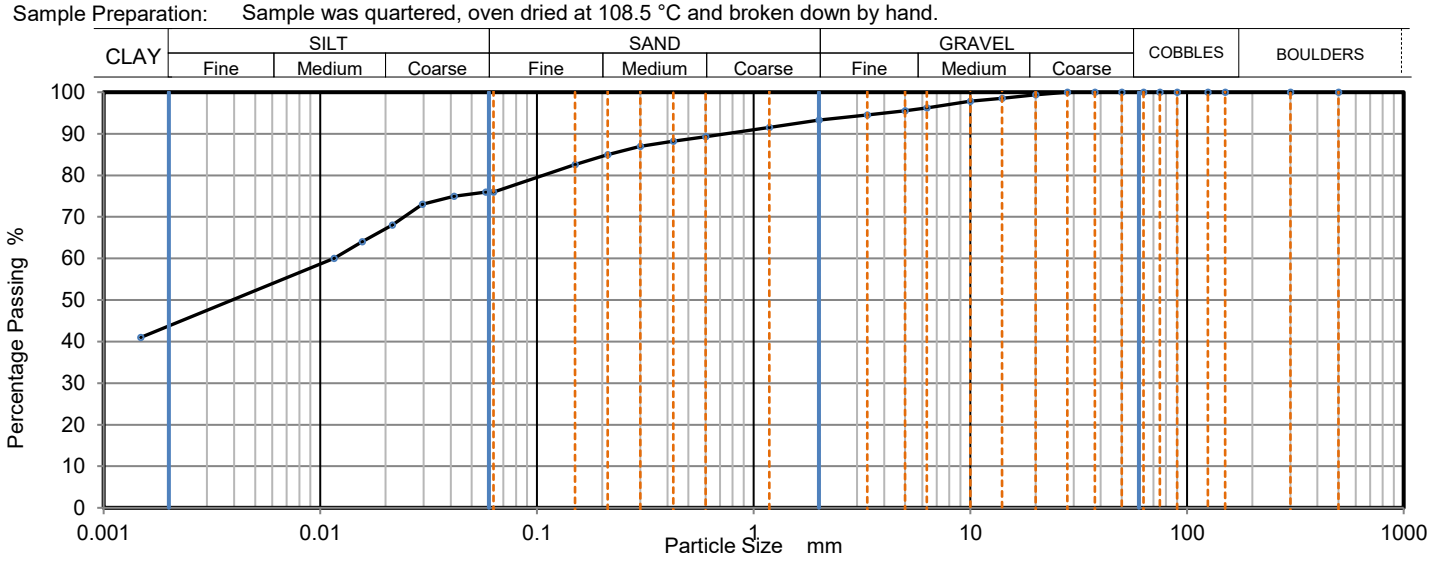
4041

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178514	Depth Top [m]:	1.30
Hole No.:	TR-1	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Brownish grey slightly gravelly sandy very silty CLAY		
Sample Preparation:	Sample was quartered, oven dried at 108.5 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0580	76
300	100	0.0414	75
150	100	0.0296	73
125	100	0.0215	68
90	100	0.0156	64
75	100	0.0116	60
63	100	0.0015	41
50	100		
37.5	100		
28	100		
20	99		
14	99		
10	98		
6.3	96		
5	96		
3.35	95	Particle density	(assumed)
2	93	2.65	Mg/m3
1.18	92		
0.6	89		
0.425	88		
0.3	87		
0.212	85		
0.15	83		
0.063	76		

Sample Proportions	% dry mass
Very coarse	0
Gravel	7
Sand	17
Silt	32
Clay	44

Grading Analysis		
D100	mm	28
D60	mm	0.011
D30	mm	
D10	mm	
Uniformity Coefficient		> 7.4
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

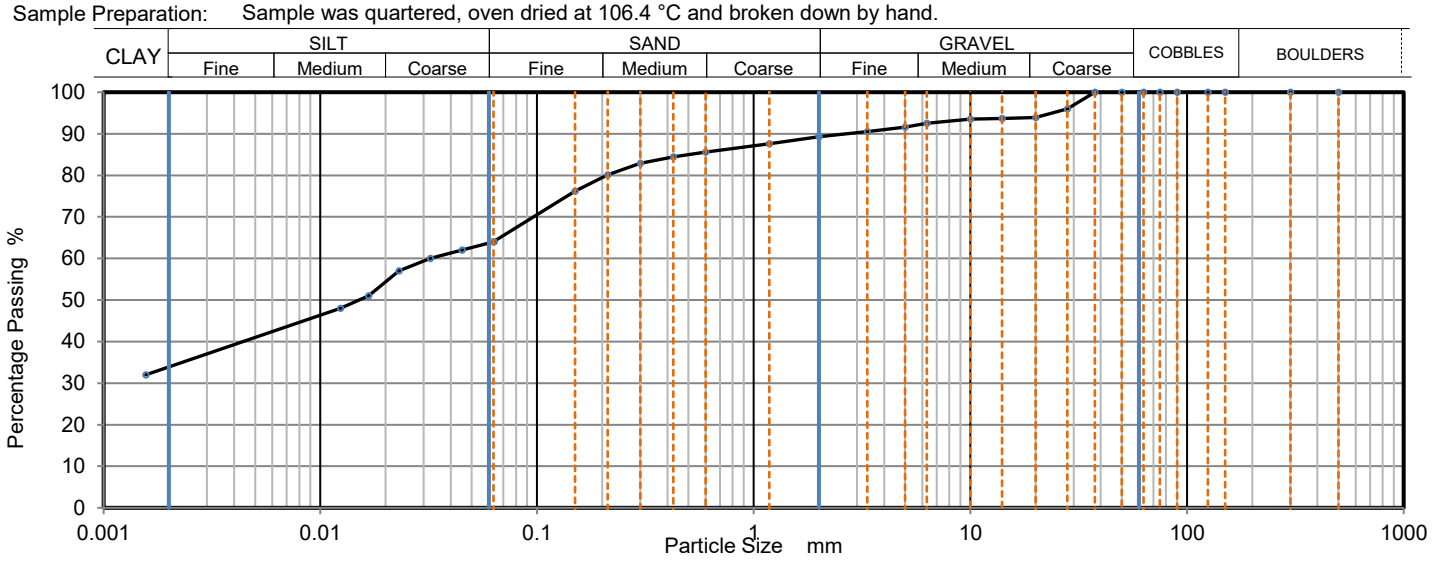
4041

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178515	Depth Top [m]:	0.40
Hole No.:	TR-2	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Brownish grey gravelly sandy very silty CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.4 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0633	64
300	100	0.0451	62
150	100	0.0322	60
125	100	0.0231	57
90	100	0.0167	51
75	100	0.0124	48
63	100	0.0016	32
50	100		
37.5	100		
28	96		
20	94		
14	94		
10	94		
6.3	93		
5	92		
3.35	91	Particle density	(assumed)
2	89	2.65	Mg/m3
1.18	88		
0.6	86		
0.425	84		
0.3	83		
0.212	80		
0.15	76		
0.063	64		

Sample Proportions	% dry mass
Very coarse	0
Gravel	11
Sand	25
Silt	30
Clay	34

Grading Analysis		
D100	mm	37.5
D60	mm	0.0311
D30	mm	
D10	mm	
Uniformity Coefficient		> 20
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed:

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

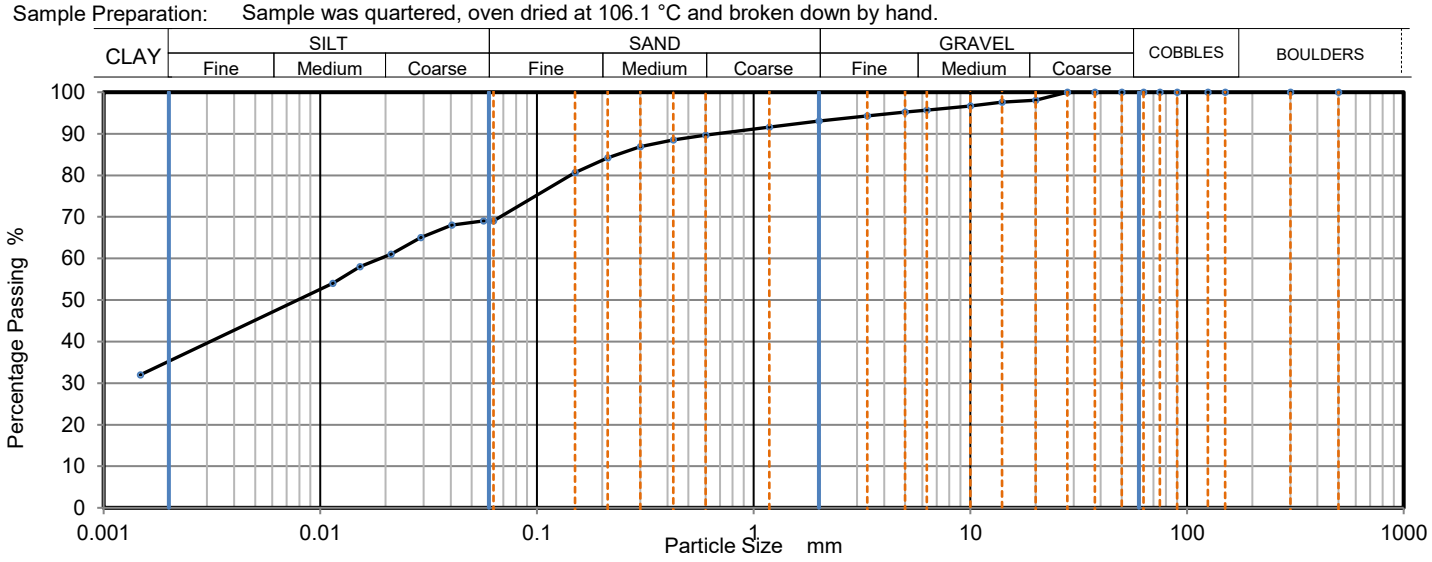
4041

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178516	Depth Top [m]:	1.00
Hole No.:	TR-3	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Grey gravelly sandy very silty CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.1 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0566	69
300	100	0.0404	68
150	100	0.0291	65
125	100	0.0212	61
90	100	0.0152	58
75	100	0.0114	54
63	100	0.0015	32
50	100		
37.5	100		
28	100		
20	98		
14	98		
10	97		
6.3	96		
5	95		
3.35	94	Particle density	(assumed)
2	93	2.65	Mg/m3
1.18	92		
0.6	90		
0.425	89		
0.3	87		
0.212	84		
0.15	81		
0.063	69		

Sample Proportions	% dry mass
Very coarse	0
Gravel	7
Sand	24
Silt	34
Clay	35

Grading Analysis		
D100	mm	28
D60	mm	0.019
D30	mm	
D10	mm	
Uniformity Coefficient		> 13
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

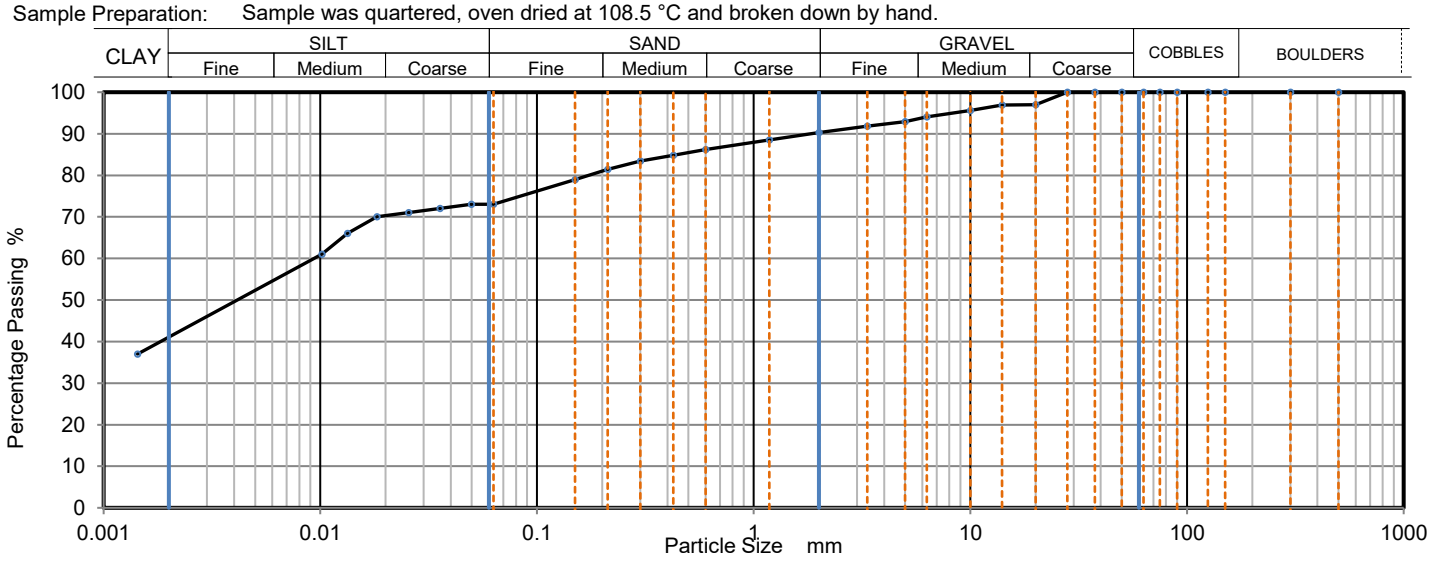
4041

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178517	Depth Top [m]:	0.60
Hole No.:	TR-4A	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Grey gravelly sandy very silty CLAY		
Sample Preparation:	Sample was quartered, oven dried at 108.5 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0498	73
300	100	0.0356	72
150	100	0.0255	71
125	100	0.0183	70
90	100	0.0134	66
75	100	0.0102	61
63	100	0.0014	37
50	100		
37.5	100		
28	100		
20	97		
14	97		
10	96		
6.3	94		
5	93		
3.35	92	Particle density	(measured)
2	90	2.69	Mg/m3
1.18	89		
0.6	86		
0.425	85		
0.3	83		
0.212	81		
0.15	79		
0.063	73		

Sample Proportions	% dry mass
Very coarse	0
Gravel	10
Sand	17
Silt	32
Clay	41

Grading Analysis		
D100	mm	28
D60	mm	0.00933
D30	mm	
D10	mm	
Uniformity Coefficient		> 6.5
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

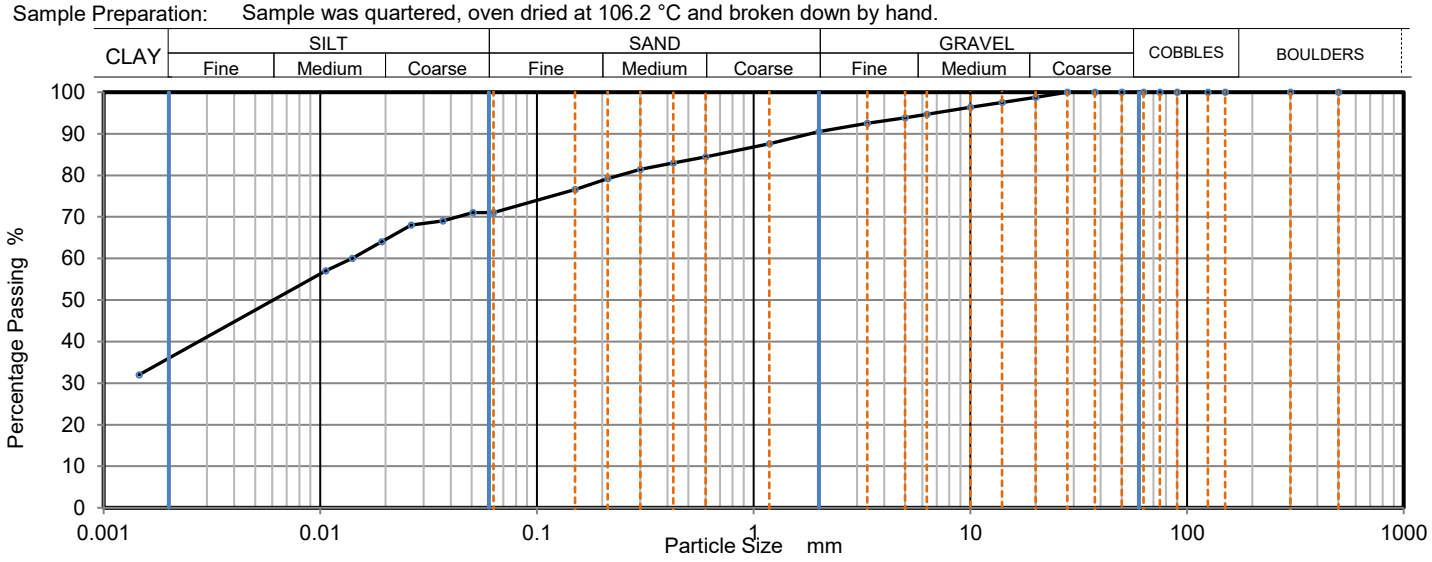
4041

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178518	Depth Top [m]:	0.50
Hole No.:	TR-5	Depth Base [m]:	Not Given
Sample Reference:	2	Sample Type:	B
Sample Description:	Greyish brown gravelly sandy very silty CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.2 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0506	71
300	100	0.0367	69
150	100	0.0263	68
125	100	0.0192	64
90	100	0.0140	60
75	100	0.0106	57
63	100	0.0015	32
50	100		
37.5	100		
28	100		
20	99		
14	98		
10	96		
6.3	95		
5	94		
3.35	93	Particle density	(assumed)
2	91	2.65	Mg/m3
1.18	88		
0.6	84		
0.425	83		
0.3	81		
0.212	79		
0.15	77		
0.063	71		

Sample Proportions	% dry mass
Very coarse	0
Gravel	9
Sand	19
Silt	36
Clay	36

Grading Analysis		
D100	mm	28
D60	mm	0.0138
D30	mm	
D10	mm	
Uniformity Coefficient		> 9.5
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed:

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

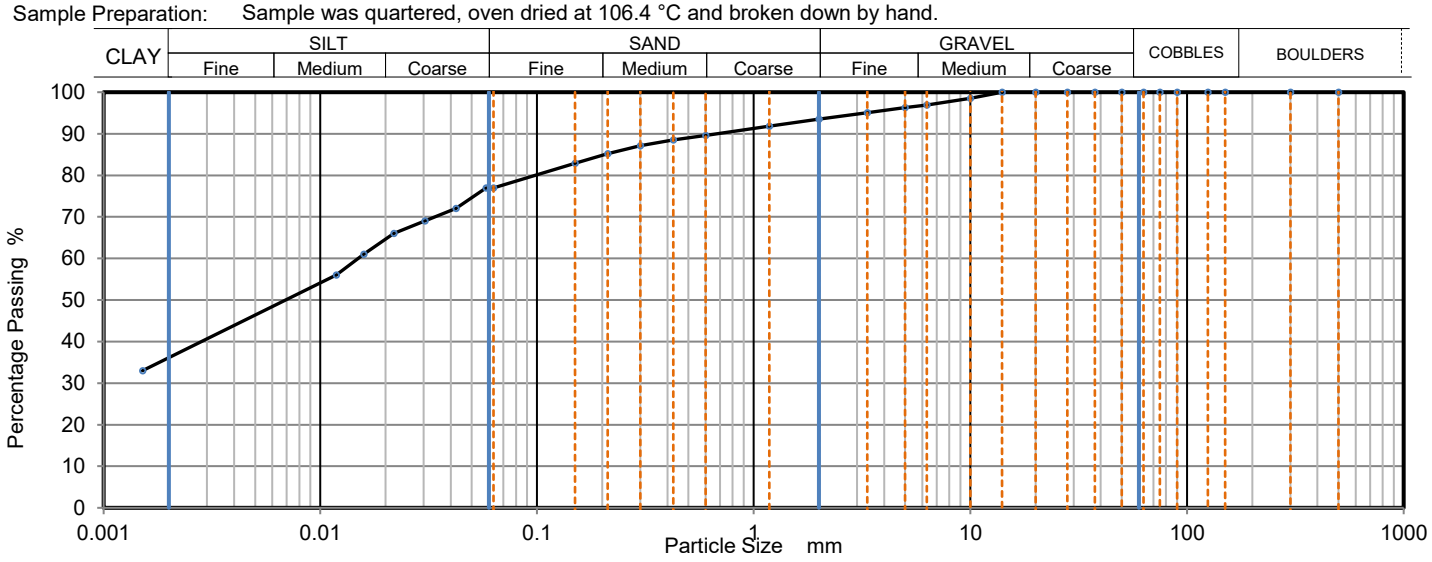
Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178519	Depth Top [m]:	2.00
Hole No.:	BH3	Depth Base [m]:	2.45
Sample Reference:	1	Sample Type:	U
Sample Description:	Greyish brown slightly gravelly sandy very clayey SILT with fragments of chalk		
Sample Preparation:	Sample was quartered, oven dried at 106.4 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0581	77
300	100	0.0422	72
150	100	0.0304	69
125	100	0.0219	66
90	100	0.0158	61
75	100	0.0118	56
63	100	0.0015	33
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	97		
5	96		
3.35	95	Particle density	(assumed)
2	94	2.65	Mg/m3
1.18	92		
0.6	90		
0.425	89		
0.3	87		
0.212	85		
0.15	83		
0.063	77		

Sample Proportions	% dry mass
Very coarse	0
Gravel	6
Sand	17
Silt	41
Clay	36

Grading Analysis		
D100	mm	14
D60	mm	0.0153
D30	mm	
D10	mm	
Uniformity Coefficient		> 10
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

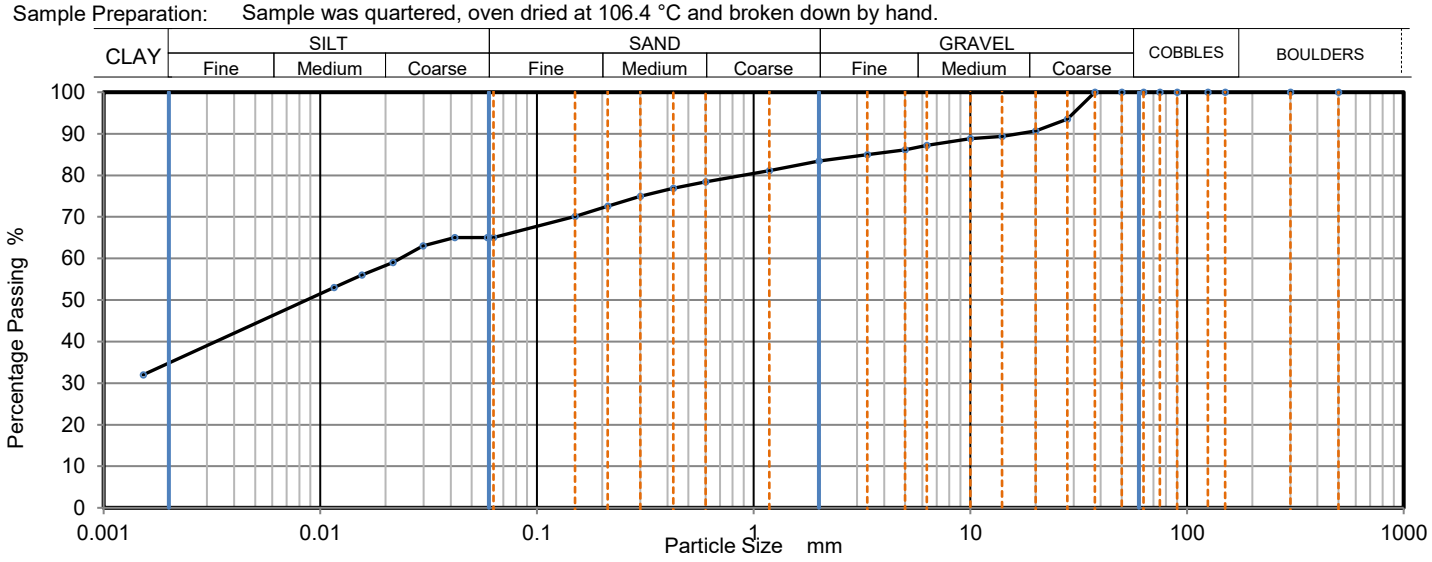
Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178520	Depth Top [m]:	4.00
Hole No.:	BH3	Depth Base [m]:	4.45
Sample Reference:	2	Sample Type:	U
Sample Description:	Grey gravelly sandy very silty CLAY with fragments of chalk		
Sample Preparation:	Sample was quartered, oven dried at 106.4 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0590	65
300	100	0.0417	65
150	100	0.0298	63
125	100	0.0216	59
90	100	0.0156	56
75	100	0.0116	53
63	100	0.0015	32
50	100		
37.5	100		
28	94		
20	91		
14	89		
10	89		
6.3	87		
5	86		
3.35	85	Particle density	(assumed)
2	83	2.65	Mg/m3
1.18	81		
0.6	78		
0.425	77		
0.3	75		
0.212	73		
0.15	70		
0.063	65		

Sample Proportions	% dry mass
Very coarse	0
Gravel	17
Sand	19
Silt	29
Clay	35

Grading Analysis		
D100	mm	37.5
D60	mm	0.0237
D30	mm	
D10	mm	
Uniformity Coefficient		> 16
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

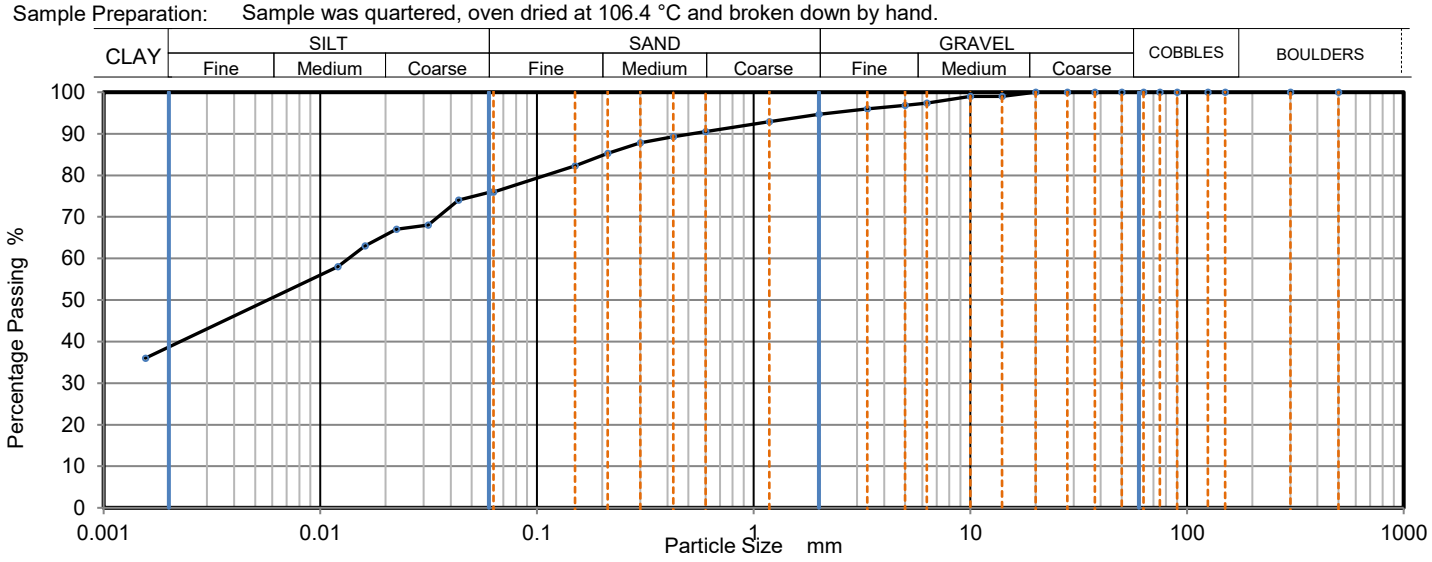
4041

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178521	Depth Top [m]:	6.50
Hole No.:	BH3	Depth Base [m]:	6.95
Sample Reference:	3	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy very silty CLAY with fragments of chalk		
Sample Preparation:	Sample was quartered, oven dried at 106.4 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0608	76
300	100	0.0434	74
150	100	0.0315	68
125	100	0.0224	67
90	100	0.0161	63
75	100	0.0120	58
63	100	0.0016	36
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	97		
5	97		
3.35	96	Particle density	(assumed)
2	95	2.65	Mg/m3
1.18	93		
0.6	91		
0.425	89		
0.3	88		
0.212	85		
0.15	82		
0.063	76		

Sample Proportions	% dry mass
Very coarse	0
Gravel	5
Sand	19
Silt	37
Clay	39

Grading Analysis		
D100	mm	20
D60	mm	0.0136
D30	mm	
D10	mm	
Uniformity Coefficient		> 8.8
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

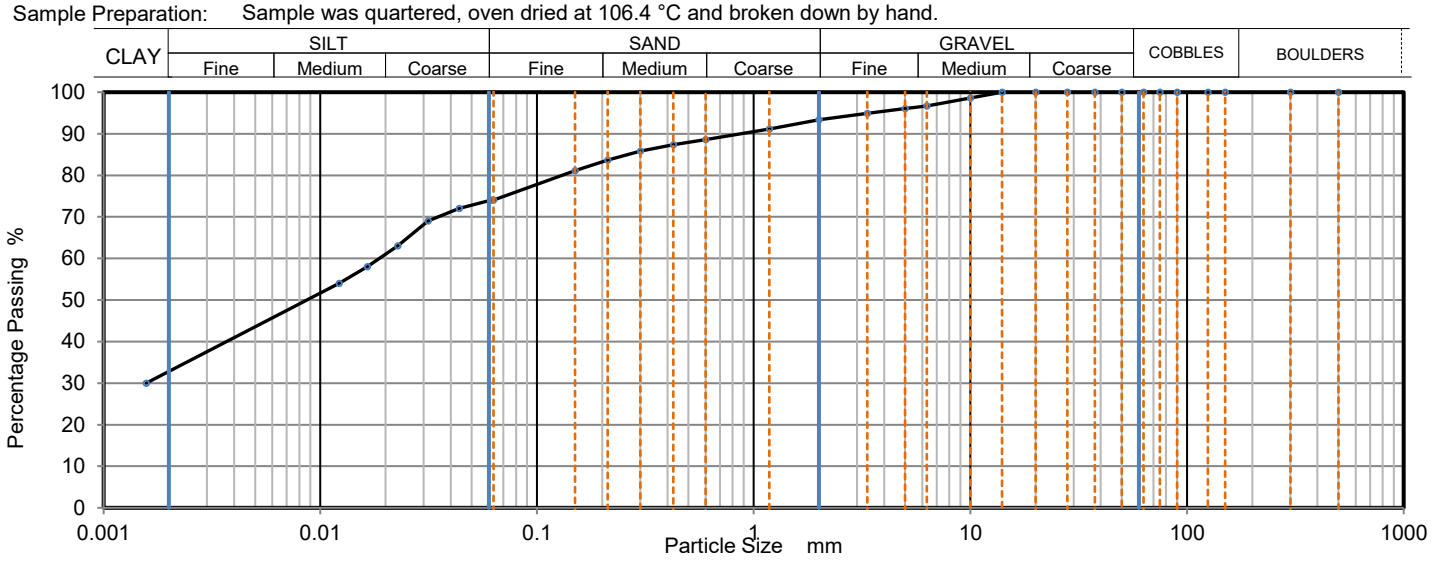
4041

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178522	Depth Top [m]:	2.00
Hole No.:	BH11	Depth Base [m]:	2.45
Sample Reference:	1	Sample Type:	U
Sample Description:	Grey slightly gravelly sandy very clayey SILT		
Sample Preparation:	Sample was quartered, oven dried at 106.4 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0614	74
300	100	0.0438	72
150	100	0.0315	69
125	100	0.0228	63
90	100	0.0165	58
75	100	0.0122	54
63	100	0.0016	30
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	97		
5	96		
3.35	95	Particle density	(measured)
2	93	2.70	Mg/m3
1.18	91		
0.6	89		
0.425	87		
0.3	86		
0.212	84		
0.15	81		
0.063	74		

Sample Proportions	% dry mass
Very coarse	0
Gravel	7
Sand	19
Silt	41
Clay	33

Grading Analysis		
D100	mm	14
D60	mm	0.019
D30	mm	0.00162
D10	mm	
Uniformity Coefficient		> 12
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Harry Whittle

Site Address: Corby EFW

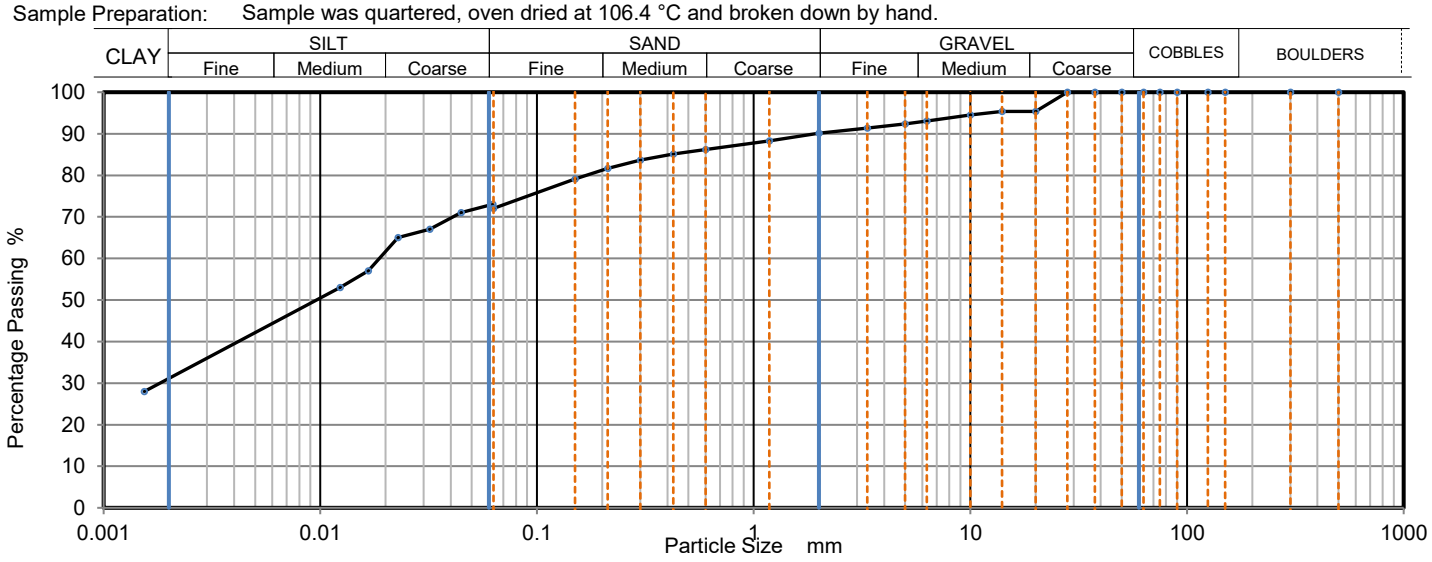
Client Reference: 15 0645 05
Job Number: 22-40679
Date Sampled: 07/02/2022
Date Received: 08/02/2022
Date Tested: 24/02/2022
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 2178523
Hole No.: BH11
Sample Reference: 2
Sample Description: Greyish brown gravelly sandy very clayey SILT with fragments of chalk
Sample Preparation: Sample was quartered, oven dried at 106.4 °C and broken down by hand.

Depth Top [m]: 4.00
Depth Base [m]: 4.45
Sample Type: U



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0625	73
300	100	0.0446	71
150	100	0.0320	67
125	100	0.0228	65
90	100	0.0166	57
75	100	0.0123	53
63	100	0.0015	28
50	100		
37.5	100		
28	100		
20	95		
14	95		
10	95		
6.3	93		
5	92		
3.35	91	Particle density	(measured)
2	90	2.69	Mg/m3
1.18	88		
0.6	86		
0.425	85		
0.3	84		
0.212	82		
0.15	79		
0.063	73		

Sample Proportions	% dry mass
Very coarse	0
Gravel	10
Sand	17
Silt	42
Clay	31

Grading Analysis		
D100	mm	28
D60	mm	0.019
D30	mm	0.00179
D10	mm	
Uniformity Coefficient		> 12
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed:

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Harry Whittle

Site Address: Corby EFW

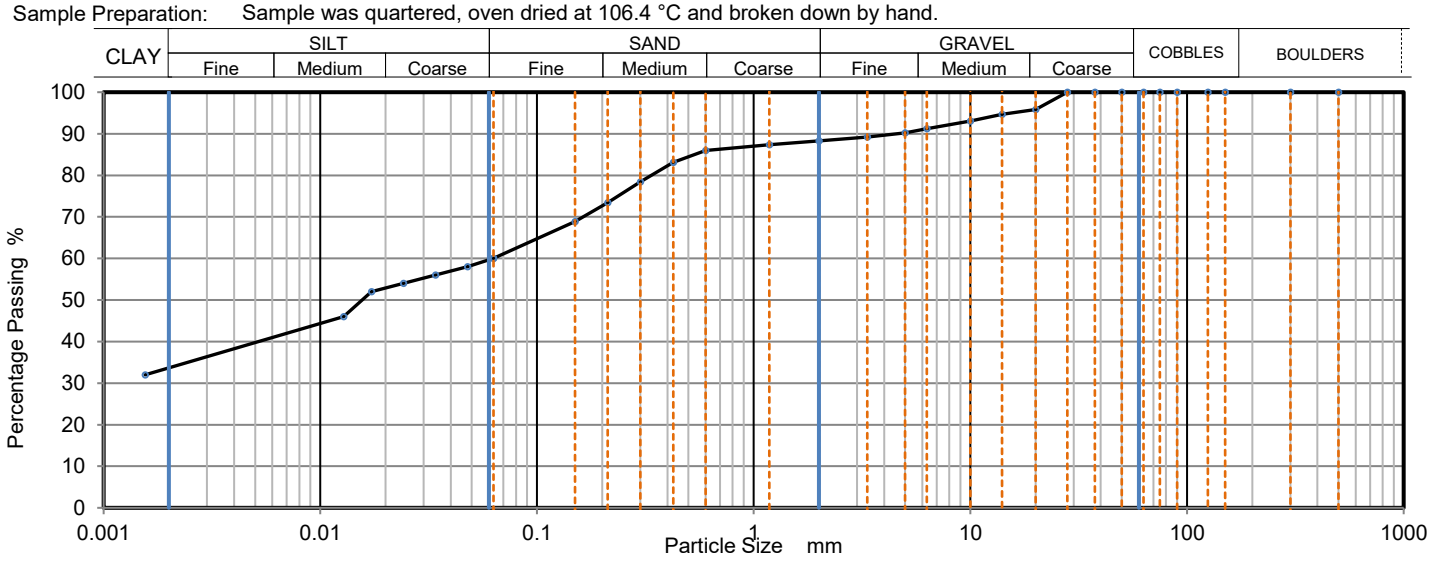
Client Reference: 15 0645 05
Job Number: 22-40679
Date Sampled: 07/02/2022
Date Received: 08/02/2022
Date Tested: 24/02/2022
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 2178524
Hole No.: BH11
Sample Reference: 3
Sample Description: Grey to yellowish brown gravelly sandy very silty CLAY
Sample Preparation: Sample was quartered, oven dried at 106.4 °C and broken down by hand.

Depth Top [m]: 11.00
Depth Base [m]: 11.45
Sample Type: U



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	60
300	100	0.0477	58
150	100	0.0340	56
125	100	0.0242	54
90	100	0.0172	52
75	100	0.0128	46
63	100	0.0016	32
50	100		
37.5	100		
28	100		
20	96		
14	95		
10	93		
6.3	91		
5	90		
3.35	89	Particle density	(assumed)
2	88	2.65	Mg/m3
1.18	87		
0.6	86		
0.425	83		
0.3	78		
0.212	73		
0.15	69		
0.063	60		

Sample Proportions	% dry mass
Very coarse	0
Gravel	12
Sand	28
Silt	26
Clay	34

Grading Analysis		
D100	mm	28
D60	mm	0.0596
D30	mm	
D10	mm	
Uniformity Coefficient		> 38
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP METHOD USING 2.5 KG RAMMER

Tested in Accordance with: BS 1377-4: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

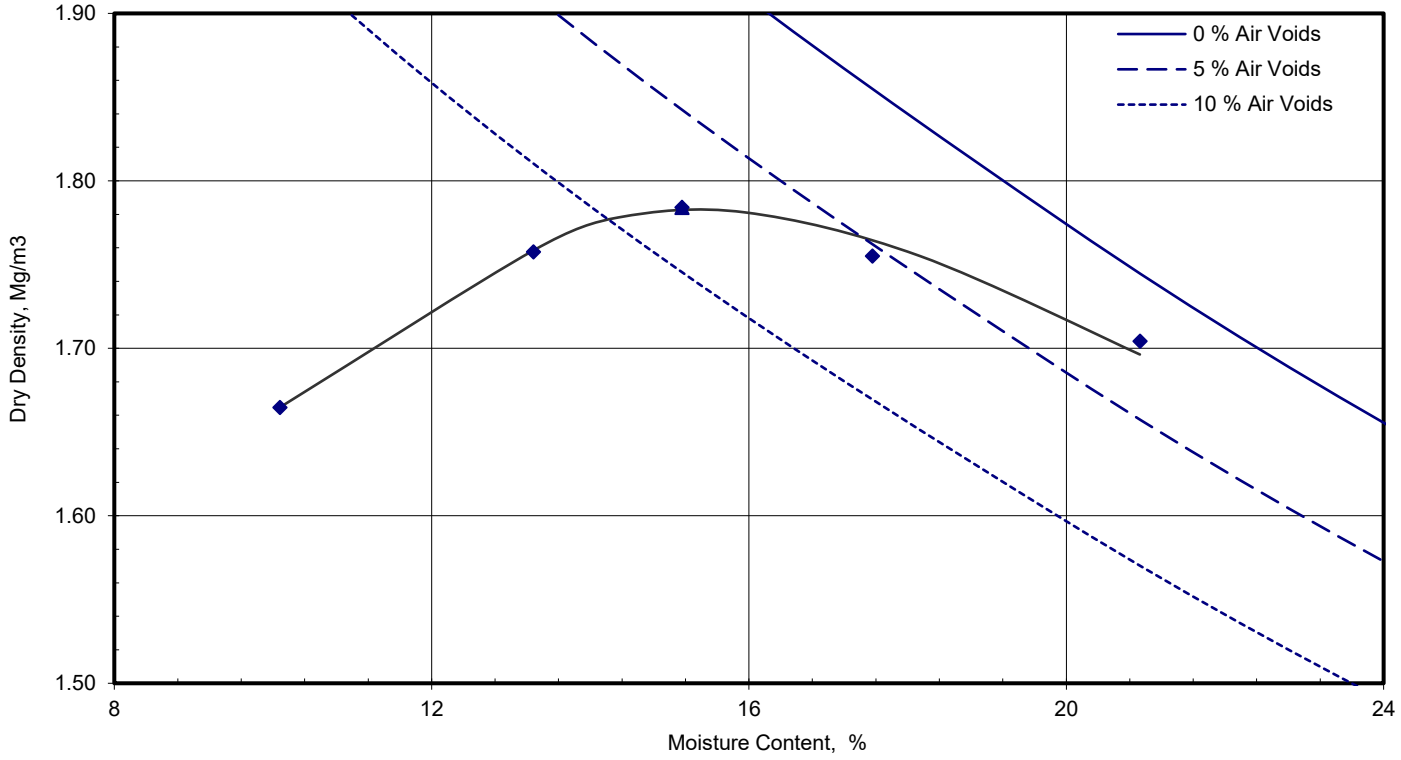
Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	25/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178514	Depth Top [m]:	1.30
Hole No.:	TR-1	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Brownish grey slightly gravelly sandy very silty CLAY		
Sample Preparation:	Sample was quartered and broken down by hand. Material used was natural.		



Compaction Point No.		1	2	3	4	5
Moisture Content	%	10	13	15	18	21
Dry Density	Mg/m³	1.66	1.76	1.78	1.76	1.70

Mould Type		CBR
Samples Used		Single sample tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Assumed	Mg/m³	2.75
As received Moisture Content	%	21
Maximum Dry Density	Mg/m³	**1.78**

Optimum Moisture Content	%	**15**

Note: Tested in Accordance with BS 1377-4: 1990: Clause 3.4 using 2.5kg [light] Rammer

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 109.22

TEST CERTIFICATE

DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP METHOD USING 2.5 KG RAMMER

Tested in Accordance with: BS 1377-4: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

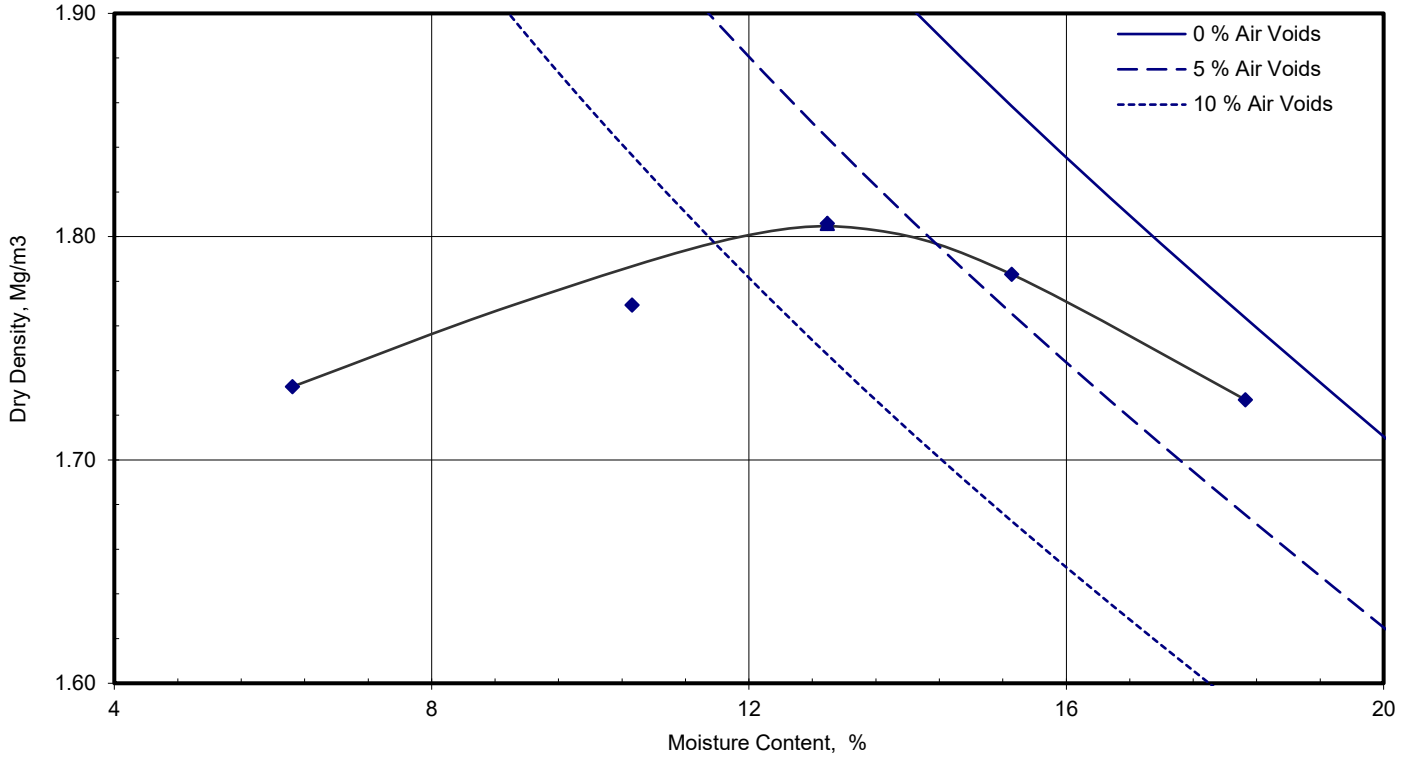
Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	25/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178515	Depth Top [m]:	0.40
Hole No.:	TR-2	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Brownish grey gravelly sandy very silty CLAY		
Sample Preparation:	Sample was quartered and broken down by hand. Material used was natural.		



Compaction Point No.		1	2	3	4	5
Moisture Content	%	6.2	11	13	15	18
Dry Density	Mg/m³	1.73	1.77	1.81	1.78	1.73

Mould Type		CBR
Samples Used		Single sample tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	7
Particle Density - Assumed	Mg/m³	2.60
As received Moisture Content	%	20
Maximum Dry Density	Mg/m³	**1.81**

Optimum Moisture Content	%	**13**

Note: Tested in Accordance with BS 1377-4: 1990: Clause 3.4 using 2.5kg [light] Rammer

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 109.22

TEST CERTIFICATE

DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP METHOD USING 2.5 KG RAMMER

Tested in Accordance with: BS 1377-4: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

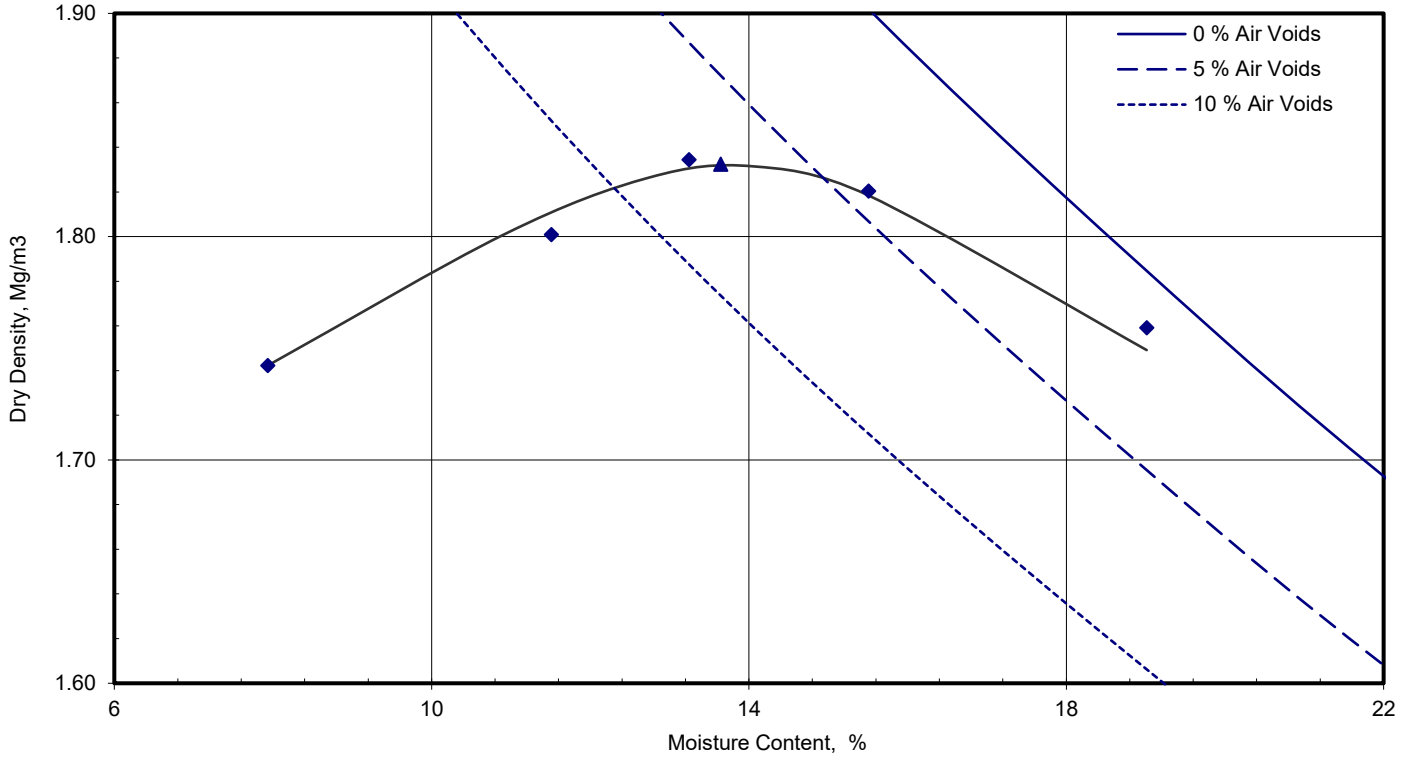
Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	25/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178516	Depth Top [m]:	1.00
Hole No.:	TR-3	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Grey gravelly sandy very silty CLAY		
Sample Preparation:	Sample was quartered and broken down by hand. Material used was natural.		



Compaction Point No.		1	2	3	4	5
Moisture Content	%	7.9	12	13	16	19
Dry Density	Mg/m³	1.74	1.80	1.83	1.82	1.76

Mould Type		CBR
Samples Used		Single sample tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Assumed	Mg/m³	2.70
As received Moisture Content	%	19
Maximum Dry Density	Mg/m³	**1.83**

Optimum Moisture Content	%	**14**

Note: Tested in Accordance with BS 1377-4: 1990: Clause 3.4 using 2.5kg [light] Rammer

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 109.22

TEST CERTIFICATE

DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP METHOD USING 2.5 KG RAMMER

Tested in Accordance with: BS 1377-4: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

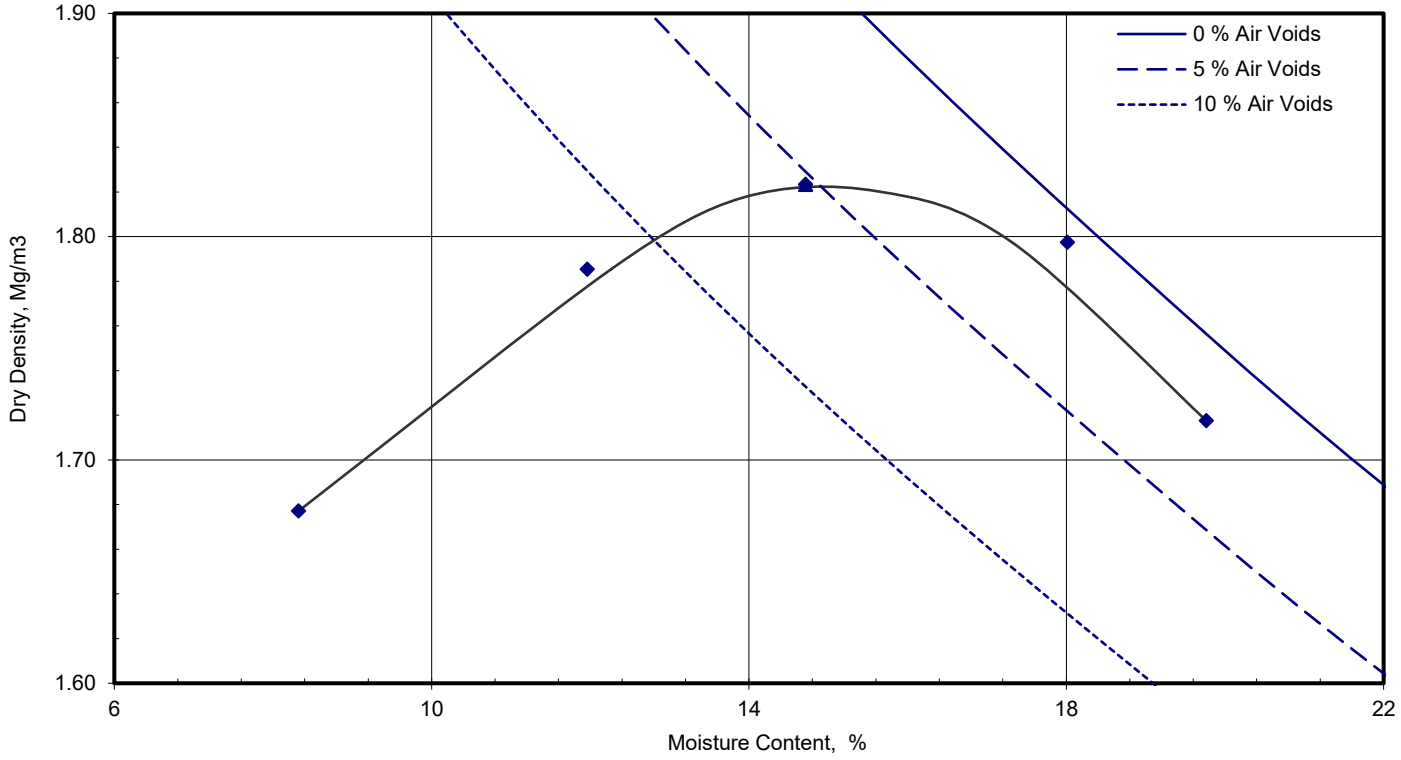
Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	28/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178517	Depth Top [m]:	0.60
Hole No.:	TR-4A	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Grey gravelly sandy very silty CLAY		
Sample Preparation:	Sample was quartered and broken down by hand. Material used was natural.		



Compaction Point No.		1	2	3	4	5
Moisture Content	%	8.3	12	15	18	20
Dry Density	Mg/m³	1.68	1.79	1.82	1.80	1.72

Mould Type		CBR
Samples Used		Single sample tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	4
Particle Density - Measured using gas jar	Mg/m³	2.69
As received Moisture Content	%	19
Maximum Dry Density	Mg/m³	**1.82**

Optimum Moisture Content	%	**15**

Note: Tested in Accordance with BS 1377-4: 1990: Clause 3.4 using 2.5kg [light] Rammer

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 109.22

TEST CERTIFICATE

DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP METHOD USING 2.5 KG RAMMER

Tested in Accordance with: BS 1377-4: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

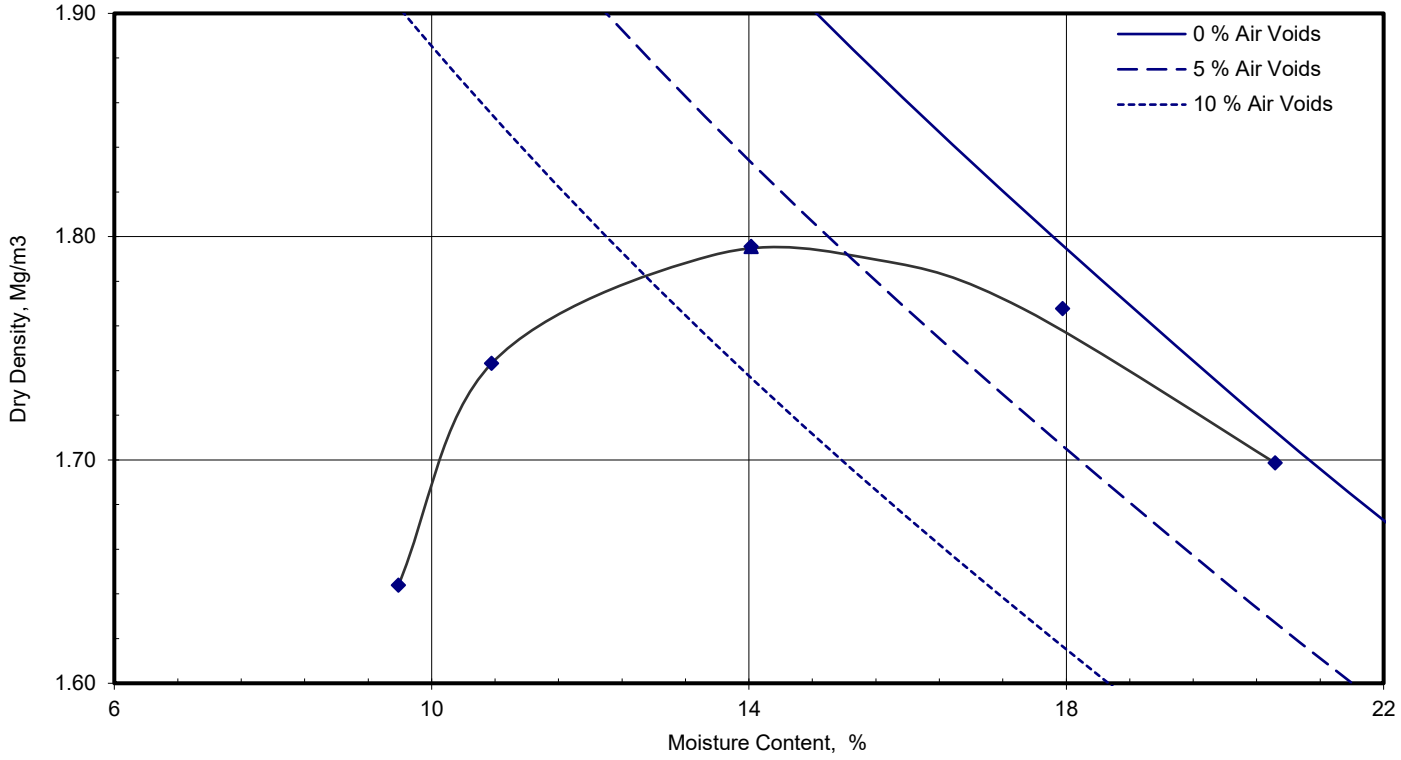
Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	28/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2178518	Depth Top [m]:	0.50
Hole No.:	TR-5	Depth Base [m]:	Not Given
Sample Reference:	2	Sample Type:	B
Sample Description:	Greyish brown gravelly sandy very silty CLAY		
Sample Preparation:	Sample was quartered and broken down by hand. Material used was natural.		



Compaction Point No.		1	2	3	4	5
Moisture Content	%	9.6	11	14	18	21
Dry Density	Mg/m³	1.64	1.74	1.80	1.77	1.70

Mould Type		CBR
Samples Used		Single sample tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Assumed	Mg/m³	2.65
As received Moisture Content	%	19
Maximum Dry Density	Mg/m³	**1.80**

Optimum Moisture Content	%	**14**

Note: Tested in Accordance with BS 1377-4: 1990: Clause 3.4 using 2.5kg [light] Rammer

Remarks: Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 109.22

TEST CERTIFICATE

DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR)

Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	28/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

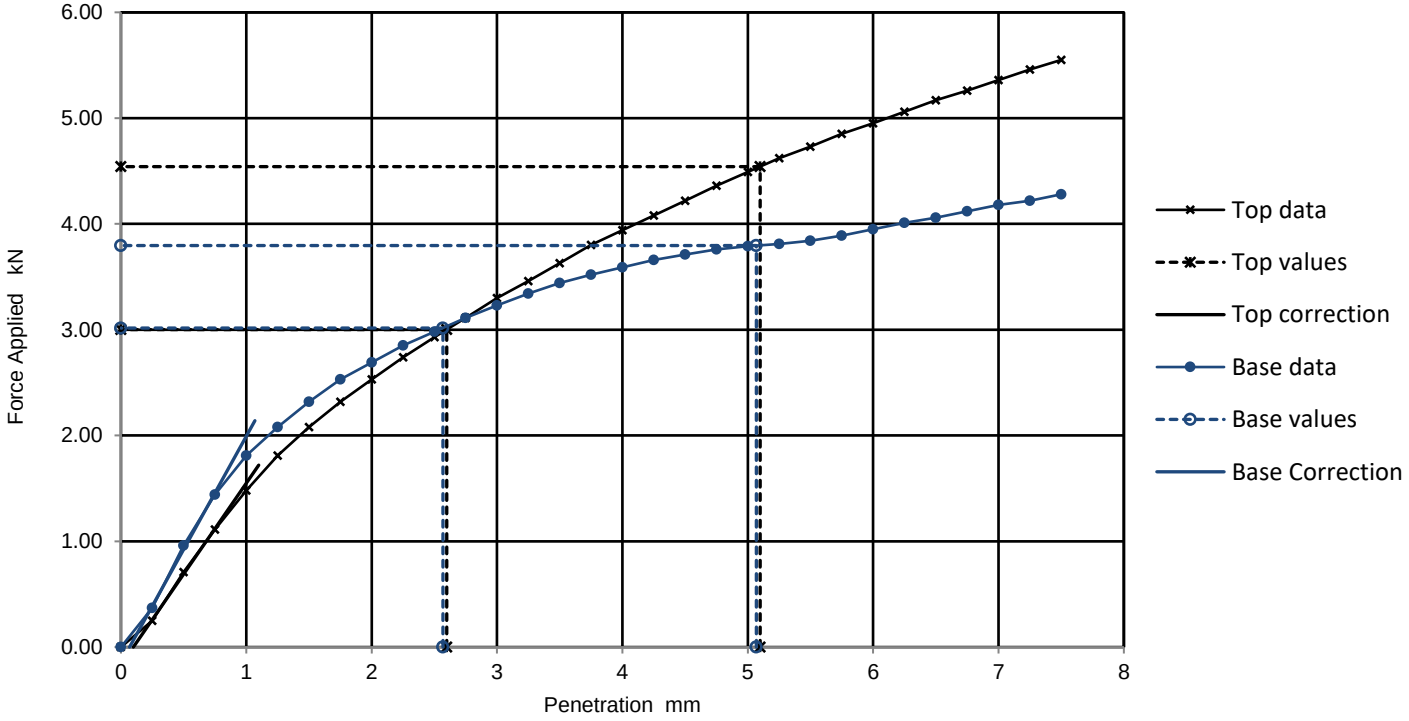
Laboratory Reference:	2178514	Depth Top [m]:	1.30
Hole No.:	TR-1	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Brownish grey slightly gravelly sandy very silty CLAY		

Specimen Preparation:

Condition	Remoulded	Soaking details	Not soaked
Details	Recompacted with specified standard effort using 2.5kg rammer	Period of soaking	days
		Time to surface	days
		Amount of swell recorded	mm
Material retained on 20mm sieve removed	1 %	Dry density after soaking	Mg/m3

Initial Specimen details	Bulk density	2.05	Mg/m3	Surcharge applied	8 kg
	Dry density	1.79	Mg/m3		4.8 kPa
	Moisture content	15	%		

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	Yes	23.0	23.0	23.0	23.0	13
BASE	Yes	23.0	19.0	23.0		14

Remarks: CBR tested at OMC = 15% of MC.
Preliminary report

Test/ Specimen specific remarks:

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 108.16

TEST CERTIFICATE

DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR)

Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	28/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

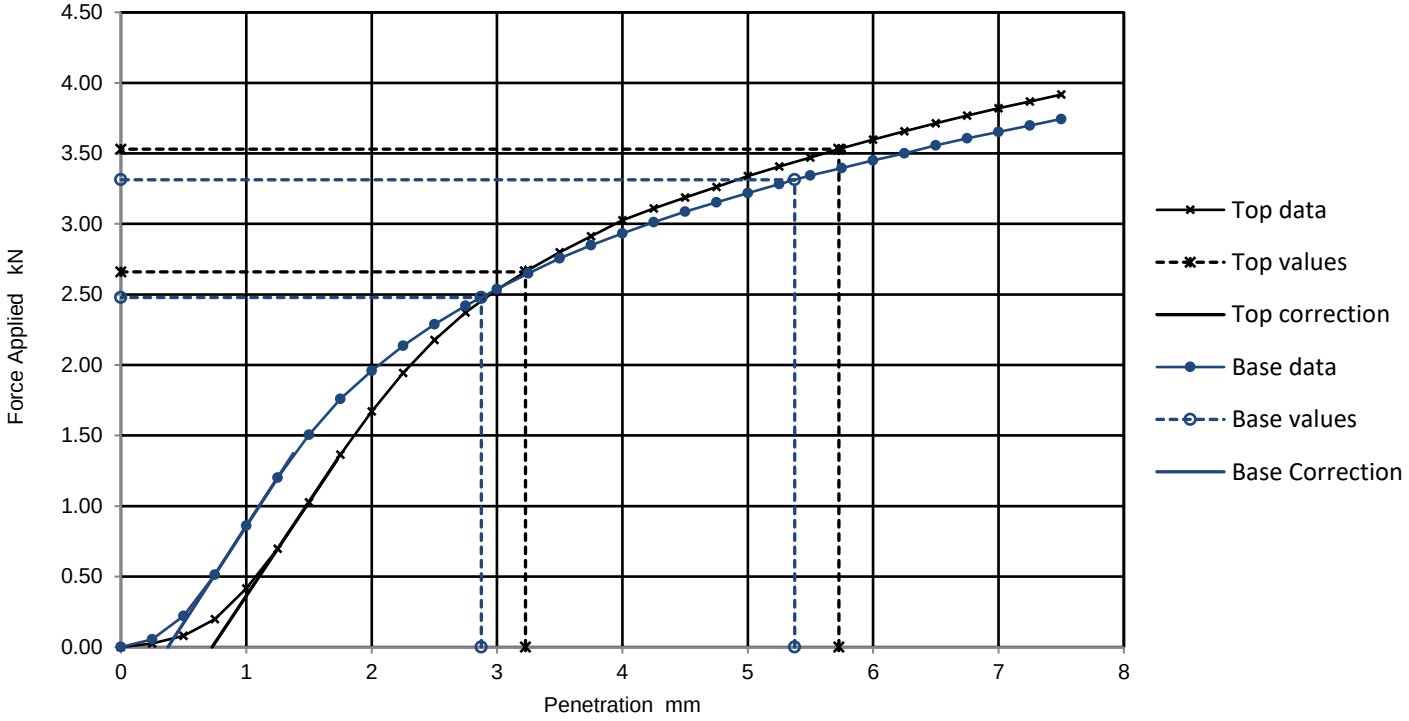
Test Results:

Laboratory Reference:	2178515	Depth Top [m]:	0.40
Hole No.:	TR-2	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Brownish grey gravelly sandy very silty CLAY		

Specimen Preparation:

Condition	Remoulded			Soaking details	Not soaked
Details	Recompacted with specified standard effort using 2.5kg rammer			Period of soaking	days
				Time to surface	days
				Amount of swell recorded	mm
Material retained on 20mm sieve removed		8	%	Dry density after soaking	Mg/m3
Initial Specimen details	Bulk density	2.04	Mg/m3	Surcharge applied	8 kg
	Dry density	1.81	Mg/m3		4.9 kPa
	Moisture content	13	%		

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	Yes	20.0	18.0	20.0	19.0	13
BASE	Yes	19.0	17.0	19.0		13

Remarks:	CBR tested at OMC = 13% of MC. Preliminary report	Test/ Specimen specific remarks:	

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 108.16

TEST CERTIFICATE

DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR)

Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	28/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

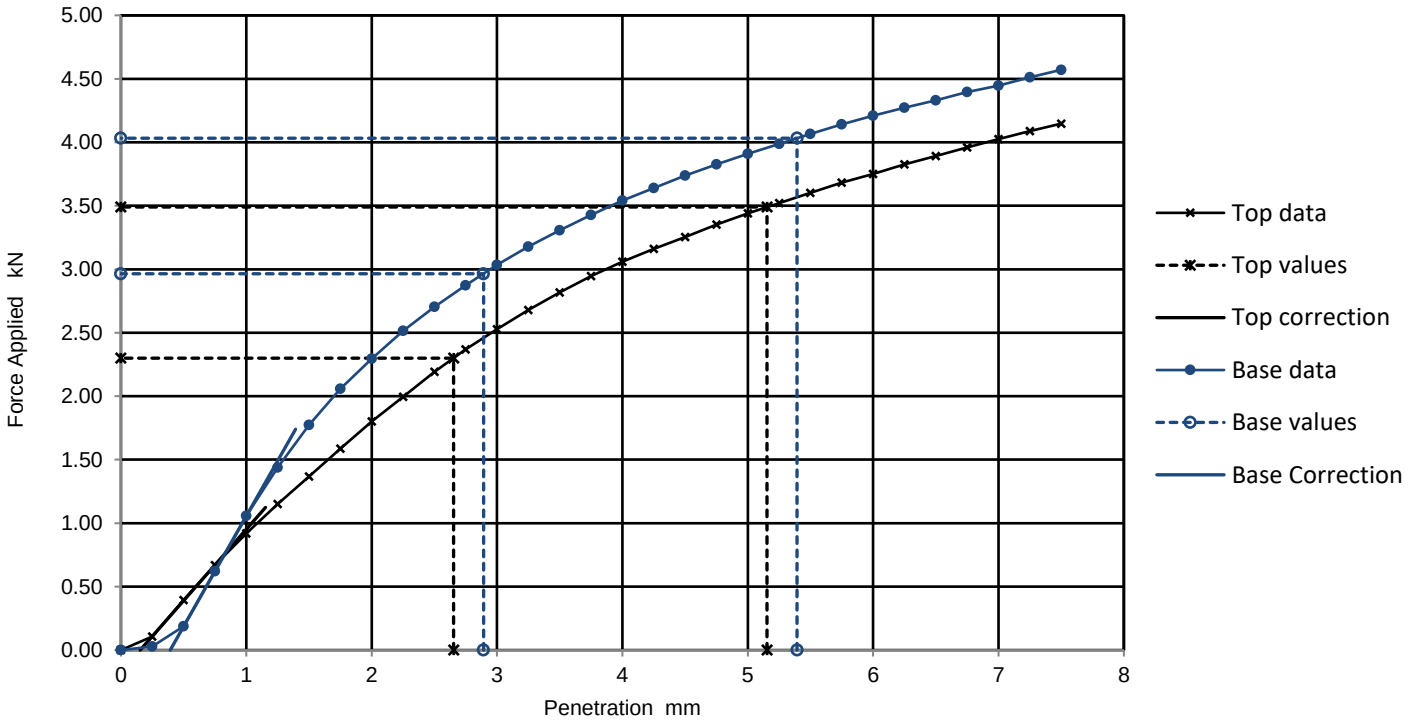
Laboratory Reference:	2178516	Depth Top [m]:	1.00
Hole No.:	TR-3	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Grey gravelly sandy very silty CLAY		

Specimen Preparation:

Condition	Remoulded	Soaking details	Not soaked
Details	Recompacted with specified standard effort using 2.5kg rammer	Period of soaking	days
		Time to surface	days
		Amount of swell recorded	mm
Material retained on 20mm sieve removed	2 %	Dry density after soaking	Mg/m3

Initial Specimen details	Bulk density	2.08	Mg/m3	Surcharge applied	8 kg
	Dry density	1.84	Mg/m3		4.9 kPa
	Moisture content	13	%		

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	Yes	17.0	17.0	17.0		13
BASE	Yes	22.0	20.0	22.0		12

Remarks: CBR tested at OMC = 14% of MC.
Preliminary report

Test/ Specimen specific remarks:

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 108.16

TEST CERTIFICATE

DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR)

Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	28/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

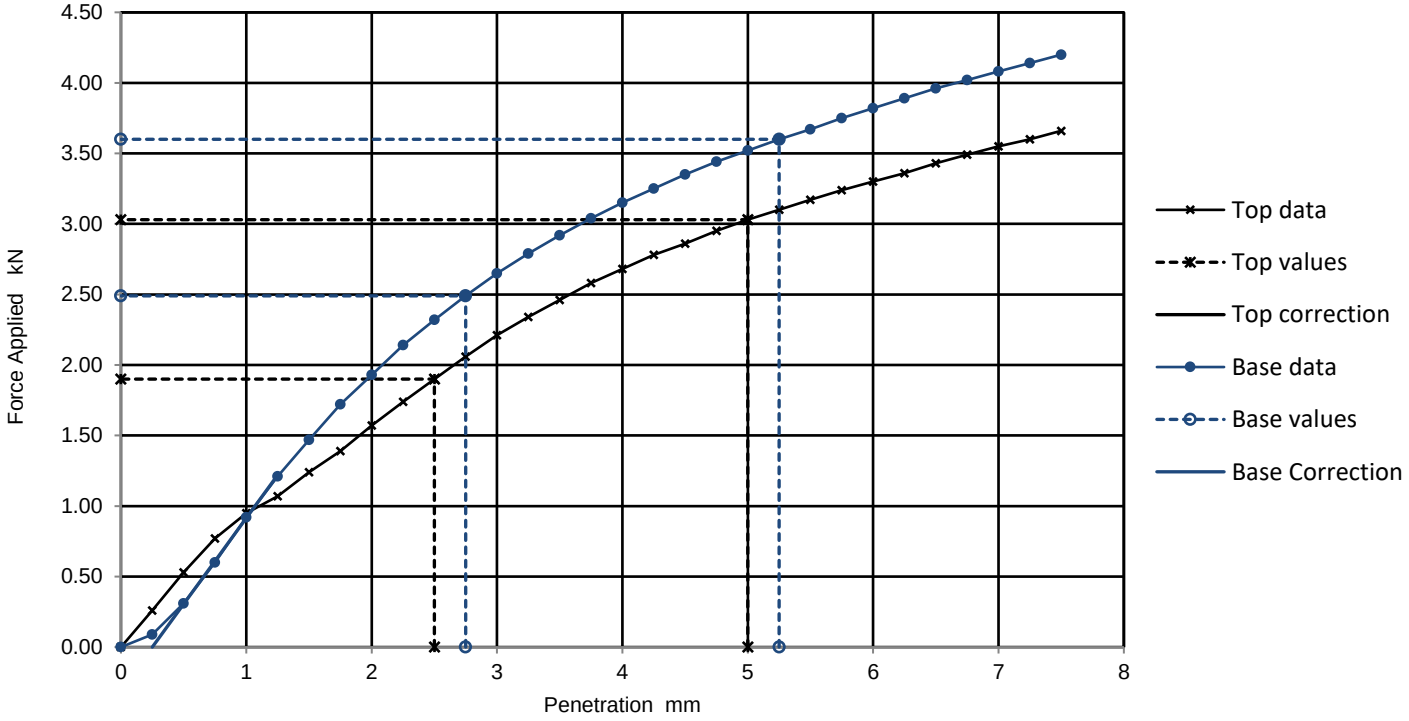
Test Results:

Laboratory Reference:	2178517	Depth Top [m]:	0.60
Hole No.:	TR-4A	Depth Base [m]:	Not Given
Sample Reference:	1	Sample Type:	B
Sample Description:	Grey gravelly sandy very silty CLAY		

Specimen Preparation:

Condition	Remoulded			Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer			Period of soaking		days
				Time to surface		days
				Amount of swell recorded		mm
Material retained on 20mm sieve removed		4	%	Dry density after soaking		Mg/m3
Initial Specimen details	Bulk density	2.09	Mg/m3	Surcharge applied	8	kg
	Dry density	1.82	Mg/m3		4.9	kPa
	Moisture content	15	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	14.0	15.0	15.0		15
BASE	Yes	19.0	18.0	19.0		14

Remarks: CBR tested at OMC = 15% of MC.
Preliminary report

Test/ Specimen specific remarks:

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 108.16

TEST CERTIFICATE

DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR)

Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	04/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	28/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

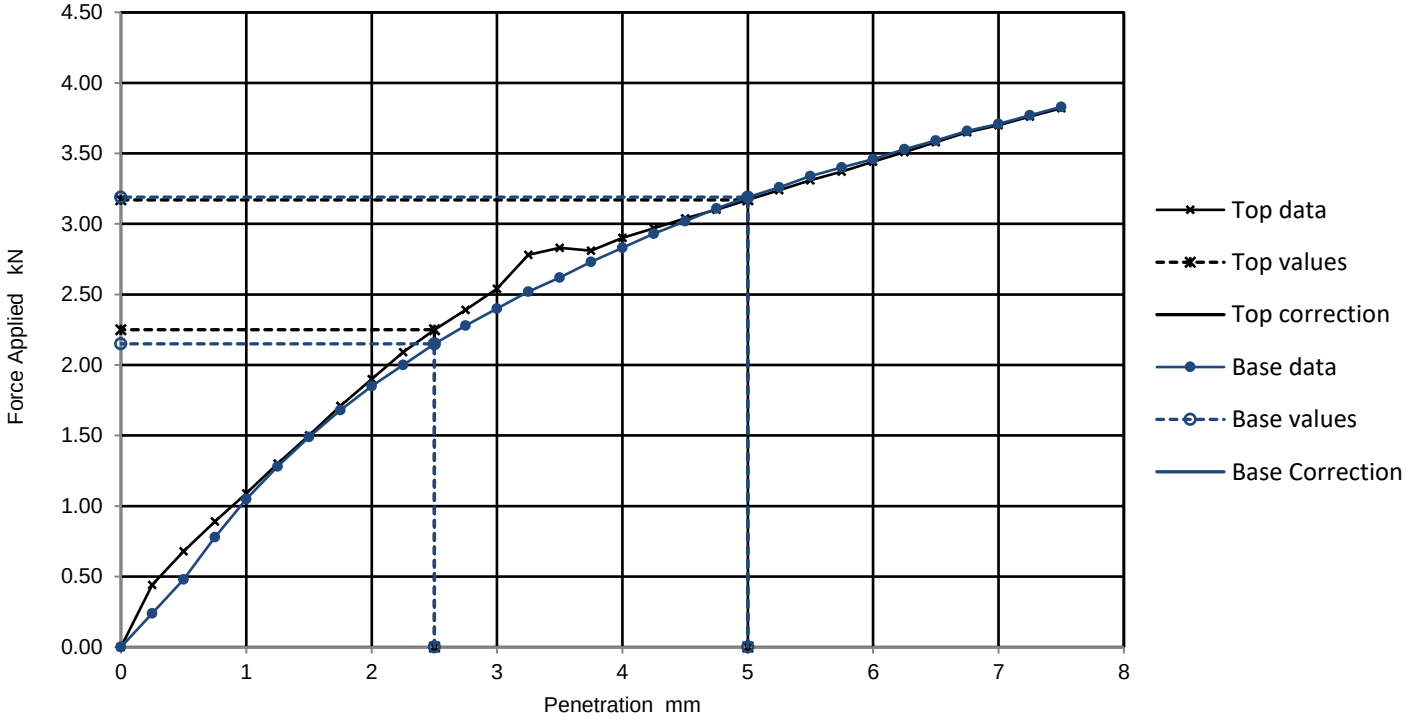
Test Results:

Laboratory Reference:	2178518	Depth Top [m]:	0.50
Hole No.:	TR-5	Depth Base [m]:	Not Given
Sample Reference:	2	Sample Type:	B
Sample Description:	Greyish brown gravelly sandy very silty CLAY		

Specimen Preparation:

Condition	Remoulded			Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer			Period of soaking		days
				Time to surface		days
				Amount of swell recorded		mm
Material retained on 20mm sieve removed		1	%	Dry density after soaking		Mg/m3
Initial Specimen details	Bulk density	2.05	Mg/m3	Surcharge applied	8	kg
	Dry density	1.80	Mg/m3		4.9	kPa
	Moisture content	14	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	17.0	16.0	17.0	17.0	15
BASE	No	16.0	16.0	16.0		14

Remarks: CBR tested at OMC = 14% of MC.
Preliminary report

Test/ Specimen specific remarks:

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 108.16

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

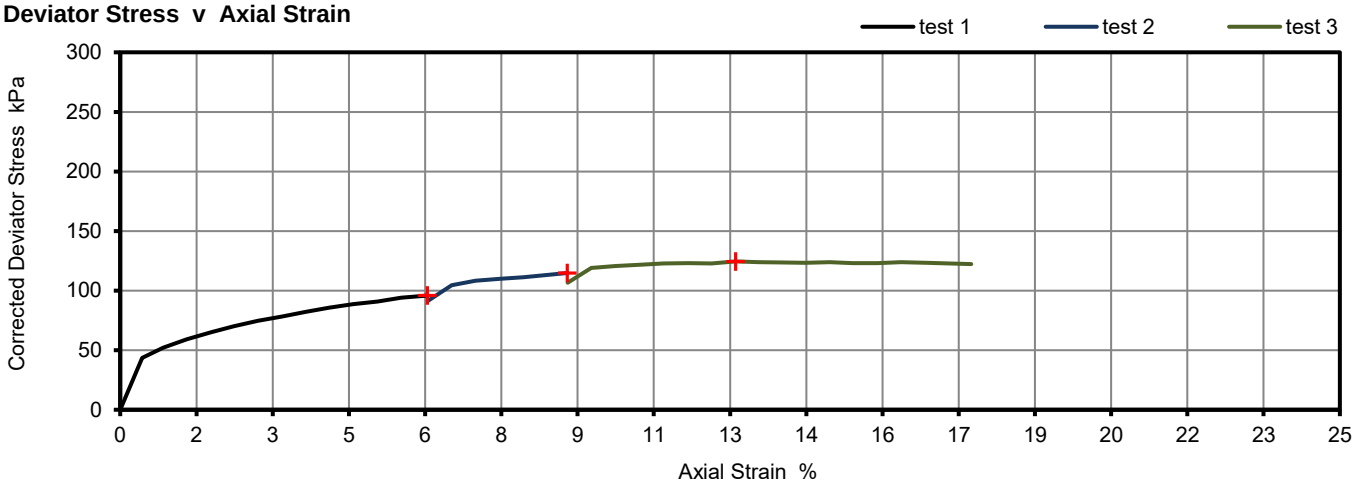
Test Results:

Laboratory Reference:	2178519	Depth Top [m]:	2.00
Hole No.:	BH3	Depth Base [m]:	2.45
Sample Reference:	1	Sample Type:	U
Sample Description:	Greyish brown gravelly sandy very clayey SILT with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

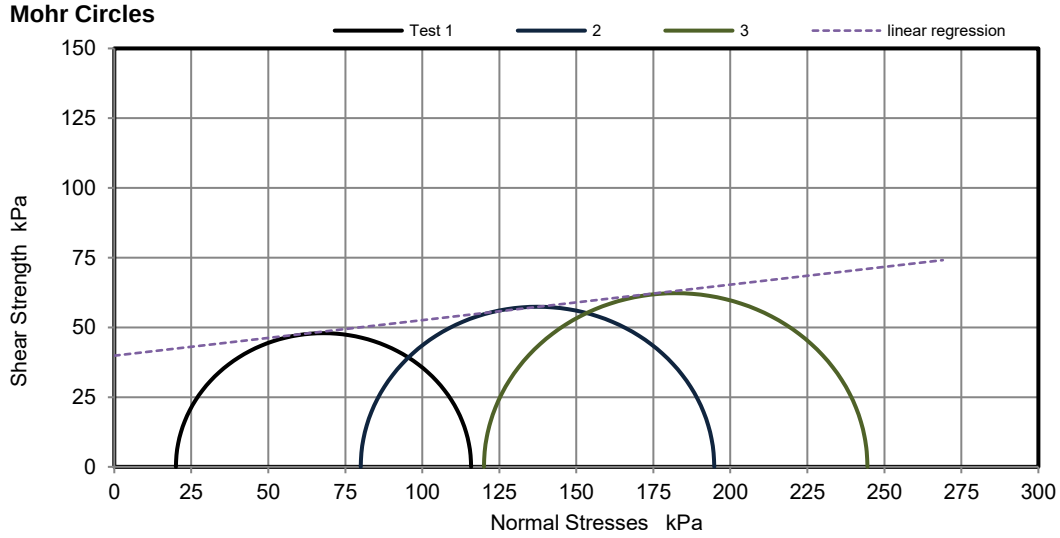
Length	140.10	mm
Diameter	69.50	mm
Bulk Density	2.11	Mg/m3
Moisture Content	22	%
Dry Density	1.74	Mg/m3
Membrane thickness	0.21	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	20	80	120	kPa
Axial Strain at failure	6.3	9.2	12.6	%
Deviator Stress, (σ1 - σ3)f	96	115	125	kPa
Shear strength, cu	48	57	62	kPa
Mode of failure	Compound			
Membrane Correction	0.49	0.63	0.80	kPa

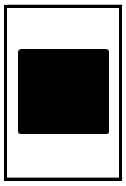
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	7.3	°
cu	40	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 20kPa=12N, 80kPa=41N, 120kPa=62N.
Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

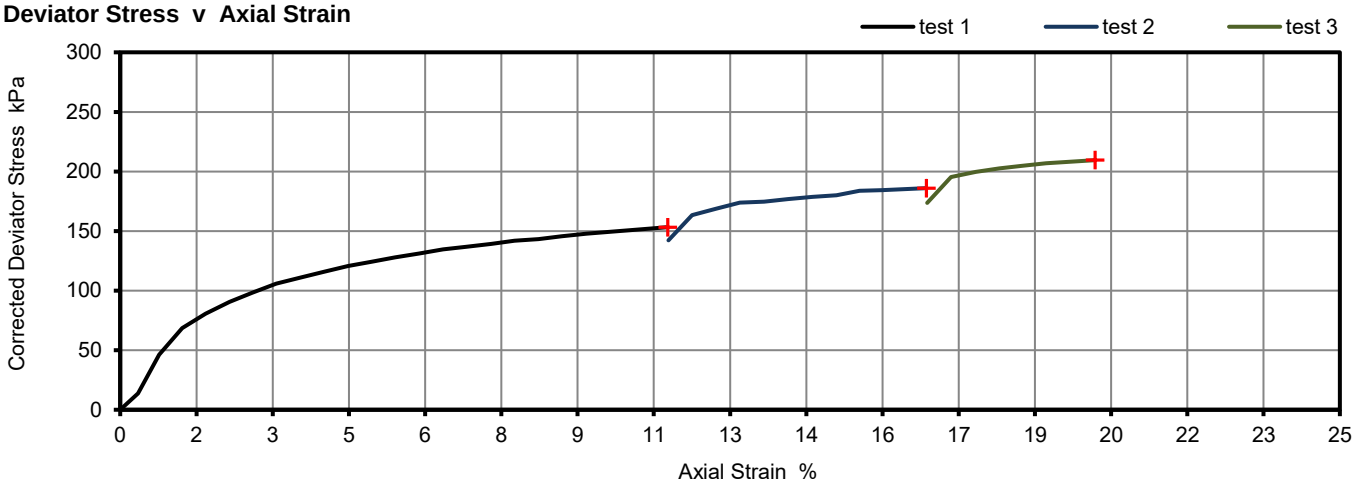
Test Results:

Laboratory Reference:	2178520	Depth Top [m]:	4.00
Hole No.:	BH3	Depth Base [m]:	4.45
Sample Reference:	2	Sample Type:	U
Sample Description:	Grey gravelly sandy very silty CLAY with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

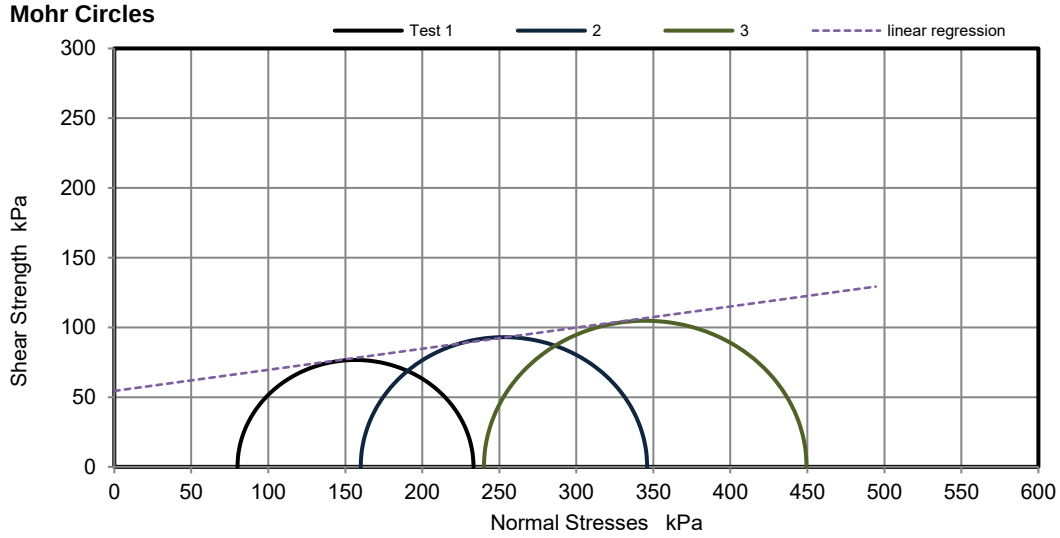
Length	141.40	mm
Diameter	69.45	mm
Bulk Density	2.09	Mg/m3
Moisture Content	18	%
Dry Density	1.77	Mg/m3
Membrane thickness	0.28	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	80	160	240	kPa
Axial Strain at failure	11.2	16.5	20.0	%
Deviator Stress, (σ1 - σ3)f	153	186	209	kPa
Shear strength, cu	77	93	105	kPa
Mode of failure	Compound			
Membrane Correction	0.98	1.32	1.55	kPa

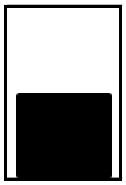
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	8.6	°
cu	54	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 80kPa=39N, 160kPa=77N, 240kPa=119N.
Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

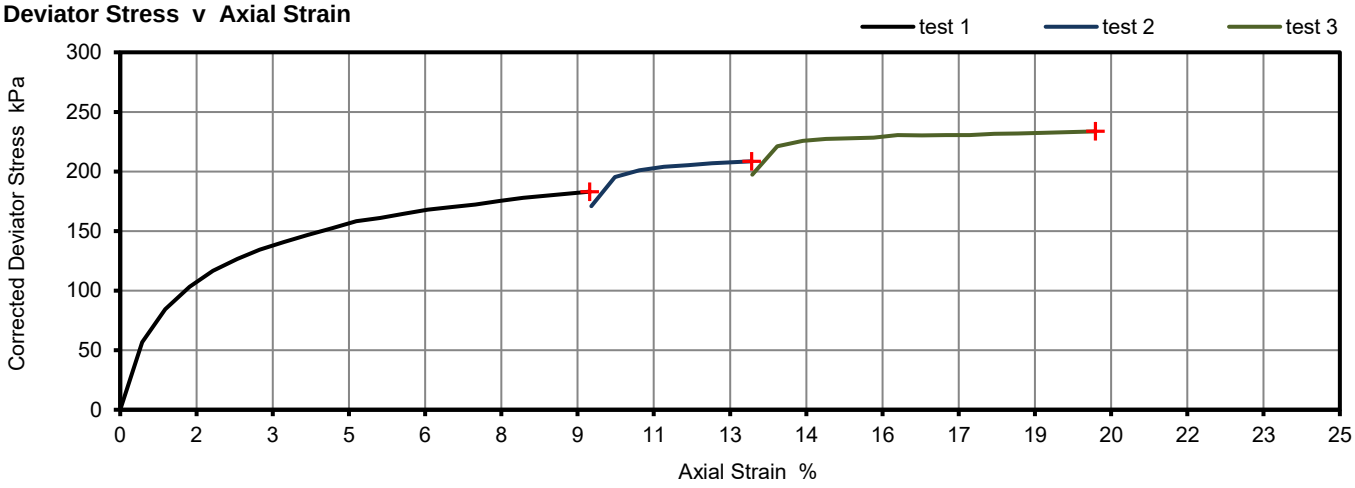
Test Results:

Laboratory Reference:	2178521	Depth Top [m]:	6.50
Hole No.:	BH3	Depth Base [m]:	6.95
Sample Reference:	3	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy very silty CLAY with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

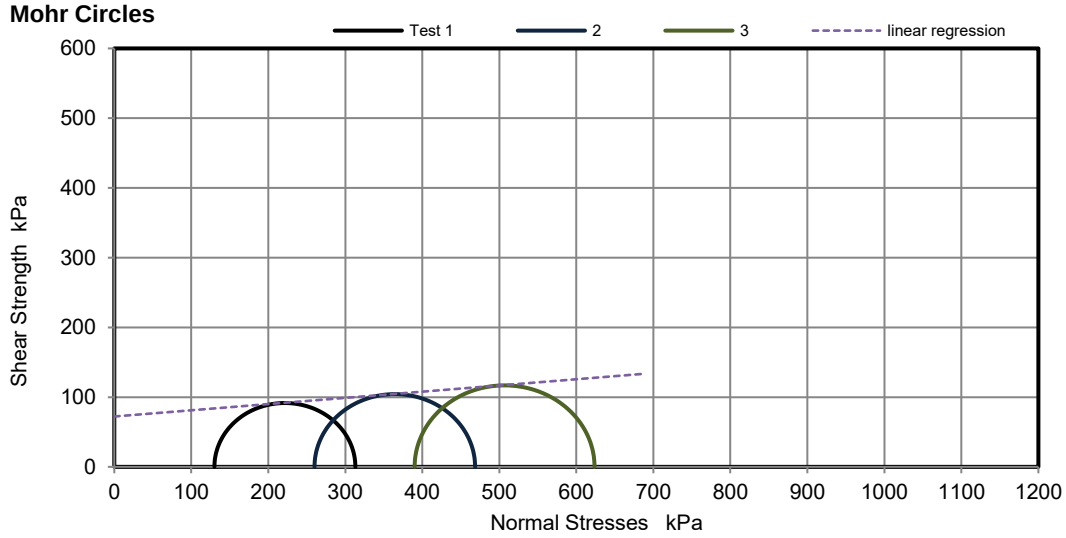
Length	140.32	mm
Diameter	68.93	mm
Bulk Density	2.11	Mg/m3
Moisture Content	21	%
Dry Density	1.74	Mg/m3
Membrane thickness	0.24	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	130	260	390	kPa
Axial Strain at failure	9.6	12.9	20.0	%
Deviator Stress, (σ1 - σ3)f	183	209	234	kPa
Shear strength, cu	92	104	117	kPa
Mode of failure	Compound			
Membrane Correction	0.75	0.94	1.34	kPa

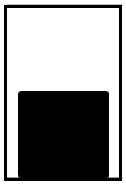
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	5.1	°
cu	72	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 130kPa=67N, 260kPa=131N, 390kPa=189N.
Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

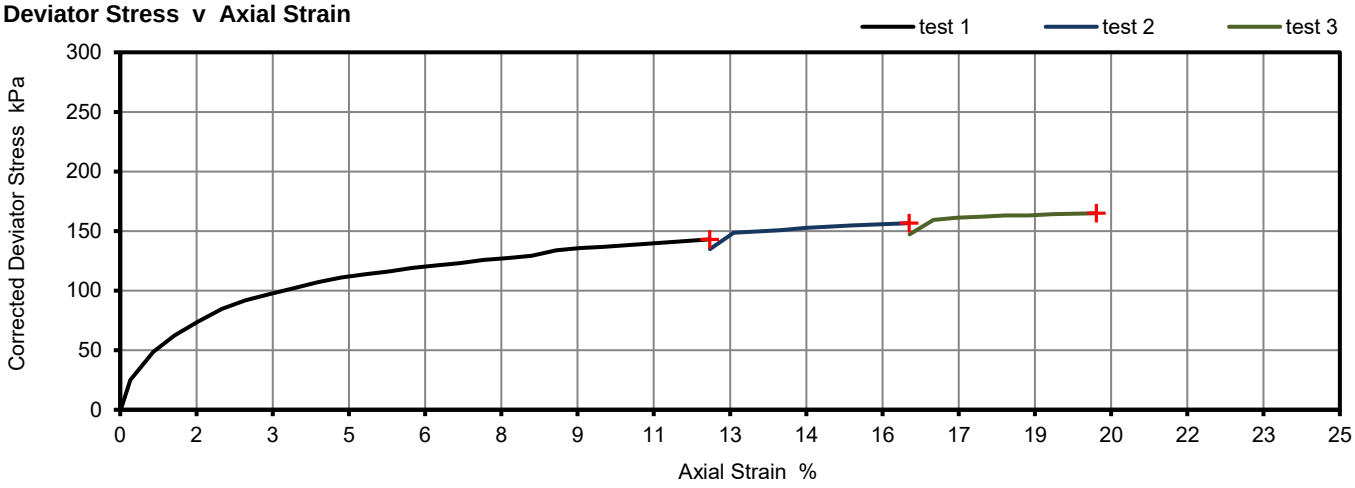
Test Results:

Laboratory Reference:	2178522	Depth Top [m]:	2.00
Hole No.:	BH11	Depth Base [m]:	2.45
Sample Reference:	1	Sample Type:	U
Sample Description:	Grey slightly gravelly sandy very clayey SILT		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

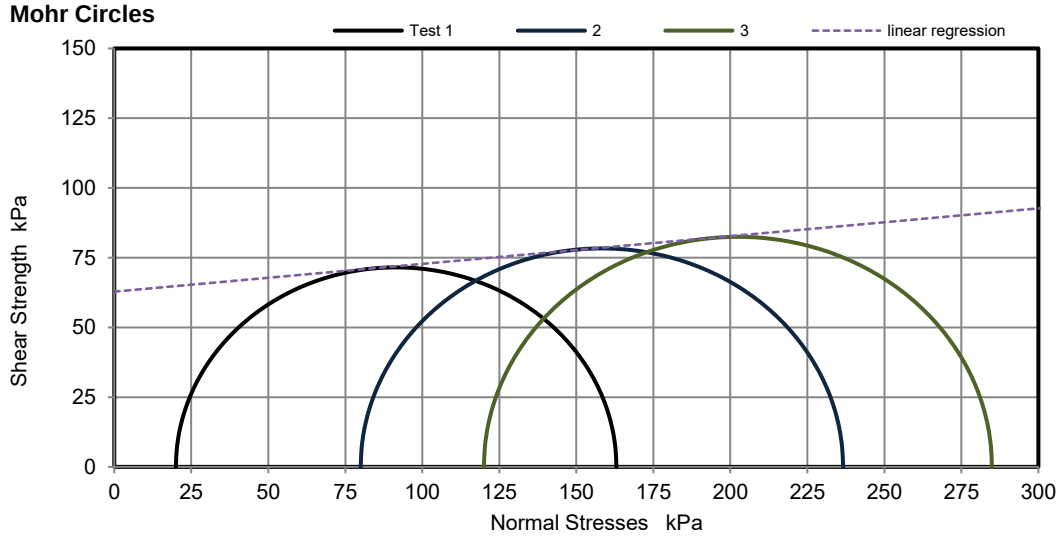
Length	140.55	mm
Diameter	69.16	mm
Bulk Density	2.13	Mg/m3
Moisture Content	19	%
Dry Density	1.79	Mg/m3
Membrane thickness	0.25	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	20	80	120	kPa
Axial Strain at failure	12.1	16.2	20.0	%
Deviator Stress, (σ1 - σ3)f	143	157	165	kPa
Shear strength, cu	72	78	82	kPa
Mode of failure	Compound			
Membrane Correction	0.93	1.17	1.39	kPa

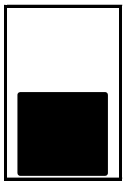
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	5.7	°
cu	63	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 20kPa=11N, 80kPa=40N, 120kPa=58N.
Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

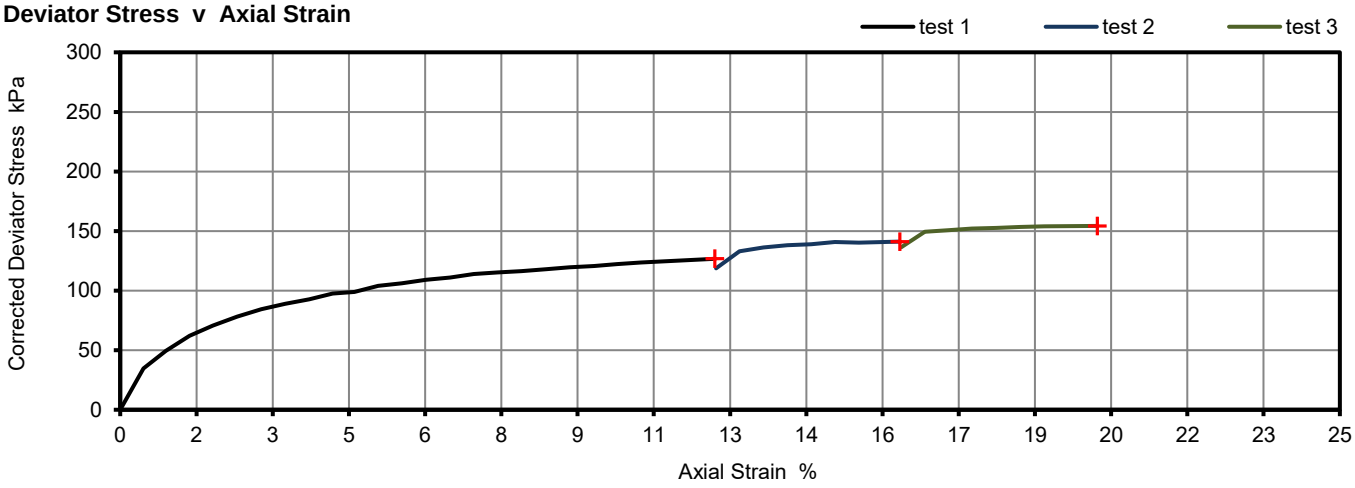
Test Results:

Laboratory Reference:	2178523	Depth Top [m]:	4.00
Hole No.:	BH11	Depth Base [m]:	4.45
Sample Reference:	2	Sample Type:	U
Sample Description:	Greyish brown gravelly sandy very clayey SILT with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

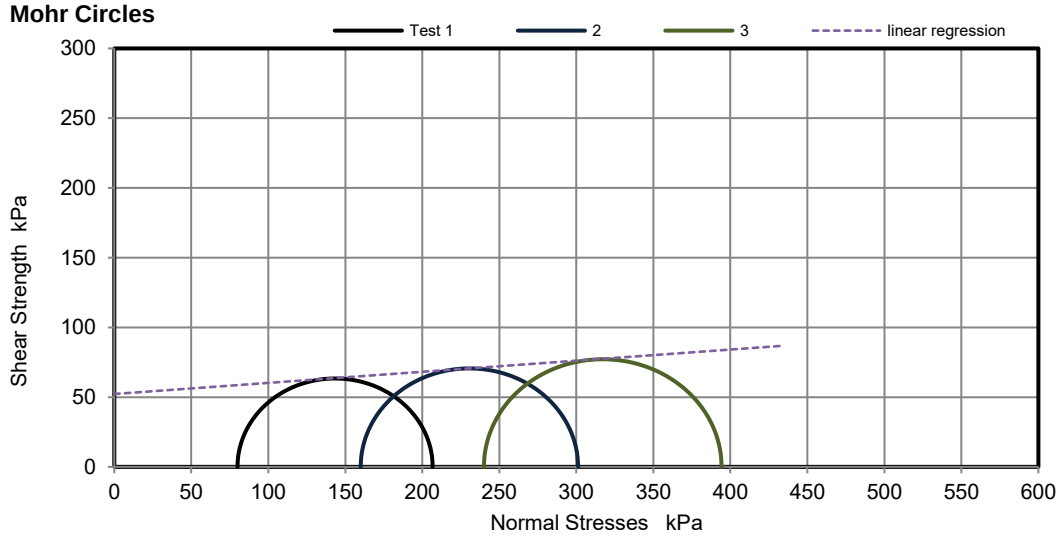
Length	141.24	mm
Diameter	69.10	mm
Bulk Density	2.08	Mg/m3
Moisture Content	20	%
Dry Density	1.73	Mg/m3
Membrane thickness	0.25	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	80	160	240	kPa
Axial Strain at failure	12.2	16.0	20.0	%
Deviator Stress, (σ1 - σ3)f	127	141	154	kPa
Shear strength, cu	63	71	77	kPa
Mode of failure	Compound			
Membrane Correction	0.93	1.16	1.39	kPa

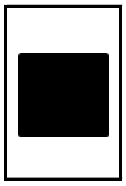
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	4.6	°
cu	52	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 80kPa=41N, 160kPa=80N, 240kPa=121N.
Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15 0645 05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-40679
		Date Sampled:	07/02/2022
		Date Received:	08/02/2022
Contact:	Harry Whittle	Date Tested:	24/02/2022
Site Address:	Corby EFW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

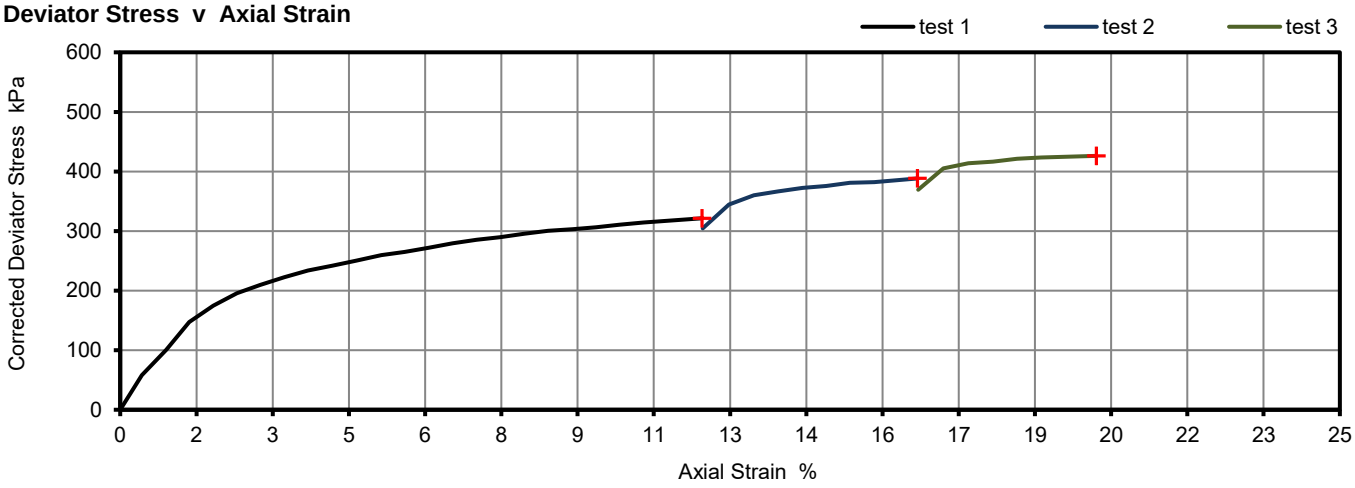
Test Results:

Laboratory Reference:	2178524	Depth Top [m]:	11.00
Hole No.:	BH11	Depth Base [m]:	11.45
Sample Reference:	3	Sample Type:	U
Sample Description:	Grey to yellowish brown gravelly sandy very silty CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

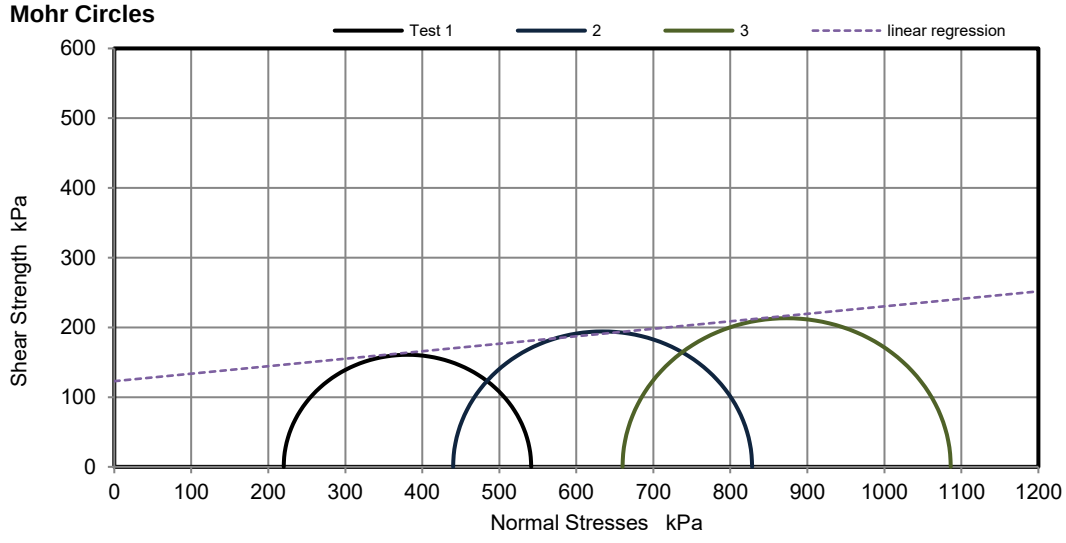
Length	141.29	mm
Diameter	69.24	mm
Bulk Density	2.14	Mg/m3
Moisture Content	16	%
Dry Density	1.84	Mg/m3
Membrane thickness	0.27	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	220	440	660	kPa
Axial Strain at failure	11.9	16.3	20.0	%
Deviator Stress, (σ1 - σ3)f	321	388	426	kPa
Shear strength, cu	161	194	213	kPa
Mode of failure	Compound			
Membrane Correction	0.99	1.27	1.50	kPa

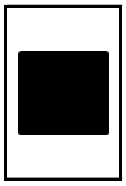
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	6.1	°
cu	123	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 220kPa=111N, 440kPa=219N, 660kPa=328N.
Preliminary report

Signed: Katarzyna Koziel

Katarzyna Koziel
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 04/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

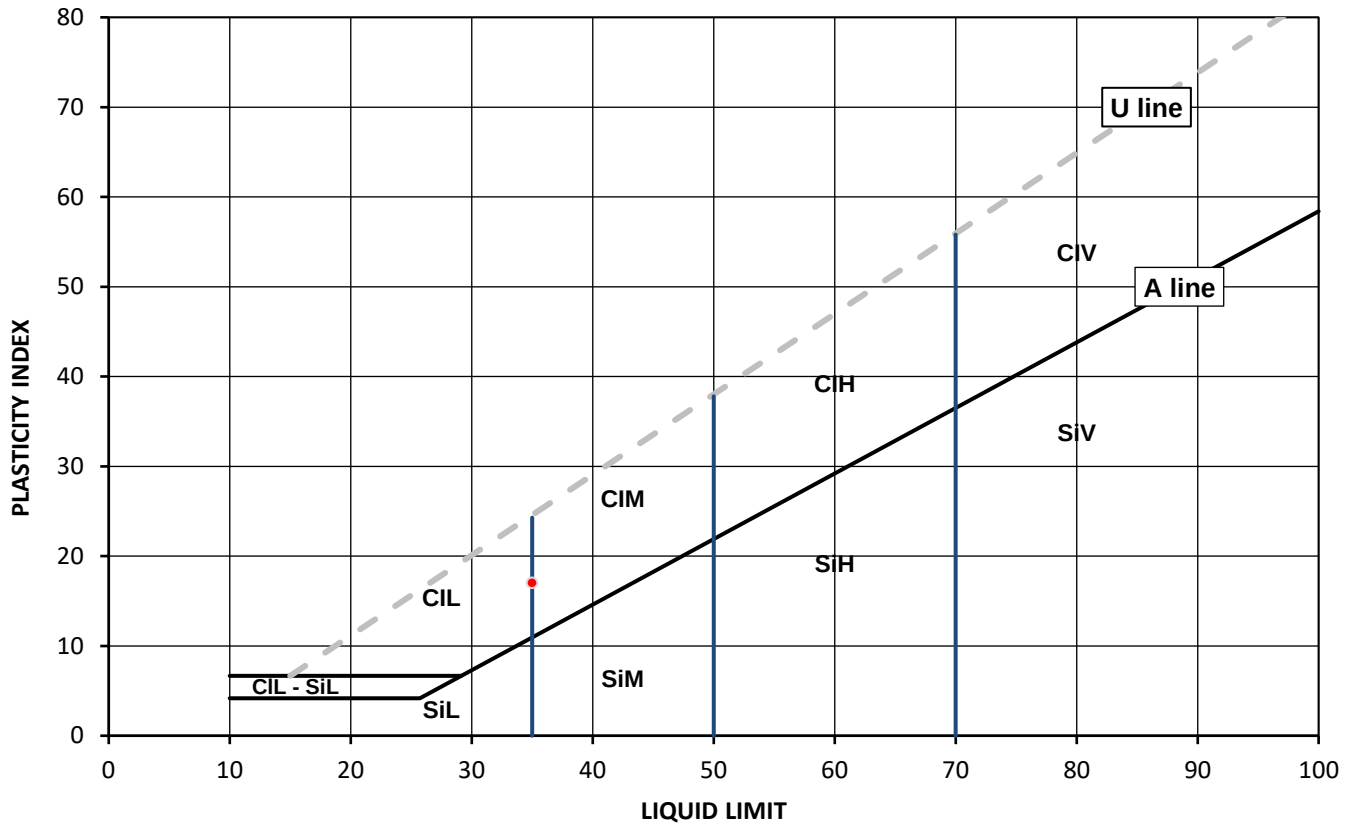
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	15/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185934	Depth Top [m]:	7.50
Hole No.:	BH1	Depth Base [m]:	7.95
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Multicolour slightly gravelly sandy CLAY		
Sample Preparation:	Tested after >425um removed by hand		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
15	35	18	17	98



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

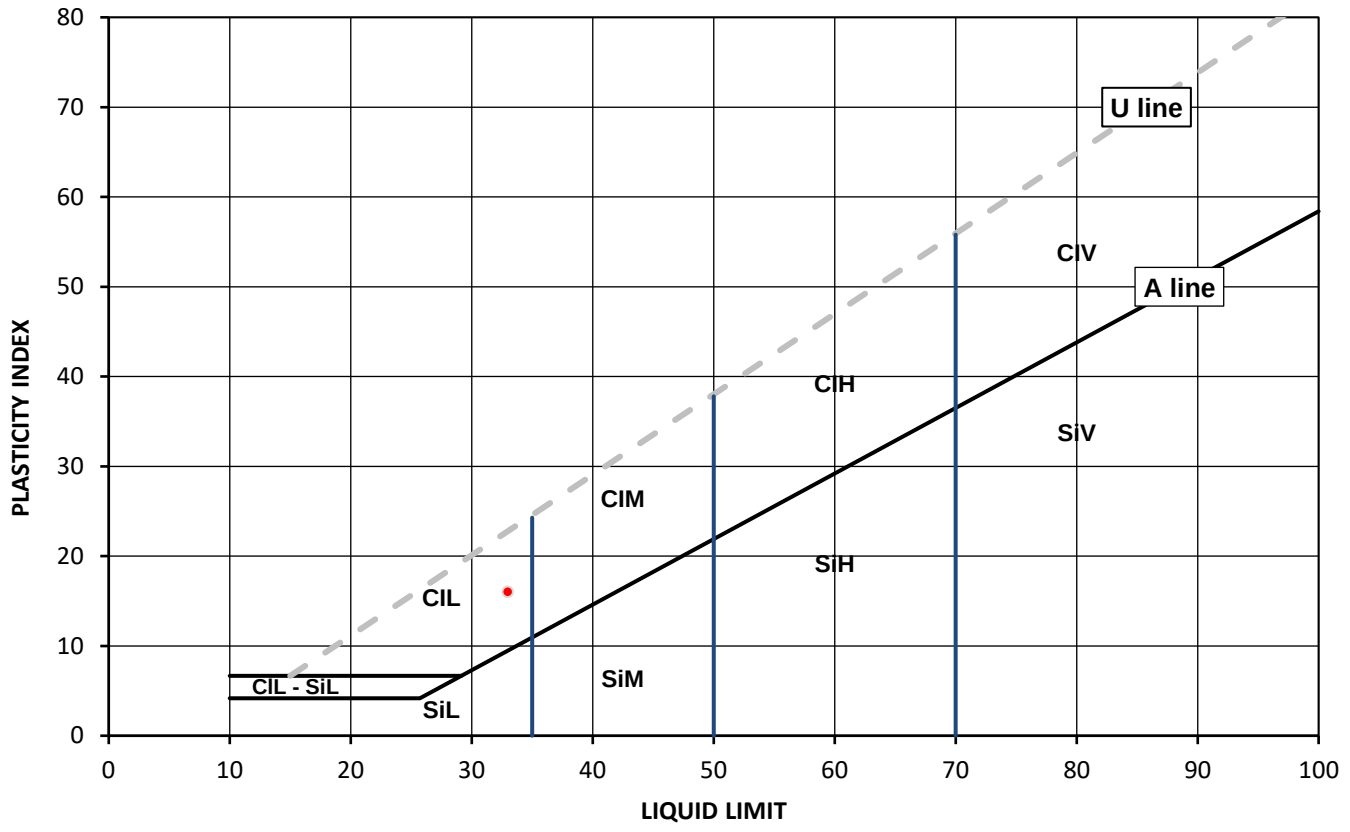
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	15/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185935	Depth Top [m]:	12.00
Hole No.:	BH1	Depth Base [m]:	12.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Multicolour slightly gravelly very sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
14	33	17	16	91



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

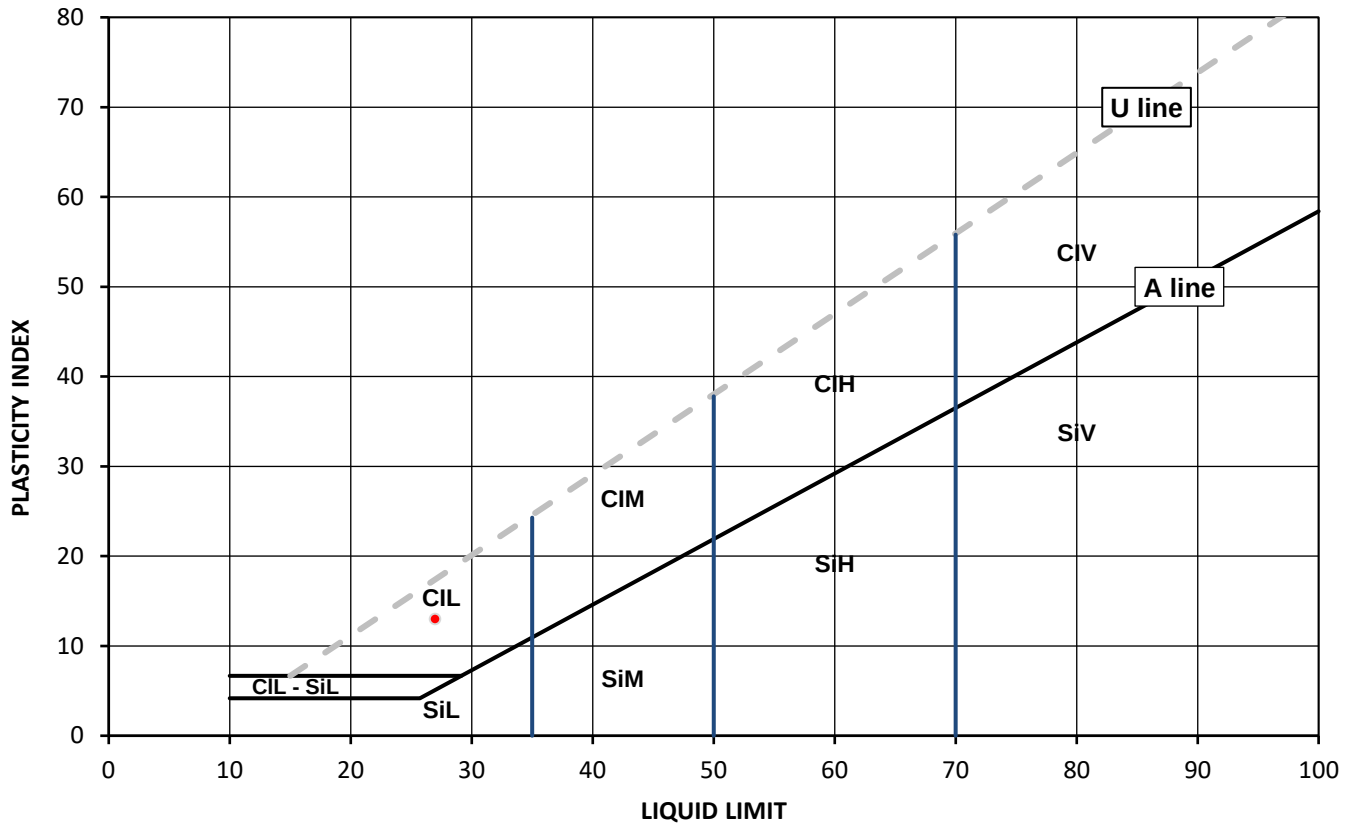
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	10/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185937	Depth Top [m]:	8.00
Hole No.:	BH2	Depth Base [m]:	8.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Yellowish brown to greyish brown slightly gravelly very sandy CLAY		
Sample Preparation:	Tested after >425um removed by hand		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
13	27	14	13	98



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

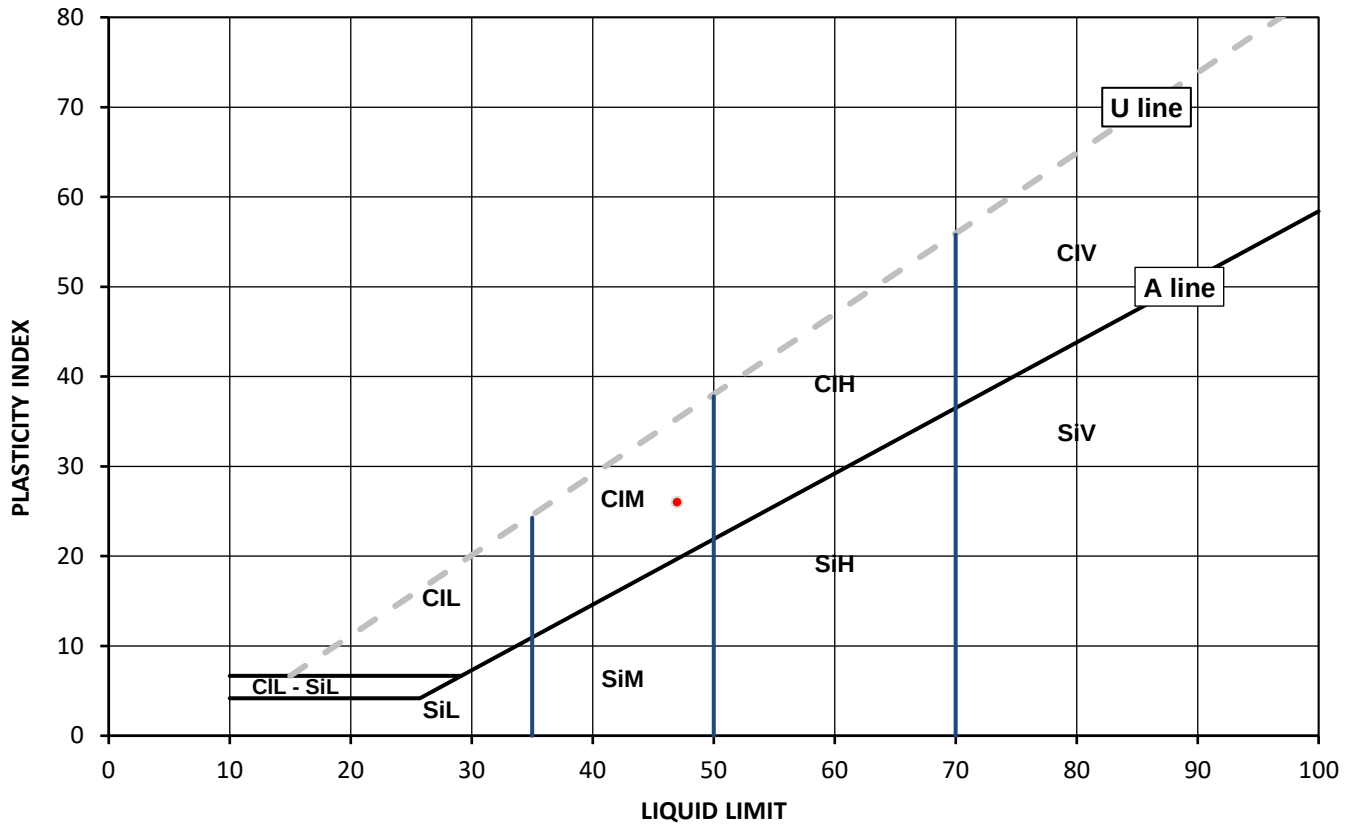
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	10/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185938	Depth Top [m]:	15.50
Hole No.:	BH2	Depth Base [m]:	15.95
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly slightly sandy CLAY		
Sample Preparation:	Tested after >425um removed by hand		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
16	47	21	26	98



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

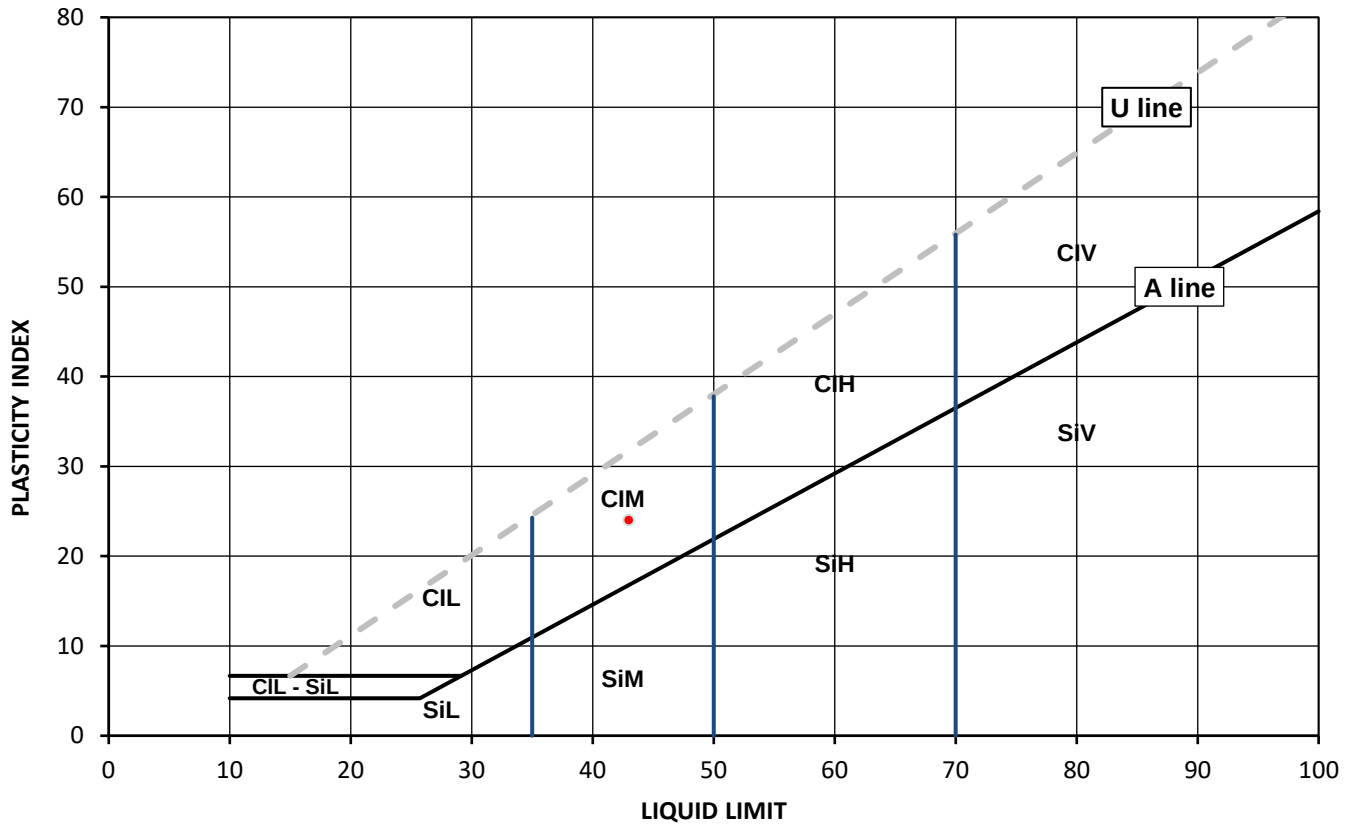
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185958	Depth Top [m]:	2.00
Hole No.:	BH4	Depth Base [m]:	2.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
20	43	19	24	94



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

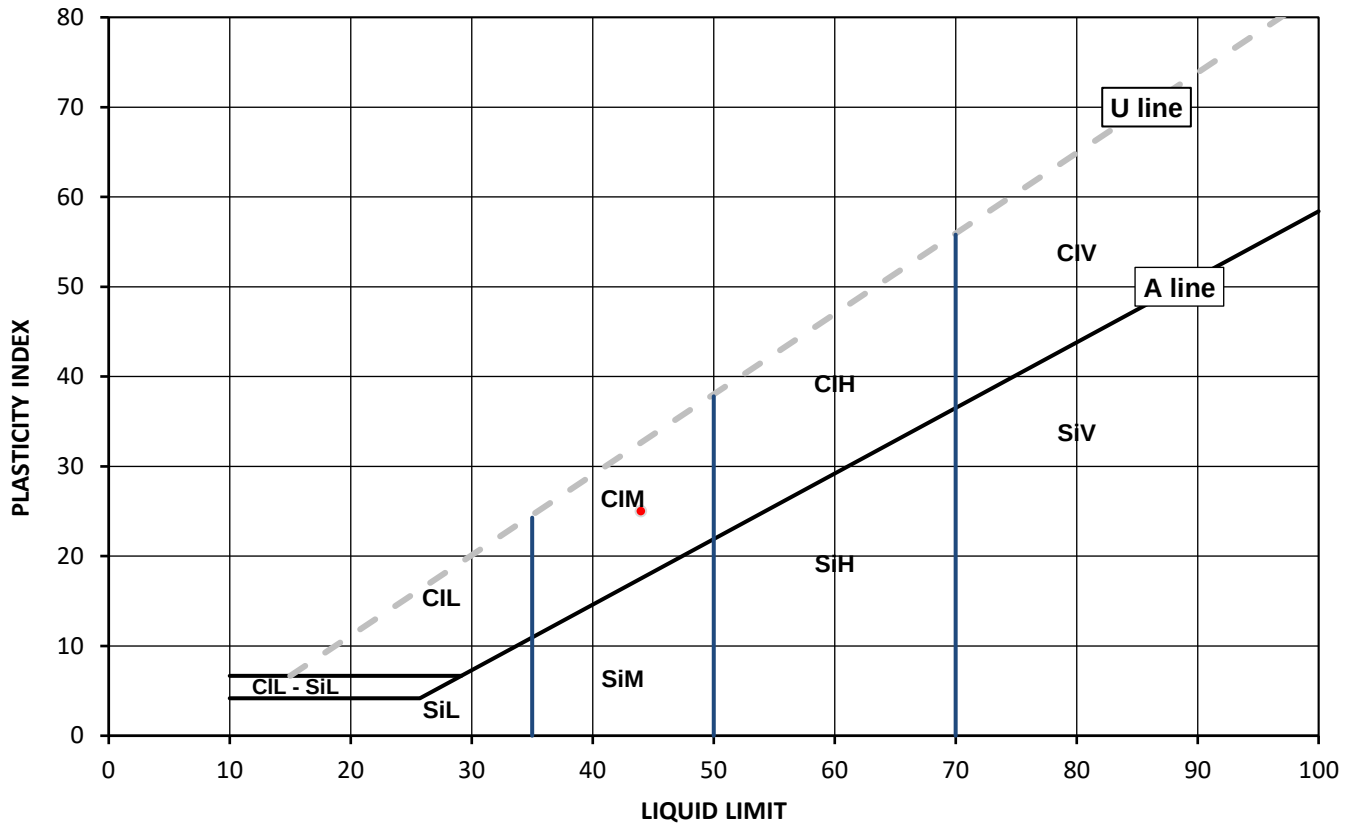
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185960	Depth Top [m]:	4.00
Hole No.:	BH4	Depth Base [m]:	4.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
22	44	19	25	90



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

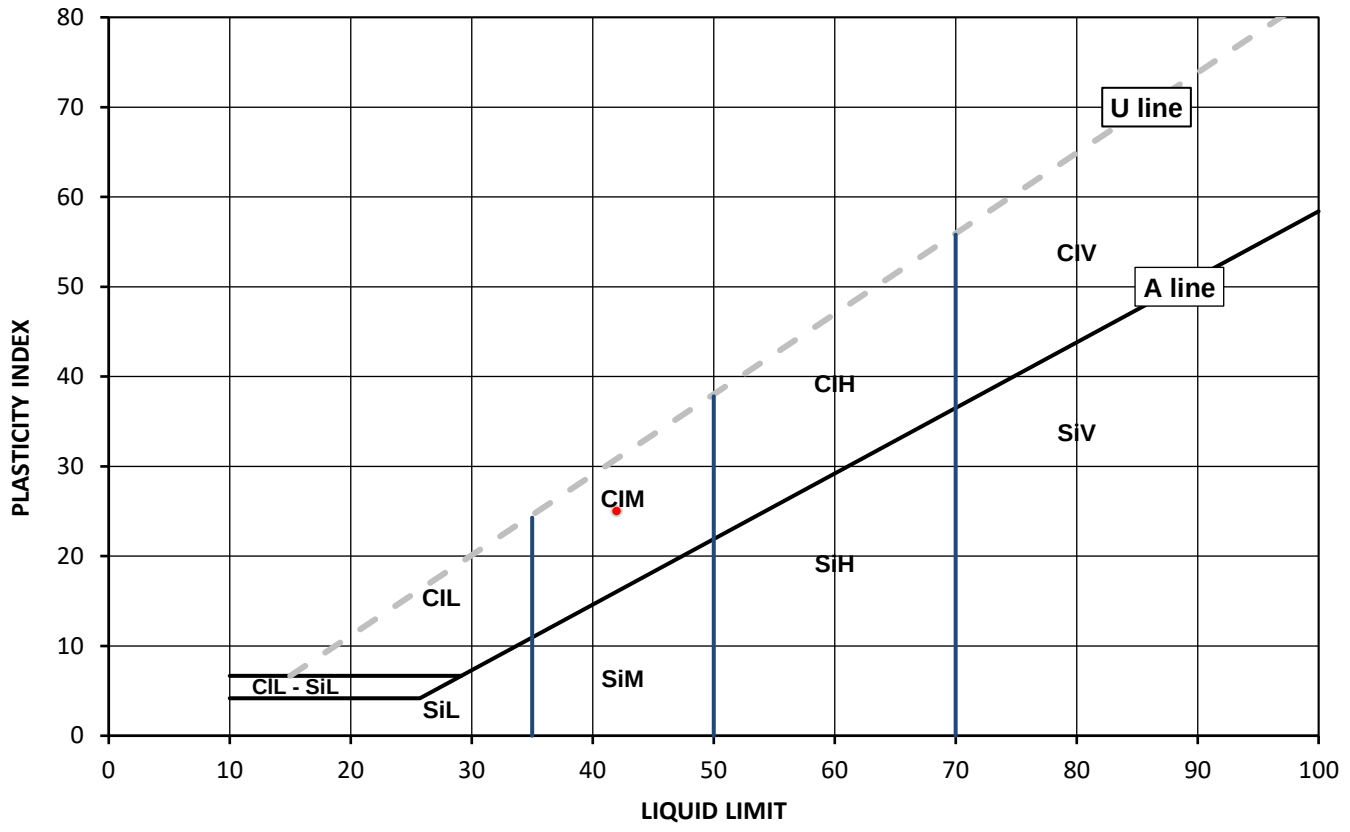
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185961	Depth Top [m]:	6.45
Hole No.:	BH4	Depth Base [m]:	6.95
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
20	42	17	25	91



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

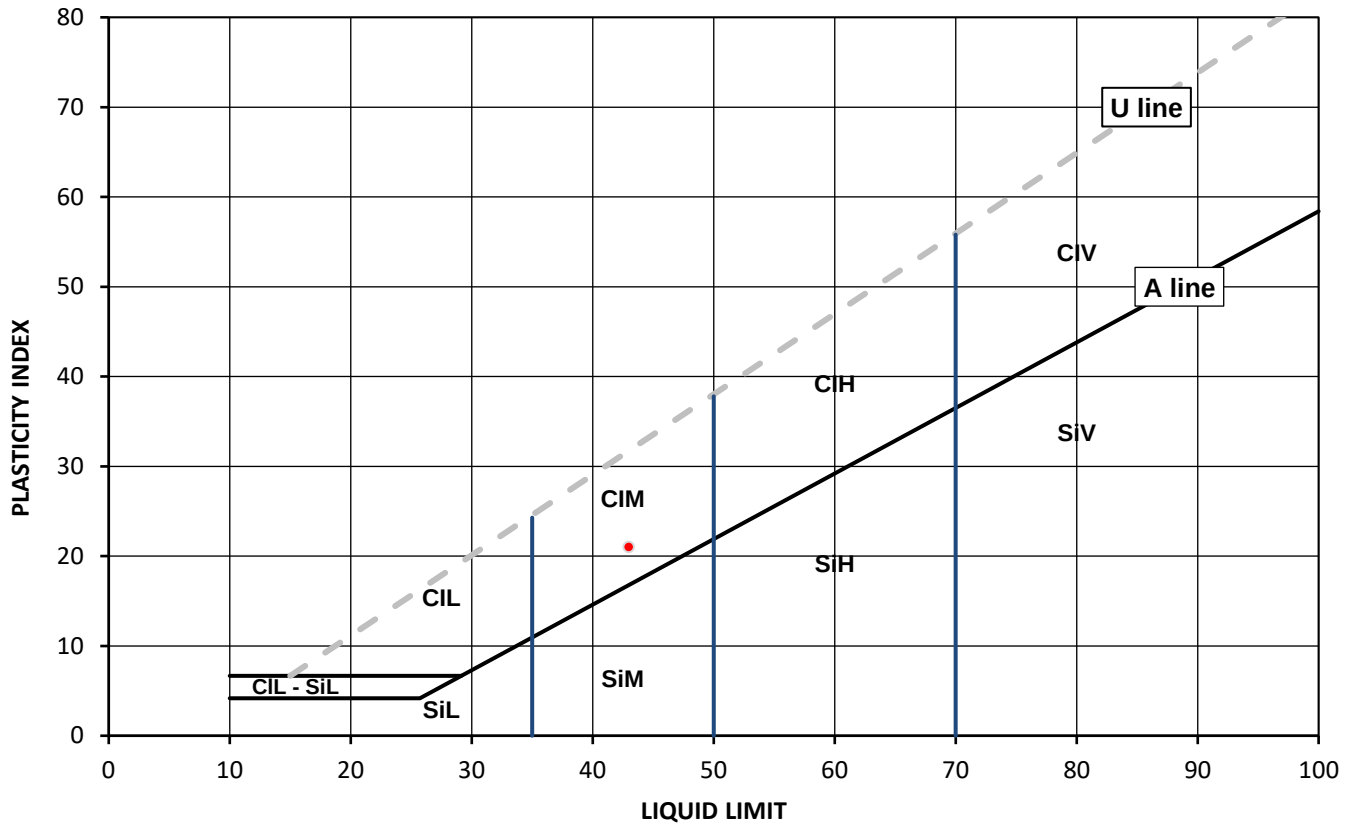
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185963	Depth Top [m]:	2.00
Hole No.:	BH6	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
21	43	22	21	92



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

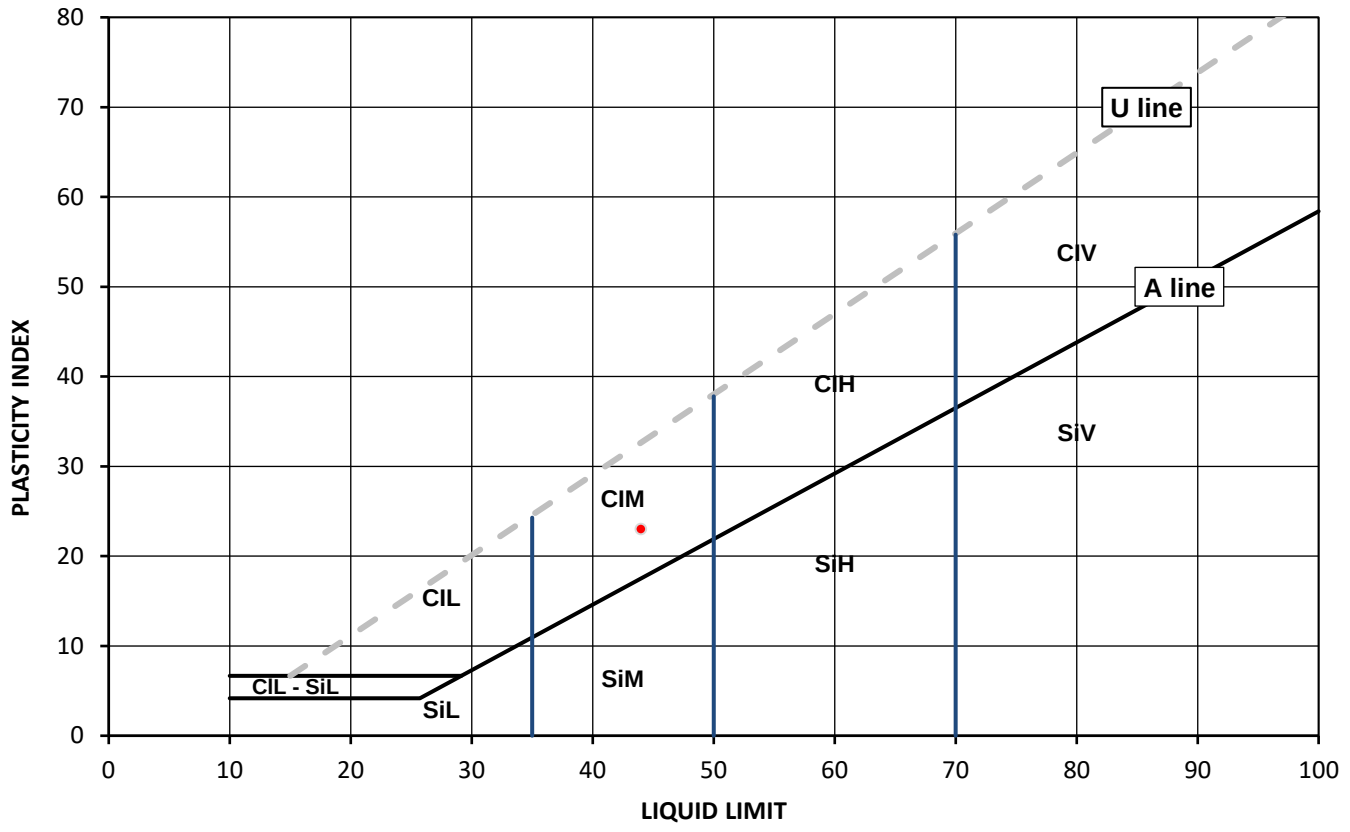
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185964	Depth Top [m]:	4.00
Hole No.:	BH6	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Greyish brown slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
17	44	21	23	91



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

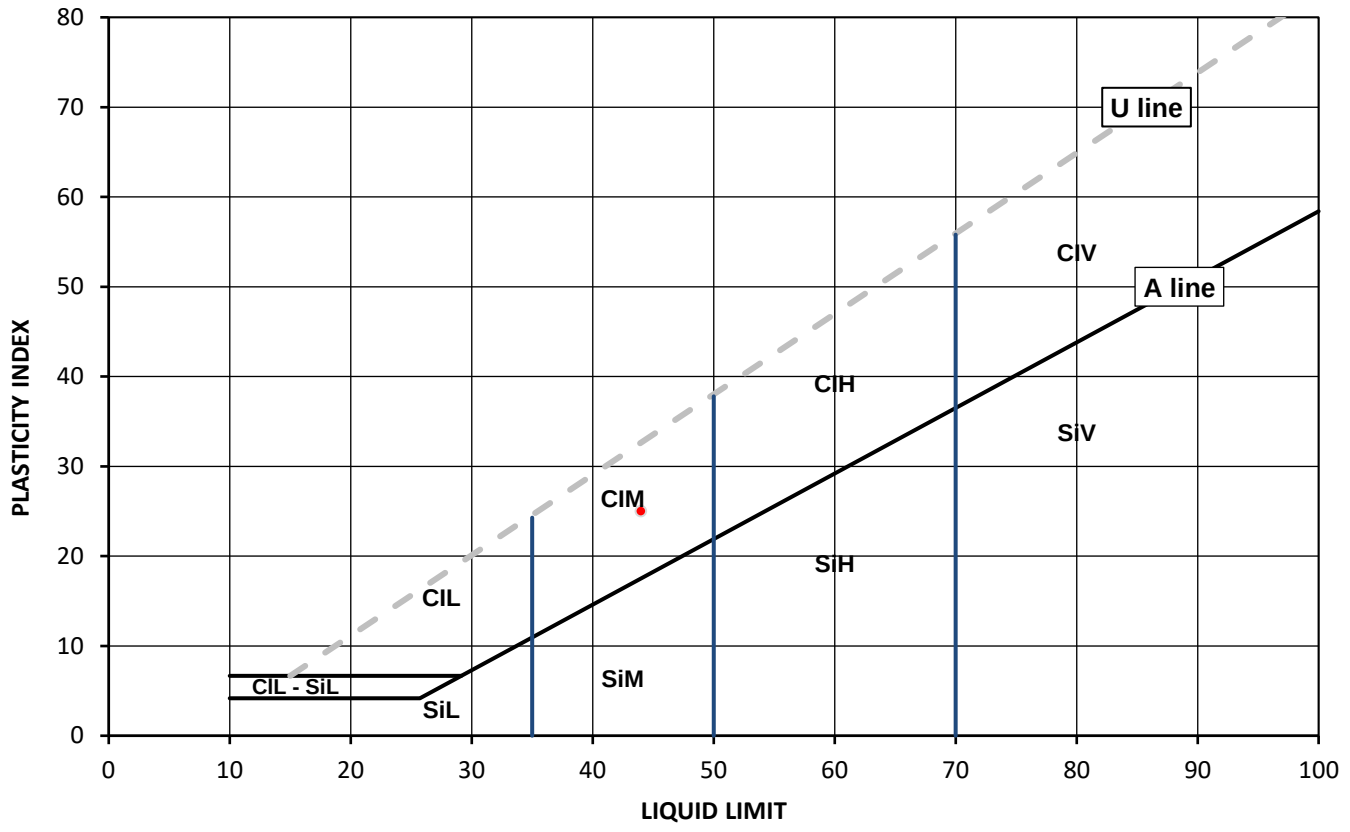
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185965	Depth Top [m]:	6.50
Hole No.:	BH6	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
19	44	19	25	89



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

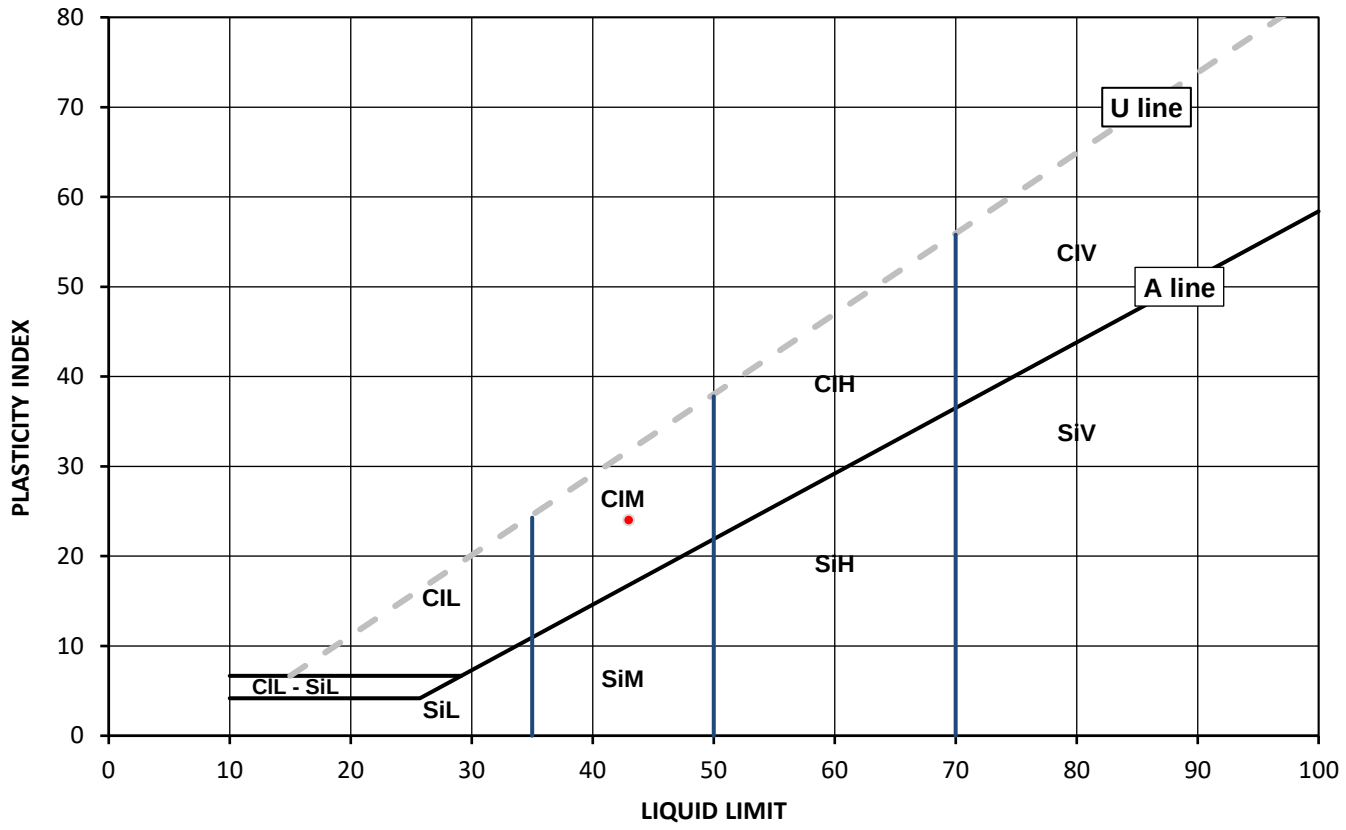
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185967	Depth Top [m]:	1.50
Hole No.:	BH8	Depth Base [m]:	1.95
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	43	19	24	83



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

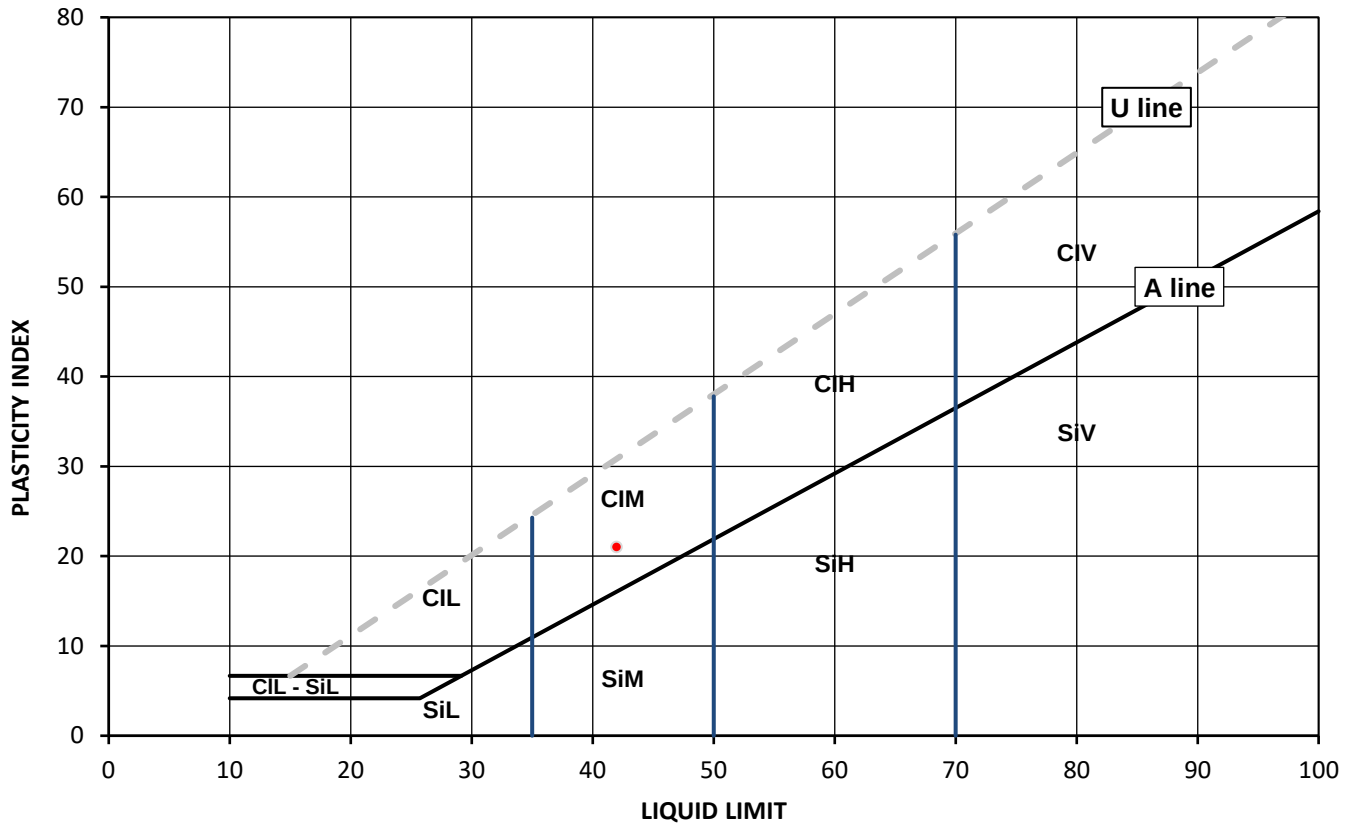
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185968	Depth Top [m]:	3.50
Hole No.:	BH8	Depth Base [m]:	3.95
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
21	42	21	21	93



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

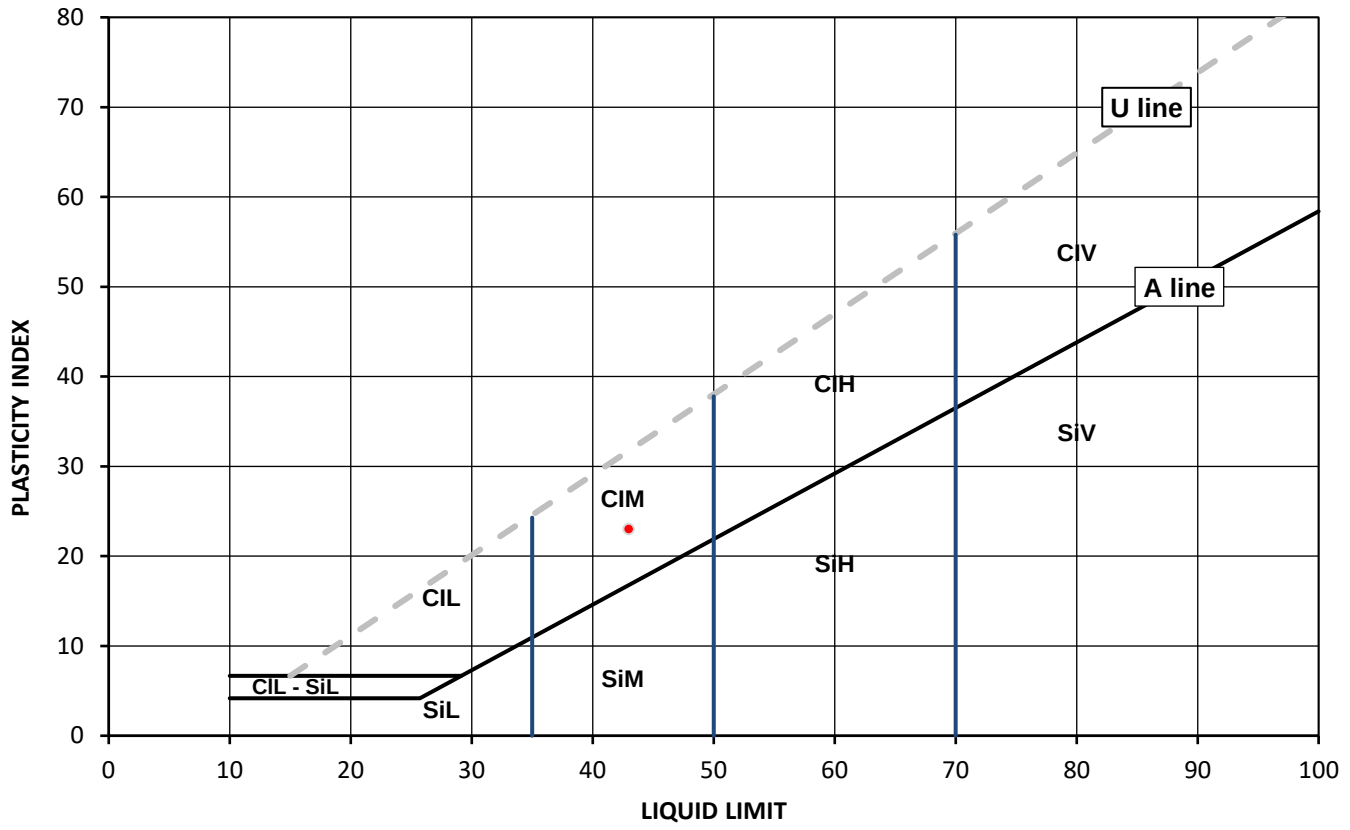
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185969	Depth Top [m]:	6.00
Hole No.:	BH8	Depth Base [m]:	6.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
17	43	20	23	91



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

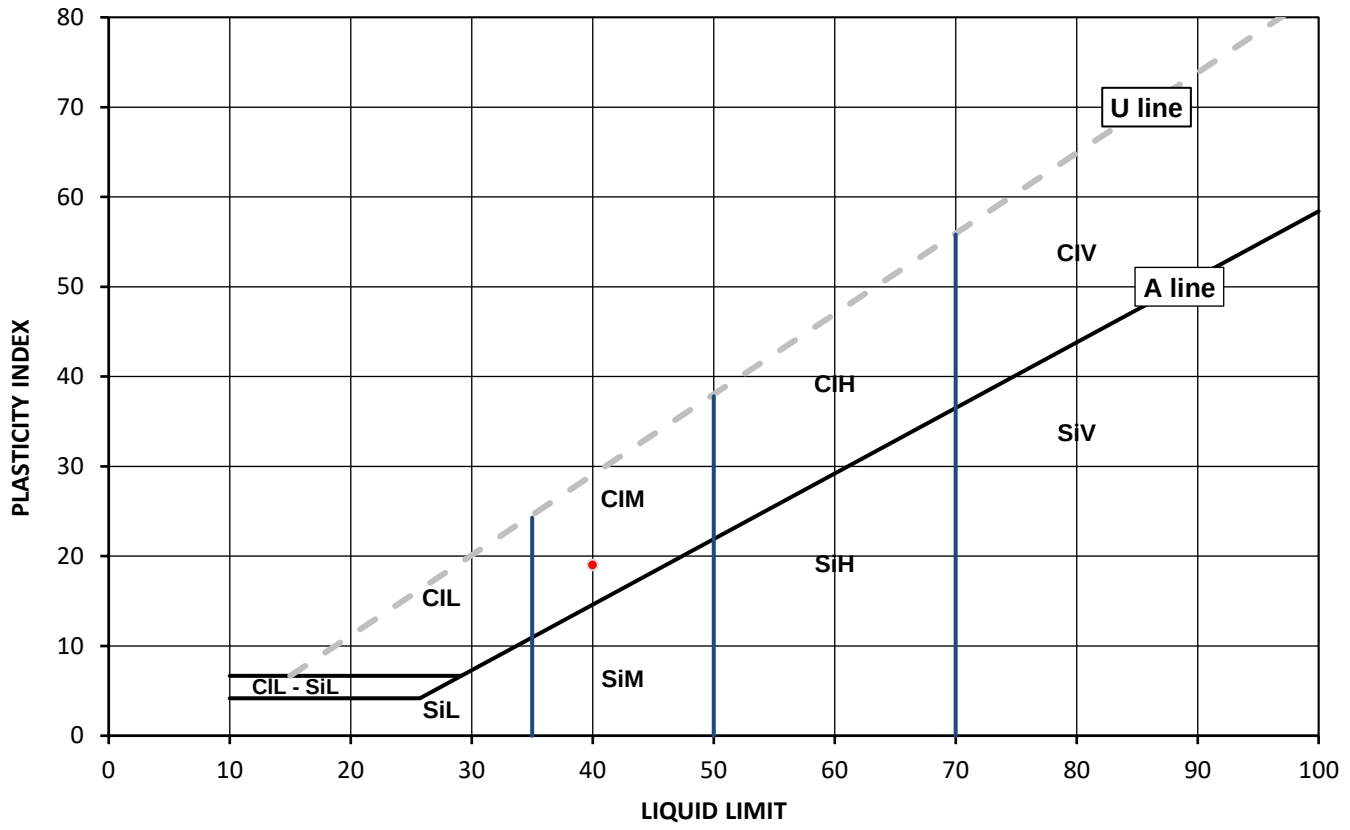
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185971	Depth Top [m]:	9.00
Hole No.:	BH8	Depth Base [m]:	9.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Greyish brown slightly gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	40	21	19	87



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

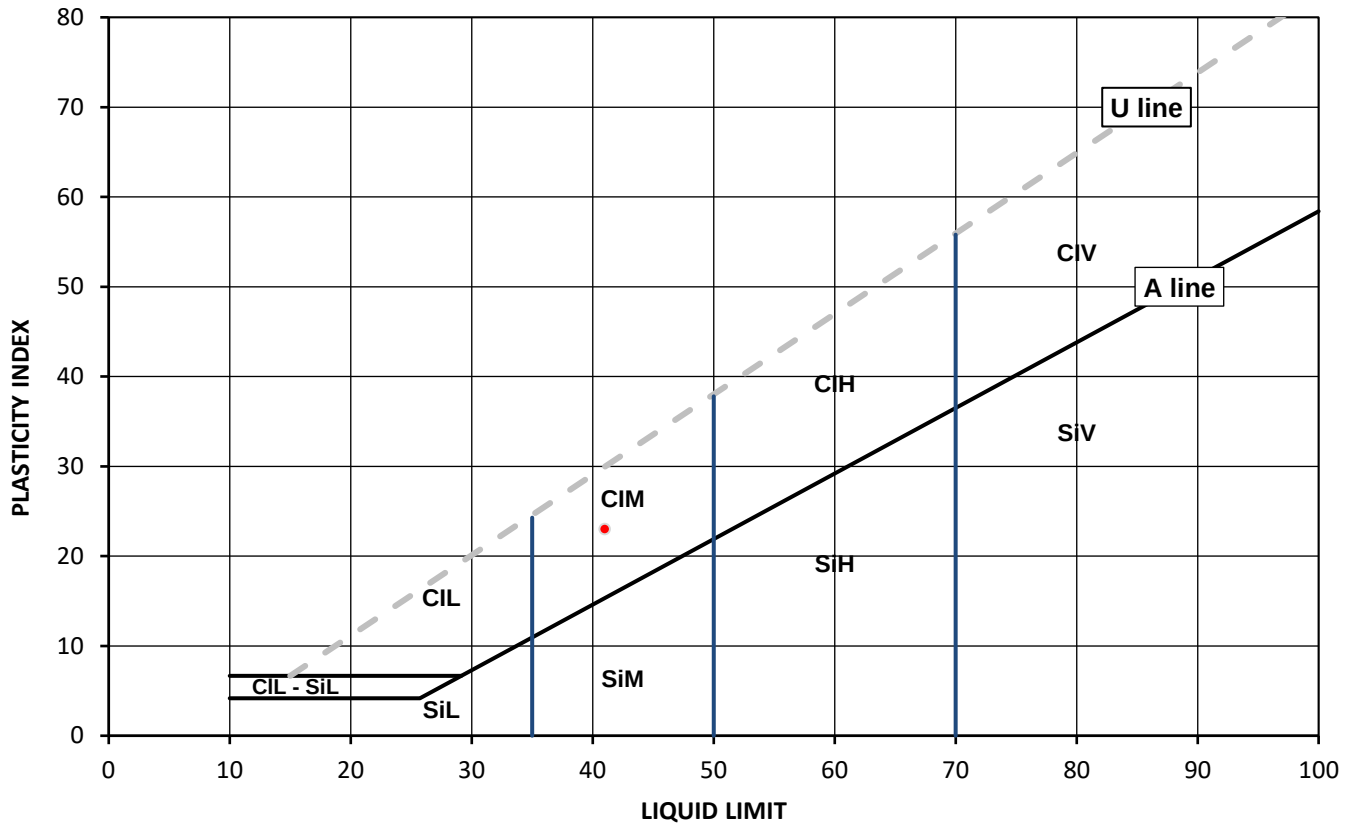
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185972	Depth Top [m]:	12.00
Hole No.:	BH8	Depth Base [m]:	12.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Multicolour slightly gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	41	18	23	90



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

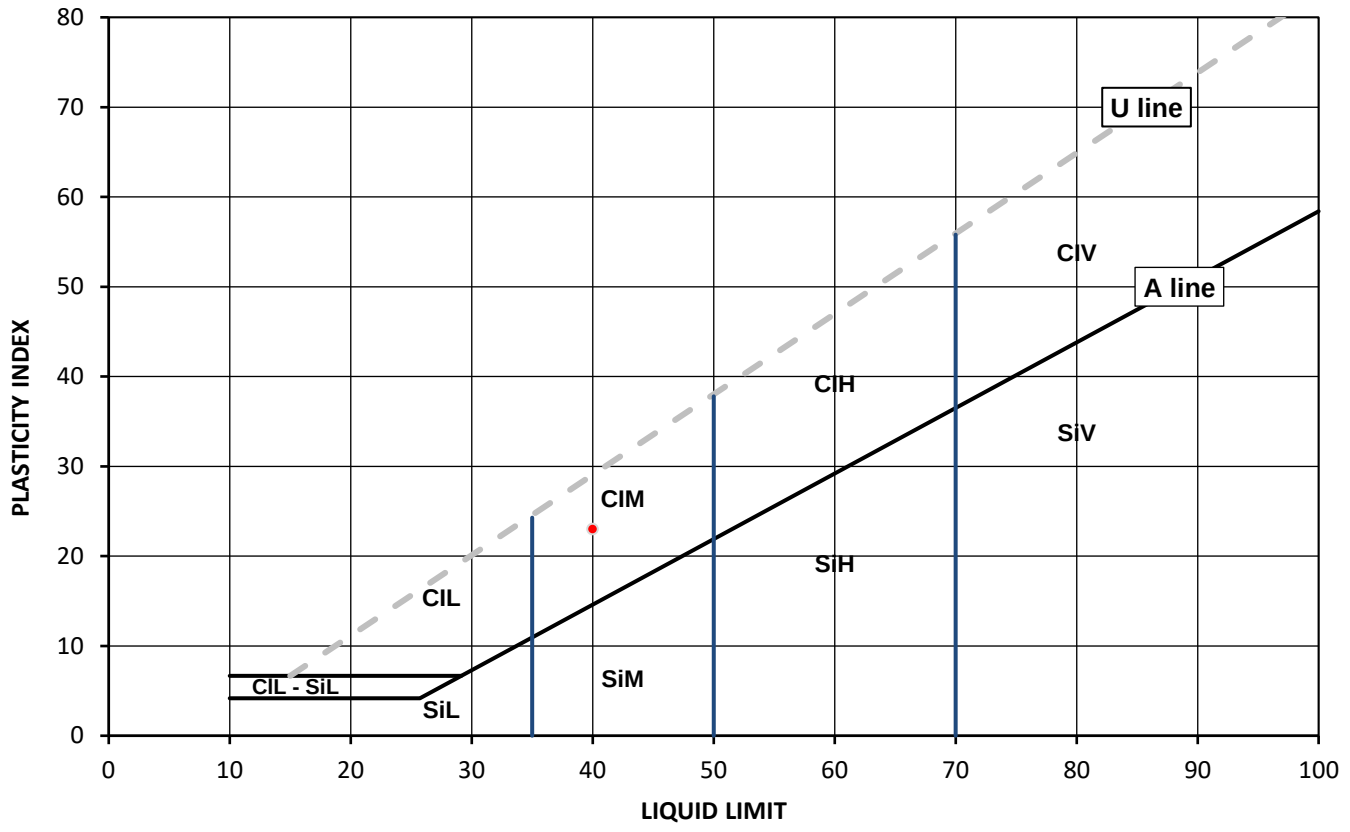
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185974	Depth Top [m]:	15.00
Hole No.:	BH8	Depth Base [m]:	15.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Multicolour slightly gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
19	40	17	23	92



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

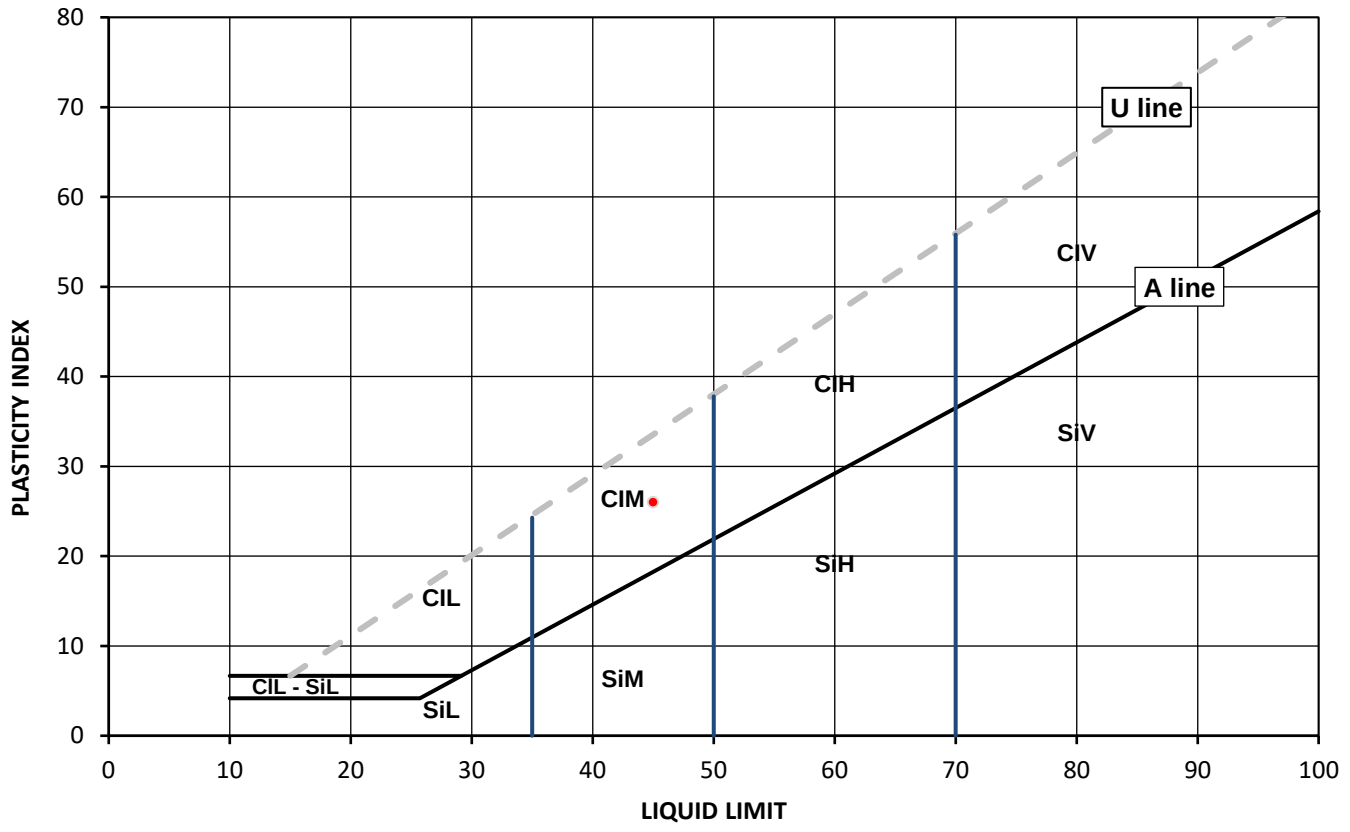
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185987	Depth Top [m]:	1.20
Hole No.:	BH12	Depth Base [m]:	1.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly slightly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
20	45	19	26	94



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

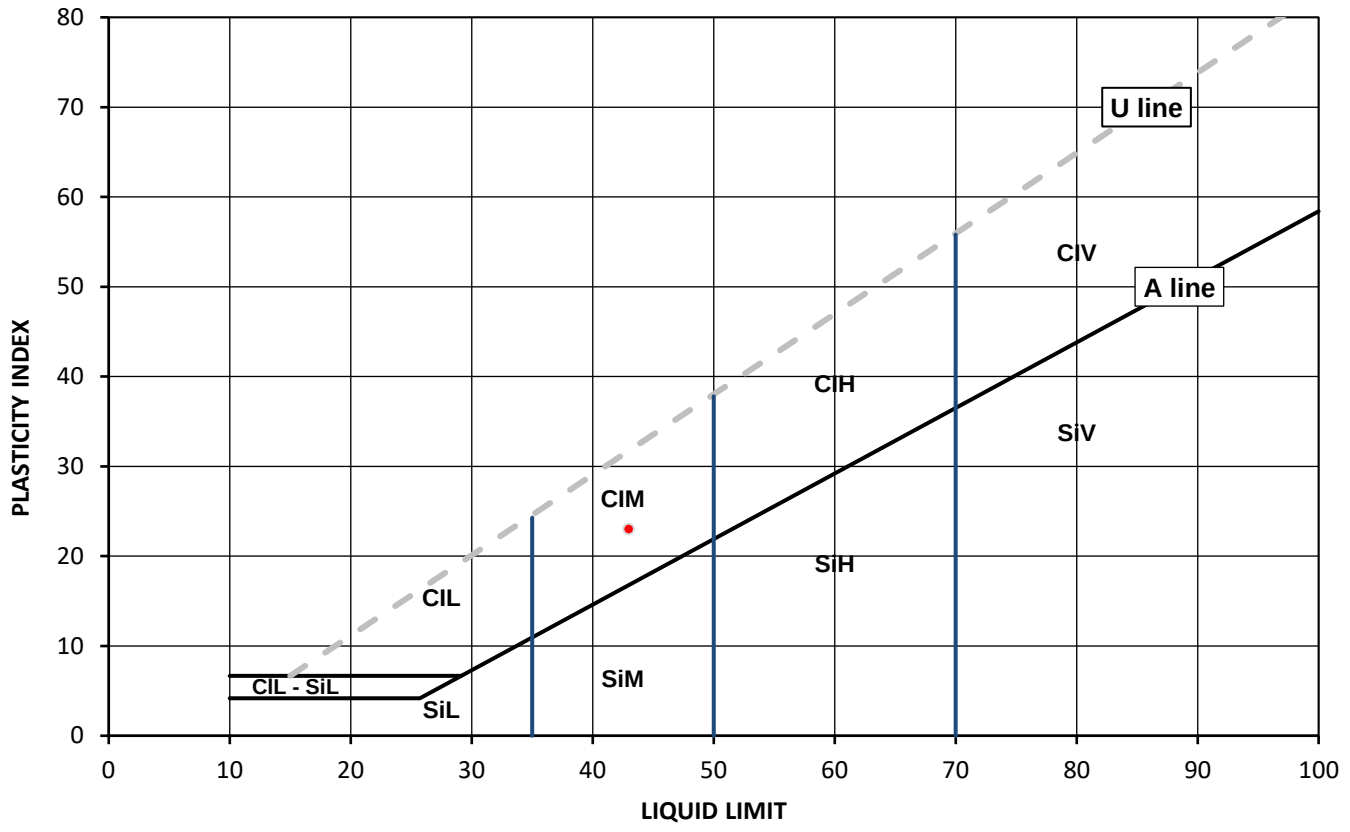
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185989	Depth Top [m]:	3.00
Hole No.:	BH12	Depth Base [m]:	3.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
24	43	20	23	76



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

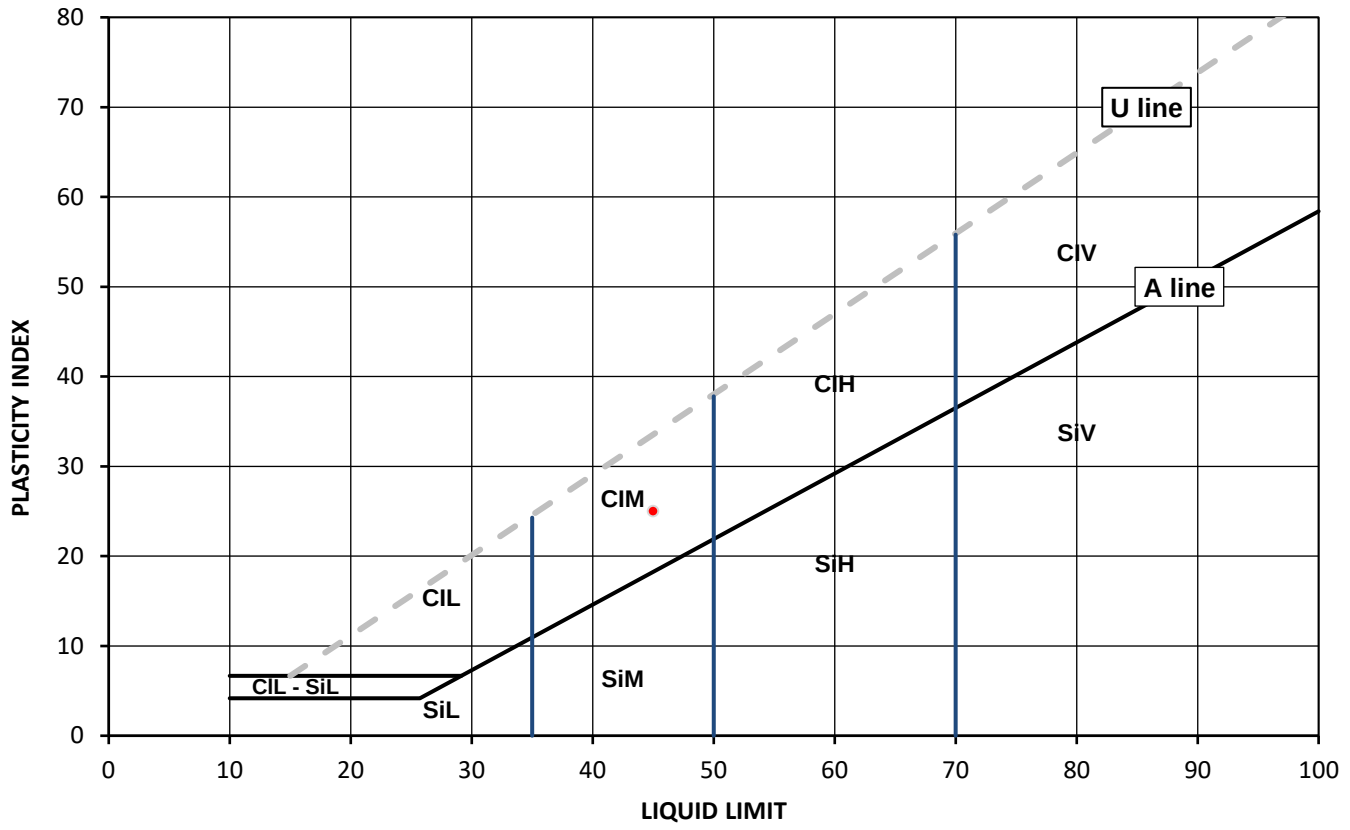
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185991	Depth Top [m]:	5.00
Hole No.:	BH12	Depth Base [m]:	5.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Greyish brown slightly gravelly slightly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
22	45	20	25	93



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

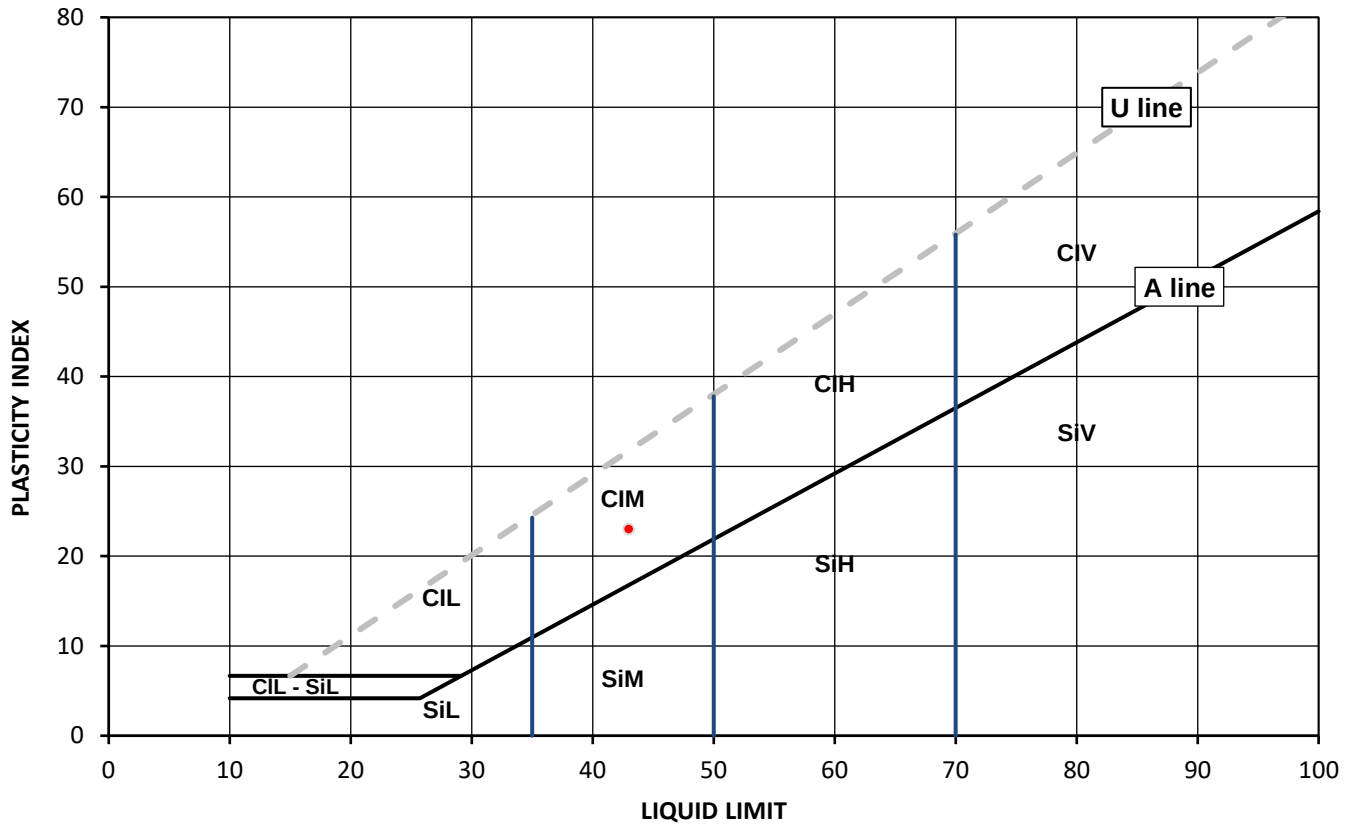
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185992	Depth Top [m]:	8.00
Hole No.:	BH12	Depth Base [m]:	8.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
21	43	20	23	91



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

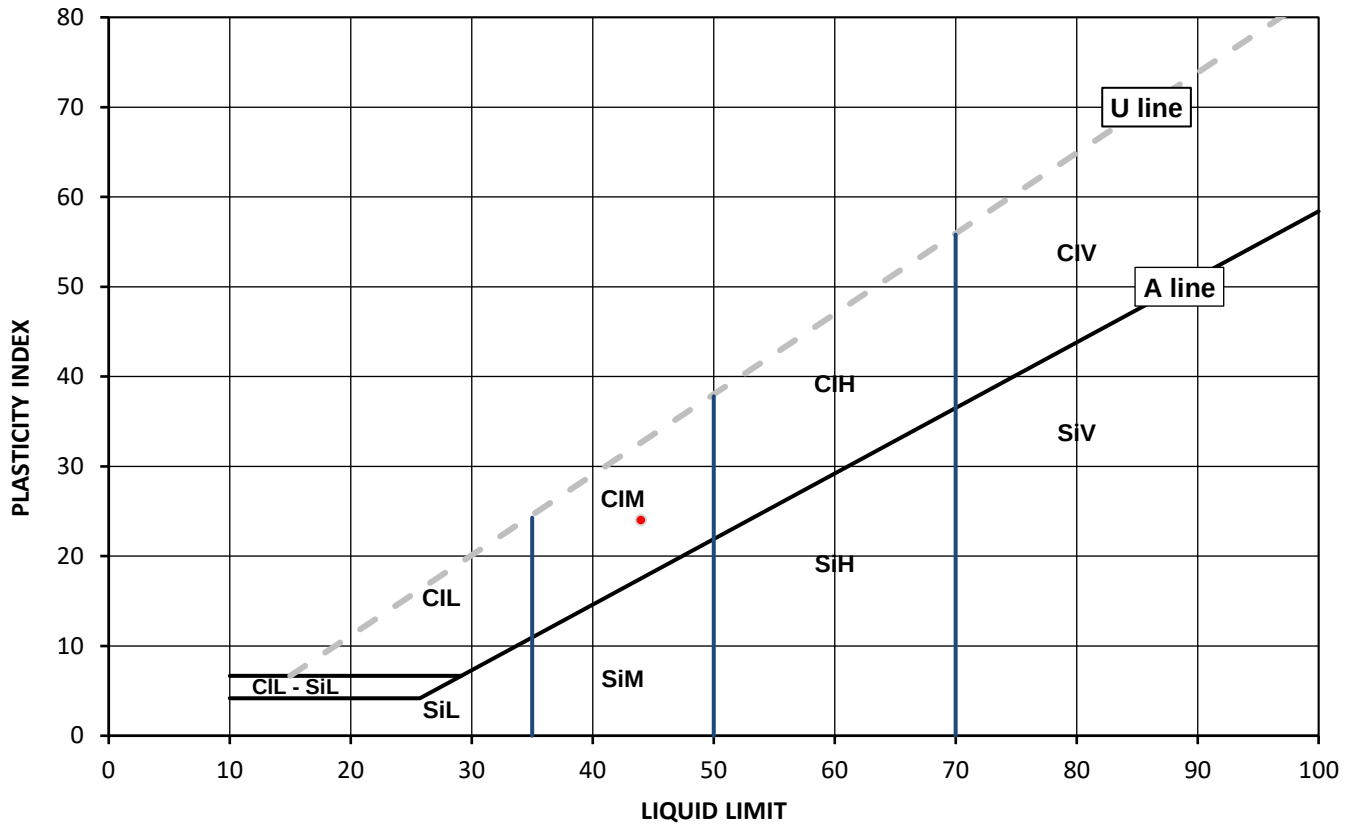
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185993	Depth Top [m]:	11.00
Hole No.:	BH12	Depth Base [m]:	11.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Grey slightly gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
19	44	20	24	89



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

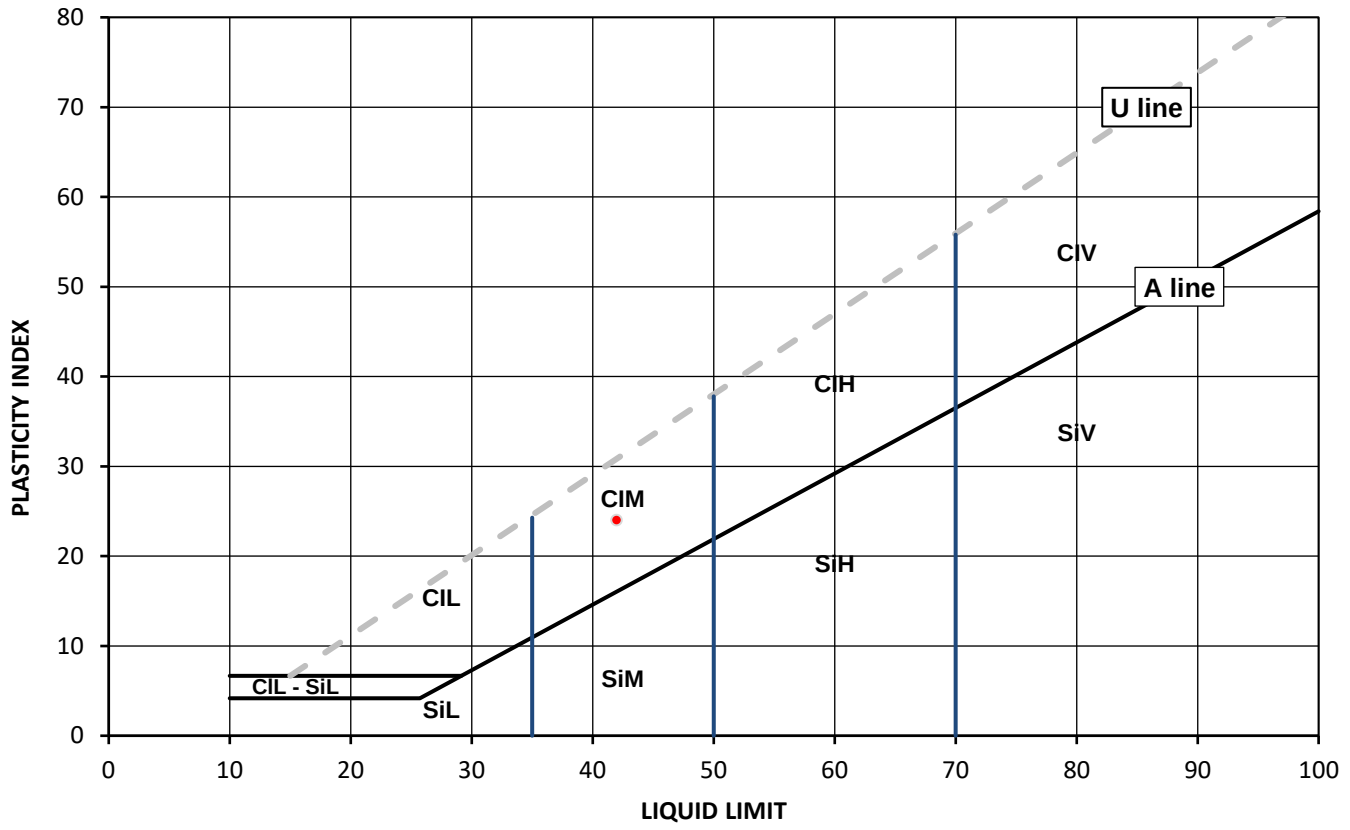
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185994	Depth Top [m]:	14.00
Hole No.:	BH12	Depth Base [m]:	14.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
20	42	18	24	91



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

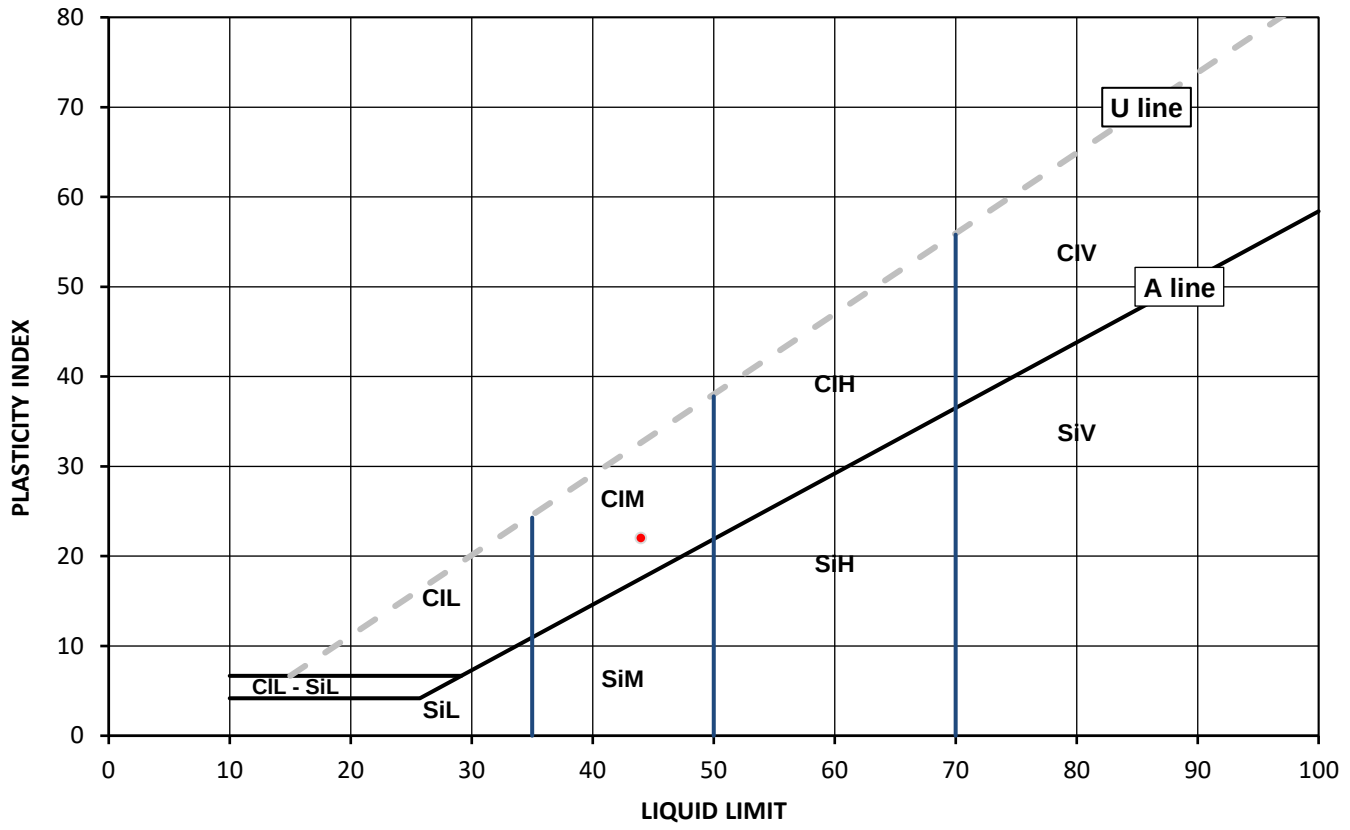
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2186002	Depth Top [m]:	3.00
Hole No.:	BH13	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
21	44	22	22	81



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING
4041

Environmental Science

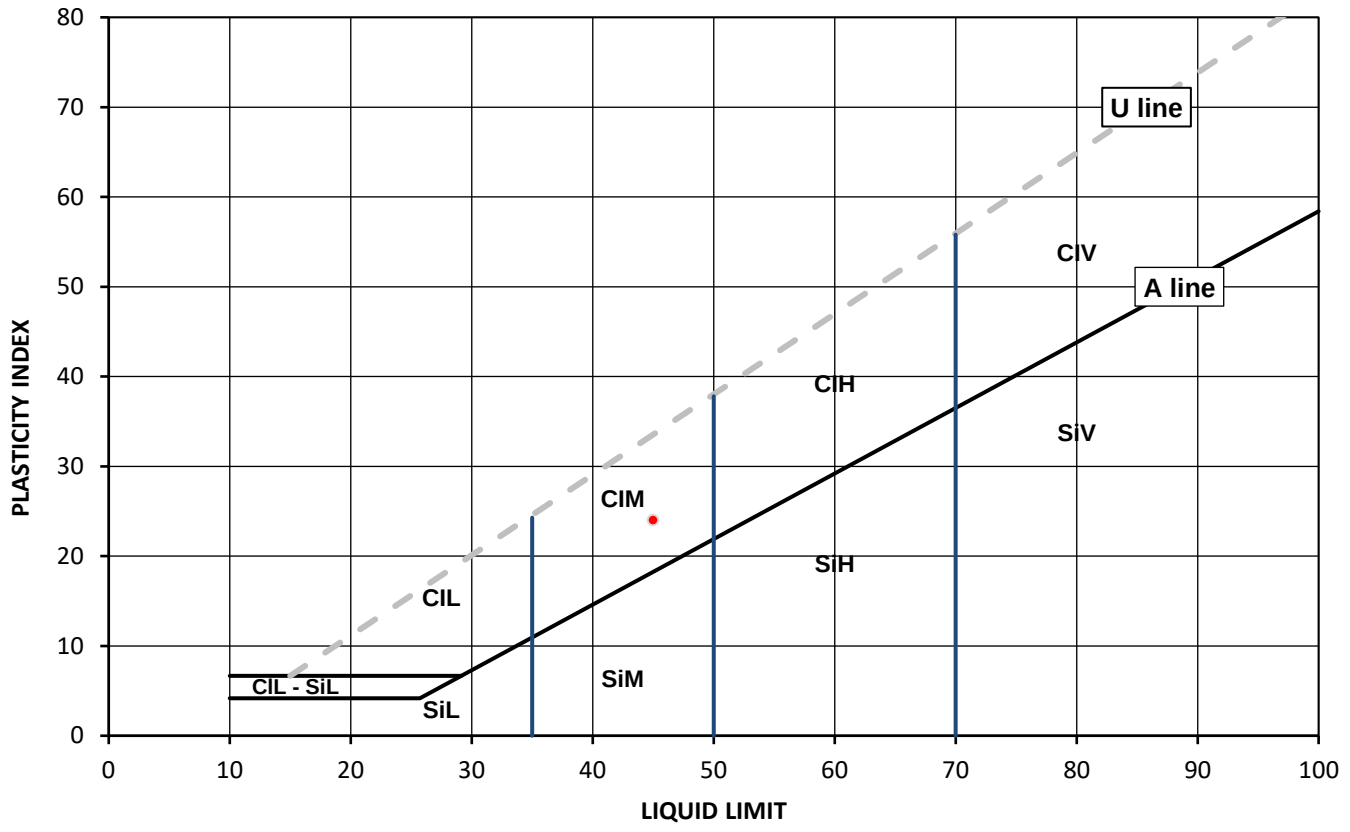
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2186340	Depth Top [m]:	1.20
Hole No.:	BH13	Depth Base [m]:	1.65
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark brown slightly gravelly slightly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
15	45	21	24	73



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

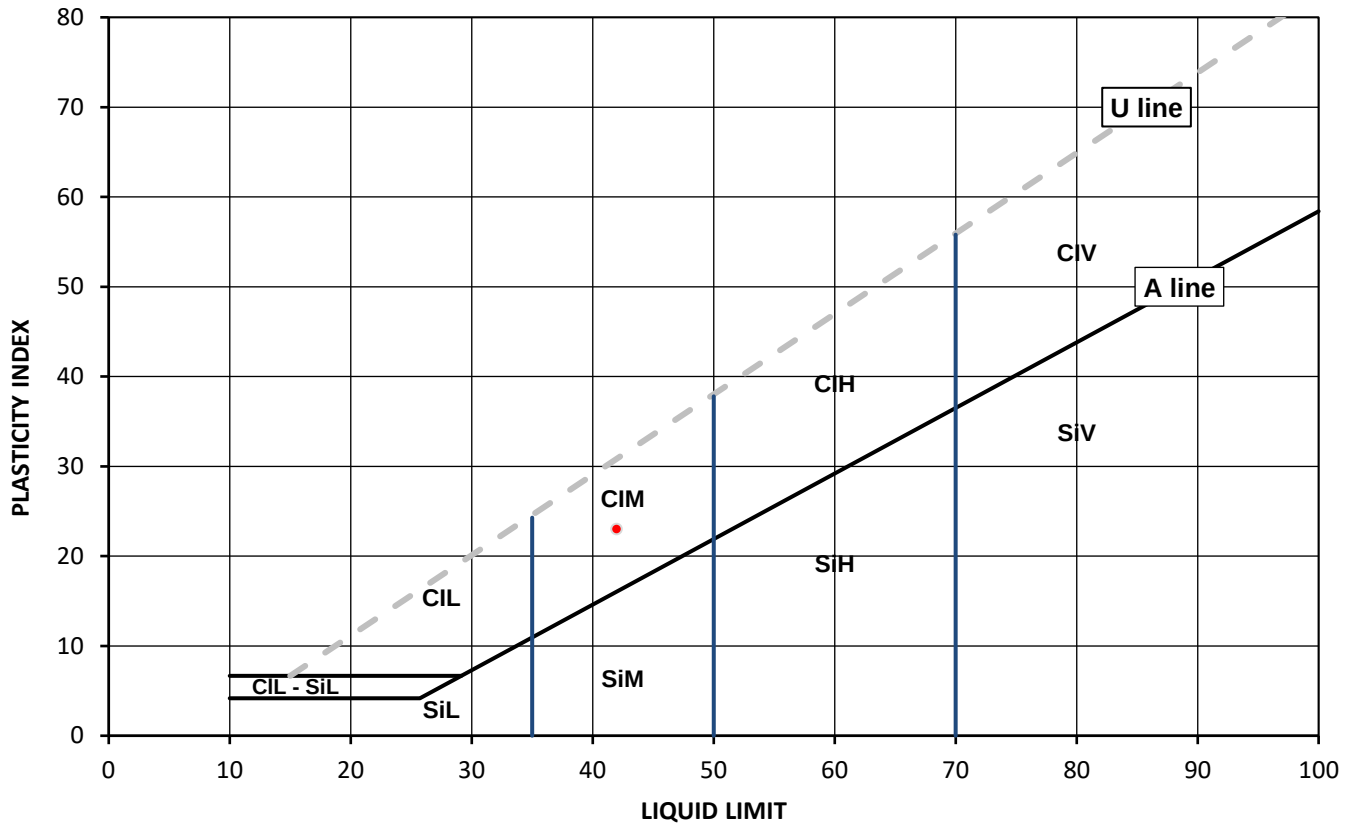
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2186341	Depth Top [m]:	5.00
Hole No.:	BH13	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	42	19	23	90



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

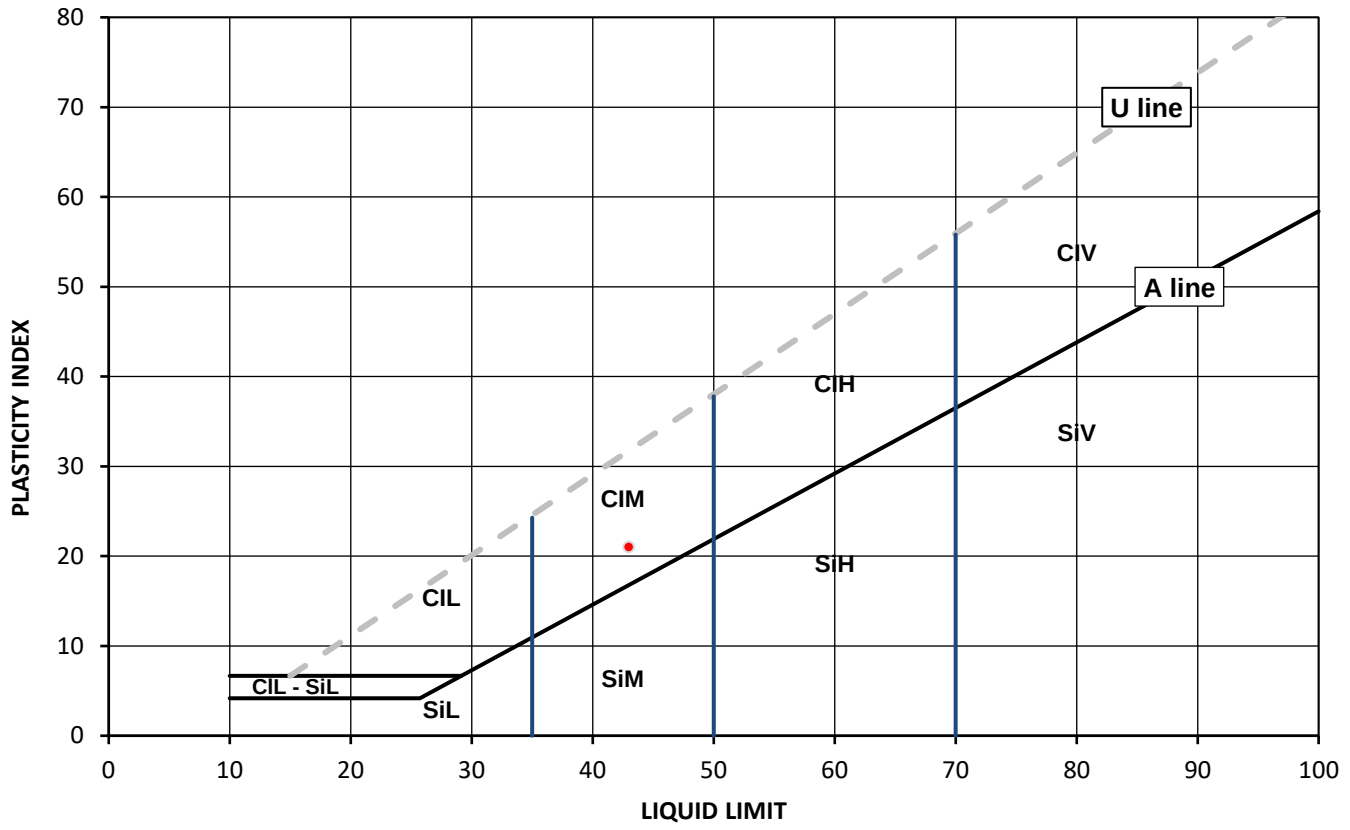
Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2186342	Depth Top [m]:	8.00
Hole No.:	BH13	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
17	43	22	21	88



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 236.12

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR

Contact: Harry Whittle

Site Address: Corby EfW

Client Reference: 15-0645.05
Job Number: 22-42014
Date Sampled: 11/02 - 15/02/2022
Date Received: 24/02/2022
Date Tested: 02/03/2022
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W]	Water Content BS EN ISO 17892-2 [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%		
2185933	BH1	Not Given	6.50	7.00	B	Greyish brown slightly gravelly silty very sandy CLAY										2.82			
2185934	BH1	Not Given	7.50	7.95	U	Multicolour slightly gravelly sandy CLAY	Atterberg 4 Point	15		98	35	18	17						
2185935	BH1	Not Given	12.00	12.45	U	Multicolour slightly gravelly very sandy CLAY	Atterberg 4 Point	14		91	33	17	16						
2185936	BH1	Not Given	13.00	13.50	B	Brownish grey gravelly very sandy very silty CLAY										2.76			
2185987	BH12	Not Given	1.20	1.45	U	Brownish grey slightly gravelly slightly sandy CLAY	Atterberg 4 Point	20		94	45	19	26						
2185989	BH12	Not Given	3.00	3.45	U	Brownish grey slightly gravelly sandy CLAY	Atterberg 4 Point	24		76	43	20	23						
2185991	BH12	Not Given	5.00	5.45	U	Greyish brown slightly gravelly slightly sandy CLAY	Atterberg 4 Point	22		93	45	20	25						
2185992	BH12	Not Given	8.00	8.45	U	Brownish grey slightly gravelly sandy CLAY	Atterberg 4 Point	21		91	43	20	23						
2185993	BH12	Not Given	11.00	11.45	U	Grey slightly gravelly sandy CLAY	Atterberg 4 Point	19		89	44	20	24						
2185994	BH12	Not Given	14.00	14.45	U	Brownish grey slightly gravelly sandy CLAY	Atterberg 4 Point	20		91	42	18	24						

Note: # Non accredited; NP - Non plastic

Comments: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 238.14

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Water Content by BS 1377-2:1990: Clause 3.2; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR

Contact: Harry Whittle

Site Address: Corby EfW

Client Reference: 15-0645.05
Job Number: 22-42014
Date Sampled: 10/02 - 17/02/2022
Date Received: 24/02/2022
Date Tested: 02/03/2022
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W]	Water Content BS EN ISO 17892-2 [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%		
2186340	BH13	Not Given	1.20	1.65	U	Dark brown slightly gravelly slightly sandy CLAY	Atterberg 4 Point	15		73	45	21	24						
2186002	BH13	Not Given	3.00	Not Given	U	Brownish grey slightly gravelly sandy CLAY	Atterberg 4 Point	21		81	44	22	22						
2186341	BH13	Not Given	5.00	Not Given	U	Brownish grey slightly gravelly sandy CLAY	Atterberg 4 Point	18		90	42	19	23						
2186342	BH13	Not Given	8.00	Not Given	U	Brownish grey slightly gravelly sandy CLAY	Atterberg 4 Point	17		88	43	22	21						
2185937	BH2	Not Given	8.00	8.45	U	Yellowish brown to greyish brown slightly gravelly very sandy CLAY	Atterberg 4 Point	13		98	27	14	13						
2185938	BH2	Not Given	15.50	15.95	U	Brownish grey slightly gravelly slightly sandy CLAY	Atterberg 4 Point	16		98	47	21	26						
2185958	BH4	Not Given	2.00	2.45	U	Grey slightly gravelly sandy CLAY with fragments of chalk	Atterberg 4 Point	20		94	43	19	24						
2185960	BH4	Not Given	4.00	4.45	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk	Atterberg 4 Point	22		90	44	19	25						
2185961	BH4	Not Given	6.45	6.95	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk	Atterberg 4 Point	20		91	42	17	25						
2185963	BH6	Not Given	2.00	Not Given	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk	Atterberg 4 Point	21		92	43	22	21						

Note: # Non accredited; NP - Non plastic

Comments: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 238.14

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Water Content by BS 1377-2:1990: Clause 3.2; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR

Contact: Harry Whittle

Site Address: Corby EfW

Client Reference: 15-0645.05
Job Number: 22-42014
Date Sampled: 16/02 - 17/02/2022
Date Received: 24/02/2022
Date Tested: 02/03/2022
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W]	Water Content BS EN ISO 17892-2 [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%		
2185964	BH6	Not Given	4.00	Not Given	U	Greyish brown slightly gravelly sandy CLAY with fragments of chalk	Atterberg 4 Point	17		91	44	21	23						
2185965	BH6	Not Given	6.50	Not Given	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk	Atterberg 4 Point	19		89	44	19	25						
2185967	BH8	Not Given	1.50	1.95	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk	Atterberg 4 Point	18		83	43	19	24						
2185968	BH8	Not Given	3.50	3.95	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk	Atterberg 4 Point	21		93	42	21	21						
2185969	BH8	Not Given	6.00	6.45	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk	Atterberg 4 Point	17		91	43	20	23						
2185971	BH8	Not Given	9.00	9.45	U	Greyish brown slightly gravelly sandy CLAY	Atterberg 4 Point	18		87	40	21	19						
2185972	BH8	Not Given	12.00	12.45	U	Multicolour slightly gravelly sandy CLAY	Atterberg 4 Point	18		90	41	18	23						
2185974	BH8	Not Given	15.00	15.45	U	Multicolour slightly gravelly sandy CLAY	Atterberg 4 Point	19		92	40	17	23						

Note: # Non accredited; NP - Non plastic

Comments: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 238.14

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR

Contact: Harry Whittle

Site Address: Corby EfW

Client Reference: 15-0645.05
Job Number: 22-42014
Date Sampled: 11/02 - 17/02/2022
Date Received: 24/02/2022
Date Tested: 02/03/2022
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type			%				
2185934	BH1	Not Given	7.50	7.95	U	Multicolour slightly gravelly sandy CLAY		15	Sample was quartered, oven dried at 109 °C			
2185935	BH1	Not Given	12.00	12.45	U	Multicolour slightly gravelly very sandy CLAY		14	Sample was quartered, oven dried at 109 °C			
2185987	BH12	Not Given	1.20	1.45	U	Brownish grey slightly gravelly slightly sandy CLAY		20	Sample was quartered, oven dried at 106 °C			
2185989	BH12	Not Given	3.00	3.45	U	Brownish grey slightly gravelly sandy CLAY		24	Sample was quartered, oven dried at 109 °C			
2185991	BH12	Not Given	5.00	5.45	U	Greyish brown slightly gravelly slightly sandy CLAY		22	Sample was quartered, oven dried at 106.1 °C			
2185992	BH12	Not Given	8.00	8.45	U	Brownish grey slightly gravelly sandy CLAY		21	Sample was quartered, oven dried at 109 °C			
2185993	BH12	Not Given	11.00	11.45	U	Grey slightly gravelly sandy CLAY		19	Sample was quartered, oven dried at 109 °C			
2185994	BH12	Not Given	14.00	14.45	U	Brownish grey slightly gravelly sandy CLAY		20	Sample was quartered, oven dried at 109 °C			
2186340	BH13	Not Given	1.20	1.65	U	Dark brown slightly gravelly slightly sandy CLAY		15	Sample was quartered, oven dried at 109 °C			
2186002	BH13	Not Given	3.00	Not Given	U	Brownish grey slightly gravelly sandy CLAY		21	Sample was quartered, oven dried at 109 °C			

Comments: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 099.16

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR

Contact: Harry Whittle

Site Address: Corby EfW

Client Reference: 15-0645.05
Job Number: 22-42014
Date Sampled: 10/02 - 17/02/2022
Date Received: 24/02/2022
Date Tested: 02/03/2022
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type			%				
2186341	BH13	Not Given	5.00	Not Given	U	Brownish grey slightly gravelly sandy CLAY		18	Sample was quartered, oven dried at 109 °C			
2186342	BH13	Not Given	8.00	Not Given	U	Brownish grey slightly gravelly sandy CLAY		17	Sample was quartered, oven dried at 109 °C			
2185937	BH2	Not Given	8.00	8.45	U	Yellowish brown to greyish brown slightly gravelly very sandy CLAY		13	Sample was quartered, oven dried at 109 °C			
2185938	BH2	Not Given	15.50	15.95	U	Brownish grey slightly gravelly slightly sandy CLAY		16	Sample was quartered, oven dried at 106.4 °C			
2185958	BH4	Not Given	2.00	2.45	U	Grey slightly gravelly sandy CLAY with fragments of chalk		20	Sample was quartered, oven dried at 106.2 °C			
2185960	BH4	Not Given	4.00	4.45	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		22	Sample was quartered, oven dried at 106.2 °C			
2185961	BH4	Not Given	6.45	6.95	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		20	Sample was quartered, oven dried at 108.3 °C			
2185963	BH6	Not Given	2.00	Not Given	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		21	Sample was quartered, oven dried at 106.5 °C			
2185964	BH6	Not Given	4.00	Not Given	U	Greyish brown slightly gravelly sandy CLAY with fragments of chalk		17	Sample was quartered, oven dried at 106 °C			
2185965	BH6	Not Given	6.50	Not Given	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		19	Sample was quartered, oven dried at 106.2 °C			

Comments: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 099.16

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR

Contact: Harry Whittle

Site Address: Corby EfW

Client Reference: 15-0645.05
Job Number: 22-42014
Date Sampled: 16/02/2022
Date Received: 24/02/2022
Date Tested: 02/03/2022
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type			%				
2185967	BH8	Not Given	1.50	1.95	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		18	Sample was quartered, oven dried at 106.5 °C			
2185968	BH8	Not Given	3.50	3.95	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		21	Sample was quartered, oven dried at 109 °C			
2185969	BH8	Not Given	6.00	6.45	U	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		17	Sample was quartered, oven dried at 106 °C			
2185971	BH8	Not Given	9.00	9.45	U	Greyish brown slightly gravelly sandy CLAY		18	Sample was quartered, oven dried at 109 °C			
2185972	BH8	Not Given	12.00	12.45	U	Multicolour slightly gravelly sandy CLAY		18	Sample was quartered, oven dried at 106.2 °C			
2185974	BH8	Not Given	15.00	15.45	U	Multicolour slightly gravelly sandy CLAY		19	Sample was quartered, oven dried at 106 °C			

Comments: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 099.16

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

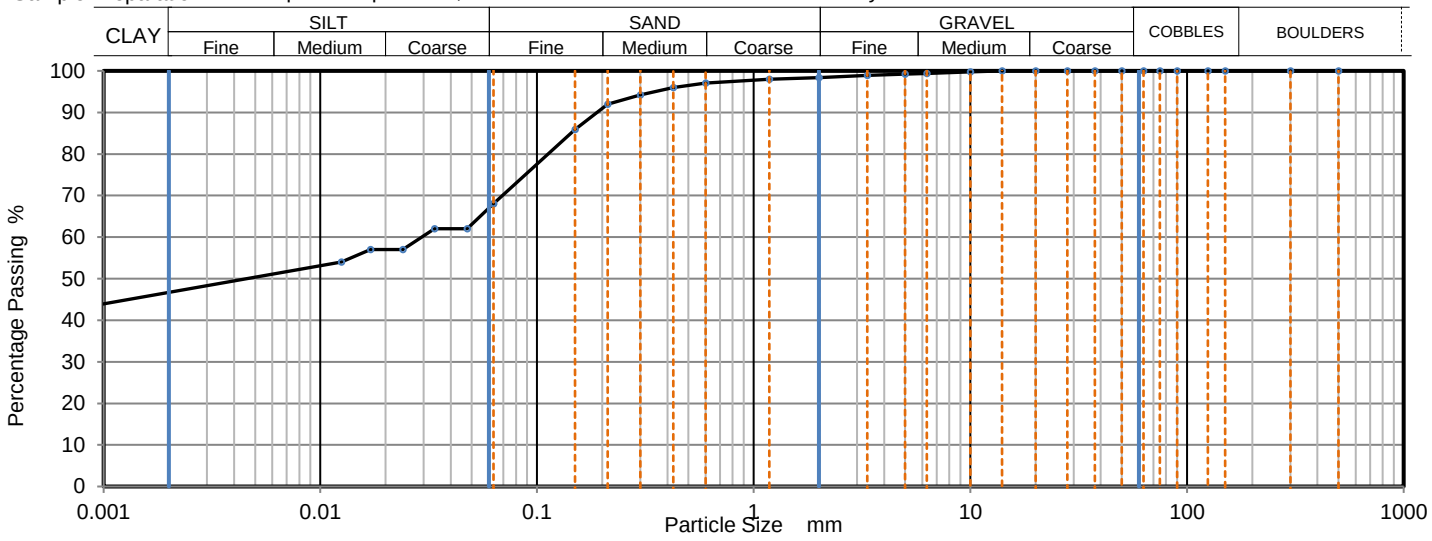
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	15/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185933	Depth Top [m]:	6.50
Hole No.:	BH1	Depth Base [m]:	7.00
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Greyish brown slightly gravelly silty very sandy CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	68
300	100	0.0475	62
150	100	0.0336	62
125	100	0.0241	57
90	100	0.0170	57
75	100	0.0125	54
63	100	0.0008	43
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	99	Particle density	(measured)
2	98	2.82	Mg/m3
1.18	98		
0.6	97		
0.425	96		
0.3	94		
0.212	92		
0.15	86		
0.063	68		

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	30
Silt	22
Clay	46

Grading Analysis		
D100	mm	14
D60	mm	0.0293
D30	mm	
D10	mm	
Uniformity Coefficient		> 37
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

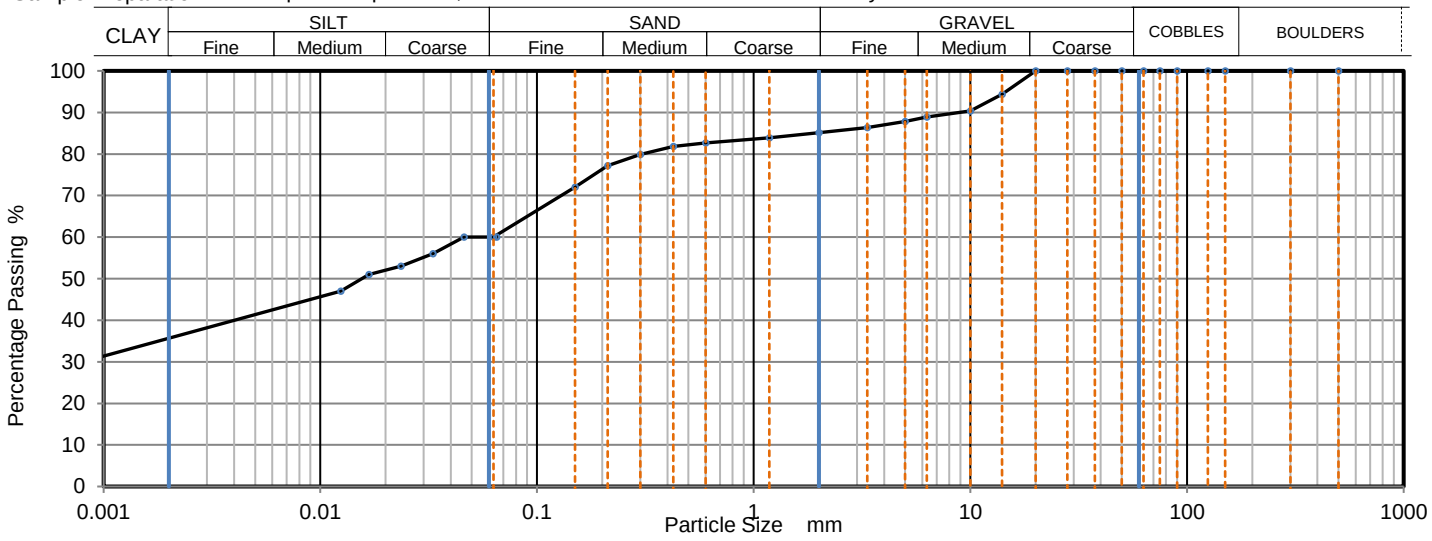
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	15/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185936	Depth Top [m]:	13.00
Hole No.:	BH1	Depth Base [m]:	13.50
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey gravelly very sandy very silty CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.9 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0652	60
300	100	0.0461	60
150	100	0.0331	56
125	100	0.0235	53
90	100	0.0168	51
75	100	0.0124	47
63	100	0.0008	30
50	100		
37.5	100		
28	100		
20	100		
14	94		
10	90		
6.3	89		
5	88		
3.35	86	Particle density	(measured)
2	85	2.76	Mg/m3
1.18	84		
0.6	83		
0.425	82		
0.3	80		
0.212	77		
0.15	72		
0.063	60		

Sample Proportions	% dry mass
Very coarse	0
Gravel	15
Sand	25
Silt	24
Clay	36

Grading Analysis		
D100	mm	20
D60	mm	0.0636
D30	mm	0.000807
D10	mm	
Uniformity Coefficient		> 79
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

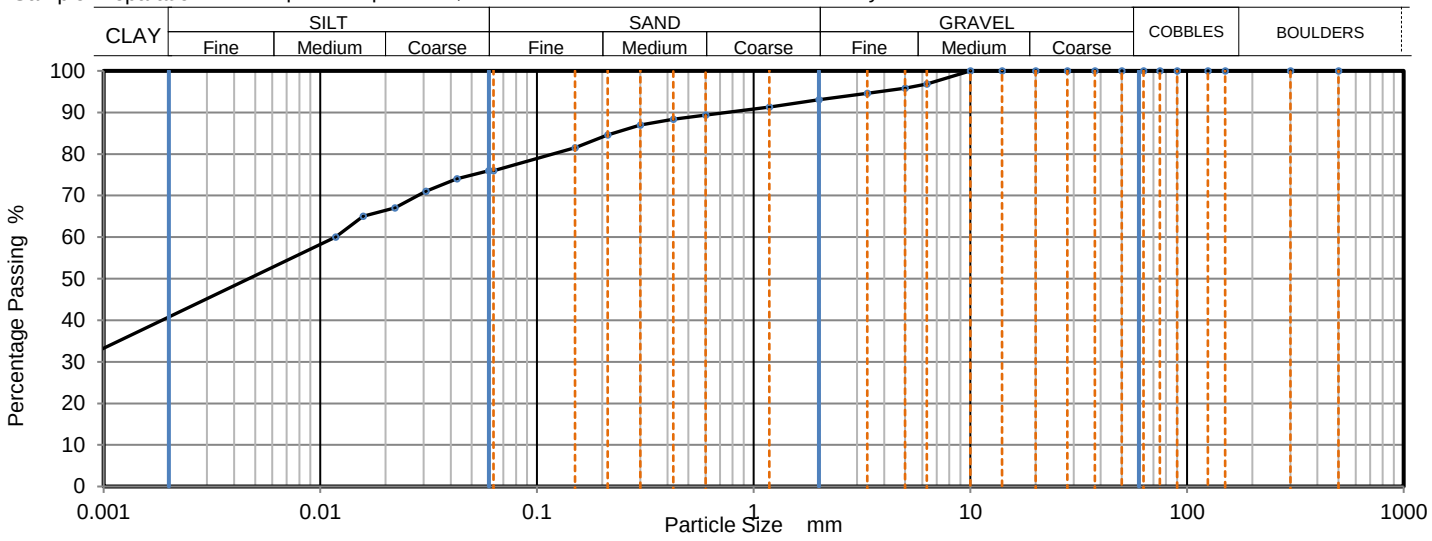
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	07/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185952	Depth Top [m]:	4.65
Hole No.:	BH3	Depth Base [m]:	5.00
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Greyish brown gravelly sandy very silty CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0598	76
300	100	0.0427	74
150	100	0.0307	71
125	100	0.0221	67
90	100	0.0157	65
75	100	0.0118	60
63	100	0.0008	31
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	97		
5	96		
3.35	95	Particle density	(assumed)
2	93	2.65	Mg/m3
1.18	91		
0.6	89		
0.425	88		
0.3	87		
0.212	85		
0.15	82		
0.063	76		

Sample Proportions	% dry mass
Very coarse	0
Gravel	7
Sand	17
Silt	35
Clay	41

Grading Analysis		
D100	mm	10
D60	mm	0.0115
D30	mm	
D10	mm	
Uniformity Coefficient		> 14
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

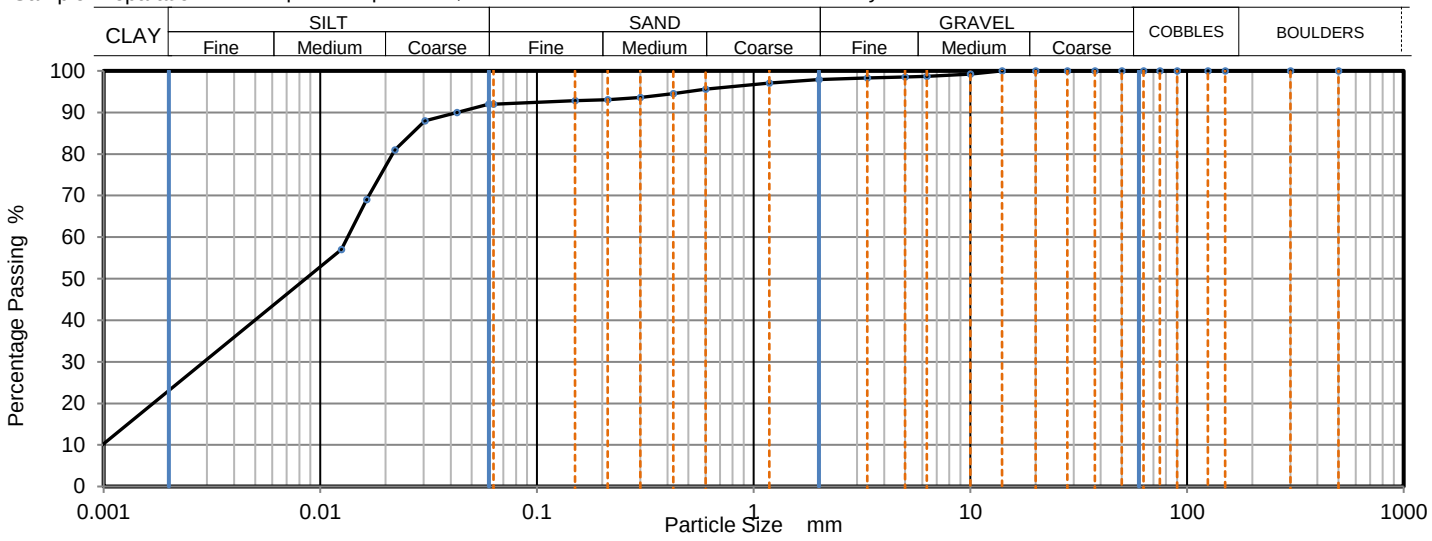
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	07/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185953	Depth Top [m]:	7.15
Hole No.:	BH3	Depth Base [m]:	8.00
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Dark brown slightly gravelly slightly sandy clayey SILT		
Sample Preparation:	Sample was quartered, oven dried at 106.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0598	92
300	100	0.0427	90
150	100	0.0304	88
125	100	0.0221	81
90	100	0.0164	69
75	100	0.0125	57
63	100	0.0009	8
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	99		
3.35	98	Particle density	(assumed)
2	98	2.65	Mg/m3
1.18	97		
0.6	96		
0.425	95		
0.3	94		
0.212	93		
0.15	93		
0.063	92		

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	6
Silt	69
Clay	23

Grading Analysis		
D100	mm	14
D60	mm	0.0134
D30	mm	0.00289
D10	mm	0.000978
Uniformity Coefficient		14
Curvature Coefficient		0.64

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

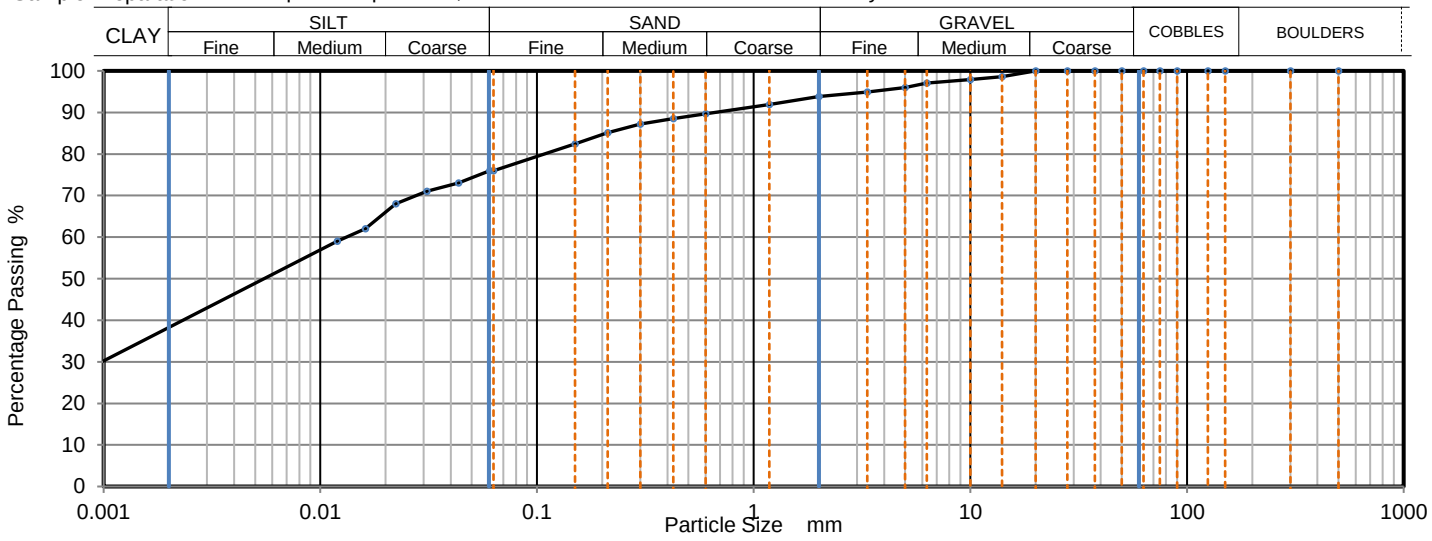
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185959	Depth Top [m]:	2.45
Hole No.:	BH4	Depth Base [m]:	2.65
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Greyish brown gravelly sandy SILT and CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0603	76
300	100	0.0434	73
150	100	0.0310	71
125	100	0.0223	68
90	100	0.0161	62
75	100	0.0120	59
63	100	0.0008	28
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	98		
6.3	97		
5	96		
3.35	95	Particle density	(assumed)
2	94	2.65	Mg/m3
1.18	92		
0.6	90		
0.425	89		
0.3	87		
0.212	85		
0.15	82		
0.063	76		

Sample Proportions	% dry mass
Very coarse	0
Gravel	6
Sand	18
Silt	38
Clay	38

Grading Analysis		
D100	mm	20
D60	mm	0.0132
D30	mm	0.001
D10	mm	
Uniformity Coefficient		> 16
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

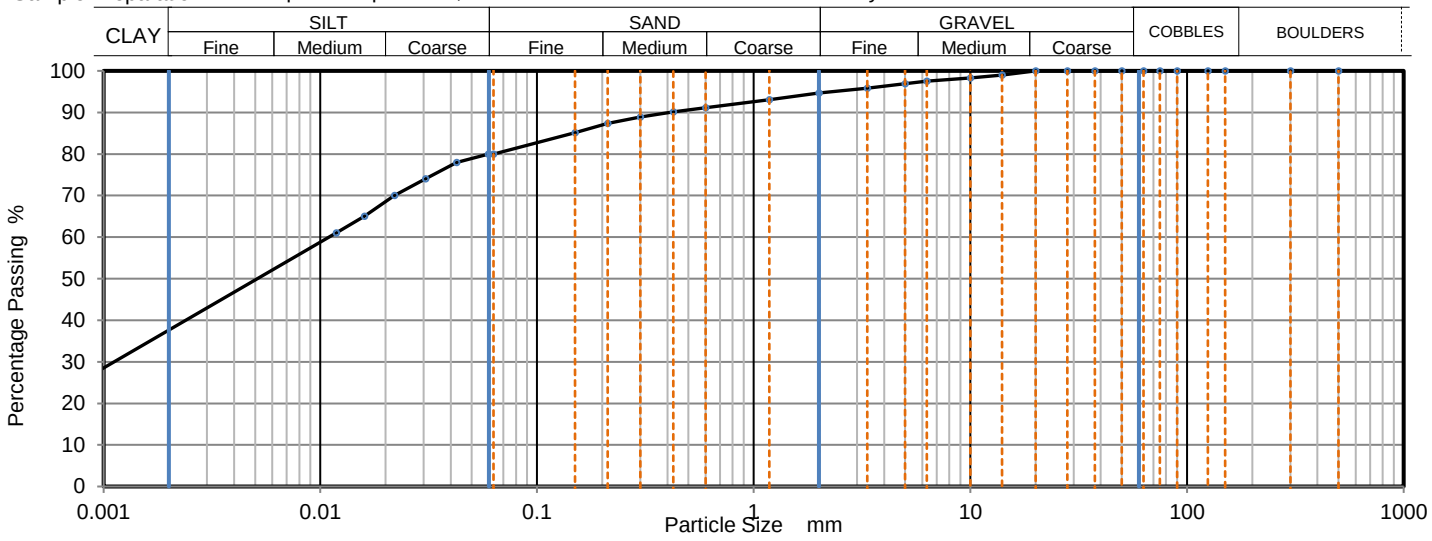
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185962	Depth Top [m]:	6.95
Hole No.:	BH4	Depth Base [m]:	7.15
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Greyish brown gravelly sandy very clayey SILT		
Sample Preparation:	Sample was quartered, oven dried at 106.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0596	80
300	100	0.0425	78
150	100	0.0306	74
125	100	0.0220	70
90	100	0.0160	65
75	100	0.0118	61
63	100	0.0008	26
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	98		
6.3	98		
5	97		
3.35	96	Particle density	(assumed)
2	95	2.65	Mg/m3
1.18	93		
0.6	91		
0.425	90		
0.3	89		
0.212	87		
0.15	85		
0.063	80		

Sample Proportions	% dry mass
Very coarse	0
Gravel	5
Sand	15
Silt	42
Clay	38

Grading Analysis		
D100	mm	20
D60	mm	0.0108
D30	mm	0.00112
D10	mm	
Uniformity Coefficient		> 13
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

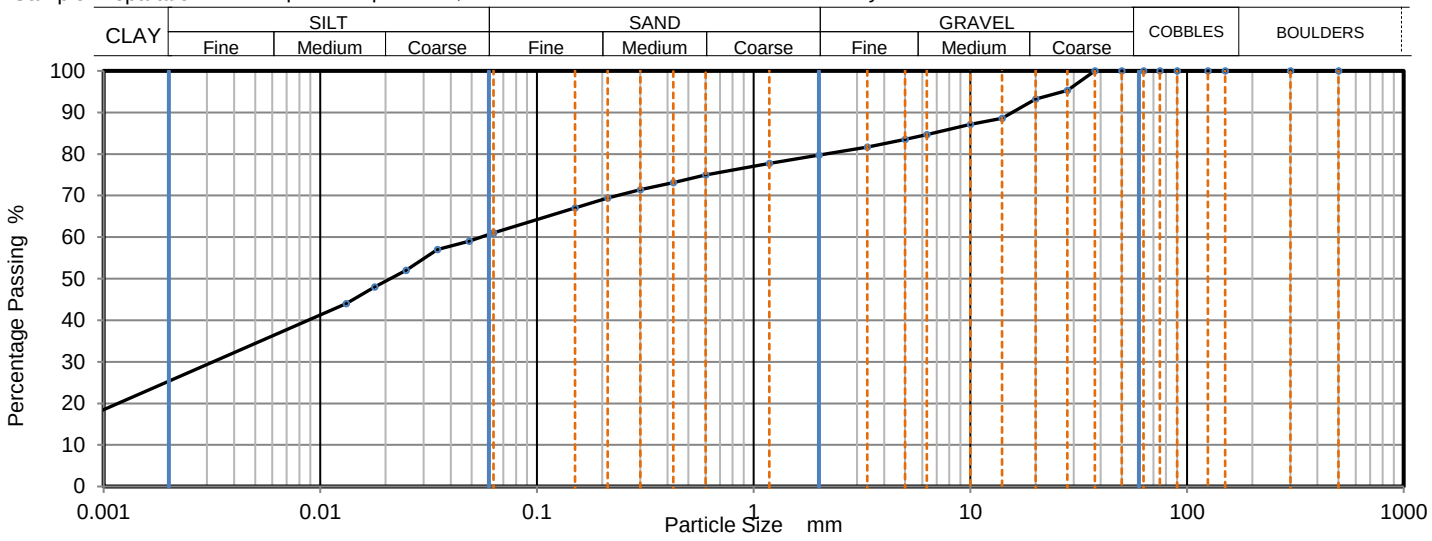
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185966	Depth Top [m]:	1.20
Hole No.:	BH6	Depth Base [m]:	1.65
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Grey very gravelly very sandy very clayey SILT		
Sample Preparation:	Sample was quartered, oven dried at 106.3 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	61
300	100	0.0487	59
150	100	0.0346	57
125	100	0.0248	52
90	100	0.0178	48
75	100	0.0132	44
63	100	0.0009	17
50	100		
37.5	100		
28	95		
20	93		
14	89		
10	87		
6.3	85		
5	84		
3.35	82	Particle density	(assumed)
2	80	2.65	Mg/m3
1.18	78		
0.6	75		
0.425	73		
0.3	71		
0.212	69		
0.15	67		
0.063	61		

Sample Proportions	% dry mass
Very coarse	0
Gravel	20
Sand	19
Silt	36
Clay	25

Grading Analysis		
D100	mm	37.5
D60	mm	0.0566
D30	mm	0.00321
D10	mm	
Uniformity Coefficient		> 66
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

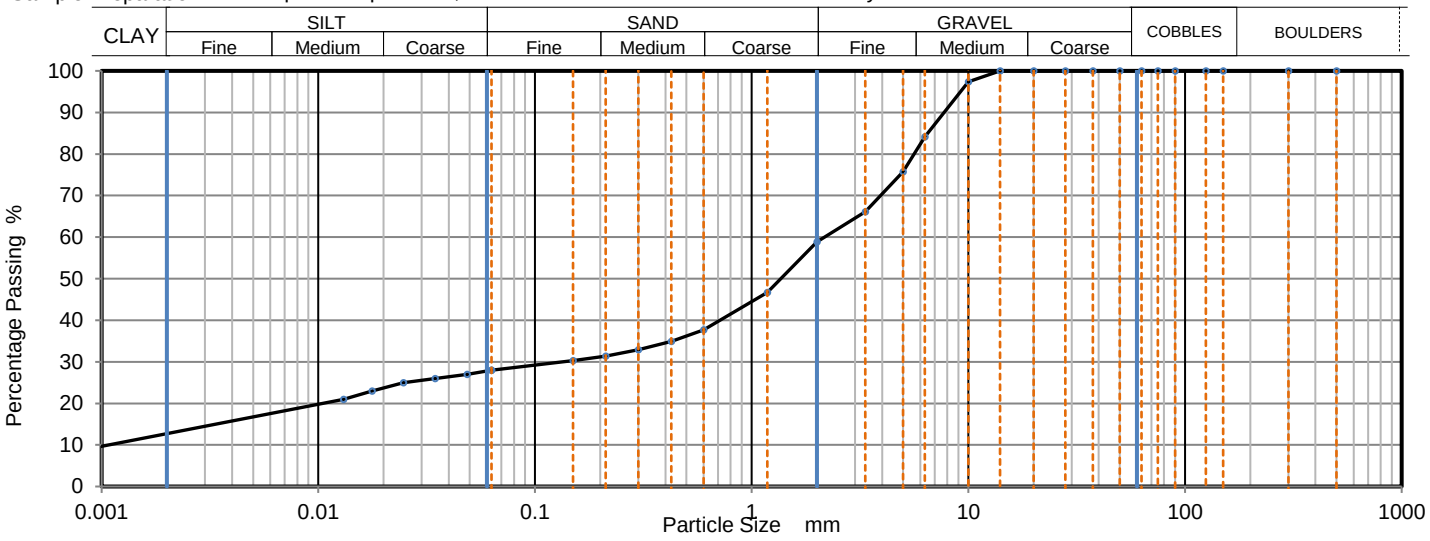
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185970	Depth Top [m]:	6.50
Hole No.:	BH8	Depth Base [m]:	7.00
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark brownish grey clayey silty very sandy organic GRAVEL		
Sample Preparation:	Sample was quartered, oven dried at 106.9 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	28
300	100	0.0486	27
150	100	0.0346	26
125	100	0.0247	25
90	100	0.0177	23
75	100	0.0131	21
63	100	0.0009	9
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	97		
6.3	84		
5	76		
3.35	66	Particle density	(assumed)
2	59	2.65	Mg/m3
1.18	47		
0.6	38		
0.425	35		
0.3	33		
0.212	31		
0.15	30		
0.063	28		

Sample Proportions	% dry mass
Very coarse	0
Gravel	41
Sand	31
Silt	15
Clay	13

Grading Analysis		
D100	mm	14
D60	mm	2.16
D30	mm	0.133
D10	mm	0.00108
Uniformity Coefficient		2000
Curvature Coefficient		7.6

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

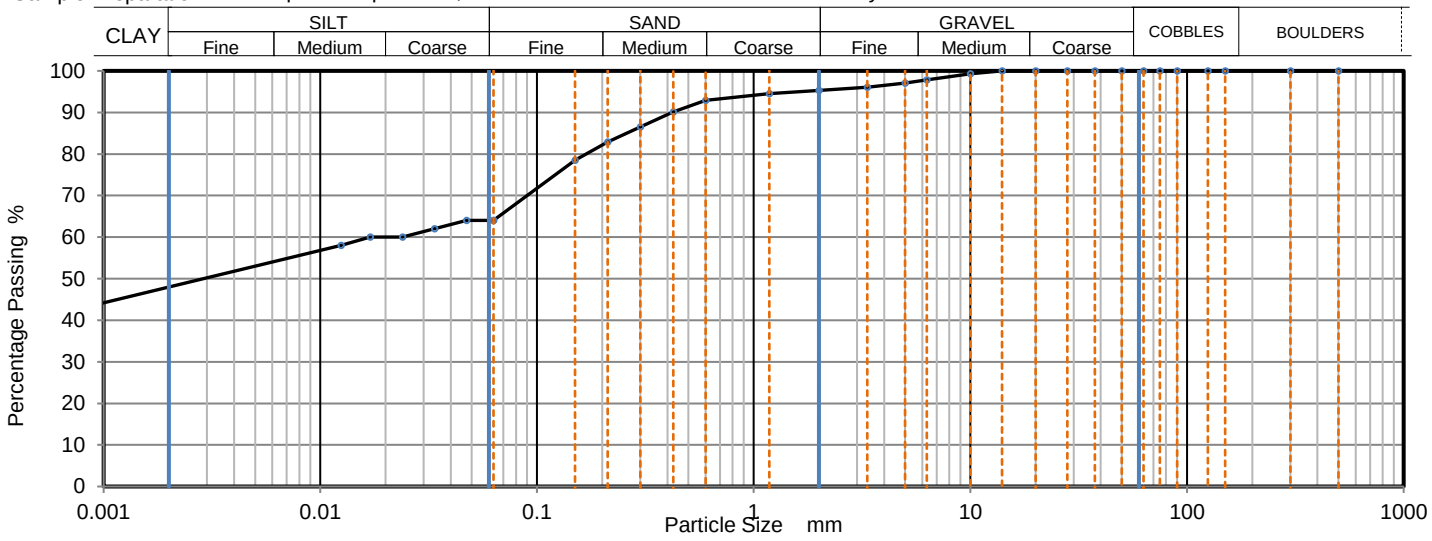
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185973	Depth Top [m]:	14.50
Hole No.:	BH8	Depth Base [m]:	15.00
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brownish grey gravelly silty very sandy CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	64
300	100	0.0473	64
150	100	0.0337	62
125	100	0.0240	60
90	100	0.0170	60
75	100	0.0125	58
63	100	0.0008	43
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	97		
3.35	96	Particle density	(assumed)
2	95	2.65	Mg/m3
1.18	95		
0.6	93		
0.425	90		
0.3	87		
0.212	83		
0.15	79		
0.063	64		

Sample Proportions	% dry mass
Very coarse	0
Gravel	5
Sand	31
Silt	16
Clay	48

Grading Analysis		
D100	mm	14
D60	mm	0.0245
D30	mm	
D10	mm	
Uniformity Coefficient		> 31
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

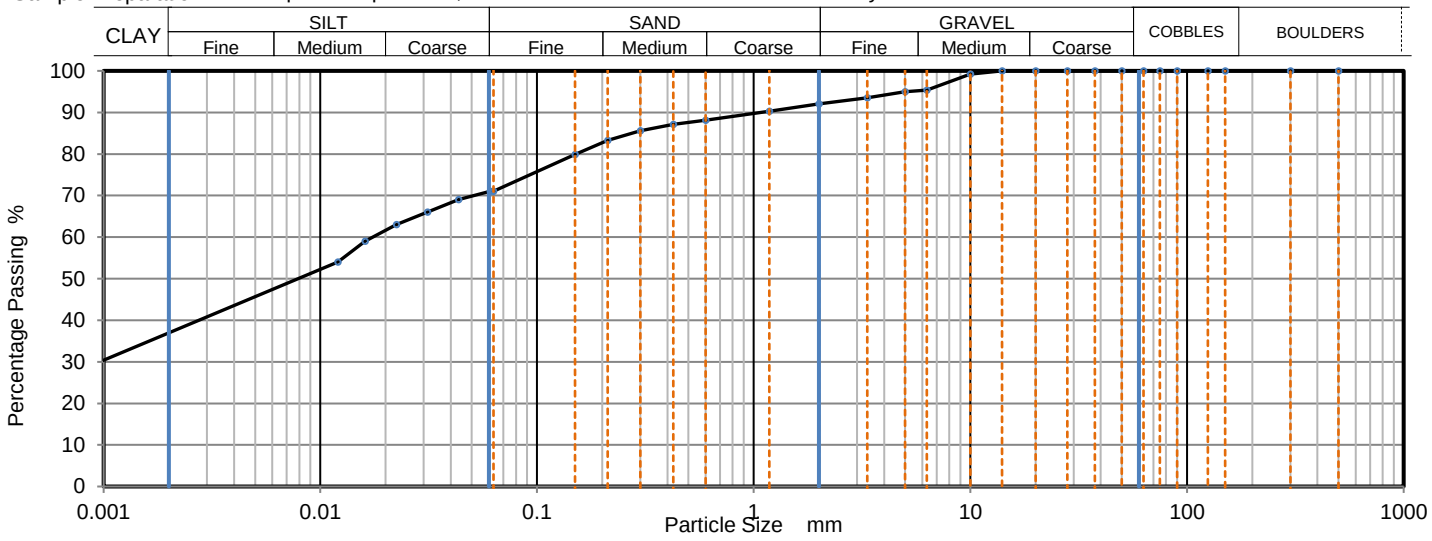
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185988	Depth Top [m]:	1.65
Hole No.:	BH12	Depth Base [m]:	1.80
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Greyish brown gravelly very sandy very silty CLAY		
Sample Preparation:	Sample was quartered, oven dried at 106.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0608	71
300	100	0.0434	69
150	100	0.0312	66
125	100	0.0224	63
90	100	0.0161	59
75	100	0.0120	54
63	100	0.0007	27
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	95		
5	95		
3.35	94	Particle density	(assumed)
2	92	2.65	Mg/m3
1.18	90		
0.6	88		
0.425	87		
0.3	86		
0.212	83		
0.15	80		
0.063	71		

Sample Proportions	% dry mass
Very coarse	0
Gravel	8
Sand	21
Silt	34
Clay	37

Grading Analysis		
D100	mm	14
D60	mm	0.0173
D30	mm	0.00095
D10	mm	
Uniformity Coefficient		> 25
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

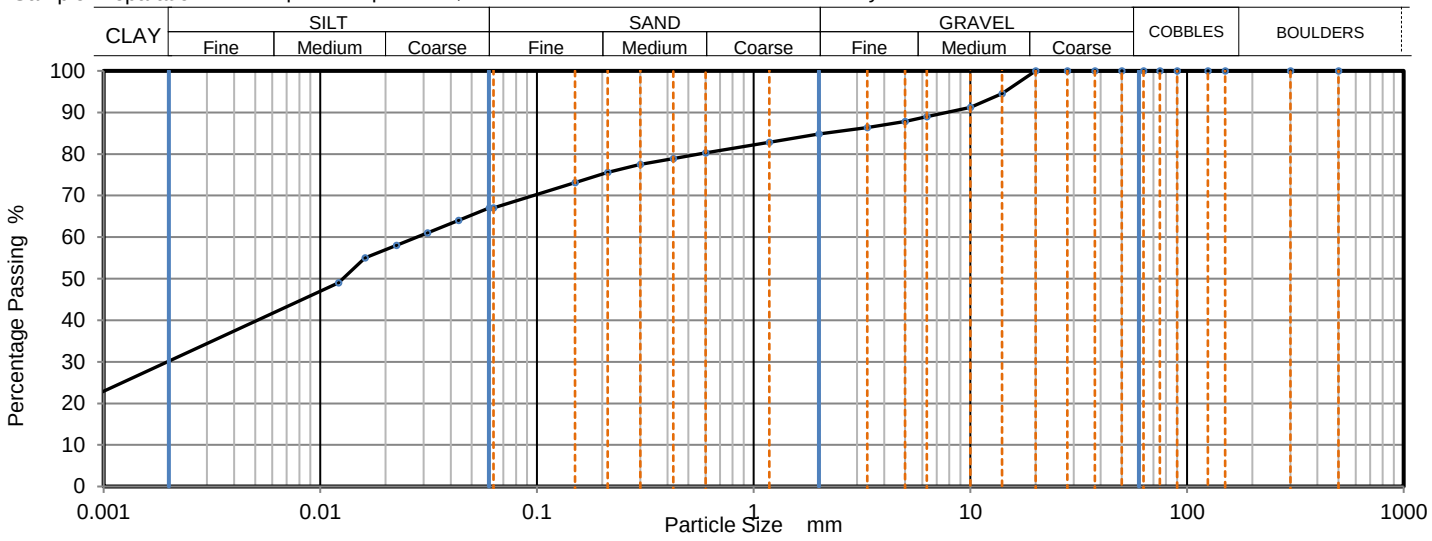
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185990	Depth Top [m]:	4.45
Hole No.:	BH12	Depth Base [m]:	4.00
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Greyish brown gravelly sandy very clayey SILT		
Sample Preparation:	Sample was quartered, oven dried at 106.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0603	67
300	100	0.0434	64
150	100	0.0312	61
125	100	0.0224	58
90	100	0.0161	55
75	100	0.0121	49
63	100	0.0008	21
50	100		
37.5	100		
28	100		
20	100		
14	95		
10	91		
6.3	89		
5	88		
3.35	86	Particle density	(assumed)
2	85	2.65	Mg/m3
1.18	83		
0.6	80		
0.425	79		
0.3	78		
0.212	76		
0.15	73		
0.063	67		

Sample Proportions	% dry mass
Very coarse	0
Gravel	15
Sand	18
Silt	37
Clay	30

Grading Analysis		
D100	mm	20
D60	mm	0.0288
D30	mm	0.00196
D10	mm	
Uniformity Coefficient		> 35
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

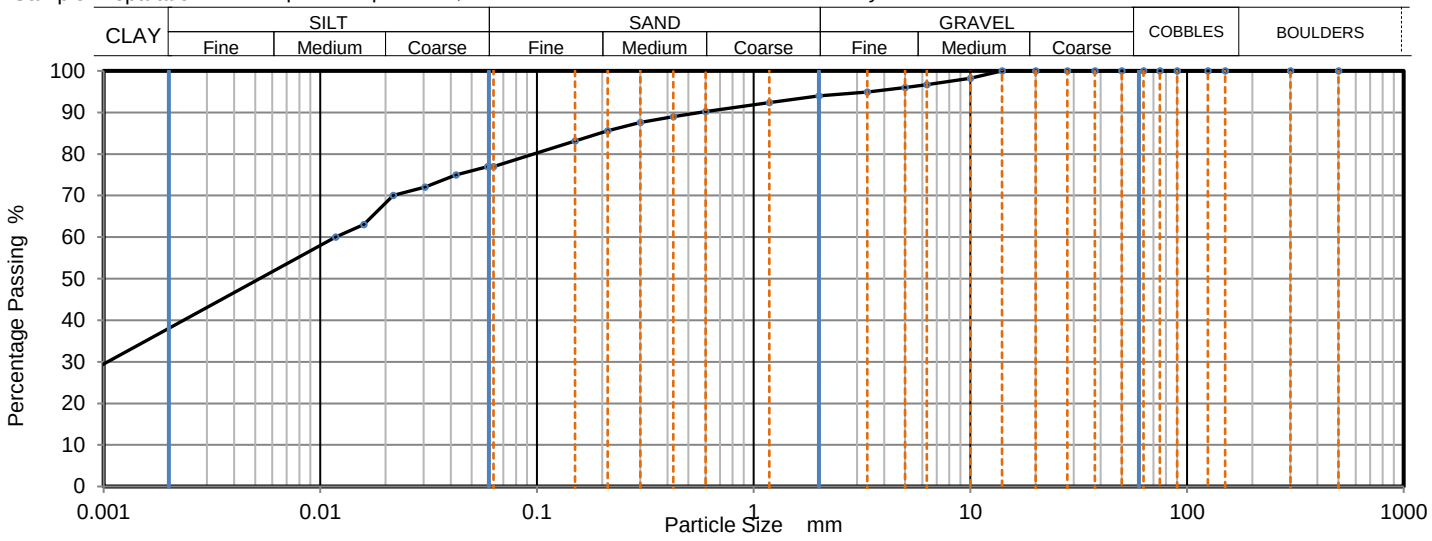
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185996	Depth Top [m]:	3.65
Hole No.:	BH13	Depth Base [m]:	4.00
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Greyish brown gravelly sandy CLAY and SILT		
Sample Preparation:	Sample was quartered, oven dried at 106.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0592	77
300	100	0.0423	75
150	100	0.0304	72
125	100	0.0217	70
90	100	0.0159	63
75	100	0.0118	60
63	100	0.0008	27
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	98		
6.3	97		
5	96		
3.35	95	Particle density	(assumed)
2	94	2.65	Mg/m3
1.18	92		
0.6	90		
0.425	89		
0.3	88		
0.212	86		
0.15	83		
0.063	77		

Sample Proportions	% dry mass
Very coarse	0
Gravel	6
Sand	17
Silt	39
Clay	38

Grading Analysis		
D100	mm	14
D60	mm	0.0117
D30	mm	0.00101
D10	mm	
Uniformity Coefficient		> 14
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

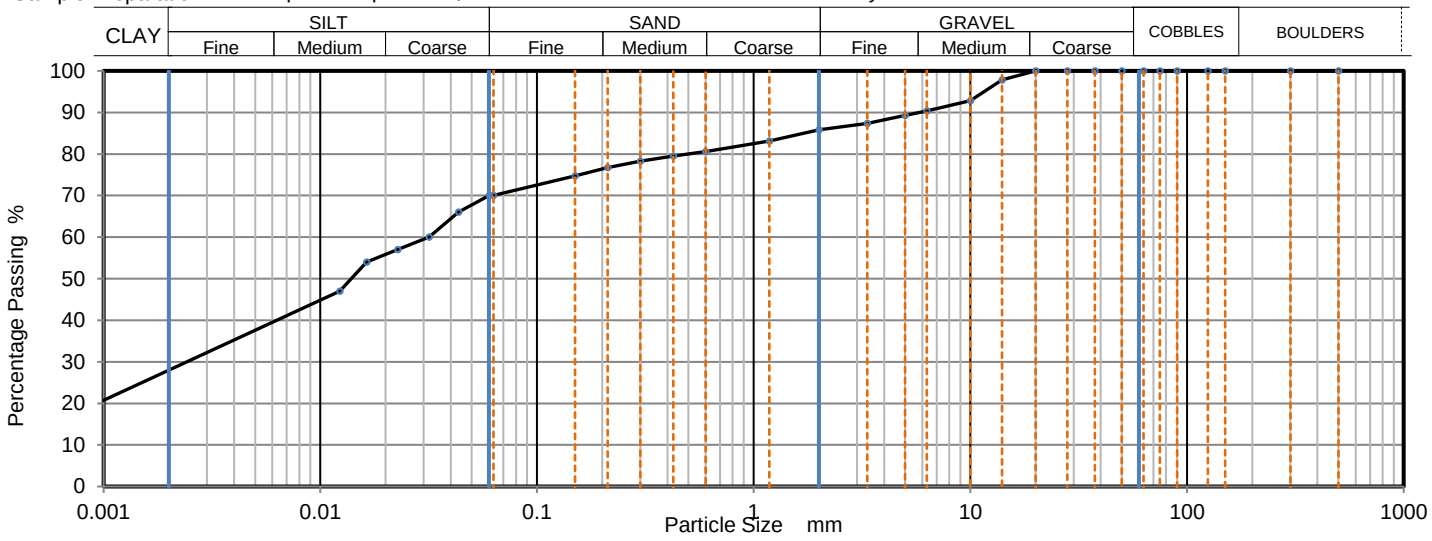
4041

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	03/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185997	Depth Top [m]:	8.45
Hole No.:	BH13	Depth Base [m]:	8.65
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Greyish brown gravelly sandy very clayey SILT		
Sample Preparation:	Sample was quartered, oven dried at 106.0 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0603	70
300	100	0.0434	66
150	100	0.0317	60
125	100	0.0228	57
90	100	0.0164	54
75	100	0.0123	47
63	100	0.0008	19
50	100		
37.5	100		
28	100		
20	100		
14	98		
10	93		
6.3	90		
5	89		
3.35	87	Particle density	(assumed)
2	86	2.65	Mg/m3
1.18	83		
0.6	81		
0.425	80		
0.3	78		
0.212	77		
0.15	75		
0.063	70		

Sample Proportions	% dry mass
Very coarse	0
Gravel	14
Sand	16
Silt	42
Clay	28

Grading Analysis		
D100	mm	20
D60	mm	0.0316
D30	mm	0.00239
D10	mm	
Uniformity Coefficient		> 37
Curvature Coefficient		

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 100.21

SUMMARY REPORT

DETERMINATION OF POINT LOAD STRENGTH

Tested in Accordance with: ISRM: 2007, pages 125-132

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Harry Whittle

Site Address: Corby EfW

Client Reference: 15-0645.05
Job Number: 22-42014
Date Sampled: 08/02 - 10/02/2022
Date Received: 24/02/2022
Date Tested: 07/03 - 08/03/2022
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks # (including water content if measured)	Specimen Reference	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P	Equivalent diameter, De	Point Load Strength Index	
		Reference	Depth Top	Depth Base	Type				Type (D, A, I, B)	Direction (L, P or U)		Lne	W	Dps	Dps'			Is	Is(50)
			m	m								mm	mm	mm	mm	kN	mm	MPa	MPa
2185976	BH11	Not Given	18.30	18.46	U	Greyish brown SANDSTONE	WC = 11.9%	1	A	U	YES	-	88.9	64.0	56.0	1.1	79.6	0.17	0.20
2185978	BH11	Not Given	19.85	20.34	U	Greyish brown SANDSTONE	WC = 14.6%	1	A	U	YES	-	89.7	61.0	39.0	2.4	66.7	0.53	0.60
2189957	BH2	Not Given	21.06	21.20	C	Greyish brown SANDSTONE	WC = 25.3%	1	A	U	YES	-	84.1	58.0	47.0	1.2	70.9	0.24	0.28
2185955	BH3	Not Given	19.84	19.99	U	Greyish brown SANDSTONE	WC = 14.9%	1	A	U	YES	-	87.4	51.0	32.0	2.9	59.7	0.80	0.87
2185956	BH3	Not Given	20.50	20.66	U	Greyish brown SANDSTONE	WC = 9.4%	1	A	U	YES	-	88.8	64.0	55.0	6.9	78.8	1.10	1.35

Note: # non accredited; Test Type: D - Diametral, A - Axial, I - Irregular Lump, B - Block; Direction: L - parallel to planes of weakness, P - perpendicular to planes of weakness, U - unknown or random;
Dimensions: Dps - Distance between platens (platen separation), Dps' - at failure (see ISRM note 6), Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P;
Detailed legend for test and dimensions, based on ISRM, is shown above; Size factor, F = (De/50)0.45 for all tests

Comments: Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 134.13

SUMMARY REPORT

DETERMINATION OF UNIAXIAL COMPRESSIVE STRENGTH OF ROCK MATERIALS

Tested in Accordance with: ISRM, 2007, p153, part 1

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Delta-Simons

Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Harry Whittle

Site Address: Corby EfW

Client Reference: 15-0645.05
Job Number: 22-42014
Date Sampled: 08/02 - 14/02/2022
Date Received: 24/02/2022
Date Tested: 09/03/2022
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Specimen Dimensions (2)				Bulk density (2)	Water Content (1)	Uniaxial Compression (3)			
		Reference	Depth Top m	Depth Base m	Type			Diameter mm	Length mm	H/D	Orientation of sample	Mg/m3	%	Condition	Stress Rate Mpa/s	Mode of failure	UCS Mpa
2185977	BH11	Not Given	18.88	19.09	U	Greyish brown SANDSTONE	Sample is below recommended length to diameter ratio*	88.3	150.2	1.7	Vertical	2.37	15.3	as received	0.0163	MS + AC	3.64
2185939	BH2	Not Given	20.10	20.31	U	Light grey to orangish brown SANDSTONE	Sample is below recommended length to diameter ratio*	88.1	122.0	1.4	Vertical	2.24	19.6	as received	0.0328	MS	2.51

Note: 1 - ISRM p87 test 1, water content at 105 ± 3 oC, specimen as tested for UCS, 2 - ISRM p86 clause (vii), Caliper method used for determination of bulk volume and derivation of bulk density, 3 - ISRM p153 part 1, determination of Uniaxial Compressive Strength (UCS) of Rock Materials, above notes apply unless annotated otherwise in the remarks. Compaction machine: VJ Tech AUTOCON - VJT 51-3011; Mode of failure legend: S - Single shear, MS - multiple shear, AC - Axial cleavage, F - Fragmented

Comments: *Duration of test, fell below time specified in ISRM method, 2007, p153, part1.
Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 223.14

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	14/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	09/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

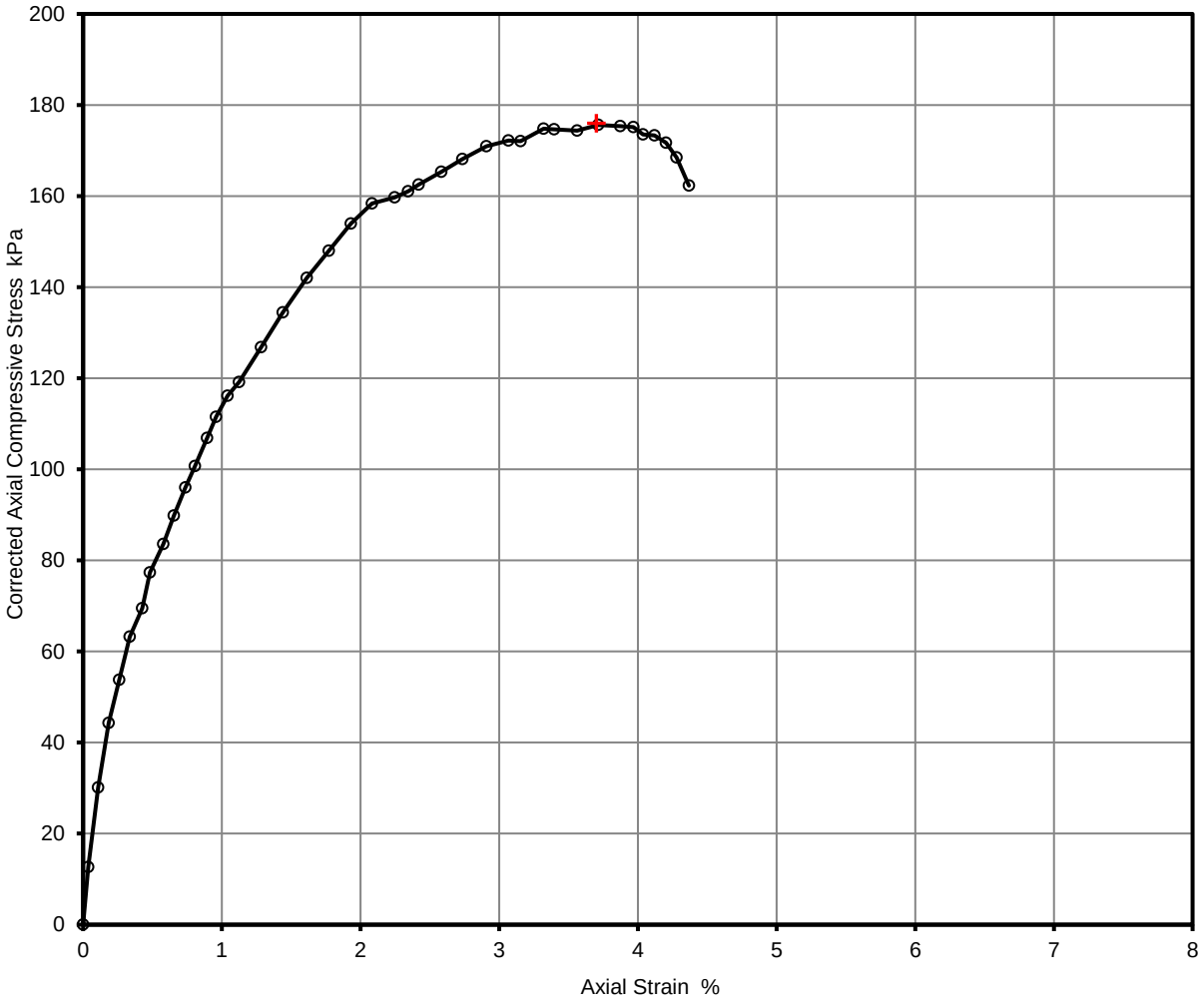
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185942	Depth Top [m]:	22.23
Hole No.:	BH2	Depth Base [m]:	22.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark grey silty CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	1.0	%/min
Length	157.5	mm	Axial Strain at failure	3.7	%
Diameter	89.6	mm	Unconfined Compressive Strength	176	kPa
Bulk Density	2.12	Mg/m3	Mode of Failure	Brittle	
Moisture Content	16.0	%			
Dry Density	1.82	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample

Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Sample is below recommended length to diameter ratio.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 243.9

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	14/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	09/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

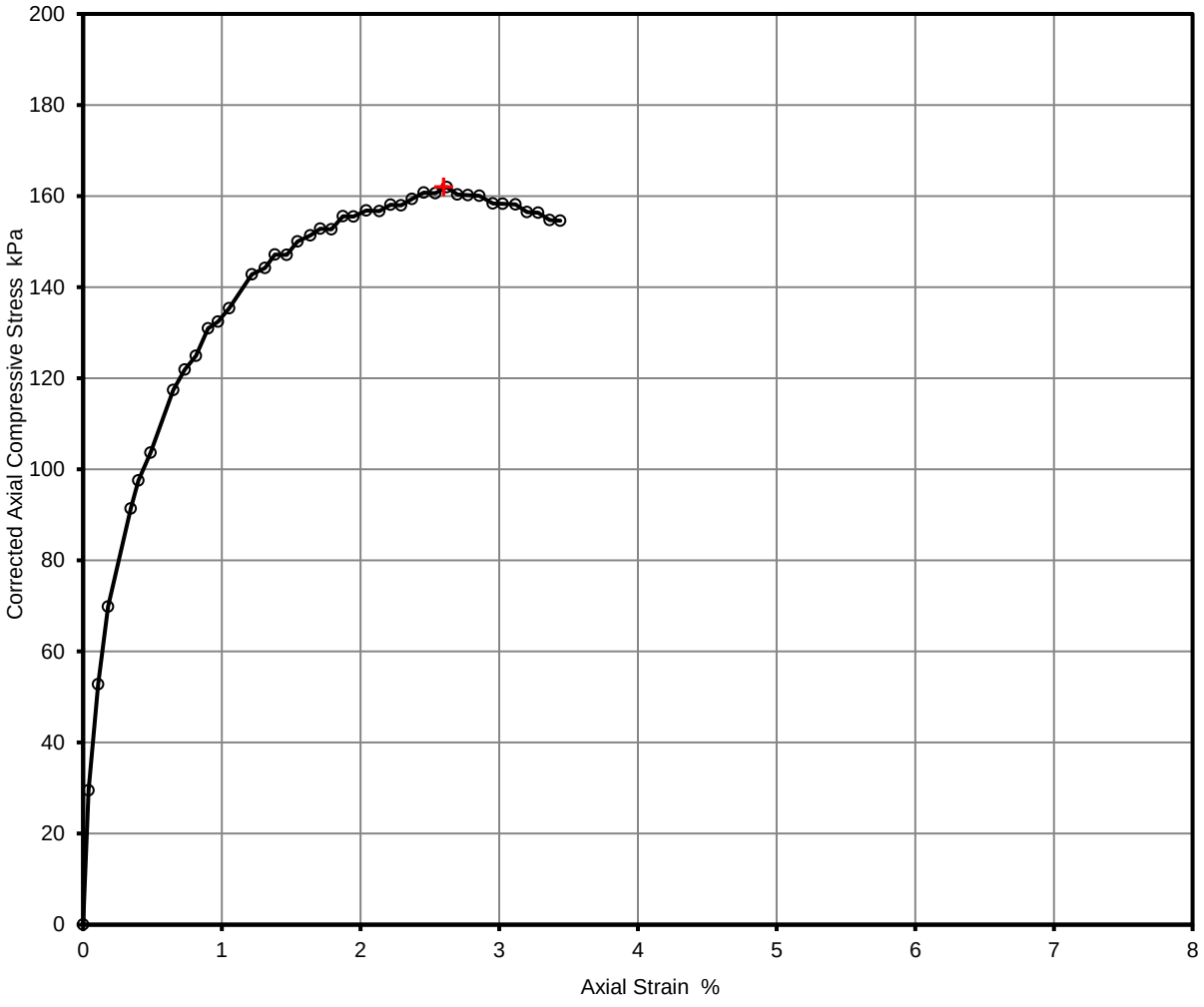
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

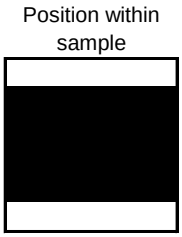
Laboratory Reference:	2185944	Depth Top [m]:	23.26
Hole No.:	BH2	Depth Base [m]:	23.58
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark grey SILT		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	1.0	%/min
Length	183.1	mm	Axial Strain at failure	2.6	%
Diameter	90.5	mm	Unconfined Compressive Strength	162	kPa
Bulk Density	2.14	Mg/m3	Mode of Failure	Compound	
Moisture Content	13.0	%			
Dry Density	1.90	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample



Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 243.9

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	14/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	09/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

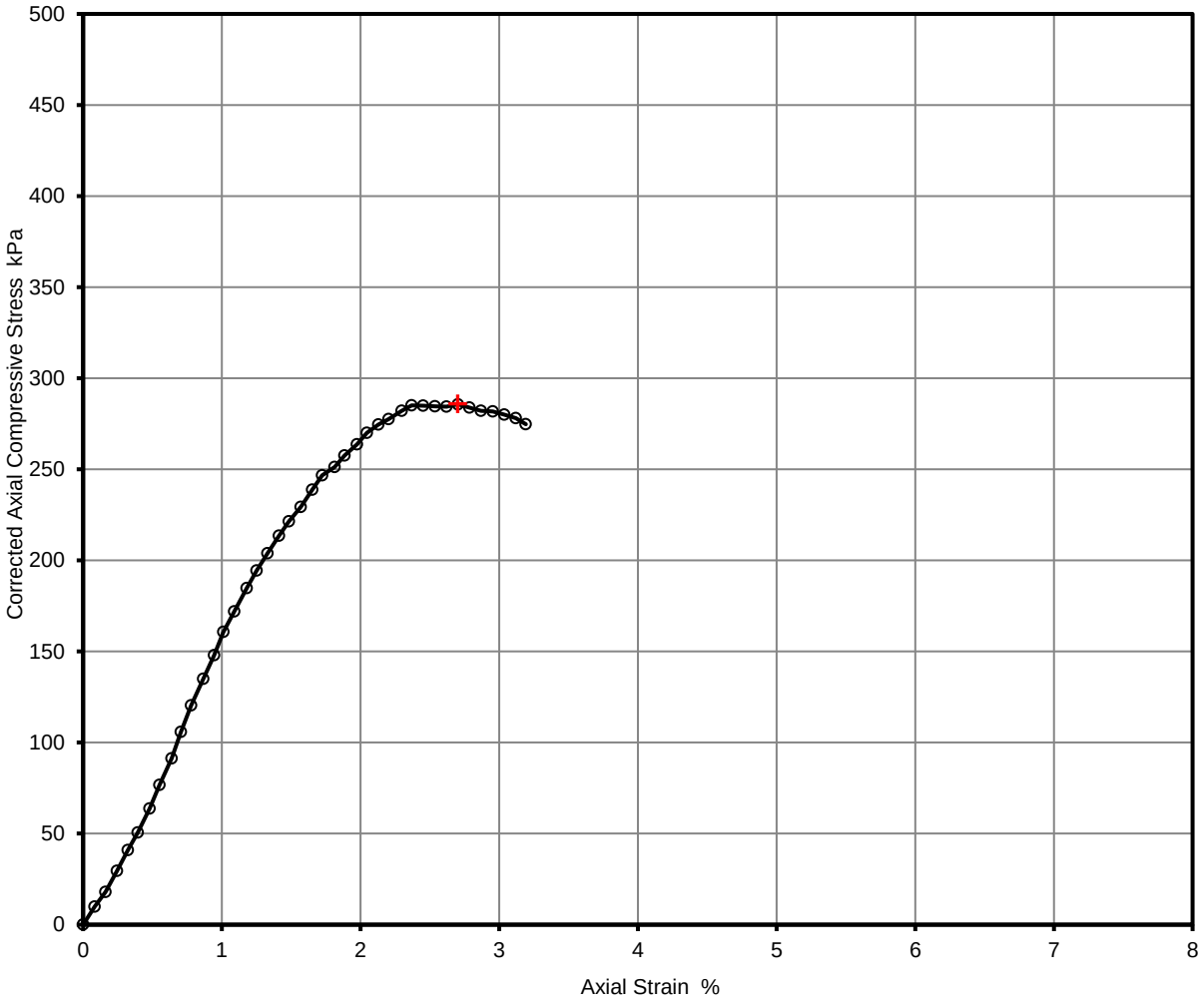
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

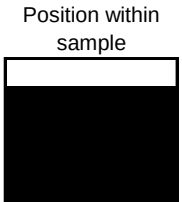
Laboratory Reference:	2185945	Depth Top [m]:	25.29
Hole No.:	BH2	Depth Base [m]:	25.50
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark grey SILT		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	1.0	%/min
Length	179.8	mm	Axial Strain at failure	2.7	%
Diameter	88.1	mm	Unconfined Compressive Strength	286	kPa
Bulk Density	2.10	Mg/m3	Mode of Failure	Compound	
Moisture Content	20.0	%			
Dry Density	1.76	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample



Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 243.9

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	15/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	09/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

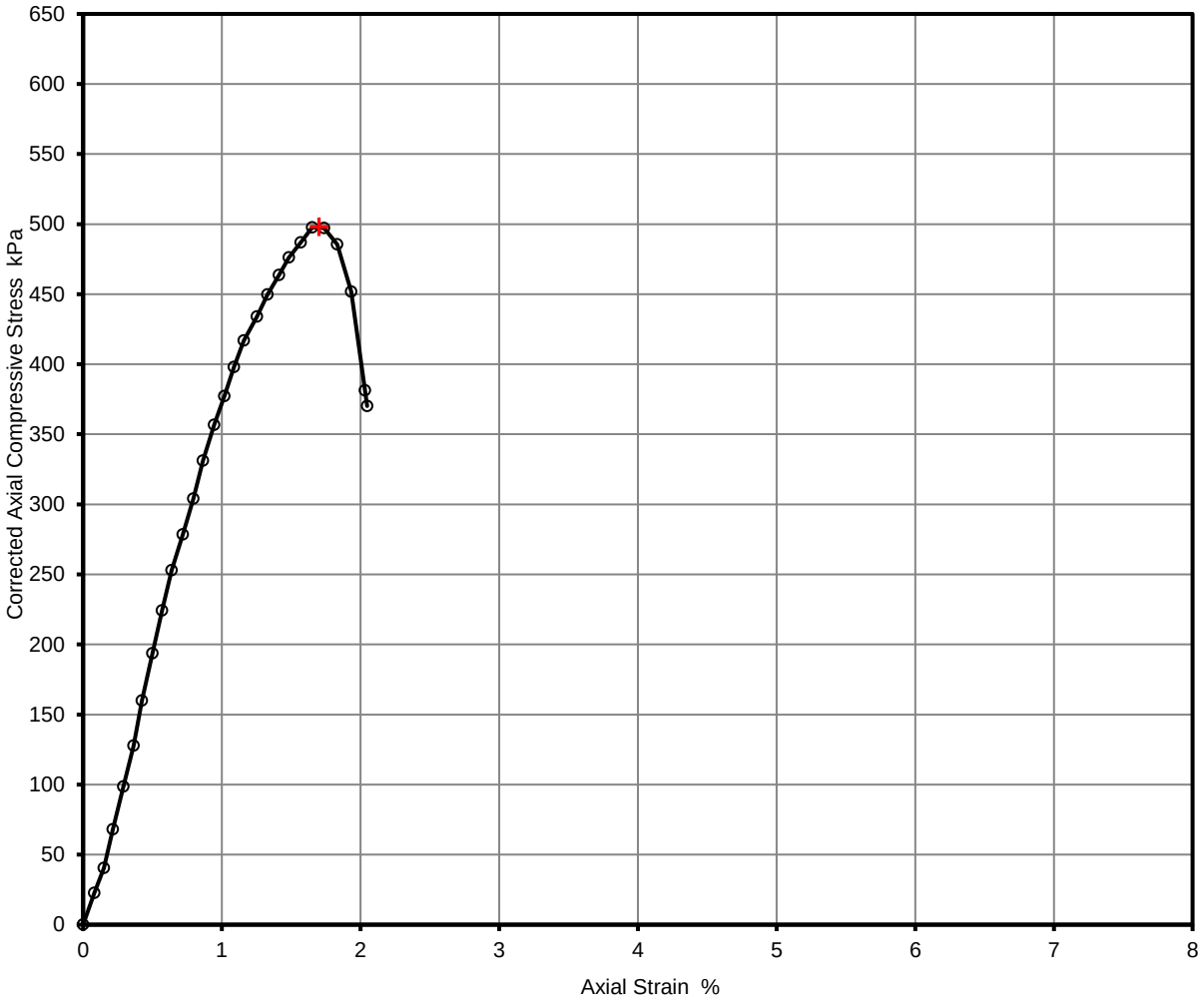
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185948	Depth Top [m]:	27.14
Hole No.:	BH2	Depth Base [m]:	27.49
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark grey clayey SILT		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	1.0	%/min
Length	200.2	mm	Axial Strain at failure	1.7	%
Diameter	88.6	mm	Unconfined Compressive Strength	498	kPa
Bulk Density	2.20	Mg/m3	Mode of Failure	Brittle	
Moisture Content	12.0	%			
Dry Density	1.96	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample

Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 243.9

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	15/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	09/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

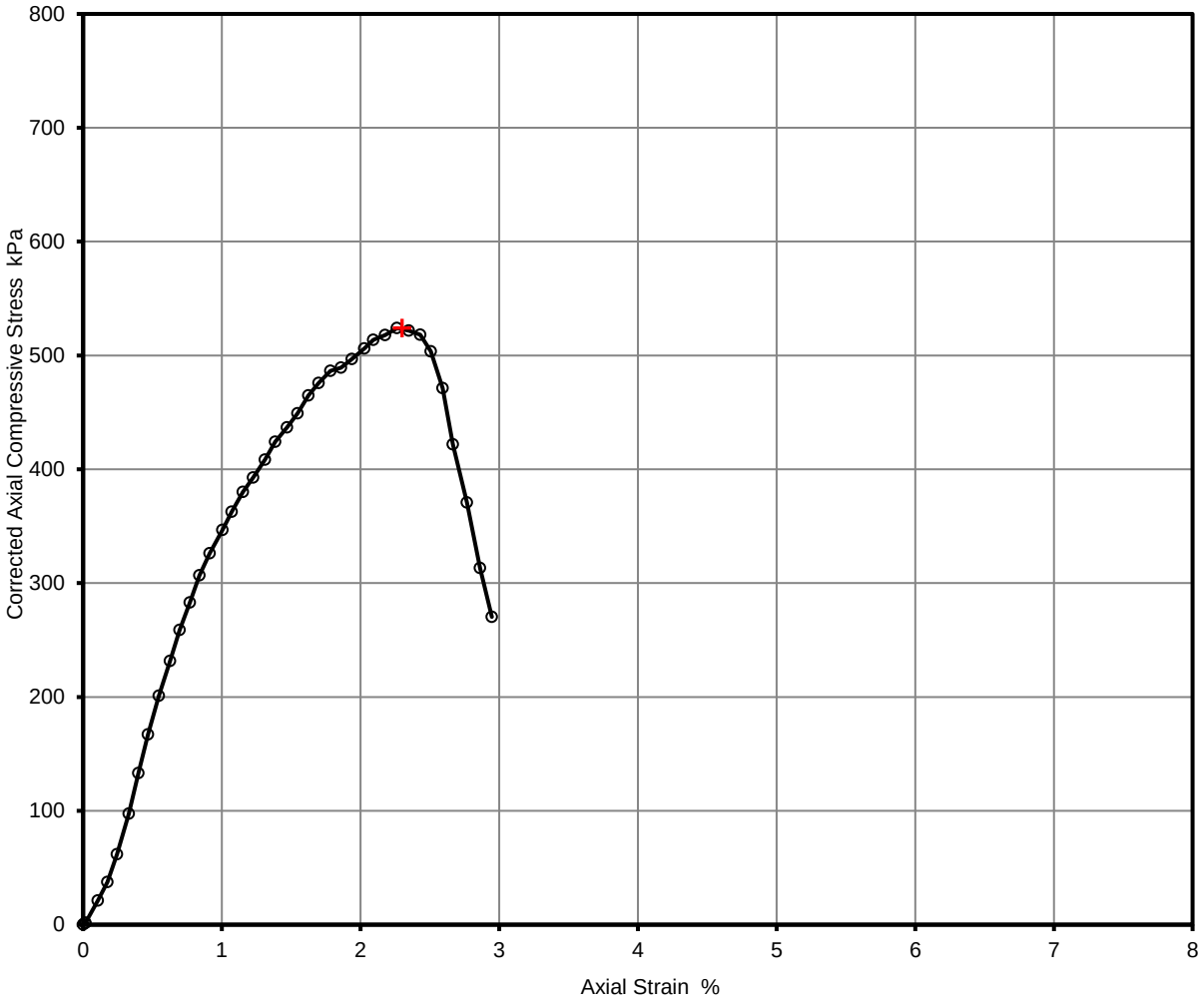
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

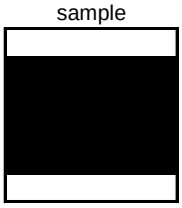
Laboratory Reference:	2185950	Depth Top [m]:	29.06
Hole No.:	BH2	Depth Base [m]:	29.37
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark grey silty CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

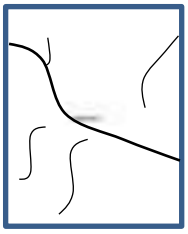
Test Number	1		Rate of Strain	1.0	%/min
Length	188.3	mm	Axial Strain at failure	2.3	%
Diameter	88.4	mm	Unconfined Compressive Strength	524	kPa
Bulk Density	2.21	Mg/m3	Mode of Failure	Brittle	
Moisture Content	8.8	%			
Dry Density	2.04	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample





Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Unable to take a photo.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 243.9

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	10/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	09/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

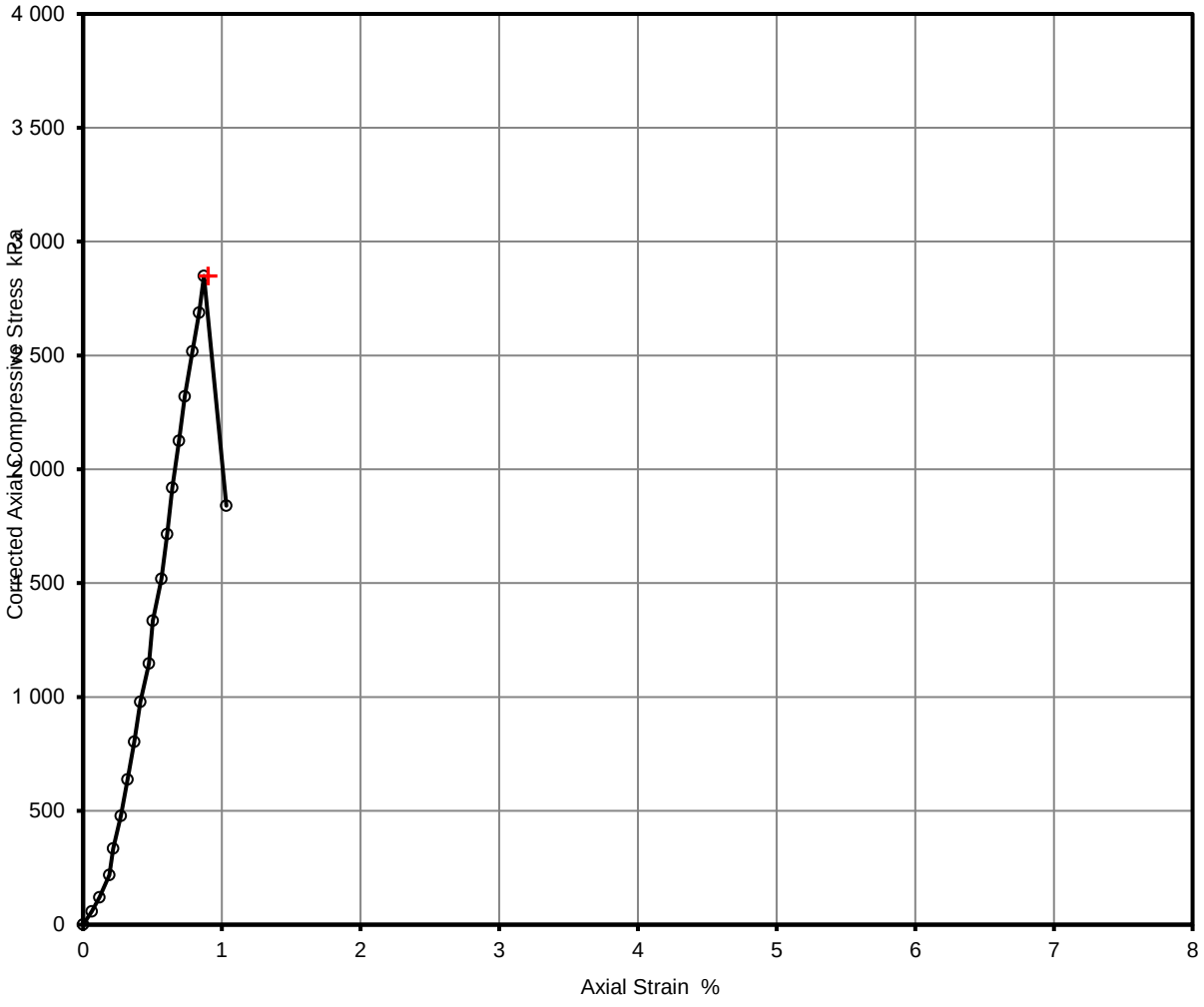
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

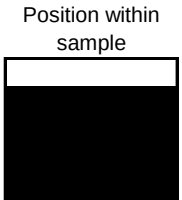
Laboratory Reference:	2185954	Depth Top [m]:	19.65
Hole No.:	BH3	Depth Base [m]:	19.84
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Greyish brown slightly clayey silty SAND		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	1.0	%/min
Length	143.3	mm	Axial Strain at failure	0.9	%
Diameter	86.7	mm	Unconfined Compressive Strength	2849	kPa
Bulk Density	2.37	Mg/m3	Mode of Failure	Brittle	
Moisture Content	15.0	%			
Dry Density	2.06	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample



Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Sample is below recommended length to diameter ratio.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 243.9

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	10/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	09/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

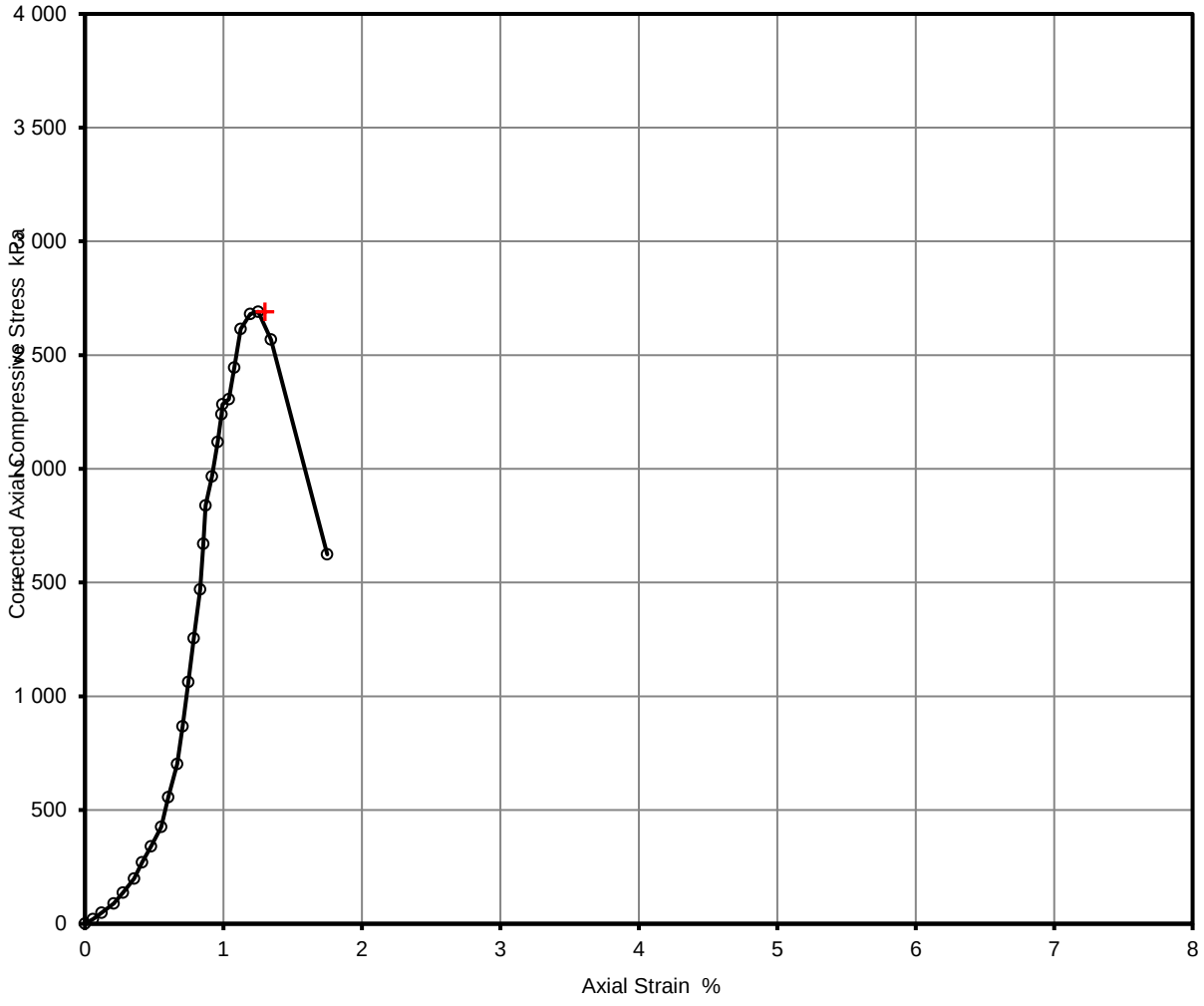
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

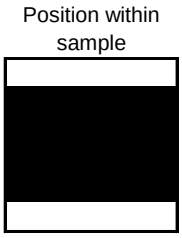
Laboratory Reference:	2185957	Depth Top [m]:	21.03
Hole No.:	BH3	Depth Base [m]:	21.25
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark grey sandy SILT		
Sample Preparation:	Sample is below recommended length to diameter ratio.		

Test Number	1		Rate of Strain	1.0	%/min
Length	174.3	mm	Axial Strain at failure	1.3	%
Diameter	86.9	mm	Unconfined Compressive Strength	2691	kPa
Bulk Density	2.41	Mg/m3	Mode of Failure	Compound	
Moisture Content	15.0	%			
Dry Density	2.09	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample



Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Unable to take a photo.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 243.9

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	08/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	09/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

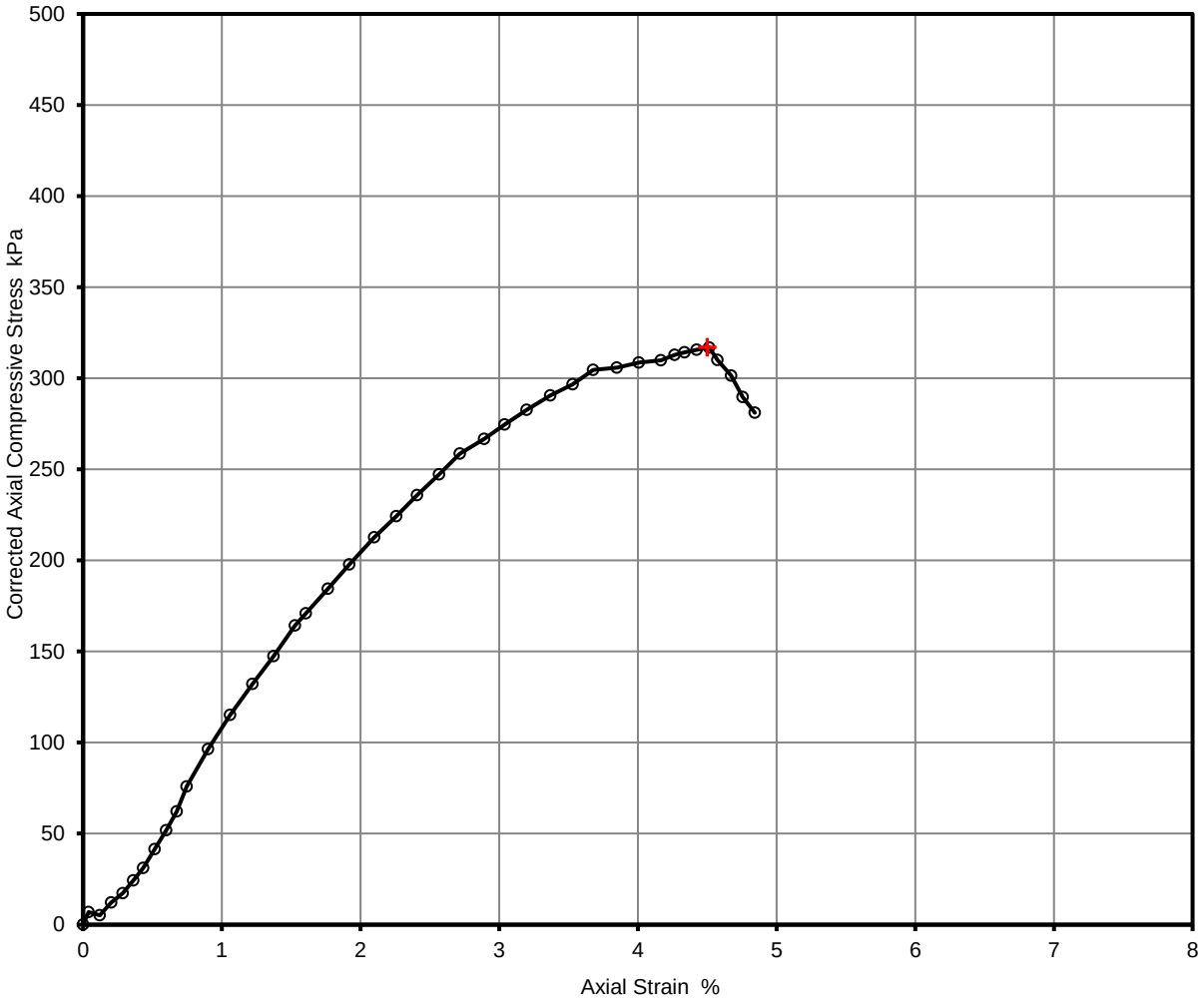
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

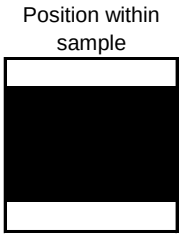
Laboratory Reference:	2185979	Depth Top [m]:	21.26
Hole No.:	BH11	Depth Base [m]:	21.73
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark grey silty CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	1.0	%/min
Length	181.9	mm	Axial Strain at failure	4.5	%
Diameter	85.6	mm	Unconfined Compressive Strength	317	kPa
Bulk Density	2.15	Mg/m3	Mode of Failure	Brittle	
Moisture Content	11.0	%			
Dry Density	1.93	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample



Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 243.9

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	08/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	09/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

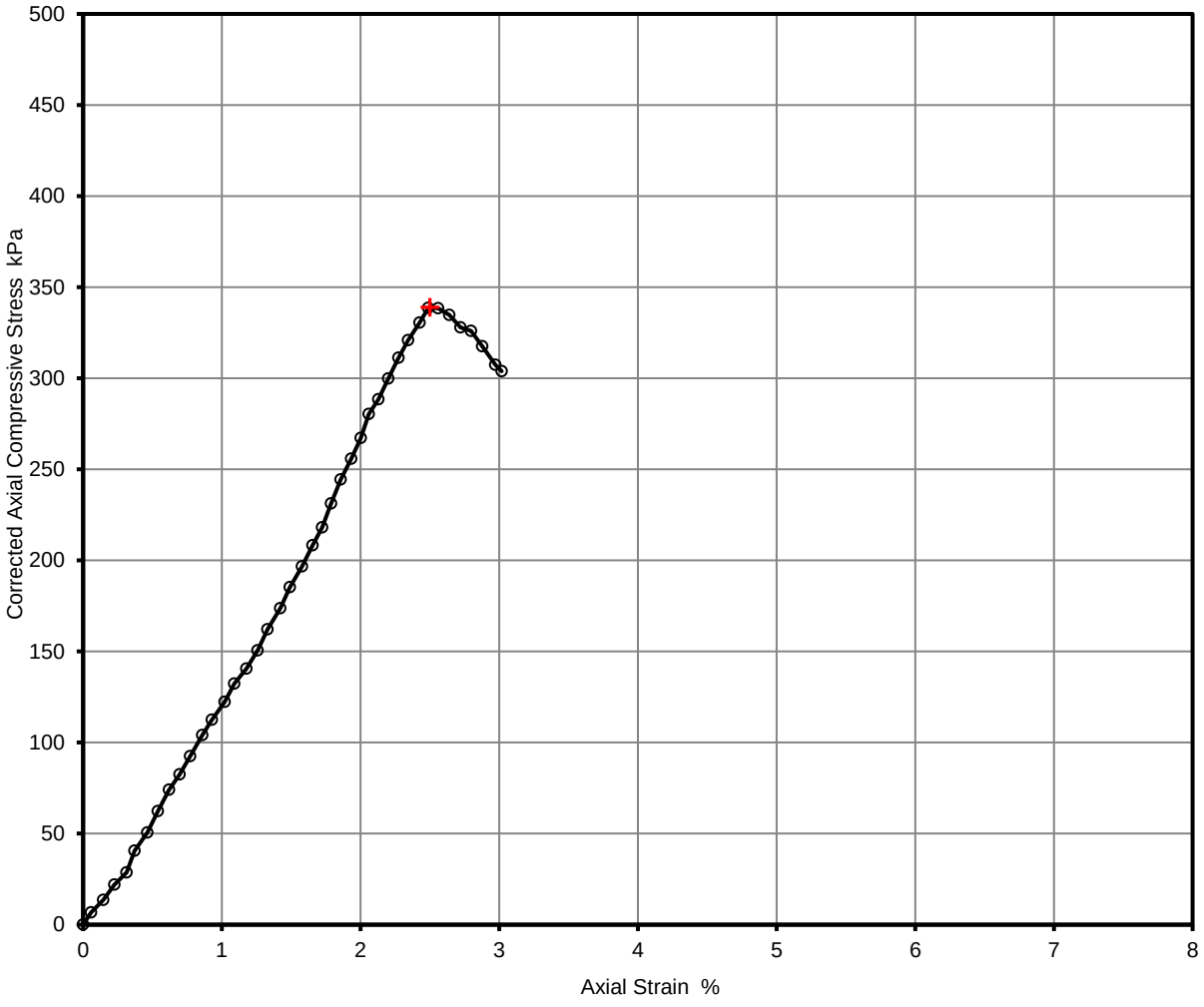
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2185981	Depth Top [m]:	21.94
Hole No.:	BH11	Depth Base [m]:	22.34
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark grey SILT		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	1.0	%/min
Length	172.3	mm	Axial Strain at failure	2.5	%
Diameter	86.7	mm	Unconfined Compressive Strength	339	kPa
Bulk Density	2.16	Mg/m3	Mode of Failure	Compound	
Moisture Content	16.0	%			
Dry Density	1.87	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample

Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 243.9

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	08/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	09/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

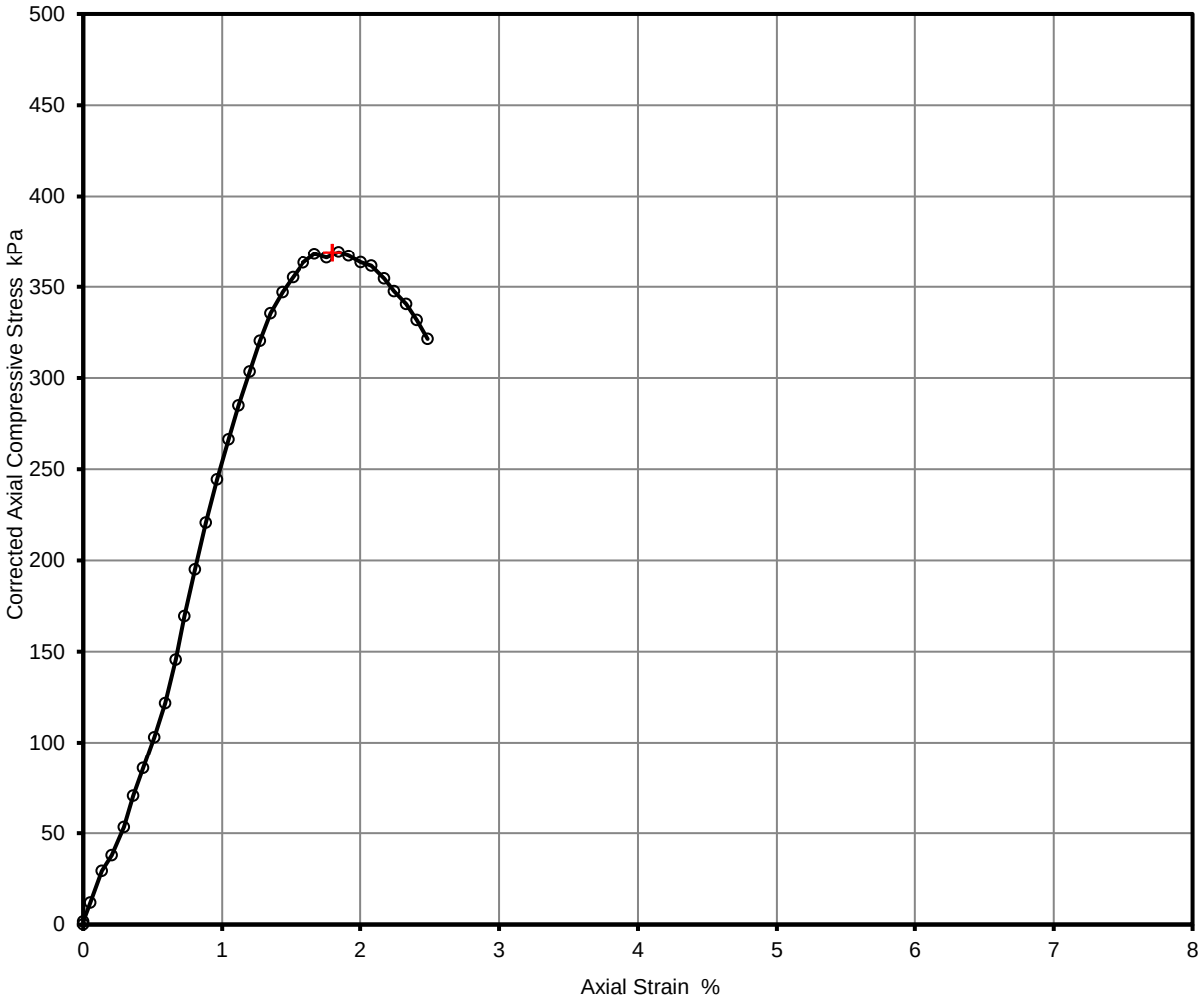
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

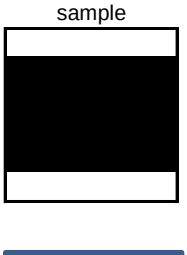
Laboratory Reference:	2185983	Depth Top [m]:	23.27
Hole No.:	BH11	Depth Base [m]:	23.57
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark grey SILT		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	1.0	%/min
Length	195.1	mm	Axial Strain at failure	1.8	%
Diameter	85.9	mm	Unconfined Compressive Strength	369	kPa
Bulk Density	2.19	Mg/m3	Mode of Failure	Brittle	
Moisture Content	13.0	%			
Dry Density	1.93	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample



Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 243.9

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	08/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	09/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

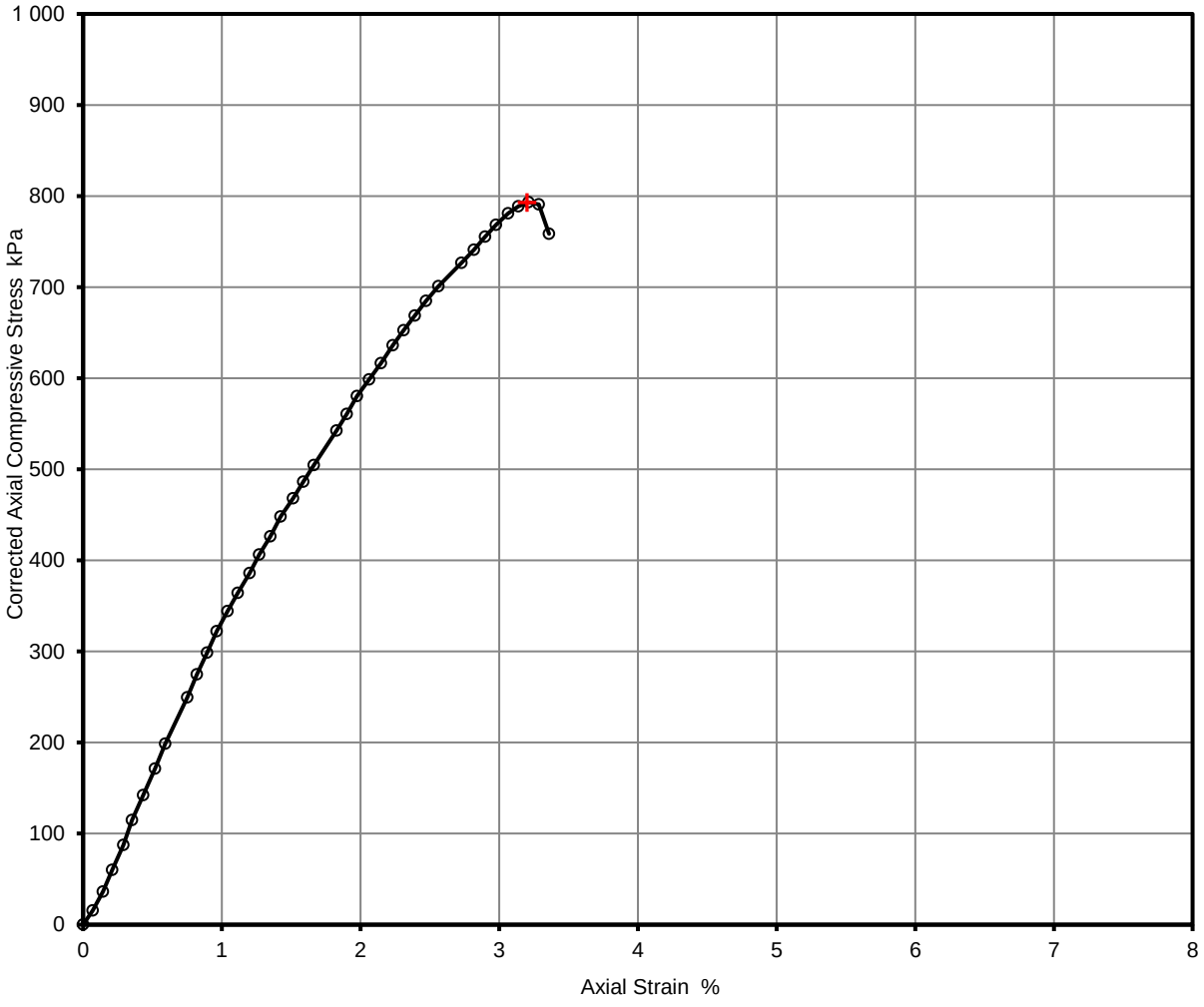
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

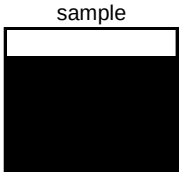
Laboratory Reference:	2185985	Depth Top [m]:	25.89
Hole No.:	BH11	Depth Base [m]:	26.50
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark grey SILT		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	1.0	%/min
Length	175.6	mm	Axial Strain at failure	3.2	%
Diameter	86.0	mm	Unconfined Compressive Strength	793	kPa
Bulk Density	2.24	Mg/m3	Mode of Failure	Compound	
Moisture Content	12.0	%			
Dry Density	1.99	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample



Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 243.9

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	09/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

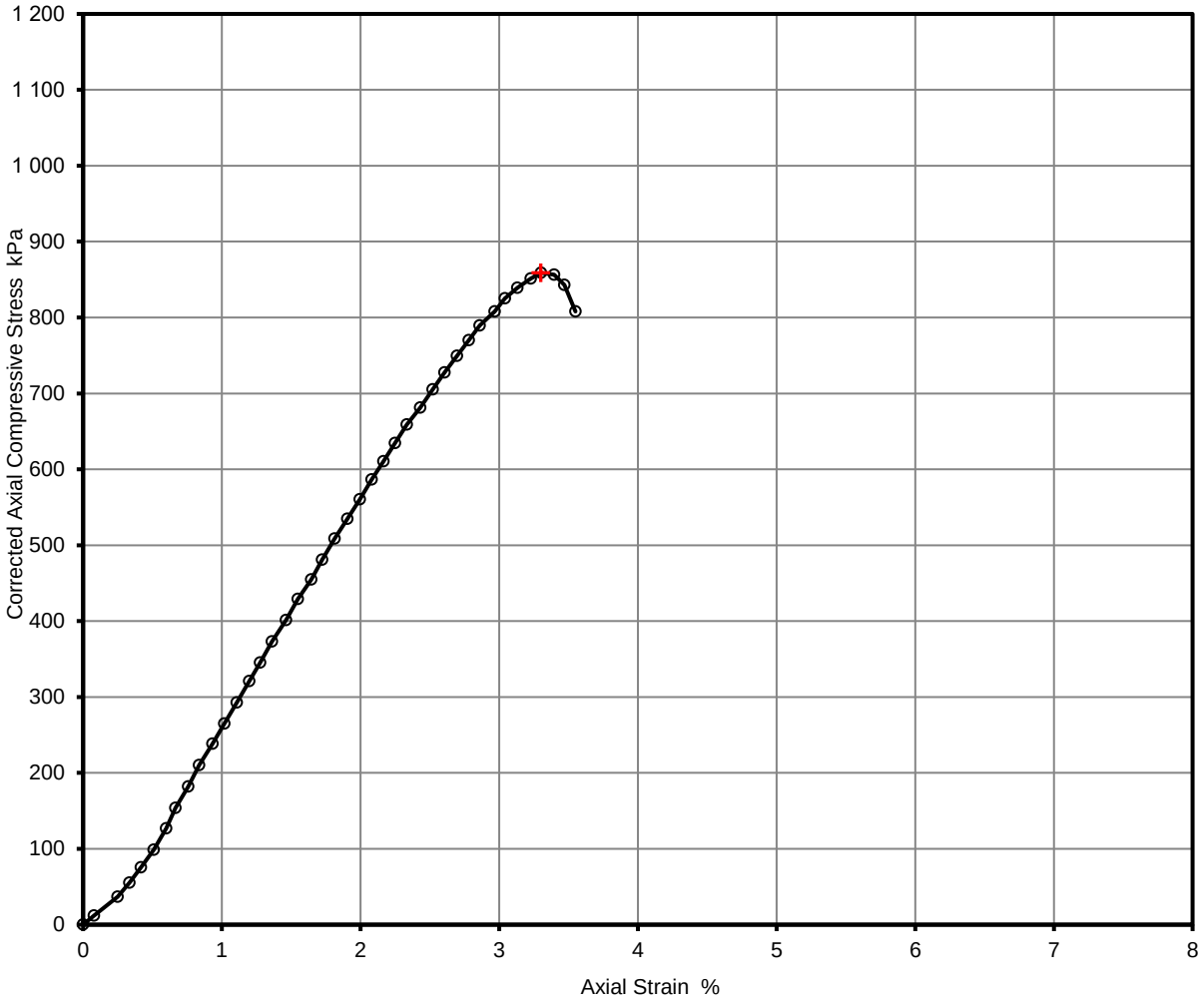
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

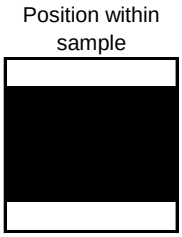
Laboratory Reference:	2185986	Depth Top [m]:	29.66
Hole No.:	BH11	Depth Base [m]:	30.05
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Dark grey SILT		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	1.1	%/min
Length	176.9	mm	Axial Strain at failure	3.3	%
Diameter	87.0	mm	Unconfined Compressive Strength	859	kPa
Bulk Density	2.19	Mg/m3	Mode of Failure	Compound	
Moisture Content	13.0	%			
Dry Density	1.94	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample



Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 243.9

UKAS TESTING
4041

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 8

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	15/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

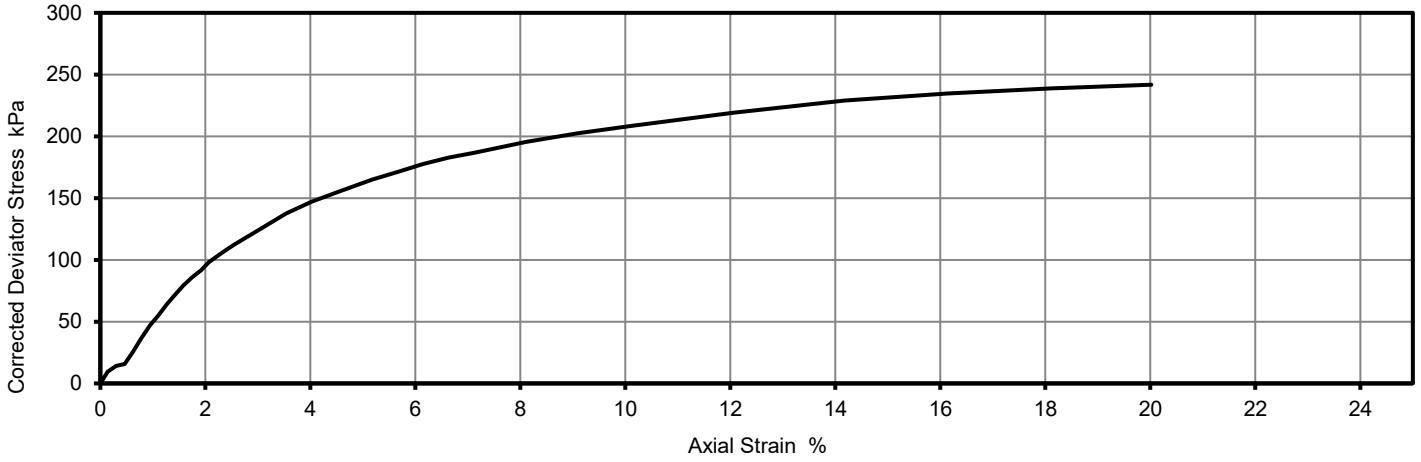
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

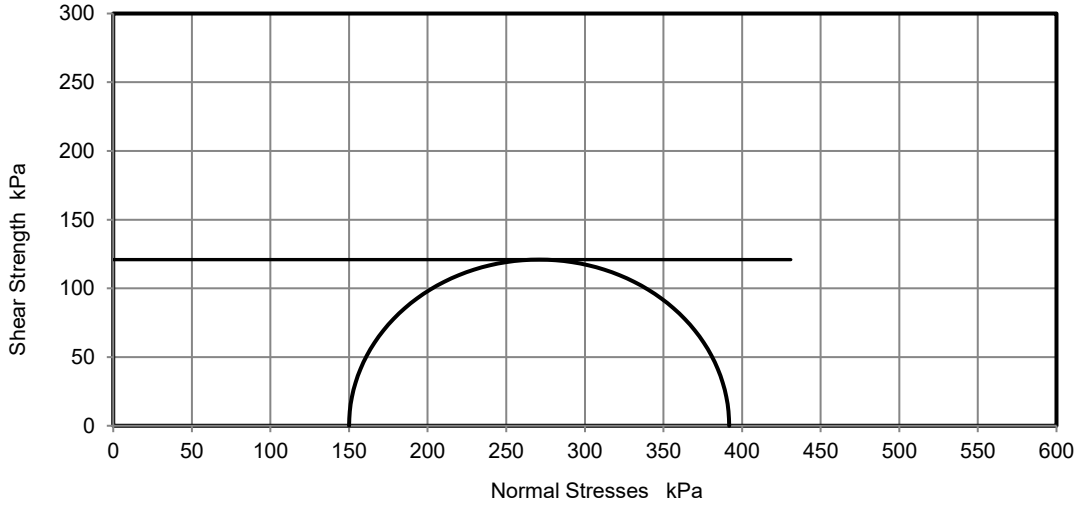
Laboratory Reference:	2185934	Depth Top [m]:	7.50
Hole No.:	BH1	Depth Base [m]:	7.95
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Multicolour slightly gravelly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	2.00	%/min
Length	198.21	mm	Cell Pressure	150	kPa
Diameter	102.43	mm	Axial Strain at failure	20.0	%
Bulk Density	2.14	Mg/m3	Deviator Stress, (σ1 - σ3)f	242	kPa
Moisture Content	15	%	Undrained Shear Strength, cu	121	kPa ½(σ1 - σ3)f
Dry Density	1.86	Mg/m3	Mode of Failure	Plastic	
Membrane Correction	1.01	kPa	Membrane thickness	0.27	mm

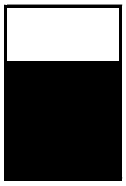
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks: No failure occured until 20% Axial Strain - reported as a single stage test.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 184.12

UKAS TESTING
4041

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 8

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

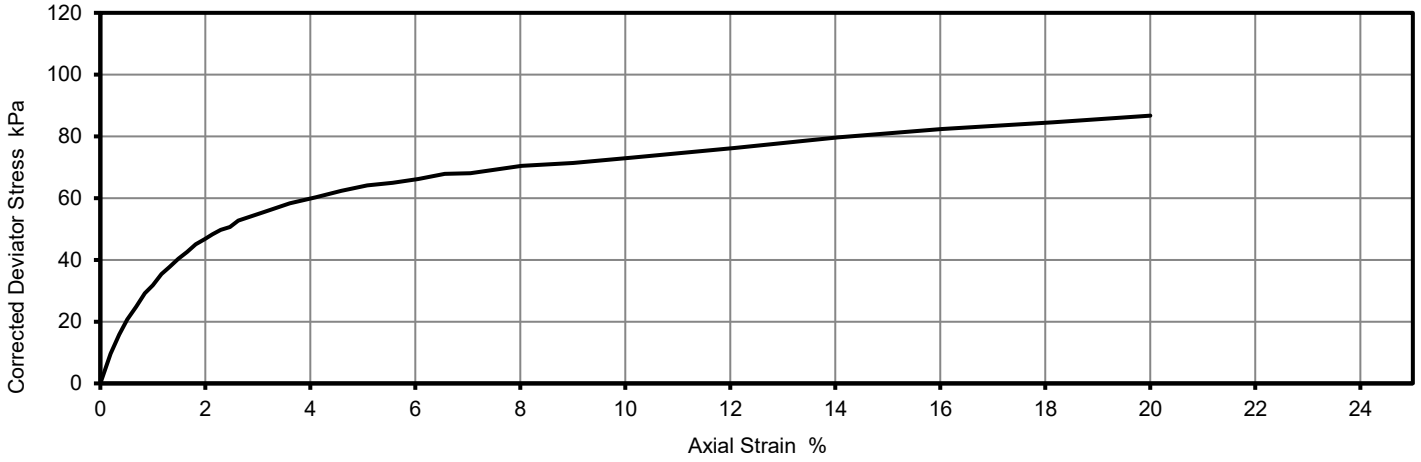
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

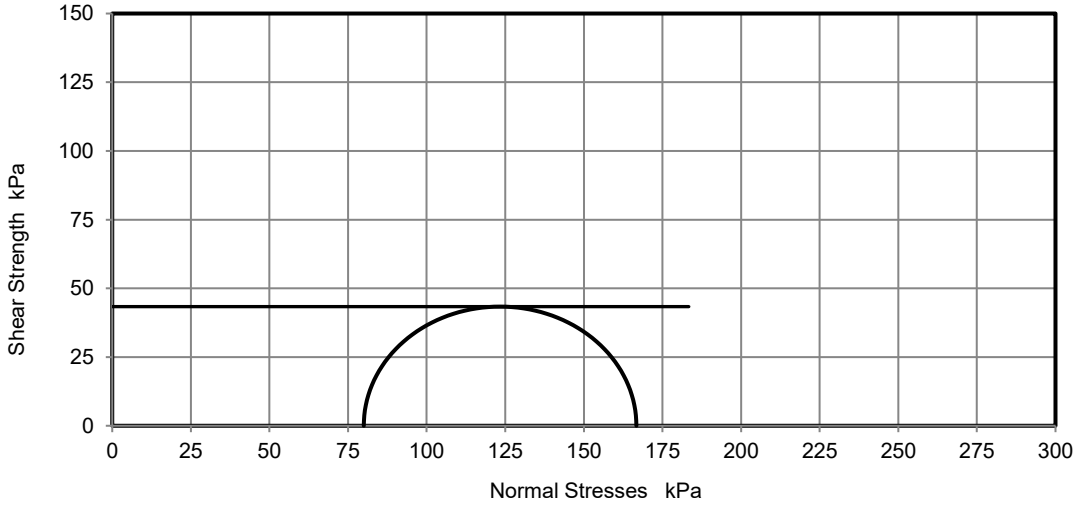
Laboratory Reference:	2185960	Depth Top [m]:	4.00
Hole No.:	BH4	Depth Base [m]:	4.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	2.00	%/min
Length	200.05	mm	Cell Pressure	80	kPa
Diameter	101.75	mm	Axial Strain at failure	20.0	%
Bulk Density	2.11	Mg/m3	Deviator Stress, (σ1 - σ3)f	87	kPa
Moisture Content	22	%	Undrained Shear Strength, cu	43	kPa ½(σ1 - σ3)f
Dry Density	1.72	Mg/m3	Mode of Failure	Plastic	
Membrane Correction	1.06	kPa	Membrane thickness	0.28	mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample

Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks: No failure occured until 20% Axial Strain - reported as a single stage test.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 184.12

UKAS TESTING
4041

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 8

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

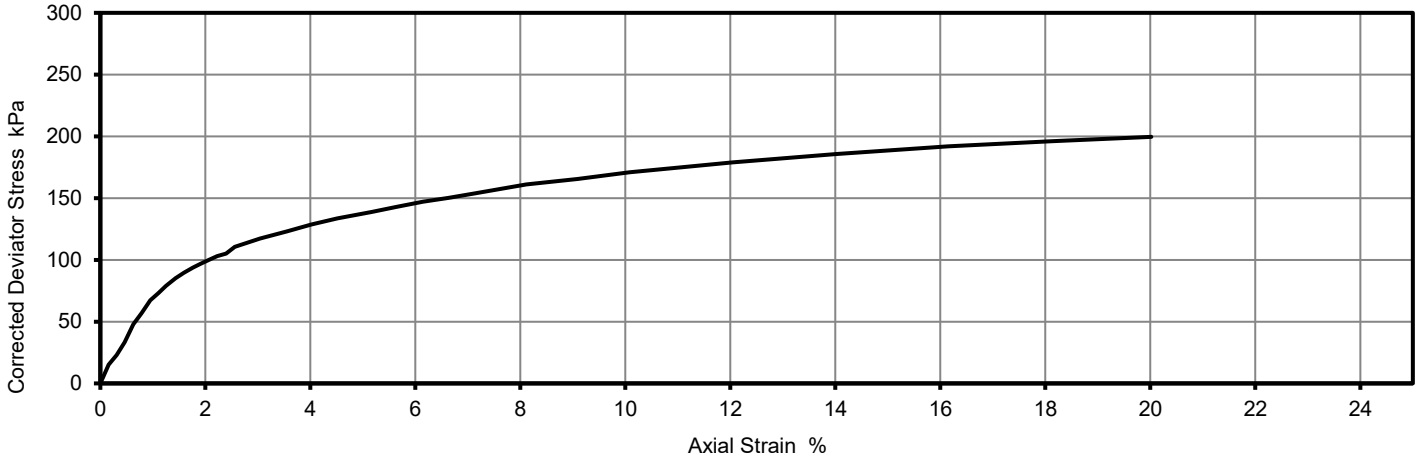
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

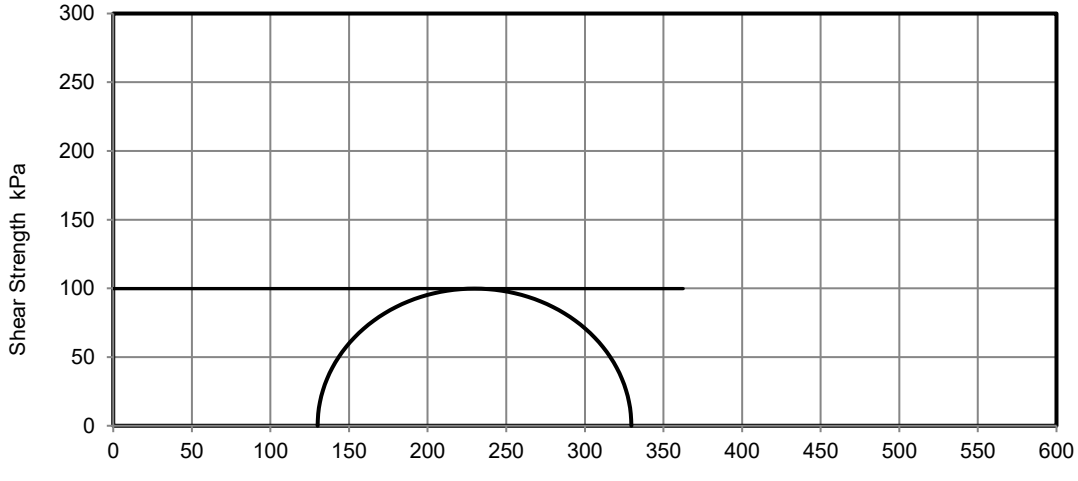
Laboratory Reference:	2185961	Depth Top [m]:	6.45
Hole No.:	BH4	Depth Base [m]:	6.95
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	2.00	%/min
Length	139.72	mm	Cell Pressure	130	kPa
Diameter	69.42	mm	Axial Strain at failure	20.0	%
Bulk Density	2.08	Mg/m3	Deviator Stress, (σ1 - σ3)f	200	kPa
Moisture Content	20	%	Undrained Shear Strength, cu	100	kPa ½(σ1 - σ3)f
Dry Density	1.74	Mg/m3	Mode of Failure	Plastic	
Membrane Correction	1.39	kPa	Membrane thickness	0.25	mm

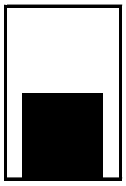
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks: No failure occured until 20% Axial Strain - reported as a single stage test.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 184.12

UKAS TESTING
4041

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 8

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

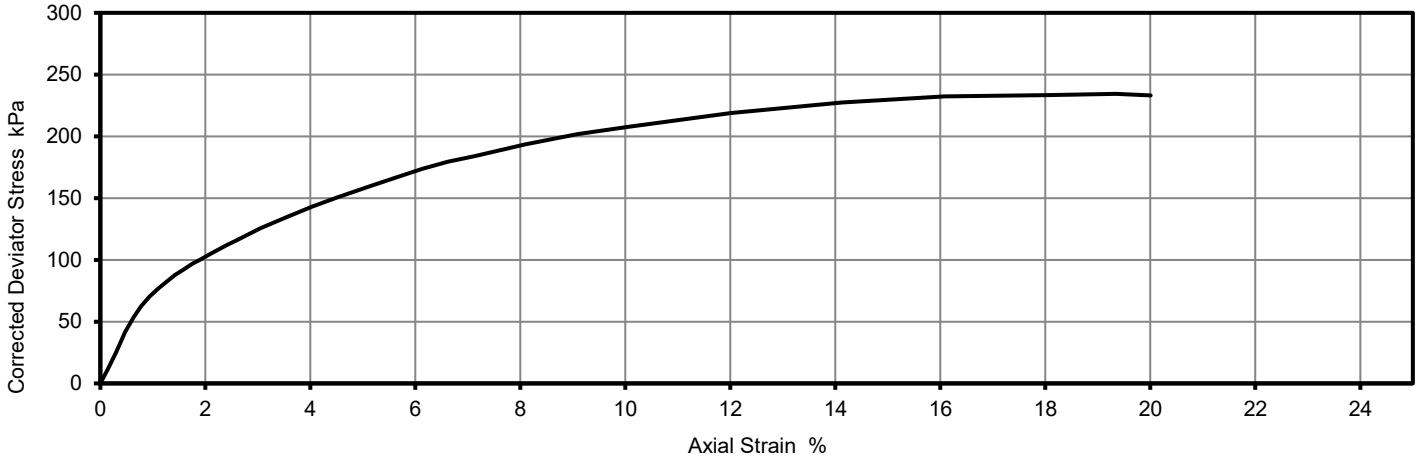
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

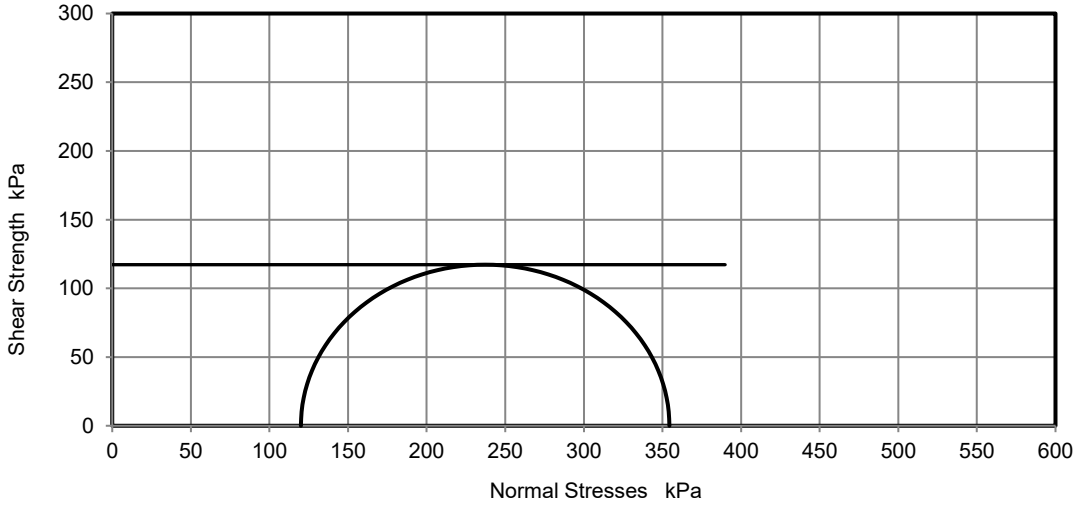
Laboratory Reference:	2185969	Depth Top [m]:	6.00
Hole No.:	BH8	Depth Base [m]:	6.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

Test Number	1		Rate of Strain	2.00	%/min
Length	194.99	mm	Cell Pressure	120	kPa
Diameter	102.41	mm	Axial Strain at failure	19.3	%
Bulk Density	2.17	Mg/m3	Deviator Stress, (σ1 - σ3)f	234	kPa
Moisture Content	17	%	Undrained Shear Strength, cu	117	kPa ½(σ1 - σ3)f
Dry Density	1.85	Mg/m3	Mode of Failure	Plastic	
Membrane Correction	0.99	kPa	Membrane thickness	0.27	mm

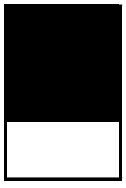
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks: No failure occured until 20% Axial Strain - reported as a single stage test.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 184.12

UKAS TESTING
4041

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 8

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

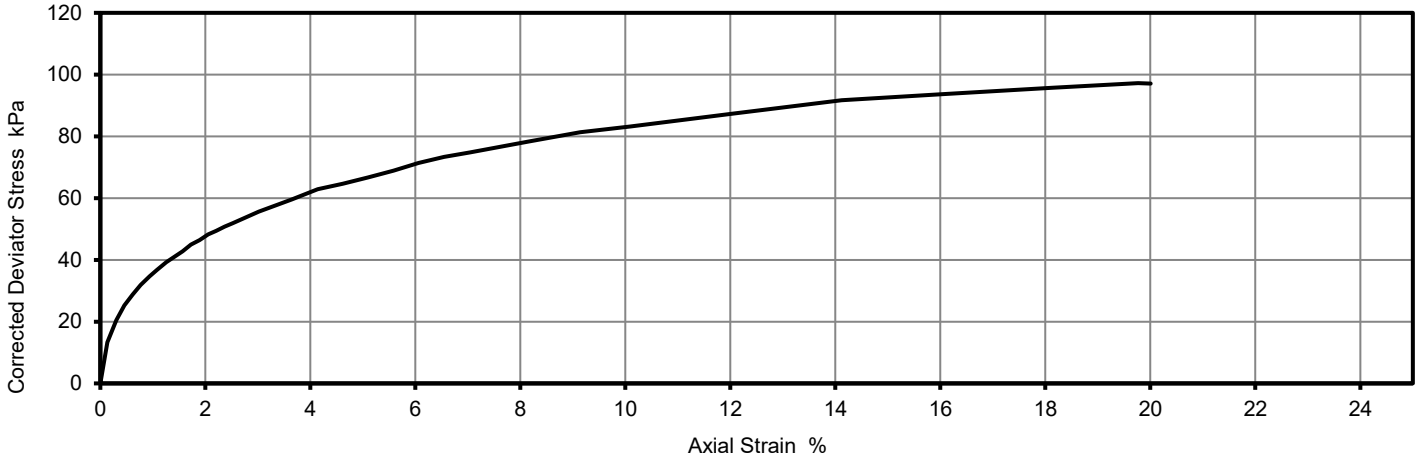
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

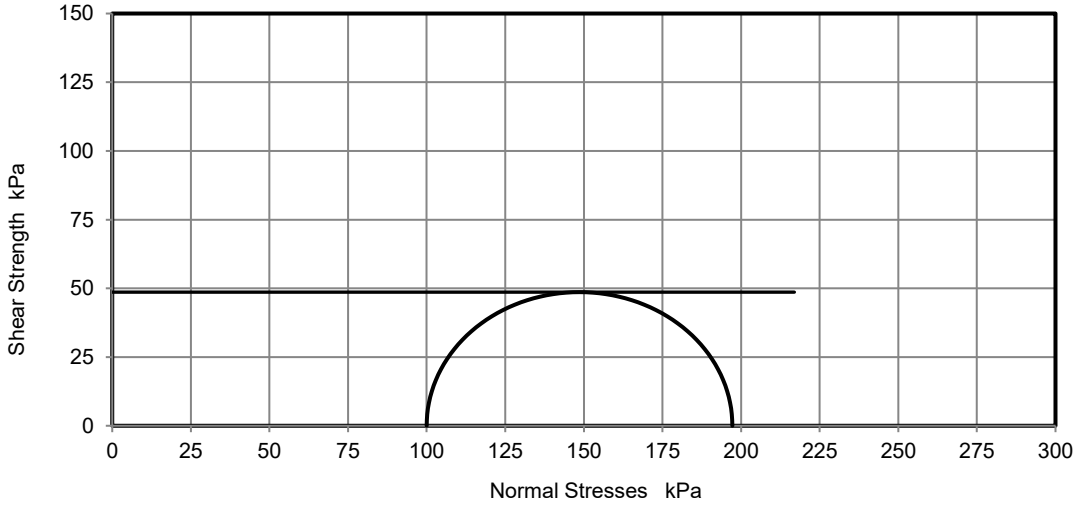
Laboratory Reference:	2185991	Depth Top [m]:	5.00
Hole No.:	BH12	Depth Base [m]:	5.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Greyish brown slightly gravelly slightly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

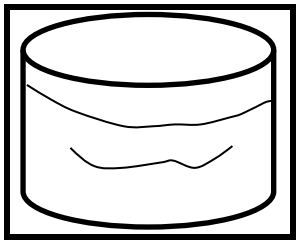
Test Number	1		Rate of Strain	1.96	%/min
Length	203.99	mm	Cell Pressure	100	kPa
Diameter	101.39	mm	Axial Strain at failure	19.8	%
Bulk Density	2.05	Mg/m3	Deviator Stress, (σ1 - σ3)f	97	kPa
Moisture Content	22	%	Undrained Shear Strength, cu	49	kPa ½(σ1 - σ3)f
Dry Density	1.68	Mg/m3	Mode of Failure	Plastic	
Membrane Correction	1.05	kPa	Membrane thickness	0.28	mm

Deviator Stress v Axial Strain

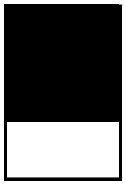


Mohr Circles





Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377. This is provided for information only.

Remarks: No failure occured until 20% Axial Strain - reported as a single stage test. Unable to take a photo. Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 184.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	10/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

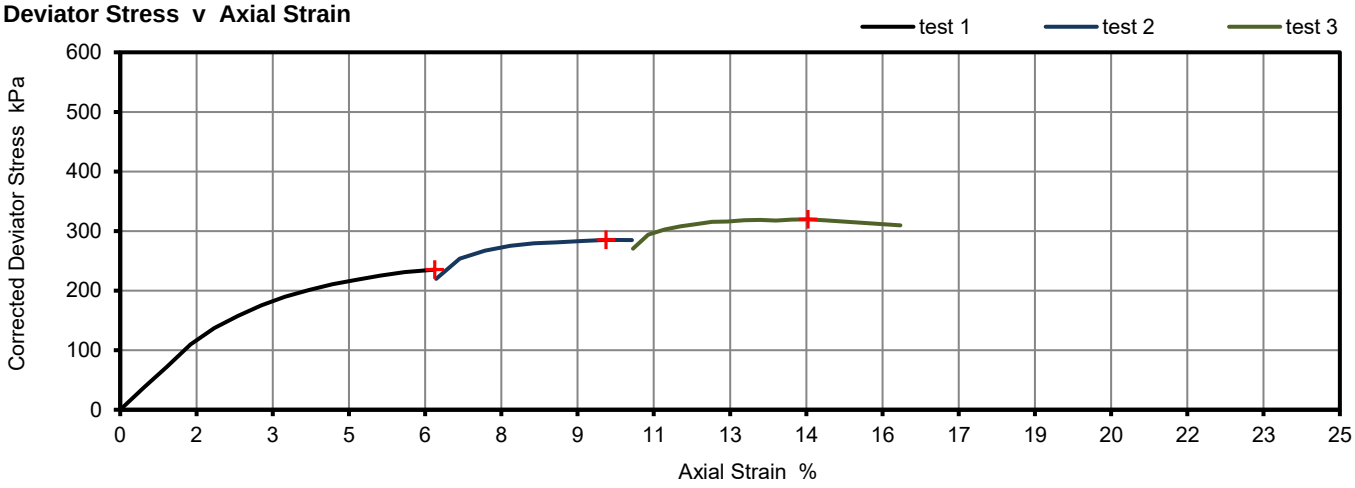
Test Results:

Laboratory Reference:	2185938	Depth Top [m]:	15.50
Hole No.:	BH2	Depth Base [m]:	15.95
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly slightly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

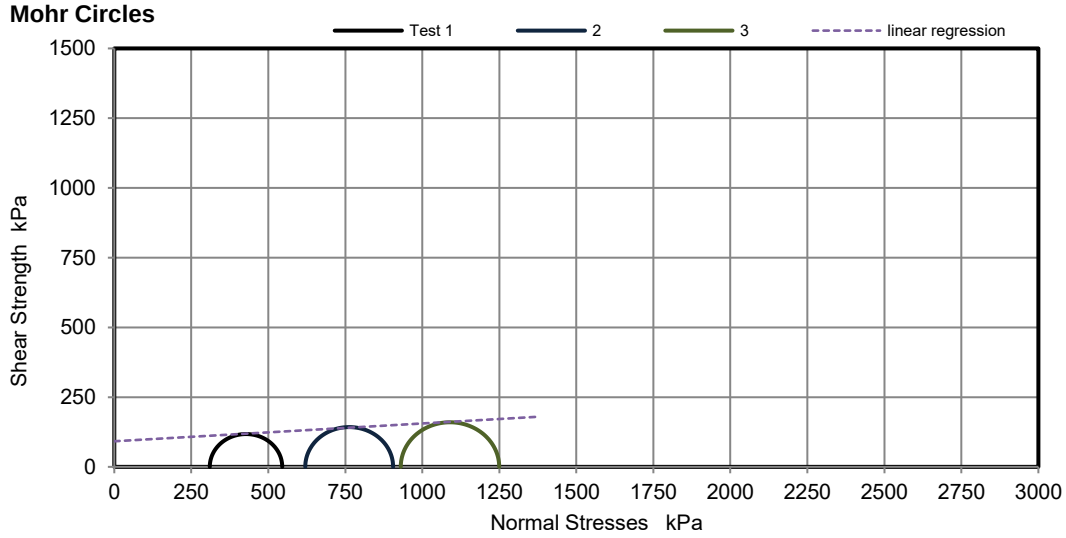
Length	196.10	mm
Diameter	102.67	mm
Bulk Density	2.15	Mg/m3
Moisture Content	16	%
Dry Density	1.85	Mg/m3
Membrane thickness	0.27	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	310	620	930	kPa
Axial Strain at failure	6.4	10.0	14.1	%
Deviator Stress, (σ1 - σ3)f	235	285	320	kPa
Shear strength, cu	118	143	160	kPa
Mode of failure	Plastic			
Membrane Correction	0.43	0.58	0.76	kPa

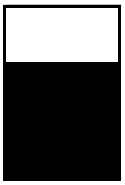
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	3.7	°
cu	92	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 310kPa=160N, 620kPa=311N, 930kPa=477N.
Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

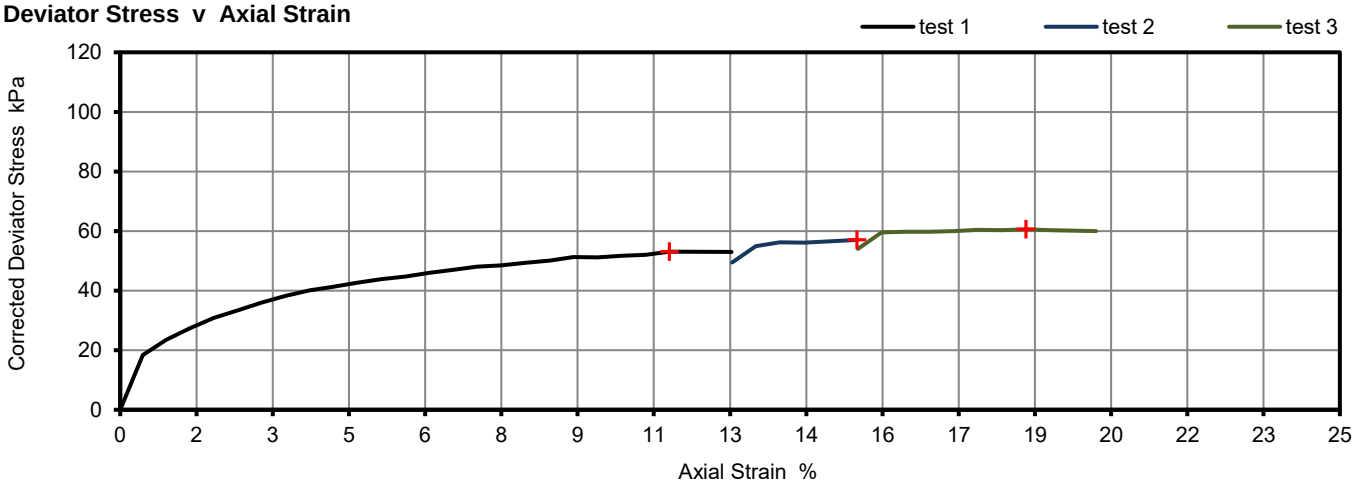
Test Results:

Laboratory Reference:	2185958	Depth Top [m]:	2.00
Hole No.:	BH4	Depth Base [m]:	2.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

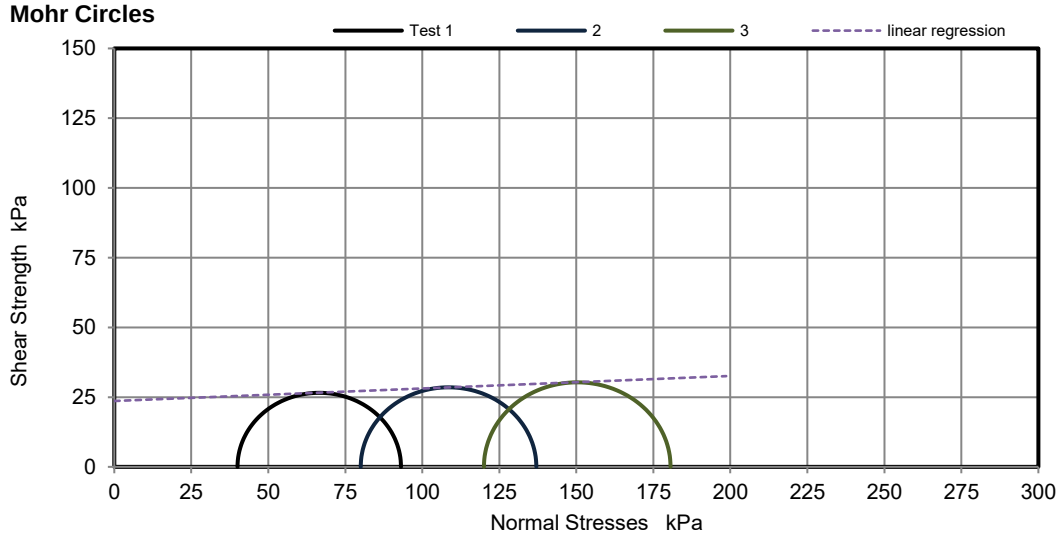
Length	200.32	mm
Diameter	102.04	mm
Bulk Density	2.14	Mg/m3
Moisture Content	20	%
Dry Density	1.78	Mg/m3
Membrane thickness	0.27	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	40	80	120	kPa
Axial Strain at failure	11.3	15.1	18.6	%
Deviator Stress, (σ1 - σ3)f	53	57	61	kPa
Shear strength, cu	27	29	30	kPa
Mode of failure	Plastic			
Membrane Correction	0.64	0.81	0.96	kPa

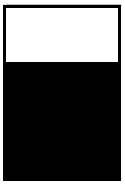
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	2.6	°
cu	24	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 40kPa=22N, 80kPa=47N, 120kPa=69N.
Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

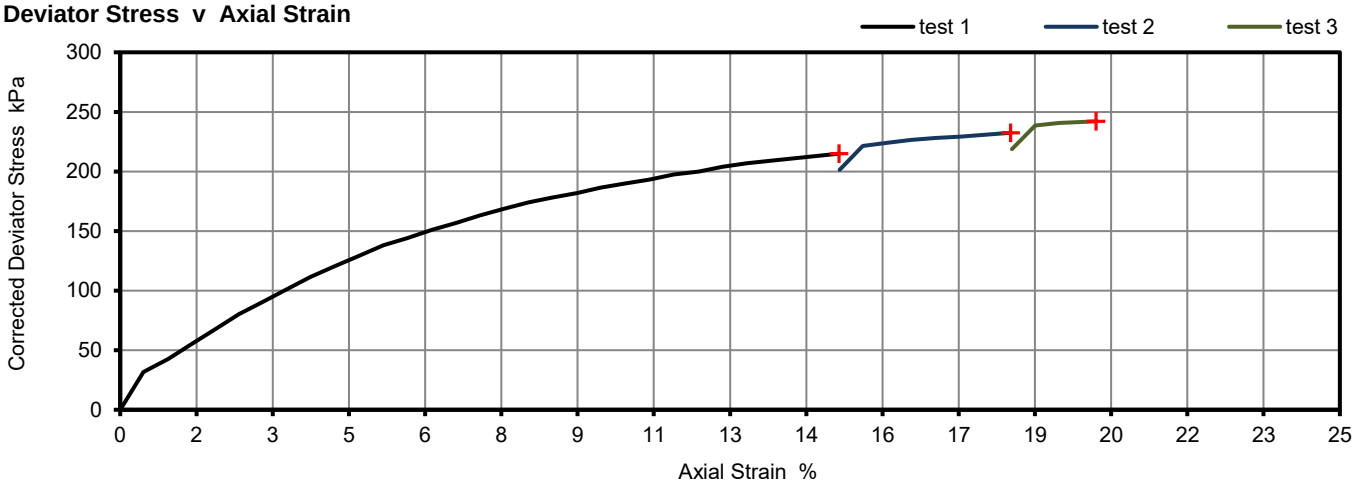
Test Results:

Laboratory Reference:	2185963	Depth Top [m]:	2.00
Hole No.:	BH6	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

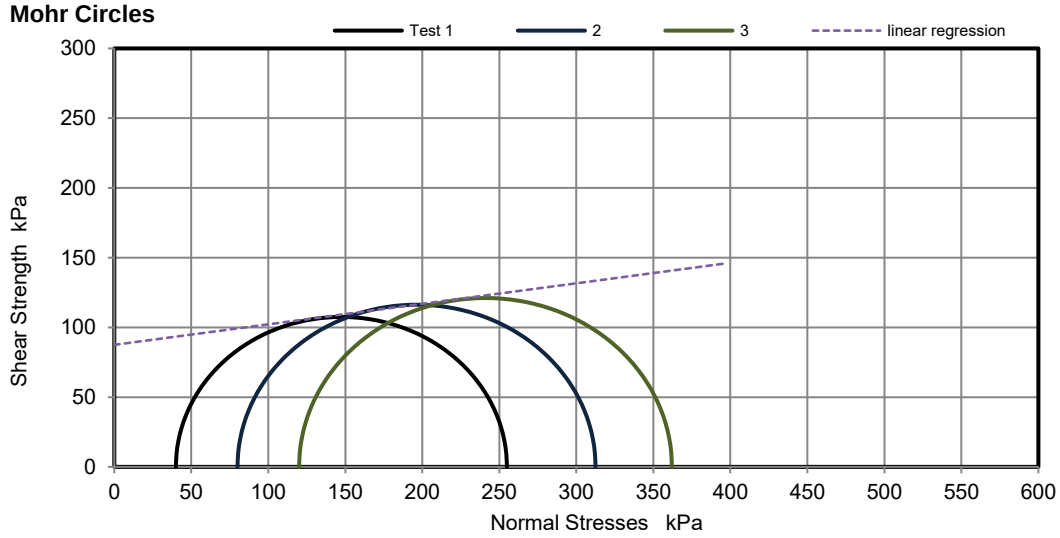
Length	199.58	mm
Diameter	101.78	mm
Bulk Density	2.18	Mg/m3
Moisture Content	21	%
Dry Density	1.80	Mg/m3
Membrane thickness	0.29	mm

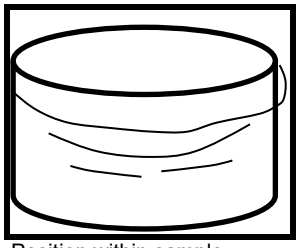
Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	40	80	120	kPa
Axial Strain at failure	14.7	18.3	20.0	%
Deviator Stress, (σ1 - σ3)f	215	232	242	kPa
Shear strength, cu	107	116	121	kPa
Mode of failure	Plastic			
Membrane Correction	0.85	1.02	1.10	kPa

Deviator Stress v Axial Strain

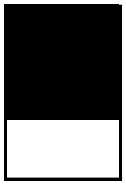


Mohr Circles





Position within sample



Linear Regression

ϕu	8.4	°
cu	87	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 40kPa=21N, 80kPa=42N, 120kPa=66N. Unable to take a photo.
Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

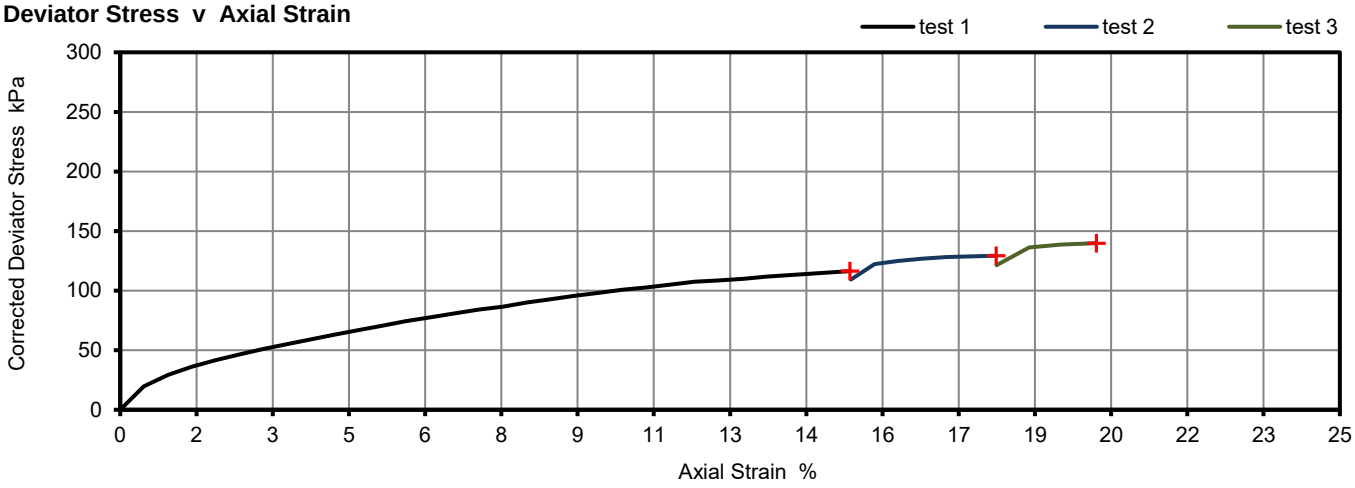
Test Results:

Laboratory Reference:	2185964	Depth Top [m]:	4.00
Hole No.:	BH6	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Greyish brown slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

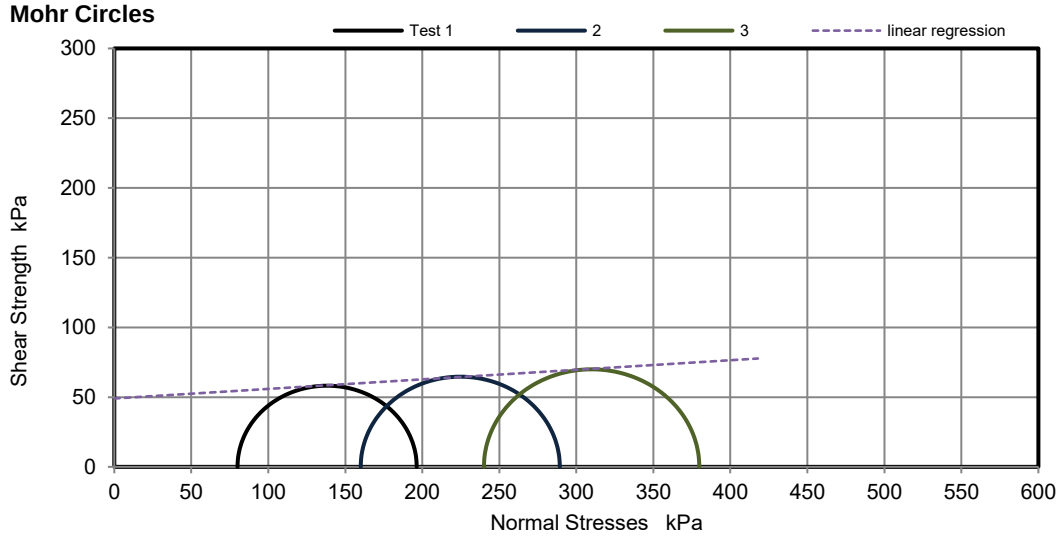
Length	199.68	mm
Diameter	102.26	mm
Bulk Density	2.08	Mg/m3
Moisture Content	17	%
Dry Density	1.77	Mg/m3
Membrane thickness	0.29	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	80	160	240	kPa
Axial Strain at failure	15.0	18.0	20.0	%
Deviator Stress, (σ1 - σ3)f	116	129	140	kPa
Shear strength, cu	58	65	70	kPa
Mode of failure	Plastic			
Membrane Correction	0.86	1.00	1.09	kPa

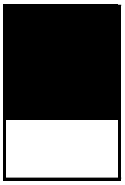
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	3.9	°
cu	49	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 80kPa=44N, 160kPa=88N, 240kPa=166N.
Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

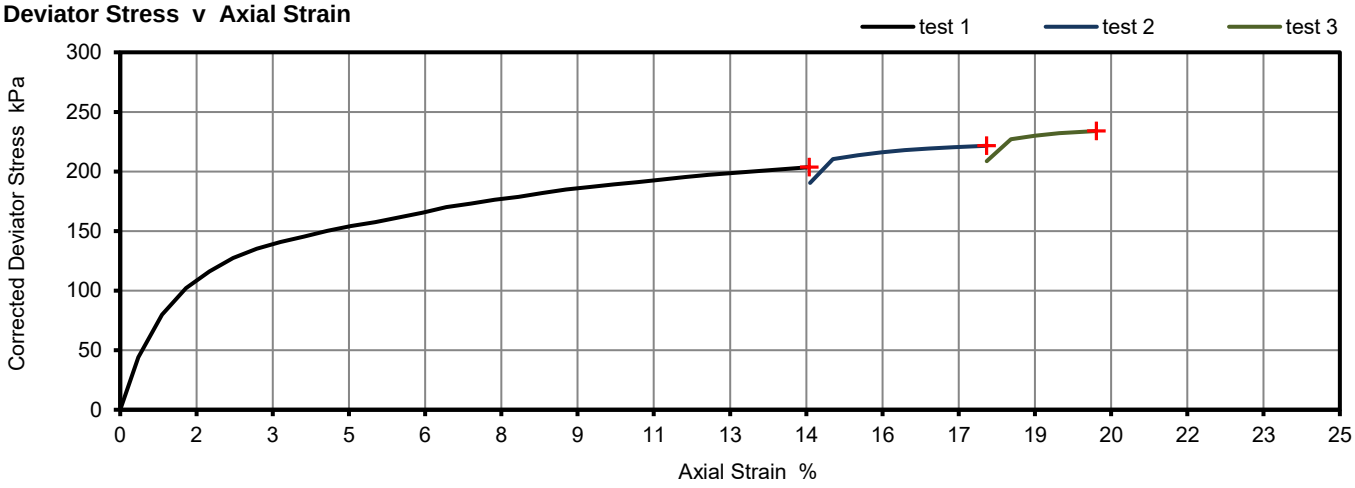
Test Results:

Laboratory Reference:	2185965	Depth Top [m]:	6.50
Hole No.:	BH6	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

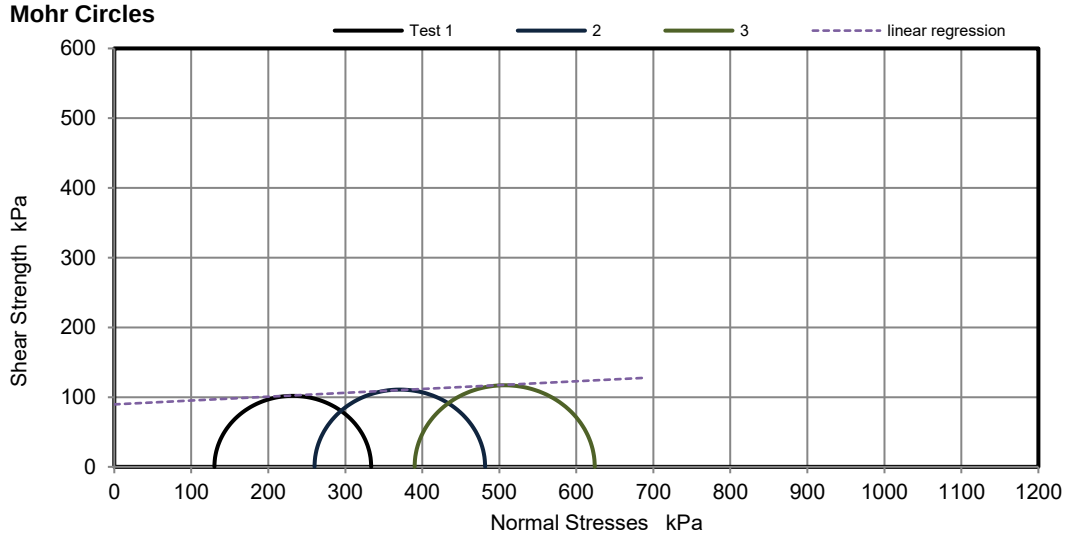
Length	199.70	mm
Diameter	102.35	mm
Bulk Density	2.14	Mg/m3
Moisture Content	19	%
Dry Density	1.80	Mg/m3
Membrane thickness	0.28	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	130	260	390	kPa
Axial Strain at failure	14.1	17.8	20.0	%
Deviator Stress, (σ1 - σ3)f	204	222	234	kPa
Shear strength, cu	102	111	117	kPa
Mode of failure	Plastic			
Membrane Correction	0.79	0.95	1.05	kPa

Deviator Stress v Axial Strain



Mohr Circles



Position within sample

Linear Regression

ϕu	3.2	°
cu	90	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 130kPa=69N, 260kPa=147N, 390kPa=201N.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

UKAS TESTING
4041

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

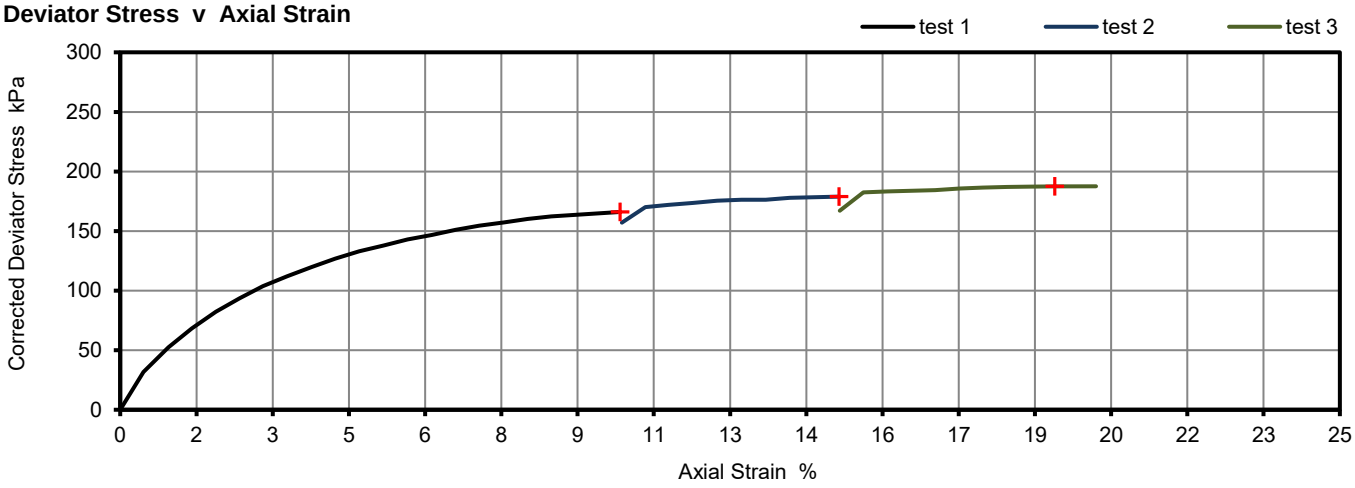
Test Results:

Laboratory Reference:	2185967	Depth Top [m]:	1.50
Hole No.:	BH8	Depth Base [m]:	1.95
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

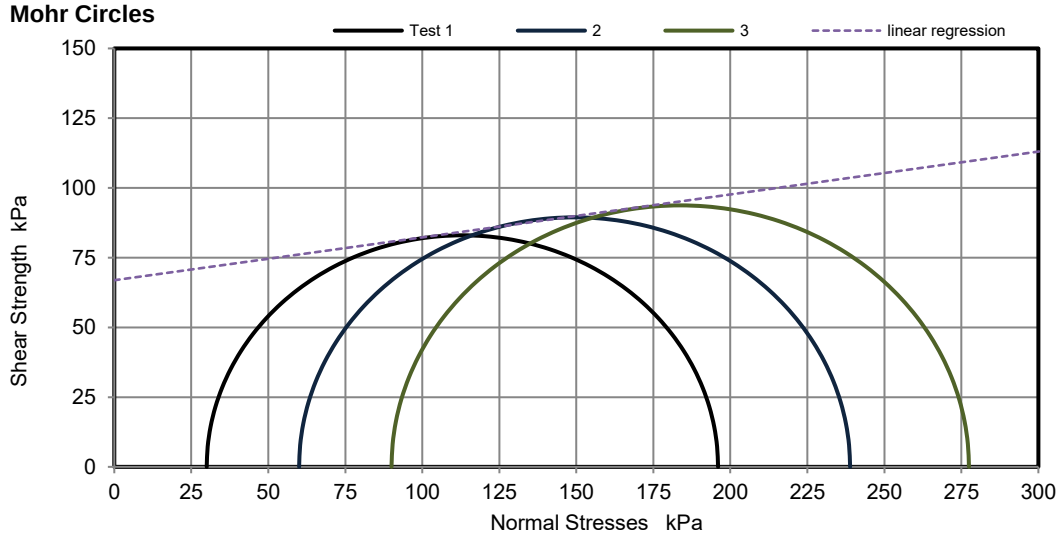
Length	198.58	mm
Diameter	102.00	mm
Bulk Density	2.14	Mg/m3
Moisture Content	18	%
Dry Density	1.81	Mg/m3
Membrane thickness	0.28	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	30	60	90	kPa
Axial Strain at failure	10.2	14.7	19.2	%
Deviator Stress, (σ1 - σ3)f	166	179	187	kPa
Shear strength, cu	83	89	94	kPa
Mode of failure	Plastic			
Membrane Correction	0.62	0.82	1.02	kPa

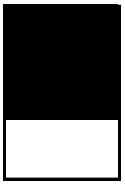
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	8.7	°
cu	67	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 30kPa=21N, 60kPa=39N, 90kPa=44N.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

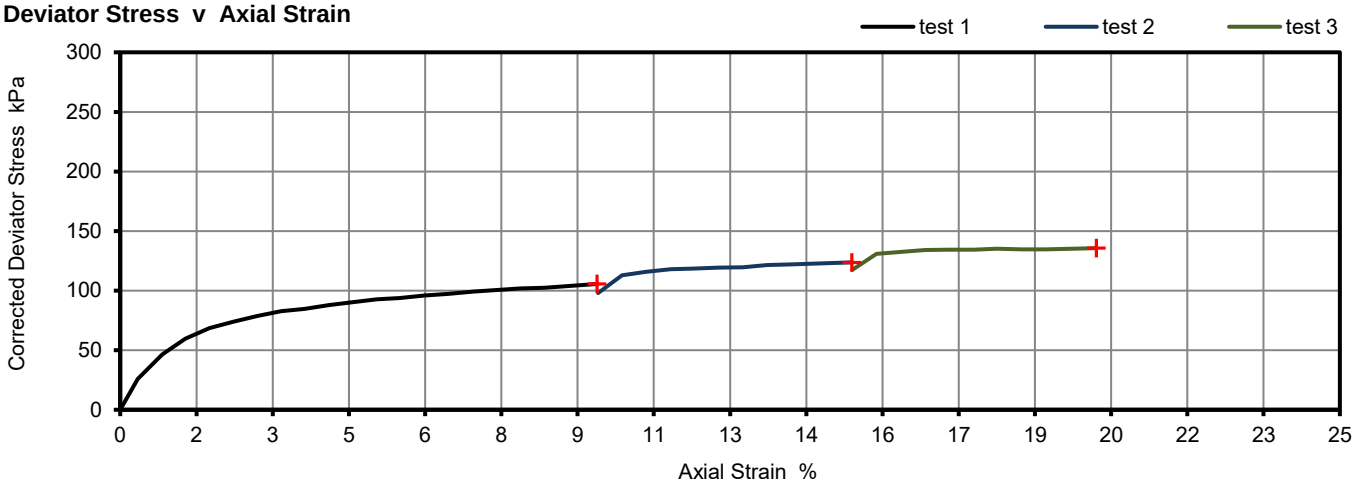
Test Results:

Laboratory Reference:	2185968	Depth Top [m]:	3.50
Hole No.:	BH8	Depth Base [m]:	3.95
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY with fragments of chalk		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

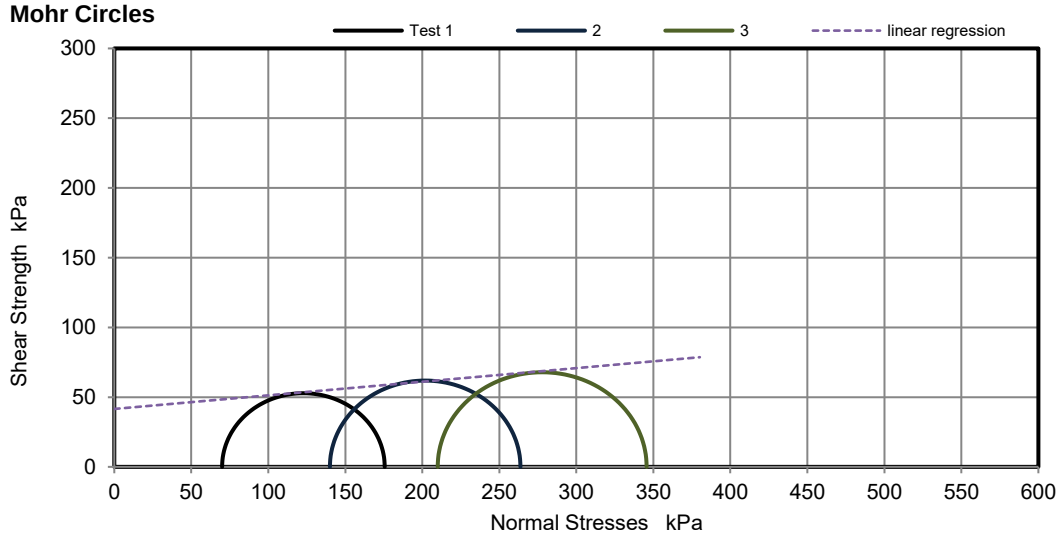
Length	138.74	mm
Diameter	69.55	mm
Bulk Density	2.06	Mg/m3
Moisture Content	21	%
Dry Density	1.70	Mg/m3
Membrane thickness	0.26	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	70	140	210	kPa
Axial Strain at failure	9.8	15.0	20.0	%
Deviator Stress, (σ1 - σ3)f	106	124	136	kPa
Shear strength, cu	53	62	68	kPa
Mode of failure	Plastic			
Membrane Correction	0.82	1.13	1.44	kPa

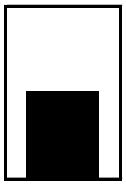
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	5.6	°
cu	42	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 70kPa=35N, 140kPa=77N, 210kPa=157N.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

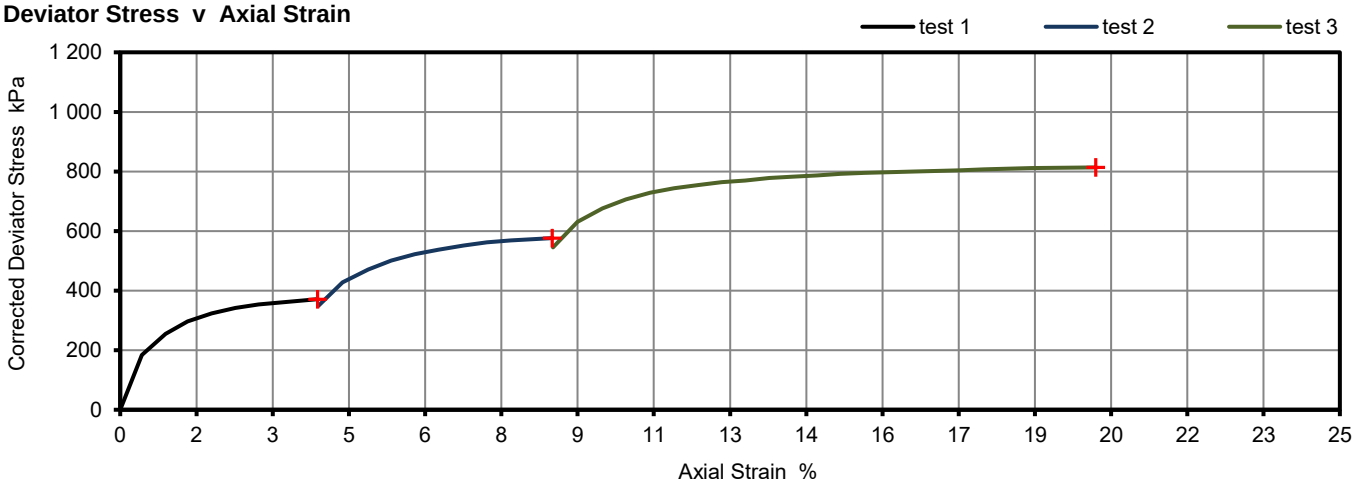
Test Results:

Laboratory Reference:	2185972	Depth Top [m]:	12.00
Hole No.:	BH8	Depth Base [m]:	12.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Multicolour slightly gravelly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

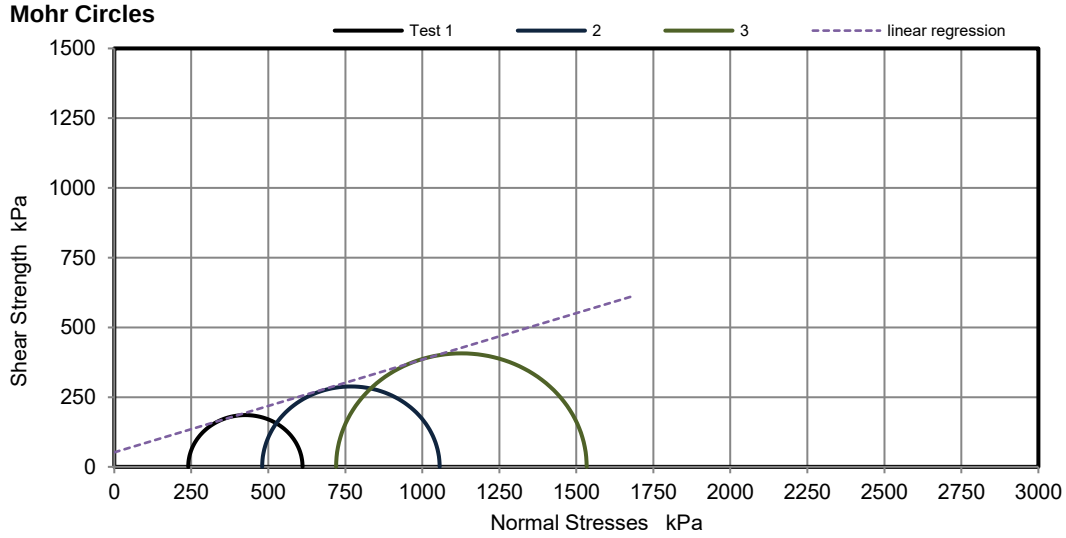
Length	140.23	mm
Diameter	69.81	mm
Bulk Density	2.03	Mg/m3
Moisture Content	18	%
Dry Density	1.73	Mg/m3
Membrane thickness	0.25	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	240	480	720	kPa
Axial Strain at failure	4.0	8.9	20.0	%
Deviator Stress, (σ1 - σ3)f	371	576	814	kPa
Shear strength, cu	186	288	407	kPa
Mode of failure	Plastic			
Membrane Correction	0.40	0.73	1.38	kPa

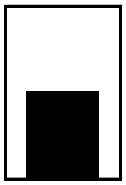
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	18.4	°
cu	52	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 240kPa=110N, 480kPa=247N, 720kPa=499N.
Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	16/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

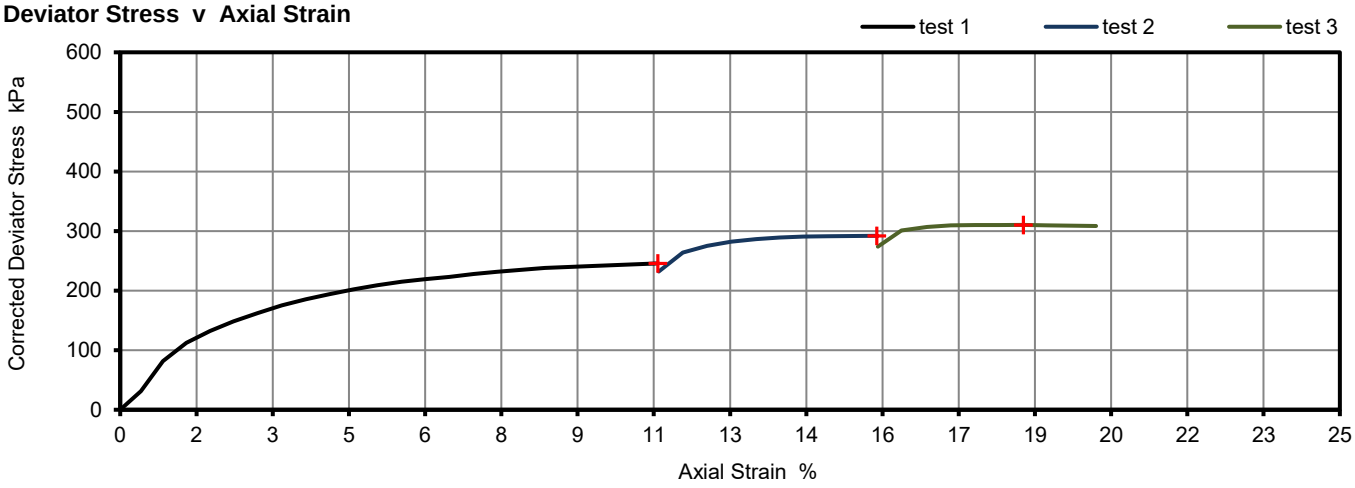
Test Results:

Laboratory Reference:	2185974	Depth Top [m]:	15.00
Hole No.:	BH8	Depth Base [m]:	15.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Multicolour slightly gravelly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

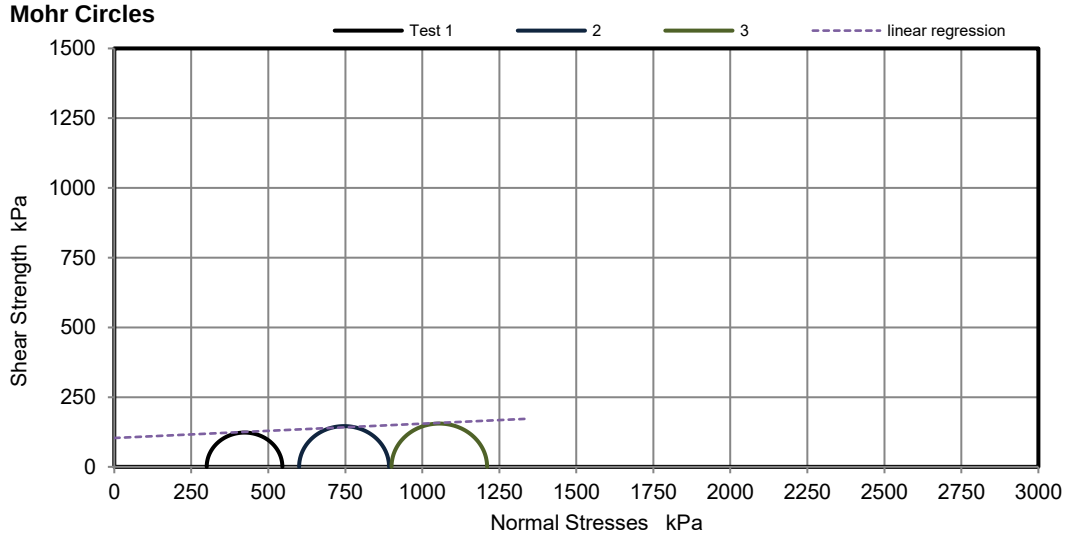
Length	199.03	mm
Diameter	102.63	mm
Bulk Density	2.12	Mg/m3
Moisture Content	19	%
Dry Density	1.78	Mg/m3
Membrane thickness	0.28	mm

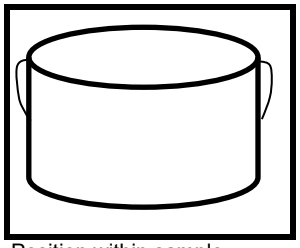
Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	300	600	900	kPa
Axial Strain at failure	11.0	15.5	18.5	%
Deviator Stress, (σ1 - σ3)f	246	292	310	kPa
Shear strength, cu	123	146	155	kPa
Mode of failure	Compound			
Membrane Correction	0.65	0.85	0.98	kPa

Deviator Stress v Axial Strain

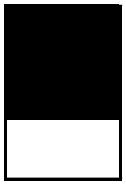


Mohr Circles





Position within sample



Linear Regression

ϕu	2.9	°
cu	103	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: kPa=N, kPa=N, kPa=N. Unable to take a photo.
Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

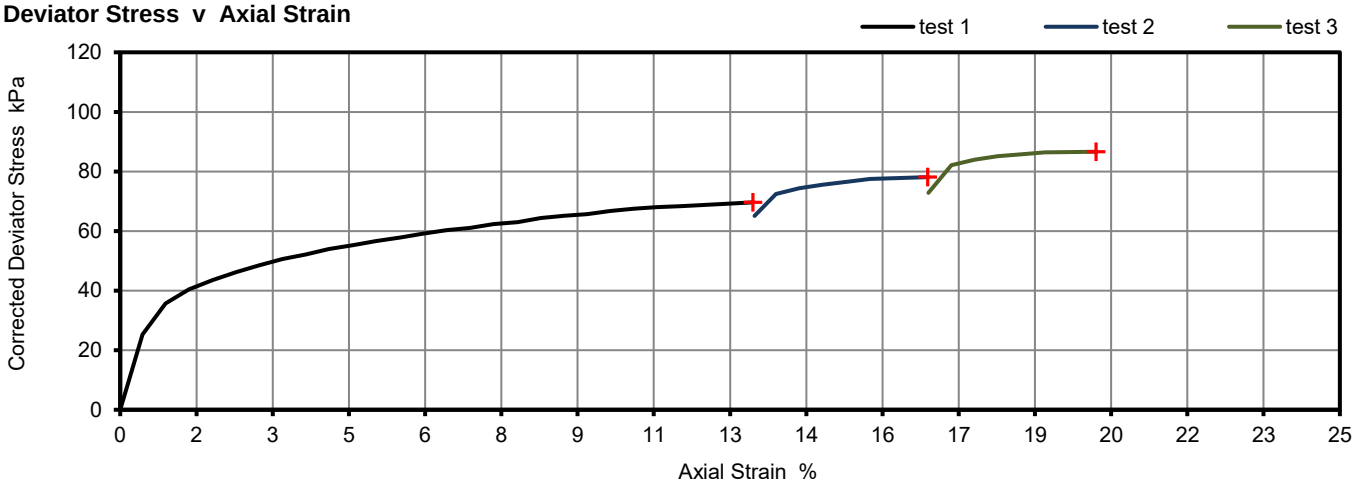
Test Results:

Laboratory Reference:	2185989	Depth Top [m]:	3.00
Hole No.:	BH12	Depth Base [m]:	3.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

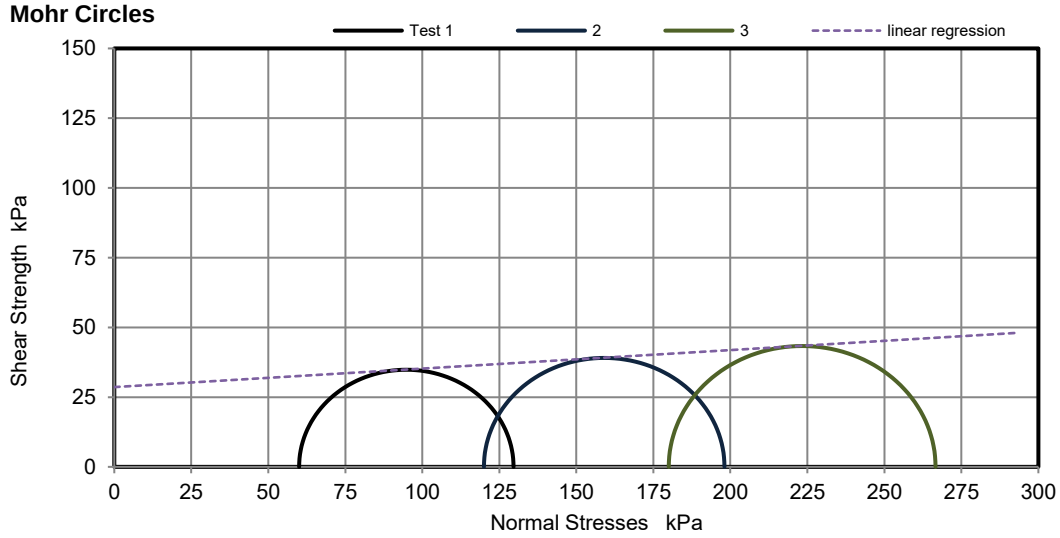
Length	203.97	mm
Diameter	101.57	mm
Bulk Density	2.10	Mg/m3
Moisture Content	24	%
Dry Density	1.69	Mg/m3
Membrane thickness	0.28	mm

Rate of Strain	1.96			%/min
Stage Number	1	2	3	
Cell Pressure	60	120	180	kPa
Axial Strain at failure	13.0	16.6	20.0	%
Deviator Stress, (σ1 - σ3)f	70	78	87	kPa
Shear strength, cu	35	39	43	kPa
Mode of failure	Plastic			
Membrane Correction	0.75	0.91	1.06	kPa

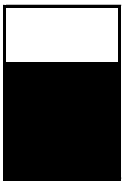
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	3.8	°
cu	29	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 60kPa=31N, 120kPa=69N, 180kPa=94N.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

UKAS TESTING
4041

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

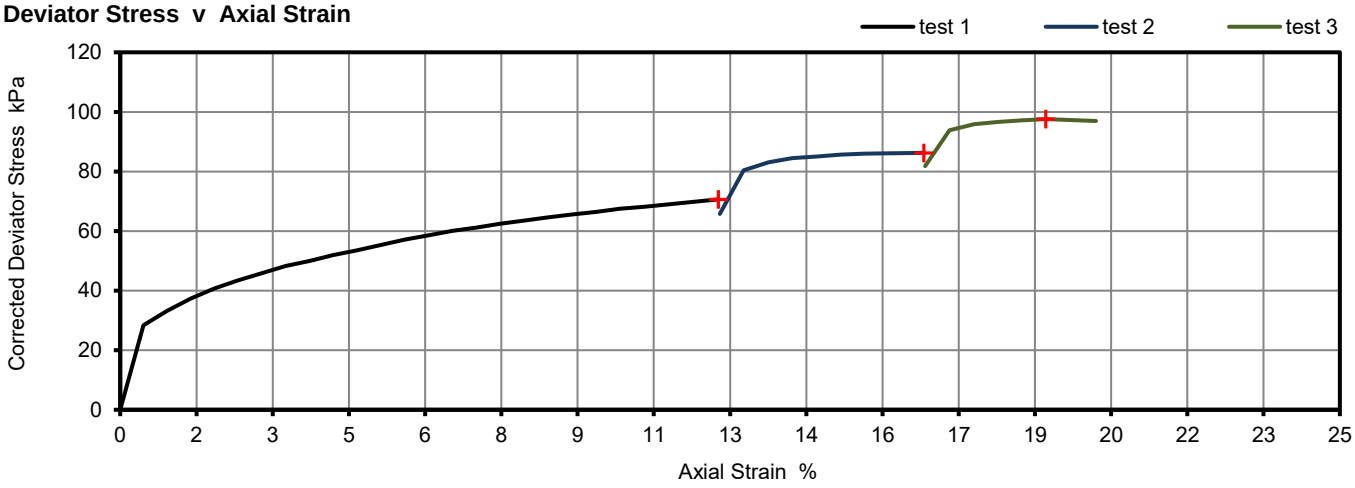
Test Results:

Laboratory Reference:	2185992	Depth Top [m]:	8.00
Hole No.:	BH12	Depth Base [m]:	8.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

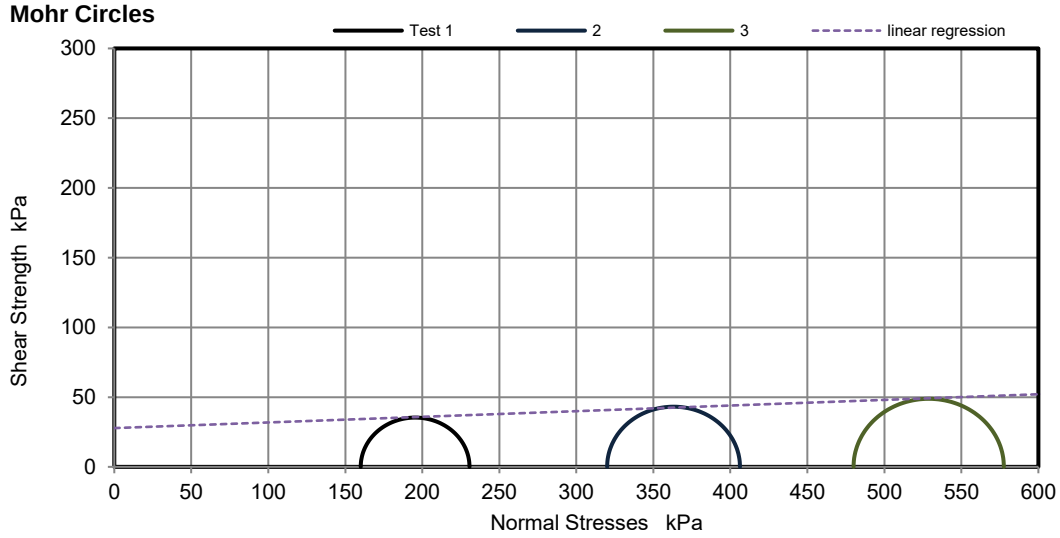
Length	201.54	mm
Diameter	102.81	mm
Bulk Density	2.09	Mg/m3
Moisture Content	21	%
Dry Density	1.72	Mg/m3
Membrane thickness	0.28	mm

Rate of Strain	1.98			%/min
Stage Number	1	2	3	
Cell Pressure	160	320	480	kPa
Axial Strain at failure	12.3	16.5	19.0	%
Deviator Stress, (σ1 - σ3)f	71	86	98	kPa
Shear strength, cu	35	43	49	kPa
Mode of failure	Plastic			
Membrane Correction	0.71	0.89	1.00	kPa

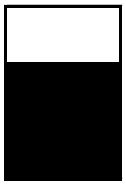
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	2.3	°
cu	28	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 160kPa=84N, 320kPa=166N, 480kPa=247N.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

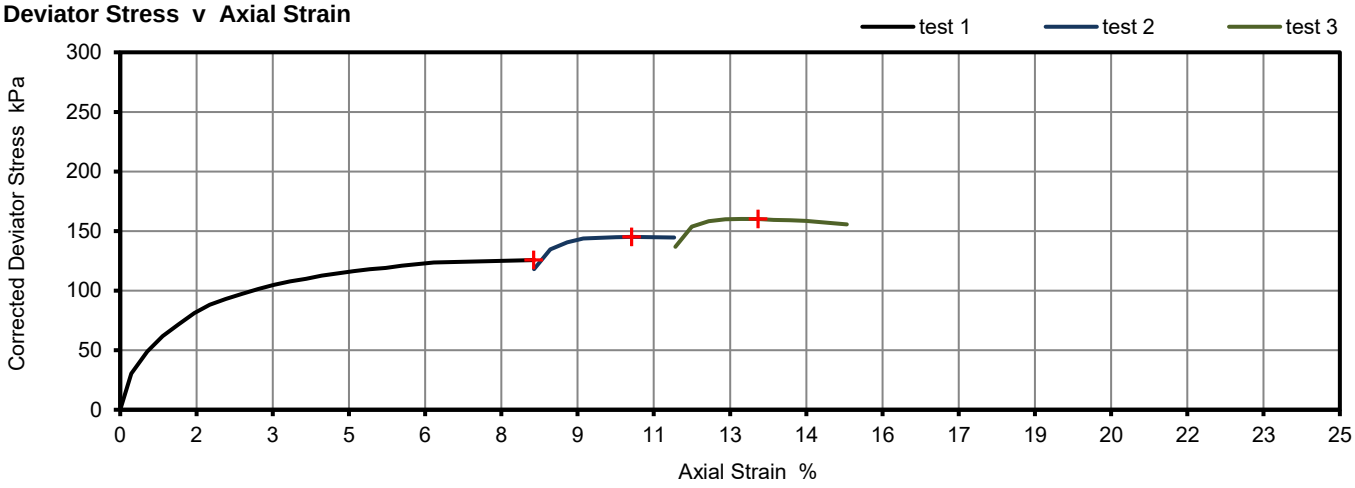
Test Results:

Laboratory Reference:	2185993	Depth Top [m]:	11.00
Hole No.:	BH12	Depth Base [m]:	11.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Grey slightly gravelly slightly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

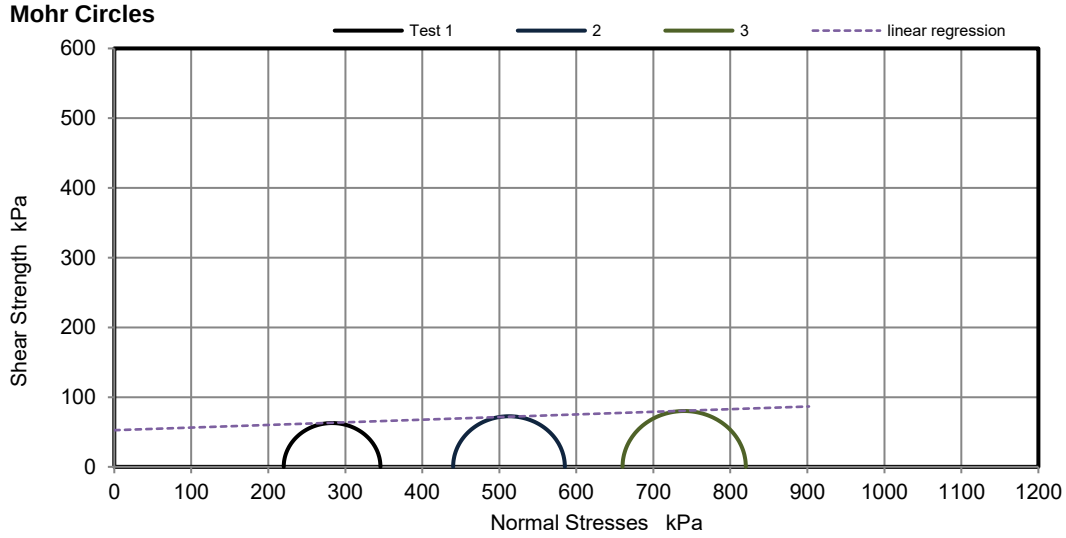
Length	200.89	mm
Diameter	103.52	mm
Bulk Density	2.11	Mg/m3
Moisture Content	19	%
Dry Density	1.77	Mg/m3
Membrane thickness	0.28	mm

Rate of Strain	1.99			%/min
Stage Number	1	2	3	
Cell Pressure	220	440	660	kPa
Axial Strain at failure	8.5	10.5	13.1	%
Deviator Stress, (σ1 - σ3)f	126	145	160	kPa
Shear strength, cu	63	73	80	kPa
Mode of failure	Compound			
Membrane Correction	0.54	0.62	0.74	kPa

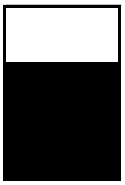
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	2.2	°
cu	53	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 220kPa=107N, 440kPa=211N, 660kPa=313N.
Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

UKAS TESTING
4041

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	11/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

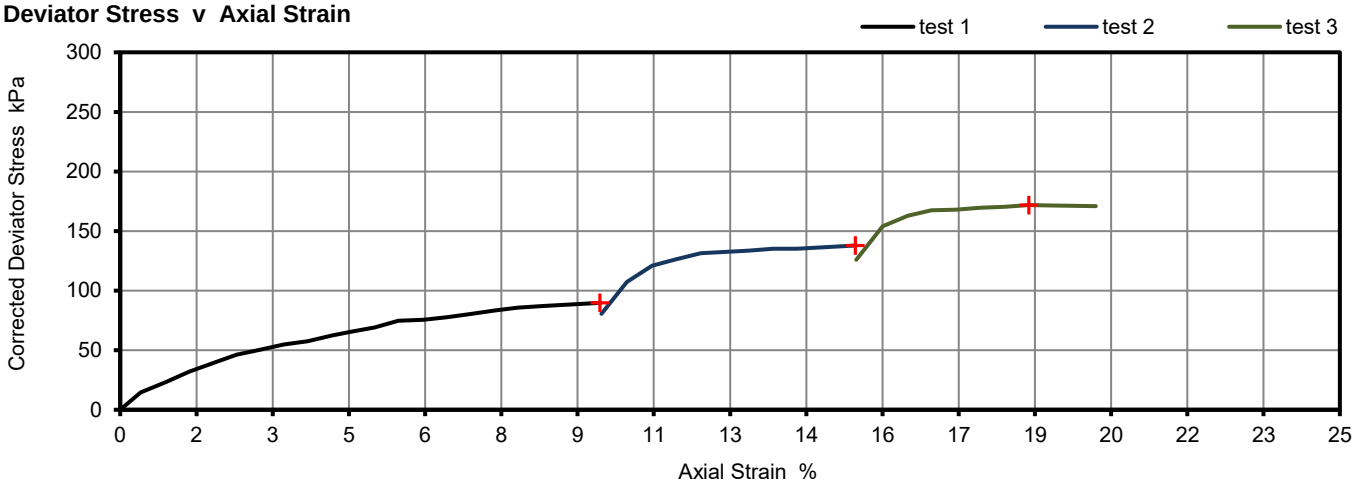
Test Results:

Laboratory Reference:	2185994	Depth Top [m]:	14.00
Hole No.:	BH12	Depth Base [m]:	14.45
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly slightly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

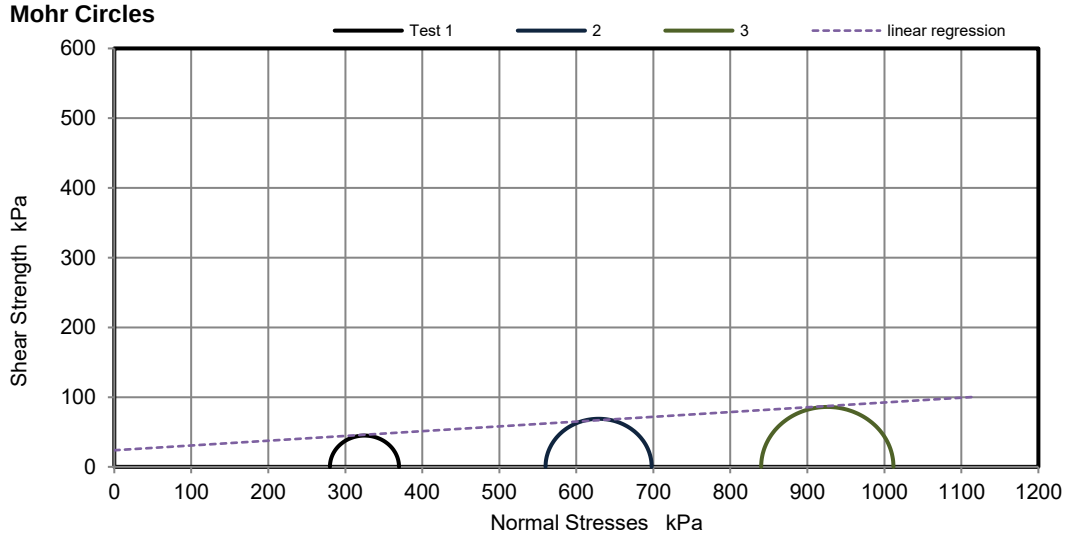
Length	140.91	mm
Diameter	69.99	mm
Bulk Density	2.07	Mg/m3
Moisture Content	20	%
Dry Density	1.72	Mg/m3
Membrane thickness	0.24	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	280	560	840	kPa
Axial Strain at failure	9.8	15.1	18.6	%
Deviator Stress, (σ1 - σ3)f	90	138	172	kPa
Shear strength, cu	45	69	86	kPa
Mode of failure	Compound			
Membrane Correction	0.75	1.04	1.24	kPa

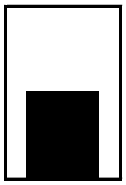
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	3.9	°
cu	24	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 280kPa=144N, 540kPa=294N, 840kPa=419N.
Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

UKAS TESTING
4041

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

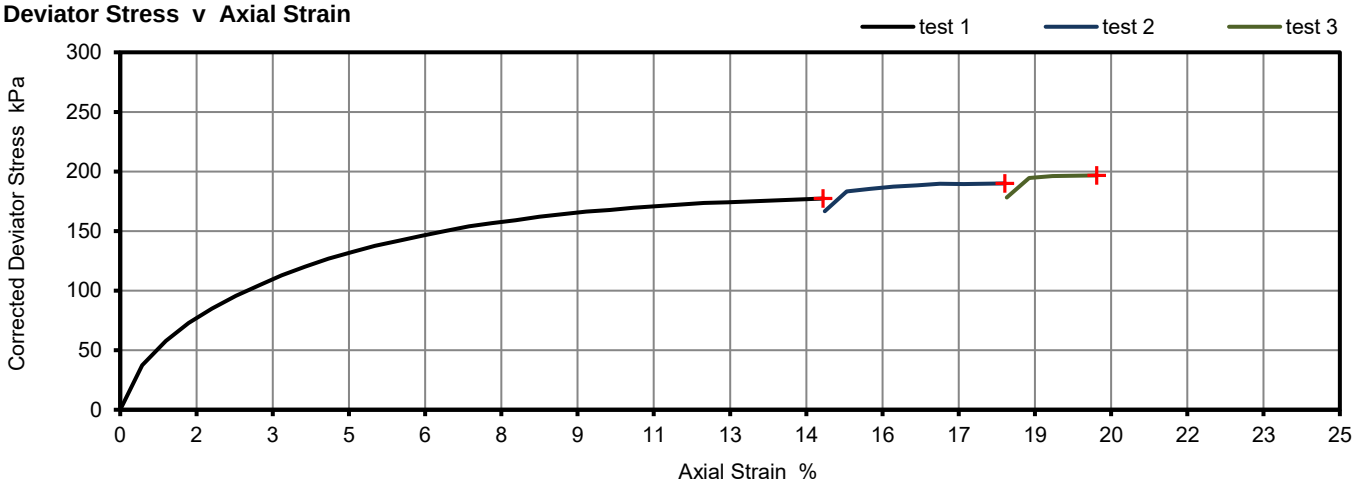
Test Results:

Laboratory Reference:	2186002	Depth Top [m]:	3.00
Hole No.:	BH13	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

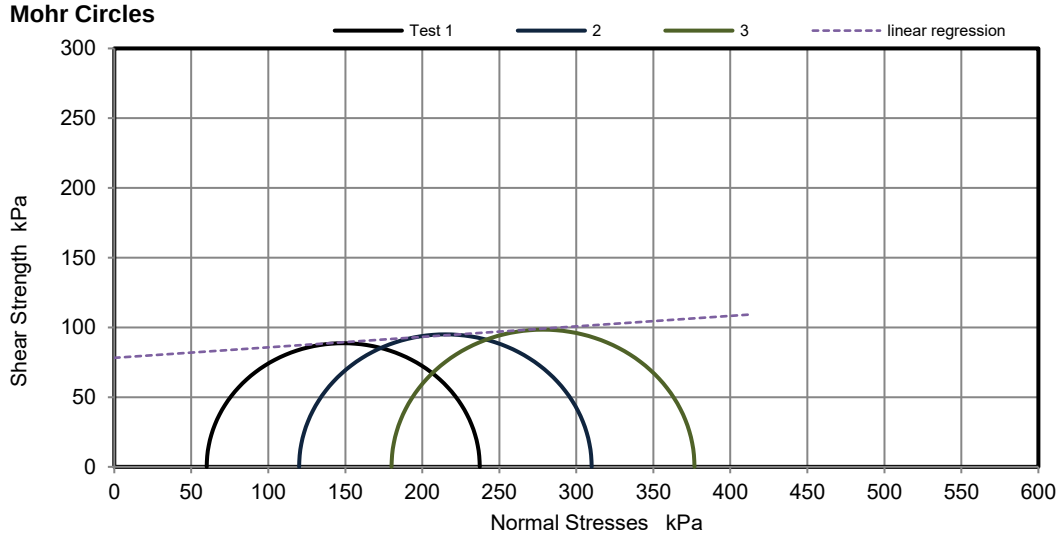
Length	203.71	mm
Diameter	103.39	mm
Bulk Density	2.13	Mg/m3
Moisture Content	21	%
Dry Density	1.76	Mg/m3
Membrane thickness	0.29	mm

Rate of Strain	1.96			%/min
Stage Number	1	2	3	
Cell Pressure	60	120	180	kPa
Axial Strain at failure	14.4	18.1	20.0	%
Deviator Stress, (σ1 - σ3)f	177	190	197	kPa
Shear strength, cu	89	95	98	kPa
Mode of failure	Plastic			
Membrane Correction	0.82	0.99	1.08	kPa

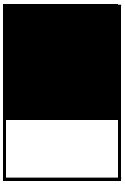
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	4.3	°
cu	78	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 60kPa=33N, 120kPa=54N, 180kPa=98N.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

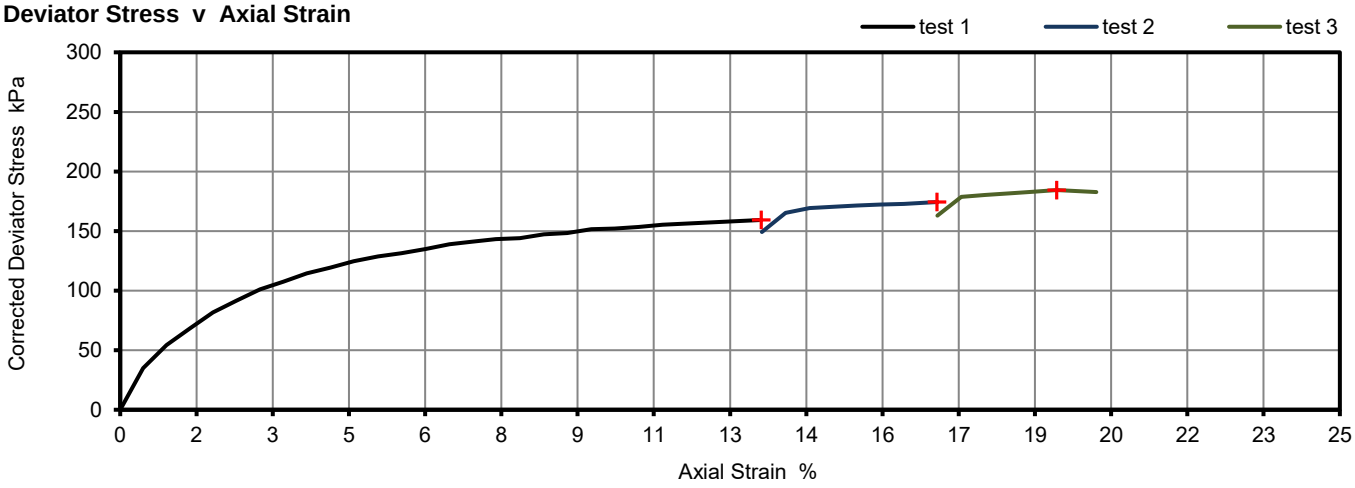
Test Results:

Laboratory Reference:	2186341	Depth Top [m]:	5.00
Hole No.:	BH13	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey slightly gravelly slightly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

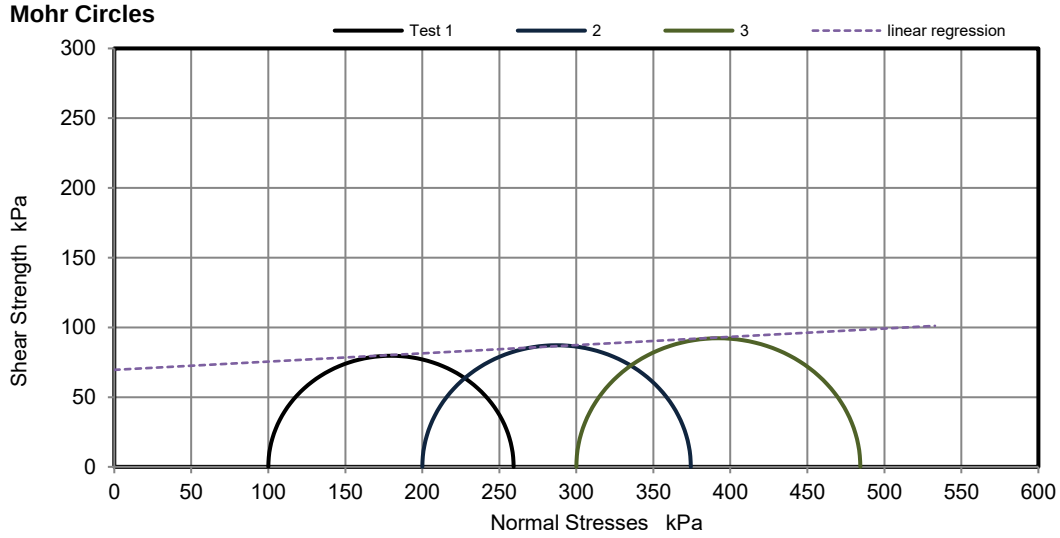
Length	202.92	mm
Diameter	102.63	mm
Bulk Density	2.13	Mg/m3
Moisture Content	18	%
Dry Density	1.80	Mg/m3
Membrane thickness	0.28	mm

Rate of Strain	1.97			%/min
Stage Number	1	2	3	
Cell Pressure	100	200	300	kPa
Axial Strain at failure	13.1	16.7	19.2	%
Deviator Stress, (σ1 - σ3)f	159	174	184	kPa
Shear strength, cu	80	87	92	kPa
Mode of failure	Plastic			
Membrane Correction	0.75	0.91	1.01	kPa

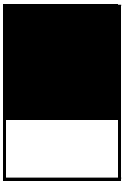
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	3.4	°
cu	70	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 100kPa=57N, 200kPa=100N, 300kPa=144N.
Preliminary report

Signed: Dudzińska Anna

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Tested in Accordance with: BS 1377-7: 1990: Clause 9

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Client:	Delta-Simons	Client Reference:	15-0645.05
Client Address:	3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR	Job Number:	22-42014
		Date Sampled:	17/02/2022
		Date Received:	24/02/2022
Contact:	Harry Whittle	Date Tested:	02/03/2022
Site Address:	Corby EfW	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

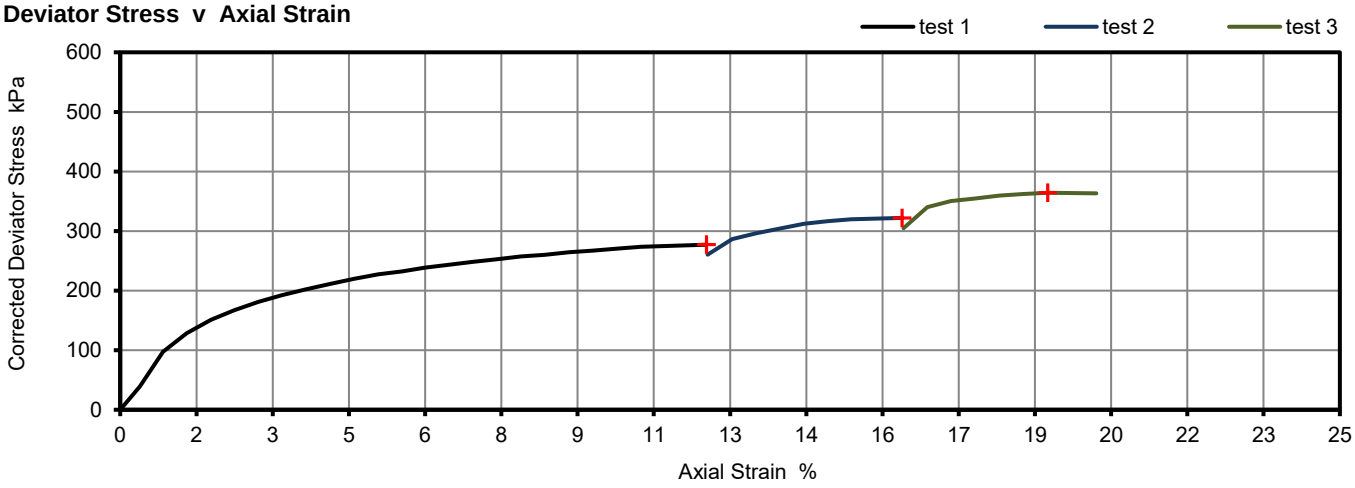
Test Results:

Laboratory Reference:	2186342	Depth Top [m]:	8.00
Hole No.:	BH13	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	U
Sample Description:	Brownish grey gravelly slightly sandy CLAY		
Sample Preparation:	Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.		

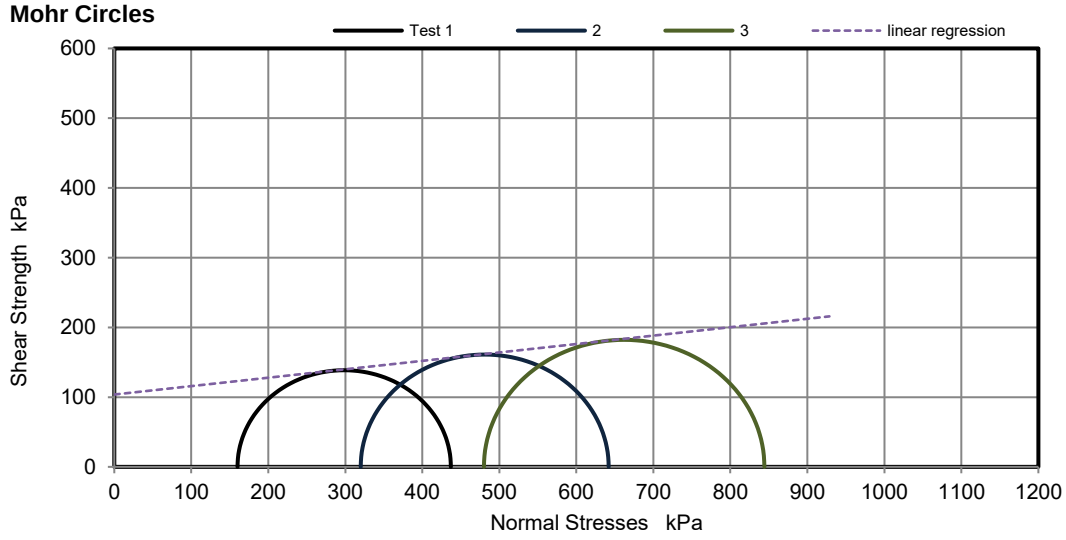
Length	140.95	mm
Diameter	69.61	mm
Bulk Density	2.07	Mg/m3
Moisture Content	17	%
Dry Density	1.77	Mg/m3
Membrane thickness	0.23	mm

Rate of Strain	2.00			%/min
Stage Number	1	2	3	
Cell Pressure	160	320	480	kPa
Axial Strain at failure	12.0	16.0	19.0	%
Deviator Stress, (σ1 - σ3)f	277	322	364	kPa
Shear strength, cu	139	161	182	kPa
Mode of failure	Compound			
Membrane Correction	0.84	1.06	1.22	kPa

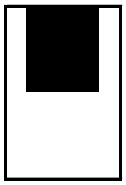
Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Linear Regression

ϕu	6.9	°
cu	104	kPa

Note: Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Remarks: Correction values: 160kPa=87N, 320kPa=160N, 460kPa=233N.
Preliminary report

Signed:

Anna Dudzinska
Deputy Head of Geo Office Section
for and on behalf of i2 Analytical Ltd

Date Reported: 10/03/2022

GF 186.12

Appendix F – Field Monitoring Data/Gas Monitoring Data/Soakaway Testing

Site Name	Corby	Job number	15-0645.05	WEATHER	Start	End
				Time	9:30	1:00
Client	Mytilineos	Recorded by	BK	Pressure (mb)	1002	1001
				Wind speed (m/s)	2.77	3.05
Date (DD/MM/YYYY)	03/03/2022			Wind Dir. (from)	SE	SE
Gas Analyser		Visit Number	1	Temperature (°C)	10.00	12.00
Readings at start	CH_4 (% v/v) <0.1	CO_2 (% v/v) <0.1	O_2 (% v/v) 20.3	H_2S (ppm) <1		Dry/Rain/Snow/Ice	Dry	Dry
General comments						Rising/Falling Trend	Falling	

Ref	GROUND GAS												GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.)
	Flow		CH_4		CO_2		O_2		H_2S	CO	VOC	Pressure	Depth to free product	Depth to water	Depth to base	
	l/hr		% v/v		% v/v		% v/v		ppm							
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max	mb	m	m	m	
BH1	23.5	21.0	3.6	3.6	0.3	0.3	2.6	2.6	<1	<1	<1	1002	NR	14.97	15.24	Bailed dry
BH2	56.00	43.20	<0.1	<0.1	1.60	1.60	4.00	4.00	<1	<1	<1	1002	NR	17.69	18.10	Bailed dry
BH7	19.0	5.0	0.3	0.3	0.1	0.1	<0.1	<0.1	2390	<1	<1	1002	NR	14.99	15.26	Bailed dry
BH10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	19.10	19.10	<1	54.00	<1	1001	NR	0.75	13.81	Groundwater sampled
BH12	<0.1	<0.1	<0.1	<0.1	0.20	0.20	15.80	15.80	<1	<1	<1	1002	NR	13.23	14.38	Bailed dry
BH13	1.3	1.0	<0.1	<0.1	2.9	2.9	2.3	2.3	2860	<1	<1	1001	NR	12.63	15.13	Groundwater sampled. Bailer lost in borehole.

Site Name	Corby	Job number	15-0645.05	WEATHER	Start	End
				Time	9:45	12:00
Client	Mytilineos	Recorded by	BK	Pressure (mb)	1002	1002
				Wind speed (m/s)	6.67	8.61
Date (DD/MM/YYYY)	09/03/2022			Wind Dir. (from)	S	S
Gas Analyser		Visit Number	2	Temperature (°C)	12.00	12.00
Readings at start	CH_4 (% v/v) <0.1	CO_2 (% v/v) <0.1	O_2 (% v/v) 20.4	H_2S (ppm) <1		Dry/Rain/Snow/Ice	Dry	Dry
General comments						Rising/Falling Trend	Falling	

Ref	GROUND GAS												GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.)
	Flow		CH_4		CO_2		O_2		H_2S	CO	VOC	Pressure	Depth to free product	Depth to water	Depth to base	
	l/hr		% v/v		% v/v		% v/v		ppm							
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max	mb	m	m	m	
BH1	9.0	8.2	4.0	4.0	0.9	0.9	0.3	0.3	<1	<1	<1	1002	NR	Dry	15.10	
BH2	46.5	34.5	<0.1	<0.1	1.9	1.9	1.6	1.6	<1	<1	<1	1002	NR	17.87	18.10	
BH7	8.5	<0.1	1.5	1.5	0.1	0.1	<0.1	<0.1	3440	<1	<1	1001	NR	15.02	15.10	
BH10	<0.1	<0.1	<0.1	<0.1	0.7	0.7	16.6	16.6	<1	<1	<1	1001	NR	5.72	13.21	
BH12	<0.1	<0.1	<0.1	<0.1	0.5	0.5	7.8	7.8	<1	<1	<1	1002	NR	13.95	14.28	
BH13	3.1	3.0	<0.1	<0.1	2.4	2.4	7.3	7.3	1800	<1	<1	1002	NR	13.04	13.99	

Site Name	Corby (old)	Job number	15-0645.05	WEATHER	Start	End
				Time	9:00	2:30 pm
Client		Recorded by	BK	Pressure (mb)	988	1000
				Wind speed (m/s)	4.55	4.53
Date (DD/MM/YYYY)	23/02/2022			Wind Dir. (from)	SW	SW
Gas Analyser		Visit Number	1	Temperature (°C)	9.00	10.00
Readings at start	CH_4 (% v/v) <0.1	CO_2 (% v/v) <0.1	O_2 (% v/v) 20.5	H_2S (ppm) <1		Dry/Rain/Snow/Ice	Dry	Dry
General comments						Rising/Falling Trend	Rising	

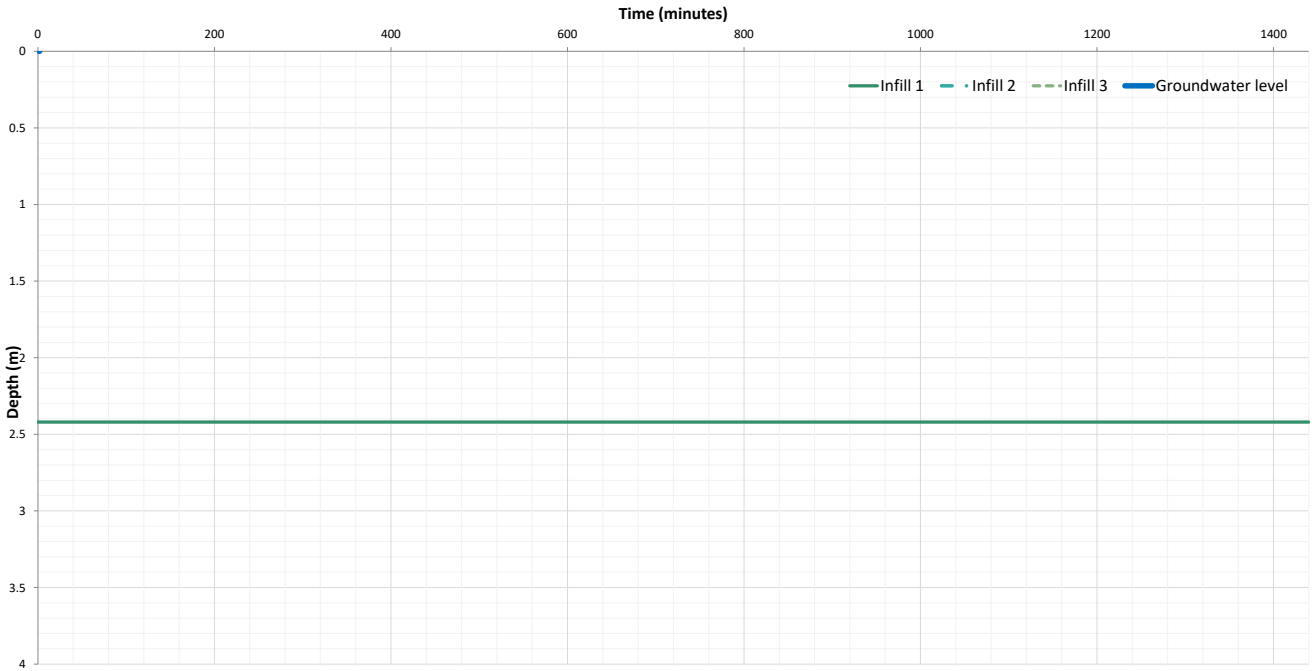
Ref	GROUND GAS												GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.)
	Flow		CH_4		CO_2		O_2		H_2S	CO	VOC	Pressure	Depth to free product	Depth to water	Depth to base	
	l/hr		% v/v		% v/v		% v/v		ppm							
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max	mb	m	m	m	
BH103	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	15.0	15.0	<1	<1		988	NR	17.60	28.50	
DS104	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		998	NR	0.20	2.46	Well Flooded
BH106	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.0	20.0	<1	<1		993	NR	16.93	17.79	
DS107	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		993	NR	0.22	3.02	Well Flooded
DS107a	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		994	NR	0.00	3.03	Well Flooded
DS109	5.2	<0.1	<0.1	<0.1	0.4	0.4	11.0	11.0	<1	<1		992	NR	0.97	3.00	
DS113	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	19.8	1.8	<1	<1		992	NR	0.90	3.00	
DS116	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		988	NR	0.00	3.00	Well Flooded
DS117	14.0	<0.1	<0.1	<0.1	0.5	0.5	13.0	13.0	<1	<1		990	NR	0.62	2.94	
DS118	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR		992	NR	0.00	2.97	Well Flooded

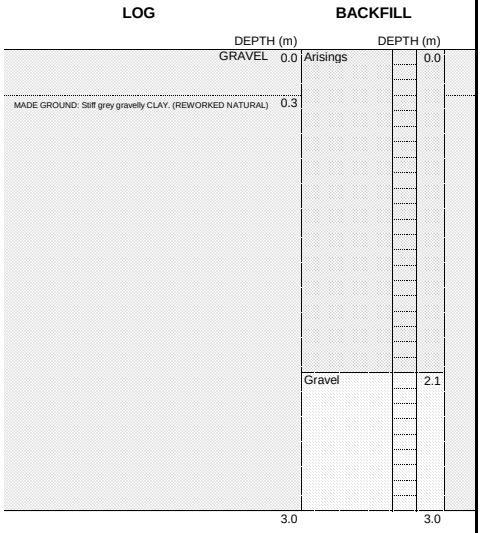
deltasimons

	units	Infill 1	Infill 2	Infill 3
Length	m		2.40	
Width	m		0.60	
Depth	m		3.00	
Gravel type			20mm single size	
Voids ratio			0.40	
Resting groundwater level at time of testing	m		Dry	
Depth of first reading	m	2.42	0.00	0.00
Depth of final reading	m	2.42	0.00	0.00
Did soakage test reach 25% of maximum fill depth?		No	No	No
Depth at 75% full/effective depth	m	2.42	0.00	0.00
Depth at 25% full/effective depth	m	2.42	0.00	0.00
Time at 75% full/effective depth	mins	#DIV/0!	#N/A	#N/A
Time at 25% full/effective depth	mins	#DIV/0!	#N/A	#N/A
Vp75 - 25 (volume outflowing between 75% and 25% full/effective depth)	m3	0.00	0.00	0.00
Mean surface area for outflow (50% full/effective depth)	m2	1.44	1.44	1.44
tp75 (time for the water level to fall from 75% to 25% full/effective depth)	mins	#DIV/0!	#N/A	#N/A
Soil infiltration rate, f =	m/s	#DIV/0!	#N/A	#N/A
or	m/s	#DIV/0!	#N/A	#N/A

Recommended soil infiltration rate	
#DIV/0!	m/s

Note:
Where water level did not fall below the 25% of the maximum fill level, soil infiltration rate is based on effective drainage achieved only.





deltasimons

TITLE: Soakaway Test Results
Corby
Mytilineous

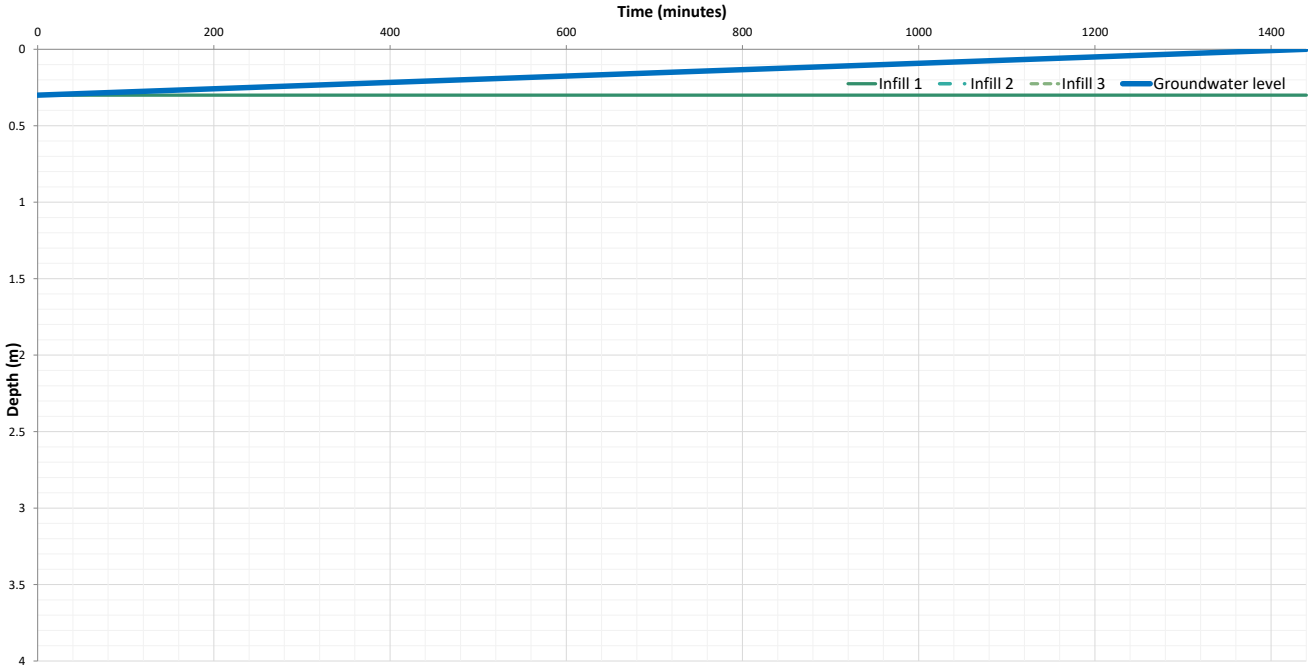
In accordance with BRE Digest 365 (2016)

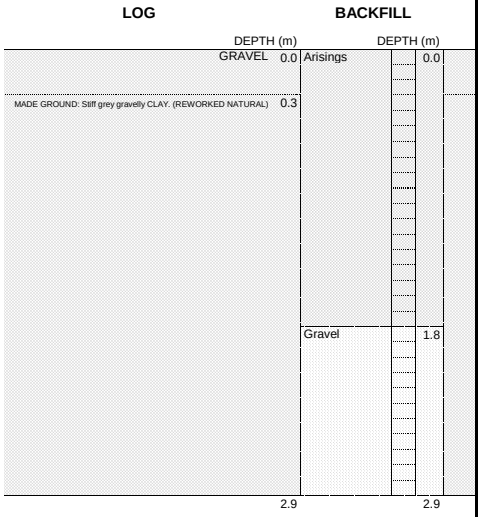
DRAWN BY: CB	SCALE: Not to Scale	PROJECT NUMBER: 15-0645.05	
CHECKED BY: SS	REVISION: 1	SOAKAWAY NUMBER: TR-1	
DATE: 04/02/2022			

	units	Infill 1	Infill 2	Infill 3
Length	m		2.40	
Width	m		0.60	
Depth	m		2.90	
Gravel type			20mm single size	
Voids ratio			0.40	
Resting groundwater level at time of testing	m		0.30	
Depth of first reading	m	0.30	0.00	0.00
Depth of final reading	m	0.30	0.00	0.00
Did soakage test reach 25% of maximum fill depth?		No	No	No
Depth at 75% full/effective depth	m	0.30	0.00	0.00
Depth at 25% full/effective depth	m	0.30	0.00	0.00
Time at 75% full/effective depth	mins	#DIV/0!	#N/A	#N/A
Time at 25% full/effective depth	mins	#DIV/0!	#N/A	#N/A
Vp75 - 25 (volume outflowing between 75% and 25% full/effective depth)	m3	0.00	0.00	0.00
Mean surface area for outflow (50% full/effective depth)	m2	1.44	1.44	1.44
tp75 (time for the water level to fall from 75% to 25% full/effective depth)	mins	#DIV/0!	#N/A	#N/A
Soil infiltration rate, f =	m/s	#DIV/0!	#N/A	#N/A
or	m/s	#DIV/0!	#N/A	#N/A

Recommended soil infiltration rate	
#DIV/0!	m/s

Note:
Where water level did not fall below the 25% of the maximum fill level, soil infiltration rate is based on effective drainage achieved only.





deltasimons

TITLE: Soakaway Test Results
Corby
Mytilineous

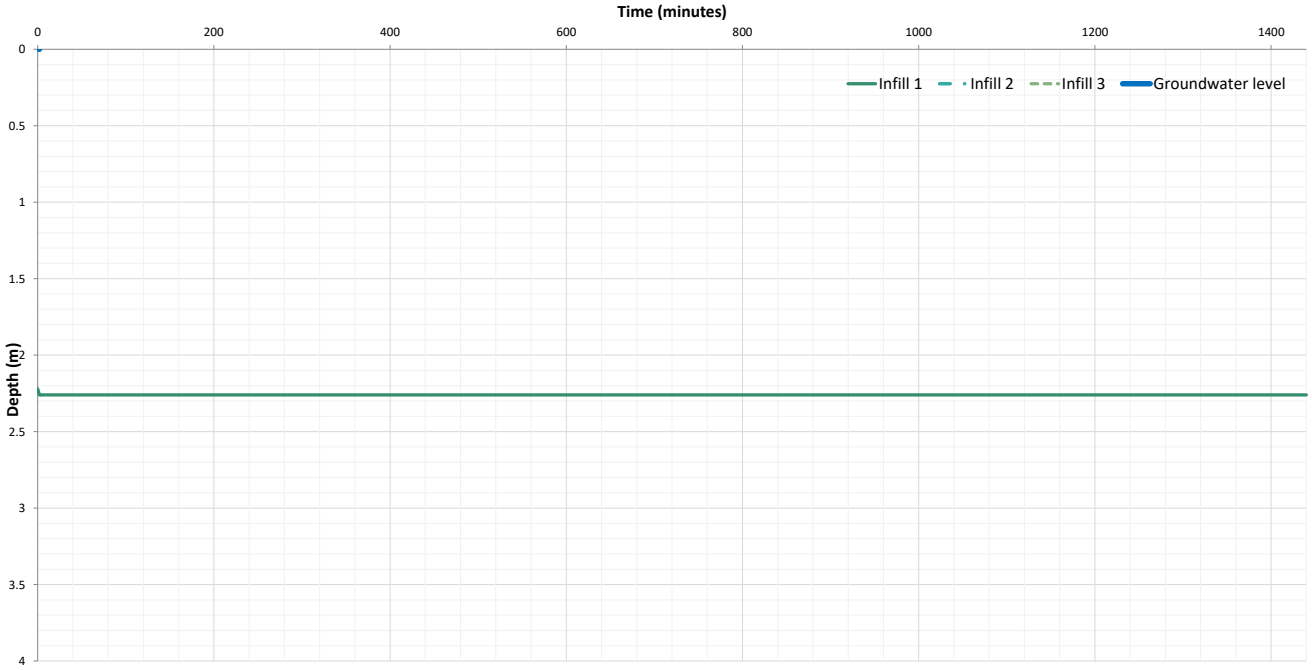
In accordance with BRE Digest 365 (2016)

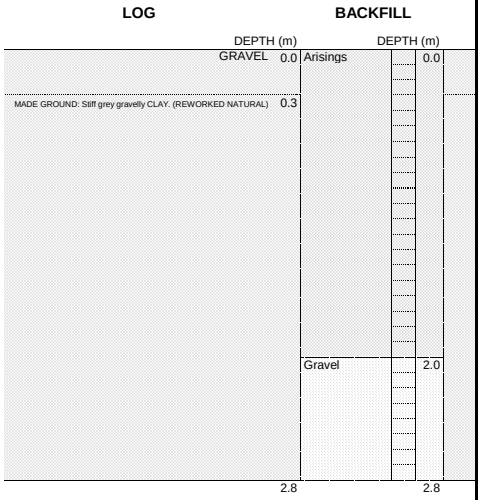
DRAWN BY: CB	SCALE: Not to Scale	PROJECT NUMBER: 15-0645.05
CHECKED BY: SS	REVISION: 1	SOAKAWAY NUMBER: TR-2
DATE: 04/02/2022		

	units	Infill 1	Infill 2	Infill 3
Length	m		2.60	
Width	m		0.60	
Depth	m		2.80	
Gravel type			20mm single size	
Voids ratio			0.40	
Resting groundwater level at time of testing	m		Dry	
Depth of first reading	m	2.22	0.00	0.00
Depth of final reading	m	2.26	0.00	0.00
Did soakage test reach 25% of maximum fill depth?		No	No	No
Depth at 75% full/effective depth	m	2.23	0.00	0.00
Depth at 25% full/effective depth	m	2.25	0.00	0.00
Time at 75% full/effective depth	mins	0.50	#N/A	#N/A
Time at 25% full/effective depth	mins	1.50	#N/A	#N/A
Vp75 - 25 (volume outflowing between 75% and 25% full/effective depth)	m3	0.01	0.00	0.00
Mean surface area for outflow (50% full/effective depth)	m2	1.69	1.56	1.56
tp75 (time for the water level to fall from 75% to 25% full/effective depth)	mins	1.00	#N/A	#N/A
Soil infiltration rate, f =	m/s	0.00012322	#N/A	#N/A
or	m/s	1.2E-04	#N/A	#N/A

Recommended soil infiltration rate	
#N/A	m/s

Note:
Where water level did not fall below the 25% of the maximum fill level, soil infiltration rate is based on effective drainage achieved only.





deltasimons

TITLE: Soakaway Test Results
Corby
Mytilineous

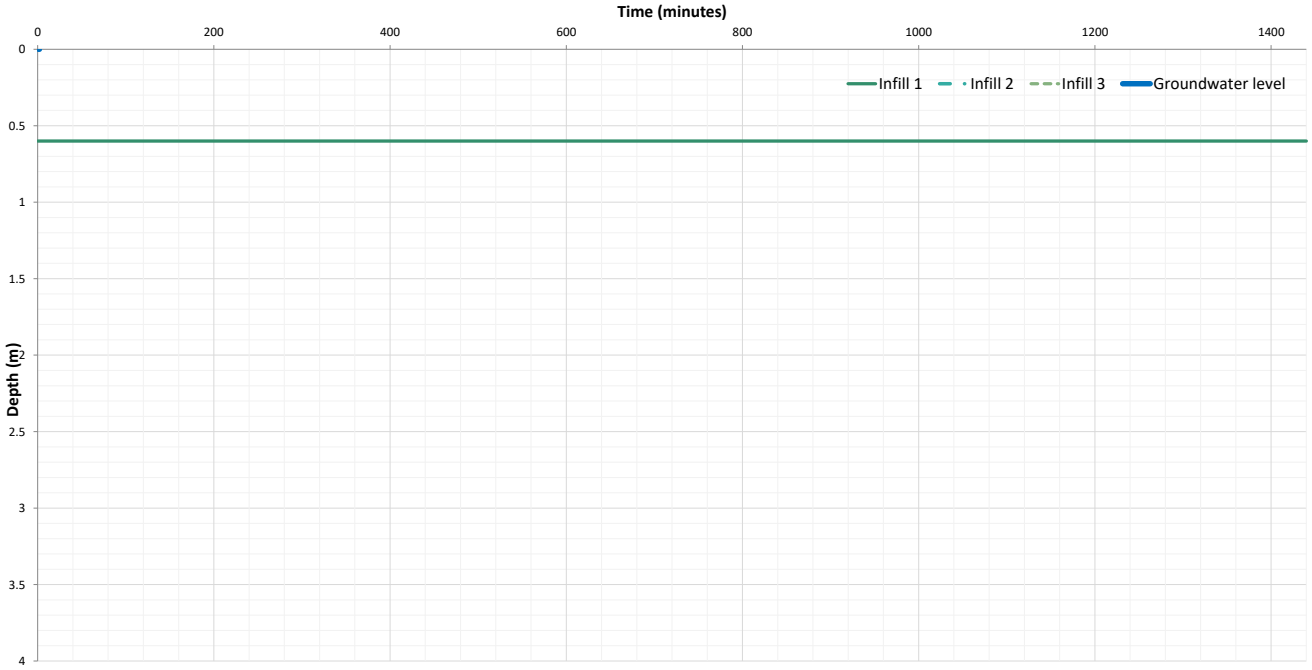
In accordance with BRE Digest 365 (2016)

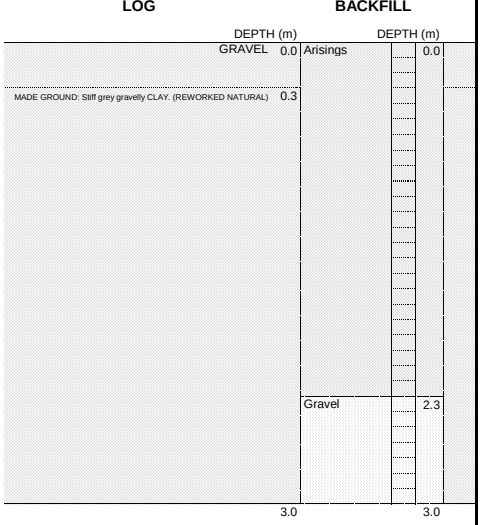
DRAWN BY: CB	SCALE: Not to Scale	PROJECT NUMBER: 15-0645.05
CHECKED BY: SS	REVISION: 1	SOAKAWAY NUMBER: TR-3
DATE: 04/02/2022		

	units	Infill 1	Infill 2	Infill 3
Length	m		2.40	
Width	m		0.60	
Depth	m		3.00	
Gravel type			20mm single size	
Voids ratio			0.40	
Resting groundwater level at time of testing	m		Dry	
Depth of first reading	m	0.60	0.00	0.00
Depth of final reading	m	0.60	0.00	0.00
Did soakage test reach 25% of maximum fill depth?		No	No	No
Depth at 75% full/effective depth	m	0.60	0.00	0.00
Depth at 25% full/effective depth	m	0.60	0.00	0.00
Time at 75% full/effective depth	mins	#DIV/0!	#N/A	#N/A
Time at 25% full/effective depth	mins	#DIV/0!	#N/A	#N/A
Vp75 - 25 (volume outflowing between 75% and 25% full/effective depth)	m3	0.00	0.00	0.00
Mean surface area for outflow (50% full/effective depth)	m2	1.44	1.44	1.44
tp75 (time for the water level to fall from 75% to 25% full/effective depth)	mins	#DIV/0!	#N/A	#N/A
Soil infiltration rate, f =	m/s	#DIV/0!	#N/A	#N/A
or	m/s	#DIV/0!	#N/A	#N/A

Recommended soil infiltration rate	
#DIV/0!	m/s

Note:
Where water level did not fall below the 25% of the maximum fill level, soil infiltration rate is based on effective drainage achieved only.





deltasimons

TITLE: Soakaway Test Results
Corby
Mytilineous

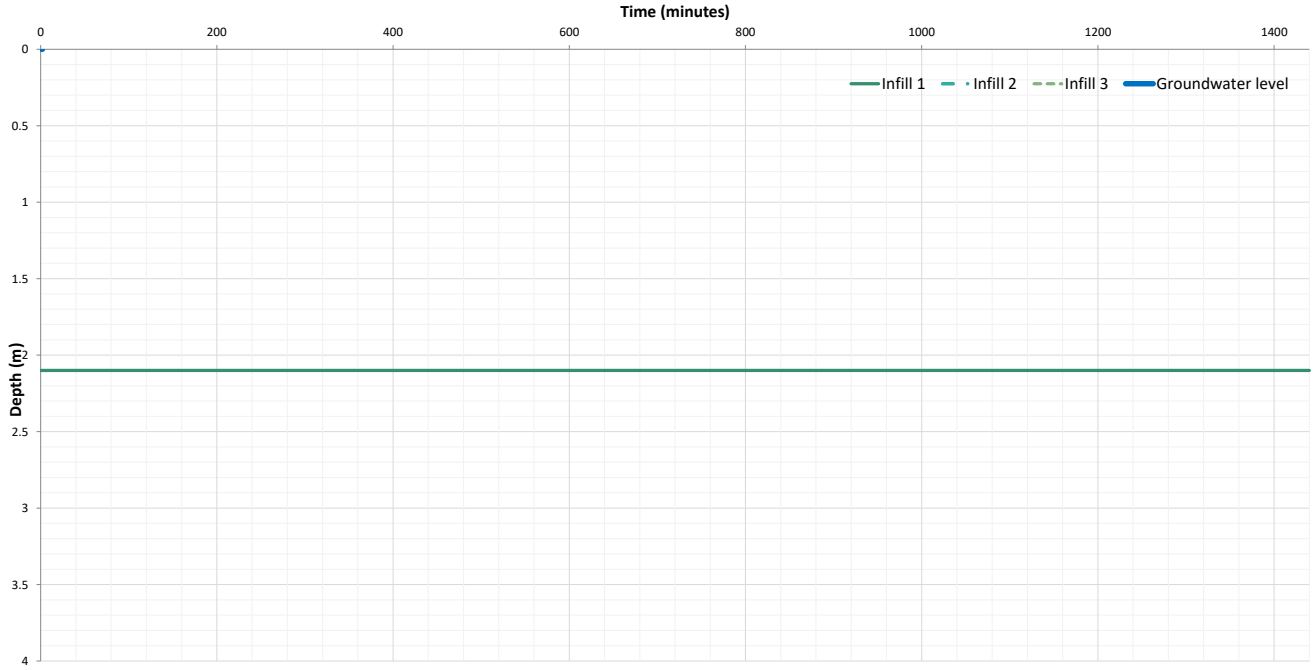
In accordance with BRE Digest 365 (2016)

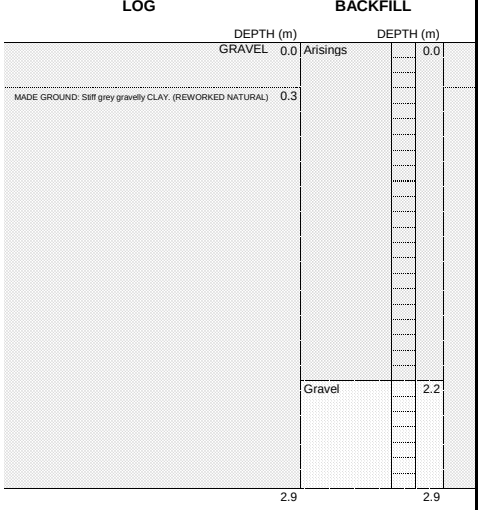
DRAWN BY: CB	SCALE: Not to Scale	PROJECT NUMBER: 15-0645.05
CHECKED BY: SS	REVISION: 1	SOAKAWAY NUMBER: TR-4
DATE: 04/02/2022		

	units	Infill 1	Infill 2	Infill 3
Length	m		2.00	
Width	m		0.60	
Depth	m		2.90	
Gravel type			20mm single size	
Voids ratio			0.40	
Resting groundwater level at time of testing	m		Dry	
Depth of first reading	m	2.10	0.00	0.00
Depth of final reading	m	2.10	0.00	0.00
Did soakage test reach 25% of maximum fill depth?		No	No	No
Depth at 75% full/effective depth	m	2.10	0.00	0.00
Depth at 25% full/effective depth	m	2.10	0.00	0.00
Time at 75% full/effective depth	mins	#DIV/0!	#N/A	#N/A
Time at 25% full/effective depth	mins	#DIV/0!	#N/A	#N/A
Vp75 - 25 (volume outflowing between 75% and 25% full/effective depth)	m3	0.00	0.00	0.00
Mean surface area for outflow (50% full/effective depth)	m2	1.20	1.20	1.20
tp75 (time for the water level to fall from 75% to 25% full/effective depth)	mins	#DIV/0!	#N/A	#N/A
Soil infiltration rate, f =	m/s	#DIV/0!	#N/A	#N/A
or	m/s	#DIV/0!	#N/A	#N/A

Recommended soil infiltration rate	
#DIV/0!	m/s

Note:
Where water level did not fall below the 25% of the maximum fill level, soil infiltration rate is based on effective drainage achieved only.





deltasimons

TITLE: Soakaway Test Results
Corby
Mytilineous

In accordance with BRE Digest 365 (2016)

DRAWN BY: CB	SCALE: Not to Scale	PROJECT NUMBER: 15-0645.05
CHECKED BY: SS	REVISION: 1	SOAKAWAY NUMBER: TR-5
DATE: 04/02/2022		

Appendix G – Risk Definitions

Contaminated Land Risk Definitions

The following methodology is based on the methodology presented in CIRIA C552 Contaminated Land Risk Assessment: A Guide to Good Practice 2001. It requires the classification of the:

- Magnitude of the potential consequence (severity) of the Risk occurring: and
- Magnitude of the Probability (likelihood) of the Risk occurring.

The classifications are then compared to indicate the risk presented by each pollutant linkage.

Consequence to Receptor Definition Matrix

	Human Health	Controlled Waters	Buildings/Services
Severe Consequence	Acute or chronic permanent impact on human health.	Sensitive controlled water pollution ongoing, or just about to occur.	Catastrophic collapse
Medium Consequence	Chronic permanent impact on human health	Gradual pollution of sensitive controlled water	Degradation of materials
Mild Consequence	Chronic temporary impact on human health	Gradual pollution of non-sensitive controlled water	Damage to building rendering it unsafe.to occupy (eg foundation damage resulting in instability).
Minor Consequence	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc).	Slight discoloration of water	Easily repairable effects of damage to buildings, structures and services, i.e discoloration of concrete

Probability Definitions

Probability	Definition in Context
Higher	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution. Positive evidence of source, pathway and receptor.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term. Suspect source, pathway, and receptor
Low Likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term No evidence of hazard, pathway, and receptor

Standard Risk Matrix

		Consequence/Magnitude of impact			
		Severe	Medium	Mild	Minor
Probability	**High**	Very High	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/low	Low
	Low Likelihood	Moderate	Moderate/low	Low	Very Low
	Unlikely	Moderate/low	Low	Very Low	Very Low

Classified risks and likely action

Significance Level	Definition/Comments
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required. Demonstrable contaminated land situation, highest threat & liability level, urgent action recommended.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term. Likely contaminated land situation, risk assessment and action recommended.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, if is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term. Plausible contaminated land situation, risk assessment and possible action recommended.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild. Unlikely contaminated land situation, possible risk assessment and possible action.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe. Negligible risk, no action recommended except vigilance for changes in conditions.

Geotechnical Risk Classification

The geohazards listed in the report within Section 4 follow guidance presented in Clayton, C.R.I. (2001) *Managing Geotechnical Risk*, Thomas Telford and the Highways Agency document CD622 '*Managing Geotechnical Risk*' (2008) which aims to identify and manage the geotechnical risks associated with a scheme throughout its lifespan, from planning to construction to maintenance.

For each geohazard the probability of the hazard occurring (P) has been considered together with the impact it would have (I) if it were to happen to calculate the risk rating between 1 and 25.

Risks that fall within Moderate, Significant and Severe categories below are considered to be ***substantial*** and are therefore listed within the report.

Probability	**(P)**
Very Likely (VLk)	5
Likely (Lk)	4
Plausible (P)	3
Unlikely (U)	2
Very Unlikely (VU)	1

X

Impact	**(I)**
Very High (VH)	5
High (H)	4
Medium (M)	3
Low (L)	2
Very Low (VL)	1

=

(R)	**Risk**
20 – 25	Severe
15 – 19	Substantial
10 – 14	Moderate
5 – 9	Minor
1 – 4	Negligible