

Attachment 6



Report on:

**STAGE 1 GEOTECHNICAL STUDY
PROPOSED DATA CENTRE & SUBSTATION
NO. 178 & 196 BUSHMEAD ROAD
HAZELMERE**

WAG221202-02 002 R Rev0

Submitted to:

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24 February 2026

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Figure 1: Site and Location Plan

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Standard Geotechnical Definitions, Recommendations, Requirements and Limitations

1. INTRODUCTION

This report presents the outcomes of Galt Geotechnics' (Galt's) geotechnical study for the proposed data centre and substation at 178 & 196 Bushmead Road, Hazelmere ("the site").

This report is to be read in conjunction with the appended "Geotechnical Definitions, Recommendations, Requirements and Limitations", 'Clause GDR1', etc.

This report will be updated following completion of the borehole drilling and core logging.

2. KEY FINDINGS

The site is underlain by the following stratigraphy (to be confirmed following completion of drilling):

Depth (m)	Description
0.0 – 0.5	FILL SAND and SAND (layer not present across the whole site)
0.5 – 5.5	Sandy CLAY and Clayey SAND, very stiff – hard, high plasticity
5.5 – 13.5	Sandy CLAY / CLAY, very stiff, low plasticity
13.5 – 18.0	SAND, medium dense to loose (layer not present across the site)
18.0 - 30.5	SAND, very dense

Seasonal shallow groundwater and surface water occurs during winter, particularly in the lower-lying parts. This water is likely to be perched on the Clayey SAND layer.

The site is currently classified as **Class M** in accordance with AS2870-2011. This is based on the presence of at least 0.5 m of sand overlying the high plasticity clay. Where there is at least 1.0 m of sand over the clay, a site classification of **Class S** applies.

Due to the high column and slab loads and the low settlement tolerances, we recommend that the main buildings are piled. Geotechnical design parameters are given for continuous flight auger (CFA) and bored piles. However, other pile types may be considered.

The piles and structures should be designed to withstand possible heave movements of up to 20 mm with seasonal moisture changes in the underlying clay.

Allowable bearing pressures and estimated settlements are given for shallow footings for lightly loaded / settlement tolerant structures.

3. SITE DESCRIPTION

Table 1: Summary of Site

Item	Comment
Site Extent	Refer Figure 1
Current Site Surface Elevation ¹	Most of the site is near level at about RL 12.2 m AHD. To the southeast, the surface is about RL 13.0 m AHD and to the northeast, the surface is about RL 13.7 m AHD. There is a small pond near the middle of 196 Bushmead Road with the floor elevation of about RL 11.1 m AHD.
Vegetation	Trees, shrub, grass
Current Land Use	Vacant.
Existing Infrastructure	Farm shed present, two pond areas, possibly buried services
Site History ²	196 Bushmead Road: Pre-1953 to 1989: Property undeveloped. Wetland present across the central portion of the lot. 1989 and 1995: Apparent filling of the wetland commences and two buildings constructed (northern portion of the property). 1995-2005: Filling of the wetland continues with further establishment a rural homestead across the northern portion of the property. A cleared and filled area present along the western boundary of the property in the early 2000s, with a shed/stable constructed between 2005 and 2006. 2005-present: The property has remained relatively unchanged since, with the exception of seasonal inundation of the wetland area. 178 Bushmead Road Pre-1953 to 1965: Property undeveloped 1965-1985: House and sheds constructed 1985-Present: Unchanged

- NOTES:**
1. Site elevation based on provided feature survey plan.
 2. Site history based on aerial imagery (Landgate).

4. PROPOSED DEVELOPMENT

Table 2: Summary of Proposed Development

Item	Comment
Proposed Development	Four-storey data centre (2 buildings) with associated offices and parking on 196 Bushmead Road. A substation is proposed on 178 Bushmead Road.
Basements Proposed	No
Proposed Finished Elevation	RL 13.5 m AHD (about 1.6 m fill required below southern building and 1.0 m of fill below the northern building)
Assumed Retaining Walls	Minimal, or as required to facilitate elevation differences
Assumed Stormwater Disposal	Note: Shallow clay and shallow groundwater preclude use of soakwells and drainage basins. Stormwater will need to be retained and directed off-site.

- NOTES:**
1. FFL – finished floor level
 2. Proposed development details based on supplied information presented in Appendix A.

5. PROJECT OBJECTIVES

The specified objectives of the study were to:

- ✦ Describe any known site history, e.g. old fill areas etc.
- ✦ Provide a brief description of geology of the area.
- ✦ Provide details of the methods of investigation and extent of laboratory testing.
- ✦ Provide a site classification in accordance with AS2870-2011.
- ✦ Provide and earthquake site class in accordance with AS1170.4
- ✦ Provide design parameters for various foundation systems.
- ✦ Provide depth to rock
- ✦ Provide geotechnical pile design parameters in accordance with AS2159-2009
- ✦ Provide bearing capacity and Young's Modulus for the design of slabs on grade.
- ✦ Advise on the suitability of excavated materials to be used as structural fill.
- ✦ Advise on groundwater issues both during and after construction.
- ✦ Advise on soil aggressivity.
- ✦ Provide hydraulic conductivity of near-surface soils.
- ✦ Provide retaining / shoring wall design parameters.
- ✦ Provide design subgrade CBR for pavement thickness design.
- ✦ Comment on the reactivity of soil and the suitability for slabs on ground and provide advice on any treatment or stabilisation required.
- ✦ Advise on support and detailing of inground services.
- ✦ Advise on earthworks required to building and pavement platform
- ✦ Comment on rippability of any rock and advise on the size of suitable excavation equipment.
- ✦ Advise on excavation conditions and trafficability of natural material during construction.
- ✦ Advise on any permanent or temporary batter slopes in excavated material.

6. FIELDWORK

6.1. General

The fieldwork was carried out as follows:

Due Diligence Geotechnical Study: March and June 2022

Current Study: February 2026

Table 3: Summary of Fieldwork

Type	Results Appendix	Summary	GDR Clause	Equipment Used	No. Tests	Depth (m)
Site Plan	Figure 1	-	-	Hand held GPS ¹	-	-
Photographs	B	-	-	-	-	-
Cone Penetration Tests (with pore water pressure measurements)(CPTus)	C	Section 9	GDR3.2	20-tonne truck	20	
Machine Auger Boreholes (BH)	D	Section 9	GDR3.3	EVH Scout and Melville on utility	26	1.5 – 6.0
Diamond Core Boreholes (CBH)	D			Hanjin 8D	4	31.5
Infiltration Tests (I)	E	Section 6.2	GDR3.7	Inverse auger hole and Guelph Permeameter	5	0.1 - 1.0

NOTES: 1. Hand held GPS is accurate to ± 5 m.

Data from the Due Diligence Study (refer Galt report J2201071 004 R Rev2 dated 8 June 2022) has been included in this report.

6.2. Infiltration Test Results

Table 4: Infiltration Test Results

Test Location	Soil Description	Depth (m)	Minimum Unsaturated Hydraulic Conductivity, k_{unsat} (m/day)
IT01	Clayey SAND	1.0	0.5
IT02		0.4	6.2
G01		0.3	0.6
G02		0.3	1.4
G03		0.1	0.7
G04		0.3	~0.0

NOTES: 1. Infiltration test method using inverse auger hole method is explained in GDR3.7

Infiltration test method using inverse auger hole method is explained in GDR3.8

7. LABORATORY TESTING

Table 5: Summary of Laboratory Testing Undertaken

Test Type	No. of Samples	Summary
Particle size distribution (PSD)	6	Refer Attached Table 1
Atterberg Limits and Linear Shrinkage	6	
Modified maximum dry density (MMDD)	3	
California bearing ratio (CBR)	3	
Soil Aggressivity	2	Refer Attached Table 2

8. SITE CONDITIONS

8.1. Geology

Table 6: Summary of Geology Mapping

Map Sheet	Map Scale	Mapped Soils	Site Findings
Perth	50,000	Pebbly Silt of the Guildford Formation. described as <i>strong, brown silt with common, fine to occasionally coarse grained, sub-rounded laterite quartz, heavily weathered granite pebble, some fine to medium grained quartz sand.</i>	FILL: SAND (SP)/SAND; over clayey SAND and sandy CLAY.

196 Bushmead Road has been earthworked in the past, mainly the filling of a relatively large low-lying area in the middle of the site and the creation of various ponds.

8.2. Groundwater

Table 7: Summary of Groundwater Levels

Item	Date	Depth (m)	Elevation (m AHD)	Comment
Perth Groundwater Atlas	2003	7-9	5.0 to 6.5	The 2004 groundwater atlas shows the seasonal <u>minimum</u> groundwater elevations
Site observations	2026	-	-	-

We note that the site lies within a registered “sumpland” (No. 9131) and “palusplain” (15266). These are defined as a “seasonally inundated Basin” and a “Seasonally waterlogged flat.”

Seasonal shallow groundwater and surface water is anticipated during winter, particularly in the lower-lying parts. The historical aerial photographs also show surface water (e.g. 1981, 2006, 2011, 2012, 2016, 2018).

9. GROUND MODEL

The site is underlain by the following stratigraphy (to be confirmed following completion of drilling):

Table 8: Geotechnical Model

Unit	Typical Depth (m)	Description
A	0 – 0.5	FILL SAND and SAND (layer not present across the whole site)
B	0.5 – 5.5	Sandy CLAY and Clayey SAND, very stiff – hard, high plasticity
C	5.5 – 13.5	Sandy CLAY / CLAY, very stiff, low plasticity
D	13.5 – 18.0	SAND, medium dense to loose (layer not present across the site)
E	18.0 – 30.5	SAND, very dense

NOTES: 1. These units are a generalisation of results from individual tests, which should be referred to for more information.

The geotechnical design parameters are presented in Table 9.

Table 9: Geotechnical Design Parameters

Unit	Material Type	γ_{bulk} (kN/m ³)	ϕ' (°)	c' (kPa)	s_u (kPa)	E_v (MPa)	ν	k_0	Wall Friction=0		Wall Friction=0.5 ϕ	
									k_a	k_p	k_a	k_p
F	Compacted Imported SAND FILL	18	35	-	-	50	0.2	0.38	0.27	3.7	0.24	6.1
A	Clayey SAND/SAND, Loose	17	32	-	-	20	0.2	0.42	0.31	3.3	0.27	5.0
B	Clayey SAND/Sandy CLAY Very Stiff-Hard	Earth pressure coefficients can be calculated for undrained or drained conditions as outlined in GDR11.2.2 for Fines Content >35% & PI >40%.										
C	Sandy CLAY / CLAY Very Stiff											
D	SAND Medium Dense – Loose	17	33	-	-	30	0.2	0.40	0.29	3.4	0.26	5.3
E	SAND Very Dense	18	38	-	-	80	0.2	0.34	0.24	4.2	0.21	7.6

NOTES: 1. These units are a generalisation of results from individual tests, which should be referred to for more information.
 2. Layer F (Imported Fill) is currently not present on the site
 3. Topsoil is not included as a discrete unit.
 4. For all earth pressure coefficients (retaining wall design) refer to clause GDR11.2. Unit weights for retaining structure design should be as per GDR11.2 or 1 kN/m³ greater than the values in the table above.
 γ_{bulk} – bulk unit weight
 ϕ' – effective friction angle
 s_u – undrained shear strength
 c' – effective cohesion
 E_v – vertical elastic modulus
 ν – Poisson's Ratio
 k_a – coefficient of active earth pressure (Coulomb – AS4678-2002, Appendix E)
 k_p – coefficient of passive earth pressure (Coulomb – AS4678-2002, Appendix E)
 k_0 – coefficient of at-rest earth pressure (Jaky)

10. GEOTECHNICAL ASSESSMENT

10.1. Summary

Table 10: Summary of Geotechnical Assessment

Type	Clause	Parameter	Comment
Site Suitability	-	-	We consider the site to be geotechnically suitable for the proposed development. However, issues to be addressed include: - Shallow groundwater - Poor drainage - Shallow expansive clay
Construction Methodology and Suitability	-		Piles are recommended for heavily loaded columns. Shallow footings are suitable for relatively light loads.
Site Classification (AS2870)	GDR5	M (current condition) S (see comment))	A Class S applies if at least 1 m of compacted sand is present above the clay.
Site Subsoil Class (AS1170.4)	-	Ce	
Site Preparation	GDR6	-	Refer Section 10.2
Topsoil Strip	GDR6.2.1	Thickness = 200 mm	Expected thickness of topsoil strip (average).
Compaction Control	GDR7	-	A nuclear density gauge (NDG) may be used for compaction control on site-derived General Sand . Compaction to meet requirements for 'Sand with fines or gravel' sand in GDR Table 12.
Approved Fill	GDR8		Approved fill at this site is to comprise Permeable Sand or General Sand as per GDR8. In situ sand be assumed to be General Sand (excluding topsoil or any organic / deleterious materials encountered).
Shallow Footings	GDR9	$q_{all} = 220 \text{ kPa}$	Refer to footing tables in Section 10.3.
Piled Foundations	GDR10		Refer to Section 10.4
Earth Pressure Coefficients	GDR11	Refer parameters in Section 9	
Excavations, batters and slopes	GDR12	1V:2H (temporary) 1V:3H (permanent)	We expect that shallow excavations (up to 3 m deep) on site should generally be achievable using conventional earthmoving equipment (10-tonne excavator or similar). Groundwater may be encountered in excavations extending into the clay (see Section 8.2). Note: Dewatering may be required for any excavations. A dewatering management plan is required for any dewatering. We recommend any earthworks take place during summer to autumn.
Unsaturated Hydraulic Conductivity	GDR13	assume 0.2 m/day	The existing sandy soils above the clay strata typically have a low permeability.
Pavement Subgrades	GDR16	CBR =10%	Provided that: - site preparation measures done for pavement subgrades as described in Section 10.2. - subgrade comprises at least 0.5 m of compacted Approved Fill / In situ SAND overlying any clayey subgrade.

NOTES: 1. q_{all} – allowable bearing pressure (maximum for all footings, refer to footing tables for further details)

10.2. Site Preparation

The site preparation measures outlined below are to be completed prior to construction of on-ground slabs, shallow footings (including retaining wall footings, if any) and pavements.

- Strip and stockpile topsoil from the site for potential re-use in non-structural applications or for possible processing and blending with clean sand. The topsoil strip is only necessary to remove roots.
- Remove any deleterious fill and dispose at an appropriate facility (no deleterious material noted in our test holes although some test holes show poorly compacted / uncontrolled material).
- Excavate to required levels. Stockpile suitable excavated material for potential re-use as fill (see GDR8) and remove unsuitable or excess material off-site.
- Excavations should be battered to a temporary slope as given in Table 10 where applicable and not near adjacent structures etc. If required, construct temporary/permanent retaining walls where batters cannot be accommodated.
- Moisture condition and compact exposed ground to achieve a dry density ratio (DDR) of 95% of modified maximum dry density (MMDD) as specified in GDR7.1 ("Sand with fines or gravel") to a depth of at least 0.9 m or to the clay layer (whichever is lesser).
- Any areas of loose sand or unsuitable material must be removed and replaced with approved fill (see GDR8).
- Where fill is required to build up site levels, approved fill (refer GDR8) must be used and be placed and compacted in layers no greater than 0.3 m loose thickness.

Measures to Mitigate Groundwater Issues during Earthworks

As noted in Section 8.2, shallow perched groundwater is likely to develop on the clay during winter and following significant rain events. Conventional compaction will not be possible where the groundwater is within about 1.0 m of the surface. The following mitigating measures may be considered:

- earthworks are carried out in late summer when groundwater is likely to be at its seasonal minimum level;
- use of static rolling (i.e. no vibration) with heavy rollers when compacting within 1 m of the groundwater table;
- use of "pioneer" layer/s (crushed limestone or crushed igneous rock with non-woven geotextile layers above and below pioneer layer) where water is being drawn up;
- dewatering (where groundwater is impeding compaction of soils) to lower the groundwater to at least 1 m below surface to be compacted. **Note:** Dewatering sand spears are unlikely to be efficient in the clayey soils. The construction of drainage trenches and sumps may be required.

Trafficability

We expect trafficability issues when the groundwater is within about 1 m of the surface. In such areas, "pioneer" layer/s (crushed limestone or crushed igneous rock with non-woven geotextile layers above and below pioneer layer) will probably be required to allow traffic and to provide a stable platform on which to place imported fill.

Re-use of In-Situ Soil

We expect that the SAND / silty SAND typically less than 1 m thick will be suitable for re-use as General Sand Fill (refer GDR8).

We do not recommend re-using the in-situ clay as fill below structures. The clay may be re-used as non-structural backfill in trenches and in landscaping. However, moisture conditioning and compaction of clayey soils is usually more difficult than sand fill.

10.3. Shallow Footings

Table 11: Isolated Pad Footings - Allowable Bearing Pressures and Estimated Settlements

d_e (m)	b (m)	q_{all} (kPa)	s (mm)
1.0	2.0	220	10-15
1.0	3.0	220	15-20
1.0	4.0	200	20-25
1.0	5.0	180	20-25

- NOTES:**
1. d_e – minimum embedment depth (below finished ground level or floor slab)
 2. b – Footing width (footings approximately square)
 3. q_{all} – allowable bearing pressure (peak).
 4. s – estimated settlement (excludes shrink/swell movement – up to 20 mm for Class S site)
 5. Refer to GDR9

Table 12: Isolated Strip Footing Allowable Bearing Pressures and Estimated Settlements

d_e (m)	b (m)	q_{all} (kPa)	s (mm)
1.0	2.0	180	15-20
1.0	3.0	180	20-25
1.0	4.0	160	20-25

- NOTES:**
1. d_e – minimum embedment depth (below finished ground level or floor slab)
 2. b – Footing width (footings long relative to width)
 3. q_{all} – allowable bearing pressure (peak).
 4. s – estimated settlement (excludes shrink/swell movement – up to 20 mm for Class S site)
 5. Refer to GDR9

10.4. Piling

Piles are recommended for any heavily loaded columns and walls to reduce the risk of excess total and differential settlements. Continuous Flight Auger (CFA) and bored piles would be suitable for the site. However, other pile types may also be considered.

The piles may be designed using the soil profile and parameters presented in Table 13. These design parameters have been derived using the Doan & Lehané method (2021)¹.

We note the presence of a relatively loose zone between 13 m and 18 m. Piles should extend below this layer.

The pile designer (or a geotechnical engineer) must review any proposed piling layout/configuration and make an assessment of possible pile group effects.

Due to the presence of high plasticity clay, piles should be designed to accommodate heave and negative skin friction as a result of seasonal shrink-swell movements (assume depth of movement is ~2 m and the total heave is ~20 mm).

In addition, the structures should be designed to resist uplift, or voids (~50 mm) placed below suspended ground beams and slabs.

¹ Doan & Lehané (2021), CPT-Based Design Method for Axial Capacities of Drilled Shafts and Cast-in-place Piles. American Society of Civil Engineers (ASCE), Journal of Geotechnical and Geoenvironmental Engineering.

Table 13: Preliminary Geotechnical Design Parameters for CFA Piles (ultimate)

Depth ¹ (m)	Layer	$q_{c(\text{design})}$	γ' (kN/m ³)	Shear Resistance ($f_{m,s}$) (kPa)	End-bearing Resistance (f_b) (kPa)
0 – 5.5	Clayey SAND	10	7	65	-
5.5 – 13.5	Sandy CLAY / CLAY, very stiff	4	7	45	750
13.5 – 18.0	SAND, medium dense to loose	4	7	40	-
18.0 - 30.5	SAND, very dense	20	8	130	2,600

NOTES:

1. Depth below current ground level
2. q_c – CPT Cone Tip Resistance (MPa)
3. γ' – (buoyant weight below water table)

10.5. Geotechnical Risks

Geotechnical risks include:

1. **Shallow Groundwater.** Mitigating measures are presented in Section 10.2.
2. **Uncontrolled fill.** Historical aerial photographs show earthworks have been carried out in the past and there may be uncontrolled fill. The area must be carefully inspected after topsoil stripping and any uncontrolled fill should be identified. It is possible that uncontrolled fill can be re-used as general fill provided that it does not contain any deleterious material.
3. **Excessive total and differential settlements of shallow footings and slabs.** The allowable bearing pressures and estimated total settlements are based on the worst-case conditions (see Section 10.3). If the designers consider the settlements to be excessive, the structures should be piled (see Section 10.4).
4. **Piling.** Recommendations and design parameters are presented in Section 10.4. The designers and contractors need to consider the following:
 - a. presence of loose layer from about 13 m to 18 m;
 - b. shallow perched groundwater
 - c. loads due to heave and shrinkage of the clay (loads on piles and on the ground beams and slabs)

11. CLOSURE

GALT GEOTECHNICS



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Engineering Geologist



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[https://galtgeo.sharepoint.com/sites/wag221202/shared documents/02 cdc si/03 correspondence/wag221202-02 002 r rev0.docx](https://galtgeo.sharepoint.com/sites/wag221202/shared%20documents/02%20cdc%20si/03%20correspondence/wag221202-02%20002%20r%20rev0.docx)

Attached Table 1: Summary of Geotechnical Laboratory Test Results

Test Name	Sample Depth (m)	Soil Class (AS1726 2017)	Gravel (%)	Sand (%)	Fines (%)	LL (%)	PI (%)	LS (%)	MMDD (t/m ³)	OMC (%)	CBR (%)	CBR Swell (%)	I _{ss} (%)
BH02	0-0.5	-	-	-	-	-	-	-	1.91	9.0	25.0	0.0	-
BH02	1.5-2.2	CH	15	38	47	50	34	12.0	-	-	-	-	-
BH03	0-0.5	-	-	-	-	-	-	-	1.71	8.5	17.0	0.0	-
BH03	1.7-2	CH	2	35	63	56	36	13.5	-	-	-	-	-
BH05	2.5-3	GC	39	27	34	46	28	12.0	-	-	-	-	-
BH05	3.0-4.0	SC	7	59	34	26	11	5.5	-	-	-	-	0.6
BH05	4.8-5.8	CL	0	65	35	27	14	5.5	-	-	-	-	0.7
BH06	0-0.5	SP	1	87	12	50	34	12.0	-	-	-	-	-

- Notes**
- Particle size distribution (by mass)
Gravel: 2.36 mm – 63 mm
Sand: 0.075 mm – 2.36 mm
Fines: <0.075 mm
 - Atterberg Limits
LL: Liquid limit
NO: Not obtainable
PI: Plasticity index
NP: Non-plastic
LS: Linear shrinkage
 - Modified compaction
MMDD: Modified maximum dry density
OMC: Optimum moisture content
 - CBR: California bearing ratio
Remoulding dry density ratio: 95% MMDD
Surcharge: 4.5 kg
Soaking: 4-day soaked
 - I_{ss} – Shrink-swell index

Attached Table 2: Summary of Chemical Test Results and Exposure Classification

Location	Sample Depth (m)	Matrix	Soil Condition	pH	SO ₄ (ppm)	Cl (ppm)	ER (Ω.cm)	AS2159 Steel EC	AS2159 Concrete EC	AS3600 Concrete EC
BH03	1.7-2.0	Sandy CLAY	B	6.0	400	290	2,800	A1	A1	A1
BH06	0-0.5	Clayey SAND	B	6.5	41	48	11,500	A1	A1	A1

NOTES: 1. Soil condition

A – high permeability soils (sands and gravels) which are below water table.

B – Low permeability soils (silts and clays) and all soils above water table

2. Sulfate expressed as SO₄

3. Cl – Chloride

4. ER – Electrical Resistivity

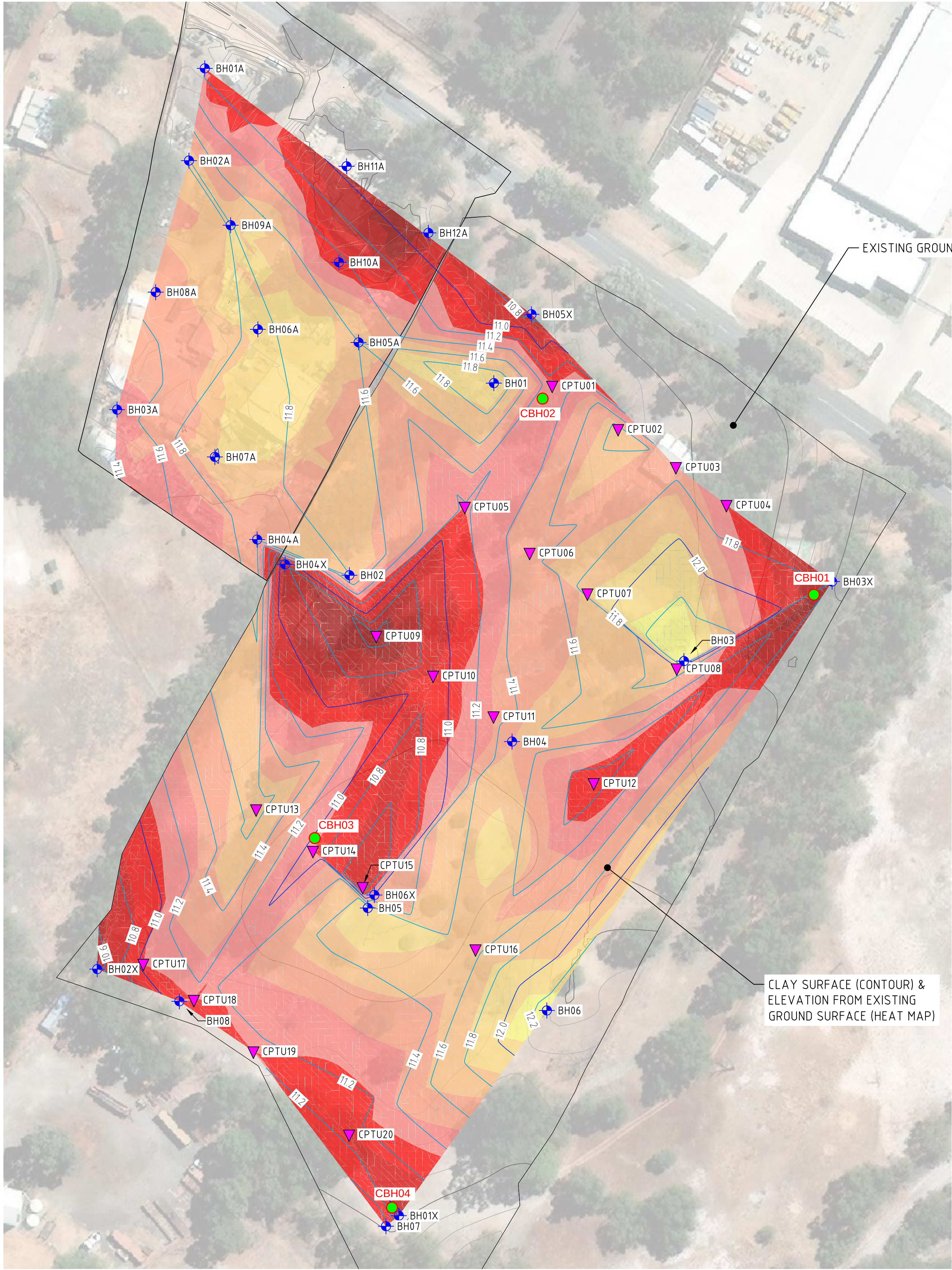
5. EC – Exposure Classification

6. Exposure Classification for AS2159-2009 (for steel and concrete piles)

[Exposure Classification for AS3600-2009 (for buried concrete structures)]

Non-aggressive [A1]	Mild [A2]	Moderate [B1]	Severe [B2]	Very Severe [C2]
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Figures

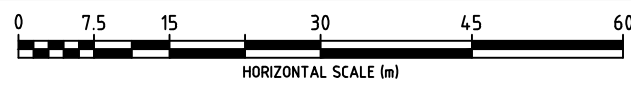


DEPTH TO UPPER CLAY LAYER			
Number	Color	MINIMUM DEPTH (m)	MAXIMUM DEPTH (m)
1		-2.000	-1.800
2		-1.800	-1.600
3		-1.600	-1.400
4		-1.400	-1.200
5		-1.200	-1.000
6		-1.000	-0.800
7		-0.800	-0.600
8		-0.600	-0.400
9		-0.400	-0.200
10		-0.200	0.000
11		0.000	0.200

● CBH04 - Rotary cored borehole
(CBH01 and CBH02 in progress)

NOTES:

- HEAT MAP SHOWS CLAY ELEVATION FROM EXISTING GROUND SURFACE - COMPARISON BETWEEN CLAY SURFACE & EXISTING GROUND SURFACE.
- EXISTING GROUND SURFACE SOURCED FROM CONTOUR AND FEATURE SURVEY, DATED OCT 2022 (2022.10.18_COMBINED PROPERTY 178 -196 FILE.DWG)
- TEST LOCATION DATA USED COMPRISE:
 - J2201071 (2022) - BH01A-09A & BH01-BH08
 - WAG221202 (2026) - BH01X-06X & CPTU01-20



PRELIMINARY
INFORMATION ONLY

REV	INFORMATION ONLY	19/02/2026	RP
REV	REVISION DESCRIPTION	DATE	CHK

SCALE	1:750 (@A1)
DRAWN	SW
DATE DRAWN	20/02/2026
CHECKED	RP
DATE CHECKED	20/02/2026



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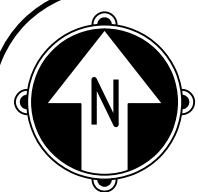


Galt Geotechnics Pty Ltd
ACN : 138 490 865
Tel : +61 (0)8 6272-0200
Address : 50 Edward Street
OSBORNE PARK, WA, 6017

CLIENT	CDC
PROJECT	PROPOSED DATA CENTRE
LOCATION	BUSHMEAD ROAD, HAZELMERE
TITLE	SITE & LOCATION PLAN
JOB NO.	WAG221202-02
FIGURE	F001
	A

Appendices

Appendix A: Supplied Information



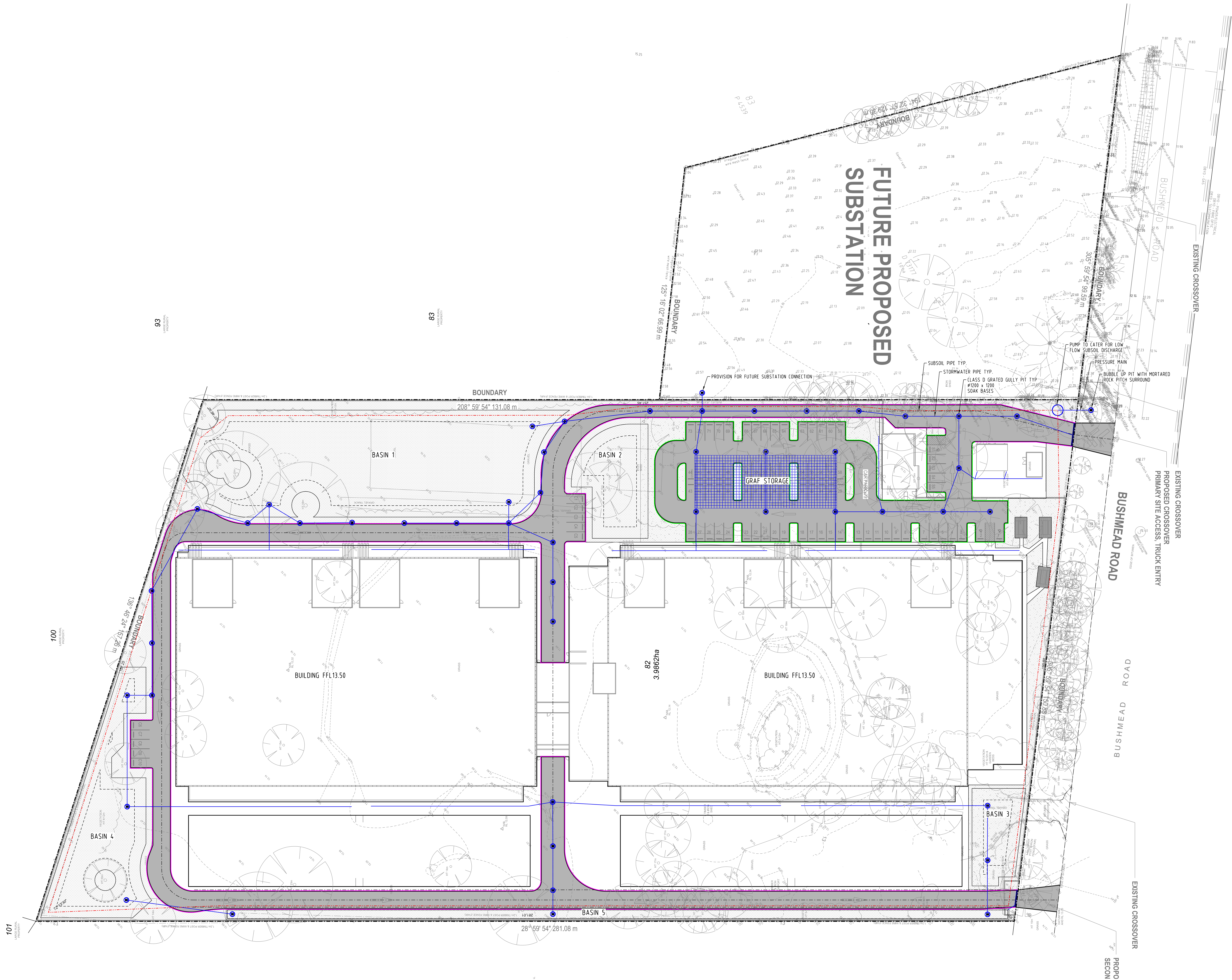
NOTES

- GENERAL
- LEVELS ARE RELATIVE TO AHD.
 - ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
 - THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS.
 - FOR RELEVANT NOTES REFER DRG PT304-CI-DRG-N-01
 - THE PURPOSE OF THIS DRAWING IS FOR PROVIDING DETAILS RELATED ONLY TO STORMWATER MANAGEMENT APPROVALS

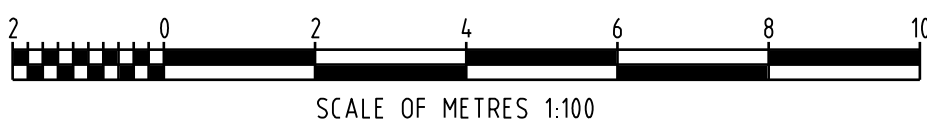
STORMWATER MANAGEMENT PLAN

- GEOTECH REPORT - J2201071 004 R Rev2
- IMPERVIOUS CATCHMENT AREA OVERFLOW TO BUSHMEAD ROAD.
- DESIGN CRITERIA - CITY OF SWAN
1% AEP CRITICAL STORM EVENT TO BE STORED ONSITE.
- GROUNDWATER
MAXIMUM DESIGN GROUNDWATER LEVEL ASSUMED 11.8m AHD SUBJECT TO RECEIPT OF SITE GEOTECHNICAL REPORT
- INFILTRATION RATE
0.5m/DAY
0.3m FREEBOARD TO MAXIMUM DESIGN GROUNDWATER LEVEL SUBJECT TO RECEIPT OF SITE GEOTECHNICAL REPORT
- PROPOSED INVERT OF ALL STORMWATER INFRASTRUCTURE 12.1m AHD TBC
- TOTAL SITE AREA INCLUDES FUTURE SUBSTATION

TOTAL SITE AREA	49862.0
IMPERVIOUS AREA / (C1.1 m ²)	41012.5
PERVIOUS AREA / (C=0.8 m ²)	8849.5
VOLUME REQUIRED (m ³)	4769.0
VOLUME TO STORE (m ³)	
STORMWATER INFRASTRUCTURE	VOLUME (m ³)
BASIN 1 - 11m DEEP WITH 1:5 SLOPES	2583.7
BASIN 2 - 11m DEEP WITH 1:5 SLOPES	466.3
BASIN 3 - 11m DEEP WITH 1:5 SLOPES	281.5
BASIN 4 - 11m DEEP WITH 1:5 SLOPES	931.1
BASIN 5 - 0.6m DEEP LIMESTONE RETAINED	301.6
GRAF CELLS - 19 x 51 1969 SINGLE STACK (CELLS)	205.0
PITS AND PIPE VOL NOT INCLUDED	-
TOTAL VOLUME REQUIRED	4769.0
TOTAL VOLUME PROVIDED	4769.2



NOT FOR CONSTRUCTION
PRELIMINARY



A	DRAWING CREATED FOR PT304 - ISSUED FOR DEVELOPMENT APPLICATION	20.02.26	JC	-	-	-	JC	-	
REV.	DESCRIPTION	DATE	DRAWN	DFT	CHK	DES	CHK	DESIGN	APPR.D



CLIENT	CDC	LOCATION	196-197 BUSHMEAD ROAD, HAZELMERE	PT304 - CDC BUSHMEAD RD, HAZELMERE
ENGINEERS SIGNATURE		CIVIL STORMWATER MANAGEMENT PLAN		
SCALE @ A0	1:100	DRG No.	PT304-CI-DRG-S-01	A

Appendix B: Site Photographs

Photograph 1: Facing northwest at BH01 location.



Photograph 2: Facing southeast at BH01 location.



Photograph 3: Facing northwest at BH03 location.



Photograph 4: Facing southeast at BH04 location.



Photograph 5: Facing southwest at BH04 location.



Photograph 6: Facing northwest at BH05 location. BH05 in progress.



Photograph 7: Facing northeast at BH06 location.



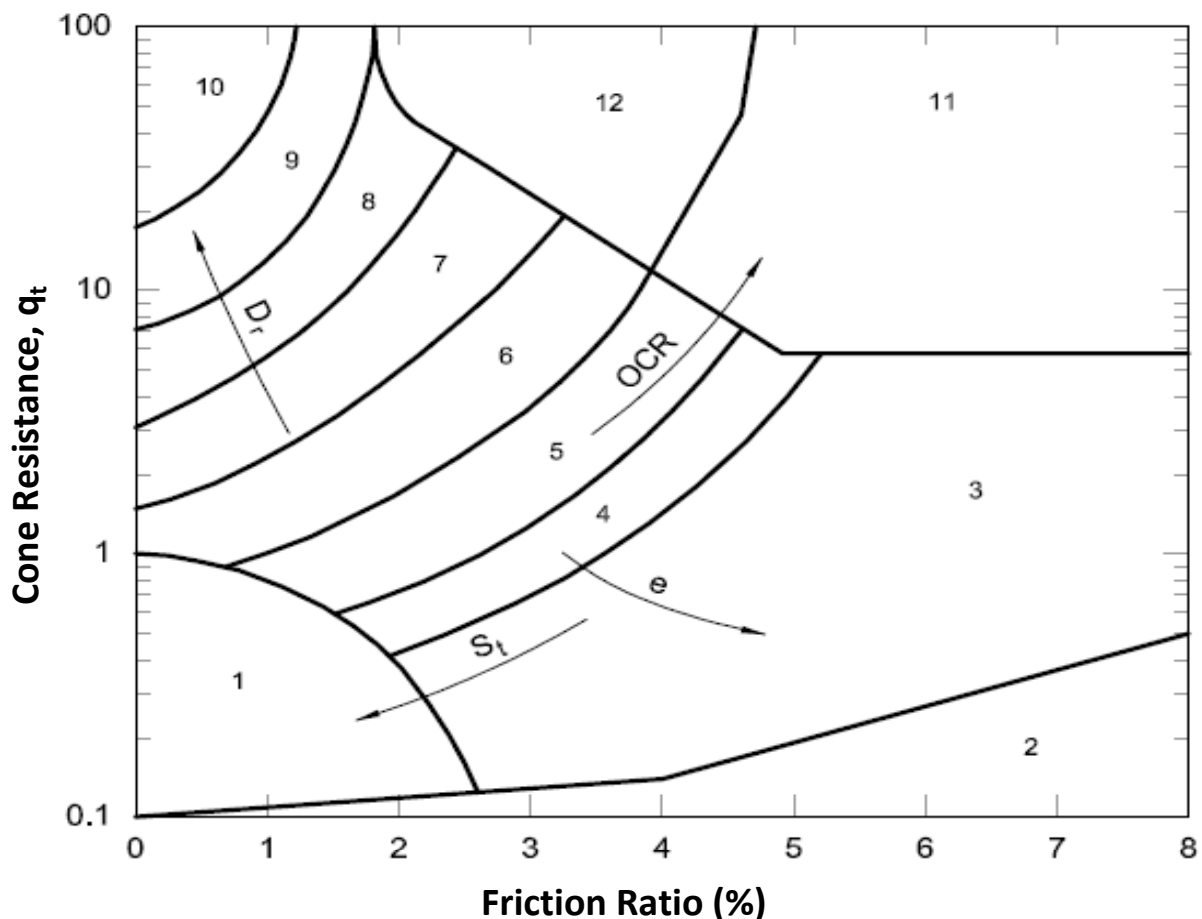
Photograph 8: Facing northwest at BH06 location.



Photograph 9: Facing southeast at BH06 location.



Appendix C: Cone Penetration Test (CPT) Results



DEFINITIONS

- q_t : Cone tip resistance corrected for pore water pressure
 S_t : Sensitivity
 e : Void ratio
 D_r : Relative density
 OCR : Overconsolidation ratio
 OC : Overconsolidated

SOIL BEHAVIOUR TYPE ZONES

- | | |
|------------------------------|--|
| 1. Sensitive fine grained | 7. Silty sand to sandy silt |
| 2. Organic material | 8. Sand to silty sand |
| 3. Clay | 9. Sand |
| 4. Silty clay to clay | 10. Gravelly sand to sand |
| 5. Clayey silt to silty clay | 11. Very stiff fine grained material (OC/cemented) |
| 6. Sandy silt to clayey silt | 12. Sand to clayey sand (OC/cemented) |

NOTES

- A. Some overlap in type zones is expected
 B. Local correlations are preferred and may indicate soil type boundaries that are different from those shown above

Reference: Robertson, P.K., Campanella, R.G., Gillespie, D. and Grieg, J. (1986) "Use of Piezometer Cone Data". Proceedings of the ASCE Speciality Conference In Situ '86: Use of In Situ Tests in Geotechnical Engineering, Blacksburg, pp 1263-80, American Society of Civil Engineers (ASCE)



CONE PENETRATION TESTING (CPT) SOIL TYPE INTERPRETATION

CONE PENETRATION TEST

ALL TESTS

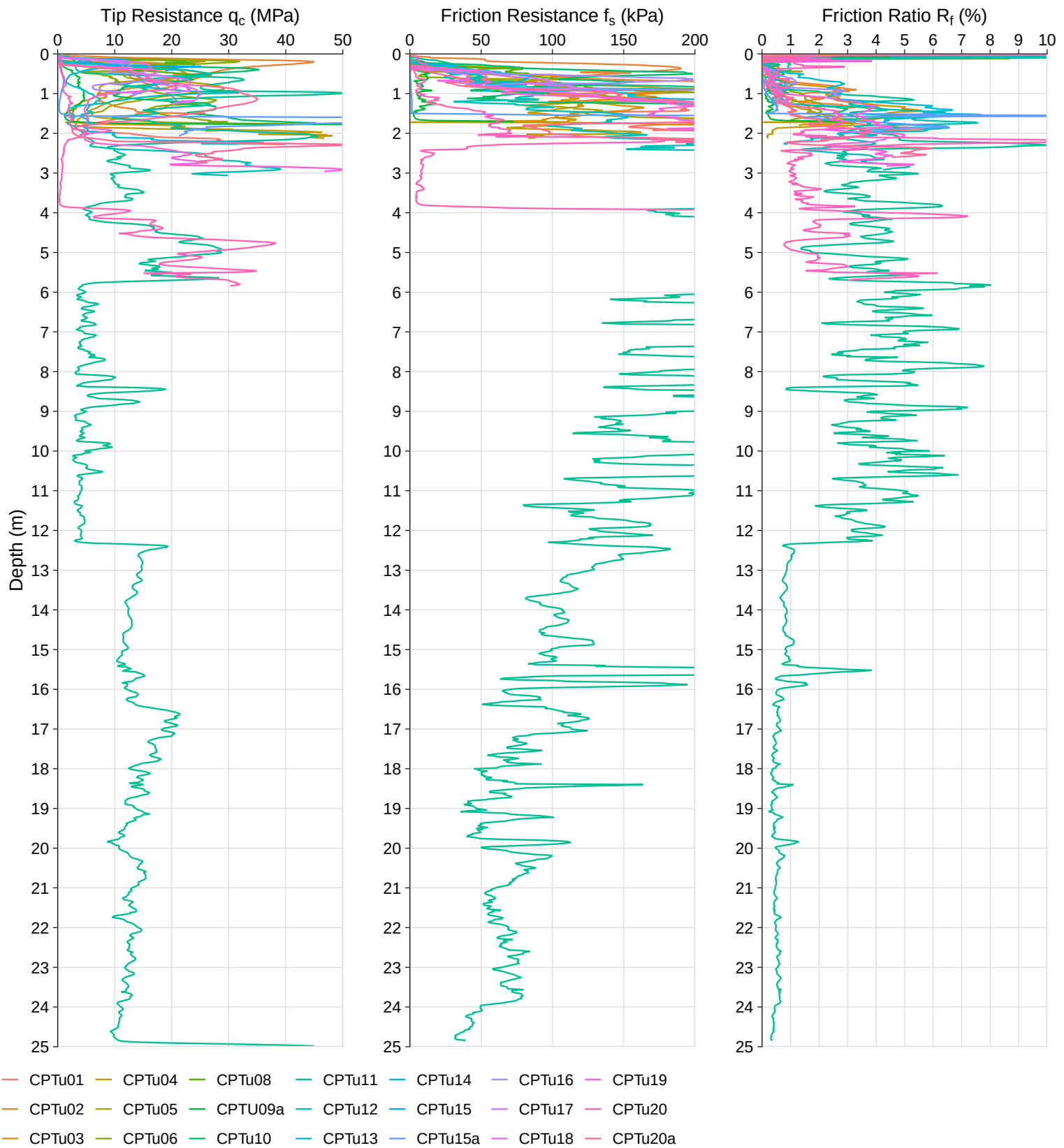
JOB NUMBER: WAG221202-02

DATE: 03/02/2026 - 04/02/2026

CLIENT: CDC

PROJECT: Proposed Data Centre

LOCATION: Bushmead Road, Hazelmere



RIG: AP van den Berg Hyson 200kN 14T Truck

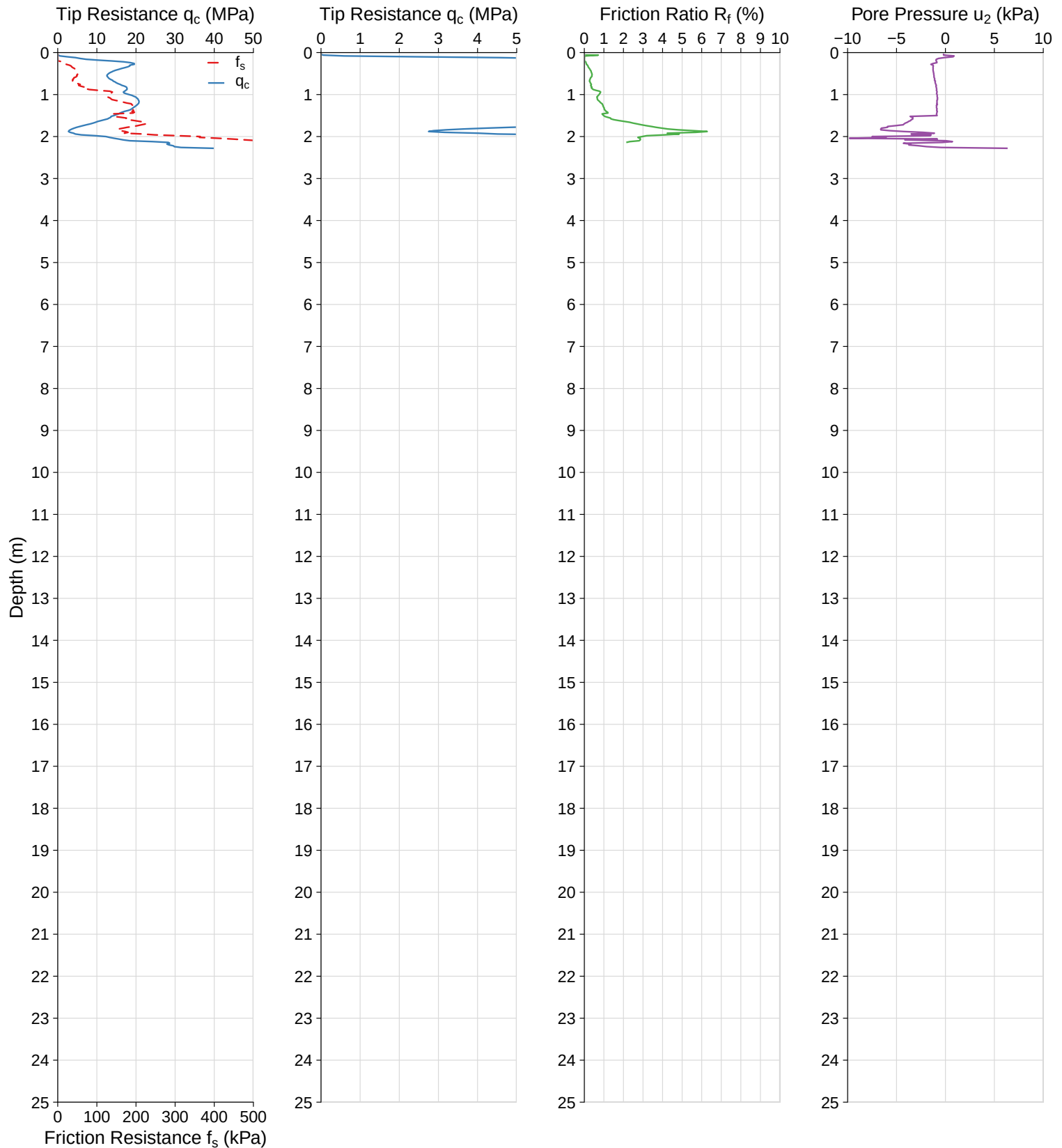


Groundbreaking Investigations - Tested in accordance with AS 1289.6.5.1-1999

CONE PENETRATION TEST

CPT ID: CPTu01
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



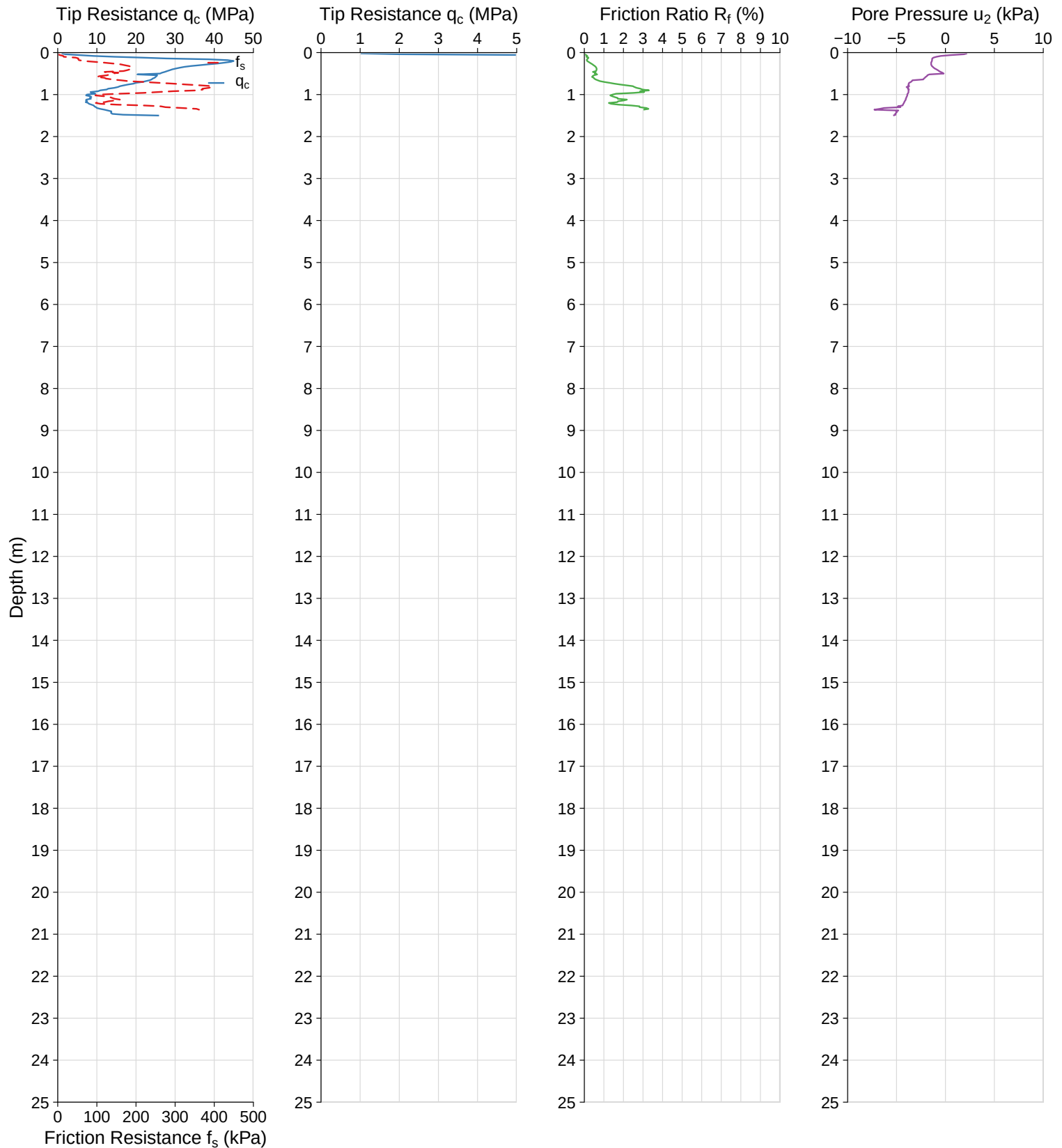
WATER:
TERMINATION:
DUMMY PROBE:
RIG: AP van den Berg Hyson 200kN 14T Truck

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu02
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



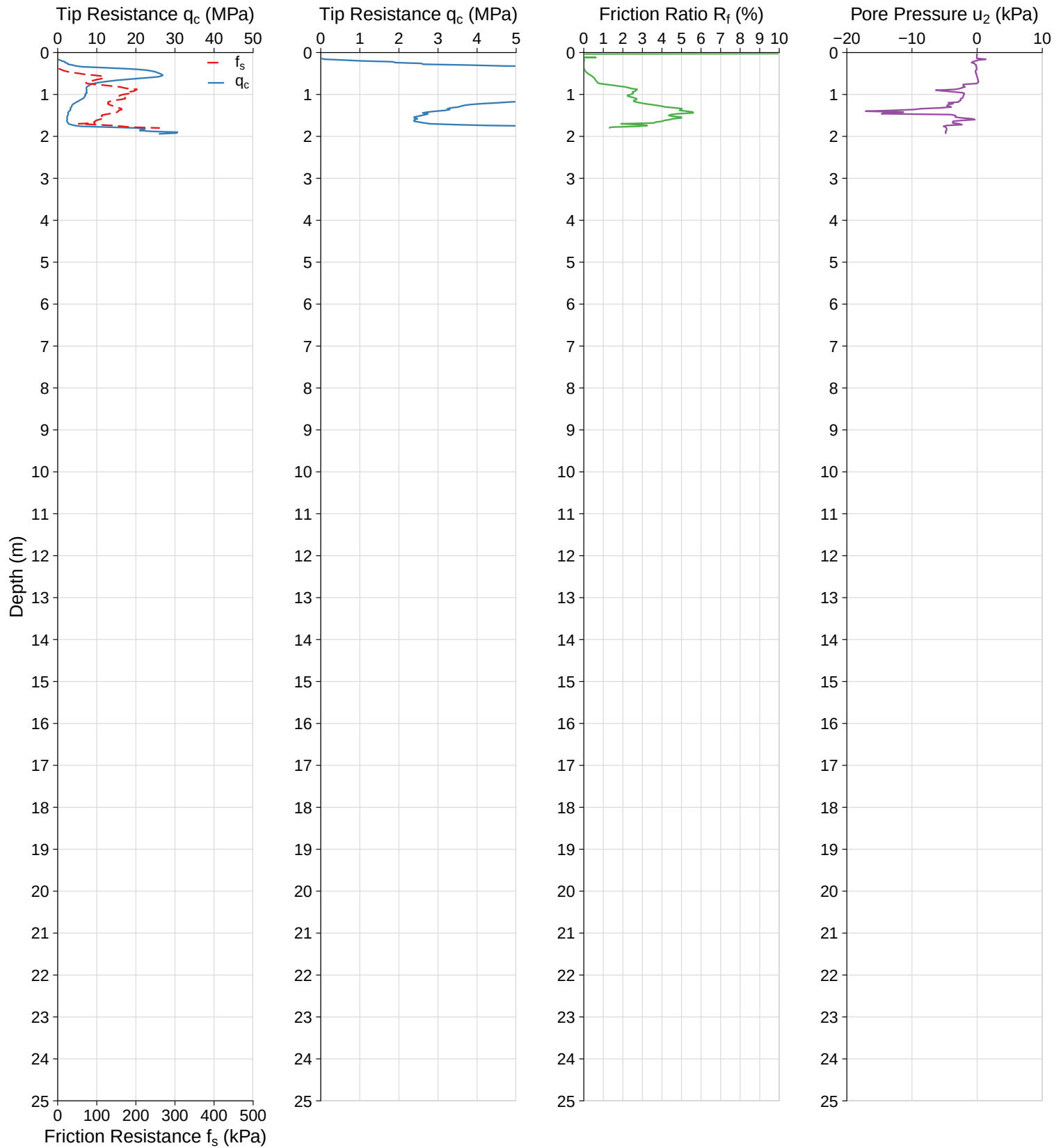
WATER:
TERMINATION:
DUMMY PROBE:
RIG: AP van den Berg Hyson 200kN 14T Truck

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu03
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



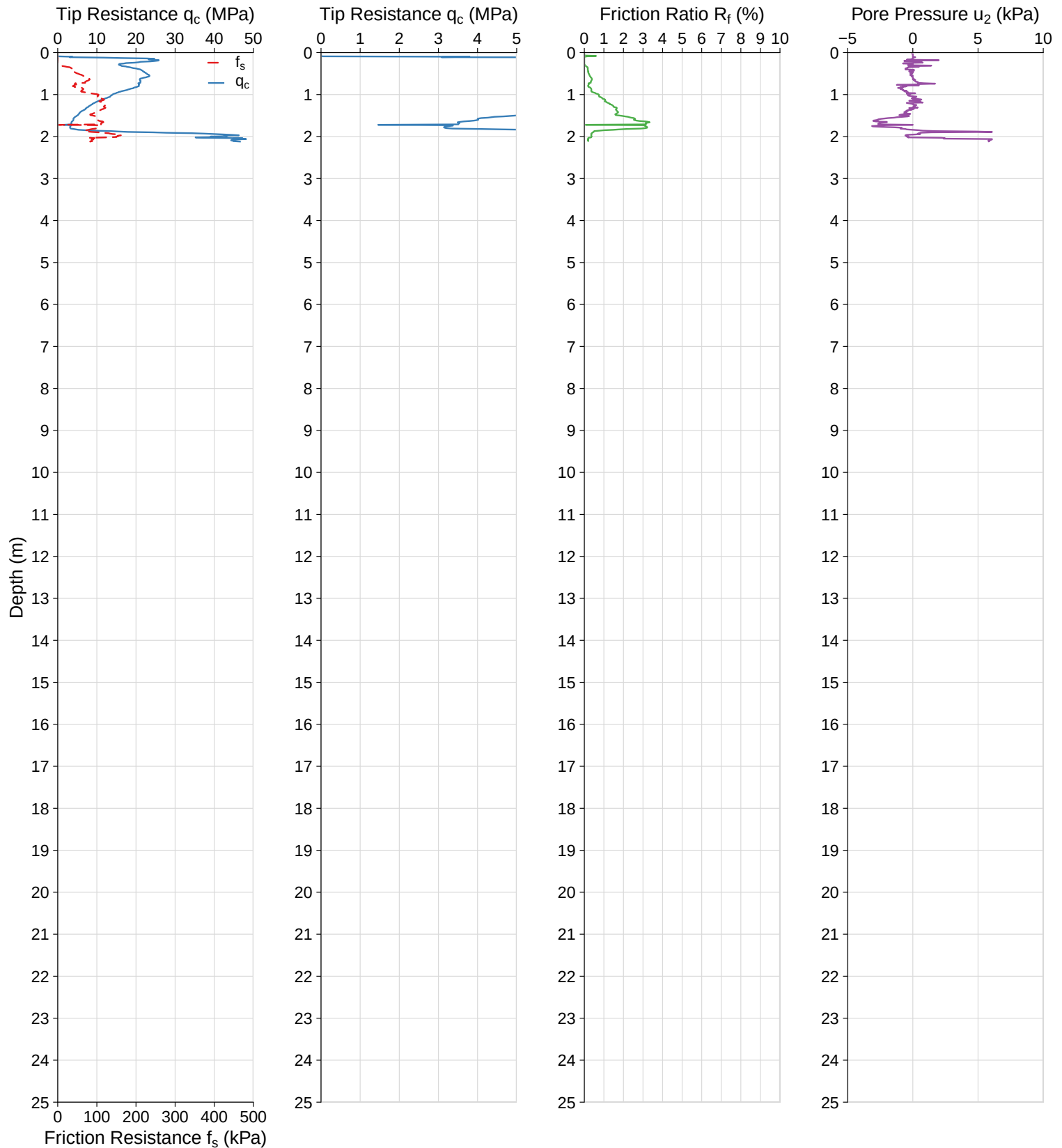
WATER:
TERMINATION:
DUMMY PROBE:
RIG: AP van den Berg Hyson 200kN 14T Truck

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu04
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



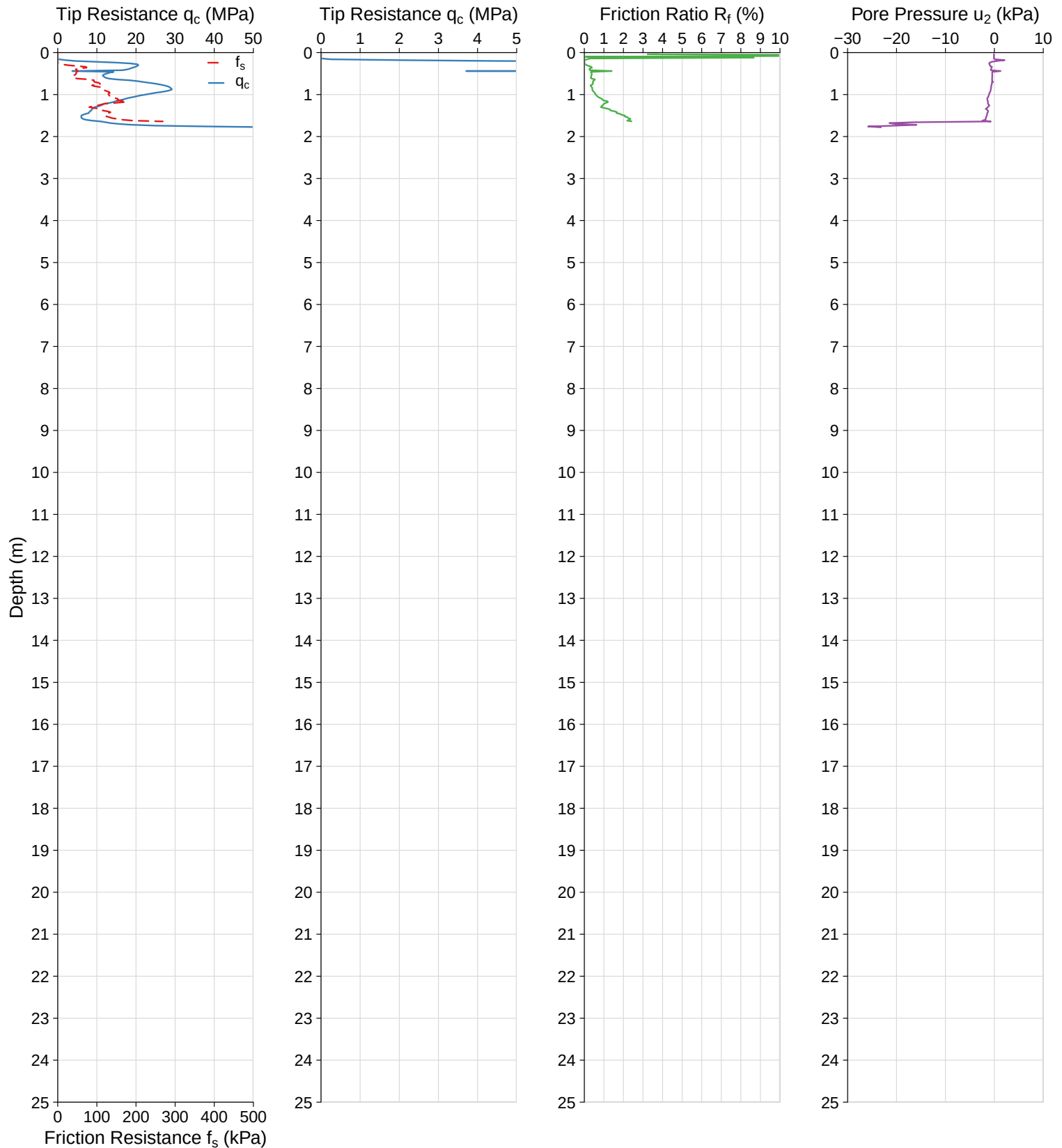
WATER:
TERMINATION:
DUMMY PROBE:
RIG: Pagani TG 73-200 200kN

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu05
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



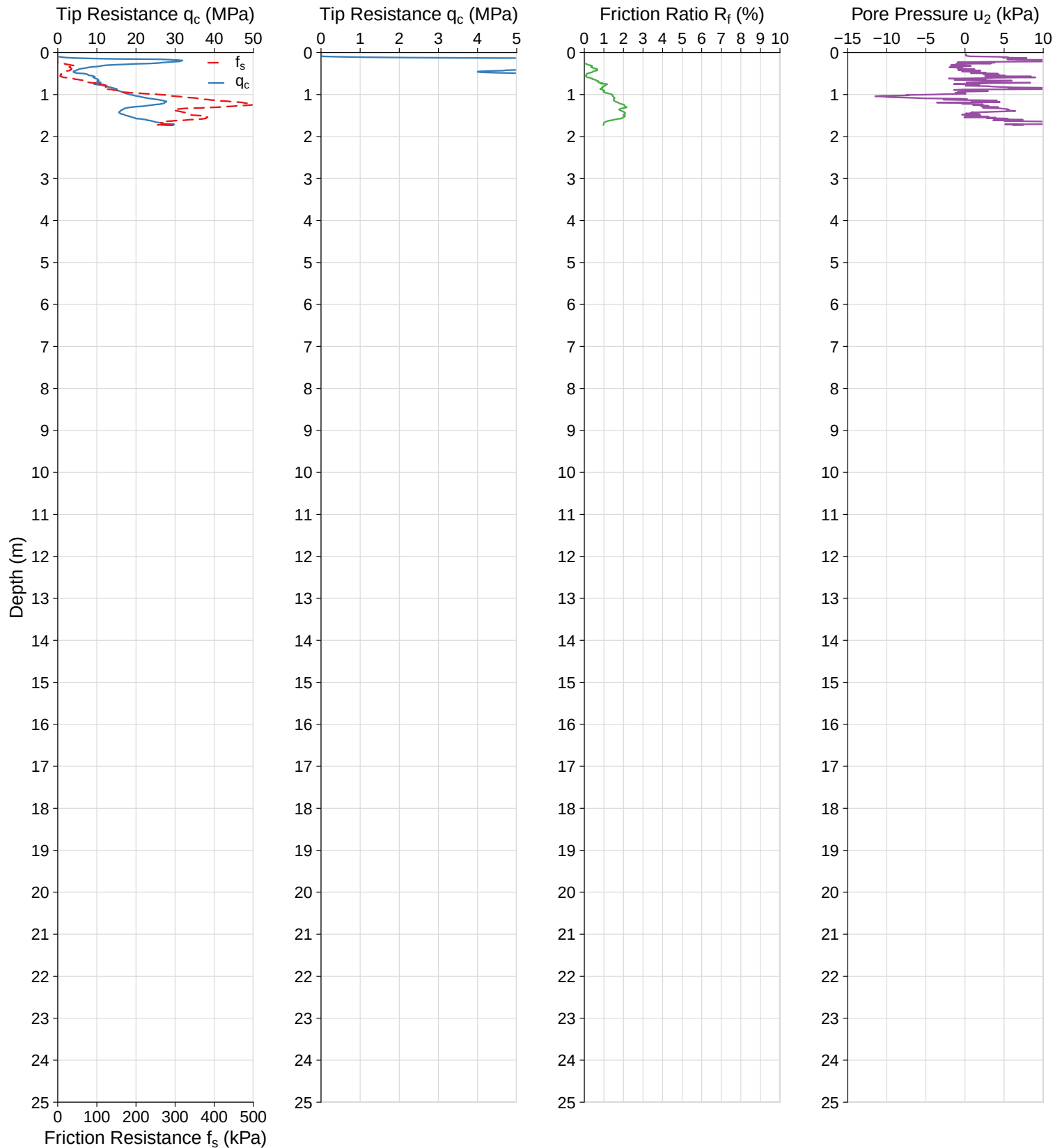
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TERMINATION:
DUMMY PROBE:
RIG: AP van den Berg Hyson 200kN 14T Truck

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

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JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



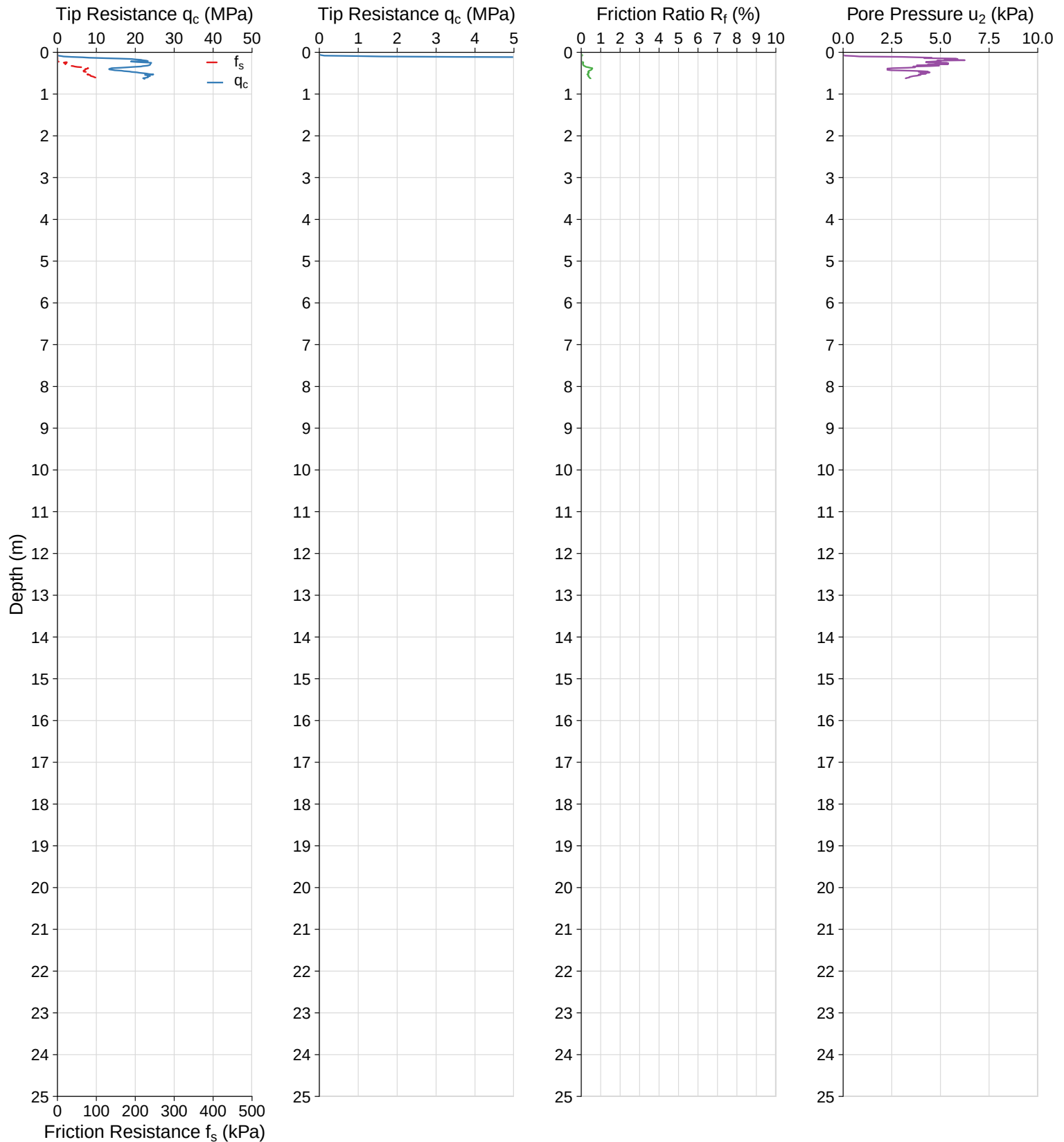
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TERMINATION:
DUMMY PROBE:
RIG: Pagani TG 73-200 200kN

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu08
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



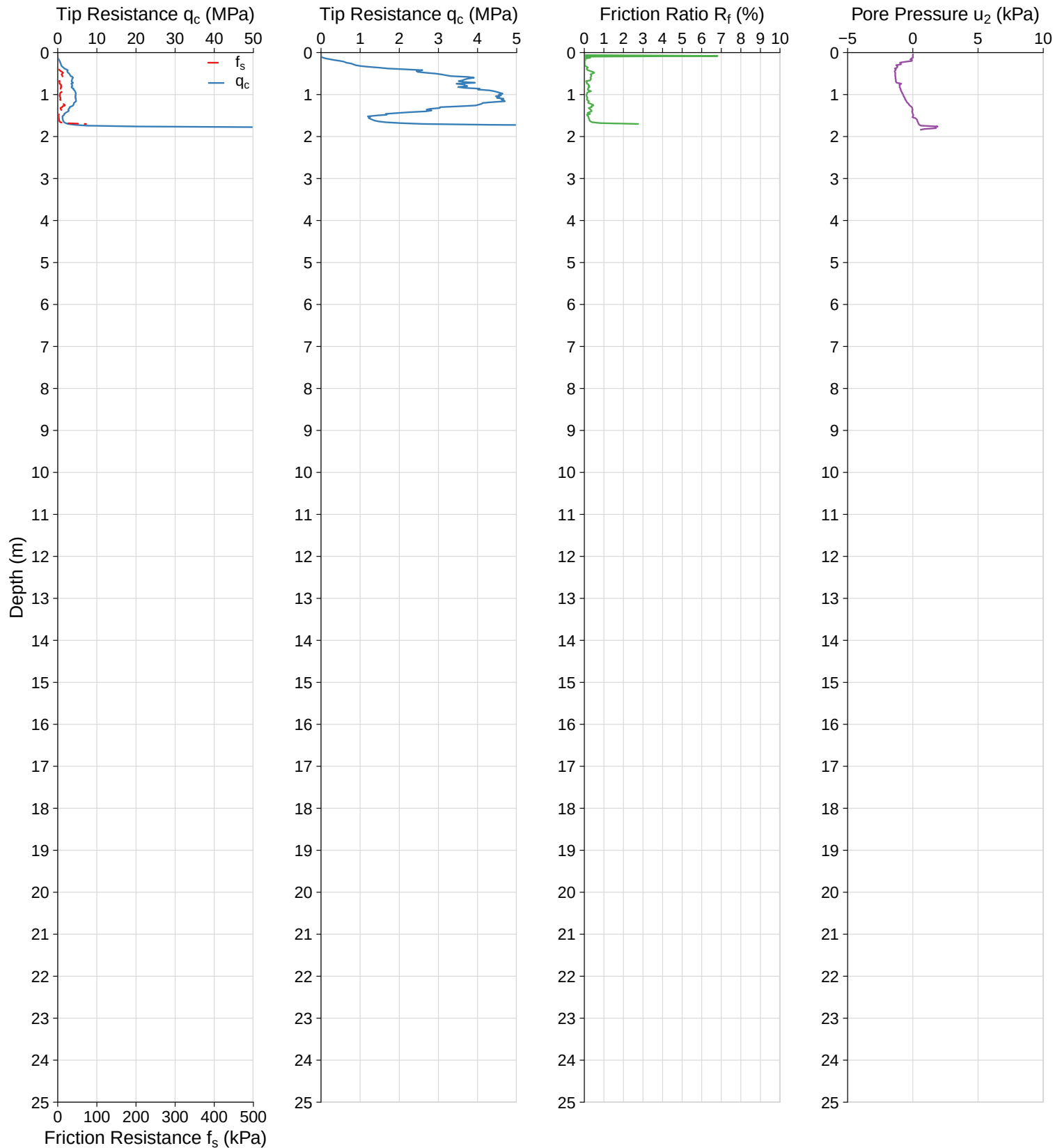
WATER:
TERMINATION:
DUMMY PROBE:
RIG: Pagani TG 73-200 200kN

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTU09a
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



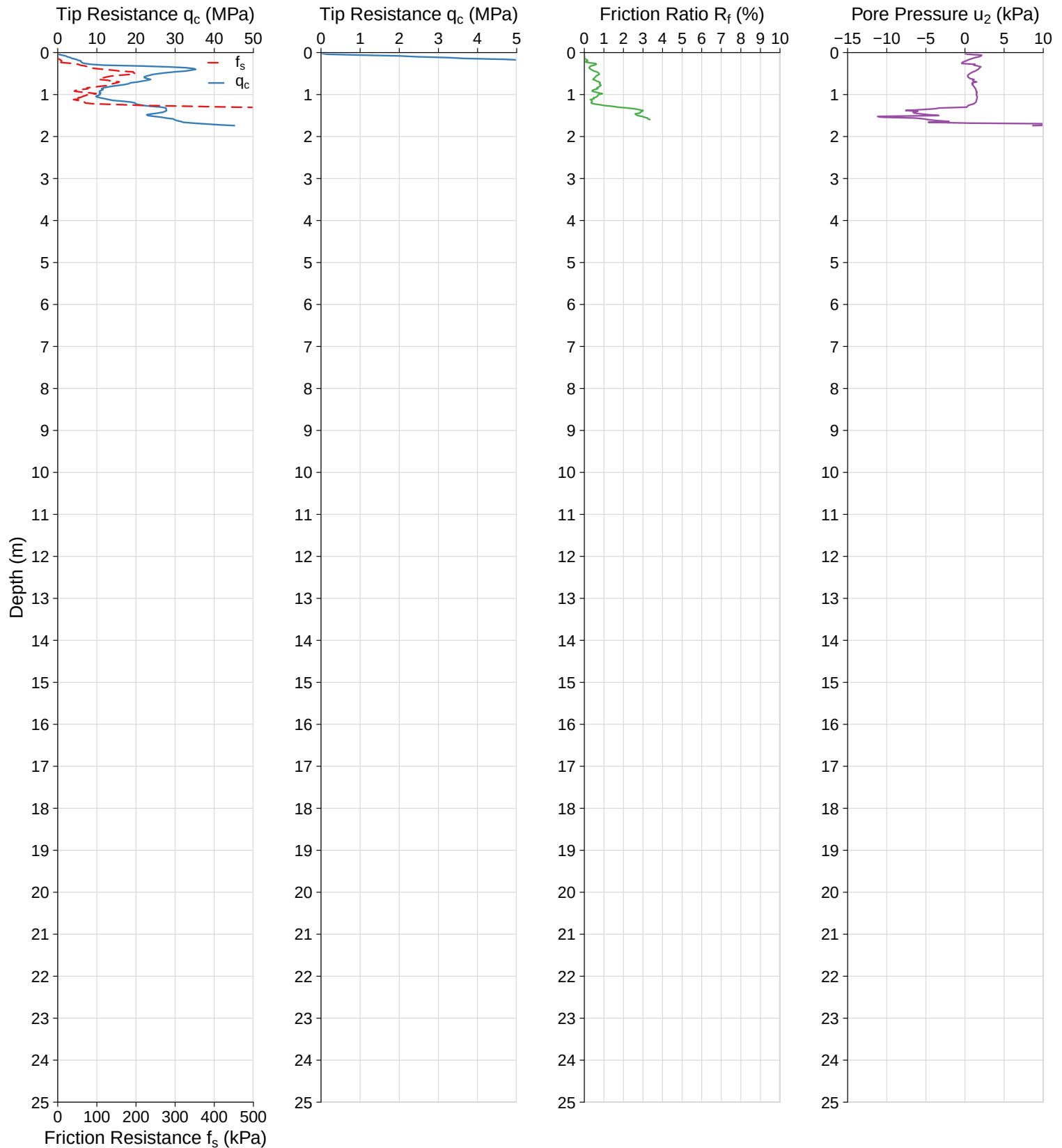
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TERMINATION:
DUMMY PROBE:
RIG: AP van den Berg Hyson 200kN 14T Truck

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu10
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



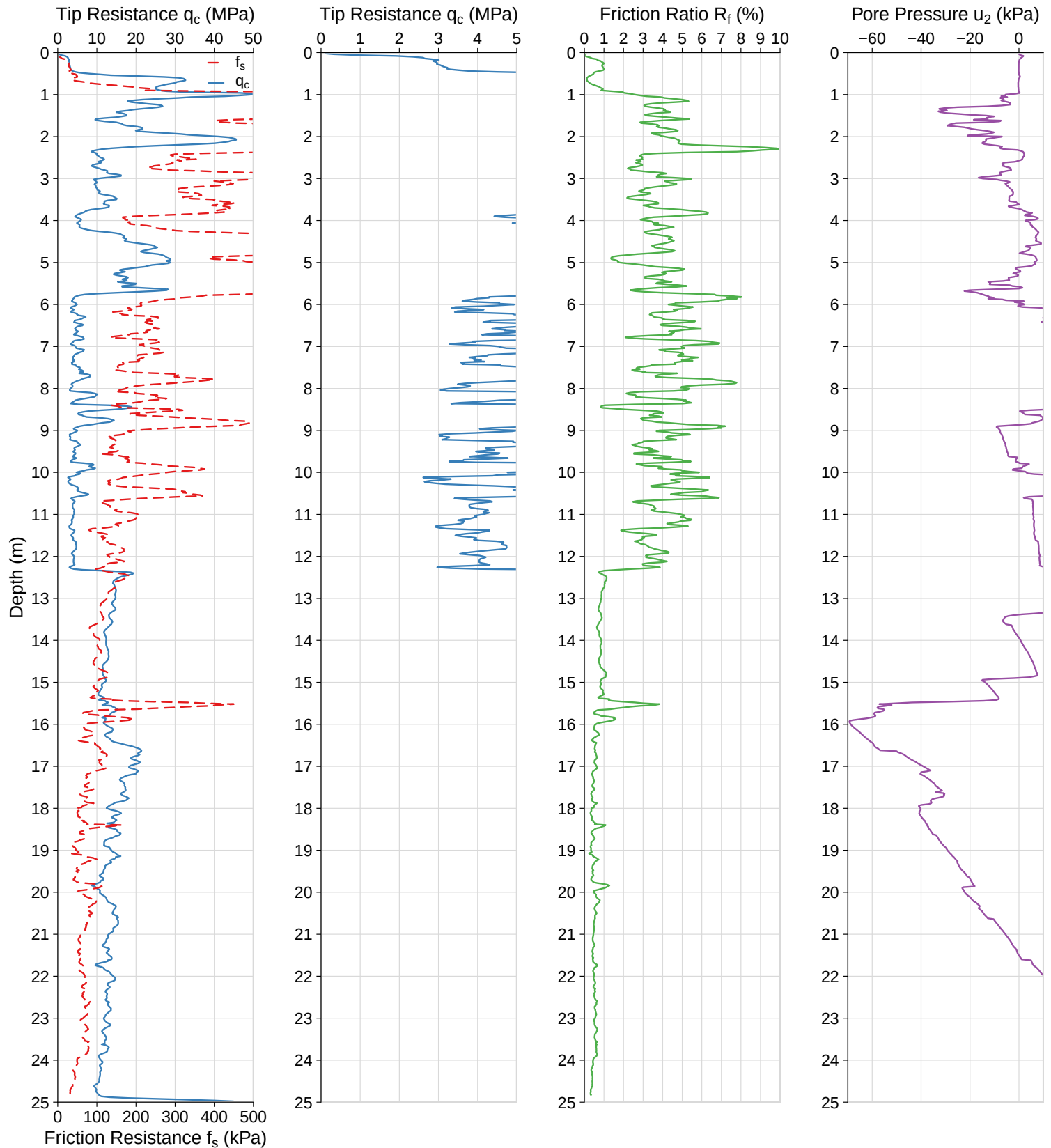
WATER:
TERMINATION:
DUMMY PROBE:
RIG: AP van den Berg Hyson 200kN 14T Truck

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu11
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



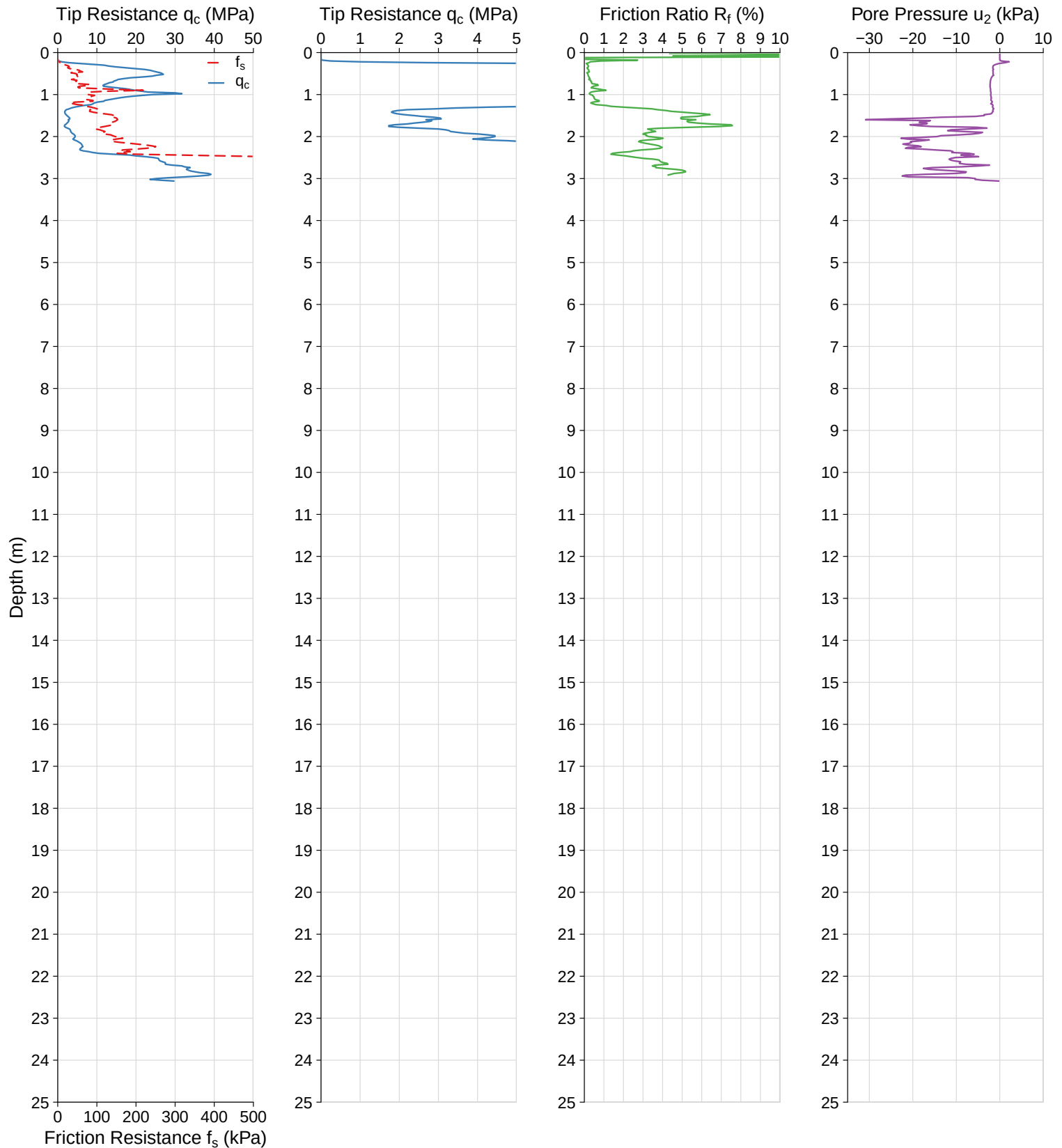
WATER:
TERMINATION:
DUMMY PROBE:
RIG: AP van den Berg Hyson 200kN 14T Truck

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu12
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



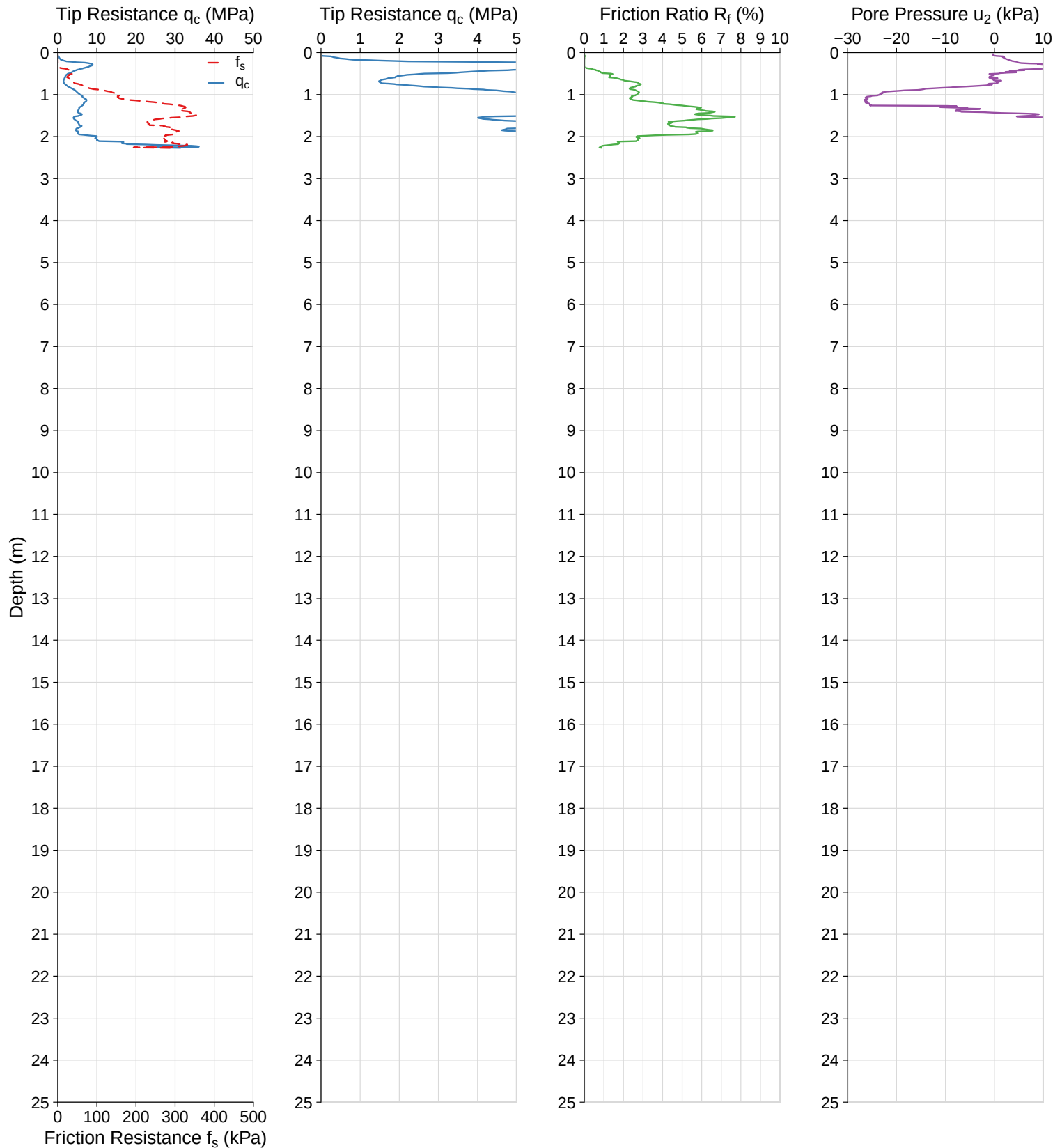
WATER:
TERMINATION:
DUMMY PROBE:
RIG: AP van den Berg Hyson 200kN 14T Truck

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu13
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



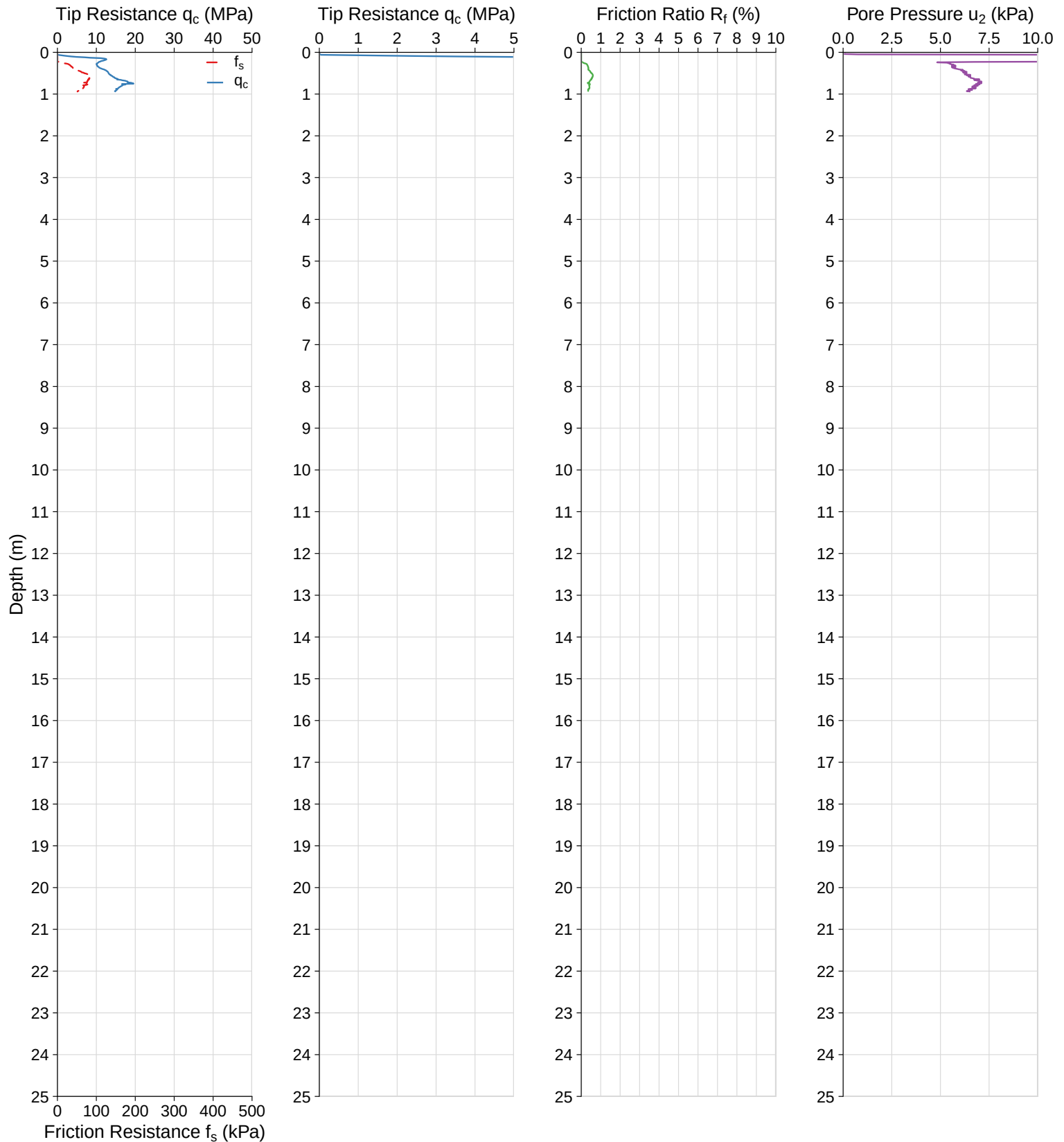
WATER:
TERMINATION:
DUMMY PROBE:
RIG: Pagani TG 73-200 200kN

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu14
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



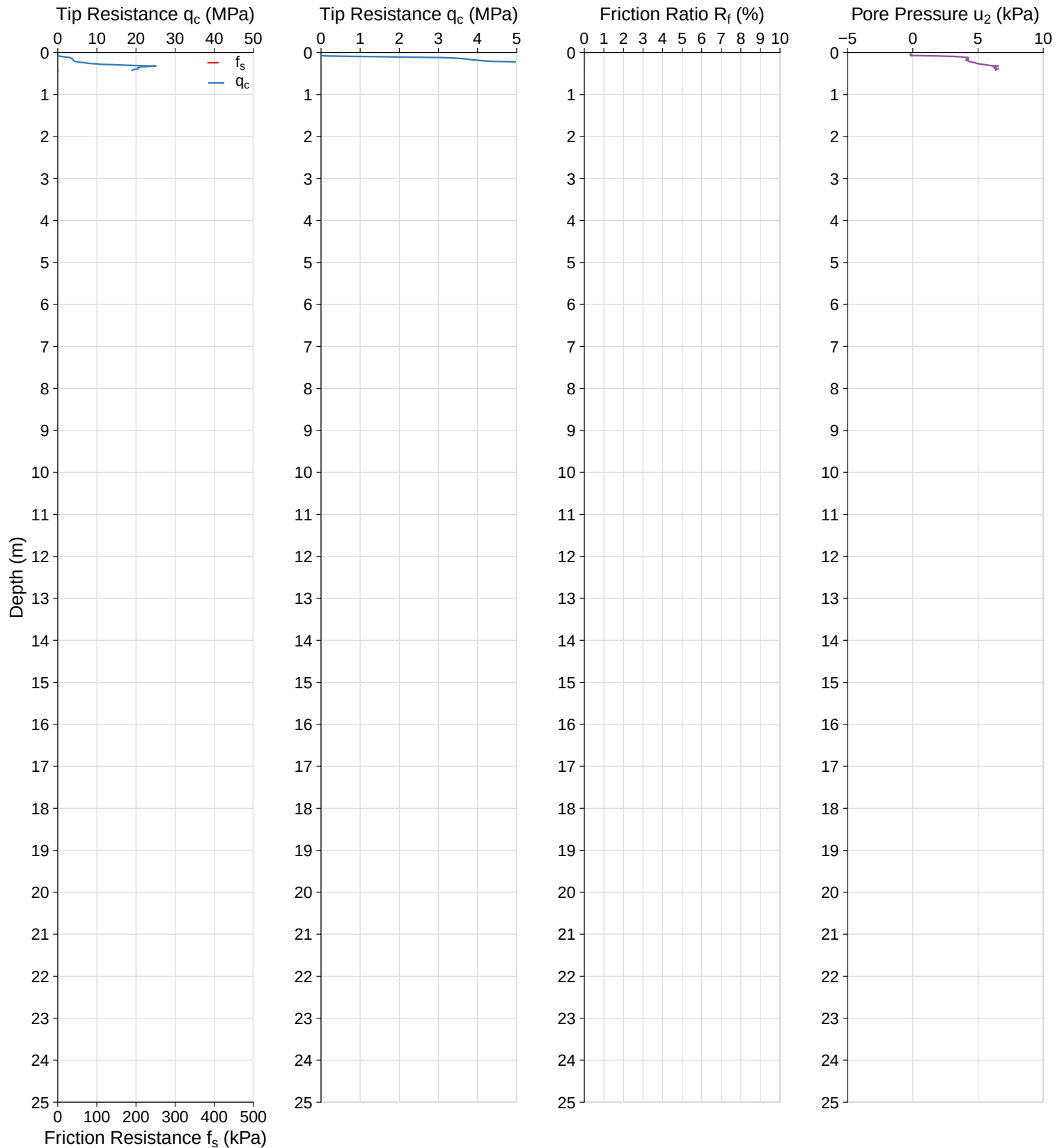
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TERMINATION:
DUMMY PROBE:
RIG: Pagani TG 73-200 200kN

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu15
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



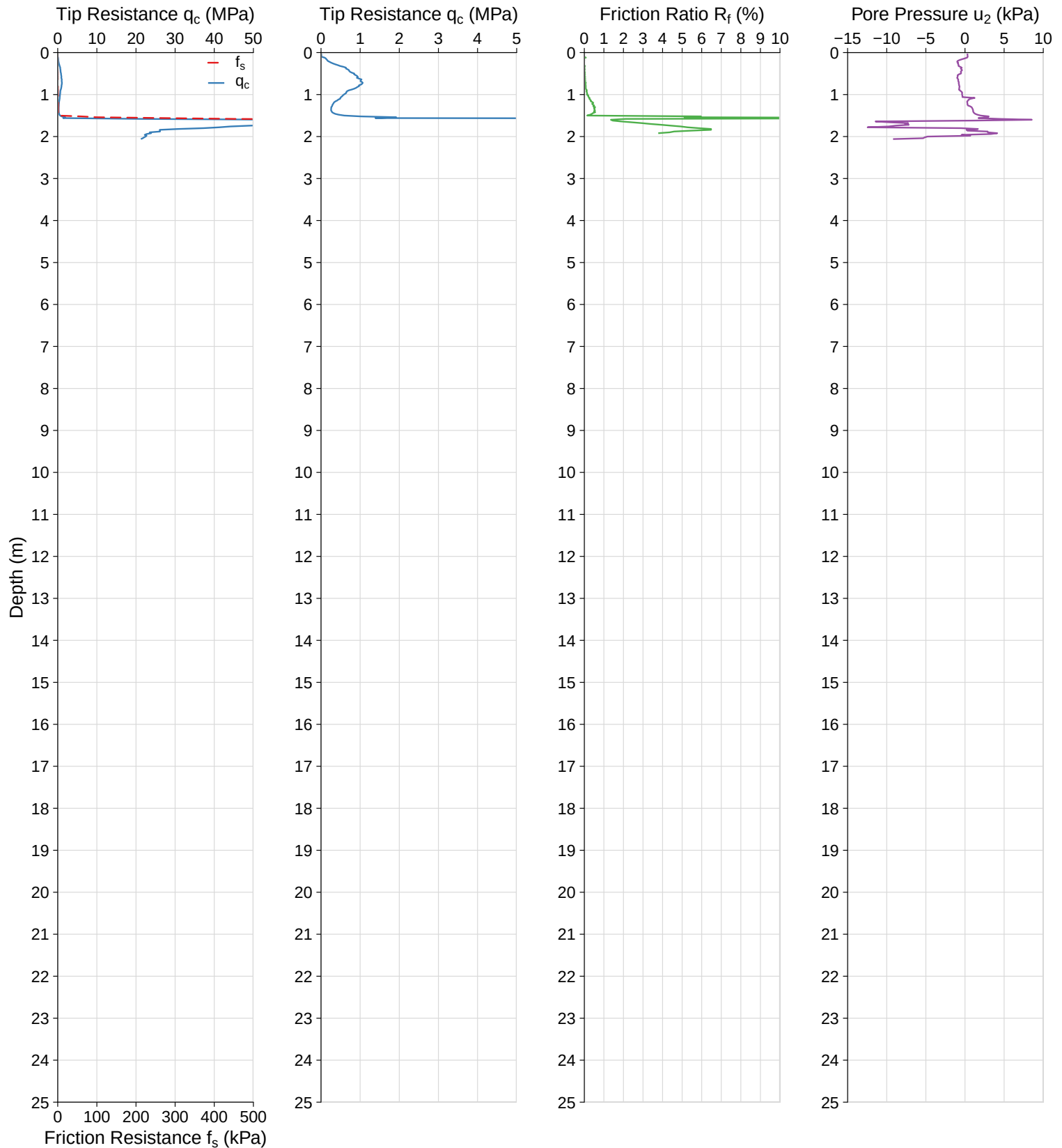
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TERMINATION:
DUMMY PROBE:
RIG: Pagani TG 73-200 200kN

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu15a
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



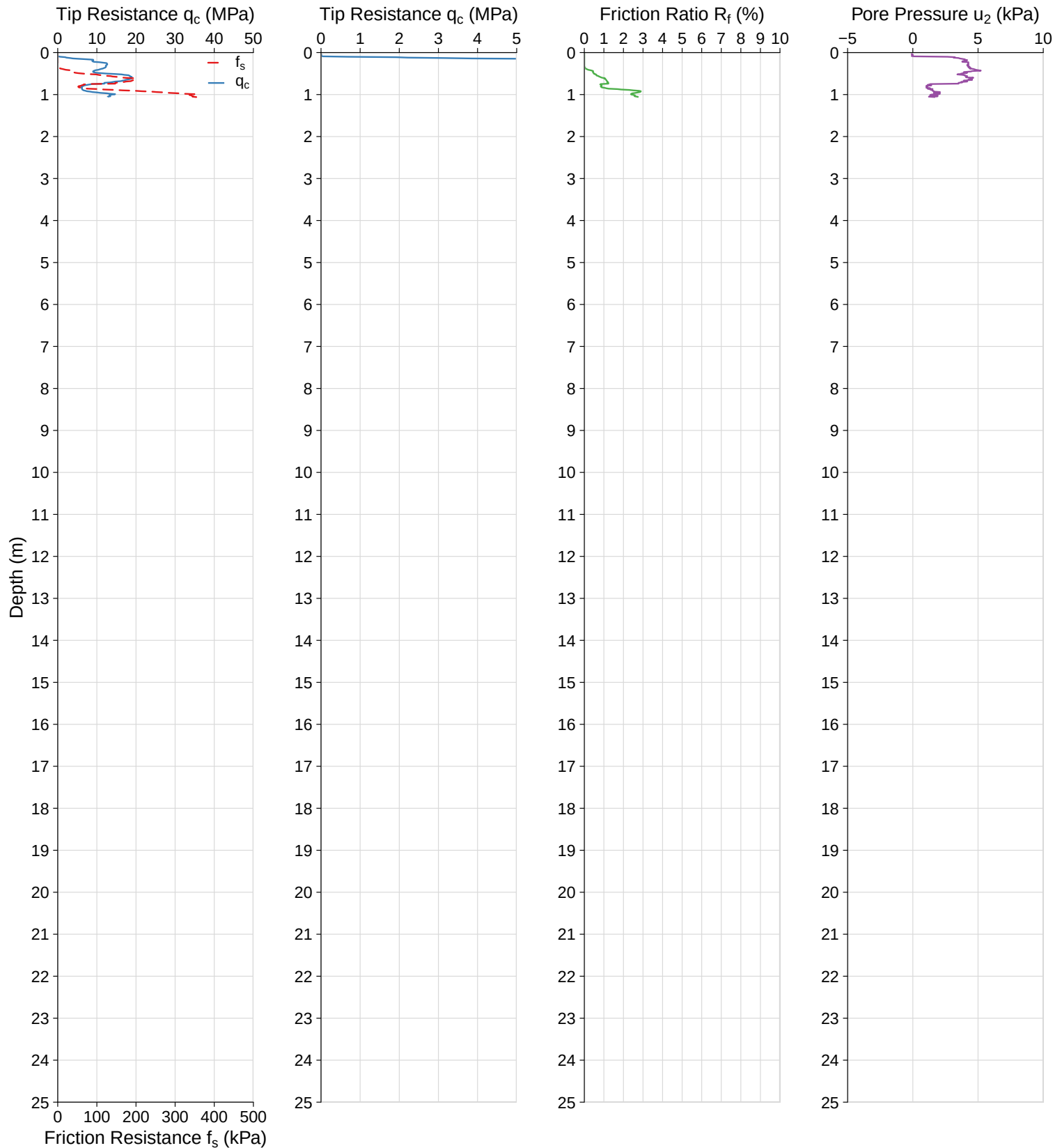
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TERMINATION:
DUMMY PROBE:
RIG: AP van den Berg Hyson 200kN 14T Truck

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu16
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



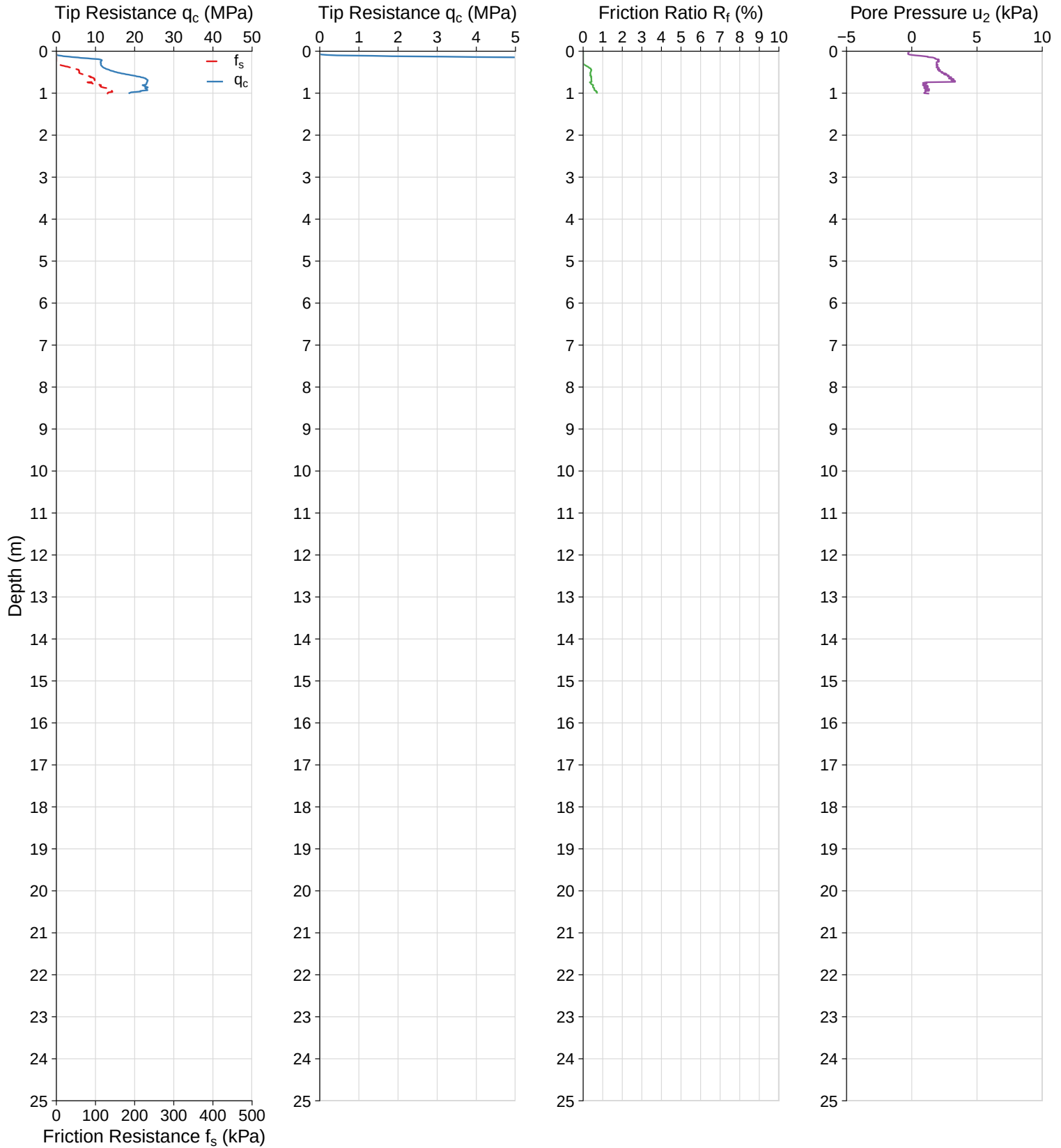
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TERMINATION:
DUMMY PROBE:
RIG: Pagani TG 73-200 200kN

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu17
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



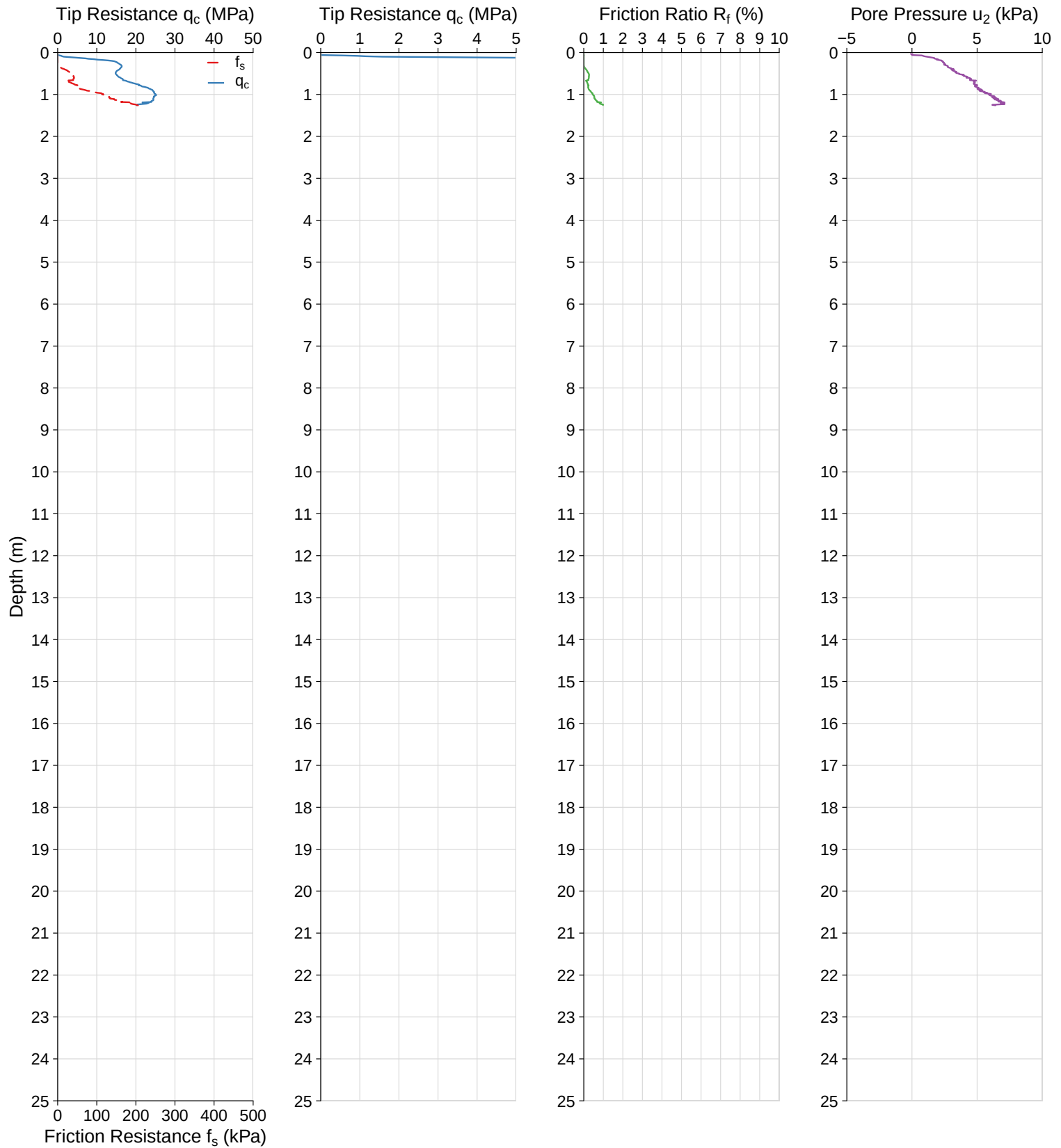
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TERMINATION:
DUMMY PROBE:
RIG: Pagani TG 73-200 200kN

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu18
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



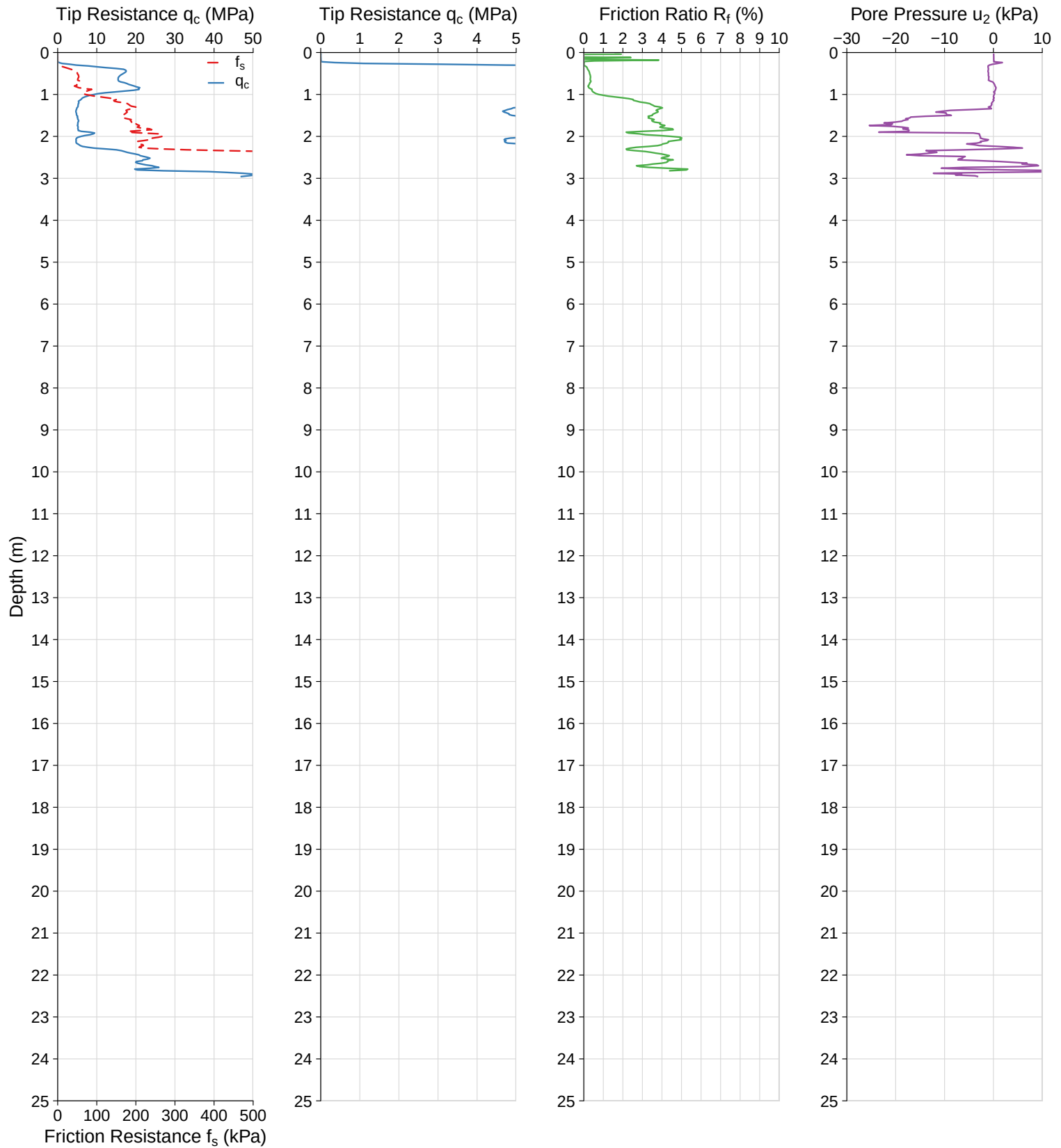
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TERMINATION:
DUMMY PROBE:
RIG: Pagani TG 73-200 200kN

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu19
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



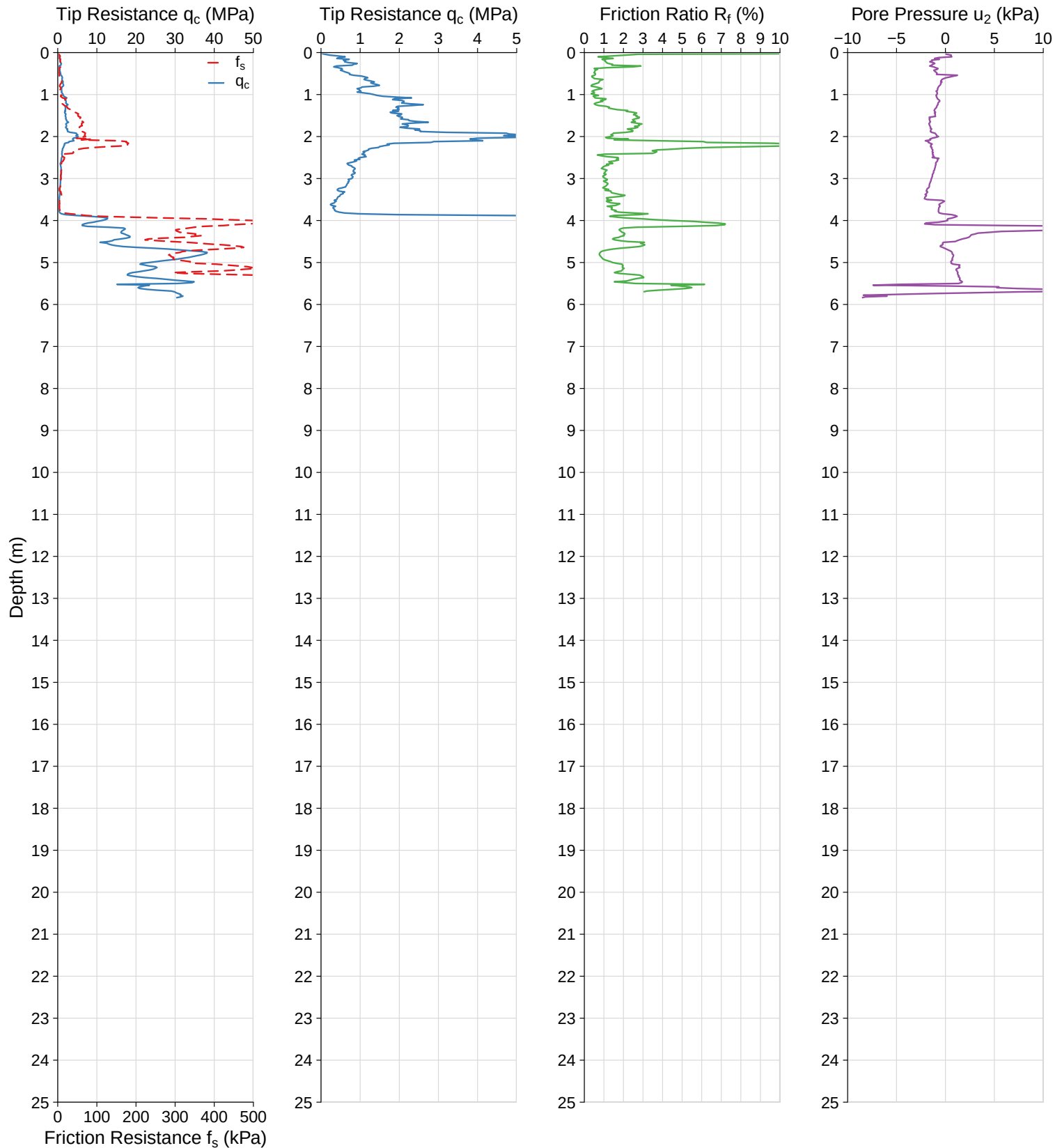
WATER:
TERMINATION:
DUMMY PROBE:
RIG: AP van den Berg Hyson 200kN 14T Truck

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu20
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



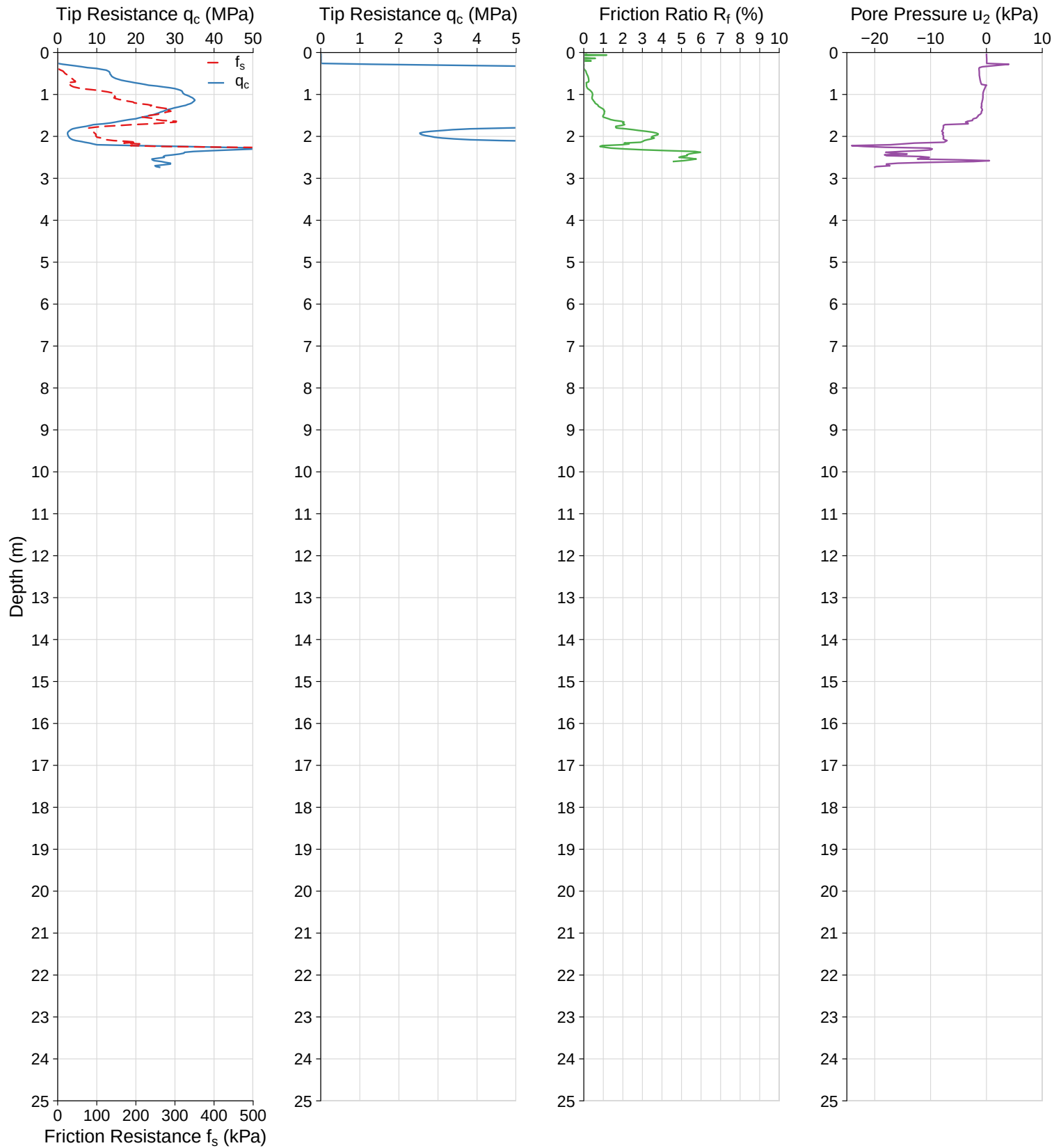
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TERMINATION:
DUMMY PROBE:
RIG: AP van den Berg Hyson 200kN 14T Truck

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous

CONE PENETRATION TEST

CPT ID: CPTu20a
JOB NUMBER: WAG221202-02
DATE: 03/02/2026

CLIENT: CDC
PROJECT: Proposed Data Centre
LOCATION: Bushmead Road, Hazelmere



WATER:
TERMINATION:
DUMMY PROBE:
RIG: AP van den Berg Hyson 200kN 14T Truck

CO-ORDS:
ELEVATION:
PRE-DRILL:
WASHER/DISC: Porous