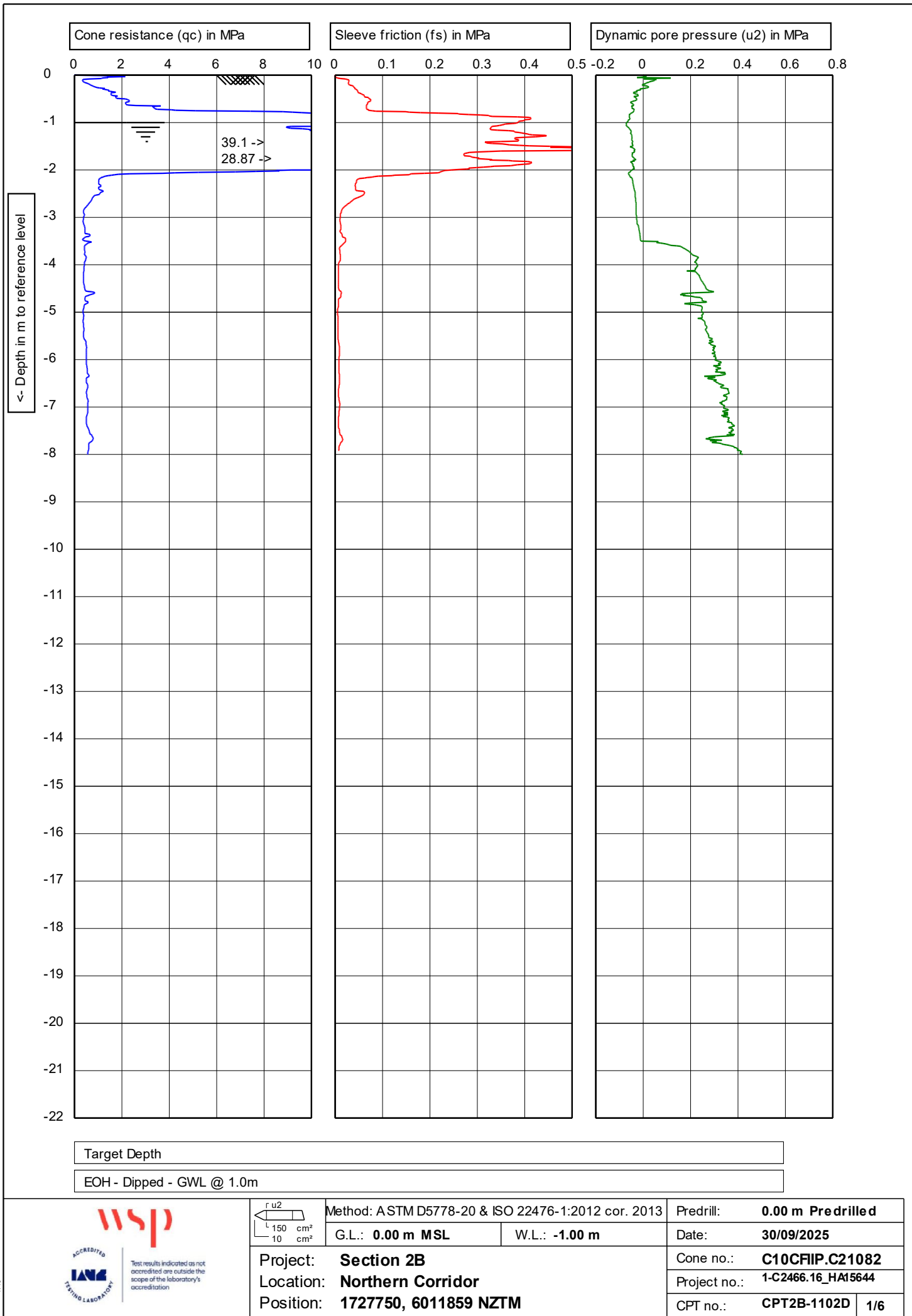
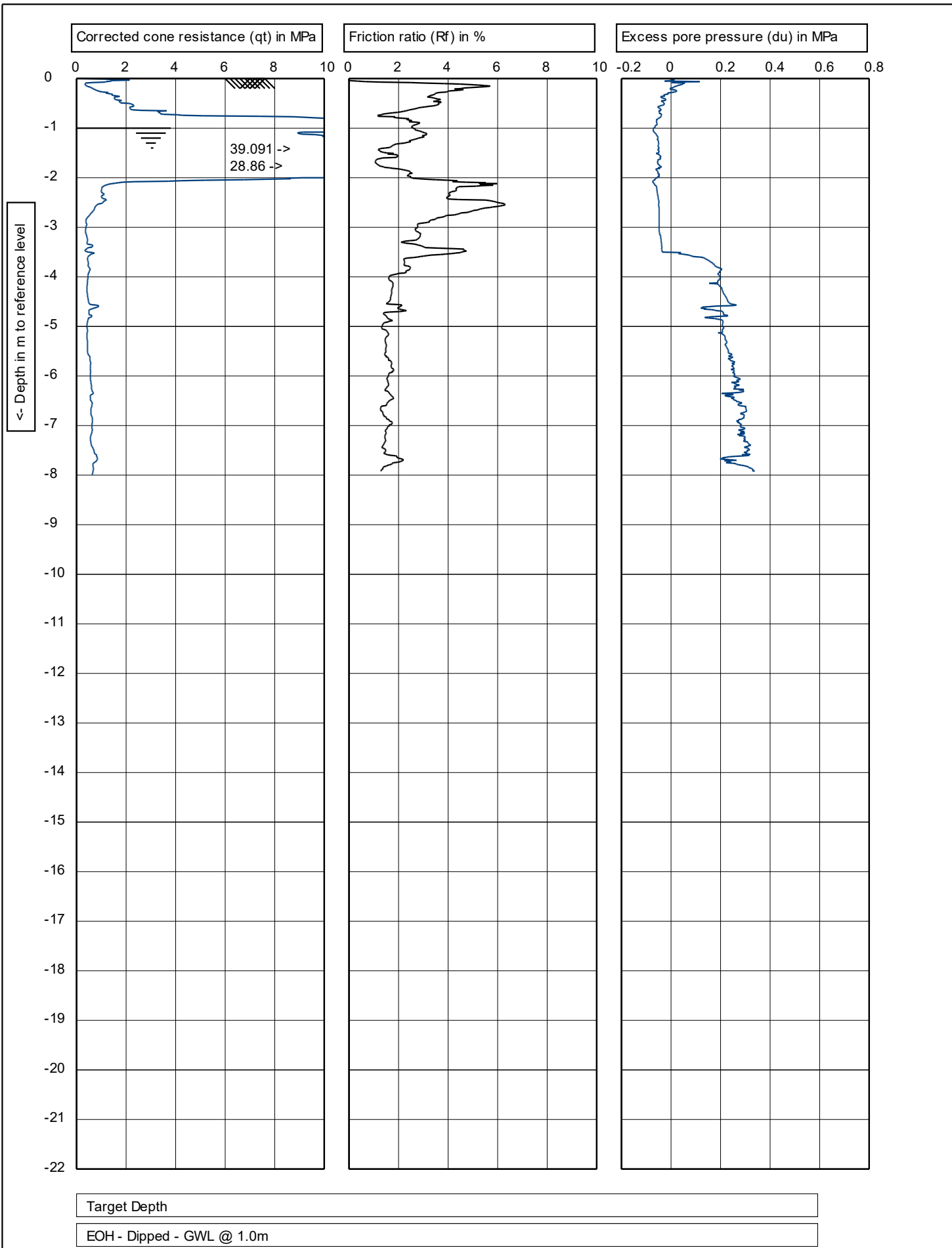
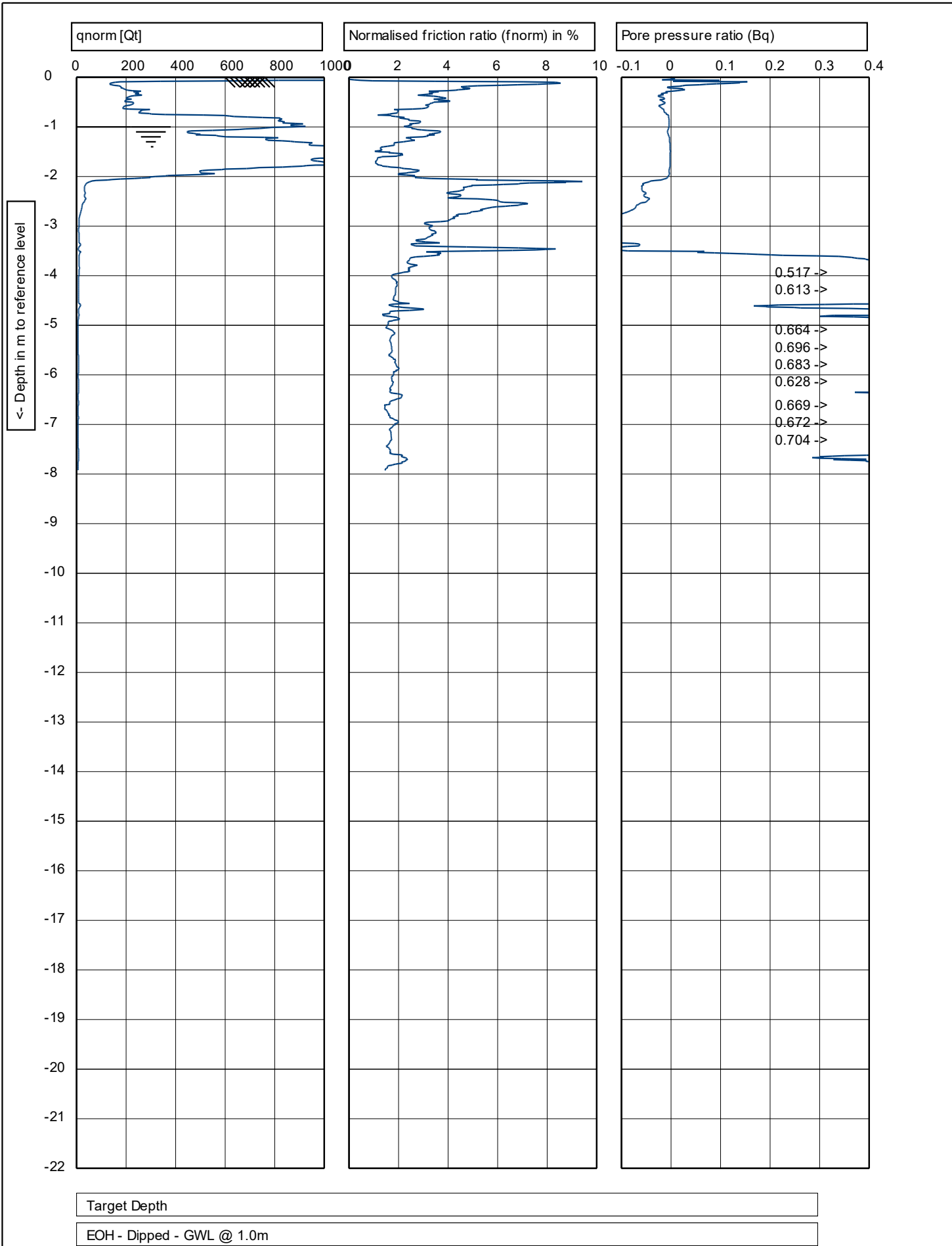




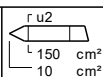


Graphs on this page are
not IANZ accredited

	Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013		Predrill: 0.00 m Predrilled	
	G.L.: 0.00 m MSL	W.L.: -1.00 m	Date: 30/09/2025	
Project: Section 2B	Location: Northern Corridor Position: 1727750, 6011859 NZTM		Cone no.: C10CFIIP.C21082	
Project no.: 1-C2466.16_HA15644				
CPT no.: CPT2B-1102D			2/6	



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.00 m

Predrill: 0.00 m Predrilled

Date: 30/09/2025

Project: Section 2B

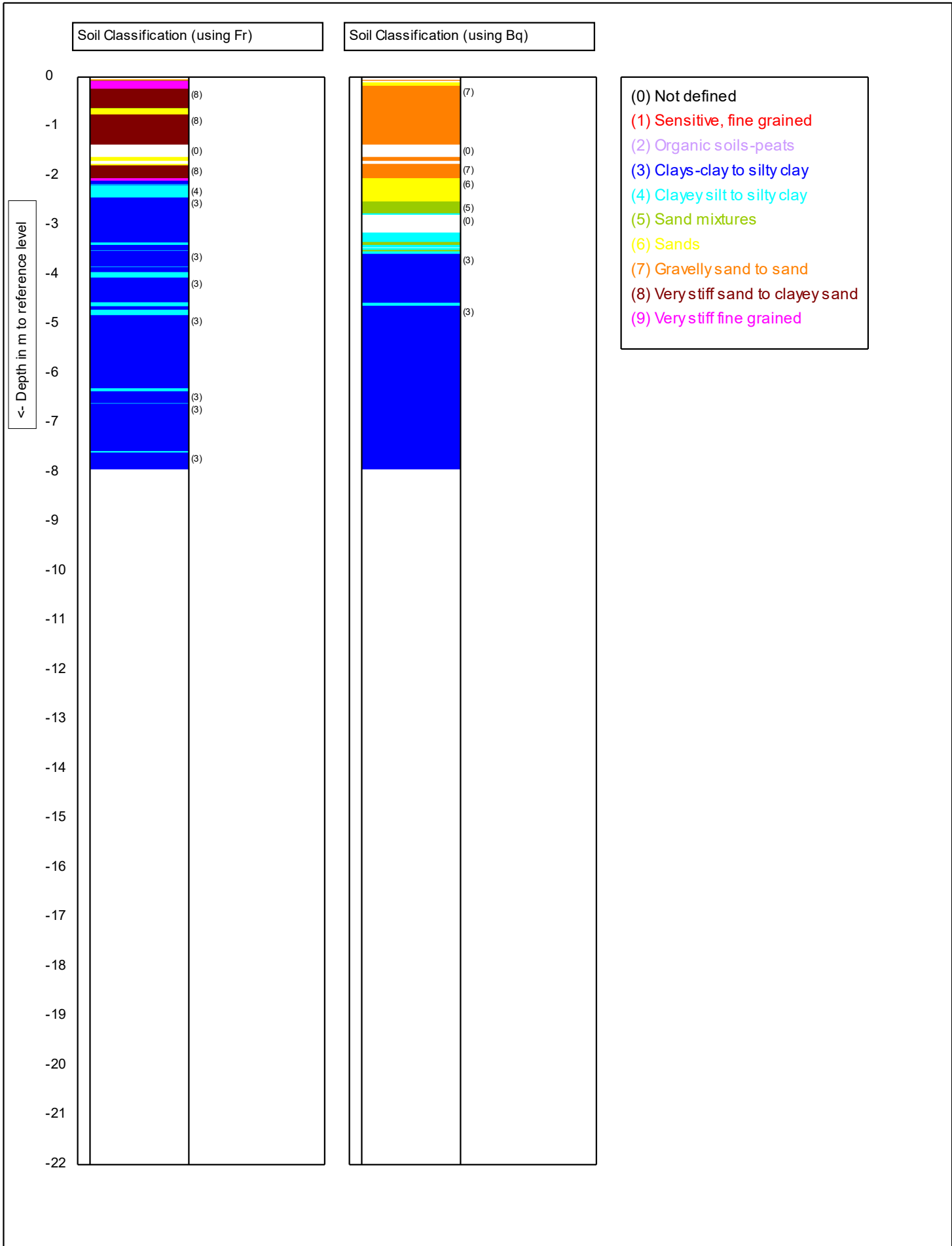
Location: Northern Corridor

Position: 1727750, 6011859 NZTM

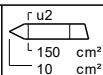
Cone no.: C10CFIIP.C21082

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1102D 3/6



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.00 m

Predrill: 0.00 m Predrilled

Date: 30/09/2025

Cone no.: C10CFIIP.C21082

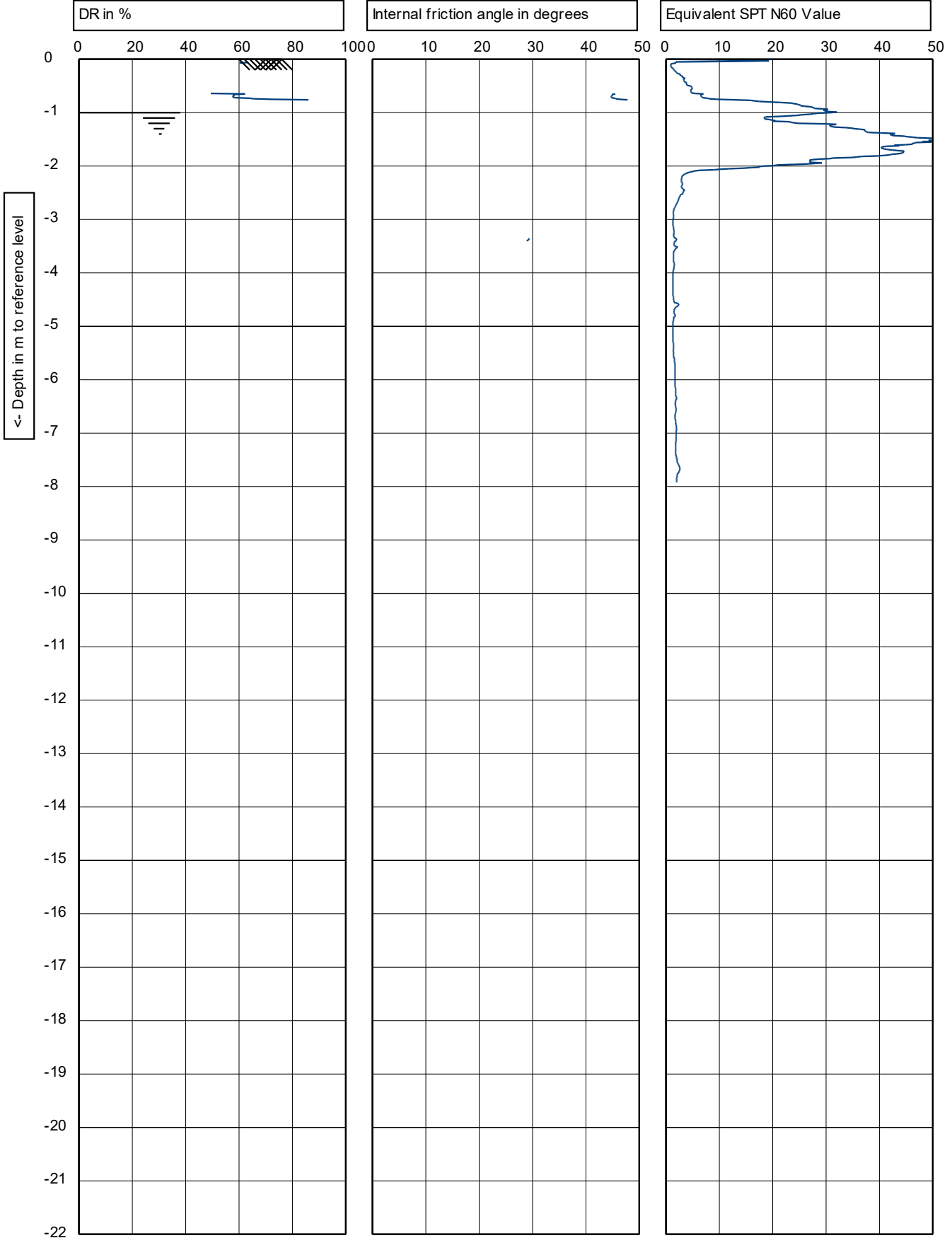
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1102D 4/6

Project: Section 2B

Location: Northern Corridor

Position: 1727750, 6011859 NZTM

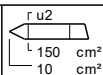


Target Depth

EOH - Dipped - GWL @ 1.0m



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.00 m

Predrill: 0.00 m Predrilled

Date: 30/09/2025

Project: Section 2B

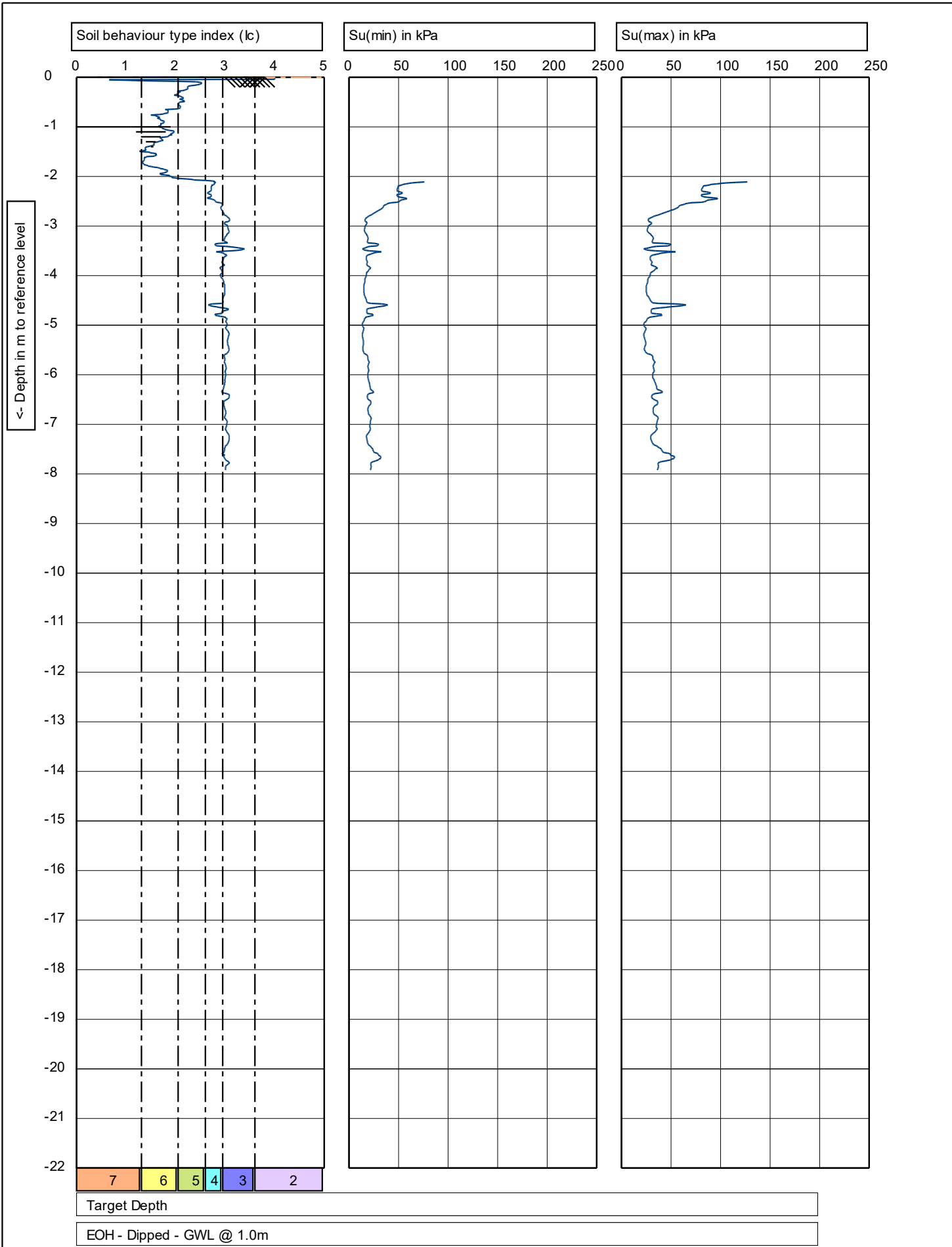
Location: Northern Corridor

Position: 1727750, 6011859 NZTM

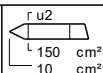
Cone no.: C10CFIIP.C21082

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1102D 5/6



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.00 m

Predrill: 0.00 m Predrilled

Date: 30/09/2025

Cone no.: C10CFIIP.C21082

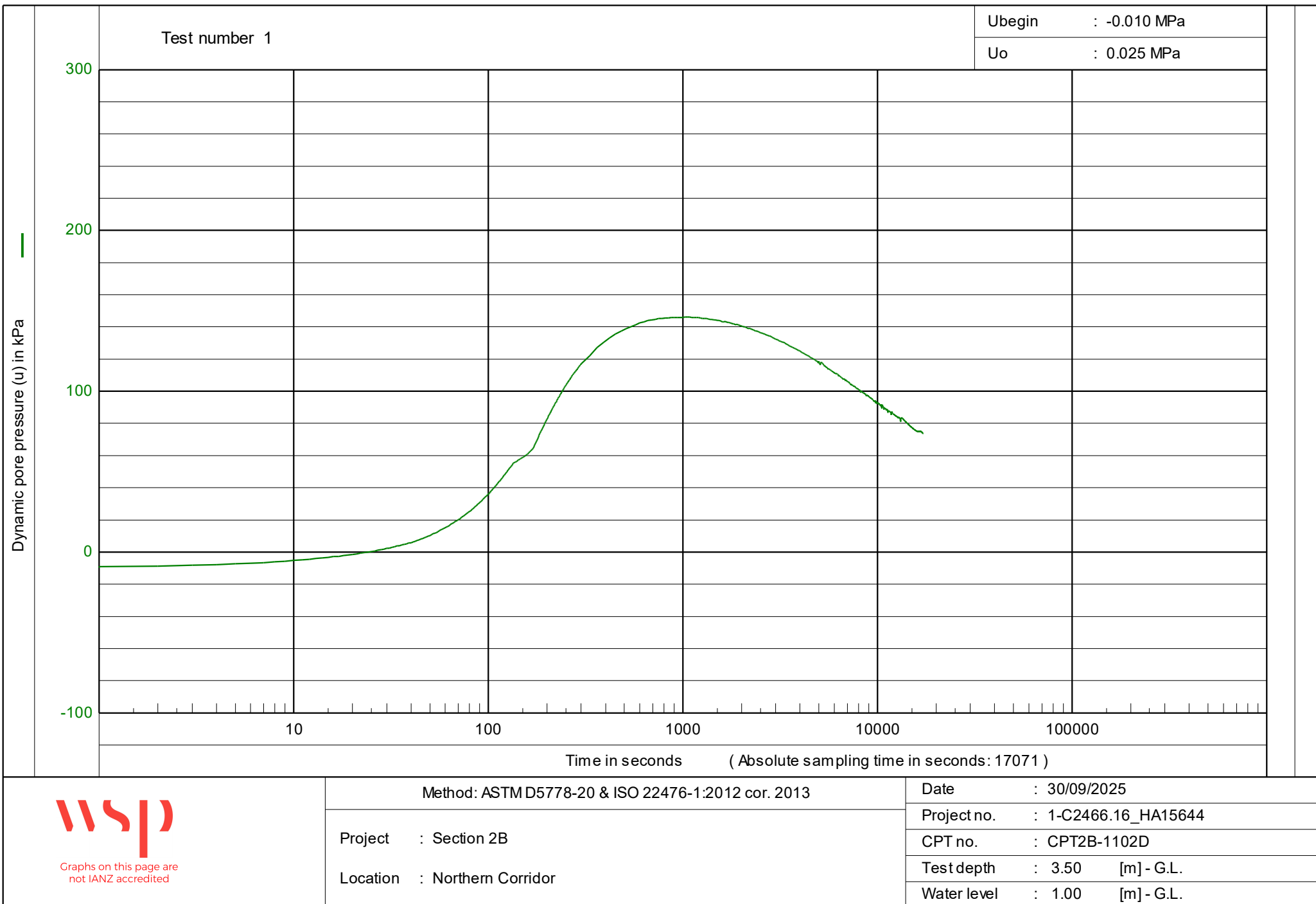
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1102D 6/6

Project: Section 2B

Location: Northern Corridor

Position: 1727750, 6011859 NZTM



**CONE PENETRATION
TEST REPORT**



Client : **Waka Kotahi NZ Transport Agency**
Project : **Section 2B**
Location : **Northern Corridor**
Hole Number: **CPT2B-1102D**
Tested by : **J Kavanaugh/ T Makasiale**
Date tested : **30/09/25**
Coordinates : **1727750** **E**
6011859 **N**
Elevation : **34 m**
Water level : **EOH - Dipped - GWL @ 1.0m**

Project No : **1-C2466.16**
Lab Ref No : **HA15644_CPT2B-1102D**

Test Results

Start Time	8:14:00 am
Time at penetration	8:21:37 am
End Time	12:07:37 am
Reference level	0
Ground level	0
Predrill	0
Penetration Depth	8
Remarks	Target Depth
GPS Type	Garmin eTrex 20
GPS Accuracy	+ / - 3m
GPS Reference Grid	NZTM
GPS Datum	MSL
Rig Type	Geomil Panther 100
Rig ID	CPT05
Reaction Force	Dead weight 13.1 tonnes
Data Acquisition (Digitizer)	GeoMil GME500
Acquisition Program	GeoMil CPTest
Reporting Program	GeoMil CPTask
Cone Type	C10 (10 Tonne Compression)
Cross Sectional Area	10cm ²
Cone Area Ratio	0.8
Fluid Type	Silicone Fluid
Friction Reducer	>400mm behind base of cone
Application Class (ISO 22476-1)	3
Test Type (ISO 22476-1)	TE2 (Measured Cone and Sleeve)
Back Fill Method	Bentonite
Observations During Testing	Hole positioned east of CPT2B-1102

Test Methods: ASTM D5778-20
ISO 22476-1:2012 Cor. 2013

Date tested : 30/09/25
Date reported : 01/10/25

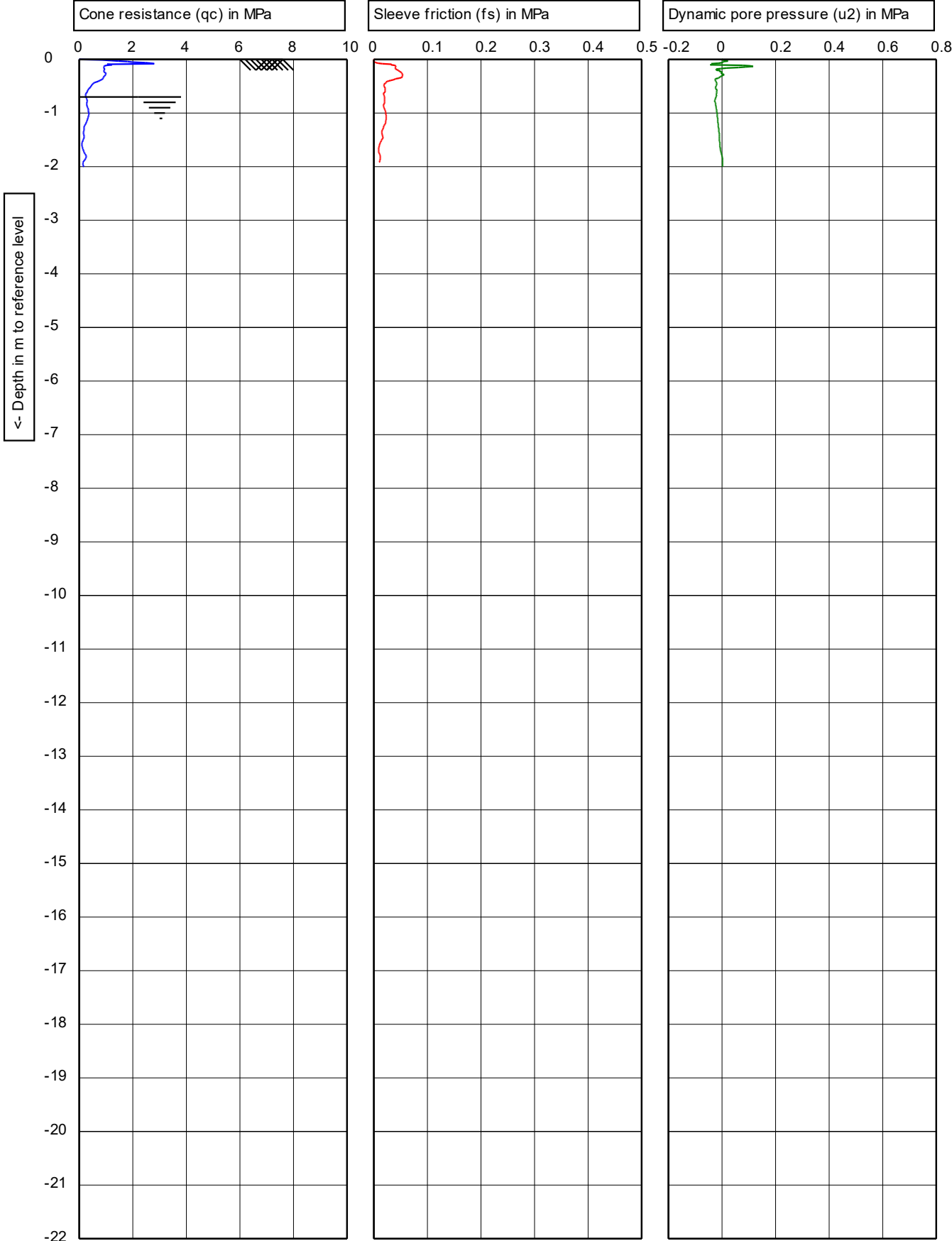
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Approved Signatory

Designation : *CPT North Island Manager*
Date : 01/10/25



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have been performed in
accordance with the
laboratory's scope of
accreditation



Target Depth

EOH - Dipped - GWL @ 0.7m

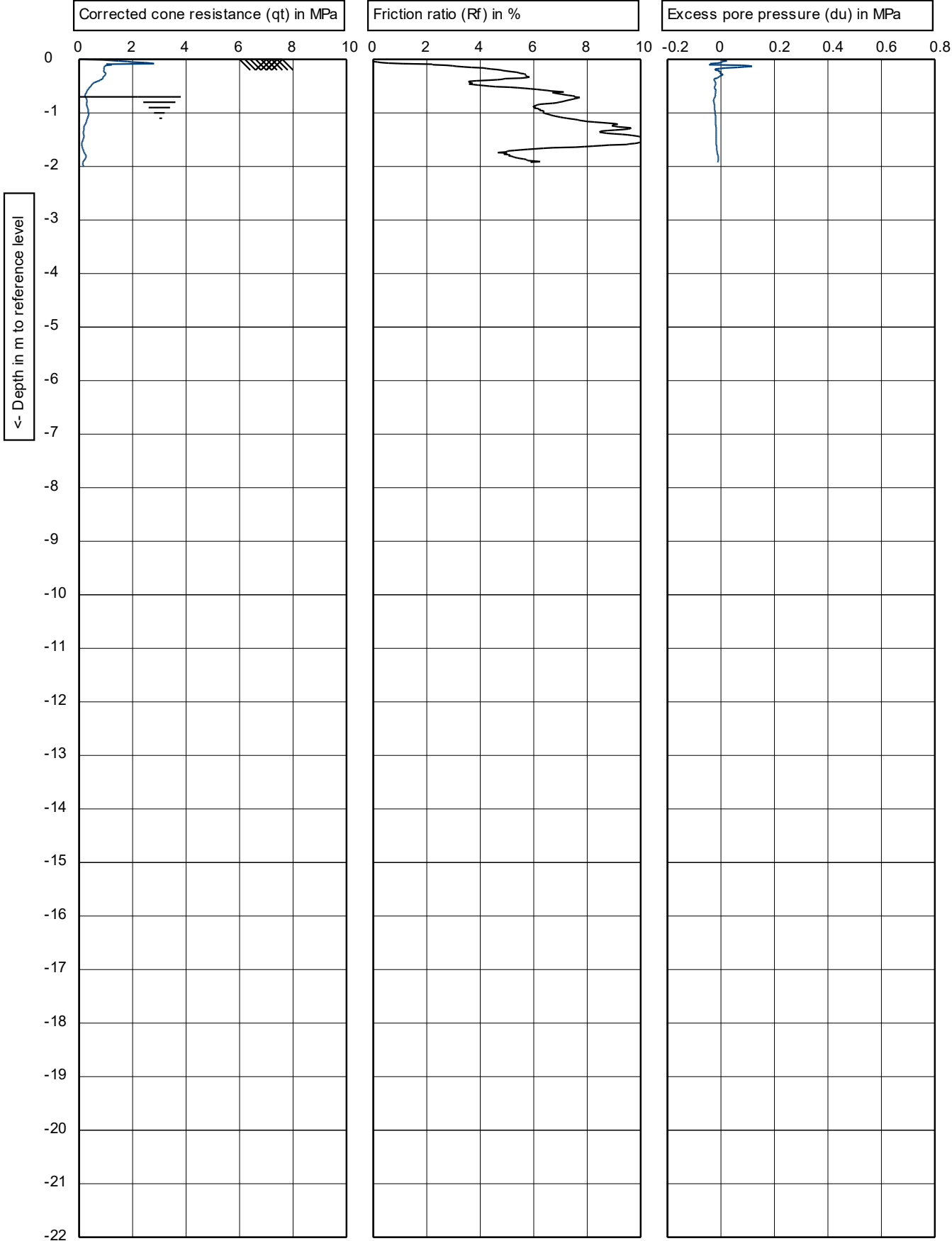


Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013
G.L.: 0.00 m MSL W.L.: -0.70 m

Predrill: 0.00 m Predrilled
Date: 1/10/2025

Project: Section 2B
Location: Northern Corridor
Position: 1727844, 6014592 NZTM

Cone no.: C10CFIIP.C21082
Project no.: 1-C2466.16_HA15644
CPT no.: CPT2B-1103D 1/6



Target Depth

EOH - Dipped - GWL @ 0.7m



Graphs on this page are not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -0.70 m

Predrill: 0.00 m Predrilled

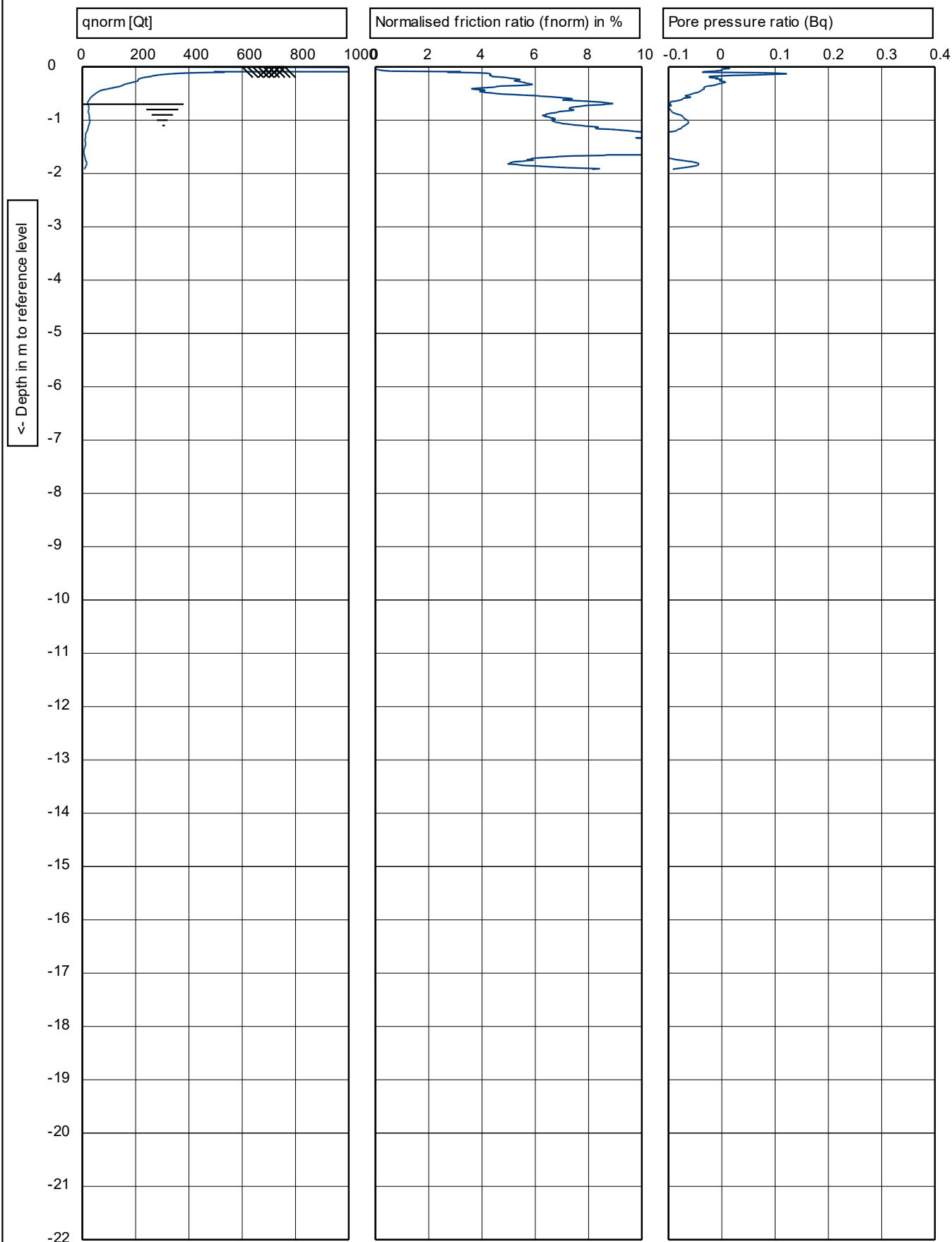
Date: 1/10/2025

Cone no.: C10CFIIP.C21082

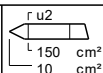
Project no.: 1-C2466.16_HA15644

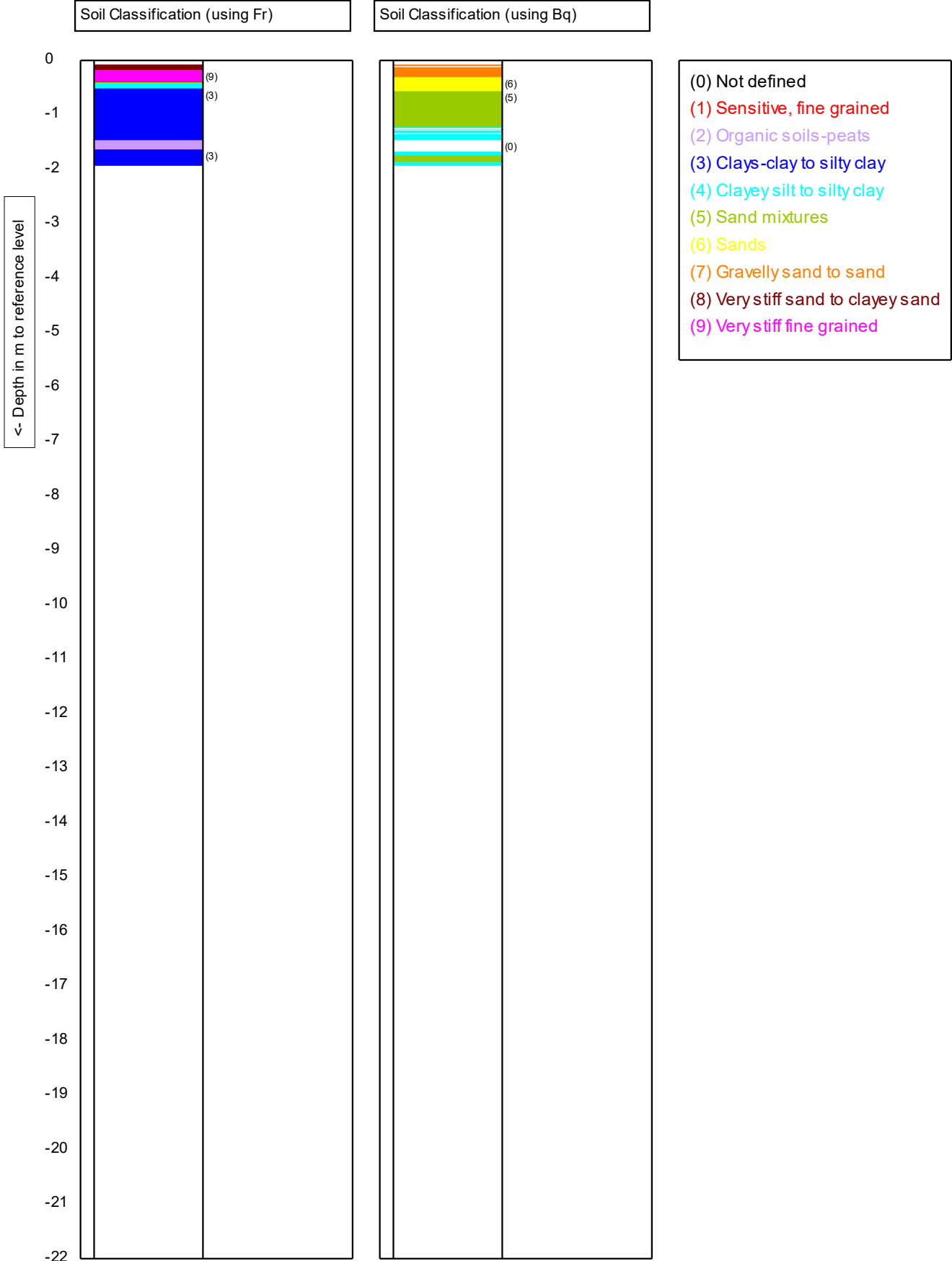
CPT no.: CPT2B-1103D 2/6

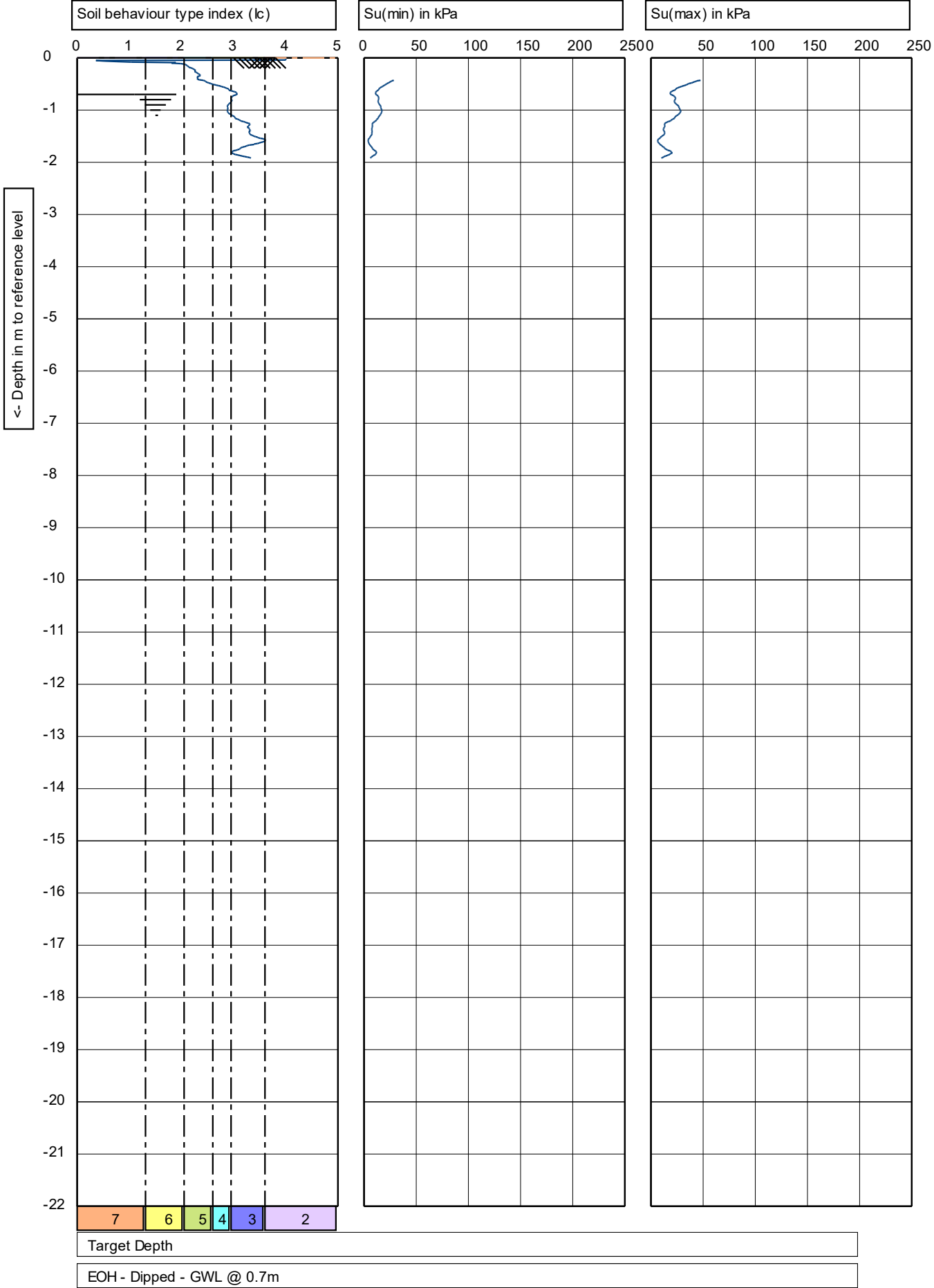
Project: Section 2B
Location: Northern Corridor
Position: 1727844, 6014592 NZTM



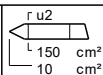
Target Depth







Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -0.70 m

Predrill: 0.00 m Predrilled

Date: 1/10/2025

Cone no.: C10CFIIP.C21082

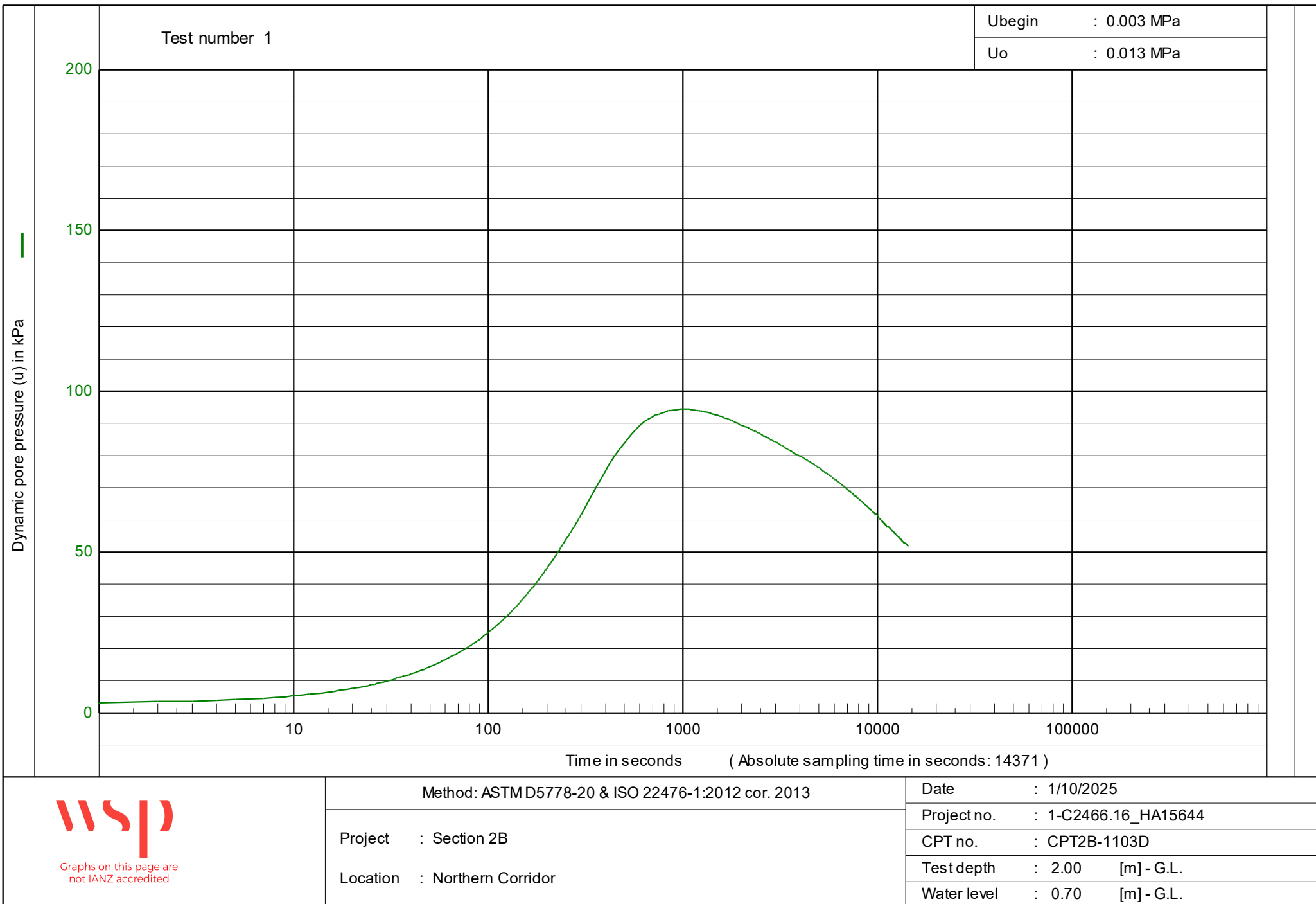
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1103D 6/6

Project: Section 2B

Location: Northern Corridor

Position: 1727844, 6014592 NZTM



CONE PENETRATION
TEST REPORT



Client : Waka Kotahi NZ Transport Agency
Project : Section 2B
Location : Northern Corridor
Hole Number: CPT2B-1103D
Tested by : J Kavanaugh/ T Makasiale
Date tested : 01/10/25
Coordinates : 1727844 E
6014592 N
Elevation : 18m
Water level : EOH - Dipped - GWL @ 0.7m

Project No : 1-C2466.16
Lab Ref No : HA15644_CPT2B-1103D

Test Results

Start Time	2:30:00 pm
Time at penetration	2:31:49 pm
End Time	12:01:49 am
Reference level	0
Ground level	0
Predrill	0
Penetration Depth	2
Remarks	Target Depth
GPS Type	Garmin eTrex 20
GPS Accuracy	+ / - 3m
GPS Reference Grid	NZTM
GPS Datum	MSL
Rig Type	Geomil Panther 100
Rig ID	CPT05
Reaction Force	Dead weight 13.1 tonnes
Data Acquisition (Digitizer)	GeoMil GME500
Acquisition Program	GeoMil CPTest
Reporting Program	GeoMil CPTask
Cone Type	C10 (10 Tonne Compression)
Cross Sectional Area	10cm ²
Cone Area Ratio	0.8
Fluid Type	Silicone Fluid
Friction Reducer	>400mm behind base of cone
Application Class (ISO 22476-1)	3
Test Type (ISO 22476-1)	TE2 (Measured Cone and Sleeve)
Back Fill Method	Bentonite
Observations During Testing	Hole positioned west of CPT2B-1103

Test Methods: ASTM D5778-20
ISO 22476-1:2012 Cor. 2013

Date tested : 01/10/25
Date reported : 02/10/25

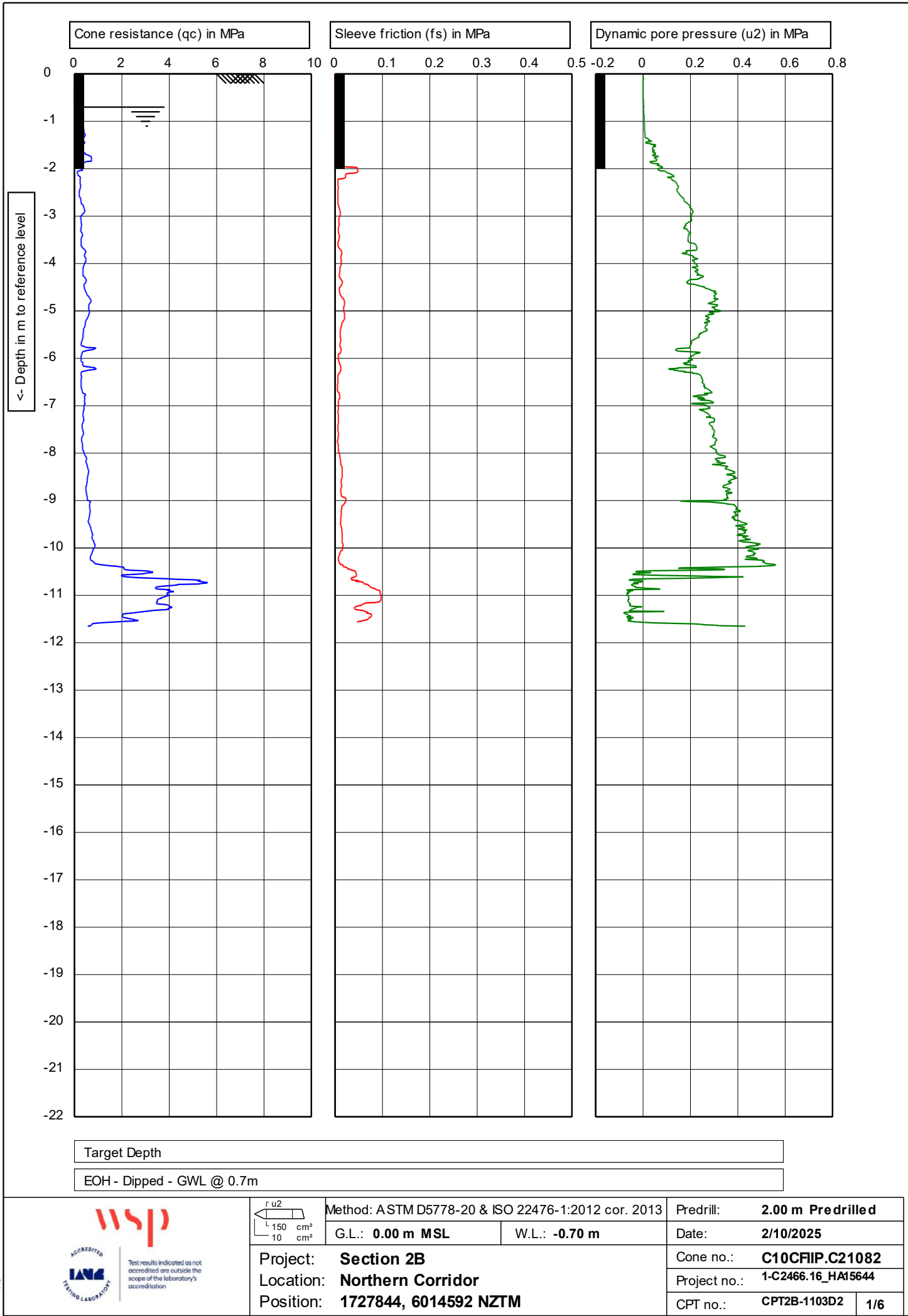
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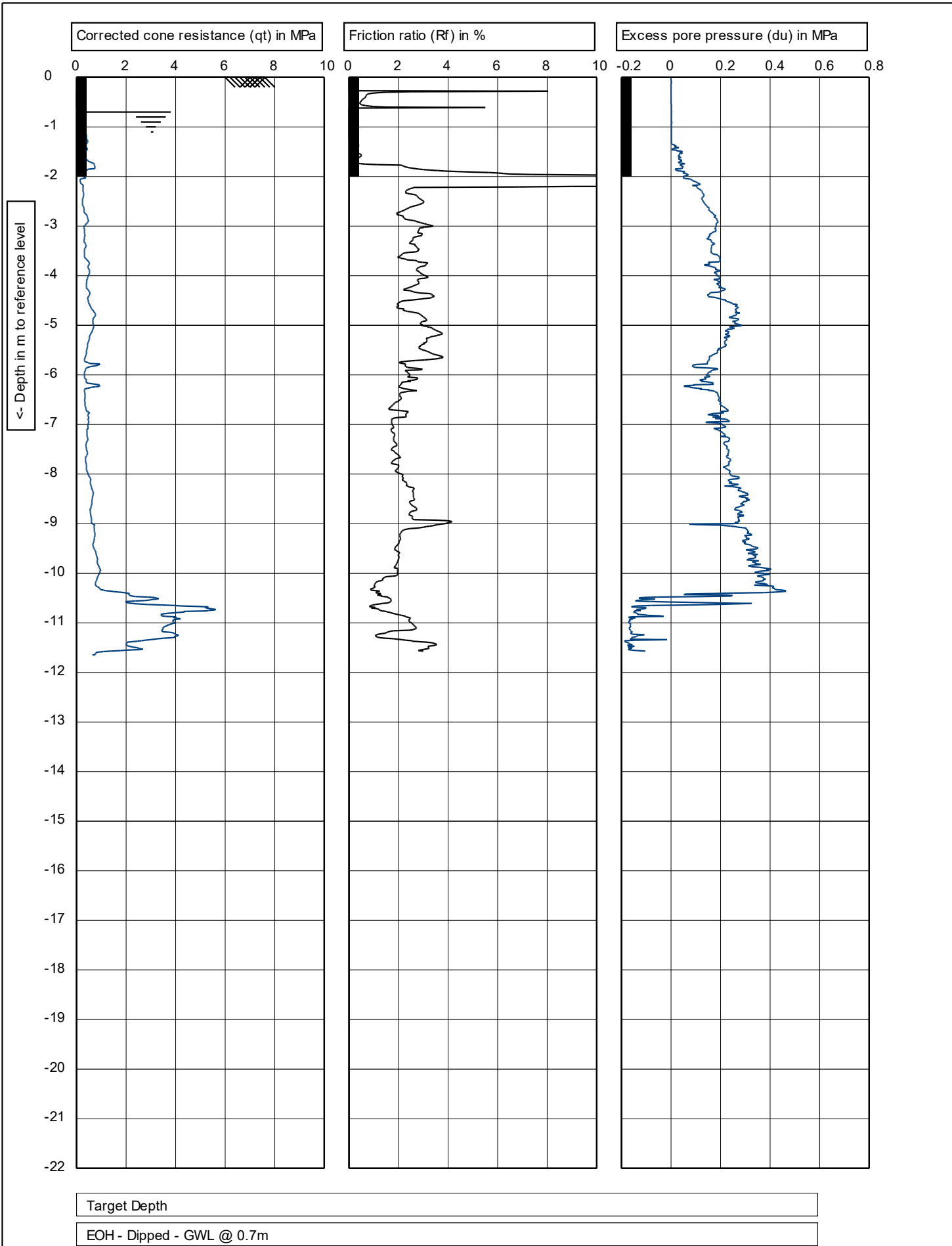
Approved Signatory

Designation : CPT North Island Manager
Date : 02/10/25

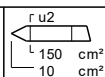


All tests reported herein
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accordance with the
laboratory's scope of
accreditation





Graphs on this page are
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Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -0.70 m

Predrill: 2.00 m Predrilled

Date: 2/10/2025

Cone no.: C10CFIIP.C21082

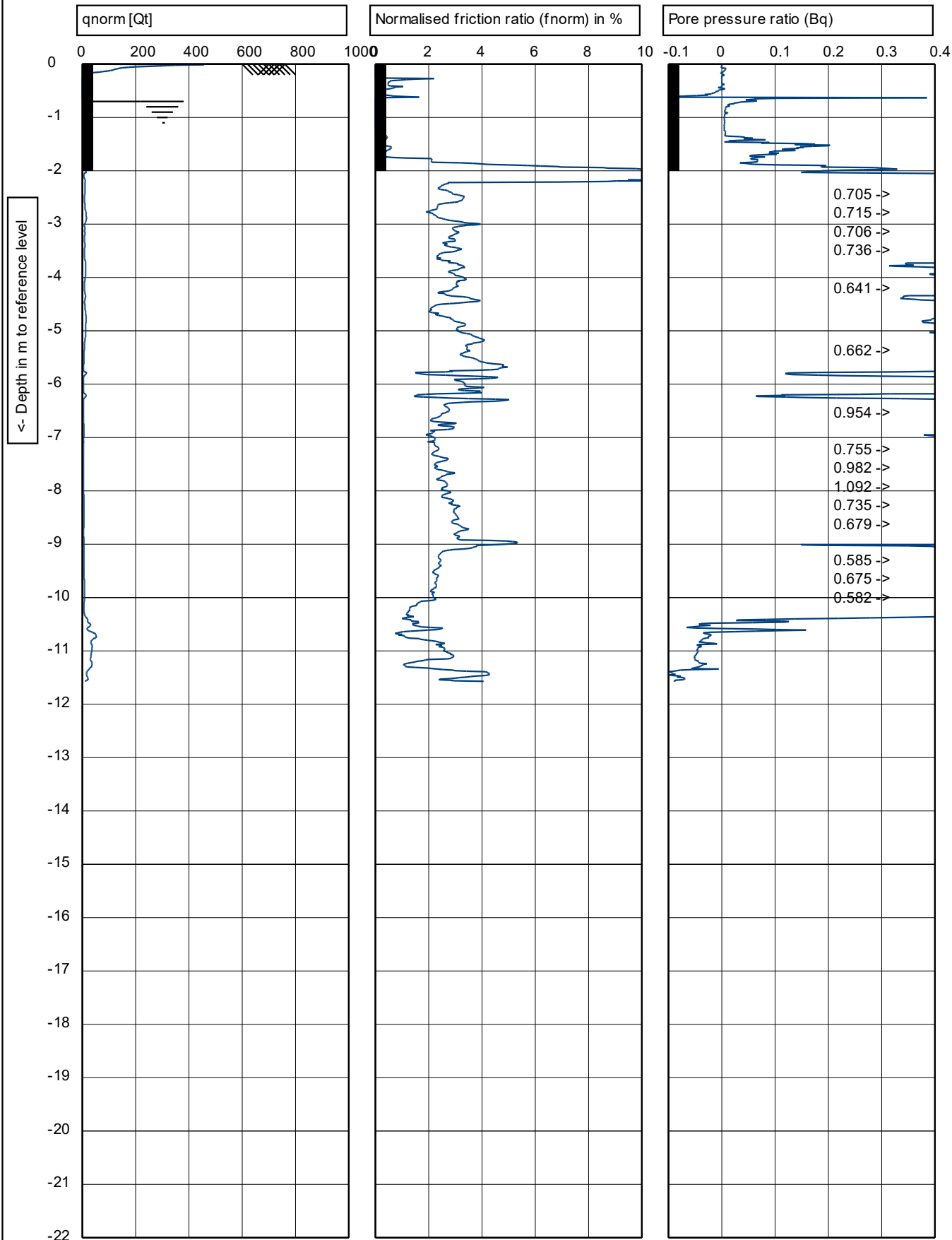
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1103D2 2/6

Project: Section 2B

Location: Northern Corridor

Position: 1727844, 6014592 NZTM

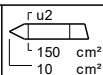


Target Depth

EOH - Dipped - GWL @ 0.7m



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -0.70 m

Predrill: 2.00 m Predrilled

Date: 2/10/2025

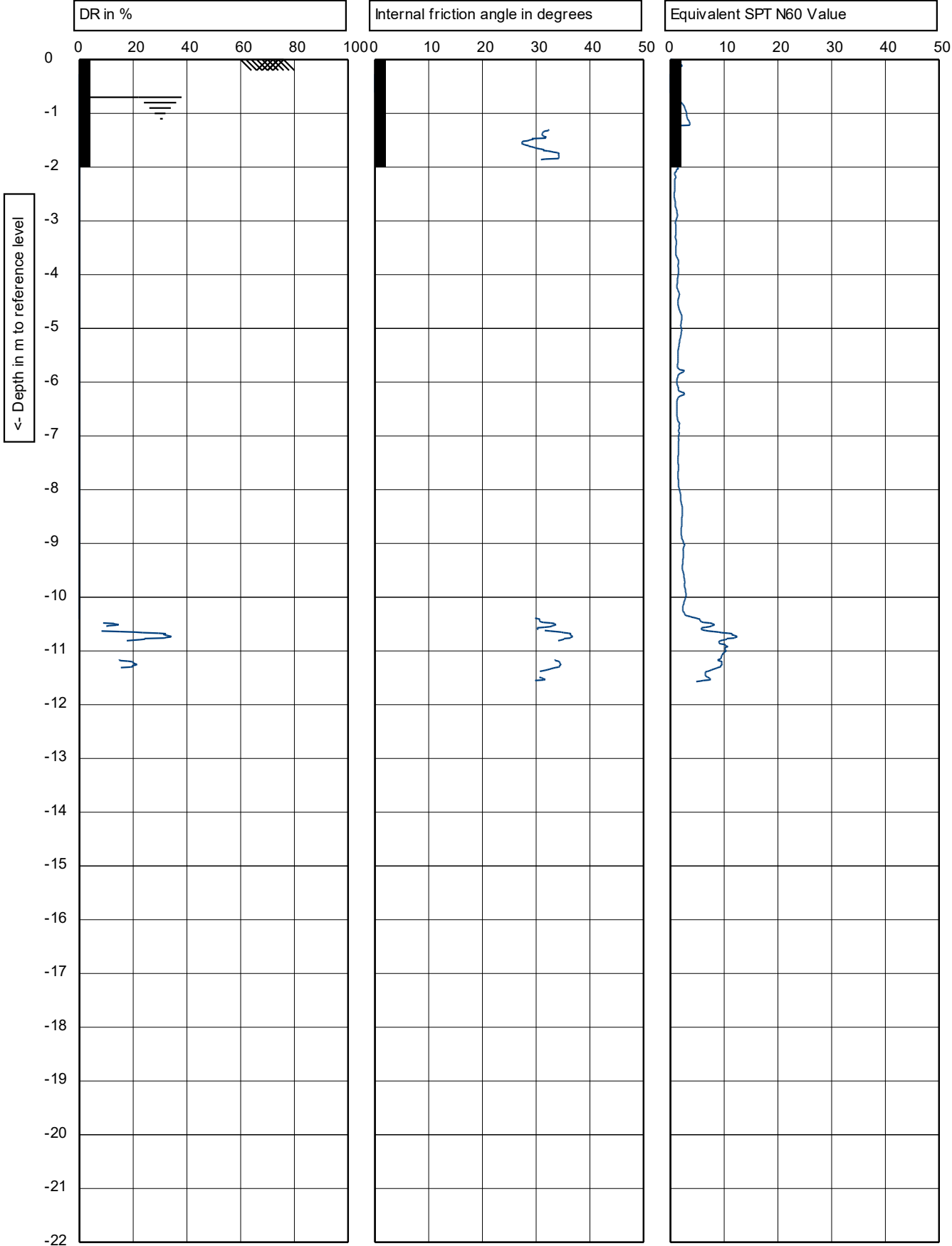
Cone no.: C10CFIIP.C21082

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1103D2 3/6

Project: Section 2B
Location: Northern Corridor
Position: 1727844, 6014592 NZTM





Target Depth

EOH - Dipped - GWL @ 0.7m



Graphs on this page are not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -0.70 m

Predrill: 2.00 m Predrilled

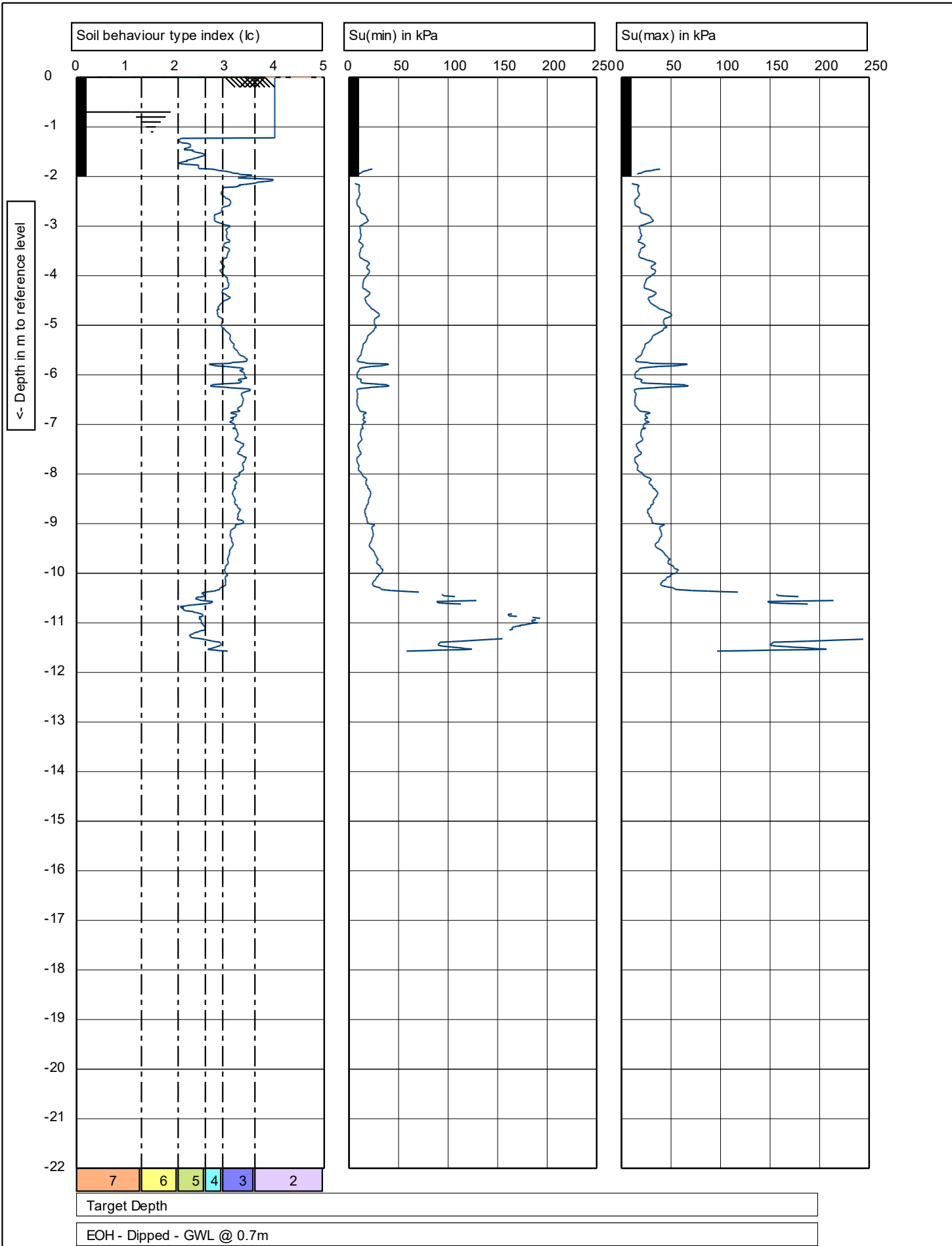
Date: 2/10/2025

Cone no.: C10CFIIP.C21082

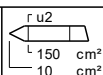
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1103D2 5/6

Project: Section 2B
Location: Northern Corridor
Position: 1727844, 6014592 NZTM



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -0.70 m

Predrill: 2.00 m Predrilled

Date: 2/10/2025

Cone no.: C10CFIIP.C21082

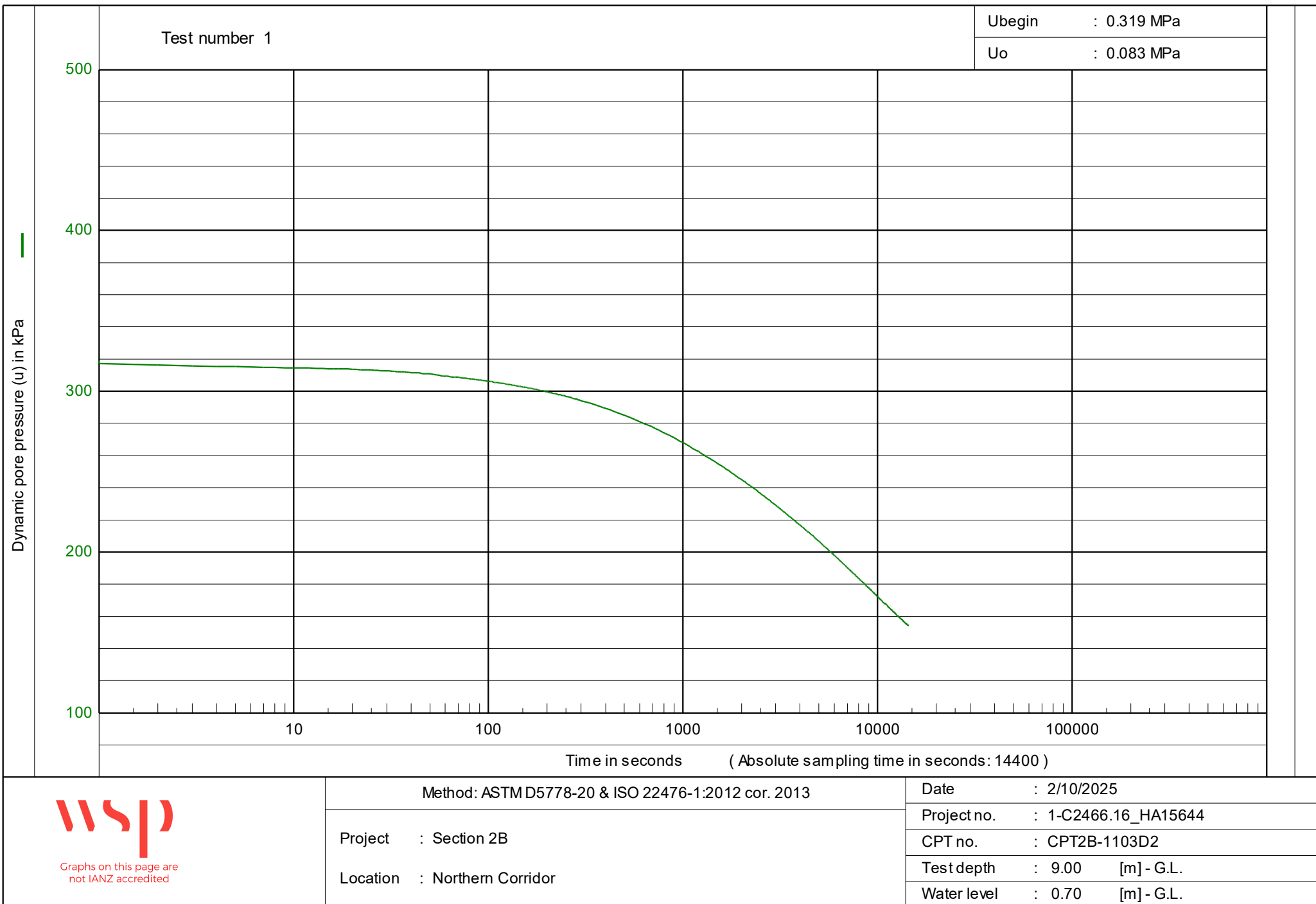
Project no.: 1-C2466.16_HA15644

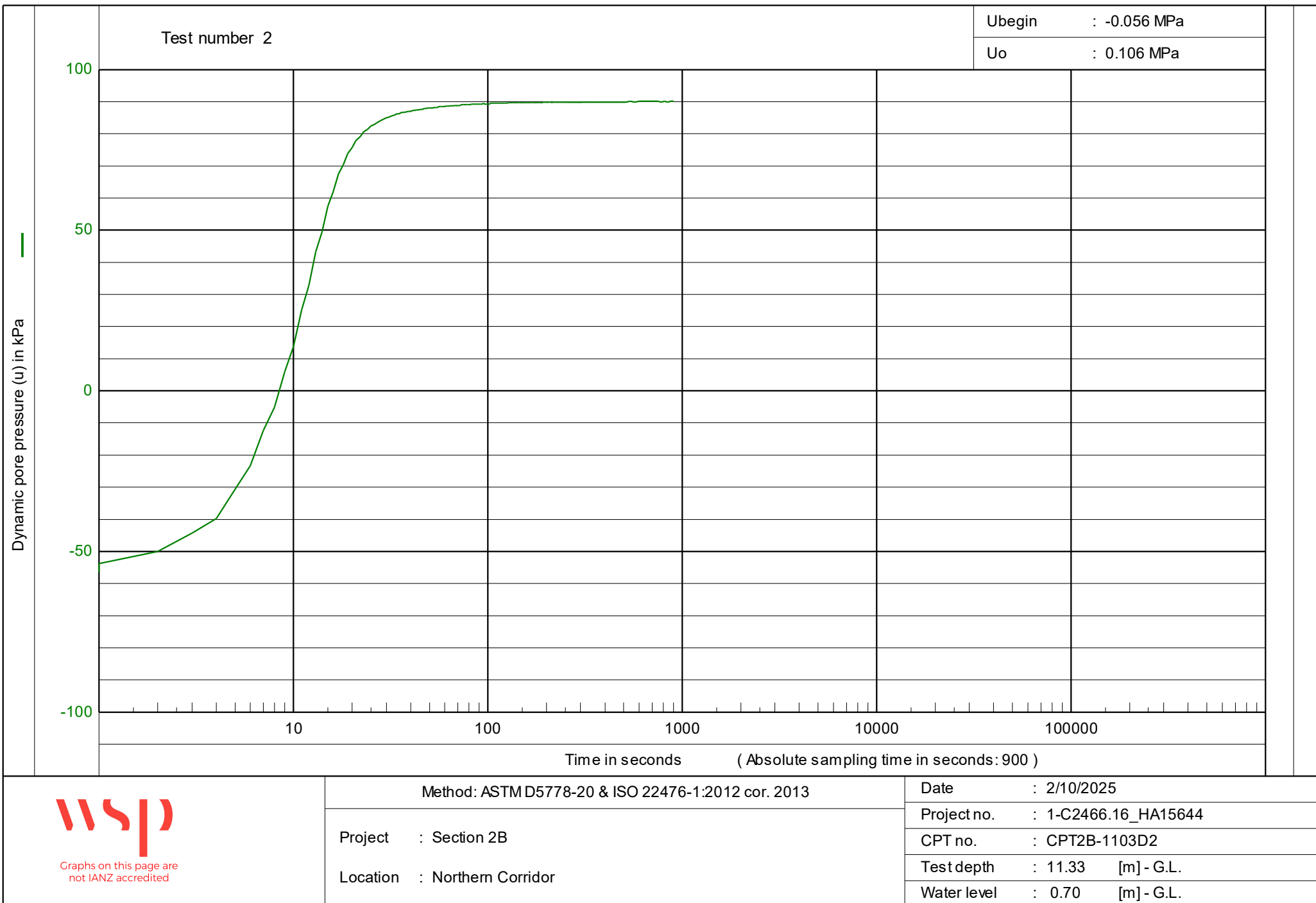
CPT no.: CPT2B-1103D2 6/6

Project: Section 2B

Location: Northern Corridor

Position: 1727844, 6014592 NZTM







Graphs on this page are not IANZ accredited

Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

Project : Section 2B

Location : Northern Corridor

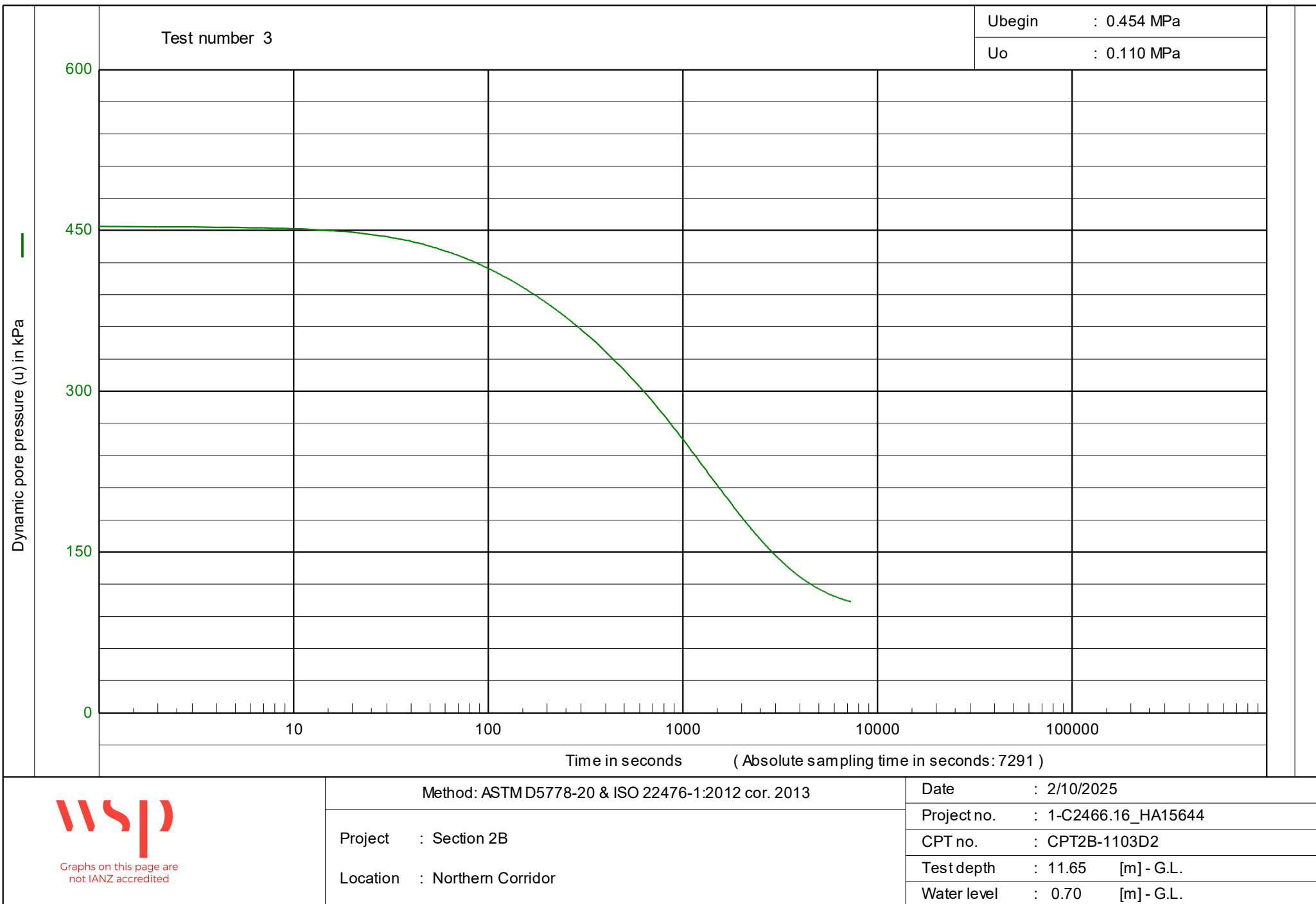
Date : 2/10/2025

Project no. : 1-C2466.16_HA15644

CPT no. : CPT2B-1103D2

Test depth : 11.33 [m] - G.L.

Water level : 0.70 [m] - G.L.



CONE PENETRATION TEST REPORT



Client : Waka Kotahi NZ Transport Agency
 Project : Section 2B
 Location : Northern Corridor
 Hole Number: CPT2B-1103D2
 Tested by : J Kavanaugh/ T Makasiale
 Date tested : 02/10/25
 Coordinates : 1727844 E
 6014592 N
 Elevation : 18m
 Water level : EOH - Dipped - GWL @ 0.7m

Project No : 1-C2466.16
 Lab Ref No : HA15644_CPT2B-1103D2
 Client Ref No :

Test Results	
Start Time	7:23:00 am
Time at penetration	7:33:11 am
End Time	12:10:11 am
Reference level	0
Ground level	0
Predrill	2
Penetration Depth	11.65
Remarks	Target Depth
GPS Type	Garmin eTrex 20
GPS Accuracy	+/- 3m
GPS Reference Grid	NZTM
GPS Datum	MSL
Rig Type	Geomil Panther 100
Rig ID	CPT05
Reaction Force	Dead weight 13.1 tonnes
Data Acquisition (Digitizer)	GeoMil GME500
Acquisition Program	GeoMil CPTest
Reporting Program	GeoMil CPTask
Cone Type	C10 (10 Tonne Compression)
Cross Sectional Area	10cm ²
Cone Area Ratio	0.8
Fluid Type	Silicone Fluid
Friction Reducer	>400mm behind base of cone
Application Class (ISO 22476-1)	3
Test Type (ISO 22476-1)	TE2 (Measured Cone and Sleeve)
Back Fill Method	Bentonite
Observations During Testing	Hole in same position as CPT2B-1103D
Test Methods: ASTM D5778-20 ISO 22476-1:2012 Cor. 2013	

Date tested : 02/10/25
 Date reported : 03/10/25

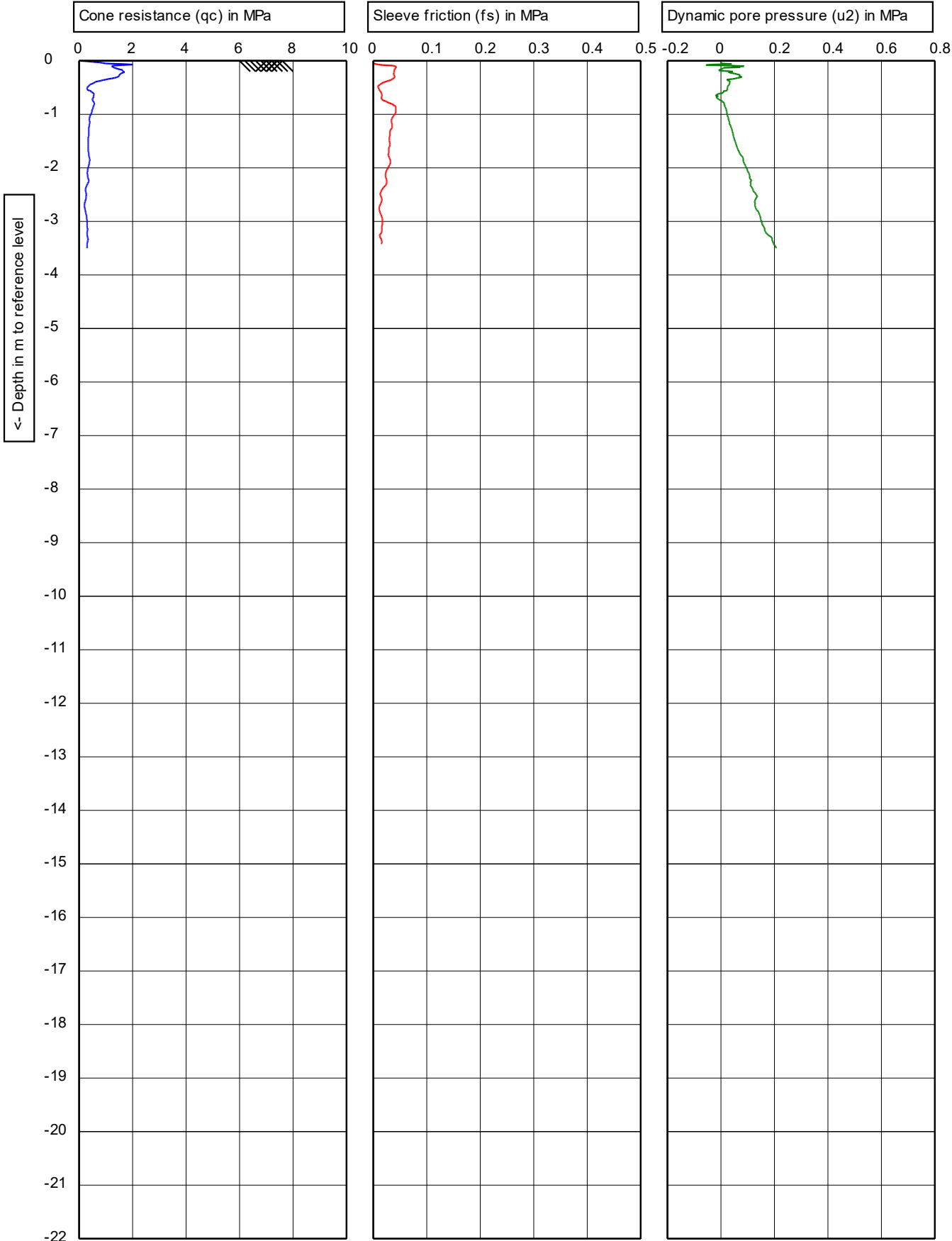
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 corresponding calibration data, daily logs, and CPT graphs.

Approved Signatory

Designation : CPT North Island Manager
 Date : 03/10/25



All tests reported herein
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 laboratory's scope of
 accreditation



Target Depth

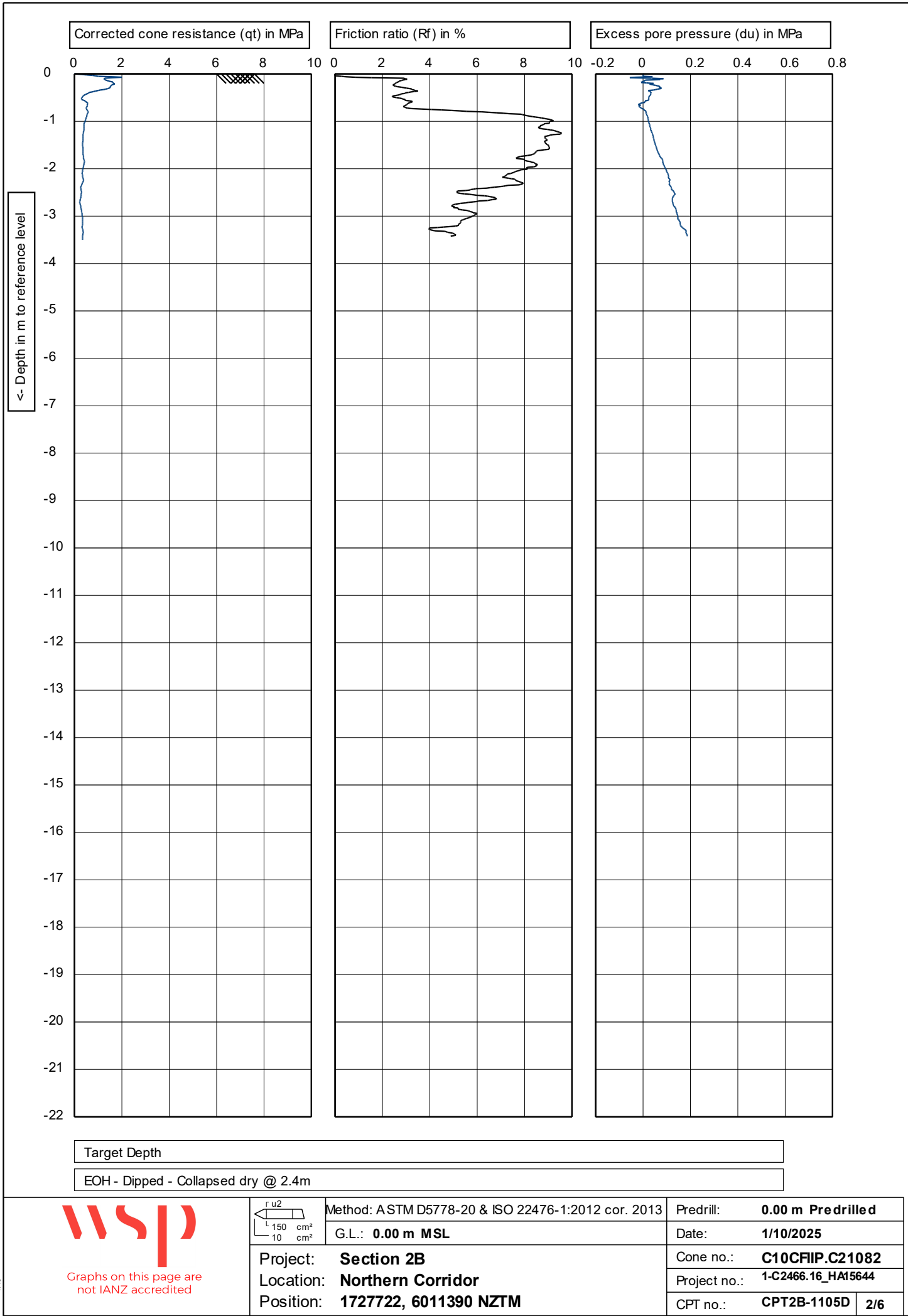
EOH - Dipped - Collapsed dry @ 2.4m

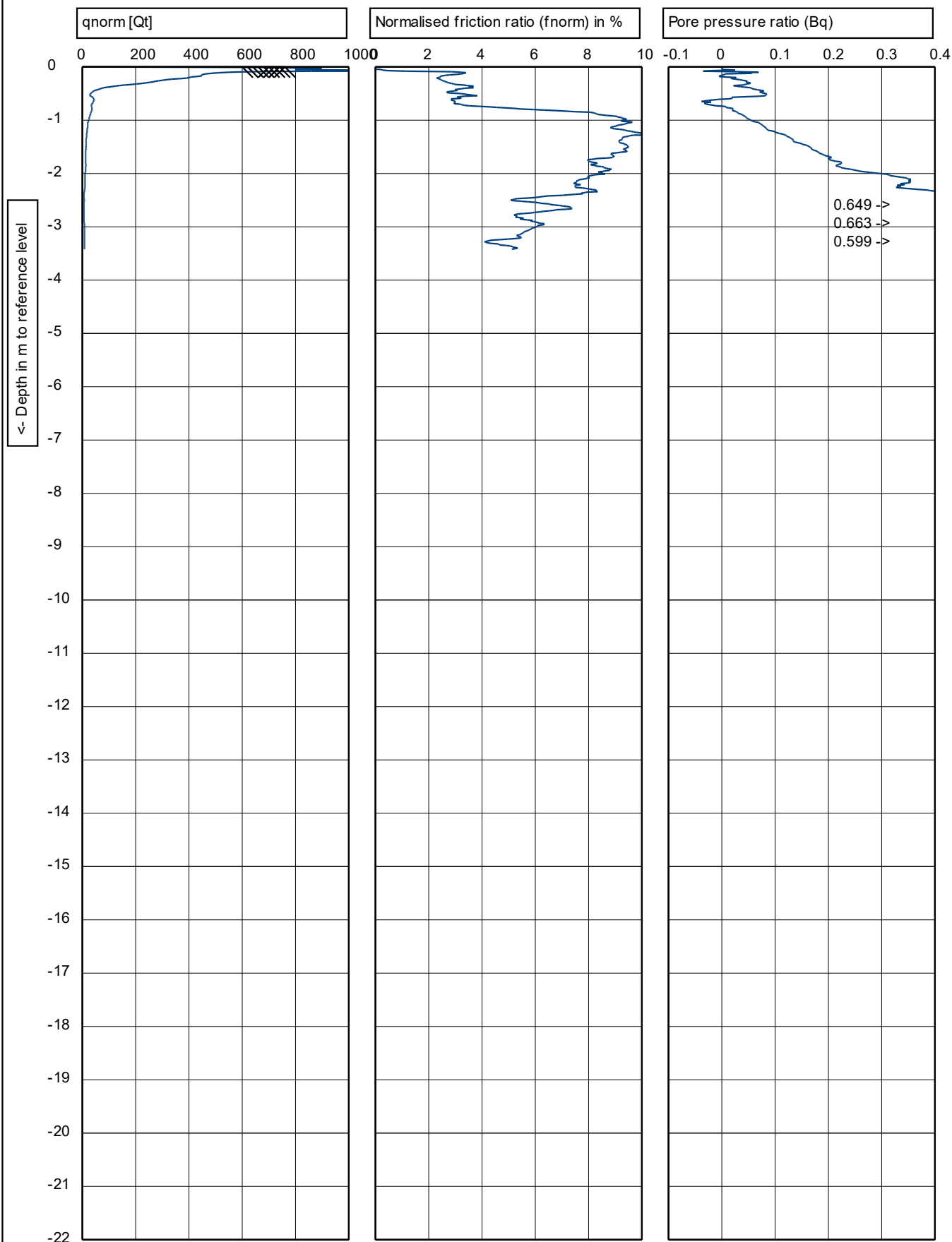


Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013
G.L.: 0.00 m MSL

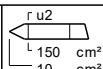
Project: **Section 2B**
Location: **Northern Corridor**
Position: **1727722, 6011390 NZTM**

Predrill: **0.00 m Predrilled**
Date: **1/10/2025**
Cone no.: **C10CFIIP.C21082**
Project no.: **1-C2466.16_HA15644**
CPT no.: **CPT2B-1105D**



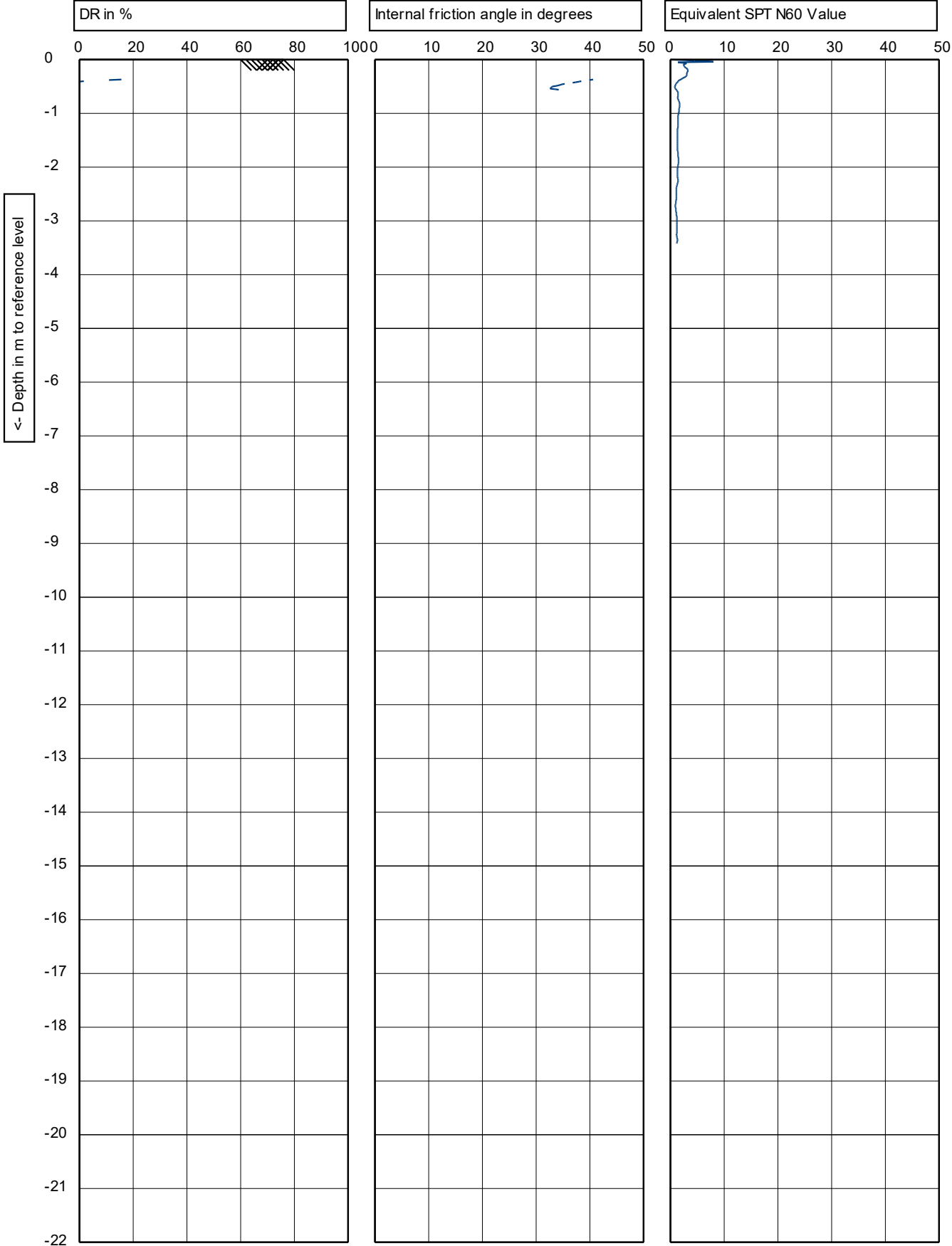


Target Depth

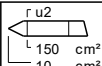


Project: **Section 2B**
Location: **Northern Corridor**
Position: **1727722, 6011390 NZTM**





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not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

Predrill: 0.00 m Predrilled

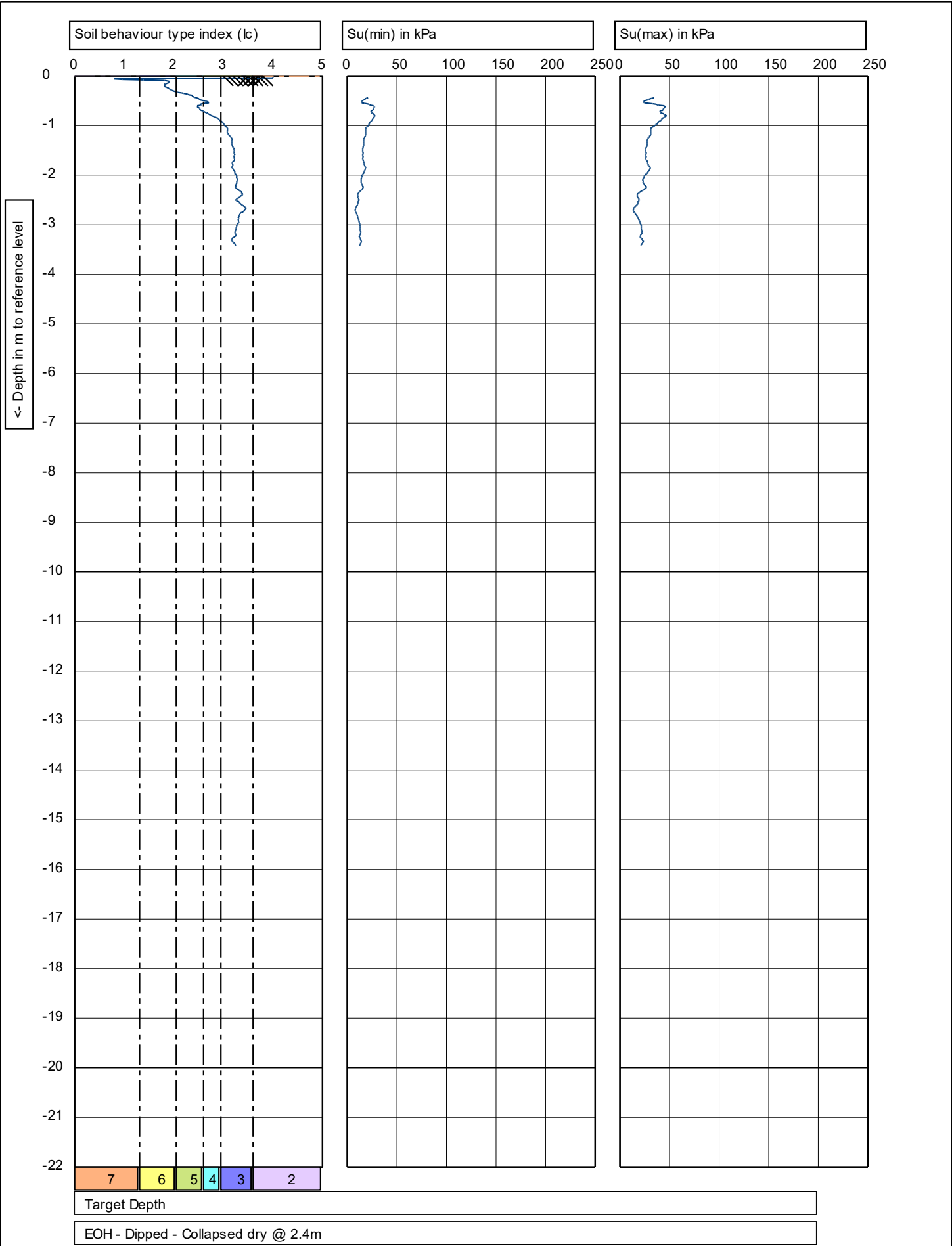
Date: 1/10/2025

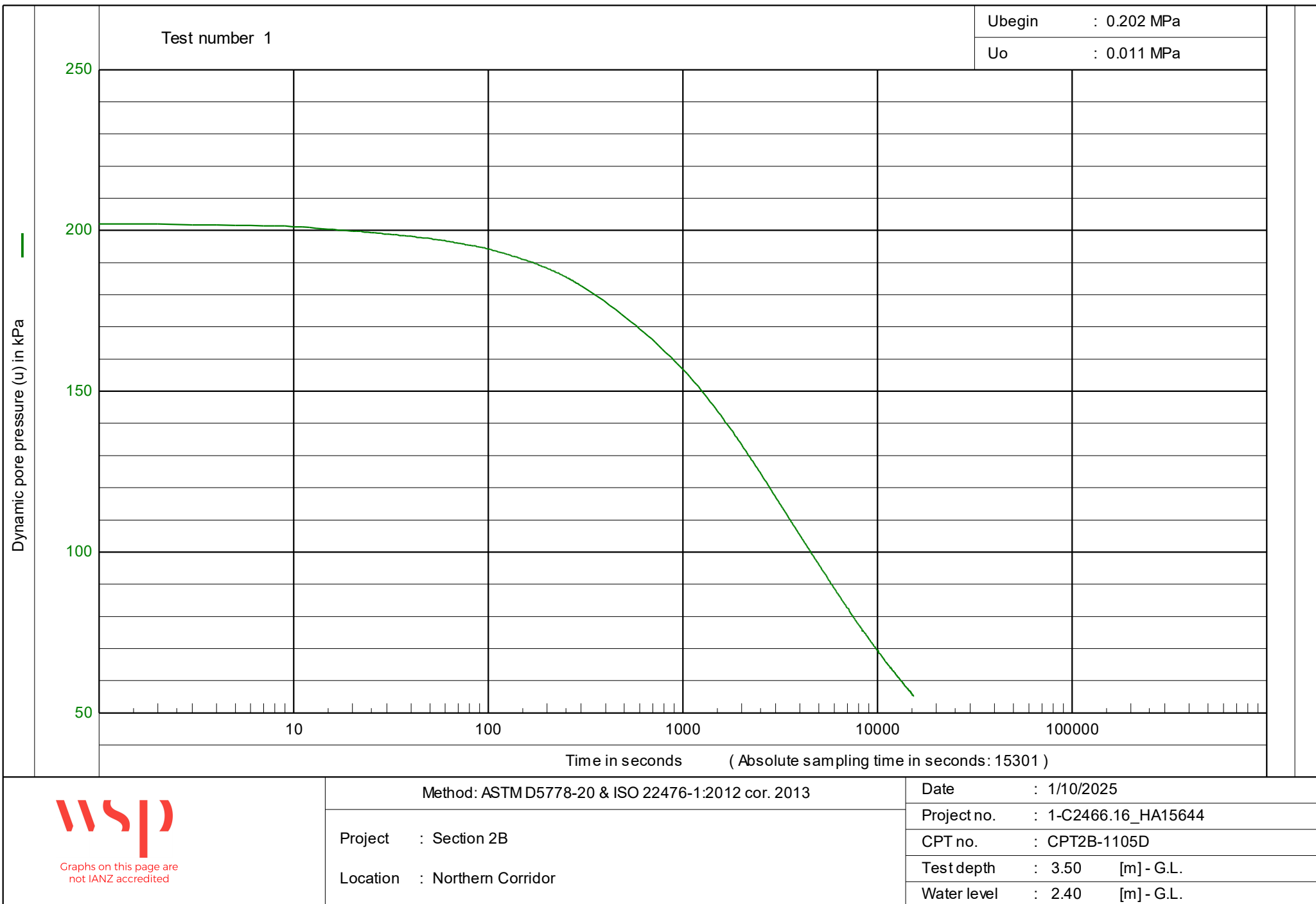
Cone no.: C10CFIIP.C21082

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1105D 5/6

Project: Section 2B
Location: Northern Corridor
Position: 1727722, 6011390 NZTM





CONE PENETRATION TEST REPORT



Client : Waka Kotahi NZ Transport Agency
 Project : Section 2B
 Location : Northern Corridor
 Hole Number: CPT2B-1105D
 Tested by : J Kavanaugh/ T Makasiale
 Date tested : 01/10/25
 Coordinates : 1727722 E
 6011390 N
 Elevation : 38m
 Water level : EOH - Dipped - Collapsed dry @ 2.4m

Project No : 1-C2466.16
 Lab Ref No : HA15644_CPT2B-1105D

Test Results

Start Time	8:28:00 am
Time at penetration	8:31:15 am
End Time	12:03:15 am
Reference level	0
Ground level	0
Predrill	0
Penetration Depth	3.5
Remarks	Target Depth
GPS Type	Garmin eTrex 20
GPS Accuracy	+ / - 3m
GPS Reference Grid	NZTM
GPS Datum	MSL
Rig Type	Geomil Panther 100
Rig ID	CPT05
Reaction Force	Dead weight 13.1 tonnes
Data Acquisition (Digitizer)	GeoMil GME500
Acquisition Program	GeoMil CPTest
Reporting Program	GeoMil CPTask
Cone Type	C10 (10 Tonne Compression)
Cross Sectional Area	10cm ²
Cone Area Ratio	0.8
Fluid Type	Silicone Fluid
Friction Reducer	>400mm behind base of cone
Application Class (ISO 22476-1)	3
Test Type (ISO 22476-1)	TE2 (Measured Cone and Sleeve)
Back Fill Method	Bentonite
Observations During Testing	Hole positioned west of CPT2B-1105

Test Methods: ASTM D5778-20
 ISO 22476-1:2012 Cor. 2013

Date tested : 01/10/25
 Date reported : 02/10/25

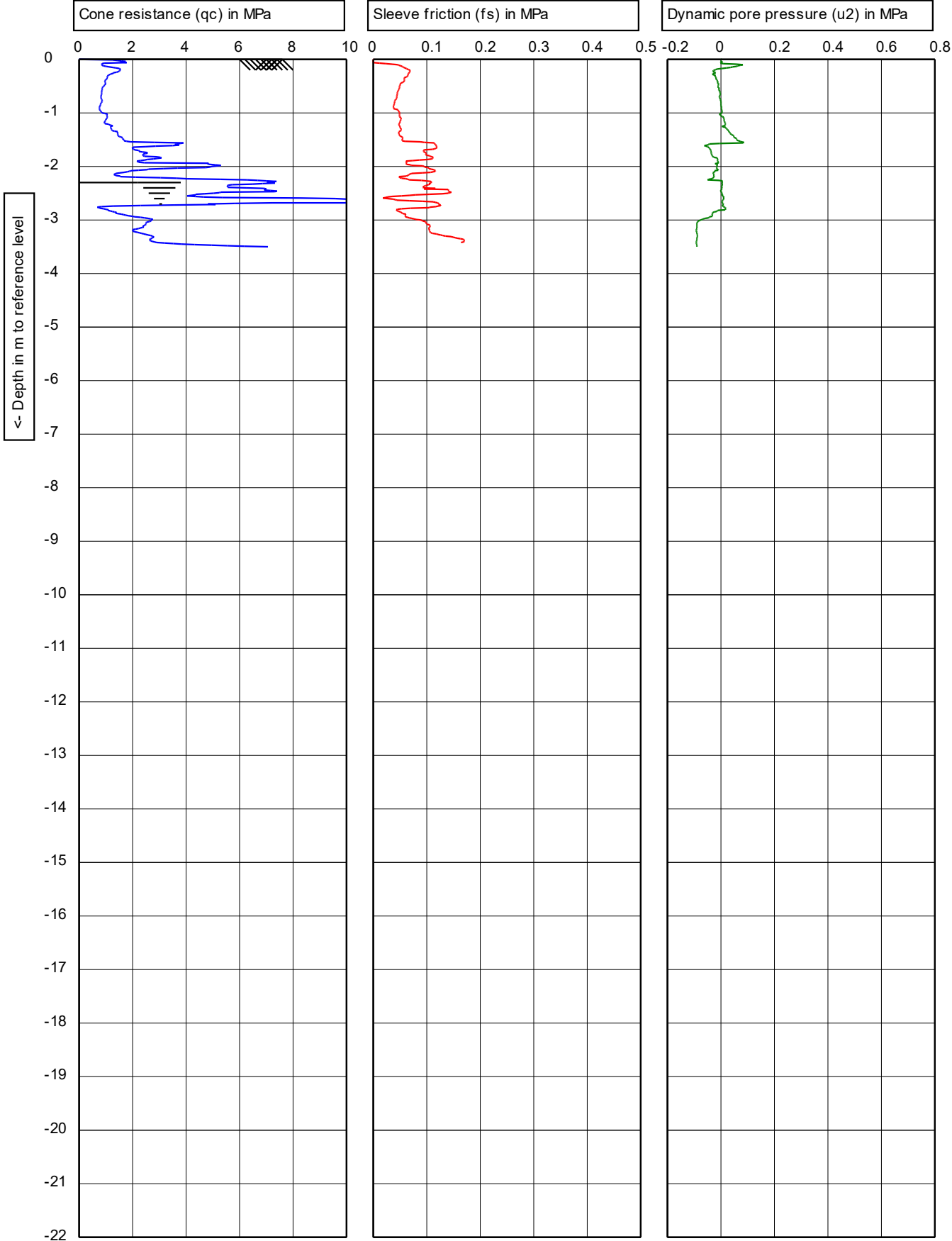
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Approved Signatory

Designation : CPT North Island Manager
 Date : 02/10/25



All tests reported herein
 have been performed in
 accordance with the
 laboratory's scope of
 accreditation



Target Depth

EOH - Dipped - GWL @ 2.3m



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -2.30 m

Predrill: 0.00 m Predrilled

Date: 21/10/2025

Project: Northern Corridor

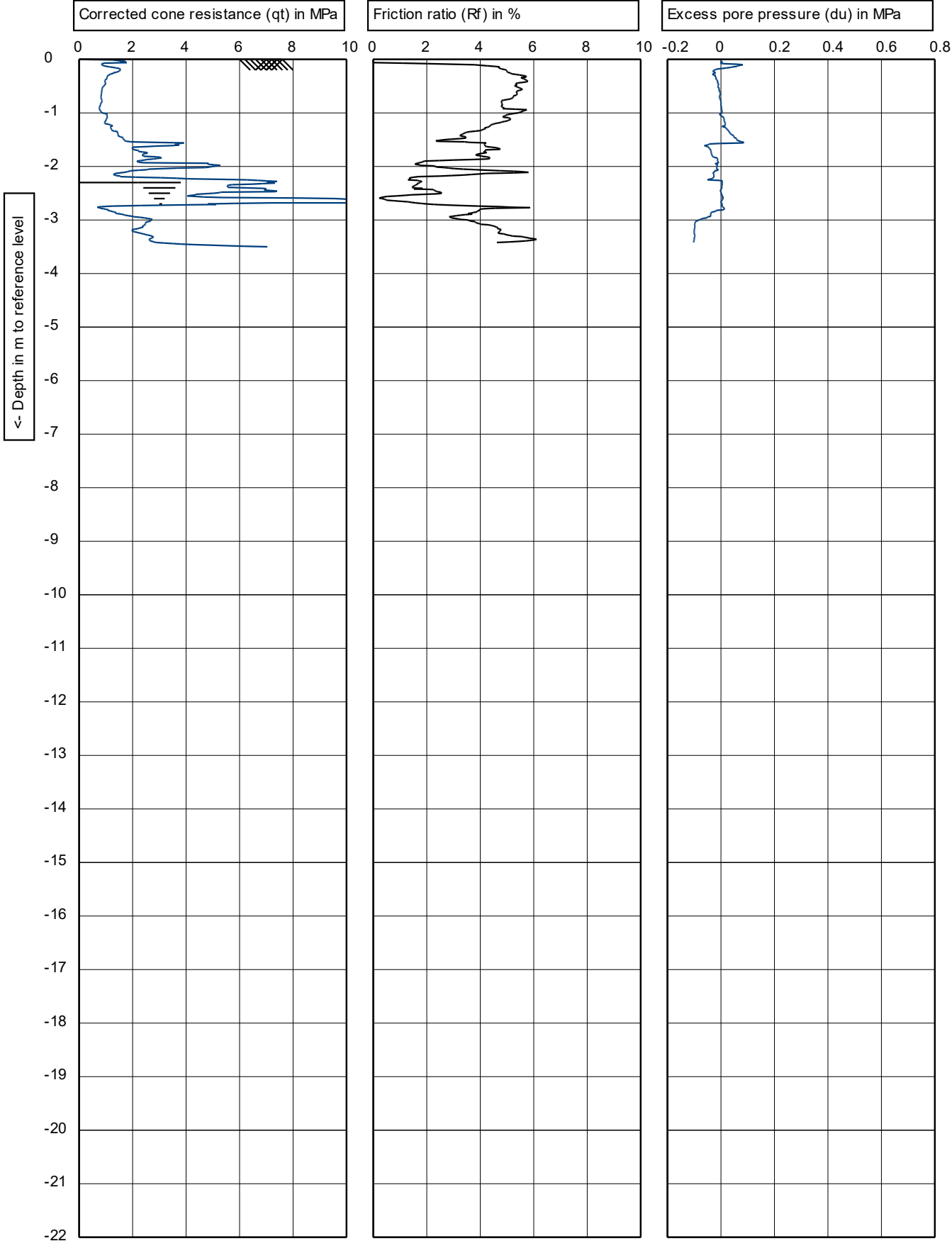
Location: Section 2B

Position: 1727737, 6006427 NZTM

Cone no.: C10CFIIP.C21109

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1106D 1/6

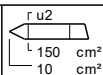


Target Depth

EOH - Dipped - GWL @ 2.3m



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -2.30 m

Predrill: 0.00 m Predrilled

Date: 21/10/2025

Project: Northern Corridor

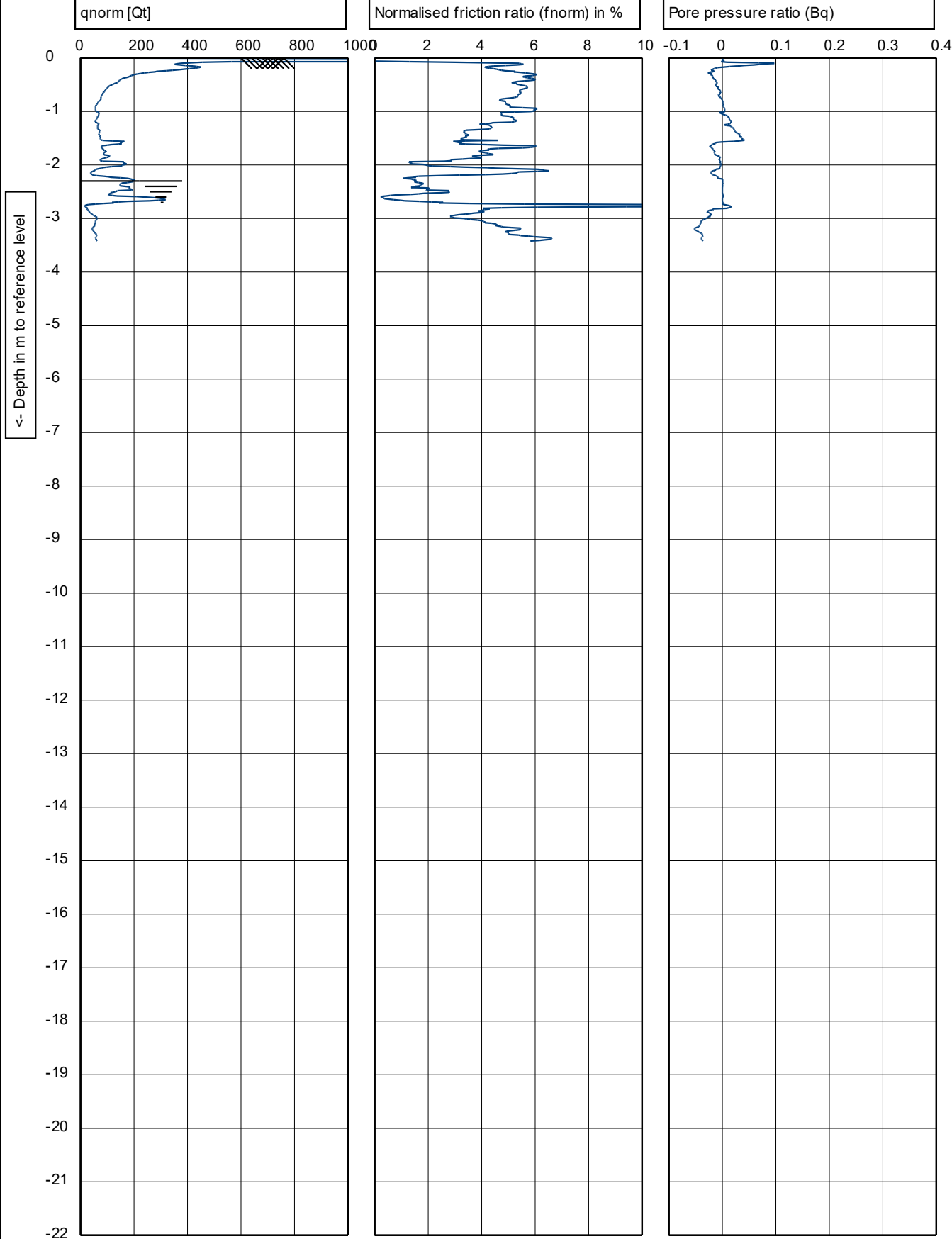
Location: Section 2B

Position: 1727737, 6006427 NZTM

Cone no.: C10CFIIP.C21109

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1106D 2/6



Target Depth

EOH - Dipped - GWL @ 2.3m



Graphs on this page are not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -2.30 m

Predrill: 0.00 m Predrilled

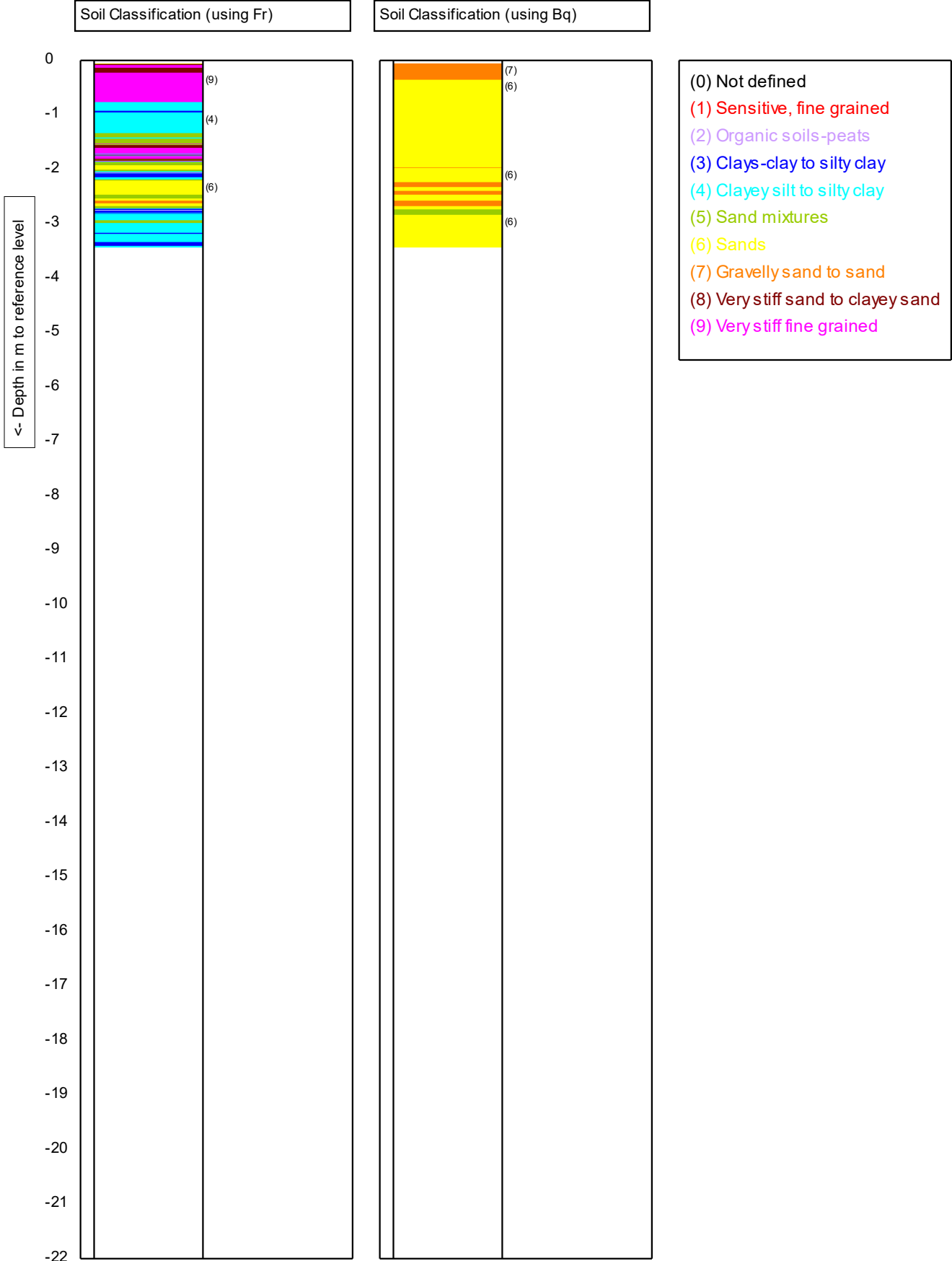
Date: 21/10/2025

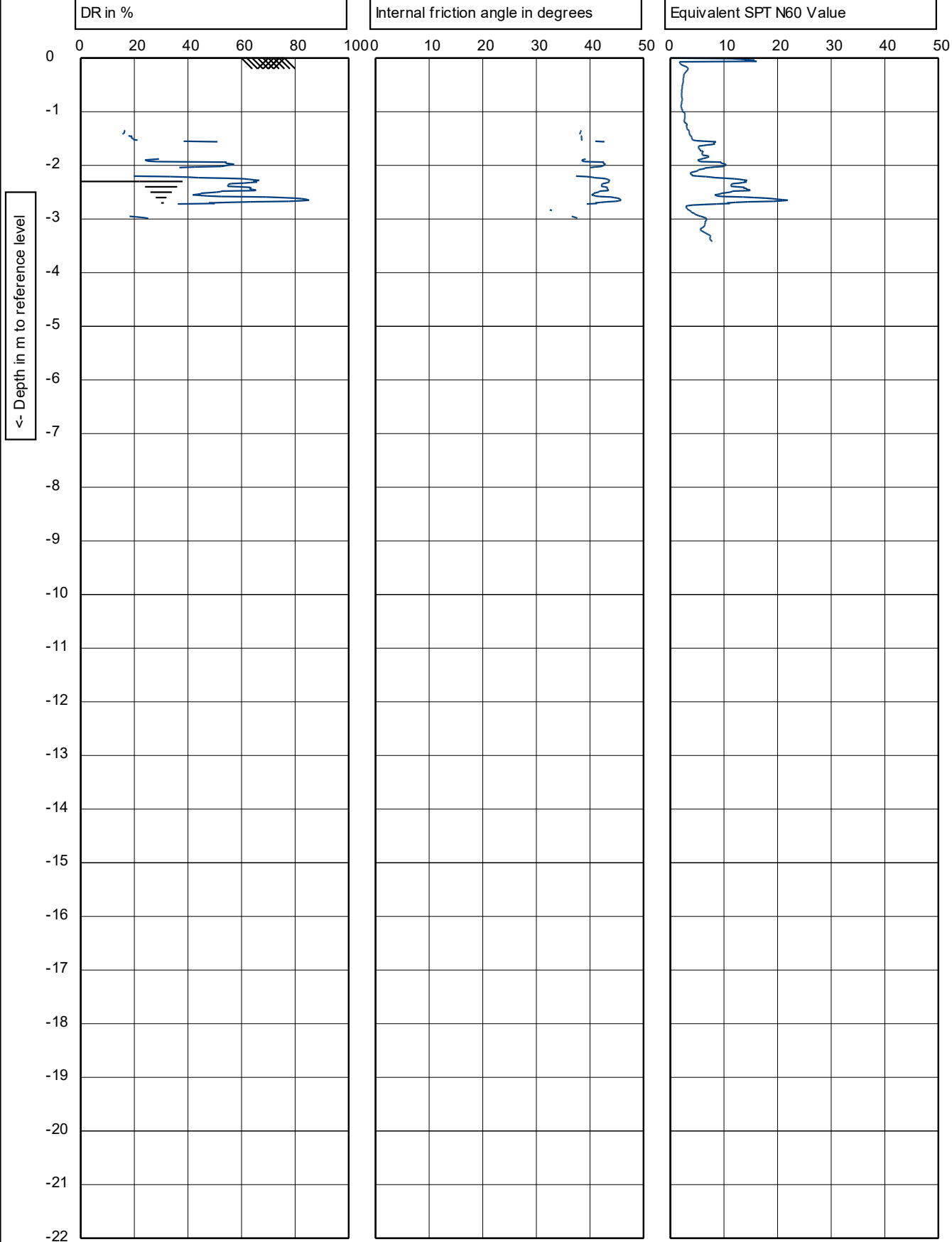
Cone no.: C10CFIIP.C21109

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1106D 3/6

Project: Northern Corridor
Location: Section 2B
Position: 1727737, 6006427 NZTM



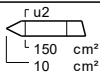


Target Depth

EOH - Dipped - GWL @ 2.3m



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -2.30 m

Predrill: 0.00 m Predrilled

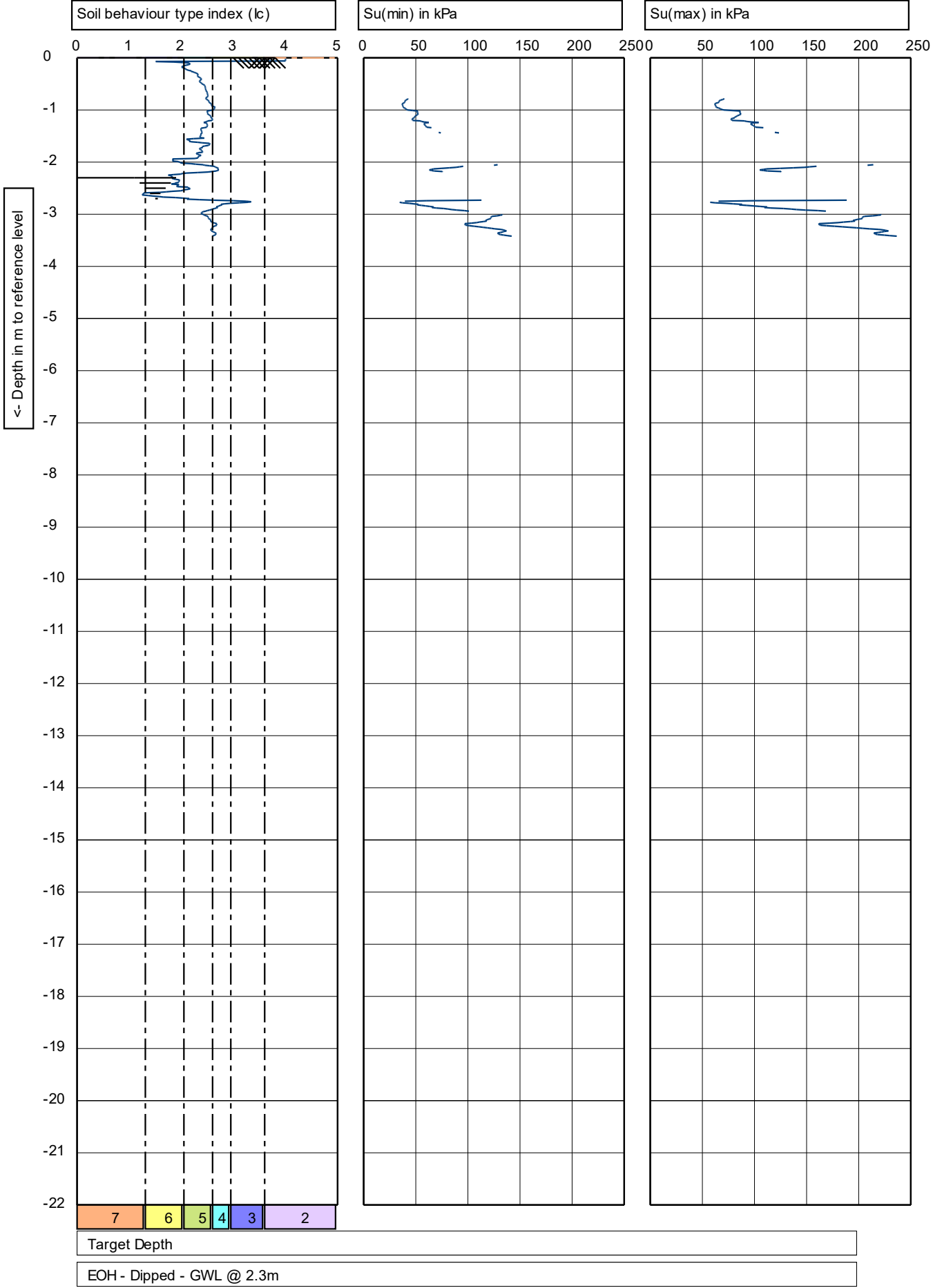
Date: 21/10/2025

Cone no.: C10CFIIP.C21109

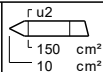
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1106D 5/6

Project: Northern Corridor
Location: Section 2B
Position: 1727737, 6006427 NZTM



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -2.30 m

Predrill: 0.00 m Predrilled

Date: 21/10/2025

Project: Northern Corridor

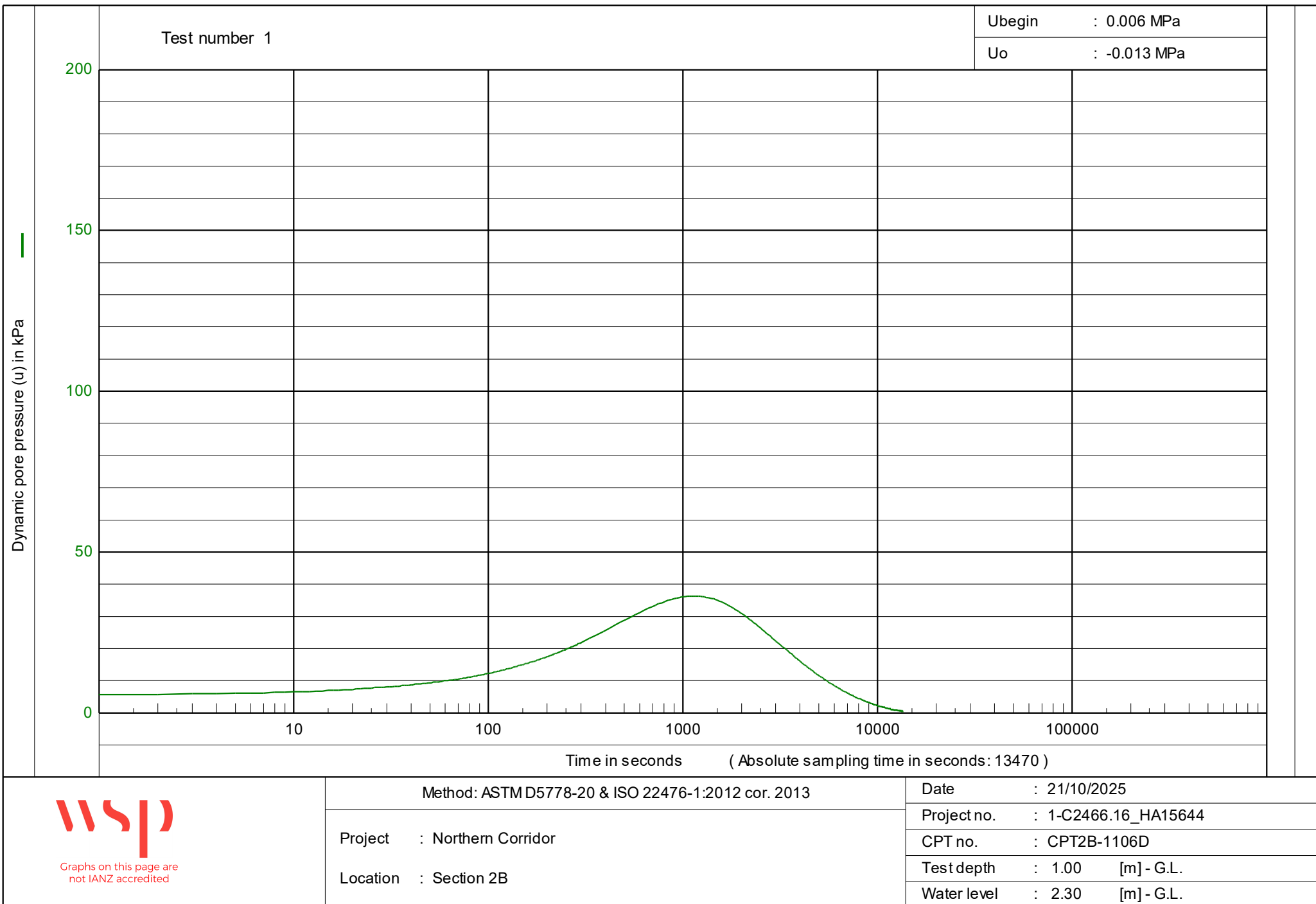
Location: Section 2B

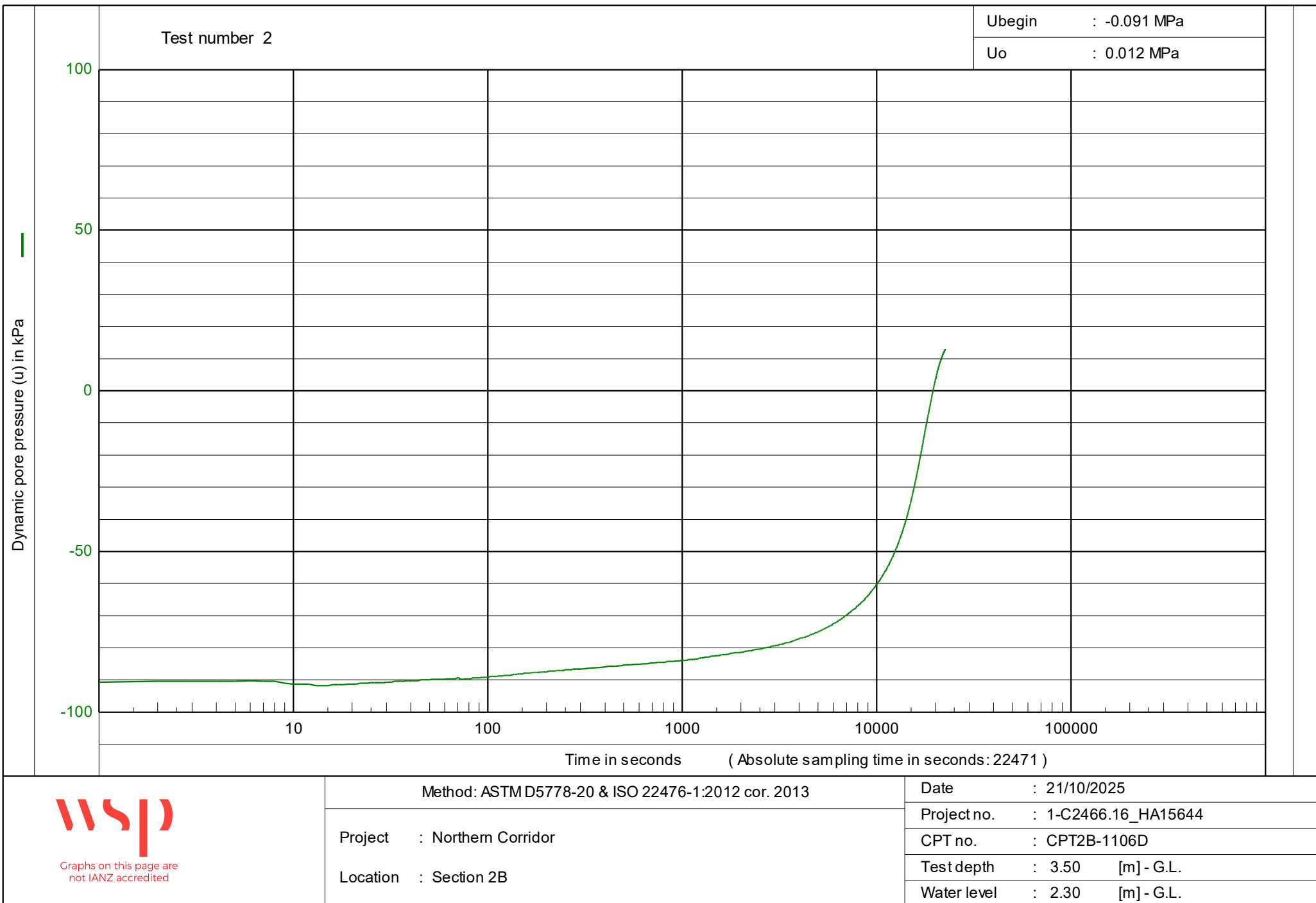
Position: 1727737, 6006427 NZTM

Cone no.: C10CFIIP.C21109

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1106D 6/6





CONE PENETRATION TEST REPORT



Client : Waka Kotahi NZ Transport Agency
 Project : Northern Corridor
 Location : Section 2B
 Hole Number: CPT2B-1106D
 Tested by : J Kavanaugh/ T Dimmock
 Date tested : 21/10/25
 Coordinates : 1727737 E
 6006427 N
 Elevation : 117m
 Water level : EOH - Dipped - GWL @ 2.3m

Project No : 1-C3466.16
 Lab Ref No : HA15644_CPT2B-1106D
 Client Ref No :

Test Results

Start Time	7:15:00 am
Time at penetration	7:18:23 am
End Time	12:03:23 am
Reference level	0
Ground level	0
Predrill	0
Penetration Depth	3.5
Remarks	Target Depth
GPS Type	Garmin eTrex 20
GPS Accuracy	+ / - 3m
GPS Reference Grid	NZTM
GPS Datum	MSL
Rig Type	Geomil Panther 100
Rig ID	CPT05
Reaction Force	Dead weight 13.1 tonnes
Data Acquisition (Digitizer)	GeoMil GME500
Acquisition Program	GeoMil CPTest
Reporting Program	GeoMil CPTask
Cone Type	C10 (10 Tonne Compression)
Cross Sectional Area	10cm ²
Cone Area Ratio	0.8
Fluid Type	Silicone Fluid
Friction Reducer	>400mm behind base of cone
Application Class (ISO 22476-1)	3
Test Type (ISO 22476-1)	TE2 (Measured Cone and Sleeve)
Back Fill Method	Bentonite
Observations During Testing	Hole positioned north of CPT2B-1106

Test Methods: ASTM D5778-20
 ISO 22476-1:2012 Cor. 2013

Date tested : 21/10/25
 Date reported : 21/10/25

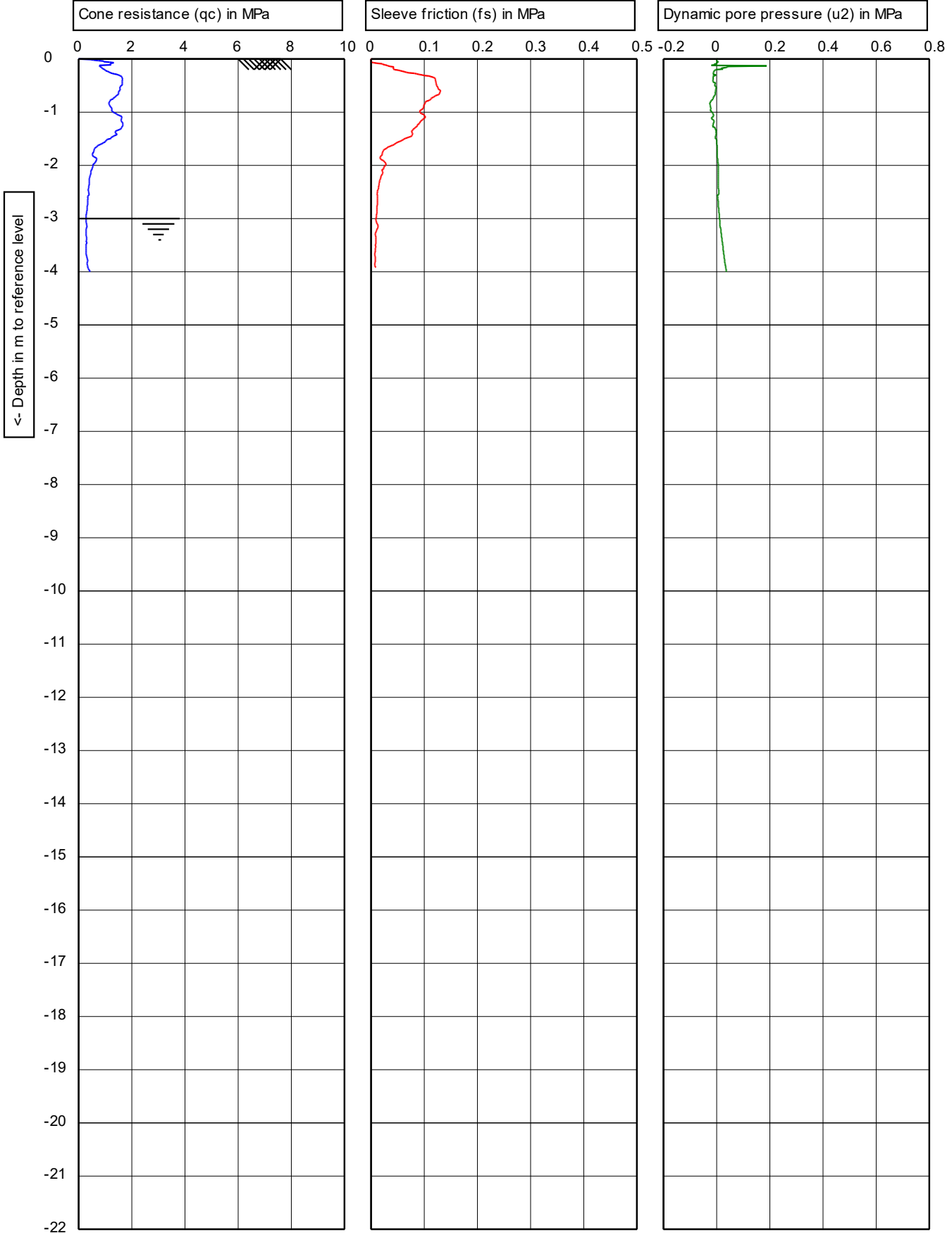
This report may only be reproduced in full, including
 corresponding calibration data, daily logs, and CPT graphs.

Approved Signatory

Designation : CPT North Island Manager
 Date : 21/10/25

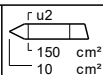


All tests reported herein
 have been performed in
 accordance with the
 laboratory's scope of
 accreditation



Target Depth

EOH - Dipped - GWL @ 3.0m



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -3.00 m

Predrill: 0.00 m Predrilled

Date: 29/09/2025

Project: Section 2B

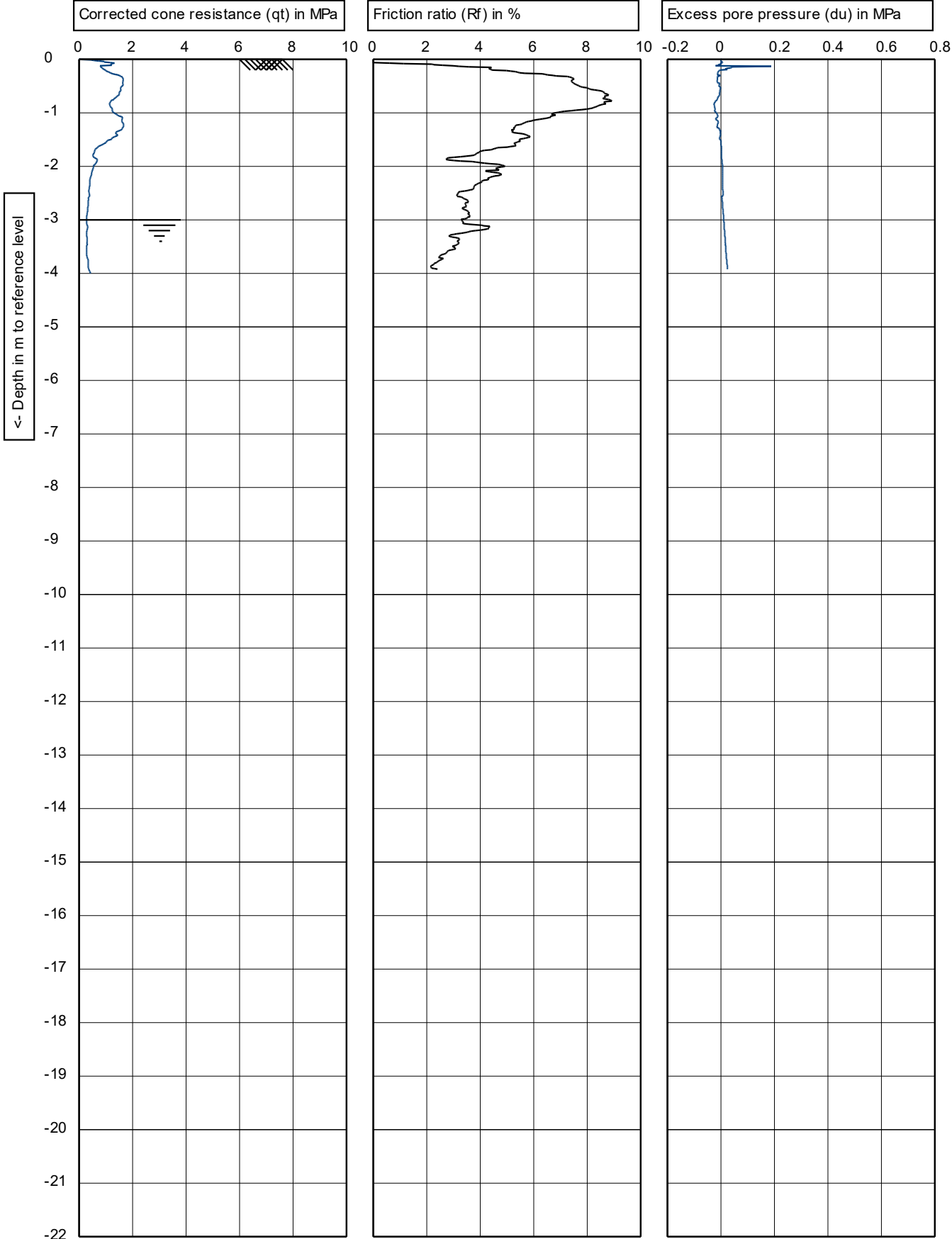
Location: Northern Corridor

Position: 1727815, 6004820 NZTM

Cone no.: C10CFIIP.C19489

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1107D 1/6



Target Depth

EOH - Dipped - GWL @ 3.0m



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not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -3.00 m

Predrill: 0.00 m Predrilled

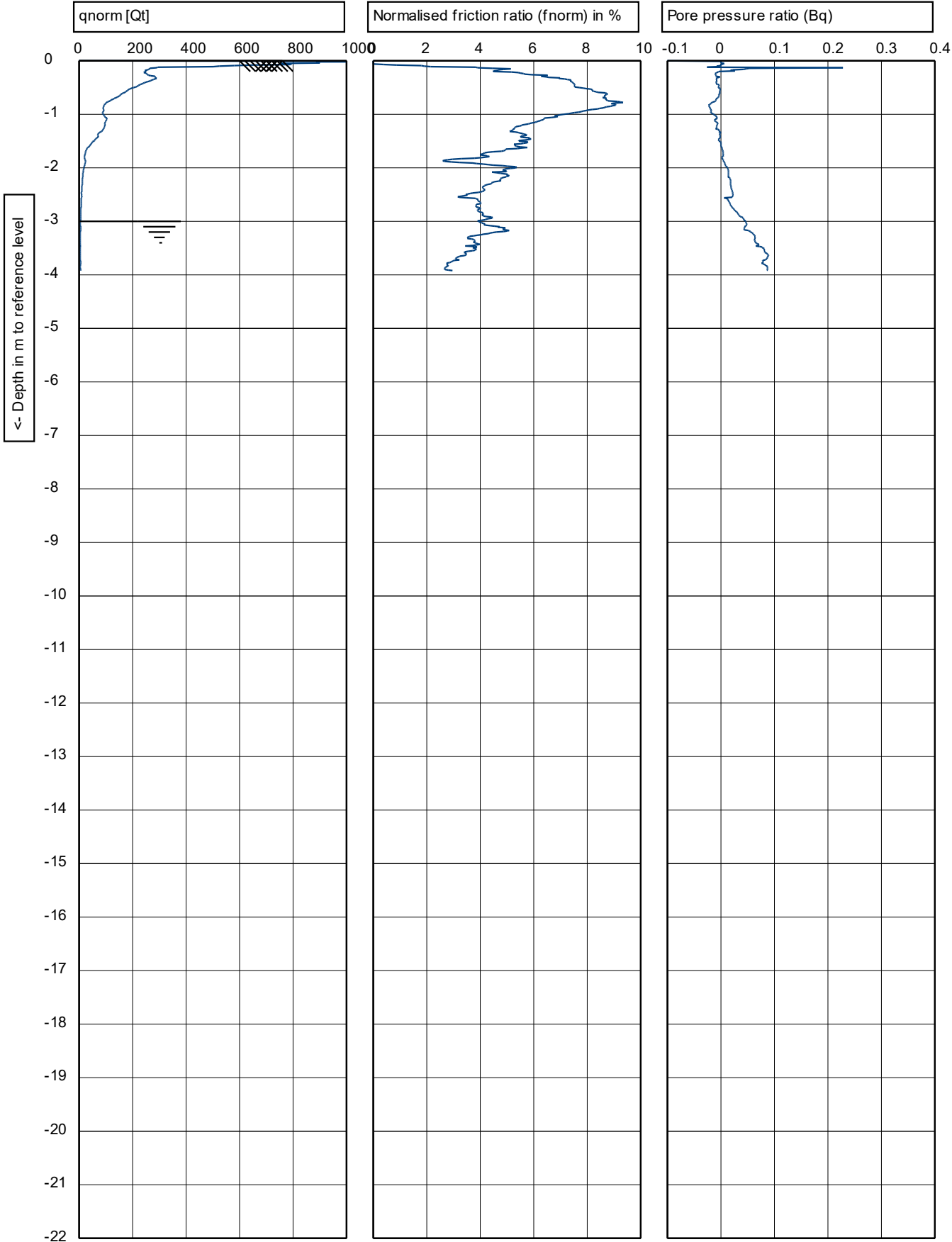
Date: 29/09/2025

Cone no.: C10CFIIP.C19489

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1107D 2/6

Project: Section 2B
Location: Northern Corridor
Position: 1727815, 6004820 NZTM

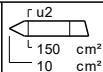


Target Depth

EOH - Dipped - GWL @ 3.0m



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -3.00 m

Predrill: 0.00 m Predrilled

Date: 29/09/2025

Cone no.: C10CFIIP.C19489

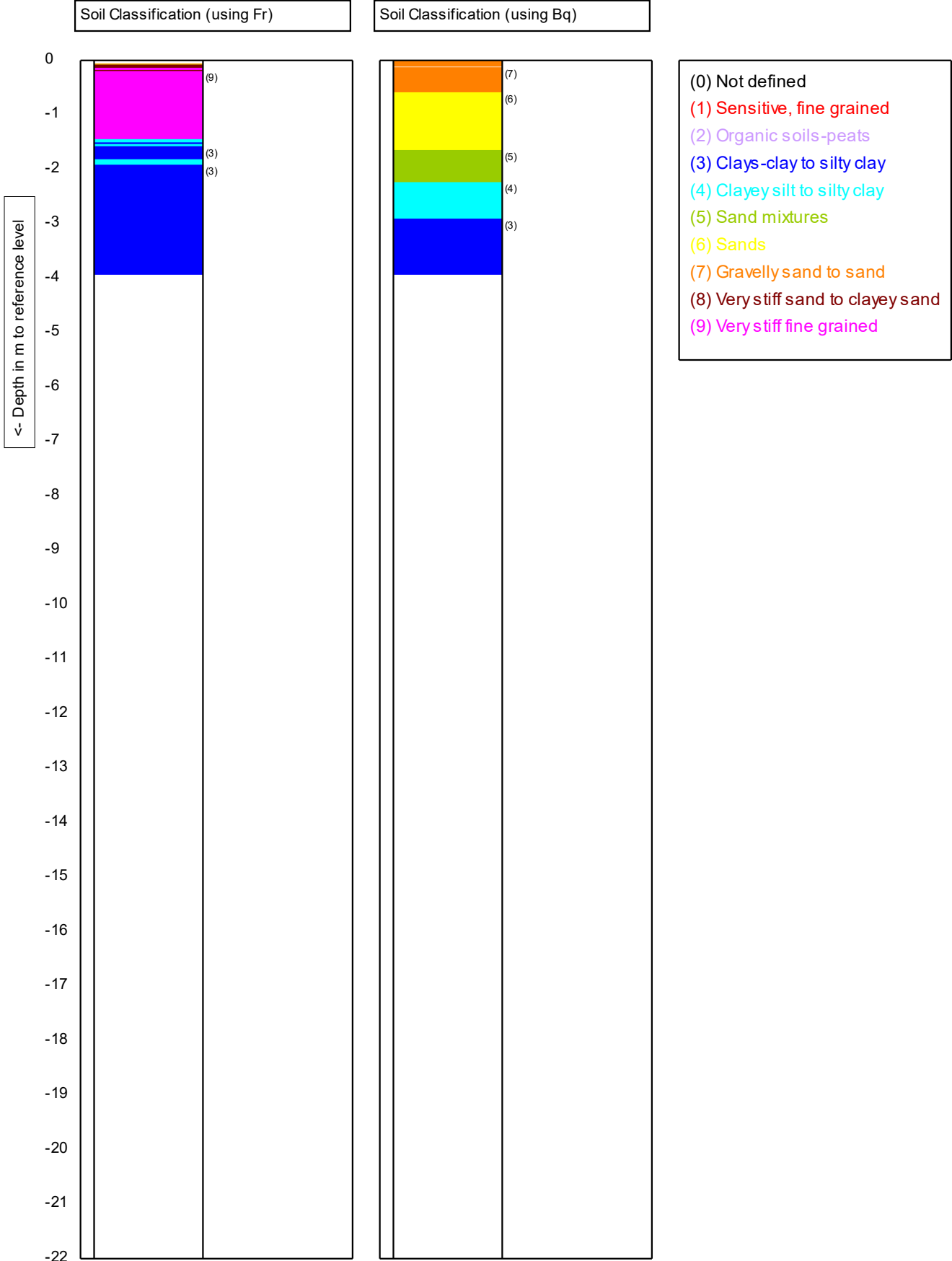
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1107D 3/6

Project: Section 2B

Location: Northern Corridor

Position: 1727815, 6004820 NZTM



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -3.00 m

Project: Section 2B

Location: Northern Corridor

Position: 1727815, 6004820 NZTM

Predrill: 0.00 m Predrilled

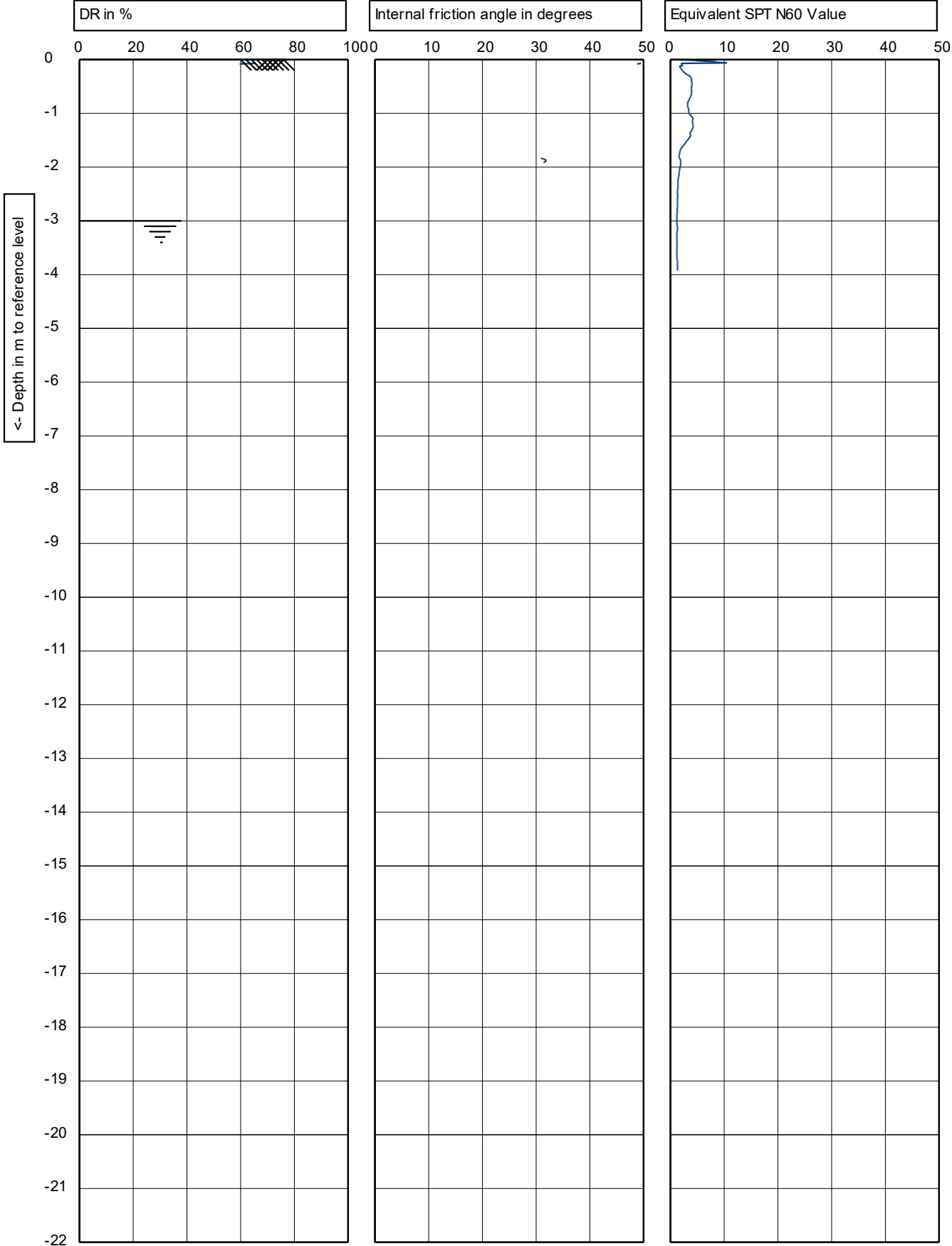
Date: 29/09/2025

Cone no.: C10CFIIP.C19489

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1107D

4/6



Target Depth

EOH - Dipped - GWL @ 3.0m



Graphs on this page are not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -3.00 m

Predrill: 0.00 m Predrilled

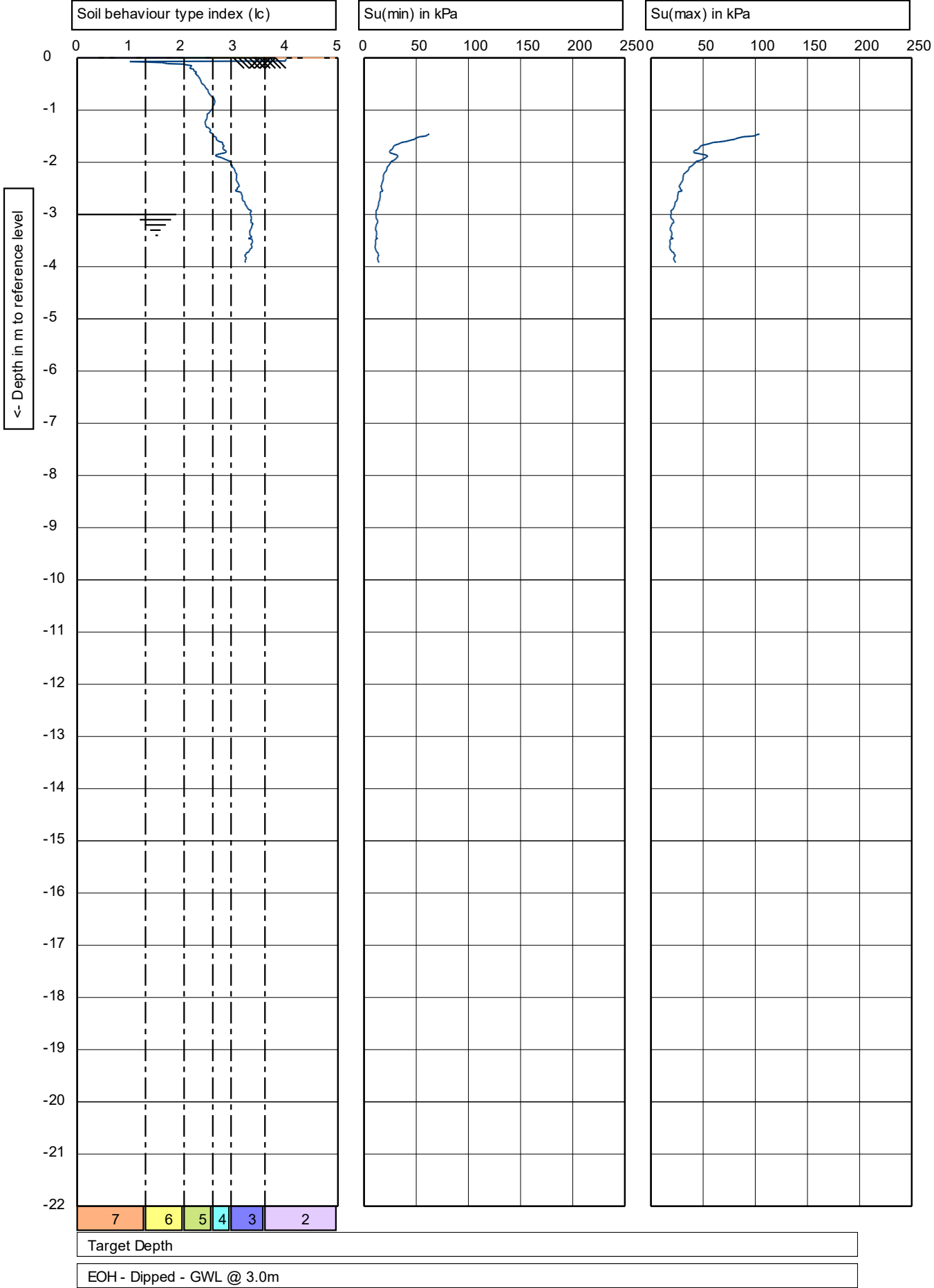
Date: 29/09/2025

Cone no.: C10CFIIP.C19489

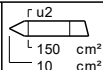
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1107D 5/6

Project: Section 2B
Location: Northern Corridor
Position: 1727815, 6004820 NZTM



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -3.00 m

Predrill: 0.00 m Predrilled

Date: 29/09/2025

Cone no.: C10CFIIP.C19489

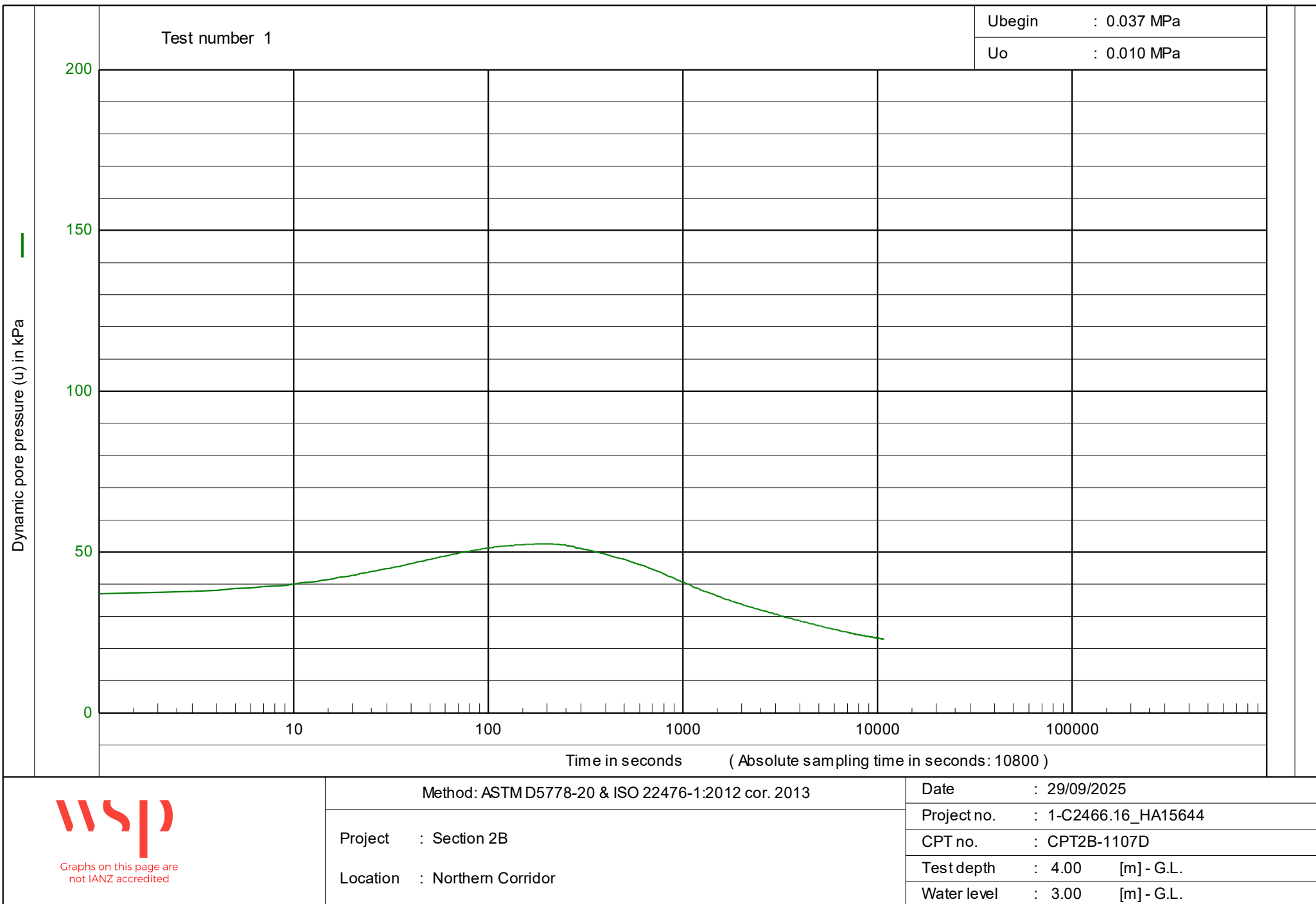
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1107D 6/6

Project: Section 2B

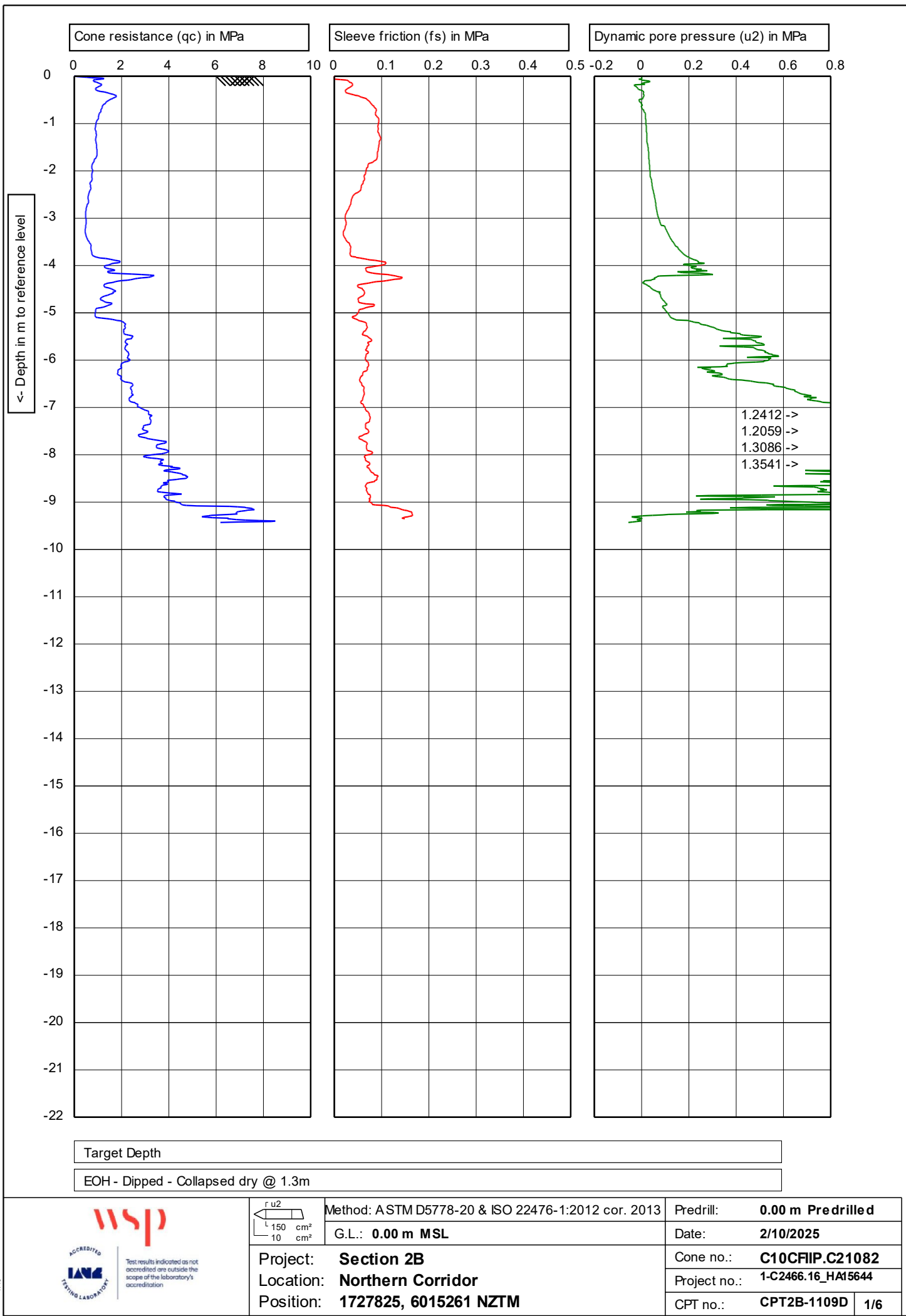
Location: Northern Corridor

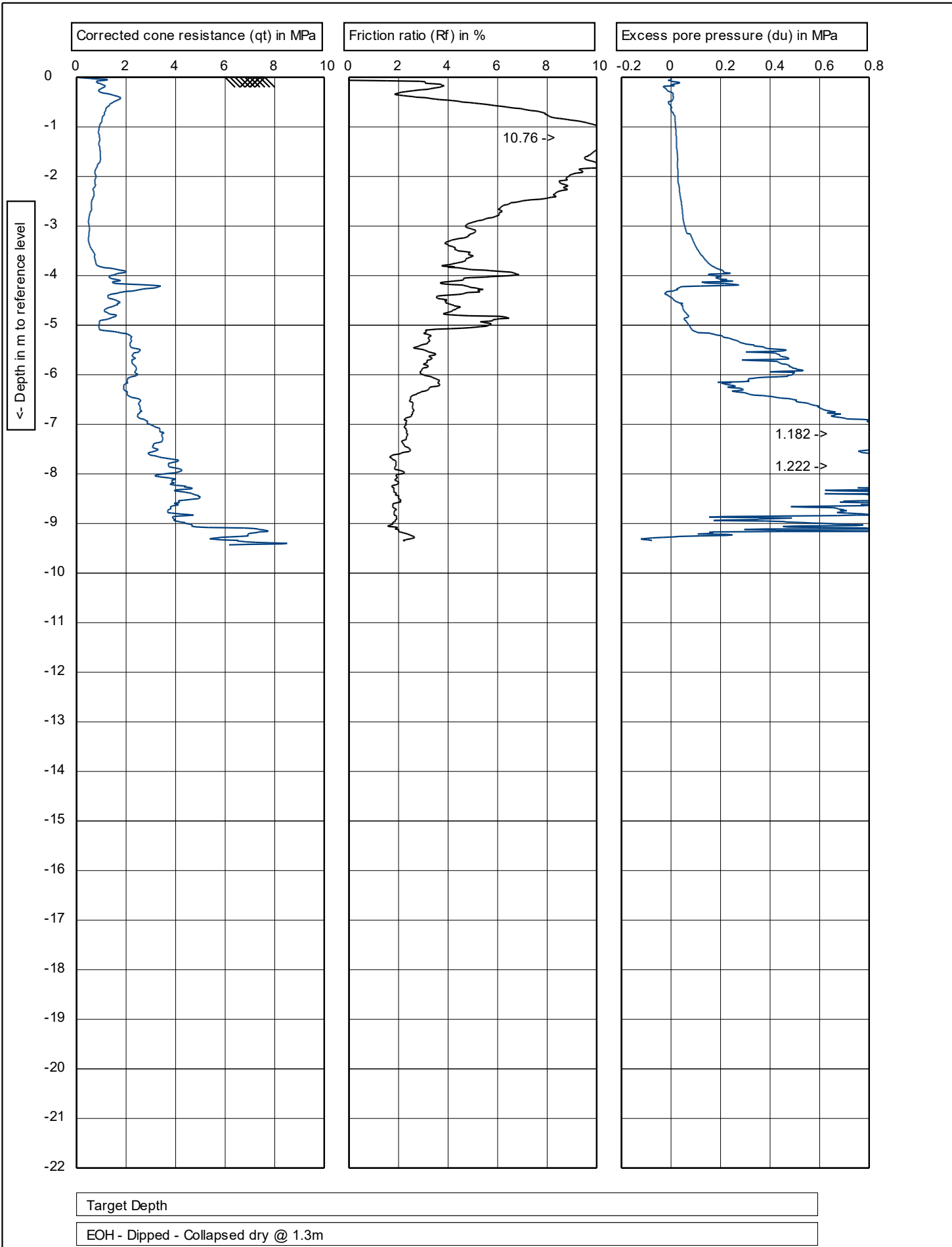
Position: 1727815, 6004820 NZTM



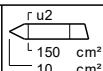
Project No :	1-C2466.16
Lab Ref No :	HA15644 CPT2B-1107D

Telephone 07 856 2870
Website www.wsp.com/nz





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Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

Predrill: 0.00 m Predrilled

Date: 2/10/2025

Cone no.: C10CFIP.C21082

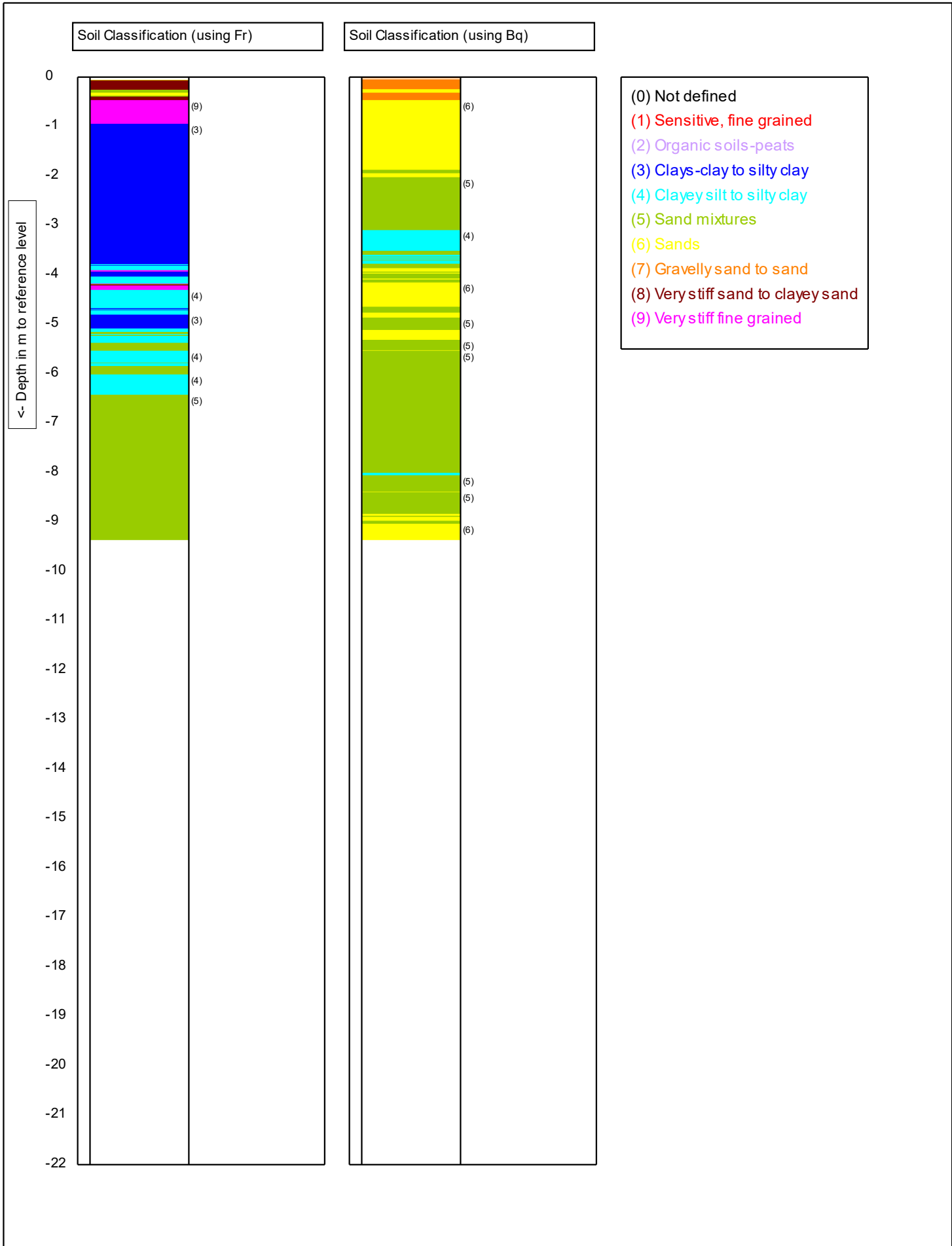
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1109D 2/6

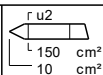
Project: Section 2B

Location: Northern Corridor

Position: 1727825, 6015261 NZTM



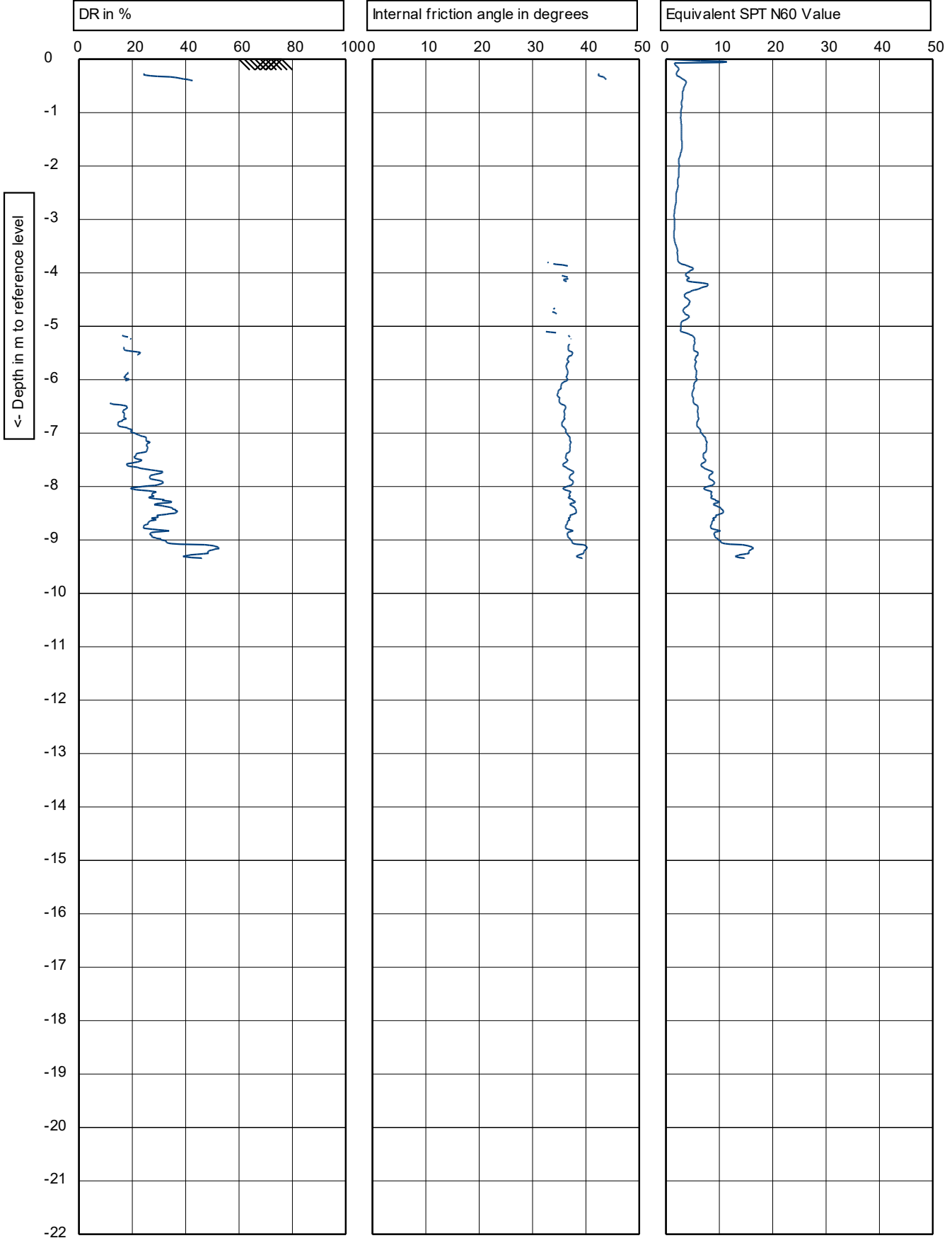
Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013
G.L.: 0.00 m MSL

Project: Section 2B
Location: Northern Corridor
Position: 1727825, 6015261 NZTM

Predrill:	0.00 m Pre drilled
Date:	2/10/2025
Cone no.:	C10CFIIP.C21082
Project no.:	1-C2466.16_HA15644
CPT no.:	CPT2B-1109D
	4/6

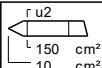


Target Depth

EOH - Dipped - Collapsed dry @ 1.3m



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

Predrill: 0.00 m Predrilled

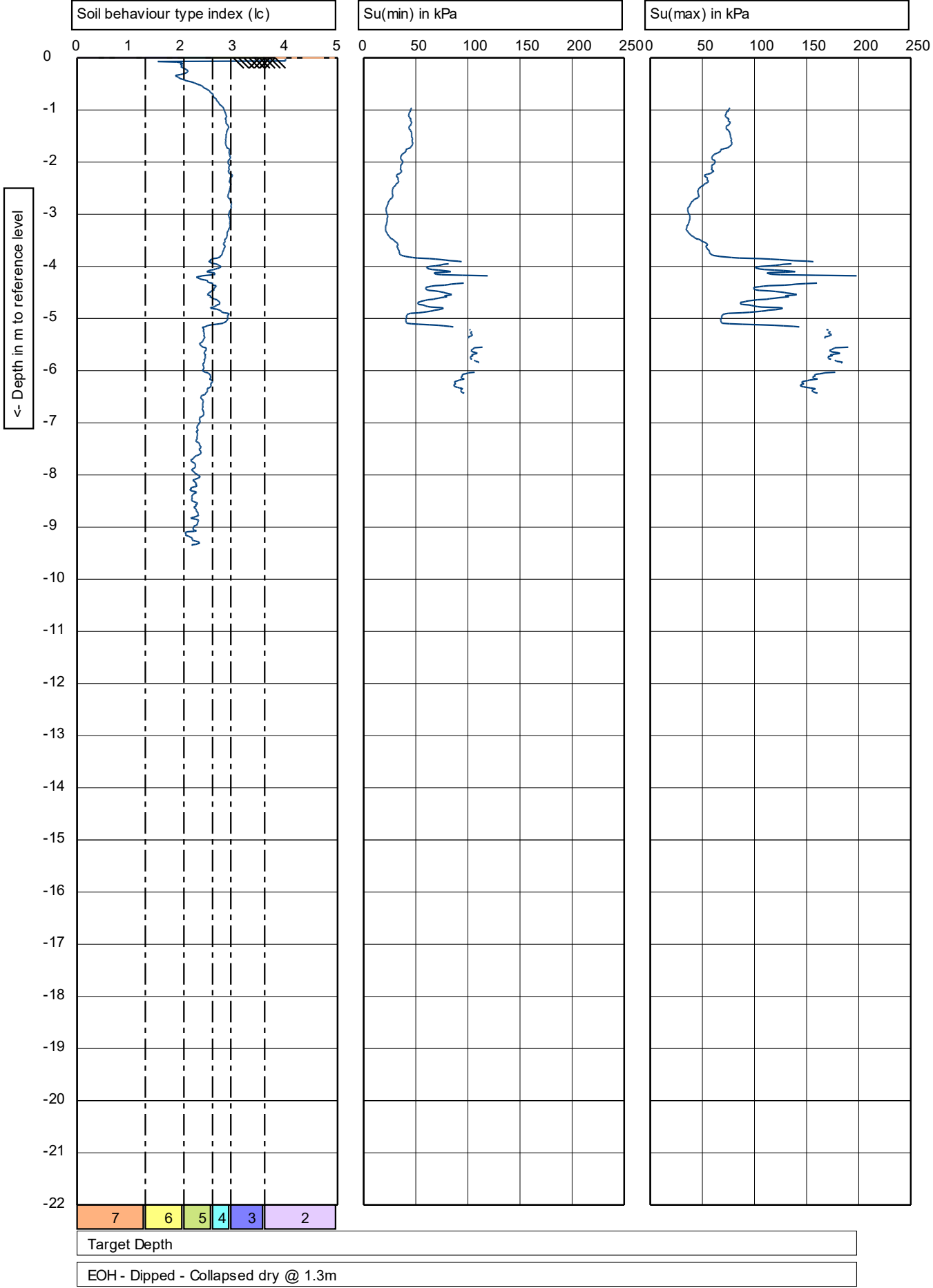
Date: 2/10/2025

Cone no.: C10CFIP.C21082

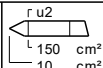
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1109D 5/6

Project: Section 2B
Location: Northern Corridor
Position: 1727825, 6015261 NZTM



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

Predrill: 0.00 m Predrilled

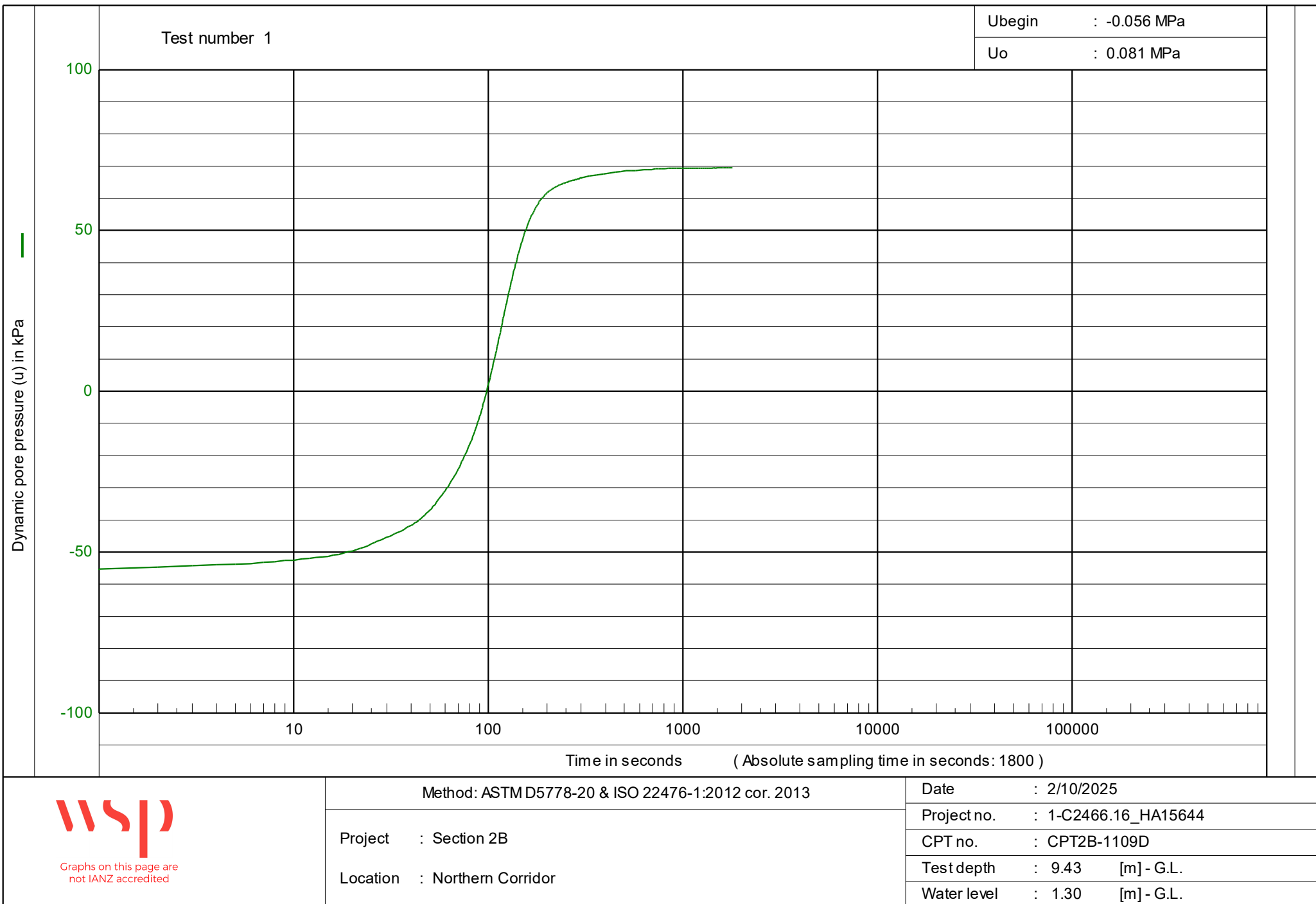
Date: 2/10/2025

Cone no.: C10CFIIP.C21082

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1109D 6/6

Project: Section 2B
Location: Northern Corridor
Position: 1727825, 6015261 NZTM



CONE PENETRATION TEST REPORT



Client : Waka Kotahi NZ Transport Agency
 Project : Section 2B
 Location : Northern Corridor
 Hole Number: CPT2B-1109D
 Tested by : J Kavanaugh/ T Makasiale
 Date tested : 02/10/25
 Coordinates : 1727825 E
 6015261 N
 Elevation : 22m
 Water level : EOH - Dipped - Collapsed dry @ 1.3m

Project No : 1-C2466.16
 Lab Ref No : HA15644_CPT2B-1109D
 Client Ref No :

Test Results	
Start Time	3:11:00 pm
Time at penetration	3:19:19 pm
End Time	12:08:19 am
Reference level	0
Ground level	0
Predrill	0
Penetration Depth	9.43
Remarks	Target Depth
GPS Type	Garmin eTrex 20
GPS Accuracy	+/- 3m
GPS Reference Grid	NZTM
GPS Datum	MSL
Rig Type	Geomil Panther 100
Rig ID	CPT05
Reaction Force	Dead weight 13.1 tonnes
Data Acquisition (Digitizer)	GeoMil GME500
Acquisition Program	GeoMil CPTest
Reporting Program	GeoMil CPTask
Cone Type	C10 (10 Tonne Compression)
Cross Sectional Area	10cm ²
Cone Area Ratio	0.8
Fluid Type	Silicone Fluid
Friction Reducer	>400mm behind base of cone
Application Class (ISO 22476-1)	3
Test Type (ISO 22476-1)	TE2 (Measured Cone and Sleeve)
Back Fill Method	Bentonite
Observations During Testing	Hole positioned south of CPT2B-1109
Test Methods: ASTM D5778-20 ISO 22476-1:2012 Cor. 2013	

Date tested : 02/10/25
 Date reported : 03/10/25

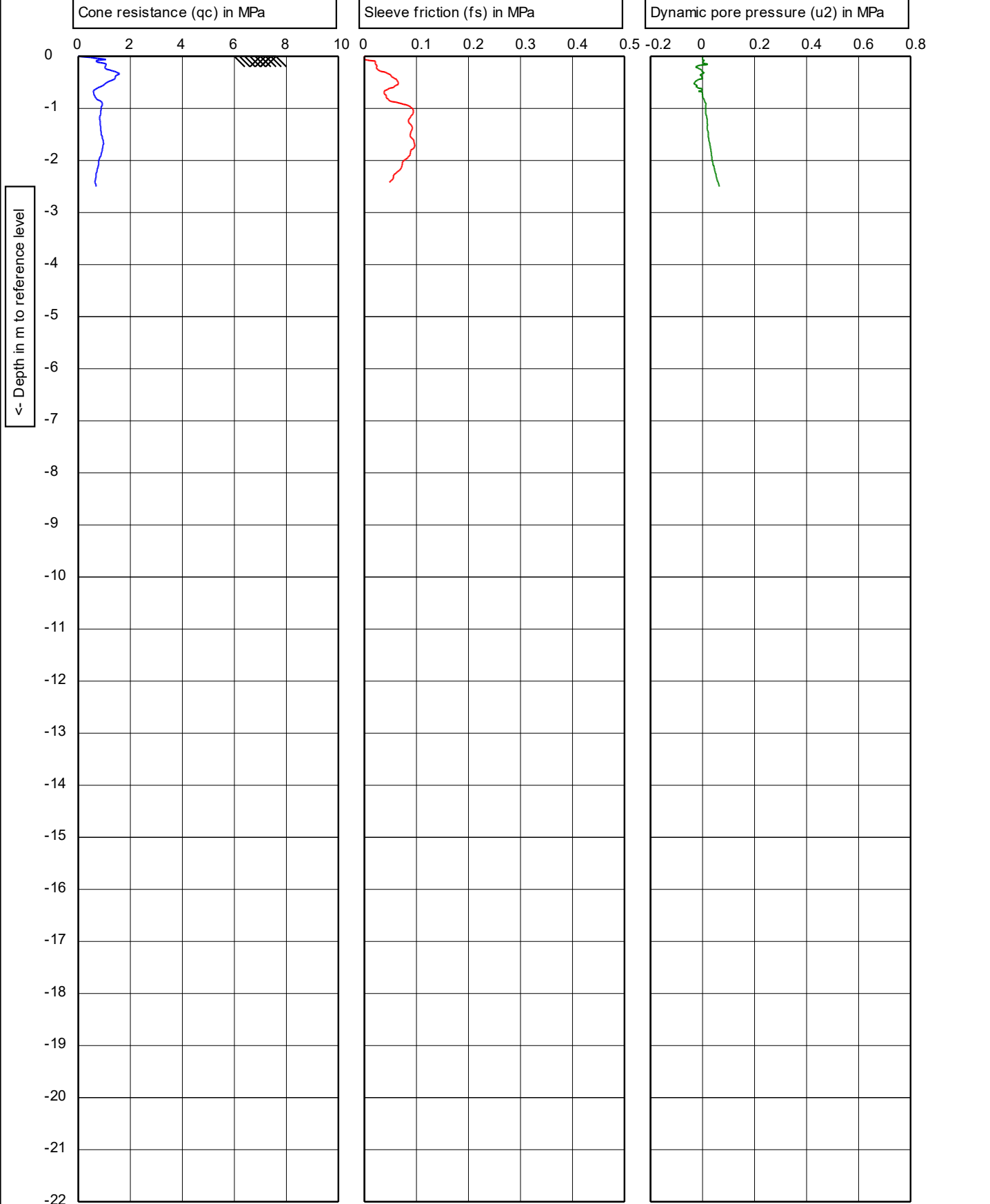
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 corresponding calibration data, daily logs, and CPT graphs.

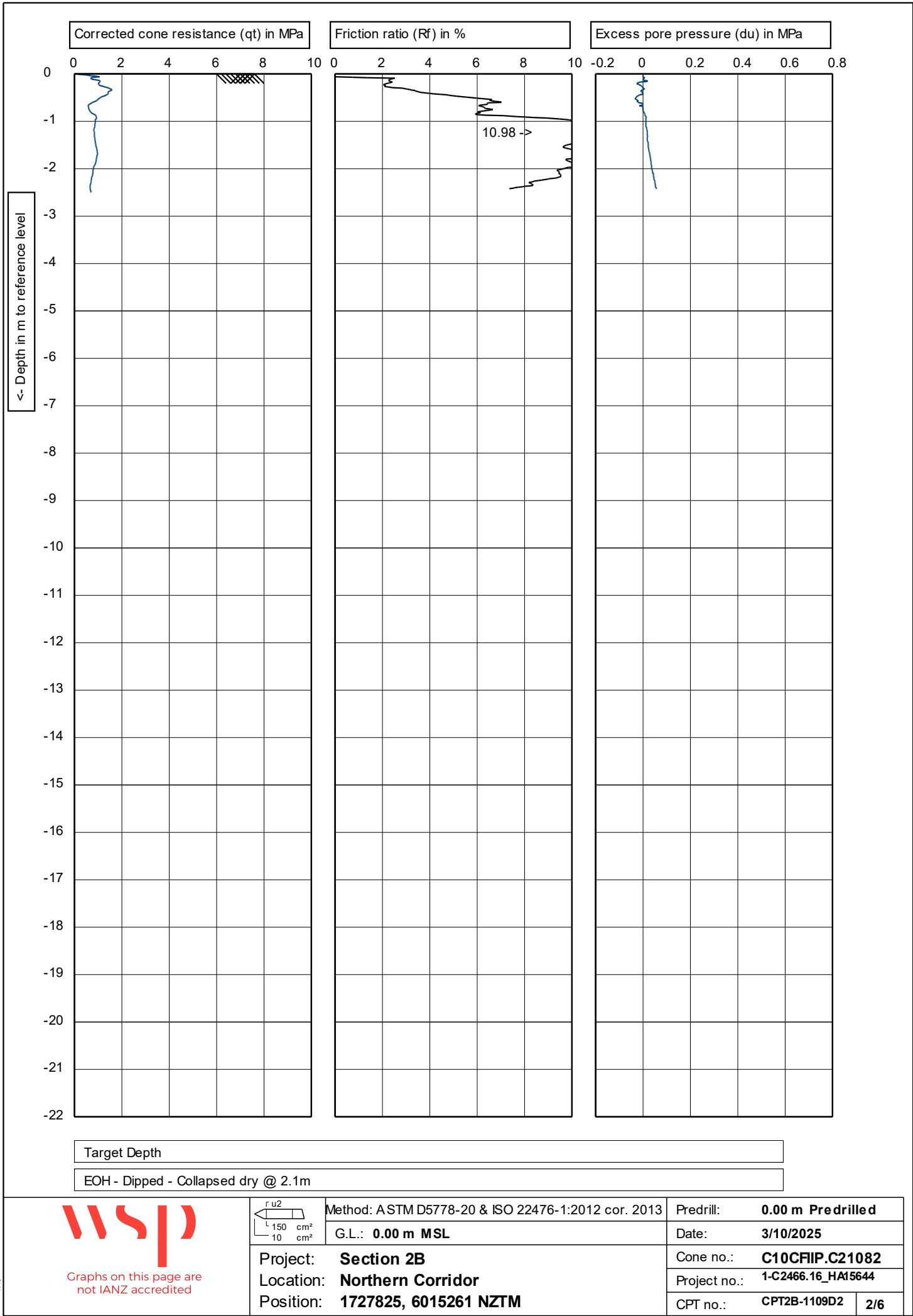
Approved Signatory

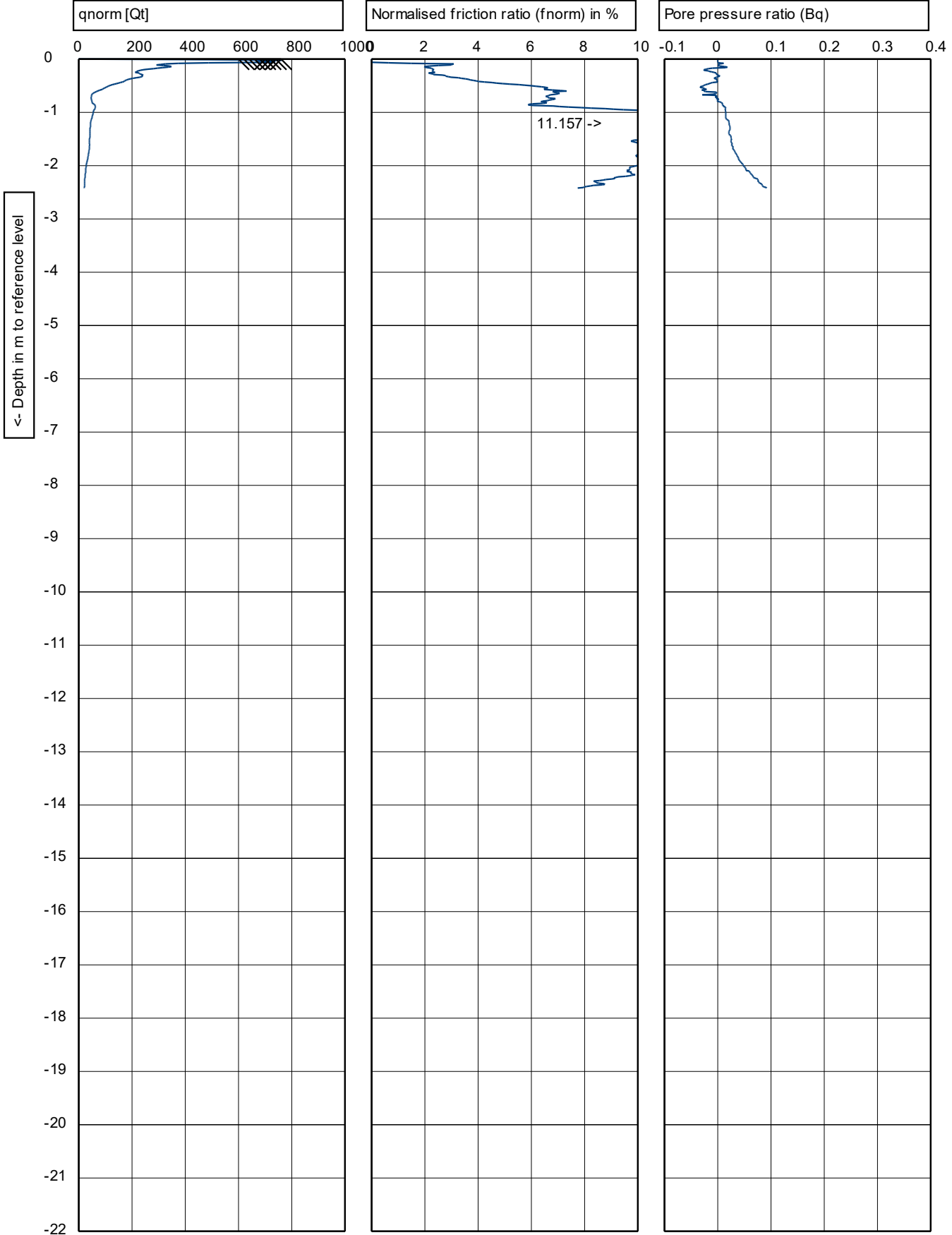
Designation : CPT North Island Manager
 Date : 03/10/25



All tests reported herein
 have been performed in
 accordance with the
 laboratory's scope of
 accreditation





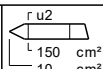


Target Depth

EOH - Dipped - Collapsed dry @ 2.1m



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

Predrill: 0.00 m Predrilled

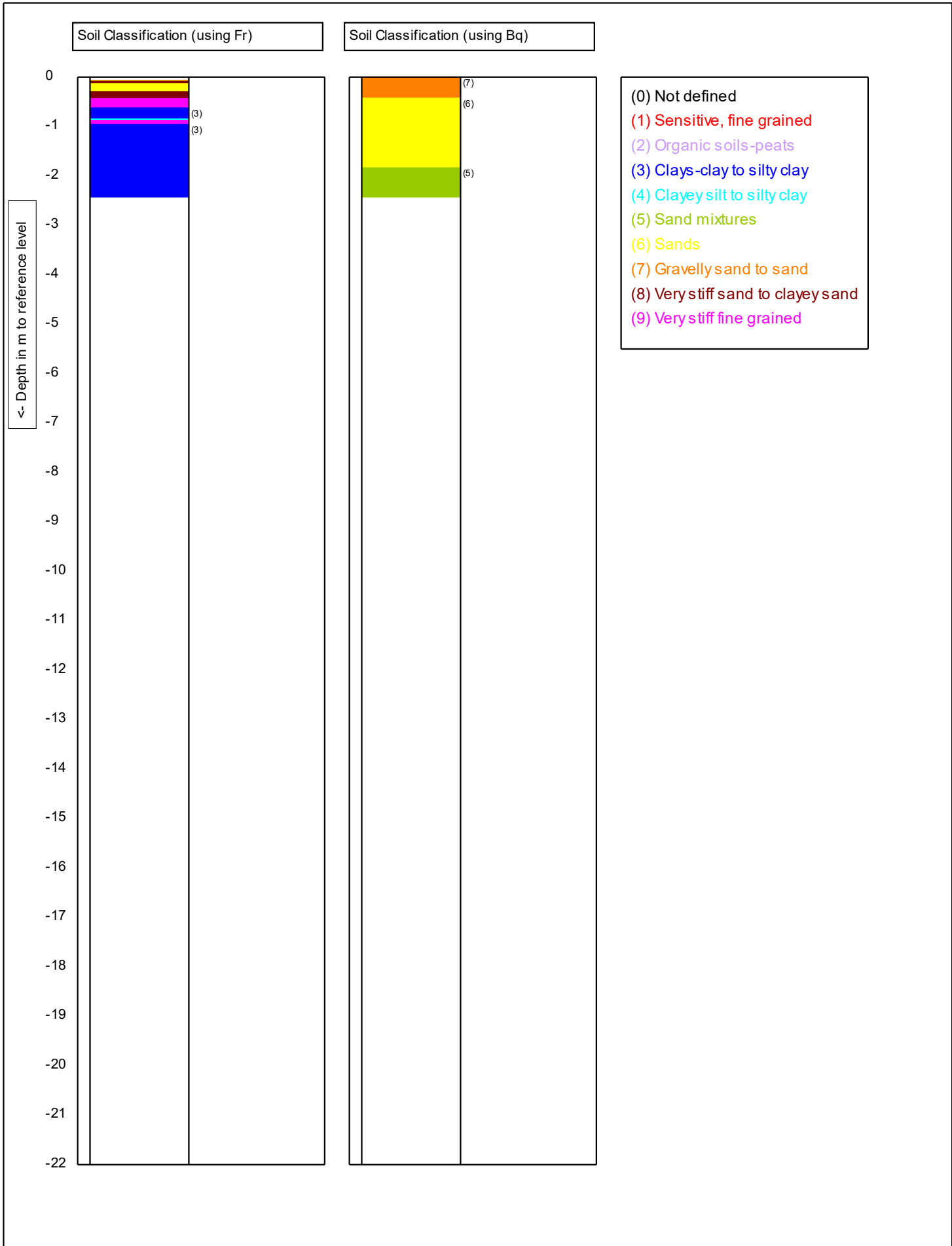
Date: 3/10/2025

Cone no.: C10CFIP.C21082

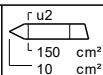
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1109D2 3/6

Project: Section 2B
Location: Northern Corridor
Position: 1727825, 6015261 NZTM



Graphs on this page are
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Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

Predrill: 0.00 m Pre drilled

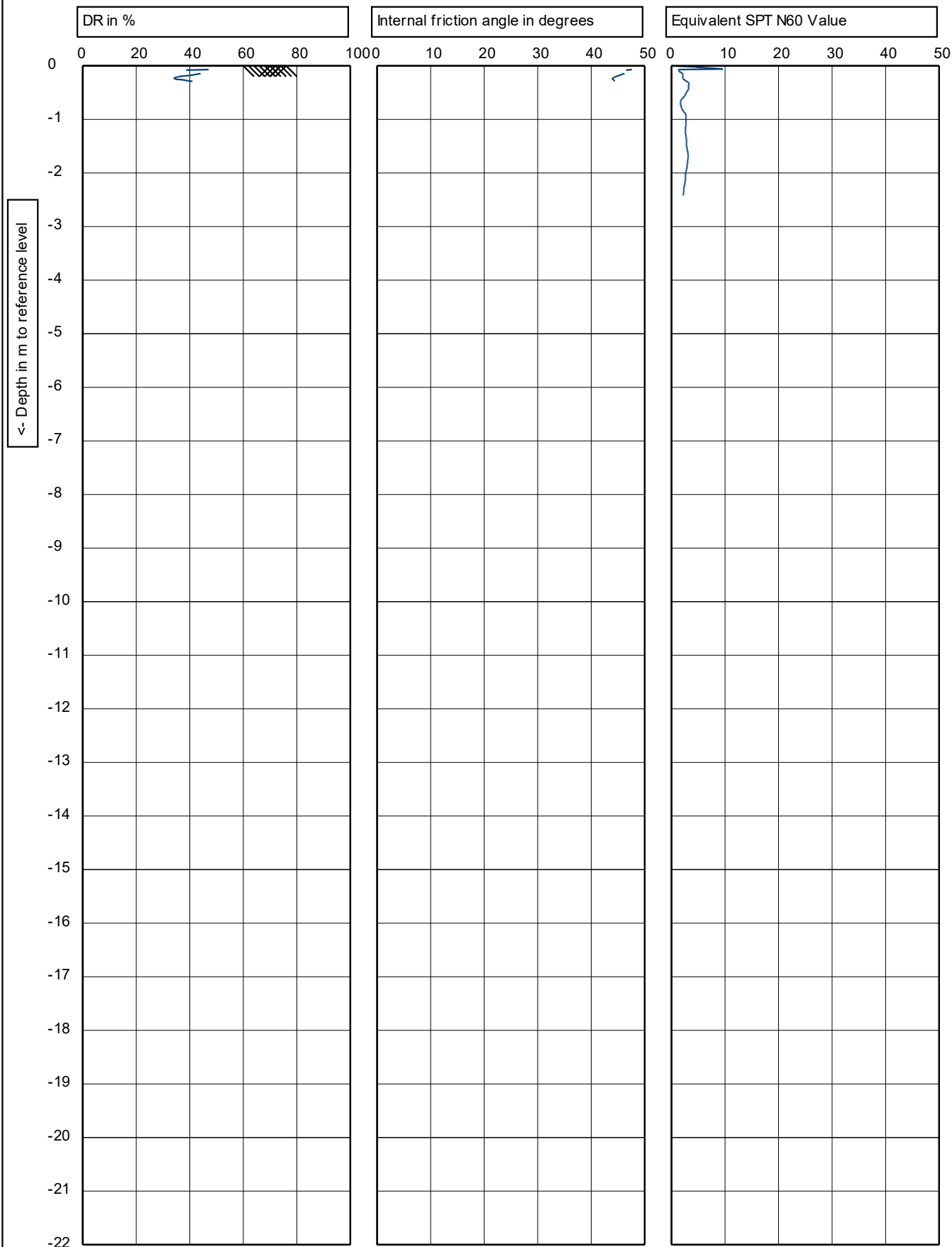
Date: 3/10/2025

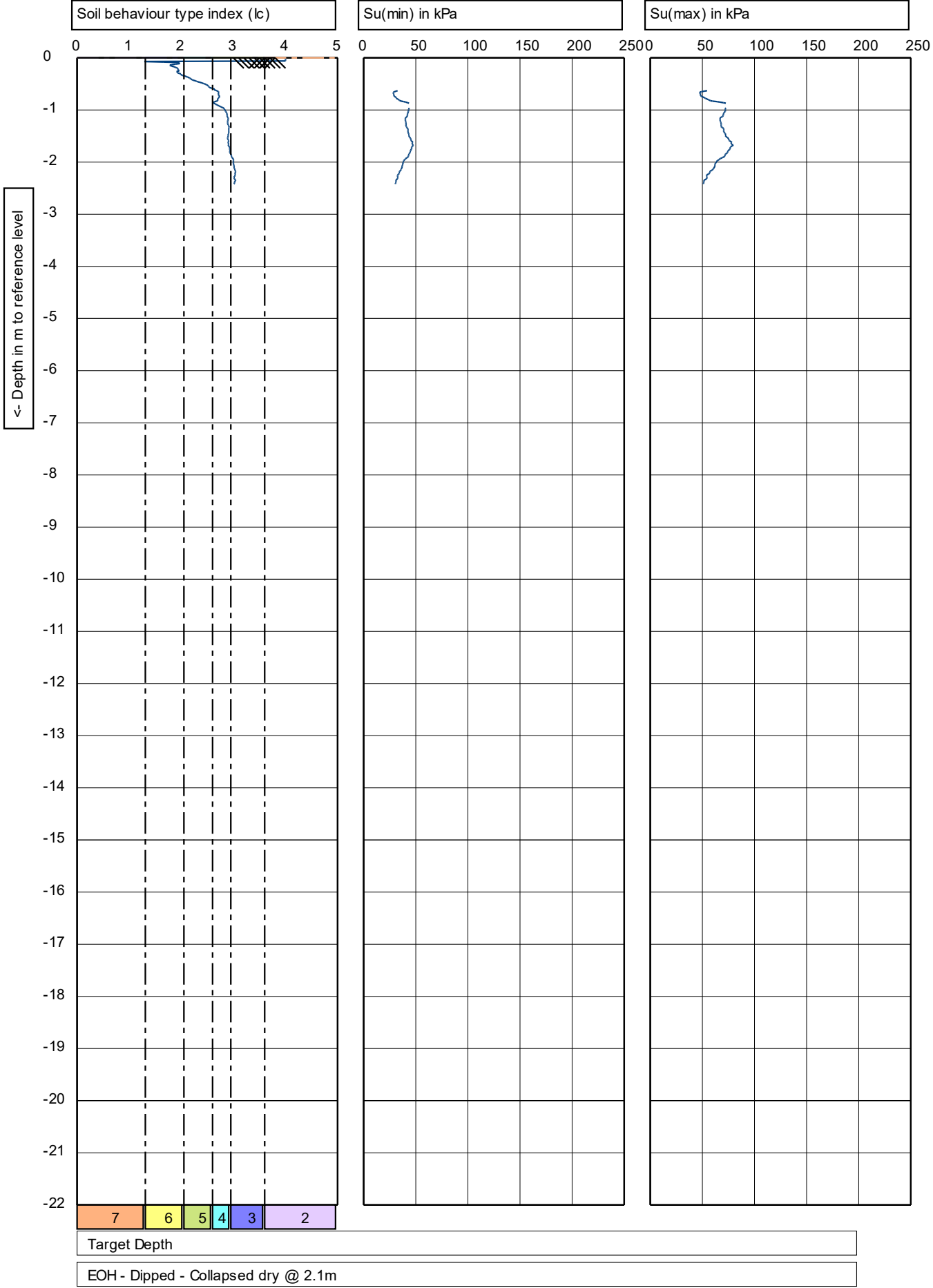
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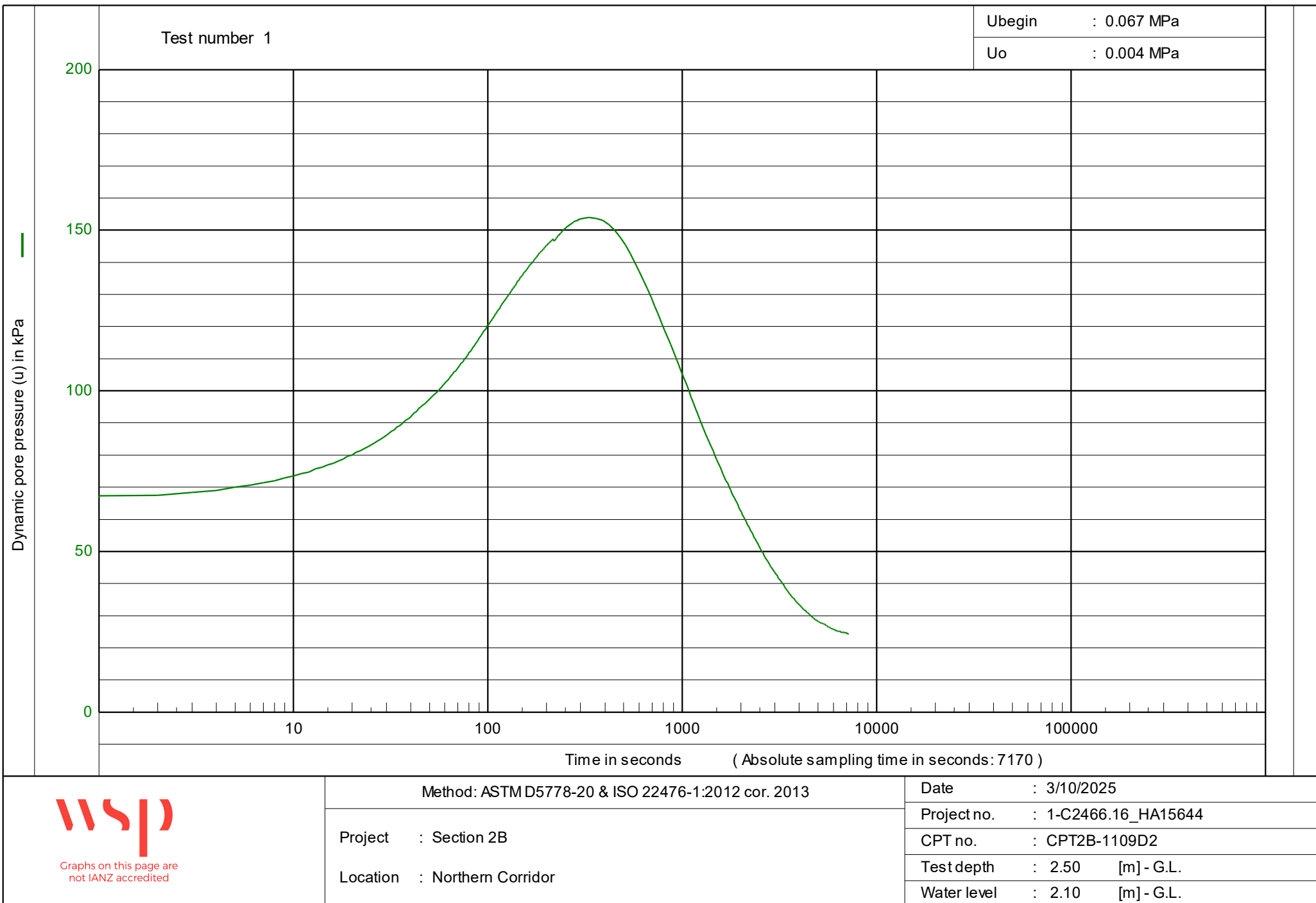
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1109D2 4/6

Project: Section 2B
Location: Northern Corridor
Position: 1727825, 6015261 NZTM







CONE PENETRATION TEST REPORT



Client : Waka Kotahi NZ Transport Agency
 Project : Section 2B
 Location : Northern Corridor
 Hole Number: CPT2B-1109D2
 Tested by : J Kavanaugh/ T Makasiale
 Date tested : 03/10/25
 Coordinates : 1727825 E
 6015261 N
 Elevation : 28m
 Water level : EOH - Dipped - Collapsed dry @ 2.1m

Project No : 1-C2466.16
 Lab Ref No : HA15644_CPT2B_1109D2
 Client Ref No :

Test Results

Start Time	7:22:00 am
Time at penetration	7:24:23 am
End Time	12:02:23 am
Reference level	0
Ground level	0
Predrill	0
Penetration Depth	2.5
Remarks	Target Depth
GPS Type	Garmin eTrex 20
GPS Accuracy	+ / - 3m
GPS Reference Grid	NZTM
GPS Datum	MSL
Rig Type	Geomil Panther 100
Rig ID	CPT05
Reaction Force	Dead weight 13.1 tonnes
Data Acquisition (Digitizer)	GeoMil GME500
Acquisition Program	GeoMil CPTest
Reporting Program	GeoMil CPTask
Cone Type	C10 (10 Tonne Compression)
Cross Sectional Area	10cm ²
Cone Area Ratio	0.8
Fluid Type	Silicone Fluid
Friction Reducer	>400mm behind base of cone
Application Class (ISO 22476-1)	3
Test Type (ISO 22476-1)	TE2 (Measured Cone and Sleeve)
Back Fill Method	Bentonite
Observations During Testing	Hole positioned south of CPT2B-1109D

Test Methods: ASTM D5778-20
 ISO 22476-1:2012 Cor. 2013

Date tested : 03/10/25
 Date reported : 03/10/25

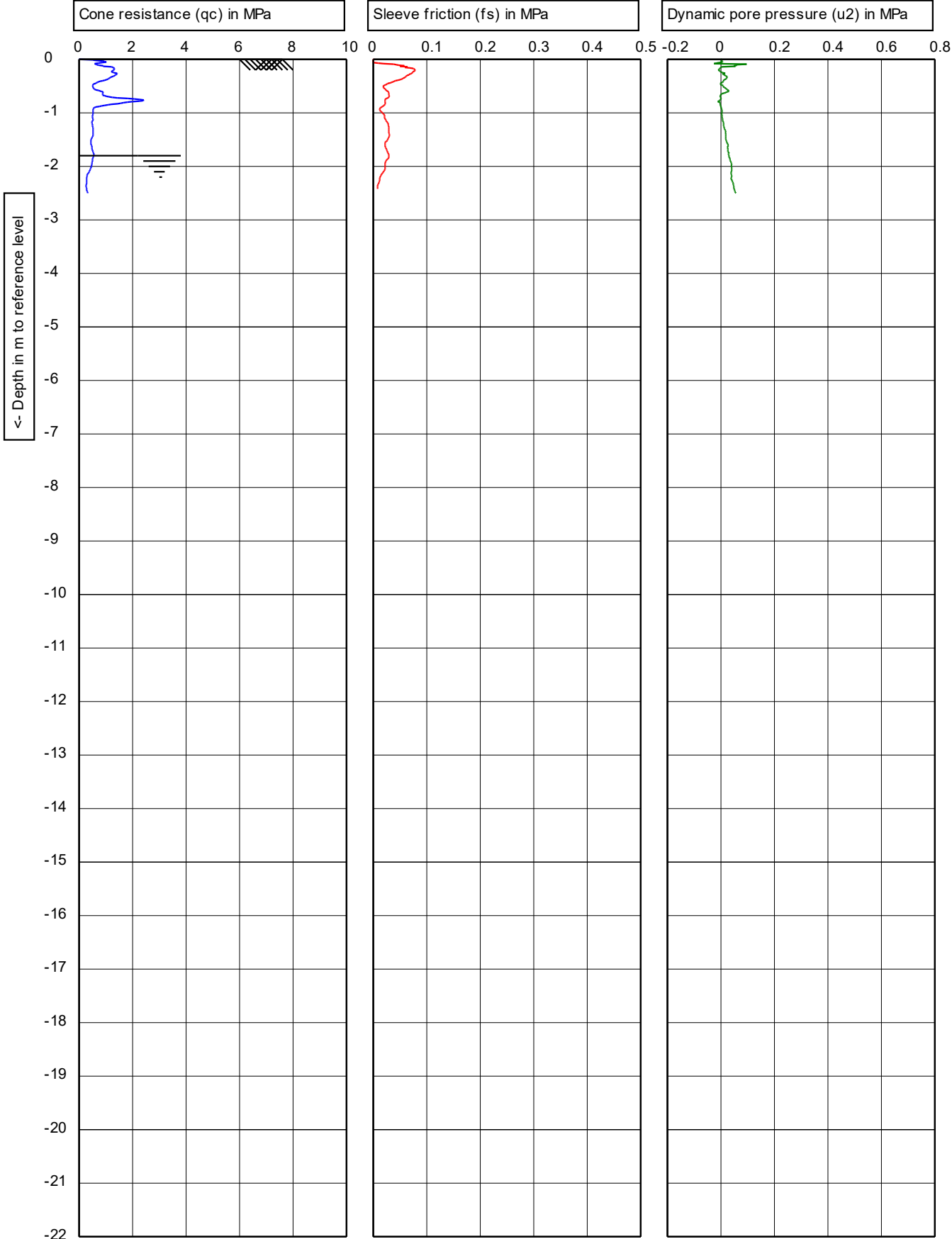
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 corresponding calibration data, daily logs, and CPT graphs.

Approved Signatory

Designation : CPT North Island Manager
 Date : 03/10/25



All tests reported herein
 have been performed in
 accordance with the
 laboratory's scope of
 accreditation

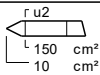


Target Depth

EOH - Dipped - GWL @ 1.8m



Graphs on this page are not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.80 m

Predrill: 0.00 m Predrilled

Date: 3/10/2025

Project: Section 2B

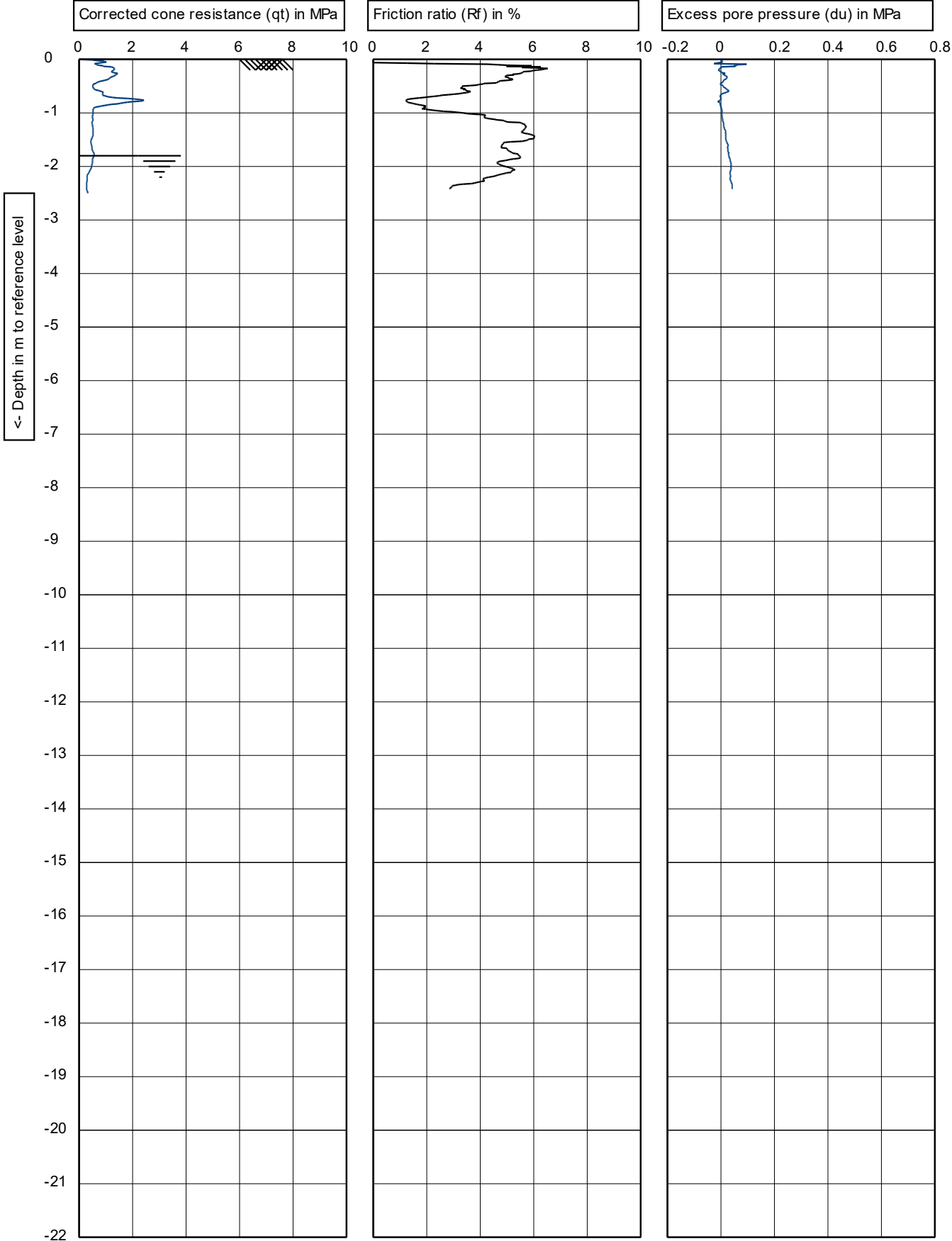
Location: Northern Corridor

Position: 1728061, 6016494 NZTM

Cone no.: C10CFIIP.C21082

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1110D 1/6

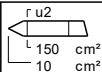


Target Depth

EOH - Dipped - GWL @ 1.8m



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.80 m

Predrill: 0.00 m Predrilled

Date: 3/10/2025

Cone no.: C10CFIP.C21082

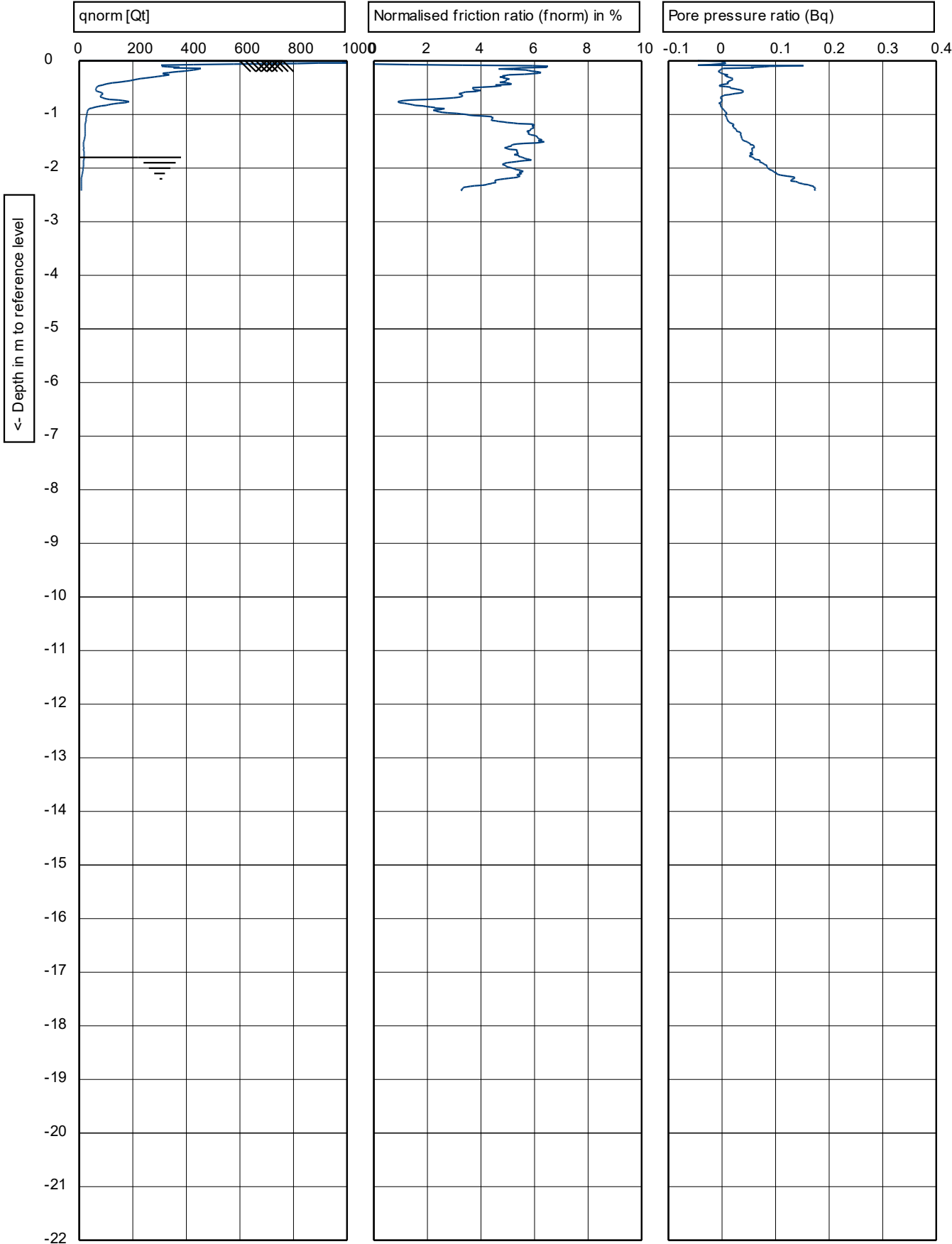
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1110D 2/6

Project: Section 2B

Location: Northern Corridor

Position: 1728061, 6016494 NZTM

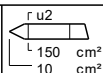


Target Depth

EOH - Dipped - GWL @ 1.8m



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.80 m

Predrill: 0.00 m Predrilled

Date: 3/10/2025

Cone no.: C10CFIIP.C21082

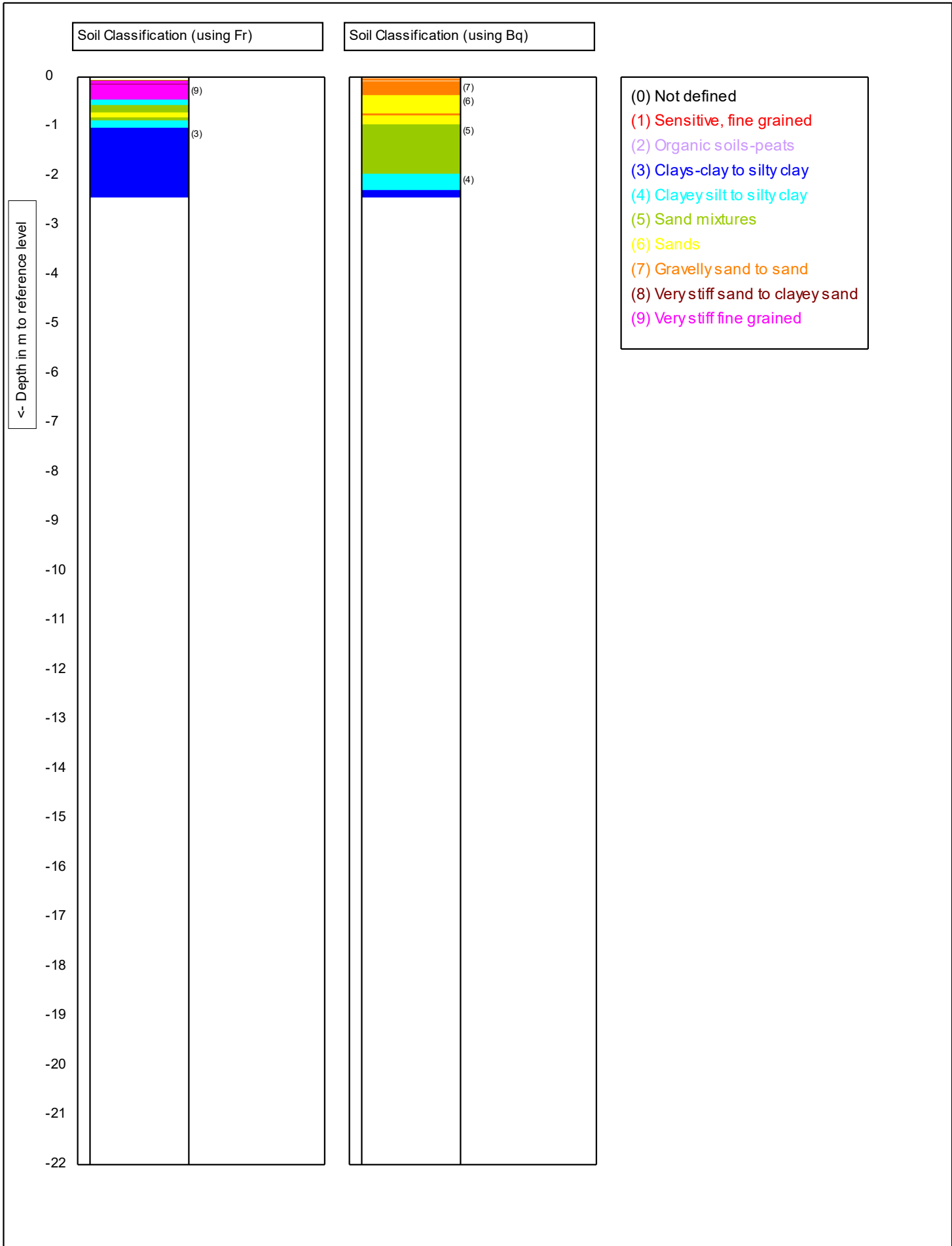
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1110D 3/6

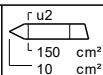
Project: Section 2B

Location: Northern Corridor

Position: 1728061, 6016494 NZTM



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.80 m

Predrill: 0.00 m Pre drilled

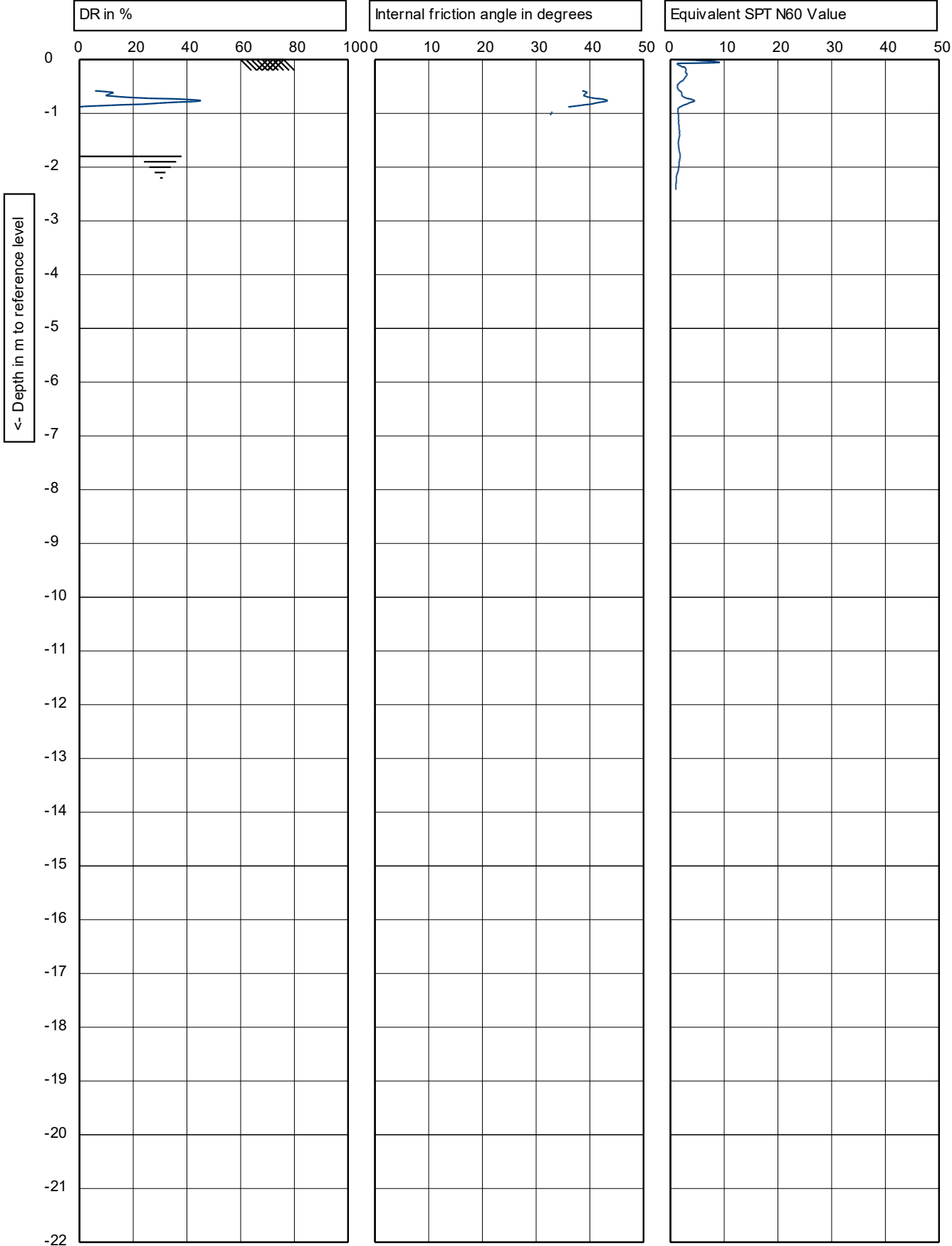
Date: 3/10/2025

Cone no.: C10CFIIP.C21082

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1110D 4/6

Project: Section 2B
Location: Northern Corridor
Position: 1728061, 6016494 NZTM



Target Depth

EOH - Dipped - GWL @ 1.8m



Graphs on this page are not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.80 m

Predrill: 0.00 m Predrilled

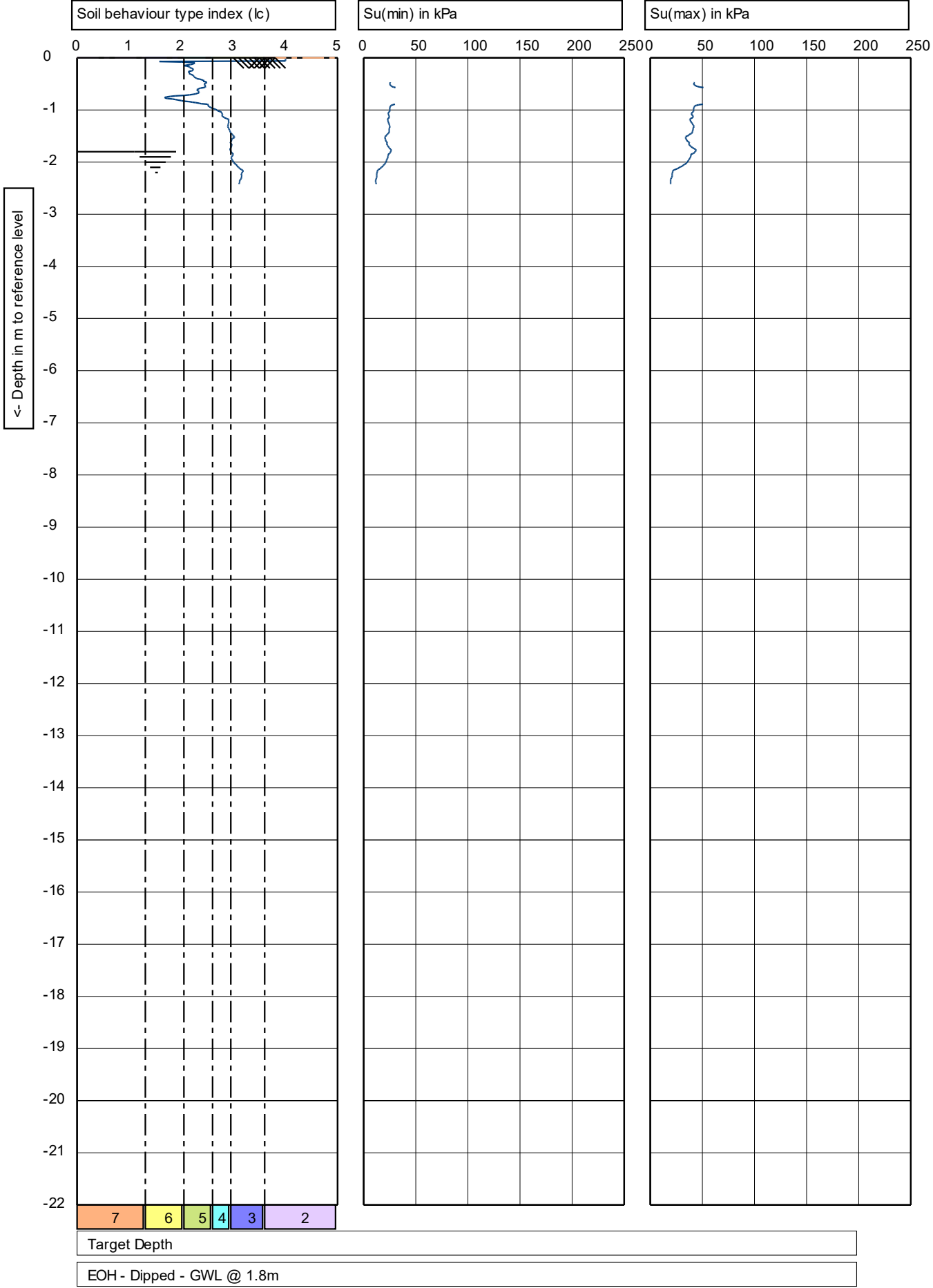
Date: 3/10/2025

Cone no.: C10CFIIP.C21082

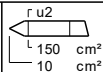
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1110D 5/6

Project: Section 2B
Location: Northern Corridor
Position: 1728061, 6016494 NZTM



Graphs on this page are
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Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.80 m

Predrill: 0.00 m Predrilled

Date: 3/10/2025

Cone no.: C10CFIIP.C21082

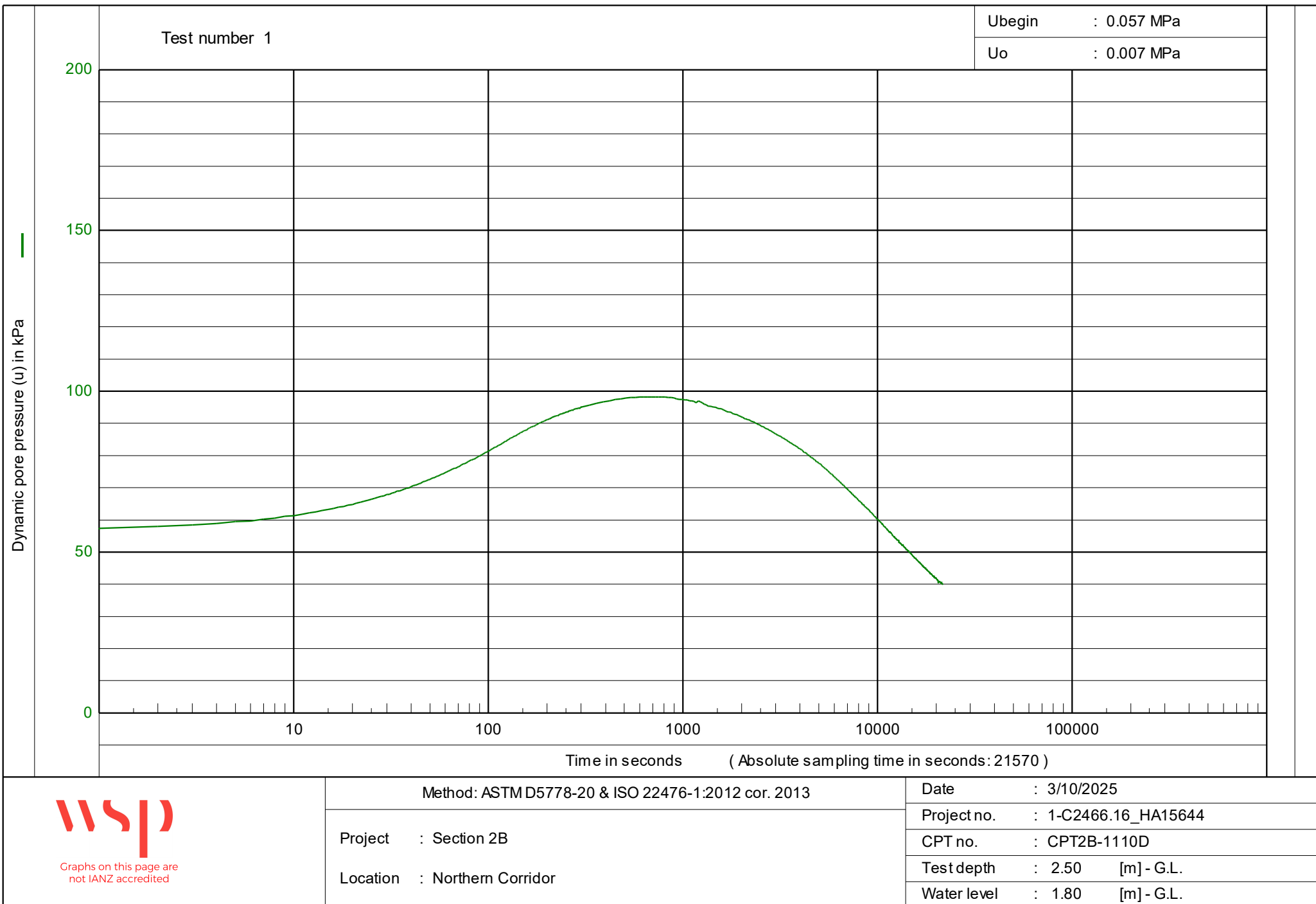
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1110D 6/6

Project: Section 2B

Location: Northern Corridor

Position: 1728061, 6016494 NZTM



CONE PENETRATION
TEST REPORT



Client : Waka Kotahi NZ Transport Agency
Project : Section 2B
Location : Northern Corridor
Hole Number: CPT2B-1110D
Tested by : J Kavanaugh/ T Makasiale
Date tested : 03/10/25
Coordinates : 1728061 E
6016494 N
Elevation : 15m
Water level : EOH - Dipped - GWL @ 1.8m

Project No : 1-C2466.16
Lab Ref No : HA15644_CPT2B_1110D
Client Ref No :

Test Results

Start Time	11:32:00 am
Time at penetration	11:34:20 am
End Time	12:02:20 am
Reference level	0
Ground level	0
Predrill	0
Penetration Depth	2.5
Remarks	Target Depth
GPS Type	Garmin eTrex 20
GPS Accuracy	+ / - 3m
GPS Reference Grid	NZTM
GPS Datum	MSL
Rig Type	Geomil Panther 100
Rig ID	CPT05
Reaction Force	Dead weight 13.1 tonnes
Data Acquisition (Digitizer)	GeoMil GME500
Acquisition Program	GeoMil CPTest
Reporting Program	GeoMil CPTask
Cone Type	C10 (10 Tonne Compression)
Cross Sectional Area	10cm ²
Cone Area Ratio	0.8
Fluid Type	Silicone Fluid
Friction Reducer	>400mm behind base of cone
Application Class (ISO 22476-1)	3
Test Type (ISO 22476-1)	TE2 (Measured Cone and Sleeve)
Back Fill Method	Bentonite
Observations During Testing	Hole positioned north of CPT2B-1110

Test Methods: ASTM D5778-20
ISO 22476-1:2012 Cor. 2013

Date tested : 03/10/25
Date reported : 06/10/25

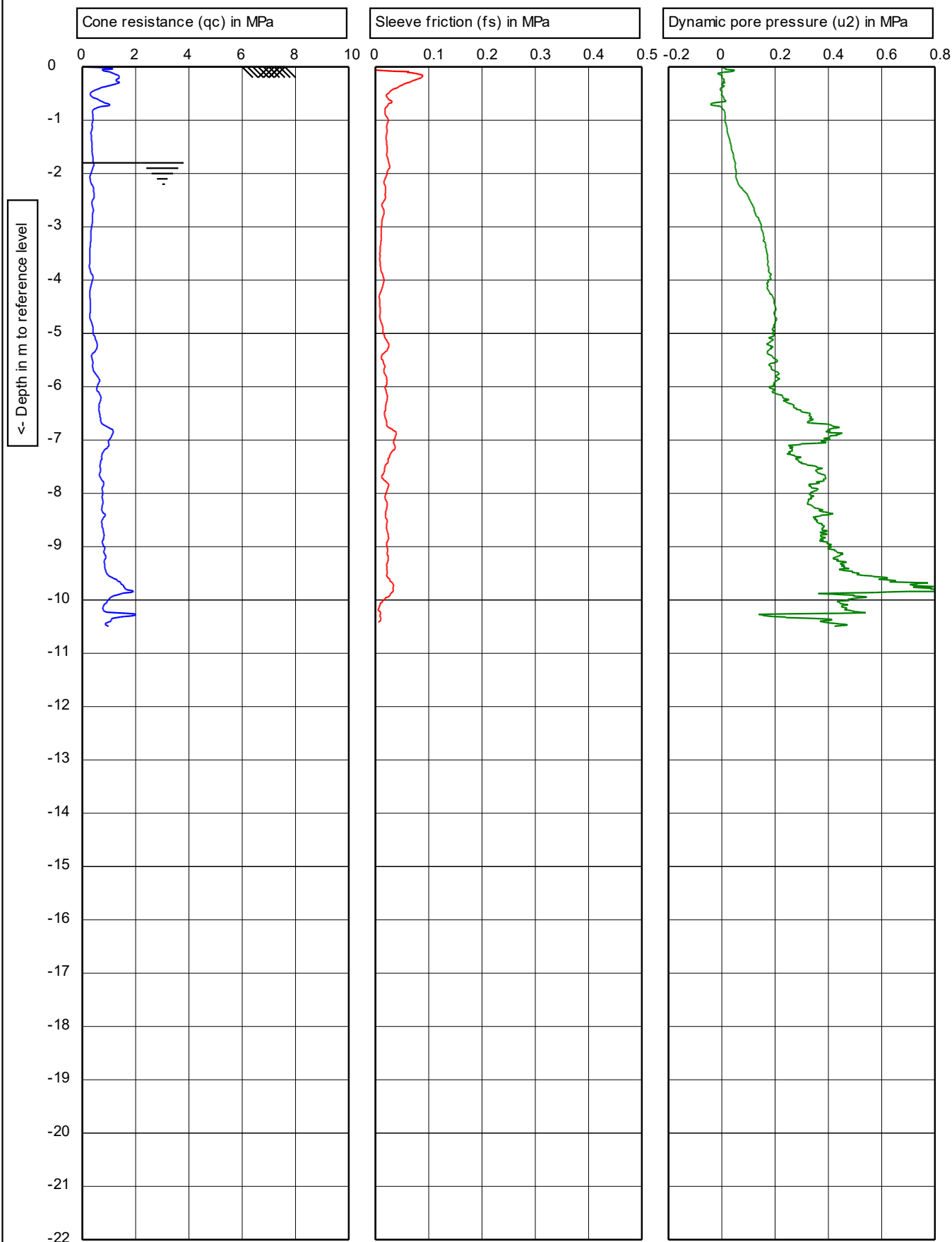
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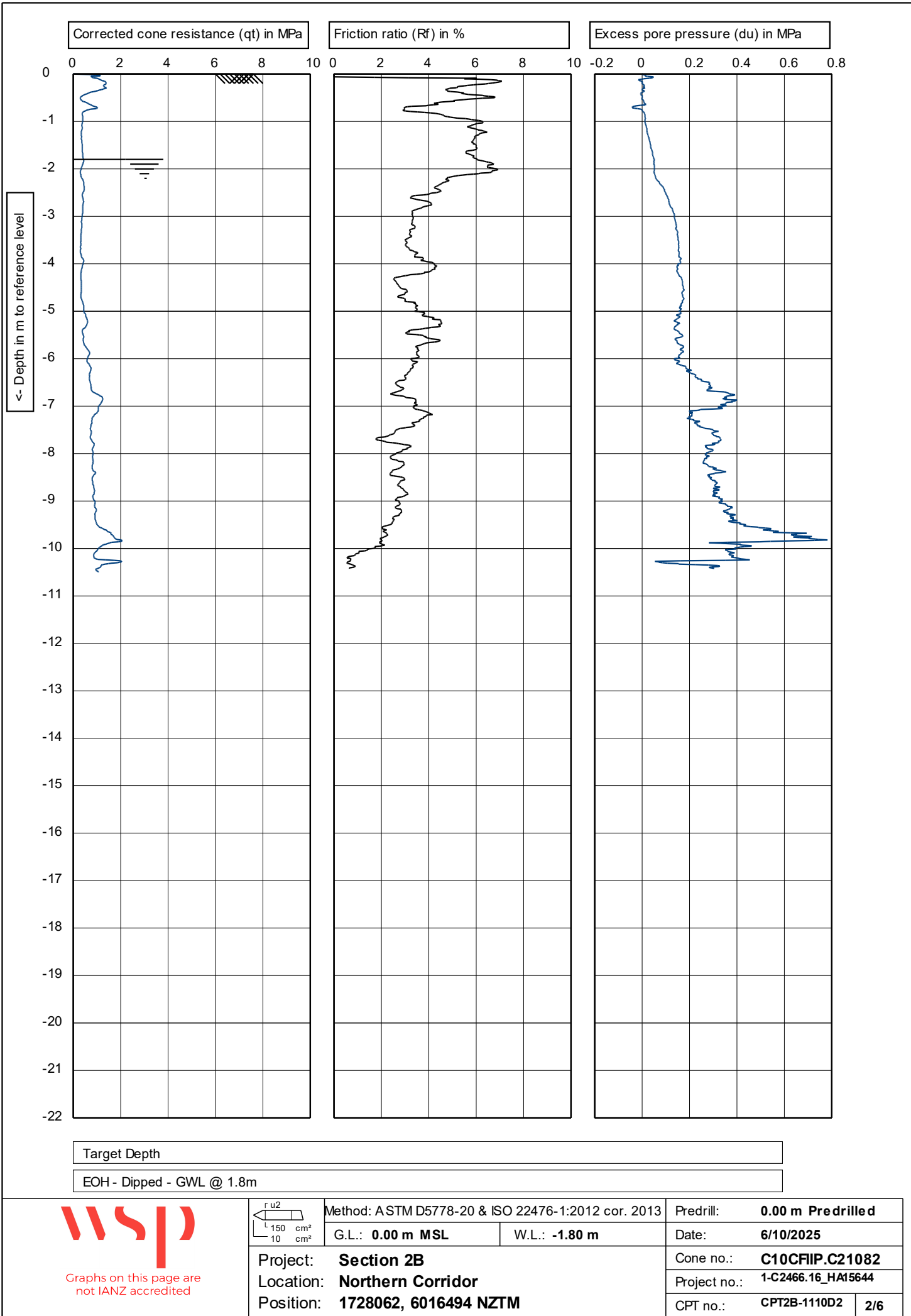
Approved Signatory

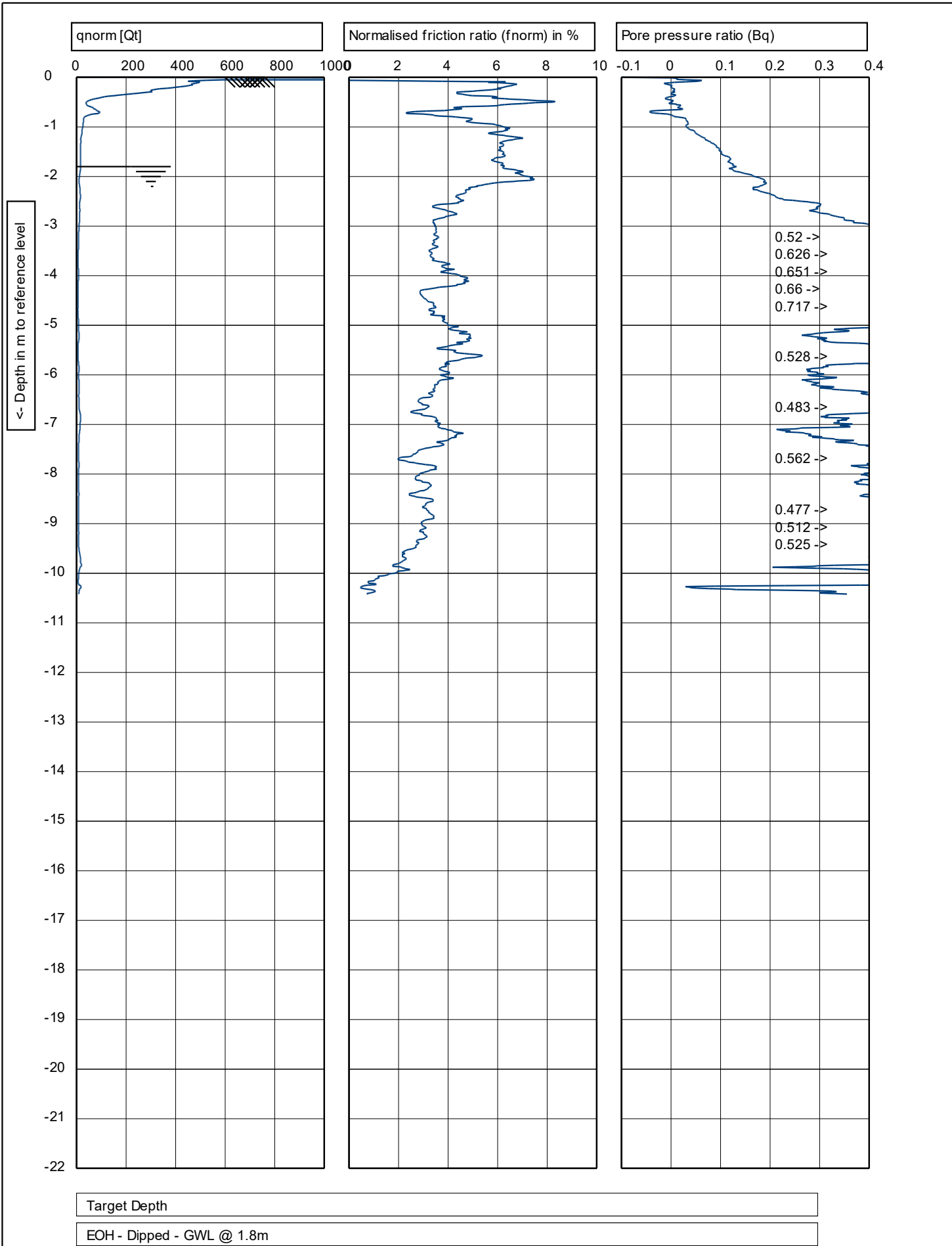
Designation : CPT North Island Manager
Date : 06/10/25



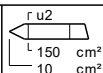
All tests reported herein
have been performed in
accordance with the
laboratory's scope of
accreditation







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not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.80 m

Predrill: 0.00 m Predrilled

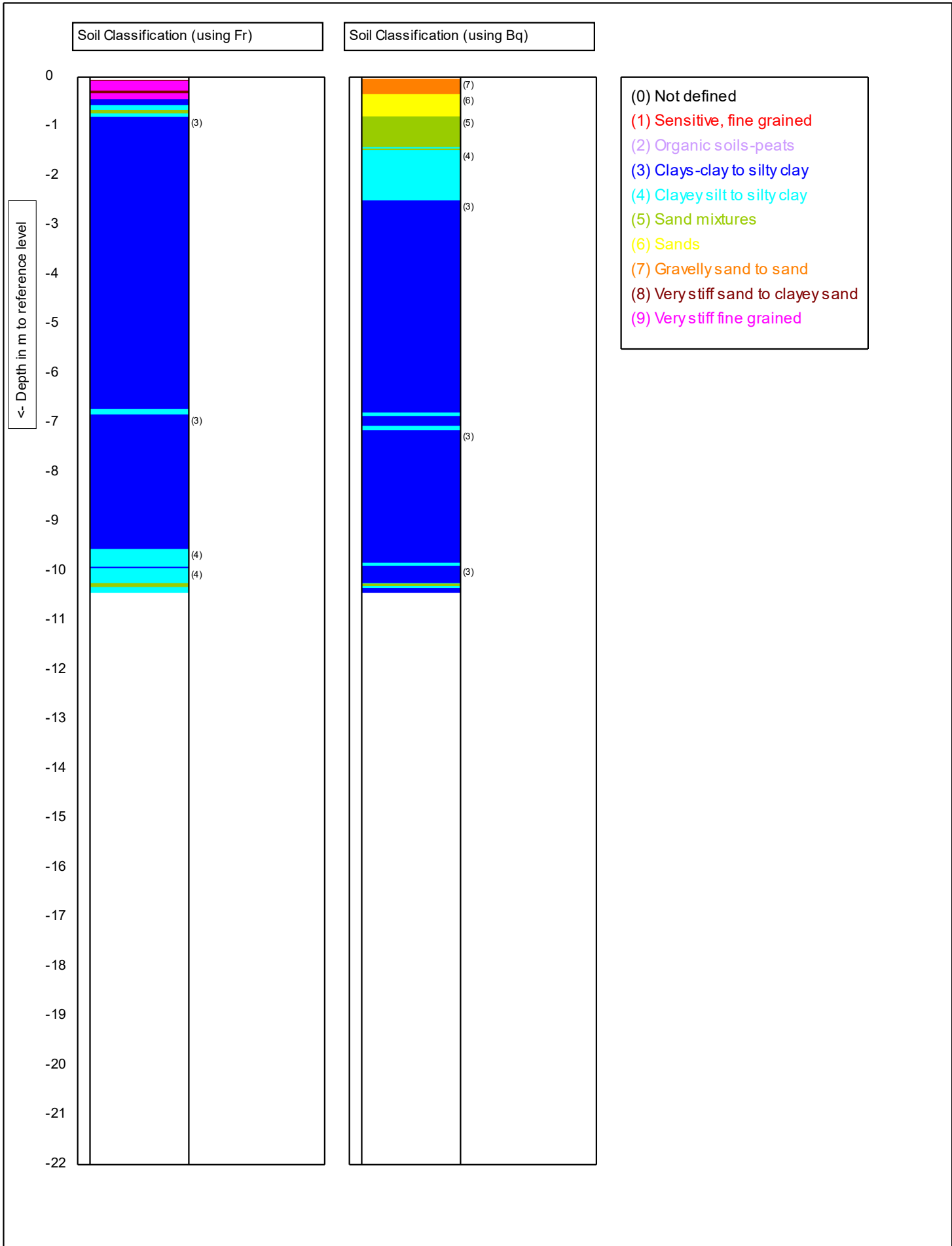
Date: 6/10/2025

Cone no.: C10CFIIP.C21082

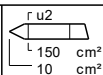
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1110D2 3/6

Project: Section 2B
Location: Northern Corridor
Position: 1728062, 6016494 NZTM



Graphs on this page are not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.80 m

Predrill: 0.00 m Predrilled

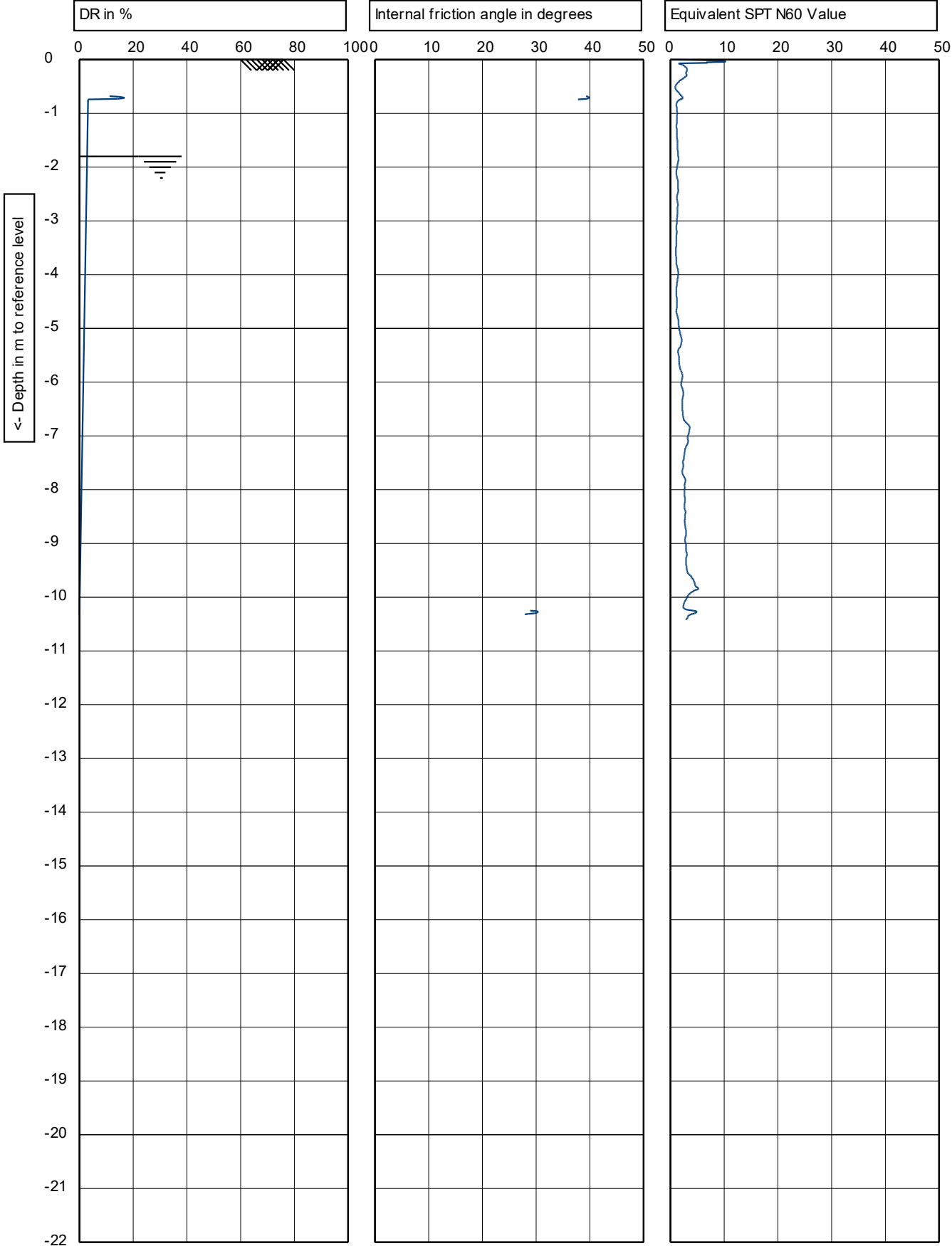
Date: 6/10/2025

Cone no.: C10CFIIP.C21082

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1110D2 4/6

Project: Section 2B
Location: Northern Corridor
Position: 1728062, 6016494 NZTM



Target Depth

EOH - Dipped - GWL @ 1.8m



Graphs on this page are not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.80 m

Predrill: 0.00 m Predrilled

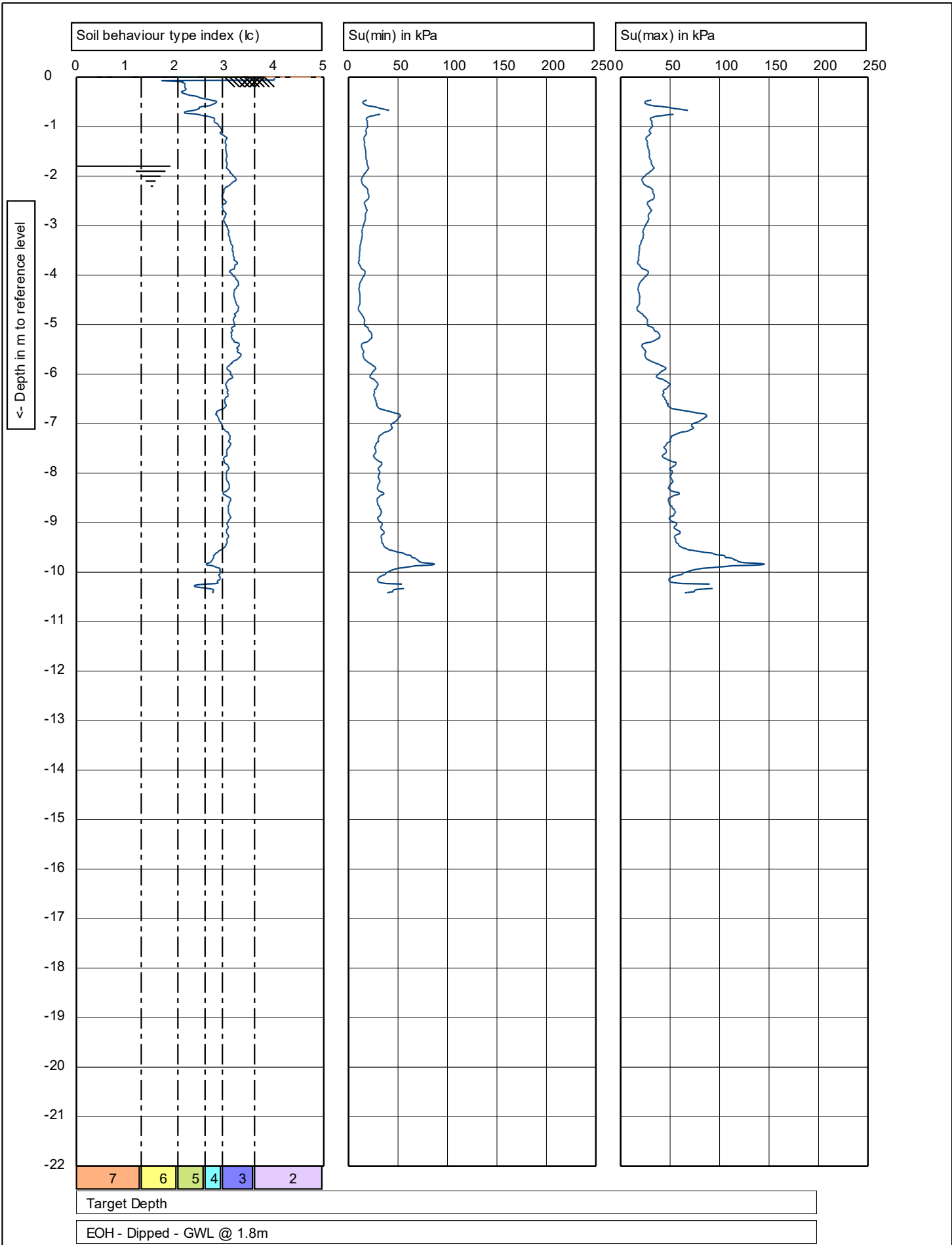
Date: 6/10/2025

Cone no.: C10CFIIP.C21082

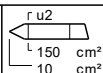
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1110D2 5/6

Project: Section 2B
Location: Northern Corridor
Position: 1728062, 6016494 NZTM



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.80 m

Predrill: 0.00 m Predrilled

Date: 6/10/2025

Cone no.: C10CFIIP.C21082

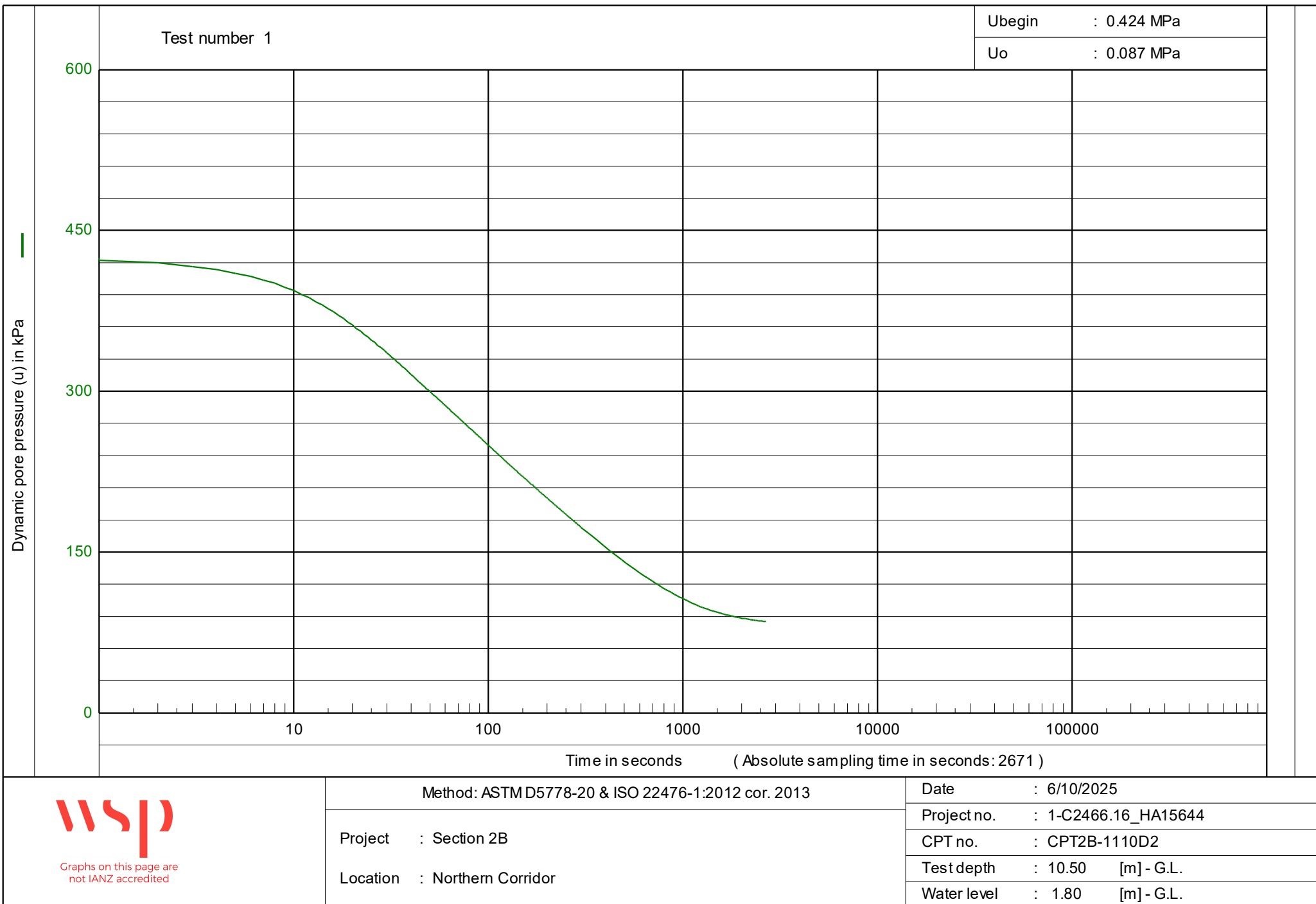
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1110D2 6/6

Project: Section 2B

Location: Northern Corridor

Position: 1728062, 6016494 NZTM



CONE PENETRATION TEST REPORT



Client : Waka Kotahi NZ Transport Agency
 Project : Section 2B
 Location : Northern Corridor
 Hole Number: CPT2B-1110D2
 Tested by : J Kavanaugh/ L Peachey
 Date tested : 06/10/25
 Coordinates : 1728062 E
 6016494 N
 Elevation : 9m
 Water level : EOH - Dipped - GWL @ 1.8m

Project No : 1-C2466.16
 Lab Ref No : HA15644_CPT2B-1110D2
 Client Ref No :

Test Results

Start Time	12:51:00 pm
Time at penetration	12:59:58 pm
End Time	12:08:58 am
Reference level	0
Ground level	0
Predrill	0
Penetration Depth	10.5
Remarks	Target Depth
GPS Type	Garmin eTrex 20
GPS Accuracy	+ / - 3m
GPS Reference Grid	NZTM
GPS Datum	MSL
Rig Type	Geomil Panther 100
Rig ID	CPT05
Reaction Force	Dead weight 13.1 tonnes
Data Acquisition (Digitizer)	GeoMil GME500
Acquisition Program	GeoMil CPTest
Reporting Program	GeoMil CPTask
Cone Type	C10 (10 Tonne Compression)
Cross Sectional Area	10cm ²
Cone Area Ratio	0.8
Fluid Type	Silicone Fluid
Friction Reducer	>400mm behind base of cone
Application Class (ISO 22476-1)	3
Test Type (ISO 22476-1)	TE2 (Measured Cone and Sleeve)
Back Fill Method	Bentonite
Observations During Testing	Hole positioned north of CPT2B-1110D

Test Methods: ASTM D5778-20
 ISO 22476-1:2012 Cor. 2013

Date tested : 06/10/25
 Date reported : 06/10/25

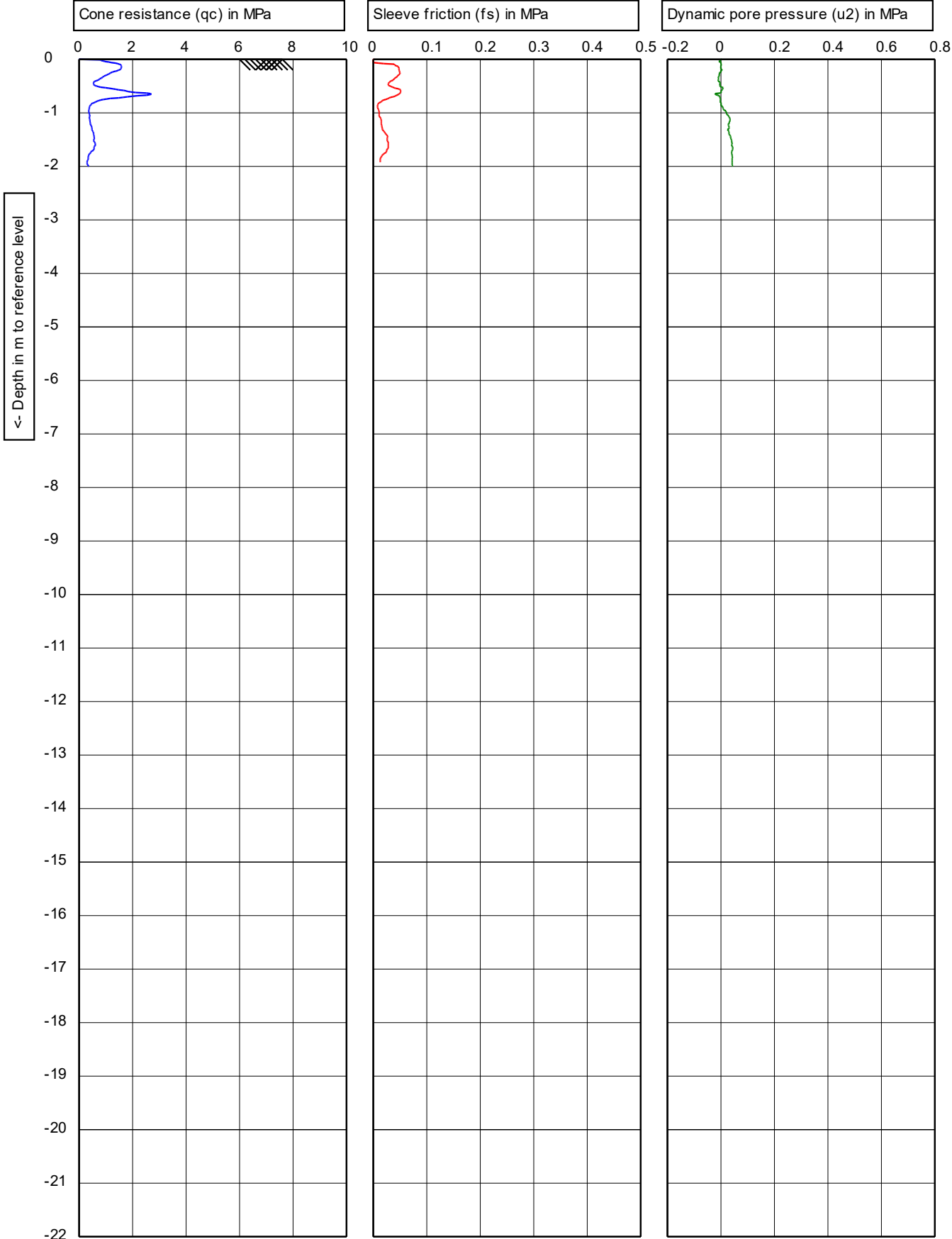
This report may only be reproduced in full, including
 corresponding calibration data, daily logs, and CPT graphs.

Approved Signatory

Designation : CPT North Island Manager
 Date : 06/10/25



All tests reported herein
 have been performed in
 accordance with the
 laboratory's scope of
 accreditation



Target Depth

EOH - Dipped - Collapsed dry @ 0.6m



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

Predrill: 0.00 m Predrilled

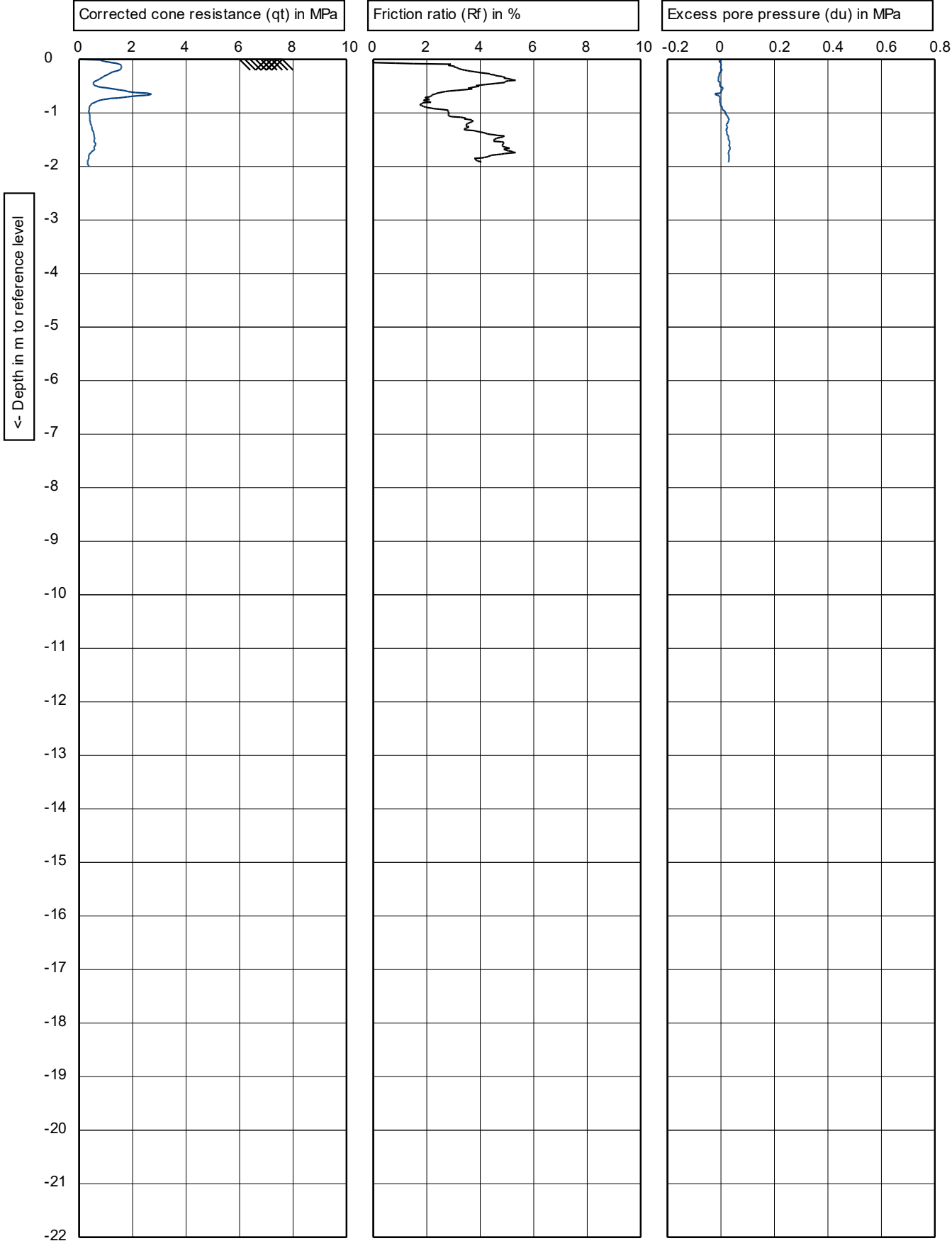
Date: 19/11/2025

Project: **Section 2B**
Location: **Northern Corridor**
Position: **1727770, 6016034 NZTM**

Cone no.: **C10CFIIP.C21109**

Project no.: **1-C2466.16_HA15644**

CPT no.: **CPT2B-1111D** 1/6



Target Depth

EOH - Dipped - Collapsed dry @ 0.6m



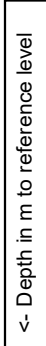
Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013
G.L.: 0.00 m MSL

Project: **Section 2B**
Location: **Northern Corridor**
Position: **1727770, 6016034 NZTM**

Predrill: **0.00 m Predrilled**
Date: **19/11/2025**
Cone no.: **C10CFIP.C21109**
Project no.: **1-C2466.16_HA15644**
CPT no.: **CPT2B-1111D** 2/6

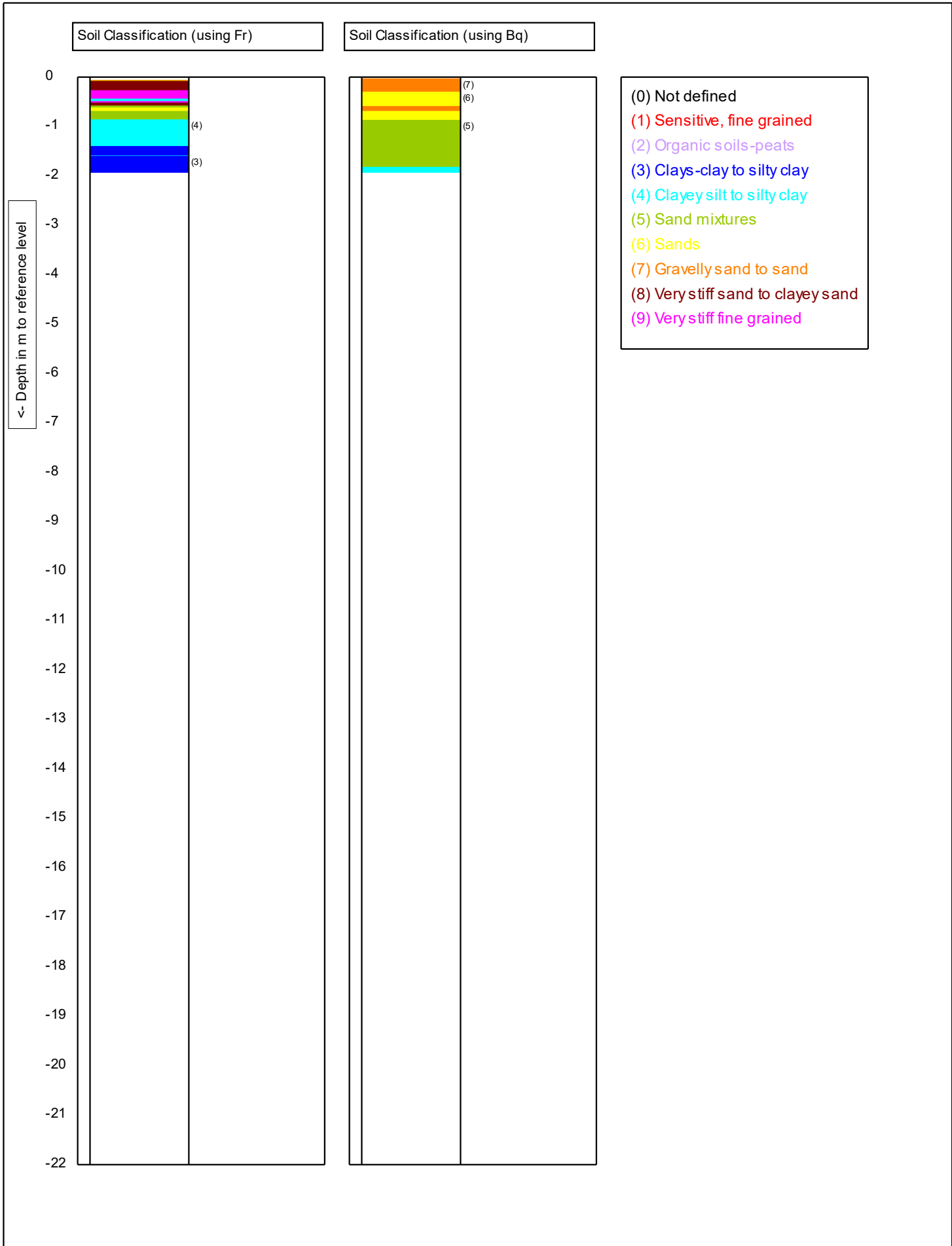


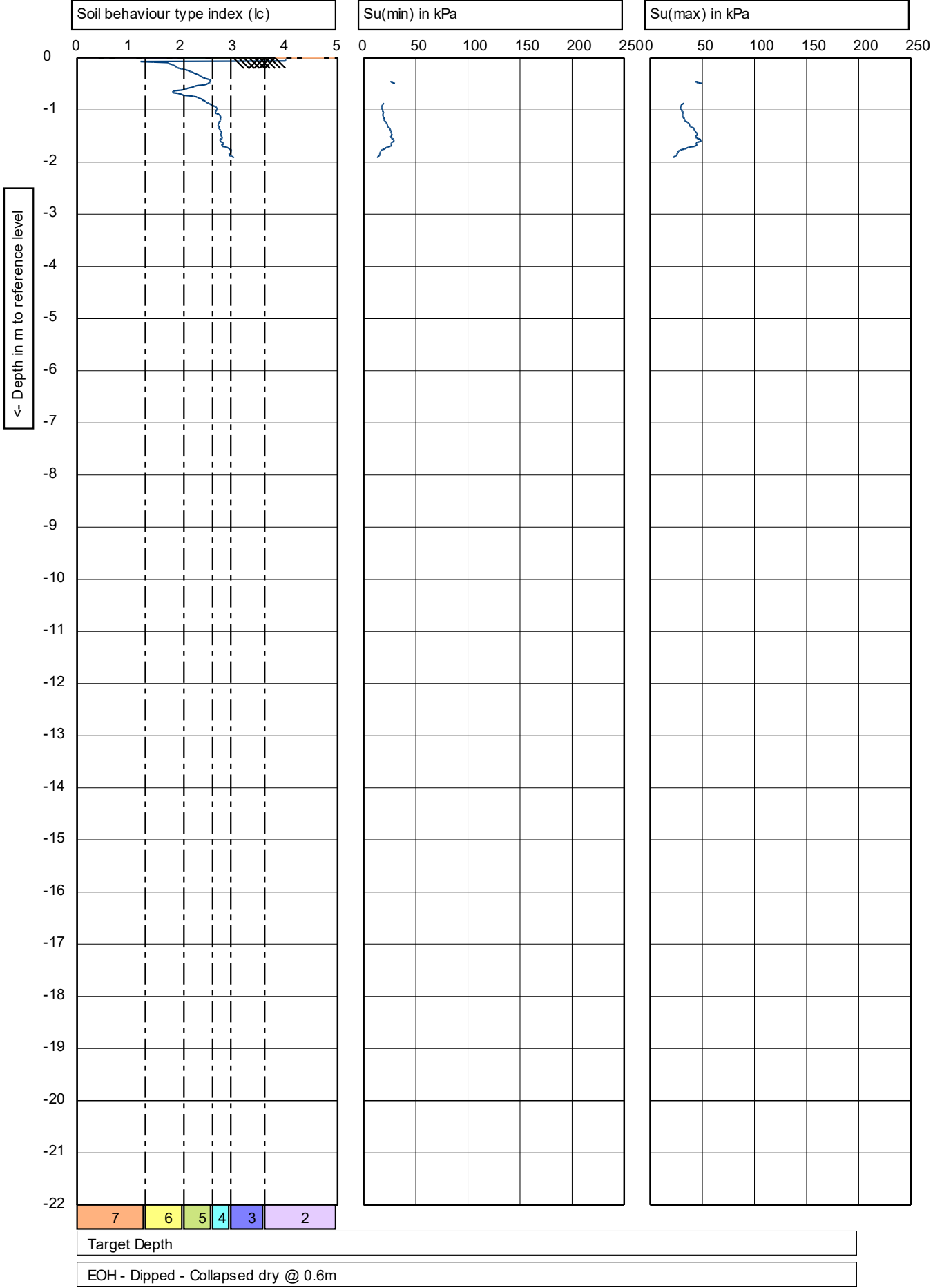
EOH - Dipped - Collapsed dry @ 0.6m

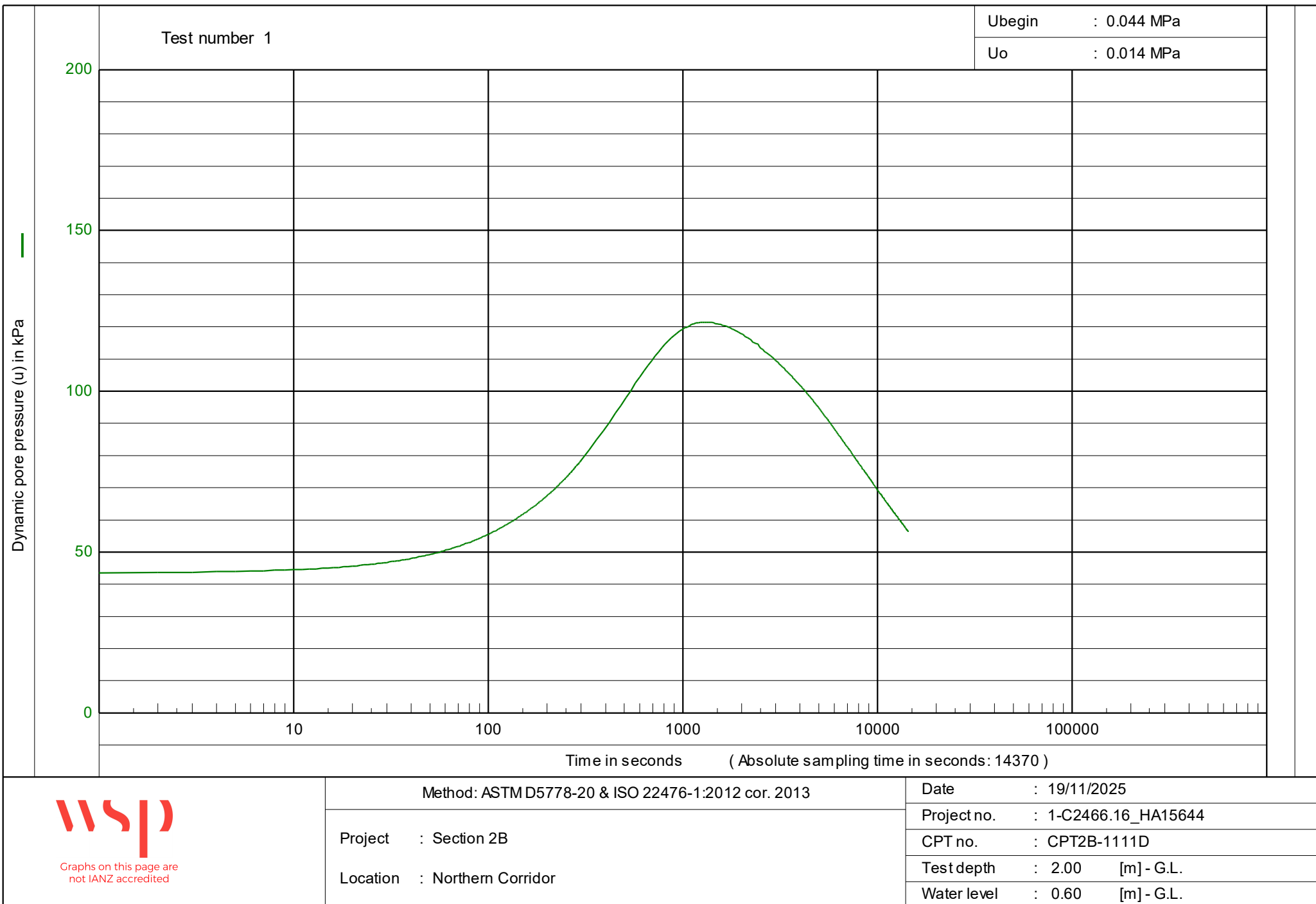


G.L.: 0.00 m MSL

CPT no.:	CPT2B-1111D	3/6
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CONE PENETRATION TEST REPORT



Client : Waka Kotahi NZ Transport Agency
 Project : Section 2B
 Location : Northern Corridor
 Hole Number: CPT2B-1111D
 Tested by : J Kavanaugh
 Date tested : 19/11/25
 Coordinates : 1727770 E
 6016034 N
 Elevation : 19m
 Water level : EOH - Dipped - Collapsed dry @ 0.6m

Project No : 1-IC2466.16
 Lab Ref No : HA15644_CPT2B-1111D
 Client Ref No :

Test Results

Start Time	2:33:00 pm
Time at penetration	2:34:48 pm
End Time	12:01:48 am
Reference level	0
Ground level	0
Predrill	0
Penetration Depth	2
Remarks	Target Depth
GPS Type	Garmin eTrex 20
GPS Accuracy	+ / - 3m
GPS Reference Grid	NZTM
GPS Datum	MSL
Rig Type	Geomil Panther 100
Rig ID	CPT05
Reaction Force	Dead weight 13.1 tonnes
Data Acquisition (Digitizer)	GeoMil GME500
Acquisition Program	GeoMil CPTest
Reporting Program	GeoMil CPTask
Cone Type	C10 (10 Tonne Compression)
Cross Sectional Area	10cm ²
Cone Area Ratio	0.8
Fluid Type	Silicone Fluid
Friction Reducer	>400mm behind base of cone
Application Class (ISO 22476-1)	3
Test Type (ISO 22476-1)	TE2 (Measured Cone and Sleeve)
Back Fill Method	Bentonite
Observations During Testing	Hole positioned west of CPT2B-1111

Test Methods: ASTM D5778-20
 ISO 22476-1:2012 Cor. 2013

Date tested : 19/11/25
 Date reported : 20/11/25

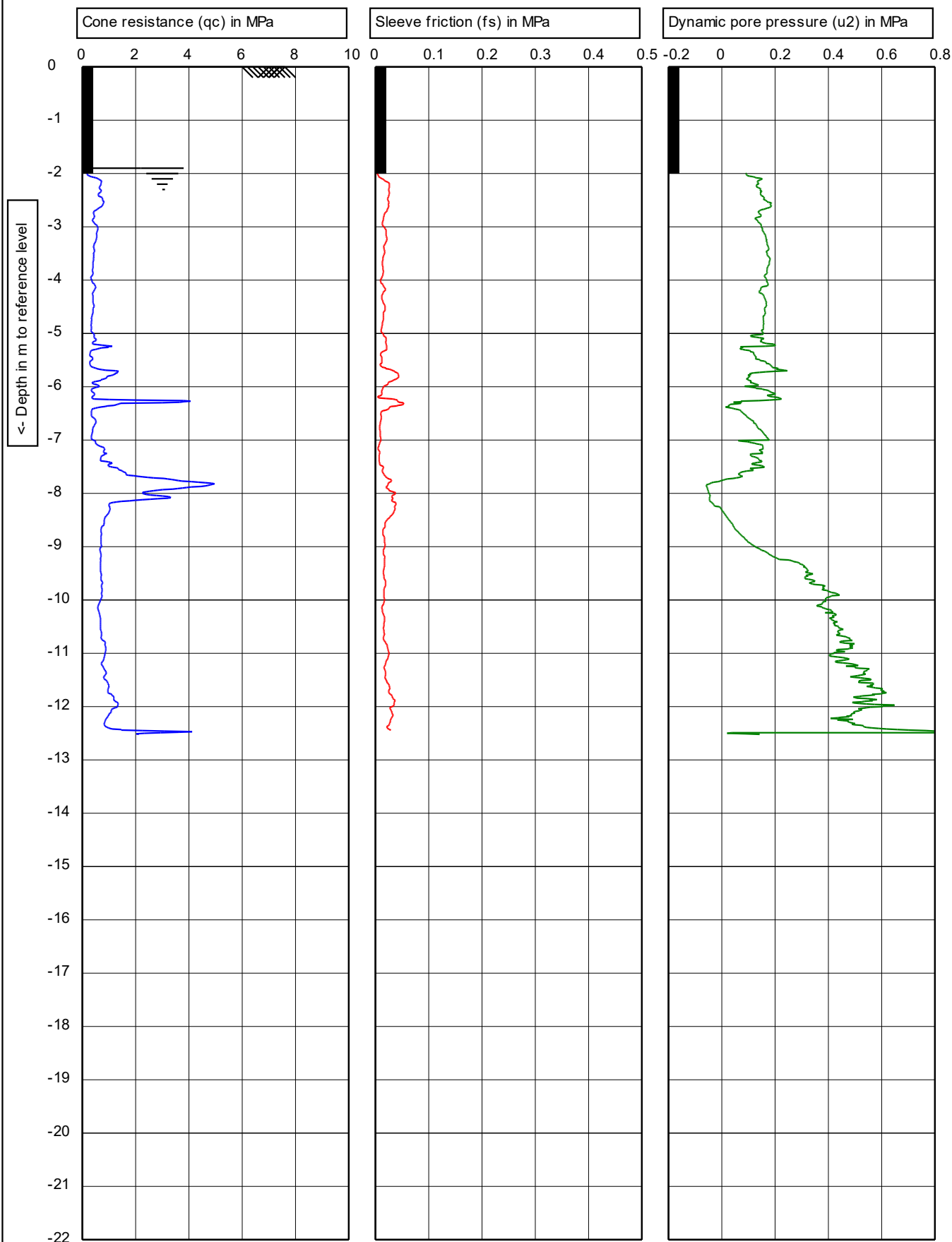
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 corresponding calibration data, daily logs, and CPT graphs.

Approved Signatory

Designation : CPT North Island Manager
 Date : 20/11/25



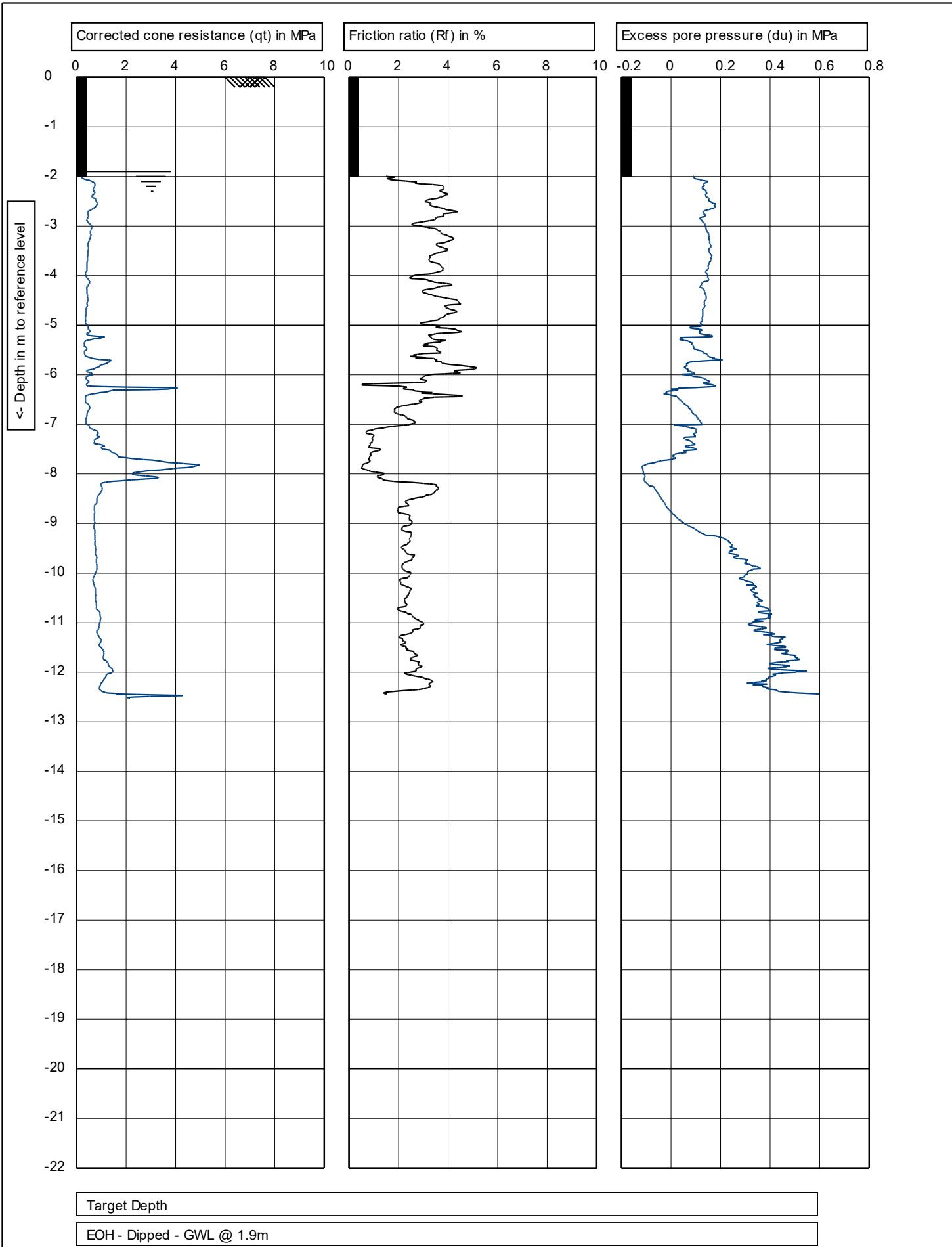
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 accordance with the
 laboratory's scope of
 accreditation



Target Depth

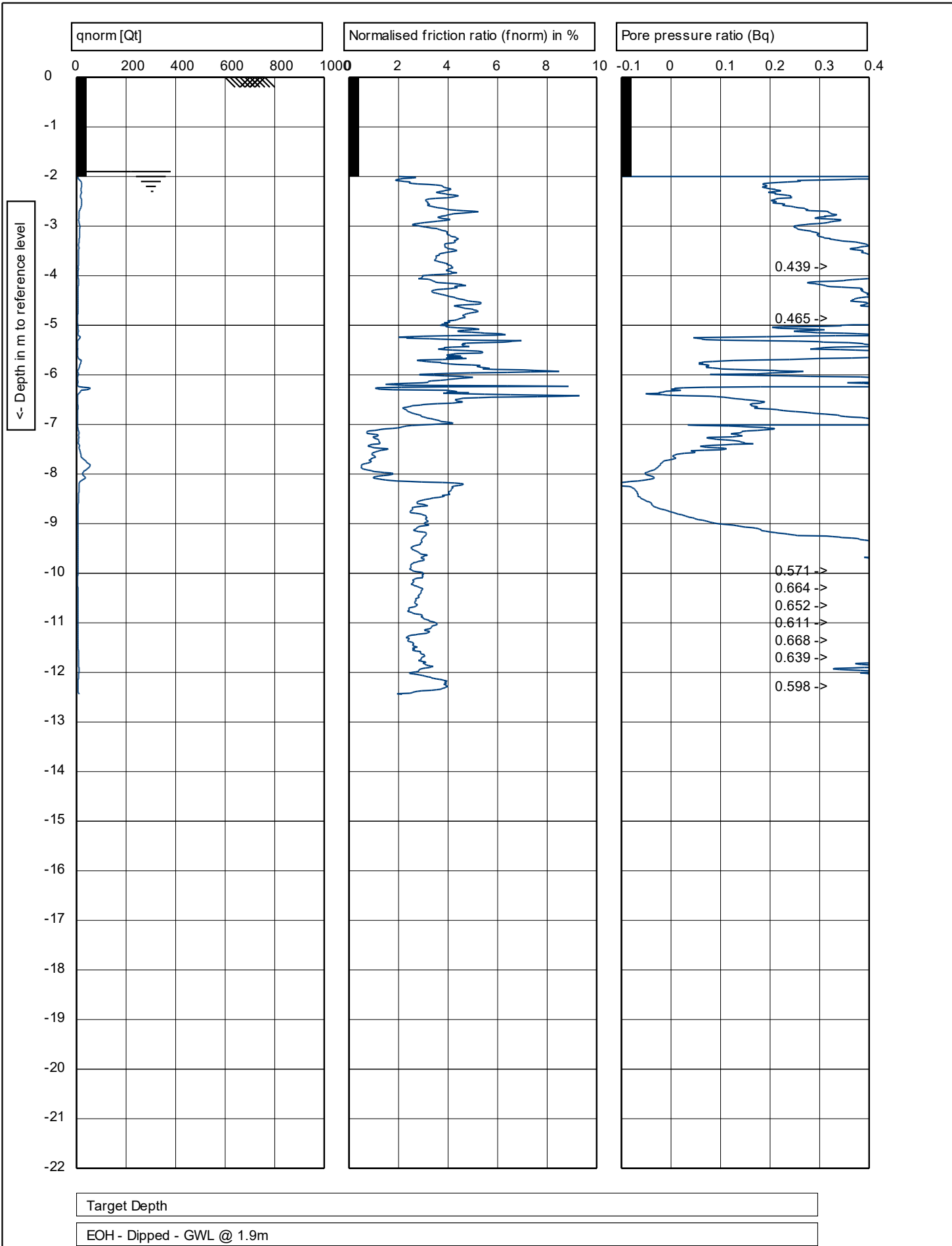


Diagram of a pencil with dimensions: length 150 cm, width 10 cm, and a label "r u2".

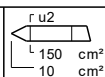


Graphs on this page are
not IANZ accredited

	Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013		Predrill: 2.00 m Predrilled	
	G.L.: 0.00 m MSL	W.L.: -1.90 m	Date: 20/11/2025	
Project: Section 2B			Cone no.: C10CFIIP.C21109	
Location: Northern Corridor			Project no.: 1-C2466.16_HA15644	
Position: 1727770, 6016034 NZTM			CPT no.: CPT2B-1111D2	2/6



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.90 m

Predrill: 2.00 m Predrilled

Date: 20/11/2025

Project: Section 2B

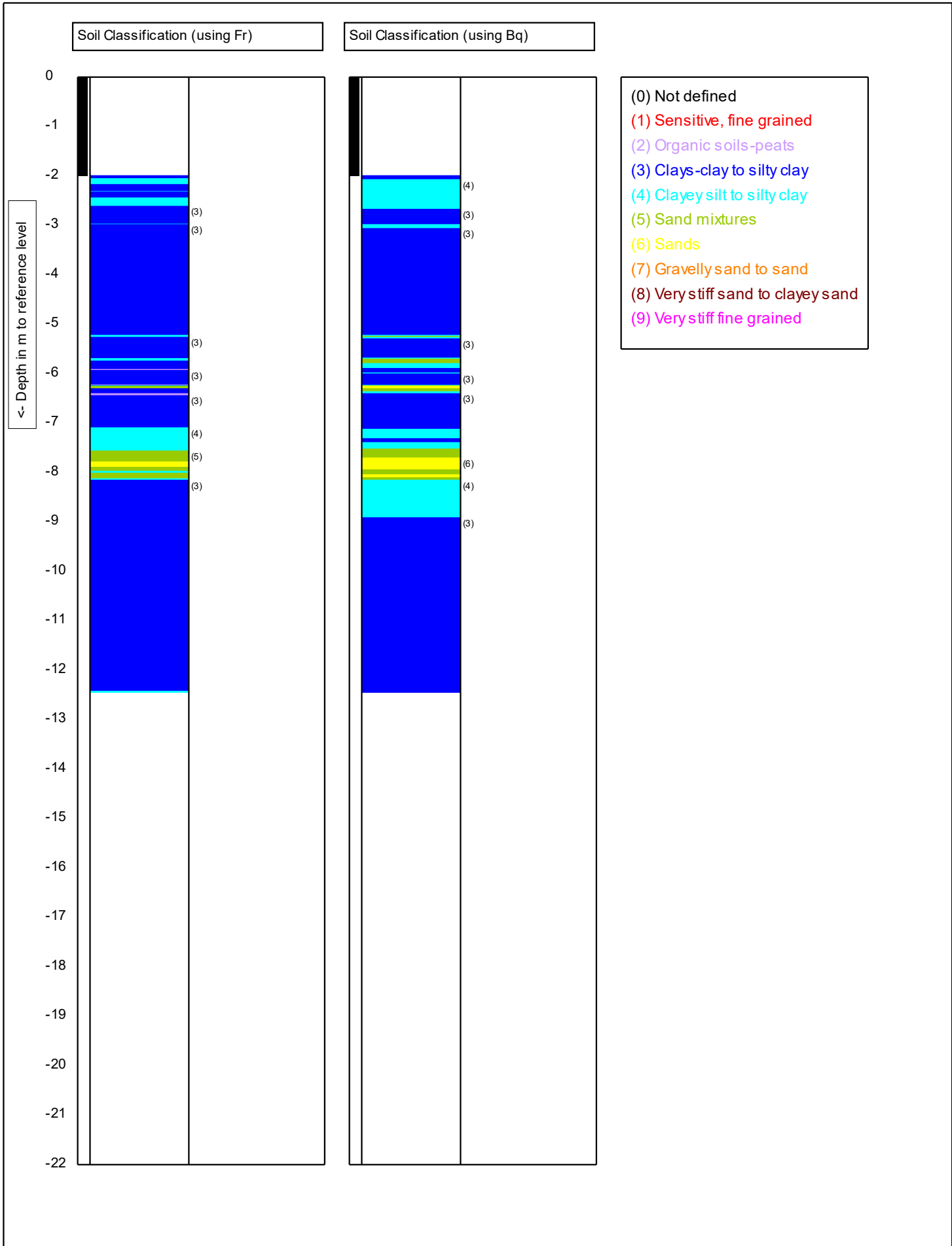
Location: Northern Corridor

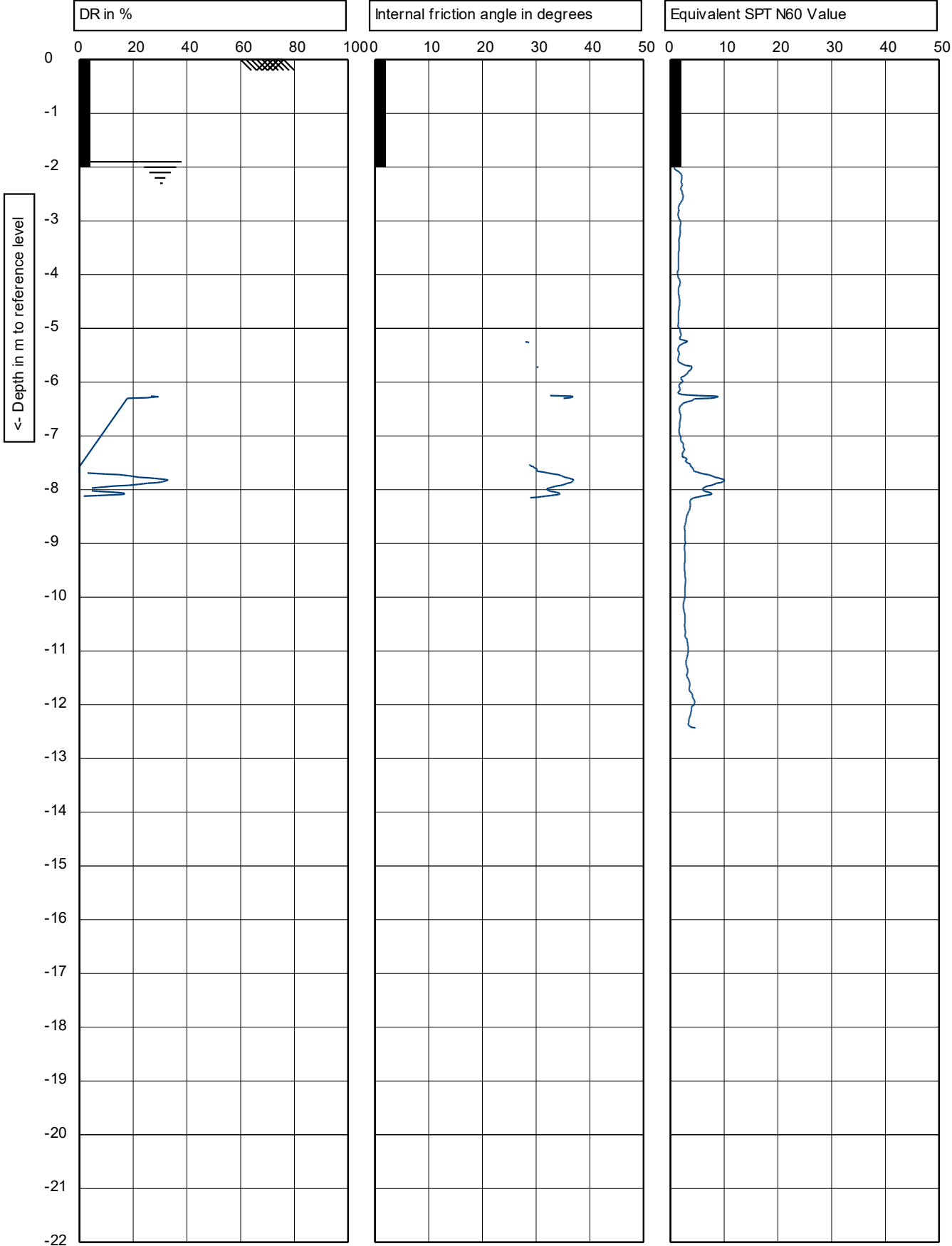
Position: 1727770, 6016034 NZTM

Cone no.: C10CFIIP.C21109

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1111D2 3/6





Target Depth

EOH - Dipped - GWL @ 1.9m



Graphs on this page are not IANZ accredited



u2
150 cm²
u1
10 cm²

Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.90 m

Predrill: 2.00 m Predrilled

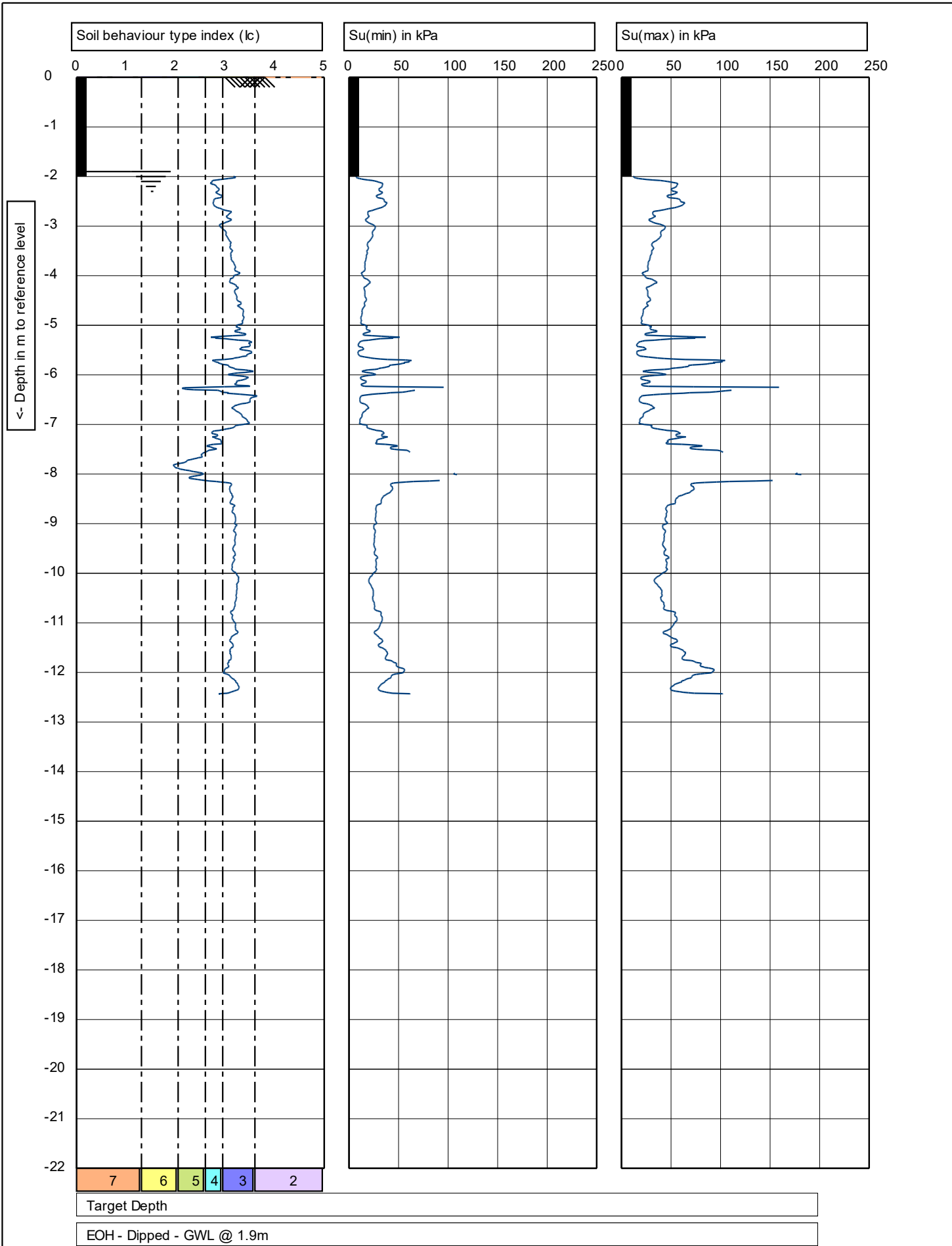
Date: 20/11/2025

Cone no.: C10CFIIP.C21109

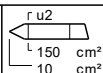
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1111D2 5/6

Project: Section 2B
Location: Northern Corridor
Position: 1727770, 6016034 NZTM



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not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -1.90 m

Predrill: 2.00 m Predrilled

Date: 20/11/2025

Cone no.: C10CFIIP.C21109

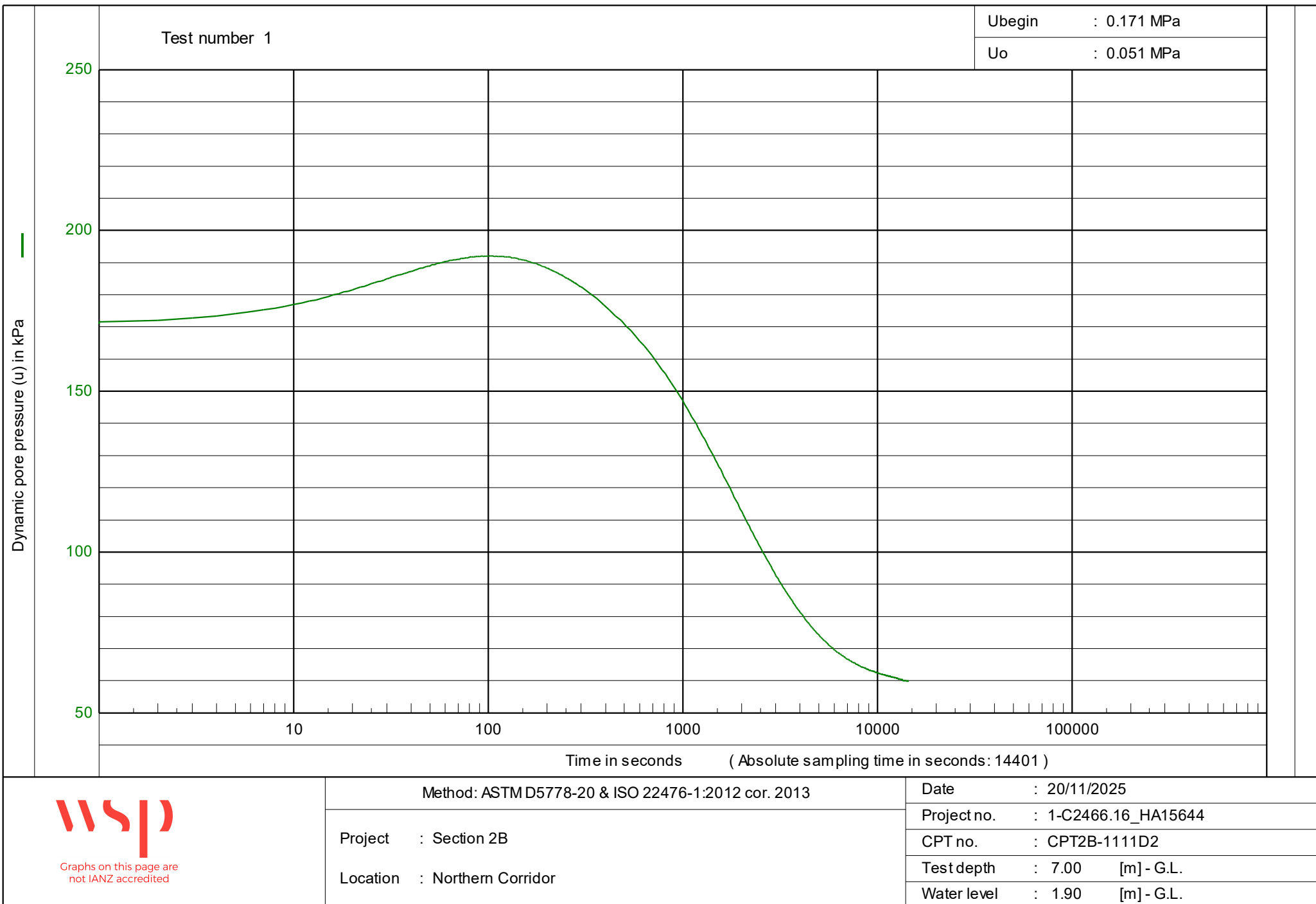
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1111D2 6/6

Project: Section 2B

Location: Northern Corridor

Position: 1727770, 6016034 NZTM



WSP

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Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

Project : Section 2B

Location : Northern Corridor

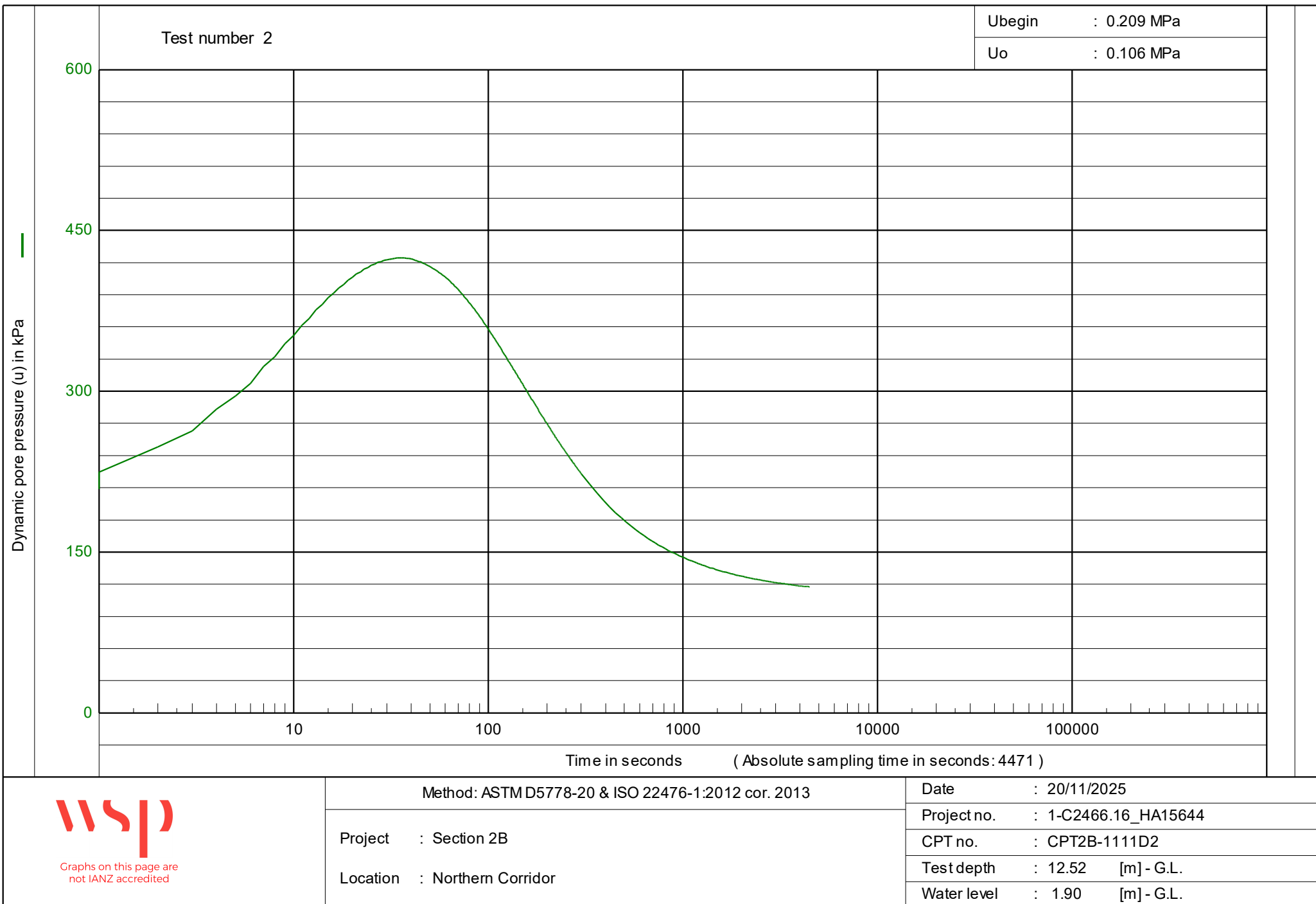
Date : 20/11/2025

Project no. : 1-C2466.16_HA15644

CPT no. : CPT2B-1111D2

Test depth : 7.00 [m] - G.L.

Water level : 1.90 [m] - G.L.



CONE PENETRATION TEST REPORT



Client : Waka Kotahi NZ Transport Agency
 Project : Section 2B
 Location : Northern Corridor
 Hole Number: CPT2B-1111D2
 Tested by : J Kavanaugh
 Date tested : 20/11/25
 Coordinates : 1727770 E
 6016034 N
 Elevation : 19m
 Water level : EOH - Dipped - GWL @ 1.9m

Project No : 1-C2466.16
 Lab Ref No : HA15644_CPT2B-1111D2
 Client Ref No :

Test Results

Start Time	7:36:00 am
Time at penetration	7:46:53 am
End Time	12:10:53 am
Reference level	0
Ground level	0
Predrill	2
Penetration Depth	12.52
Remarks	Target Depth
GPS Type	Garmin eTrex 20
GPS Accuracy	+ / - 3m
GPS Reference Grid	NZTM
GPS Datum	MSL
Rig Type	Geomil Panther 100
Rig ID	CPT05
Reaction Force	Dead weight 13.1 tonnes
Data Acquisition (Digitizer)	GeoMil GME500
Acquisition Program	GeoMil CPTest
Reporting Program	GeoMil CPTask
Cone Type	C10 (10 Tonne Compression)
Cross Sectional Area	10cm ²
Cone Area Ratio	0.8
Fluid Type	Silicone Fluid
Friction Reducer	>400mm behind base of cone
Application Class (ISO 22476-1)	3
Test Type (ISO 22476-1)	TE2 (Measured Cone and Sleeve)
Back Fill Method	Bentonite
Observations During Testing	Hole positioned in same position as CPT2B-1111D

Test Methods: ASTM D5778-20
 ISO 22476-1:2012 Cor. 2013

Date tested : 20/11/25
 Date reported : 21/11/25

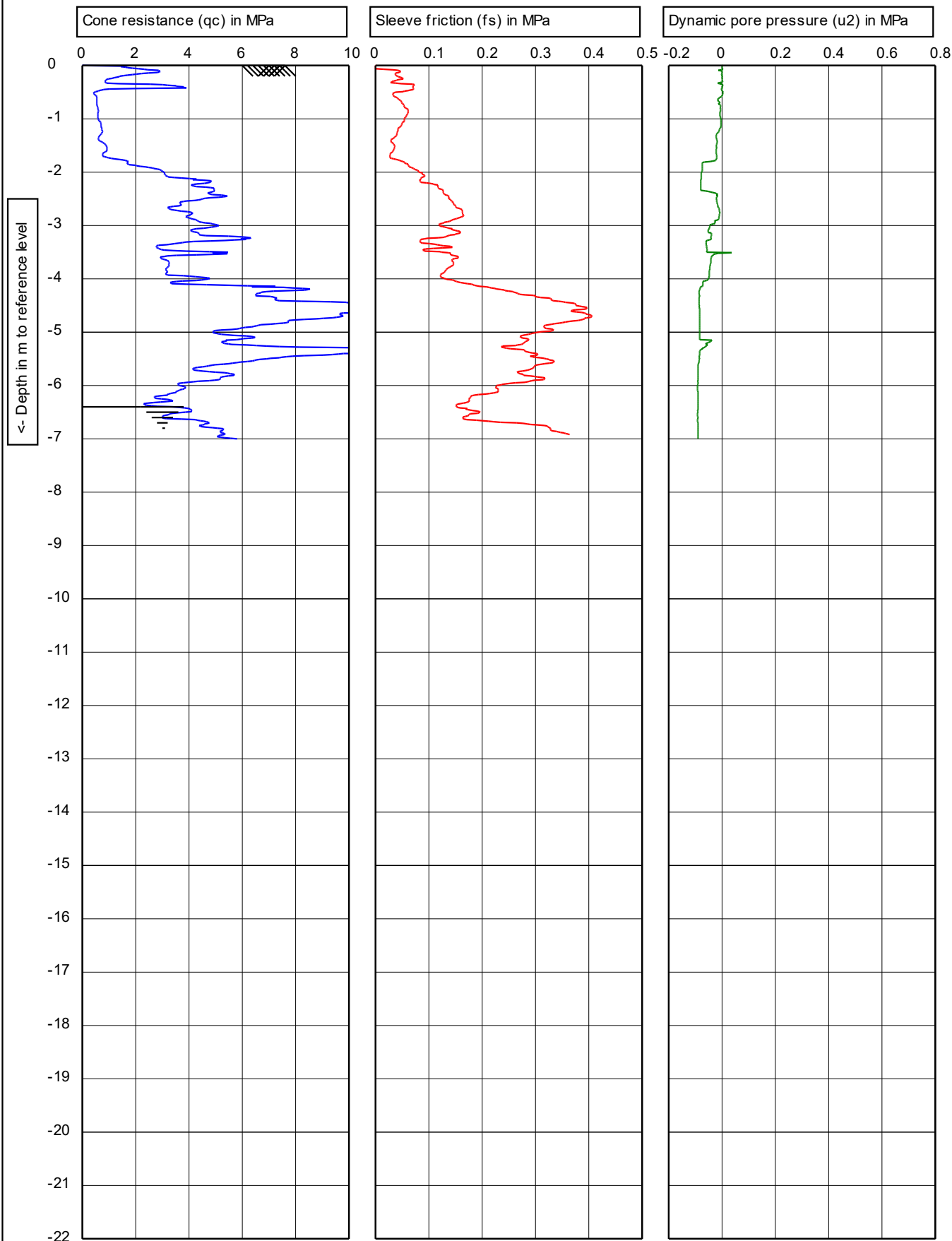
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Approved Signatory

Designation : CPT North Island Manager
 Date : 21/11/25



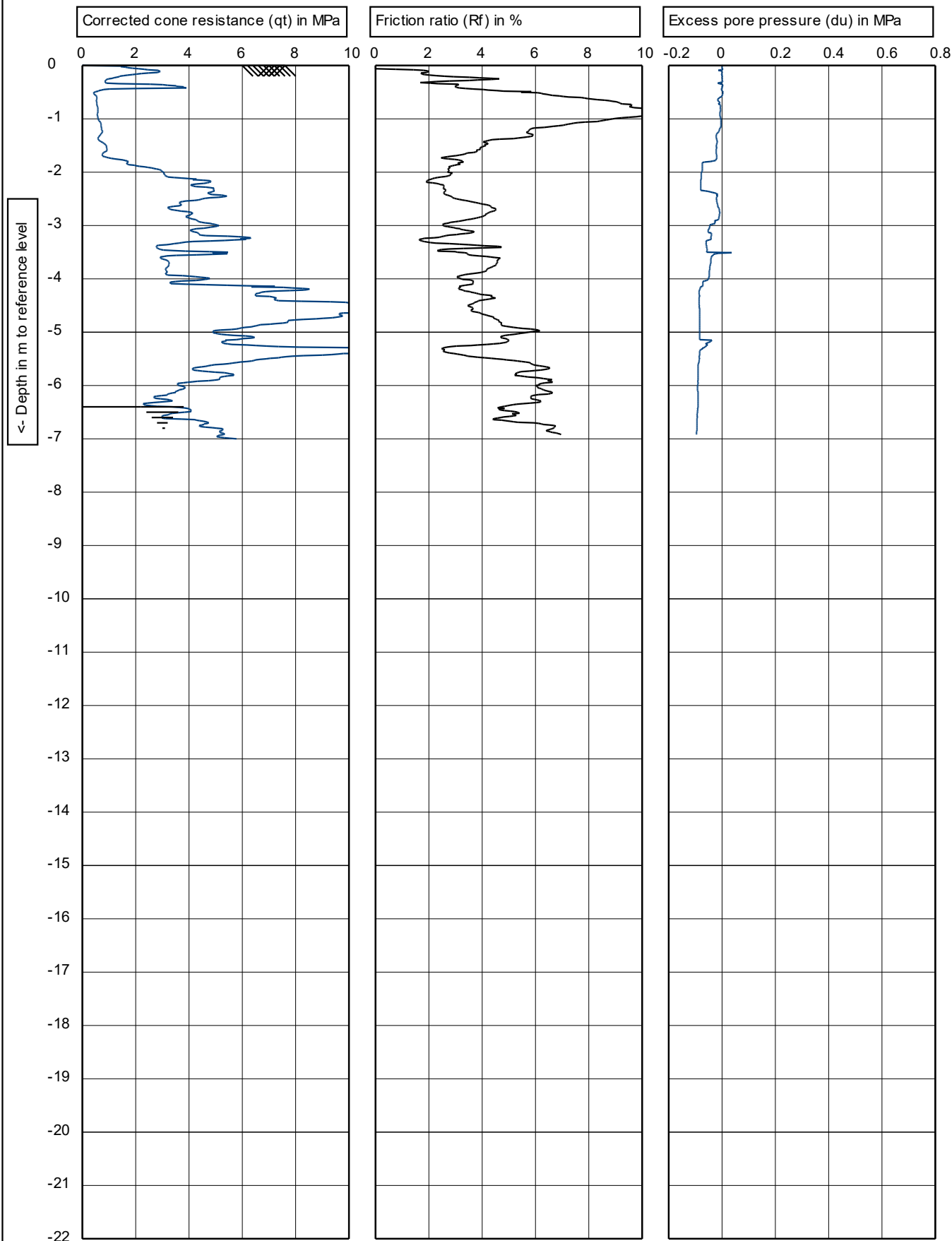
All tests reported herein
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 laboratory's scope of
 accreditation

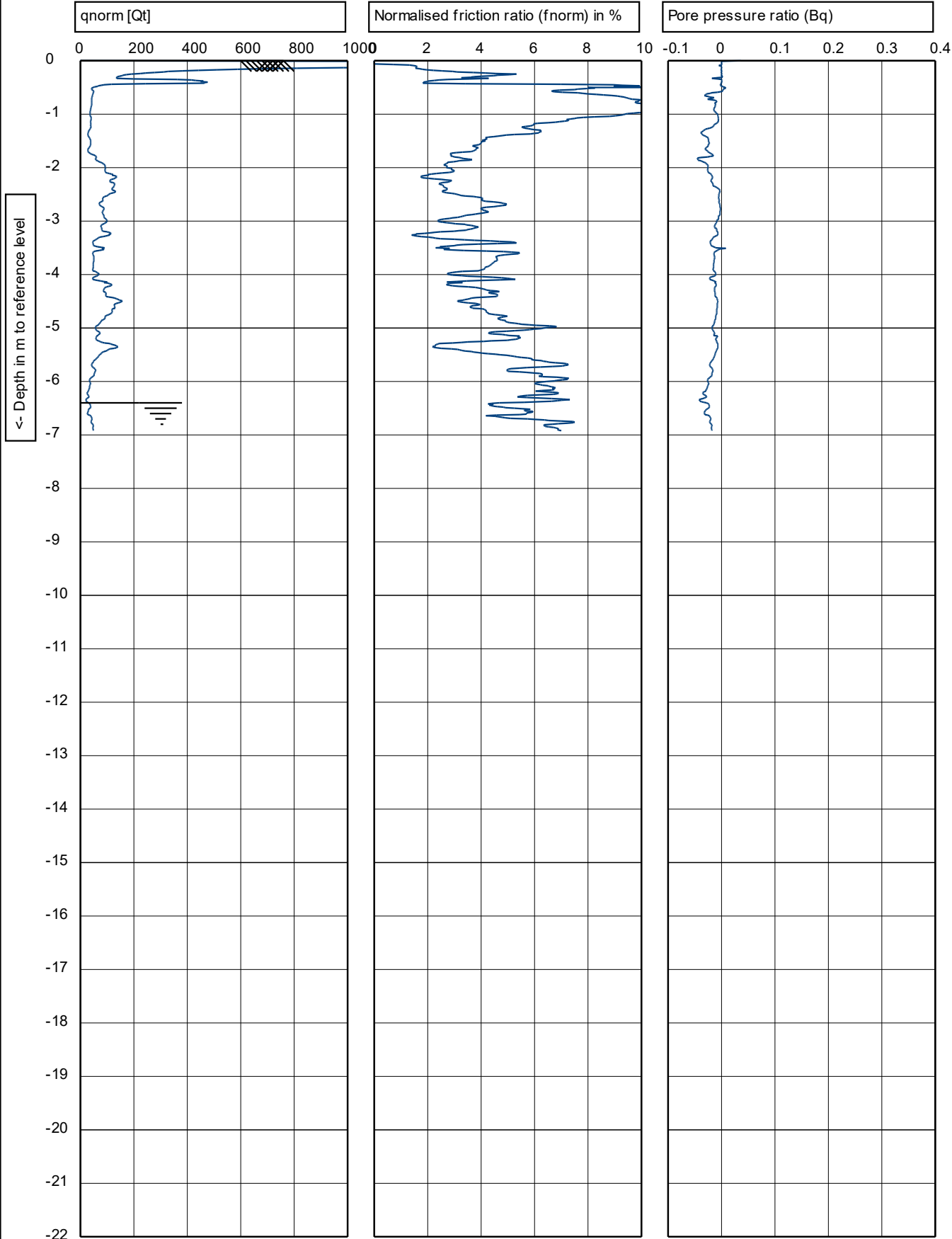


Target Depth



A diagram of a pencil. The length is labeled as 150 cm. The cross-sectional area is labeled as 10 cm².



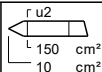


Target Depth

EOH - Dipped - GWL @ 6.4m



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -6.40 m

Predrill: 0.00 m Predrilled

Date: 11/12/2025

Cone no.: C10CFIIP.C21109

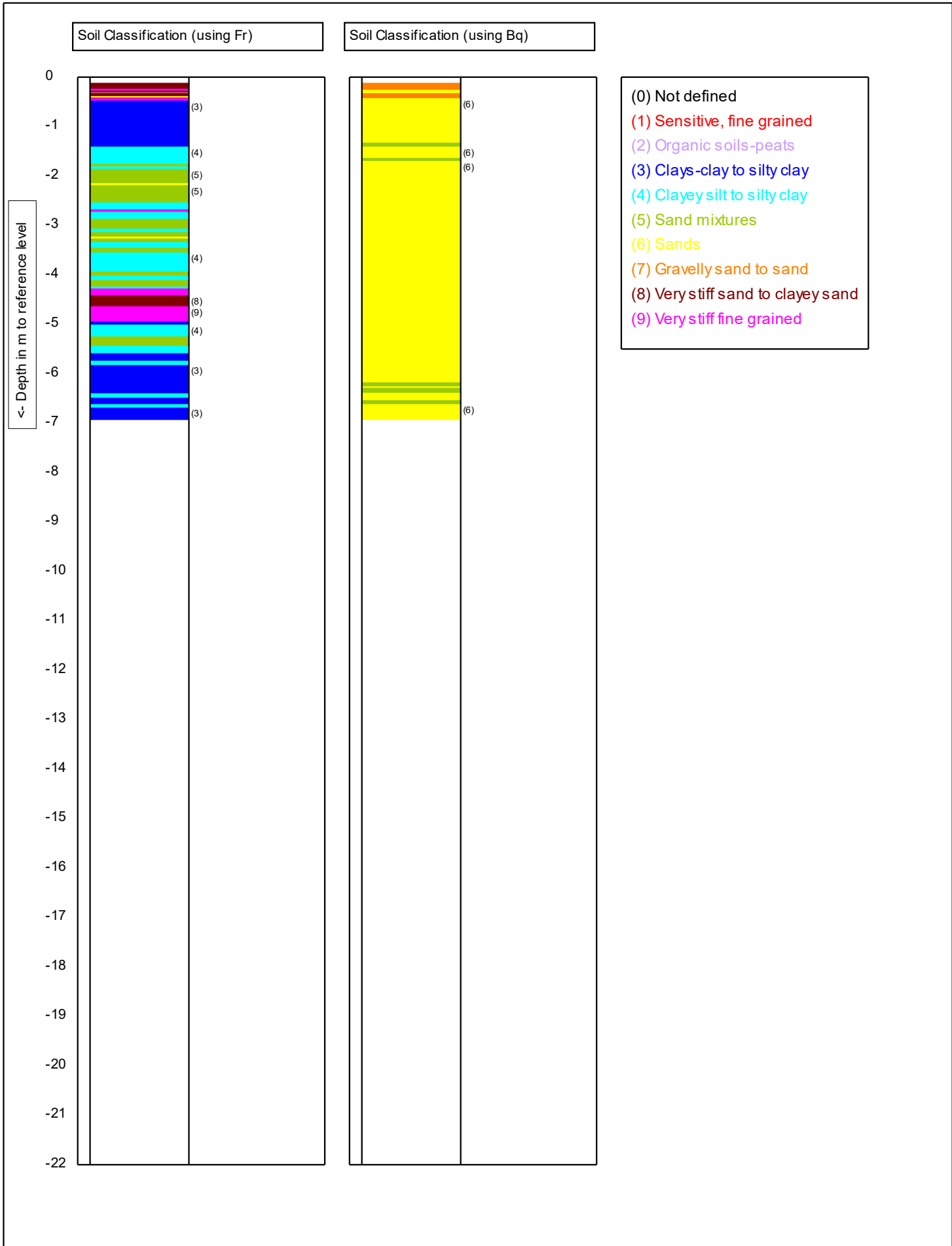
Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1112D 3/6

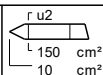
Project: Section 2B

Location: Northern Corridor

Position: 1727808, 6004272 NZTM



Graphs on this page are
not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -6.40 m

Predrill: 0.00 m Predrilled

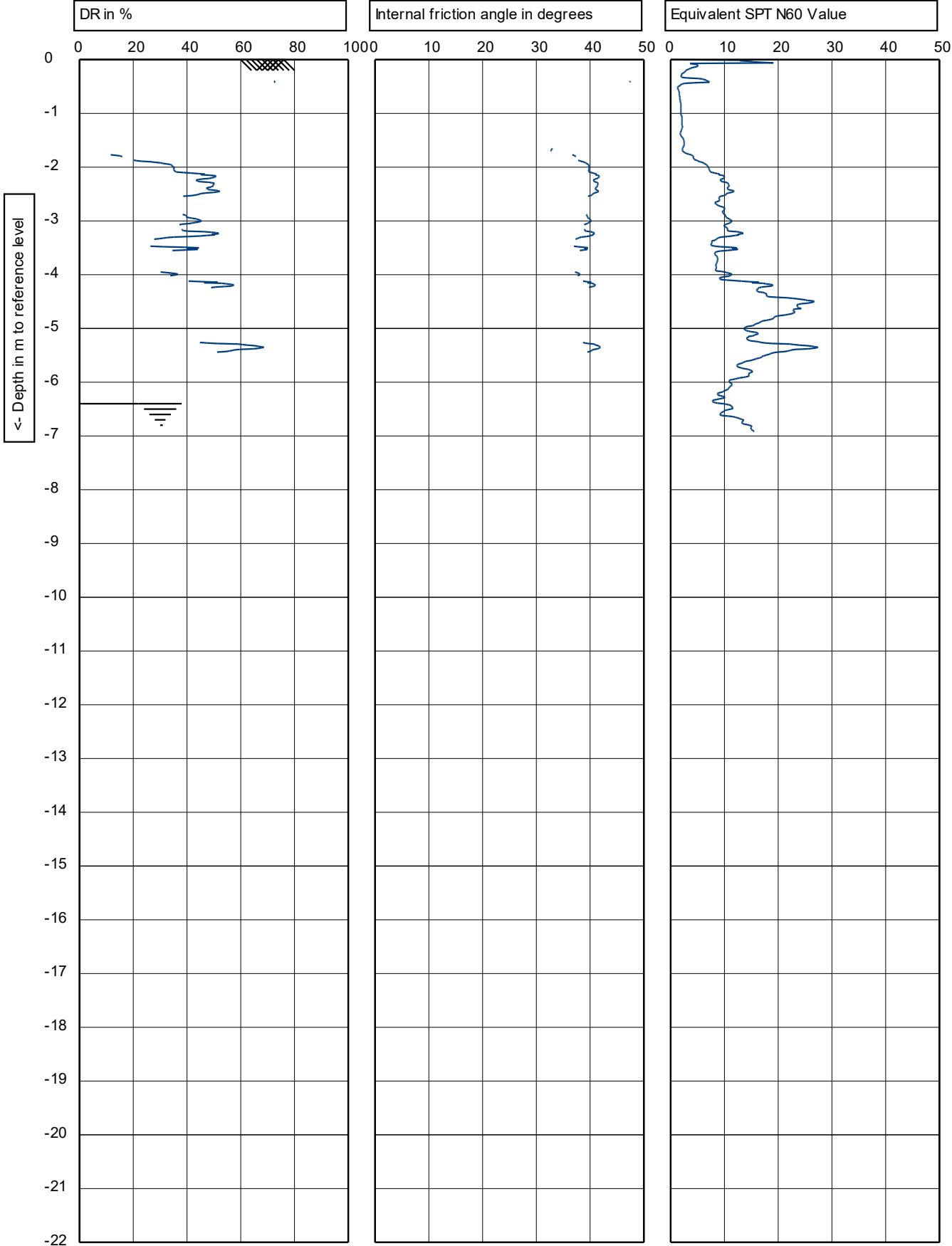
Date: 11/12/2025

Cone no.: C10CFIIP.C21109

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1112D 4/6

Project: Section 2B
Location: Northern Corridor
Position: 1727808, 6004272 NZTM



Target Depth

EOH - Dipped - GWL @ 6.4m



Graphs on this page are not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -6.40 m

Predrill: 0.00 m Predrilled

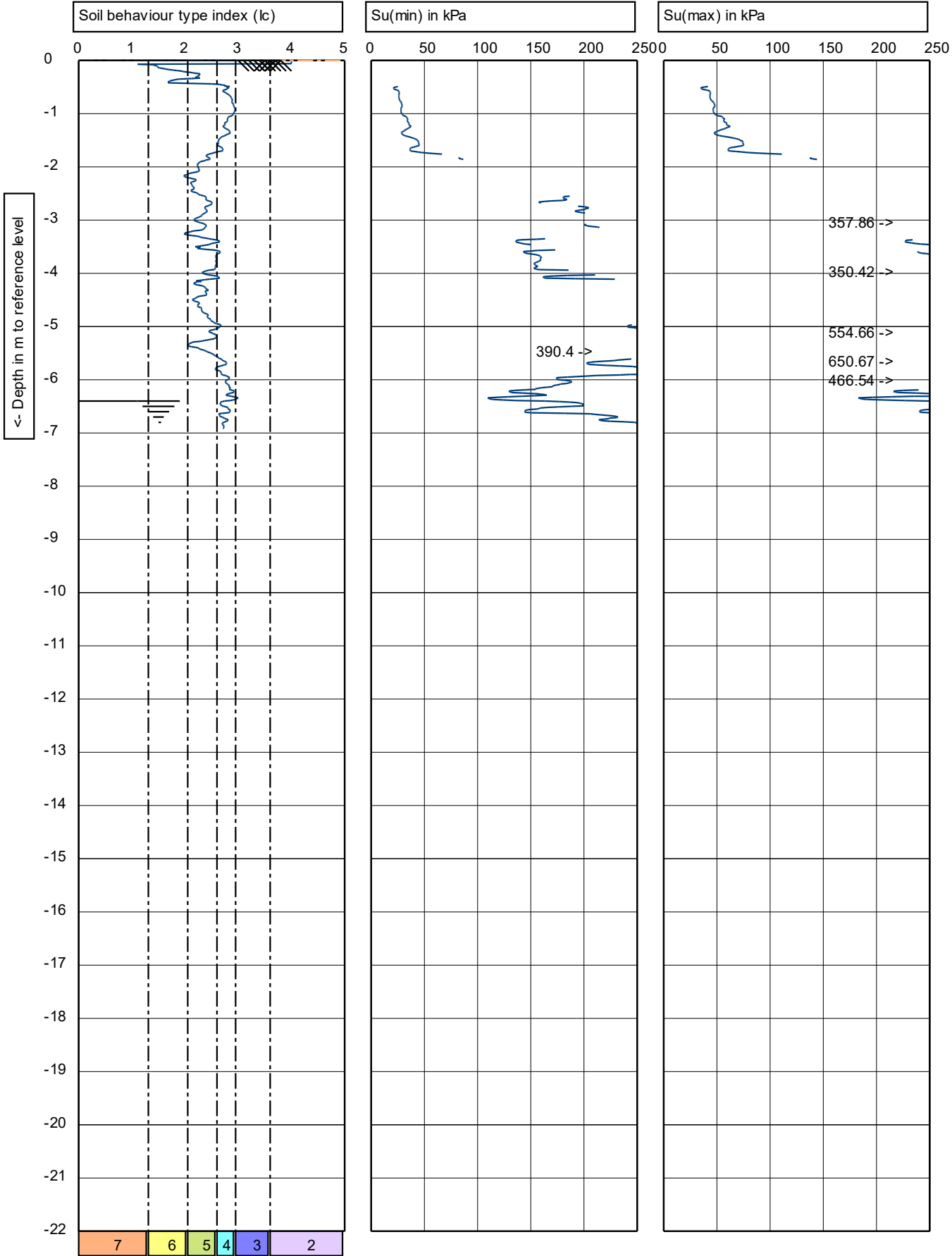
Date: 11/12/2025

Cone no.: C10CFIIP.C21109

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1112D 5/6

Project: Section 2B
Location: Northern Corridor
Position: 1727808, 6004272 NZTM



Target Depth

EOH - Dipped - GWL @ 6.4m



Graphs on this page are not IANZ accredited



Method: ASTM D5778-20 & ISO 22476-1:2012 cor. 2013

G.L.: 0.00 m MSL

W.L.: -6.40 m

Predrill: 0.00 m Predrilled

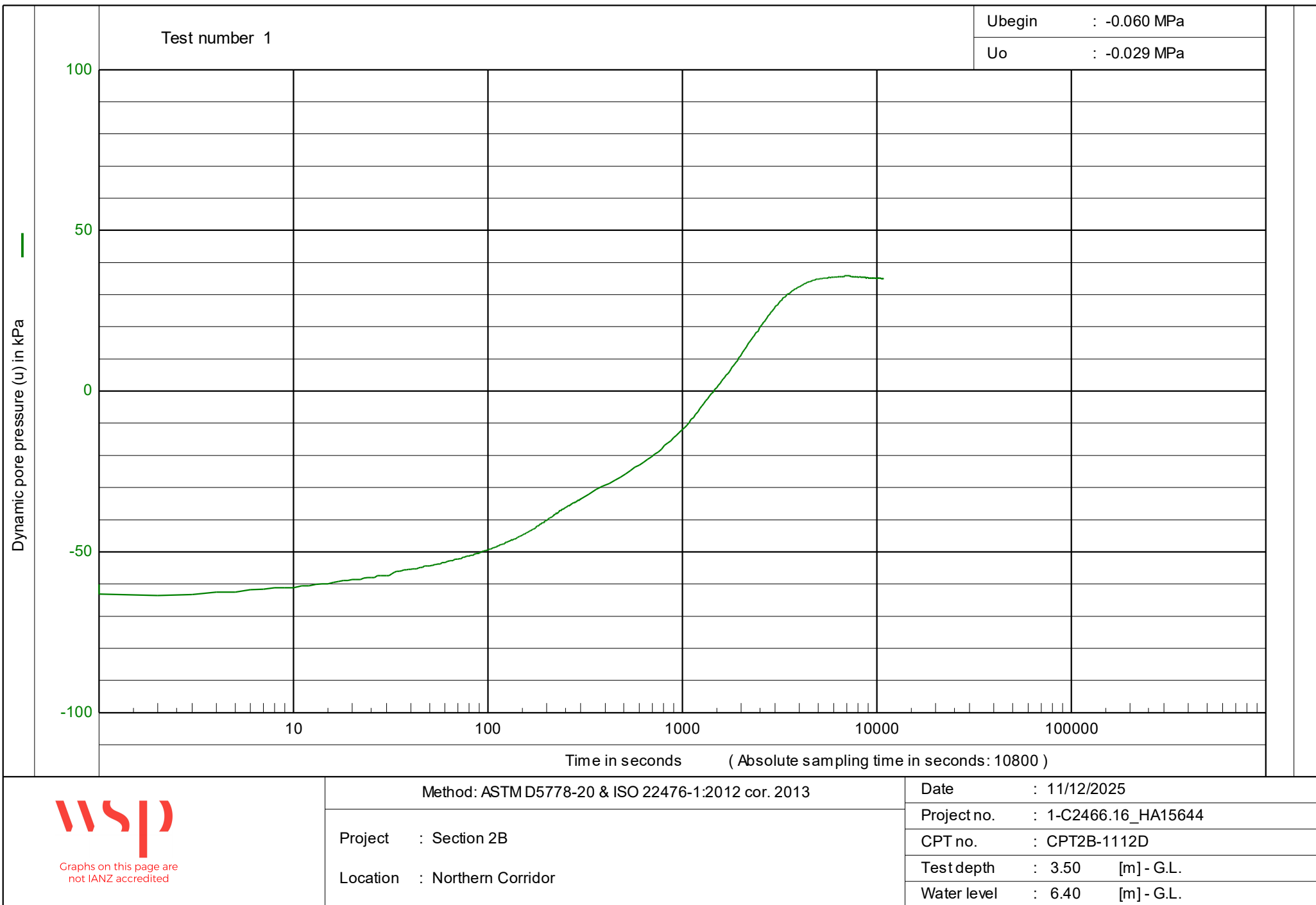
Date: 11/12/2025

Cone no.: C10CFIIP.C21109

Project no.: 1-C2466.16_HA15644

CPT no.: CPT2B-1112D 6/6

Project: Section 2B
Location: Northern Corridor
Position: 1727808, 6004272 NZTM



Graphs on this page are
not IANZ accredited

CONE PENETRATION
TEST REPORT



Client : Waka Kotahi NZ Transport Agency
Project : Section 2B
Location : Northern Corridor
Hole Number CPT2B-1112D
Tested by : J Kavanaugh
Date tested : 11/12/25
Coordinates : 1727808 E
6004272 N
Elevation : 57m
Water level : EOH - Dipped - GWL @ 6.4m

Project No : 1-1C2466.16
Lab Ref No : HA15644_CPT2B-1112D
Client Ref No :

Test Results

Start Time	9:30:00 am
Time at penetration	9:36:01 am
End Time	12:06:01 am
Reference level	0
Ground level	0
Predrill	0
Penetration Depth	7
Remarks	Target Depth
GPS Type	Garmin eTrex 20
GPS Accuracy	+ / - 3m
GPS Reference Grid	NZTM
GPS Datum	MSL
Rig Type	Geomil Panther 100
Rig ID	CPT05
Reaction Force	Dead weight 13.1 tonnes
Data Acquisition (Digitizer)	GeoMil GME500
Acquisition Program	GeoMil CPTtest
Reporting Program	GeoMil CPTask
Cone Type	C10 (10 Tonne Compression)
Cross Sectional Area	10cm ²
Cone Area Ratio	0.8
Fluid Type	Silicone Fluid
Friction Reducer	>400mm behind base of cone
Application Class (ISO 22476-1)	3
Test Type (ISO 22476-1)	TE2 (Measured Cone and Sleeve)
Back Fill Method	Bentonite
Observations During Testing	Hole positioned south-east of CPT2B-1112

Test Methods: ASTM D5778-20
ISO 22476-1:2012 Cor. 2013

Date tested : 11/12/25
Date reported : 12/12/25

This report may only be reproduced in full, including
corresponding calibration data, daily logs, and CPT graphs.

Approved Signatory

Designation : CPT North Island Manager
Date : 12/12/25



All tests reported herein
have been performed in
accordance with the
laboratory's scope of
accreditation